ANEJO Nº 6. ESTRUCTURAS

4. Cálculos

Viaducto de Santa Oliva

-1.6. CÁLCULOS DEL VANO HIPERESTÁTICO II

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1. DESCRIPCIÓN DE LA ESTRUCTURA. INTRODUCCIÓN.

En el presente Anejo se realiza el cálculo del tablero del tramo IV Hiperestático (Viaducto V-2) del Viaducto de Santa Oliva, de la Línea de Alta Velocidad Madrid-Barcelona. Tramo: Lérida-Martorell. Subtramo IXa.

El Viaducto de Santa Oliva está formado por 3 tramos isostáticos y por otros 3 hiperestáticos. Como se ha comentado anteriormente el presente anejo hace referencia al cálculo del tramo IV, hiperestático que comprende los vanos 17, 18, 19 y 20.

Todo el viaducto está formado por 2 cajones prefabricados y separados entre ejes de cajones 6,30 m.

El anejo solo abarca el cálculo del tablero.

El cálculo de la subestructura deberá estar justificado en otro anejo.

2. TRAMO IV HIPERESTÁTICO. VIADUCTO V-2

2.1. BASES DE CÁLCULO, INSTRUCCIONES Y NORMAS CONSIDERADAS

2.1.1. Bases de cálculo

El cálculo completo de la estructura se ha llevado a cabo mediante criterios generales de la Mecánica Elástica en cuanto a la deducción de las solicitaciones en las secciones resistentes producidas por el conjunto de las acciones expresadas en las Instrucciones y Normas que más adelante se señalan expresamente.

El estudio de las secciones se ha efectuado mediante criterios de Estados Límites, considerando:

- Por una parte, el Estado Límite de Servicio, bajo las combinaciones de acciones más desfavorables con sus valores característicos y con los materiales, asimismo, sin minorar; comprobando que los estados de tensiones y deformaciones en todos los elementos de la estructura se encuentran en condiciones adecuadas, es decir, con valores inferiores a los límites expresados en las Instrucciones y Normas citadas.

- Por otra parte, el Estado Límite Último de las secciones, comprobando que las solicitaciones más desfavorables mayoradas (valores de cálculo) de las diferentes acciones de la estructura presenta valores inferiores a los esfuerzos de agotamiento de dichas secciones; es decir, teniendo en cuenta las oportunas minoraciones de las resistencias de los diferentes materiales, así como las interacciones de las solicitaciones combinadas de cortantes, axiles, flectores y torsores.

El desarrollo de los cálculos, como es ya hoy en día habitual, se ha efectuado, por regla general, mediante la ayuda de programas de cálculo electrónico, suficientemente contrastados por la experiencia, tales como los correspondientes a los sistemas de entramados y emparrillados. En todos los casos (independientemente de exponer todos los desarrollos numéricos deducidos) los cálculos se completaron con comprobaciones manuales de tipo aproximado que garantizan la correspondencia entre el cálculo y la rea-

lidad. En particular, en aquellos casos en los que las simplificaciones requeridas pueden alterar los resultados, se aplican cálculos con variantes importantes de los parámetros así simplificados que cubren los extremos del espectro posible, adoptando los valores más desfavorables del análisis conjunto.

Independientemente de las generalizaciones aquí expuestas, en cada fase del desarrollo del cálculo que presente una cierta entidad, se expondrán con mayor detalle las hipótesis y criterios considerados, así como las simplificaciones aplicadas y su justificación.

2.1.2. Instrucciones y normas consideradas

Para el establecimiento de acciones y las combinaciones necesarias para la obtención de las solicitaciones de cálculo que se emplearán en la comprobación de los diferentes Estados Límite se seguirá una doble vía paralela:

2.1.2.1. Cálculo 1

- "Instrucción relativa a las acciones a considerar en el Proyecto de Puentes de Ferrocarril", correspondiente a la O.M. 25 de Junio de 1.975 **(IPF-75)**.

- "Norma de construcción Sismorresistente: Parte general y edificación **(NCSE-94)**" R.D. 29 de Diciembre de 1.994.

Para establecer las hipótesis y combinaciones de cálculo y sus correspondientes coeficientes de ponderación se utilizarán las siguientes Instrucciones:

- "Instrucción de Hormigón Estructural (EHE)" R.D. 2661/1998 de 11 de Diciembre.

2.1.2.2. CÁLCULO 2

Se utilizarán las siguientes Instrucciones:

- "Eurocódigo 1: Bases de proyecto y acciones. Parte 3. "Cargas de tráfico en puentes". UNE-ENV 1991-3. Octubre 1997. (EC1.1.3.)

Para establecer las hipótesis y combinaciones de cálculo y sus correspondientes coeficientes de ponderación se utilizará la siguiente Instrucción:

– "Eurocódigo 1: Bases de proyecto y acciones en estructuras. Parte 1; Bases de proyecto" UNE-ENV 1991-1, Octubre 1997 (EC1.1)

Una vez realizados los dos cálculos paralelos por las dos vías anteriores, se adoptarán como solicitaciones (esfuerzos, movimientos, etc.) de diseño, la envolvente de las obtenidas.

Para dimensionamiento y comprobación de secciones se actuará, en todo momento, de acuerdo con la normativa española;

- "Instrucción de Hormigón Estructural EHE" R.D. 2661/1998 de 11 de Diciembre

El estudio de la fatiga de los materiales se hará de acuerdo con la siguiente norma:

- "Eurocódigo 2: Proyecto de estructuras de hormigón. Parte 2: Puentes de hormigón. ENV 1992.2: Septiembre 1996. (EC2.2).

La comprobación de flechas, deformaciones y vibraciones se hará de acuerdo con la norma:

- "Eurocódigo 1: Bases de proyecto y acciones en estructuras. Parte 3: Cargas de tráfico en puentes" UNE-ENV 1991-3. Octubre 1997. (EC1.1.3).

Para el análisis de la interacción vía–estructura se empleará la siguiente norma:

- "Norma U.I.C. Ficha 774.3 R" 1ª edición. Febrero 1999 (U.I.C. 774.3).

Subsidiariamente, y en lo no contemplado en las normas anteriores se emplearán las siguientes:

– "Norma UIC. Ficha 776.1" 3ª edición. 1 de Julio de 1.979. **(U.I.C. 776.1)**

– "Norma UIC. Ficha 774-2: ". 1ª Edición. 1 de Julio de 1.974. **(U.I.C. 774.2)**

– "Norma UIC. Ficha 702.0: ". 2ª Edición. 1 de Enero de 1.974. **(U.I.C. 702.0)**

2.1.3. Descripción del proceso de cálculo realizado

En el primer apartado se describen las características de los materiales empleados para la construcción del viaducto detallando las características resistentes utilizadas en el cálculo.

El segundo apartado ("Acciones a considerar") es la aplicación particular en cada viaducto de las acciones de cálculo obtenidas en el apartado "Instrucciones y normas consideradas", general para el presente grupo de estructuras.

En el apartado titulado "Constantes estáticas" se describen las secciones transversales del tablero tenidas en cuenta en el cálculo. Se calculan sus constantes estáticas a usar en el modelo de cálculo (área, inercias a flexión y torsión, posición del centro de gravedad y del centro de esfuerzos cortantes) así como las constantes estáticas a tiempo infinito que tienen en cuenta las redistribuciones tensionales a nivel de sección. Las constantes estáticas se calculan mediante el programa CSEC desarrollado en IDEAM o con el programa comercial FAGUS 2.

En el apartado titulado "Modelo de cálculo" se describe el modelo de barras utilizado para la obtención de esfuerzos en tablero a partir de las cargas actuantes, detallando el número de nudos y posición, barras entre nudos, características de las mismas, tipo de vinculación en función de las fases de montaje de la estructura. Se utiliza el programa DINTEL desarrollado en IDEAM, el cual es de tipo matricial, en el modo viga.

En el apartado denominado "Pretensado" se describe el tipo y unidades de pretensado utilizado y su aplicación a la estructura en cada fase constructiva. Se calculan las pérdidas teniendo en cuenta los criterios de la EHE. Asimismo, se definen las acciones de pretensado a introducir en el modelo descrito en el apartado anterior.

En el apartado denominado "Esfuerzos longitudinales" se detallan los esfuerzos longitudinales (momentos flectores) en los puntos más significativos de la estructura. Este apartado sirve para identificar rápidamente el estado de solicitación de la estructura en sus puntos más críticos, debido a cada una de las cargas (pesos propios, cargas muertas, sobrecargas de tren, efectos térmicos, etc.).

En el apartado siguiente se controla el Estado Límite de Servicio de Tensiones que permite demostrar la validez del pretensado dispuesto. Se realiza un control del estado tensional existente en la estructura tanto en fases de montaje como en servicio. Se realiza un doble cálculo, a tiempo inicial y a tiempo infinito (teniendo en cuenta los efectos reológicos y las redistribuciones diferidas de las fases de montaje hacia la situación ideal de la estructura cerrada y continua). Se tienen en cuenta los coeficientes de combinación de sobrecargas dominantes y no dominantes dados por el EC1, controlando la estructura en fases de montaje, cargas permanentes, sobrecargas casi permanentes, frecuentes e infrecuentes. Finalmente, se muestran los estados tensionales de la estructura en todos sus nudos, controlando las diferentes fibras significativas (fibras superior e inferior tanto de cajón como de losa, en su caso).

En el apartado de Control del Estado Límite Último de Rotura se indican los coeficientes de seguridad empleados para cada estado simple de carga, se presentan las envolventes de momentos flectores en los puntos más representativos de la discretización y se comprueba con el programa CSEC que la sección de hormigón más el pretensado más la armadura pasiva es capaz de resistir los esfuerzos de la envolvente. A partir de la armadura pasiva necesaria para cumplir este Estado Último, se describe su disposición a lo largo del tablero lo cual posteriormente se transcribe al plano correspondiente.

En el apartado "Análisis Transversal de Esfuerzos" se indican los cortantes y torsores obtenidos en el modelo de cálculo descrito anteriormente, y su combinación en rotura mediante los oportunos coeficientes de ponderación. Posteriormente se describen los procedimientos de control de agotamiento de la sección utilizados en el EC2 basados en el modelo de bielas y tirantes de la sección. La aplicación de dichos procedimientos conducen al control de agotamiento de las bielas comprimidas de hormigón y al establecimientos de la armadura transversal necesaria para soportar la tracción de los tirantes que equilibran el modelo.

En el apartado de "Análisis local de esfuerzos" se establece el control de los efectos locales que producen las cargas en la flexión propia de la losa superior que recoge dichas cargas. Se utiliza el programa ROBOT y se discretiza dicha sección mediante un modelo de barras tipo viga. Se

obtiene así también la armadura transversal de losa a disponer, controlando tanto el Estado Último de Rotura como los de Servicio de Fisuración y Fatiga.

Al final de todos estos apartados se tiene ya toda la armadura general del tablero necesaria para soportar la flexión general descrita en el modelo de cálculo.

En el apartado de "Reacciones en Apoyos" se enumeran las reacciones en apoyos según la vinculación del modelo de cálculo.

En el apartado de cálculo de movimientos longitudinales se obtienen los movimientos debidos a retracción, fluencia y temperatura, con los cuales se puede dimensionar la junta necesaria.

El dimensionamiento de la junta y aparatos de apoyo se realiza a partir de las reacciones obtenidas anteriormente y del cálculo de los movimientos longitudinales debidos a retracción, fluencia y temperatura.

El dimensionamiento de armaduras y macizados en mamparos de pilas y estribos se realiza a continuación. Dichos elementos se diseñan para materializar la transmisión de las reacciones al tablero.

En el apartado "Control de Deformaciones" se controla el Estado Límite de Servicio de Deformaciones, obteniendo las flechas verticales y giros en los apoyos, a partir del modelo de cálculo, acotándolos según los criterios del EC1.

Existe un apartado específico en el que se detallan los controles de armaduras locales y difusión del pretensado.

2.2. CALCULO DEL TABLERO

2.2.1. Características de los materiales y coeficientes de ponderación

A. HORMIGÓN

- *Vigas Artesas Prefabricadas*

  HP-60/B/17/IIa $f_{ck} \geq 60$ N/mm²

  $E_c = 8500\ (f_{ck}+8)^{1/3} = 34694$ N/mm²

  $\gamma = 1,5$ Nivel de Control Estadístico

- *Losa superior*

  HP-35/B/17/IIa $f_{ck} \geq 35$ N/mm²

  $E_c = 29779$ N/mm²

  $\gamma = 1,5$ Nivel de Control Estadístico

B. ARMADURAS

C.1. Pasivas

B-500-S	$f_{yk} = 500$ N/mm²	$\gamma_s = 1,15$

C.2. Activas

En torones ϕ 0,6"	$f_{max,k} = 19.000$ Kp/cm² $f_{yk} = 17.100$ Kp/cm²	$\gamma_p = 1,15$

2.2.2. Acciones a considerar

Se indican seguidamente las acciones consideradas en el cálculo de la estructura.

2.2.2.1. Peso propio

Se evaluarán las diferentes secciones tipo para una densidad de 2,5 t/m^2 para el hormigón:

- *Vigas Prefabricadas Artesas*

  Peso medio para viga de almas de 18 cm: 3,817 t/ml y viga
  Peso medio para viga de almas de 24 cm: 4,163 t/ml y viga

- *Peso losa*

  0,3 m . 14 m . 2,5 t/m^3 = 10,5 t/ml en total

2.2.2.2. Cargas muertas

Se consideran las debidas a:

a) Balasto;
b) Pendienteado;
c) Vías y traviesas;
d) Conductos de cableado y paseos;
e) Impostas y barandillas
f) Soportes de catenarias;

A. BALASTO

La sección transversal de balasto se cubica con una densidad de γ = 1,8t/m^3, al igual que el hormigón ligero del pendienteado del 2%.

Sección completa balasto + pendienteado:

A = 7,33 m^2 (para pendiente mínima de 16,9 m)

Peso balasto = 1,8 × 7,33 = 13,194 t/ml

Se consideran dos hipótesis de "desbalastado", de acuerdo a las Bases de Cálculo del GIF:

1. 50% de una vía en toda su longitud.

2. 100% de una vía sobre 15 metros.

B. PENDIENTEADO

Se calcula con un hormigón ligero de densidad γ = 2,4 t/m^3

$$\text{Peso total} = 2\left(\frac{0,14}{2}\right) \times 14,0 = 2,304 \text{ t/ml en total}$$

C. VÍAS Y TRAVIESAS

Se considera el peso de las vías de carriles UIC 60 de 60 kg/ml y carril.

El peso de traviesas de hormigón se considera de 520 kg/ml y vía.

Total = $q_{\text{vias+traviesas}}$ = 2 . (0,52 + 2 . 0,060) = 1,28 t/ml por la doble vía.

D. CONDUCTOS CABLEADO Y PASEOS.

$q_{\text{conductos}}$ =0,3 t/ml de peso de una canaleta de conducciones.

Carga en paseos = Se considera una carga de 0,5 t/m² en una superficie de 1,35 m desde el borde del balasto.

q_{paseos} = 0,5 t/m² . 1,35 = 0,675 t/ml y lado.

En total:

$q_{conductos + paseos}$ = 2 . (0,30 + 0,50 . 1,35) = 1,95 t/ml para la doble vía.

(Aplicadas a 1,20 m del extremo).

E. IMPOSTAS Y BARANDILLAS

Peso de barandilla = 0,05 t/ml y lado.

Peso imposta y muretes: 0,669 + 0,25 = 0,919

Luego para 2 vías = q = 2(0,05 + 0,919) = 1,938 t/ml

F. SOPORTES DE CATENARIAS

Estos esfuerzos se tienen en cuenta solo para efectos locales de anclaje de la catenaria y armado local de losa, pero no para el cálculo general del tablero.

Se disponen los soportes a una distancia máxima de 60 m.

Mogotes de anclaje = Q ≅ 0,50 t

V_T = 2 . 0,50 = 1,0 t vertical por 2 lados

H = 0,5 t

M_{base} = 9,0 mt

En el caso de rotura accidental de la catenaria (γ = 1,0).

ΔH = 2 t

ΔM = 14,0 t

RESUMEN DE CARGA MUERTA POR VÍA

	q_s (t/ml) y vía	q_i (t/ml) y vía
Balasto	8,576	5,07
Pendienteado 2%	1,152	1,152
Vías y traviesas	0,64	0,64
Conductos cableado y paseos	0,975	0,975
Imposta y barandillas	0,969	0,969
TOTAL por vía	**12,31 T/m**	**8,806 T/m**
TOTAL en dos vías	**24,62 T/m**	**17,62 T/m**

2.2.2.3. Sobrecargas móviles

Se utilizará la envolvente de esfuerzos debidos a los trenes de carga de IPF-75 y de EC1-3.

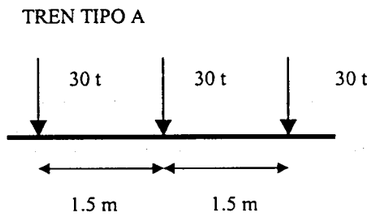
Como coeficiente de impacto se adoptará en cada caso el que corresponda.

Los coeficientes de impacto NO afectan al cálculo de apoyos, frenado, fuerza centrífuga, efectos lazo, pilas y estribos, salvo aquellos casos en que la unión tablero–estructura sea de tipo rígido. Esto conduciría a que el coeficiente de impacto afectaría a la subestructura para las fuerzas de frenado, transmitida a la pila fija a través de los apoyos fijos longitudinales, y fuerza centrífuga, transmitida a través de apoyos POT guiados. No obstante, la presencia del balasto supone una liberación en la rigidez de la transmisión de las fuerzas horizontales a los apoyos y topes, por lo que no se considera el coeficiente de impacto para estas acciones.

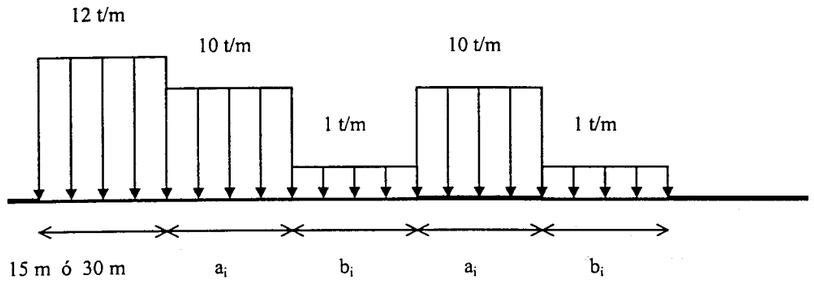
A. NORMA IPF-75 (RIPADO = 0,30 m)

Existen dos trenes de carga

Tipo A.- Por cada vía: P_{vp} = 3 ejes de 30 t separados 1,50 m



Tipo B.- Por cada vía: Sobrecarga uniforme de 12 t/m. sobre 15,0 ó 30,0 metros, más un conjunto de cuchillos de carga de 10 t/m y 1 t/m. de longitud arbitraria.



No se admite reducción de cargas por simultaneidad entre ambas vías.

El tren tipo A puede condicionar el trabajo local de reparto de la losa.

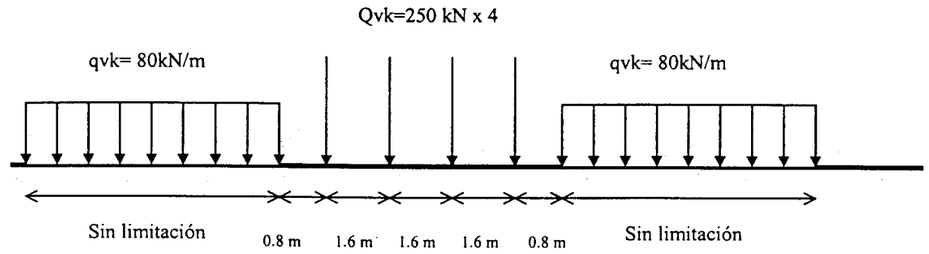
El tren tipo B condiciona el trabajo global.

B. EC1-3

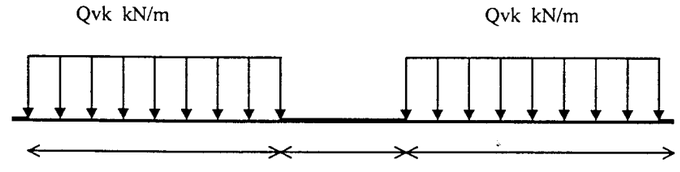
De acuerdo a las Bases de Cálculo, se adoptará un ripado de 30 cm.

El tren de cargas de EC1 tiene la siguiente configuración

Tren tipo 71:



Adicionalmente consideramos un tren pesado equivalente al siguiente esquema de cargas (SW/0) ó (SW2) en una de las vías y el tren estándar tipo 71 en la otra.



	SW0	SW2
Q_{vk}	133	150
a	15	25
b	5,3	7

Para algunas comprobaciones específicas, sobre todo asociadas al viento transversal, se considerará un "tren sin carga", de 12,5 KN/m.

C. SOBRECARGAS EN PASEOS

Se dispondrá una sobrecarga en los paseos laterales de valor:

Sobre un ancho de paseo a cada lado de 1,5 m y una excentricidad media de cada uno de 5,9 m.

Q_{SV} = 0,5 t/m^2

El 50% de dicha carga es compatible con el tráfico ferroviario.

D. COEFICIENTES DE MAYORACIÓN POR IMPACTO: EVALUACIÓN DE EFECTOS DINÁMICOS

- *Coeficiente de impacto de IPF-75*

$$I = 65x\frac{\mu}{1-\mu+\mu^2} \qquad \text{con} \qquad \mu = \frac{V.T}{2L}$$

Con T = periodo de vibración fundamental

Para vigas biapoyadas $T = 0{,}2026 \times \pi\sqrt{\frac{qL^4}{EIg}}$

Para vigas apoyadas–empotradas $T = 0{,}13 \times \pi\sqrt{\frac{qL^4}{EIg}}$

Para vigas biempotradas $T = 0{,}0893 \times \pi\sqrt{\frac{qL^4}{EIg}}$

En el vano central se considerará como biempotrado (más real que biapoyado)

$$T = 0{,}0893 \times \pi\sqrt{\frac{qL^4}{EIg}}$$

q es la carga permanente por metro lineal.

En zona prefabricada q = 2×(10,55 + 8,33) = 37,7 t/ml

L = 39

E = 2,857 .10^6 t/m^2

I = es la inercia media ⇒

En zona prefabricada I= 2×4,0268 = 8,053 m^4

g = 9,81 m/seg²

$$T = 0{,}0893 \cdot \pi \cdot \sqrt{\frac{37{,}7 \cdot 39^4}{2{,}857 \cdot 10^6 \cdot 8{,}053 \cdot 9{,}81}} = 0{,}1740 \text{ seg}$$

$$\mu = \frac{200}{3{,}6} \cdot \frac{0{,}171}{2 \cdot 39} = 0{,}2483$$

$$I = 65 \cdot \frac{0{,}2483}{1-0{,}2483+0{,}2483^2} = 0{,}304 \times 65 = 19{,}75\ \%$$

Vano lateral L = 28,2 m

Como apoyado–empotrado:

$$T = 0{,}13 \times \pi\sqrt{\frac{qL^4}{EIg}}$$

Con q en este caso:

q_{media}= 37,7 t/ml

Con I en este caso:

I_{media}= 8,053 t/ml

$$T = 0{,}13 \times \pi \cdot \sqrt{\frac{37{,}7 \cdot 28{,}2^4}{2{,}807 \cdot 10^6 \cdot 8{,}053 \cdot 9{,}81}} = 0{,}133 \text{ seg}$$

$$\mu = \frac{200}{3{,}6} \cdot \frac{0{,}133}{2 \cdot 28{,}2} = 0{,}130$$

$$I = 65 \cdot \frac{0{,}130}{1-0{,}130+0{,}130} = 9{,}55\ \%$$

Del lado de la seguridad se considerará un factor de impacto del 19,75%:

$C_{impacto}$ = 1,197

- *Para acciones según el EC-1*

$$\phi_2 = \frac{1,44}{\sqrt{L_\phi} - 0,2} + 0,82 \leq 1,67$$

Para vías con mantenimiento bueno.

Con K = 1,4 para 4 vanos.

Luego:

$L_\phi = 1,40 \cdot \frac{1}{4} (140) = 49$ m

$\phi_2 = \frac{1,44}{\sqrt{49} - 0,2} + 0,82 = 1,031$ para el cálculo longitudinal del tablero.

El resto de factores en cálculos locales se ven en cada apartado.

E. COMPARACIÓN DE AMBAS NORMAS

- *Resumen de esfuerzos de trenes de cargas*

FLEXIÓN CON COEFICIENTE DINÁMICO mtn					
	P17	CDV(P17-P18)	P18	DCV(P18-P19)	P19
2(TIPO A IPF)	-609	1074,9	-642,4	1115,17	-692,8
2(TIPO B IPF)	-3778	2931	-4063	3190,72	-3755
2(LM71 EC1)	-2756	2369	-2969	2525	-2744
(LM71-SW2)	-3399	2353,5	-3616,45	2592	-3299

Como puede comprobarse el tren B de la IPF es mucho más desfavorable a efectos de cálculo global de flexión que el resto de trenes, aunque no se les afecte del factor de coeficientes de impacto.

Por esto se tomará para el cálculo este tren de cargas.

CORTANTE CON COEFICIENTE DINÁMICO (tn)							
	P16	P17	P17	P18	P18	P19	P19
2(TIPO A IPF)	-179	18,34	-184	149	-185	183,6	-183,6
2(TIPO B IPF)	-426	558	-597	583,3	-616	459	540
2(LM71 EC1)	340	441	-454	454	-462	323,27	415,71
(LM71-SW2)	-401	539	-549	549,97	-547	397	-523

Al igual que en el caso anterior se puede comprobar como condiciona el tren B de la IPF para el cortante, ya que el SW2 sólo es concomitante con el Local Model 71, pero no con 2SW2.

Dado que además el factor del coeficiente de mayoración por impacto es mayor en la IPF, 18 % que en la ECI, 0,3 %, y que el tren B de la IPF condiciona frente al resto se calcularán los efectos globales con este tren B, que puede actuar para las 2 vías.

Además frente al E.L.U. el SW2 sólo se afecta por $\gamma_f = 1,2$ mientras que el tren B de IPF por $\gamma_f = 1,5$.

F. EFECTO LAZO

Según IPF-75: $H_T = 5$ t para el conjunto de ambas vías, aplicada a cota superior del carril.

Según EC1: $H_T = 10,20$ t para el conjunto de ambas vías, aplicada a cota superior del carril

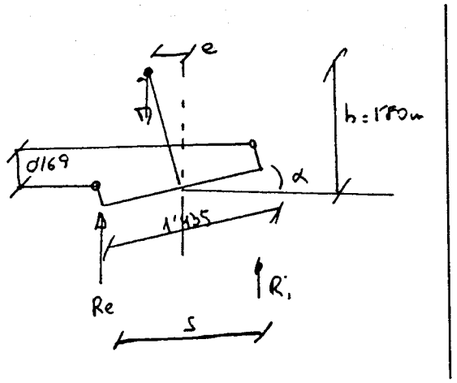
Es más desfavorable EC1.

No lleva coeficiente de mayoración dinámico.

Este efecto no será necesario considerando para el cálculo global al ser poco significativo, aunque su efecto debe añadirse al de la fuerza centrífuga.

G. EFECTO DEL PERALTE DE LA VÍA

El peralte provoca un desequilibrio en las reacciones de los carriles.



$\text{sen } \alpha = \frac{0,169}{4,35} = 0,1778$ $\alpha = 6,763°$

$s = 1,435 \cdot \cos \alpha = 1,425$ m

$e = 1,80 \cdot \text{sen } \alpha = 0,212$

$R_e = P\left(\frac{s}{2}+e\right)\Big/s = 0,648\ P$

$R_e = P\left(\frac{s}{2}+e\right)\Big/s = 0,352\ P$ | sin fuerza centrífuga

A efectos de reacciones se considera como un descentramiento de la carga de 0,212 m.

H. FUERZA CENTRÍFUGA

- *Según la IPF-75*

$$F_c = Q \cdot \frac{V^2}{127 \cdot R}$$

Con V = 200 km/h

R = 6000 m

Q = 12 t/ml

$F_c = 12 \cdot \frac{(200)^2}{127 \cdot 6000} = 0,525$ t/ml 0,525 $\cdot\left(\frac{38,00+40,00}{2}\right) =$ 20,47 t

Según el EC-1, para una velocidad de 350 km/h.

Se realiza la comprobación para varios casos:

a) L =1,6 . 4 = 6,4 m. Correspondiente a 4 ejes de 25 t cada uno del tren LM 71 del EC-1

f = 0,73 Q = 4.25=100 t.

$Q_{tk} = \frac{V^2}{127 \cdot R}(f.Q) = \frac{350^2}{127 \cdot 6000} \cdot (0,73 \cdot 100) = 11,75$ t

Incluso en la hipótesis de que esta carga fuese resistida por una única pila, hipótesis muy conservadora, pues la rigidez del tablero reparte entre varias pilas, condiciona la carga repartida de IPF.

b) L = 10 m f = 0,63 Q = 4 .25+(10 – 4 . 1,6).8 = 128,8 t

$Q_n = 0,63 \cdot 128,8 \cdot \frac{350^2}{127 \cdot 6000} = 13,04$ t » 1,30 t/ml en los 10 m cargados, por lo que el reparto entre pilas provoca que no condicione.

c) Suponemos 2 vanos cargados y, que conservadoramente que la pila central soporte la carga de la mitad de cada vano.

$L = \frac{38+40,00}{2} = 39,00$ m

f = 0,385 Q = 4x25+(39,00 – 4 . 1,6) . 8 = 360,8 t

$Q_n = \frac{0,385 \cdot 360,8 \cdot 350^2}{127 \cdot 6000} = 22,33$ t 0,571 t/ml

Que condiciona frente al valor del la IPF-75.

El tren SW0/SW2 no condiciona al ser V ≤ 80 km/h.

Como se puede comprobar condiciona al EC1, y habrá que considerar para los efectos locales el reparto de la carga entre carriles de la acción combinada con el peralte.

Para la IPF $F_c = \frac{fQ \cdot V^2}{127 \cdot 6000} = \frac{0,385 \cdot 35^2}{127 \cdot 6000} = 0,52\ Q$

$M = F_c \cdot 1,8 = 0,094 \cdot Q$

$AR = \frac{M}{S} = \frac{0,094}{1,491} \cdot Q = 0,06315 \cdot Q$

Luego: $\begin{cases} R_i = (0,648 - 0,0631) \cdot Q = 0,585 \cdot Q \\ R_e = (0,352 - 0,0691) \cdot Q = 0,415 \cdot Q \end{cases}$

Acciones en cada carril por peralte más fuerza centrífuga.

I. EFECTOS DE FRENADO Y ARRANQUE

Se adopta la Norma EC1 ya que las acciones definidas en la IPF75 son mucho más favorables. (1/8 de la carga frente a 1/4)

Son fuerzas que actúan sobre cota superior de carril. No deben mayorarse dinámicamente

Fuerzas de arranque (por vía)

$F_a = 33\ (KN/m) \cdot L(m) \leq 1.000\ KN$ LM71 y SW

$F_a = 1000\ KN = 102\ t$

Fuerzas de frenado (por vía)

$F_f = 20\ (KN/m) \cdot L(m) \leq 6.000\ (KN)$ LM71 y SW0

$F_f = 20 \cdot (140) = 2800\ kN = 280\ t$

$F_f = 35\ (KN/m) \cdot L(m)$ con L = 50 m SW2 (ponderado por ½)

$F_j = 35 \cdot 50 = 1750\ kN = 178\ t$

La fuerza de frenado se transmitirá a la pila fija.

Se supondrá frenado simultáneo en las 2 vías.

$F_T = 280 \cdot 2 = 560\ t$

Se reducirán al 50% si se considera concominantes con la fuerza centrífuga.

J. EFECTOS DEL VIENTO

Para calcular los efectos de éste en la estructura se va a seguir la IAP-97.

- Velocidad de referencia:
  $V_{ref} = 28$ m/s

- Velocidad de cálculo:
  $Vc = Ct \cdot Cr \cdot Cz \cdot Cg \cdot Vref$
  Ct = factor de topografía = 1,00
  Cr = factor de riesgo (para considerar un periodo de retorno de 100 años) = 1,04
  Cz = factor de altura

Entorno tipo II:

$kz = 0,19$ $z_0 = 0,05$ m $z_{min} = 4$ m

como $z \geq z_{MIN}$ $C = k_z \ln\left(\frac{z}{z_0}\right)$

$C_z = 0,19 \cdot \ln\left(\frac{z}{0,05}\right) = 1,13$ (z = 19,5 m)

$$C_g = \sqrt{\left(1+\frac{7k_z}{C_z \cdot C_t}\right)} = \sqrt{\left(1+\frac{7 \cdot 0,19}{1 \cdot 1,13}\right)} = 1,48$$

Velocidad de cálculo: V_c = Ct ·· Cr ·· Cz· · Cg · Vref =
1,00·1,04·1,13·1,48·28 m/s = 48,30 m/s

· Empuje del viento

$$F = C_d \cdot A\left(\frac{1}{2}\rho V_c^2\right)$$

$$\frac{1}{2}\rho V_c^2 = \frac{1}{2}1,25 \cdot 48,30^2 = 1456 \text{ KN/m}^2 = 0,1456 \text{ t/m}^2$$

· Viento en el tablero
(En lo siguiente se toma conservadoramente el canto máximo; finalmente en los cálculos de pila se toma el valor real asignado a cada punto del eje su canto correspondiente).

– Vacío
- *Zona de vigas artesas*

A = $\sum$ Altura tablero $(1+\eta_i)$ + balasto y traviesas + + 4 carriles + 2 barandillas

Coeficiente de ocultamiento de las 2 artesas.

Espaciamiento relativo = $\frac{4,58}{2,55}$ = 1,79 » η = 0,18

A=0,3+2,55·(1+0,18)+0,80+4·0,18+2·0,5=5,83 m²

Se ha considerado barandilla de 0,5 m² opacas.

– Estructura cargada
- *Zona de vigas artesas*

A = $\sum$ Altura tablero $(1+\eta_i)$ + balasto y traviesas + + 4 carriles + 2 trenes

Coeficiente de ocultamiento de 2 trenes. Con h=3,5 m

Espaciamiento relativo = $\frac{3,3}{3,5}$ = 0,94 » η = 0,097

A = 0,3 + 2,55·(1+0,18) + 0,8 + 4·0,18 + + 3,5·(1+0,097) = 8,67 m²

– Coeficiente de arrastre

$C_D = 2,5 - 0,3\ (B/h_{heq})$

– Vacío
- *Zona de vigas artesas*

C_d=2,5-0,3$\left(\frac{14}{5,83}\right)$=1,78; q=5,83 m²·1,78·0,1456 t/m²= = 1,510 t/ml

– Cargado
- *Zona de vigas artesas*

C_d=2,5-0,3$\left(\frac{14}{8,67}\right)$=2,016; q=8,67 m²·2,016·0,1456 t/m²= 2,54 t/ml

Viento transversal al tablero en estructura vacía =1,510 t/m en zona de 2 artesas.

Viento transversal al tablero en estructura cargada = 2,54 t/ml en zona de 2 artesas.

Viento longitudinal al tablero = 25% de los valores anteriores

K. EFECTOS TÉRMICOS

Dilatación / Contracción térmica uniforme

De acuerdo a IAP:

$\Delta T = KZ^a h^b s^c$
K = 29,13
Z = 3 (zona III o IV)
a = 0,301
h = 2,85 b= -0,148 s = 1

$\Delta T = 34,72^{\circ} \Rightarrow$ Para el cálculo se usará la mitad al ser este valor de la variación máxima absoluta que tendrá el puente, y se supone que se ejecutará a temperaturas medias.

$\Delta T = \pm 17,36\ ^{\circ}C$

Gradiente térmico

De acuerdo a las Bases de Cálculo, el gradiente térmico lo evaluaremos con IAP. No obstante, este cálculo resultará excesivamente conservador, ya que no considera la limitación al gradiente térmico que supone el balasto.

En cualquier caso, con IAP:

$\Delta T_s = K_1\ K_2\ K_3\ \Delta T_{sref}$

$K_1 = 0,85$

$K_2 = 1,09$

$K_3 = 0,90$ (10 cm pavimento)

$\Delta T_{sref} = 9^{\circ}$

luego $\Delta T_s = 7,50\ ^{\circ}C$

L. ACCIONES INDIRECTAS DEBIDAS AL PRETENSADO Y EFECTOS REOLÓGICOS DIFERIDOS

Se tienen en cuenta, calculando su valor a partir de los coeficientes de fluencia y retracción de la EHE.

Se tendrá en cuenta el proceso de ejecución y la secuencia aproximada de tiempos de montaje para la obtención de la edad de los hormigones en el momento de la aplicación del pretensado y demás acciones de carácter permanente.

Las deformaciones impuestas se estiman tomando en consideración la rigidez de los aparatos de apoyo. A estos efectos se considerará para el teflón un coeficiente de rozamiento de:

$\mu = 0,01$ Efectos favorables

$\mu = 0,05$ Efectos desfavorables

M. DESCARRILAMIENTO DE VEHÍCULOS FERROVIARIOS

La hipótesis de descarrilamiento es una situación accidental a comprobar separada e independientemente del resto de acciones distintas de las cargas permanentes.

Se distinguen dos situaciones de diseño:

a) Análisis local de elementos

2 cargas verticales de 5 T/m en 6,4 m. separadas 1,4 m. entre sí actuantes a 2,20 m máximo en cada lado del eje de la vía.

b) Análisis de estabilidad (equilibrio)

Carga de 8 t/m en 20 m. en borde de voladizo, ó a 2,20 m. máximo cada lado del eje de la vía.

Coeficientes de ponderación:

Mayoración de acciones	1,00
Minoración resistencias	1,30 en hormigón 1,00 en acero

N. ACCIONES SÍSMICAS

Según NCSE-94.

La aceleración sísmica básica será menor de 0,04 g y la de cálculo:

$a_c = \rho\ a_b$

ρ = coeficiente adimensional de riesgo

T = 100 años $\rho = 1,3$

$a_c = 1,3 \cdot\ 0,04 = 0,052\ g < 0,06\ s$

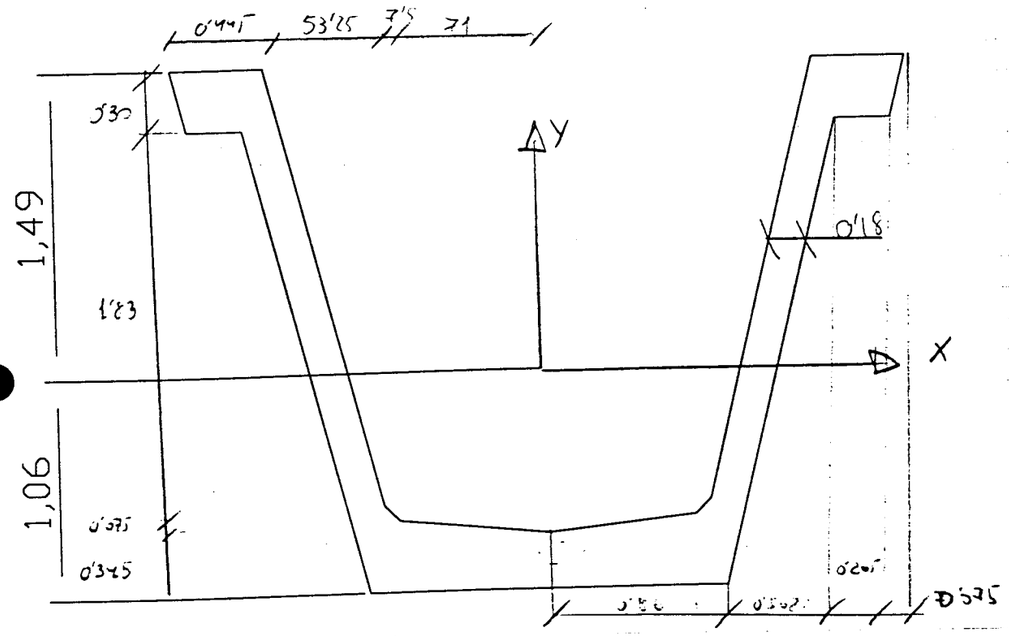
Según esta norma para aceleraciones de cálculo menores de 0,06 g no es necesario tener en cuenta el efecto del sismo.

2.2.3. Tablero. Cálculo longitudinal

2.2.3.1. - Constantes estáticas

En este apartado se tiene como objeto el cálculo de las constantes estáticas de las secciones brutas y en su caso con la consideración de las secciones eficaces.

- VIGAS PREFABRICADAS



$A = 1'5269\ m^2$

$I_x = 1'1943\ m^4$

$I_y = 1'6112\ m^4$

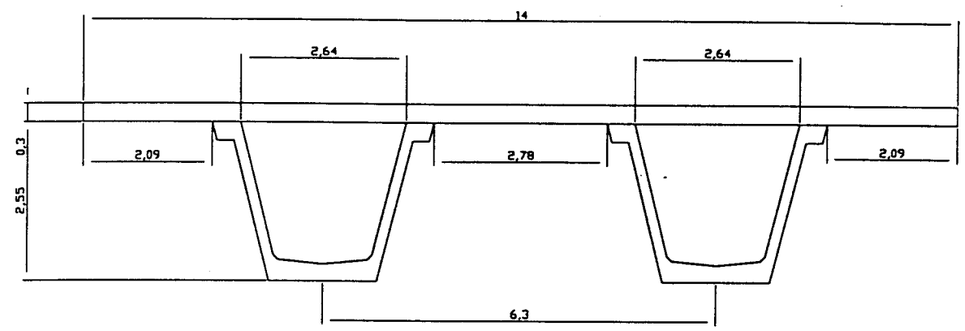
$E = 338219\ kg/m^2$

$I_T = \frac{1}{3} 2'51 \cdot 0'18^3 \cdot 2 + \frac{1'36}{3} \cdot 0'38^3 =$

$= 0'022\ m^4$ (0'026 HUECO-ELIM)

$A_\omega = 2857777\ kg/m^2$

- CÁLCULO DE ANCHOS EFICACES



- En centro de vano 3 => CRITERIO RRX

dudas => $0'7 * 38'00 = 26'6\ m$ $\quad \Psi_{ef,1} = \frac{1}{1 + 6'4 \cdot (b/L)^2}$

$b = 2'09\ m \quad \Psi_{ef,1} \simeq 1'00$

$b = 1'32\ m \quad \Psi_{ef} \simeq 1'00$

$b = 1'39\ m \quad \Psi_{ef} \simeq 1'00$

No hay que considerar anchos eficaces en centro de vano.

- En pila tipo 2 => $L = 0'25\ (30+20) = 12'50\ m$ CRITERIO EHE

$b_{ef} = \frac{L}{10} = 1'25\ m$

$b = 2'09 \simeq > b_{ef}$

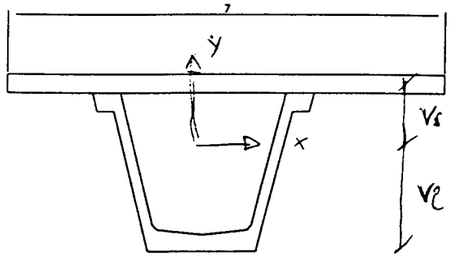
$b = 1'32 < b_f$

$b = 1'39 < b_{ef}$

$b = 0'285 < b_f$

No hace falta considerar anchos eficaces.

- Sección homogeneizada : (a E = 285770 kg/cm²)



$$V_s = \frac{1'52 \cdot 1'18 \cdot 1'79 + 0'15 \cdot 0'30 \cdot 7'00}{1'52 \cdot 1'18 + 0'30 \cdot 7'00} = 0'905\,m \qquad V_i = 1'945\,m$$

$$A = 1'52 \cdot 1'18 + 0'30 \cdot 7'00 = 3'893\,m^2$$

$$I_x = 1'1943 \cdot 1'18 + \frac{1}{12} \cdot 7 \cdot 0'3^3 + 1'52 \cdot 1'18 \cdot (0'905 - 1'79)^2 + 0'3 \cdot 7 \cdot (0'15 - 0'905)^2 = 4'0268\,m^4/\text{caja}$$

I_y (se adopta el mitad de las 2 secciones) $\Rightarrow$

$$= \frac{1}{2}\left(\frac{1}{12} \cdot 143 \cdot 0'3 + 1'611 \cdot 2 \cdot 1'18 + 1'526 \cdot 1'18 \cdot (3'15)^2\right) =$$

$$= 45'13\,m^4/\text{caja}$$

$$I_{\text{torsión por caja}} = \frac{4A^2}{\int \frac{ds}{t}} = \frac{4 \cdot 5'7568^2}{\frac{2'52}{0'18 \cdot 2} + \frac{2'51}{0'18 \cdot 2 + 1'18} + \frac{1'16}{0'4 \cdot 1'18} + \frac{2'88}{0'30}} = 3'41\,m^4$$

IDEAM

Características de la sección: (Homogeneizada a 285770 kg/cm²)

- Sección caja:

A = 1'801

$I_{\text{flexión}} = 1'41\,m^4$

$I_{\text{flexión total}} = 1'201\,m^4$

- Sección completa / 2 cajas:

$A = 3'893\,m^2$

$I_{\text{flexión}} = 4'0268\,m^4$

$I_{\text{flexión total}} = 45'13\,m^4$

$J = 3'41\,m^4$

2.2.3.2. Modelo de cálculo

A continuación se expone el modelo de cálculo esquematizado de la siguiente manera:

a) - Nudos y elementos longitudinales.

b) - Nudos y elementos transversales.

c) - Entrada de cargas.

d) Fases constructivas con estados de carga.

Los listados de entrada de datos se incluyen al final del anejo.

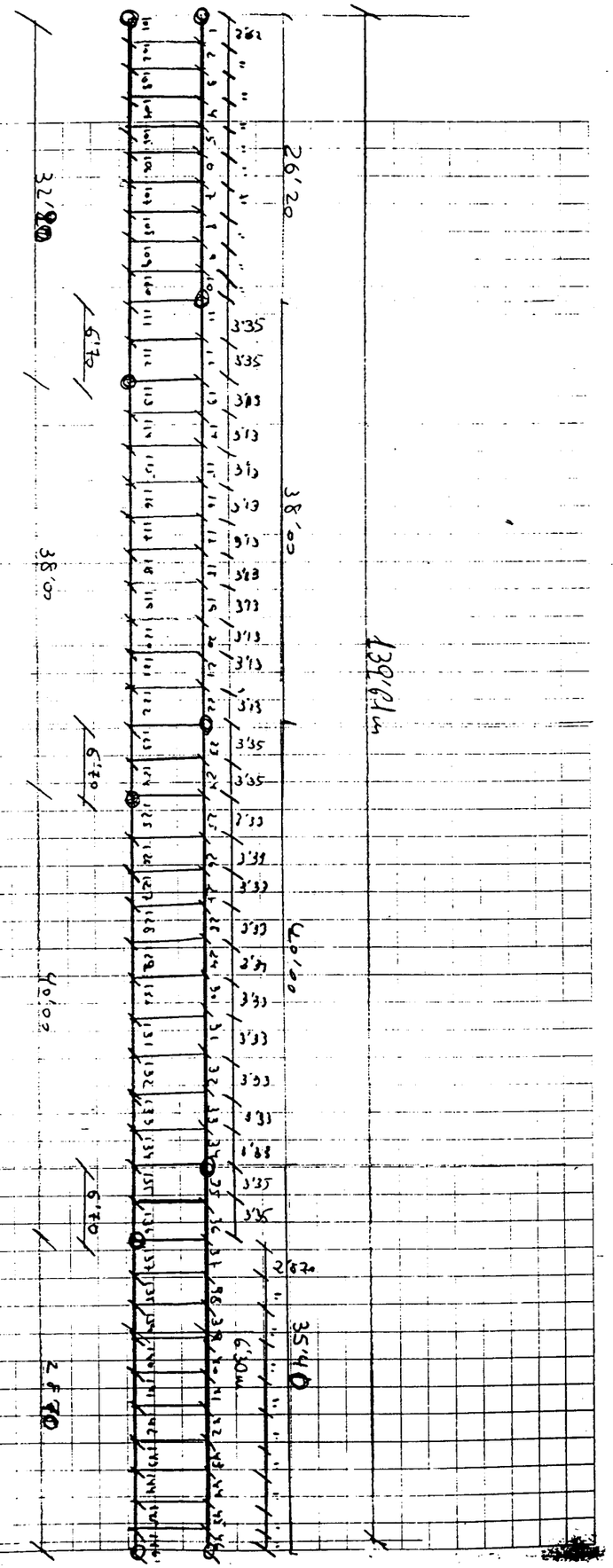
Al final del anejo se incluye un cálculo que determina como ha sido realizado para el cálculo longitudinal el tren de la IPF

a) Nudos y elementos longitudinales.

IDEAM

MODELO DE CÁLCULO

ELEMENTOS BARRAS
LONGITUDINALES

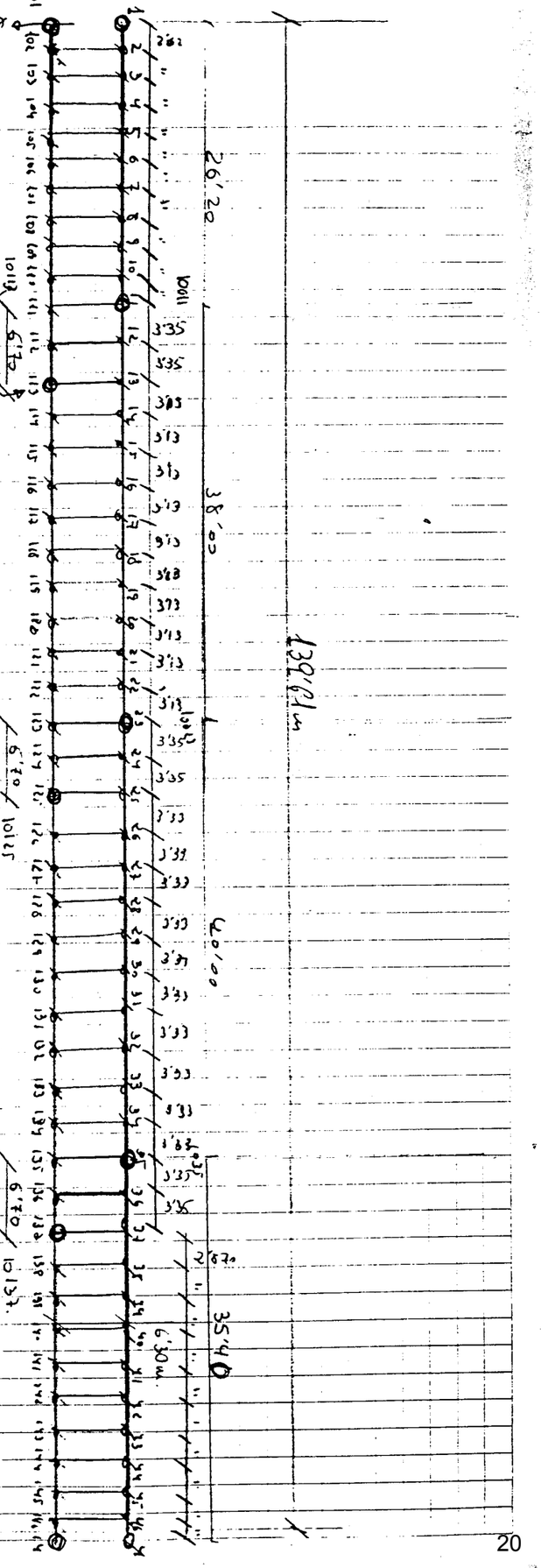


IDEAM

MODELO DE CÁLCULO

NUDOS BARRAS
LONGITUDINALES

Grupo
1 1A46 CALC. INT
2 to1A46 CALC. DEF.
3 Cubos fundaciones

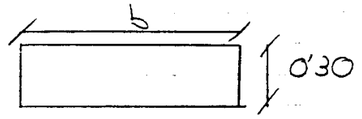


b) Nudos y elementos lineales

A continuación se establecen las dimensiones transversales utilizadas el cálculo utilizado en el libro de "Construcción Mixta" de Julio Martínez Calzón.

Elements de 401 a 447 y 301 a 347 → rígidos

Elements de 201 a 247:

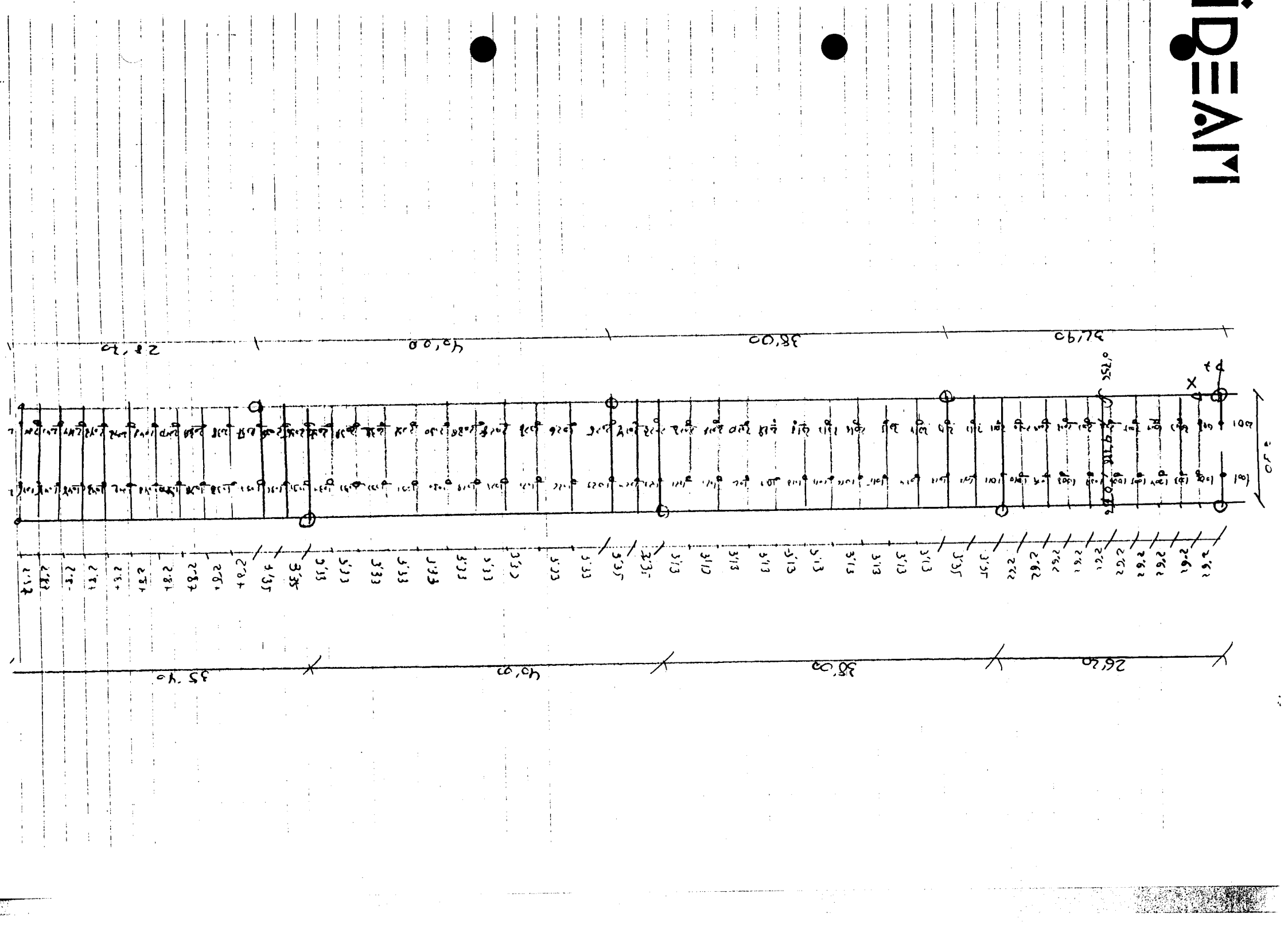


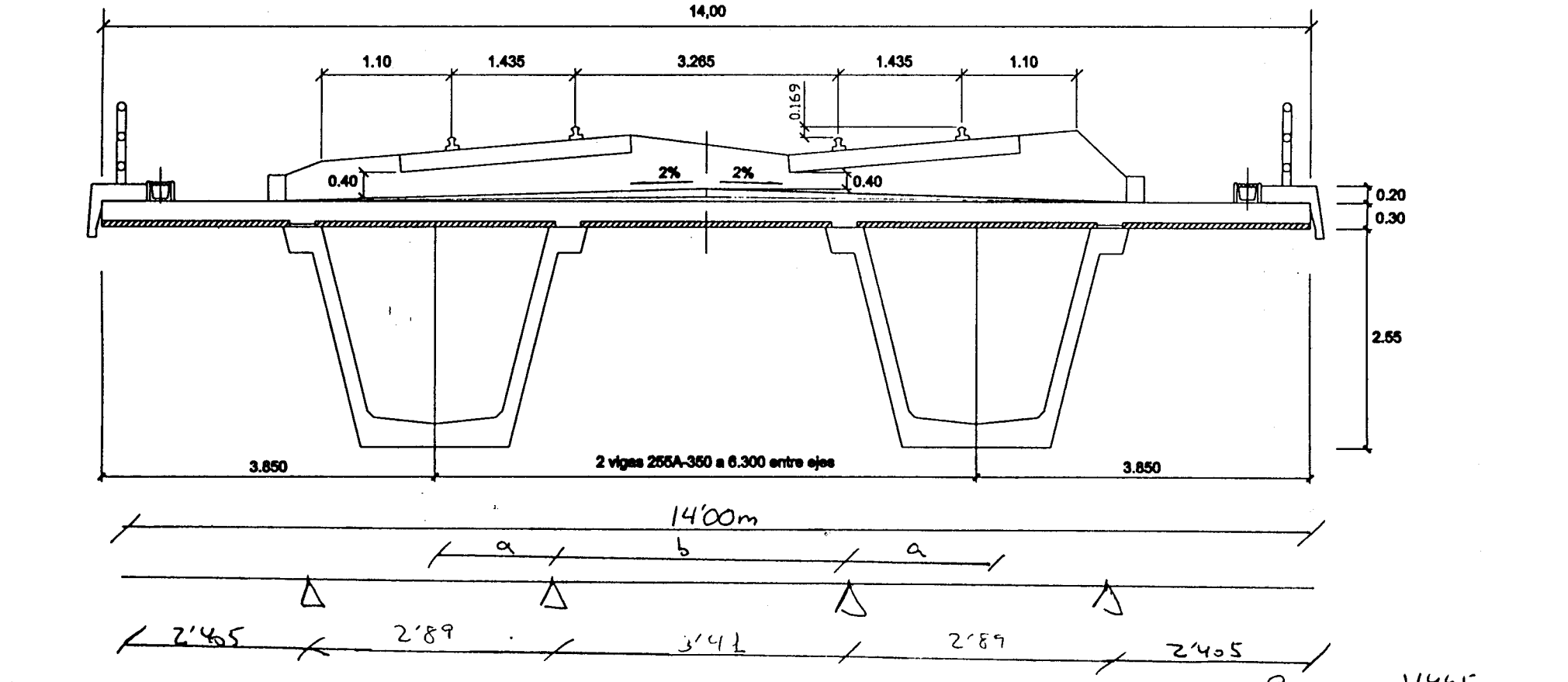
Hormigón tipo H-E = 205770 kg/cm²

		b(m)	$I_t(m^4)$	$I_T(m^4)$	$J(m^4)$	A(m²
A1	201	1'31	0'00295	0'956	0'00822	0'393
A2	202 A 210	2'62	0'0059	0'449	0'0165	0'786
A3	211	2'985	0'00672	0'662	0'01886	0'8955
A4	212, 224, 236	3'35	0'00754	0'9398	0'02117	1'005
A5	213, 225, 237	5'24	0'00729	0'8503	0'02047	0'972
A6	214 A 221	3'13	0'00702	0'7666	0'01978	0'939
A7	223	3'24	0'00729	0'85	0'02047	0'972
A8	226 A 234	3'33	0'00749	0'923	0'02104	0'994
A9	235	3'20	0'00698	0'744	0'01954	0'93
A10	238 A 246	2'87	0'00646	0'591	0'01813	0'861
A11	247	1'435	0'00323	0'078	0'00907	0'4305

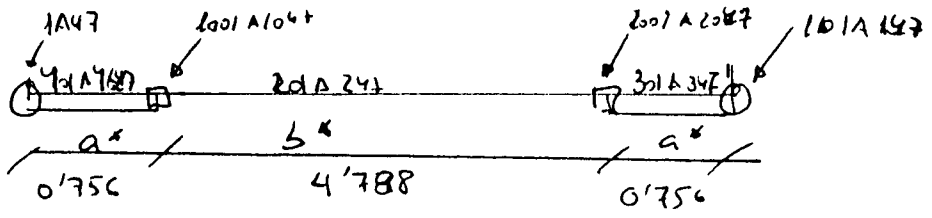
$I_t = \frac{1}{12} \cdot b \cdot 0'3^3$ $\quad J = \frac{b^*}{b} * \frac{0'3^3 \cdot b}{6}$

$I = \frac{1}{12} \cdot 0'3\ b^3$ $\quad b^* = 4'788m$ $b = 3'41m$





Modelización ficticia de barras transversales:



$$\alpha = \frac{a}{(2a+b)} = \frac{1'445}{(2\cdot 1'445 + 3'41)} = 0'229$$

$$\beta = \frac{a^*}{a} = 0'5235$$

c) Entrada de cargas

LOS ESTADOS DE CARGA INTRODUCIDOS SON:

- PPVIGAS → Peso propio vigas

"PPVIGAS"

PPvigas = 1'53 × 2'50 t/m3 = 3'825 t/ml en elementos 1A46 101A46.

- PESO PROPIO LOSA las acciones de este estado son obtenidas del modelo de calculo tomando como elemento tipo de "PPLOSA"

1A46 VIGA IZQUIERDA $P_y = -5'25$ tn/m
$m_x = -2'58$ mtn/m

101A146 VIGA DERECHA $P_y = -5'25$ tn/m
$m_x = 2'58$ mtn/m

- CARGA MUERTA MAXIMA

"CMmax"	P_y (tn/m)	m_x (tn·m/m)
1A46 VIGA IZQUIERDA	-11'79	2'01
101A146 VIGA DERECHA	-13'04	-1'02

- CARGA MUERTA MINIMA

"CMmin"	P_y (tn/m)	m_x (tn·m/m)
1A46 VIGA IZQUIERDA	-8'13	-0'48
101A146 VIGA DERECHA	-8'79	1'02

- GRADIENTE "GRAD"

$\Delta T = 7'50^{\circ}C$ en barra 1A46 y 101A146

- SOBRECARGAS → Para simplificar:

"SOBRECARGA DERE" 101A147 — $F_y = -0'80$ t/m, $M_x = 2'41$ t·m/m
GRUPO 2

"SOBRECARGA IZQ" 1A47 — $F_y = -0'80$ t/m, $M_x = -2'41$ t·m/m
GRUPO 1

- ENVOLVENTES DE TRENES: →

"POS DER"
"POS DERD"
"POS DERI"

"POS DER EXT"
"POS DEREXTD"
"POS DER EXT I"

"POS DER INT"
"POS DER INTD"
"POS DER INTI"

"POS IZQ"
"POS IZQ D"
"POS IZQ I"

"POS IZQ EXT"
"POS IZQ EXT D"
"POS IZQ EXT I"

"POS IZQ INT"
"POS IZQINTD"
"POS IZQ INTI"

Para el caso de 6 trenes se introducen trenes de 10 t/m para cada uno de las 6 distintas posiciones de los trenes, con ello se demuestra que en la envolvente también tiene en cuenta como para un tren de 6 ejes,

Las cargas introducidas son las de la siguiente tabla multiplicadas por 10 t/m.

Del estudio que se incluye a continuación se deduce que el tren condicionante para el cálculo de la losa es DERINT e IZQINT, para el cálculo conjunto no es la condicionante para no ser así, para el cálculo se multiplica por 1'08 en ambos casos, para tenerlo en cuenta.

+ hacia arriba

- Descripción introducción de cargas de frenado

Factores para introducir las cargas de frenado.

		P(tn/m)	mt(mtn)
-Pos DER	DERI		
Grupo 1 DER	"Pos DERI"	+0'06	-0'13
"Grupo 2" DER	"Pos DER D"	-1'06	-0'82
"-Pos DER EXT"	DEREXT		
Grupo 1 -DER	"Pos DEREXT I"	+0'07	-0'16
Grupo 2 -DER	"Pos DEREXT D"	-1'07	-0'17
"-Pos DER INT"	DERINT		
Grupo 1 -DER	"Pos DERINT I"	+0'04	-0'08
Grupo 2 -DER	"Pos DERINT D"	-1'04	-1'03
"-Pos I+Q"	I+Q		
Grupo 1 -I+Q	"Pos I+Q I"	-1'03	1'11
Grupo 2 -DER	"Pos I+Q D"	0'03	0'06
"-Pos I+Q EXT"	I+Q EXT		
Grupo 1 -I+Q	"Pos I+Q EXT I"	-1'06	0'53
Grupo 2 -DER	"Pos I+Q EXT D"	0'06	0'12
"-Pos I+Q INT"	I+Q INT		
Grupo 1 -I+Q	"Pos I+Q INT I"	-0'98	1'23
Grupo 2 -DER	"Pos I+Q INT D"	0'02	-0'09

En cada caso la carga genérica de frenado se introduce multiplicada por estos factores

- Momentos flectores en viga Cargas de cálculo: (mtn)

	DER	DEREXT	DERINT	I+Q	I+QINT	I+Q EXT
Mt Der	577'5	606'3	548'85	95	425'55	96'81
M+ I+Q	133	112'25	153'66	5'04	47'76	530'40

A priori parece que condiciona el paso de frenado para hg que tome en cuenta que la fuerza no es el paso de frenado sino de 2 frenados:

	DEREXT + I+Q EXT	DERINT + I+QINT
Mt Der	702'8 mtn	680 mtn
M- Der	642'65 mtn	632'42 mtn

	DEREXT + DERING	DERING + I+Q EXT
M+ Der	732'27	625'7
M- Der	591	682'06

De esta manera se deduce que para el cálculo longitudinal se puede utilizar DEREXT + DERINT multiplicado por los siguientes factores:

DERINT x (732/680 = 1'07)

DERINT x (684/632 = 1'02)

IDEAM

Contantes en vigas Longitudinales: (tn)

	DEREXT.	DERINT	ITREEXT	ITRAINT.
1	-6'5	-14	-85	-81
10011	16	31'24	120	115
[redacted]	27	30	147	140
10023	14'4	30	165	156
23	0	-17	-164	-155'7
10035	23'30	39	174'5	166
35	1'28	-16'95	-176	-167
47	1'58	13'21	115	109
101	-121'9	-110'	-64	-71
10113	186'8	169	19	21'99
[redacted]	-131'4	-166	-35	-36
10125	183'9	166	19	21
125	-188'7	-173	-37	-37'6
10137	179'4	163	16'9	18'49
137	-126'05	-111	-38?	-38
147	105'28	96'8	18'63	19

DEREXT ≈ 1'01 · DERINT

INTREXT ≈ 1'08 · INTRINT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-6.75	5.71	1.12
1	2	2.62	-8.58	9.90	21.21
2	2	2.62	-7.97	13.36	23.33
2	3	5.24	-9.81	17.55	46.62
3	3	5.24	-6.99	14.06	48.42
3	4	7.86	-8.82	18.25	69.13
4	4	7.86	-4.27	9.28	70.48
4	5	10.48	-6.10	13.47	84.06
5	5	10.48	-0.35	0.74	84.87
5	6	13.10	-2.18	4.94	88.19
6	6	13.10	4.18	-9.72	88.45
6	7	15.72	2.34	-5.52	79.91
7	7	15.72	8.74	-20.28	79.61
7	8	18.34	6.90	-16.09	59.13
8	8	18.34	12.79	-29.25	58.34
8	9	20.96	10.96	-25.06	27.23
9	9	20.96	15.87	-35.16	26.04
9	10	23.58	14.04	-30.97	-13.14
10	10	23.58	17.64	-36.92	-14.59
10	10011	26.20	15.81	-32.73	-58.40
11	11	26.20	1.70	-34.14	-60.13
11	12	29.55	-0.64	-28.78	-61.91
12	12	29.55	-0.24	-23.17	-63.42
12	13	32.90	-2.58	-17.81	-58.71
13	13	32.90	-3.36	-8.71	-58.98
13	14	36.03	-5.55	-3.70	-45.05
14	14	36.03	-5.74	3.34	-44.20
14	15	39.16	-7.93	8.35	-22.81
15	15	39.16	-6.56	10.49	-21.44
15	16	42.29	-8.75	15.49	2.52
16	16	42.29	-5.53	11.78	3.94
16	17	45.42	-7.72	16.79	24.68
17	17	45.42	-2.83	7.81	25.82
17	18	48.55	-5.02	12.82	38.09
18	18	48.55	1.04	0.18	38.74
18	19	51.68	-1.15	5.19	38.91
19	19	51.68	5.37	-8.90	38.95
19	20	54.81	3.18	-3.90	25.57
20	20	54.81	9.40	-17.03	24.99
20	21	57.94	7.20	-12.02	-0.99
21	21	57.94	12.38	-21.87	-2.10
21	22	61.07	10.19	-16.87	-37.43
22	22	61.07	13.74	-21.59	-38.90
22	10023	64.20	11.55	-16.59	-78.48
23	23	64.20	-1.58	-15.16	-80.06
23	24	67.55	-3.92	-9.80	-70.85
24	24	67.55	-4.23	-1.92	-72.02
24	25	70.90	-6.58	3.44	-53.92

DEREXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-7.77	13.89	-53.84
25	26	74.23	-10.10	19.22	-24.09
26	26	74.23	-10.34	26.86	-22.73
26	27	77.56	-12.67	32.18	15.58
27	27	77.56	-10.75	33.02	17.49
27	28	80.89	-13.08	38.35	57.18
28	28	80.89	-8.69	31.39	59.09
28	29	84.22	-11.02	36.72	91.90
29	29	84.22	-4.41	22.80	93.45
29	30	87.55	-6.74	28.12	112.02
30	30	87.55	1.44	9.25	112.95
30	31	90.88	-0.89	14.58	112.05
31	31	90.88	8.01	-6.56	112.25
31	32	94.21	5.68	-1.23	89.46
32	32	94.21	14.37	-21.71	88.91
32	33	97.54	12.04	-16.38	44.94
33	33	97.54	19.63	-33.37	43.71
33	34	100.87	17.30	-28.04	-17.77
34	34	100.87	23.04	-39.22	-19.48
34	10035	104.20	20.71	-33.89	-92.32
35	35	104.20	-0.78	-37.59	-94.09
35	36	107.55	-3.13	-32.23	-87.54
36	36	107.55	-2.06	-29.62	-88.87
36	37	110.90	-4.41	-24.26	-78.03
37	37	110.90	-4.43	-18.23	-78.39
37	38	113.77	-6.43	-13.64	-62.81
38	38	113.77	-6.16	-8.55	-62.29
38	39	116.64	-8.17	-3.95	-41.73
39	39	116.64	-6.85	-2.14	-40.79
39	40	119.51	-8.86	2.45	-18.25
40	40	119.51	-6.26	0.22	-17.24
40	41	122.38	-8.26	4.81	3.60
41	41	122.38	-4.50	-1.08	4.40
41	42	125.25	-6.51	3.51	20.21
42	42	125.25	-1.98	-4.82	20.61
42	43	128.12	-3.98	-0.23	29.17
43	43	128.12	0.79	-9.31	29.08
43	44	130.99	-1.22	-4.72	29.70
44	44	130.99	3.16	-12.56	29.09
44	45	133.86	1.15	-7.97	22.91
45	45	133.86	4.52	-12.62	21.81
45	46	136.73	2.51	-8.03	11.74
46	46	136.73	4.31	-7.76	10.29
46	47	139.60	2.30	-3.17	0.79
101	101	0.00	-117.54	0.33	-1.12
101	102	2.62	-89.51	15.26	270.10
102	102	2.62	-90.12	7.95	267.98
102	103	5.24	-62.08	22.88	467.37

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DEREXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-64.90	8.63	465.57
103	104	7.86	-36.87	23.56	598.88
104	104	7.86	-41.42	3.82	597.54
104	105	10.48	-13.39	18.76	669.34
105	105	10.48	-19.14	-4.74	668.53
105	106	13.10	8.89	10.19	681.95
106	106	13.10	2.53	-15.23	681.69
106	107	15.72	30.57	-0.29	638.33
107	107	15.72	24.17	-25.82	638.62
107	108	18.34	52.21	-10.88	538.56
108	108	18.34	46.32	-34.81	539.35
108	109	20.96	74.36	-19.88	381.26
109	109	20.96	69.44	-40.75	382.45
109	110	23.58	97.47	-25.82	163.80
110	110	23.58	93.87	-42.55	165.24
110	111	26.20	121.91	-27.61	-117.43
111	111	26.20	119.51	-41.30	-115.70
111	112	29.55	155.35	-22.20	-576.10
112	112	29.55	154.95	-30.37	-574.59
112	10113	32.90	190.79	-11.27	-1154.00
113	113	32.90	-183.81	-15.49	-1153.43
113	114	36.03	-150.32	2.35	-630.52
114	114	36.03	-150.13	-3.49	-631.38
114	115	39.16	-116.64	14.35	-213.89
115	115	39.16	-118.00	3.61	-215.26
115	116	42.29	-84.51	21.45	101.67
116	116	42.29	-87.73	4.85	100.26
116	117	45.42	-54.24	22.69	322.45
117	117	45.42	-59.14	0.83	321.31
117	118	48.55	-25.65	18.67	454.00
118	118	48.55	-31.70	-6.85	453.36
118	119	51.68	1.79	10.99	500.18
119	119	51.68	-4.73	-16.00	500.14
119	120	54.81	28.76	1.84	462.54
120	120	54.81	22.54	-24.19	463.12
120	121	57.94	56.03	-6.35	340.15
121	121	57.94	50.85	-29.10	341.27
121	122	61.07	84.35	-11.26	129.68
122	122	61.07	80.80	-28.90	131.15
122	123	64.20	114.29	-11.06	-174.15
123	123	64.20	112.62	-23.00	-172.56
123	124	67.55	148.46	-3.90	-609.87
124	124	67.55	148.77	-9.85	-608.70
124	10125	70.90	184.62	9.25	-1167.00
125	125	70.90	-189.21	6.31	-1167.21
125	126	74.23	-153.58	25.29	-596.47
126	126	74.23	-153.34	19.17	-597.83
126	127	77.56	-117.71	38.15	-146.54

DEREXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-119.62	25.23	-148.45
127	128	80.89	-83.99	44.21	190.57
128	128	80.89	-88.39	23.48	188.66
128	129	84.22	-52.76	42.46	423.67
129	129	84.22	-59.37	14.75	422.12
129	130	87.55	-23.73	33.73	560.48
130	130	87.55	-31.91	1.07	559.54
130	131	90.88	3.72	20.06	606.49
131	131	90.88	-5.18	-14.88	606.29
131	132	94.21	30.45	4.10	564.23
132	132	94.21	21.75	-30.19	564.78
132	133	97.54	57.39	-11.21	433.01
133	133	97.54	49.80	-42.02	434.24
133	134	100.87	85.43	-23.04	209.09
134	134	100.87	79.69	-48.05	210.80
134	135	104.20	115.32	-29.07	-113.87
135	135	104.20	112.09	-45.67	-112.11
135	136	107.55	147.94	-26.57	-547.67
136	136	107.55	146.87	-35.90	-546.34
136	10137	110.90	182.72	-16.80	-1098.00
137	137	110.90	-180.07	-22.72	-1098.04
137	138	113.77	-149.36	-6.36	-625.32
138	138	113.77	-149.63	-13.20	-625.84
138	139	116.64	-118.93	3.16	-240.46
139	139	116.64	-120.24	-6.96	-241.41
139	140	119.51	-89.53	9.40	59.62
140	140	119.51	-92.14	-4.75	58.61
140	141	122.38	-61.43	11.61	278.97
141	141	122.38	-65.19	-6.20	278.17
141	142	125.25	-34.48	10.16	421.19
142	142	125.25	-39.02	-10.09	420.78
142	143	128.12	-8.31	6.27	488.69
143	143	128.12	-13.08	-14.71	488.77
143	144	130.99	17.63	1.65	482.24
144	144	130.99	13.25	-18.11	482.85
144	145	133.86	43.96	-1.75	400.76
145	145	133.86	40.59	-18.30	401.85
145	146	136.73	71.30	-1.94	241.28
146	146	136.73	69.50	-13.58	242.73
146	147	139.60	100.21	2.78	-0.79

DERI

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERI

10TN/M EN NERVIO DERECHO

[1; 1]DERI

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-11.58	4.14	1.02
1	2	2.62	-13.15	31.91	33.41
2	2	2.62	-10.90	33.13	35.33
2	3	5.24	-12.47	36.53	65.95
3	3	5.24	-8.30	31.72	67.59
3	4	7.86	-9.87	35.13	91.38
4	4	7.86	-4.17	25.55	92.62
4	5	10.48	-5.74	28.96	105.60
5	5	10.48	1.01	16.13	106.36
5	6	13.10	-0.56	19.53	105.77
6	6	13.10	6.73	5.05	106.03
6	7	15.72	5.16	8.46	90.46
7	7	15.72	12.46	-6.06	90.22
7	8	18.34	10.89	-2.65	59.62
8	8	18.34	17.74	-15.67	58.93
8	9	20.96	16.17	-12.26	14.51
9	9	20.96	22.13	-22.45	13.44
9	10	23.58	20.55	-19.04	-42.47
10	10	23.58	25.29	-25.36	-43.80
10	10011	26.20	23.72	-21.95	-108.01
11	11	26.20	-6.81	-24.03	-109.64
11	12	29.55	-8.82	-19.68	-83.47
12	12	29.55	-6.80	-14.95	-84.96
12	13	32.90	-8.81	-10.59	-58.83
13	13	32.90	-8.06	-2.16	-59.16
13	14	36.03	-9.94	1.91	-30.98
14	14	36.03	-8.80	8.75	-30.24
14	15	39.16	-10.67	12.82	0.23
15	15	39.16	-8.14	15.30	1.48
15	16	42.29	-10.01	19.37	29.89
16	16	42.29	-5.77	16.50	31.21
16	17	45.42	-7.65	20.57	52.21
17	17	45.42	-1.83	12.79	53.30
17	18	48.55	-3.71	16.86	61.97
18	18	48.55	3.23	5.56	62.62
18	19	51.68	1.35	9.63	55.45
19	19	51.68	8.79	-3.21	55.56
19	20	54.81	6.91	0.86	30.99
20	20	54.81	14.14	-11.32	30.52
20	21	57.94	12.27	-7.25	-10.81
21	21	57.94	18.61	-16.59	-11.80
21	22	61.07	16.73	-12.52	-67.10
22	22	61.07	21.60	-17.23	-68.44
22	10023	64.20	19.73	-13.16	-133.13
23	23	64.20	-10.08	-12.11	-134.64
23	24	67.55	-12.09	-7.76	-97.52
24	24	67.55	-10.79	-0.39	-98.70
24	25	70.90	-12.80	3.97	-59.17

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERI

10TN/M EN NERVIO DERECHO

[1; 1]DERI

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-12.51	14.13	-59.18
25	26	74.23	-14.51	18.46	-14.20
26	26	74.23	-13.39	26.35	-13.00
26	27	77.56	-15.39	30.68	34.91
27	27	77.56	-12.32	32.44	36.65
27	28	80.89	-14.31	36.77	80.99
28	28	80.89	-8.95	31.33	82.78
28	29	84.22	-10.95	35.66	115.91
29	29	84.22	-3.50	23.66	117.38
29	30	87.55	-5.50	27.99	132.35
30	30	87.55	3.48	11.19	133.29
30	31	90.88	1.49	15.52	125.01
31	31	90.88	11.23	-3.68	125.28
31	32	94.21	9.23	0.65	91.21
32	32	94.21	18.89	-18.27	90.77
32	33	97.54	16.90	-13.94	31.18
33	33	97.54	25.63	-29.93	30.10
33	34	100.87	23.64	-25.60	-51.94
34	34	100.87	30.73	-36.41	-53.52
34	10035	104.20	28.74	-32.08	-152.54
35	35	104.20	-9.89	-35.89	-154.23
35	36	107.55	-11.90	-31.54	-117.74
36	36	107.55	-9.49	-29.14	-119.07
36	37	110.90	-11.50	-24.79	-83.92
37	37	110.90	-10.23	-18.79	-84.36
37	38	113.77	-11.95	-15.06	-52.52
38	38	113.77	-10.52	-9.60	-52.12
38	39	116.64	-12.24	-5.87	-19.46
39	39	116.64	-9.92	-3.22	-18.64
39	40	119.51	-11.64	0.51	12.29
40	40	119.51	-8.17	-0.45	13.19
40	41	122.38	-9.89	3.28	39.10
41	41	122.38	-5.36	-1.02	39.84
41	42	125.25	-7.08	2.71	57.69
42	42	125.25	-1.81	-3.91	58.09
42	43	128.12	-3.54	-0.18	65.76
43	43	128.12	1.99	-7.62	65.73
43	44	130.99	0.27	-3.89	62.49
44	44	130.99	5.50	-10.42	61.99
44	45	133.86	3.78	-6.68	48.66
45	45	133.86	8.17	-10.55	47.74
45	46	136.73	6.45	-6.82	26.75
46	46	136.73	9.51	-6.50	25.51
46	47	139.60	7.79	-2.77	0.68
101	101	0.00	-110.91	-4.12	-1.02
101	102	2.62	-83.14	17.36	253.19
102	102	2.62	-85.39	1.99	251.27
102	103	5.24	-57.61	23.48	438.59

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Programa DINTEL IDEAM S.A.
DERI
01/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERI

10TN/M EN NERVIO DERECHO

[1; 1]DERI

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-61.79	1.98	436.96
103	104	7.86	-34.02	23.47	562.46
104	104	7.86	-39.72	-2.88	561.22
104	105	10.48	-11.95	18.60	628.91
105	105	10.48	-18.70	-11.10	628.14
105	106	13.10	9.07	10.39	640.75
106	106	13.10	1.79	-21.04	640.49
106	107	15.72	29.56	0.44	599.43
107	107	15.72	22.25	-31.09	599.67
107	108	18.34	50.02	-9.61	504.99
108	108	18.34	43.18	-39.72	505.69
108	109	20.96	70.95	-18.24	356.19
109	109	20.96	64.99	-45.59	357.26
109	110	23.58	92.76	-24.11	150.61
110	110	23.58	88.02	-47.65	151.94
110	111	26.20	115.79	-26.16	-115.06
111	111	26.20	112.01	-47.94	-113.43
111	112	29.55	147.52	-20.47	-548.13
112	112	29.55	145.49	-37.94	-546.65
112	10113	32.90	181.00	-10.47	-1094.00
113	113	32.90	-175.60	-23.59	-1093.20
113	114	36.03	-142.42	2.08	-595.51
114	114	36.03	-143.56	-11.97	-596.25
114	115	39.16	-110.39	13.69	-198.82
115	115	39.16	-112.92	-4.77	-200.07
115	116	42.29	-79.74	20.89	101.45
116	116	42.29	-83.99	-2.99	100.13
116	117	45.42	-50.81	22.68	311.10
117	117	45.42	-56.63	-6.17	310.01
117	118	48.55	-23.45	19.49	435.33
118	118	48.55	-30.39	-12.93	434.67
118	119	51.68	2.79	12.74	477.86
119	119	51.68	-4.65	-21.28	477.76
119	120	54.81	28.53	4.39	440.38
120	120	54.81	21.30	-29.00	440.85
120	121	57.94	54.48	-3.34	322.27
121	121	57.94	48.13	-33.94	323.25
121	122	61.07	81.31	-8.27	120.67
122	122	61.07	76.44	-34.29	122.02
122	123	64.20	109.61	-8.62	-169.15
123	123	64.20	106.44	-29.67	-167.64
123	124	67.55	141.95	-2.20	-583.69
124	124	67.55	140.66	-17.72	-582.51
124	10125	70.90	176.17	9.75	-1113.00
125	125	70.90	-181.24	-2.27	-1113.17
125	126	74.23	-145.94	25.04	-568.41
126	126	74.23	-147.06	10.09	-569.61
126	127	77.56	-111.76	37.40	-138.67

DERI

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERI

10TN/M EN NERVIO DERECHO

[1; 1]DERI

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-114.83	16.29	-140.41
127	128	80.89	-79.54	43.60	183.21
128	128	80.89	-84.90	15.25	181.43
128	129	84.22	-49.60	42.56	405.37
129	129	84.22	-57.05	7.62	403.90
129	130	87.55	-21.75	34.93	535.11
130	130	87.55	-30.73	-4.84	534.18
130	131	90.88	4.57	22.47	577.75
131	131	90.88	-5.18	-19.73	577.48
131	132	94.21	30.12	7.57	535.96
132	132	94.21	20.46	-34.37	536.39
132	133	97.54	55.76	-7.07	409.50
133	133	97.54	47.02	-46.13	410.58
133	134	100.87	82.31	-18.83	195.24
134	134	100.87	75.22	-52.74	196.82
134	135	104.20	110.52	-25.43	-112.42
135	135	104.20	105.88	-50.79	-110.73
135	136	107.55	141.39	-23.32	-524.93
136	136	107.55	138.99	-40.89	-523.59
136	10137	110.90	174.50	-13.42	-1049.00
137	137	110.90	-172.73	-27.39	-1048.23
137	138	113.77	-142.31	-3.85	-596.15
138	138	113.77	-143.74	-18.36	-596.55
138	139	116.64	-113.32	5.18	-227.66
139	139	116.64	-115.65	-12.12	-228.48
139	140	119.51	-85.23	11.41	59.77
140	140	119.51	-88.70	-9.50	58.87
140	141	122.38	-58.27	14.04	269.77
141	141	122.38	-62.81	-10.21	269.03
141	142	125.25	-32.38	13.33	405.63
142	142	125.25	-37.65	-13.23	405.23
142	143	128.12	-7.23	10.30	469.63
143	143	128.12	-12.75	-17.07	469.66
143	144	130.99	17.67	6.46	462.61
144	144	130.99	12.43	-20.00	463.11
144	145	133.86	42.85	3.54	383.77
145	145	133.86	38.46	-20.26	384.69
145	146	136.73	68.89	3.28	230.65
146	146	136.73	65.82	-16.34	231.89
146	147	139.60	96.25	7.20	-0.68

DERINT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT

[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-14.09	5.62	0.96
1	2	2.62	-15.14	7.72	39.25
2	2	2.62	-12.59	12.17	41.06
2	3	5.24	-13.64	14.26	75.42
3	3	5.24	-9.20	12.76	76.96
3	4	7.86	-10.25	14.85	102.44
4	4	7.86	-4.30	8.61	103.61
4	5	10.48	-5.35	10.70	116.26
5	5	10.48	1.65	1.14	116.99
5	6	13.10	0.60	3.23	114.06
6	6	13.10	8.16	-8.13	114.32
6	7	15.72	7.12	-6.03	94.30
7	7	15.72	14.77	-17.66	94.09
7	8	18.34	13.72	-15.56	56.77
8	8	18.34	20.99	-26.00	56.13
8	9	20.96	19.95	-23.90	2.50
9	9	20.96	26.43	-31.86	1.49
9	10	23.58	25.38	-29.76	-66.39
10	10	23.58	30.75	-34.19	-67.66
10	10011	26.20	29.70	-32.09	-146.85
11	11	26.20	-14.12	-32.35	-148.45
11	12	29.55	-15.46	-29.67	-98.89
12	12	29.55	-12.48	-23.11	-100.40
12	13	32.90	-13.82	-20.43	-56.36
13	13	32.90	-12.17	-10.17	-56.77
13	14	36.03	-13.42	-7.67	-16.71
14	14	36.03	-11.51	1.21	-16.08
14	15	39.16	-12.76	3.72	21.90
15	15	39.16	-9.58	8.62	23.03
15	16	42.29	-10.83	11.12	54.97
16	16	42.29	-6.05	10.99	56.20
16	17	45.42	-7.30	13.49	77.10
17	17	45.42	-1.02	8.63	78.15
17	18	48.55	-2.27	11.13	83.30
18	18	48.55	5.13	2.75	83.97
18	19	51.68	3.88	5.25	69.87
19	19	51.68	11.84	-4.88	70.04
19	20	54.81	10.59	-2.38	34.95
20	20	54.81	18.46	-12.23	34.59
20	21	57.94	17.20	-9.73	-21.22
21	21	57.94	24.34	-17.27	-22.08
21	22	61.07	23.09	-14.76	-96.31
22	22	61.07	28.94	-18.23	-97.54
22	10023	64.20	27.69	-15.72	-186.16
23	23	64.20	-18.62	-13.84	-187.61
23	24	67.55	-19.96	-11.16	-122.98
24	24	67.55	-17.43	-3.11	-124.17
24	25	70.90	-18.77	-0.43	-63.53

IDEAM

ESFUERZOS EN LOSA TRANSVERSAL

Máximo flector =>

	M(m-t)
DER	34'83
DERExC	27'21
DERINT	43'66
IZQ	40'76
IZQExC	35'5
IZQINT	43'077

Para el cálculo de la losa en global es conveniente tomar DERINT e IZQINT.

DERINT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT

[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-17.34	10.56	-63.64
25	26	74.23	-18.67	13.22	-3.68
26	26	74.23	-16.54	22.47	-2.63
26	27	77.56	-17.88	25.13	54.68
27	27	77.56	-14.00	28.86	56.26
27	28	80.89	-15.33	31.53	105.10
28	28	80.89	-9.34	28.61	106.75
28	29	84.22	-10.67	31.28	140.08
29	29	84.22	-2.72	22.18	141.48
29	30	87.55	-4.05	24.84	152.74
30	30	87.55	5.40	11.06	153.66
30	31	90.88	4.07	13.73	137.90
31	31	90.88	14.33	-2.60	138.23
31	32	94.21	12.99	0.06	92.74
32	32	94.21	23.30	-16.39	92.42
32	33	97.54	21.96	-13.73	17.07
33	33	97.54	31.53	-27.84	16.13
33	34	100.87	30.20	-25.18	-86.64
34	34	100.87	38.32	-34.74	-88.08
34	10035	104.20	36.99	-32.08	-213.47
35	35	104.20	-19.28	-35.21	-215.09
35	36	107.55	-20.62	-32.53	-148.27
36	36	107.55	-17.14	-29.63	-149.61
36	37	110.90	-18.48	-26.95	-89.93
37	37	110.90	-16.22	-20.26	-90.46
37	38	113.77	-17.37	-17.96	-42.27
38	38	113.77	-15.05	-11.42	-41.99
38	39	116.64	-16.20	-9.12	2.86
39	39	116.64	-13.15	-4.92	3.55
39	40	119.51	-14.30	-2.62	42.94
40	40	119.51	-10.24	-1.60	43.73
40	41	122.38	-11.38	0.69	74.76
41	41	122.38	-6.36	-1.32	75.44
41	42	125.25	-7.51	0.98	95.35
42	42	125.25	-1.80	-3.22	95.74
42	43	128.12	-2.95	-0.92	102.55
43	43	128.12	3.06	-6.03	102.57
43	44	130.99	1.91	-3.74	95.45
44	44	130.99	7.72	-8.25	95.07
44	45	133.86	6.57	-5.95	74.57
45	45	133.86	11.71	-8.34	73.81
45	46	136.73	10.56	-6.05	41.86
46	46	136.73	14.60	-4.99	40.83
46	47	139.60	13.46	-2.70	0.57
101	101	0.00	-107.06	-6.85	-0.96
101	102	2.62	-79.81	20.14	243.84
102	102	2.62	-82.36	-0.36	242.02
102	103	5.24	-55.11	26.62	422.11

CÁLCULO TENSIONAL
Hipótesis de cálculo:
DERINT

[1; 1]DERINT
Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-59.55	0.17	420.56
103	104	7.86	-32.30	27.15	540.88
104	104	7.86	-38.24	-4.04	539.70
104	105	10.48	-10.99	22.94	604.20
105	105	10.48	-17.99	-11.57	603.47
105	106	13.10	9.26	15.41	614.92
106	106	13.10	1.69	-20.90	614.66
106	107	15.72	28.94	6.09	574.54
107	107	15.72	21.29	-30.49	574.74
107	108	18.34	48.53	-3.50	483.28
108	108	18.34	41.26	-38.89	483.92
108	109	20.96	68.51	-11.91	340.12
109	109	20.96	62.02	-44.82	341.13
109	110	23.58	89.27	-17.83	142.94
110	110	23.58	83.90	-47.22	144.21
110	111	26.20	111.15	-20.23	-111.31
111	111	26.20	106.56	-48.93	-109.72
111	112	29.55	141.40	-14.42	-525.04
112	112	29.55	138.41	-39.79	-523.53
112	10113	32.90	173.25	-5.28	-1046.00
113	113	32.90	-168.37	-25.90	-1045.15
113	114	36.03	-135.82	6.34	-569.11
114	114	36.03	-137.73	-14.62	-569.73
114	115	39.16	-105.18	17.62	-189.58
115	115	39.16	-108.36	-7.32	-190.71
115	116	42.29	-75.81	24.92	97.51
116	116	42.29	-80.59	-5.06	96.28
116	117	45.42	-48.04	27.18	297.58
117	117	45.42	-54.32	-7.54	296.53
117	118	48.55	-21.77	24.70	415.61
118	118	48.55	-29.17	-13.55	414.94
118	119	51.68	3.38	18.69	455.30
119	119	51.68	-4.58	-21.32	455.13
119	120	54.81	27.98	10.92	418.51
120	120	54.81	20.10	-28.82	418.87
120	121	57.94	52.66	3.42	305.00
121	121	57.94	45.52	-34.02	305.85
121	122	61.07	78.07	-1.78	112.44
122	122	61.07	72.22	-35.15	113.67
122	123	64.20	104.77	-2.91	-163.33
123	123	64.20	100.45	-32.00	-161.89
123	124	67.55	135.29	2.50	-556.77
124	124	67.55	132.77	-21.48	-555.57
124	10125	70.90	167.61	13.02	-1059.00
125	125	70.90	-173.12	-7.00	-1058.59
125	126	74.23	-138.49	27.30	-539.77
126	126	74.23	-140.61	4.66	-540.82
126	127	77.56	-105.98	38.96	-130.24

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01/10/02

CÁLCULO TENSIONAL
Hipótesis de cálculo:
DERINT

[1; 1]DERINT
Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-109.86	10.80	-131.83
127	128	80.89	-75.23	45.10	176.34
128	128	80.89	-81.22	10.27	174.68
128	129	84.22	-46.58	44.57	387.46
129	129	84.22	-54.54	3.54	386.06
129	130	87.55	-19.91	37.84	510.02
130	130	87.55	-29.35	-7.89	509.09
130	131	90.88	5.28	26.41	549.18
131	131	90.88	-4.98	-21.89	548.85
131	132	94.21	29.65	12.41	507.78
132	132	94.21	19.35	-36.04	508.10
132	133	97.54	53.98	-1.74	386.00
133	133	97.54	44.42	-47.88	386.94
133	134	100.87	79.05	-13.59	181.37
134	134	100.87	70.92	-55.21	182.81
134	135	104.20	105.56	-20.91	-111.03
135	135	104.20	99.82	-53.91	-109.41
135	136	107.55	134.66	-19.41	-502.17
136	136	107.55	131.19	-44.19	-500.82
136	10137	110.90	166.03	-9.68	-998.66
137	137	110.90	-165.21	-30.66	-998.13
137	138	113.77	-135.36	-1.10	-566.80
138	138	113.77	-137.68	-22.21	-567.08
138	139	116.64	-107.83	7.35	-214.78
139	139	116.64	-110.88	-16.08	-215.47
139	140	119.51	-81.03	13.48	59.92
140	140	119.51	-85.09	-13.12	59.13
140	141	122.38	-55.25	16.45	260.51
141	141	122.38	-60.27	-13.17	259.84
141	142	125.25	-30.42	16.39	389.97
142	142	125.25	-36.13	-15.41	389.57
142	143	128.12	-6.28	14.15	450.44
143	143	128.12	-12.29	-18.55	450.42
143	144	130.99	17.56	11.01	442.85
144	144	130.99	11.75	-21.09	443.23
144	145	133.86	41.60	8.47	366.67
145	145	133.86	36.46	-21.50	367.42
145	146	136.73	66.31	8.06	219.94
146	146	136.73	62.27	-18.47	220.97
146	147	139.60	92.11	11.09	-0.57

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQI

[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-82.22	12.24	-0.34
1	2	2.62	-55.23	-16.84	179.71
2	2	2.62	-59.39	10.03	179.10
2	3	5.24	-32.40	-19.05	299.34
3	3	5.24	-37.15	9.69	298.90
3	4	7.86	-10.16	-19.40	360.87
4	4	7.86	-15.24	10.40	360.68
4	5	10.48	11.75	-18.69	365.25
5	5	10.48	6.62	11.24	365.32
5	6	13.10	33.61	-17.85	312.62
6	6	13.10	28.74	11.29	312.92
6	7	15.72	55.72	-17.79	202.27
7	7	15.72	51.34	9.79	202.75
7	8	18.34	78.33	-19.29	32.87
8	8	18.34	74.59	6.29	33.40
8	9	20.96	101.57	-22.79	-197.37
9	9	20.96	98.47	0.78	-196.95
9	10	23.58	125.46	-28.30	-490.29
10	10	23.58	122.78	-6.09	-490.20
10	10011	26.20	149.77	-35.17	-847.24
11	11	26.20	-152.12	-9.70	-847.80
11	12	29.55	-117.62	-46.89	-395.99
12	12	29.55	-122.39	-14.20	-397.43
12	13	32.90	-87.89	-51.38	-45.21
13	13	32.90	-94.35	-13.97	-46.69
13	14	36.03	-62.11	-48.71	198.17
14	14	36.03	-69.83	-7.92	197.03
14	15	39.16	-37.59	-42.66	365.14
15	15	39.16	-46.32	1.34	364.44
15	16	42.29	-14.08	-33.40	458.97
16	16	42.29	-23.25	11.99	458.79
16	17	45.42	8.99	-22.76	481.12
17	17	45.42	-0.01	22.08	481.46
17	18	48.55	32.23	-12.66	431.03
18	18	48.55	24.01	29.74	431.84
18	19	51.68	56.24	-5.00	306.25
19	19	51.68	49.30	33.40	307.41
19	20	54.81	81.53	-1.34	102.67
20	20	54.81	76.19	32.01	103.98
20	21	57.94	108.43	-2.73	-184.94
21	21	57.94	104.74	25.42	-183.74
21	22	61.07	136.97	-9.32	-562.02
22	22	61.07	134.58	14.75	-561.33
22	10023	64.20	166.82	-20.00	-1033.00
23	23	64.20	-165.81	3.73	-1033.34
23	24	67.55	-131.31	-33.46	-535.67
24	24	67.55	-134.67	-5.16	-537.05
24	25	70.90	-100.16	-42.34	-143.71

Programa DINTEL IDEAM S.A. 01/10/02
IZQI

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQI

[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-105.38	-8.78	-145.28
25	26	74.23	-71.08	-45.74	148.53
26	26	74.23	-78.36	-5.18	147.16
26	27	77.56	-44.06	-42.15	351.00
27	27	77.56	-52.77	2.92	350.08
27	28	80.89	-18.47	-34.05	468.71
28	28	80.89	-27.92	13.35	468.37
28	29	84.22	6.37	-23.61	504.25
29	29	84.22	-3.04	23.70	504.53
29	30	87.55	31.26	-13.27	457.55
30	30	87.55	22.64	31.53	458.39
30	31	90.88	56.94	-5.44	325.88
31	31	90.88	49.80	34.74	327.16
31	32	94.21	84.09	-2.22	104.23
32	32	94.21	78.87	31.93	105.72
32	33	97.54	113.17	-5.03	-214.02
33	33	97.54	109.96	22.77	-212.68
33	34	100.87	144.26	-14.19	-635.96
34	34	100.87	142.63	8.65	-635.24
34	10035	104.20	176.93	-28.31	-1167.00
35	35	104.20	-181.06	-8.09	-1167.82
35	36	107.55	-146.55	-45.27	-619.08
36	36	107.55	-148.91	-22.53	-620.56
36	37	110.90	-114.41	-59.72	-179.50
37	37	110.90	-118.87	-30.38	-181.26
37	38	113.77	-89.31	-62.24	117.47
38	38	113.77	-95.56	-27.27	115.86
38	39	116.64	-66.00	-59.12	347.69
39	39	116.64	-73.76	-19.41	346.40
39	40	119.51	-44.20	-51.27	515.66
40	40	119.51	-53.02	-8.20	514.83
40	41	122.38	-23.46	-40.05	624.58
41	41	122.38	-32.82	4.67	624.29
41	42	125.25	-3.25	-27.19	676.05
42	42	125.25	-12.52	17.26	676.34
42	43	128.12	17.04	-14.59	669.86
43	43	128.12	8.50	27.55	670.74
43	44	130.99	38.06	-4.30	603.93
44	44	130.99	30.90	33.49	605.36
44	45	133.86	60.46	1.63	474.26
45	45	133.86	55.31	33.12	476.17
45	46	136.73	84.87	1.26	275.03
46	46	136.73	82.25	24.74	277.29
46	47	139.60	111.81	-7.12	-1.20
101	101	0.00	-14.24	-1.55	0.34
101	102	2.62	-15.03	-3.12	38.69
102	102	2.62	-10.87	-3.82	39.31
102	103	5.24	-11.66	-5.39	68.83

IZQI

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQI

[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-6.91	-4.23	69.26
103	104	7.86	-7.70	-5.80	88.41
104	104	7.86	-2.62	-3.58	88.60
104	105	10.48	-3.41	-5.16	96.49
105	105	10.48	1.72	-2.81	96.42
105	106	13.10	0.93	-4.38	92.95
106	106	13.10	5.80	-2.82	92.65
106	107	15.72	5.02	-4.40	78.48
107	107	15.72	9.40	-4.39	78.01
107	108	18.34	8.61	-5.96	54.42
108	108	18.34	12.35	-7.96	53.89
108	109	20.96	11.57	-9.53	22.55
109	109	20.96	14.67	-13.55	22.13
109	110	23.58	13.89	-15.12	-15.28
110	110	23.58	16.56	-20.49	-15.38
110	111	26.20	15.77	-22.07	-57.73
111	111	26.20	18.87	-28.03	-57.16
111	112	29.55	17.86	-30.04	-118.69
112	112	29.55	22.64	-32.63	-117.25
112	10113	32.90	21.64	-34.64	-191.41
113	113	32.90	-34.43	-31.35	-189.93
113	114	36.03	-35.37	-33.23	-80.71
114	114	36.03	-27.65	-25.41	-79.57
114	115	39.16	-28.59	-27.29	8.44
115	115	39.16	-19.86	-16.27	9.13
115	116	42.29	-20.79	-18.15	72.75
116	116	42.29	-11.62	-5.75	72.93
116	117	45.42	-12.56	-7.63	110.78
117	117	45.42	-3.57	4.21	110.44
117	118	48.55	-4.50	2.33	123.07
118	118	48.55	3.72	11.73	122.26
118	119	51.68	2.78	9.85	112.09
119	119	51.68	9.73	15.23	110.93
119	120	54.81	8.79	13.35	81.94
120	120	54.81	14.14	13.68	80.62
120	121	57.94	13.20	11.80	37.85
121	121	57.94	16.89	6.91	36.65
121	122	61.07	15.95	5.03	-14.75
122	122	61.07	18.34	-3.96	-15.44
122	123	64.20	17.41	-5.84	-71.39
123	123	64.20	19.50	-16.35	-71.06
123	124	67.55	18.50	-18.36	-134.71
124	124	67.55	21.86	-25.47	-133.33
124	10125	70.90	20.86	-27.48	-204.88
125	125	70.90	-33.79	-28.18	-203.31
125	126	74.23	-34.79	-30.18	-89.13
126	126	74.23	-27.51	-24.86	-87.76
126	127	77.56	-28.51	-26.86	5.50

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQI

[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-19.80	-17.05	6.42
127	128	80.89	-20.79	-19.05	74.00
128	128	80.89	-11.34	-6.91	74.34
128	129	84.22	-12.34	-8.91	113.78
129	129	84.22	-2.93	3.10	113.51
129	130	87.55	-3.93	1.11	124.92
130	130	87.55	4.69	10.58	124.08
130	131	90.88	3.69	8.59	110.13
131	131	90.88	10.84	13.43	108.85
131	132	94.21	9.84	11.43	74.43
132	132	94.21	15.06	10.21	72.95
132	133	97.54	14.06	8.21	24.45
133	133	97.54	17.27	0.62	23.11
133	134	100.87	16.27	-1.38	-32.74
134	134	100.87	17.90	-13.97	-33.45
134	135	104.20	16.90	-15.97	-91.40
135	135	104.20	18.08	-28.76	-90.89
135	136	107.55	17.08	-30.77	-149.78
136	136	107.55	19.44	-38.62	-148.29
136	10137	110.90	18.43	-40.63	-211.73
137	137	110.90	-38.26	-41.88	-209.97
137	138	113.77	-39.12	-43.60	-98.92
138	138	113.77	-32.87	-39.19	-97.30
138	139	116.64	-33.73	-40.91	-1.72
139	139	116.64	-25.98	-31.74	-0.43
139	140	119.51	-26.84	-33.47	75.35
140	140	119.51	-18.01	-20.92	76.19
140	141	122.38	-18.87	-22.65	129.11
141	141	122.38	-9.52	-8.44	129.40
141	142	125.25	-10.38	-10.16	157.95
142	142	125.25	-1.11	3.78	157.66
142	143	128.12	-1.97	2.06	162.08
143	143	128.12	6.57	13.71	161.20
143	144	130.99	5.71	11.99	143.58
144	144	130.99	12.87	19.29	142.14
144	145	133.86	12.01	17.57	106.45
145	145	133.86	17.16	18.57	104.53
145	146	136.73	16.30	16.85	56.51
146	146	136.73	18.92	9.84	54.25
146	147	139.60	18.06	8.12	1.20

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-78.18	14.26	-0.26
1	2	2.62	-52.50	-17.96	170.94
2	2	2.62	-56.64	12.39	170.46
2	3	5.24	-30.96	-19.84	285.22
3	3	5.24	-35.55	11.96	284.88
3	4	7.86	-9.88	-20.27	344.40
4	4	7.86	-14.72	12.32	344.26
4	5	10.48	10.95	-19.90	349.19
5	5	10.48	6.11	12.69	349.28
5	6	13.10	31.79	-19.54	299.63
6	6	13.10	27.19	12.28	299.92
6	7	15.72	52.87	-19.95	195.05
7	7	15.72	48.73	10.43	195.47
7	8	18.34	74.40	-21.80	34.18
8	8	18.34	70.84	6.75	34.64
8	9	20.96	96.52	-25.47	-184.60
9	9	20.96	93.53	1.29	-184.25
9	10	23.58	119.20	-30.94	-462.93
10	10	23.58	116.58	-5.33	-462.88
10	10011	26.20	142.25	-37.56	-801.96
11	11	26.20	-143.74	-8.07	-802.55
11	12	29.55	-110.91	-49.27	-376.00
12	12	29.55	-115.68	-12.08	-377.42
12	13	32.90	-82.85	-53.28	-44.88
13	13	32.90	-89.24	-11.70	-46.31
13	14	36.03	-58.57	-50.19	185.02
14	14	36.03	-66.14	-5.61	183.94
14	15	39.16	-35.47	-44.11	342.96
15	15	39.16	-43.98	3.45	342.32
15	16	42.29	-13.31	-35.05	431.98
16	16	42.29	-22.21	13.73	431.82
16	17	45.42	8.46	-24.77	453.34
17	17	45.42	-0.24	23.39	453.68
17	18	48.55	30.43	-15.11	406.43
18	18	48.55	22.48	30.69	407.21
18	19	51.68	53.15	-7.81	288.85
19	19	51.68	46.42	34.17	289.95
19	20	54.81	77.09	-4.33	96.66
20	20	54.81	71.87	32.87	97.90
20	21	57.94	102.55	-5.63	-175.07
21	21	57.94	98.88	26.68	-173.95
21	22	61.07	129.55	-11.81	-531.45
22	22	61.07	127.10	16.71	-530.82
22	10023	64.20	157.77	-21.79	-976.64
23	23	64.20	-156.86	6.68	-976.97
23	24	67.55	-124.03	-34.52	-506.48
24	24	67.55	-127.47	-1.43	-507.80
24	25	70.90	-94.64	-42.64	-135.78

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Programa DINTEL IDEAM S.A.
IZQINT
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CÁLCULO TENSIONAL
Hipótesis de cálculo:
IZQINT

[1; 1]IZQINT
Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-99.83	-4.75	-137.26
25	26	74.23	-67.19	-45.71	140.82
26	26	74.23	-74.32	-1.09	139.54
26	27	77.56	-41.69	-42.05	332.70
27	27	77.56	-50.14	6.71	331.87
27	28	80.89	-17.50	-34.25	444.48
28	28	80.89	-26.61	16.62	444.19
28	29	84.22	6.02	-24.34	478.47
29	29	84.22	-3.02	26.33	478.76
29	30	87.55	29.61	-14.63	434.48
30	30	87.55	21.35	33.59	435.29
30	31	90.88	53.99	-7.37	309.85
31	31	90.88	47.12	36.47	311.07
31	32	94.21	79.76	-4.49	99.82
32	32	94.21	74.71	33.65	101.21
32	33	97.54	107.34	-7.31	-201.89
33	33	97.54	104.18	24.89	-200.64
33	34	100.87	136.82	-16.07	-601.90
34	34	100.87	135.12	11.53	-601.25
34	10035	104.20	167.76	-29.42	-1106.00
35	35	104.20	-171.38	-4.61	-1106.06
35	36	107.55	-138.55	-45.81	-586.93
36	36	107.55	-140.97	-18.95	-588.35
36	37	110.90	-108.14	-60.15	-171.08
37	37	110.90	-112.57	-27.00	-172.75
37	38	113.77	-84.44	-62.30	109.95
38	38	113.77	-90.55	-23.84	108.43
38	39	116.64	-62.43	-59.14	327.95
39	39	116.64	-69.95	-16.25	326.74
39	40	119.51	-41.82	-51.55	487.13
40	40	119.51	-50.34	-5.54	486.36
40	41	122.38	-22.21	-40.84	590.46
41	41	122.38	-31.20	6.67	590.19
41	42	125.25	-3.08	-28.63	639.38
42	42	125.25	-11.98	18.59	639.66
42	43	128.12	16.14	-16.71	633.69
43	43	128.12	7.94	28.32	634.51
43	44	130.99	36.06	-6.98	571.38
44	44	130.99	29.15	33.95	572.73
44	45	133.86	57.28	-1.35	448.70
45	45	133.86	52.25	33.66	450.50
45	46	136.73	80.37	-1.64	260.19
46	46	136.73	77.72	25.87	262.30
46	47	139.60	105.85	-9.43	-1.12
101	101	0.00	-41.66	-3.07	0.26
101	102	2.62	-13.89	-0.71	73.04
102	102	2.62	-9.76	-5.02	73.52
102	103	5.24	-10.28	-2.66	99.77

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-5.69	-5.53	100.11
103	104	7.86	-6.21	-3.17	115.70
104	104	7.86	-1.37	-5.25	115.84
104	105	10.48	-1.90	-2.89	120.12
105	105	10.48	2.95	-4.97	120.03
105	106	13.10	2.43	-2.61	112.99
106	106	13.10	7.02	-5.46	112.70
106	107	15.72	6.50	-3.11	94.99
107	107	15.72	10.64	-7.40	94.57
107	108	18.34	10.11	-5.04	67.38
108	108	18.34	13.67	-11.17	66.92
108	109	20.96	13.15	-8.81	31.78
109	109	20.96	16.14	-16.72	31.43
109	110	23.58	15.62	-14.37	-10.18
110	110	23.58	18.24	-23.44	-10.22
110	111	26.20	17.72	-21.08	-57.33
111	111	26.20	20.81	-31.10	-56.74
111	112	29.55	20.14	-28.09	-125.32
112	112	29.55	24.91	-35.25	-123.90
112	10113	32.90	24.24	-32.23	-206.21
113	113	32.90	-35.60	-33.55	-204.78
113	114	36.03	-36.23	-30.73	-92.38
114	114	36.03	-28.65	-27.60	-91.30
114	115	39.16	-29.28	-24.79	-0.64
115	115	39.16	-20.76	-18.70	0.00
115	116	42.29	-21.39	-15.88	65.97
116	116	42.29	-12.49	-8.57	66.13
116	117	45.42	-13.11	-5.76	106.19
117	117	45.42	-4.41	0.92	105.86
117	118	48.55	-5.03	3.74	120.63
118	118	48.55	2.92	8.04	119.85
118	119	51.68	2.29	10.86	111.70
119	119	51.68	9.03	11.32	110.60
119	120	54.81	8.40	14.14	83.31
120	120	54.81	13.62	9.82	82.07
120	121	57.94	13.00	12.63	40.42
121	121	57.94	16.66	3.41	39.30
121	122	61.07	16.04	6.23	-11.87
122	122	61.07	18.49	-6.81	-12.51
122	123	64.20	17.87	-3.99	-69.41
123	123	64.20	20.08	-18.55	-69.08
123	124	67.55	19.41	-15.54	-135.22
124	124	67.55	22.84	-26.97	-133.90
124	10125	70.90	22.17	-23.95	-209.31
125	125	70.90	-34.53	-29.14	-207.82
125	126	74.23	-35.20	-26.15	-91.73
126	126	74.23	-28.06	-25.83	-90.45
126	127	77.56	-28.73	-22.83	4.11

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IZQINT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-20.28	-18.38	4.95
127	128	80.89	-20.95	-15.39	73.60
128	128	80.89	-11.84	-8.86	73.89
128	129	84.22	-12.51	-5.86	114.43
129	129	84.22	-3.46	0.44	114.14
129	130	87.55	-4.13	3.44	126.78
130	130	87.55	4.13	7.26	125.97
130	131	90.88	3.47	10.26	113.31
131	131	90.88	10.33	9.67	112.10
131	132	94.21	9.67	12.67	78.80
132	132	94.21	14.72	6.34	77.41
132	133	97.54	14.05	9.34	29.51
133	133	97.54	17.21	-2.96	28.26
133	134	100.87	16.54	0.04	-27.93
134	134	100.87	18.24	-16.90	-28.59
134	135	104.20	17.57	-13.91	-88.20
135	135	104.20	18.86	-30.60	-87.69
135	136	107.55	18.19	-27.59	-149.74
136	136	107.55	20.61	-39.17	-148.32
136	10137	110.90	19.94	-36.16	-216.25
137	137	110.90	-38.69	-41.45	-214.58
137	138	113.77	-39.26	-38.87	-102.72
138	138	113.77	-33.15	-38.83	-101.20
138	139	116.64	-33.73	-36.24	-5.22
139	139	116.64	-26.20	-31.75	-4.02
139	140	119.51	-26.78	-29.17	72.01
140	140	119.51	-18.26	-21.54	72.79
140	141	122.38	-18.84	-18.95	126.03
141	141	122.38	-9.84	-9.80	126.30
141	142	125.25	-10.42	-7.22	155.38
142	142	125.25	-1.52	1.65	155.10
142	143	128.12	-2.09	4.23	160.27
143	143	128.12	6.12	10.93	159.44
143	144	130.99	5.55	13.51	142.70
144	144	130.99	12.46	16.11	141.35
144	145	133.86	11.88	18.69	106.42
145	145	133.86	16.91	15.38	104.63
145	146	136.73	16.34	17.96	56.91
146	146	136.73	18.99	7.15	54.80
146	147	139.60	18.42	9.73	1.12

IZQEXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-86.38	9.26	-0.43
1	2	2.62	-58.60	-15.11	189.49
2	2	2.62	-62.07	6.43	188.71
2	3	5.24	-34.30	-17.93	314.94
3	3	5.24	-38.52	6.01	314.37
3	4	7.86	-10.75	-18.35	378.91
4	4	7.86	-15.44	7.05	378.63
4	5	10.48	12.34	-17.32	382.69
5	5	10.48	7.53	8.45	382.71
5	6	13.10	35.30	-15.92	326.59
6	6	13.10	30.73	9.14	326.90
6	7	15.72	58.50	-15.23	210.01
7	7	15.72	54.44	8.19	210.53
7	8	18.34	82.22	-16.18	31.50
8	8	18.34	78.87	5.01	32.11
8	9	20.96	106.64	-19.36	-210.90
9	9	20.96	104.03	-0.49	-210.38
9	10	23.58	131.80	-24.86	-519.31
10	10	23.58	129.73	-7.69	-519.12
10	10011	26.20	157.50	-32.05	-895.39
11	11	26.20	-160.94	-12.65	-895.88
11	12	29.55	-125.43	-43.80	-416.19
12	12	29.55	-129.27	-18.11	-417.63
12	13	32.90	-93.76	-49.27	-44.06
13	13	32.90	-99.35	-18.49	-45.61
13	14	36.03	-66.17	-47.60	213.44
14	14	36.03	-73.18	-12.83	212.18
14	15	39.16	-40.00	-41.93	389.30
15	15	39.16	-48.17	-3.46	388.47
15	16	42.29	-14.99	-32.57	487.33
16	16	42.29	-23.75	7.74	487.05
16	17	45.42	9.43	-21.37	509.47
17	17	45.42	0.75	18.68	509.76
17	18	48.55	33.93	-10.43	455.48
18	18	48.55	26.01	27.26	456.30
18	19	51.68	59.19	-1.85	322.96
19	19	51.68	52.59	31.67	324.19
19	20	54.81	85.77	2.56	107.66
20	20	54.81	80.89	30.66	109.10
20	21	57.94	114.07	1.55	-196.01
21	21	57.94	111.01	23.93	-194.67
21	22	61.07	144.19	-5.18	-594.06
22	22	61.07	142.61	12.54	-593.24
22	10023	64.20	175.79	-16.57	-1092.00
23	23	64.20	-175.29	0.11	-1091.79
23	24	67.55	-139.78	-31.04	-564.05
24	24	67.55	-142.06	-10.19	-565.44
24	25	70.90	-106.55	-41.34	-149.00

~cslmp1.esv Programa DINTEL IDEAM S.A. 01/10/02

IZQEXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-110.79	-14.77	-150.68
25	26	74.23	-75.49	-45.74	159.49
26	26	74.23	-81.95	-11.82	157.94
26	27	77.56	-46.65	-42.79	372.06
27	27	77.56	-54.76	-3.66	370.97
27	28	80.89	-19.46	-34.63	494.53
28	28	80.89	-28.50	7.46	494.06
28	29	84.22	6.80	-23.51	530.19
29	29	84.22	-2.34	18.90	530.39
29	30	87.55	32.95	-12.07	479.42
30	30	87.55	24.57	27.97	480.26
30	31	90.88	59.87	-3.00	339.68
31	31	90.88	53.00	32.27	341.03
31	32	94.21	88.29	1.30	105.78
32	32	94.21	83.48	30.11	107.39
32	33	97.54	118.78	-0.86	-229.37
33	33	97.54	116.18	20.98	-227.87
33	34	100.87	151.48	-9.99	-673.51
34	34	100.87	150.67	6.21	-672.65
34	10035	104.20	185.97	-24.76	-1233.00
35	35	104.20	-191.38	-11.24	-1233.60
35	36	107.55	-155.87	-42.39	-651.97
36	36	107.55	-157.33	-25.99	-653.46
36	37	110.90	-121.82	-57.14	-185.90
37	37	110.90	-125.44	-33.93	-187.75
37	38	113.77	-95.02	-60.63	128.61
38	38	113.77	-100.57	-31.36	126.86
38	39	116.64	-70.14	-58.05	371.83
39	39	116.64	-77.36	-23.53	370.40
39	40	119.51	-46.94	-50.23	548.78
40	40	119.51	-55.37	-11.88	547.83
40	41	122.38	-24.95	-38.57	663.10
41	41	122.38	-34.02	1.76	662.73
41	42	125.25	-3.60	-24.93	716.72
42	42	125.25	-12.63	15.28	717.00
42	43	128.12	17.80	-11.41	709.58
43	43	128.12	9.53	26.40	710.52
43	44	130.99	39.95	-0.30	639.52
44	44	130.99	33.17	32.82	641.08
44	45	133.86	63.59	6.13	502.23
45	45	133.86	59.00	32.35	504.33
45	46	136.73	89.42	5.66	291.34
46	46	136.73	87.63	23.07	293.82
46	47	139.60	118.05	-3.62	-1.32
101	101	0.00	-8.38	-1.38	0.43
101	102	2.62	-9.95	-4.52	24.44
102	102	2.62	-6.49	-4.25	25.22
102	103	5.24	-8.06	-7.39	44.27

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-3.83	-4.72	44.84
103	104	7.86	-5.40	-7.87	56.94
104	104	7.86	-0.72	-3.74	57.23
104	105	10.48	-2.29	-6.88	61.16
105	105	10.48	2.52	-2.38	61.14
105	106	13.10	0.94	-5.53	56.61
106	106	13.10	5.52	-1.75	56.30
106	107	15.72	3.95	-4.89	43.90
107	107	15.72	8.00	-2.75	43.38
107	108	18.34	6.43	-5.90	24.47
108	108	18.34	9.78	-5.99	23.86
108	109	20.96	8.21	-9.13	0.29
109	109	20.96	10.82	-11.54	-0.22
109	110	23.58	9.25	-14.68	-26.52
110	110	23.58	11.32	-18.80	-26.71
110	111	26.20	9.75	-21.94	-54.31
111	111	26.20	12.06	-26.78	-53.82
111	112	29.55	10.05	-30.80	-90.86
112	112	29.55	13.89	-32.33	-89.42
112	10113	32.90	11.88	-36.35	-132.58
113	113	32.90	-25.83	-31.90	-131.03
113	114	36.03	-27.71	-35.66	-47.24
114	114	36.03	-20.71	-26.32	-45.98
114	115	39.16	-22.58	-30.08	21.76
115	115	39.16	-14.41	-17.05	22.59
115	116	42.29	-16.29	-20.80	70.62
116	116	42.29	-7.53	-5.94	70.90
116	117	45.42	-9.41	-9.70	97.41
117	117	45.42	-0.74	4.89	97.12
117	118	48.55	-2.61	1.13	102.36
118	118	48.55	5.31	13.36	101.54
118	119	51.68	3.43	9.60	87.86
119	119	51.68	10.03	17.65	86.63
119	120	54.81	8.15	13.89	58.17
120	120	54.81	13.03	16.52	56.73
120	121	57.94	11.15	12.76	18.89
121	121	57.94	14.21	9.65	17.55
121	122	61.07	12.33	5.89	-23.98
122	122	61.07	13.91	-1.89	-24.80
122	123	64.20	12.03	-5.65	-65.39
123	123	64.20	13.13	-15.37	-65.14
123	124	67.55	11.12	-19.39	-105.78
124	124	67.55	13.41	-25.85	-104.39
124	10125	70.90	11.40	-29.87	-145.94
125	125	70.90	-24.83	-29.74	-144.27
125	126	74.23	-26.83	-33.74	-58.24
126	126	74.23	-20.38	-26.99	-56.70
126	127	77.56	-22.38	-30.99	14.49

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-14.27	-19.06	15.58
127	128	80.89	-16.27	-23.05	66.42
128	128	80.89	-7.23	-8.17	66.90
128	129	84.22	-9.22	-12.17	94.29
129	129	84.22	-0.08	3.02	94.09
129	130	87.55	-2.08	-0.98	97.69
130	130	87.55	6.31	11.81	96.85
130	131	90.88	4.31	7.82	79.17
131	131	90.88	11.18	15.83	77.83
131	132	94.21	9.18	11.83	43.93
132	132	94.21	14.00	13.36	42.32
132	133	97.54	12.00	9.36	-0.96
133	133	97.54	14.60	3.89	-2.46
133	134	100.87	12.60	-0.10	-47.74
134	134	100.87	13.40	-11.24	-48.61
134	135	104.20	11.40	-15.24	-89.90
135	135	104.20	11.65	-27.19	-89.47
135	136	107.55	9.64	-31.21	-125.14
136	136	107.55	11.11	-38.40	-123.65
136	10137	110.90	9.10	-42.42	-157.48
137	137	110.90	-30.02	-42.80	-155.63
137	138	113.77	-31.75	-46.25	-66.99
138	138	113.77	-26.20	-40.56	-65.24
138	139	116.64	-27.92	-44.00	12.42
139	139	116.64	-20.70	-33.05	13.85
139	140	119.51	-22.42	-36.49	75.73
140	140	119.51	-13.99	-21.70	76.68
140	141	122.38	-15.71	-25.14	119.30
141	141	122.38	-6.64	-8.35	119.67
141	142	125.25	-8.37	-11.79	141.21
142	142	125.25	0.66	4.88	140.93
142	143	128.12	-1.06	1.44	141.50
143	143	128.12	7.21	15.72	140.56
143	144	130.99	5.49	12.27	122.34
144	144	130.99	12.27	21.87	120.78
144	145	133.86	10.54	18.42	88.05
145	145	133.86	15.13	21.13	85.95
145	146	136.73	13.41	17.68	44.99
146	146	136.73	15.21	11.58	42.50
146	147	139.60	13.49	8.14	1.32

GRÁFICO DE ESFUERZOS

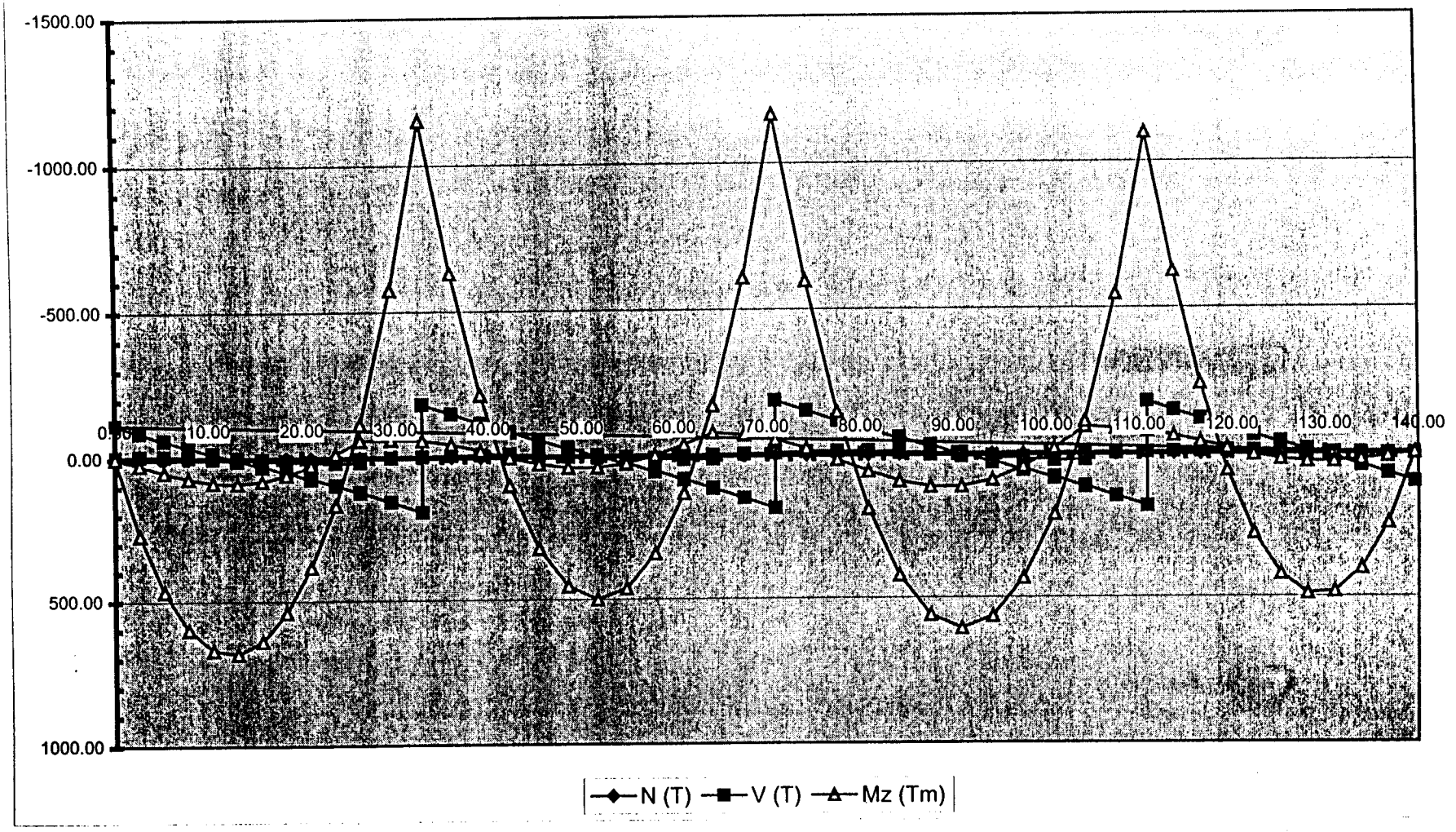


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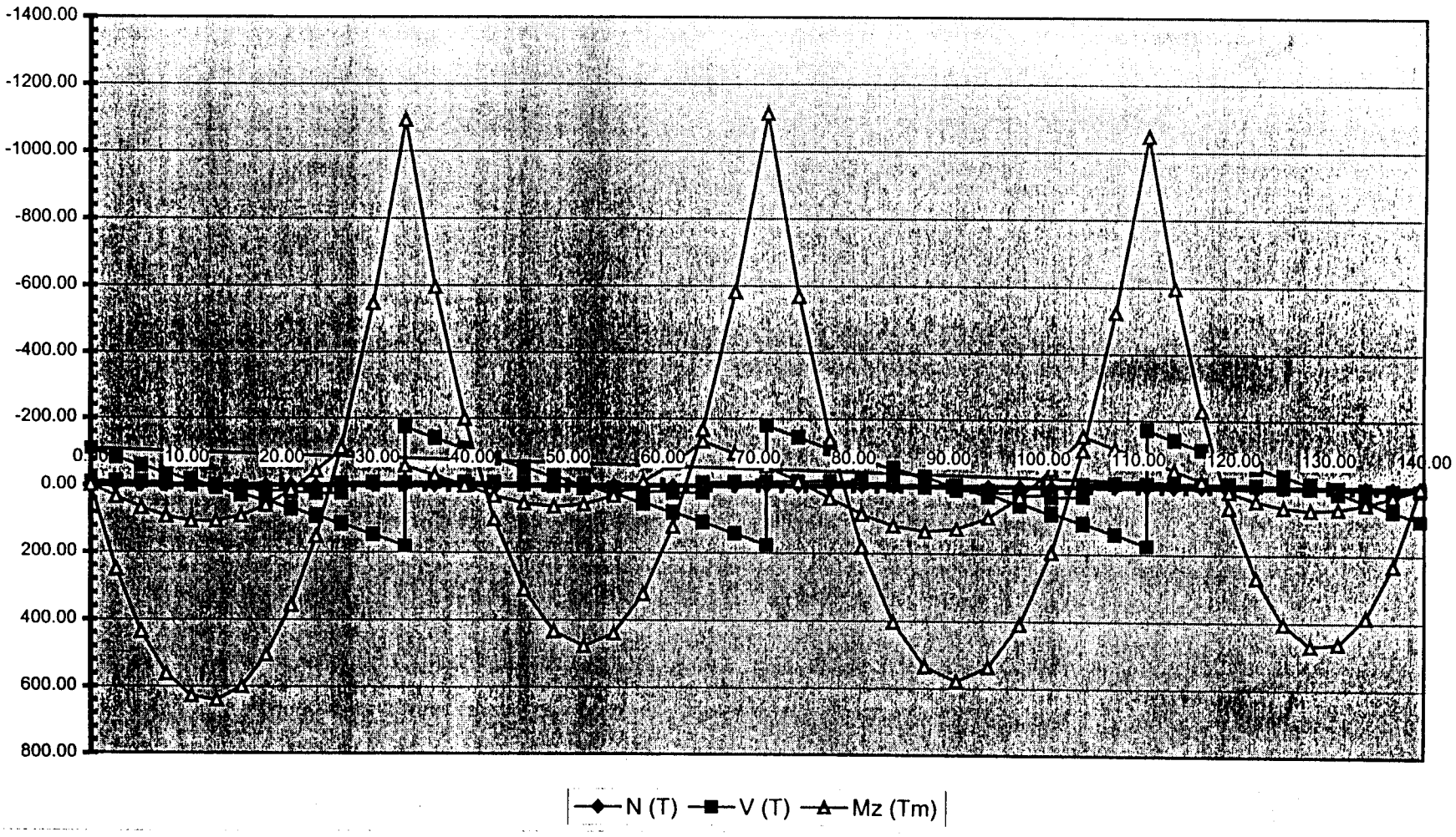


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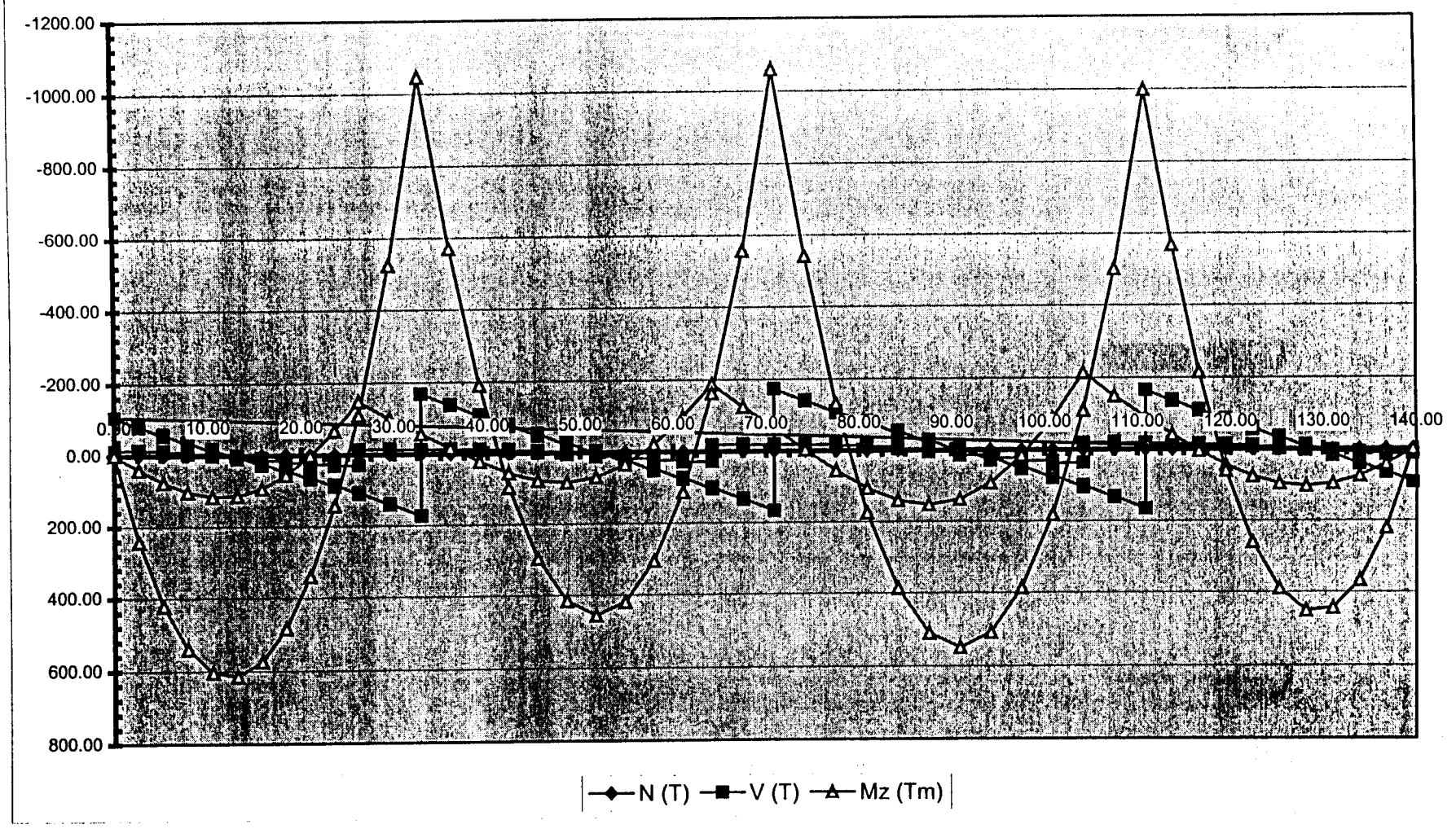


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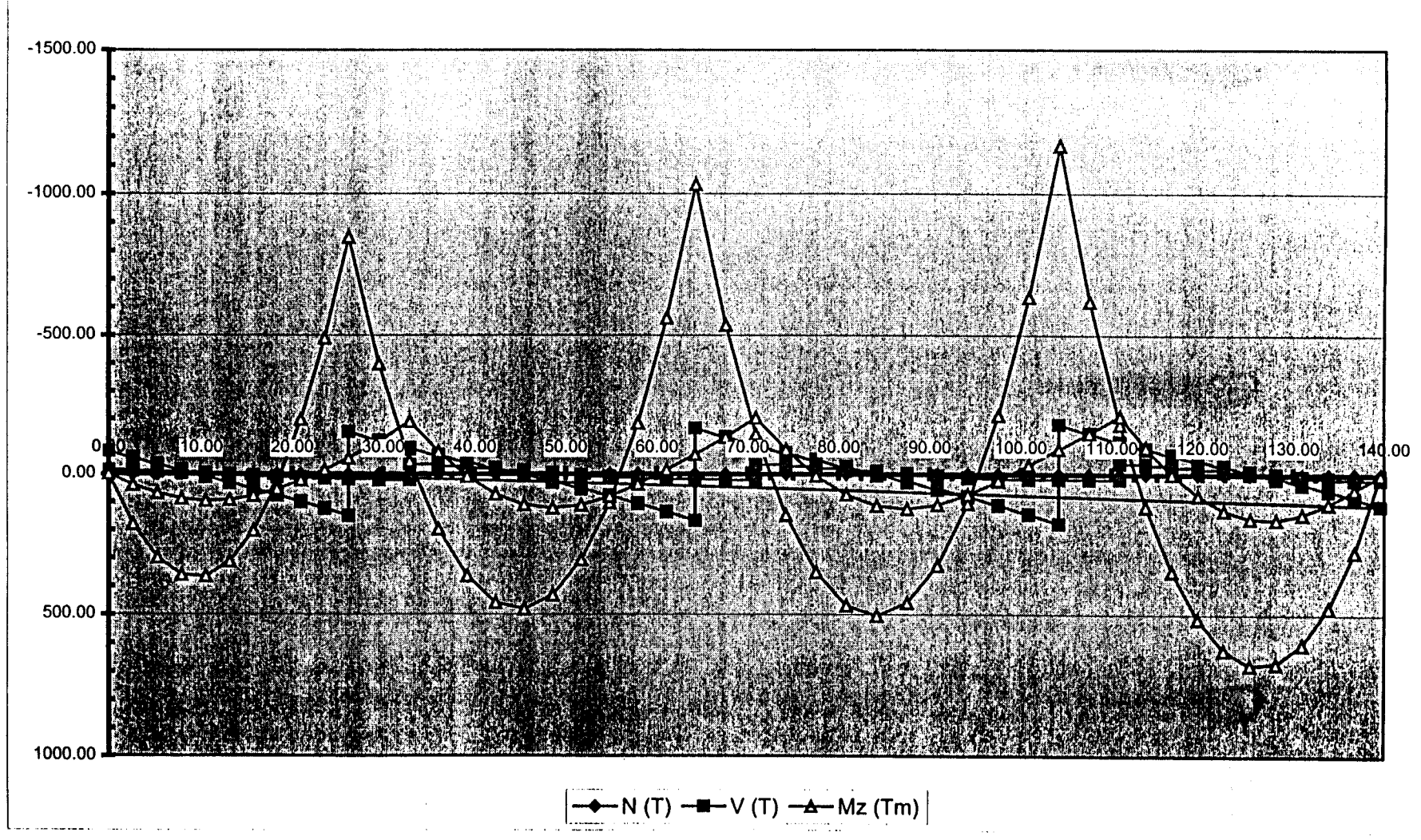


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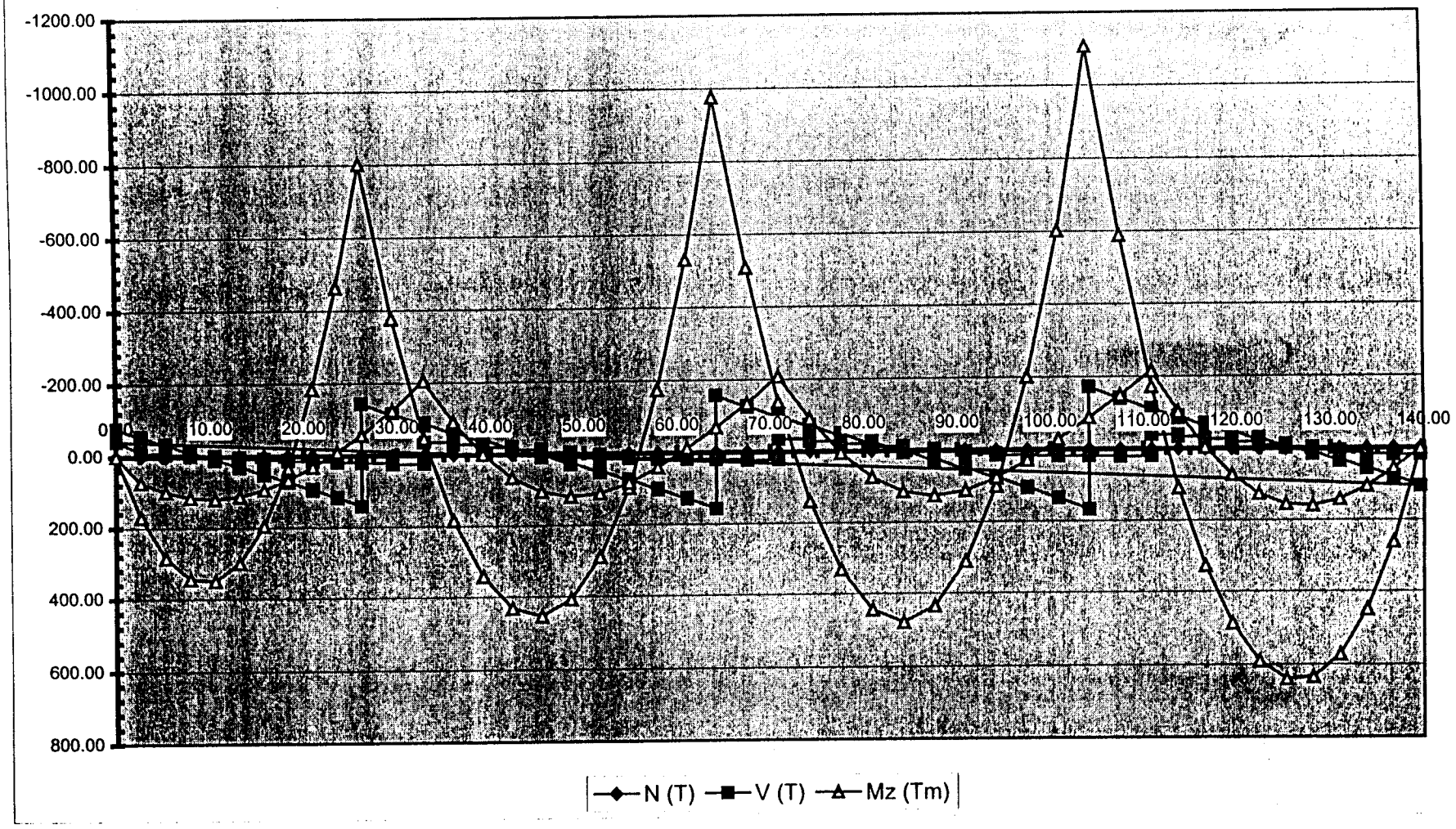


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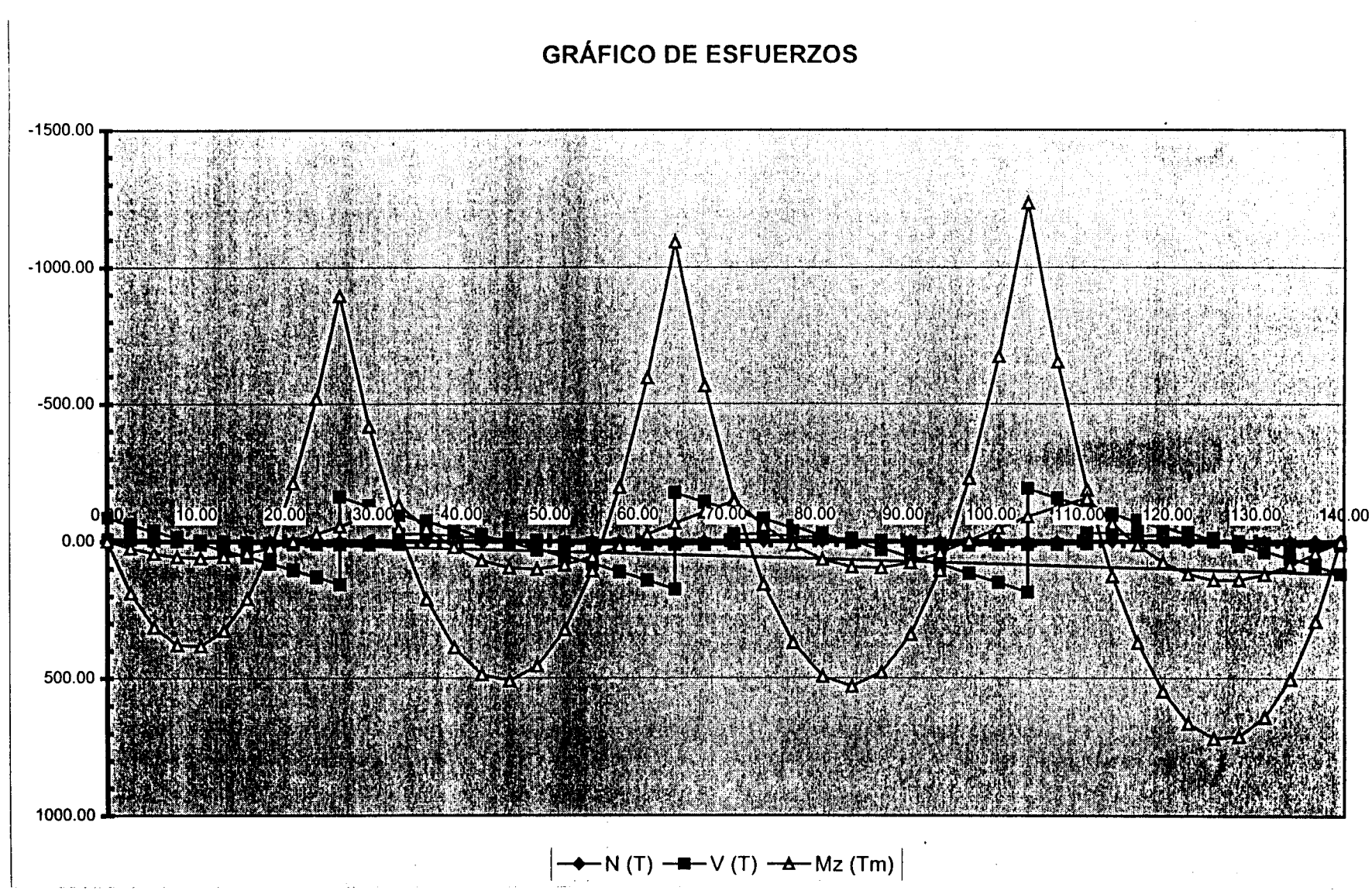


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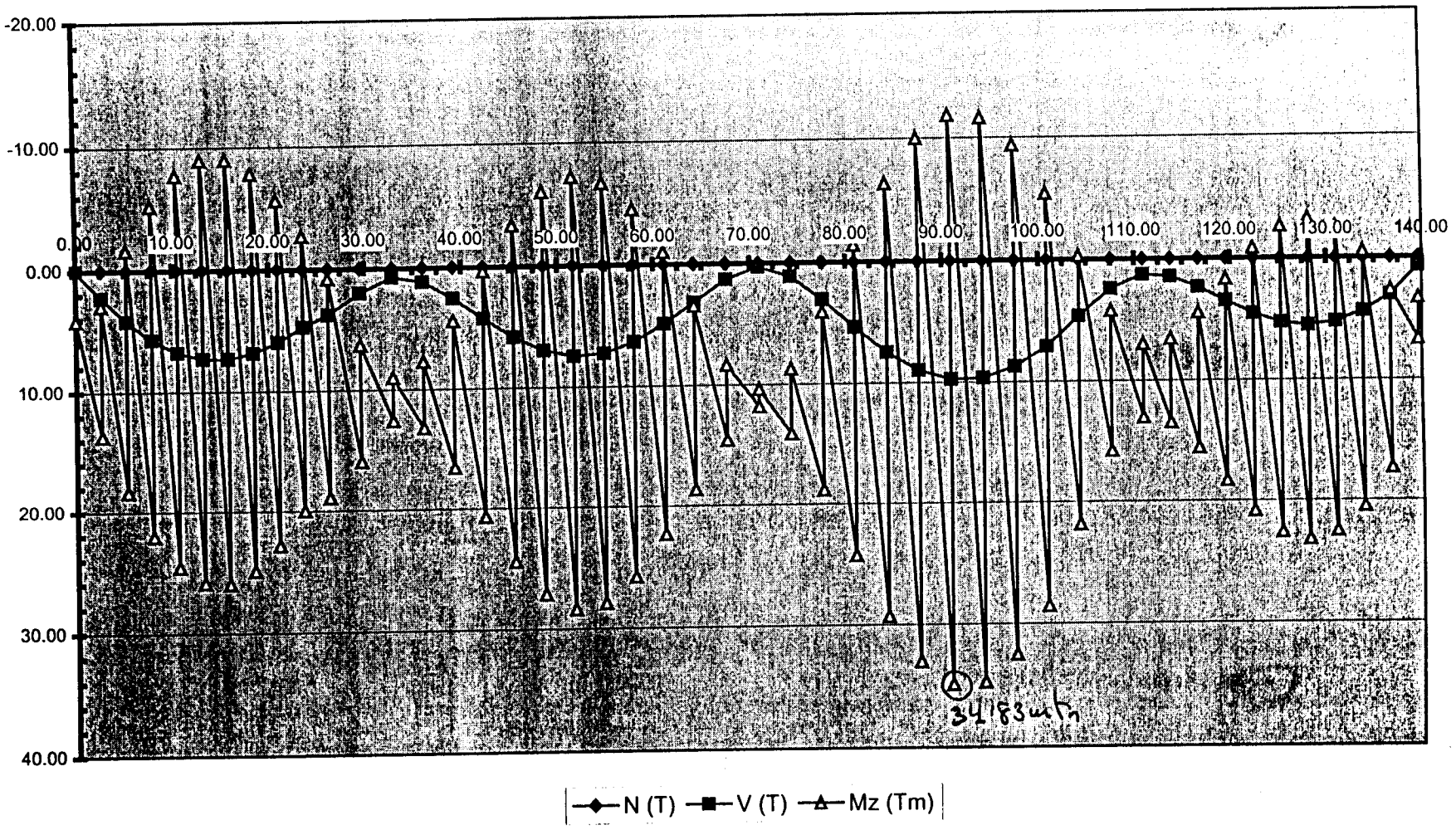


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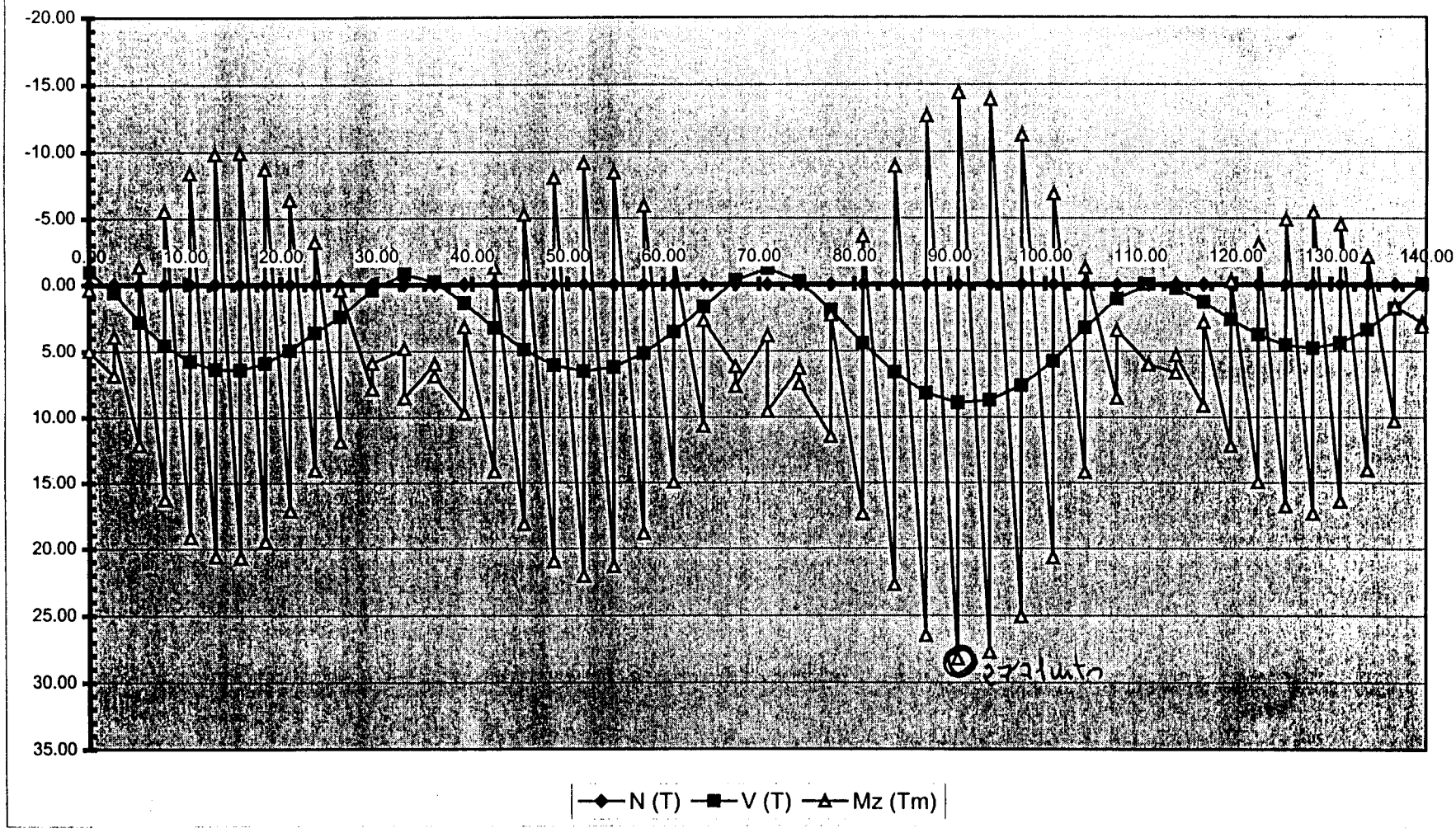


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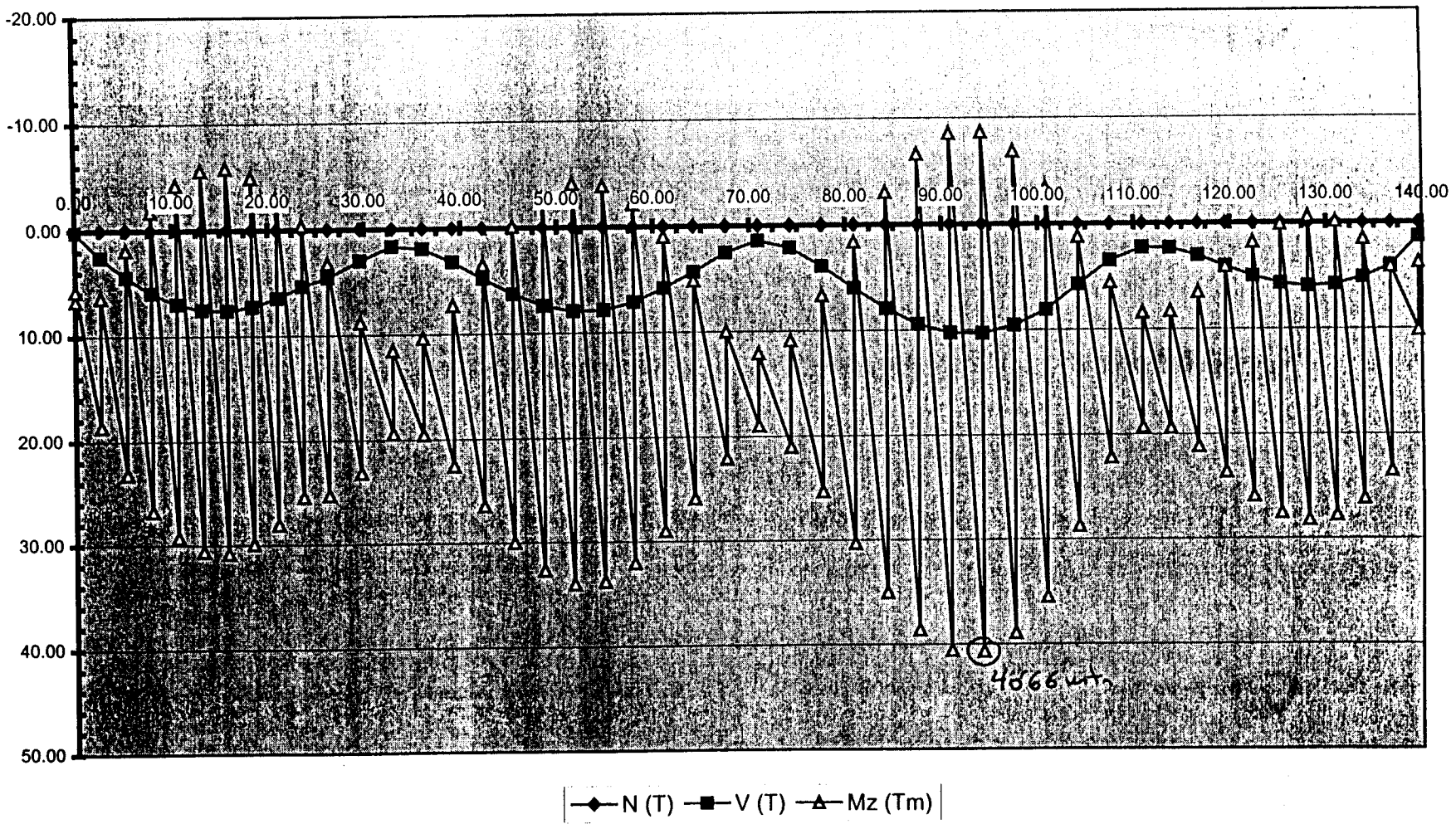
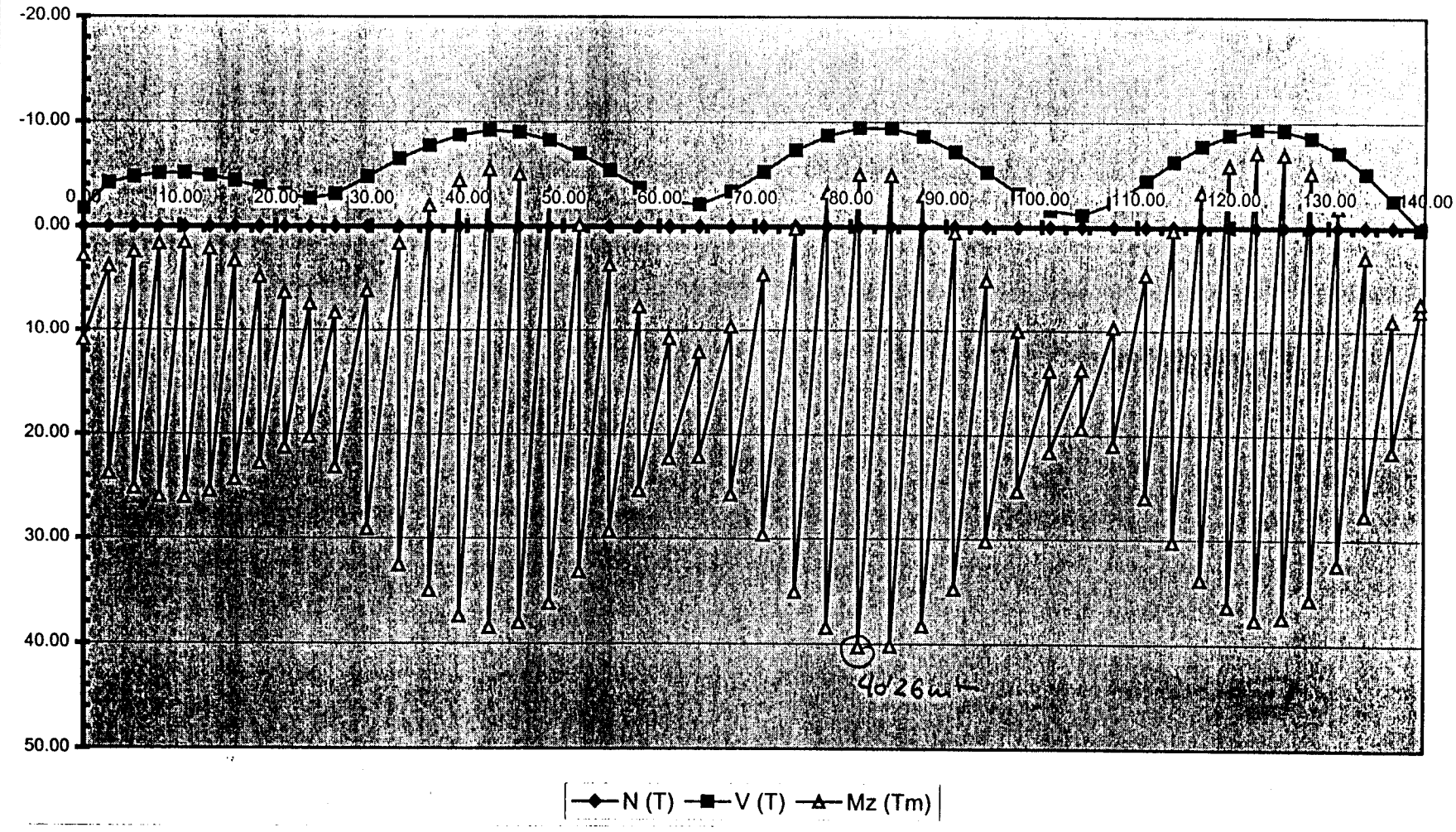


GRÁFICO DE ESFUERZOS



"LTORSION" → El presente estado tiene en cuenta la liberación de la torsión:

Reacciones

Nudo	"POLF2"	"POLF3"	"LTORSION"
1	3	23'1	-26'7
11	42	32'57	-74'57
23	50	52'53	-164'5
35	47	73'86	-120'86
47	3	33'50	-36'50
101	-3	-30'58	+30'58
113	-45	-66'01	+111
125	-51	-42'73	93'73
137	-44'7	-32'41	77'11
147	-3	-25'26	28'28

d) Fases constructivas con estados de carga.

El cálculo se estructura en 3 fases que corresponde a la construcción del puente:

-FASE 1: Colocación de vigas, invirtiendo el tercio en pila. En dicha fase nos encontramos con las vanos isostáticos con sección cajón de losa, Mi los estados a considerar son:

"PPCF1" = peso propio de los cajones en fase 1
"PRETF1" = pretensado en fase 1
PRETF1a = calt. derecha (grupo 2)
PRETF1b = calt. izq (grupo 1)

-Fase 2: Se da continuidad a las vigas y se hormigona la zona de losa sobre pila indicada en el esquema que se incluye al final del apartado

"PPLF2" = peso de losa hormigonada en fase 2
"GRADF2" = gradiente en fase 2

PPLF3 incluye los elementos:
8, 9, 10, 11, 12, 13 / 20, 21, 22, 23, 24, 25
32, 33, 34, 35, 36, 37 / 110, 111, 112, 113, 114, 115 /
122, 123, 124, 125, 126, 127 / 134, 135, 136, 137, 138, 139 /

-FASE 3: Se tesa el pretensado sobre pila y posteriormente se ranuran el resto de losa. Las secciones son:

- En los elementos hormigonados anteriormente → cajón
- Resto longitudinales → viga
- Transversales activados los 210, 211, 212, 213 y 214,
- ,222, 223, 224, 225 y 226, 234, 235, 236, 237 y 238.

Las estados de carga son los siguientes:

"PPLF3" peso propio de losa hormigonada en fase 3
Elements 1 a 7, 14 a 19, 26 a 31, 38 a 46, 101 a 109, 116 a 121, 128 a 133, 140 a 146.

"PRETF3c" = calzada derecha (grupo 2)
"PRETF3d" = calzada izq. (grupo 1)
"GRADF3"

FASE 4: Esta fase es con la geometría final del puente y las sismicidades estáticas.

"PPVIGAS" peso propio de vigas sobre estructura final.

"PPLOSA" peso propio de losa sobre estructura final

"CMmax" carga muerta máxima

"CMmin" carga muerta mínima

"GRAD" gradiente sobre estructura cerrada.

"SCUPASEOS IZQU" paseos en vigas numeradas del 1 a 47

"SCU PASEOS DERE" paseos en vigas numeradas del 101 a 147

"IZQINT2" para tener valor hacia el interior en elementos del 1 a 46.

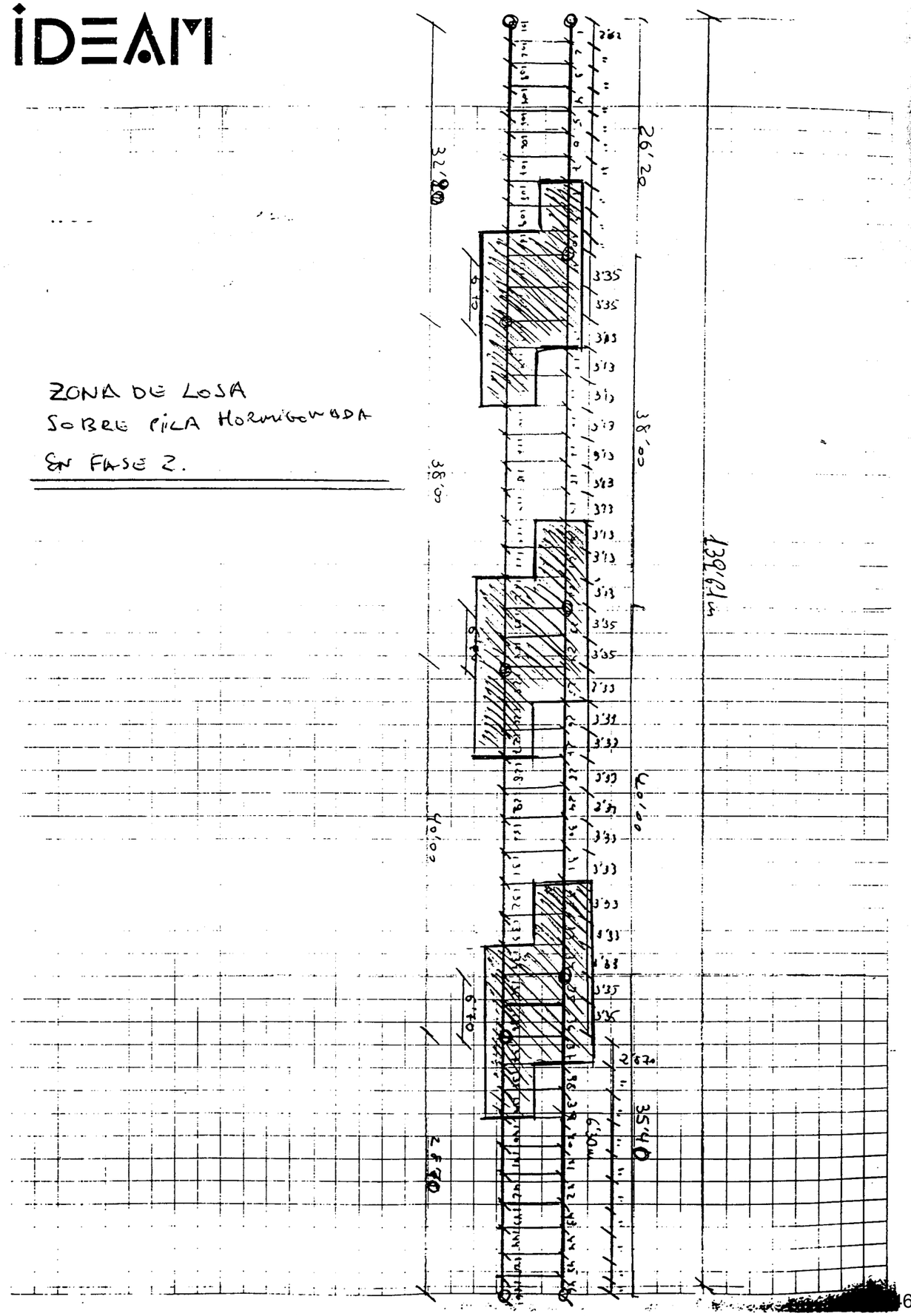
"DERINT2" para tener valor hacia el interior en elementos del 101 a 126.

"PRET" pretensado sobre estructura final.

INF
- PRETFFA = es el pretensado PRETF1a sobre estructura total
- PRETFFB = es el pretensado PRETF1b sobre estructura total

SUP
- PRETFC = pretensado PRETF3C sobre estructura total
- PRETFD = pretensado PRETF3d sobre estructura total

ZONA DE LOSA
SOBRE PILA HORMIGONADA
EN FASE 2.



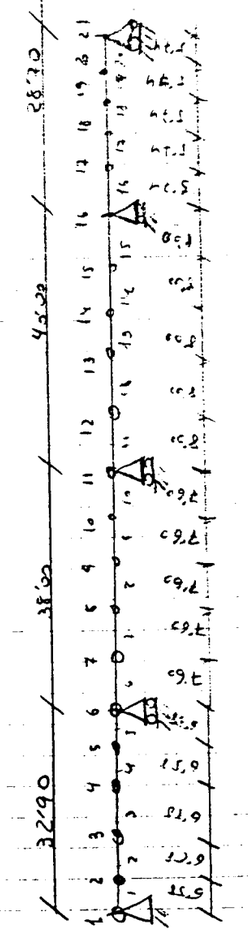
DETERMINACIÓN DEL TREN CONDICIONANTE A CALCULO LONGITUDINAL DEL TABLERO

En el presente apartado mediante un modelo sencillo se demuestra que para el calculo longitudinal el tren condicionante es el TREN B IPF, de esta manera a continuación para dicho calculo se unicamente el tren B IPF.

COMPARACIÓN TRENES DE LA IPF Y EC1

A continuación mediante un modelo simplificado se estudia cual de los trenes es condicionante, el Tren A de la IPF, el Tren B de la IPF, el LM71 o el SW2.

E = 28577007 t/m²
I = 4'03 m⁴
A = 3'893 m²



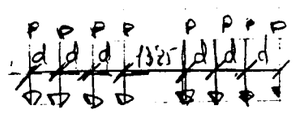
TRENES A INTRODUCIR:

1) Tren tipo A IPF: Pares de 3 cargas de 30 tn separadas entre sí 1'5m

2) Tren Tipo B IPF:
- carga uniforme de 4 tn/m
- sobrecarga de 8 tn/m
- sobrecarga de 8 cargas de 7'5 tn separadas cada una 3'75m.

3) Tren LM71 EC1:
- carga uniforme de 8 tn/m
- 4 cargas puntuales de 12 tn separadas 1'6m

4) SW2:



P = 23'75 tn.
d = 6'25m.

Resumen Esfuerzos (mts)

Efectos (mts)		6 (-)	Mt abscisa 8 (+)	11 (-)	Mt abscisa 13 (+)	16 (-)
TREN IPF tipo A		-257'83	455'50	-272'2	472'53	-293'57
TREN IPF tipo B						
	4 t/m	-125'06	53'66	-128'8	74'41	-122'57
	8 t/m	-132'962	98'64	-143'55	106'4	-129'8
	8 cargas de 7'5 t	-146'15	233	-157'5	214	-170'3
	suma	1601'2	1242'34	-1722	1352	1591
TREN LM71 EC1						
	8 t/m	-118'89	876'14	-127'6	945'81	-115'431
	4 cargas de 12 t	-156'42	273'9	-165'12	284'14	-148'00
		-138'31	1150	-144'112	1226'91	-133'2
SW2 EC1		-1962	1135	-2070	1290	-1871'2

Resumen Contactos (fr)

Contacto	1(1)	5(3)	6(1)	10(3)	11(1)	15(3)	16(1)
Tren IPE tipo A	7183/-7601	7771	9'2/-781	63'02/-10'7	6'4/-7817	7718/-8121	2'53/-77'6
Tren IPE tipo B 1 t/m	-12'64	20'25	-18'97	11'50	-2'51	19'8	-18'69
9 t/m	-135'78	180'46	-195'54	195'41	-200	133'52	-174'93
10 x 6 t	4'45/-32'26	27'02/4'45	5'25/-38'4	39'68/-4'28	3'021/-40'70	41'25/-4'41	1'44/-36
Suma	-180'68	238'1	-253	247'15	-261'28	194'56	229
Tren LM71 EC1 8 t/m	1915/-1207	16752/-551	22'56/-17364	174'2/-21'5	16'71/-1779	118'7/-19	6'01 2/-151'1
4 ejes 1 t/m	4'25/-445	46'85/-1'34	5'51/-46'63	46664/-5'01	386/-46'73	38'23/	1'537/-46'3
Suma	-165'2	214'4	-220'47	22'84	22'63	15'693	-22'15
SW2 EC1	24'2/-224'3	309'8/-764	3129/-3129	320'06/0	0/-306'82	229'4/-25	7'42/-31'8

-Conclusiones:

Es importante tener en cuenta que el Tren SW2 es solo considerado en la otra vía en LM71, aderas el coeficiente de impacto a IPF de 1.18 frente a 1.03 así pues el cálculo es coincidente al Tren de 6 IPF:

. Flexión con coef. dinámico (mtn)

Nudo →	6(-)	Nudo 7	11	N°3 ejemplo 13	16
2(Tren A IPF)	-609	1072'2	-642'2	1115'17	-692'18
2(Tren B IPF)	-3778	2931	-4063	3190'72	3751
2(LM71 EC1)	-2756	2369	-2969	2525	-2744
(LM71 + SW2)	-3399	2353'5	-3616'45	2592	3299

-Cortante con coeficiente dinámico (tn)

	1(1)	5(3)	6(1)	10(3)	11(1)	15(3)	16(1)
2Tipo A IPF	-179	183'2	-184	179	-185	163'6	-183'6
2Tipo B IPF	-486	558	-597	583'3	-611	459	540
2(LM71 EC1)	340	441	-454	454	-462	323'82	415'71
LM71 + SW2	-401	539	-549	549'37	-547	397	-523

*** PROGRAMA BARRA[MARCOS] ***
Version Noviembre 88

Proyecto:
santa oliva

Comentario:
estudio dif trenes

Material Base Homogeneizacion:
El (Tn/m2) : 2857700.00

DATOS DE LOS NUDOS

				Movimientos Impuestos		
Nudo	Xi(m.)	Yi(m.)	Peso(Tn)	Ux	Vy	rz
1	0.00	0.00				
2	6.58	0.00				
3	13.16	0.00				
4	19.74	0.00				
5	26.32	0.00				
6	32.90	0.00				
7	40.50	0.00				
8	48.10	0.00				
9	55.70	0.00				
10	63.30	0.00				
11	70.90	0.00				
12	78.90	0.00				
13	86.90	0.00				
14	94.90	0.00				
15	102.90	0.00				
16	110.90	0.00				
17	116.60	0.00				
18	122.40	0.00				
19	128.00	0.00				
20	133.90	0.00				
21	139.80	0.00				

VINCULACIONES NUDOS

Nudo	Coaccion-Ux	Coaccion-Vy	Coaccion-rz
1	******	******	
6		******	
11		******	
16		******	
21		******	

DATOS DE SECCIONES TIPO

No	Area(m2)	M.Iner.(m4)	S.Cort.(m2)	Peso(T/ml)
1	3.893000	4.030000		

DATOS DE LOS ELEMENTOS

Num	Nd-i	Nd-d	Sti	Std	Vin	Var	Vp	Long(m)	Alf(sx)
1	1	2	1	1	1.0	1.0	0.0	6.580	0.00
2	2	3	1	1	1.0	1.0	0.0	6.580	0.00
3	3	4	1	1	1.0	1.0	0.0	6.580	0.00
4	4	5	1	1	1.0	1.0	0.0	6.580	0.00
5	5	6	1	1	1.0	1.0	0.0	6.580	0.00
6	6	7	1	1	1.0	1.0	0.0	7.600	0.00
7	7	8	1	1	1.0	1.0	0.0	7.600	0.00
8	8	9	1	1	1.0	1.0	0.0	7.600	0.00
9	9	10	1	1	1.0	1.0	0.0	7.600	0.00
10	10	11	1	1	1.0	1.0	0.0	7.600	0.00
11	11	12	1	1	1.0	1.0	0.0	8.000	0.00
12	12	13	1	1	1.0	1.0	0.0	8.000	0.00
13	13	14	1	1	1.0	1.0	0.0	8.000	0.00
14	14	15	1	1	1.0	1.0	0.0	8.000	0.00
15	15	16	1	1	1.0	1.0	0.0	8.000	0.00
16	16	17	1	1	1.0	1.0	0.0	5.700	0.00
17	17	18	1	1	1.0	1.0	0.0	5.800	0.00
18	18	19	1	1	1.0	1.0	0.0	5.600	0.00
19	19	20	1	1	1.0	1.0	0.0	5.900	0.00
20	20	21	1	1	1.0	1.0	0.0	5.900	0.00

Nota: En Elementos Curvos [Long] y [Alf]
corresponden a la Cuerda

DATOS DE LOS ESTADOS DE CARGA

ESTADO DE CARGA 1 :

Titulo:
tren tipo A IPF
Tipo: [-5]Envolventes Trenes de Carga

Tren de Cargas Tipo 1 con 3 Ejes Longitudinales

Delta(m.): standard
Xref (m.): c.gravedad del tren de cargas

Cargas Verticales Ejes Longitudinales (Tn.):
30.000 30.000 20.000

Interejes Longitudinales (m.):
1.500 1.500

Camino de Rodadura *0* : Elementos Afectados:
1 <= j <= 20

ESTADO DE CARGA 2 :

Titulo:
scu 1 tn/m tren tipo B IPF
Tipo: [1]Cargas Exteriores/Movimientos Apoyo

ACCIONES EN ELEMENTOS (m.;Tn;gsex.) :

Nel aj	Parametros de Carga:	
1 -1	1.000	(Carga Repartida)
Misma Accion en Elementos :	2 <= j <= 20	

ESTADO DE CARGA 3 :

Titulo:
SCU 9tn/m tren tipo B IPF
Tipo: [-6]Envolventes Sobrecargas Moviles

Sobrecarga Movil Tipo 1

Numero sobrecargas diferentes: 1
Maxima Longitud cargada por elemento(m.): Total

No	pn(Tn/ml)	Elementos Afectados:
1	8.000	1 <= j <= 20

ESTADO DE CARGA 4 :

Titulo:

SCU 8tn/m LM71 EC1
Tipo: [-6]Envolventes Sobrecargas Moviles

Sobrecarga Movil Tipo 1

Numero sobrecargas diferentes: 1
Maxima Longitud cargada por elemento(m.): Total

No	pn(Tn/ml)	Elementos Afectados:
1	8.000	1 <= j <= 20

ESTADO DE CARGA 5 :

Titulo:
4 cargas de 12.2tn LM71 Ec1
Tipo: [-5]Envolventes Trenes de Carga

Tren de Cargas Tipo 1 con 4 Ejes Longitudinales

Delta(m.): standard
Xref (m.): c.gravedad del tren de cargas

Cargas Verticales Ejes Longitudinales (Tn.):

12.200	12.200	12.200	12.200

Interejes Longitudinales (m.):

1.600	1.500	1.500

Camino de Rodadura *0* : Elementos Afectados:
1 <= j <= 20

ESTADO DE CARGA 6 :

Titulo:
8 cargas de 93.75 tn SW2 Ec1
Tipo: [-5]Envolventes Trenes de Carga

Tren de Cargas Tipo 1 con 8 Ejes Longitudinales

Delta(m.): standard
Xref (m.): c.gravedad del tren de cargas

Cargas Verticales Ejes Longitudinales (Tn.):

93.750	93.750	93.750	93.750	93.750
93.750	93.750	93.750		

Interejes Longitudinales (m.):

6.250	6.250	6.250	13.250	6.250
6.250	6.250			

Camino de Rodadura *0* : Elementos Afectados:
1 <= j <= 20

ESTADO DE CARGA 7 :

Titulo:
8 7.5tn separadas 3.75 mn IPF
Tipo: [-5]Envolventes Trenes de Carga

Tren de Cargas Tipo 1 con 8 Ejes Longitudinales

Delta(m.): standard
Xref (m.): c.gravedad del tren de cargas

Cargas Verticales Ejes Longitudinales (Tn.):

7.500	7.500	7.500	7.500	7.500
7.500	7.500	7.500		

Interejes Longitudinales (m.):

3.750	3.750	3.750	3.750	3.750
3.750	3.750			

Camino de Rodadura *0* : Elementos Afectados:
1 <= j <= 20

*** BARRA (RESULTADOS) ***

Proyecto:
santa oliva

Comentario:
estudio dif trenes

Estado de Carga 1:
tren tipo A IPF

** MOVIMIENTOS NUDOS (Ejes Generales) **

ENVOLVENTE MAXIMA:

Nudo	Ux (m.)	Vy (m.)	rz (rad.)
1	0.000000	76.013	-.000077
	0.000	0.000000	-.000077
	0.000	-7.837	.000123
2	0.000000	-.000388	-.000035
	0.000000	.000775	.000108
	0.000000	.000775	.000108
3	0.000000	-.000489	.000002
	0.000000	.001357	.000064
	0.000000	.001357	.000064
4	0.000000	-.000392	.000025
	0.000000	.001551	-.000010
	0.000000	-.003139	.000170
5	0.000000	-.000197	.000032
	0.000000	.001163	-.000113
	0.000000	-.001834	.000286
6	0.000000	4.854	.000025
	0.000000	0.000000	0.000000
	0.000000	63.959	.000240
7	0.000000	.000129	.000010
	0.000000	.001245	.000095
	0.000000	.001245	.000095
8	0.000000	.000161	-.000001
	0.000000	.001549	-.000008
	0.000000	.001326	.000075
9	0.000000	.000128	-.000007
	0.000000	.001672	.000009
	0.000000	-.003467	.000156
10	0.000000	.000063	-.000009
	0.000000	.001346	-.000102
	0.000000	-.002194	.000295
11	0.000000	-1.088	-.000007
	0.000000	0.000000	0.000000
	0.000000	60.531	.000249
12	0.000000	-.000037	-.000003
	0.000000	.001355	.000097
	0.000000	.001355	.000097
13	0.000000	-.000046	0.000000
	0.000000	.001671	-.000010
	0.000000	.001073	.000058
14	0.000000	-.000036	.000002
	0.000000	.001358	.000007
	0.000000	-.004048	.000172
15	0.000000	-.000017	.000002
	0.000000	.001095	-.000079
	0.000000	-.002388	.000313
16	0.000000	.290	.000002
	0.000000	0.000000	.000055
	0.000000	63.187	.000246
17	0.000000	.000007	.000001
	0.000000	.001013	.000115
	0.000000	.001013	.000115
18	0.000000	.000009	0.000000
	0.000000	.001362	.000011
19	0.000000	.000008	-0.000000
	0.000000	.001207	-.000061
	0.000000	-.002217	.000088
20	0.000000	.000005	-.000001
	0.000000	.000694	-.000107
	0.000000	-.001615	.000232
21	0.000000	-.069	-.000001
	0.000000	0.000000	.000086
	0.000000	41.170	.000294

Nota: En grados de libertad coaccionados, se acompañan las reacciones concomitantes [Fx,Fy,Mz] a los movimientos pesimos

ENVOLVENTE MINIMA:

Nudo	Ux (m.)	Vy (m.)	rz (rad.)
1	0.000000	76.013	-.000077
	0.000	0.000000	.000123
	0.000	41.321	-.000374
2	0.000000	-.000388	-.000035
	0.000000	-.002289	-.000296
	0.000000	-.002270	-.000298
3	0.000000	-.000489	.000002
	0.000000	-.003605	-.000085
	0.000000	-.003141	-.000116
4	0.000000	-.000392	.000025
	0.000000	-.003335	.000138
	0.000000	.001551	-.000010
5	0.000000	-.000197	.000032
	0.000000	-.001834	.000286
	0.000000	.001163	-.000113
6	0.000000	4.854	.000025
	0.000000	0.000000	.000069
	0.000000	57.358	-.000246
7	0.000000	.000129	.000010
	0.000000	-.002198	-.000291
	0.000000	-.002188	-.000295
8	0.000000	.000161	-.000001
	0.000000	-.003888	-.000114
	0.000000	-.003467	-.000158
9	0.000000	.000128	-.000007
	0.000000	-.003909	.000119
	0.000000	.001231	-.000069
10	0.000000	.000063	-.000009
	0.000000	-.002213	.000292
	0.000000	.001346	-.000102
11	0.000000	-1.088	-.000007
	0.000000	0.000000	-.000065
	0.000000	62.017	-.000259
12	0.000000	-.000037	-.000003
	0.000000	-.002466	-.000312
	0.000000	-.002452	-.000315
13	0.000000	-.000046	0.000000
	0.000000	-.004355	-.000119
	0.000000	-.003851	-.000167
14	0.000000	-.000036	.000002
	0.000000	-.004332	.000130
	0.000000	.001310	-.000072
15	0.000000	-.000017	.000002
	0.000000	-.002407	.000310
	0.000000	.000632	-.000089
16	0.000000	.290	.000002
	0.000000	0.000000	-.000061
	0.000000	57.886	-.000201
17	0.000000	.000007	.000001
	0.000000	-.001290	-.000228

	0.000000	-.001290	-.000228
18	0.000000	.000009	0.000000
	0.000000	-.002329	-.000106
	0.000000	-.002216	-.000133
19	0.000000	.000008	-0.000000
	0.000000	-.002524	.000069
	0.000000	.001207	-.000061
20	0.000000	.000005	-.000001
	0.000000	-.001615	.000232
	0.000000	.000694	-.000107
21	0.000000	-.069	-.000001
	0.000000	0.000000	-.000123
	0.000000	-10.158	-.000123

Nota: En grados de libertad coaccionados, se acompañan las reacciones concomitantes [Fx,Fy,Mz] a los movimientos pesimos

** ESFUERZOS ELEMENTOS (Ejes Locales) **

ENVOLVENTE MAXIMA:

Nel N-i N-d		Axil(T)	Cortante(T)	Flector(mT)
1 1 2				
S-izquierda		0.000	-76.013	-0.000
		0.000	7.837	0.000
		0.000	-46.016	0.000
S- centro		0.000	3.987	91.964
		0.000	7.837	-25.784
		0.000	-65.214	214.553
S- derecha		0.000	3.987	78.848
		0.000	14.786	294.027
		0.000	-56.309	370.514
2 2 3				
S-izquierda		0.000	3.987	78.848
		0.000	14.786	294.027
		0.000	-56.309	370.514
S- centro		0.000	3.987	65.731
		0.000	23.691	397.650
		0.000	-46.016	454.177
S- derecha		0.000	3.987	52.615
		0.000	33.984	470.490
		0.000	-11.321	504.406
3 3 4				
S-izquierda		0.000	3.987	52.615
		0.000	33.984	470.490
		0.000	-11.321	504.406
S- centro		0.000	3.987	39.499
		0.000	42.245	462.945
		0.000	-28.489	468.648
S- derecha		0.000	3.987	26.383
		0.000	51.511	427.297
		0.000	5.623	441.834
4 4 5				
S-izquierda		0.000	3.987	26.383
		0.000	51.511	427.297
		0.000	5.623	441.834

S- centro	0.000	3.987	13.266
	0.000	58.691	332.622
	0.000	58.691	332.622
S- derecha	0.000	3.987	.150
	0.000	66.408	222.665
	0.000	19.690	231.974
5 5 6			
S-izquierda	0.000	3.987	.150
	0.000	66.408	222.665
	0.000	19.690	231.974
S- centro	0.000	3.987	-12.966
	0.000	72.070	76.684
	0.000	72.070	76.684
S- derecha	0.000	3.987	-26.082
	0.000	77.717	-59.960
	0.000	-2.217	72.946
6 6 7			
S-izquierda	0.000	-.867	-26.082
	0.000	9.083	72.946
	0.000	9.083	72.946
S- centro	0.000	-.867	-22.788
	0.000	9.083	38.431
	0.000	-70.197	91.397
S- derecha	0.000	-.867	-19.493
	0.000	9.803	223.066
	0.000	-36.827	262.229
7 7 8			
S-izquierda	0.000	-.867	-19.493
	0.000	9.803	223.066
	0.000	-36.827	262.229
S- centro	0.000	-.867	-16.198
	0.000	15.940	306.416
	0.000	-53.588	353.655
S- derecha	0.000	-.867	-12.904
	0.000	26.412	422.208
	0.000	-19.521	455.504
8 8 9			
S-izquierda	0.000	-.867	-12.904
	0.000	26.412	422.208
	0.000	-19.521	455.504
S- centro	0.000	-.867	-9.609
	0.000	33.694	426.188
	0.000	-34.923	440.277
S- derecha	0.000	-.867	-6.314
	0.000	45.077	437.904
	0.000	-.777	457.007
9 9 10			
S-izquierda	0.000	-.867	-6.314
	0.000	45.077	437.904
	0.000	-.777	457.007
S- centro	0.000	-.867	-3.020
	0.000	52.405	345.509
	0.000	52.405	345.509

S- derecha	0.000	-.867	.275
	0.000	63.020	254.578
	0.000	16.629	265.228
10 10 11			
S-izquierda	0.000	-.867	.275
	0.000	63.020	254.578
	0.000	16.629	265.228
S- centro	0.000	-.867	3.570
	0.000	69.297	84.366
	0.000	69.297	84.366
S- derecha	0.000	-.867	6.864
	0.000	77.463	-58.922
	0.000	-8.336	66.001
11 11 12			
S-izquierda	0.000	.221	6.864
	0.000	6.402	55.125
	0.000	2.129	66.001
S- centro	0.000	.221	5.979
	0.000	6.402	29.517
	0.000	-69.909	90.684
S- derecha	0.000	.221	5.093
	0.000	10.091	235.238
	0.000	-36.641	274.036
12 12 13			
S-izquierda	0.000	.221	5.093
	0.000	10.091	235.238
	0.000	-36.641	274.036
S- centro	0.000	.221	4.207
	0.000	16.037	314.247
	0.000	-52.934	363.003
S- derecha	0.000	.221	3.322
	0.000	27.066	439.659
	0.000	-18.997	472.529
13 13 14			
S-izquierda	0.000	.221	3.322
	0.000	27.066	439.659
	0.000	-18.997	472.529
S- centro	0.000	.221	2.436
	0.000	34.109	434.423
	0.000	-33.978	447.341
S- derecha	0.000	.221	1.550
	0.000	46.022	448.174
	0.000	-.009	467.234
14 14 15			
S-izquierda	0.000	.221	1.550
	0.000	46.022	448.174
	0.000	-.009	467.234
S- centro	0.000	.221	.665
	0.000	53.029	342.776
	0.000	53.029	342.776
S- derecha	0.000	.221	-.221
	0.000	63.938	250.812
	0.000	17.302	263.477

15 15 16			
S-izquierda	0.000	.221	-.221
	0.000	63.938	250.812
	0.000	17.302	263.477
S- centro	0.000	.221	-1.107
	0.000	69.776	68.614
	0.000	69.776	68.614
S- derecha	0.000	.221	-1.993
	0.000	77.795	-65.758
	0.000	-8.126	73.123
16 16 17			
S-izquierda	0.000	-.069	-1.993
	0.000	2.530	73.123
	0.000	2.530	73.123
S- centro	0.000	-.069	-1.796
	0.000	2.530	65.911
	0.000	-42.874	88.176
S- derecha	0.000	-.069	-1.600
	0.000	7.126	165.317
	0.000	-66.405	210.315
17 17 18			
S-izquierda	0.000	-.069	-1.600
	0.000	7.126	165.317
	0.000	-66.405	210.315
S- centro	0.000	-.069	-1.400
	0.000	10.647	216.134
	0.000	-29.569	314.802
S- derecha	0.000	-.069	-1.200
	0.000	20.431	355.502
	0.000	-25.109	393.724
18 18 19			
S-izquierda	0.000	-.069	-1.200
	0.000	20.431	355.502
	0.000	-25.109	393.724
S- centro	0.000	-.069	-1.007
	0.000	24.891	363.405
	0.000	-13.952	431.356
S- derecha	0.000	-.069	-.814
	0.000	36.048	425.371
	0.000	-8.830	446.428
19 19 20			
S-izquierda	0.000	-.069	-.814
	0.000	36.048	425.371
	0.000	-8.830	446.428
S- centro	0.000	-.069	-.610
	0.000	41.170	364.352
	0.000	25.260	399.533
S- derecha	0.000	-.069	-.407
	0.000	54.560	321.907
	0.000	54.560	321.907
20 20 21			
S-izquierda	0.000	-.069	-.407
	0.000	54.560	321.907
	0.000	54.560	321.907
S- centro	0.000	-.069	-.203
	0.000	60.119	177.352
	0.000	44.498	189.248
S- derecha	0.000	-.069	-0.000
	0.000	74.269	-0.000
	0.000	10.647	0.000

Nota: Los esfuerzos se refieren a los extremos del elemento, excluyendo zonas rigidas en nudos de tamaño finito

ENVOLVENTE MINIMA:

Nel N-i N-d		Axil(T)	Cortante(T)	Flector(mT)
1 1 2				
S-izquierda	0.000		-76.013	-0.000
	0.000		-76.013	-0.000
	0.000		-41.321	-0.000
S- centro	0.000		3.987	91.964
	0.000		-65.214	214.553
	0.000		7.837	-25.784
S- derecha	0.000		3.987	78.848
	0.000		-56.309	370.514
	0.000		7.837	-51.567
2 2 3				
S-izquierda	0.000		3.987	78.848
	0.000		-56.309	370.514
	0.000		7.837	-51.567
S- centro	0.000		3.987	65.731
	0.000		-46.016	454.177
	0.000		7.837	-77.351
S- derecha	0.000		3.987	52.615
	0.000		-37.755	496.852
	0.000		7.837	-103.135
3 3 4				
S-izquierda	0.000		3.987	52.615
	0.000		-37.755	496.852
	0.000		7.837	-103.135
S- centro	0.000		3.987	39.499
	0.000		-28.489	468.648
	0.000		7.837	-128.918
S- derecha	0.000		3.987	26.383
	0.000		-21.309	420.636
	0.000		7.837	-154.702
4 4 5				
S-izquierda	0.000		3.987	26.383
	0.000		-21.309	420.636
	0.000		7.837	-154.702
S- centro	0.000		3.987	13.266
	0.000		-13.592	313.027
	0.000		7.837	-180.486

S- derecha	0.000	3.987	.150
	0.000	-7.930	208.714
	0.000	7.837	-206.269
5 5 6			
S-izquierda	0.000	3.987	.150
	0.000	-7.930	208.714
	0.000	7.837	-206.269
S- centro	0.000	3.987	-12.966
	0.000	-2.283	67.608
	0.000	7.837	-232.053
S- derecha	0.000	3.987	-26.082
	0.000	-2.217	72.946
	0.000	7.837	-257.836
6 6 7			
S-izquierda	0.000	-.867	-26.082
	0.000	-78.077	-47.143
	0.000	-49.521	-257.836
S- centro	0.000	-.867	-22.788
	0.000	-70.197	91.397
	0.000	-8.336	-219.107
S- derecha	0.000	-.867	-19.493
	0.000	-64.060	261.909
	0.000	-8.336	-187.428
7 7 8			
S-izquierda	0.000	-.867	-19.493
	0.000	-64.060	261.909
	0.000	-8.336	-187.428
S- centro	0.000	-.867	-16.198
	0.000	-53.588	353.655
	0.000	-8.336	-155.749
S- derecha	0.000	-.867	-12.904
	0.000	-46.306	449.143
	0.000	-8.336	-124.071
8 8 9			
S-izquierda	0.000	-.867	-12.904
	0.000	-46.306	449.143
	0.000	-8.336	-124.071
S- centro	0.000	-.867	-9.609
	0.000	-34.923	440.277
	0.000	9.083	-99.629
S- derecha	0.000	-.867	-6.314
	0.000	-27.595	439.567
	0.000	9.083	-134.144
9 9 10			
S-izquierda	0.000	-.867	-6.314
	0.000	-27.595	439.567
	0.000	9.083	-134.144
S- centro	0.000	-.867	-3.020
	0.000	-16.980	325.132
	0.000	9.083	-168.659
S- derecha	0.000	-.867	.275
	0.000	-10.703	242.616
	0.000	9.083	-203.174
10 10 11			
S-izquierda	0.000	-.867	.275
	0.000	-10.703	242.616
	0.000	9.083	-203.174
S- centro	0.000	-.867	3.570
	0.000	-8.336	34.323
	0.000	9.083	-237.690
S- derecha	0.000	-.867	6.864
	0.000	-8.336	66.001
	0.000	9.083	-272.205
11 11 12			
S-izquierda	0.000	.221	6.864
	0.000	-78.167	-48.164
	0.000	-52.934	-272.205
S- centro	0.000	.221	5.979
	0.000	-69.909	90.684
	0.000	-8.126	-219.404
S- derecha	0.000	.221	5.093
	0.000	-63.963	273.316
	0.000	-8.126	-186.901
12 12 13			
S-izquierda	0.000	.221	5.093
	0.000	-63.963	273.316
	0.000	-8.126	-186.901
S- centro	0.000	.221	4.207
	0.000	-52.934	363.003
	0.000	-8.126	-154.398
S- derecha	0.000	.221	3.322
	0.000	-45.891	465.779
	0.000	-8.126	-121.895
13 13 14			
S-izquierda	0.000	.221	3.322
	0.000	-45.891	465.779
	0.000	-8.126	-121.895
S- centro	0.000	.221	2.436
	0.000	-33.978	447.341
	0.000	-8.126	-89.392
S- derecha	0.000	.221	1.550
	0.000	-26.971	449.811
	0.000	6.402	-98.523
14 14 15			
S-izquierda	0.000	.221	1.550
	0.000	-26.971	449.811
	0.000	6.402	-98.523
S- centro	0.000	.221	.665
	0.000	-16.062	321.644
	0.000	6.402	-124.131
S- derecha	0.000	.221	-.221
	0.000	-10.224	242.639
	0.000	6.402	-149.738
15 15 16			
S-izquierda	0.000	.221	-.221

	0.000	-10.224	242.639
	0.000	6.402	-149.738
S- centro	0.000	.221	-1.107
	0.000	-8.126	40.620
	0.000	6.402	-175.346
S- derecha	0.000	.221	-1.993
	0.000	-8.126	73.123
	0.000	53.029	-293.570
16 16 17			
S-izquierda	0.000	-.069	-1.993
	0.000	-77.824	-42.205
	0.000	-10.158	-293.570
S- centro	0.000	-.069	-1.796
	0.000	-69.353	49.355
	0.000	-10.158	-264.619
S- derecha	0.000	-.069	-1.600
	0.000	-66.405	210.315
	0.000	-10.158	-235.669
17 17 18			
S-izquierda	0.000	-.069	-1.600
	0.000	-66.405	210.315
	0.000	-10.158	-235.669
S- centro	0.000	-.069	-1.400
	0.000	-55.109	273.282
	0.000	-10.158	-206.210
S- derecha	0.000	-.069	-1.200
	0.000	-51.484	391.106
	0.000	-10.158	-176.751
18 18 19			
S-izquierda	0.000	-.069	-1.200
	0.000	-51.484	391.106
	0.000	-10.158	-176.751
S- centro	0.000	-.069	-1.007
	0.000	-38.830	377.078
	0.000	-10.158	-148.309
S- derecha	0.000	-.069	-.814
	0.000	-34.740	428.990
	0.000	-10.158	-119.866
19 19 20			
S-izquierda	0.000	-.069	-.814
	0.000	-34.740	428.990
	0.000	-10.158	-119.866
S- centro	0.000	-.069	-.610
	0.000	-19.881	296.057
	0.000	-10.158	-89.899
S- derecha	0.000	-.069	-.407
	0.000	-15.502	275.456
	0.000	-10.158	-59.933
20 20 21			
S-izquierda	0.000	-.069	-.407
	0.000	-15.502	275.456
	0.000	-10.158	-59.933
S- centro	0.000	-.069	-.203
	0.000	-10.158	-29.966
	0.000	-10.158	-29.966
S- derecha	0.000	-.069	-0.000
	0.000	-10.158	-0.000
	0.000	-10.147	-0.000

Nota: Los esfuerzos se refieren a los extremos del elemento, excluyendo zonas rigidas en nudos de tamaño finito

** REACCIONES EXTERIORES (Ejes Generales) **

ENVOLVENTE MAXIMA:

Nudo	Fx (Tn)	Fy (Tn)	Mz (mT)
1	0.000	76.013	-.000077
	0.000	76.013	-.000077
6	0.000000	79.844	0.000000
11	0.000000	79.842	0.000000
16	0.000000	80.071	.000055
21	0.000000	74.269	.000086

Nota: En grados de libertad libres, se acompañan los movimientos concomitantes [Ux, Vy, ₍z] a las reacciones pesimas

ENVOLVENTE MINIMA:

Nudo	Fx (Tn)	Fy (Tn)	Mz (mT)
1	0.000	76.013	-.000077
	0.000	-7.837	.000123
6	0.000000	-11.300	.000069
11	0.000000	-10.465	-.000065
16	0.000000	-10.656	-.000061
21	0.000000	-10.158	-.000123

Nota: En grados de libertad libres, se acompañan los movimientos concomitantes [Ux, Vy, ₍z] a las reacciones pesimas

Nota: Se han controlado Errores de Cierre en Nudos y Reacciones(respecto a [0,0])...(<1%)

*** BARRA (RESULTADOS) ***

Proyecto:
santa oliva

Comentario:
estudio dif trenes

Estado de Carga 2:
scu 1 tn/m tren tipo B IPF

** MOVIMIENTOS NUDOS (Ejes Generales) **

Nudo	Ux (m.)	Vy (m.)	rz (rad.)
1	0.000000	0.000000	-.000069
2	0.000000	-.000411	-.000050
3	0.000000	-.000603	-.000007
4	0.000000	-.000509	.000033
5	0.000000	-.000223	.000047
6	0.000000	0.000000	.000010
7	0.000000	-.000131	-.000032
8	0.000000	-.000338	-.000016
9	0.000000	-.000335	.000017
10	0.000000	-.000124	.000032
11	0.000000	0.000000	-.000012
12	0.000000	-.000316	-.000052
13	0.000000	-.000659	-.000026
14	0.000000	-.000666	.000024
15	0.000000	-.000330	.000053
16	0.000000	0.000000	.000015
17	0.000000	-.000040	-.000022
18	0.000000	-.000181	-.000022
19	0.000000	-.000253	-.000002
20	0.000000	-.000187	.000024
21	0.000000	0.000000	.000036

** ESFUERZOS ELEMENTOS (Ejes Locales) **

Nel N-i N-d		Axil(T)	Cortante(T)	Flector(mT)
1	1 2			
S-izquierda		0.000	-12.649	0.000
S- centro		0.000	-9.359	36.202
S- derecha		0.000	-6.069	61.581
2	2 3			
S-izquierda		0.000	-6.069	61.581
S- centro		0.000	-2.779	76.135
S- derecha		0.000	.511	79.865
3	3 4			
S-izquierda		0.000	.511	79.865
S- centro		0.000	3.801	72.771
S- derecha		0.000	7.091	54.852
4	4 5			
S-izquierda		0.000	7.091	54.852
S- centro		0.000	10.381	26.110
S- derecha		0.000	13.671	-13.456
5	5 6			
S-izquierda		0.000	13.671	-13.456
S- centro		0.000	16.961	-63.847
S- derecha		0.000	20.251	-125.061
6	6 7			
S-izquierda		0.000	-18.907	-125.061
S- centro		0.000	-15.107	-60.436
S- derecha		0.000	-11.307	-10.251
7	7 8			
S-izquierda		0.000	-11.307	-10.251
S- centro		0.000	-7.507	25.495
S- derecha		0.000	-3.707	46.800
8	8 9			
S-izquierda		0.000	-3.707	46.800
S- centro		0.000	.093	53.665
S- derecha		0.000	3.893	46.090
9	9 10			
S-izquierda		0.000	3.893	46.090
S- centro		0.000	7.693	24.076
S- derecha		0.000	11.493	-12.379
10	10 11			
S-izquierda		0.000	11.493	-12.379
S- centro		0.000	15.293	-63.274
S- derecha		0.000	19.093	-128.608
11	11 12			
S-izquierda		0.000	-20.151	-128.608
S- centro		0.000	-16.151	-56.004
S- derecha		0.000	-12.151	.600
12	12 13			
S-izquierda		0.000	-12.151	.600
S- centro		0.000	-8.151	41.203
S- derecha		0.000	-4.151	65.807
13	13 14			
S-izquierda		0.000	-4.151	65.807
S- centro		0.000	-.151	74.411
S- derecha		0.000	3.849	67.015
14	14 15			
S-izquierda		0.000	3.849	67.015
S- centro		0.000	7.849	43.619
S- derecha		0.000	11.849	4.223
15	15 16			
S-izquierda		0.000	11.849	4.223
S- centro		0.000	15.849	-51.173
S- derecha		0.000	19.849	-122.569
16	16 17			
S-izquierda		0.000	-18.691	-122.569
S- centro		0.000	-15.841	-73.361
S- derecha		0.000	-12.991	-32.275
17	17 18			
S-izquierda		0.000	-12.991	-32.275
S- centro		0.000	-10.091	1.195
S- derecha		0.000	-7.191	26.254
18	18 19			
S-izquierda		0.000	-7.191	26.254
S- centro		0.000	-4.391	42.469
S- derecha		0.000	-1.591	50.844
19	19 20			
S-izquierda		0.000	-1.591	50.844
S- centro		0.000	1.359	51.187
S- derecha		0.000	4.309	42.827
20	20 21			
S-izquierda		0.000	4.309	42.827
S- centro		0.000	7.259	25.765
S- derecha		0.000	10.209	0.000

Nota:Los esfuerzos se refieren a los extremos

del elemento,excluyendo zonas rigidas en nudos de tama_o finito

** REACCIONES EXTERIORES (Ejes Generales) **

Nudo	Fx (Tn)	Fy (Tn)	Mz (mT)
1	0.000	12.649	0.000
6	0.000	39.158	0.000
11	0.000	39.244	0.000
16	0.000	38.540	0.000
21	0.000	10.209	0.000

Nota:Se han controlado Errores de Cierre en Nudos y Reacciones(respecto a [0,0])...(<1%)

*** BARRA (RESULTADOS) ***

Proyecto:
santa oliva

Comentario:
estudio dif trenes

Estado de Carga 3:
SCU 9tn/m tren tipo B IPF

** MOVIMIENTOS NUDOS (Ejes Generales) **

ENVOLVENTE MAXIMA:

Nudo	Ux (m.)	Vy (m.)	rz (rad.)
1	0.000000	-0.000	-0.000000
	-0.000	0.000000	-.000860
	-0.000	-19.499	.000305
2	-0.000000	-0.000000	-0.000000
	-0.000000	.001929	.000269
	-0.000000	.001929	.000269
3	-0.000000	-0.000000	-0.000000
	-0.000000	.003376	.000159
	-0.000000	.002590	.000161
4	-0.000000	-0.000000	-0.000000
	-0.000000	.003859	-.000024
	-0.000000	-.007933	.000291
5	-0.000000	-0.000000	-0.000000
	-0.000000	.002894	-.000281
	-0.000000	-.004674	.000659
6	-0.000000	-0.000	-0.000000
	-0.000000	0.000000	-.000095
	-0.000000	137.888	.000689
7	-0.000000	-0.000000	-0.000000
	-0.000000	.004306	.000440
	-0.000000	.004306	.000440
8	-0.000000	-0.000000	-0.000000
	-0.000000	.006635	.000169
	-0.000000	.002480	.000187
9	-0.000000	-0.000000	-0.000000
	-0.000000	.006811	-.000126
	-0.000000	-.003867	.000292
10	-0.000000	-0.000000	-0.000000
	-0.000000	.004658	-.000444
	-0.000000	-.005653	.000697
11	-0.000000	-0.000	-0.000000
	-0.000000	0.000000	-.000052
	-0.000000	155.305	.000692
12	-0.000000	-0.000000	-0.000000
	-0.000000	.004215	.000369
	-0.000000	.004215	.000369
13	-0.000000	-0.000000	-0.000000
	-0.000000	.006004	.000085
	-0.000000	.000127	.000119
14	-0.000000	-0.000000	-0.000000
	-0.000000	.005684	-.000158
	-0.000000	-.007507	.000367
15	-0.000000	-0.000000	-0.000000
	-0.000000	.003577	-.000362
	-0.000000	-.006216	.000783
16	-0.000000	-0.000	-0.000000
	-0.000000	0.000000	.000267
	-0.000000	192.745	.000647
17	-0.000000	-0.000000	-0.000000
	-0.000000	.002669	.000302
	-0.000000	.002669	.000302
18	-0.000000	-0.000000	-0.000000
	-0.000000	.003589	.000028

	-0.000000	.003589	.000028
19	-0.000000	-0.000000	-0.000000
	-0.000000	.003182	-.000162
	-0.000000	-.004707	.000149
20	-0.000000	-0.000000	-0.000000
	-0.000000	.001830	-.000283
	-0.000000	-.003324	.000472
21	-0.000000	-0.000	-0.000000
	-0.000000	0.000000	.000612
	-0.000000	108.442	.000612

Nota:En grados de libertad coaccionados,se acompa¶an las reacciones concomitantes [Fx,Fy,Mz] a los movimientos pesimos

ENVOLVENTE MINIMA:

Nudo	Ux (m.)	Vy (m.)	¶z (rad.)
1	0.000000	0.000	0.000000
	0.000	0.000000	.000305
	0.000	120.689	-.000860
2	0.000000	0.000000	0.000000
	0.000000	-.005214	-.000666
	0.000000	-.005214	-.000666
3	0.000000	0.000000	0.000000
	0.000000	-.008202	-.000216
	0.000000	-.007416	-.000218
4	0.000000	0.000000	0.000000
	0.000000	-.007933	.000291
	0.000000	.003859	-.000024
5	0.000000	0.000000	0.000000
	0.000000	-.004674	.000659
	0.000000	.002894	-.000281
6	0.000000	0.000	0.000000
	0.000000	0.000000	.000173
	0.000000	175.376	-.000611
7	0.000000	0.000000	0.000000
	0.000000	-.005358	-.000694
	0.000000	-.005358	-.000694
8	0.000000	0.000000	0.000000
	0.000000	-.009343	-.000301
	0.000000	-.005188	-.000319
9	0.000000	0.000000	0.000000
	0.000000	-.009491	.000265
	0.000000	.001187	-.000153
10	0.000000	0.000000	0.000000
	0.000000	-.005653	.000697
	0.000000	.004658	-.000444
11	0.000000	0.000	0.000000
	0.000000	0.000000	-.000041
	0.000000	158.649	-.000786
12	0.000000	0.000000	0.000000
	0.000000	-.006747	-.000788
	0.000000	-.006747	-.000788
13	0.000000	0.000000	0.000000
	0.000000	-.011278	-.000291
	0.000000	-.005401	-.000324
14	0.000000	0.000000	0.000000
	0.000000	-.011012	.000352
	0.000000	.002180	-.000174
15	0.000000	0.000000	0.000000
	0.000000	-.006216	.000783
	0.000000	.003577	-.000362
16	0.000000	0.000	0.000000
	0.000000	0.000000	-.000145
	0.000000	115.576	-.000526
17	0.000000	0.000000	0.000000
	0.000000	-.002989	-.000476
	0.000000	-.002989	-.000476
18	0.000000	0.000000	0.000000
	0.000000	-.005036	-.000203
	0.000000	-.005036	-.000203
19	0.000000	0.000000	0.000000
	0.000000	-.005206	.000147
	0.000000	.002683	-.000164
20	0.000000	0.000000	0.000000
	0.000000	-.003324	.000472
	0.000000	.001830	-.000283
21	0.000000	0.000	0.000000
	0.000000	0.000000	-.000324
	0.000000	-26.771	-.000324

Nota:En grados de libertad coaccionados,se acompa¶an las reacciones concomitantes [Fx,Fy,Mz] a los movimientos pesimos

** ESFUERZOS ELEMENTOS (Ejes Locales) **

ENVOLVENTE MAXIMA:

Nel N-i N-d		Axil(T)	Cortante(T)	Flector(mT)
1 1 2				
	S-izquierda	-0.000	-0.000	-0.000
		-0.000	19.499	0.000
		-0.000	3.392	0.000
	S- centro	-0.000	-0.000	-0.000
		-0.000	19.499	-64.150
		-0.000	-94.369	353.769
	S- derecha	-0.000	-0.000	-0.000
		-0.000	26.050	1.774
		-0.000	-68.049	620.945
2 2 3				
	S-izquierda	-0.000	-0.000	-0.000
		-0.000	26.050	1.774
		-0.000	-68.049	620.945
	S- centro	-0.000	-0.000	-0.000
		-0.000	26.050	-83.931
		-0.000	-41.729	801.528
	S- derecha	-0.000	-0.000	-0.000
		-0.000	45.390	95.408
		-0.000	-15.409	895.519
3 3 4				
	S-izquierda	-0.000	-0.000	-0.000
		-0.000	45.390	95.408
		-0.000	-15.409	895.519
	S- centro	-0.000	-0.000	-0.000
		-0.000	50.252	255.765
		-0.000	10.911	902.916
	S- derecha	-0.000	-0.000	-0.000
		-0.000	76.572	47.139
		-0.000	37.231	823.721
4 4 5				
	S-izquierda	-0.000	-0.000	-0.000
		-0.000	76.572	47.139
		-0.000	37.231	823.721

S- centro	-0.000	-0.000	-0.000
	-0.000	91.699	9.695
	-0.000	63.551	657.933
S- derecha	-0.000	-0.000	-0.000
	-0.000	118.019	-335.291
	-0.000	89.871	405.553
5 5 6			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	118.019	-335.291
	-0.000	89.871	405.553
S- centro	-0.000	-0.000	-0.000
	-0.000	141.204	-674.034
	-0.000	17.671	212.800
S- derecha	-0.000	-0.000	-0.000
	-0.000	167.524	-1181.891
	-0.000	-5.514	181.400
6 6 7			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	22.587	181.400
	-0.000	22.587	181.400
S- centro	-0.000	-0.000	-0.000
	-0.000	22.587	95.569
	-0.000	-3.181	160.515
S- derecha	-0.000	-0.000	-0.000
	-0.000	27.219	114.842
	-0.000	-64.292	324.418
7 7 8			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	27.219	114.842
	-0.000	-64.292	324.418
S- centro	-0.000	-0.000	-0.000
	-0.000	27.219	11.410
	-0.000	-64.677	615.654
S- derecha	-0.000	-0.000	-0.000
	-0.000	43.603	166.255
	-0.000	-34.277	803.667
8 8 9			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	43.603	166.255
	-0.000	-34.277	803.667
S- centro	-0.000	-0.000	-0.000
	-0.000	43.603	.564
	-0.000	-3.877	876.159
S- derecha	-0.000	-0.000	-0.000
	-0.000	73.886	118.003
	-0.000	26.523	833.132
9 9 10			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	73.886	118.003
	-0.000	26.523	833.132
S- centro	-0.000	-0.000	-0.000
	-0.000	87.708	101.968
	-0.000	56.923	674.585
S- derecha	-0.000	-0.000	-0.000
	-0.000	118.108	-289.082
	-0.000	64.728	406.721
10 10 11			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	118.108	-289.082
	-0.000	64.728	406.721
S- centro	-0.000	-0.000	-0.000
	-0.000	143.794	-671.322
	-0.000	4.239	231.703
S- derecha	-0.000	-0.000	-0.000
	-0.000	174.194	-1275.499
	-0.000	-21.447	246.633
11 11 12			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	16.714	246.633
	-0.000	16.714	246.633
S- centro	-0.000	-0.000	-0.000
	-0.000	16.714	179.778
	-0.000	-10.353	250.142
S- derecha	-0.000	-0.000	-0.000
	-0.000	21.647	227.552
	-0.000	-73.254	450.653
12 12 13			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	21.647	227.552
	-0.000	-73.254	450.653
S- centro	-0.000	-0.000	-0.000
	-0.000	21.647	140.963
	-0.000	-58.025	737.615
S- derecha	-0.000	-0.000	-0.000
	-0.000	39.178	334.630
	-0.000	-26.025	905.717
13 13 14			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	39.178	334.630
	-0.000	-26.025	905.717
S- centro	-0.000	-0.000	-0.000
	-0.000	39.589	545.342
	-0.000	5.975	945.818
S- derecha	-0.000	-0.000	-0.000
	-0.000	71.589	322.987
	-0.000	37.975	857.919
14 14 15			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	71.589	322.987
	-0.000	37.975	857.919
S- centro	-0.000	-0.000	-0.000
	-0.000	86.746	315.733
	-0.000	69.975	642.021
S- derecha	-0.000	-0.000	-0.000
	-0.000	118.746	-95.251
	-0.000	55.614	326.001

15 15 16			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	118.746	-95.251
	-0.000	55.614	326.001
S- centro	-0.000	-0.000	-0.000
	-0.000	146.101	-505.908
	-0.000	8.046	160.849
S- derecha	-0.000	-0.000	-0.000
	-0.000	178.101	-1154.312
	-0.000	-19.309	173.757
16 16 17			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	6.012	173.757
	-0.000	6.012	173.757
S- centro	-0.000	-0.000	-0.000
	-0.000	6.012	156.622
	-0.000	-13.956	197.899
S- derecha	-0.000	-0.000	-0.000
	-0.000	8.844	205.183
	-0.000	-77.158	362.883
17 17 18			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	8.844	205.183
	-0.000	-77.158	362.883
S- centro	-0.000	-0.000	-0.000
	-0.000	8.844	179.535
	-0.000	-53.958	553.003
S- derecha	-0.000	-0.000	-0.000
	-0.000	18.964	329.975
	-0.000	-30.758	675.843
18 18 19			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	18.964	329.975
	-0.000	-30.758	675.843
S- centro	-0.000	-0.000	-0.000
	-0.000	18.964	276.875
	-0.000	-8.358	730.606
S- derecha	-0.000	-0.000	-0.000
	-0.000	37.339	440.599
	-0.000	14.042	722.650
19 19 20			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	37.339	440.599
	-0.000	14.042	722.650
S- centro	-0.000	-0.000	-0.000
	-0.000	43.535	559.330
	-0.000	37.642	646.418
S- derecha	-0.000	-0.000	-0.000
	-0.000	67.135	396.094
	-0.000	61.242	500.565
20 20 21			
S-izquierda	-0.000	-0.000	-0.000
	-0.000	67.135	396.094
	-0.000	61.242	500.565
S- centro	-0.000	-0.000	-0.000
	-0.000	84.842	285.093
	-0.000	84.842	285.093
S- derecha	-0.000	-0.000	-0.000
	-0.000	108.442	0.000
	-0.000	58.352	0.000

Nota: Los esfuerzos se refieren a los extremos del elemento, excluyendo zonas rigidas en nudos de tamaño finito

ENVOLVENTE MINIMA:

Nel N-i N-d	Axil(T)	Cortante(T)	Flector(mT)
1 1 2			
S-izquierda	0.000	0.000	0.000
	0.000	-120.689	-0.000
	0.000	-94.456	-0.000
S- centro	0.000	0.000	0.000
	0.000	-94.369	353.769
	0.000	19.499	-64.150
S- derecha	0.000	0.000	0.000
	0.000	-74.600	490.870
	0.000	19.499	-128.301
2 2 3			
S-izquierda	0.000	0.000	0.000
	0.000	-74.600	490.870
	0.000	19.499	-128.301
S- centro	0.000	0.000	0.000
	0.000	-48.280	693.008
	0.000	19.499	-192.451
S- derecha	0.000	0.000	0.000
	0.000	-41.300	543.509
	0.000	19.499	-256.602
3 3 4			
S-izquierda	0.000	0.000	0.000
	0.000	-41.300	543.509
	0.000	19.499	-256.602
S- centro	0.000	0.000	0.000
	0.000	-19.842	326.400
	0.000	19.499	-320.752
S- derecha	0.000	0.000	0.000
	0.000	-19.842	391.680
	0.000	19.499	-384.902
4 4 5			
S-izquierda	0.000	0.000	0.000
	0.000	-19.842	391.680
	0.000	19.499	-384.902
S- centro	0.000	0.000	0.000
	0.000	-8.649	199.186
	0.000	19.499	-449.053

S- derecha	0.000	0.000	0.000
	0.000	-8.649	227.641
	0.000	19.499	-513.203
5 5 6			
S-izquierda	0.000	0.000	0.000
	0.000	-8.649	227.641
	0.000	19.499	-513.203
S- centro	0.000	0.000	0.000
	0.000	-5.514	163.260
	0.000	118.019	-723.574
S- derecha	0.000	0.000	0.000
	0.000	-5.514	181.400
	0.000	167.524	-1181.891
6 6 7			
S-izquierda	0.000	0.000	0.000
	0.000	-173.840	-1181.891
	0.000	-173.840	-1181.891
S- centro	0.000	0.000	0.000
	0.000	-143.440	-579.058
	0.000	-117.672	-644.004
S- derecha	0.000	0.000	0.000
	0.000	-117.672	-196.849
	0.000	-26.161	-406.424
7 7 8			
S-izquierda	0.000	0.000	0.000
	0.000	-117.672	-196.849
	0.000	-26.161	-406.424
S- centro	0.000	0.000	0.000
	0.000	-87.272	192.546
	0.000	4.624	-411.698
S- derecha	0.000	0.000	0.000
	0.000	-73.256	208.144
	0.000	4.624	-429.268
8 8 9			
S-izquierda	0.000	0.000	0.000
	0.000	-73.256	208.144
	0.000	4.624	-429.268
S- centro	0.000	0.000	0.000
	0.000	-42.856	428.757
	0.000	4.624	-446.838
S- derecha	0.000	0.000	0.000
	0.000	-42.740	250.721
	0.000	4.624	-464.408
9 9 10			
S-izquierda	0.000	0.000	0.000
	0.000	-42.740	250.721
	0.000	4.624	-464.408
S- centro	0.000	0.000	0.000
	0.000	-26.161	90.638
	0.000	4.624	-481.978
S- derecha	0.000	0.000	0.000
	0.000	-26.161	190.051
	0.000	27.219	-505.752

10 10 11			
S-izquierda	0.000	0.000	0.000
	0.000	-26.161	190.051
	0.000	27.219	-505.752
S- centro	0.000	0.000	0.000
	0.000	-21.447	165.133
	0.000	118.108	-737.892
S- derecha	0.000	0.000	0.000
	0.000	-21.447	246.633
	0.000	174.194	-1275.499
11 11 12			
S-izquierda	0.000	0.000	0.000
	0.000	-177.922	-1275.499
	0.000	-177.922	-1275.499
S- centro	0.000	0.000	0.000
	0.000	-145.922	-627.813
	0.000	-118.855	-698.177
S- derecha	0.000	0.000	0.000
	0.000	-118.855	-222.756
	0.000	-23.954	-445.857
12 12 13			
S-izquierda	0.000	0.000	0.000
	0.000	-118.855	-222.756
	0.000	-23.954	-445.857
S- centro	0.000	0.000	0.000
	0.000	-86.855	188.665
	0.000	-7.182	-407.988
S- derecha	0.000	0.000	0.000
	0.000	-72.386	191.828
	0.000	-7.182	-379.258
13 13 14			
S-izquierda	0.000	0.000	0.000
	0.000	-72.386	191.828
	0.000	-7.182	-379.258
S- centro	0.000	0.000	0.000
	0.000	-40.796	49.947
	0.000	-7.182	-350.529
S- derecha	0.000	0.000	0.000
	0.000	-40.796	213.133
	0.000	-7.182	-321.799
14 14 15			
S-izquierda	0.000	0.000	0.000
	0.000	-40.796	213.133
	0.000	-7.182	-321.799
S- centro	0.000	0.000	0.000
	0.000	-23.954	33.219
	0.000	-7.182	-293.069
S- derecha	0.000	0.000	0.000
	0.000	-23.954	129.034
	0.000	39.178	-292.218
15 15 16			
S-izquierda	0.000	0.000	0.000

	0.000	-23.954	129.034
	0.000	39.178	-292.218
S- centro	0.000	0.000	0.000
	0.000	-19.309	96.522
	0.000	118.746	-570.235
S- derecha	0.000	0.000	0.000
	0.000	-19.309	173.757
	0.000	178.101	-1154.312
16 16 17			
S-izquierda	0.000	0.000	0.000
	0.000	-155.542	-1154.312
	0.000	-155.542	-1154.312
S- centro	0.000	0.000	0.000
	0.000	-132.742	-743.508
	0.000	-112.773	-784.786
S- derecha	0.000	0.000	0.000
	0.000	-112.773	-463.382
	0.000	-26.771	-621.082
17 17 18			
S-izquierda	0.000	0.000	0.000
	0.000	-112.773	-463.382
	0.000	-26.771	-621.082
S- centro	0.000	0.000	0.000
	0.000	-89.573	-169.979
	0.000	-26.771	-543.447
S- derecha	0.000	0.000	0.000
	0.000	-76.493	-119.944
	0.000	-26.771	-465.811
18 18 19			
S-izquierda	0.000	0.000	0.000
	0.000	-76.493	-119.944
	0.000	-26.771	-465.811
S- centro	0.000	0.000	0.000
	0.000	-54.093	62.878
	0.000	-26.771	-390.853
S- derecha	0.000	0.000	0.000
	0.000	-50.068	-33.844
	0.000	-26.771	-315.895
19 19 20			
S-izquierda	0.000	0.000	0.000
	0.000	-50.068	-33.844
	0.000	-26.771	-315.895
S- centro	0.000	0.000	0.000
	0.000	-32.664	-149.834
	0.000	-26.771	-236.921
S- derecha	0.000	0.000	0.000
	0.000	-32.664	-53.476
	0.000	-26.771	-157.948
20 20 21			
S-izquierda	0.000	0.000	0.000
	0.000	-32.664	-53.476
	0.000	-26.771	-157.948
S- centro	0.000	0.000	0.000

	0.000	-26.771	-78.974
	0.000	-26.771	-78.974
S- derecha	0.000	0.000	0.000
	0.000	-26.771	-0.000
	0.000	23.319	-0.000

Nota: Los esfuerzos se refieren a los extremos del elemento, excluyendo zonas rigidas en nudos de tamaño finito

** REACCIONES EXTERIORES (Ejes Generales) **

ENVOLVENTE MAXIMA:

Nudo	Fx (Tn)	Fy (Tn)	Mz (mT)
1	-0.000	-0.000	-0.000000
	-0.000	120.689	-.000860
6	-0.000000	341.364	-.000095
11	-0.000000	352.116	-.000052
16	-0.000000	333.643	.000267
21	-0.000000	108.442	.000612

Nota: En grados de libertad libres, se acompañan los movimientos concomitantes [Ux,Vy,rZ] a las reacciones pesimas

ENVOLVENTE MINIMA:

Nudo	Fx (Tn)	Fy (Tn)	Mz (mT)
1	0.000	0.000	0.000000
	0.000	-19.499	.000305
6	0.000000	-28.101	.000173
11	0.000000	-38.161	-.000041
16	0.000000	-25.321	-.000145
21	0.000000	-26.771	-.000324

Nota: En grados de libertad libres, se acompañan los movimientos concomitantes [Ux,Vy,rZ] a las reacciones pesimas

Nota: Se han controlado Errores de Cierre en Nudos y Reacciones(respecto a [0,0])...(<1%)

*** BARRA (RESULTADOS) ***

Proyecto:
santa oliva

Comentario:
estudio dif trenes

Estado de Carga 5:
4 cargas de 12.2tn LM71 Ec1

** MOVIMIENTOS NUDOS (Ejes Generales) **

ENVOLVENTE MAXIMA:

Nudo	Ux (m.)	Vy (m.)	rz (rad.)
1	0.000000	44.500	-.000078
	0.000	0.000000	-.000078
	0.000	-4.754	.000074
2	0.000000	-.000409	-.000039
	0.000000	.000470	.000066
	0.000000	.000470	.000066
3	0.000000	-.000522	.000002
	0.000000	.000823	.000039
	0.000000	.000823	.000039
4	0.000000	-.000420	.000026
	0.000000	.000941	-.000006
	0.000000	-.001902	.000103
5	0.000000	-.000211	.000035
	0.000000	.000706	-.000069
	0.000000	-.001108	.000173
6	0.000000	5.230	.000027
	0.000000	0.000000	-0.000000
	0.000000	38.949	.000145
7	0.000000	.000139	.000011
	0.000000	.000754	.000058
	0.000000	.000754	.000058
8	0.000000	.000173	-.000001
	0.000000	.000939	-.000005
	0.000000	.000804	.000045
9	0.000000	.000137	-.000008
	0.000000	.001014	.000005
	0.000000	-.002104	.000094
10	0.000000	.000068	-.000010
	0.000000	.000816	-.000062
	0.000000	-.001320	.000178
11	0.000000	-1.167	-.000007
	0.000000	0.000000	-0.000000
	0.000000	34.944	.000151
12	0.000000	-.000040	-.000003
	0.000000	.000822	.000059
	0.000000	.000822	.000059
13	0.000000	-.000049	0.000000
	0.000000	.001013	-.000006
	0.000000	.000648	.000035
14	0.000000	-.000038	.000002
	0.000000	.000820	.000004
	0.000000	-.002338	.000104
15	0.000000	-.000018	.000003
	0.000000	.000661	-.000048
	0.000000	-.001439	.000190
16	0.000000	.311	.000002
	0.000000	0.000000	.000043
	0.000000	36.642	.000149
17	0.000000	.000007	.000001
	0.000000	.000614	.000069
	0.000000	.000614	.000069
18	0.000000	.000010	0.000000
	0.000000	.000826	.000007
19	0.000000	.000009	-0.000000
	0.000000	.000732	-.000037
	0.000000	-.001341	.000052
20	0.000000	.000005	-.000001
	0.000000	.000421	-.000065
	0.000000	-.000976	.000140
21	0.000000	-.074	-.000001
	0.000000	0.000000	.000066
	0.000000	25.139	.000178

Nota: En grados de libertad coaccionados, se acompañan las reacciones concomitantes [Fx,Fy,Mz] a los movimientos pesimos

ENVOLVENTE MINIMA:

Nudo	Ux (m.)	Vy (m.)	rz (rad.)
1	0.000000	44.500	-.000078
	0.000	0.000000	.000074
	0.000	25.226	-.000226
2	0.000000	-.000409	-.000039
	0.000000	-.001385	-.000179
	0.000000	-.001385	-.000179
3	0.000000	-.000522	.000002
	0.000000	-.002173	-.000058
	0.000000	-.001904	-.000070
4	0.000000	-.000420	.000026
	0.000000	-.002029	.000088
	0.000000	.000941	-.000006
5	0.000000	-.000211	.000035
	0.000000	.000706	-.000069
	0.000000	-.001108	.000173
6	0.000000	5.230	.000027
	0.000000	0.000000	.000042
	0.000000	34.950	-.000149
7	0.000000	.000139	.000011
	0.000000	-.001332	-.000176
	0.000000	-.001311	-.000178
8	0.000000	.000173	-.000001
	0.000000	-.002367	-.000077
	0.000000	-.002104	-.000095
9	0.000000	.000137	-.000008
	0.000000	-.002372	.000076
	0.000000	.000746	-.000042
10	0.000000	.000068	-.000010
	0.000000	-.001342	.000177
	0.000000	.000816	-.000062
11	0.000000	-1.167	-.000007
	0.000000	0.000000	-.000040
	0.000000	35.387	-.000157
12	0.000000	-.000040	-.000003
	0.000000	-.001496	-.000189
	0.000000	-.001470	-.000190
13	0.000000	-.000049	0.000000
	0.000000	-.002651	-.000081
	0.000000	-.002538	-.000101
14	0.000000	-.000038	.000002
	0.000000	-.002631	.000083
	0.000000	.000794	-.000044
15	0.000000	-.000018	.000003
	0.000000	-.001460	.000188
	0.000000	.000383	-.000054
16	0.000000	.311	.000002
	0.000000	0.000000	-.000037
	0.000000	37.444	-.000121
17	0.000000	.000007	.000001
	0.000000	-.000775	-.000138

	0.000000	-.000775	-.000138
18	0.000000	.000010	0.000000
	0.000000	-.001420	-.000070
	0.000000	-.001339	-.000080
19	0.000000	.000009	-0.000000
	0.000000	-.001514	.000044
	0.000000	.000732	-.000037
20	0.000000	.000005	-.000001
	0.000000	-.000976	.000140
	0.000000	.000421	-.000065
21	0.000000	-.074	-.000001
	0.000000	0.000000	-.000074
	0.000000	-6.159	-.000074

Nota:En grados de libertad coaccionados,se acompañan las reacciones concomitantes [Fx,Fy,Mz] a los movimientos pesimos

** ESFUERZOS ELEMENTOS (Ejes Locales) **

ENVOLVENTE MAXIMA:

Nel N-i N-d		Axil(T)	Cortante(T)	Flector(mT)
1 1 2				
S-izquierda		0.000	-44.500	-0.000
		0.000	4.754	0.000
		0.000	-18.304	0.000
S- centro		0.000	-7.900	83.367
		0.000	4.754	-15.642
		0.000	-36.721	120.812
S- derecha		0.000	4.300	85.214
		0.000	7.938	157.806
		0.000	-32.561	214.249
2 2 3				
S-izquierda		0.000	4.300	85.214
		0.000	7.938	157.806
		0.000	-32.561	214.249
S- centro		0.000	4.300	71.067
		0.000	12.079	201.883
		0.000	-16.900	271.220
S- derecha		0.000	4.300	56.919
		0.000	19.700	271.883
		0.000	-.826	294.770
3 3 4				
S-izquierda		0.000	4.300	56.919
		0.000	19.700	271.883
		0.000	-.826	294.770
S- centro		0.000	4.300	42.772
		0.000	23.574	254.423
		0.000	15.187	289.204
S- derecha		0.000	4.300	28.625
		0.000	30.496	250.254
		0.000	9.498	256.946
4 4 5				
S-izquierda		0.000	4.300	28.625
		0.000	30.496	250.254
		0.000	9.498	256.946
S- centro		0.000	4.300	14.477
		0.000	33.898	182.630
		0.000	24.959	205.059
S- derecha		0.000	4.300	.330
		0.000	39.740	127.401
		0.000	18.069	129.414
5 5 6				
S-izquierda		0.000	4.300	.330
		0.000	39.740	127.401
		0.000	18.069	129.414
S- centro		0.000	4.300	-13.817
		0.000	42.469	26.900
		0.000	32.770	50.379
S- derecha		0.000	4.300	-27.965
		0.000	46.847	-46.805
		0.000	-1.345	44.249
6 6 7				
S-izquierda		0.000	-.930	-27.965
		0.000	5.510	44.249
		0.000	5.510	44.249
S- centro		0.000	-.930	-24.432
		0.000	5.510	23.312
		0.000	-31.261	57.582
S- derecha		0.000	-.930	-20.900
		0.000	5.510	2.375
		0.000	-16.329	147.801
7 7 8				
S-izquierda		0.000	-.930	-20.900
		0.000	5.510	2.375
		0.000	-16.329	147.801
S- centro		0.000	-.930	-17.367
		0.000	8.071	154.342
		0.000	-21.319	217.344
S- derecha		0.000	-.930	-13.835
		0.000	15.281	243.420
		0.000	-5.796	265.343
8 8 9				
S-izquierda		0.000	-.930	-13.835
		0.000	15.281	243.420
		0.000	-5.796	265.343
S- centro		0.000	-.930	-10.303
		0.000	18.604	231.856
		0.000	9.882	273.946
S- derecha		0.000	-.930	-6.770
		0.000	26.607	255.915
		0.000	5.616	266.251
9 9 10				
S-izquierda		0.000	-.930	-6.770
		0.000	26.607	255.915
		0.000	5.616	266.251
S- centro		0.000	-.930	-3.238
		0.000	30.016	189.402
		0.000	21.223	219.876

S- derecha	0.000	-.930	.295
	0.000	37.624	146.433
	0.000	16.210	149.604
10 10 11			
S-izquierda	0.000	-.930	.295
	0.000	37.624	146.433
	0.000	16.210	149.604
S- centro	0.000	-.930	3.827
	0.000	40.610	32.495
	0.000	31.229	60.230
S- derecha	0.000	-.930	7.360
	0.000	46.637	-46.014
	0.000	-5.051	39.989
11 11 12			
S-izquierda	0.000	.237	7.360
	0.000	3.865	33.278
	0.000	1.290	39.989
S- centro	0.000	.237	6.410-
	0.000	3.865	17.819
	0.000	-31.068	59.543
S- derecha	0.000	.237	5.461
	0.000	5.532	128.878
	0.000	-16.218	154.975
12 12 13			
S-izquierda	0.000	.237	5.461
	0.000	5.532	128.878
	0.000	-16.218	154.975
S- centro	0.000	.237	4.511
	0.000	8.182	159.458
	0.000	-20.897	225.473
S- derecha	0.000	.237	3.561
	0.000	15.703	254.124
	0.000	-5.478	275.715
13 13 14			
S-izquierda	0.000	.237	3.561
	0.000	15.703	254.124
	0.000	-5.478	275.715
S- centro	0.000	.237	2.612
	0.000	18.922	237.235
	0.000	10.081	281.114
S- derecha	0.000	.237	1.662
	0.000	27.217	262.207
	0.000	6.082	272.502
14 14 15			
S-izquierda	0.000	.237	1.662
	0.000	27.217	262.207
	0.000	6.082	272.502
S- centro	0.000	.237	.712
	0.000	30.482	187.782
	0.000	21.533	220.685
S- derecha	0.000	.237	-.237
	0.000	38.233	143.797
	0.000	16.620	148.585
15 15 16			
S-izquierda	0.000	.237	-.237
	0.000	38.233	143.797
	0.000	16.620	148.585
S- centro	0.000	.237	-1.187
	0.000	41.020	21.716
	0.000	31.428	54.167
S- derecha	0.000	.237	-2.136
	0.000	46.908	-51.484
	0.000	-4.928	44.347
16 16 17			
S-izquierda	0.000	-.074	-2.136
	0.000	1.535	44.347
	0.000	1.535	44.347
S- centro	0.000	-.074	-1.926
	0.000	1.535	39.974
	0.000	-20.700	45.161
S- derecha	0.000	-.074	-1.715
	0.000	3.700	85.833
	0.000	-17.855	114.630
17 17 18			
S-izquierda	0.000	-.074	-1.715
	0.000	3.700	85.833
	0.000	-17.855	114.630
S- centro	0.000	-.074	-1.501
	0.000	6.545	132.860
	0.000	-12.806	182.915
S- derecha	0.000	-.074	-1.286
	0.000	11.594	201.729
	0.000	-9.179	227.635
18 18 19			
S-izquierda	0.000	-.074	-1.286
	0.000	11.594	201.729
	0.000	-9.179	227.635
S- centro	0.000	-.074	-1.079
	0.000	15.221	222.227
	0.000	-3.443	255.981
S- derecha	0.000	-.074	-.872
	0.000	20.957	247.296
	0.000	.739	259.432
19 19 20			
S-izquierda	0.000	-.074	-.872
	0.000	20.957	247.296
	0.000	.739	259.432
S- centro	0.000	-.074	-.654
	0.000	25.139	222.481
	0.000	5.187	239.862
S- derecha	0.000	-.074	-.436
	0.000	32.133	189.586
	0.000	32.133	189.586
20 20 21			
S-izquierda	0.000	-.074	-.436
	0.000	32.133	189.586

	0.000	32.133	189.586
S- centro	0.000	-.074	-.218
	0.000	36.686	108.223
	0.000	36.686	108.223
S- derecha	0.000	-.074	-0.000
	0.000	44.096	0.000
	0.000	25.139	0.000

Nota: Los esfuerzos se refieren a los extremos del elemento, excluyendo zonas rigidas en nudos de tamaño finito

ENVOLVENTE MINIMA:

Nel N-i N-d		Axil(T)	Cortante(T)	Flector(mT)
1 1 2				
S-izquierda	0.000		-44.500	-0.000
	0.000		-44.500	-0.000
	0.000		-11.641	-0.000
S- centro	0.000		-7.900	83.367
	0.000		-36.721	120.812
	0.000		4.754	-15.642
S- derecha	0.000		4.300	85.214
	0.000		-32.561	214.249
	0.000		4.754	-31.284
2 2 3				
S-izquierda	0.000		4.300	85.214
	0.000		-32.561	214.249
	0.000		4.754	-31.284
S- centro	0.000		4.300	71.067
	0.000		-25.226	248.985
	0.000		4.754	-46.926
S- derecha	0.000		4.300	56.919
	0.000		-21.413	281.793
	0.000		4.754	-62.567
3 3 4				
S-izquierda	0.000		4.300	56.919
	0.000		-21.413	281.793
	0.000		4.754	-62.567
S- centro	0.000		4.300	42.772
	0.000		-14.902	245.130
	0.000		4.754	-78.209
S- derecha	0.000		4.300	28.625
	0.000		-11.641	229.797
	0.000		4.754	-93.851
4 4 5				
S-izquierda	0.000		4.300	28.625
	0.000		-11.641	229.797
	0.000		4.754	-93.851
S- centro	0.000		4.300	14.477
	0.000		-6.331	145.796
	0.000		4.754	-109.493
S- derecha	0.000		4.300	.330
	0.000		-3.830	100.815
	0.000		4.754	-125.135
5 5 6				
S-izquierda	0.000		4.300	.330
	0.000		-3.830	100.815
	0.000		4.754	-125.135
S- centro	0.000		4.300	-13.817
	0.000		-1.345	39.824
	0.000		4.754	-140.777
S- derecha	0.000		4.300	-27.965
	0.000		-1.345	44.249
	0.000		4.754	-156.419
6 6 7				
S-izquierda	0.000		-.930	-27.965
	0.000		-46.630	-47.984
	0.000		-30.196	-156.419
S- centro	0.000		-.930	-24.432
	0.000		-40.729	30.239
	0.000		-5.051	-132.754
S- derecha	0.000		-.930	-20.900
	0.000		-37.700	143.545
	0.000		-5.051	-113.561
7 7 8				
S-izquierda	0.000		-.930	-20.900
	0.000		-37.700	143.545
	0.000		-5.051	-113.561
S- centro	0.000		-.930	-17.367
	0.000		-30.196	187.810
	0.000		-5.051	-94.367
S- derecha	0.000		-.930	-13.835
	0.000		-26.718	254.122
	0.000		-5.051	-75.173
8 8 9				
S-izquierda	0.000		-.930	-13.835
	0.000		-26.718	254.122
	0.000		-5.051	-75.173
S- centro	0.000		-.930	-10.303
	0.000		-18.784	232.080
	0.000		5.510	-60.435
S- derecha	0.000		-.930	-6.770
	0.000		-15.377	243.147
	0.000		5.510	-81.371
9 9 10				
S-izquierda	0.000		-.930	-6.770
	0.000		-15.377	243.147
	0.000		5.510	-81.371
S- centro	0.000		-.930	-3.238
	0.000		-8.190	155.692
	0.000		5.510	-102.308
S- derecha	0.000		-.930	.295
	0.000		-5.371	121.524
	0.000		5.510	-123.245

10 10 11			
S-izquierda	0.000	-.930	.295
	0.000	-5.371	121.524
	0.000	5.510	-123.245
S- centro	0.000	-.930	3.827
	0.000	-5.051	20.796
	0.000	5.510	-144.181
S- derecha	0.000	-.930	7.360
	0.000	-5.051	39.989
	0.000	5.510	-165.118
11 11 12			
S-izquierda	0.000	.237	7.360
	0.000	-46.731	-49.133
	0.000	-29.878	-165.118
S- centro	0.000	.237	6.410
	0.000	-40.618	29.712
	0.000	-4.928	-133.064
S- derecha	0.000	.237	5.461
	0.000	-37.688	150.253
	0.000	-4.928	-113.352
12 12 13			
S-izquierda	0.000	.237	5.461
	0.000	-37.688	150.253
	0.000	-4.928	-113.352
S- centro	0.000	.237	4.511
	0.000	-29.878	193.414
	0.000	-4.928	-93.640
S- derecha	0.000	.237	3.561
	0.000	-26.519	264.060
	0.000	-4.928	-73.927
13 13 14			
S-izquierda	0.000	.237	3.561
	0.000	-26.519	264.060
	0.000	-4.928	-73.927
S- centro	0.000	.237	2.612
	0.000	-18.318	236.441
	0.000	-4.928	-54.215
S- derecha	0.000	.237	1.662
	0.000	-15.067	249.442
	0.000	3.865	-59.476
14 14 15			
S-izquierda	0.000	.237	1.662
	0.000	-15.067	249.442
	0.000	3.865	-59.476
S- centro	0.000	.237	.712
	0.000	-7.780	154.675
	0.000	3.865	-74.936
S- derecha	0.000	.237	-.237
	0.000	-5.172	122.502
	0.000	3.865	-90.395
15 15 16			
S-izquierda	0.000	.237	-.237
	0.000	-5.172	122.502
	0.000	3.865	-90.395
S- centro	0.000	.237	-1.187
	0.000	-4.928	24.635
	0.000	3.865	-105.854
S- derecha	0.000	.237	-2.136
	0.000	-4.928	44.347
	0.000	30.482	-178.008
16 16 17			
S-izquierda	0.000	-.074	-2.136
	0.000	-46.344	-42.544
	0.000	-6.159	-178.008
S- centro	0.000	-.074	-1.926
	0.000	-42.255	31.412
	0.000	-6.159	-160.453
S- derecha	0.000	-.074	-1.715
	0.000	-39.005	113.745
	0.000	-6.159	-142.899
17 17 18			
S-izquierda	0.000	-.074	-1.715
	0.000	-39.005	113.745
	0.000	-6.159	-142.899
S- centro	0.000	-.074	-1.501
	0.000	-33.579	167.466
	0.000	-6.159	-125.037
S- derecha	0.000	-.074	-1.286
	0.000	-29.615	220.314
	0.000	-6.159	-107.174
18 18 19			
S-izquierda	0.000	-.074	-1.286
	0.000	-29.615	220.314
	0.000	-6.159	-107.174
S- centro	0.000	-.074	-1.079
	0.000	-23.661	230.391
	0.000	-6.159	-89.928
S- derecha	0.000	-.074	-.872
	0.000	-19.213	235.620
	0.000	-6.159	-72.681
19 19 20			
S-izquierda	0.000	-.074	-.872
	0.000	-19.213	235.620
	0.000	-6.159	-72.681
S- centro	0.000	-.074	-.654
	0.000	-12.114	180.709
	0.000	-6.159	-54.511
S- derecha	0.000	-.074	-.436
	0.000	-7.375	130.901
	0.000	-6.159	-36.341
20 20 21			
S-izquierda	0.000	-.074	-.436
	0.000	-7.375	130.901
	0.000	-6.159	-36.341
S- centro	0.000	-.074	-.218

	0.000	-6.159	-18.170
	0.000	-6.159	-18.170
S- derecha	0.000	-.074	-0.000
	0.000	-6.159	0.000
	0.000	-5.996	-0.000

Nota: Los esfuerzos se refieren a los extremos del elemento, excluyendo zonas rigidas en nudos de tamaño finito

** REACCIONES EXTERIORES (Ejes Generales) **

ENVOLVENTE MAXIMA:

Nudo	Fx (Tn)	Fy (Tn)	Mz (mT)
1	0.000	44.500	-.000078
	0.000	44.500	-.000078
6	0.000000	48.599	-0.000000
11	0.000000	48.597	-0.000000
16	0.000000	48.690	.000043
21	0.000000	44.096	.000066

Nota: En grados de libertad libres, se acompañan los movimientos concomitantes [Ux, Vy, ₍Z] a las reacciones pesimas

ENVOLVENTE MINIMA:

Nudo	Fx (Tn)	Fy (Tn)	Mz (mT)
1	0.000	44.500	-.000078
	0.000	-4.754	.000074
6	0.000000	-6.855	.000042
11	0.000000	-6.341	-.000040
16	0.000000	-6.463	-.000037
21	0.000000	-6.159	-.000074

Nota: En grados de libertad libres, se acompañan los movimientos concomitantes [Ux, Vy, ₍Z] a las reacciones pesimas

Nota: Se han controlado Errores de Cierre en Nudos y Reacciones(respecto a [0,0])...(<1%)

*** BARRA (RESULTADOS) ***

Proyecto:
santa oliva

Comentario:
estudio dif trenes

Estado de Carga 6:
8 cargas de 93.75 tn SW2 Ec1

** MOVIMIENTOS NUDOS (Ejes Generales) **

ENVOLVENTE MAXIMA:

Nudo	Ux (m.)	Vy (m.)	₍z (rad.)
1	0.000000	224.839	-.000806
	0.000	0.000000	-.000806
	0.000	-24.214	.000379
2	0.000000	-.004764	-.000560
	0.000000	.002396	.000334
	0.000000	.002396	.000334
3	0.000000	-.006734	-.000017
	0.000000	.004193	.000197
	0.000000	.004193	.000197
4	0.000000	-.005167	.000454
	0.000000	.004792	-.000030
	0.000000	-.006078	.000491
5	0.000000	-.001763	.000487
	0.000000	.003594	-.000349
	0.000000	-.002266	.000598
6	0.000000	470.178	-.000048
	0.000000	0.000000	-.000056
	0.000000	-38.937	.000239
7	0.000000	-.002726	-.000497
	0.000000	.002251	.000327
	0.000000	.002251	.000327
8	0.000000	-.005722	-.000217
	0.000000	.004569	.000257
	0.000000	.004569	.000257
9	0.000000	-.005610	.000223
	0.000000	.005762	.000031
	0.000000	-.008618	.000524
10	0.000000	-.003012	.000415
	0.000000	.004637	-.000353
	0.000000	-.006455	.000798
11	0.000000	65.795	.000332
	0.000000	0.000000	-.000054
	0.000000	238.498	.000780
12	0.000000	.001803	.000129
	0.000000	.004241	.000303
	0.000000	.004241	.000303
13	0.000000	.002223	-.000014
	0.000000	.005231	-.000032
	-0.000000	-0.000000	-0.000000
14	0.000000	.001743	-.000096
	0.000000	.004100	-.000227
	0.000000	-.011822	.000588
15	0.000000	.000841	-.000119
	0.000000	.001979	-.000280
	0.000000	-.005577	.000922
16	0.000000	-14.178	-.000081
	0.000000	0.000000	.000262
	0.000000	272.393	.000831
17	0.000000	-.000336	-.000038
	0.000000	.003427	.000388
	0.000000	.003427	.000388
18	0.000000	-.000451	-.000004
	0.000000	.004609	.000036

	0.000000	.004609	.000036
19	0.000000	-.000400	.000020
	0.000000	.004085	-.000208
	0.000000	-.000941	.000048
20	0.000000	-.000230	.000036
	0.000000	.002349	-.000364
	0.000000	-.002642	.000335
21	0.000000	3.367	.000041
	0.000000	0.000000	.000432
	0.000000	143.335	.000523

Nota: En grados de libertad coaccionados, se acompañan las reacciones concomitantes [Fx,Fy,Mz] a los movimientos pesimos

ENVOLVENTE MINIMA:

Nudo	Ux (m.)	Vy (m.)	rz (rad.)
1	0.000000	224.839	-.000806
	0.000	0.000000	.000379
	0.000	154.412	-.000913
2	0.000000	-.004764	-.000560
	0.000000	-.005374	-.000633
	0.000000	-.005280	-.000635
3	0.000000	-.006734	-.000017
	0.000000	-.007678	-.000042
	0.000000	-.004504	-.000097
4	0.000000	-.005167	.000454
	0.000000	-.006125	.000479
	0.000000	.004792	-.000030
5	0.000000	-.001763	.000487
	0.000000	-.002283	.000591
	0.000000	.003594	-.000349
6	0.000000	470.178	-.000048
	0.000000	0.000000	.000239
	0.000000	260.521	-.000759
7	0.000000	-.002726	-.000497
	0.000000	-.006405	-.000774
	0.000000	-.006405	-.000774
8	0.000000	-.005722	-.000217
	0.000000	-.010163	-.000158
	0.000000	-.008943	-.000527
9	0.000000	-.005610	.000223
	0.000000	-.010468	.000179
	0.000000	0.000000	0.000000
10	0.000000	-.003012	.000415
	0.000000	-.006579	.000794
	0.000000	.004637	-.000353
11	0.000000	65.795	.000332
	0.000000	0.000000	0.000000
	0.000000	244.896	-.000893
12	0.000000	.001803	.000129
	0.000000	-.008177	-.000963
	0.000000	-.008071	-.000968
13	0.000000	.002223	-.000014
	0.000000	-.013338	-.000251
	0.000000	-.010983	-.000574
14	0.000000	.001743	-.000096
	0.000000	-.012521	.000223
	0.000000	.004100	-.000227
15	0.000000	.000841	-.000119
	0.000000	-.007705	.000911
	0.000000	.001979	-.000280
16	0.000000	-14.178	-.000081
	0.000000	0.000000	-.000191
	0.000000	-33.358	-.000191
17	0.000000	-.000336	-.000038
	0.000000	-.000790	-.000089

	0.000000	-.000461	-.000305
18	0.000000	-.000451	-.000004
	0.000000	-.002494	-.000318
	0.000000	-.002405	-.000333
19	0.000000	-.000400	.000020
	0.000000	-.003566	-.000031
	0.000000	.004085	-.000208
20	0.000000	-.000230	.000036
	0.000000	-.002679	.000330
	0.000000	.002349	-.000364
21	0.000000	3.367	.000041
	0.000000	0.000000	-.000415
	0.000000	-34.375	-.000415

Nota: En grados de libertad coaccionados, se acompañan las reacciones concomitantes [Fx,Fy,Mz] a los movimientos pesimos

** ESFUERZOS ELEMENTOS (Ejes Locales) **

ENVOLVENTE MAXIMA:

Nel N-i N-d		Axil(T)	Cortante(T)	Flector(mT)
1 1 2				
S-izquierda		0.000	-224.839	-0.000
		0.000	24.214	0.000
		0.000	-154.412	0.000
S- centro		0.000	-131.089	431.375
		0.000	24.214	-79.664
		0.000	-154.412	508.015
S- derecha		0.000	-37.339	831.812
		0.000	24.214	-159.328
		0.000	-133.947	881.372
2 2 3				
S-izquierda		0.000	-37.339	831.812
		0.000	24.214	-159.328
		0.000	-133.947	881.372
S- centro		0.000	-37.339	954.656
		0.000	24.214	-238.993
		0.000	-60.662	1062.700
S- derecha		0.000	56.411	1015.719
		0.000	56.411	1015.719
		0.000	53.553	1115.119
3 3 4				
S-izquierda		0.000	56.411	1015.719
		0.000	56.411	1015.719
		0.000	53.553	1115.119
S- centro		0.000	56.411	830.125
		0.000	70.825	858.517
		0.000	33.088	969.573
S- derecha		0.000	150.161	551.812
		0.000	164.575	621.283
		0.000	64.769	718.340
4 4 5				
S-izquierda		0.000	150.161	551.812
		0.000	164.575	621.283
		0.000	64.769	718.340

S- centro	0.000	150.161	57.781
	0.000	164.575	79.831
	0.000	116.852	247.763
S- derecha	0.000	150.161	-436.250
	0.000	252.269	-302.213
	0.000	-7.640	201.083
5 5 6			
S-izquierda	0.000	150.161	-436.250
	0.000	252.269	-302.213
	0.000	-7.640	201.083
S- centro	0.000	150.161	-930.281
	0.000	252.269	-1132.177
	0.000	-7.640	226.219
S- derecha	0.000	243.911	-1508.594
	0.000	309.828	-1742.325
	0.000	-7.640	251.354
6 6 7			
S-izquierda	0.000	-226.267	-1508.594
	0.000	31.297	251.354
	0.000	31.297	251.354
S- centro	0.000	-226.267	-648.780
	0.000	31.297	132.424
	0.000	31.297	132.424
S- derecha	0.000	-132.517	.190
	0.000	31.297	13.494
	0.000	-178.755	602.001
7 7 8			
S-izquierda	0.000	-132.517	.190
	0.000	31.297	13.494
	0.000	-178.755	602.001
S- centro	0.000	-132.517	503.754
	0.000	31.297	-105.437
	0.000	-24.724	1016.761
S- derecha	0.000	-38.767	669.912
	0.000	31.297	-224.367
	0.000	-48.807	1140.344
8 8 9			
S-izquierda	0.000	-38.767	669.912
	0.000	31.297	-224.367
	0.000	-48.807	1140.344
S- centro	0.000	54.983	709.507
	0.000	92.999	1004.531
	0.000	.371	1135.502
S- derecha	0.000	54.983	500.571
	0.000	138.693	775.150
	0.000	-7.235	1143.396
9 9 10			
S-izquierda	0.000	54.983	500.571
	0.000	138.693	775.150
	0.000	-7.235	1143.396
S- centro	0.000	54.983	291.634
	0.000	196.245	389.338
	0.000	25.561	1030.934

S- derecha	0.000	54.983	82.698
	0.000	240.224	-223.564
	0.000	180.265	612.261
10 10 11			
S-izquierda	0.000	54.983	82.698
	0.000	240.224	-223.564
	0.000	180.265	612.261
S- centro	0.000	54.983	-126.238
	0.000	282.748	-954.179
	0.000	213.061	21.047
S- derecha	0.000	54.983	-335.174
	0.000	320.057	-1748.801
	-0.000	-0.000	-0.000
11 11 12			
S-izquierda	0.000	-10.812	-335.174
	-0.000	-0.000	-0.000
	-0.000	-0.000	-0.000
S- centro	0.000	-10.812	-291.927
	-0.000	-0.000	-0.000
	-0.000	-0.000	-0.000
S- derecha	0.000	-10.812	-248.681
	-0.000	-0.000	-0.000
	0.000	-193.413	633.344
12 12 13			
S-izquierda	0.000	-10.812	-248.681
	-0.000	-0.000	-0.000
	0.000	-193.413	633.344
S- centro	0.000	-10.812	-205.434
	0.000	2.616	64.394
	0.000	-119.849	1095.454
S- derecha	0.000	-10.812	-162.187
	0.000	34.974	591.419
	0.000	-5.913	1266.771
13 13 14			
S-izquierda	0.000	-10.812	-162.187
	0.000	34.974	591.419
	0.000	-5.913	1266.771
S- centro	0.000	-10.812	-118.941
	0.000	87.648	1140.285
	0.000	-5.913	1290.422
S- derecha	0.000	-10.812	-75.694
	0.000	101.831	990.791
	0.000	50.518	1234.978
14 14 15			
S-izquierda	0.000	-10.812	-75.694
	0.000	101.831	990.791
	0.000	50.518	1234.978
S- centro	0.000	-10.812	-32.447
	0.000	181.587	517.600
	0.000	115.653	1038.851
S- derecha	0.000	-10.812	10.800
	0.000	229.400	-36.638
	0.000	191.924	593.622

15 15 16			
S-izquierda	0.000	-10.812	10.800
	0.000	229.400	-36.638
	0.000	191.924	593.622
S- centro	0.000	-10.812	54.046
	0.000	266.310	-741.187
	0.000	-25.437	127.158
S- derecha	0.000	-10.812	97.293
	0.000	299.392	-936.494
	0.000	-25.437	228.907
16 16 17			
S-izquierda	0.000	3.367	97.293
	0.000	7.921	228.907
	0.000	7.921	228.907
S- centro	0.000	3.367	87.698
	0.000	7.921	206.333
	0.000	7.921	206.333
S- derecha	0.000	3.367	78.104
	0.000	7.921	183.759
	0.000	7.921	183.759
17 17 18			
S-izquierda	0.000	3.367	78.104
	0.000	7.921	183.759
	0.000	7.921	183.759
S- centro	0.000	3.367	68.341
	0.000	7.921	160.789
	0.000	7.921	160.789
S- derecha	0.000	3.367	58.578
	0.000	7.921	137.819
	0.000	-75.488	378.892
18 18 19			
S-izquierda	0.000	3.367	58.578
	0.000	7.921	137.819
	0.000	-75.488	378.892
S- centro	0.000	3.367	49.151
	0.000	7.921	115.641
	0.000	-24.539	630.605
S- derecha	0.000	3.367	39.725
	0.000	48.408	571.217
	0.000	18.262	768.716
19 19 20			
S-izquierda	0.000	3.367	39.725
	0.000	48.408	571.217
	0.000	18.262	768.716
S- centro	0.000	3.367	29.794
	0.000	64.171	567.917
	0.000	-24.539	771.704
S- derecha	0.000	3.367	19.863
	0.000	112.012	660.874
	0.000	112.012	660.874
20 20 21			
S-izquierda	0.000	3.367	19.863
	0.000	112.012	660.874
	0.000	112.012	660.874
S- centro	0.000	3.367	9.931
	0.000	143.335	422.839
	0.000	143.335	422.839
S- derecha	0.000	3.367	-0.000
	0.000	195.763	0.000
	0.000	143.335	0.000

Nota: Los esfuerzos se refieren a los extremos del elemento, excluyendo zonas rigidas en nudos de tamaño finito

ENVOLVENTE MINIMA:

Nel N-i N-d	Axil(T)	Cortante(T)	Flector(mT)
1 1 2			
S-izquierda	0.000	-224.839	-0.000
	0.000	-224.839	-0.000
	0.000	-48.867	-0.000
S- centro	0.000	-131.089	431.375
	0.000	-154.412	508.015
	0.000	24.214	-79.664
S- derecha	0.000	-37.339	831.812
	0.000	-133.947	881.372
	0.000	24.214	-159.328
2 2 3			
S-izquierda	0.000	-37.339	831.812
	0.000	-133.947	881.372
	0.000	24.214	-159.328
S- centro	0.000	-37.339	954.656
	0.000	-70.648	697.291
	0.000	24.214	-238.993
S- derecha	0.000	56.411	1015.719
	0.000	-65.172	857.670
	0.000	24.214	-318.657
3 3 4			
S-izquierda	0.000	56.411	1015.719
	0.000	-65.172	857.670
	0.000	24.214	-318.657
S- centro	0.000	56.411	830.125
	0.000	-17.854	293.705
	0.000	24.214	-398.321
S- derecha	0.000	150.161	551.812
	0.000	-17.854	352.446
	0.000	24.214	-477.985
4 4 5			
S-izquierda	0.000	150.161	551.812
	0.000	-17.854	352.446
	0.000	24.214	-477.985
S- centro	0.000	150.161	57.781
	0.000	-7.640	175.948
	0.000	24.214	-557.649

S- derecha	0.000	150.161	-436.250
	0.000	-7.640	201.083
	0.000	24.214	-637.313
5 5 6			
S-izquierda	0.000	150.161	-436.250
	0.000	-7.640	201.083
	0.000	24.214	-637.313
S- centro	0.000	150.161	-930.281
	0.000	-7.640	226.219
	0.000	220.588	-1160.118
S- derecha	0.000	243.911	-1508.594
	0.000	-7.640	251.354
	0.000	252.269	-1962.141
6 6 7			
S-izquierda	0.000	-226.267	-1508.594
	0.000	-312.902	-1544.528
	0.000	-252.358	-1962.141
S- centro	0.000	-226.267	-648.780
	0.000	-278.238	-828.547
	0.000	-194.735	-1051.702
S- derecha	0.000	-132.517	.190
	0.000	-194.735	-311.707
	0.000	-187.129	-320.144
7 7 8			
S-izquierda	0.000	-132.517	.190
	0.000	-194.735	-311.707
	0.000	-187.129	-320.144
S- centro	0.000	-132.517	503.754
	0.000	-194.735	428.288
	0.000	31.297	-105.437
S- derecha	0.000	-38.767	669.912
	0.000	-100.985	835.376
	0.000	31.297	-224.367
8 8 9			
S-izquierda	0.000	-38.767	669.912
	0.000	-100.985	835.376
	0.000	31.297	-224.367
S- centro	0.000	54.983	709.507
	0.000	-93.046	1014.577
	0.000	31.297	-343.297
S- derecha	0.000	54.983	500.571
	0.000	-27.929	470.761
	0.000	31.297	-462.227
9 9 10			
S-izquierda	0.000	54.983	500.571
	0.000	-27.929	470.761
	0.000	31.297	-462.227
S- centro	0.000	54.983	291.634
	0.000	-1.765	51.069
	0.000	31.297	-581.158
S- derecha	0.000	54.983	82.698
	0.000	0.000	0.000
	0.000	31.297	-700.088
10 10 11			
S-izquierda	0.000	54.983	82.698
	0.000	0.000	0.000
	0.000	31.297	-700.088
S- centro	0.000	54.983	-126.238
	0.000	0.000	0.000
	0.000	240.224	-1136.414
S- derecha	0.000	54.983	-335.174
	0.000	0.000	0.000
	0.000	255.668	-2070.318
11 11 12			
S-izquierda	0.000	-10.812	-335.174
	0.000	-306.821	-1847.860
	0.000	-259.194	-2070.318
S- centro	0.000	-10.812	-291.927
	0.000	-273.169	-956.589
	0.000	-231.266	-1103.559
S- derecha	0.000	-10.812	-248.681
	0.000	-231.266	-178.495
	0.000	-25.437	-585.085
12 12 13			
S-izquierda	0.000	-10.812	-248.681
	0.000	-231.266	-178.495
	0.000	-25.437	-585.085
S- centro	0.000	-10.812	-205.434
	0.000	-183.076	448.108
	0.000	-25.437	-483.336
S- derecha	0.000	-10.812	-162.187
	0.000	-136.982	902.996
	0.000	-25.437	-381.587
13 13 14			
S-izquierda	0.000	-10.812	-162.187
	0.000	-136.982	902.996
	0.000	-25.437	-381.587
S- centro	0.000	-10.812	-118.941
	0.000	-75.608	1067.346
	0.000	-25.437	-279.838
S- derecha	0.000	-10.812	-75.694
	0.000	-30.732	1055.713
	0.000	-25.437	-178.089
14 14 15			
S-izquierda	0.000	-10.812	-75.694
	0.000	-30.732	1055.713
	0.000	-25.437	-178.089
S- centro	0.000	-10.812	-32.447
	0.000	-25.437	-76.340
	0.000	-25.437	-76.340
S- derecha	0.000	-10.812	10.800
	0.000	-25.437	25.409
	0.000	164.831	-209.414
15 15 16			
S-izquierda	0.000	-10.812	10.800

	0.000	-25.437	25.409
	0.000	164.831	-209.414
S- centro	0.000	-10.812	54.046
	0.000	-25.437	127.158
	0.000	229.400	-954.239
S- derecha	0.000	-10.812	97.293
	0.000	-25.437	228.907
	0.000	229.400	-1871.840
16 16 17			
S-izquierda	0.000	3.367	97.293
	0.000	-310.829	-1661.447
	0.000	-262.988	-1871.840
S- centro	0.000	3.367	87.698
	0.000	-262.988	-1122.325
	0.000	-212.039	-1202.117
S- derecha	0.000	3.367	78.104
	0.000	-231.665	-537.119
	0.000	-34.375	-797.497
17 17 18			
S-izquierda	0.000	3.367	78.104
	0.000	-231.665	-537.119
	0.000	-34.375	-797.497
S- centro	0.000	3.367	68.341
	0.000	-179.237	-122.510
	0.000	-34.375	-697.810
S- derecha	0.000	3.367	58.578
	0.000	-137.915	349.505
	0.000	-34.375	-598.123
18 18 19			
S-izquierda	0.000	3.367	58.578
	0.000	-137.915	349.505
	0.000	-34.375	-598.123
S- centro	0.000	3.367	49.151
	0.000	-85.487	509.984
	0.000	-34.375	-501.873
S- derecha	0.000	3.367	39.725
	0.000	-44.165	725.733
	0.000	-34.375	-405.624
19 19 20			
S-izquierda	0.000	3.367	39.725
	0.000	-44.165	725.733
	0.000	-34.375	-405.624
S- centro	0.000	3.367	29.794
	0.000	-34.375	-304.218
	0.000	-34.375	-304.218
S- derecha	0.000	3.367	19.863
	0.000	-34.375	-202.812
	0.000	-34.375	-202.812
20 20 21			
S-izquierda	0.000	3.367	19.863
	0.000	-34.375	-202.812
	0.000	-34.375	-202.812
S- centro	0.000	3.367	9.931
	0.000	-34.375	-101.406
	0.000	-34.375	-101.406
S- derecha	0.000	3.367	-0.000
	0.000	-34.375	-0.000
	0.000	-32.405	-0.000

Nota: Los esfuerzos se refieren a los extremos del elemento, excluyendo zonas rigidas en nudos de tamaño finito

** REACCIONES EXTERIORES (Ejes Generales) **

ENVOLVENTE MAXIMA:

Nudo	Fx (Tn)	Fy (Tn)	Mz (mT)
1	0.000	224.839	-.000806
	0.000	224.839	-.000806
6	0.000000	504.627	-.000056
11	0.000000	514.862	-.000054
16	0.000000	492.416	.000262
21	0.000000	195.763	.000432

Nota: En grados de libertad libres, se acompañan los movimientos concomitantes [Ux, Vy, rZ] a las reacciones pesimas

ENVOLVENTE MINIMA:

Nudo	Fx (Tn)	Fy (Tn)	Mz (mT)
1	0.000	224.839	-.000806
	0.000	-24.214	.000379
6	0.000000	-38.937	.000239
16	0.000000	-33.358	-.000191
21	0.000000	-34.375	-.000415

Nota: En grados de libertad libres, se acompañan los movimientos concomitantes [Ux, Vy, rZ] a las reacciones pesimas

Nota: Se han controlado Errores de Cierre en Nudos y Reacciones(respecto a [0,0])...(<1%)

*** BARRA (RESULTADOS) ***

Proyecto:
santa oliva

Comentario:
estudio dif trenes

Estado de Carga 7:
8 7.5tn separadas 3.75 mm IPF

** MOVIMIENTOS NUDOS (Ejes Generales) **

ENVOLVENTE MAXIMA:

Nudo	Ux (m.)	Vy (m.)	rz (rad.)
1	0.000000	32.260	-.000186
	0.000	0.000000	-.000186
	0.000	-4.455	.000070
2	0.000000	-.001122	-.000142
	0.000000	.000441	.000061
	0.000000	.000441	.000061
3	0.000000	-.001738	-.000040
	0.000000	.000771	.000036
	0.000000	.000771	.000036
4	0.000000	-.001630	.000070
	0.000000	.000882	-.000006
	0.000000	-.001633	.000070
5	0.000000	-.000907	.000139
	0.000000	.000661	-.000064
	0.000000	-.000909	.000139
6	0.000000	31.897	.000119
	0.000000	0.000000	-0.000000
	0.000000	44.139	.000123
7	0.000000	.000621	.000047
	0.000000	.000639	.000049
	0.000000	.000378	.000055
8	0.000000	.000773	-.000004
	0.000000	.000796	-.000004
	0.000000	.000767	.000043
9	0.000000	.000614	-.000034
	0.000000	.000968	.000005
	0.000000	-.002002	.000068
10	0.000000	.000304	-.000044
	0.000000	.000779	-.000059
	0.000000	-.001230	.000158
11	0.000000	-5.219	-.000033
	0.000000	0.000000	-.000001
	0.000000	37.434	.000142
12	0.000000	-.000177	-.000013
	0.000000	.000769	.000055
	0.000000	.000769	.000055
13	0.000000	-.000218	.000001
	0.000000	.000949	-.000006
	0.000000	.000507	.000027
14	0.000000	-.000171	.000009
	0.000000	.000744	-.000041
	0.000000	-.002276	.000078
15	0.000000	-.000083	.000012
	0.000000	.000517	-.000037
	0.000000	-.001376	.000173
16	0.000000	1.392	.000008
	0.000000	0.000000	.000025
	0.000000	38.047	.000142
17	0.000000	.000033	.000004
	0.000000	.000588	.000066
	0.000000	.000588	.000066
18	0.000000	.000044	0.000000
	0.000000	.000790	.000006
	0.000000	.000790	.000006
19	0.000000	.000039	-.000002
	0.000000	.000700	-.000036
	0.000000	-.001115	.000028
20	0.000000	.000023	-.000003
	0.000000	.000403	-.000062
	0.000000	-.000727	.000102
21	0.000000	-.331	-.000004
	0.000000	0.000000	.000133
	0.000000	23.991	.000135

Nota: En grados de libertad coaccionados, se acompañan las reacciones concomitantes [Fx,Fy,Mz] a los movimientos pesimos

ENVOLVENTE MINIMA:

Nudo	Ux (m.)	Vy (m.)	rz (rad.)
1	0.000000	32.260	-.000186
	0.000	0.000000	.000070
	0.000	32.127	-.000186
2	0.000000	-.001122	-.000142
	0.000000	-.001124	-.000142
	0.000000	-.001124	-.000142
3	0.000000	-.001738	-.000040
	0.000000	-.001741	-.000040
	0.000000	-.001709	-.000043
4	0.000000	-.001630	.000070
	0.000000	-.001633	.000070
	0.000000	.000882	-.000006
5	0.000000	-.000907	.000139
	0.000000	-.000920	.000138
	0.000000	.000661	-.000064
6	0.000000	31.897	.000119
	0.000000	0.000000	.000040
	0.000000	37.458	-.000140
7	0.000000	.000621	.000047
	0.000000	-.001223	-.000157
	0.000000	-.001223	-.000157
8	0.000000	.000773	-.000004
	0.000000	-.002108	-.000063
	0.000000	-.002000	-.000069
9	0.000000	.000614	-.000034
	0.000000	-.002112	.000062
	0.000000	.000633	-.000035
10	0.000000	.000304	-.000044
	0.000000	-.001230	.000158
	0.000000	.000779	-.000059
11	0.000000	-5.219	-.000033
	0.000000	0.000000	-.000034
	0.000000	36.775	-.000150
12	0.000000	-.000177	-.000013
	0.000000	-.001406	-.000174
	0.000000	-.001406	-.000174
13	0.000000	-.000218	.000001
	0.000000	-.002432	-.000069
	0.000000	-.002282	-.000075
14	0.000000	-.000171	.000009
	0.000000	-.002416	.000072
	0.000000	.000744	-.000041
15	0.000000	-.000083	.000012
	0.000000	-.001376	.000173
	0.000000	.000359	-.000051
16	0.000000	1.392	.000008
	0.000000	0.000000	-.000035
	0.000000	33.555	-.000095
17	0.000000	.000033	.000004
	0.000000	-.000595	-.000102

	0.000000	-.000594	-.000102
18	0.000000	.000044	0.000000
	0.000000	-.001053	-.000049
	0.000000	-.001053	-.000049
19	0.000000	.000039	-.000002
	0.000000	-.001120	.000027
	0.000000	.000700	-.000036
20	0.000000	.000023	-.000003
	0.000000	-.000727	.000102
	0.000000	.000403	-.000062
21	0.000000	-.331	-.000004
	0.000000	0.000000	-.000071
	0.000000	-5.893	-.000071

Nota: En grados de libertad coaccionados, se acompañan las reacciones concomitantes [Fx,Fy,Mz] a los movimientos pesimos

** ESFUERZOS ELEMENTOS (Ejes Locales) **

ENVOLVENTE MAXIMA:

Nel N-i N-d		Axil(T)	Cortante(T)	Flector(mT)
1 1 2				
S-izquierda		0.000	-32.260	-0.000
		0.000	4.455	0.000
		0.000	-20.145	0.000
S- centro		0.000	-24.760	81.469
		0.000	4.455	-14.656
		0.000	-24.627	81.539
S- derecha		0.000	-17.260	141.713
		0.000	4.455	-29.311
		0.000	-17.127	141.853
2 2 3				
S-izquierda		0.000	-17.260	141.713
		0.000	4.455	-29.311
		0.000	-17.127	141.853
S- centro		0.000	-9.760	180.733
		0.000	4.455	-43.967
		0.000	-9.627	180.942
S- derecha		0.000	-2.260	198.527
		0.000	4.455	-58.622
		0.000	-2.127	198.806
3 3 4				
S-izquierda		0.000	-2.260	198.527
		0.000	4.455	-58.622
		0.000	-2.127	198.806
S- centro		0.000	5.240	195.096
		0.000	5.373	195.445
		0.000	5.373	195.445
S- derecha		0.000	12.740	170.440
		0.000	12.873	170.860
		0.000	9.855	171.645
4 4 5				
S-izquierda		0.000	12.740	170.440
		0.000	12.873	170.860
		0.000	9.855	171.645
S- centro		0.000	20.240	124.559
		0.000	20.373	125.049
		0.000	17.355	128.355
S- derecha		0.000	27.740	57.454
		0.000	27.873	58.013
		0.000	24.970	63.868
5 5 6				
S-izquierda		0.000	27.740	57.454
		0.000	27.873	58.013
		0.000	24.970	63.868
S- centro		0.000	27.740	-33.810
		0.000	32.470	-21.741
		0.000	-1.283	37.991
S- derecha		0.000	27.740	-125.073
		0.000	39.970	-128.575
		0.000	-1.283	42.212
6 6 7				
S-izquierda		0.000	-4.158	-125.073
		0.000	5.256	42.212
		0.000	5.256	42.212
S- centro		0.000	-4.158	-109.274
		0.000	5.256	22.239
		0.000	5.256	22.239
S- derecha		0.000	-4.158	-93.475
		0.000	5.256	2.266
		0.000	-17.344	79.749
7 7 8				
S-izquierda		0.000	-4.158	-93.475
		0.000	5.256	2.266
		0.000	-17.344	79.749
S- centro		0.000	-4.158	-77.676
		0.000	5.256	-17.707
		0.000	-18.003	149.040
S- derecha		0.000	-4.158	-61.877
		0.000	5.256	-37.680
		0.000	-10.503	190.820
8 8 9				
S-izquierda		0.000	-4.158	-61.877
		0.000	5.256	-37.680
		0.000	-10.503	190.820
S- centro		0.000	-4.158	-46.078
		0.000	5.256	-57.652
		0.000	2.820	203.775
S- derecha		0.000	-4.158	-30.279
		0.000	14.816	134.336
		0.000	10.320	191.567
9 9 10				
S-izquierda		0.000	-4.158	-30.279
		0.000	14.816	134.336
		0.000	10.320	191.567
S- centro		0.000	-4.158	-14.480
		0.000	20.156	114.946
		0.000	17.820	150.483

S- derecha	0.000	-4.158	1.319
	0.000	26.997	69.181
	0.000	17.181	81.737
10 10 11			
S-izquierda	0.000	-4.158	1.319
	0.000	26.997	69.181
	0.000	17.181	81.737
S- centro	0.000	-4.158	17.117
	0.000	32.820	-18.310
	0.000	-.868	22.720
S- derecha	0.000	-4.158	32.916
	0.000	39.681	-133.237
	0.000	-4.284	33.914
11 11 12			
S-izquierda	0.000	1.062	32.916
	0.000	3.022	26.019
	0.000	1.094	33.914
S- centro	0.000	1.062	28.669
	0.000	3.022	13.932
	0.000	1.094	29.538
S- derecha	0.000	1.062	24.422
	0.000	3.022	1.845
	0.000	-18.204	84.267
12 12 13			
S-izquierda	0.000	1.062	24.422
	0.000	3.022	1.845
	0.000	-18.204	84.267
S- centro	0.000	1.062	20.175
	0.000	3.022	-10.242
	0.000	-13.677	156.183
S- derecha	0.000	1.062	15.928
	0.000	5.583	90.775
	0.000	-9.019	200.519
13 13 14			
S-izquierda	0.000	1.062	15.928
	0.000	5.583	90.775
	0.000	-9.019	200.519
S- centro	0.000	1.062	11.681
	0.000	8.658	107.519
	0.000	-1.519	214.089
S- derecha	0.000	1.062	7.434
	0.000	15.905	142.533
	0.000	9.653	197.854
14 14 15			
S-izquierda	0.000	1.062	7.434
	0.000	15.905	142.533
	0.000	9.653	197.854
S- centro	0.000	1.062	3.187
	0.000	19.296	101.514
	0.000	14.282	150.920
S- derecha	0.000	1.062	-1.061
	0.000	28.481	63.540
	0.000	18.748	77.151
15 15 16			
S-izquierda	0.000	1.062	-1.061
	0.000	28.481	63.540
	0.000	18.748	77.151
S- centro	0.000	1.062	-5.308
	0.000	32.153	-41.710
	0.000	-4.614	23.063
S- derecha	0.000	1.062	-9.555
	0.000	41.248	-157.233
	0.000	-4.614	41.517
16 16 17			
S-izquierda	0.000	-.331	-9.555
	0.000	1.437	41.517
	0.000	1.437	41.517
S- centro	0.000	-.331	-8.613
	0.000	1.437	37.423
	0.000	1.437	37.423
S- derecha	0.000	-.331	-7.670
	0.000	1.437	33.328
	0.000	-23.033	56.307
17 17 18			
S-izquierda	0.000	-.331	-7.670
	0.000	1.437	33.328
	0.000	-23.033	56.307
S- centro	0.000	-.331	-6.712
	0.000	1.437	29.162
	0.000	-15.533	106.595
S- derecha	0.000	-.331	-5.753
	0.000	1.449	25.219
	0.000	-6.009	143.661
18 18 19			
S-izquierda	0.000	-.331	-5.753
	0.000	1.449	25.219
	0.000	-6.009	143.661
S- centro	0.000	-.331	-4.827
	0.000	3.181	46.443
	0.000	-.533	160.995
S- derecha	0.000	-.331	-3.901
	0.000	8.231	97.129
	0.000	-.533	162.488
19 19 20			
S-izquierda	0.000	-.331	-3.901
	0.000	8.231	97.129
	0.000	-.533	162.488
S- centro	0.000	-.331	-2.926
	0.000	10.780	95.399
	0.000	8.991	147.429
S- derecha	0.000	-.331	-1.951
	0.000	17.782	104.914
	0.000	16.491	117.163
20 20 21			
S-izquierda	0.000	-.331	-1.951
	0.000	17.782	104.914

	0.000	16.491	117.163
S- centro	0.000	-.331	-.975
	0.000	21.967	64.809
	0.000	16.491	68.515
S- derecha	0.000	-.331	-0.000
	0.000	29.467	0.000
	0.000	29.467	0.000

Nota: Los esfuerzos se refieren a los extremos del elemento, excluyendo zonas rigidas en nudos de tamaño finito

ENVOLVENTE MINIMA:

Nel N-i N-d		Axil(T)	Cortante(T)	Flector(mT)
1 1 2				
S-izquierda	0.000		-32.260	-0.000
	0.000		-32.260	-0.000
	0.000		-32.260	-0.000
S- centro	0.000		-24.760	81.469
	0.000		-24.760	81.469
	0.000		4.455	-14.656
S- derecha	0.000		-17.260	141.713
	0.000		-20.145	132.555
	0.000		4.455	-29.311
2 2 3				
S-izquierda	0.000		-17.260	141.713
	0.000		-20.145	132.555
	0.000		4.455	-29.311
S- centro	0.000		-9.760	180.733
	0.000		-12.645	174.165
	0.000		4.455	-43.967
S- derecha	0.000		-2.260	198.527
	0.000		-10.150	133.577
	0.000		4.455	-58.622
3 3 4				
S-izquierda	0.000		-2.260	198.527
	0.000		-10.150	133.577
	0.000		4.455	-58.622
S- centro	0.000		5.240	195.096
	0.000		-2.736	45.008
	0.000		4.455	-73.278
S- derecha	0.000		12.740	170.440
	0.000		-2.736	54.010
	0.000		4.455	-87.934
4 4 5				
S-izquierda	0.000		12.740	170.440
	0.000		-2.736	54.010
	0.000		4.455	-87.934
S- centro	0.000		20.240	124.559
	0.000		-1.283	29.548
	0.000		4.455	-102.589
S- derecha	0.000		27.740	57.454
	0.000		-1.283	33.769
	0.000		4.455	-117.245
5 5 6				
S-izquierda	0.000		27.740	57.454
	0.000		-1.283	33.769
	0.000		4.455	-117.245
S- centro	0.000		27.740	-33.810
	0.000		-1.283	37.991
	0.000		4.455	-131.900
S- derecha	0.000		27.740	-125.073
	0.000		-1.283	42.212
	0.000		4.455	-146.556
6 6 7				
S-izquierda	0.000		-4.158	-125.073
	0.000		-39.844	-136.463
	0.000		-33.003	-146.556
S- centro	0.000		-4.158	-109.274
	0.000		-33.003	-21.144
	0.000		-4.284	-112.587
S- derecha	0.000		-4.158	-93.475
	0.000		-27.180	67.144
	0.000		-4.284	-96.309
7 7 8				
S-izquierda	0.000		-4.158	-93.475
	0.000		-27.180	67.144
	0.000		-4.284	-96.309
S- centro	0.000		-4.158	-77.676
	0.000		-20.319	113.841
	0.000		-4.284	-80.031
S- derecha	0.000		-4.158	-61.877
	0.000		-14.945	133.952
	0.000		-4.284	-63.753
8 8 9				
S-izquierda	0.000		-4.158	-61.877
	0.000		-14.945	133.952
	0.000		-4.284	-63.753
S- centro	0.000		-4.158	-46.078
	0.000		-8.612	106.261
	0.000		5.256	-57.652
S- derecha	0.000		-4.158	-30.279
	0.000		-4.959	79.304
	0.000		5.256	-77.625
9 9 10				
S-izquierda	0.000		-4.158	-30.279
	0.000		-4.959	79.304
	0.000		5.256	-77.625
S- centro	0.000		-4.158	-14.480
	0.000		-4.284	-14.919
	0.000		5.256	-97.598
S- derecha	0.000		-4.158	1.319
	0.000		-4.284	1.359
	0.000		5.256	-117.571

10 10 11				
S-izquierda	0.000	-4.158	1.319	
	0.000	-4.284	1.359	
	0.000	5.256	-117.571	
S- centro	0.000	-4.158	17.117	
	0.000	-4.284	17.636	
	0.000	5.256	-137.544	
S- derecha	0.000	-4.158	32.916	
	0.000	-4.284	33.914	
	0.000	5.256	-157.516	
11 11 12				
S-izquierda	0.000	1.062	32.916	
	0.000	-40.704	-145.764	
	0.000	-31.519	-157.516	
S- centro	0.000	1.062	28.669	
	0.000	-31.519	-31.439	
	0.000	-4.614	-124.572	
S- derecha	0.000	1.062	24.422	
	0.000	-27.847	71.016	
	0.000	-4.614	-106.117	
12 12 13				
S-izquierda	0.000	1.062	24.422	
	0.000	-27.847	71.016	
	0.000	-4.614	-106.117	
S- centro	0.000	1.062	20.175	
	0.000	-18.752	105.280	
	0.000	-4.614	-87.663	
S- derecha	0.000	1.062	15.928	
	0.000	-15.432	143.862	
	0.000	-4.614	-69.209	
13 13 14				
S-izquierda	0.000	1.062	15.928	
	0.000	-15.432	143.862	
	0.000	-4.614	-69.209	
S- centro	0.000	1.062	11.681	
	0.000	-5.512	69.497	
	0.000	-4.614	-50.754	
S- derecha	0.000	1.062	7.434	
	0.000	-5.512	91.547	
	0.000	3.022	-46.503	
14 14 15				
S-izquierda	0.000	1.062	7.434	
	0.000	-5.512	91.547	
	0.000	3.022	-46.503	
S- centro	0.000	1.062	3.187	
	0.000	-4.614	-13.846	
	0.000	3.022	-58.589	
S- derecha	0.000	1.062	-1.061	
	0.000	-4.614	4.608	
	0.000	3.022	-70.676	
15 15 16				
S-izquierda	0.000	1.062	-1.061	
	0.000	-4.614	4.608	
	0.000	3.022	-70.676	
S- centro	0.000	1.062	-5.308	
	0.000	-4.614	23.063	
	0.000	3.022	-82.763	
S- derecha	0.000	1.062	-9.555	
	0.000	-4.614	41.517	
	0.000	32.153	-170.322	
16 16 17				
S-izquierda	0.000	-.331	-9.555	
	0.000	-36.009	-94.225	
	0.000	-5.893	-170.322	
S- centro	0.000	-.331	-8.613	
	0.000	-28.509	-12.966	
	0.000	-5.893	-153.525	
S- derecha	0.000	-.331	-7.670	
	0.000	-24.190	53.043	
	0.000	-5.893	-136.729	
17 17 18				
S-izquierda	0.000	-.331	-7.670	
	0.000	-24.190	53.043	
	0.000	-5.893	-136.729	
S- centro	0.000	-.331	-6.712	
	0.000	-16.690	102.756	
	0.000	-5.893	-119.638	
S- derecha	0.000	-.331	-5.753	
	0.000	-12.218	133.188	
	0.000	-5.893	-102.547	
18 18 19				
S-izquierda	0.000	-.331	-5.753	
	0.000	-12.218	133.188	
	0.000	-5.893	-102.547	
S- centro	0.000	-.331	-4.827	
	0.000	-6.009	160.486	
	0.000	-5.893	-86.045	
S- derecha	0.000	-.331	-3.901	
	0.000	-5.893	-69.543	
	0.000	-5.893	-69.543	
19 19 20				
S-izquierda	0.000	-.331	-3.901	
	0.000	-5.893	-69.543	
	0.000	-5.893	-69.543	
S- centro	0.000	-.331	-2.926	
	0.000	-5.893	-52.157	
	0.000	-5.893	-52.157	
S- derecha	0.000	-.331	-1.951	
	0.000	-5.893	-34.772	
	0.000	-5.893	-34.772	
20 20 21				
S-izquierda	0.000	-.331	-1.951	
	0.000	-5.893	-34.772	
	0.000	-5.893	-34.772	
S- centro	0.000	-.331	-.975	

	0.000	-5.893	-17.386
	0.000	-5.893	-17.386
S- derecha	0.000	-.331	-0.000
	0.000	-5.893	0.000
	0.000	-3.874	-0.000

Nota: Los esfuerzos se refieren a los extremos del elemento, excluyendo zonas rigidas en nudos de tamaño finito

** REACCIONES EXTERIORES (Ejes Generales) **

ENVOLVENTE MAXIMA:

Nudo	Fx (Tn)	Fy (Tn)	Mz (mT)
1	0.000	32.260	-.000186
	0.000	32.260	-.000186
6	0.000000	54.456	-0.000000
11	0.000000	54.520	-.000001
16	0.000000	54.268	.000025
21	0.000000	29.467	.000133

Nota: En grados de libertad libres, se acompañan los movimientos concomitantes [Ux, Vy, rZ] a las reacciones pesimas

ENVOLVENTE MINIMA:

Nudo	Fx (Tn)	Fy (Tn)	Mz (mT)
1	0.000	32.260	-.000186
	0.000	-4.455	.000070
6	0.000000	-6.539	.000040
11	0.000000	-5.378	-.000034
16	0.000000	-6.050	-.000035
21	0.000000	-5.893	-.000071

Nota: En grados de libertad libres, se acompañan los movimientos concomitantes [Ux, Vy, rZ] a las reacciones pesimas

Nota: Se han controlado Errores de Cierre en Nudos y Reacciones (respecto a [0,0])...(<1%)

CAM

TRENES A INTRODUCIR:

Finalmente se introducen los tipos DERINT y IZQINT. Son el cálculo de Cte transversal de las condiciones pero no para longitudinal, en ellos cuando se combina para dar cálculo se multiplica por 1'05.

Con todo ello se realiza una envolvente que es:

P DER INT sobre grupo 2

La envolvente total queda reflejada con esta nomenclatura.	DERINT 1	q = -1'04	m_x = -1'03	Carga uniforme
	DER INT 2	q = -9'36	m_x = -9'27	Envolvente
	DER INT 3	q = -2'08	m_x = -2'06	Paseo en 3m.

P IZQ INT sobre grupo 1

La envolvente total queda reflejada con esta nomenclatura.	IZQINT 1	q = -1'00	m_x = 1'23	Carga uniforme
	IZQ INT 2	q = -9'00	m_x = 11'07	Envolvente
	IZQ INT 3	q = -2'00	m_x = 2'46	Paseo en 3m.

2.2.3.3. Cálculo de esfuerzos

A continuación se incluyen las listados de las hipótesis simples.

Los estados del tren están un coeficiente de impacto y para el cálculo longitudinal hay que multiplicarlo por 1'08 para tener en cuenta el frenado hacia el exterior.

[redacted]

PESO DEL CAJÓN EN FASE 1

[1: 1]PPCF1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	-50.11	0.00
1	2	2.62	0.00	-40.09	118.15
2	2	2.62	0.00	-40.09	118.15
2	3	5.24	0.00	-30.06	210.05
3	3	5.24	0.00	-30.06	210.05
3	4	7.86	0.00	-20.04	275.69
4	4	7.86	0.00	-20.04	275.69
4	5	10.48	0.00	-10.02	315.08
5	5	10.48	0.00	-10.02	315.08
5	6	13.10	0.00	0.00	328.21
6	6	13.10	0.00	0.00	328.21
6	7	15.72	0.00	10.02	315.08
7	7	15.72	0.00	10.02	315.08
7	8	18.34	0.00	20.04	275.69
8	8	18.34	0.00	20.04	275.69
8	9	20.96	0.00	30.06	210.05
9	9	20.96	0.00	30.06	210.05
9	10	23.58	0.00	40.09	118.15
10	10	23.58	0.00	40.09	118.15
10	10011	26.20	0.00	50.11	0.00
11	11	26.20	0.00	-72.67	0.00
11	12	29.55	0.00	-59.86	222.00
12	12	29.55	0.00	-59.86	222.00
12	13	32.90	0.00	-47.05	401.07
13	13	32.90	0.00	-47.05	401.07
13	14	36.03	0.00	-35.07	529.59
14	14	36.03	0.00	-35.08	529.59
14	15	39.16	0.00	-23.10	620.64
15	15	39.16	0.00	-23.10	620.64
15	16	42.29	0.00	-11.13	674.21
16	16	42.29	0.00	-11.13	674.21
16	17	45.42	0.00	0.84	690.31
17	17	45.42	0.00	0.84	690.31
17	18	48.55	0.00	12.81	668.94
18	18	48.55	0.00	12.81	668.94
18	19	51.68	0.00	24.79	610.10
19	19	51.68	0.00	24.79	610.10
19	20	54.81	0.00	36.76	513.79
20	20	54.81	0.00	36.76	513.79
20	21	57.94	0.00	48.73	380.00
21	21	57.94	0.00	48.73	380.00
21	22	61.07	0.00	60.70	208.74

[redacted]

PESO DEL CAJÓN EN FASE 1

[1; 1]PPCF1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
22	22	61.07	0.00	60.70	208.74
22	10023	64.20	0.00	72.67	0.00
23	23	64.20	0.00	-76.50	0.00
23	24	67.55	0.00	-63.69	234.82
24	24	67.55	0.00	-63.69	234.82
24	25	70.90	0.00	-50.87	426.71
25	25	70.90	0.00	-50.87	426.71
25	26	74.23	0.00	-38.14	574.92
26	26	74.23	0.00	-38.14	574.92
26	27	77.56	0.00	-25.40	680.70
27	27	77.56	0.00	-25.40	680.70
27	28	80.89	0.00	-12.66	744.08
28	28	80.89	0.00	-12.66	744.08
28	29	84.22	0.00	0.08	765.03
29	29	84.22	0.00	0.08	765.03
29	30	87.55	0.00	12.81	743.57
30	30	87.55	0.00	12.81	743.57
30	31	90.88	0.00	25.55	679.69
31	31	90.88	0.00	25.55	679.69
31	32	94.21	0.00	38.29	573.39
32	32	94.21	0.00	38.29	573.39
32	33	97.54	0.00	51.03	424.68
33	33	97.54	0.00	51.03	424.68
33	34	100.87	0.00	63.77	233.55
34	34	100.87	0.00	63.77	233.55
34	10035	104.20	0.00	76.50	0.00
35	35	104.20	0.00	-67.70	0.00
35	36	107.55	0.00	-54.89	205.33
36	36	107.55	0.00	-54.88	205.33
36	37	110.90	0.00	-42.07	367.73
37	37	110.90	0.00	-42.07	367.73
37	38	113.77	0.00	-31.09	472.72
38	38	113.77	0.00	-31.10	472.72
38	39	116.64	0.00	-20.12	546.21
39	39	116.64	0.00	-20.12	546.21
39	40	119.51	0.00	-9.14	588.20
40	40	119.51	0.00	-9.14	588.20
40	41	122.38	0.00	1.84	598.68
41	41	122.38	0.00	1.84	598.68
41	42	125.25	0.00	12.81	577.66
42	42	125.25	0.00	12.81	577.66
42	43	128.12	0.00	23.79	525.14

[redacted]

PESO DEL CAJÓN EN FASE 1

[1; 1]PPCF1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
43	43	128.12	0.00	23.79	525.14
43	44	130.99	0.00	34.77	441.11
44	44	130.99	0.00	34.77	441.11
44	45	133.86	0.00	45.74	325.58
45	45	133.86	0.00	45.74	325.58
45	46	136.73	0.00	56.72	178.54
46	46	136.73	0.00	56.72	178.54
46	47	139.60	0.00	67.70	0.00
101	101	0.00	0.00	-62.92	0.00
101	102	2.62	0.00	-52.90	151.73
102	102	2.62	0.00	-52.90	151.73
102	103	5.24	0.00	-42.88	277.20
103	103	5.24	0.00	-42.88	277.20
103	104	7.86	0.00	-32.86	376.41
104	104	7.86	0.00	-32.86	376.41
104	105	10.48	0.00	-22.84	449.37
105	105	10.48	0.00	-22.84	449.37
105	106	13.10	0.00	-12.81	496.07
106	106	13.10	0.00	-12.81	496.07
106	107	15.72	0.00	-2.79	516.51
107	107	15.72	0.00	-2.79	516.51
107	108	18.34	0.00	7.23	510.70
108	108	18.34	0.00	7.23	510.70
108	109	20.96	0.00	17.25	478.63
109	109	20.96	0.00	17.25	478.63
109	110	23.58	0.00	27.27	420.30
110	110	23.58	0.00	27.27	420.30
110	111	26.20	0.00	37.29	335.72
111	111	26.20	0.00	37.29	335.72
111	112	29.55	0.00	50.11	189.32
112	112	29.55	0.00	50.11	189.32
112	10113	32.90	0.00	62.92	0.00
113	113	32.90	0.00	-72.67	0.00
113	114	36.03	0.00	-60.70	208.74
114	114	36.03	0.00	-60.70	208.74
114	115	39.16	0.00	-48.73	380.00
115	115	39.16	0.00	-48.73	380.00
115	116	42.29	0.00	-36.76	513.79
116	116	42.29	0.00	-36.76	513.79
116	117	45.42	0.00	-24.79	610.10
117	117	45.42	0.00	-24.79	610.10
117	118	48.55	0.00	-12.81	668.94

[redacted]

PESO DEL CAJÓN EN FASE 1

[1; 1]PPCF1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
118	118	48.55	0.00	-12.81	668.94
118	119	51.68	0.00	-0.84	690.32
119	119	51.68	0.00	-0.84	690.32
119	120	54.81	0.00	11.13	674.21
120	120	54.81	0.00	11.13	674.21
120	121	57.94	0.00	23.10	620.64
121	121	57.94	0.00	23.10	620.64
121	122	61.07	0.00	35.07	529.59
122	122	61.07	0.00	35.07	529.59
122	123	64.20	0.00	47.05	401.07
123	123	64.20	0.00	47.05	401.07
123	124	67.55	0.00	59.86	222.00
124	124	67.55	0.00	59.86	222.00
124	10125	70.90	0.00	72.68	0.00
125	125	70.90	0.00	-76.50	0.00
125	126	74.23	0.00	-63.76	233.54
126	126	74.23	0.00	-63.76	233.54
126	127	77.56	0.00	-51.03	424.67
127	127	77.56	0.00	-51.03	424.67
127	128	80.89	0.00	-38.29	573.39
128	128	80.89	0.00	-38.29	573.39
128	129	84.22	0.00	-25.55	679.68
129	129	84.22	0.00	-25.55	679.68
129	130	87.55	0.00	-12.82	743.57
130	130	87.55	0.00	-12.81	743.57
130	131	90.88	0.00	-0.08	765.03
131	131	90.88	0.00	-0.08	765.03
131	132	94.21	0.00	12.66	744.08
132	132	94.21	0.00	12.66	744.08
132	133	97.54	0.00	25.40	680.71
133	133	97.54	0.00	25.40	680.71
133	134	100.87	0.00	38.14	574.92
134	134	100.87	0.00	38.14	574.92
134	135	104.20	0.00	50.87	426.71
135	135	104.20	0.00	50.87	426.71
135	136	107.55	0.00	63.69	234.82
136	136	107.55	0.00	63.69	234.82
136	10137	110.90	0.00	76.50	0.00
137	137	110.90	0.00	-54.89	0.00
137	138	113.77	0.00	-43.91	141.77
138	138	113.77	0.00	-43.91	141.77
138	139	116.64	0.00	-32.93	252.04

[redacted]

PESO DEL CAJÓN EN FASE 1

[1; 1]PPCF1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
139	139	116.64	0.00	-32.93	252.04
139	140	119.51	0.00	-21.95	330.80
140	140	119.51	0.00	-21.95	330.80
140	141	122.38	0.00	-10.98	378.06
141	141	122.38	0.00	-10.98	378.06
141	142	125.25	0.00	0.00	393.81
142	142	125.25	0.00	0.00	393.81
142	143	128.12	0.00	10.98	378.06
143	143	128.12	0.00	10.98	378.06
143	144	130.99	0.00	21.95	330.80
144	144	130.99	0.00	21.95	330.80
144	145	133.86	0.00	32.93	252.04
145	145	133.86	0.00	32.93	252.04
145	146	136.73	0.00	43.91	141.77
146	146	136.73	0.00	43.91	141.77
146	147	139.60	0.00	54.89	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF2

PESO PROPIO DE LA FASE 2

[1; 1]PPLF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	-0.02	0.00
1	2	2.62	0.00	-0.02	0.06
2	2	2.62	0.00	-0.02	0.06
2	3	5.24	0.00	-0.02	0.12
3	3	5.24	0.00	-0.02	0.12
3	4	7.86	0.00	-0.02	0.18
4	4	7.86	0.00	-0.02	0.18
4	5	10.48	0.00	-0.02	0.24
5	5	10.48	0.00	-0.02	0.24
5	6	13.10	0.00	-0.02	0.30
6	6	13.10	0.00	-0.02	0.30
6	7	15.72	0.00	-0.02	0.36
7	7	15.72	0.00	-0.02	0.36
7	8	18.34	0.00	-0.02	0.43
8	8	18.34	0.00	-0.02	0.43
8	9	20.96	0.00	13.73	-17.53
9	9	20.96	0.00	13.73	-17.53
9	10	23.58	0.00	27.49	-71.53
10	10	23.58	0.00	27.49	-71.53
10	10011	26.20	0.00	41.24	-161.56
11	11	26.20	0.00	-49.36	-161.56
11	12	29.55	0.00	-31.78	-25.65
12	12	29.55	0.00	-31.78	-25.65
12	13	32.90	0.00	-14.19	51.34
13	13	32.90	0.00	-14.19	51.34
13	14	36.03	0.00	2.24	70.04
14	14	36.03	0.00	2.24	70.04
14	15	39.16	0.00	2.24	63.02
15	15	39.16	0.00	2.24	63.02
15	16	42.29	0.00	2.24	56.00
16	16	42.29	0.00	2.24	56.00
16	17	45.42	0.00	2.24	48.98
17	17	45.42	0.00	2.24	48.98
17	18	48.55	0.00	2.24	41.96
18	18	48.55	0.00	2.24	41.96
18	19	51.68	0.00	2.24	34.94
19	19	51.68	0.00	2.24	34.94
19	20	54.81	0.00	2.24	27.92
20	20	54.81	0.00	2.24	27.92
20	21	57.94	0.00	18.68	-4.82
21	21	57.94	0.00	18.68	-4.82
21	22	61.07	0.00	35.11	-88.99
22	22	61.07	0.00	35.11	-88.99
22	10023	64.20	0.00	51.54	-224.60
23	23	64.20	0.00	-53.24	-224.60
23	24	67.55	0.00	-35.65	-75.70
24	24	67.55	0.00	-35.65	-75.70
24	25	70.90	0.00	-18.07	14.29

ESFUERZOS FASE 2.xls Programa DINTEL IDEAM S.A. 20/10/02
PPLF2

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF2

PESO PROPIO DE LA FASE 2

[1; 1]PPLF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
25	25	70.90	0.00	-18.07	14.29
25	26	74.23	0.00	-0.58	45.34
26	26	74.23	0.00	-0.58	45.34
26	27	77.56	0.00	-0.58	47.29
27	27	77.56	0.00	-0.58	47.29
27	28	80.89	0.00	-0.58	49.23
28	28	80.89	0.00	-0.58	49.23
28	29	84.22	0.00	-0.58	51.18
29	29	84.22	0.00	-0.58	51.18
29	30	87.55	0.00	-0.58	53.12
30	30	87.55	0.00	-0.58	53.12
30	31	90.88	0.00	-0.58	55.07
31	31	90.88	0.00	-0.58	55.07
31	32	94.21	0.00	-0.58	57.01
32	32	94.21	0.00	-0.58	57.01
32	33	97.54	0.00	16.90	29.85
33	33	97.54	0.00	16.90	29.85
33	34	100.87	0.00	34.38	-55.53
34	34	100.87	0.00	34.38	-55.53
34	10035	104.20	0.00	51.86	-199.13
35	35	104.20	0.00	-49.08	-199.13
35	36	107.55	0.00	-31.49	-64.18
36	36	107.55	0.00	-31.49	-64.18
36	37	110.90	0.00	-13.90	11.85
37	37	110.90	0.00	-13.90	11.85
37	38	113.77	0.00	1.17	30.12
38	38	113.77	0.00	1.17	30.12
38	39	116.64	0.00	1.17	26.77
39	39	116.64	0.00	1.17	26.77
39	40	119.51	0.00	1.17	23.43
40	40	119.51	0.00	1.17	23.43
40	41	122.38	0.00	1.17	20.08
41	41	122.38	0.00	1.17	20.08
41	42	125.25	0.00	1.17	16.73
42	42	125.25	0.00	1.17	16.73
42	43	128.12	0.00	1.17	13.39
43	43	128.12	0.00	1.17	13.39
43	44	130.99	0.00	1.17	10.04
44	44	130.99	0.00	1.17	10.04
44	45	133.86	0.00	1.17	6.69
45	45	133.86	0.00	1.17	6.69
45	46	136.73	0.00	1.17	3.35
46	46	136.73	0.00	1.17	3.35
46	47	139.60	0.00	1.17	0.00
101	101	0.00	0.00	-1.51	0.00
101	102	2.62	0.00	-1.51	3.95
102	102	2.62	0.00	-1.51	3.95
102	103	5.24	0.00	-1.51	7.91

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF2

PESO PROPIO DE LA FASE 2

[1; 1]PPLF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	5.24	0.00	-1.51	7.91
103	104	7.86	0.00	-1.51	11.86
104	104	7.86	0.00	-1.51	11.86
104	105	10.48	0.00	-1.51	15.82
105	105	10.48	0.00	-1.51	15.82
105	106	13.10	0.00	-1.51	19.77
106	106	13.10	0.00	-1.51	19.77
106	107	15.72	0.00	-1.51	23.72
107	107	15.72	0.00	-1.51	23.72
107	108	18.34	0.00	-1.51	27.68
108	108	18.34	0.00	-1.51	27.68
108	109	20.96	0.00	-1.51	31.63
109	109	20.96	0.00	-1.51	31.63
109	110	23.58	0.00	-1.51	35.59
110	110	23.58	0.00	-1.51	35.59
110	111	26.20	0.00	12.25	21.52
111	111	26.20	0.00	12.25	21.52
111	112	29.55	0.00	29.83	-48.96
112	112	29.55	0.00	29.83	-48.96
112	10113	32.90	0.00	47.42	-178.36
113	113	32.90	0.00	-48.63	-178.36
113	114	36.03	0.00	-32.19	-51.88
114	114	36.03	0.00	-32.19	-51.88
114	115	39.16	0.00	-15.76	23.17
115	115	39.16	0.00	-15.76	23.17
115	116	42.29	0.00	0.67	46.79
116	116	42.29	0.00	0.67	46.79
116	117	45.42	0.00	0.67	44.68
117	117	45.42	0.00	0.67	44.68
117	118	48.55	0.00	0.67	42.58
118	118	48.55	0.00	0.67	42.58
118	119	51.68	0.00	0.67	40.48
119	119	51.68	0.00	0.67	40.48
119	120	54.81	0.00	0.67	38.38
120	120	54.81	0.00	0.67	38.38
120	121	57.94	0.00	0.67	36.28
121	121	57.94	0.00	0.67	36.28
121	122	61.07	0.00	0.67	34.18
122	122	61.07	0.00	0.67	34.18
122	123	64.20	0.00	17.10	6.36
123	123	64.20	0.00	17.10	6.36
123	124	67.55	0.00	34.69	-80.39
124	124	67.55	0.00	34.69	-80.39
124	10125	70.90	0.00	52.28	-226.07
125	125	70.90	0.00	-53.54	-226.07
125	126	74.23	0.00	-36.06	-76.88
126	126	74.23	0.00	-36.06	-76.88
126	127	77.56	0.00	-18.58	14.08

ESFUERZOS FASE 2.xls Programa DINTEL IDEAM S.A. 20/10/02
PPLF2

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF2

PESO PROPIO DE LA FASE 2

[1; 1]PPLF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
127	127	77.56	0.00	-18.58	14.08
127	128	80.89	0.00	-1.09	46.83
128	128	80.89	0.00	-1.09	46.83
128	129	84.22	0.00	-1.09	50.47
129	129	84.22	0.00	-1.09	50.47
129	130	87.55	0.00	-1.09	54.12
130	130	87.55	0.00	-1.09	54.12
130	131	90.88	0.00	-1.09	57.76
131	131	90.88	0.00	-1.09	57.76
131	132	94.21	0.00	-1.09	61.40
132	132	94.21	0.00	-1.09	61.40
132	133	97.54	0.00	-1.09	65.04
133	133	97.54	0.00	-1.09	65.04
133	134	100.87	0.00	-1.09	68.68
134	134	100.87	0.00	-1.09	68.68
134	135	104.20	0.00	16.39	43.21
135	135	104.20	0.00	16.39	43.21
135	136	107.55	0.00	33.98	-41.15
136	136	107.55	0.00	33.98	-41.15
136	10137	110.90	0.00	51.56	-184.43
137	137	110.90	0.00	-44.85	-184.43
137	138	113.77	0.00	-29.78	-77.34
138	138	113.77	0.00	-29.78	-77.34
138	139	116.64	0.00	-14.71	-13.49
139	139	116.64	0.00	-14.71	-13.49
139	140	119.51	0.00	0.35	7.12
140	140	119.51	0.00	0.35	7.12
140	141	122.38	0.00	0.35	6.10
141	141	122.38	0.00	0.35	6.10
141	142	125.25	0.00	0.35	5.08
142	142	125.25	0.00	0.35	5.08
142	143	128.12	0.00	0.35	4.07
143	143	128.12	0.00	0.35	4.07
143	144	130.99	0.00	0.35	3.05
144	144	130.99	0.00	0.35	3.05
144	145	133.86	0.00	0.35	2.03
145	145	133.86	0.00	0.35	2.03
145	146	136.73	0.00	0.35	1.02
146	146	136.73	0.00	0.35	1.02
146	147	139.60	0.00	0.35	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF2

GRADIENTE EN LA FASE 2

[1; 1]GRADF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	-5.48	0.00
1	2	2.62	0.00	-5.48	14.35
2	2	2.62	0.00	-5.48	14.35
2	3	5.24	0.00	-5.48	28.71
3	3	5.24	0.00	-5.48	28.71
3	4	7.86	0.00	-5.48	43.06
4	4	7.86	0.00	-5.48	43.06
4	5	10.48	0.00	-5.48	57.41
5	5	10.48	0.00	-5.48	57.41
5	6	13.10	0.00	-5.48	71.76
6	6	13.10	0.00	-5.48	71.76
6	7	15.72	0.00	-5.48	86.12
7	7	15.72	0.00	-5.48	86.12
7	8	18.34	0.00	-5.48	100.47
8	8	18.34	0.00	-5.48	100.47
8	9	20.96	0.00	-5.48	114.82
9	9	20.96	0.00	-5.48	114.82
9	10	23.58	0.00	-5.48	129.18
10	10	23.58	0.00	-5.48	129.18
10	10011	26.20	0.00	-5.48	143.53
11	11	26.20	0.00	1.12	143.53
11	12	29.55	0.00	1.12	139.76
12	12	29.55	0.00	1.12	139.76
12	13	32.90	0.00	1.12	136.00
13	13	32.90	0.00	1.12	136.00
13	14	36.03	0.00	1.12	132.48
14	14	36.03	0.00	1.12	132.48
14	15	39.16	0.00	1.12	128.96
15	15	39.16	0.00	1.12	128.96
15	16	42.29	0.00	1.12	125.44
16	16	42.29	0.00	1.12	125.44
16	17	45.42	0.00	1.12	121.92
17	17	45.42	0.00	1.12	121.92
17	18	48.55	0.00	1.12	118.40
18	18	48.55	0.00	1.12	118.40
18	19	51.68	0.00	1.12	114.88
19	19	51.68	0.00	1.12	114.88
19	20	54.81	0.00	1.12	111.36
20	20	54.81	0.00	1.12	111.36
20	21	57.94	0.00	1.12	107.84
21	21	57.94	0.00	1.12	107.84
21	22	61.07	0.00	1.12	104.32
22	22	61.07	0.00	1.12	104.32
22	10023	64.20	0.00	1.12	100.80
23	23	64.20	0.00	-1.15	100.80
23	24	67.55	0.00	-1.15	104.64
24	24	67.55	0.00	-1.15	104.64
24	25	70.90	0.00	-1.15	108.48

ESFUERZOS FASE 2.xls Programa DINTEL IDEAM S.A. 20/10/02
GRADF2

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF2

GRADIENTE EN LA FASE 2

[1; 1]GRADF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
25	25	70.90	0.00	-1.15	108.48
25	26	74.23	0.00	-1.15	112.29
26	26	74.23	0.00	-1.15	112.29
26	27	77.56	0.00	-1.15	116.11
27	27	77.56	0.00	-1.15	116.11
27	28	80.89	0.00	-1.15	119.92
28	28	80.89	0.00	-1.15	119.92
28	29	84.22	0.00	-1.15	123.74
29	29	84.22	0.00	-1.15	123.74
29	30	87.55	0.00	-1.15	127.55
30	30	87.55	0.00	-1.15	127.55
30	31	90.88	0.00	-1.15	131.36
31	31	90.88	0.00	-1.15	131.36
31	32	94.21	0.00	-1.15	135.18
32	32	94.21	0.00	-1.15	135.18
32	33	97.54	0.00	-1.15	138.99
33	33	97.54	0.00	-1.15	138.99
33	34	100.87	0.00	-1.15	142.81
34	34	100.87	0.00	-1.15	142.81
34	10035	104.20	0.00	-1.15	146.62
35	35	104.20	0.00	4.14	146.62
35	36	107.55	0.00	4.14	132.75
36	36	107.55	0.00	4.14	132.75
36	37	110.90	0.00	4.14	118.87
37	37	110.90	0.00	4.14	118.87
37	38	113.77	0.00	4.14	106.99
38	38	113.77	0.00	4.14	106.99
38	39	116.64	0.00	4.14	95.10
39	39	116.64	0.00	4.14	95.10
39	40	119.51	0.00	4.14	83.21
40	40	119.51	0.00	4.14	83.21
40	41	122.38	0.00	4.14	71.33
41	41	122.38	0.00	4.14	71.33
41	42	125.25	0.00	4.14	59.44
42	42	125.25	0.00	4.14	59.44
42	43	128.12	0.00	4.14	47.55
43	43	128.12	0.00	4.14	47.55
43	44	130.99	0.00	4.14	35.66
44	44	130.99	0.00	4.14	35.66
44	45	133.86	0.00	4.14	23.78
45	45	133.86	0.00	4.14	23.78
45	46	136.73	0.00	4.14	11.89
46	46	136.73	0.00	4.14	11.89
46	47	139.60	0.00	4.14	0.00
101	101	0.00	0.00	-4.45	0.00
101	102	2.62	0.00	-4.45	11.65
102	102	2.62	0.00	-4.45	11.65
102	103	5.24	0.00	-4.45	23.31

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF2

GRADIENTE EN LA FASE 2

[1; 1]GRADF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	5.24	0.00	-4.45	23.31
103	104	7.86	0.00	-4.45	34.96
104	104	7.86	0.00	-4.45	34.96
104	105	10.48	0.00	-4.45	46.62
105	105	10.48	0.00	-4.45	46.62
105	106	13.10	0.00	-4.45	58.27
106	106	13.10	0.00	-4.45	58.27
106	107	15.72	0.00	-4.45	69.93
107	107	15.72	0.00	-4.45	69.93
107	108	18.34	0.00	-4.45	81.58
108	108	18.34	0.00	-4.45	81.58
108	109	20.96	0.00	-4.45	93.24
109	109	20.96	0.00	-4.45	93.24
109	110	23.58	0.00	-4.45	104.89
110	110	23.58	0.00	-4.45	104.89
110	111	26.20	0.00	-4.45	116.55
111	111	26.20	0.00	-4.45	116.55
111	112	29.55	0.00	-4.45	131.45
112	112	29.55	0.00	-4.45	131.45
112	10113	32.90	0.00	-4.45	146.35
113	113	32.90	0.00	1.20	146.35
113	114	36.03	0.00	1.20	142.60
114	114	36.03	0.00	1.20	142.60
114	115	39.16	0.00	1.20	138.85
115	115	39.16	0.00	1.20	138.85
115	116	42.29	0.00	1.20	135.09
116	116	42.29	0.00	1.20	135.09
116	117	45.42	0.00	1.20	131.34
117	117	45.42	0.00	1.20	131.34
117	118	48.55	0.00	1.20	127.59
118	118	48.55	0.00	1.20	127.59
118	119	51.68	0.00	1.20	123.83
119	119	51.68	0.00	1.20	123.83
119	120	54.81	0.00	1.20	120.08
120	120	54.81	0.00	1.20	120.08
120	121	57.94	0.00	1.20	116.33
121	121	57.94	0.00	1.20	116.33
121	122	61.07	0.00	1.20	112.57
122	122	61.07	0.00	1.20	112.57
122	123	64.20	0.00	1.20	108.82
123	123	64.20	0.00	1.20	108.82
123	124	67.55	0.00	1.20	104.80
124	124	67.55	0.00	1.20	104.80
124	10125	70.90	0.00	1.20	100.78
125	125	70.90	0.00	-1.08	100.78
125	126	74.23	0.00	-1.08	104.38
126	126	74.23	0.00	-1.08	104.38
126	127	77.56	0.00	-1.08	107.98

ESFUERZOS FASE 2.xls Programa DINTEL IDEAM S.A. 20/10/02
GRADF2

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF2

GRADIENTE EN LA FASE 2

[1; 1]GRADF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
127	127	77.56	0.00	-1.08	107.98
127	128	80.89	0.00	-1.08	111.58
128	128	80.89	0.00	-1.08	111.58
128	129	84.22	0.00	-1.08	115.18
129	129	84.22	0.00	-1.08	115.18
129	130	87.55	0.00	-1.08	118.78
130	130	87.55	0.00	-1.08	118.78
130	131	90.88	0.00	-1.08	122.38
131	131	90.88	0.00	-1.08	122.38
131	132	94.21	0.00	-1.08	125.98
132	132	94.21	0.00	-1.08	125.98
132	133	97.54	0.00	-1.08	129.58
133	133	97.54	0.00	-1.08	129.58
133	134	100.87	0.00	-1.08	133.18
134	134	100.87	0.00	-1.08	133.18
134	135	104.20	0.00	-1.08	136.78
135	135	104.20	0.00	-1.08	136.78
135	136	107.55	0.00	-1.08	140.40
136	136	107.55	0.00	-1.08	140.40
136	10137	110.90	0.00	-1.08	144.02
137	137	110.90	0.00	5.02	144.02
137	138	113.77	0.00	5.02	129.62
138	138	113.77	0.00	5.02	129.62
138	139	116.64	0.00	5.02	115.22
139	139	116.64	0.00	5.02	115.22
139	140	119.51	0.00	5.02	100.82
140	140	119.51	0.00	5.02	100.82
140	141	122.38	0.00	5.02	86.41
141	141	122.38	0.00	5.02	86.41
141	142	125.25	0.00	5.02	72.01
142	142	125.25	0.00	5.02	72.01
142	143	128.12	0.00	5.02	57.61
143	143	128.12	0.00	5.02	57.61
143	144	130.99	0.00	5.02	43.21
144	144	130.99	0.00	5.02	43.21
144	145	133.86	0.00	5.02	28.81
145	145	133.86	0.00	5.02	28.81
145	146	136.73	0.00	5.02	14.40
146	146	136.73	0.00	5.02	14.40
146	147	139.60	0.00	5.02	0.00

GRÁFICO DE ESFUERZOS

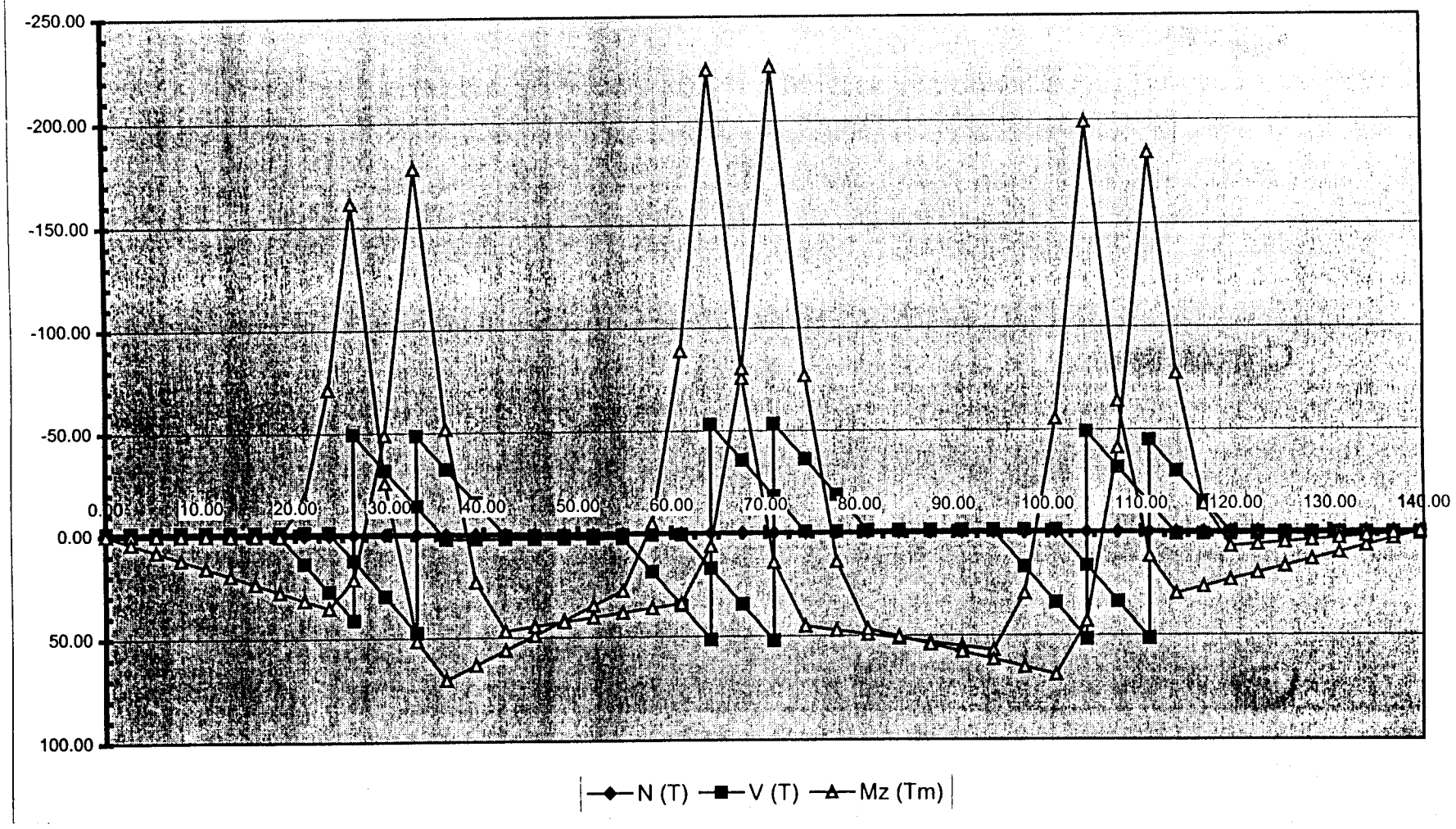
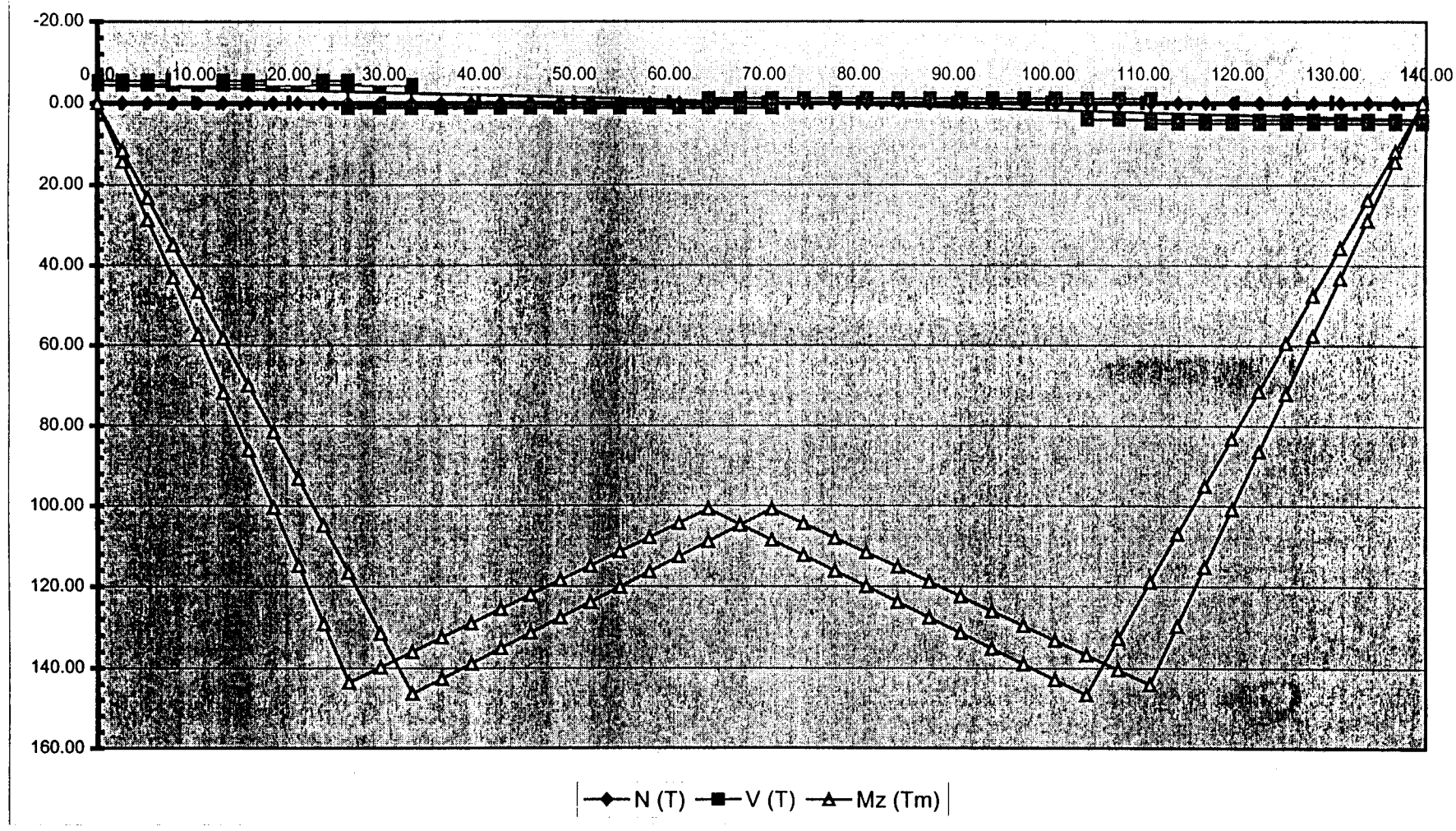


GRÁFICO DE ESFUERZOS



CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF3

PESO PROPIO DE LOSA EN FASE 3

[1; 1]PPLF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	-44.19	0.00
1	2	2.62	0.00	-30.44	97.77
2	2	2.62	0.00	-30.44	97.77
2	3	5.24	0.00	-16.68	159.50
3	3	5.24	0.00	-16.68	159.50
3	4	7.86	0.00	-2.93	185.20
4	4	7.86	0.00	-2.93	185.20
4	5	10.48	0.00	10.83	174.85
5	5	10.48	0.00	10.83	174.85
5	6	13.10	0.00	24.58	128.47
6	6	13.10	0.00	24.58	128.47
6	7	15.72	0.00	38.34	46.05
7	7	15.72	0.00	38.34	46.05
7	8	18.34	0.00	52.09	-72.41
8	8	18.34	0.00	52.09	-72.41
8	9	20.96	0.00	52.09	-208.88
9	9	20.96	0.00	52.09	-208.88
9	10	23.58	0.00	52.09	-345.36
10	10	23.58	0.00	56.81	-346.79
10	10011	26.20	0.00	56.81	-495.63
11	11	26.20	0.00	-45.92	-497.55
11	12	29.55	0.00	-45.92	-343.74
12	12	29.55	0.00	-44.88	-346.02
12	13	32.90	0.00	-44.88	-195.67
13	13	32.90	0.00	-46.40	-197.50
13	14	36.03	0.00	-46.40	-52.25
14	14	36.03	0.00	-49.85	-53.48
14	15	39.16	0.00	-33.41	76.83
15	15	39.16	0.00	-33.41	76.83
15	16	42.29	0.00	-16.98	155.70
16	16	42.29	0.00	-16.98	155.70
16	17	45.42	0.00	-0.55	183.13
17	17	45.42	0.00	-0.55	183.13
17	18	48.55	0.00	15.88	159.13
18	18	48.55	0.00	15.88	159.13
18	19	51.68	0.00	32.32	83.70
19	19	51.68	0.00	32.32	83.70
19	20	54.81	0.00	48.75	-43.16
20	20	54.81	0.00	48.75	-43.16
20	21	57.94	0.00	48.75	-195.74
21	21	57.94	0.00	48.75	-195.74
21	22	61.07	0.00	48.75	-348.33
22	22	61.07	0.00	49.35	-348.41
22	10023	64.20	0.00	49.35	-502.87
23	23	64.20	0.00	-45.15	-503.37
23	24	67.55	0.00	-45.15	-352.13
24	24	67.55	0.00	-45.53	-352.87
24	25	70.90	0.00	-45.53	-200.34

~cslmp3.esv Programa DINTEL IDEAM S.A. 20/10/02
PPLF3

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF3

PESO PROPIO DE LOSA EN FASE 3

[1; 1]PPLF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
25	25	70.90	0.00	-46.52	-200.82
25	26	74.23	0.00	-46.52	-45.91
26	26	74.23	0.00	-47.87	-45.93
26	27	77.56	0.00	-30.38	84.35
27	27	77.56	0.00	-30.38	84.35
27	28	80.89	0.00	-12.90	156.42
28	28	80.89	0.00	-12.90	156.42
28	29	84.22	0.00	4.58	170.27
29	29	84.22	0.00	4.58	170.27
29	30	87.55	0.00	22.06	125.90
30	30	87.55	0.00	22.06	125.90
30	31	90.88	0.00	39.55	23.32
31	31	90.88	0.00	39.55	23.32
31	32	94.21	0.00	57.03	-137.48
32	32	94.21	0.00	57.03	-137.48
32	33	97.54	0.00	57.03	-327.39
33	33	97.54	0.00	57.03	-327.39
33	34	100.87	0.00	57.03	-517.30
34	34	100.87	0.00	61.41	-518.83
34	10035	104.20	0.00	61.41	-723.32
35	35	104.20	0.00	-61.29	-725.39
35	36	107.55	0.00	-61.29	-520.07
36	36	107.55	0.00	-62.40	-522.36
36	37	110.90	0.00	-62.40	-313.32
37	37	110.90	0.00	-66.37	-315.50
37	38	113.77	0.00	-66.37	-125.02
38	38	113.77	0.00	-72.71	-126.87
38	39	116.64	0.00	-57.65	60.20
39	39	116.64	0.00	-57.65	60.20
39	40	119.51	0.00	-42.58	204.02
40	40	119.51	0.00	-42.58	204.02
40	41	122.38	0.00	-27.51	304.61
41	41	122.38	0.00	-27.51	304.61
41	42	125.25	0.00	-12.45	361.95
42	42	125.25	0.00	-12.45	361.95
42	43	128.12	0.00	2.62	376.04
43	43	128.12	0.00	2.62	376.04
43	44	130.99	0.00	17.69	346.90
44	44	130.99	0.00	17.69	346.90
44	45	133.86	0.00	32.76	274.51
45	45	133.86	0.00	32.76	274.51
45	46	136.73	0.00	47.82	158.88
46	46	136.73	0.00	47.82	158.88
46	47	139.60	0.00	62.89	0.00
101	101	0.00	0.00	-58.38	0.00
101	102	2.62	0.00	-44.62	134.93
102	102	2.62	0.00	-44.62	134.93
102	103	5.24	0.00	-30.87	233.83

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF3

PESO PROPIO DE LOSA EN FASE 3

[1; 1]PPLF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	5.24	0.00	-30.87	233.83
103	104	7.86	0.00	-17.11	296.69
104	104	7.86	0.00	-17.11	296.69
104	105	10.48	0.00	-3.36	323.50
105	105	10.48	0.00	-3.36	323.50
105	106	13.10	0.00	10.40	314.29
106	106	13.10	0.00	10.40	314.29
106	107	15.72	0.00	24.15	269.03
107	107	15.72	0.00	24.15	269.03
107	108	18.34	0.00	37.91	187.73
108	108	18.34	0.00	37.91	187.73
108	109	20.96	0.00	51.66	70.40
109	109	20.96	0.00	51.66	70.40
109	110	23.58	0.00	65.42	-82.97
110	110	23.58	0.00	60.70	-81.54
110	111	26.20	0.00	60.70	-240.57
111	111	26.20	0.00	57.25	-238.65
111	112	29.55	0.00	57.25	-430.43
112	112	29.55	0.00	56.21	-428.14
112	10113	32.90	0.00	56.21	-616.46
113	113	32.90	0.00	-55.52	-614.63
113	114	36.03	0.00	-55.52	-440.84
114	114	36.03	0.00	-52.08	-439.62
114	115	39.16	0.00	-52.08	-276.61
115	115	39.16	0.00	-52.08	-276.61
115	116	42.29	0.00	-52.08	-113.60
116	116	42.29	0.00	-52.08	-113.60
116	117	45.42	0.00	-35.65	23.69
117	117	45.42	0.00	-35.65	23.69
117	118	48.55	0.00	-19.21	109.54
118	118	48.55	0.00	-19.21	109.54
118	119	51.68	0.00	-2.78	143.97
119	119	51.68	0.00	-2.78	143.97
119	120	54.81	0.00	13.65	126.96
120	120	54.81	0.00	13.65	126.96
120	121	57.94	0.00	30.08	58.51
121	121	57.94	0.00	30.08	58.51
121	122	61.07	0.00	46.52	-61.37
122	122	61.07	0.00	45.91	-61.29
122	123	64.20	0.00	45.91	-205.00
123	123	64.20	0.00	45.67	-204.50
123	124	67.55	0.00	45.67	-357.51
124	124	67.55	0.00	46.06	-356.77
124	10125	70.90	0.00	46.06	-511.06
125	125	70.90	0.00	-50.28	-510.58
125	126	74.23	0.00	-50.28	-343.15
126	126	74.23	0.00	-48.93	-343.12
126	127	77.56	0.00	-48.93	-180.18

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PPLF3

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF3

PESO PROPIO DE LOSA EN FASE 3

[1; 1]PPLF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
127	127	77.56	0.00	-48.93	-180.18
127	128	80.89	0.00	-48.93	-17.23
128	128	80.89	0.00	-48.93	-17.23
128	129	84.22	0.00	-31.45	116.61
129	129	84.22	0.00	-31.45	116.61
129	130	87.55	0.00	-13.97	192.24
130	130	87.55	0.00	-13.97	192.24
130	131	90.88	0.00	3.51	209.64
131	131	90.88	0.00	3.51	209.64
131	132	94.21	0.00	21.00	168.83
132	132	94.21	0.00	21.00	168.83
132	133	97.54	0.00	38.48	69.81
133	133	97.54	0.00	38.48	69.81
133	134	100.87	0.00	55.96	-87.44
134	134	100.87	0.00	51.58	-85.91
134	135	104.20	0.00	51.58	-257.68
135	135	104.20	0.00	49.94	-255.61
135	136	107.55	0.00	49.94	-422.92
136	136	107.55	0.00	51.05	-420.63
136	10137	110.90	0.00	51.05	-591.65
137	137	110.90	0.00	-63.10	-589.47
137	138	113.77	0.00	-63.10	-408.38
138	138	113.77	0.00	-56.76	-406.52
138	139	116.64	0.00	-56.76	-243.63
139	139	116.64	0.00	-56.76	-243.63
139	140	119.51	0.00	-56.76	-80.75
140	140	119.51	0.00	-56.76	-80.75
140	141	122.38	0.00	-41.69	60.52
141	141	122.38	0.00	-41.69	60.52
141	142	125.25	0.00	-26.62	158.54
142	142	125.25	0.00	-26.62	158.54
142	143	128.12	0.00	-11.55	213.32
143	143	128.12	0.00	-11.55	213.32
143	144	130.99	0.00	3.51	224.86
144	144	130.99	0.00	3.51	224.86
144	145	133.86	0.00	18.58	193.15
145	145	133.86	0.00	18.58	193.15
145	146	136.73	0.00	33.65	118.20
146	146	136.73	0.00	33.65	118.20
146	147	139.60	0.00	48.72	0.00
301	101	0.00	0.00	0.00	0.00
301	2001	0.00	0.00	0.00	0.00
302	102	2.62	0.00	0.00	0.00
302	2002	2.62	0.00	0.00	0.00
303	103	5.24	0.00	0.00	0.00
303	2003	5.24	0.00	0.00	0.00
304	104	7.86	0.00	0.00	0.00
304	2004	7.86	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF3

PESO PROPIO DE LOSA EN FASE 3

[1; 1]PPLF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
305	105	10.48	0.00	0.00	0.00
305	2005	10.48	0.00	0.00	0.00
306	106	13.10	0.00	0.00	0.00
306	2006	13.10	0.00	0.00	0.00
307	107	15.72	0.00	0.00	0.00
307	2007	15.72	0.00	0.00	0.00
308	108	18.34	0.00	0.00	0.00
308	2008	18.34	0.00	0.00	0.00
309	109	20.96	0.00	0.00	0.00
309	2009	20.96	0.00	0.00	0.00
310	110	23.58	0.00	4.72	14.42
310	2010	23.58	0.00	4.72	10.85
311	111	26.20	0.00	3.45	10.49
311	2011	26.20	0.00	3.45	7.88
312	112	29.55	0.00	1.03	2.90
312	2012	29.55	0.00	1.03	2.12
313	113	32.90	0.00	-1.52	-5.06
313	2013	32.90	0.00	-1.52	-3.91
314	114	36.03	0.00	-3.44	-11.26
314	2014	36.03	0.00	-3.44	-8.66
315	115	39.16	0.00	0.00	0.00
315	2015	39.16	0.00	0.00	0.00
316	116	42.29	0.00	0.00	0.00
316	2016	42.29	0.00	0.00	0.00
317	117	45.42	0.00	0.00	0.00
317	2017	45.42	0.00	0.00	0.00
318	118	48.55	0.00	0.00	0.00
318	2018	48.55	0.00	0.00	0.00
319	119	51.68	0.00	0.00	0.00
319	2019	51.68	0.00	0.00	0.00
320	120	54.81	0.00	0.00	0.00
320	2020	54.81	0.00	0.00	0.00
321	121	57.94	0.00	0.00	0.00
321	2021	57.94	0.00	0.00	0.00
322	122	61.07	0.00	0.60	1.56
322	2022	61.07	0.00	0.60	1.11
323	123	64.20	0.00	0.24	0.57
323	2023	64.20	0.00	0.24	0.39
324	124	67.55	0.00	-0.38	-1.43
324	2024	67.55	0.00	-0.38	-1.14
325	125	70.90	0.00	-0.99	-3.35
325	2025	70.90	0.00	-0.99	-2.60
326	126	74.23	0.00	-1.35	-4.67
326	2026	74.23	0.00	-1.35	-3.65
327	127	77.56	0.00	0.00	0.00
327	2027	77.56	0.00	0.00	0.00
328	128	80.89	0.00	0.00	0.00
328	2028	80.89	0.00	0.00	0.00

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PPLF3

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF3

PESO PROPIO DE LOSA EN FASE 3

[1; 1]PPLF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
329	129	84.22	0.00	0.00	0.00
329	2029	84.22	0.00	0.00	0.00
330	130	87.55	0.00	0.00	0.00
330	2030	87.55	0.00	0.00	0.00
331	131	90.88	0.00	0.00	0.00
331	2031	90.88	0.00	0.00	0.00
332	132	94.21	0.00	0.00	0.00
332	2032	94.21	0.00	0.00	0.00
333	133	97.54	0.00	0.00	0.00
333	2033	97.54	0.00	0.00	0.00
334	134	100.87	0.00	4.38	13.30
334	2034	100.87	0.00	4.38	9.99
335	135	104.20	0.00	1.64	4.88
335	2035	104.20	0.00	1.64	3.64
336	136	107.55	0.00	-1.11	-3.84
336	2036	107.55	0.00	-1.11	-3.00
337	137	110.90	0.00	-3.97	-12.93
337	2037	110.90	0.00	-3.97	-9.93
338	138	113.77	0.00	-6.35	-20.57
338	2038	113.77	0.00	-6.35	-15.77
339	139	116.64	0.00	0.00	0.00
339	2039	116.64	0.00	0.00	0.00
340	140	119.51	0.00	0.00	0.00
340	2040	119.51	0.00	0.00	0.00
341	141	122.38	0.00	0.00	0.00
341	2041	122.38	0.00	0.00	0.00
342	142	125.25	0.00	0.00	0.00
342	2042	125.25	0.00	0.00	0.00
343	143	128.12	0.00	0.00	0.00
343	2043	128.12	0.00	0.00	0.00
344	144	130.99	0.00	0.00	0.00
344	2044	130.99	0.00	0.00	0.00
345	145	133.86	0.00	0.00	0.00
345	2045	133.86	0.00	0.00	0.00
346	146	136.73	0.00	0.00	0.00
346	2046	136.73	0.00	0.00	0.00
347	147	139.60	0.00	0.00	0.00
347	2047	139.60	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00
205	2005	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF3

PESO PROPIO DE LOSA EN FASE 3

[1; 1]PPLF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
206	2006	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00
210	2010	23.58	0.00	4.72	10.85
210	1010	23.58	0.00	4.72	-11.75
211	2011	26.20	0.00	3.45	7.88
211	1011	26.20	0.00	3.45	-8.63
212	2012	29.55	0.00	1.03	2.12
212	1012	29.55	0.00	1.03	-2.82
213	2013	32.90	0.00	-1.52	-3.91
213	1013	32.90	0.00	-1.52	3.37
214	2014	36.03	0.00	-3.44	-8.66
214	1014	36.03	0.00	-3.44	7.83
215	2015	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00
222	2022	61.07	0.00	0.60	1.11
222	1022	61.07	0.00	0.60	-1.77
223	2023	64.20	0.00	0.24	0.39
223	1023	64.20	0.00	0.24	-0.76
224	2024	67.55	0.00	-0.38	-1.14
224	1024	67.55	0.00	-0.38	0.70
225	2025	70.90	0.00	-0.99	-2.60
225	1025	70.90	0.00	-0.99	2.13
226	2026	74.23	0.00	-1.35	-3.65
226	1026	74.23	0.00	-1.35	2.80
227	2027	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00
229	2029	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF3

PESO PROPIO DE LOSA EN FASE 3

[1; 1]PPLF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
230	2030	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00
234	2034	100.87	0.00	4.38	-9.99
234	1034	100.87	0.00	4.38	-10.98
235	2035	104.20	0.00	1.64	3.64
235	1035	104.20	0.00	1.64	-4.21
236	2036	107.55	0.00	-1.11	-3.00
236	1036	107.55	0.00	-1.11	2.31
237	2037	110.90	0.00	-3.97	-9.93
237	1037	110.90	0.00	-3.97	9.08
238	2038	113.77	0.00	-6.35	-15.77
238	1038	113.77	0.00	-6.35	14.61
239	2039	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00
401	1001	0.00	0.00	0.00	0.00
401	1	0.00	0.00	0.00	0.00
402	1002	2.62	0.00	0.00	0.00
402	2	2.62	0.00	0.00	0.00
403	1003	5.24	0.00	0.00	0.00
403	3	5.24	0.00	0.00	0.00
404	1004	7.86	0.00	0.00	0.00
404	4	7.86	0.00	0.00	0.00
405	1005	10.48	0.00	0.00	0.00
405	5	10.48	0.00	0.00	0.00
406	1006	13.10	0.00	0.00	0.00
406	6	13.10	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF3

PESO PROPIO DE LOSA EN FASE 3

[1; 1]PPLF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
407	1007	15.72	0.00	0.00	0.00
407	7	15.72	0.00	0.00	0.00
408	1008	18.34	0.00	0.00	0.00
408	8	18.34	0.00	0.00	0.00
409	1009	20.96	0.00	0.00	0.00
409	9	20.96	0.00	0.00	0.00
410	1010	23.58	0.00	4.72	-11.75
410	10	23.58	0.00	4.72	-15.32
411	1011	26.20	0.00	3.45	-8.63
411	11	26.20	0.00	3.45	-11.24
412	1012	29.55	0.00	1.03	-2.82
412	12	29.55	0.00	1.03	-3.60
413	1013	32.90	0.00	-1.52	3.37
413	13	32.90	0.00	-1.52	4.52
414	1014	36.03	0.00	-3.44	7.83
414	14	36.03	0.00	-3.44	10.43
415	1015	39.16	0.00	0.00	0.00
415	15	39.16	0.00	0.00	0.00
416	1016	42.29	0.00	0.00	0.00
416	16	42.29	0.00	0.00	0.00
417	1017	45.42	0.00	0.00	0.00
417	17	45.42	0.00	0.00	0.00
418	1018	48.55	0.00	0.00	0.00
418	18	48.55	0.00	0.00	0.00
419	1019	51.68	0.00	0.00	0.00
419	19	51.68	0.00	0.00	0.00
420	1020	54.81	0.00	0.00	0.00
420	20	54.81	0.00	0.00	0.00
421	1021	57.94	0.00	0.00	0.00
421	21	57.94	0.00	0.00	0.00
422	1022	61.07	0.00	0.60	-1.77
422	22	61.07	0.00	0.60	-2.23
423	1023	64.20	0.00	0.24	-0.76
423	23	64.20	0.00	0.24	-0.94
424	1024	67.55	0.00	-0.38	0.70
424	24	67.55	0.00	-0.38	0.99
425	1025	70.90	0.00	-0.99	2.13
425	25	70.90	0.00	-0.99	2.87
426	1026	74.23	0.00	-1.35	2.80
426	26	74.23	0.00	-1.35	3.81
427	1027	77.56	0.00	0.00	0.00
427	27	77.56	0.00	0.00	0.00
428	1028	80.89	0.00	0.00	0.00
428	28	80.89	0.00	0.00	0.00
429	1029	84.22	0.00	0.00	0.00
429	29	84.22	0.00	0.00	0.00
430	1030	87.55	0.00	0.00	0.00
430	30	87.55	0.00	0.00	0.00

-csimp3.esv Programa DINTEL IDEAM S.A. 20/10/02
PPLF3

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLF3

PESO PROPIO DE LOSA EN FASE 3

[1; 1]PPLF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
431	1031	90.88	0.00	0.00	0.00
431	31	90.88	0.00	0.00	0.00
432	1032	94.21	0.00	0.00	0.00
432	32	94.21	0.00	0.00	0.00
433	1033	97.54	0.00	0.00	0.00
433	33	97.54	0.00	0.00	0.00
434	1034	100.87	0.00	4.38	-10.98
434	34	100.87	0.00	4.38	-14.29
435	1035	104.20	0.00	1.64	-4.21
435	35	104.20	0.00	1.64	-5.45
436	1036	107.55	0.00	-1.11	2.31
436	36	107.55	0.00	-1.11	3.15
437	1037	110.90	0.00	-3.97	9.08
437	37	110.90	0.00	-3.97	12.09
438	1038	113.77	0.00	-6.35	14.61
438	38	113.77	0.00	-6.35	19.41
439	1039	116.64	0.00	0.00	0.00
439	39	116.64	0.00	0.00	0.00
440	1040	119.51	0.00	0.00	0.00
440	40	119.51	0.00	0.00	0.00
441	1041	122.38	0.00	0.00	0.00
441	41	122.38	0.00	0.00	0.00
442	1042	125.25	0.00	0.00	0.00
442	42	125.25	0.00	0.00	0.00
443	1043	128.12	0.00	0.00	0.00
443	43	128.12	0.00	0.00	0.00
444	1044	130.99	0.00	0.00	0.00
444	44	130.99	0.00	0.00	0.00
445	1045	133.86	0.00	0.00	0.00
445	45	133.86	0.00	0.00	0.00
446	1046	136.73	0.00	0.00	0.00
446	46	136.73	0.00	0.00	0.00
447	1047	139.60	0.00	0.00	0.00
447	47	139.60	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF3

GRADIENTE EN LA FASE 3

[1; 1]GRADF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	-9.05	0.00
1	2	2.62	0.00	-9.05	23.71
2	2	2.62	0.00	-9.05	23.71
2	3	5.24	0.00	-9.05	47.43
3	3	5.24	0.00	-9.05	47.43
3	4	7.86	0.00	-9.05	71.14
4	4	7.86	0.00	-9.05	71.14
4	5	10.48	0.00	-9.05	94.86
5	5	10.48	0.00	-9.05	94.86
5	6	13.10	0.00	-9.05	118.57
6	6	13.10	0.00	-9.05	118.57
6	7	15.72	0.00	-9.05	142.28
7	7	15.72	0.00	-9.05	142.28
7	8	18.34	0.00	-9.05	166.00
8	8	18.34	0.00	-9.05	166.00
8	9	20.96	0.00	-9.05	189.71
9	9	20.96	0.00	-9.05	189.71
9	10	23.58	0.00	-9.05	213.43
10	10	23.58	0.00	-9.37	213.21
10	10011	26.20	0.00	-9.37	237.77
11	11	26.20	0.00	5.59	237.57
11	12	29.55	0.00	5.59	218.85
12	12	29.55	0.00	4.62	218.67
12	13	32.90	0.00	4.62	203.18
13	13	32.90	0.00	3.44	203.00
13	14	36.03	0.00	3.44	192.22
14	14	36.03	0.00	2.08	192.01
14	15	39.16	0.00	2.08	185.51
15	15	39.16	0.00	2.08	185.51
15	16	42.29	0.00	2.08	179.00
16	16	42.29	0.00	2.08	179.00
16	17	45.42	0.00	2.08	172.50
17	17	45.42	0.00	2.08	172.50
17	18	48.55	0.00	2.08	166.00
18	18	48.55	0.00	2.08	166.00
18	19	51.68	0.00	2.08	159.49
19	19	51.68	0.00	2.08	159.49
19	20	54.81	0.00	2.08	152.99
20	20	54.81	0.00	2.08	152.99
20	21	57.94	0.00	2.08	146.48
21	21	57.94	0.00	2.08	146.48
21	22	61.07	0.00	2.08	139.98
22	22	61.07	0.00	3.18	139.58
22	10023	64.20	0.00	3.18	129.63
23	23	64.20	0.00	-1.18	129.20
23	24	67.55	0.00	-1.18	133.17
24	24	67.55	0.00	-1.18	132.72
24	25	70.90	0.00	-1.18	136.68

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GRADF3

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF3

GRADIENTE EN LA FASE 3

[1; 1]GRADF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
25	25	70.90	0.00	-1.77	136.24
25	26	74.23	0.00	-1.77	142.13
26	26	74.23	0.00	-2.98	141.69
26	27	77.56	0.00	-2.98	151.62
27	27	77.56	0.00	-2.98	151.62
27	28	80.89	0.00	-2.98	161.54
28	28	80.89	0.00	-2.98	161.54
28	29	84.22	0.00	-2.98	171.47
29	29	84.22	0.00	-2.98	171.47
29	30	87.55	0.00	-2.98	181.39
30	30	87.55	0.00	-2.98	181.39
30	31	90.88	0.00	-2.98	191.31
31	31	90.88	0.00	-2.98	191.31
31	32	94.21	0.00	-2.98	201.24
32	32	94.21	0.00	-2.98	201.24
32	33	97.54	0.00	-2.98	211.16
33	33	97.54	0.00	-2.98	211.16
33	34	100.87	0.00	-2.98	221.09
34	34	100.87	0.00	-1.38	220.83
34	10035	104.20	0.00	-1.38	225.42
35	35	104.20	0.00	4.83	225.22
35	36	107.55	0.00	4.83	209.03
36	36	107.55	0.00	5.70	208.85
36	37	110.90	0.00	5.70	189.74
37	37	110.90	0.00	6.33	189.52
37	38	113.77	0.00	6.33	171.37
38	38	113.77	0.00	6.62	171.10
38	39	116.64	0.00	6.62	152.09
39	39	116.64	0.00	6.62	152.09
39	40	119.51	0.00	6.62	133.08
40	40	119.51	0.00	6.62	133.08
40	41	122.38	0.00	6.62	114.07
41	41	122.38	0.00	6.62	114.07
41	42	125.25	0.00	6.62	95.06
42	42	125.25	0.00	6.62	95.06
42	43	128.12	0.00	6.62	76.05
43	43	128.12	0.00	6.62	76.05
43	44	130.99	0.00	6.62	57.03
44	44	130.99	0.00	6.62	57.03
44	45	133.86	0.00	6.62	38.02
45	45	133.86	0.00	6.62	38.02
45	46	136.73	0.00	6.62	19.01
46	46	136.73	0.00	6.62	19.01
46	47	139.60	0.00	6.62	0.00
101	101	0.00	0.00	-7.18	0.00
101	102	2.62	0.00	-7.18	18.82
102	102	2.62	0.00	-7.18	18.82
102	103	5.24	0.00	-7.18	37.64

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF3

GRADIENTE EN LA FASE 3

[1; 1]GRADF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	5.24	0.00	-7.18	37.64
103	104	7.86	0.00	-7.18	56.46
104	104	7.86	0.00	-7.18	56.46
104	105	10.48	0.00	-7.18	75.27
105	105	10.48	0.00	-7.18	75.27
105	106	13.10	0.00	-7.18	94.09
106	106	13.10	0.00	-7.18	94.09
106	107	15.72	0.00	-7.18	112.91
107	107	15.72	0.00	-7.18	112.91
107	108	18.34	0.00	-7.18	131.73
108	108	18.34	0.00	-7.18	131.73
108	109	20.96	0.00	-7.18	150.55
109	109	20.96	0.00	-7.18	150.55
109	110	23.58	0.00	-7.18	169.37
110	110	23.58	0.00	-6.86	169.59
110	111	26.20	0.00	-6.86	187.56
111	111	26.20	0.00	-6.22	187.76
111	112	29.55	0.00	-6.22	208.58
112	112	29.55	0.00	-5.25	208.76
112	10113	32.90	0.00	-5.25	226.36
113	113	32.90	0.00	1.72	226.54
113	114	36.03	0.00	1.72	221.16
114	114	36.03	0.00	3.08	221.37
114	115	39.16	0.00	3.08	211.72
115	115	39.16	0.00	3.08	211.72
115	116	42.29	0.00	3.08	202.07
116	116	42.29	0.00	3.08	202.07
116	117	45.42	0.00	3.08	192.42
117	117	45.42	0.00	3.08	192.42
117	118	48.55	0.00	3.08	182.77
118	118	48.55	0.00	3.08	182.77
118	119	51.68	0.00	3.08	173.13
119	119	51.68	0.00	3.08	173.13
119	120	54.81	0.00	3.08	163.48
120	120	54.81	0.00	3.08	163.48
120	121	57.94	0.00	3.08	153.83
121	121	57.94	0.00	3.08	153.83
121	122	61.07	0.00	3.08	144.18
122	122	61.07	0.00	1.98	144.58
122	123	64.20	0.00	1.98	138.38
123	123	64.20	0.00	1.39	138.81
123	124	67.55	0.00	1.39	134.14
124	124	67.55	0.00	1.39	134.59
124	10125	70.90	0.00	1.39	129.93
125	125	70.90	0.00	-3.08	130.36
125	126	74.23	0.00	-3.08	140.62
126	126	74.23	0.00	-1.87	141.06
126	127	77.56	0.00	-1.87	147.28

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GRADF3

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF3

GRADIENTE EN LA FASE 3

[1; 1]GRADF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
127	127	77.56	0.00	-1.87	147.28
127	128	80.89	0.00	-1.87	153.50
128	128	80.89	0.00	-1.87	153.50
128	129	84.22	0.00	-1.87	159.72
129	129	84.22	0.00	-1.87	159.72
129	130	87.55	0.00	-1.87	165.95
130	130	87.55	0.00	-1.87	165.95
130	131	90.88	0.00	-1.87	172.17
131	131	90.88	0.00	-1.87	172.17
131	132	94.21	0.00	-1.87	178.39
132	132	94.21	0.00	-1.87	178.39
132	133	97.54	0.00	-1.87	184.62
133	133	97.54	0.00	-1.87	184.62
133	134	100.87	0.00	-1.87	190.84
134	134	100.87	0.00	-3.47	191.10
134	135	104.20	0.00	-3.47	202.65
135	135	104.20	0.00	-4.68	202.85
135	136	107.55	0.00	-4.68	218.54
136	136	107.55	0.00	-5.55	218.72
136	10137	110.90	0.00	-5.55	237.33
137	137	110.90	0.00	8.56	237.55
137	138	113.77	0.00	8.56	212.99
138	138	113.77	0.00	8.26	213.26
138	139	116.64	0.00	8.26	189.57
139	139	116.64	0.00	8.26	189.57
139	140	119.51	0.00	8.26	165.87
140	140	119.51	0.00	8.26	165.87
140	141	122.38	0.00	8.26	142.18
141	141	122.38	0.00	8.26	142.18
141	142	125.25	0.00	8.26	118.48
142	142	125.25	0.00	8.26	118.48
142	143	128.12	0.00	8.26	94.78
143	143	128.12	0.00	8.26	94.78
143	144	130.99	0.00	8.26	71.09
144	144	130.99	0.00	8.26	71.09
144	145	133.86	0.00	8.26	47.39
145	145	133.86	0.00	8.26	47.39
145	146	136.73	0.00	8.26	23.70
146	146	136.73	0.00	8.26	23.70
146	147	139.60	0.00	8.26	0.00
301	101	0.00	0.00	0.00	0.00
301	2001	0.00	0.00	0.00	0.00
302	102	2.62	0.00	0.00	0.00
302	2002	2.62	0.00	0.00	0.00
303	103	5.24	0.00	0.00	0.00
303	2003	5.24	0.00	0.00	0.00
304	104	7.86	0.00	0.00	0.00
304	2004	7.86	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF3

GRADIENTE EN LA FASE 3

[1; 1]GRADF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
305	105	10.48	0.00	0.00	0.00
305	2005	10.48	0.00	0.00	0.00
306	106	13.10	0.00	0.00	0.00
306	2006	13.10	0.00	0.00	0.00
307	107	15.72	0.00	0.00	0.00
307	2007	15.72	0.00	0.00	0.00
308	108	18.34	0.00	0.00	0.00
308	2008	18.34	0.00	0.00	0.00
309	109	20.96	0.00	0.00	0.00
309	2009	20.96	0.00	0.00	0.00
310	110	23.58	0.00	-0.32	-0.99
310	2010	23.58	0.00	-0.32	-0.75
311	111	26.20	0.00	-0.64	-1.99
311	2011	26.20	0.00	-0.64	-1.51
312	112	29.55	0.00	-0.97	-3.06
312	2012	29.55	0.00	-0.97	-2.33
313	113	32.90	0.00	-1.18	-3.79
313	2013	32.90	0.00	-1.18	-2.89
314	114	36.03	0.00	-1.37	-4.36
314	2014	36.03	0.00	-1.37	-3.33
315	115	39.16	0.00	0.00	0.00
315	2015	39.16	0.00	0.00	0.00
316	116	42.29	0.00	0.00	0.00
316	2016	42.29	0.00	0.00	0.00
317	117	45.42	0.00	0.00	0.00
317	2017	45.42	0.00	0.00	0.00
318	118	48.55	0.00	0.00	0.00
318	2018	48.55	0.00	0.00	0.00
319	119	51.68	0.00	0.00	0.00
319	2019	51.68	0.00	0.00	0.00
320	120	54.81	0.00	0.00	0.00
320	2020	54.81	0.00	0.00	0.00
321	121	57.94	0.00	0.00	0.00
321	2021	57.94	0.00	0.00	0.00
322	122	61.07	0.00	1.10	3.43
322	2022	61.07	0.00	1.10	2.60
323	123	64.20	0.00	0.59	1.81
323	2023	64.20	0.00	0.59	1.37
324	124	67.55	0.00	0.00	-0.03
324	2024	67.55	0.00	0.00	-0.03
325	125	70.90	0.00	-0.59	-1.88
325	2025	70.90	0.00	-0.59	-1.44
326	126	74.23	0.00	-1.21	-3.86
326	2026	74.23	0.00	-1.21	-2.94
327	127	77.56	0.00	0.00	0.00
327	2027	77.56	0.00	0.00	0.00
328	128	80.89	0.00	0.00	0.00
328	2028	80.89	0.00	0.00	0.00

-esimp3.esv Programa DINTEL IDEAM S.A. 20/10/02
GRADF3

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF3

GRADIENTE EN LA FASE 3

[1; 1]GRADF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
329	129	84.22	0.00	0.00	0.00
329	2029	84.22	0.00	0.00	0.00
330	130	87.55	0.00	0.00	0.00
330	2030	87.55	0.00	0.00	0.00
331	131	90.88	0.00	0.00	0.00
331	2031	90.88	0.00	0.00	0.00
332	132	94.21	0.00	0.00	0.00
332	2032	94.21	0.00	0.00	0.00
333	133	97.54	0.00	0.00	0.00
333	2033	97.54	0.00	0.00	0.00
334	134	100.87	0.00	1.60	4.97
334	2034	100.87	0.00	1.60	3.76
335	135	104.20	0.00	1.22	3.76
335	2035	104.20	0.00	1.22	2.84
336	136	107.55	0.00	0.87	2.72
336	2036	107.55	0.00	0.87	2.06
337	137	110.90	0.00	0.62	1.99
337	2037	110.90	0.00	0.62	1.52
338	138	113.77	0.00	0.30	0.97
338	2038	113.77	0.00	0.30	0.74
339	139	116.64	0.00	0.00	0.00
339	2039	116.64	0.00	0.00	0.00
340	140	119.51	0.00	0.00	0.00
340	2040	119.51	0.00	0.00	0.00
341	141	122.38	0.00	0.00	0.00
341	2041	122.38	0.00	0.00	0.00
342	142	125.25	0.00	0.00	0.00
342	2042	125.25	0.00	0.00	0.00
343	143	128.12	0.00	0.00	0.00
343	2043	128.12	0.00	0.00	0.00
344	144	130.99	0.00	0.00	0.00
344	2044	130.99	0.00	0.00	0.00
345	145	133.86	0.00	0.00	0.00
345	2045	133.86	0.00	0.00	0.00
346	146	136.73	0.00	0.00	0.00
346	2046	136.73	0.00	0.00	0.00
347	147	139.60	0.00	0.00	0.00
347	2047	139.60	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00
205	2005	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF3

GRADIENTE EN LA FASE 3

[1; 1]GRADF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
206	2006	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00
210	2010	23.58	0.00	-0.32	-0.75
210	1010	23.58	0.00	-0.32	0.80
211	2011	26.20	0.00	-0.64	-1.51
211	1011	26.20	0.00	-0.64	1.57
212	2012	29.55	0.00	-0.97	-2.33
212	1012	29.55	0.00	-0.97	2.29
213	2013	32.90	0.00	-1.18	-2.89
213	1013	32.90	0.00	-1.18	2.76
214	2014	36.03	0.00	-1.37	-3.33
214	1014	36.03	0.00	-1.37	3.20
215	2015	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00
222	2022	61.07	0.00	1.10	2.60
222	1022	61.07	0.00	1.10	-2.67
223	2023	64.20	0.00	0.59	1.37
223	1023	64.20	0.00	0.59	-1.44
224	2024	67.55	0.00	0.00	-0.03
224	1024	67.55	0.00	0.00	-0.05
225	2025	70.90	0.00	-0.59	-1.44
225	1025	70.90	0.00	-0.59	1.36
226	2026	74.23	0.00	-1.21	-2.94
226	1026	74.23	0.00	-1.21	2.86
227	2027	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00
229	2029	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00

-csimp3.esv Programa DINTEL IDEAM S.A. 20/10/02
GRADF3

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF3

GRADIENTE EN LA FASE 3

[1; 1]GRADF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
230	2030	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00
234	2034	100.87	0.00	1.60	3.76
234	1034	100.87	0.00	1.60	-3.90
235	2035	104.20	0.00	1.22	2.84
235	1035	104.20	0.00	1.22	-2.98
236	2036	107.55	0.00	0.87	2.06
236	1036	107.55	0.00	0.87	-2.10
237	2037	110.90	0.00	0.62	1.52
237	1037	110.90	0.00	0.62	-1.46
238	2038	113.77	0.00	0.30	0.74
238	1038	113.77	0.00	0.30	-0.69
239	2039	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00
401	1001	0.00	0.00	0.00	0.00
401	1	0.00	0.00	0.00	0.00
402	1002	2.62	0.00	0.00	0.00
402	2	2.62	0.00	0.00	0.00
403	1003	5.24	0.00	0.00	0.00
403	3	5.24	0.00	0.00	0.00
404	1004	7.86	0.00	0.00	0.00
404	4	7.86	0.00	0.00	0.00
405	1005	10.48	0.00	0.00	0.00
405	5	10.48	0.00	0.00	0.00
406	1006	13.10	0.00	0.00	0.00
406	6	13.10	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF3

GRADIENTE EN LA FASE 3

[1; 1]GRADF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
407	1007	15.72	0.00	0.00	0.00
407	7	15.72	0.00	0.00	0.00
408	1008	18.34	0.00	0.00	0.00
408	8	18.34	0.00	0.00	0.00
409	1009	20.96	0.00	0.00	0.00
409	9	20.96	0.00	0.00	0.00
410	1010	23.58	0.00	-0.32	0.80
410	10	23.58	0.00	-0.32	1.05
411	1011	26.20	0.00	-0.64	1.57
411	11	26.20	0.00	-0.64	2.05
412	1012	29.55	0.00	-0.97	2.29
412	12	29.55	0.00	-0.97	3.02
413	1013	32.90	0.00	-1.18	2.76
413	13	32.90	0.00	-1.18	3.65
414	1014	36.03	0.00	-1.37	3.20
414	14	36.03	0.00	-1.37	4.24
415	1015	39.16	0.00	0.00	0.00
415	15	39.16	0.00	0.00	0.00
416	1016	42.29	0.00	0.00	0.00
416	16	42.29	0.00	0.00	0.00
417	1017	45.42	0.00	0.00	0.00
417	17	45.42	0.00	0.00	0.00
418	1018	48.55	0.00	0.00	0.00
418	18	48.55	0.00	0.00	0.00
419	1019	51.68	0.00	0.00	0.00
419	19	51.68	0.00	0.00	0.00
420	1020	54.81	0.00	0.00	0.00
420	20	54.81	0.00	0.00	0.00
421	1021	57.94	0.00	0.00	0.00
421	21	57.94	0.00	0.00	0.00
422	1022	61.07	0.00	1.10	-2.67
422	22	61.07	0.00	1.10	-3.51
423	1023	64.20	0.00	0.59	-1.44
423	23	64.20	0.00	0.59	-1.89
424	1024	67.55	0.00	0.00	-0.05
424	24	67.55	0.00	0.00	-0.05
425	1025	70.90	0.00	-0.59	1.36
425	25	70.90	0.00	-0.59	1.81
426	1026	74.23	0.00	-1.21	2.86
426	26	74.23	0.00	-1.21	3.78
427	1027	77.56	0.00	0.00	0.00
427	27	77.56	0.00	0.00	0.00
428	1028	80.89	0.00	0.00	0.00
428	28	80.89	0.00	0.00	0.00
429	1029	84.22	0.00	0.00	0.00
429	29	84.22	0.00	0.00	0.00
430	1030	87.55	0.00	0.00	0.00
430	30	87.55	0.00	0.00	0.00

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GRADF3

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRADF3

GRADIENTE EN LA FASE 3

[1; 1]GRADF3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
431	1031	90.88	0.00	0.00	0.00
431	31	90.88	0.00	0.00	0.00
432	1032	94.21	0.00	0.00	0.00
432	32	94.21	0.00	0.00	0.00
433	1033	97.54	0.00	0.00	0.00
433	33	97.54	0.00	0.00	0.00
434	1034	100.87	0.00	1.60	-3.90
434	34	100.87	0.00	1.60	-5.11
435	1035	104.20	0.00	1.22	-2.98
435	35	104.20	0.00	1.22	-3.90
436	1036	107.55	0.00	0.87	-2.10
436	36	107.55	0.00	0.87	-2.76
437	1037	110.90	0.00	0.62	-1.46
437	37	110.90	0.00	0.62	-1.93
438	1038	113.77	0.00	0.30	-0.69
438	38	113.77	0.00	0.30	-0.91
439	1039	116.64	0.00	0.00	0.00
439	39	116.64	0.00	0.00	0.00
440	1040	119.51	0.00	0.00	0.00
440	40	119.51	0.00	0.00	0.00
441	1041	122.38	0.00	0.00	0.00
441	41	122.38	0.00	0.00	0.00
442	1042	125.25	0.00	0.00	0.00
442	42	125.25	0.00	0.00	0.00
443	1043	128.12	0.00	0.00	0.00
443	43	128.12	0.00	0.00	0.00
444	1044	130.99	0.00	0.00	0.00
444	44	130.99	0.00	0.00	0.00
445	1045	133.86	0.00	0.00	0.00
445	45	133.86	0.00	0.00	0.00
446	1046	136.73	0.00	0.00	0.00
446	46	136.73	0.00	0.00	0.00
447	1047	139.60	0.00	0.00	0.00
447	47	139.60	0.00	0.00	0.00

GRÁFICO DE ESFUERZOS

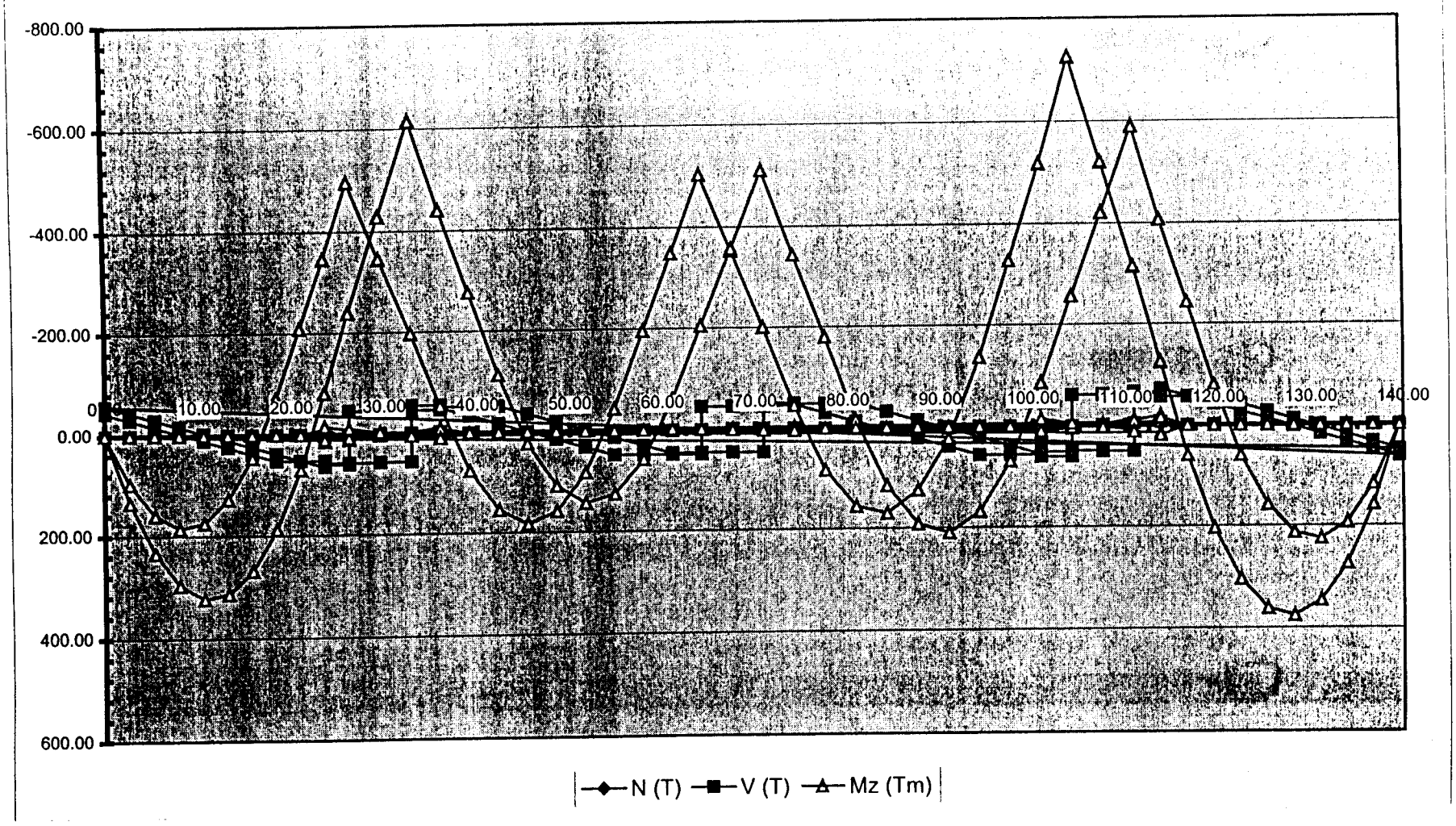
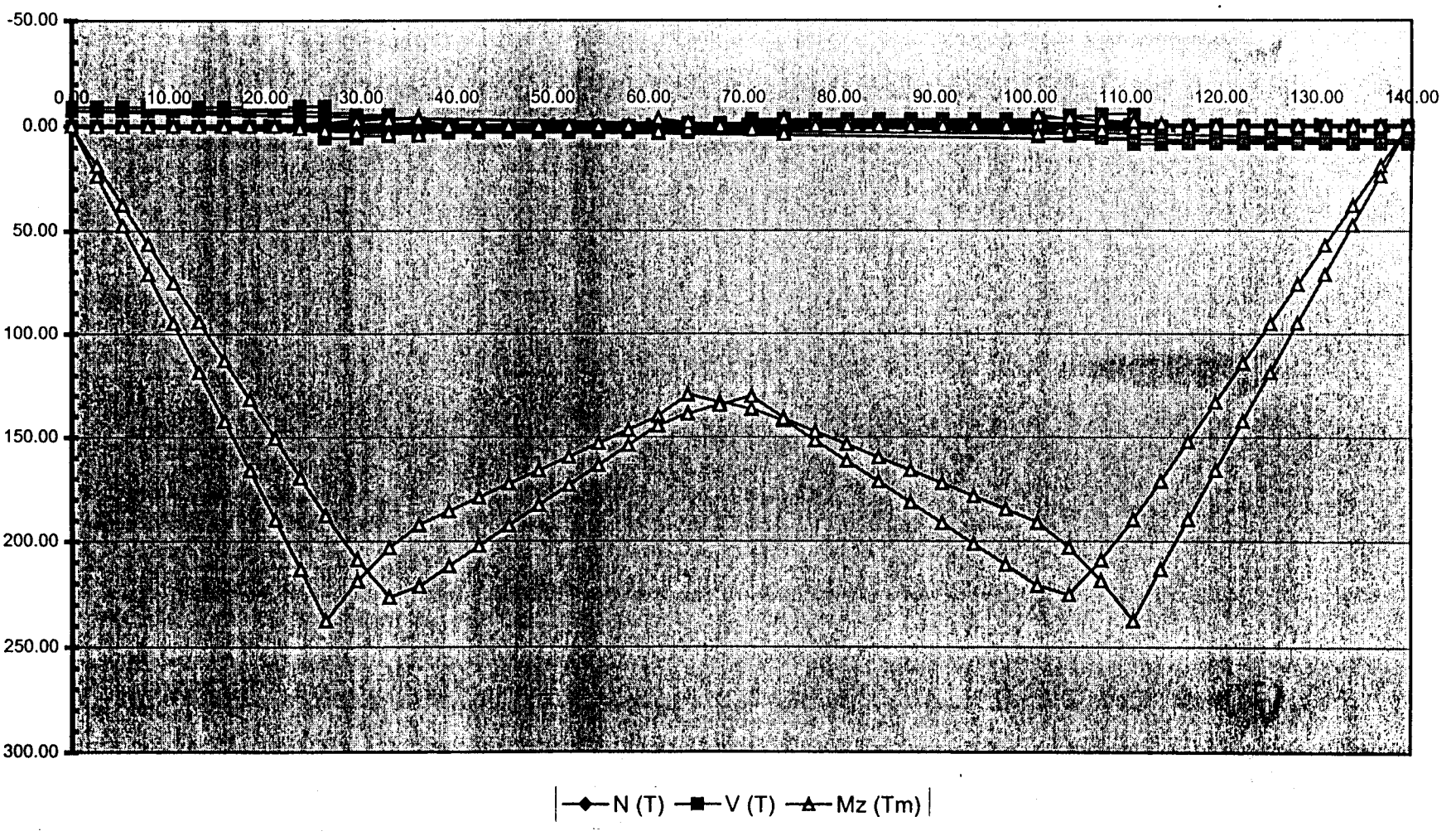


GRÁFICO DE ESFUERZOS



CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPVIGAS

PESO PROPIO VIGAS

[1; 1]PPVIGAS

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-37.48	1.58	0.22
1	2	2.62	0.00	-27.45	1.58	85.28
2	2	2.62	0.00	-27.95	3.13	85.72
2	3	5.24	0.00	-17.93	3.13	145.81
3	3	5.24	0.00	-17.95	3.19	146.22
3	4	7.86	0.00	-7.92	3.19	180.10
4	4	7.86	0.00	-7.51	1.90	180.47
4	5	10.48	0.00	2.51	1.90	187.02
5	5	10.48	0.00	3.30	-0.59	187.32
5	6	13.10	0.00	13.32	-0.59	165.55
6	6	13.10	0.00	14.42	-4.07	165.77
6	7	15.72	0.00	24.44	-4.07	114.85
7	7	15.72	0.00	25.77	-8.25	114.96
7	8	18.34	0.00	35.79	-8.25	34.31
8	8	18.34	0.00	37.23	-12.79	34.28
8	9	20.96	0.00	47.26	-12.79	-76.40
9	9	20.96	0.00	48.65	-17.19	-76.61
9	10	23.58	0.00	58.68	-17.19	-217.22
10	10	23.58	0.00	59.83	-20.81	-217.65
10	10011	26.20	0.00	69.85	-20.81	-387.53
11	11	26.20	0.00	-64.88	-23.09	-388.35
11	12	29.55	0.00	-52.07	-23.09	-192.44
12	12	29.55	0.00	-52.59	-21.45	-193.58
12	13	32.90	0.00	-39.78	-21.45	-38.86
13	13	32.90	0.00	-41.48	-16.09	-39.60
13	14	36.03	0.00	-29.50	-16.09	71.49
14	14	36.03	0.00	-31.61	-9.47	71.27
14	15	39.16	0.00	-19.64	-9.47	151.47
15	15	39.16	0.00	-21.66	-3.08	151.62
15	16	42.29	0.00	-9.69	-3.08	200.69
16	16	42.29	0.00	-11.30	1.98	201.08
16	17	45.42	0.00	0.68	1.98	217.71
17	17	45.42	0.00	-0.30	5.03	218.23
17	18	48.55	0.00	11.68	5.03	200.42
18	18	48.55	0.00	11.43	5.81	200.99
18	19	51.68	0.00	23.40	5.81	146.47
19	19	51.68	0.00	23.87	4.33	147.00
19	20	54.81	0.00	35.85	4.33	53.54
20	20	54.81	0.00	36.92	0.96	53.92
20	21	57.94	0.00	48.89	0.96	-80.36
21	21	57.94	0.00	50.34	-3.62	-80.21
21	22	61.07	0.00	62.31	-3.62	-256.51
22	22	61.07	0.00	63.79	-8.28	-256.70
22	10023	64.20	0.00	75.77	-8.28	-475.11
23	23	64.20	0.00	-71.94	-11.54	-475.78
23	24	67.55	0.00	-59.13	-11.54	-256.23
24	24	67.55	0.00	-59.26	-11.13	-257.22
24	25	70.90	0.00	-46.45	-11.13	-80.16

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Programa DINTEL IDEAM S.A.
PPVIGAS
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPVIGAS

PESO PROPIO VIGAS

[1; 1]PPVIGAS

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-47.73	-7.08	-80.83
25	26	74.23	0.00	-35.00	-7.08	56.92
26	26	74.23	0.00	-36.83	-1.30	56.76
26	27	77.56	0.00	-24.10	-1.30	158.21
27	27	77.56	0.00	-25.84	4.20	158.44
27	28	80.89	0.00	-13.11	4.20	223.29
28	28	80.89	0.00	-14.35	8.14	223.77
28	29	84.22	0.00	-1.62	8.14	250.36
29	29	84.22	0.00	-2.11	9.71	251.00
29	30	87.55	0.00	10.62	9.71	236.83
30	30	87.55	0.00	11.00	8.52	237.51
30	31	90.88	0.00	23.74	8.52	179.67
31	31	90.88	0.00	25.00	4.53	180.30
31	32	94.21	0.00	37.74	4.53	75.84
32	32	94.21	0.00	39.78	-1.90	76.31
32	33	97.54	0.00	52.52	-1.90	-77.37
33	33	97.54	0.00	55.09	-9.99	-77.19
33	34	100.87	0.00	67.82	-9.99	-281.84
34	34	100.87	0.00	70.48	-18.35	-282.09
34	10035	104.20	0.00	83.22	-18.35	-537.99
35	35	104.20	0.00	-78.15	-24.41	-538.80
35	36	107.55	0.00	-65.33	-24.41	-298.47
36	36	107.55	0.00	-64.75	-26.26	-299.56
36	37	110.90	0.00	-51.93	-26.26	-104.12
37	37	110.90	0.00	-52.63	-24.07	-105.02
37	38	113.77	0.00	-41.65	-24.07	30.27
38	38	113.77	0.00	-43.04	-19.70	29.73
38	39	116.64	0.00	-32.06	-19.70	137.50
39	39	116.64	0.00	-33.77	-14.32	137.25
39	40	119.51	0.00	-22.79	-14.32	218.41
40	40	119.51	0.00	-24.54	-8.79	218.38
40	41	122.38	0.00	-13.57	-8.79	273.06
41	41	122.38	0.00	-15.17	-3.75	273.20
41	42	125.25	0.00	-4.19	-3.75	300.98
42	42	125.25	0.00	-5.50	0.38	301.24
42	43	128.12	0.00	5.48	0.38	301.26
43	43	128.12	0.00	4.57	3.25	301.62
43	44	130.99	0.00	15.54	3.25	272.76
44	44	130.99	0.00	15.11	4.63	273.19
44	45	133.86	0.00	26.08	4.63	214.08
45	45	133.86	0.00	26.19	4.31	214.55
45	46	136.73	0.00	37.16	4.31	123.65
46	46	136.73	0.00	37.86	2.11	124.15
46	47	139.60	0.00	48.84	2.11	-0.26
101	101	0.00	0.00	-45.50	1.58	-0.22
101	102	2.62	0.00	-35.48	1.58	105.85
102	102	2.62	0.00	-34.98	3.13	105.41
102	103	5.24	0.00	-24.96	3.13	183.94

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPVIGAS

PESO PROPIO VIGAS

[1; 1]PPVIGAS

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-24.94	3.19	183.53
103	104	7.86	0.00	-14.92	3.19	235.75
104	104	7.86	0.00	-15.33	1.90	235.38
104	105	10.48	0.00	-5.31	1.90	262.42
105	105	10.48	0.00	-6.10	-0.59	262.12
105	106	13.10	0.00	3.92	-0.59	264.97
106	106	13.10	0.00	2.82	-4.07	264.75
106	107	15.72	0.00	12.84	-4.07	244.24
107	107	15.72	0.00	11.51	-8.25	244.13
107	108	18.34	0.00	21.53	-8.25	200.84
108	108	18.34	0.00	20.09	-12.79	200.87
108	109	20.96	0.00	30.12	-12.79	135.09
109	109	20.96	0.00	28.72	-17.19	135.30
109	110	23.58	0.00	38.74	-17.19	46.93
110	110	23.58	0.00	37.59	-20.82	47.37
110	111	26.20	0.00	47.61	-20.82	-64.24
111	111	26.20	0.00	46.89	-23.09	-63.42
111	112	29.55	0.00	59.70	-23.09	-241.96
112	112	29.55	0.00	60.22	-21.45	-240.83
112	10113	32.90	0.00	73.04	-21.45	-464.04
113	113	32.90	0.00	-76.29	-16.09	-463.30
113	114	36.03	0.00	-64.32	-16.09	-243.24
114	114	36.03	0.00	-62.22	-9.47	-243.03
114	115	39.16	0.00	-50.25	-9.47	-67.02
115	115	39.16	0.00	-48.22	-3.08	-67.17
115	116	42.29	0.00	-36.24	-3.08	65.00
116	116	42.29	0.00	-34.64	1.98	64.61
116	117	45.42	0.00	-22.67	1.98	154.29
117	117	45.42	0.00	-21.70	5.03	153.76
117	118	48.55	0.00	-9.72	5.03	202.94
118	118	48.55	0.00	-9.48	5.81	202.37
118	119	51.68	0.00	2.49	5.81	213.30
119	119	51.68	0.00	2.03	4.33	212.77
119	120	54.81	0.00	14.00	4.33	187.70
120	120	54.81	0.00	12.93	0.96	187.31
120	121	57.94	0.00	24.90	0.96	128.11
121	121	57.94	0.00	23.45	-3.62	127.96
121	122	61.07	0.00	35.42	-3.62	35.83
122	122	61.07	0.00	33.94	-8.28	36.02
122	123	64.20	0.00	45.91	-8.28	-88.94
123	123	64.20	0.00	44.87	-11.54	-88.27
123	124	67.55	0.00	57.69	-11.54	-260.06
124	124	67.55	0.00	57.82	-11.13	-259.07
124	10125	70.90	0.00	70.63	-11.13	-474.23
125	125	70.90	0.00	-77.81	-7.08	-473.56
125	126	74.23	0.00	-65.07	-7.08	-235.67
126	126	74.23	0.00	-63.23	-1.30	-235.52
126	127	77.56	0.00	-50.50	-1.30	-46.17

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Programa DINTEL IDEAM S.A.
PPVIGAS
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPVIGAS

PESO PROPIO VIGAS

[1; 1]PPVIGAS

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-48.75	4.20	-46.40
127	128	80.89	0.00	-36.01	4.20	94.73
128	128	80.89	0.00	-34.76	8.14	94.24
128	129	84.22	0.00	-22.03	8.14	188.79
129	129	84.22	0.00	-21.53	9.71	188.16
129	130	87.55	0.00	-8.79	9.71	238.64
130	130	87.55	0.00	-9.17	8.52	237.96
130	131	90.88	0.00	3.57	8.52	247.28
131	131	90.88	0.00	2.30	4.53	246.65
131	132	94.21	0.00	15.04	4.53	217.77
132	132	94.21	0.00	13.00	-1.90	217.30
132	133	97.54	0.00	25.74	-1.90	152.80
133	133	97.54	0.00	23.17	-9.99	152.62
133	134	100.87	0.00	35.91	-9.99	54.25
134	134	100.87	0.00	33.25	-18.35	54.51
134	135	104.20	0.00	45.99	-18.35	-77.43
135	135	104.20	0.00	44.07	-24.40	-76.62
135	136	107.55	0.00	56.88	-24.40	-245.71
136	136	107.55	0.00	56.29	-26.26	-244.62
136	10137	110.90	0.00	69.11	-26.26	-454.66
137	137	110.90	0.00	-76.62	-24.07	-453.77
137	138	113.77	0.00	-65.64	-24.07	-249.62
138	138	113.77	0.00	-64.25	-19.70	-249.09
138	139	116.64	0.00	-53.28	-19.70	-80.43
139	139	116.64	0.00	-51.57	-14.32	-80.18
139	140	119.51	0.00	-40.59	-14.32	52.07
140	140	119.51	0.00	-38.84	-8.79	52.10
140	141	122.38	0.00	-27.86	-8.79	147.81
141	141	122.38	0.00	-26.26	-3.75	147.68
141	142	125.25	0.00	-15.28	-3.75	207.28
142	142	125.25	0.00	-13.97	0.38	207.02
142	143	128.12	0.00	-2.99	0.38	231.37
143	143	128.12	0.00	-2.08	3.25	231.01
143	144	130.99	0.00	8.90	3.25	221.23
144	144	130.99	0.00	9.33	4.63	220.81
144	145	133.86	0.00	20.31	4.63	178.26
145	145	133.86	0.00	20.21	4.31	177.79
145	146	136.73	0.00	31.19	4.31	104.03
146	146	136.73	0.00	30.49	2.11	103.52
146	147	139.60	0.00	41.47	2.11	0.26
301	101	0.00	0.00	-0.50	-0.22	-1.58
301	2001	0.00	0.00	-0.50	-0.22	-1.20
302	102	2.62	0.00	-0.49	-0.44	-1.55
302	2002	2.62	0.00	-0.49	-0.44	-1.18
303	103	5.24	0.00	-0.02	-0.41	-0.06
303	2003	5.24	0.00	-0.02	-0.41	-0.05
304	104	7.86	0.00	0.41	-0.36	1.30
304	2004	7.86	0.00	0.41	-0.36	0.99

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPVIGAS

PESO PROPIO VIGAS

[1; 1]PPVIGAS

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.79	-0.30	2.49
305	2005	10.48	0.00	0.79	-0.30	1.89
306	106	13.10	0.00	1.10	-0.22	3.47
306	2006	13.10	0.00	1.10	-0.22	2.64
307	107	15.72	0.00	1.33	-0.11	4.19
307	2007	15.72	0.00	1.33	-0.11	3.18
308	108	18.34	0.00	1.44	0.03	4.54
308	2008	18.34	0.00	1.44	0.03	3.45
309	109	20.96	0.00	1.40	0.21	4.40
309	2009	20.96	0.00	1.40	0.21	3.35
310	110	23.58	0.00	1.15	0.44	3.62
310	2010	23.58	0.00	1.15	0.44	2.75
311	111	26.20	0.00	0.72	0.82	2.27
311	2011	26.20	0.00	0.72	0.82	1.73
312	112	29.55	0.00	-0.52	1.14	-1.64
312	2012	29.55	0.00	-0.52	1.14	-1.25
313	113	32.90	0.00	-1.70	0.74	-5.35
313	2013	32.90	0.00	-1.70	0.74	-4.07
314	114	36.03	0.00	-2.10	0.21	-6.62
314	2014	36.03	0.00	-2.10	0.21	-5.03
315	115	39.16	0.00	-2.03	-0.15	-6.39
315	2015	39.16	0.00	-2.03	-0.15	-4.86
316	116	42.29	0.00	-1.60	-0.39	-5.05
316	2016	42.29	0.00	-1.60	-0.39	-3.84
317	117	45.42	0.00	-0.97	-0.53	-3.06
317	2017	45.42	0.00	-0.97	-0.53	-2.32
318	118	48.55	0.00	-0.25	-0.57	-0.77
318	2018	48.55	0.00	-0.25	-0.57	-0.59
319	119	51.68	0.00	0.47	-0.52	1.48
319	2019	51.68	0.00	0.47	-0.52	1.12
320	120	54.81	0.00	1.07	-0.39	3.37
320	2020	54.81	0.00	1.07	-0.39	2.56
321	121	57.94	0.00	1.45	-0.15	4.57
321	2021	57.94	0.00	1.45	-0.15	3.48
322	122	61.07	0.00	1.48	0.19	4.67
322	2022	61.07	0.00	1.48	0.19	3.55
323	123	64.20	0.00	1.03	0.67	3.26
323	2023	64.20	0.00	1.03	0.67	2.48
324	124	67.55	0.00	-0.13	0.99	-0.41
324	2024	67.55	0.00	-0.13	0.99	-0.31
325	125	70.90	0.00	-1.29	0.66	-4.05
325	2025	70.90	0.00	-1.29	0.66	-3.08
326	126	74.23	0.00	-1.84	0.15	-5.79
326	2026	74.23	0.00	-1.84	0.15	-4.40
327	127	77.56	0.00	-1.75	-0.23	-5.50
327	2027	77.56	0.00	-1.75	-0.23	-4.18
328	128	80.89	0.00	-1.25	-0.49	-3.93
328	2028	80.89	0.00	-1.25	-0.49	-2.99

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPVIGAS

PESO PROPIO VIGAS

[1; 1]PPVIGAS

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-0.50	-0.63	-1.57
329	2029	84.22	0.00	-0.50	-0.63	-1.19
330	130	87.55	0.00	0.38	-0.68	1.19
330	2030	87.55	0.00	0.38	-0.68	0.90
331	131	90.88	0.00	1.26	-0.63	3.98
331	2031	90.88	0.00	1.26	-0.63	3.03
332	132	94.21	0.00	2.04	-0.47	6.43
332	2032	94.21	0.00	2.04	-0.47	4.89
333	133	97.54	0.00	2.57	-0.18	8.09
333	2033	97.54	0.00	2.57	-0.18	6.15
334	134	100.87	0.00	2.66	0.25	8.36
334	2034	100.87	0.00	2.66	0.25	6.36
335	135	104.20	0.00	1.92	0.81	6.06
335	2035	104.20	0.00	1.92	0.81	4.60
336	136	107.55	0.00	0.59	1.09	1.85
336	2036	107.55	0.00	0.59	1.09	1.41
337	137	110.90	0.00	-0.69	0.89	-2.19
337	2037	110.90	0.00	-0.69	0.89	-1.66
338	138	113.77	0.00	-1.39	0.53	-4.37
338	2038	113.77	0.00	-1.39	0.53	-3.32
339	139	116.64	0.00	-1.71	0.25	-5.38
339	2039	116.64	0.00	-1.71	0.25	-4.09
340	140	119.51	0.00	-1.75	0.03	-5.52
340	2040	119.51	0.00	-1.75	0.03	-4.20
341	141	122.38	0.00	-1.60	-0.14	-5.05
341	2041	122.38	0.00	-1.60	-0.14	-3.83
342	142	125.25	0.00	-1.31	-0.26	-4.12
342	2042	125.25	0.00	-1.31	-0.26	-3.13
343	143	128.12	0.00	-0.91	-0.36	-2.87
343	2043	128.12	0.00	-0.91	-0.36	-2.18
344	144	130.99	0.00	-0.44	-0.43	-1.38
344	2044	130.99	0.00	-0.44	-0.43	-1.05
345	145	133.86	0.00	0.10	-0.48	0.32
345	2045	133.86	0.00	0.10	-0.48	0.24
346	146	136.73	0.00	0.70	-0.51	2.20
346	2046	136.73	0.00	0.70	-0.51	1.67
347	147	139.60	0.00	0.67	-0.26	2.11
347	2047	139.60	0.00	0.67	-0.26	1.61
201	2001	0.00	0.00	-0.50	-0.22	-1.20
201	1001	0.00	0.00	-0.50	-0.22	1.20
202	2002	2.62	0.00	-0.49	-0.44	-1.18
202	1002	2.62	0.00	-0.49	-0.44	1.18
203	2003	5.24	0.00	-0.02	-0.41	-0.05
203	1003	5.24	0.00	-0.02	-0.41	0.05
204	2004	7.86	0.00	0.41	-0.36	0.99
204	1004	7.86	0.00	0.41	-0.36	-0.99
205	2005	10.48	0.00	0.79	-0.30	1.89
205	1005	10.48	0.00	0.79	-0.30	-1.89

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPVIGAS

PESO PROPIO VIGAS

[1; 1]PPVIGAS

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	1.10	-0.22	2.64
206	1006	13.10	0.00	1.10	-0.22	-2.64
207	2007	15.72	0.00	1.33	-0.11	3.18
207	1007	15.72	0.00	1.33	-0.11	-3.18
208	2008	18.34	0.00	1.44	0.03	3.45
208	1008	18.34	0.00	1.44	0.03	-3.45
209	2009	20.96	0.00	1.40	0.21	3.35
209	1009	20.96	0.00	1.40	0.21	-3.35
210	2010	23.58	0.00	1.15	0.44	2.75
210	1010	23.58	0.00	1.15	0.44	-2.75
211	2011	26.20	0.00	0.72	0.82	1.73
211	1011	26.20	0.00	0.72	0.82	-1.73
212	2012	29.55	0.00	-0.52	1.14	-1.25
212	1012	29.55	0.00	-0.52	1.14	1.25
213	2013	32.90	0.00	-1.70	0.74	-4.07
213	1013	32.90	0.00	-1.70	0.74	4.07
214	2014	36.03	0.00	-2.10	0.21	-5.03
214	1014	36.03	0.00	-2.10	0.21	5.03
215	2015	39.16	0.00	-2.03	-0.15	-4.86
215	1015	39.16	0.00	-2.03	-0.15	4.86
216	2016	42.29	0.00	-1.60	-0.39	-3.84
216	1016	42.29	0.00	-1.60	-0.39	3.84
217	2017	45.42	0.00	-0.97	-0.53	-2.32
217	1017	45.42	0.00	-0.97	-0.53	2.32
218	2018	48.55	0.00	-0.25	-0.57	-0.59
218	1018	48.55	0.00	-0.25	-0.57	0.59
219	2019	51.68	0.00	0.47	-0.52	1.12
219	1019	51.68	0.00	0.47	-0.52	-1.12
220	2020	54.81	0.00	1.07	-0.39	2.56
220	1020	54.81	0.00	1.07	-0.39	-2.56
221	2021	57.94	0.00	1.45	-0.15	3.48
221	1021	57.94	0.00	1.45	-0.15	-3.48
222	2022	61.07	0.00	1.48	0.19	3.55
222	1022	61.07	0.00	1.48	0.19	-3.55
223	2023	64.20	0.00	1.03	0.67	2.48
223	1023	64.20	0.00	1.03	0.67	-2.48
224	2024	67.55	0.00	-0.13	0.99	-0.31
224	1024	67.55	0.00	-0.13	0.99	0.31
225	2025	70.90	0.00	-1.29	0.66	-3.08
225	1025	70.90	0.00	-1.29	0.66	3.08
226	2026	74.23	0.00	-1.84	0.15	-4.40
226	1026	74.23	0.00	-1.84	0.15	4.40
227	2027	77.56	0.00	-1.75	-0.23	-4.18
227	1027	77.56	0.00	-1.75	-0.23	4.18
228	2028	80.89	0.00	-1.25	-0.49	-2.99
228	1028	80.89	0.00	-1.25	-0.49	2.99
229	2029	84.22	0.00	-0.50	-0.63	-1.19
229	1029	84.22	0.00	-0.50	-0.63	1.19

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Programa DINTEL IDEAM S.A.
PPVIGAS
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPVIGAS

PESO PROPIO VIGAS

[1; 1]PPVIGAS

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.38	-0.68	0.90
230	1030	87.55	0.00	0.38	-0.68	-0.90
231	2031	90.88	0.00	1.26	-0.63	3.03
231	1031	90.88	0.00	1.26	-0.63	-3.03
232	2032	94.21	0.00	2.04	-0.47	4.89
232	1032	94.21	0.00	2.04	-0.47	-4.89
233	2033	97.54	0.00	2.57	-0.18	6.15
233	1033	97.54	0.00	2.57	-0.18	-6.15
234	2034	100.87	0.00	2.66	0.25	6.36
234	1034	100.87	0.00	2.66	0.25	-6.36
235	2035	104.20	0.00	1.92	0.81	4.60
235	1035	104.20	0.00	1.92	0.81	-4.60
236	2036	107.55	0.00	0.59	1.09	1.41
236	1036	107.55	0.00	0.59	1.09	-1.41
237	2037	110.90	0.00	-0.69	0.89	-1.66
237	1037	110.90	0.00	-0.69	0.89	1.66
238	2038	113.77	0.00	-1.39	0.53	-3.32
238	1038	113.77	0.00	-1.39	0.53	3.32
239	2039	116.64	0.00	-1.71	0.25	-4.09
239	1039	116.64	0.00	-1.71	0.25	4.09
240	2040	119.51	0.00	-1.75	0.03	-4.20
240	1040	119.51	0.00	-1.75	0.03	4.20
241	2041	122.38	0.00	-1.60	-0.14	-3.83
241	1041	122.38	0.00	-1.60	-0.14	3.83
242	2042	125.25	0.00	-1.31	-0.26	-3.13
242	1042	125.25	0.00	-1.31	-0.26	3.13
243	2043	128.12	0.00	-0.91	-0.36	-2.18
243	1043	128.12	0.00	-0.91	-0.36	2.18
244	2044	130.99	0.00	-0.44	-0.43	-1.05
244	1044	130.99	0.00	-0.44	-0.43	1.05
245	2045	133.86	0.00	0.10	-0.48	0.24
245	1045	133.86	0.00	0.10	-0.48	-0.24
246	2046	136.73	0.00	0.70	-0.51	1.67
246	1046	136.73	0.00	0.70	-0.51	-1.67
247	2047	139.60	0.00	0.67	-0.26	1.61
247	1047	139.60	0.00	0.67	-0.26	-1.61
401	1001	0.00	0.00	-0.50	-0.22	1.20
401	1	0.00	0.00	-0.50	-0.22	1.58
402	1002	2.62	0.00	-0.49	-0.44	1.18
402	2	2.62	0.00	-0.49	-0.44	1.55
403	1003	5.24	0.00	-0.02	-0.41	0.05
403	3	5.24	0.00	-0.02	-0.41	0.06
404	1004	7.86	0.00	0.41	-0.36	-0.99
404	4	7.86	0.00	0.41	-0.36	-1.30
405	1005	10.48	0.00	0.79	-0.30	-1.89
405	5	10.48	0.00	0.79	-0.30	-2.49
406	1006	13.10	0.00	1.10	-0.22	-2.64
406	6	13.10	0.00	1.10	-0.22	-3.47

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPVIGAS

PESO PROPIO VIGAS

[1; 1]PPVIGAS

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	1.33	-0.11	-3.18
407	7	15.72	0.00	1.33	-0.11	-4.18
408	1008	18.34	0.00	1.44	0.03	-3.45
408	8	18.34	0.00	1.44	0.03	-4.54
409	1009	20.96	0.00	1.40	0.21	-3.35
409	9	20.96	0.00	1.40	0.21	-4.40
410	1010	23.58	0.00	1.15	0.44	-2.75
410	10	23.58	0.00	1.15	0.44	-3.62
411	1011	26.20	0.00	0.72	0.82	-1.73
411	11	26.20	0.00	0.72	0.82	-2.27
412	1012	29.55	0.00	-0.52	1.14	1.25
412	12	29.55	0.00	-0.52	1.14	1.64
413	1013	32.90	0.00	-1.70	0.74	4.07
413	13	32.90	0.00	-1.70	0.74	5.35
414	1014	36.03	0.00	-2.10	0.21	5.03
414	14	36.03	0.00	-2.10	0.21	6.62
415	1015	39.16	0.00	-2.03	-0.15	4.86
415	15	39.16	0.00	-2.03	-0.15	6.39
416	1016	42.29	0.00	-1.60	-0.39	3.84
416	16	42.29	0.00	-1.60	-0.39	5.05
417	1017	45.42	0.00	-0.97	-0.53	2.32
417	17	45.42	0.00	-0.97	-0.53	3.06
418	1018	48.55	0.00	-0.25	-0.57	0.59
418	18	48.55	0.00	-0.25	-0.57	0.77
419	1019	51.68	0.00	0.47	-0.52	-1.12
419	19	51.68	0.00	0.47	-0.52	-1.48
420	1020	54.81	0.00	1.07	-0.39	-2.56
420	20	54.81	0.00	1.07	-0.39	-3.37
421	1021	57.94	0.00	1.45	-0.15	-3.48
421	21	57.94	0.00	1.45	-0.15	-4.57
422	1022	61.07	0.00	1.48	0.19	-3.55
422	22	61.07	0.00	1.48	0.19	-4.67
423	1023	64.20	0.00	1.03	0.67	-2.48
423	23	64.20	0.00	1.03	0.67	-3.26
424	1024	67.55	0.00	-0.13	0.99	0.31
424	24	67.55	0.00	-0.13	0.99	0.41
425	1025	70.90	0.00	-1.29	0.66	3.08
425	25	70.90	0.00	-1.29	0.66	4.05
426	1026	74.23	0.00	-1.84	0.15	4.40
426	26	74.23	0.00	-1.84	0.15	5.79
427	1027	77.56	0.00	-1.75	-0.23	4.18
427	27	77.56	0.00	-1.75	-0.23	5.50
428	1028	80.89	0.00	-1.25	-0.49	2.99
428	28	80.89	0.00	-1.25	-0.49	3.93
429	1029	84.22	0.00	-0.50	-0.63	1.19
429	29	84.22	0.00	-0.50	-0.63	1.57
430	1030	87.55	0.00	0.38	-0.68	-0.90
430	30	87.55	0.00	0.38	-0.68	-1.19

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPVIGAS

PESO PROPIO VIGAS

[1; 1]PPVIGAS

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	1.26	-0.63	-3.03
431	31	90.88	0.00	1.26	-0.63	-3.98
432	1032	94.21	0.00	2.04	-0.47	-4.89
432	32	94.21	0.00	2.04	-0.47	-6.43
433	1033	97.54	0.00	2.57	-0.18	-6.15
433	33	97.54	0.00	2.57	-0.18	-8.09
434	1034	100.87	0.00	2.66	0.25	-6.36
434	34	100.87	0.00	2.66	0.25	-8.36
435	1035	104.20	0.00	1.92	0.81	-4.60
435	35	104.20	0.00	1.92	0.81	-6.06
436	1036	107.55	0.00	0.59	1.09	-1.41
436	36	107.55	0.00	0.59	1.09	-1.85
437	1037	110.90	0.00	-0.69	0.89	1.66
437	37	110.90	0.00	-0.69	0.89	2.19
438	1038	113.77	0.00	-1.39	0.53	3.32
438	38	113.77	0.00	-1.39	0.53	4.37
439	1039	116.64	0.00	-1.71	0.25	4.09
439	39	116.64	0.00	-1.71	0.25	5.38
440	1040	119.51	0.00	-1.75	0.03	4.20
440	40	119.51	0.00	-1.75	0.03	5.52
441	1041	122.38	0.00	-1.60	-0.14	3.83
441	41	122.38	0.00	-1.60	-0.14	5.05
442	1042	125.25	0.00	-1.31	-0.26	3.13
442	42	125.25	0.00	-1.31	-0.26	4.12
443	1043	128.12	0.00	-0.91	-0.36	2.19
443	43	128.12	0.00	-0.91	-0.36	2.87
444	1044	130.99	0.00	-0.44	-0.43	1.05
444	44	130.99	0.00	-0.44	-0.43	1.38
445	1045	133.86	0.00	0.10	-0.48	-0.24
445	45	133.86	0.00	0.10	-0.48	-0.32
446	1046	136.73	0.00	0.70	-0.51	-1.67
446	46	136.73	0.00	0.70	-0.51	-2.20
447	1047	139.60	0.00	0.67	-0.26	-1.61
447	47	139.60	0.00	0.67	-0.26	-2.11

CMmax

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmax

CARGA MUERTA MAXIMA

[1; 1]CMmax

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-114.81	8.73	0.87
1	2	2.62	0.00	-83.92	3.46	261.21
2	2	2.62	0.00	-86.24	14.74	262.89
2	3	5.24	0.00	-55.35	9.47	448.37
3	3	5.24	0.00	-55.86	15.05	449.91
3	4	7.86	0.00	-24.97	9.79	555.80
4	4	7.86	0.00	-23.88	10.34	557.12
4	5	10.48	0.00	7.01	5.07	579.23
5	5	10.48	0.00	9.44	1.38	580.28
5	6	13.10	0.00	40.33	-3.89	515.07
6	6	13.10	0.00	43.82	-10.88	515.78
6	7	15.72	0.00	74.71	-16.15	360.51
7	7	15.72	0.00	78.88	-25.31	360.79
7	8	18.34	0.00	109.77	-30.58	113.67
8	8	18.34	0.00	114.19	-40.54	113.44
8	9	20.96	0.00	145.08	-45.80	-226.21
9	9	20.96	0.00	149.21	-54.84	-227.05
9	10	23.58	0.00	180.10	-60.10	-658.46
10	10	23.58	0.00	183.26	-66.08	-660.02
10	10011	26.20	0.00	214.15	-71.34	-1181.00
11	11	26.20	0.00	-196.28	-71.63	-1183.41
11	12	29.55	0.00	-156.79	-78.36	-592.02
12	12	29.55	0.00	-159.48	-64.79	-595.70
12	13	32.90	0.00	-119.98	-71.53	-127.61
13	13	32.90	0.00	-126.39	-46.40	-129.89
13	14	36.03	0.00	-89.49	-52.70	207.97
14	14	36.03	0.00	-96.98	-24.34	207.47
14	15	39.16	0.00	-60.08	-30.63	453.27
15	15	39.16	0.00	-67.09	-3.80	453.95
15	16	42.29	0.00	-30.18	-10.09	606.18
16	16	42.29	0.00	-35.59	11.70	607.60
16	17	45.42	0.00	1.31	5.41	661.25
17	17	45.42	0.00	-1.89	20.27	663.03
17	18	48.55	0.00	35.01	13.98	611.21
18	18	48.55	0.00	34.19	21.32	613.04
18	19	51.68	0.00	71.09	15.03	448.27
19	19	51.68	0.00	72.51	15.34	449.86
19	20	54.81	0.00	109.41	9.04	165.15
20	20	54.81	0.00	112.59	3.79	166.22
20	21	57.94	0.00	149.49	-2.50	-243.94
21	21	57.94	0.00	153.65	-10.81	-243.67
21	22	61.07	0.00	190.55	-17.10	-782.33
22	22	61.07	0.00	194.51	-24.80	-783.15
22	10023	64.20	0.00	231.41	-31.09	-1450.00
23	23	64.20	0.00	-218.24	-33.23	-1452.01
23	24	67.55	0.00	-178.74	-39.96	-787.07
24	24	67.55	0.00	-180.40	-29.63	-790.27
24	25	70.90	0.00	-140.90	-36.36	-252.10

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CMmax

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmax

CARGA MUERTA MAXIMA

[1; 1]CMmax

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-146.16	-14.85	-254.08
25	26	74.23	0.00	-106.90	-21.54	167.27
26	26	74.23	0.00	-113.70	4.96	167.04
26	27	77.56	0.00	-74.44	-1.73	480.30
27	27	77.56	0.00	-80.60	22.77	481.32
27	28	80.89	0.00	-41.34	16.07	684.36
28	28	80.89	0.00	-45.58	34.51	686.16
28	29	84.22	0.00	-6.32	27.82	772.58
29	29	84.22	0.00	-7.92	37.95	774.76
29	30	87.55	0.00	31.34	31.26	735.77
30	30	87.55	0.00	32.65	32.23	737.99
30	31	90.88	0.00	71.91	25.54	563.90
31	31	90.88	0.00	76.01	17.72	565.84
31	32	94.21	0.00	115.27	11.03	247.36
32	32	94.21	0.00	121.67	-4.04	248.69
32	33	97.54	0.00	160.93	-10.73	-221.85
33	33	97.54	0.00	168.73	-30.18	-221.51
33	34	100.87	0.00	207.99	-36.87	-848.74
34	34	100.87	0.00	215.73	-56.15	-849.79
34	10035	104.20	0.00	254.99	-62.84	-1634.00
35	35	104.20	0.00	-235.94	-74.42	-1636.26
35	36	107.55	0.00	-196.44	-81.15	-912.03
36	36	107.55	0.00	-195.55	-79.55	-915.53
36	37	110.90	0.00	-156.05	-86.28	-326.59
37	37	110.90	0.00	-159.19	-71.99	-329.33
37	38	113.77	0.00	-125.35	-77.76	78.99
38	38	113.77	0.00	-130.50	-57.12	77.50
38	39	116.64	0.00	-96.67	-62.89	403.49
39	39	116.64	0.00	-102.58	-39.86	402.92
39	40	119.51	0.00	-68.74	-45.63	648.77
40	40	119.51	0.00	-74.55	-22.93	648.87
40	41	122.38	0.00	-40.71	-28.70	814.27
41	41	122.38	0.00	-45.84	-8.13	814.83
41	42	125.25	0.00	-12.01	-13.90	897.85
42	42	125.25	0.00	-16.11	3.44	898.71
42	43	128.12	0.00	17.72	-2.33	896.40
43	43	128.12	0.00	14.84	11.14	897.44
43	44	130.99	0.00	45.15	5.37	811.35
44	44	130.99	0.00	43.61	14.62	812.50
44	45	133.86	0.00	77.45	8.85	638.78
45	45	133.86	0.00	77.31	13.67	639.99
45	46	136.73	0.00	111.15	7.91	369.54
46	46	136.73	0.00	112.49	8.10	370.77
46	47	139.60	0.00	146.32	2.33	-0.62
101	101	0.00	0.00	-156.86	4.75	-0.87
101	102	2.62	0.00	-122.77	7.42	365.45
102	102	2.62	0.00	-120.46	10.74	363.77
102	103	5.24	0.00	-86.37	13.41	634.71

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmax

CARGA MUERTA MAXIMA

[1; 1]CMmax

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-85.86	11.04	633.17
103	104	7.86	0.00	-51.77	13.71	813.47
104	104	7.86	0.00	-52.86	6.30	812.15
104	105	10.48	0.00	-18.78	8.97	905.99
105	105	10.48	0.00	-21.21	-2.68	904.94
105	106	13.10	0.00	12.88	0.00	915.86
106	106	13.10	0.00	9.39	-14.96	915.16
106	107	15.72	0.00	43.48	-12.28	845.90
107	107	15.72	0.00	39.31	-29.41	845.61
107	108	18.34	0.00	73.39	-26.73	697.98
108	108	18.34	0.00	68.97	-44.65	698.21
108	109	20.96	0.00	103.05	-41.98	472.86
109	109	20.96	0.00	98.92	-58.97	473.70
109	110	23.58	0.00	133.01	-56.30	169.87
110	110	23.58	0.00	129.85	-70.24	171.44
110	111	26.20	0.00	163.93	-67.56	-213.42
111	111	26.20	0.00	162.41	-76.91	-210.65
111	112	29.55	0.00	205.99	-73.50	-827.71
112	112	29.55	0.00	208.68	-70.11	-824.02
112	10113	32.90	0.00	252.26	-66.69	-1596.00
113	113	32.90	0.00	-260.94	-51.42	-1593.82
113	114	36.03	0.00	-220.22	-48.23	-840.80
114	114	36.03	0.00	-212.73	-29.39	-840.30
114	115	39.16	0.00	-172.01	-26.20	-238.20
115	115	39.16	0.00	-165.00	-8.88	-238.88
115	116	42.29	0.00	-124.28	-5.69	213.83
116	116	42.29	0.00	-118.87	6.58	212.41
116	117	45.42	0.00	-78.15	9.77	520.75
117	117	45.42	0.00	-74.94	15.11	518.96
117	118	48.55	0.00	-34.22	18.30	689.80
118	118	48.55	0.00	-33.40	16.12	687.97
118	119	51.68	0.00	7.32	19.31	728.79
119	119	51.68	0.00	5.90	10.09	727.20
119	120	54.81	0.00	46.63	13.29	644.99
120	120	54.81	0.00	43.45	-1.50	643.92
120	121	57.94	0.00	84.17	1.70	444.21
121	121	57.94	0.00	80.02	-16.15	443.94
121	122	61.07	0.00	120.74	-12.95	129.76
122	122	61.07	0.00	116.78	-30.20	130.58
122	123	64.20	0.00	157.50	-27.00	-298.67
123	123	64.20	0.00	155.25	-39.02	-296.36
123	124	67.55	0.00	198.84	-35.60	-889.47
124	124	67.55	0.00	200.49	-35.49	-886.26
124	10125	70.90	0.00	244.08	-32.07	-1631.00
125	125	70.90	0.00	-266.68	-20.45	-1628.93
125	126	74.23	0.00	-223.36	-17.05	-813.02
126	126	74.23	0.00	-216.56	-0.71	-812.79
126	127	77.56	0.00	-173.23	2.68	-163.79

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmax

CARGA MUERTA MAXIMA

[1; 1]CMmax

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-167.07	17.01	-164.81
127	128	80.89	0.00	-123.75	20.40	319.39
128	128	80.89	0.00	-119.51	28.66	317.60
128	129	84.22	0.00	-76.19	32.06	643.43
129	129	84.22	0.00	-74.59	32.01	641.24
129	130	87.55	0.00	-31.26	35.40	817.48
130	130	87.55	0.00	-32.57	26.19	815.26
130	131	90.88	0.00	10.75	29.59	851.59
131	131	90.88	0.00	6.65	11.57	849.66
131	132	94.21	0.00	49.98	14.97	755.37
132	132	94.21	0.00	43.57	-10.31	754.04
132	133	97.54	0.00	86.90	-6.91	536.81
133	133	97.54	0.00	79.10	-36.57	536.47
133	134	100.87	0.00	122.42	-33.17	200.93
134	134	100.87	0.00	114.68	-62.67	201.97
134	135	104.20	0.00	158.01	-59.28	-252.05
135	135	104.20	0.00	152.82	-80.39	-249.33
135	136	107.55	0.00	196.40	-76.97	-834.26
136	136	107.55	0.00	195.51	-84.19	-830.76
136	10137	110.90	0.00	239.09	-80.77	-1559.00
137	137	110.90	0.00	-261.14	-75.31	-1555.98
137	138	113.77	0.00	-223.81	-72.38	-860.08
138	138	113.77	0.00	-218.65	-60.56	-858.58
138	139	116.64	0.00	-181.31	-57.63	-284.63
139	139	116.64	0.00	-175.40	-43.42	-284.06
139	140	119.51	0.00	-138.06	-40.49	165.76
140	140	119.51	0.00	-132.26	-26.60	165.66
140	141	122.38	0.00	-94.92	-23.68	491.66
141	141	122.38	0.00	-89.79	-11.91	491.10
141	142	125.25	0.00	-52.45	-8.99	695.20
142	142	125.25	0.00	-48.34	-0.45	694.34
142	143	128.12	0.00	-11.00	2.48	779.50
143	143	128.12	0.00	-8.12	7.15	778.45
143	144	130.99	0.00	29.22	10.07	748.18
144	144	130.99	0.00	30.76	10.53	747.03
144	145	133.86	0.00	68.10	13.45	605.18
145	145	133.86	0.00	68.23	9.48	603.98
145	146	136.73	0.00	105.57	12.40	354.58
146	146	136.73	0.00	104.23	3.80	353.35
146	147	139.60	0.00	141.57	6.73	0.62
301	101	0.00	0.00	-2.14	-0.87	-4.75
301	2001	0.00	0.00	-2.14	-0.87	-3.13
302	102	2.62	0.00	-2.32	-1.67	-3.32
302	2002	2.62	0.00	-2.32	-1.67	-1.57
303	103	5.24	0.00	-0.51	-1.54	2.37
303	2003	5.24	0.00	-0.51	-1.54	2.76
304	104	7.86	0.00	1.09	-1.33	7.41
304	2004	7.86	0.00	1.09	-1.33	6.59

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmax

CARGA MUERTA MAXIMA

[1; 1]CMmax

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	2.44	-1.05	11.65
305	2005	10.48	0.00	2.44	-1.05	9.81
306	106	13.10	0.00	3.48	-0.70	14.95
306	2006	13.10	0.00	3.48	-0.70	12.32
307	107	15.72	0.00	4.17	-0.28	17.12
307	2007	15.72	0.00	4.17	-0.28	13.97
308	108	18.34	0.00	4.42	0.23	17.92
308	2008	18.34	0.00	4.42	0.23	14.57
309	109	20.96	0.00	4.13	0.84	17.00
309	2009	20.96	0.00	4.13	0.84	13.87
310	110	23.58	0.00	3.16	1.57	13.94
310	2010	23.58	0.00	3.16	1.57	11.55
311	111	26.20	0.00	1.53	2.77	9.35
311	2011	26.20	0.00	1.53	2.77	8.20
312	112	29.55	0.00	-2.69	3.69	-3.39
312	2012	29.55	0.00	-2.69	3.69	-1.35
313	113	32.90	0.00	-6.41	2.29	-15.27
313	2013	32.90	0.00	-6.41	2.29	-10.43
314	114	36.03	0.00	-7.49	0.50	-18.84
314	2014	36.03	0.00	-7.49	0.50	-13.18
315	115	39.16	0.00	-7.01	-0.69	-17.31
315	2015	39.16	0.00	-7.01	-0.69	-12.02
316	116	42.29	0.00	-5.41	-1.42	-12.27
316	2016	42.29	0.00	-5.41	-1.42	-8.18
317	117	45.42	0.00	-3.21	-1.79	-5.34
317	2017	45.42	0.00	-3.21	-1.79	-2.92
318	118	48.55	0.00	-0.82	-1.83	2.18
318	2018	48.55	0.00	-0.82	-1.83	2.80
319	119	51.68	0.00	1.41	-1.59	9.22
319	2019	51.68	0.00	1.41	-1.59	8.15
320	120	54.81	0.00	3.18	-1.07	14.78
320	2020	54.81	0.00	3.18	-1.07	12.38
321	121	57.94	0.00	4.15	-0.27	17.84
321	2021	57.94	0.00	4.15	-0.27	14.70
322	122	61.07	0.00	3.96	0.82	17.24
322	2022	61.07	0.00	3.96	0.82	14.25
323	123	64.20	0.00	2.25	2.30	12.01
323	2023	64.20	0.00	2.25	2.30	10.32
324	124	67.55	0.00	-1.66	3.21	-0.11
324	2024	67.55	0.00	-1.66	3.21	1.14
325	125	70.90	0.00	-5.26	1.99	-11.63
325	2025	70.90	0.00	-5.26	1.99	-7.65
326	126	74.23	0.00	-6.80	0.23	-16.34
326	2026	74.23	0.00	-6.80	0.23	-11.20
327	127	77.56	0.00	-6.16	-1.02	-14.32
327	2027	77.56	0.00	-6.16	-1.02	-9.67
328	128	80.89	0.00	-4.24	-1.80	-8.26
328	2028	80.89	0.00	-4.24	-1.80	-5.06

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmax

CARGA MUERTA MAXIMA

[1; 1]CMmax

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-1.60	-2.18	0.06
329	2029	84.22	0.00	-1.60	-2.18	1.26
330	130	87.55	0.00	1.31	-2.22	9.21
330	2030	87.55	0.00	1.31	-2.22	8.22
331	131	90.88	0.00	4.10	-1.94	18.01
331	2031	90.88	0.00	4.10	-1.94	14.91
332	132	94.21	0.00	6.40	-1.32	25.28
332	2032	94.21	0.00	6.40	-1.32	20.43
333	133	97.54	0.00	7.79	-0.35	29.66
333	2033	97.54	0.00	7.79	-0.35	23.77
334	134	100.87	0.00	7.74	1.05	29.50
334	2034	100.87	0.00	7.74	1.05	23.65
335	135	104.20	0.00	5.19	2.72	21.11
335	2035	104.20	0.00	5.19	2.72	17.19
336	136	107.55	0.00	0.89	3.50	7.22
336	2036	107.55	0.00	0.89	3.50	6.55
337	137	110.90	0.00	-3.14	2.74	-5.47
337	2037	110.90	0.00	-3.14	2.74	-3.10
338	138	113.77	0.00	-5.15	1.50	-11.82
338	2038	113.77	0.00	-5.15	1.50	-7.92
339	139	116.64	0.00	-5.91	0.57	-14.22
339	2039	116.64	0.00	-5.91	0.57	-9.75
340	140	119.51	0.00	-5.81	-0.10	-13.89
340	2040	119.51	0.00	-5.81	-0.10	-9.50
341	141	122.38	0.00	-5.13	-0.56	-11.76
341	2041	122.38	0.00	-5.13	-0.56	-7.88
342	142	125.25	0.00	-4.11	-0.86	-8.54
342	2042	125.25	0.00	-4.11	-0.86	-5.43
343	143	128.12	0.00	-2.88	-1.05	-4.67
343	2043	128.12	0.00	-2.88	-1.05	-2.49
344	144	130.99	0.00	-1.54	-1.15	-0.45
344	2044	130.99	0.00	-1.54	-1.15	0.71
345	145	133.86	0.00	-0.13	-1.20	3.98
345	2045	133.86	0.00	-0.13	-1.20	4.08
346	146	136.73	0.00	1.33	-1.23	8.60
346	2046	136.73	0.00	1.33	-1.23	7.59
347	147	139.60	0.00	1.44	-0.62	6.73
347	2047	139.60	0.00	1.44	-0.62	5.64
201	2001	0.00	0.00	-2.14	-0.87	-3.13
201	1001	0.00	0.00	-2.14	-0.87	7.11
202	2002	2.62	0.00	-2.32	-1.67	-1.57
202	1002	2.62	0.00	-2.32	-1.67	9.52
203	2003	5.24	0.00	-0.51	-1.54	2.76
203	1003	5.24	0.00	-0.51	-1.54	5.20
204	2004	7.86	0.00	1.09	-1.33	6.59
204	1004	7.86	0.00	1.09	-1.33	1.37
205	2005	10.48	0.00	2.44	-1.05	9.81
205	1005	10.48	0.00	2.44	-1.05	-1.85

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmax

CARGA MUERTA MAXIMA

[1; 1]CMmax

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	3.48	-0.70	12.32
206	1006	13.10	0.00	3.48	-0.70	-4.36
207	2007	15.72	0.00	4.17	-0.28	13.97
207	1007	15.72	0.00	4.17	-0.28	-6.01
208	2008	18.34	0.00	4.42	0.23	14.57
208	1008	18.34	0.00	4.42	0.23	-6.61
209	2009	20.96	0.00	4.13	0.84	13.87
209	1009	20.96	0.00	4.13	0.84	-5.91
210	2010	23.58	0.00	3.16	1.57	11.55
210	1010	23.58	0.00	3.16	1.57	-3.59
211	2011	26.20	0.00	1.53	2.77	8.20
211	1011	26.20	0.00	1.53	2.77	0.87
212	2012	29.55	0.00	-2.69	3.69	-1.35
212	1012	29.55	0.00	-2.69	3.69	11.53
213	2013	32.90	0.00	-6.41	2.29	-10.43
213	1013	32.90	0.00	-6.41	2.29	20.27
214	2014	36.03	0.00	-7.49	0.50	-13.18
214	1014	36.03	0.00	-7.49	0.50	22.69
215	2015	39.16	0.00	-7.01	-0.69	-12.02
215	1015	39.16	0.00	-7.01	-0.69	21.53
216	2016	42.29	0.00	-5.41	-1.42	-8.18
216	1016	42.29	0.00	-5.41	-1.42	17.70
217	2017	45.42	0.00	-3.21	-1.79	-2.92
217	1017	45.42	0.00	-3.21	-1.79	12.44
218	2018	48.55	0.00	-0.82	-1.83	2.80
218	1018	48.55	0.00	-0.82	-1.83	6.72
219	2019	51.68	0.00	1.42	-1.59	8.15
219	1019	51.68	0.00	1.42	-1.59	1.38
220	2020	54.81	0.00	3.18	-1.07	12.38
220	1020	54.81	0.00	3.18	-1.07	-2.85
221	2021	57.94	0.00	4.15	-0.27	14.70
221	1021	57.94	0.00	4.15	-0.27	-5.17
222	2022	61.07	0.00	3.96	0.82	14.25
222	1022	61.07	0.00	3.96	0.82	-4.71
223	2023	64.20	0.00	2.25	2.30	10.32
223	1023	64.20	0.00	2.25	2.30	-0.44
224	2024	67.55	0.00	-1.66	3.21	1.14
224	1024	67.55	0.00	-1.66	3.21	9.08
225	2025	70.90	0.00	-5.26	1.99	-7.65
225	1025	70.90	0.00	-5.26	1.99	17.54
226	2026	74.23	0.00	-6.80	0.23	-11.20
226	1026	74.23	0.00	-6.80	0.23	21.37
227	2027	77.56	0.00	-6.16	-1.02	-9.67
227	1027	77.56	0.00	-6.16	-1.02	19.84
228	2028	80.89	0.00	-4.24	-1.80	-5.06
228	1028	80.89	0.00	-4.24	-1.80	15.23
229	2029	84.22	0.00	-1.60	-2.18	1.26
229	1029	84.22	0.00	-1.60	-2.18	8.92

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CMmax
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CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmax

CARGA MUERTA MAXIMA

[1; 1]CMmax

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	1.31	-2.22	8.22
230	1030	87.55	0.00	1.31	-2.22	1.97
231	2031	90.88	0.00	4.10	-1.94	14.91
231	1031	90.88	0.00	4.10	-1.94	-4.72
232	2032	94.21	0.00	6.40	-1.32	20.43
232	1032	94.21	0.00	6.40	-1.32	-10.23
233	2033	97.54	0.00	7.79	-0.35	23.77
233	1033	97.54	0.00	7.79	-0.35	-13.55
234	2034	100.87	0.00	7.74	1.05	23.65
234	1034	100.87	0.00	7.74	1.05	-13.42
235	2035	104.20	0.00	5.19	2.72	17.19
235	1035	104.20	0.00	5.19	2.72	-7.66
236	2036	107.55	0.00	0.89	3.50	6.55
236	1036	107.55	0.00	0.89	3.50	2.28
237	2037	110.90	0.00	-3.14	2.74	-3.10
237	1037	110.90	0.00	-3.14	2.74	11.92
238	2038	113.77	0.00	-5.15	1.50	-7.92
238	1038	113.77	0.00	-5.15	1.50	16.74
239	2039	116.64	0.00	-5.91	0.57	-9.75
239	1039	116.64	0.00	-5.91	0.57	18.56
240	2040	119.51	0.00	-5.81	-0.10	-9.50
240	1040	119.51	0.00	-5.81	-0.10	18.31
241	2041	122.38	0.00	-5.13	-0.56	-7.88
241	1041	122.38	0.00	-5.13	-0.56	16.69
242	2042	125.25	0.00	-4.11	-0.86	-5.43
242	1042	125.25	0.00	-4.11	-0.86	14.23
243	2043	128.12	0.00	-2.88	-1.05	-2.49
243	1043	128.12	0.00	-2.88	-1.05	11.29
244	2044	130.99	0.00	-1.54	-1.15	0.71
244	1044	130.99	0.00	-1.54	-1.15	8.09
245	2045	133.86	0.00	-0.13	-1.20	4.08
245	1045	133.86	0.00	-0.13	-1.20	4.72
246	2046	136.73	0.00	1.33	-1.23	7.59
246	1046	136.73	0.00	1.33	-1.23	1.20
247	2047	139.60	0.00	1.44	-0.62	5.64
247	1047	139.60	0.00	1.44	-0.62	-1.24
401	1001	0.00	0.00	-2.14	-0.87	7.11
401	1	0.00	0.00	-2.14	-0.87	8.73
402	1002	2.62	0.00	-2.32	-1.67	9.52
402	2	2.62	0.00	-2.32	-1.67	11.27
403	1003	5.24	0.00	-0.51	-1.54	5.20
403	3	5.24	0.00	-0.51	-1.54	5.58
404	1004	7.86	0.00	1.09	-1.33	1.37
404	4	7.86	0.00	1.09	-1.33	0.55
405	1005	10.48	0.00	2.44	-1.05	-1.85
405	5	10.48	0.00	2.44	-1.05	-3.69
406	1006	13.10	0.00	3.48	-0.70	-4.36
406	6	13.10	0.00	3.48	-0.70	-6.99

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmax

CARGA MUERTA MAXIMA

[1; 1]CMmax

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	4.17	-0.28	-6.01
407	7	15.72	0.00	4.17	-0.28	-9.16
408	1008	18.34	0.00	4.42	0.23	-6.61
408	8	18.34	0.00	4.42	0.23	-9.96
409	1009	20.96	0.00	4.13	0.84	-5.91
409	9	20.96	0.00	4.13	0.84	-9.04
410	1010	23.58	0.00	3.16	1.57	-3.59
410	10	23.58	0.00	3.16	1.57	-5.97
411	1011	26.20	0.00	1.53	2.77	0.87
411	11	26.20	0.00	1.53	2.77	-0.28
412	1012	29.55	0.00	-2.69	3.69	11.53
412	12	29.55	0.00	-2.69	3.69	13.57
413	1013	32.90	0.00	-6.41	2.29	20.27
413	13	32.90	0.00	-6.41	2.29	25.12
414	1014	36.03	0.00	-7.49	0.50	22.69
414	14	36.03	0.00	-7.49	0.50	28.36
415	1015	39.16	0.00	-7.01	-0.69	21.53
415	15	39.16	0.00	-7.01	-0.69	26.83
416	1016	42.29	0.00	-5.41	-1.42	17.70
416	16	42.29	0.00	-5.41	-1.42	21.79
417	1017	45.42	0.00	-3.21	-1.79	12.44
417	17	45.42	0.00	-3.21	-1.79	14.86
418	1018	48.55	0.00	-0.82	-1.83	6.72
418	18	48.55	0.00	-0.82	-1.83	7.34
419	1019	51.68	0.00	1.42	-1.59	1.38
419	19	51.68	0.00	1.42	-1.59	0.31
420	1020	54.81	0.00	3.18	-1.07	-2.85
420	20	54.81	0.00	3.18	-1.07	-5.25
421	1021	57.94	0.00	4.15	-0.27	-5.17
421	21	57.94	0.00	4.15	-0.27	-8.31
422	1022	61.07	0.00	3.96	0.82	-4.71
422	22	61.07	0.00	3.96	0.82	-7.70
423	1023	64.20	0.00	2.25	2.30	-0.44
423	23	64.20	0.00	2.25	2.30	-2.14
424	1024	67.55	0.00	-1.66	3.21	9.08
424	24	67.55	0.00	-1.66	3.21	10.33
425	1025	70.90	0.00	-5.26	1.99	17.54
425	25	70.90	0.00	-5.26	1.99	21.52
426	1026	74.23	0.00	-6.80	0.23	21.36
426	26	74.23	0.00	-6.80	0.23	26.51
427	1027	77.56	0.00	-6.16	-1.02	19.84
427	27	77.56	0.00	-6.16	-1.02	24.50
428	1028	80.89	0.00	-4.24	-1.80	15.23
428	28	80.89	0.00	-4.24	-1.80	18.44
429	1029	84.22	0.00	-1.60	-2.18	8.92
429	29	84.22	0.00	-1.60	-2.18	10.13
430	1030	87.55	0.00	1.31	-2.22	1.97
430	30	87.55	0.00	1.31	-2.22	0.98

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmax

CARGA MUERTA MAXIMA

[1; 1]CMmax

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	4.10	-1.94	-4.72
431	31	90.88	0.00	4.10	-1.94	-7.82
432	1032	94.21	0.00	6.40	-1.32	-10.23
432	32	94.21	0.00	6.40	-1.32	-15.07
433	1033	97.54	0.00	7.79	-0.35	-13.55
433	33	97.54	0.00	7.79	-0.35	-19.45
434	1034	100.87	0.00	7.74	1.05	-13.42
434	34	100.87	0.00	7.74	1.05	-19.28
435	1035	104.20	0.00	5.19	2.72	-7.66
435	35	104.20	0.00	5.19	2.72	-11.58
436	1036	107.55	0.00	0.89	3.50	2.28
436	36	107.55	0.00	0.89	3.50	1.61
437	1037	110.90	0.00	-3.14	2.74	11.92
437	37	110.90	0.00	-3.14	2.74	14.29
438	1038	113.77	0.00	-5.15	1.50	16.74
438	38	113.77	0.00	-5.15	1.50	20.64
439	1039	116.64	0.00	-5.91	0.57	18.56
439	39	116.64	0.00	-5.91	0.57	23.03
440	1040	119.51	0.00	-5.81	-0.10	18.31
440	40	119.51	0.00	-5.81	-0.10	22.70
441	1041	122.38	0.00	-5.13	-0.56	16.69
441	41	122.38	0.00	-5.13	-0.56	20.57
442	1042	125.25	0.00	-4.11	-0.86	14.23
442	42	125.25	0.00	-4.11	-0.86	17.34
443	1043	128.12	0.00	-2.88	-1.05	11.29
443	43	128.12	0.00	-2.88	-1.05	13.47
444	1044	130.99	0.00	-1.54	-1.15	8.09
444	44	130.99	0.00	-1.54	-1.15	9.25
445	1045	133.86	0.00	-0.13	-1.20	4.72
445	45	133.86	0.00	-0.13	-1.20	4.82
446	1046	136.73	0.00	1.33	-1.23	1.20
446	46	136.73	0.00	1.33	-1.23	0.19
447	1047	139.60	0.00	1.44	-0.62	-1.24
447	47	139.60	0.00	1.44	-0.62	-2.33

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmin

CARGA MUERTA MÍNIMA

[1; 1]CMmin

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-79.27	3.39	0.57
1	2	2.62	0.00	-57.97	4.64	180.34
2	2	2.62	0.00	-59.45	7.34	181.45
2	3	5.24	0.00	-38.15	8.59	309.29
3	3	5.24	0.00	-38.43	7.53	310.31
3	4	7.86	0.00	-17.13	8.78	383.10
4	4	7.86	0.00	-16.35	4.37	383.98
4	5	10.48	0.00	4.95	5.63	398.93
5	5	10.48	0.00	6.62	-1.63	399.63
5	6	13.10	0.00	27.92	-0.37	354.37
6	6	13.10	0.00	30.31	-9.86	354.85
6	7	15.72	0.00	51.61	-8.60	247.53
7	7	15.72	0.00	54.48	-19.60	247.74
7	8	18.34	0.00	75.78	-18.34	77.10
8	8	18.34	0.00	78.83	-29.92	76.97
8	9	20.96	0.00	100.13	-28.66	-157.47
9	9	20.96	0.00	103.00	-39.68	-158.02
9	10	23.58	0.00	124.30	-38.42	-455.79
10	10	23.58	0.00	126.54	-47.43	-456.84
10	10011	26.20	0.00	147.84	-46.18	-816.27
11	11	26.20	0.00	-135.90	-52.06	-818.14
11	12	29.55	0.00	-108.67	-50.45	-408.48
12	12	29.55	0.00	-110.37	-47.62	-410.99
12	13	32.90	0.00	-83.13	-46.01	-86.88
13	13	32.90	0.00	-87.38	-35.06	-88.46
13	14	36.03	0.00	-61.94	-33.56	145.23
14	14	36.03	0.00	-66.96	-20.10	144.86
14	15	39.16	0.00	-41.51	-18.60	314.60
15	15	39.16	0.00	-46.23	-6.07	315.04
15	16	42.29	0.00	-20.79	-4.57	419.93
16	16	42.29	0.00	-24.45	4.61	420.88
16	17	45.42	0.00	1.00	6.11	457.57
17	17	45.42	0.00	-1.18	10.63	458.78
17	18	48.55	0.00	24.26	12.13	422.66
18	18	48.55	0.00	23.71	11.53	423.91
18	19	51.68	0.00	49.15	13.03	309.88
19	19	51.68	0.00	50.13	7.59	310.98
19	20	54.81	0.00	75.58	9.09	114.24
20	20	54.81	0.00	77.79	-0.23	115.00
20	21	57.94	0.00	103.24	1.27	-168.31
21	21	57.94	0.00	106.15	-10.26	-168.09
21	22	61.07	0.00	131.59	-8.75	-540.16
22	22	61.07	0.00	134.42	-20.00	-540.68
22	10023	64.20	0.00	159.86	-18.50	-1001.00
23	23	64.20	0.00	-150.97	-26.27	-1002.78
23	24	67.55	0.00	-123.73	-24.67	-542.67
24	24	67.55	0.00	-124.68	-24.20	-544.86
24	25	70.90	0.00	-97.45	-22.59	-172.80

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20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmin

CARGA MUERTA MÍNIMA

[1; 1]CMmin

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-100.87	-14.24	-174.17
25	26	74.23	0.00	-73.80	-12.64	116.66
26	26	74.23	0.00	-78.31	-0.95	116.46
26	27	77.56	0.00	-51.24	0.65	332.16
27	27	77.56	0.00	-55.36	11.12	332.82
27	28	80.89	0.00	-28.29	12.71	472.10
28	28	80.89	0.00	-31.14	19.18	473.30
28	29	84.22	0.00	-4.07	20.77	531.92
29	29	84.22	0.00	-5.14	21.65	533.39
29	30	87.55	0.00	21.93	23.25	505.44
30	30	87.55	0.00	22.83	17.89	506.95
30	31	90.88	0.00	49.90	19.49	385.86
31	31	90.88	0.00	52.72	8.09	387.20
31	32	94.21	0.00	79.79	9.69	166.57
32	32	94.21	0.00	84.22	-6.78	167.50
32	33	97.54	0.00	111.29	-5.18	-158.02
33	33	97.54	0.00	116.71	-24.77	-157.75
33	34	100.87	0.00	143.78	-23.18	-591.46
34	34	100.87	0.00	149.21	-42.81	-592.15
34	10035	104.20	0.00	176.28	-41.21	-1134.00
35	35	104.20	0.00	-163.95	-55.24	-1135.95
35	36	107.55	0.00	-136.71	-53.63	-632.35
36	36	107.55	0.00	-135.95	-58.20	-634.75
36	37	110.90	0.00	-108.72	-56.59	-224.93
37	37	110.90	0.00	-110.74	-52.40	-226.84
37	38	113.77	0.00	-87.41	-51.02	57.51
38	38	113.77	0.00	-90.85	-42.36	56.44
38	39	116.64	0.00	-67.52	-40.98	283.70
39	39	116.64	0.00	-71.53	-30.52	283.26
39	40	119.51	0.00	-48.20	-29.14	455.08
40	40	119.51	0.00	-52.19	-18.75	455.11
40	41	122.38	0.00	-28.86	-17.38	571.41
41	41	122.38	0.00	-32.42	-8.33	571.77
41	42	125.25	0.00	-9.09	-6.95	631.33
42	42	125.25	0.00	-11.96	-0.07	631.92
42	43	128.12	0.00	11.37	1.31	632.77
43	43	128.12	0.00	9.34	5.51	633.50
43	44	130.99	0.00	32.68	6.89	573.21
44	44	130.99	0.00	31.61	8.08	574.04
44	45	133.86	0.00	54.94	9.46	449.85
45	45	133.86	0.00	54.90	7.39	450.74
45	46	136.73	0.00	78.24	8.77	259.69
46	46	136.73	0.00	79.30	3.23	260.62
46	47	139.60	0.00	102.64	4.61	-0.47
101	101	0.00	0.00	-105.70	5.36	-0.57
101	102	2.62	0.00	-82.67	2.68	246.18
102	102	2.62	0.00	-81.19	9.32	245.08
102	103	5.24	0.00	-58.16	6.64	427.62

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmin

CARGA MUERTA MÍNIMA

[1; 1]CMmin

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-57.87	9.51	426.60
103	104	7.86	0.00	-34.84	6.84	548.05
104	104	7.86	0.00	-35.62	6.37	547.16
104	105	10.48	0.00	-12.59	3.69	610.31
105	105	10.48	0.00	-14.26	0.38	609.60
105	106	13.10	0.00	8.77	-2.29	616.81
106	106	13.10	0.00	6.38	-7.84	616.33
106	107	15.72	0.00	29.41	-10.52	569.45
107	107	15.72	0.00	26.54	-17.57	569.24
107	108	18.34	0.00	49.57	-20.24	469.53
108	108	18.34	0.00	46.52	-27.88	469.67
108	109	20.96	0.00	69.55	-30.55	317.61
109	109	20.96	0.00	66.68	-37.64	318.16
109	110	23.58	0.00	89.71	-40.31	113.29
110	110	23.58	0.00	87.47	-45.38	114.34
110	111	26.20	0.00	110.50	-48.05	-145.01
111	111	26.20	0.00	109.35	-49.44	-143.14
111	112	29.55	0.00	138.80	-52.86	-558.78
112	112	29.55	0.00	140.49	-44.99	-556.27
112	10113	32.90	0.00	169.94	-48.40	-1076.00
113	113	32.90	0.00	-176.14	-32.58	-1074.67
113	114	36.03	0.00	-148.63	-35.77	-566.41
114	114	36.03	0.00	-143.61	-17.60	-566.04
114	115	39.16	0.00	-116.10	-20.79	-159.61
115	115	39.16	0.00	-111.37	-3.56	-160.05
115	116	42.29	0.00	-83.86	-6.75	145.49
116	116	42.29	0.00	-80.20	7.14	144.54
116	117	45.42	0.00	-52.68	3.95	352.50
117	117	45.42	0.00	-50.50	13.18	351.29
117	118	48.55	0.00	-22.99	9.99	466.30
118	118	48.55	0.00	-22.43	14.10	465.05
118	119	51.68	0.00	5.08	10.91	492.20
119	119	51.68	0.00	4.10	10.18	491.10
119	120	54.81	0.00	31.62	6.99	435.20
120	120	54.81	0.00	29.41	2.39	434.45
120	121	57.94	0.00	56.92	-0.80	299.35
121	121	57.94	0.00	54.01	-7.61	299.13
121	122	61.07	0.00	81.52	-10.80	87.03
122	122	61.07	0.00	78.70	-17.33	87.56
122	123	64.20	0.00	106.21	-20.52	-201.82
123	123	64.20	0.00	104.52	-23.41	-200.27
123	124	67.55	0.00	133.97	-26.82	-599.73
124	124	67.55	0.00	134.92	-21.30	-597.55
124	10125	70.90	0.00	164.36	-24.72	-1099.00
125	125	70.90	0.00	-179.80	-11.47	-1097.46
125	126	74.23	0.00	-150.52	-14.87	-547.48
126	126	74.23	0.00	-146.01	1.86	-547.29
126	127	77.56	0.00	-116.74	-1.54	-109.80

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmin

CARGA MUERTA MÍNIMA

[1; 1]CMmin

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-112.62	13.97	-110.46
127	128	80.89	0.00	-83.35	10.57	215.83
128	128	80.89	0.00	-80.50	22.07	214.64
128	129	84.22	0.00	-51.23	18.68	433.96
129	129	84.22	0.00	-50.15	24.59	432.49
129	130	87.55	0.00	-20.88	21.19	550.75
130	130	87.55	0.00	-21.78	20.88	549.24
130	131	90.88	0.00	7.49	17.49	573.03
131	131	90.88	0.00	4.67	11.13	571.69
131	132	94.21	0.00	33.94	7.74	507.40
132	132	94.21	0.00	29.52	-3.67	506.47
132	133	97.54	0.00	58.79	-7.07	359.43
133	133	97.54	0.00	53.37	-21.61	359.16
133	134	100.87	0.00	82.64	-25.00	132.69
134	134	100.87	0.00	77.21	-39.57	133.38
134	135	104.20	0.00	106.49	-42.97	-172.48
135	135	104.20	0.00	102.78	-52.28	-170.62
135	136	107.55	0.00	132.23	-55.70	-564.26
136	136	107.55	0.00	131.47	-55.90	-561.85
136	10137	110.90	0.00	160.92	-59.32	-1052.00
137	137	110.90	0.00	-176.54	-50.76	-1049.69
137	138	113.77	0.00	-151.31	-53.69	-579.23
138	138	113.77	0.00	-147.87	-40.66	-578.16
138	139	116.64	0.00	-122.64	-43.58	-189.98
139	139	116.64	0.00	-118.63	-28.76	-189.54
139	140	119.51	0.00	-93.40	-31.68	114.72
140	140	119.51	0.00	-89.41	-16.94	114.69
140	141	122.38	0.00	-64.18	-19.86	335.09
141	141	122.38	0.00	-60.62	-6.46	334.73
141	142	125.25	0.00	-35.39	-9.39	472.51
142	142	125.25	0.00	-32.51	1.86	471.92
142	143	128.12	0.00	-7.29	-1.07	529.04
143	143	128.12	0.00	-5.26	7.49	528.30
143	144	130.99	0.00	19.97	4.56	507.20
144	144	130.99	0.00	21.04	10.11	506.36
144	145	133.86	0.00	46.26	7.18	409.79
145	145	133.86	0.00	46.30	9.47	408.89
145	146	136.73	0.00	71.53	6.54	239.82
146	146	136.73	0.00	70.46	5.36	238.89
146	147	139.60	0.00	95.69	2.43	0.47
301	101	0.00	0.00	-1.39	-0.57	-5.36
301	2001	0.00	0.00	-1.39	-0.57	-4.31
302	102	2.62	0.00	-1.48	-1.11	-6.63
302	2002	2.62	0.00	-1.48	-1.11	-5.51
303	103	5.24	0.00	-0.29	-1.02	-2.87
303	2003	5.24	0.00	-0.29	-1.02	-2.65
304	104	7.86	0.00	0.78	-0.88	0.47
304	2004	7.86	0.00	0.78	-0.88	-0.11

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmin

CARGA MUERTA MÍNIMA

[1; 1]CMmin

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	1.68	-0.71	3.32
305	2005	10.48	0.00	1.68	-0.71	2.05
306	106	13.10	0.00	2.39	-0.48	5.55
306	2006	13.10	0.00	2.39	-0.48	3.75
307	107	15.72	0.00	2.86	-0.20	7.05
307	2007	15.72	0.00	2.86	-0.20	4.89
308	108	18.34	0.00	3.05	0.14	7.64
308	2008	18.34	0.00	3.05	0.14	5.33
309	109	20.96	0.00	2.87	0.55	7.08
309	2009	20.96	0.00	2.87	0.55	4.91
310	110	23.58	0.00	2.23	1.05	5.07
310	2010	23.58	0.00	2.23	1.05	3.38
311	111	26.20	0.00	1.15	1.87	1.39
311	2011	26.20	0.00	1.15	1.87	0.52
312	112	29.55	0.00	-1.70	2.51	-7.87
312	2012	29.55	0.00	-1.70	2.51	-6.59
313	113	32.90	0.00	-4.25	1.58	-15.83
313	2013	32.90	0.00	-4.25	1.58	-12.61
314	114	36.03	0.00	-5.02	0.37	-18.17
314	2014	36.03	0.00	-5.02	0.37	-14.37
315	115	39.16	0.00	-4.72	-0.44	-17.24
315	2015	39.16	0.00	-4.72	-0.44	-13.67
316	116	42.29	0.00	-3.66	-0.95	-13.89
316	2016	42.29	0.00	-3.66	-0.95	-11.12
317	117	45.42	0.00	-2.18	-1.21	-9.23
317	2017	45.42	0.00	-2.18	-1.21	-7.58
318	118	48.55	0.00	-0.56	-1.25	-4.11
318	2018	48.55	0.00	-0.56	-1.25	-3.69
319	119	51.68	0.00	0.98	-1.10	0.72
319	2019	51.68	0.00	0.98	-1.10	-0.02
320	120	54.81	0.00	2.21	-0.76	4.60
320	2020	54.81	0.00	2.21	-0.76	2.93
321	121	57.94	0.00	2.91	-0.22	6.81
321	2021	57.94	0.00	2.91	-0.22	4.61
322	122	61.07	0.00	2.82	0.53	6.53
322	2022	61.07	0.00	2.82	0.53	4.39
323	123	64.20	0.00	1.69	1.55	2.88
323	2023	64.20	0.00	1.69	1.55	1.60
324	124	67.55	0.00	-0.95	2.19	-5.52
324	2024	67.55	0.00	-0.95	2.19	-4.81
325	125	70.90	0.00	-3.43	1.38	-13.25
325	2025	70.90	0.00	-3.43	1.38	-10.65
326	126	74.23	0.00	-4.51	0.19	-16.73
326	2026	74.23	0.00	-4.51	0.19	-13.32
327	127	77.56	0.00	-4.12	-0.66	-15.50
327	2027	77.56	0.00	-4.12	-0.66	-12.39
328	128	80.89	0.00	-2.85	-1.20	-11.50
328	2028	80.89	0.00	-2.85	-1.20	-9.35

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmin

CARGA MUERTA MÍNIMA

[1; 1]CMmin

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-1.08	-1.47	-5.91
329	2029	84.22	0.00	-1.08	-1.47	-5.10
330	130	87.55	0.00	0.90	-1.51	0.31
330	2030	87.55	0.00	0.90	-1.51	-0.37
331	131	90.88	0.00	2.82	-1.33	6.35
331	2031	90.88	0.00	2.82	-1.33	4.22
332	132	94.21	0.00	4.42	-0.93	11.41
332	2032	94.21	0.00	4.42	-0.93	8.06
333	133	97.54	0.00	5.42	-0.27	14.54
333	2033	97.54	0.00	5.42	-0.27	10.44
334	134	100.87	0.00	5.43	0.69	14.57
334	2034	100.87	0.00	5.43	0.69	10.47
335	135	104.20	0.00	3.70	1.85	9.31
335	2035	104.20	0.00	3.70	1.85	6.51
336	136	107.55	0.00	0.76	2.41	0.20
336	2036	107.55	0.00	0.76	2.41	-0.37
337	137	110.90	0.00	-2.02	1.91	-8.56
337	2037	110.90	0.00	-2.02	1.91	-7.03
338	138	113.77	0.00	-3.44	1.07	-13.03
338	2038	113.77	0.00	-3.44	1.07	-10.43
339	139	116.64	0.00	-4.01	0.44	-14.83
339	2039	116.64	0.00	-4.01	0.44	-11.79
340	140	119.51	0.00	-3.99	-0.03	-14.75
340	2040	119.51	0.00	-3.99	-0.03	-11.73
341	141	122.38	0.00	-3.56	-0.36	-13.40
341	2041	122.38	0.00	-3.56	-0.36	-10.71
342	142	125.25	0.00	-2.88	-0.59	-11.24
342	2042	125.25	0.00	-2.88	-0.59	-9.07
343	143	128.12	0.00	-2.03	-0.74	-8.56
343	2043	128.12	0.00	-2.03	-0.74	-7.03
344	144	130.99	0.00	-1.07	-0.83	-5.55
344	2044	130.99	0.00	-1.07	-0.83	-4.74
345	145	133.86	0.00	-0.03	-0.89	-2.29
345	2045	133.86	0.00	-0.03	-0.89	-2.26
346	146	136.73	0.00	1.07	-0.93	1.18
346	2046	136.73	0.00	1.07	-0.93	0.38
347	147	139.60	0.00	1.12	-0.47	2.43
347	2047	139.60	0.00	1.12	-0.47	1.59
201	2001	0.00	0.00	-1.39	-0.57	-4.31
201	1001	0.00	0.00	-1.39	-0.57	2.34
202	2002	2.62	0.00	-1.48	-1.11	-5.51
202	1002	2.62	0.00	-1.48	-1.11	1.57
203	2003	5.24	0.00	-0.29	-1.02	-2.65
203	1003	5.24	0.00	-0.29	-1.02	-1.28
204	2004	7.86	0.00	0.78	-0.88	-0.11
204	1004	7.86	0.00	0.78	-0.88	-3.83
205	2005	10.48	0.00	1.68	-0.71	2.05
205	1005	10.48	0.00	1.68	-0.71	-5.99

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmin

CARGA MUERTA MÍNIMA

[1; 1]CMmin

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	2.39	-0.48	3.75
206	1006	13.10	0.00	2.39	-0.48	-7.69
207	2007	15.72	0.00	2.86	-0.20	4.89
207	1007	15.72	0.00	2.86	-0.20	-8.83
208	2008	18.34	0.00	3.05	0.14	5.33
208	1008	18.34	0.00	3.05	0.14	-9.27
209	2009	20.96	0.00	2.87	0.55	4.91
209	1009	20.96	0.00	2.87	0.55	-8.85
210	2010	23.58	0.00	2.23	1.05	3.38
210	1010	23.58	0.00	2.23	1.05	-7.32
211	2011	26.20	0.00	1.15	1.87	0.52
211	1011	26.20	0.00	1.15	1.87	-5.01
212	2012	29.55	0.00	-1.70	2.51	-6.59
212	1012	29.55	0.00	-1.70	2.51	1.55
213	2013	32.90	0.00	-4.25	1.58	-12.61
213	1013	32.90	0.00	-4.25	1.58	7.74
214	2014	36.03	0.00	-5.02	0.37	-14.37
214	1014	36.03	0.00	-5.02	0.37	9.66
215	2015	39.16	0.00	-4.72	-0.44	-13.67
215	1015	39.16	0.00	-4.72	-0.44	8.95
216	2016	42.29	0.00	-3.66	-0.95	-11.12
216	1016	42.29	0.00	-3.66	-0.95	6.41
217	2017	45.42	0.00	-2.18	-1.21	-7.58
217	1017	45.42	0.00	-2.18	-1.21	2.87
218	2018	48.55	0.00	-0.56	-1.25	-3.69
218	1018	48.55	0.00	-0.56	-1.25	-1.02
219	2019	51.68	0.00	0.98	-1.10	-0.02
219	1019	51.68	0.00	0.98	-1.10	-4.70
220	2020	54.81	0.00	2.21	-0.76	2.93
220	1020	54.81	0.00	2.21	-0.76	-7.65
221	2021	57.94	0.00	2.91	-0.22	4.61
221	1021	57.94	0.00	2.91	-0.22	-9.33
222	2022	61.07	0.00	2.82	0.53	4.39
222	1022	61.07	0.00	2.82	0.53	-9.12
223	2023	64.20	0.00	1.69	1.55	1.60
223	1023	64.20	0.00	1.69	1.55	-6.50
224	2024	67.55	0.00	-0.95	2.19	-4.81
224	1024	67.55	0.00	-0.95	2.19	-0.25
225	2025	70.90	0.00	-3.43	1.38	-10.65
225	1025	70.90	0.00	-3.43	1.38	5.76
226	2026	74.23	0.00	-4.51	0.19	-13.32
226	1026	74.23	0.00	-4.51	0.19	8.28
227	2027	77.56	0.00	-4.12	-0.66	-12.39
227	1027	77.56	0.00	-4.12	-0.66	7.35
228	2028	80.89	0.00	-2.85	-1.20	-9.35
228	1028	80.89	0.00	-2.85	-1.20	4.31
229	2029	84.22	0.00	-1.08	-1.47	-5.10
229	1029	84.22	0.00	-1.08	-1.47	0.06

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmin

CARGA MUERTA MÍNIMA

[1; 1]CMmin

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.90	-1.51	-0.37
230	1030	87.55	0.00	0.90	-1.51	-4.67
231	2031	90.88	0.00	2.82	-1.33	4.22
231	1031	90.88	0.00	2.82	-1.33	-9.27
232	2032	94.21	0.00	4.42	-0.93	8.07
232	1032	94.21	0.00	4.42	-0.93	-13.12
233	2033	97.54	0.00	5.42	-0.27	10.44
233	1033	97.54	0.00	5.42	-0.27	-15.50
234	2034	100.87	0.00	5.43	0.69	10.47
234	1034	100.87	0.00	5.43	0.69	-15.53
235	2035	104.20	0.00	3.70	1.85	6.51
235	1035	104.20	0.00	3.70	1.85	-11.23
236	2036	107.55	0.00	0.76	2.41	-0.37
236	1036	107.55	0.00	0.76	2.41	-4.00
237	2037	110.90	0.00	-2.02	1.91	-7.03
237	1037	110.90	0.00	-2.02	1.91	2.66
238	2038	113.77	0.00	-3.44	1.07	-10.43
238	1038	113.77	0.00	-3.44	1.07	6.06
239	2039	116.64	0.00	-4.01	0.44	-11.79
239	1039	116.64	0.00	-4.01	0.44	7.43
240	2040	119.51	0.00	-3.99	-0.03	-11.73
240	1040	119.51	0.00	-3.99	-0.03	7.37
241	2041	122.38	0.00	-3.56	-0.36	-10.71
241	1041	122.38	0.00	-3.56	-0.36	6.35
242	2042	125.25	0.00	-2.88	-0.59	-9.07
242	1042	125.25	0.00	-2.88	-0.59	4.71
243	2043	128.12	0.00	-2.03	-0.74	-7.03
243	1043	128.12	0.00	-2.03	-0.74	2.67
244	2044	130.99	0.00	-1.07	-0.83	-4.74
244	1044	130.99	0.00	-1.07	-0.83	0.38
245	2045	133.86	0.00	-0.03	-0.89	-2.26
245	1045	133.86	0.00	-0.03	-0.89	-2.09
246	2046	136.73	0.00	1.07	-0.93	0.38
246	1046	136.73	0.00	1.07	-0.93	-4.73
247	2047	139.60	0.00	1.12	-0.47	1.59
247	1047	139.60	0.00	1.12	-0.47	-3.76
401	1001	0.00	0.00	-1.39	-0.57	2.34
401	1	0.00	0.00	-1.39	-0.57	3.39
402	1002	2.62	0.00	-1.48	-1.11	1.57
402	2	2.62	0.00	-1.48	-1.11	2.69
403	1003	5.24	0.00	-0.29	-1.02	-1.28
403	3	5.24	0.00	-0.29	-1.02	-1.07
404	1004	7.86	0.00	0.78	-0.88	-3.83
404	4	7.86	0.00	0.78	-0.88	-4.41
405	1005	10.48	0.00	1.68	-0.71	-5.99
405	5	10.48	0.00	1.68	-0.71	-7.26
406	1006	13.10	0.00	2.39	-0.48	-7.69
406	6	13.10	0.00	2.39	-0.48	-9.49

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmin

CARGA MUERTA MÍNIMA

[1; 1]CMmin

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	2.86	-0.20	-8.83
407	7	15.72	0.00	2.86	-0.20	-10.99
408	1008	18.34	0.00	3.05	0.14	-9.27
408	8	18.34	0.00	3.05	0.14	-11.58
409	1009	20.96	0.00	2.87	0.55	-8.85
409	9	20.96	0.00	2.87	0.55	-11.02
410	1010	23.58	0.00	2.23	1.05	-7.32
410	10	23.58	0.00	2.23	1.05	-9.01
411	1011	26.20	0.00	1.15	1.87	-5.01
411	11	26.20	0.00	1.15	1.87	-5.88
412	1012	29.55	0.00	-1.70	2.51	1.55
412	12	29.55	0.00	-1.70	2.51	2.83
413	1013	32.90	0.00	-4.25	1.58	7.74
413	13	32.90	0.00	-4.25	1.58	10.95
414	1014	36.03	0.00	-5.02	0.37	9.66
414	14	36.03	0.00	-5.02	0.37	13.46
415	1015	39.16	0.00	-4.72	-0.44	8.95
415	15	39.16	0.00	-4.72	-0.44	12.52
416	1016	42.29	0.00	-3.66	-0.95	6.41
416	16	42.29	0.00	-3.66	-0.95	9.18
417	1017	45.42	0.00	-2.18	-1.21	2.87
417	17	45.42	0.00	-2.18	-1.21	4.52
418	1018	48.55	0.00	-0.56	-1.25	-1.02
418	18	48.55	0.00	-0.56	-1.25	-0.60
419	1019	51.68	0.00	0.98	-1.10	-4.70
419	19	51.68	0.00	0.98	-1.10	-5.44
420	1020	54.81	0.00	2.21	-0.76	-7.65
420	20	54.81	0.00	2.21	-0.76	-9.32
421	1021	57.94	0.00	2.91	-0.22	-9.33
421	21	57.94	0.00	2.91	-0.22	-11.53
422	1022	61.07	0.00	2.82	0.53	-9.12
422	22	61.07	0.00	2.82	0.53	-11.25
423	1023	64.20	0.00	1.69	1.55	-6.50
423	23	64.20	0.00	1.69	1.55	-7.77
424	1024	67.55	0.00	-0.95	2.19	-0.25
424	24	67.55	0.00	-0.95	2.19	0.47
425	1025	70.90	0.00	-3.43	1.38	5.76
425	25	70.90	0.00	-3.43	1.38	8.35
426	1026	74.23	0.00	-4.51	0.19	8.28
426	26	74.23	0.00	-4.51	0.19	11.69
427	1027	77.56	0.00	-4.12	-0.66	7.35
427	27	77.56	0.00	-4.12	-0.66	10.47
428	1028	80.89	0.00	-2.85	-1.20	4.31
428	28	80.89	0.00	-2.85	-1.20	6.46
429	1029	84.22	0.00	-1.08	-1.47	0.06
429	29	84.22	0.00	-1.08	-1.47	0.87
430	1030	87.55	0.00	0.90	-1.51	-4.67
430	30	87.55	0.00	0.90	-1.51	-5.35

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

CMmin

CARGA MUERTA MÍNIMA

[1; 1]CMmin

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	2.82	-1.33	-9.27
431	31	90.88	0.00	2.82	-1.33	-11.40
432	1032	94.21	0.00	4.42	-0.93	-13.12
432	32	94.21	0.00	4.42	-0.93	-16.46
433	1033	97.54	0.00	5.42	-0.27	-15.50
433	33	97.54	0.00	5.42	-0.27	-19.60
434	1034	100.87	0.00	5.43	0.69	-15.53
434	34	100.87	0.00	5.43	0.69	-19.63
435	1035	104.20	0.00	3.70	1.85	-11.23
435	35	104.20	0.00	3.70	1.85	-14.03
436	1036	107.55	0.00	0.76	2.41	-4.00
436	36	107.55	0.00	0.76	2.41	-4.57
437	1037	110.90	0.00	-2.02	1.91	2.66
437	37	110.90	0.00	-2.02	1.91	4.19
438	1038	113.77	0.00	-3.44	1.07	6.06
438	38	113.77	0.00	-3.44	1.07	8.66
439	1039	116.64	0.00	-4.01	0.44	7.43
439	39	116.64	0.00	-4.01	0.44	10.46
440	1040	119.51	0.00	-3.99	-0.03	7.37
440	40	119.51	0.00	-3.99	-0.03	10.39
441	1041	122.38	0.00	-3.56	-0.36	6.35
441	41	122.38	0.00	-3.56	-0.36	9.04
442	1042	125.25	0.00	-2.88	-0.59	4.71
442	42	125.25	0.00	-2.88	-0.59	6.89
443	1043	128.12	0.00	-2.03	-0.74	2.67
443	43	128.12	0.00	-2.03	-0.74	4.21
444	1044	130.99	0.00	-1.07	-0.83	0.38
444	44	130.99	0.00	-1.07	-0.83	1.19
445	1045	133.86	0.00	-0.03	-0.89	-2.09
445	45	133.86	0.00	-0.03	-0.89	-2.07
446	1046	136.73	0.00	1.07	-0.93	-4.73
446	46	136.73	0.00	1.07	-0.93	-5.54
447	1047	139.60	0.00	1.12	-0.47	-3.76
447	47	139.60	0.00	1.12	-0.47	-4.61

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRAD

GRADIENTE TERMICO

[1; 1]GRAD

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-14.06	-0.77	-0.07
1	2	2.62	0.00	-14.06	-0.77	36.75
2	2	2.62	0.00	-13.73	-1.78	36.61
2	3	5.24	0.00	-13.73	-1.78	72.59
3	3	5.24	0.00	-13.57	-2.31	72.45
3	4	7.86	0.00	-13.57	-2.31	107.99
4	4	7.86	0.00	-13.53	-2.41	107.87
4	5	10.48	0.00	-13.53	-2.41	143.33
5	5	10.48	0.00	-13.63	-2.12	143.21
5	6	13.10	0.00	-13.63	-2.12	178.91
6	6	13.10	0.00	-13.82	-1.49	178.82
6	7	15.72	0.00	-13.82	-1.49	215.04
7	7	15.72	0.00	-14.11	-0.58	214.96
7	8	18.34	0.00	-14.11	-0.58	251.94
8	8	18.34	0.00	-14.47	0.54	251.89
8	9	20.96	0.00	-14.47	0.54	289.80
9	9	20.96	0.00	-14.87	1.81	289.79
9	10	23.58	0.00	-14.87	1.81	328.75
10	10	23.58	0.00	-15.28	3.10	328.78
10	10011	26.20	0.00	-15.28	3.10	368.82
11	11	26.20	0.00	2.92	4.45	368.91
11	12	29.55	0.00	2.92	4.45	359.11
12	12	29.55	0.00	2.59	5.49	359.27
12	13	32.90	0.00	2.59	5.49	350.58
13	13	32.90	0.00	2.45	5.96	350.73
13	14	36.03	0.00	2.45	5.96	343.08
14	14	36.03	0.00	2.42	6.03	343.19
14	15	39.16	0.00	2.42	6.03	335.61
15	15	39.16	0.00	2.48	5.85	335.71
15	16	42.29	0.00	2.48	5.85	327.95
16	16	42.29	0.00	2.59	5.51	328.02
16	17	45.42	0.00	2.59	5.51	319.92
17	17	45.42	0.00	2.73	5.06	319.97
17	18	48.55	0.00	2.73	5.06	311.43
18	18	48.55	0.00	2.89	4.56	311.47
18	19	51.68	0.00	2.89	4.56	302.44
19	19	51.68	0.00	3.05	4.05	302.47
19	20	54.81	0.00	3.05	4.05	292.92
20	20	54.81	0.00	3.21	3.55	292.94
20	21	57.94	0.00	3.21	3.55	282.90
21	21	57.94	0.00	3.35	3.09	282.91
21	22	61.07	0.00	3.35	3.09	272.41
22	22	61.07	0.00	3.47	2.73	272.40
22	10023	64.20	0.00	3.47	2.73	261.54
23	23	64.20	0.00	-2.20	2.50	261.52
23	24	67.55	0.00	-2.20	2.50	268.90
24	24	67.55	0.00	-2.21	2.51	268.87
24	25	70.90	0.00	-2.21	2.51	276.27

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GRAD

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRAD

GRADIENTE TERMICO

[1; 1]GRAD

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-2.29	2.76	276.24
25	26	74.23	0.00	-2.29	2.76	283.86
26	26	74.23	0.00	-2.42	3.17	283.86
26	27	77.56	0.00	-2.42	3.17	291.91
27	27	77.56	0.00	-2.57	3.66	291.92
27	28	80.89	0.00	-2.57	3.66	300.49
28	28	80.89	0.00	-2.74	4.19	300.52
28	29	84.22	0.00	-2.74	4.19	309.65
29	29	84.22	0.00	-2.91	4.72	309.69
29	30	87.55	0.00	-2.91	4.72	319.37
30	30	87.55	0.00	-3.06	5.21	319.42
30	31	90.88	0.00	-3.06	5.21	329.63
31	31	90.88	0.00	-3.20	5.64	329.69
31	32	94.21	0.00	-3.20	5.64	340.35
32	32	94.21	0.00	-3.30	5.96	340.43
32	33	97.54	0.00	-3.30	5.96	351.43
33	33	97.54	0.00	-3.35	6.10	351.52
33	34	100.87	0.00	-3.35	6.10	362.67
34	34	100.87	0.00	-3.30	5.96	362.79
34	10035	104.20	0.00	-3.30	5.96	373.79
35	35	104.20	0.00	8.91	5.45	373.93
35	36	107.55	0.00	8.91	5.45	344.10
36	36	107.55	0.00	9.20	4.52	344.23
36	37	110.90	0.00	9.20	4.52	313.40
37	37	110.90	0.00	9.62	3.21	313.48
37	38	113.77	0.00	9.62	3.21	285.88
38	38	113.77	0.00	10.07	1.77	285.90
38	39	116.64	0.00	10.07	1.77	256.99
39	39	116.64	0.00	10.52	0.38	256.97
39	40	119.51	0.00	10.52	0.38	226.79
40	40	119.51	0.00	10.90	-0.84	226.74
40	41	122.38	0.00	10.90	-0.84	195.44
41	41	122.38	0.00	11.21	-1.82	195.36
41	42	125.25	0.00	11.21	-1.82	163.18
42	42	125.25	0.00	11.42	-2.48	163.08
42	43	128.12	0.00	11.42	-2.48	130.29
43	43	128.12	0.00	11.52	-2.77	130.18
43	44	130.99	0.00	11.52	-2.77	97.12
44	44	130.99	0.00	11.47	-2.64	96.99
44	45	133.86	0.00	11.47	-2.64	64.06
45	45	133.86	0.00	11.28	-2.02	63.92
45	46	136.73	0.00	11.28	-2.02	31.55
46	46	136.73	0.00	10.91	-0.87	31.40
46	47	139.60	0.00	10.91	-0.87	0.08
101	101	0.00	0.00	-11.77	-0.77	0.07
101	102	2.62	0.00	-11.77	-0.77	30.90
102	102	2.62	0.00	-12.09	-1.78	31.05
102	103	5.24	0.00	-12.09	-1.78	62.72

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRAD

GRADIENTE TERMICO

[1; 1]GRAD

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-12.26	-2.31	62.86
103	104	7.86	0.00	-12.26	-2.31	94.97
104	104	7.86	0.00	-12.29	-2.41	95.09
104	105	10.48	0.00	-12.29	-2.41	127.29
105	105	10.48	0.00	-12.20	-2.12	127.40
105	106	13.10	0.00	-12.20	-2.12	159.35
106	106	13.10	0.00	-12.00	-1.49	159.45
106	107	15.72	0.00	-12.00	-1.49	190.88
107	107	15.72	0.00	-11.71	-0.58	190.96
107	108	18.34	0.00	-11.71	-0.58	221.63
108	108	18.34	0.00	-11.35	0.54	221.68
108	109	20.96	0.00	-11.35	0.54	251.42
109	109	20.96	0.00	-10.95	1.81	251.44
109	110	23.58	0.00	-10.95	1.81	280.13
110	110	23.58	0.00	-10.54	3.10	280.10
110	111	26.20	0.00	-10.54	3.10	307.71
111	111	26.20	0.00	-10.11	4.45	307.63
111	112	29.55	0.00	-10.11	4.45	341.50
112	112	29.55	0.00	-9.78	5.49	341.34
112	10113	32.90	0.00	-9.78	5.49	374.10
113	113	32.90	0.00	3.52	5.96	373.95
113	114	36.03	0.00	3.52	5.96	362.94
114	114	36.03	0.00	3.54	6.03	362.82
114	115	39.16	0.00	3.54	6.03	351.73
115	115	39.16	0.00	3.49	5.85	351.64
115	116	42.29	0.00	3.49	5.85	340.73
116	116	42.29	0.00	3.38	5.51	340.66
116	117	45.42	0.00	3.38	5.51	330.10
117	117	45.42	0.00	3.23	5.06	330.04
117	118	48.55	0.00	3.23	5.06	319.91
118	118	48.55	0.00	3.08	4.56	319.87
118	119	51.68	0.00	3.08	4.56	310.24
119	119	51.68	0.00	2.91	4.05	310.21
119	120	54.81	0.00	2.91	4.05	301.09
120	120	54.81	0.00	2.75	3.55	301.06
120	121	57.94	0.00	2.75	3.55	292.44
121	121	57.94	0.00	2.61	3.09	292.43
121	122	61.07	0.00	2.61	3.09	284.26
122	122	61.07	0.00	2.49	2.73	284.27
122	123	64.20	0.00	2.49	2.73	276.46
123	123	64.20	0.00	2.42	2.50	276.49
123	124	67.55	0.00	2.42	2.50	268.37
124	124	67.55	0.00	2.43	2.51	268.41
124	10125	70.90	0.00	2.43	2.51	260.28
125	125	70.90	0.00	-3.43	2.76	260.30
125	126	74.23	0.00	-3.43	2.76	271.71
126	126	74.23	0.00	-3.30	3.17	271.71
126	127	77.56	0.00	-3.30	3.17	282.69

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GRAD

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRAD

GRADIENTE TERMICO

[1; 1]GRAD

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-3.14	3.66	282.68
127	128	80.89	0.00	-3.14	3.66	293.14
128	128	80.89	0.00	-2.97	4.19	293.11
128	129	84.22	0.00	-2.97	4.19	303.01
129	129	84.22	0.00	-2.81	4.72	302.97
129	130	87.55	0.00	-2.81	4.72	312.32
130	130	87.55	0.00	-2.65	5.21	312.27
130	131	90.88	0.00	-2.65	5.21	321.09
131	131	90.88	0.00	-2.51	5.64	321.03
131	132	94.21	0.00	-2.51	5.64	329.39
132	132	94.21	0.00	-2.41	5.96	329.32
132	133	97.54	0.00	-2.41	5.96	337.34
133	133	97.54	0.00	-2.37	6.10	337.25
133	134	100.87	0.00	-2.37	6.10	345.13
134	134	100.87	0.00	-2.41	5.96	345.01
134	135	104.20	0.00	-2.41	5.96	353.04
135	135	104.20	0.00	-2.57	5.45	352.90
135	136	107.55	0.00	-2.57	5.45	361.52
136	136	107.55	0.00	-2.87	4.52	361.38
136	10137	110.90	0.00	-2.87	4.52	371.00
137	137	110.90	0.00	14.23	3.21	370.91
137	138	113.77	0.00	14.23	3.21	330.08
138	138	113.77	0.00	13.77	1.77	330.06
138	139	116.64	0.00	13.77	1.77	290.53
139	139	116.64	0.00	13.33	0.38	290.55
139	140	119.51	0.00	13.33	0.38	252.29
140	140	119.51	0.00	12.94	-0.84	252.34
140	141	122.38	0.00	12.94	-0.84	215.20
141	141	122.38	0.00	12.63	-1.82	215.28
141	142	125.25	0.00	12.63	-1.82	179.02
142	142	125.25	0.00	12.42	-2.48	179.12
142	143	128.12	0.00	12.42	-2.48	143.47
143	143	128.12	0.00	12.33	-2.77	143.58
143	144	130.99	0.00	12.33	-2.77	108.20
144	144	130.99	0.00	12.37	-2.64	108.33
144	145	133.86	0.00	12.37	-2.64	72.82
145	145	133.86	0.00	12.57	-2.02	72.96
145	146	136.73	0.00	12.57	-2.02	36.89
146	146	136.73	0.00	12.93	-0.87	37.04
146	147	139.60	0.00	12.93	-0.87	-0.08
301	101	0.00	0.00	0.24	0.07	0.77
301	2001	0.00	0.00	0.24	0.07	0.58
302	102	2.62	0.00	0.32	0.14	1.01
302	2002	2.62	0.00	0.32	0.14	0.77
303	103	5.24	0.00	0.17	0.14	0.53
303	2003	5.24	0.00	0.17	0.14	0.40
304	104	7.86	0.00	0.03	0.13	0.10
304	2004	7.86	0.00	0.03	0.13	0.07

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRAD

GRADIENTE TERMICO

[1; 1]GRAD

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-0.09	0.11	-0.29
305	2005	10.48	0.00	-0.09	0.11	-0.22
306	106	13.10	0.00	-0.20	0.10	-0.63
306	2006	13.10	0.00	-0.20	0.10	-0.48
307	107	15.72	0.00	-0.29	0.08	-0.91
307	2007	15.72	0.00	-0.29	0.08	-0.69
308	108	18.34	0.00	-0.36	0.05	-1.13
308	2008	18.34	0.00	-0.36	0.05	-0.86
309	109	20.96	0.00	-0.40	0.02	-1.26
309	2009	20.96	0.00	-0.40	0.02	-0.96
310	110	23.58	0.00	-0.41	-0.02	-1.29
310	2010	23.58	0.00	-0.41	-0.02	-0.98
311	111	26.20	0.00	-0.43	-0.09	-1.35
311	2011	26.20	0.00	-0.43	-0.09	-1.02
312	112	29.55	0.00	-0.33	-0.16	-1.04
312	2012	29.55	0.00	-0.33	-0.16	-0.79
313	113	32.90	0.00	-0.15	-0.15	-0.47
313	2013	32.90	0.00	-0.15	-0.15	-0.35
314	114	36.03	0.00	-0.02	-0.12	-0.07
314	2014	36.03	0.00	-0.02	-0.12	-0.06
315	115	39.16	0.00	0.06	-0.09	0.18
315	2015	39.16	0.00	0.06	-0.09	0.14
316	116	42.29	0.00	0.11	-0.07	0.35
316	2016	42.29	0.00	0.11	-0.07	0.26
317	117	45.42	0.00	0.14	-0.06	0.44
317	2017	45.42	0.00	0.14	-0.06	0.34
318	118	48.55	0.00	0.16	-0.04	0.50
318	2018	48.55	0.00	0.16	-0.04	0.38
319	119	51.68	0.00	0.16	-0.03	0.51
319	2019	51.68	0.00	0.16	-0.03	0.39
320	120	54.81	0.00	0.16	-0.02	0.50
320	2020	54.81	0.00	0.16	-0.02	0.38
321	121	57.94	0.00	0.14	-0.01	0.46
321	2021	57.94	0.00	0.14	-0.01	0.35
322	122	61.07	0.00	0.12	0.00	0.37
322	2022	61.07	0.00	0.12	0.00	0.28
323	123	64.20	0.00	0.07	0.02	0.23
323	2023	64.20	0.00	0.07	0.02	0.17
324	124	67.55	0.00	0.00	0.04	-0.01
324	2024	67.55	0.00	0.00	0.04	-0.01
325	125	70.90	0.00	-0.08	0.02	-0.25
325	2025	70.90	0.00	-0.08	0.02	-0.19
326	126	74.23	0.00	-0.13	0.00	-0.41
326	2026	74.23	0.00	-0.13	0.00	-0.31
327	127	77.56	0.00	-0.16	-0.02	-0.49
327	2027	77.56	0.00	-0.16	-0.02	-0.37
328	128	80.89	0.00	-0.17	-0.03	-0.53
328	2028	80.89	0.00	-0.17	-0.03	-0.40

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GRAD

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRAD

GRADIENTE TERMICO

[1; 1]GRAD

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-0.17	-0.04	-0.53
329	2029	84.22	0.00	-0.17	-0.04	-0.40
330	130	87.55	0.00	-0.16	-0.05	-0.50
330	2030	87.55	0.00	-0.16	-0.05	-0.38
331	131	90.88	0.00	-0.14	-0.06	-0.43
331	2031	90.88	0.00	-0.14	-0.06	-0.33
332	132	94.21	0.00	-0.10	-0.08	-0.32
332	2032	94.21	0.00	-0.10	-0.08	-0.24
333	133	97.54	0.00	-0.04	-0.10	-0.14
333	2033	97.54	0.00	-0.04	-0.10	-0.11
334	134	100.87	0.00	0.04	-0.12	0.14
334	2034	100.87	0.00	0.04	-0.12	0.11
335	135	104.20	0.00	0.16	-0.14	0.51
335	2035	104.20	0.00	0.16	-0.14	0.39
336	136	107.55	0.00	0.30	-0.13	0.93
336	2036	107.55	0.00	0.30	-0.13	0.71
337	137	110.90	0.00	0.42	-0.08	1.31
337	2037	110.90	0.00	0.42	-0.08	1.00
338	138	113.77	0.00	0.46	-0.02	1.43
338	2038	113.77	0.00	0.46	-0.02	1.09
339	139	116.64	0.00	0.44	0.02	1.39
339	2039	116.64	0.00	0.44	0.02	1.06
340	140	119.51	0.00	0.39	0.05	1.23
340	2040	119.51	0.00	0.39	0.05	0.93
341	141	122.38	0.00	0.31	0.08	0.98
341	2041	122.38	0.00	0.31	0.08	0.74
342	142	125.25	0.00	0.21	0.10	0.66
342	2042	125.25	0.00	0.21	0.10	0.50
343	143	128.12	0.00	0.09	0.12	0.29
343	2043	128.12	0.00	0.09	0.12	0.22
344	144	130.99	0.00	-0.04	0.13	-0.13
344	2044	130.99	0.00	-0.04	0.13	-0.10
345	145	133.86	0.00	-0.19	0.14	-0.61
345	2045	133.86	0.00	-0.19	0.14	-0.47
346	146	136.73	0.00	-0.37	0.15	-1.15
346	2046	136.73	0.00	-0.37	0.15	-0.87
347	147	139.60	0.00	-0.28	0.08	-0.87
347	2047	139.60	0.00	-0.28	0.08	-0.66
201	2001	0.00	0.00	0.24	0.07	0.58
201	1001	0.00	0.00	0.24	0.07	-0.58
202	2002	2.62	0.00	0.32	0.14	0.77
202	1002	2.62	0.00	0.32	0.14	-0.77
203	2003	5.24	0.00	0.17	0.14	0.40
203	1003	5.24	0.00	0.17	0.14	-0.40
204	2004	7.86	0.00	0.03	0.13	0.07
204	1004	7.86	0.00	0.03	0.13	-0.07
205	2005	10.48	0.00	-0.09	0.11	-0.22
205	1005	10.48	0.00	-0.09	0.11	0.22

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRAD

GRADIENTE TERMICO

[1; 1]GRAD

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-0.20	0.10	-0.48
206	1006	13.10	0.00	-0.20	0.10	0.48
207	2007	15.72	0.00	-0.29	0.08	-0.69
207	1007	15.72	0.00	-0.29	0.08	0.69
208	2008	18.34	0.00	-0.36	0.05	-0.86
208	1008	18.34	0.00	-0.36	0.05	0.86
209	2009	20.96	0.00	-0.40	0.02	-0.96
209	1009	20.96	0.00	-0.40	0.02	0.96
210	2010	23.58	0.00	-0.41	-0.02	-0.98
210	1010	23.58	0.00	-0.41	-0.02	0.98
211	2011	26.20	0.00	-0.43	-0.09	-1.02
211	1011	26.20	0.00	-0.43	-0.09	1.02
212	2012	29.55	0.00	-0.33	-0.16	-0.79
212	1012	29.55	0.00	-0.33	-0.16	0.79
213	2013	32.90	0.00	-0.15	-0.15	-0.35
213	1013	32.90	0.00	-0.15	-0.15	0.35
214	2014	36.03	0.00	-0.02	-0.12	-0.06
214	1014	36.03	0.00	-0.02	-0.12	0.06
215	2015	39.16	0.00	0.06	-0.09	0.14
215	1015	39.16	0.00	0.06	-0.09	-0.14
216	2016	42.29	0.00	0.11	-0.07	0.26
216	1016	42.29	0.00	0.11	-0.07	-0.26
217	2017	45.42	0.00	0.14	-0.06	0.34
217	1017	45.42	0.00	0.14	-0.06	-0.34
218	2018	48.55	0.00	0.16	-0.04	0.38
218	1018	48.55	0.00	0.16	-0.04	-0.38
219	2019	51.68	0.00	0.16	-0.03	0.39
219	1019	51.68	0.00	0.16	-0.03	-0.39
220	2020	54.81	0.00	0.16	-0.02	0.38
220	1020	54.81	0.00	0.16	-0.02	-0.38
221	2021	57.94	0.00	0.14	-0.01	0.35
221	1021	57.94	0.00	0.14	-0.01	-0.35
222	2022	61.07	0.00	0.12	0.00	0.28
222	1022	61.07	0.00	0.12	0.00	-0.28
223	2023	64.20	0.00	0.07	0.02	0.17
223	1023	64.20	0.00	0.07	0.02	-0.17
224	2024	67.55	0.00	0.00	0.04	-0.01
224	1024	67.55	0.00	0.00	0.04	0.01
225	2025	70.90	0.00	-0.08	0.02	-0.19
225	1025	70.90	0.00	-0.08	0.02	0.19
226	2026	74.23	0.00	-0.13	0.00	-0.31
226	1026	74.23	0.00	-0.13	0.00	0.31
227	2027	77.56	0.00	-0.16	-0.02	-0.37
227	1027	77.56	0.00	-0.16	-0.02	0.37
228	2028	80.89	0.00	-0.17	-0.03	-0.40
228	1028	80.89	0.00	-0.17	-0.03	0.40
229	2029	84.22	0.00	-0.17	-0.04	-0.40
229	1029	84.22	0.00	-0.17	-0.04	0.40

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Programa DINTEL IDEAM S.A.
GRAD
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRAD

GRADIENTE TERMICO

[1; 1]GRAD

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-0.16	-0.05	-0.38
230	1030	87.55	0.00	-0.16	-0.05	0.38
231	2031	90.88	0.00	-0.14	-0.06	-0.33
231	1031	90.88	0.00	-0.14	-0.06	0.33
232	2032	94.21	0.00	-0.10	-0.08	-0.24
232	1032	94.21	0.00	-0.10	-0.08	0.24
233	2033	97.54	0.00	-0.04	-0.10	-0.11
233	1033	97.54	0.00	-0.04	-0.10	0.11
234	2034	100.87	0.00	0.04	-0.12	0.11
234	1034	100.87	0.00	0.04	-0.12	-0.10
235	2035	104.20	0.00	0.16	-0.14	0.39
235	1035	104.20	0.00	0.16	-0.14	-0.39
236	2036	107.55	0.00	0.30	-0.13	0.71
236	1036	107.55	0.00	0.30	-0.13	-0.71
237	2037	110.90	0.00	0.42	-0.08	1.00
237	1037	110.90	0.00	0.42	-0.08	-1.00
238	2038	113.77	0.00	0.46	-0.02	1.09
238	1038	113.77	0.00	0.46	-0.02	-1.09
239	2039	116.64	0.00	0.44	0.02	1.06
239	1039	116.64	0.00	0.44	0.02	-1.06
240	2040	119.51	0.00	0.39	0.05	0.93
240	1040	119.51	0.00	0.39	0.05	-0.93
241	2041	122.38	0.00	0.31	0.08	0.74
241	1041	122.38	0.00	0.31	0.08	-0.74
242	2042	125.25	0.00	0.21	0.10	0.50
242	1042	125.25	0.00	0.21	0.10	-0.50
243	2043	128.12	0.00	0.09	0.12	0.22
243	1043	128.12	0.00	0.09	0.12	-0.22
244	2044	130.99	0.00	-0.04	0.13	-0.10
244	1044	130.99	0.00	-0.04	0.13	0.10
245	2045	133.86	0.00	-0.19	0.14	-0.47
245	1045	133.86	0.00	-0.19	0.14	0.47
246	2046	136.73	0.00	-0.37	0.15	-0.87
246	1046	136.73	0.00	-0.37	0.15	0.87
247	2047	139.60	0.00	-0.28	0.08	-0.66
247	1047	139.60	0.00	-0.28	0.08	0.66
401	1001	0.00	0.00	0.24	0.07	-0.58
401	1	0.00	0.00	0.24	0.07	-0.77
402	1002	2.62	0.00	0.32	0.14	-0.77
402	2	2.62	0.00	0.32	0.14	-1.01
403	1003	5.24	0.00	0.17	0.14	-0.40
403	3	5.24	0.00	0.17	0.14	-0.53
404	1004	7.86	0.00	0.03	0.13	-0.07
404	4	7.86	0.00	0.03	0.13	-0.10
405	1005	10.48	0.00	-0.09	0.11	0.22
405	5	10.48	0.00	-0.09	0.11	0.29
406	1006	13.10	0.00	-0.20	0.10	0.48
406	6	13.10	0.00	-0.20	0.10	0.63

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRAD

GRADIENTE TERMICO

[1; 1]GRAD

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-0.29	0.08	0.69
407	7	15.72	0.00	-0.29	0.08	0.91
408	1008	18.34	0.00	-0.36	0.05	0.86
408	8	18.34	0.00	-0.36	0.05	1.13
409	1009	20.96	0.00	-0.40	0.02	0.96
409	9	20.96	0.00	-0.40	0.02	1.26
410	1010	23.58	0.00	-0.41	-0.02	0.98
410	10	23.58	0.00	-0.41	-0.02	1.29
411	1011	26.20	0.00	-0.43	-0.09	1.02
411	11	26.20	0.00	-0.43	-0.09	1.35
412	1012	29.55	0.00	-0.33	-0.16	0.79
412	12	29.55	0.00	-0.33	-0.16	1.04
413	1013	32.90	0.00	-0.15	-0.15	0.35
413	13	32.90	0.00	-0.15	-0.15	0.47
414	1014	36.03	0.00	-0.02	-0.12	0.06
414	14	36.03	0.00	-0.02	-0.12	0.07
415	1015	39.16	0.00	0.06	-0.09	-0.14
415	15	39.16	0.00	0.06	-0.09	-0.18
416	1016	42.29	0.00	0.11	-0.07	-0.26
416	16	42.29	0.00	0.11	-0.07	-0.35
417	1017	45.42	0.00	0.14	-0.06	-0.34
417	17	45.42	0.00	0.14	-0.06	-0.44
418	1018	48.55	0.00	0.16	-0.04	-0.38
418	18	48.55	0.00	0.16	-0.04	-0.50
419	1019	51.68	0.00	0.16	-0.03	-0.39
419	19	51.68	0.00	0.16	-0.03	-0.51
420	1020	54.81	0.00	0.16	-0.02	-0.38
420	20	54.81	0.00	0.16	-0.02	-0.50
421	1021	57.94	0.00	0.14	-0.01	-0.35
421	21	57.94	0.00	0.14	-0.01	-0.46
422	1022	61.07	0.00	0.12	0.00	-0.28
422	22	61.07	0.00	0.12	0.00	-0.37
423	1023	64.20	0.00	0.07	0.02	-0.17
423	23	64.20	0.00	0.07	0.02	-0.23
424	1024	67.55	0.00	0.00	0.04	0.01
424	24	67.55	0.00	0.00	0.04	0.01
425	1025	70.90	0.00	-0.08	0.02	0.19
425	25	70.90	0.00	-0.08	0.02	0.25
426	1026	74.23	0.00	-0.13	0.00	0.31
426	26	74.23	0.00	-0.13	0.00	0.41
427	1027	77.56	0.00	-0.16	-0.02	0.37
427	27	77.56	0.00	-0.16	-0.02	0.49
428	1028	80.89	0.00	-0.17	-0.03	0.40
428	28	80.89	0.00	-0.17	-0.03	0.53
429	1029	84.22	0.00	-0.17	-0.04	0.40
429	29	84.22	0.00	-0.17	-0.04	0.53
430	1030	87.55	0.00	-0.16	-0.05	0.38
430	30	87.55	0.00	-0.16	-0.05	0.50

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GRAD

CÁLCULO TENSIONAL

Hipótesis de cálculo:

GRAD

GRADIENTE TERMICO

[1; 1]GRAD

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-0.14	-0.06	0.33
431	31	90.88	0.00	-0.14	-0.06	0.43
432	1032	94.21	0.00	-0.10	-0.08	0.24
432	32	94.21	0.00	-0.10	-0.08	0.32
433	1033	97.54	0.00	-0.04	-0.10	0.11
433	33	97.54	0.00	-0.04	-0.10	0.14
434	1034	100.87	0.00	0.04	-0.12	-0.10
434	34	100.87	0.00	0.04	-0.12	-0.14
435	1035	104.20	0.00	0.16	-0.14	-0.39
435	35	104.20	0.00	0.16	-0.14	-0.51
436	1036	107.55	0.00	0.30	-0.13	-0.71
436	36	107.55	0.00	0.30	-0.13	-0.93
437	1037	110.90	0.00	0.42	-0.08	-1.00
437	37	110.90	0.00	0.42	-0.08	-1.31
438	1038	113.77	0.00	0.46	-0.02	-1.09
438	38	113.77	0.00	0.46	-0.02	-1.43
439	1039	116.64	0.00	0.44	0.02	-1.06
439	39	116.64	0.00	0.44	0.02	-1.39
440	1040	119.51	0.00	0.39	0.05	-0.93
440	40	119.51	0.00	0.39	0.05	-1.23
441	1041	122.38	0.00	0.31	0.08	-0.74
441	41	122.38	0.00	0.31	0.08	-0.98
442	1042	125.25	0.00	0.21	0.10	-0.50
442	42	125.25	0.00	0.21	0.10	-0.66
443	1043	128.12	0.00	0.09	0.12	-0.22
443	43	128.12	0.00	0.09	0.12	-0.29
444	1044	130.99	0.00	-0.04	0.13	0.10
444	44	130.99	0.00	-0.04	0.13	0.13
445	1045	133.86	0.00	-0.19	0.14	0.47
445	45	133.86	0.00	-0.19	0.14	0.61
446	1046	136.73	0.00	-0.37	0.15	0.87
446	46	136.73	0.00	-0.37	0.15	1.15
447	1047	139.60	0.00	-0.28	0.08	0.66
447	47	139.60	0.00	-0.28	0.08	0.87

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	1.07	-0.98	0.00
1	2	2.62	0.00	1.07	-0.98	-2.79
2	2	2.62	0.00	1.37	-3.06	-2.78
2	3	5.24	0.00	1.62	2.30	0.86
3	3	5.24	0.00	2.15	3.78	4.28
3	4	7.86	0.00	2.76	8.76	8.27
4	4	7.86	0.00	3.36	5.11	8.24
4	5	10.48	0.00	4.28	9.88	10.00
5	5	10.48	0.00	4.90	6.04	10.00
5	6	13.10	0.00	6.08	10.71	7.53
6	6	13.10	0.00	6.73	5.01	8.93
6	7	15.72	0.00	8.15	9.61	0.46
7	7	15.72	0.00	8.89	4.93	0.53
7	8	18.34	0.00	10.53	9.46	-15.64
8	8	18.34	0.00	11.39	4.08	-15.50
8	9	20.96	0.00	13.26	8.47	-40.99
9	9	20.96	0.00	14.28	2.62	-40.87
9	10	23.58	0.00	16.37	6.80	-77.28
10	10	23.58	0.00	17.58	-0.69	-76.35
10	10011	26.20	0.00	19.68	5.63	-125.16
11	11	26.20	0.00	0.46	-5.16	8.74
11	12	29.55	0.00	0.46	-5.16	7.21
12	12	29.55	0.00	0.63	-6.28	7.23
12	13	32.90	0.00	0.71	-2.16	10.97
13	13	32.90	0.00	1.01	-3.86	10.97
13	14	36.03	0.00	1.40	-0.22	16.62
14	14	36.03	0.00	1.73	-4.06	16.99
14	15	39.16	0.00	2.40	-0.44	22.67
15	15	39.16	0.00	2.81	0.02	24.64
15	16	42.29	0.00	3.73	3.77	28.34
16	16	42.29	0.00	4.10	1.02	28.34
16	17	45.42	0.00	5.25	5.01	28.50
17	17	45.42	0.00	5.62	3.75	29.04
17	18	48.55	0.00	6.99	8.01	24.03
18	18	48.55	0.00	7.45	5.09	24.59
18	19	51.68	0.00	9.04	9.56	12.53
19	19	51.68	0.00	9.65	7.59	13.15
19	20	54.81	0.00	11.49	12.19	-8.09
20	20	54.81	0.00	12.38	4.30	-6.51
20	21	57.94	0.00	14.50	8.88	-39.61
21	21	57.94	0.00	15.72	1.79	-38.48
21	22	61.07	0.00	18.13	6.18	-86.27
22	22	61.07	0.00	19.72	-2.21	-85.01
22	10023	64.20	0.00	22.23	5.33	-150.66
23	23	64.20	0.00	0.28	-2.87	8.17
23	24	67.55	0.00	0.28	-2.87	7.24
24	24	67.55	0.00	0.47	-4.64	8.54
24	25	70.90	0.00	0.57	-1.10	12.91

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	0.88	-3.85	13.05
25	26	74.23	0.00	1.31	-0.50	19.65
26	26	74.23	0.00	1.67	-0.32	21.59
26	27	77.56	0.00	2.40	3.05	28.10
27	27	77.56	0.00	2.80	-0.66	28.60
27	28	80.89	0.00	3.79	2.92	32.88
28	28	80.89	0.00	4.14	-0.22	32.88
28	29	84.22	0.00	5.36	3.67	33.25
29	29	84.22	0.00	5.71	0.39	33.30
29	30	87.55	0.00	7.15	4.61	28.07
30	30	87.55	0.00	7.59	2.98	28.73
30	31	90.88	0.00	9.26	7.49	15.83
31	31	90.88	0.00	9.88	2.82	16.03
31	32	94.21	0.00	11.81	7.49	-6.96
32	32	94.21	0.00	12.77	-1.44	-5.22
32	33	97.54	0.00	14.99	3.20	-41.41
33	33	97.54	0.00	16.37	-3.31	-40.80
33	34	100.87	0.00	18.92	1.08	-93.76
34	34	100.87	0.00	20.78	-8.39	-93.53
34	10035	104.20	0.00	23.44	-0.37	-167.15
35	35	104.20	0.00	0.20	3.25	5.92
35	36	107.55	0.00	0.20	3.25	5.25
36	36	107.55	0.00	0.19	2.96	5.25
36	37	110.90	0.00	0.19	2.96	4.63
37	37	110.90	0.00	0.25	5.20	10.67
37	38	113.77	0.00	0.49	7.42	18.51
38	38	113.77	0.00	0.58	7.15	18.83
38	39	116.64	0.00	1.03	9.20	28.29
39	39	116.64	0.00	1.08	8.17	28.26
39	40	119.51	0.00	1.72	10.15	38.22
40	40	119.51	0.00	1.76	10.71	40.54
40	41	122.38	0.00	2.57	12.72	49.91
41	41	122.38	0.00	2.58	11.45	49.93
41	42	125.25	0.00	3.56	13.51	57.62
42	42	125.25	0.00	3.57	12.46	57.83
42	43	128.12	0.00	4.76	14.55	62.48
43	43	128.12	0.00	4.89	13.32	63.39
43	44	130.99	0.00	6.32	15.32	62.99
44	44	130.99	0.00	6.67	12.26	63.24
44	45	133.86	0.00	8.41	14.00	55.04
45	45	133.86	0.00	9.29	4.17	59.92
45	46	136.73	0.00	11.41	5.40	39.77
46	46	136.73	0.00	12.95	-2.18	40.23
46	47	139.60	0.00	15.25	4.74	-0.24
101	101	0.00	0.00	4.74	-1.00	0.12
101	102	2.62	0.00	4.74	-1.00	-12.29
102	102	2.62	0.00	3.48	-2.14	-12.07
102	103	5.24	0.00	3.48	-2.14	-21.18

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	2.45	-2.70	-20.97
103	104	7.86	0.00	2.45	-2.70	-27.40
104	104	7.86	0.00	1.59	-2.67	-27.28
104	105	10.48	0.00	1.59	-2.67	-31.45
105	105	10.48	0.00	0.90	-0.37	-23.87
105	106	13.10	0.00	0.90	-0.37	-26.23
106	106	13.10	0.00	0.34	-0.35	-23.57
106	107	15.72	0.00	0.34	-0.35	-24.45
107	107	15.72	0.00	0.07	1.11	-1.39
107	108	18.34	0.00	0.07	1.11	-1.59
108	108	18.34	0.00	0.07	1.31	-1.58
108	109	20.96	0.00	0.07	1.31	-1.77
109	109	20.96	0.00	0.07	1.52	-1.77
109	110	23.58	0.00	0.07	1.52	-1.96
110	110	23.58	0.00	0.07	1.75	-1.95
110	111	26.20	0.00	0.07	1.75	-2.15
111	111	26.20	0.00	0.08	1.80	-2.06
111	112	29.55	0.00	0.08	1.80	-2.33
112	112	29.55	0.00	0.09	2.11	-2.32
112	10113	32.90	0.00	0.09	2.11	-2.62
113	113	32.90	0.00	5.96	-5.06	44.97
113	114	36.03	0.00	5.96	-5.06	26.31
114	114	36.03	0.00	4.79	-5.68	26.44
114	115	39.16	0.00	4.79	-5.68	11.44
115	115	39.16	0.00	3.83	-6.61	15.03
115	116	42.29	0.00	3.83	-6.61	3.04
116	116	42.29	0.00	3.09	-5.53	3.16
116	117	45.42	0.00	3.09	-5.53	-6.51
117	117	45.42	0.00	2.44	-4.18	-6.48
117	118	48.55	0.00	2.44	-4.18	-14.11
118	118	48.55	0.00	1.77	-3.31	-13.97
118	119	51.68	0.00	1.77	-3.31	-19.50
119	119	51.68	0.00	1.04	1.91	-16.28
119	120	54.81	0.00	1.04	1.91	-19.53
120	120	54.81	0.00	0.56	3.27	0.31
120	121	57.94	0.00	0.56	3.27	-1.43
121	121	57.94	0.00	0.24	3.28	-0.14
121	122	61.07	0.00	0.24	3.28	-0.88
122	122	61.07	0.00	0.00	0.00	0.00
122	123	64.20	0.00	0.00	0.00	0.00
123	123	64.20	0.00	0.00	0.00	0.00
123	124	67.55	0.00	0.00	0.00	0.00
124	124	67.55	0.00	0.00	0.00	0.00
124	10125	70.90	0.00	0.00	0.00	0.00
125	125	70.90	0.00	6.26	-2.40	40.13
125	126	74.23	0.00	6.26	-2.40	19.28
126	126	74.23	0.00	4.86	-3.46	19.40
126	127	77.56	0.00	4.86	-3.46	3.21

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SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	3.71	-3.83	3.33
127	128	80.89	0.00	3.71	-3.83	-9.01
128	128	80.89	0.00	2.80	-3.00	-2.06
128	129	84.22	0.00	2.80	-3.00	-11.39
129	129	84.22	0.00	2.18	1.32	-7.48
129	130	87.55	0.00	2.18	1.32	-14.74
130	130	87.55	0.00	1.73	6.78	-11.02
130	131	90.88	0.00	1.73	6.78	-16.80
131	131	90.88	0.00	1.11	7.20	-13.75
131	132	94.21	0.00	1.11	7.20	-17.43
132	132	94.21	0.00	0.80	6.19	1.54
132	133	97.54	0.00	0.80	6.19	-1.13
133	133	97.54	0.00	0.44	5.01	0.06
133	134	100.87	0.00	0.44	5.01	-1.42
134	134	100.87	0.00	0.05	2.31	-0.75
134	135	104.20	0.00	0.05	2.31	-0.91
135	135	104.20	0.00	0.01	-0.79	-0.11
135	136	107.55	0.00	0.01	-0.79	-0.14
136	136	107.55	0.00	0.00	-0.57	-0.12
136	10137	110.90	0.00	0.00	-0.57	-0.13
137	137	110.90	0.00	5.02	-5.06	39.12
137	138	113.77	0.00	5.02	-5.06	24.71
138	138	113.77	0.00	3.82	-5.36	24.98
138	139	116.64	0.00	3.82	-5.36	14.03
139	139	116.64	0.00	2.90	-4.43	14.41
139	140	119.51	0.00	2.90	-4.43	6.08
140	140	119.51	0.00	2.23	-2.81	6.36
140	141	122.38	0.00	2.23	-2.81	-0.06
141	141	122.38	0.00	1.73	-0.85	1.05
141	142	125.25	0.00	1.73	-0.85	-3.90
142	142	125.25	0.00	1.48	2.15	3.52
142	143	128.12	0.00	1.48	2.15	-0.74
143	143	128.12	0.00	1.19	4.08	-0.04
143	144	130.99	0.00	1.19	4.08	-3.46
144	144	130.99	0.00	0.68	3.52	-0.61
144	145	133.86	0.00	0.68	3.52	-2.58
145	145	133.86	0.00	0.17	1.50	-0.37
145	146	136.73	0.00	0.17	1.50	-0.85
146	146	136.73	0.00	0.10	-0.09	0.29
146	147	139.60	0.00	0.10	-0.09	0.00
301	101	0.00	0.00	0.77	0.12	0.92
301	2001	0.00	0.00	0.77	0.12	0.34
302	102	2.62	0.00	1.26	0.22	0.95
302	2002	2.62	0.00	1.26	0.22	0.00
303	103	5.24	0.00	1.04	0.18	0.17
303	2003	5.24	0.00	1.04	0.18	-0.61
304	104	7.86	0.00	0.88	0.11	-0.41
304	2004	7.86	0.00	0.88	0.11	-1.07

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.79	0.04	-0.67
305	2005	10.48	0.00	0.79	0.04	-1.27
306	106	13.10	0.00	0.79	-0.03	-0.68
306	2006	13.10	0.00	0.79	-0.03	-1.27
307	107	15.72	0.00	0.86	-0.09	-0.46
307	2007	15.72	0.00	0.86	-0.09	-1.11
308	108	18.34	0.00	0.98	-0.13	0.03
308	2008	18.34	0.00	0.98	-0.13	-0.71
309	109	20.96	0.00	1.14	-0.14	0.56
309	2009	20.96	0.00	1.14	-0.14	-0.30
310	110	23.58	0.00	1.29	-0.11	1.05
310	2010	23.58	0.00	1.29	-0.11	0.07
311	111	26.20	0.00	1.57	-0.03	1.56
311	2011	26.20	0.00	1.57	-0.03	0.37
312	112	29.55	0.00	1.73	0.11	1.64
312	2012	29.55	0.00	1.73	0.11	0.34
313	113	32.90	0.00	1.48	0.20	1.01
313	2013	32.90	0.00	1.48	0.20	-0.11
314	114	36.03	0.00	1.18	0.22	0.20
314	2014	36.03	0.00	1.18	0.22	-0.69
315	115	39.16	0.00	0.98	0.08	0.31
315	2015	39.16	0.00	0.98	0.08	-0.44
316	116	42.29	0.00	0.87	0.05	0.35
316	2016	42.29	0.00	0.87	0.05	-0.31
317	117	45.42	0.00	0.82	0.04	0.11
317	2017	45.42	0.00	0.82	0.04	-0.50
318	118	48.55	0.00	0.82	0.01	-0.05
318	2018	48.55	0.00	0.82	0.01	-0.67
319	119	51.68	0.00	0.89	-0.04	-0.27
319	2019	51.68	0.00	0.89	-0.04	-0.95
320	120	54.81	0.00	1.11	-0.23	-0.31
320	2020	54.81	0.00	1.11	-0.23	-1.15
321	121	57.94	0.00	1.41	-0.24	0.66
321	2021	57.94	0.00	1.41	-0.24	-0.41
322	122	61.07	0.00	1.71	-0.19	1.58
322	2022	61.07	0.00	1.71	-0.19	0.29
323	123	64.20	0.00	1.95	-0.05	2.22
323	2023	64.20	0.00	1.95	-0.05	0.75
324	124	67.55	0.00	1.98	0.13	2.17
324	2024	67.55	0.00	1.98	0.13	0.67
325	125	70.90	0.00	1.69	0.23	1.38
325	2025	70.90	0.00	1.69	0.23	0.11
326	126	74.23	0.00	1.40	0.18	0.84
326	2026	74.23	0.00	1.40	0.18	-0.22
327	127	77.56	0.00	1.16	0.09	0.76
327	2027	77.56	0.00	1.16	0.09	-0.12
328	128	80.89	0.00	1.01	0.09	0.47
328	2028	80.89	0.00	1.01	0.09	-0.29

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SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.92	0.06	0.33
329	2029	84.22	0.00	0.92	0.06	-0.37
330	130	87.55	0.00	0.89	0.04	0.03
330	2030	87.55	0.00	0.89	0.04	-0.65
331	131	90.88	0.00	0.94	0.02	0.14
331	2031	90.88	0.00	0.94	0.02	-0.57
332	132	94.21	0.00	1.13	-0.21	-0.34
332	2032	94.21	0.00	1.13	-0.21	-1.19
333	133	97.54	0.00	1.51	-0.28	0.68
333	2033	97.54	0.00	1.51	-0.28	-0.46
334	134	100.87	0.00	1.87	-0.22	1.81
334	2034	100.87	0.00	1.87	-0.22	0.40
335	135	104.20	0.00	1.94	-0.05	2.63
335	2035	104.20	0.00	1.94	-0.05	1.16
336	136	107.55	0.00	1.75	0.13	2.26
336	2036	107.55	0.00	1.75	0.13	0.94
337	137	110.90	0.00	1.51	0.24	1.49
337	2037	110.90	0.00	1.51	0.24	0.35
338	138	113.77	0.00	1.22	0.27	0.61
338	2038	113.77	0.00	1.22	0.27	-0.31
339	139	116.64	0.00	0.93	0.17	0.13
339	2039	116.64	0.00	0.93	0.17	-0.58
340	140	119.51	0.00	0.73	0.10	0.01
340	2040	119.51	0.00	0.73	0.10	-0.54
341	141	122.38	0.00	0.60	0.07	-0.10
341	2041	122.38	0.00	0.60	0.07	-0.55
342	142	125.25	0.00	0.52	0.04	-0.68
342	2042	125.25	0.00	0.52	0.04	-1.07
343	143	128.12	0.00	0.56	-0.13	-1.73
343	2043	128.12	0.00	0.56	-0.13	-2.16
344	144	130.99	0.00	0.79	-0.25	-1.03
344	2044	130.99	0.00	0.79	-0.25	-1.62
345	145	133.86	0.00	1.14	-0.35	0.09
345	2045	133.86	0.00	1.14	-0.35	-0.77
346	146	136.73	0.00	1.61	-0.42	1.63
346	2046	136.73	0.00	1.61	-0.42	0.41
347	147	139.60	0.00	1.08	-0.22	1.69
347	2047	139.60	0.00	1.08	-0.22	0.88
201	2001	0.00	0.00	0.77	0.12	0.34
201	1001	0.00	0.00	0.77	0.12	-3.33
202	2002	2.62	0.00	1.26	0.22	0.00
202	1002	2.62	0.00	1.26	0.22	-6.04
203	2003	5.24	0.00	1.04	0.18	-0.61
203	1003	5.24	0.00	1.04	0.18	-5.57
204	2004	7.86	0.00	0.88	0.11	-1.07
204	1004	7.86	0.00	0.88	0.11	-5.26
205	2005	10.48	0.00	0.79	0.04	-1.27
205	1005	10.48	0.00	0.79	0.04	-5.06

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	0.79	-0.03	-1.27
206	1006	13.10	0.00	0.79	-0.03	-5.06
207	2007	15.72	0.00	0.86	-0.09	-1.11
207	1007	15.72	0.00	0.86	-0.09	-5.22
208	2008	18.34	0.00	0.98	-0.13	-0.71
208	1008	18.34	0.00	0.98	-0.13	-5.42
209	2009	20.96	0.00	1.14	-0.14	-0.30
209	1009	20.96	0.00	1.14	-0.14	-5.76
210	2010	23.58	0.00	1.29	-0.11	0.07
210	1010	23.58	0.00	1.29	-0.11	-6.09
211	2011	26.20	0.00	1.57	-0.03	0.37
211	1011	26.20	0.00	1.57	-0.03	-7.16
212	2012	29.55	0.00	1.73	0.11	0.34
212	1012	29.55	0.00	1.73	0.11	-7.93
213	2013	32.90	0.00	1.48	0.20	-0.11
213	1013	32.90	0.00	1.48	0.20	-7.21
214	2014	36.03	0.00	1.18	0.22	-0.69
214	1014	36.03	0.00	1.18	0.22	-6.35
215	2015	39.16	0.00	0.98	0.08	-0.44
215	1015	39.16	0.00	0.98	0.08	-5.14
216	2016	42.29	0.00	0.87	0.05	-0.31
216	1016	42.29	0.00	0.87	0.05	-4.46
217	2017	45.42	0.00	0.82	0.04	-0.50
217	1017	45.42	0.00	0.82	0.04	-4.42
218	2018	48.55	0.00	0.82	0.01	-0.67
218	1018	48.55	0.00	0.82	0.01	-4.60
219	2019	51.68	0.00	0.89	-0.04	-0.95
219	1019	51.68	0.00	0.89	-0.04	-5.23
220	2020	54.81	0.00	1.11	-0.23	-1.15
220	1020	54.81	0.00	1.11	-0.23	-6.44
221	2021	57.94	0.00	1.41	-0.24	-0.41
221	1021	57.94	0.00	1.41	-0.24	-7.17
222	2022	61.07	0.00	1.71	-0.19	0.29
222	1022	61.07	0.00	1.71	-0.19	-7.88
223	2023	64.20	0.00	1.95	-0.05	0.75
223	1023	64.20	0.00	1.95	-0.05	-8.60
224	2024	67.55	0.00	1.98	0.13	0.67
224	1024	67.55	0.00	1.98	0.13	-8.80
225	2025	70.90	0.00	1.69	0.23	0.11
225	1025	70.90	0.00	1.69	0.23	-7.97
226	2026	74.23	0.00	1.40	0.18	-0.22
226	1026	74.23	0.00	1.40	0.18	-6.94
227	2027	77.56	0.00	1.16	0.09	-0.12
227	1027	77.56	0.00	1.16	0.09	-5.69
228	2028	80.89	0.00	1.01	0.09	-0.29
228	1028	80.89	0.00	1.01	0.09	-5.14
229	2029	84.22	0.00	0.92	0.06	-0.37
229	1029	84.22	0.00	0.92	0.06	-4.77

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20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.89	0.04	-0.65
230	1030	87.55	0.00	0.89	0.04	-4.92
231	2031	90.88	0.00	0.94	0.02	-0.57
231	1031	90.88	0.00	0.94	0.02	-5.05
232	2032	94.21	0.00	1.13	-0.21	-1.19
232	1032	94.21	0.00	1.13	-0.21	-6.62
233	2033	97.54	0.00	1.51	-0.28	-0.46
233	1033	97.54	0.00	1.51	-0.28	-7.67
234	2034	100.87	0.00	1.87	-0.22	0.40
234	1034	100.87	0.00	1.87	-0.22	-8.53
235	2035	104.20	0.00	1.94	-0.05	1.16
235	1035	104.20	0.00	1.94	-0.05	-8.15
236	2036	107.55	0.00	1.75	0.13	0.94
236	1036	107.55	0.00	1.75	0.13	-7.44
237	2037	110.90	0.00	1.51	0.24	0.35
237	1037	110.90	0.00	1.51	0.24	-6.88
238	2038	113.77	0.00	1.22	0.27	-0.31
238	1038	113.77	0.00	1.22	0.27	-6.15
239	2039	116.64	0.00	0.93	0.17	-0.58
239	1039	116.64	0.00	0.93	0.17	-5.05
240	2040	119.51	0.00	0.73	0.10	-0.54
240	1040	119.51	0.00	0.73	0.10	-4.06
241	2041	122.38	0.00	0.60	0.07	-0.55
241	1041	122.38	0.00	0.60	0.07	-3.43
242	2042	125.25	0.00	0.52	0.04	-1.07
242	1042	125.25	0.00	0.52	0.04	-3.55
243	2043	128.12	0.00	0.56	-0.13	-2.16
243	1043	128.12	0.00	0.56	-0.13	-4.84
244	2044	130.99	0.00	0.79	-0.25	-1.62
244	1044	130.99	0.00	0.79	-0.25	-5.38
245	2045	133.86	0.00	1.14	-0.35	-0.77
245	1045	133.86	0.00	1.14	-0.35	-6.23
246	2046	136.73	0.00	1.61	-0.42	0.41
246	1046	136.73	0.00	1.61	-0.42	-7.30
247	2047	139.60	0.00	1.08	-0.22	0.88
247	1047	139.60	0.00	1.08	-0.22	-4.29
401	1001	0.00	0.00	0.77	0.12	-3.33
401	1	0.00	0.00	0.77	0.12	-3.91
402	1002	2.62	0.00	1.26	0.22	-6.04
402	2	2.62	0.00	1.26	0.22	-7.00
403	1003	5.24	0.00	1.04	0.18	-5.57
403	3	5.24	0.00	1.04	0.18	-6.35
404	1004	7.86	0.00	0.88	0.11	-5.26
404	4	7.86	0.00	0.88	0.11	-5.92
405	1005	10.48	0.00	0.79	0.04	-5.06
405	5	10.48	0.00	0.79	0.04	-5.66
406	1006	13.10	0.00	0.79	-0.03	-5.06
406	6	13.10	0.00	0.79	-0.03	-5.65

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.86	-0.09	-5.22
407	7	15.72	0.00	0.86	-0.09	-5.87
408	1008	18.34	0.00	0.98	-0.13	-5.42
408	8	18.34	0.00	0.98	-0.13	-6.17
409	1009	20.96	0.00	1.14	-0.14	-5.76
409	9	20.96	0.00	1.14	-0.14	-6.62
410	1010	23.58	0.00	1.29	-0.11	-6.09
410	10	23.58	0.00	1.29	-0.11	-7.07
411	1011	26.20	0.00	1.57	-0.03	-7.16
411	11	26.20	0.00	1.57	-0.03	-8.35
412	1012	29.55	0.00	1.73	0.11	-7.93
412	12	29.55	0.00	1.73	0.11	-9.24
413	1013	32.90	0.00	1.48	0.20	-7.21
413	13	32.90	0.00	1.48	0.20	-8.33
414	1014	36.03	0.00	1.18	0.22	-6.35
414	14	36.03	0.00	1.18	0.22	-7.25
415	1015	39.16	0.00	0.98	0.08	-5.14
415	15	39.16	0.00	0.98	0.08	-5.89
416	1016	42.29	0.00	0.87	0.05	-4.46
416	16	42.29	0.00	0.87	0.05	-5.12
417	1017	45.42	0.00	0.82	0.04	-4.42
417	17	45.42	0.00	0.82	0.04	-5.04
418	1018	48.55	0.00	0.82	0.01	-4.60
418	18	48.55	0.00	0.82	0.01	-5.22
419	1019	51.68	0.00	0.89	-0.04	-5.23
419	19	51.68	0.00	0.89	-0.04	-5.91
420	1020	54.81	0.00	1.11	-0.23	-6.44
420	20	54.81	0.00	1.11	-0.23	-7.27
421	1021	57.94	0.00	1.41	-0.24	-7.17
421	21	57.94	0.00	1.41	-0.24	-8.24
422	1022	61.07	0.00	1.71	-0.19	-7.88
422	22	61.07	0.00	1.71	-0.19	-9.17
423	1023	64.20	0.00	1.95	-0.05	-8.60
423	23	64.20	0.00	1.95	-0.05	-10.08
424	1024	67.55	0.00	1.98	0.13	-8.80
424	24	67.55	0.00	1.98	0.13	-10.30
425	1025	70.90	0.00	1.69	0.23	-7.97
425	25	70.90	0.00	1.69	0.23	-9.25
426	1026	74.23	0.00	1.40	0.18	-6.94
426	26	74.23	0.00	1.40	0.18	-8.00
427	1027	77.56	0.00	1.16	0.09	-5.69
427	27	77.56	0.00	1.16	0.09	-6.57
428	1028	80.89	0.00	1.01	0.09	-5.14
428	28	80.89	0.00	1.01	0.09	-5.90
429	1029	84.22	0.00	0.92	0.06	-4.77
429	29	84.22	0.00	0.92	0.06	-5.47
430	1030	87.55	0.00	0.89	0.04	-4.92
430	30	87.55	0.00	0.89	0.04	-5.59

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Programa DINTEL IDEAM S.A.
SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	0.94	0.02	-5.05
431	31	90.88	0.00	0.94	0.02	-5.76
432	1032	94.21	0.00	1.13	-0.21	-6.62
432	32	94.21	0.00	1.13	-0.21	-7.47
433	1033	97.54	0.00	1.51	-0.28	-7.67
433	33	97.54	0.00	1.51	-0.28	-8.81
434	1034	100.87	0.00	1.87	-0.22	-8.53
434	34	100.87	0.00	1.87	-0.22	-9.94
435	1035	104.20	0.00	1.94	-0.05	-8.15
435	35	104.20	0.00	1.94	-0.05	-9.62
436	1036	107.55	0.00	1.75	0.13	-7.44
436	36	107.55	0.00	1.75	0.13	-8.77
437	1037	110.90	0.00	1.51	0.24	-6.88
437	37	110.90	0.00	1.51	0.24	-8.02
438	1038	113.77	0.00	1.22	0.27	-6.15
438	38	113.77	0.00	1.22	0.27	-7.07
439	1039	116.64	0.00	0.93	0.17	-5.05
439	39	116.64	0.00	0.93	0.17	-5.76
440	1040	119.51	0.00	0.73	0.10	-4.06
440	40	119.51	0.00	0.73	0.10	-4.61
441	1041	122.38	0.00	0.60	0.07	-3.43
441	41	122.38	0.00	0.60	0.07	-3.88
442	1042	125.25	0.00	0.52	0.04	-3.55
442	42	125.25	0.00	0.52	0.04	-3.94
443	1043	128.12	0.00	0.56	-0.13	-4.84
443	43	128.12	0.00	0.56	-0.13	-5.27
444	1044	130.99	0.00	0.79	-0.25	-5.38
444	44	130.99	0.00	0.79	-0.25	-5.97
445	1045	133.86	0.00	1.14	-0.35	-6.23
445	45	133.86	0.00	1.14	-0.35	-7.09
446	1046	136.73	0.00	1.61	-0.42	-7.30
446	46	136.73	0.00	1.61	-0.42	-8.51
447	1047	139.60	0.00	1.08	-0.22	-4.29
447	47	139.60	0.00	1.08	-0.22	-5.11

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	2.62	0.00	-0.17	5.94	3.19
2	2	2.62	0.00	-0.03	5.30	3.18
2	3	5.24	0.00	0.22	10.66	10.50
3	3	5.24	0.00	0.42	9.64	10.47
3	4	7.86	0.00	1.03	14.62	18.98
4	4	7.86	0.00	1.24	13.43	18.96
4	5	10.48	0.00	2.17	18.20	26.27
5	5	10.48	0.00	2.35	16.96	26.26
5	6	13.10	0.00	3.53	21.62	30.46
6	6	13.10	0.00	3.69	20.35	30.48
6	7	15.72	0.00	5.11	24.95	29.96
7	7	15.72	0.00	5.27	23.57	30.02
7	8	18.34	0.00	6.92	28.10	23.32
8	8	18.34	0.00	7.13	26.48	23.42
8	9	20.96	0.00	8.99	30.87	9.11
9	9	20.96	0.00	9.29	28.87	9.25
9	10	23.58	0.00	11.38	33.06	-14.09
10	10	23.58	0.00	11.82	30.56	-13.93
10	10011	26.20	0.00	14.12	34.46	-47.67
11	11	26.20	0.00	-4.11	31.04	-47.51
11	12	29.55	0.00	-4.39	35.58	-32.47
12	12	29.55	0.00	-3.48	31.15	-32.36
12	13	32.90	0.00	-3.40	35.27	-14.84
13	13	32.90	0.00	-2.49	30.80	-14.80
13	14	36.03	0.00	-2.10	34.44	1.80
14	14	36.03	0.00	-1.29	30.31	1.78
14	15	39.16	0.00	-0.62	33.93	16.93
15	15	39.16	0.00	0.03	30.23	16.89
15	16	42.29	0.00	0.95	33.98	29.29
16	16	42.29	0.00	1.43	30.80	29.26
16	17	45.42	0.00	2.57	34.79	37.78
17	17	45.42	0.00	2.89	32.08	37.78
17	18	48.55	0.00	4.26	36.33	41.32
18	18	48.55	0.00	4.46	33.93	41.39
18	19	51.68	0.00	6.06	38.40	38.66
19	19	51.68	0.00	6.25	36.04	38.79
19	20	54.81	0.00	8.09	40.64	28.20
20	20	54.81	0.00	8.35	38.01	28.40
20	21	57.94	0.00	10.47	42.59	7.92
21	21	57.94	0.00	10.90	39.39	8.17
21	22	61.07	0.00	13.31	43.78	-24.55
22	22	61.07	0.00	13.99	39.79	-24.29
22	10023	64.20	0.00	16.70	43.86	-71.72
23	23	64.20	0.00	-5.65	38.91	-71.49
23	24	67.55	0.00	-5.90	42.83	-51.27
24	24	67.55	0.00	-4.74	37.16	-51.14
24	25	70.90	0.00	-4.64	40.70	-29.32

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SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-3.51	35.16	-29.28
25	26	74.23	0.00	-3.08	38.51	-8.08
26	26	74.23	0.00	-2.04	33.20	-8.12
26	27	77.56	0.00	-1.31	36.57	10.75
27	27	77.56	0.00	-0.50	31.96	10.68
27	28	80.89	0.00	0.49	35.53	25.95
28	28	80.89	0.00	1.04	31.69	25.89
28	29	84.22	0.00	2.26	35.58	36.58
29	29	84.22	0.00	2.60	32.42	36.57
29	30	87.55	0.00	4.04	36.65	41.70
30	30	87.55	0.00	4.22	33.94	41.76
30	31	90.88	0.00	5.89	38.46	40.09
31	31	90.88	0.00	6.03	35.86	40.23
31	32	94.21	0.00	7.96	40.53	30.07
32	32	94.21	0.00	8.18	37.63	30.29
32	33	97.54	0.00	10.41	42.27	9.36
33	33	97.54	0.00	10.84	38.66	9.66
33	34	100.87	0.00	13.38	43.05	-24.87
34	34	100.87	0.00	14.12	38.44	-24.55
34	10035	104.20	0.00	17.01	42.37	-75.78
35	35	104.20	0.00	-5.84	37.12	-75.54
35	36	107.55	0.00	-6.15	40.54	-54.84
36	36	107.55	0.00	-5.08	35.09	-54.71
36	37	110.90	0.00	-5.08	38.03	-31.64
37	37	110.90	0.00	-3.99	32.43	-31.61
37	38	113.77	0.00	-3.74	34.66	-11.60
38	38	113.77	0.00	-2.74	29.27	-11.63
38	39	116.64	0.00	-2.29	31.31	7.33
39	39	116.64	0.00	-1.43	26.33	7.27
39	40	119.51	0.00	-0.80	28.31	24.46
40	40	119.51	0.00	-0.12	23.82	24.39
40	41	122.38	0.00	0.69	25.82	39.17
41	41	122.38	0.00	1.20	21.74	39.14
41	42	125.25	0.00	2.19	23.81	50.79
42	42	125.25	0.00	2.59	19.93	50.81
42	43	128.12	0.00	3.78	22.02	58.27
43	43	128.12	0.00	4.19	18.01	58.37
43	44	130.99	0.00	5.62	20.02	59.97
44	44	130.99	0.00	6.18	15.38	60.17
44	45	133.86	0.00	7.92	17.12	53.39
45	45	133.86	0.00	8.82	11.24	53.69
45	46	136.73	0.00	10.94	12.47	34.91
46	46	136.73	0.00	12.37	4.68	35.30
46	47	139.60	0.00	14.95	5.15	-0.22
101	101	0.00	0.00	0.10	0.30	0.00
101	102	2.62	0.00	0.10	0.30	-0.25
102	102	2.62	0.00	0.04	0.89	-0.25
102	103	5.24	0.00	0.04	0.89	-0.35

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-0.02	1.48	-0.35
103	104	7.86	0.00	-0.02	1.48	-0.30
104	104	7.86	0.00	-0.08	2.06	-0.30
104	105	10.48	0.00	-0.08	2.06	-0.08
105	105	10.48	0.00	-0.16	2.63	-0.09
105	106	13.10	0.00	-0.16	2.63	0.32
106	106	13.10	0.00	-0.24	3.23	-3.44
106	107	15.72	0.00	-0.24	3.23	-2.81
107	107	15.72	0.00	-0.49	3.93	-3.83
107	108	18.34	0.00	-0.49	3.93	-2.56
108	108	18.34	0.00	-0.85	4.51	-3.52
108	109	20.96	0.00	-0.85	4.51	-1.29
109	109	20.96	0.00	-1.12	4.91	-0.26
109	110	23.58	0.00	-1.12	4.91	2.69
110	110	23.58	0.00	-1.35	5.13	3.28
110	111	26.20	0.00	-1.35	5.13	6.83
111	111	26.20	0.00	-0.87	5.42	7.06
111	112	29.55	0.00	-0.87	5.42	9.98
112	112	29.55	0.00	-1.12	5.80	9.98
112	10113	32.90	0.00	-1.12	5.80	13.75
113	113	32.90	0.00	2.49	6.14	13.76
113	114	36.03	0.00	2.49	6.14	5.96
114	114	36.03	0.00	2.20	6.47	5.98
114	115	39.16	0.00	2.20	6.47	-0.91
115	115	39.16	0.00	1.93	6.80	-0.29
115	116	42.29	0.00	1.93	6.80	-6.34
116	116	42.29	0.00	1.64	7.29	-4.50
116	117	45.42	0.00	1.64	7.29	-9.65
117	117	45.42	0.00	1.38	8.30	-7.35
117	118	48.55	0.00	1.38	8.30	-11.66
118	118	48.55	0.00	0.82	9.56	-4.51
118	119	51.68	0.00	0.82	9.56	-7.09
119	119	51.68	0.00	0.33	10.74	-3.38
119	120	54.81	0.00	0.33	10.74	-4.43
120	120	54.81	0.00	-0.16	11.37	-1.14
120	121	57.94	0.00	-0.16	11.37	-0.63
121	121	57.94	0.00	-0.75	11.29	0.78
121	122	61.07	0.00	-0.75	11.29	3.13
122	122	61.07	0.00	-1.71	10.40	3.01
122	123	64.20	0.00	-1.71	10.40	8.36
123	123	64.20	0.00	-2.43	8.97	8.97
123	124	67.55	0.00	-2.43	8.97	17.11
124	124	67.55	0.00	-3.08	7.36	16.27
124	10125	70.90	0.00	-3.08	7.36	26.60
125	125	70.90	0.00	4.09	6.16	22.51
125	126	74.23	0.00	4.09	6.16	8.90
126	126	74.23	0.00	2.66	6.07	8.99
126	127	77.56	0.00	2.66	6.07	0.13

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	2.30	6.25	1.12
127	128	80.89	0.00	2.30	6.25	-6.54
128	128	80.89	0.00	1.98	7.02	-2.13
128	129	84.22	0.00	1.98	7.02	-8.73
129	129	84.22	0.00	1.83	8.66	-5.98
129	130	87.55	0.00	1.83	8.66	-12.08
130	130	87.55	0.00	1.57	10.25	-11.46
130	131	90.88	0.00	1.57	10.25	-16.69
131	131	90.88	0.00	0.97	11.14	-16.89
131	132	94.21	0.00	0.97	11.14	-20.11
132	132	94.21	0.00	0.37	11.24	-9.82
132	133	97.54	0.00	0.37	11.24	-11.07
133	133	97.54	0.00	-0.31	10.73	-8.14
133	134	100.87	0.00	-0.31	10.73	-7.10
134	134	100.87	0.00	-1.47	9.30	-7.41
134	135	104.20	0.00	-1.47	9.30	-2.50
135	135	104.20	0.00	-2.12	7.43	-1.97
135	136	107.55	0.00	-2.12	7.43	5.12
136	136	107.55	0.00	-2.75	5.56	4.22
136	10137	110.90	0.00	-2.75	5.56	13.44
137	137	110.90	0.00	3.19	3.89	13.42
137	138	113.77	0.00	3.19	3.89	4.26
138	138	113.77	0.00	2.01	2.51	3.12
138	139	116.64	0.00	2.01	2.51	-2.66
139	139	116.64	0.00	1.50	1.63	-1.67
139	140	119.51	0.00	1.50	1.63	-5.99
140	140	119.51	0.00	0.73	1.41	-1.65
140	141	122.38	0.00	0.73	1.41	-3.75
141	141	122.38	0.00	1.06	2.35	4.96
141	142	125.25	0.00	1.06	2.35	1.92
142	142	125.25	0.00	1.21	3.99	2.71
142	143	128.12	0.00	1.21	3.99	-0.76
143	143	128.12	0.00	0.99	5.21	-0.93
143	144	130.99	0.00	0.99	5.21	-3.78
144	144	130.99	0.00	0.49	5.57	-4.36
144	145	133.86	0.00	0.49	5.57	-5.75
145	145	133.86	0.00	-0.46	4.66	-6.13
145	146	136.73	0.00	-0.46	4.66	-4.81
146	146	136.73	0.00	-1.91	2.16	-5.26
146	147	139.60	0.00	-1.91	2.16	0.24
301	101	0.00	0.00	0.68	0.12	0.97
301	2001	0.00	0.00	0.68	0.12	0.46
302	102	2.62	0.00	1.00	0.23	1.10
302	2002	2.62	0.00	1.00	0.23	0.35
303	103	5.24	0.00	0.75	0.19	0.36
303	2003	5.24	0.00	0.75	0.19	-0.21
304	104	7.86	0.00	0.56	0.13	-0.22
304	2004	7.86	0.00	0.56	0.13	-0.65

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.39	0.06	-0.59
305	2005	10.48	0.00	0.39	0.06	-0.89
306	106	13.10	0.00	0.15	0.01	-0.40
306	2006	13.10	0.00	0.15	0.01	-0.51
307	107	15.72	0.00	0.00	0.00	-0.19
307	2007	15.72	0.00	0.00	0.00	-0.19
308	108	18.34	0.00	0.52	0.01	0.51
308	2008	18.34	0.00	0.52	0.01	0.12
309	109	20.96	0.00	0.58	0.04	0.59
309	2009	20.96	0.00	0.58	0.04	0.16
310	110	23.58	0.00	0.59	0.08	0.60
310	2010	23.58	0.00	0.59	0.08	0.16
311	111	26.20	0.00	0.78	0.15	0.70
311	2011	26.20	0.00	0.78	0.15	0.11
312	112	29.55	0.00	0.75	0.24	0.29
312	2012	29.55	0.00	0.75	0.24	-0.27
313	113	32.90	0.00	0.54	0.26	-0.45
313	2013	32.90	0.00	0.54	0.26	-0.86
314	114	36.03	0.00	0.53	0.23	-0.66
314	2014	36.03	0.00	0.53	0.23	-1.06
315	115	39.16	0.00	0.79	0.19	-0.64
315	2015	39.16	0.00	0.79	0.19	-1.24
316	116	42.29	0.00	0.56	0.13	-0.82
316	2016	42.29	0.00	0.56	0.13	-1.25
317	117	45.42	0.00	0.41	0.08	-0.69
317	2017	45.42	0.00	0.41	0.08	-1.00
318	118	48.55	0.00	0.54	0.04	0.03
318	2018	48.55	0.00	0.54	0.04	-0.38
319	119	51.68	0.00	0.68	0.03	0.63
319	2019	51.68	0.00	0.68	0.03	0.12
320	120	54.81	0.00	0.71	0.04	0.74
320	2020	54.81	0.00	0.71	0.04	0.21
321	121	57.94	0.00	0.74	0.07	0.81
321	2021	57.94	0.00	0.74	0.07	0.25
322	122	61.07	0.00	0.76	0.11	0.84
322	2022	61.07	0.00	0.76	0.11	0.27
323	123	64.20	0.00	0.87	0.20	0.89
323	2023	64.20	0.00	0.87	0.20	0.24
324	124	67.55	0.00	0.75	0.28	0.37
324	2024	67.55	0.00	0.75	0.28	-0.19
325	125	70.90	0.00	0.54	0.29	-0.40
325	2025	70.90	0.00	0.54	0.29	-0.81
326	126	74.23	0.00	1.38	0.29	0.63
326	2026	74.23	0.00	1.38	0.29	-0.42
327	127	77.56	0.00	1.04	0.26	-0.51
327	2027	77.56	0.00	1.04	0.26	-1.30
328	128	80.89	0.00	0.72	0.18	-0.90
328	2028	80.89	0.00	0.72	0.18	-1.44

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Programa DINTEL IDEAM S.A.
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SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+
CÁLCULO TENSIONAL
Hipótesis de cálculo:
SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+
Envolvente de tren de cargas plano genérico. MX+
[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.37	0.12	-0.92
329	2029	84.22	0.00	0.37	0.12	-1.20
330	130	87.55	0.00	0.31	0.07	-0.63
330	2030	87.55	0.00	0.31	0.07	-0.87
331	131	90.88	0.00	0.27	0.05	-0.04
331	2031	90.88	0.00	0.27	0.05	-0.24
332	132	94.21	0.00	0.76	0.05	0.80
332	2032	94.21	0.00	0.76	0.05	0.22
333	133	97.54	0.00	0.90	0.07	0.97
333	2033	97.54	0.00	0.90	0.07	0.29
334	134	100.87	0.00	0.94	0.13	1.02
334	2034	100.87	0.00	0.94	0.13	0.31
335	135	104.20	0.00	0.96	0.20	1.03
335	2035	104.20	0.00	0.96	0.20	0.31
336	136	107.55	0.00	0.76	0.26	0.56
336	2036	107.55	0.00	0.76	0.26	-0.01
337	137	110.90	0.00	0.57	0.29	0.03
337	2037	110.90	0.00	0.57	0.29	-0.40
338	138	113.77	0.00	0.75	0.28	-0.20
338	2038	113.77	0.00	0.75	0.28	-0.76
339	139	116.64	0.00	0.92	0.25	-0.23
339	2039	116.64	0.00	0.92	0.25	-0.93
340	140	119.51	0.00	0.67	0.19	-1.04
340	2040	119.51	0.00	0.67	0.19	-1.55
341	141	122.38	0.00	0.50	0.12	-0.85
341	2041	122.38	0.00	0.50	0.12	-1.22
342	142	125.25	0.00	0.47	0.06	-0.42
342	2042	125.25	0.00	0.47	0.06	-0.78
343	143	128.12	0.00	0.31	0.05	-0.15
343	2043	128.12	0.00	0.31	0.05	-0.38
344	144	130.99	0.00	0.20	0.04	-0.30
344	2044	130.99	0.00	0.20	0.04	-0.45
345	145	133.86	0.00	0.14	0.04	-0.48
345	2045	133.86	0.00	0.14	0.04	-0.58
346	146	136.73	0.00	0.09	0.04	-0.63
346	2046	136.73	0.00	0.09	0.04	-0.70
347	147	139.60	0.00	0.02	0.02	-0.38
347	2047	139.60	0.00	0.02	0.02	-0.40
201	2001	0.00	0.00	0.68	0.12	0.46
201	1001	0.00	0.00	0.68	0.12	-2.77
202	2002	2.62	0.00	1.00	0.23	0.35
202	1002	2.62	0.00	1.00	0.23	-4.42
203	2003	5.24	0.00	0.75	0.19	-0.21
203	1003	5.24	0.00	0.75	0.19	-3.80
204	2004	7.86	0.00	0.56	0.13	-0.65
204	1004	7.86	0.00	0.56	0.13	-3.34
205	2005	10.48	0.00	0.39	0.06	-0.89
205	1005	10.48	0.00	0.39	0.06	-2.76

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	0.15	0.01	-0.51
206	1006	13.10	0.00	0.15	0.01	-1.22
207	2007	15.72	0.00	0.00	0.00	-0.19
207	1007	15.72	0.00	0.00	0.00	-0.21
208	2008	18.34	0.00	0.52	0.01	0.12
208	1008	18.34	0.00	0.52	0.01	-2.37
209	2009	20.96	0.00	0.58	0.04	0.16
209	1009	20.96	0.00	0.58	0.04	-2.60
210	2010	23.58	0.00	0.59	0.08	0.16
210	1010	23.58	0.00	0.59	0.08	-2.69
211	2011	26.20	0.00	0.78	0.15	0.11
211	1011	26.20	0.00	0.78	0.15	-3.63
212	2012	29.55	0.00	0.75	0.24	-0.27
212	1012	29.55	0.00	0.75	0.24	-3.86
213	2013	32.90	0.00	0.54	0.26	-0.86
213	1013	32.90	0.00	0.54	0.26	-3.45
214	2014	36.03	0.00	0.53	0.23	-1.06
214	1014	36.03	0.00	0.53	0.23	-3.61
215	2015	39.16	0.00	0.79	0.19	-1.24
215	1015	39.16	0.00	0.79	0.19	-5.03
216	2016	42.29	0.00	0.56	0.13	-1.25
216	1016	42.29	0.00	0.56	0.13	-3.95
217	2017	45.42	0.00	0.41	0.08	-1.00
217	1017	45.42	0.00	0.41	0.08	-2.99
218	2018	48.55	0.00	0.54	0.04	-0.38
218	1018	48.55	0.00	0.54	0.04	-2.97
219	2019	51.68	0.00	0.68	0.03	0.12
219	1019	51.68	0.00	0.68	0.03	-3.12
220	2020	54.81	0.00	0.71	0.04	0.21
220	1020	54.81	0.00	0.71	0.04	-3.18
221	2021	57.94	0.00	0.74	0.07	0.25
221	1021	57.94	0.00	0.74	0.07	-3.27
222	2022	61.07	0.00	0.76	0.11	0.27
222	1022	61.07	0.00	0.76	0.11	-3.37
223	2023	64.20	0.00	0.87	0.20	0.24
223	1023	64.20	0.00	0.87	0.20	-3.91
224	2024	67.55	0.00	0.75	0.28	-0.19
224	1024	67.55	0.00	0.75	0.28	-3.77
225	2025	70.90	0.00	0.54	0.29	-0.81
225	1025	70.90	0.00	0.54	0.29	-3.40
226	2026	74.23	0.00	1.38	0.29	-0.42
226	1026	74.23	0.00	1.38	0.29	-7.04
227	2027	77.56	0.00	1.04	0.26	-1.30
227	1027	77.56	0.00	1.04	0.26	-6.30
228	2028	80.89	0.00	0.72	0.18	-1.44
228	1028	80.89	0.00	0.72	0.18	-4.90
229	2029	84.22	0.00	0.37	0.12	-1.20
229	1029	84.22	0.00	0.37	0.12	-2.97

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Programa DINTEL IDEAM S.A.
SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+
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CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.31	0.07	-0.87
230	1030	87.55	0.00	0.31	0.07	-2.37
231	2031	90.88	0.00	0.27	0.05	-0.24
231	1031	90.88	0.00	0.27	0.05	-1.53
232	2032	94.21	0.00	0.76	0.05	0.22
232	1032	94.21	0.00	0.76	0.05	-3.44
233	2033	97.54	0.00	0.90	0.07	0.29
233	1033	97.54	0.00	0.90	0.07	-4.02
234	2034	100.87	0.00	0.94	0.13	0.31
234	1034	100.87	0.00	0.94	0.13	-4.18
235	2035	104.20	0.00	0.96	0.20	0.31
235	1035	104.20	0.00	0.96	0.20	-4.27
236	2036	107.55	0.00	0.76	0.26	-0.01
236	1036	107.55	0.00	0.76	0.26	-3.66
237	2037	110.90	0.00	0.57	0.29	-0.40
237	1037	110.90	0.00	0.57	0.29	-3.11
238	2038	113.77	0.00	0.75	0.28	-0.76
238	1038	113.77	0.00	0.75	0.28	-4.34
239	2039	116.64	0.00	0.92	0.25	-0.93
239	1039	116.64	0.00	0.92	0.25	-5.33
240	2040	119.51	0.00	0.67	0.19	-1.55
240	1040	119.51	0.00	0.67	0.19	-4.77
241	2041	122.38	0.00	0.50	0.12	-1.22
241	1041	122.38	0.00	0.50	0.12	-3.61
242	2042	125.25	0.00	0.47	0.06	-0.78
242	1042	125.25	0.00	0.47	0.06	-3.02
243	2043	128.12	0.00	0.31	0.05	-0.38
243	1043	128.12	0.00	0.31	0.05	-1.86
244	2044	130.99	0.00	0.20	0.04	-0.45
244	1044	130.99	0.00	0.20	0.04	-1.43
245	2045	133.86	0.00	0.14	0.04	-0.58
245	1045	133.86	0.00	0.14	0.04	-1.27
246	2046	136.73	0.00	0.09	0.04	-0.70
246	1046	136.73	0.00	0.09	0.04	-1.14
247	2047	139.60	0.00	0.02	0.02	-0.40
247	1047	139.60	0.00	0.02	0.02	-0.51
401	1001	0.00	0.00	0.68	0.12	-2.77
401	1	0.00	0.00	0.68	0.12	-3.28
402	1002	2.62	0.00	1.00	0.23	-4.42
402	2	2.62	0.00	1.00	0.23	-5.17
403	1003	5.24	0.00	0.75	0.19	-3.80
403	3	5.24	0.00	0.75	0.19	-4.37
404	1004	7.86	0.00	0.56	0.13	-3.34
404	4	7.86	0.00	0.56	0.13	-3.76
405	1005	10.48	0.00	0.39	0.06	-2.76
405	5	10.48	0.00	0.39	0.06	-3.05
406	1006	13.10	0.00	0.15	0.01	-1.22
406	6	13.10	0.00	0.15	0.01	-1.33

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.00	0.00	-0.21
407	7	15.72	0.00	0.00	0.00	-0.21
408	1008	18.34	0.00	0.52	0.01	-2.37
408	8	18.34	0.00	0.52	0.01	-2.76
409	1009	20.96	0.00	0.58	0.04	-2.60
409	9	20.96	0.00	0.58	0.04	-3.04
410	1010	23.58	0.00	0.59	0.08	-2.69
410	10	23.58	0.00	0.59	0.08	-3.14
411	1011	26.20	0.00	0.78	0.15	-3.63
411	11	26.20	0.00	0.78	0.15	-4.22
412	1012	29.55	0.00	0.75	0.24	-3.86
412	12	29.55	0.00	0.75	0.24	-4.43
413	1013	32.90	0.00	0.54	0.26	-3.45
413	13	32.90	0.00	0.54	0.26	-3.86
414	1014	36.03	0.00	0.53	0.23	-3.61
414	14	36.03	0.00	0.53	0.23	-4.01
415	1015	39.16	0.00	0.79	0.19	-5.03
415	15	39.16	0.00	0.79	0.19	-5.63
416	1016	42.29	0.00	0.56	0.13	-3.95
416	16	42.29	0.00	0.56	0.13	-4.37
417	1017	45.42	0.00	0.41	0.08	-2.99
417	17	45.42	0.00	0.41	0.08	-3.30
418	1018	48.55	0.00	0.54	0.04	-2.97
418	18	48.55	0.00	0.54	0.04	-3.38
419	1019	51.68	0.00	0.68	0.03	-3.12
419	19	51.68	0.00	0.68	0.03	-3.63
420	1020	54.81	0.00	0.71	0.04	-3.18
420	20	54.81	0.00	0.71	0.04	-3.71
421	1021	57.94	0.00	0.74	0.07	-3.27
421	21	57.94	0.00	0.74	0.07	-3.82
422	1022	61.07	0.00	0.76	0.11	-3.37
422	22	61.07	0.00	0.76	0.11	-3.94
423	1023	64.20	0.00	0.87	0.20	-3.91
423	23	64.20	0.00	0.87	0.20	-4.57
424	1024	67.55	0.00	0.75	0.28	-3.77
424	24	67.55	0.00	0.75	0.28	-4.34
425	1025	70.90	0.00	0.54	0.29	-3.40
425	25	70.90	0.00	0.54	0.29	-3.81
426	1026	74.23	0.00	1.38	0.29	-7.04
426	26	74.23	0.00	1.38	0.29	-8.08
427	1027	77.56	0.00	1.04	0.26	-6.30
427	27	77.56	0.00	1.04	0.26	-7.08
428	1028	80.89	0.00	0.72	0.18	-4.90
428	28	80.89	0.00	0.72	0.18	-5.45
429	1029	84.22	0.00	0.37	0.12	-2.97
429	29	84.22	0.00	0.37	0.12	-3.25
430	1030	87.55	0.00	0.31	0.07	-2.37
430	30	87.55	0.00	0.31	0.07	-2.61

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Programa DINTEL IDEAM S.A.
SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+
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CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	0.27	0.05	-1.53
431	31	90.88	0.00	0.27	0.05	-1.73
432	1032	94.21	0.00	0.76	0.05	-3.44
432	32	94.21	0.00	0.76	0.05	-4.02
433	1033	97.54	0.00	0.90	0.07	-4.02
433	33	97.54	0.00	0.90	0.07	-4.70
434	1034	100.87	0.00	0.94	0.13	-4.18
434	34	100.87	0.00	0.94	0.13	-4.89
435	1035	104.20	0.00	0.96	0.20	-4.27
435	35	104.20	0.00	0.96	0.20	-4.99
436	1036	107.55	0.00	0.76	0.26	-3.66
436	36	107.55	0.00	0.76	0.26	-4.24
437	1037	110.90	0.00	0.57	0.29	-3.11
437	37	110.90	0.00	0.57	0.29	-3.54
438	1038	113.77	0.00	0.75	0.28	-4.34
438	38	113.77	0.00	0.75	0.28	-4.90
439	1039	116.64	0.00	0.92	0.25	-5.33
439	39	116.64	0.00	0.92	0.25	-6.02
440	1040	119.51	0.00	0.67	0.19	-4.77
440	40	119.51	0.00	0.67	0.19	-5.28
441	1041	122.38	0.00	0.50	0.12	-3.61
441	41	122.38	0.00	0.50	0.12	-3.98
442	1042	125.25	0.00	0.47	0.06	-3.02
442	42	125.25	0.00	0.47	0.06	-3.38
443	1043	128.12	0.00	0.31	0.05	-1.86
443	43	128.12	0.00	0.31	0.05	-2.10
444	1044	130.99	0.00	0.20	0.04	-1.43
444	44	130.99	0.00	0.20	0.04	-1.58
445	1045	133.86	0.00	0.14	0.04	-1.27
445	45	133.86	0.00	0.14	0.04	-1.38
446	1046	136.73	0.00	0.09	0.04	-1.14
446	46	136.73	0.00	0.09	0.04	-1.21
447	1047	139.60	0.00	0.02	0.02	-0.51
447	47	139.60	0.00	0.02	0.02	-0.52

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.33	-0.71	0.00
1	2	2.62	0.00	-9.42	3.30	27.32
2	2	2.62	0.00	-8.47	-1.87	27.09
2	3	5.24	0.00	-6.37	4.56	46.53
3	3	5.24	0.00	-5.66	0.23	46.35
3	4	7.86	0.00	-3.57	6.54	58.44
4	4	7.86	0.00	-3.04	2.80	58.32
4	5	10.48	0.00	-1.02	10.10	63.63
5	5	10.48	0.00	-0.65	7.03	63.58
5	6	13.10	0.00	1.44	13.34	62.55
6	6	13.10	0.00	1.76	10.46	62.57
6	7	15.72	0.00	3.85	16.77	55.22
7	7	15.72	0.00	4.17	13.89	55.31
7	8	18.34	0.00	6.27	20.21	41.63
8	8	18.34	0.00	6.66	17.16	41.76
8	9	20.96	0.00	7.07	13.19	21.96
9	9	20.96	0.00	7.46	10.55	22.09
9	10	23.58	0.00	2.01	-1.76	9.90
10	10	23.58	0.00	2.23	-3.15	9.94
10	10011	26.20	0.00	-0.14	-4.57	8.75
11	11	26.20	0.00	0.45	-5.46	8.77
11	12	29.55	0.00	-2.60	-5.24	10.28
12	12	29.55	0.00	-2.18	-7.69	10.27
12	13	32.90	0.00	-6.56	-12.61	24.60
13	13	32.90	0.00	-5.98	-16.18	24.47
13	14	36.03	0.00	-7.10	-24.23	46.26
14	14	36.03	0.00	-6.58	-28.57	46.04
14	15	39.16	0.00	-5.16	-11.61	63.89
15	15	39.16	0.00	-4.96	-14.62	63.72
15	16	42.29	0.00	-2.67	-3.49	75.88
16	16	42.29	0.00	-2.61	-6.03	75.79
16	17	45.42	0.00	-0.27	5.21	80.19
17	17	45.42	0.00	-0.22	2.52	80.19
17	18	48.55	0.00	2.06	14.70	77.24
18	18	48.55	0.00	2.16	11.85	77.33
18	19	51.68	0.00	4.41	23.93	67.08
19	19	51.68	0.00	4.70	20.24	67.25
19	20	54.81	0.00	7.20	27.78	48.62
20	20	54.81	0.00	7.64	23.67	48.87
20	21	57.94	0.00	6.60	15.01	25.55
21	21	57.94	0.00	7.10	11.44	25.72
21	22	61.07	0.00	2.35	2.13	11.80
22	22	61.07	0.00	2.69	-0.21	11.84
22	10023	64.20	0.00	-0.05	-1.57	9.52
23	23	64.20	0.00	0.24	-3.07	9.53
23	24	67.55	0.00	-2.79	-3.55	11.95
24	24	67.55	0.00	-2.33	-6.47	11.93
24	25	70.90	0.00	-7.03	-14.43	26.94

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SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-6.44	-18.31	26.78
25	26	74.23	0.00	-7.16	-25.99	50.28
26	26	74.23	0.00	-6.64	-30.46	50.01
26	27	77.56	0.00	-4.70	-14.02	67.94
27	27	77.56	0.00	-4.48	-17.47	67.72
27	28	80.89	0.00	-2.28	-2.72	79.53
28	28	80.89	0.00	-2.36	-4.93	79.41
28	29	84.22	0.00	0.27	4.13	82.95
29	29	84.22	0.00	0.11	2.27	82.95
29	30	87.55	0.00	2.61	14.47	78.40
30	30	87.55	0.00	2.49	12.49	78.51
30	31	90.88	0.00	5.04	22.07	65.83
31	31	90.88	0.00	5.09	19.50	66.04
31	32	94.21	0.00	7.26	31.66	45.77
32	32	94.21	0.00	7.60	27.88	46.03
32	33	97.54	0.00	5.26	14.51	21.55
33	33	97.54	0.00	7.04	15.45	21.70
33	34	100.87	0.00	2.22	6.06	7.35
34	34	100.87	0.00	2.45	4.41	7.37
34	10035	104.20	0.00	-0.42	4.62	6.20
35	35	104.20	0.00	0.19	4.14	6.20
35	36	107.55	0.00	-2.90	2.92	8.28
36	36	107.55	0.00	-2.70	1.54	8.26
36	37	110.90	0.00	-8.63	-11.53	25.54
37	37	110.90	0.00	-6.98	-9.86	25.37
37	38	113.77	0.00	-9.47	-24.67	53.59
38	38	113.77	0.00	-9.12	-27.94	53.32
38	39	116.64	0.00	-6.85	-20.38	76.25
39	39	116.64	0.00	-6.68	-23.23	76.03
39	40	119.51	0.00	-4.52	-14.56	92.28
40	40	119.51	0.00	-4.41	-17.35	92.14
40	41	122.38	0.00	-2.12	-10.43	101.51
41	41	122.38	0.00	-2.06	-13.10	101.46
41	42	125.25	0.00	0.24	-6.19	104.08
42	42	125.25	0.00	0.35	-9.06	104.15
42	43	128.12	0.00	2.56	-1.01	99.89
43	43	128.12	0.00	2.89	-4.74	100.06
43	44	130.99	0.00	5.18	2.22	88.49
44	44	130.99	0.00	5.80	-2.44	88.77
44	45	133.86	0.00	8.09	4.47	68.85
45	45	133.86	0.00	9.12	-1.50	69.23
45	46	136.73	0.00	11.41	5.42	39.77
46	46	136.73	0.00	12.95	-2.18	40.23
46	47	139.60	0.00	-0.26	0.52	0.02
101	101	0.00	0.00	3.46	-0.97	0.12
101	102	2.62	0.00	-0.24	0.17	0.62
102	102	2.62	0.00	-0.24	0.50	0.62
102	103	5.24	0.00	-0.24	0.50	1.24

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-0.25	0.82	1.24
103	104	7.86	0.00	-0.25	0.82	1.88
104	104	7.86	0.00	-0.25	1.14	1.88
104	105	10.48	0.00	-0.26	1.27	2.55
105	105	10.48	0.00	-0.28	1.61	2.55
105	106	13.10	0.00	-0.28	1.70	3.29
106	106	13.10	0.00	-0.31	2.05	3.28
106	107	15.72	0.00	-0.31	2.05	4.10
107	107	15.72	0.00	-0.36	2.37	4.09
107	108	18.34	0.00	-0.36	2.37	5.03
108	108	18.34	0.00	-0.41	2.65	5.01
108	109	20.96	0.00	-0.41	2.65	6.09
109	109	20.96	0.00	-0.49	2.89	6.08
109	110	23.58	0.00	-0.54	3.05	7.47
110	110	23.58	0.00	-0.66	3.24	7.46
110	111	26.20	0.00	-0.76	3.27	9.21
111	111	26.20	0.00	-0.95	3.40	9.20
111	112	29.55	0.00	-5.41	-2.30	21.47
112	112	29.55	0.00	-7.58	-5.14	21.53
112	10113	32.90	0.00	-7.89	-5.80	47.94
113	113	32.90	0.00	5.94	-6.86	48.13
113	114	36.03	0.00	5.94	-6.86	29.53
114	114	36.03	0.00	4.76	-7.12	29.75
114	115	39.16	0.00	2.66	-9.93	15.71
115	115	39.16	0.00	2.00	-9.23	15.90
115	116	42.29	0.00	0.89	-4.65	10.93
116	116	42.29	0.00	0.72	-2.76	11.02
116	117	45.42	0.00	0.33	-0.20	9.42
117	117	45.42	0.00	0.40	1.96	9.40
117	118	48.55	0.00	0.34	3.02	8.29
118	118	48.55	0.00	0.39	5.08	8.18
118	119	51.68	0.00	0.25	5.87	7.23
119	119	51.68	0.00	0.23	7.34	7.05
119	120	54.81	0.00	0.18	7.67	6.39
120	120	54.81	0.00	-0.02	7.87	6.17
120	121	57.94	0.00	-0.07	7.87	6.30
121	121	57.94	0.00	-0.36	7.40	6.11
121	122	61.07	0.00	-0.59	5.73	7.63
122	122	61.07	0.00	-0.75	5.87	7.61
122	123	64.20	0.00	-0.84	6.09	9.97
123	123	64.20	0.00	-1.07	6.12	9.96
123	124	67.55	0.00	-4.40	1.67	19.55
124	124	67.55	0.00	-6.12	-0.33	19.52
124	10125	70.90	0.00	-7.58	-3.62	44.37
125	125	70.90	0.00	6.02	-5.00	44.60
125	126	74.23	0.00	5.64	-4.79	24.57
126	126	74.23	0.00	4.49	-5.14	24.85
126	127	77.56	0.00	0.99	-7.14	13.80

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	0.83	-5.20	14.01
127	128	80.89	0.00	0.41	-5.79	12.23
128	128	80.89	0.00	0.54	-3.27	12.33
128	129	84.22	0.00	0.39	-2.88	10.78
129	129	84.22	0.00	0.63	-0.32	10.76
129	130	87.55	0.00	0.58	0.10	8.69
130	130	87.55	0.00	0.80	2.45	8.57
130	131	90.88	0.00	0.79	2.71	5.92
131	131	90.88	0.00	0.88	4.57	5.71
131	132	94.21	0.00	0.75	3.91	3.04
132	132	94.21	0.00	0.69	4.90	2.79
132	133	97.54	0.00	0.55	3.68	0.68
133	133	97.54	0.00	0.37	3.91	0.48
133	134	100.87	0.00	0.00	0.00	0.00
134	134	100.87	0.00	0.00	0.00	0.00
134	135	104.20	0.00	-0.84	-3.18	0.89
135	135	104.20	0.00	-0.93	-2.82	0.91
135	136	107.55	0.00	-5.60	-2.05	13.79
136	136	107.55	0.00	-7.14	-3.76	13.95
136	10137	110.90	0.00	-7.52	-3.00	39.05
137	137	110.90	0.00	5.01	-4.29	39.28
137	138	113.77	0.00	3.91	-5.63	25.61
138	138	113.77	0.00	3.05	-5.36	25.88
138	139	116.64	0.00	2.28	-5.95	18.52
139	139	116.64	0.00	1.94	-4.39	18.74
139	140	119.51	0.00	1.55	-4.75	13.77
140	140	119.51	0.00	1.47	-2.69	13.91
140	141	122.38	0.00	1.22	-2.98	10.10
141	141	122.38	0.00	1.25	-0.84	10.13
141	142	125.25	0.00	1.04	-1.05	6.70
142	142	125.25	0.00	1.06	0.72	6.63
142	143	128.12	0.00	0.92	0.38	3.72
143	143	128.12	0.00	0.85	1.60	3.58
143	144	130.99	0.00	0.68	0.94	1.43
144	144	130.99	0.00	0.38	0.70	1.32
144	145	133.86	0.00	0.15	-0.59	0.67
145	145	133.86	0.00	0.13	-0.33	0.67
145	146	136.73	0.00	0.13	-0.31	0.30
146	146	136.73	0.00	0.10	-0.09	0.29
146	147	139.60	0.00	-1.91	2.04	0.24
301	101	0.00	0.00	0.74	0.12	1.13
301	2001	0.00	0.00	0.58	0.12	0.62
302	102	2.62	0.00	1.21	0.22	1.40
302	2002	2.62	0.00	0.85	0.21	0.60
303	103	5.24	0.00	0.98	0.18	0.69
303	2003	5.24	0.00	0.40	0.07	0.16
304	104	7.86	0.00	0.57	0.04	0.36
304	2004	7.86	0.00	0.27	0.00	0.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.41	-0.01	0.34
305	2005	10.48	0.00	0.26	-0.01	0.08
306	106	13.10	0.00	0.45	-0.01	0.45
306	2006	13.10	0.00	0.32	-0.01	0.15
307	107	15.72	0.00	0.52	0.00	0.60
307	2007	15.72	0.00	0.42	0.00	0.24
308	108	18.34	0.00	0.62	0.01	0.77
308	2008	18.34	0.00	0.50	0.01	0.33
309	109	20.96	0.00	0.80	0.00	0.99
309	2009	20.96	0.00	0.66	0.03	0.41
310	110	23.58	0.00	1.13	-0.09	1.30
310	2010	23.58	0.00	0.89	0.01	0.51
311	111	26.20	0.00	1.43	-0.02	1.74
311	2011	26.20	0.00	1.28	0.00	0.71
312	112	29.55	0.00	1.60	0.11	1.77
312	2012	29.55	0.00	1.18	0.01	0.67
313	113	32.90	0.00	1.17	-0.02	1.40
313	2013	32.90	0.00	0.94	-0.03	0.59
314	114	36.03	0.00	0.92	0.00	1.15
314	2014	36.03	0.00	0.74	-0.01	0.49
315	115	39.16	0.00	0.86	0.02	0.95
315	2015	39.16	0.00	0.67	0.02	0.38
316	116	42.29	0.00	0.74	0.03	0.78
316	2016	42.29	0.00	0.59	0.03	0.28
317	117	45.42	0.00	0.67	0.03	0.68
317	2017	45.42	0.00	0.49	0.02	0.22
318	118	48.55	0.00	0.67	0.03	0.66
318	2018	48.55	0.00	0.41	0.00	0.27
319	119	51.68	0.00	0.55	0.01	0.80
319	2019	51.68	0.00	0.49	0.01	0.40
320	120	54.81	0.00	0.69	0.02	1.02
320	2020	54.81	0.00	0.62	0.02	0.53
321	121	57.94	0.00	0.94	0.00	1.34
321	2021	57.94	0.00	0.86	0.03	0.67
322	122	61.07	0.00	1.49	-0.18	2.11
322	2022	61.07	0.00	1.43	-0.17	1.01
323	123	64.20	0.00	1.73	-0.04	2.69
323	2023	64.20	0.00	1.67	-0.04	1.41
324	124	67.55	0.00	1.85	0.13	2.61
324	2024	67.55	0.00	1.55	0.09	1.32
325	125	70.90	0.00	1.36	-0.01	2.13
325	2025	70.90	0.00	1.16	-0.03	1.17
326	126	74.23	0.00	1.15	0.02	1.84
326	2026	74.23	0.00	1.05	0.02	1.01
327	127	77.56	0.00	1.02	0.05	1.47
327	2027	77.56	0.00	0.87	0.05	0.76
328	128	80.89	0.00	0.87	0.06	1.14
328	2028	80.89	0.00	0.79	0.06	0.52

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Programa DINTEL IDEAM S.A.
SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.77	0.06	0.89
329	2029	84.22	0.00	0.64	0.05	0.35
330	130	87.55	0.00	0.72	0.04	0.80
330	2030	87.55	0.00	0.61	0.03	0.28
331	131	90.88	0.00	0.72	0.02	0.87
331	2031	90.88	0.00	0.55	0.00	0.41
332	132	94.21	0.00	0.80	0.01	1.18
332	2032	94.21	0.00	0.76	0.01	0.59
333	133	97.54	0.00	1.14	-0.02	1.58
333	2033	97.54	0.00	0.96	0.03	0.78
334	134	100.87	0.00	1.80	-0.22	2.55
334	2034	100.87	0.00	1.72	-0.21	1.21
335	135	104.20	0.00	1.89	-0.04	2.99
335	2035	104.20	0.00	1.84	-0.05	1.57
336	136	107.55	0.00	1.72	0.13	2.58
336	2036	107.55	0.00	1.61	0.11	1.30
337	137	110.90	0.00	1.14	-0.01	1.90
337	2037	110.90	0.00	1.06	-0.03	1.07
338	138	113.77	0.00	0.89	0.01	1.56
338	2038	113.77	0.00	0.82	0.00	0.90
339	139	116.64	0.00	0.76	0.03	1.23
339	2039	116.64	0.00	0.72	0.03	0.68
340	140	119.51	0.00	0.60	0.05	0.89
340	2040	119.51	0.00	0.53	0.04	0.45
341	141	122.38	0.00	0.47	0.05	0.57
341	2041	122.38	0.00	0.40	0.04	0.24
342	142	125.25	0.00	0.34	0.05	0.30
342	2042	125.25	0.00	0.25	0.04	0.08
343	143	128.12	0.00	0.19	0.04	0.09
343	2043	128.12	0.00	0.00	0.00	0.00
344	144	130.99	0.00	0.22	-0.05	0.08
344	2044	130.99	0.00	0.00	0.00	0.00
345	145	133.86	0.00	0.91	-0.37	0.92
345	2045	133.86	0.00	0.81	-0.33	0.27
346	146	136.73	0.00	1.46	-0.45	2.50
346	2046	136.73	0.00	1.41	-0.44	1.42
347	147	139.60	0.00	1.02	-0.24	2.16
347	2047	139.60	0.00	1.02	-0.24	1.39
201	2001	0.00	0.00	0.58	0.12	0.62
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	2.62	0.00	0.85	0.21	0.60
202	1002	2.62	0.00	0.00	0.00	0.00
203	2003	5.24	0.00	0.40	0.07	0.16
203	1003	5.24	0.00	0.00	0.00	0.00
204	2004	7.86	0.00	0.27	0.00	0.04
204	1004	7.86	0.00	0.00	0.00	0.00
205	2005	10.48	0.00	0.26	-0.01	0.08
205	1005	10.48	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	0.32	-0.01	0.15
206	1006	13.10	0.00	0.00	0.00	0.00
207	2007	15.72	0.00	0.42	0.00	0.24
207	1007	15.72	0.00	0.00	0.00	0.00
208	2008	18.34	0.00	0.50	0.01	0.33
208	1008	18.34	0.00	0.00	0.00	0.00
209	2009	20.96	0.00	0.66	0.03	0.41
209	1009	20.96	0.00	0.00	0.00	0.00
210	2010	23.58	0.00	0.89	0.01	0.51
210	1010	23.58	0.00	0.00	0.00	0.00
211	2011	26.20	0.00	1.28	0.00	0.71
211	1011	26.20	0.00	0.00	0.00	0.00
212	2012	29.55	0.00	1.18	0.01	0.67
212	1012	29.55	0.00	0.00	0.00	0.00
213	2013	32.90	0.00	0.94	-0.03	0.59
213	1013	32.90	0.00	0.00	0.00	0.00
214	2014	36.03	0.00	0.74	-0.01	0.49
214	1014	36.03	0.00	0.00	0.00	0.00
215	2015	39.16	0.00	0.67	0.02	0.38
215	1015	39.16	0.00	0.00	0.00	0.00
216	2016	42.29	0.00	0.59	0.03	0.28
216	1016	42.29	0.00	0.00	0.00	0.00
217	2017	45.42	0.00	0.49	0.02	0.22
217	1017	45.42	0.00	0.00	0.00	0.00
218	2018	48.55	0.00	0.41	0.00	0.27
218	1018	48.55	0.00	0.00	0.00	0.00
219	2019	51.68	0.00	0.49	0.01	0.40
219	1019	51.68	0.00	0.00	0.00	0.00
220	2020	54.81	0.00	0.62	0.02	0.53
220	1020	54.81	0.00	0.00	0.00	0.00
221	2021	57.94	0.00	0.86	0.03	0.67
221	1021	57.94	0.00	0.00	0.00	0.00
222	2022	61.07	0.00	1.43	-0.17	1.01
222	1022	61.07	0.00	0.00	0.00	0.00
223	2023	64.20	0.00	1.67	-0.04	1.41
223	1023	64.20	0.00	0.00	0.00	0.00
224	2024	67.55	0.00	1.55	0.09	1.32
224	1024	67.55	0.00	0.00	0.00	0.00
225	2025	70.90	0.00	1.16	-0.03	1.17
225	1025	70.90	0.00	0.00	0.00	0.00
226	2026	74.23	0.00	1.05	0.02	1.01
226	1026	74.23	0.00	0.00	0.00	0.00
227	2027	77.56	0.00	0.87	0.05	0.76
227	1027	77.56	0.00	0.00	0.00	0.00
228	2028	80.89	0.00	0.79	0.06	0.52
228	1028	80.89	0.00	0.00	0.00	0.00
229	2029	84.22	0.00	0.64	0.05	0.35
229	1029	84.22	0.00	0.00	0.00	0.00

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SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+
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CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.61	0.03	0.28
230	1030	87.55	0.00	0.00	0.00	0.00
231	2031	90.88	0.00	0.55	0.00	0.41
231	1031	90.88	0.00	0.00	0.00	0.00
232	2032	94.21	0.00	0.76	0.01	0.59
232	1032	94.21	0.00	0.00	0.00	0.00
233	2033	97.54	0.00	0.96	0.03	0.78
233	1033	97.54	0.00	0.00	0.00	0.00
234	2034	100.87	0.00	1.72	-0.21	1.21
234	1034	100.87	0.00	0.00	0.00	0.00
235	2035	104.20	0.00	1.84	-0.05	1.57
235	1035	104.20	0.00	0.00	0.00	0.00
236	2036	107.55	0.00	1.61	0.11	1.30
236	1036	107.55	0.00	0.00	0.00	0.00
237	2037	110.90	0.00	1.06	-0.03	1.07
237	1037	110.90	0.00	0.00	0.00	0.00
238	2038	113.77	0.00	0.82	0.00	0.90
238	1038	113.77	0.00	0.00	0.00	0.00
239	2039	116.64	0.00	0.72	0.03	0.68
239	1039	116.64	0.00	0.00	0.00	0.00
240	2040	119.51	0.00	0.53	0.04	0.45
240	1040	119.51	0.00	0.00	0.00	0.00
241	2041	122.38	0.00	0.40	0.04	0.24
241	1041	122.38	0.00	0.00	0.00	0.00
242	2042	125.25	0.00	0.25	0.04	0.08
242	1042	125.25	0.00	0.00	0.00	0.00
243	2043	128.12	0.00	0.00	0.00	0.00
243	1043	128.12	0.00	0.00	0.00	0.00
244	2044	130.99	0.00	0.00	0.00	0.00
244	1044	130.99	0.00	0.00	0.00	0.00
245	2045	133.86	0.00	0.81	-0.33	0.27
245	1045	133.86	0.00	0.00	0.00	0.00
246	2046	136.73	0.00	1.41	-0.44	1.42
246	1046	136.73	0.00	0.00	0.00	0.00
247	2047	139.60	0.00	1.02	-0.24	1.39
247	1047	139.60	0.00	0.00	0.00	0.00
401	1001	0.00	0.00	0.00	0.00	0.00
401	1	0.00	0.00	0.00	0.00	0.00
402	1002	2.62	0.00	0.00	0.00	0.00
402	2	2.62	0.00	0.00	0.00	0.00
403	1003	5.24	0.00	0.00	0.00	0.00
403	3	5.24	0.00	0.00	0.00	0.00
404	1004	7.86	0.00	0.00	0.00	0.00
404	4	7.86	0.00	0.00	0.00	0.00
405	1005	10.48	0.00	0.00	0.00	0.00
405	5	10.48	0.00	0.00	0.00	0.00
406	1006	13.10	0.00	0.00	0.00	0.00
406	6	13.10	0.00	0.00	0.00	0.00

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.00	0.00	0.00
407	7	15.72	0.00	0.00	0.00	0.00
408	1008	18.34	0.00	0.00	0.00	0.00
408	8	18.34	0.00	0.00	0.00	0.00
409	1009	20.96	0.00	0.00	0.00	0.00
409	9	20.96	0.00	0.00	0.00	0.00
410	1010	23.58	0.00	0.00	0.00	0.00
410	10	23.58	0.00	0.00	0.00	0.00
411	1011	26.20	0.00	0.00	0.00	0.00
411	11	26.20	0.00	0.00	0.00	0.00
412	1012	29.55	0.00	0.00	0.00	0.00
412	12	29.55	0.00	0.00	0.00	0.00
413	1013	32.90	0.00	0.00	0.00	0.00
413	13	32.90	0.00	0.00	0.00	0.00
414	1014	36.03	0.00	0.00	0.00	0.00
414	14	36.03	0.00	0.00	0.00	0.00
415	1015	39.16	0.00	0.00	0.00	0.00
415	15	39.16	0.00	0.00	0.00	0.00
416	1016	42.29	0.00	0.00	0.00	0.00
416	16	42.29	0.00	0.00	0.00	0.00
417	1017	45.42	0.00	0.00	0.00	0.00
417	17	45.42	0.00	0.00	0.00	0.00
418	1018	48.55	0.00	0.00	0.00	0.00
418	18	48.55	0.00	0.00	0.00	0.00
419	1019	51.68	0.00	0.00	0.00	0.00
419	19	51.68	0.00	0.00	0.00	0.00
420	1020	54.81	0.00	0.00	0.00	0.00
420	20	54.81	0.00	0.00	0.00	0.00
421	1021	57.94	0.00	0.00	0.00	0.00
421	21	57.94	0.00	0.00	0.00	0.00
422	1022	61.07	0.00	0.00	0.00	0.00
422	22	61.07	0.00	0.00	0.00	0.00
423	1023	64.20	0.00	0.00	0.00	0.00
423	23	64.20	0.00	0.00	0.00	0.00
424	1024	67.55	0.00	0.00	0.00	0.00
424	24	67.55	0.00	0.00	0.00	0.00
425	1025	70.90	0.00	0.00	0.00	0.00
425	25	70.90	0.00	0.00	0.00	0.00
426	1026	74.23	0.00	0.00	0.00	0.00
426	26	74.23	0.00	0.00	0.00	0.00
427	1027	77.56	0.00	0.00	0.00	0.00
427	27	77.56	0.00	0.00	0.00	0.00
428	1028	80.89	0.00	0.00	0.00	0.00
428	28	80.89	0.00	0.00	0.00	0.00
429	1029	84.22	0.00	0.00	0.00	0.00
429	29	84.22	0.00	0.00	0.00	0.00
430	1030	87.55	0.00	0.00	0.00	0.00
430	30	87.55	0.00	0.00	0.00	0.00

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Programa DINTEL IDEAM S.A.
20/10/02

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	0.00	0.00	0.00
431	31	90.88	0.00	0.00	0.00	0.00
432	1032	94.21	0.00	0.00	0.00	0.00
432	32	94.21	0.00	0.00	0.00	0.00
433	1033	97.54	0.00	0.00	0.00	0.00
433	33	97.54	0.00	0.00	0.00	0.00
434	1034	100.87	0.00	0.00	0.00	0.00
434	34	100.87	0.00	0.00	0.00	0.00
435	1035	104.20	0.00	0.00	0.00	0.00
435	35	104.20	0.00	0.00	0.00	0.00
436	1036	107.55	0.00	0.00	0.00	0.00
436	36	107.55	0.00	0.00	0.00	0.00
437	1037	110.90	0.00	0.00	0.00	0.00
437	37	110.90	0.00	0.00	0.00	0.00
438	1038	113.77	0.00	0.00	0.00	0.00
438	38	113.77	0.00	0.00	0.00	0.00
439	1039	116.64	0.00	0.00	0.00	0.00
439	39	116.64	0.00	0.00	0.00	0.00
440	1040	119.51	0.00	0.00	0.00	0.00
440	40	119.51	0.00	0.00	0.00	0.00
441	1041	122.38	0.00	0.00	0.00	0.00
441	41	122.38	0.00	0.00	0.00	0.00
442	1042	125.25	0.00	0.00	0.00	0.00
442	42	125.25	0.00	0.00	0.00	0.00
443	1043	128.12	0.00	0.00	0.00	0.00
443	43	128.12	0.00	0.00	0.00	0.00
444	1044	130.99	0.00	0.00	0.00	0.00
444	44	130.99	0.00	0.00	0.00	0.00
445	1045	133.86	0.00	0.00	0.00	0.00
445	45	133.86	0.00	0.00	0.00	0.00
446	1046	136.73	0.00	0.00	0.00	0.00
446	46	136.73	0.00	0.00	0.00	0.00
447	1047	139.60	0.00	0.00	0.00	0.00
447	47	139.60	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-11.52	-3.02	-0.12
1	2	2.62	0.00	-9.42	3.30	27.32
2	2	2.62	0.00	-8.47	-1.76	27.08
2	3	5.24	0.00	-6.62	-0.80	39.29
3	3	5.24	0.00	-6.11	-8.71	35.69
3	4	7.86	0.00	-4.63	-7.37	39.35
4	4	7.86	0.00	-4.36	-9.65	39.26
4	5	10.48	0.00	-3.18	-8.10	37.36
5	5	10.48	0.00	-3.00	-9.93	37.32
5	6	13.10	0.00	-2.09	-8.28	32.08
6	6	13.10	0.00	-1.95	-8.24	30.71
6	7	15.72	0.00	-1.27	-6.53	23.90
7	7	15.72	0.00	-1.15	-7.71	23.93
7	8	18.34	0.00	-0.70	-5.93	17.09
8	8	18.34	0.00	-0.58	-6.81	17.07
8	9	20.96	0.00	-0.35	-4.89	11.47
9	9	20.96	0.00	-0.23	-5.79	11.50
9	10	23.58	0.00	-0.22	-3.65	8.34
10	10	23.58	0.00	-0.15	-3.38	7.52
10	10011	26.20	0.00	-0.15	-3.38	7.92
11	11	26.20	0.00	-21.19	-1.13	-125.95
11	12	29.55	0.00	-18.51	6.95	-59.46
12	12	29.55	0.00	-16.97	-1.39	-59.59
12	13	32.90	0.00	-14.37	2.56	-13.08
13	13	32.90	0.00	-13.20	-4.27	-13.28
13	14	36.03	0.00	-11.09	-0.37	15.30
14	14	36.03	0.00	-10.25	-4.00	14.72
14	15	39.16	0.00	-8.42	-0.08	31.78
15	15	39.16	0.00	-7.90	-7.22	29.62
15	16	42.29	0.00	-6.31	-3.43	37.93
16	16	42.29	0.00	-5.95	-6.80	37.81
16	17	45.42	0.00	-4.59	-3.25	39.52
17	17	45.42	0.00	-4.30	-7.85	38.96
17	18	48.55	0.00	-3.17	-4.56	35.94
18	18	48.55	0.00	-2.93	-7.62	35.45
18	19	51.68	0.00	-2.02	-4.55	29.46
19	19	51.68	0.00	-1.78	-9.05	29.01
19	20	54.81	0.00	-1.11	-6.11	21.69
20	20	54.81	0.00	-0.90	-5.49	20.34
20	21	57.94	0.00	-0.52	-2.52	13.59
21	21	57.94	0.00	-0.32	-3.68	12.70
21	22	61.07	0.00	-0.23	-0.52	8.39
22	22	61.07	0.00	-0.12	-1.31	7.32
22	10023	64.20	0.00	-0.12	-1.31	7.69
23	23	64.20	0.00	-22.80	-3.19	-151.10
23	24	67.55	0.00	-20.12	4.89	-79.20
24	24	67.55	0.00	-18.33	-3.64	-80.63
24	25	70.90	0.00	-15.75	0.89	-29.64

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Programa DINTEL IDEAM S.A.
SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-14.38	-5.61	-30.02
25	26	74.23	0.00	-12.14	-0.93	3.89
26	26	74.23	0.00	-11.11	-9.54	1.66
26	27	77.56	0.00	-9.17	-4.88	22.15
27	27	77.56	0.00	-8.53	-8.52	21.39
27	28	80.89	0.00	-6.85	-4.06	31.75
28	28	80.89	0.00	-6.43	-7.43	31.58
28	29	84.22	0.00	-4.98	-3.30	34.39
29	29	84.22	0.00	-4.68	-6.09	34.27
29	30	87.55	0.00	-3.46	-2.29	31.67
30	30	87.55	0.00	-3.24	-6.79	31.07
30	31	90.88	0.00	-2.25	-3.28	25.05
31	31	90.88	0.00	-2.04	-5.29	25.03
31	32	94.21	0.00	-1.30	-1.94	17.46
32	32	94.21	0.00	-1.13	-0.63	15.97
32	33	97.54	0.00	-0.68	2.75	8.97
33	33	97.54	0.00	-0.56	0.45	8.63
33	34	100.87	0.00	-0.45	4.09	4.50
34	34	100.87	0.00	-0.43	3.62	4.48
34	10035	104.20	0.00	-0.43	3.62	5.93
35	35	104.20	0.00	-24.68	-9.89	-167.10
35	36	107.55	0.00	-22.00	-1.82	-88.92
36	36	107.55	0.00	-20.25	-10.50	-89.05
36	37	110.90	0.00	-17.57	-2.43	-25.71
37	37	110.90	0.00	-16.14	-12.90	-31.99
37	38	113.77	0.00	-14.08	-8.20	2.46
38	38	113.77	0.00	-12.96	-15.25	1.87
38	39	116.64	0.00	-11.11	-10.38	24.65
39	39	116.64	0.00	-10.25	-15.74	24.42
39	40	119.51	0.00	-8.59	-10.80	37.49
40	40	119.51	0.00	-7.96	-16.98	34.98
40	41	122.38	0.00	-6.48	-12.07	40.12
41	41	122.38	0.00	-5.97	-15.99	39.99
41	42	125.25	0.00	-4.66	-11.14	38.74
42	42	125.25	0.00	-4.20	-15.00	38.56
42	43	128.12	0.00	-3.09	-10.17	32.41
43	43	128.12	0.00	-2.65	-14.20	31.63
43	44	130.99	0.00	-1.79	-9.29	22.33
44	44	130.99	0.00	-1.36	-12.20	22.33
44	45	133.86	0.00	-0.80	-7.03	11.99
45	45	133.86	0.00	-0.54	-4.31	7.45
45	46	136.73	0.00	-0.37	1.38	-0.81
46	46	136.73	0.00	-0.30	0.41	-0.84
46	47	139.60	0.00	-0.30	0.41	0.02
101	101	0.00	0.00	-0.24	0.17	0.00
101	102	2.62	0.00	-0.24	0.17	0.62
102	102	2.62	0.00	-0.24	0.50	0.62
102	103	5.24	0.00	-0.24	0.50	1.24

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-0.25	0.97	1.21
103	104	7.86	0.00	-0.25	0.97	1.86
104	104	7.86	0.00	-0.26	1.34	1.86
104	105	10.48	0.00	-0.26	1.34	2.55
105	105	10.48	0.00	-0.36	-0.30	-4.99
105	106	13.10	0.00	-0.36	-0.30	-4.04
106	106	13.10	0.00	-0.59	0.36	-6.73
106	107	15.72	0.00	-0.59	0.36	-5.18
107	107	15.72	0.00	-1.19	-0.64	-28.32
107	108	18.34	0.00	-1.19	-0.64	-25.21
108	108	18.34	0.00	-2.17	-0.77	-25.34
108	109	20.96	0.00	-2.17	-0.77	-19.66
109	109	20.96	0.00	-3.31	-1.40	-19.80
109	110	23.58	0.00	-3.31	-1.40	-11.14
110	110	23.58	0.00	-4.59	-2.51	-11.25
110	111	26.20	0.00	-4.59	-2.51	0.79
111	111	26.20	0.00	-6.16	-3.89	0.67
111	112	29.55	0.00	-6.16	-3.89	21.32
112	112	29.55	0.00	-7.89	-5.55	21.43
112	10113	32.90	0.00	-7.89	-5.55	47.87
113	113	32.90	0.00	-0.35	0.91	0.47
113	114	36.03	0.00	-0.35	0.91	1.57
114	114	36.03	0.00	-0.35	1.64	1.65
114	115	39.16	0.00	-0.35	1.64	2.75
115	115	39.16	0.00	-0.31	3.45	-0.65
115	116	42.29	0.00	-0.31	3.45	0.32
116	116	42.29	0.00	-0.31	3.82	0.31
116	117	45.42	0.00	-0.31	3.82	1.28
117	117	45.42	0.00	-0.32	4.19	1.27
117	118	48.55	0.00	-0.32	4.19	2.26
118	118	48.55	0.00	-0.34	4.92	2.04
118	119	51.68	0.00	-0.34	4.92	3.10
119	119	51.68	0.00	-0.46	0.80	-0.28
119	120	54.81	0.00	-0.46	0.80	1.17
120	120	54.81	0.00	-1.09	-0.26	-18.91
120	121	57.94	0.00	-1.09	-0.26	-15.51
121	121	57.94	0.00	-2.18	-0.93	-17.04
121	122	61.07	0.00	-2.18	-0.93	-10.22
122	122	61.07	0.00	-3.65	0.78	-11.29
122	123	64.20	0.00	-3.65	0.78	0.13
123	123	64.20	0.00	-5.60	-1.45	0.07
123	124	67.55	0.00	-5.60	-1.45	18.84
124	124	67.55	0.00	-7.58	-3.62	18.97
124	10125	70.90	0.00	-7.58	-3.62	44.37
125	125	70.90	0.00	-0.24	-2.60	4.47
125	126	74.23	0.00	-0.24	-2.60	5.28
126	126	74.23	0.00	-0.24	-1.88	5.44
126	127	77.56	0.00	-0.24	-1.88	6.23

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-0.12	-0.76	6.37
127	128	80.89	0.00	-0.12	-0.76	6.78
128	128	80.89	0.00	0.00	0.00	0.00
128	129	84.22	0.00	0.00	0.00	0.00
129	129	84.22	0.00	-0.02	-2.29	-3.85
129	130	87.55	0.00	-0.02	-2.29	-3.78
130	130	87.55	0.00	-0.24	-5.79	-7.55
130	131	90.88	0.00	-0.24	-5.79	-6.76
131	131	90.88	0.00	-0.44	-4.77	-9.98
131	132	94.21	0.00	-0.44	-4.77	-8.50
132	132	94.21	0.00	-1.27	-3.28	-27.73
132	133	97.54	0.00	-1.27	-3.28	-23.49
133	133	97.54	0.00	-2.42	-2.79	-24.96
133	134	100.87	0.00	-2.42	-2.79	-16.90
134	134	100.87	0.00	-3.89	-1.89	-17.79
134	135	104.20	0.00	-3.89	-1.89	-4.83
135	135	104.20	0.00	-5.79	-0.95	-5.66
135	136	107.55	0.00	-5.79	-0.95	13.74
136	136	107.55	0.00	-7.52	-3.29	13.83
136	10137	110.90	0.00	-7.52	-3.29	39.02
137	137	110.90	0.00	0.00	0.00	0.00
137	138	113.77	0.00	0.00	0.00	0.00
138	138	113.77	0.00	0.00	0.00	0.00
138	139	116.64	0.00	0.00	0.00	0.00
139	139	116.64	0.00	0.00	-0.20	-0.09
139	140	119.51	0.00	0.00	-0.20	-0.09
140	140	119.51	0.00	0.00	-0.45	-0.20
140	141	122.38	0.00	0.00	-0.45	-0.19
141	141	122.38	0.00	-0.01	-0.53	-0.22
141	142	125.25	0.00	-0.01	-0.53	-0.20
142	142	125.25	0.00	-0.24	-1.59	-8.63
142	143	128.12	0.00	-0.24	-1.59	-7.95
143	143	128.12	0.00	-0.51	-1.79	-8.78
143	144	130.99	0.00	-0.51	-1.79	-7.33
144	144	130.99	0.00	-0.79	-0.16	-10.42
144	145	133.86	0.00	-0.79	-0.16	-8.16
145	145	133.86	0.00	-1.41	1.72	-10.72
145	146	136.73	0.00	-1.41	1.72	-6.69
146	146	136.73	0.00	-2.95	1.75	-8.25
146	147	139.60	0.00	-2.95	1.75	0.22
301	101	0.00	0.00	0.00	0.00	-0.09
301	2001	0.00	0.00	0.00	0.00	-0.09
302	102	2.62	0.00	0.00	0.00	-0.11
302	2002	2.62	0.00	0.00	0.00	-0.11
303	103	5.24	0.00	0.00	0.00	0.00
303	2003	5.24	0.00	0.00	0.00	0.00
304	104	7.86	0.00	0.00	0.00	0.00
304	2004	7.86	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.00	0.00	0.00
305	2005	10.48	0.00	0.00	0.00	0.00
306	106	13.10	0.00	0.00	0.00	0.00
306	2006	13.10	0.00	0.00	0.00	0.00
307	107	15.72	0.00	0.00	0.00	0.00
307	2007	15.72	0.00	0.00	0.00	0.00
308	108	18.34	0.00	0.00	0.00	-0.03
308	2008	18.34	0.00	0.00	0.00	-0.03
309	109	20.96	0.00	0.00	0.00	-0.12
309	2009	20.96	0.00	0.00	0.00	-0.12
310	110	23.58	0.00	0.00	0.00	-0.15
310	2010	23.58	0.00	0.00	0.00	-0.15
311	111	26.20	0.00	-0.01	0.00	-0.23
311	2011	26.20	0.00	-0.01	0.00	-0.23
312	112	29.55	0.00	-0.01	0.00	-0.29
312	2012	29.55	0.00	-0.01	0.00	-0.28
313	113	32.90	0.00	-0.01	0.00	-0.30
313	2013	32.90	0.00	-0.01	0.00	-0.29
314	114	36.03	0.00	-0.01	0.00	-0.31
314	2014	36.03	0.00	-0.01	0.00	-0.30
315	115	39.16	0.00	-0.06	0.11	-1.19
315	2015	39.16	0.00	-0.06	0.11	-1.14
316	116	42.29	0.00	-0.13	0.07	-1.81
316	2016	42.29	0.00	-0.13	0.07	-1.71
317	117	45.42	0.00	-0.16	-0.01	-1.83
317	2017	45.42	0.00	-0.16	-0.01	-1.71
318	118	48.55	0.00	-0.13	-0.09	-1.55
318	2018	48.55	0.00	-0.13	-0.09	-1.45
319	119	51.68	0.00	-0.04	-0.13	-0.83
319	2019	51.68	0.00	-0.04	-0.13	-0.80
320	120	54.81	0.00	0.00	0.00	0.00
320	2020	54.81	0.00	0.00	0.00	0.00
321	121	57.94	0.00	0.00	0.00	0.00
321	2021	57.94	0.00	0.00	0.00	0.00
322	122	61.07	0.00	0.00	0.00	0.00
322	2022	61.07	0.00	0.00	0.00	0.00
323	123	64.20	0.00	0.00	0.00	0.00
323	2023	64.20	0.00	0.00	0.00	0.00
324	124	67.55	0.00	0.00	0.00	0.00
324	2024	67.55	0.00	0.00	0.00	0.00
325	125	70.90	0.00	0.00	0.00	0.00
325	2025	70.90	0.00	0.00	0.00	0.00
326	126	74.23	0.00	-0.01	0.10	-0.46
326	2026	74.23	0.00	-0.01	0.10	-0.45
327	127	77.56	0.00	-0.12	0.17	-1.51
327	2027	77.56	0.00	-0.12	0.17	-1.42
328	128	80.89	0.00	-0.23	0.09	-2.07
328	2028	80.89	0.00	-0.23	0.09	-1.89

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-0.28	0.00	-2.28
329	2029	84.22	0.00	-0.28	0.00	-2.07
330	130	87.55	0.00	-0.23	-0.10	-2.00
330	2030	87.55	0.00	-0.23	-0.10	-1.82
331	131	90.88	0.00	-0.10	-0.17	-1.45
331	2031	90.88	0.00	-0.10	-0.17	-1.37
332	132	94.21	0.00	0.00	0.00	0.00
332	2032	94.21	0.00	0.00	0.00	0.00
333	133	97.54	0.00	0.00	0.00	0.00
333	2033	97.54	0.00	0.00	0.00	0.00
334	134	100.87	0.00	0.00	0.00	0.00
334	2034	100.87	0.00	0.00	0.00	0.00
335	135	104.20	0.00	-0.01	0.01	-0.29
335	2035	104.20	0.00	-0.01	0.01	-0.28
336	136	107.55	0.00	-0.01	0.00	-0.30
336	2036	107.55	0.00	-0.01	0.00	-0.29
337	137	110.90	0.00	-0.01	0.00	-0.28
337	2037	110.90	0.00	-0.01	0.00	-0.27
338	138	113.77	0.00	-0.01	0.00	-0.27
338	2038	113.77	0.00	-0.01	0.00	-0.26
339	139	116.64	0.00	-0.02	0.08	-0.75
339	2039	116.64	0.00	-0.02	0.08	-0.74
340	140	119.51	0.00	-0.06	0.09	-1.41
340	2040	119.51	0.00	-0.06	0.09	-1.36
341	141	122.38	0.00	-0.09	0.03	-1.78
341	2041	122.38	0.00	-0.09	0.03	-1.72
342	142	125.25	0.00	-0.05	-0.05	-1.30
342	2042	125.25	0.00	-0.05	-0.05	-1.27
343	143	128.12	0.00	0.00	0.00	0.00
343	2043	128.12	0.00	0.00	0.00	0.00
344	144	130.99	0.00	0.00	0.00	0.00
344	2044	130.99	0.00	0.00	0.00	0.00
345	145	133.86	0.00	0.00	0.00	0.00
345	2045	133.86	0.00	0.00	0.00	0.00
346	146	136.73	0.00	0.00	0.00	0.00
346	2046	136.73	0.00	0.00	0.00	0.00
347	147	139.60	0.00	0.00	0.00	0.00
347	2047	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	-0.09
201	1001	0.00	0.00	0.00	0.00	-0.08
202	2002	2.62	0.00	0.00	0.00	-0.11
202	1002	2.62	0.00	0.00	0.00	-0.10
203	2003	5.24	0.00	0.00	0.00	0.00
203	1003	5.24	0.00	0.00	0.00	0.00
204	2004	7.86	0.00	0.00	0.00	0.00
204	1004	7.86	0.00	0.00	0.00	0.00
205	2005	10.48	0.00	0.00	0.00	0.00
205	1005	10.48	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	0.00	0.00	0.00
206	1006	13.10	0.00	0.00	0.00	0.00
207	2007	15.72	0.00	0.00	0.00	0.00
207	1007	15.72	0.00	0.00	0.00	0.00
208	2008	18.34	0.00	0.00	0.00	-0.03
208	1008	18.34	0.00	0.00	0.00	-0.03
209	2009	20.96	0.00	0.00	0.00	-0.12
209	1009	20.96	0.00	0.00	0.00	-0.12
210	2010	23.58	0.00	0.00	0.00	-0.15
210	1010	23.58	0.00	0.00	0.00	-0.13
211	2011	26.20	0.00	-0.01	0.00	-0.23
211	1011	26.20	0.00	-0.01	0.00	-0.20
212	2012	29.55	0.00	-0.01	0.00	-0.28
212	1012	29.55	0.00	-0.01	0.00	-0.22
213	2013	32.90	0.00	-0.01	0.00	-0.29
213	1013	32.90	0.00	-0.01	0.00	-0.22
214	2014	36.03	0.00	-0.01	0.00	-0.30
214	1014	36.03	0.00	-0.01	0.00	-0.23
215	2015	39.16	0.00	-0.06	0.11	-1.14
215	1015	39.16	0.00	-0.06	0.11	-0.85
216	2016	42.29	0.00	-0.13	0.07	-1.71
216	1016	42.29	0.00	-0.13	0.07	-1.09
217	2017	45.42	0.00	-0.16	-0.01	-1.71
217	1017	45.42	0.00	-0.16	-0.01	-0.94
218	2018	48.55	0.00	-0.13	-0.09	-1.45
218	1018	48.55	0.00	-0.13	-0.09	-0.85
219	2019	51.68	0.00	-0.04	-0.13	-0.80
219	1019	51.68	0.00	-0.04	-0.13	-0.60
220	2020	54.81	0.00	0.00	0.00	0.00
220	1020	54.81	0.00	0.00	0.00	0.00
221	2021	57.94	0.00	0.00	0.00	0.00
221	1021	57.94	0.00	0.00	0.00	0.00
222	2022	61.07	0.00	0.00	0.00	0.00
222	1022	61.07	0.00	0.00	0.00	0.00
223	2023	64.20	0.00	0.00	0.00	0.00
223	1023	64.20	0.00	0.00	0.00	0.00
224	2024	67.55	0.00	0.00	0.00	0.00
224	1024	67.55	0.00	0.00	0.00	0.00
225	2025	70.90	0.00	0.00	0.00	0.00
225	1025	70.90	0.00	0.00	0.00	0.00
226	2026	74.23	0.00	-0.01	0.10	-0.45
226	1026	74.23	0.00	-0.01	0.10	-0.39
227	2027	77.56	0.00	-0.12	0.17	-1.42
227	1027	77.56	0.00	-0.12	0.17	-0.86
228	2028	80.89	0.00	-0.23	0.09	-1.89
228	1028	80.89	0.00	-0.23	0.09	-0.78
229	2029	84.22	0.00	-0.28	0.00	-2.07
229	1029	84.22	0.00	-0.28	0.00	-0.75

~csimp4.esv
Programa DINTEL IDEAM S.A.
SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-0.23	-0.10	-1.82
230	1030	87.55	0.00	-0.23	-0.10	-0.72
231	2031	90.88	0.00	-0.10	-0.17	-1.37
231	1031	90.88	0.00	-0.10	-0.17	-0.88
232	2032	94.21	0.00	0.00	0.00	0.00
232	1032	94.21	0.00	0.00	0.00	0.00
233	2033	97.54	0.00	0.00	0.00	0.00
233	1033	97.54	0.00	0.00	0.00	0.00
234	2034	100.87	0.00	0.00	0.00	0.00
234	1034	100.87	0.00	0.00	0.00	0.00
235	2035	104.20	0.00	-0.01	0.01	-0.28
235	1035	104.20	0.00	-0.01	0.01	-0.24
236	2036	107.55	0.00	-0.01	0.00	-0.29
236	1036	107.55	0.00	-0.01	0.00	-0.23
237	2037	110.90	0.00	-0.01	0.00	-0.27
237	1037	110.90	0.00	-0.01	0.00	-0.21
238	2038	113.77	0.00	-0.01	0.00	-0.26
238	1038	113.77	0.00	-0.01	0.00	-0.21
239	2039	116.64	0.00	-0.02	0.08	-0.74
239	1039	116.64	0.00	-0.02	0.08	-0.64
240	2040	119.51	0.00	-0.06	0.09	-1.33
240	1040	119.51	0.00	-0.06	0.09	-1.02
241	2041	122.38	0.00	-0.09	0.03	-1.72
241	1041	122.38	0.00	-0.09	0.03	-1.30
242	2042	125.25	0.00	-0.05	-0.05	-1.27
242	1042	125.25	0.00	-0.05	-0.05	-1.05
243	2043	128.12	0.00	0.00	0.00	0.00
243	1043	128.12	0.00	0.00	0.00	0.00
244	2044	130.99	0.00	0.00	0.00	0.00
244	1044	130.99	0.00	0.00	0.00	0.00
245	2045	133.86	0.00	0.00	0.00	0.00
245	1045	133.86	0.00	0.00	0.00	0.00
246	2046	136.73	0.00	0.00	0.00	0.00
246	1046	136.73	0.00	0.00	0.00	0.00
247	2047	139.60	0.00	0.00	0.00	0.00
247	1047	139.60	0.00	0.00	0.00	0.00
401	1001	0.00	0.00	0.00	0.00	-0.08
401	1	0.00	0.00	0.00	0.00	-0.08
402	1002	2.62	0.00	0.00	0.00	-0.10
402	2	2.62	0.00	0.00	0.00	-0.10
403	1003	5.24	0.00	0.00	0.00	0.00
403	3	5.24	0.00	0.00	0.00	0.00
404	1004	7.86	0.00	0.00	0.00	0.00
404	4	7.86	0.00	0.00	0.00	0.00
405	1005	10.48	0.00	0.00	0.00	0.00
405	5	10.48	0.00	0.00	0.00	0.00
406	1006	13.10	0.00	0.00	0.00	0.00
406	6	13.10	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.00	0.00	0.00
407	7	15.72	0.00	0.00	0.00	0.00
408	1008	18.34	0.00	0.00	0.00	-0.03
408	8	18.34	0.00	0.00	0.00	-0.03
409	1009	20.96	0.00	0.00	0.00	-0.12
409	9	20.96	0.00	0.00	0.00	-0.11
410	1010	23.58	0.00	0.00	0.00	-0.13
410	10	23.58	0.00	0.00	0.00	-0.13
411	1011	26.20	0.00	-0.01	0.00	-0.20
411	11	26.20	0.00	-0.01	0.00	-0.19
412	1012	29.55	0.00	-0.01	0.00	-0.22
412	12	29.55	0.00	-0.01	0.00	-0.21
413	1013	32.90	0.00	-0.01	0.00	-0.22
413	13	32.90	0.00	-0.01	0.00	-0.21
414	1014	36.03	0.00	-0.01	0.00	-0.23
414	14	36.03	0.00	-0.01	0.00	-0.22
415	1015	39.16	0.00	-0.06	0.11	-0.85
415	15	39.16	0.00	-0.06	0.11	-0.80
416	1016	42.29	0.00	-0.13	0.07	-1.09
416	16	42.29	0.00	-0.13	0.07	-1.00
417	1017	45.42	0.00	-0.16	-0.01	-0.94
417	17	45.42	0.00	-0.16	-0.01	-0.82
418	1018	48.55	0.00	-0.13	-0.09	-0.85
418	18	48.55	0.00	-0.13	-0.09	-0.76
419	1019	51.68	0.00	-0.04	-0.13	-0.60
419	19	51.68	0.00	-0.04	-0.13	-0.57
420	1020	54.81	0.00	0.00	0.00	0.00
420	20	54.81	0.00	0.00	0.00	0.00
421	1021	57.94	0.00	0.00	0.00	0.00
421	21	57.94	0.00	0.00	0.00	0.00
422	1022	61.07	0.00	0.00	0.00	0.00
422	22	61.07	0.00	0.00	0.00	0.00
423	1023	64.20	0.00	0.00	0.00	0.00
423	23	64.20	0.00	0.00	0.00	0.00
424	1024	67.55	0.00	0.00	0.00	0.00
424	24	67.55	0.00	0.00	0.00	0.00
425	1025	70.90	0.00	0.00	0.00	0.00
425	25	70.90	0.00	0.00	0.00	0.00
426	1026	74.23	0.00	-0.01	0.10	-0.39
426	26	74.23	0.00	-0.01	0.10	-0.38
427	1027	77.56	0.00	-0.12	0.17	-0.86
427	27	77.56	0.00	-0.12	0.17	-0.77
428	1028	80.89	0.00	-0.23	0.09	-0.78
428	28	80.89	0.00	-0.23	0.09	-0.60
429	1029	84.22	0.00	-0.28	0.00	-0.75
429	29	84.22	0.00	-0.28	0.00	-0.54
430	1030	87.55	0.00	-0.23	-0.10	-0.72
430	30	87.55	0.00	-0.23	-0.10	-0.54

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-0.10	-0.17	-0.88
431	31	90.88	0.00	-0.10	-0.17	-0.80
432	1032	94.21	0.00	0.00	0.00	0.00
432	32	94.21	0.00	0.00	0.00	0.00
433	1033	97.54	0.00	0.00	0.00	0.00
433	33	97.54	0.00	0.00	0.00	0.00
434	1034	100.87	0.00	0.00	0.00	0.00
434	34	100.87	0.00	0.00	0.00	0.00
435	1035	104.20	0.00	-0.01	0.01	-0.24
435	35	104.20	0.00	-0.01	0.01	-0.23
436	1036	107.55	0.00	-0.01	0.00	-0.23
436	36	107.55	0.00	-0.01	0.00	-0.22
437	1037	110.90	0.00	-0.01	0.00	-0.21
437	37	110.90	0.00	-0.01	0.00	-0.20
438	1038	113.77	0.00	-0.01	0.00	-0.21
438	38	113.77	0.00	-0.01	0.00	-0.20
439	1039	116.64	0.00	-0.02	0.08	-0.64
439	39	116.64	0.00	-0.02	0.08	-0.63
440	1040	119.51	0.00	-0.06	0.09	-1.05
440	40	119.51	0.00	-0.06	0.09	-1.00
441	1041	122.38	0.00	-0.09	0.03	-1.30
441	41	122.38	0.00	-0.09	0.03	-1.24
442	1042	125.25	0.00	-0.05	-0.05	-1.05
442	42	125.25	0.00	-0.05	-0.05	-1.02
443	1043	128.12	0.00	0.00	0.00	0.00
443	43	128.12	0.00	0.00	0.00	0.00
444	1044	130.99	0.00	0.00	0.00	0.00
444	44	130.99	0.00	0.00	0.00	0.00
445	1045	133.86	0.00	0.00	0.00	0.00
445	45	133.86	0.00	0.00	0.00	0.00
446	1046	136.73	0.00	0.00	0.00	0.00
446	46	136.73	0.00	0.00	0.00	0.00
447	1047	139.60	0.00	0.00	0.00	0.00
447	47	139.60	0.00	0.00	0.00	0.00

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-10.45	-3.99	-0.12
1	2	2.62	0.00	-8.19	-3.62	21.33
2	2	2.62	0.00	-7.06	-10.12	21.13
2	3	5.24	0.00	-5.22	-9.17	29.65
3	3	5.24	0.00	-4.39	-14.57	29.50
3	4	7.86	0.00	-2.90	-13.24	28.64
4	4	7.86	0.00	-2.24	-17.97	28.55
4	5	10.48	0.00	-1.06	-16.42	21.09
5	5	10.48	0.00	-0.46	-20.85	21.06
5	6	13.10	0.00	0.46	-19.20	9.15
6	6	13.10	0.00	1.09	-23.57	9.16
6	7	15.72	0.00	1.76	-21.86	-5.59
7	7	15.72	0.00	2.46	-26.35	-5.57
7	8	18.34	0.00	2.91	-24.57	-21.87
8	8	18.34	0.00	3.69	-29.21	-21.86
8	9	20.96	0.00	3.92	-27.29	-38.62
9	9	20.96	0.00	4.76	-32.04	-38.63
9	10	23.58	0.00	4.76	-29.91	-54.84
10	10	23.58	0.00	5.61	-34.63	-54.89
10	10011	26.20	0.00	5.40	-32.22	-69.57
11	11	26.20	0.00	-16.62	-37.33	-69.70
11	12	29.55	0.00	-13.67	-33.80	-19.77
12	12	29.55	0.00	-12.86	-38.82	-19.99
12	13	32.90	0.00	-10.26	-34.87	12.72
13	13	32.90	0.00	-9.70	-38.94	12.49
13	14	36.03	0.00	-7.59	-35.03	30.12
14	14	36.03	0.00	-7.22	-38.37	29.93
14	15	39.16	0.00	-5.39	-34.45	37.51
15	15	39.16	0.00	-5.12	-37.44	37.36
15	16	42.29	0.00	-3.54	-33.65	36.98
16	16	42.29	0.00	-3.27	-36.58	36.90
16	17	45.42	0.00	-1.92	-33.02	30.24
17	17	45.42	0.00	-1.57	-36.18	30.21
17	18	48.55	0.00	-0.44	-32.88	18.64
18	18	48.55	0.00	0.05	-36.46	18.65
18	19	51.68	0.00	0.96	-33.39	3.33
19	19	51.68	0.00	1.62	-37.51	3.36
19	20	54.81	0.00	2.28	-34.56	-14.59
20	20	54.81	0.00	3.13	-39.21	-14.56
20	21	57.94	0.00	3.52	-36.24	-33.93
21	21	57.94	0.00	4.49	-41.28	-33.94
21	22	61.07	0.00	4.59	-38.13	-53.33
22	22	61.07	0.00	5.61	-43.31	-53.40
22	10023	64.20	0.00	5.41	-39.83	-71.26
23	23	64.20	0.00	-16.88	-44.96	-71.43
23	24	67.55	0.00	-13.94	-40.81	-20.69
24	24	67.55	0.00	-13.12	-45.44	-20.95
24	25	70.90	0.00	-10.54	-40.91	12.58

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-9.99	-44.61	12.32
25	26	74.23	0.00	-7.75	-39.94	31.61
26	26	74.23	0.00	-7.40	-43.06	31.37
26	27	77.56	0.00	-5.46	-38.41	39.50
27	27	77.56	0.00	-5.23	-41.13	39.31
27	28	80.89	0.00	-3.55	-36.68	38.68
28	28	80.89	0.00	-3.33	-39.34	38.56
28	29	84.22	0.00	-1.89	-35.20	31.05
29	29	84.22	0.00	-1.57	-38.12	31.00
29	30	87.55	0.00	-0.35	-34.33	18.04
30	30	87.55	0.00	0.13	-37.76	18.04
30	31	90.88	0.00	1.12	-34.25	0.80
31	31	90.88	0.00	1.81	-38.33	0.83
31	32	94.21	0.00	2.55	-34.98	-19.57
32	32	94.21	0.00	3.46	-39.70	-19.54
32	33	97.54	0.00	3.90	-36.32	-41.81
33	33	97.54	0.00	4.98	-41.52	-41.83
33	34	100.87	0.00	5.09	-37.88	-64.40
34	34	100.87	0.00	6.22	-43.22	-64.49
34	10035	104.20	0.00	6.00	-39.13	-85.45
35	35	104.20	0.00	-18.64	-43.76	-85.64
35	36	107.55	0.00	-15.65	-39.10	-28.83
36	36	107.55	0.00	-14.98	-42.63	-29.09
36	37	110.90	0.00	-12.30	-37.51	10.56
37	37	110.90	0.00	-11.90	-40.13	10.29
37	38	113.77	0.00	-9.84	-35.44	32.57
38	38	113.77	0.00	-9.64	-37.36	32.33
38	39	116.64	0.00	-7.80	-32.49	45.60
39	39	116.64	0.00	-7.73	-33.90	45.41
39	40	119.51	0.00	-6.08	-28.96	51.25
40	40	119.51	0.00	-6.08	-30.08	51.12
40	41	122.38	0.00	-4.59	-25.17	50.85
41	41	122.38	0.00	-4.59	-26.21	50.79
41	42	125.25	0.00	-3.28	-21.35	45.59
42	42	125.25	0.00	-3.22	-22.47	45.58
42	43	128.12	0.00	-2.11	-17.65	36.62
43	43	128.12	0.00	-1.96	-18.90	36.65
43	44	130.99	0.00	-1.09	-13.99	25.35
44	44	130.99	0.00	-0.87	-15.32	25.40
44	45	133.86	0.00	-0.31	-10.14	13.64
45	45	133.86	0.00	-0.07	-11.35	13.68
45	46	136.73	0.00	0.11	-5.67	4.06
46	46	136.73	0.00	0.28	-6.45	4.09
46	47	139.60	0.00	0.00	0.00	0.00
101	101	0.00	0.00	4.41	-1.13	0.12
101	102	2.62	0.00	4.41	-1.13	-11.42
102	102	2.62	0.00	3.20	-2.53	-11.20
102	103	5.24	0.00	3.20	-2.53	-19.59

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	2.22	-3.22	-19.41
103	104	7.86	0.00	2.22	-3.22	-25.24
104	104	7.86	0.00	1.41	-3.39	-25.12
104	105	10.48	0.00	1.41	-3.39	-28.82
105	105	10.48	0.00	0.69	-3.29	-28.77
105	106	13.10	0.00	0.69	-3.29	-30.59
106	106	13.10	0.00	-0.01	-3.22	-26.86
106	107	15.72	0.00	-0.01	-3.22	-26.82
107	107	15.72	0.00	-0.63	-3.46	-25.89
107	108	18.34	0.00	-0.63	-3.46	-24.24
108	108	18.34	0.00	-1.25	-3.97	-23.40
108	109	20.96	0.00	-1.25	-3.97	-20.14
109	109	20.96	0.00	-2.11	-4.79	-21.31
109	110	23.58	0.00	-2.11	-4.79	-15.78
110	110	23.58	0.00	-3.16	-5.89	-16.48
110	111	26.20	0.00	-3.16	-5.89	-8.19
111	111	26.20	0.00	-5.21	-7.50	-8.45
111	112	29.55	0.00	-5.21	-7.50	9.02
112	112	29.55	0.00	-6.68	-9.24	9.13
112	10113	32.90	0.00	-6.68	-9.24	31.49
113	113	32.90	0.00	3.12	-10.29	31.68
113	114	36.03	0.00	3.12	-10.29	21.91
114	114	36.03	0.00	2.24	-10.51	22.11
114	115	39.16	0.00	2.24	-10.51	15.10
115	115	39.16	0.00	1.59	-9.96	14.67
115	116	42.29	0.00	1.59	-9.96	9.69
116	116	42.29	0.00	1.14	-9.00	7.98
116	117	45.42	0.00	1.14	-9.00	4.42
117	117	45.42	0.00	0.75	-8.29	2.14
117	118	48.55	0.00	0.75	-8.29	-0.20
118	118	48.55	0.00	0.60	-7.95	-7.42
118	119	51.68	0.00	0.60	-7.95	-9.31
119	119	51.68	0.00	0.24	-8.03	-13.18
119	120	54.81	0.00	0.24	-8.03	-13.94
120	120	54.81	0.00	-0.37	-8.35	-17.45
120	121	57.94	0.00	-0.37	-8.35	-16.31
121	121	57.94	0.00	-1.19	-8.93	-17.96
121	122	61.07	0.00	-1.19	-8.93	-14.23
122	122	61.07	0.00	-1.94	-9.63	-14.31
122	123	64.20	0.00	-1.94	-9.63	-8.23
123	123	64.20	0.00	-3.17	-10.42	-8.89
123	124	67.55	0.00	-3.17	-10.42	1.73
124	124	67.55	0.00	-4.50	-10.98	2.69
124	10125	70.90	0.00	-4.50	-10.98	17.76
125	125	70.90	0.00	1.93	-11.16	22.09
125	126	74.23	0.00	1.93	-11.16	15.65
126	126	74.23	0.00	1.97	-11.42	15.86
126	127	77.56	0.00	1.97	-11.42	9.30

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	1.28	-10.84	8.58
127	128	80.89	0.00	1.28	-10.84	4.31
128	128	80.89	0.00	0.82	-10.02	0.07
128	129	84.22	0.00	0.82	-10.02	-2.66
129	129	84.22	0.00	0.33	-9.63	-5.35
129	130	87.55	0.00	0.33	-9.63	-6.44
130	130	87.55	0.00	-0.07	-9.26	-7.11
130	131	90.88	0.00	-0.07	-9.26	-6.87
131	131	90.88	0.00	-0.30	-8.71	-6.84
131	132	94.21	0.00	-0.30	-8.71	-5.83
132	132	94.21	0.00	-0.84	-8.33	-16.37
132	133	97.54	0.00	-0.84	-8.33	-13.56
133	133	97.54	0.00	-1.66	-8.50	-16.76
133	134	100.87	0.00	-1.66	-8.50	-11.22
134	134	100.87	0.00	-2.37	-8.89	-11.13
134	135	104.20	0.00	-2.37	-8.89	-3.24
135	135	104.20	0.00	-3.66	-9.32	-3.81
135	136	107.55	0.00	-3.66	-9.32	8.46
136	136	107.55	0.00	-4.76	-9.42	9.49
136	10137	110.90	0.00	-4.76	-9.42	25.45
137	137	110.90	0.00	1.83	-8.95	25.70
137	138	113.77	0.00	1.83	-8.95	20.44
138	138	113.77	0.00	1.80	-7.87	21.86
138	139	116.64	0.00	1.80	-7.87	16.69
139	139	116.64	0.00	1.40	-6.37	15.95
139	140	119.51	0.00	1.40	-6.37	11.94
140	140	119.51	0.00	1.50	-4.75	7.79
140	141	122.38	0.00	1.50	-4.75	3.48
141	141	122.38	0.00	0.66	-3.81	-5.13
141	142	125.25	0.00	0.66	-3.81	-7.02
142	142	125.25	0.00	0.04	-3.44	-7.82
142	143	128.12	0.00	0.04	-3.44	-7.93
143	143	128.12	0.00	-0.31	-2.92	-7.89
143	144	130.99	0.00	-0.31	-2.92	-7.01
144	144	130.99	0.00	-0.59	-2.25	-6.68
144	145	133.86	0.00	-0.59	-2.25	-4.99
145	145	133.86	0.00	-0.78	-1.44	-4.96
145	146	136.73	0.00	-0.78	-1.44	-2.72
146	146	136.73	0.00	-0.94	-0.51	-2.70
146	147	139.60	0.00	-0.94	-0.51	-0.01
301	101	0.00	0.00	0.09	0.00	-0.14
301	2001	0.00	0.00	0.09	0.00	-0.21
302	102	2.62	0.00	0.25	-0.01	-0.28
302	2002	2.62	0.00	0.25	-0.01	-0.47
303	103	5.24	0.00	0.28	-0.01	-0.27
303	2003	5.24	0.00	0.28	-0.01	-0.48
304	104	7.86	0.00	0.31	-0.01	-0.19
304	2004	7.86	0.00	0.31	-0.01	-0.42

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.40	-0.02	-0.08
305	2005	10.48	0.00	0.40	-0.02	-0.38
306	106	13.10	0.00	0.64	-0.04	-0.28
306	2006	13.10	0.00	0.64	-0.04	-0.76
307	107	15.72	0.00	0.81	-0.09	-0.34
307	2007	15.72	0.00	0.81	-0.09	-0.95
308	108	18.34	0.00	0.46	-0.14	-0.58
308	2008	18.34	0.00	0.46	-0.14	-0.93
309	109	20.96	0.00	0.56	-0.17	-0.17
309	2009	20.96	0.00	0.56	-0.17	-0.60
310	110	23.58	0.00	0.69	-0.18	0.28
310	2010	23.58	0.00	0.69	-0.18	-0.25
311	111	26.20	0.00	0.78	-0.18	0.62
311	2011	26.20	0.00	0.78	-0.18	0.03
312	112	29.55	0.00	0.97	-0.13	1.06
312	2012	29.55	0.00	0.97	-0.13	0.33
313	113	32.90	0.00	0.93	-0.06	1.16
313	2013	32.90	0.00	0.93	-0.06	0.46
314	114	36.03	0.00	0.64	-0.01	0.55
314	2014	36.03	0.00	0.64	-0.01	0.07
315	115	39.16	0.00	0.13	0.00	-0.24
315	2015	39.16	0.00	0.13	0.00	-0.34
316	116	42.29	0.00	0.18	-0.01	-0.64
316	2016	42.29	0.00	0.18	-0.01	-0.77
317	117	45.42	0.00	0.24	-0.05	-1.03
317	2017	45.42	0.00	0.24	-0.05	-1.21
318	118	48.55	0.00	0.16	-0.12	-1.62
318	2018	48.55	0.00	0.16	-0.12	-1.74
319	119	51.68	0.00	0.18	-0.20	-1.74
319	2019	51.68	0.00	0.18	-0.20	-1.87
320	120	54.81	0.00	0.40	-0.27	-1.05
320	2020	54.81	0.00	0.40	-0.27	-1.35
321	121	57.94	0.00	0.68	-0.31	-0.15
321	2021	57.94	0.00	0.68	-0.31	-0.66
322	122	61.07	0.00	0.95	-0.31	0.74
322	2022	61.07	0.00	0.95	-0.31	0.03
323	123	64.20	0.00	1.09	-0.25	1.33
323	2023	64.20	0.00	1.09	-0.25	0.51
324	124	67.55	0.00	1.23	-0.15	1.80
324	2024	67.55	0.00	1.23	-0.15	0.87
325	125	70.90	0.00	1.15	-0.05	1.79
325	2025	70.90	0.00	1.15	-0.05	0.92
326	126	74.23	0.00	0.01	0.00	-0.25
326	2026	74.23	0.00	0.01	0.00	-0.25
327	127	77.56	0.00	0.00	0.00	-0.24
327	2027	77.56	0.00	0.00	0.00	-0.24
328	128	80.89	0.00	0.06	-0.01	-0.70
328	2028	80.89	0.00	0.06	-0.01	-0.74

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.27	-0.06	-1.11
329	2029	84.22	0.00	0.27	-0.06	-1.31
330	130	87.55	0.00	0.35	-0.13	-1.34
330	2030	87.55	0.00	0.35	-0.13	-1.60
331	131	90.88	0.00	0.56	-0.22	-1.39
331	2031	90.88	0.00	0.56	-0.22	-1.82
332	132	94.21	0.00	0.37	-0.30	-1.29
332	2032	94.21	0.00	0.37	-0.30	-1.57
333	133	97.54	0.00	0.61	-0.35	-0.29
333	2033	97.54	0.00	0.61	-0.35	-0.75
334	134	100.87	0.00	0.93	-0.34	0.80
334	2034	100.87	0.00	0.93	-0.34	0.09
335	135	104.20	0.00	0.98	-0.25	1.28
335	2035	104.20	0.00	0.98	-0.25	0.54
336	136	107.55	0.00	0.98	-0.13	1.44
336	2036	107.55	0.00	0.98	-0.13	0.70
337	137	110.90	0.00	0.93	-0.05	1.20
337	2037	110.90	0.00	0.93	-0.05	0.50
338	138	113.77	0.00	0.46	-0.01	0.49
338	2038	113.77	0.00	0.46	-0.01	0.15
339	139	116.64	0.00	-0.01	0.00	-0.38
339	2039	116.64	0.00	-0.01	0.00	-0.37
340	140	119.51	0.00	0.00	0.00	-0.36
340	2040	119.51	0.00	0.00	0.00	-0.36
341	141	122.38	0.00	0.02	-0.02	-1.04
341	2041	122.38	0.00	0.02	-0.02	-1.05
342	142	125.25	0.00	0.00	-0.08	-1.59
342	2042	125.25	0.00	0.00	-0.08	-1.59
343	143	128.12	0.00	0.25	-0.18	-1.56
343	2043	128.12	0.00	0.25	-0.18	-1.75
344	144	130.99	0.00	0.58	-0.29	-0.73
344	2044	130.99	0.00	0.58	-0.29	-1.17
345	145	133.86	0.00	1.00	-0.39	0.57
345	2045	133.86	0.00	1.00	-0.39	-0.18
346	146	136.73	0.00	1.52	-0.46	2.20
346	2046	136.73	0.00	1.52	-0.46	1.05
347	147	139.60	0.00	1.06	-0.24	2.04
347	2047	139.60	0.00	1.06	-0.24	1.24
201	2001	0.00	0.00	0.09	0.00	-0.21
201	1001	0.00	0.00	0.09	0.00	-0.64
202	2002	2.62	0.00	0.25	-0.01	-0.47
202	1002	2.62	0.00	0.25	-0.01	-1.68
203	2003	5.24	0.00	0.28	-0.01	-0.48
203	1003	5.24	0.00	0.28	-0.01	-1.84
204	2004	7.86	0.00	0.31	-0.01	-0.42
204	1004	7.86	0.00	0.31	-0.01	-1.92
205	2005	10.48	0.00	0.40	-0.02	-0.38
205	1005	10.48	0.00	0.40	-0.02	-2.31

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	0.64	-0.04	-0.76
206	1006	13.10	0.00	0.64	-0.04	-3.84
207	2007	15.72	0.00	0.81	-0.09	-0.95
207	1007	15.72	0.00	0.81	-0.09	-4.81
208	2008	18.34	0.00	0.46	-0.14	-0.93
208	1008	18.34	0.00	0.46	-0.14	-3.15
209	2009	20.96	0.00	0.56	-0.17	-0.60
209	1009	20.96	0.00	0.56	-0.17	-3.29
210	2010	23.58	0.00	0.69	-0.18	-0.25
210	1010	23.58	0.00	0.69	-0.18	-3.55
211	2011	26.20	0.00	0.78	-0.18	0.03
211	1011	26.20	0.00	0.78	-0.18	-3.72
212	2012	29.55	0.00	0.97	-0.13	0.33
212	1012	29.55	0.00	0.97	-0.13	-4.30
213	2013	32.90	0.00	0.93	-0.06	0.46
213	1013	32.90	0.00	0.93	-0.06	-3.98
214	2014	36.03	0.00	0.64	-0.01	0.07
214	1014	36.03	0.00	0.64	-0.01	-2.97
215	2015	39.16	0.00	0.13	0.00	-0.34
215	1015	39.16	0.00	0.13	0.00	-0.96
216	2016	42.29	0.00	0.18	-0.01	-0.77
216	1016	42.29	0.00	0.18	-0.01	-1.61
217	2017	45.42	0.00	0.24	-0.05	-1.21
217	1017	45.42	0.00	0.24	-0.05	-2.38
218	2018	48.55	0.00	0.16	-0.12	-1.74
218	1018	48.55	0.00	0.16	-0.12	-2.49
219	2019	51.68	0.00	0.18	-0.20	-1.87
219	1019	51.68	0.00	0.18	-0.20	-2.71
220	2020	54.81	0.00	0.40	-0.27	-1.35
220	1020	54.81	0.00	0.40	-0.27	-3.26
221	2021	57.94	0.00	0.68	-0.31	-0.66
221	1021	57.94	0.00	0.68	-0.31	-3.91
222	2022	61.07	0.00	0.95	-0.31	0.03
222	1022	61.07	0.00	0.95	-0.31	-4.51
223	2023	64.20	0.00	1.09	-0.25	0.51
223	1023	64.20	0.00	1.09	-0.25	-4.69
224	2024	67.55	0.00	1.23	-0.15	0.87
224	1024	67.55	0.00	1.23	-0.15	-5.03
225	2025	70.90	0.00	1.15	-0.05	0.92
225	1025	70.90	0.00	1.15	-0.05	-4.57
226	2026	74.23	0.00	0.01	0.00	-0.25
226	1026	74.23	0.00	0.01	0.00	-0.29
227	2027	77.56	0.00	0.00	0.00	-0.24
227	1027	77.56	0.00	0.00	0.00	-0.25
228	2028	80.89	0.00	0.06	-0.01	-0.74
228	1028	80.89	0.00	0.06	-0.01	-1.01
229	2029	84.22	0.00	0.27	-0.06	-1.31
229	1029	84.22	0.00	0.27	-0.06	-2.62

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SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.35	-0.13	-1.60
230	1030	87.55	0.00	0.35	-0.13	-3.27
231	2031	90.88	0.00	0.56	-0.22	-1.82
231	1031	90.88	0.00	0.56	-0.22	-4.52
232	2032	94.21	0.00	0.37	-0.30	-1.57
232	1032	94.21	0.00	0.37	-0.30	-3.33
233	2033	97.54	0.00	0.61	-0.35	-0.75
233	1033	97.54	0.00	0.61	-0.35	-3.65
234	2034	100.87	0.00	0.93	-0.34	0.09
234	1034	100.87	0.00	0.93	-0.34	-4.35
235	2035	104.20	0.00	0.98	-0.25	0.54
235	1035	104.20	0.00	0.98	-0.25	-4.15
236	2036	107.55	0.00	0.98	-0.13	0.70
236	1036	107.55	0.00	0.98	-0.13	-3.98
237	2037	110.90	0.00	0.93	-0.05	0.50
237	1037	110.90	0.00	0.93	-0.05	-3.94
238	2038	113.77	0.00	0.46	-0.01	0.15
238	1038	113.77	0.00	0.46	-0.01	-2.06
239	2039	116.64	0.00	-0.01	0.00	-0.37
239	1039	116.64	0.00	-0.01	0.00	-0.35
240	2040	119.51	0.00	0.00	0.00	-0.36
240	1040	119.51	0.00	0.00	0.00	-0.34
241	2041	122.38	0.00	0.02	-0.02	-1.05
241	1041	122.38	0.00	0.02	-0.02	-1.12
242	2042	125.25	0.00	0.00	-0.08	-1.59
242	1042	125.25	0.00	0.00	-0.08	-1.61
243	2043	128.12	0.00	0.25	-0.18	-1.75
243	1043	128.12	0.00	0.25	-0.18	-2.95
244	2044	130.99	0.00	0.58	-0.29	-1.17
244	1044	130.99	0.00	0.58	-0.29	-3.95
245	2045	133.86	0.00	1.00	-0.39	-0.18
245	1045	133.86	0.00	1.00	-0.39	-4.96
246	2046	136.73	0.00	1.52	-0.46	1.05
246	1046	136.73	0.00	1.52	-0.46	-6.21
247	2047	139.60	0.00	1.06	-0.24	1.24
247	1047	139.60	0.00	1.06	-0.24	-3.82
401	1001	0.00	0.00	0.09	0.00	-0.64
401	1	0.00	0.00	0.09	0.00	-0.71
402	1002	2.62	0.00	0.25	-0.01	-1.68
402	2	2.62	0.00	0.25	-0.01	-1.87
403	1003	5.24	0.00	0.28	-0.01	-1.84
403	3	5.24	0.00	0.28	-0.01	-2.06
404	1004	7.86	0.00	0.31	-0.01	-1.92
404	4	7.86	0.00	0.31	-0.01	-2.16
405	1005	10.48	0.00	0.40	-0.02	-2.31
405	5	10.48	0.00	0.40	-0.02	-2.61
406	1006	13.10	0.00	0.64	-0.04	-3.84
406	6	13.10	0.00	0.64	-0.04	-4.32

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.81	-0.09	-4.81
407	7	15.72	0.00	0.81	-0.09	-5.42
408	1008	18.34	0.00	0.46	-0.14	-3.15
408	8	18.34	0.00	0.46	-0.14	-3.50
409	1009	20.96	0.00	0.56	-0.17	-3.29
409	9	20.96	0.00	0.56	-0.17	-3.71
410	1010	23.58	0.00	0.69	-0.18	-3.55
410	10	23.58	0.00	0.69	-0.18	-4.08
411	1011	26.20	0.00	0.78	-0.18	-3.72
411	11	26.20	0.00	0.78	-0.18	-4.32
412	1012	29.55	0.00	0.97	-0.13	-4.30
412	12	29.55	0.00	0.97	-0.13	-5.03
413	1013	32.90	0.00	0.93	-0.06	-3.98
413	13	32.90	0.00	0.93	-0.06	-4.68
414	1014	36.03	0.00	0.64	-0.01	-2.97
414	14	36.03	0.00	0.64	-0.01	-3.45
415	1015	39.16	0.00	0.13	0.00	-0.96
415	15	39.16	0.00	0.13	0.00	-1.06
416	1016	42.29	0.00	0.18	-0.01	-1.61
416	16	42.29	0.00	0.18	-0.01	-1.74
417	1017	45.42	0.00	0.24	-0.05	-2.38
417	17	45.42	0.00	0.24	-0.05	-2.56
418	1018	48.55	0.00	0.16	-0.12	-2.49
418	18	48.55	0.00	0.16	-0.12	-2.61
419	1019	51.68	0.00	0.18	-0.20	-2.71
419	19	51.68	0.00	0.18	-0.20	-2.84
420	1020	54.81	0.00	0.40	-0.27	-3.26
420	20	54.81	0.00	0.40	-0.27	-3.56
421	1021	57.94	0.00	0.68	-0.31	-3.91
421	21	57.94	0.00	0.68	-0.31	-4.42
422	1022	61.07	0.00	0.95	-0.31	-4.51
422	22	61.07	0.00	0.95	-0.31	-5.23
423	1023	64.20	0.00	1.09	-0.25	-4.69
423	23	64.20	0.00	1.09	-0.25	-5.51
424	1024	67.55	0.00	1.23	-0.15	-5.03
424	24	67.55	0.00	1.23	-0.15	-5.96
425	1025	70.90	0.00	1.15	-0.05	-4.57
425	25	70.90	0.00	1.15	-0.05	-5.44
426	1026	74.23	0.00	0.01	0.00	-0.29
426	26	74.23	0.00	0.01	0.00	-0.30
427	1027	77.56	0.00	0.00	0.00	-0.25
427	27	77.56	0.00	0.00	0.00	-0.26
428	1028	80.89	0.00	0.06	-0.01	-1.01
428	28	80.89	0.00	0.06	-0.01	-1.05
429	1029	84.22	0.00	0.27	-0.06	-2.62
429	29	84.22	0.00	0.27	-0.06	-2.82
430	1030	87.55	0.00	0.35	-0.13	-3.27
430	30	87.55	0.00	0.35	-0.13	-3.53

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	0.56	-0.22	-4.52
431	31	90.88	0.00	0.56	-0.22	-4.95
432	1032	94.21	0.00	0.37	-0.30	-3.33
432	32	94.21	0.00	0.37	-0.30	-3.61
433	1033	97.54	0.00	0.61	-0.35	-3.65
433	33	97.54	0.00	0.61	-0.35	-4.11
434	1034	100.87	0.00	0.93	-0.34	-4.35
434	34	100.87	0.00	0.93	-0.34	-5.05
435	1035	104.20	0.00	0.98	-0.25	-4.15
435	35	104.20	0.00	0.98	-0.25	-4.90
436	1036	107.55	0.00	0.98	-0.13	-3.98
436	36	107.55	0.00	0.98	-0.13	-4.71
437	1037	110.90	0.00	0.93	-0.05	-3.94
437	37	110.90	0.00	0.93	-0.05	-4.64
438	1038	113.77	0.00	0.46	-0.01	-2.06
438	38	113.77	0.00	0.46	-0.01	-2.41
439	1039	116.64	0.00	-0.01	0.00	-0.35
439	39	116.64	0.00	-0.01	0.00	-0.34
440	1040	119.51	0.00	0.00	0.00	-0.34
440	40	119.51	0.00	0.00	0.00	-0.34
441	1041	122.38	0.00	0.02	-0.02	-1.12
441	41	122.38	0.00	0.02	-0.02	-1.14
442	1042	125.25	0.00	0.00	-0.08	-1.61
442	42	125.25	0.00	0.00	-0.08	-1.61
443	1043	128.12	0.00	0.25	-0.18	-2.95
443	43	128.12	0.00	0.25	-0.18	-3.14
444	1044	130.99	0.00	0.58	-0.29	-3.95
444	44	130.99	0.00	0.58	-0.29	-4.39
445	1045	133.86	0.00	1.00	-0.39	-4.96
445	45	133.86	0.00	1.00	-0.39	-5.71
446	1046	136.73	0.00	1.52	-0.46	-6.21
446	46	136.73	0.00	1.52	-0.46	-7.36
447	1047	139.60	0.00	1.06	-0.24	-3.82
447	47	139.60	0.00	1.06	-0.24	-4.62

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-10.78	-3.28	-0.12
1	2	2.62	0.00	1.07	-0.98	-2.79
2	2	2.62	0.00	1.37	-2.95	-2.79
2	3	5.24	0.00	1.37	-3.06	-6.38
3	3	5.24	0.00	1.70	-5.16	-6.37
3	4	7.86	0.00	1.70	-5.16	-10.82
4	4	7.86	0.00	2.05	-7.34	-10.81
4	5	10.48	0.00	2.12	-8.32	-16.27
5	5	10.48	0.00	2.55	-10.91	-16.26
5	6	13.10	0.00	2.55	-10.91	-22.93
6	6	13.10	0.00	3.03	-13.69	-22.93
6	7	15.72	0.00	3.03	-13.69	-30.85
7	7	15.72	0.00	3.56	-16.68	-30.85
7	8	18.34	0.00	3.56	-16.68	-40.18
8	8	18.34	0.00	4.16	-19.89	-40.20
8	9	20.96	0.00	5.84	-9.61	-51.47
9	9	20.96	0.00	6.59	-13.72	-51.47
9	10	23.58	0.00	14.14	4.90	-78.84
10	10	23.58	0.00	15.20	-0.91	-78.77
10	10011	26.20	0.00	19.66	6.82	-125.99
11	11	26.20	0.00	-21.18	-0.83	-125.98
11	12	29.55	0.00	-15.45	7.02	-62.52
12	12	29.55	0.00	-14.16	0.02	-62.63
12	13	32.90	0.00	-7.09	13.01	-26.71
13	13	32.90	0.00	-6.21	8.05	-26.78
13	14	36.03	0.00	-2.59	23.63	-14.34
14	14	36.03	0.00	-1.94	20.51	-14.33
14	15	39.16	0.00	-0.85	11.09	-9.44
15	15	39.16	0.00	-0.13	7.41	-9.46
15	16	42.29	0.00	0.08	3.83	-9.61
16	16	42.29	0.00	0.77	0.25	-9.64
16	17	45.42	0.00	0.93	-3.44	-12.16
17	17	45.42	0.00	1.53	-6.62	-12.19
17	18	48.55	0.00	1.76	-11.26	-17.27
18	18	48.55	0.00	2.35	-14.38	-17.29
18	19	51.68	0.00	2.61	-18.92	-25.08
19	19	51.68	0.00	3.17	-21.70	-25.09
19	20	54.81	0.00	3.17	-21.70	-35.02
20	20	54.81	0.00	3.84	-24.87	-35.04
20	21	57.94	0.00	7.38	-8.66	-51.57
21	21	57.94	0.00	8.29	-13.33	-51.49
21	22	61.07	0.00	15.55	3.52	-89.68
22	22	61.07	0.00	16.92	-3.30	-89.53
22	10023	64.20	0.00	22.16	5.60	-152.50
23	23	64.20	0.00	-22.77	-2.99	-152.46
23	24	67.55	0.00	-17.05	5.57	-83.91
24	24	67.55	0.00	-15.53	-1.81	-84.02
24	25	70.90	0.00	-8.16	14.22	-43.67

~csimp4.esv
Programa DINTEL IDEAM S.A.
20/10/02

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-7.05	8.85	-43.75
25	26	74.23	0.00	-3.68	24.56	-26.75
26	26	74.23	0.00	-2.80	20.60	-26.76
26	27	77.56	0.00	-2.08	12.18	-17.69
27	27	77.56	0.00	-1.25	8.30	-17.74
27	28	80.89	0.00	-0.78	1.58	-14.90
28	28	80.89	0.00	0.07	-2.72	-14.96
28	29	84.22	0.00	0.11	-3.76	-15.31
29	29	84.22	0.00	0.91	-7.97	-15.37
29	30	87.55	0.00	1.08	-12.15	-18.66
30	30	87.55	0.00	1.86	-16.30	-18.71
30	31	90.88	0.00	1.97	-17.86	-24.94
31	31	90.88	0.00	2.75	-21.97	-24.98
31	32	94.21	0.00	3.25	-26.10	-35.27
32	32	94.21	0.00	4.05	-29.95	-35.28
32	33	97.54	0.00	9.04	-8.56	-54.00
33	33	97.54	0.00	8.78	-18.30	-53.87
33	34	100.87	0.00	16.25	-0.89	-96.61
34	34	100.87	0.00	17.89	-9.18	-96.42
34	10035	104.20	0.00	23.43	-1.37	-167.42
35	35	104.20	0.00	-24.67	-10.78	-167.38
35	36	107.55	0.00	-18.90	-1.48	-91.95
36	36	107.55	0.00	-17.36	-9.09	-92.06
36	37	110.90	0.00	-8.75	12.06	-46.62
37	37	110.90	0.00	-8.91	2.16	-46.68
37	38	113.77	0.00	-4.11	23.89	-32.62
38	38	113.77	0.00	-3.25	19.85	-32.62
38	39	116.64	0.00	-3.23	19.20	-23.32
39	39	116.64	0.00	-2.49	15.66	-23.35
39	40	119.51	0.00	-2.36	13.91	-16.58
40	40	119.51	0.00	-1.79	11.09	-16.63
40	41	122.38	0.00	-1.79	11.09	-11.48
41	41	122.38	0.00	-1.33	8.64	-11.54
41	42	125.25	0.00	-1.33	8.64	-7.71
42	42	125.25	0.00	-0.97	6.52	-7.76
42	43	128.12	0.00	-0.89	5.39	-5.00
43	43	128.12	0.00	-0.65	3.86	-5.04
43	44	130.99	0.00	-0.65	3.81	-3.17
44	44	130.99	0.00	-0.48	2.50	-3.21
44	45	133.86	0.00	-0.48	2.50	-1.82
45	45	133.86	0.00	-0.37	1.38	-1.86
45	46	136.73	0.00	-0.37	1.38	-0.81
46	46	136.73	0.00	-0.30	0.41	-0.84
46	47	139.60	0.00	15.21	4.62	-0.24
101	101	0.00	0.00	1.04	0.14	0.00
101	102	2.62	0.00	4.74	-1.00	-12.29
102	102	2.62	0.00	3.48	-2.14	-12.07
102	103	5.24	0.00	3.48	-2.14	-21.18

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	2.45	-2.56	-21.00
103	104	7.86	0.00	2.45	-2.56	-27.42
104	104	7.86	0.00	1.58	-2.47	-27.30
104	105	10.48	0.00	1.59	-2.60	-31.46
105	105	10.48	0.00	0.82	-2.28	-31.41
105	106	13.10	0.00	0.82	-2.37	-33.56
106	106	13.10	0.00	0.06	-2.04	-33.58
106	107	15.72	0.00	0.06	-2.04	-33.73
107	107	15.72	0.00	-0.76	-1.90	-33.81
107	108	18.34	0.00	-0.76	-1.90	-31.82
108	108	18.34	0.00	-1.69	-2.12	-31.94
108	109	20.96	0.00	-1.69	-2.12	-27.52
109	109	20.96	0.00	-2.75	-2.77	-27.65
109	110	23.58	0.00	-2.69	-2.93	-20.56
110	110	23.58	0.00	-3.86	-4.00	-20.65
110	111	26.20	0.00	-3.76	-4.03	-10.57
111	111	26.20	0.00	-5.13	-5.48	-10.59
111	112	29.55	0.00	-0.67	0.21	-2.47
112	112	29.55	0.00	-0.22	1.70	-2.42
112	10113	32.90	0.00	0.09	2.36	-2.70
113	113	32.90	0.00	-0.33	2.72	-2.69
113	114	36.03	0.00	-0.33	2.72	-1.65
114	114	36.03	0.00	-0.32	3.08	-1.65
114	115	39.16	0.00	1.78	5.89	-1.53
115	115	39.16	0.00	1.52	6.07	-1.53
115	116	42.29	0.00	2.63	1.49	-7.58
116	116	42.29	0.00	2.06	1.05	-7.55
116	117	45.42	0.00	2.45	-1.51	-14.66
117	117	45.42	0.00	1.73	-1.95	-14.61
117	118	48.55	0.00	1.78	-3.01	-20.15
118	118	48.55	0.00	1.03	-3.48	-20.11
118	119	51.68	0.00	1.18	-4.26	-23.63
119	119	51.68	0.00	0.35	-4.63	-23.61
119	120	54.81	0.00	0.40	-4.97	-24.75
120	120	54.81	0.00	-0.51	-4.85	-24.77
120	121	57.94	0.00	-0.46	-4.85	-23.23
121	121	57.94	0.00	-1.58	-5.04	-23.29
121	122	61.07	0.00	-1.35	-3.37	-18.73
122	122	61.07	0.00	-2.90	-5.09	-18.91
122	123	64.20	0.00	-2.81	-5.31	-9.84
123	123	64.20	0.00	-4.53	-7.57	-9.88
123	124	67.55	0.00	-1.20	-3.12	-0.70
124	124	67.55	0.00	-1.46	-3.29	-0.55
124	10125	70.90	0.00	0.00	0.00	0.00
125	125	70.90	0.00	0.00	0.00	0.00
125	126	74.23	0.00	0.38	-0.21	-0.01
126	126	74.23	0.00	0.14	-0.21	-0.01
126	127	77.56	0.00	3.64	1.80	-4.36

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	2.75	0.61	-4.31
127	128	80.89	0.00	3.17	1.19	-14.46
128	128	80.89	0.00	2.26	0.27	-14.39
128	129	84.22	0.00	2.41	-0.12	-22.17
129	129	84.22	0.00	1.53	-0.66	-22.09
129	130	87.55	0.00	1.58	-1.08	-27.20
130	130	87.55	0.00	0.70	-1.45	-27.14
130	131	90.88	0.00	0.70	-1.72	-29.48
131	131	90.88	0.00	-0.22	-2.15	-29.44
131	132	94.21	0.00	-0.09	-1.49	-28.97
132	132	94.21	0.00	-1.16	-1.99	-28.98
132	133	97.54	0.00	-1.02	-0.77	-25.30
133	133	97.54	0.00	-2.34	-1.68	-25.38
133	134	100.87	0.00	-1.98	2.23	-18.32
134	134	100.87	0.00	-3.84	0.42	-18.53
134	135	104.20	0.00	-3.01	3.60	-6.62
135	135	104.20	0.00	-4.85	0.93	-6.69
135	136	107.55	0.00	-0.18	0.16	-0.21
136	136	107.55	0.00	-0.38	-0.09	-0.24
136	10137	110.90	0.00	0.00	-0.86	-0.16
137	137	110.90	0.00	0.01	-0.77	-0.16
137	138	113.77	0.00	1.11	0.57	-0.91
138	138	113.77	0.00	0.76	0.00	-0.91
138	139	116.64	0.00	1.54	0.59	-4.49
139	139	116.64	0.00	0.96	-0.34	-4.47
139	140	119.51	0.00	1.35	0.02	-7.82
140	140	119.51	0.00	0.76	-0.66	-7.77
140	141	122.38	0.00	1.01	-0.36	-10.37
141	141	122.38	0.00	0.47	-0.61	-10.30
141	142	125.25	0.00	0.68	-0.41	-11.80
142	142	125.25	0.00	0.19	-0.16	-11.74
142	143	128.12	0.00	0.32	0.18	-12.41
143	143	128.12	0.00	-0.17	0.69	-12.40
143	144	130.99	0.00	0.01	1.35	-12.22
144	144	130.99	0.00	-0.48	2.61	-12.36
144	145	133.86	0.00	-0.25	3.91	-11.42
145	145	133.86	0.00	-1.37	3.55	-11.76
145	146	136.73	0.00	-1.37	3.54	-7.83
146	146	136.73	0.00	-2.95	1.75	-8.25
146	147	139.60	0.00	-0.94	-0.38	-0.02
301	101	0.00	0.00	0.03	0.00	-0.30
301	2001	0.00	0.00	0.18	0.00	-0.36
302	102	2.62	0.00	0.06	0.00	-0.59
302	2002	2.62	0.00	0.41	0.01	-0.74
303	103	5.24	0.00	0.06	0.00	-0.59
303	2003	5.24	0.00	0.63	0.10	-0.84
304	104	7.86	0.00	0.31	0.08	-0.77
304	2004	7.86	0.00	0.61	0.11	-1.11

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.38	0.05	-1.01
305	2005	10.48	0.00	0.53	0.05	-1.34
306	106	13.10	0.00	0.34	-0.02	-1.12
306	2006	13.10	0.00	0.47	-0.02	-1.42
307	107	15.72	0.00	0.34	-0.08	-1.06
307	2007	15.72	0.00	0.44	-0.09	-1.35
308	108	18.34	0.00	0.36	-0.13	-0.83
308	2008	18.34	0.00	0.49	-0.14	-1.14
309	109	20.96	0.00	0.34	-0.14	-0.57
309	2009	20.96	0.00	0.48	-0.16	-0.85
310	110	23.58	0.00	0.15	-0.02	-0.42
310	2010	23.58	0.00	0.40	-0.11	-0.60
311	111	26.20	0.00	0.14	-0.01	-0.42
311	2011	26.20	0.00	0.28	-0.03	-0.57
312	112	29.55	0.00	0.12	0.00	-0.42
312	2012	29.55	0.00	0.54	0.11	-0.61
313	113	32.90	0.00	0.30	0.21	-0.69
313	2013	32.90	0.00	0.53	0.23	-0.99
314	114	36.03	0.00	0.24	0.22	-1.25
314	2014	36.03	0.00	0.43	0.22	-1.47
315	115	39.16	0.00	0.07	0.16	-1.83
315	2015	39.16	0.00	0.22	0.17	-1.95
316	116	42.29	0.00	0.00	0.08	-2.24
316	2016	42.29	0.00	0.15	0.09	-2.29
317	117	45.42	0.00	-0.02	-0.01	-2.39
317	2017	45.42	0.00	0.17	0.00	-2.43
318	118	48.55	0.00	0.03	-0.11	-2.25
318	2018	48.55	0.00	0.28	-0.08	-2.39
319	119	51.68	0.00	0.30	-0.17	-1.90
319	2019	51.68	0.00	0.37	-0.17	-2.15
320	120	54.81	0.00	0.41	-0.24	-1.33
320	2020	54.81	0.00	0.48	-0.25	-1.68
321	121	57.94	0.00	0.47	-0.24	-0.69
321	2021	57.94	0.00	0.55	-0.27	-1.07
322	122	61.07	0.00	0.22	-0.02	-0.52
322	2022	61.07	0.00	0.28	-0.03	-0.72
323	123	64.20	0.00	0.22	-0.02	-0.47
323	2023	64.20	0.00	0.28	-0.02	-0.67
324	124	67.55	0.00	0.13	0.00	-0.44
324	2024	67.55	0.00	0.43	0.04	-0.65
325	125	70.90	0.00	0.33	0.24	-0.74
325	2025	70.90	0.00	0.53	0.27	-1.07
326	126	74.23	0.00	0.24	0.27	-1.50
326	2026	74.23	0.00	0.34	0.27	-1.72
327	127	77.56	0.00	0.02	0.20	-2.22
327	2027	77.56	0.00	0.18	0.21	-2.31
328	128	80.89	0.00	-0.09	0.11	-2.73
328	2028	80.89	0.00	-0.01	0.11	-2.70

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-0.13	0.00	-2.92
329	2029	84.22	0.00	0.00	0.01	-2.86
330	130	87.55	0.00	-0.06	-0.11	-2.76
330	2030	87.55	0.00	0.05	-0.09	-2.75
331	131	90.88	0.00	0.11	-0.20	-2.30
331	2031	90.88	0.00	0.28	-0.17	-2.47
332	132	94.21	0.00	0.34	-0.26	-1.67
332	2032	94.21	0.00	0.37	-0.26	-1.94
333	133	97.54	0.00	0.37	-0.26	-0.90
333	2033	97.54	0.00	0.54	-0.31	-1.24
334	134	100.87	0.00	0.07	0.01	-0.74
334	2034	100.87	0.00	0.14	0.00	-0.81
335	135	104.20	0.00	0.05	0.00	-0.69
335	2035	104.20	0.00	0.09	0.00	-0.72
336	136	107.55	0.00	0.02	0.00	-0.61
336	2036	107.55	0.00	0.13	0.02	-0.65
337	137	110.90	0.00	0.36	0.24	-0.70
337	2037	110.90	0.00	0.44	0.26	-1.00
338	138	113.77	0.00	0.32	0.26	-1.26
338	2038	113.77	0.00	0.39	0.27	-1.51
339	139	116.64	0.00	0.15	0.22	-1.85
339	2039	116.64	0.00	0.20	0.22	-2.00
340	140	119.51	0.00	0.07	0.14	-2.29
340	2040	119.51	0.00	0.14	0.15	-2.35
341	141	122.38	0.00	0.04	0.04	-2.46
341	2041	122.38	0.00	0.11	0.05	-2.52
342	142	125.25	0.00	0.14	-0.06	-2.32
342	2042	125.25	0.00	0.22	-0.05	-2.45
343	143	128.12	0.00	0.37	-0.17	-1.82
343	2043	128.12	0.00	0.56	-0.13	-2.16
344	144	130.99	0.00	0.56	-0.20	-1.11
344	2044	130.99	0.00	0.79	-0.25	-1.62
345	145	133.86	0.00	0.23	0.02	-0.83
345	2045	133.86	0.00	0.33	-0.02	-1.04
346	146	136.73	0.00	0.15	0.02	-0.93
346	2046	136.73	0.00	0.20	0.01	-1.06
347	147	139.60	0.00	0.06	0.01	-0.51
347	2047	139.60	0.00	0.06	0.01	-0.56
201	2001	0.00	0.00	0.18	0.00	-0.36
201	1001	0.00	0.00	0.77	0.12	-3.42
202	2002	2.62	0.00	0.41	0.01	-0.74
202	1002	2.62	0.00	1.26	0.22	-6.18
203	2003	5.24	0.00	0.63	0.10	-0.84
203	1003	5.24	0.00	1.04	0.18	-5.64
204	2004	7.86	0.00	0.61	0.11	-1.11
204	1004	7.86	0.00	0.88	0.11	-5.26
205	2005	10.48	0.00	0.53	0.05	-1.34
205	1005	10.48	0.00	0.79	0.04	-5.06

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	0.47	-0.02	-1.42
206	1006	13.10	0.00	0.79	-0.03	-5.06
207	2007	15.72	0.00	0.44	-0.09	-1.35
207	1007	15.72	0.00	0.86	-0.09	-5.22
208	2008	18.34	0.00	0.49	-0.14	-1.14
208	1008	18.34	0.00	0.98	-0.13	-5.52
209	2009	20.96	0.00	0.48	-0.16	-0.85
209	1009	20.96	0.00	1.14	-0.14	-5.89
210	2010	23.58	0.00	0.40	-0.11	-0.60
210	1010	23.58	0.00	1.28	-0.11	-6.24
211	2011	26.20	0.00	0.28	-0.03	-0.57
211	1011	26.20	0.00	1.57	-0.03	-7.36
212	2012	29.55	0.00	0.54	0.11	-0.61
212	1012	29.55	0.00	1.72	0.11	-8.16
213	2013	32.90	0.00	0.53	0.23	-0.99
213	1013	32.90	0.00	1.47	0.20	-7.43
214	2014	36.03	0.00	0.43	0.22	-1.47
214	1014	36.03	0.00	1.17	0.22	-6.58
215	2015	39.16	0.00	0.22	0.17	-1.95
215	1015	39.16	0.00	0.92	0.19	-5.99
216	2016	42.29	0.00	0.15	0.09	-2.29
216	1016	42.29	0.00	0.74	0.12	-5.56
217	2017	45.42	0.00	0.17	0.00	-2.43
217	1017	45.42	0.00	0.66	0.02	-5.36
218	2018	48.55	0.00	0.28	-0.08	-2.39
218	1018	48.55	0.00	0.70	-0.08	-5.46
219	2019	51.68	0.00	0.37	-0.17	-2.15
219	1019	51.68	0.00	0.85	-0.17	-5.83
220	2020	54.81	0.00	0.48	-0.25	-1.68
220	1020	54.81	0.00	1.11	-0.23	-6.44
221	2021	57.94	0.00	0.55	-0.27	-1.07
221	1021	57.94	0.00	1.41	-0.24	-7.17
222	2022	61.07	0.00	0.28	-0.03	-0.72
222	1022	61.07	0.00	1.71	-0.19	-7.88
223	2023	64.20	0.00	0.28	-0.02	-0.67
223	1023	64.20	0.00	1.95	-0.05	-8.60
224	2024	67.55	0.00	0.43	0.04	-0.65
224	1024	67.55	0.00	1.98	0.13	-8.80
225	2025	70.90	0.00	0.53	0.27	-1.07
225	1025	70.90	0.00	1.69	0.23	-7.97
226	2026	74.23	0.00	0.34	0.27	-1.72
226	1026	74.23	0.00	1.39	0.29	-7.38
227	2027	77.56	0.00	0.18	0.21	-2.31
227	1027	77.56	0.00	1.05	0.26	-6.55
228	2028	80.89	0.00	-0.01	0.11	-2.70
228	1028	80.89	0.00	0.78	0.17	-5.91
229	2029	84.22	0.00	0.00	0.01	-2.86
229	1029	84.22	0.00	0.64	0.06	-5.59

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Programa DINTEL IDEAM S.A.
SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.05	-0.09	-2.75
230	1030	87.55	0.00	0.66	-0.06	-5.64
231	2031	90.88	0.00	0.28	-0.17	-2.47
231	1031	90.88	0.00	0.83	-0.17	-6.05
232	2032	94.21	0.00	0.37	-0.26	-1.94
232	1032	94.21	0.00	1.13	-0.25	-6.77
233	2033	97.54	0.00	0.54	-0.31	-1.24
233	1033	97.54	0.00	1.51	-0.28	-7.67
234	2034	100.87	0.00	0.14	0.00	-0.81
234	1034	100.87	0.00	1.87	-0.22	-8.53
235	2035	104.20	0.00	0.09	0.00	-0.72
235	1035	104.20	0.00	1.94	-0.04	-8.42
236	2036	107.55	0.00	0.13	0.02	-0.65
236	1036	107.55	0.00	1.74	0.13	-7.67
237	2037	110.90	0.00	0.44	0.26	-1.00
237	1037	110.90	0.00	1.50	0.23	-7.09
238	2038	113.77	0.00	0.39	0.27	-1.51
238	1038	113.77	0.00	1.21	0.27	-6.40
239	2039	116.64	0.00	0.20	0.22	-2.00
239	1039	116.64	0.00	0.91	0.25	-5.69
240	2040	119.51	0.00	0.14	0.15	-2.35
240	1040	119.51	0.00	0.67	0.19	-5.11
241	2041	122.38	0.00	0.11	0.05	-2.52
241	1041	122.38	0.00	0.51	0.10	-4.73
242	2042	125.25	0.00	0.22	-0.05	-2.45
242	1042	125.25	0.00	0.47	-0.02	-4.63
243	2043	128.12	0.00	0.56	-0.13	-2.16
243	1043	128.12	0.00	0.56	-0.13	-4.84
244	2044	130.99	0.00	0.79	-0.25	-1.62
244	1044	130.99	0.00	0.79	-0.25	-5.38
245	2045	133.86	0.00	0.33	-0.02	-1.04
245	1045	133.86	0.00	1.14	-0.35	-6.23
246	2046	136.73	0.00	0.20	0.01	-1.06
246	1046	136.73	0.00	1.61	-0.42	-7.35
247	2047	139.60	0.00	0.06	0.01	-0.56
247	1047	139.60	0.00	1.08	-0.22	-4.33
401	1001	0.00	0.00	0.77	0.12	-3.42
401	1	0.00	0.00	0.77	0.12	-3.99
402	1002	2.62	0.00	1.26	0.22	-6.18
402	2	2.62	0.00	1.26	0.22	-7.14
403	1003	5.24	0.00	1.04	0.18	-5.64
403	3	5.24	0.00	1.04	0.18	-6.43
404	1004	7.86	0.00	0.88	0.11	-5.26
404	4	7.86	0.00	0.88	0.11	-5.92
405	1005	10.48	0.00	0.79	0.04	-5.06
405	5	10.48	0.00	0.79	0.04	-5.66
406	1006	13.10	0.00	0.79	-0.03	-5.06
406	6	13.10	0.00	0.79	-0.03	-5.65

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.86	-0.09	-5.22
407	7	15.72	0.00	0.86	-0.09	-5.87
408	1008	18.34	0.00	0.98	-0.13	-5.52
408	8	18.34	0.00	0.98	-0.13	-6.26
409	1009	20.96	0.00	1.14	-0.14	-5.89
409	9	20.96	0.00	1.14	-0.14	-6.75
410	1010	23.58	0.00	1.28	-0.11	-6.24
410	10	23.58	0.00	1.28	-0.11	-7.21
411	1011	26.20	0.00	1.57	-0.03	-7.36
411	11	26.20	0.00	1.57	-0.03	-8.54
412	1012	29.55	0.00	1.72	0.11	-8.16
412	12	29.55	0.00	1.72	0.11	-9.45
413	1013	32.90	0.00	1.47	0.20	-7.43
413	13	32.90	0.00	1.47	0.20	-8.54
414	1014	36.03	0.00	1.17	0.22	-6.58
414	14	36.03	0.00	1.17	0.22	-7.47
415	1015	39.16	0.00	0.92	0.19	-5.99
415	15	39.16	0.00	0.92	0.19	-6.69
416	1016	42.29	0.00	0.74	0.12	-5.56
416	16	42.29	0.00	0.74	0.12	-6.11
417	1017	45.42	0.00	0.66	0.02	-5.36
417	17	45.42	0.00	0.66	0.02	-5.86
418	1018	48.55	0.00	0.70	-0.08	-5.46
418	18	48.55	0.00	0.70	-0.08	-5.98
419	1019	51.68	0.00	0.85	-0.17	-5.83
419	19	51.68	0.00	0.85	-0.17	-6.47
420	1020	54.81	0.00	1.11	-0.23	-6.44
420	20	54.81	0.00	1.11	-0.23	-7.27
421	1021	57.94	0.00	1.41	-0.24	-7.17
421	21	57.94	0.00	1.41	-0.24	-8.24
422	1022	61.07	0.00	1.71	-0.19	-7.88
422	22	61.07	0.00	1.71	-0.19	-9.17
423	1023	64.20	0.00	1.95	-0.05	-8.60
423	23	64.20	0.00	1.95	-0.05	-10.08
424	1024	67.55	0.00	1.98	0.13	-8.80
424	24	67.55	0.00	1.98	0.13	-10.30
425	1025	70.90	0.00	1.69	0.23	-7.97
425	25	70.90	0.00	1.69	0.23	-9.25
426	1026	74.23	0.00	1.39	0.29	-7.38
426	26	74.23	0.00	1.39	0.29	-8.43
427	1027	77.56	0.00	1.05	0.26	-6.55
427	27	77.56	0.00	1.05	0.26	-7.34
428	1028	80.89	0.00	0.78	0.17	-5.91
428	28	80.89	0.00	0.78	0.17	-6.50
429	1029	84.22	0.00	0.64	0.06	-5.59
429	29	84.22	0.00	0.64	0.06	-6.08
430	1030	87.55	0.00	0.66	-0.06	-5.64
430	30	87.55	0.00	0.66	-0.06	-6.14

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SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-
CÁLCULO TENSIONAL
Hipótesis de cálculo:
SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-
Envolvente de tren de cargas plano genérico. MZ-
[0; 1]SCUPASEOSIZQUSCuniTneg.Barra1.Mx- + [0; 1]SCUPASEOSIZQUSCuniTneg.Barra2.Mx- + [0; 1]
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	0.83	-0.17	-6.05
431	31	90.88	0.00	0.83	-0.17	-6.68
432	1032	94.21	0.00	1.13	-0.25	-6.77
432	32	94.21	0.00	1.13	-0.25	-7.63
433	1033	97.54	0.00	1.51	-0.28	-7.67
433	33	97.54	0.00	1.51	-0.28	-8.81
434	1034	100.87	0.00	1.87	-0.22	-8.53
434	34	100.87	0.00	1.87	-0.22	-9.94
435	1035	104.20	0.00	1.94	-0.04	-8.42
435	35	104.20	0.00	1.94	-0.04	-9.89
436	1036	107.55	0.00	1.74	0.13	-7.67
436	36	107.55	0.00	1.74	0.13	-8.98
437	1037	110.90	0.00	1.50	0.23	-7.09
437	37	110.90	0.00	1.50	0.23	-8.23
438	1038	113.77	0.00	1.21	0.27	-6.40
438	38	113.77	0.00	1.21	0.27	-7.31
439	1039	116.64	0.00	0.91	0.25	-5.69
439	39	116.64	0.00	0.91	0.25	-6.39
440	1040	119.51	0.00	0.67	0.19	-5.11
440	40	119.51	0.00	0.67	0.19	-5.61
441	1041	122.38	0.00	0.51	0.10	-4.73
441	41	122.38	0.00	0.51	0.10	-5.12
442	1042	125.25	0.00	0.47	-0.02	-4.63
442	42	125.25	0.00	0.47	-0.02	-4.99
443	1043	128.12	0.00	0.56	-0.13	-4.84
443	43	128.12	0.00	0.56	-0.13	-5.27
444	1044	130.99	0.00	0.79	-0.25	-5.38
444	44	130.99	0.00	0.79	-0.25	-5.97
445	1045	133.86	0.00	1.14	-0.35	-6.23
445	45	133.86	0.00	1.14	-0.35	-7.09
446	1046	136.73	0.00	1.61	-0.42	-7.35
446	46	136.73	0.00	1.61	-0.42	-8.57
447	1047	139.60	0.00	1.08	-0.22	-4.33
447	47	139.60	0.00	1.08	-0.22	-5.15

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	2.75	1.26	0.16
1	2	2.62	0.00	2.75	1.26	-7.04
2	2	2.62	0.00	1.42	2.62	-6.73
2	3	5.24	0.00	1.42	2.62	-10.44
3	3	5.24	0.00	0.72	-0.22	-6.90
3	4	7.86	0.00	0.72	-0.22	-8.79
4	4	7.86	0.00	0.42	-1.52	-6.13
4	5	10.48	0.00	0.42	-1.52	-7.25
5	5	10.48	0.00	0.18	-1.34	-6.58
5	6	13.10	0.00	0.18	-1.34	-7.05
6	6	13.10	0.00	0.01	-0.61	-0.28
6	7	15.72	0.00	0.01	-0.61	-0.32
7	7	15.72	0.00	0.01	-0.63	-0.31
7	8	18.34	0.00	0.01	-0.63	-0.34
8	8	18.34	0.00	0.01	-0.62	-0.31
8	9	20.96	0.00	0.01	-0.62	-0.32
9	9	20.96	0.00	0.00	-0.35	-0.19
9	10	23.58	0.00	0.00	-0.35	-0.19
10	10	23.58	0.00	0.00	0.00	0.00
10	10011	26.20	0.00	0.00	0.00	0.00
11	11	26.20	0.00	7.18	-1.88	36.29
11	12	29.55	0.00	7.18	-1.88	12.25
12	12	29.55	0.00	5.36	-0.07	12.12
12	13	32.90	0.00	5.36	-0.07	-5.84
13	13	32.90	0.00	3.58	-0.70	-4.87
13	14	36.03	0.00	3.58	-0.70	-16.08
14	14	36.03	0.00	2.31	-1.85	-15.06
14	15	39.16	0.00	2.31	-1.85	-22.29
15	15	39.16	0.00	1.29	-2.58	-20.75
15	16	42.29	0.00	1.29	-2.58	-24.79
16	16	42.29	0.00	0.50	-4.48	-9.99
16	17	45.42	0.00	0.50	-4.48	-11.54
17	17	45.42	0.00	0.26	-5.16	-6.88
17	18	48.55	0.00	0.26	-5.16	-7.69
18	18	48.55	0.00	0.03	-2.21	-4.22
18	19	51.68	0.00	0.03	-2.21	-4.30
19	19	51.68	0.00	0.00	0.00	0.00
19	20	54.81	0.00	0.00	0.00	0.00
20	20	54.81	0.00	0.00	0.00	0.00
20	21	57.94	0.00	0.00	0.00	0.00
21	21	57.94	0.00	0.04	-0.76	3.67
21	22	61.07	0.00	0.04	-0.76	3.54
22	22	61.07	0.00	0.05	-1.15	3.45
22	10023	64.20	0.00	0.05	-1.15	3.31
23	23	64.20	0.00	7.48	-0.97	43.41
23	24	67.55	0.00	7.48	-0.97	18.37
24	24	67.55	0.00	5.47	1.29	18.29
24	25	70.90	0.00	5.47	1.29	-0.03

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Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.VY+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	3.52	2.29	0.44
25	26	74.23	0.00	3.52	2.29	-11.29
26	26	74.23	0.00	2.13	0.63	-9.99
26	27	77.56	0.00	2.13	0.63	-17.07
27	27	77.56	0.00	1.09	0.72	-15.45
27	28	80.89	0.00	1.09	0.72	-19.08
28	28	80.89	0.00	0.43	0.64	-0.41
28	29	84.22	0.00	0.43	0.64	-1.85
29	29	84.22	0.00	0.25	2.68	0.54
29	30	87.55	0.00	0.25	2.68	-0.29
30	30	87.55	0.00	0.22	4.09	1.79
30	31	90.88	0.00	0.22	4.09	1.05
31	31	90.88	0.00	0.22	3.70	1.06
31	32	94.21	0.00	0.22	3.70	0.33
32	32	94.21	0.00	0.27	2.27	4.83
32	33	97.54	0.00	0.27	2.27	3.94
33	33	97.54	0.00	0.35	-0.14	6.48
33	34	100.87	0.00	0.35	-0.14	5.32
34	34	100.87	0.00	0.34	0.14	2.67
34	10035	104.20	0.00	0.34	0.14	1.53
35	35	104.20	0.00	8.19	-5.05	50.41
35	36	107.55	0.00	8.19	-5.05	22.98
36	36	107.55	0.00	6.57	-3.25	22.88
36	37	110.90	0.00	6.57	-3.25	0.88
37	37	110.90	0.00	4.92	-1.51	0.97
37	38	113.77	0.00	4.92	-1.51	-13.16
38	38	113.77	0.00	3.42	-0.10	-13.00
38	39	116.64	0.00	3.42	-0.10	-22.82
39	39	116.64	0.00	2.15	0.43	-22.55
39	40	119.51	0.00	2.15	0.43	-28.73
40	40	119.51	0.00	1.12	0.39	-28.55
40	41	122.38	0.00	1.12	0.39	-31.76
41	41	122.38	0.00	0.56	0.69	-4.66
41	42	125.25	0.00	0.56	0.69	-6.27
42	42	125.25	0.00	0.38	-0.56	-5.02
42	43	128.12	0.00	0.38	-0.56	-6.12
43	43	128.12	0.00	0.21	0.84	0.85
43	44	130.99	0.00	0.21	0.84	0.25
44	44	130.99	0.00	0.20	0.98	1.67
44	45	133.86	0.00	0.20	0.98	1.10
45	45	133.86	0.00	0.20	0.50	1.13
45	46	136.73	0.00	0.20	0.50	0.57
46	46	136.73	0.00	0.20	0.17	0.57
46	47	139.60	0.00	0.20	0.17	0.00
101	101	0.00	0.00	0.38	0.42	0.02
101	102	2.62	0.00	0.38	0.42	-0.97
102	102	2.62	0.00	0.45	1.39	-0.93
102	103	5.24	0.00	0.59	-3.92	5.75

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	0.83	-1.73	5.89
103	104	7.86	0.00	1.30	-6.61	14.52
104	104	7.86	0.00	1.71	-8.65	18.21
104	105	10.48	0.00	2.46	-13.27	26.21
105	105	10.48	0.00	2.90	-9.45	26.88
105	106	13.10	0.00	3.88	-13.96	32.37
106	106	13.10	0.00	4.37	-10.23	32.56
106	107	15.72	0.00	5.54	-14.72	34.00
107	107	15.72	0.00	6.06	-10.97	34.09
107	108	18.34	0.00	7.41	-15.48	30.16
108	108	18.34	0.00	8.02	-9.65	32.61
108	109	20.96	0.00	9.52	-14.16	22.04
109	109	20.96	0.00	10.30	-9.31	22.20
109	110	23.58	0.00	11.98	-13.76	3.54
110	110	23.58	0.00	12.95	-8.21	3.72
110	111	26.20	0.00	14.81	-12.52	-24.48
111	111	26.20	0.00	16.16	-5.05	-24.21
111	112	29.55	0.00	18.82	-10.23	-76.53
112	112	29.55	0.00	20.65	-0.26	-76.02
112	10113	32.90	0.00	23.33	-8.34	-149.70
113	113	32.90	0.00	0.60	4.21	7.49
113	114	36.03	0.00	0.60	4.21	5.62
114	114	36.03	0.00	0.63	5.59	6.01
114	115	39.16	0.00	0.72	2.10	9.01
115	115	39.16	0.00	0.86	3.29	9.03
115	116	42.29	0.00	1.25	0.02	14.65
116	116	42.29	0.00	1.45	1.60	14.66
116	117	45.42	0.00	2.10	-1.64	20.90
117	117	45.42	0.00	2.37	-2.27	22.27
117	118	48.55	0.00	3.26	-5.63	27.18
118	118	48.55	0.00	3.57	-0.81	27.77
118	119	51.68	0.00	4.69	-4.39	29.57
119	119	51.68	0.00	5.09	-1.40	29.68
119	120	54.81	0.00	6.43	-5.27	26.51
120	120	54.81	0.00	6.95	-1.72	26.67
120	121	57.94	0.00	8.51	-5.85	16.56
121	121	57.94	0.00	9.23	-0.91	16.91
121	122	61.07	0.00	11.03	-5.22	-2.42
122	122	61.07	0.00	12.10	2.16	0.20
122	123	64.20	0.00	14.18	-2.18	-31.22
123	123	64.20	0.00	15.62	4.52	-30.90
123	124	67.55	0.00	18.19	0.05	-81.23
124	124	67.55	0.00	20.01	7.92	-80.63
124	10125	70.90	0.00	22.69	-0.16	-152.17
125	125	70.90	0.00	0.13	-0.44	7.70
125	126	74.23	0.00	0.13	-0.44	7.25
126	126	74.23	0.00	0.23	0.31	8.19
126	127	77.56	0.00	0.35	-2.99	13.02

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Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.VY+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	0.54	-2.18	13.54
127	128	80.89	0.00	0.97	-5.27	21.00
128	128	80.89	0.00	1.18	-4.14	23.16
128	129	84.22	0.00	1.90	-7.20	31.13
129	129	84.22	0.00	2.14	-5.43	31.31
129	130	87.55	0.00	3.12	-8.65	37.73
130	130	87.55	0.00	3.34	-4.84	38.08
130	131	90.88	0.00	4.56	-8.33	41.11
131	131	90.88	0.00	4.85	-3.43	41.77
131	132	94.21	0.00	6.29	-7.24	39.44
132	132	94.21	0.00	6.70	-3.54	39.59
132	133	97.54	0.00	8.38	-7.62	29.75
133	133	97.54	0.00	9.01	-1.35	32.30
133	134	100.87	0.00	10.96	-5.59	12.32
134	134	100.87	0.00	11.96	0.26	12.63
134	135	104.20	0.00	14.22	-3.94	-20.80
135	135	104.20	0.00	15.50	3.19	-20.59
135	136	107.55	0.00	18.12	-0.80	-70.94
136	136	107.55	0.00	19.60	6.18	-70.33
136	10137	110.90	0.00	22.28	-1.89	-140.49
137	137	110.90	0.00	0.08	-3.21	6.33
137	138	113.77	0.00	0.08	-3.21	6.10
138	138	113.77	0.00	0.14	-2.94	6.26
138	139	116.64	0.00	0.16	-5.30	10.26
139	139	116.64	0.00	0.28	-4.91	10.78
139	140	119.51	0.00	0.55	-7.01	17.61
140	140	119.51	0.00	0.67	-5.92	17.57
140	141	122.38	0.00	1.18	-7.88	25.79
141	141	122.38	0.00	1.29	-8.24	27.17
141	142	125.25	0.00	2.03	-10.14	35.35
142	142	125.25	0.00	2.14	-8.92	35.54
142	143	128.12	0.00	3.13	-10.80	41.97
143	143	128.12	0.00	3.27	-8.97	42.02
143	144	130.99	0.00	4.54	-10.77	44.72
144	144	130.99	0.00	4.79	-8.41	44.84
144	145	133.86	0.00	6.39	-10.00	41.16
145	145	133.86	0.00	6.95	-1.43	45.53
145	146	136.73	0.00	8.95	-2.59	31.76
146	146	136.73	0.00	10.09	3.28	32.08
146	147	139.60	0.00	12.38	-3.64	-0.16
301	101	0.00	0.00	0.00	0.00	-0.01
301	2001	0.00	0.00	0.00	0.00	-0.01
302	102	2.62	0.00	0.00	0.00	0.00
302	2002	2.62	0.00	0.00	0.00	0.00
303	103	5.24	0.00	0.00	0.00	0.00
303	2003	5.24	0.00	0.00	0.00	0.00
304	104	7.86	0.00	0.00	0.00	0.00
304	2004	7.86	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.00	0.00	0.00
305	2005	10.48	0.00	0.00	0.00	0.00
306	106	13.10	0.00	0.00	-0.01	-0.26
306	2006	13.10	0.00	0.00	-0.01	-0.26
307	107	15.72	0.00	0.01	0.00	-0.58
307	2007	15.72	0.00	0.01	0.00	-0.59
308	108	18.34	0.00	0.01	0.03	-0.48
308	2008	18.34	0.00	0.01	0.03	-0.49
309	109	20.96	0.00	0.01	0.00	-0.24
309	2009	20.96	0.00	0.01	0.00	-0.25
310	110	23.58	0.00	0.01	0.00	-0.24
310	2010	23.58	0.00	0.01	0.00	-0.25
311	111	26.20	0.00	0.01	0.00	-0.29
311	2011	26.20	0.00	0.01	0.00	-0.30
312	112	29.55	0.00	0.01	0.00	-0.28
312	2012	29.55	0.00	0.01	0.00	-0.29
313	113	32.90	0.00	0.01	0.01	-0.28
313	2013	32.90	0.00	0.01	0.01	-0.28
314	114	36.03	0.00	0.00	0.00	0.00
314	2014	36.03	0.00	0.00	0.00	0.00
315	115	39.16	0.00	0.00	0.00	0.00
315	2015	39.16	0.00	0.00	0.00	0.00
316	116	42.29	0.00	0.00	0.00	0.00
316	2016	42.29	0.00	0.00	0.00	0.00
317	117	45.42	0.00	0.05	-0.13	-0.52
317	2017	45.42	0.00	0.05	-0.13	-0.57
318	118	48.55	0.00	0.14	-0.09	-0.68
318	2018	48.55	0.00	0.14	-0.09	-0.79
319	119	51.68	0.00	0.18	-0.01	-0.57
319	2019	51.68	0.00	0.18	-0.01	-0.71
320	120	54.81	0.00	0.15	0.07	-0.72
320	2020	54.81	0.00	0.15	0.07	-0.84
321	121	57.94	0.00	0.07	0.11	-0.53
321	2021	57.94	0.00	0.07	0.11	-0.59
322	122	61.07	0.00	0.00	0.06	-0.33
322	2022	61.07	0.00	0.00	0.06	-0.33
323	123	64.20	0.00	0.00	0.00	-0.09
323	2023	64.20	0.00	0.00	0.00	-0.09
324	124	67.55	0.00	0.00	0.00	0.00
324	2024	67.55	0.00	0.00	0.00	0.00
325	125	70.90	0.00	0.00	0.00	0.00
325	2025	70.90	0.00	0.00	0.00	0.00
326	126	74.23	0.00	0.00	0.00	0.00
326	2026	74.23	0.00	0.00	0.00	0.00
327	127	77.56	0.00	0.00	0.00	0.00
327	2027	77.56	0.00	0.00	0.00	0.00
328	128	80.89	0.00	0.00	0.00	0.00
328	2028	80.89	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.08	-0.17	-0.86
329	2029	84.22	0.00	0.08	-0.17	-0.92
330	130	87.55	0.00	0.20	-0.10	-0.65
330	2030	87.55	0.00	0.20	-0.10	-0.80
331	131	90.88	0.00	0.25	0.00	-0.85
331	2031	90.88	0.00	0.25	0.00	-1.03
332	132	94.21	0.00	0.20	0.09	-0.91
332	2032	94.21	0.00	0.20	0.09	-1.06
333	133	97.54	0.00	0.09	0.13	-0.79
333	2033	97.54	0.00	0.09	0.13	-0.86
334	134	100.87	0.00	0.01	0.00	-0.23
334	2034	100.87	0.00	0.01	0.00	-0.24
335	135	104.20	0.00	0.01	0.00	-0.20
335	2035	104.20	0.00	0.01	0.00	-0.21
336	136	107.55	0.00	0.01	0.00	-0.18
336	2036	107.55	0.00	0.01	0.00	-0.19
337	137	110.90	0.00	0.00	0.00	-0.14
337	2037	110.90	0.00	0.00	0.00	-0.14
338	138	113.77	0.00	0.00	0.00	-0.12
338	2038	113.77	0.00	0.00	0.00	-0.12
339	139	116.64	0.00	0.00	0.00	0.00
339	2039	116.64	0.00	0.00	0.00	0.00
340	140	119.51	0.00	0.00	0.00	0.00
340	2040	119.51	0.00	0.00	0.00	0.00
341	141	122.38	0.00	0.00	0.00	0.00
341	2041	122.38	0.00	0.00	0.00	0.00
342	142	125.25	0.00	0.00	0.00	0.00
342	2042	125.25	0.00	0.00	0.00	0.00
343	143	128.12	0.00	0.00	0.00	0.00
343	2043	128.12	0.00	0.00	0.00	0.00
344	144	130.99	0.00	0.00	0.00	0.00
344	2044	130.99	0.00	0.00	0.00	0.00
345	145	133.86	0.00	0.00	0.00	-0.16
345	2045	133.86	0.00	0.00	0.00	-0.16
346	146	136.73	0.00	0.00	0.00	-0.18
346	2046	136.73	0.00	0.00	0.00	-0.18
347	147	139.60	0.00	0.00	0.00	-0.11
347	2047	139.60	0.00	0.00	0.00	-0.11
201	2001	0.00	0.00	0.00	0.00	-0.01
201	1001	0.00	0.00	0.00	0.00	-0.01
202	2002	2.62	0.00	0.00	0.00	0.00
202	1002	2.62	0.00	0.00	0.00	0.00
203	2003	5.24	0.00	0.00	0.00	0.00
203	1003	5.24	0.00	0.00	0.00	0.00
204	2004	7.86	0.00	0.00	0.00	0.00
204	1004	7.86	0.00	0.00	0.00	0.00
205	2005	10.48	0.00	0.00	0.00	0.00
205	1005	10.48	0.00	0.00	0.00	0.00

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	0.00	-0.01	-0.26
206	1006	13.10	0.00	0.00	-0.01	-0.27
207	2007	15.72	0.00	0.01	0.00	-0.59
207	1007	15.72	0.00	0.01	0.00	-0.62
208	2008	18.34	0.00	0.01	0.03	-0.49
208	1008	18.34	0.00	0.01	0.03	-0.54
209	2009	20.96	0.00	0.01	0.00	-0.25
209	1009	20.96	0.00	0.01	0.00	-0.29
210	2010	23.58	0.00	0.01	0.00	-0.25
210	1010	23.58	0.00	0.01	0.00	-0.30
211	2011	26.20	0.00	0.01	0.00	-0.30
211	1011	26.20	0.00	0.01	0.00	-0.36
212	2012	29.55	0.00	0.01	0.00	-0.29
212	1012	29.55	0.00	0.01	0.00	-0.36
213	2013	32.90	0.00	0.01	0.01	-0.28
213	1013	32.90	0.00	0.01	0.01	-0.31
214	2014	36.03	0.00	0.00	0.00	0.00
214	1014	36.03	0.00	0.00	0.00	0.00
215	2015	39.16	0.00	0.00	0.00	0.00
215	1015	39.16	0.00	0.00	0.00	0.00
216	2016	42.29	0.00	0.00	0.00	0.00
216	1016	42.29	0.00	0.00	0.00	0.00
217	2017	45.42	0.00	0.05	-0.13	-0.57
217	1017	45.42	0.00	0.05	-0.13	-0.82
218	2018	48.55	0.00	0.14	-0.09	-0.79
218	1018	48.55	0.00	0.14	-0.09	-1.49
219	2019	51.68	0.00	0.18	-0.01	-0.71
219	1019	51.68	0.00	0.18	-0.01	-1.58
220	2020	54.81	0.00	0.15	0.07	-0.84
220	1020	54.81	0.00	0.15	0.07	-1.56
221	2021	57.94	0.00	0.07	0.11	-0.59
221	1021	57.94	0.00	0.07	0.11	-0.94
222	2022	61.07	0.00	0.00	0.06	-0.33
222	1022	61.07	0.00	0.00	0.06	-0.36
223	2023	64.20	0.00	0.00	0.00	-0.09
223	1023	64.20	0.00	0.00	0.00	-0.09
224	2024	67.55	0.00	0.00	0.00	0.00
224	1024	67.55	0.00	0.00	0.00	0.00
225	2025	70.90	0.00	0.00	0.00	0.00
225	1025	70.90	0.00	0.00	0.00	0.00
226	2026	74.23	0.00	0.00	0.00	0.00
226	1026	74.23	0.00	0.00	0.00	0.00
227	2027	77.56	0.00	0.00	0.00	0.00
227	1027	77.56	0.00	0.00	0.00	0.00
228	2028	80.89	0.00	0.00	0.00	0.00
228	1028	80.89	0.00	0.00	0.00	0.00
229	2029	84.22	0.00	0.08	-0.17	-0.92
229	1029	84.22	0.00	0.08	-0.17	-1.32

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.20	-0.10	-0.80
230	1030	87.55	0.00	0.20	-0.10	-1.77
231	2031	90.88	0.00	0.25	0.00	-1.03
231	1031	90.88	0.00	0.25	0.00	-2.21
232	2032	94.21	0.00	0.20	0.09	-1.06
232	1032	94.21	0.00	0.20	0.09	-2.02
233	2033	97.54	0.00	0.09	0.13	-0.86
233	1033	97.54	0.00	0.09	0.13	-1.30
234	2034	100.87	0.00	0.01	0.00	-0.24
234	1034	100.87	0.00	0.01	0.00	-0.29
235	2035	104.20	0.00	0.01	0.00	-0.21
235	1035	104.20	0.00	0.01	0.00	-0.26
236	2036	107.55	0.00	0.01	0.00	-0.19
236	1036	107.55	0.00	0.01	0.00	-0.22
237	2037	110.90	0.00	0.00	0.00	-0.14
237	1037	110.90	0.00	0.00	0.00	-0.15
238	2038	113.77	0.00	0.00	0.00	-0.12
238	1038	113.77	0.00	0.00	0.00	-0.13
239	2039	116.64	0.00	0.00	0.00	0.00
239	1039	116.64	0.00	0.00	0.00	0.00
240	2040	119.51	0.00	0.00	0.00	0.00
240	1040	119.51	0.00	0.00	0.00	0.00
241	2041	122.38	0.00	0.00	0.00	0.00
241	1041	122.38	0.00	0.00	0.00	0.00
242	2042	125.25	0.00	0.00	0.00	0.00
242	1042	125.25	0.00	0.00	0.00	0.00
243	2043	128.12	0.00	0.00	0.00	0.00
243	1043	128.12	0.00	0.00	0.00	0.00
244	2044	130.99	0.00	0.00	0.00	0.00
244	1044	130.99	0.00	0.00	0.00	0.00
245	2045	133.86	0.00	0.00	0.00	-0.16
245	1045	133.86	0.00	0.00	0.00	-0.17
246	2046	136.73	0.00	0.00	0.00	-0.18
246	1046	136.73	0.00	0.00	0.00	-0.20
247	2047	139.60	0.00	0.00	0.00	-0.11
247	1047	139.60	0.00	0.00	0.00	-0.12
401	1001	0.00	0.00	0.00	0.00	-0.01
401	1	0.00	0.00	0.00	0.00	-0.01
402	1002	2.62	0.00	0.00	0.00	0.00
402	2	2.62	0.00	0.00	0.00	0.00
403	1003	5.24	0.00	0.00	0.00	0.00
403	3	5.24	0.00	0.00	0.00	0.00
404	1004	7.86	0.00	0.00	0.00	0.00
404	4	7.86	0.00	0.00	0.00	0.00
405	1005	10.48	0.00	0.00	0.00	0.00
405	5	10.48	0.00	0.00	0.00	0.00
406	1006	13.10	0.00	0.00	-0.01	-0.27
406	6	13.10	0.00	0.00	-0.01	-0.27

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.01	0.00	-0.62
407	7	15.72	0.00	0.01	0.00	-0.63
408	1008	18.34	0.00	0.01	0.03	-0.54
408	8	18.34	0.00	0.01	0.03	-0.55
409	1009	20.96	0.00	0.01	0.00	-0.29
409	9	20.96	0.00	0.01	0.00	-0.30
410	1010	23.58	0.00	0.01	0.00	-0.30
410	10	23.58	0.00	0.01	0.00	-0.31
411	1011	26.20	0.00	0.01	0.00	-0.36
411	11	26.20	0.00	0.01	0.00	-0.37
412	1012	29.55	0.00	0.01	0.00	-0.36
412	12	29.55	0.00	0.01	0.00	-0.37
413	1013	32.90	0.00	0.01	0.01	-0.31
413	13	32.90	0.00	0.01	0.01	-0.31
414	1014	36.03	0.00	0.00	0.00	0.00
414	14	36.03	0.00	0.00	0.00	0.00
415	1015	39.16	0.00	0.00	0.00	0.00
415	15	39.16	0.00	0.00	0.00	0.00
416	1016	42.29	0.00	0.00	0.00	0.00
416	16	42.29	0.00	0.00	0.00	0.00
417	1017	45.42	0.00	0.05	-0.13	-0.82
417	17	45.42	0.00	0.05	-0.13	-0.87
418	1018	48.55	0.00	0.14	-0.09	-1.49
418	18	48.55	0.00	0.14	-0.09	-1.59
419	1019	51.68	0.00	0.18	-0.01	-1.58
419	19	51.68	0.00	0.18	-0.01	-1.71
420	1020	54.81	0.00	0.15	0.07	-1.56
420	20	54.81	0.00	0.15	0.07	-1.68
421	1021	57.94	0.00	0.07	0.11	-0.94
421	21	57.94	0.00	0.07	0.11	-0.99
422	1022	61.07	0.00	0.00	0.06	-0.36
422	22	61.07	0.00	0.00	0.06	-0.36
423	1023	64.20	0.00	0.00	0.00	-0.09
423	23	64.20	0.00	0.00	0.00	-0.10
424	1024	67.55	0.00	0.00	0.00	0.00
424	24	67.55	0.00	0.00	0.00	0.00
425	1025	70.90	0.00	0.00	0.00	0.00
425	25	70.90	0.00	0.00	0.00	0.00
426	1026	74.23	0.00	0.00	0.00	0.00
426	26	74.23	0.00	0.00	0.00	0.00
427	1027	77.56	0.00	0.00	0.00	0.00
427	27	77.56	0.00	0.00	0.00	0.00
428	1028	80.89	0.00	0.00	0.00	0.00
428	28	80.89	0.00	0.00	0.00	0.00
429	1029	84.22	0.00	0.08	-0.17	-1.32
429	29	84.22	0.00	0.08	-0.17	-1.38
430	1030	87.55	0.00	0.20	-0.10	-1.77
430	30	87.55	0.00	0.20	-0.10	-1.92

~csimp4.esv
Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.VY+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	0.25	0.00	-2.21
431	31	90.88	0.00	0.25	0.00	-2.39
432	1032	94.21	0.00	0.20	0.09	-2.02
432	32	94.21	0.00	0.20	0.09	-2.17
433	1033	97.54	0.00	0.09	0.13	-1.30
433	33	97.54	0.00	0.09	0.13	-1.37
434	1034	100.87	0.00	0.01	0.00	-0.29
434	34	100.87	0.00	0.01	0.00	-0.30
435	1035	104.20	0.00	0.01	0.00	-0.26
435	35	104.20	0.00	0.01	0.00	-0.26
436	1036	107.55	0.00	0.01	0.00	-0.22
436	36	107.55	0.00	0.01	0.00	-0.22
437	1037	110.90	0.00	0.00	0.00	-0.15
437	37	110.90	0.00	0.00	0.00	-0.16
438	1038	113.77	0.00	0.00	0.00	-0.13
438	38	113.77	0.00	0.00	0.00	-0.13
439	1039	116.64	0.00	0.00	0.00	0.00
439	39	116.64	0.00	0.00	0.00	0.00
440	1040	119.51	0.00	0.00	0.00	0.00
440	40	119.51	0.00	0.00	0.00	0.00
441	1041	122.38	0.00	0.00	0.00	0.00
441	41	122.38	0.00	0.00	0.00	0.00
442	1042	125.25	0.00	0.00	0.00	0.00
442	42	125.25	0.00	0.00	0.00	0.00
443	1043	128.12	0.00	0.00	0.00	0.00
443	43	128.12	0.00	0.00	0.00	0.00
444	1044	130.99	0.00	0.00	0.00	0.00
444	44	130.99	0.00	0.00	0.00	0.00
445	1045	133.86	0.00	0.00	0.00	-0.17
445	45	133.86	0.00	0.00	0.00	-0.17
446	1046	136.73	0.00	0.00	0.00	-0.20
446	46	136.73	0.00	0.00	0.00	-0.20
447	1047	139.60	0.00	0.00	0.00	-0.12
447	47	139.60	0.00	0.00	0.00	-0.13

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	1.78	1.63	0.18
1	2	2.62	0.00	1.78	1.63	-4.49
2	2	2.62	0.00	0.58	3.60	-4.15
2	3	5.24	0.00	0.58	3.60	-5.68
3	3	5.24	0.00	-0.25	4.43	-5.39
3	4	7.86	0.00	-0.25	4.43	-4.73
4	4	7.86	0.00	-0.79	4.35	-4.51
4	5	10.48	0.00	-0.79	4.35	-2.44
5	5	10.48	0.00	-1.05	3.63	-2.13
5	6	13.10	0.00	-1.05	3.63	0.61
6	6	13.10	0.00	-1.09	2.54	0.40
6	7	15.72	0.00	-1.09	2.54	3.27
7	7	15.72	0.00	-1.05	1.79	-3.13
7	8	18.34	0.00	-1.05	1.79	-0.39
8	8	18.34	0.00	-1.58	1.93	-3.98
8	9	20.96	0.00	-1.58	1.93	0.15
9	9	20.96	0.00	-2.22	2.59	-0.23
9	10	23.58	0.00	-2.22	2.59	5.60
10	10	23.58	0.00	-3.05	3.65	5.52
10	10011	26.20	0.00	-3.05	3.65	13.50
11	11	26.20	0.00	3.36	5.11	15.70
11	12	29.55	0.00	3.36	5.11	4.45
12	12	29.55	0.00	2.17	7.01	4.54
12	13	32.90	0.00	2.17	7.01	-2.72
13	13	32.90	0.00	1.50	8.77	-3.42
13	14	36.03	0.00	1.50	8.77	-8.12
14	14	36.03	0.00	0.56	10.04	-8.94
14	15	39.16	0.00	0.56	10.04	-10.70
15	15	39.16	0.00	0.01	10.77	-17.94
15	16	42.29	0.00	0.01	10.77	-17.97
16	16	42.29	0.00	-0.83	10.93	-17.70
16	17	45.42	0.00	-0.83	10.93	-15.10
17	17	45.42	0.00	-1.42	10.26	-14.93
17	18	48.55	0.00	-1.42	10.26	-10.49
18	18	48.55	0.00	-1.72	9.02	-11.03
18	19	51.68	0.00	-1.72	9.02	-5.66
19	19	51.68	0.00	-1.92	7.69	-6.77
19	20	54.81	0.00	-1.92	7.69	-0.75
20	20	54.81	0.00	-2.13	6.88	-4.79
20	21	57.94	0.00	-2.13	6.88	1.88
21	21	57.94	0.00	-2.43	6.61	-0.14
21	22	61.07	0.00	-2.43	6.61	7.47
22	22	61.07	0.00	-4.48	6.96	8.18
22	10023	64.20	0.00	-4.48	6.96	22.20
23	23	64.20	0.00	3.30	8.48	24.56
23	24	67.55	0.00	3.30	8.48	13.52
24	24	67.55	0.00	2.43	10.35	14.32
24	25	70.90	0.00	2.43	10.35	6.18

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	1.52	12.06	5.80
25	26	74.23	0.00	1.52	12.06	0.76
26	26	74.23	0.00	0.66	13.09	-1.04
26	27	77.56	0.00	0.66	13.09	-3.25
27	27	77.56	0.00	-0.18	13.19	-2.91
27	28	80.89	0.00	-0.18	13.19	-2.31
28	28	80.89	0.00	-0.71	12.35	-7.61
28	29	84.22	0.00	-0.71	12.35	-5.25
29	29	84.22	0.00	-1.19	11.00	-11.17
29	30	87.55	0.00	-1.19	11.00	-7.21
30	30	87.55	0.00	-1.38	9.13	-8.16
30	31	90.88	0.00	-1.38	9.13	-3.57
31	31	90.88	0.00	-1.47	7.58	-8.15
31	32	94.21	0.00	-1.47	7.58	-3.23
32	32	94.21	0.00	-1.69	6.89	-6.29
32	33	97.54	0.00	-1.69	6.89	-0.66
33	33	97.54	0.00	-1.97	6.44	-0.69
33	34	100.87	0.00	-1.97	6.44	5.86
34	34	100.87	0.00	-2.23	6.02	5.83
34	10035	104.20	0.00	-2.23	6.02	13.26
35	35	104.20	0.00	0.88	5.69	12.20
35	36	107.55	0.00	0.88	5.69	9.24
36	36	107.55	0.00	1.86	5.70	13.33
36	37	110.90	0.00	1.86	5.70	7.11
37	37	110.90	0.00	1.73	5.95	7.21
37	38	113.77	0.00	1.73	5.95	2.24
38	38	113.77	0.00	1.33	5.95	1.56
38	39	116.64	0.00	1.33	5.95	-2.26
39	39	116.64	0.00	0.86	5.51	-2.08
39	40	119.51	0.00	0.86	5.51	-4.54
40	40	119.51	0.00	0.51	4.64	-5.55
40	41	122.38	0.00	0.51	4.64	-7.01
41	41	122.38	0.00	0.19	3.62	-7.26
41	42	125.25	0.00	0.19	3.62	-7.82
42	42	125.25	0.00	-0.01	2.70	-4.94
42	43	128.12	0.00	-0.01	2.70	-4.91
43	43	128.12	0.00	0.04	2.09	-0.51
43	44	130.99	0.00	0.04	2.09	-0.63
44	44	130.99	0.00	-0.02	1.50	-0.63
44	45	133.86	0.00	-0.02	1.50	-0.57
45	45	133.86	0.00	-0.07	0.90	-0.57
45	46	136.73	0.00	-0.07	0.90	-0.36
46	46	136.73	0.00	-0.13	0.30	-0.36
46	47	139.60	0.00	-0.13	0.30	0.00
101	101	0.00	0.00	-14.02	4.32	-0.17
101	102	2.62	0.00	-11.66	3.95	30.40
102	102	2.62	0.00	-10.44	10.76	30.11
102	103	5.24	0.00	-8.48	9.75	46.86

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-7.65	15.15	46.63
103	104	7.86	0.00	-6.03	13.71	53.12
104	104	7.86	0.00	-5.45	18.17	52.97
104	105	10.48	0.00	-4.10	16.47	52.03
105	105	10.48	0.00	-3.64	20.42	51.95
105	106	13.10	0.00	-2.53	18.62	45.65
106	106	13.10	0.00	-2.08	22.41	45.64
106	107	15.72	0.00	-1.15	20.58	35.46
107	107	15.72	0.00	-0.64	24.48	35.48
107	108	18.34	0.00	0.11	22.68	22.47
108	108	18.34	0.00	0.73	26.83	22.51
108	109	20.96	0.00	1.32	25.03	7.42
109	109	20.96	0.00	2.07	29.49	7.46
109	110	23.58	0.00	2.49	27.63	-9.04
110	110	23.58	0.00	3.34	32.36	-9.02
110	111	26.20	0.00	3.57	30.36	-26.24
111	111	26.20	0.00	4.61	35.90	-26.27
111	112	29.55	0.00	4.63	33.00	-48.00
112	112	29.55	0.00	5.76	39.04	-48.13
112	10113	32.90	0.00	5.46	35.62	-67.70
113	113	32.90	0.00	-16.23	40.86	-67.92
113	114	36.03	0.00	-13.51	37.18	-21.89
114	114	36.03	0.00	-12.86	41.43	-22.15
114	115	39.16	0.00	-10.44	37.37	9.20
115	115	39.16	0.00	-10.02	40.85	8.97
115	116	42.29	0.00	-7.90	36.58	28.09
116	116	42.29	0.00	-7.63	39.54	27.91
116	117	45.42	0.00	-5.78	35.22	37.10
117	117	45.42	0.00	-5.56	37.99	36.99
117	118	48.55	0.00	-3.95	33.80	38.15
118	118	48.55	0.00	-3.68	36.71	38.11
118	119	51.68	0.00	-2.29	32.76	32.71
119	119	51.68	0.00	-1.87	36.10	32.73
119	120	54.81	0.00	-0.70	32.43	21.91
120	120	54.81	0.00	-0.08	36.40	21.97
120	121	57.94	0.00	0.87	32.99	6.65
121	121	57.94	0.00	1.72	37.65	6.71
121	122	61.07	0.00	2.42	34.41	-12.15
122	122	61.07	0.00	3.48	39.69	-12.11
122	123	64.20	0.00	3.90	36.48	-33.36
123	123	64.20	0.00	5.12	42.31	-33.39
123	124	67.55	0.00	5.23	38.71	-57.02
124	124	67.55	0.00	6.48	44.69	-57.16
124	10125	70.90	0.00	6.23	40.73	-79.42
125	125	70.90	0.00	-17.46	45.96	-79.67
125	126	74.23	0.00	-14.59	41.61	-27.07
126	126	74.23	0.00	-13.82	46.02	-27.39
126	127	77.56	0.00	-11.28	41.29	8.61

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-10.81	44.73	8.31
127	128	80.89	0.00	-8.58	39.79	30.64
128	128	80.89	0.00	-8.33	42.54	30.41
128	129	84.22	0.00	-6.39	37.58	41.83
129	129	84.22	0.00	-6.23	40.02	41.67
129	130	87.55	0.00	-4.55	35.21	44.47
130	130	87.55	0.00	-4.36	37.73	44.40
130	131	90.88	0.00	-2.91	33.20	40.32
131	131	90.88	0.00	-2.58	36.13	40.32
131	132	94.21	0.00	-1.36	31.90	30.66
132	132	94.21	0.00	-0.82	35.46	30.70
132	133	97.54	0.00	0.15	31.52	16.55
133	133	97.54	0.00	0.93	35.77	16.60
133	134	100.87	0.00	1.64	31.98	-0.94
134	134	100.87	0.00	2.61	36.81	-0.91
134	135	104.20	0.00	3.02	32.98	-20.46
135	135	104.20	0.00	4.02	37.74	-20.50
135	136	107.55	0.00	4.09	33.65	-40.05
136	136	107.55	0.00	4.98	37.89	-40.16
136	10137	110.90	0.00	4.71	33.43	-57.10
137	137	110.90	0.00	-15.34	37.09	-57.29
137	138	113.77	0.00	-12.82	32.89	-17.20
138	138	113.77	0.00	-12.30	35.82	-17.42
138	139	116.64	0.00	-10.02	31.26	10.17
139	139	116.64	0.00	-9.70	33.50	9.97
139	140	119.51	0.00	-7.67	28.69	26.88
140	140	119.51	0.00	-7.48	30.40	26.73
140	141	122.38	0.00	-5.70	25.44	34.76
141	141	122.38	0.00	-5.58	26.84	34.67
141	142	125.25	0.00	-4.03	21.82	35.52
142	142	125.25	0.00	-3.91	23.11	35.49
142	143	128.12	0.00	-2.60	18.07	30.83
143	143	128.12	0.00	-2.43	19.38	30.84
143	144	130.99	0.00	-1.41	14.27	22.44
144	144	130.99	0.00	-1.19	15.58	22.48
144	145	133.86	0.00	-0.49	10.26	12.52
145	145	133.86	0.00	-0.26	11.44	12.55
145	146	136.73	0.00	0.03	5.69	3.83
146	146	136.73	0.00	0.20	6.46	3.85
146	147	139.60	0.00	0.00	0.00	0.00
301	101	0.00	0.00	-0.03	0.02	-0.52
301	2001	0.00	0.00	-0.03	0.02	-0.50
302	102	2.62	0.00	-0.10	0.04	-1.19
302	2002	2.62	0.00	-0.10	0.04	-1.11
303	103	5.24	0.00	-0.15	0.04	-1.35
303	2003	5.24	0.00	-0.15	0.04	-1.23
304	104	7.86	0.00	-0.20	0.04	-1.53
304	2004	7.86	0.00	-0.20	0.04	-1.37

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-0.30	0.04	-1.94
305	2005	10.48	0.00	-0.30	0.04	-1.71
306	106	13.10	0.00	-0.47	0.05	-3.02
306	2006	13.10	0.00	-0.47	0.05	-2.66
307	107	15.72	0.00	-0.53	0.08	-3.82
307	2007	15.72	0.00	-0.53	0.08	-3.42
308	108	18.34	0.00	-0.69	0.14	-4.96
308	2008	18.34	0.00	-0.69	0.14	-4.44
309	109	20.96	0.00	-0.85	0.18	-5.47
309	2009	20.96	0.00	-0.85	0.18	-4.83
310	110	23.58	0.00	-0.45	0.21	-3.37
310	2010	23.58	0.00	-0.45	0.21	-3.03
311	111	26.20	0.00	-0.55	0.25	-3.56
311	2011	26.20	0.00	-0.55	0.25	-3.15
312	112	29.55	0.00	-0.79	0.26	-4.68
312	2012	29.55	0.00	-0.79	0.26	-4.08
313	113	32.90	0.00	-0.90	0.19	-4.98
313	2013	32.90	0.00	-0.90	0.19	-4.29
314	114	36.03	0.00	-0.89	0.11	-4.78
314	2014	36.03	0.00	-0.89	0.11	-4.10
315	115	39.16	0.00	-0.78	0.08	-4.20
315	2015	39.16	0.00	-0.78	0.08	-3.61
316	116	42.29	0.00	-0.73	0.06	-3.94
316	2016	42.29	0.00	-0.73	0.06	-3.39
317	117	45.42	0.00	-0.57	0.06	-3.15
317	2017	45.42	0.00	-0.57	0.06	-2.72
318	118	48.55	0.00	-0.40	0.07	-2.66
318	2018	48.55	0.00	-0.40	0.07	-2.36
319	119	51.68	0.00	-0.47	0.11	-3.45
319	2019	51.68	0.00	-0.47	0.11	-3.10
320	120	54.81	0.00	-0.65	0.16	-4.58
320	2020	54.81	0.00	-0.65	0.16	-4.09
321	121	57.94	0.00	-0.93	0.22	-6.04
321	2021	57.94	0.00	-0.93	0.22	-5.33
322	122	61.07	0.00	-1.23	0.24	-6.93
322	2022	61.07	0.00	-1.23	0.24	-6.00
323	123	64.20	0.00	-0.51	0.26	-3.39
323	2023	64.20	0.00	-0.51	0.26	-3.00
324	124	67.55	0.00	-0.69	0.25	-3.91
324	2024	67.55	0.00	-0.69	0.25	-3.39
325	125	70.90	0.00	-0.80	0.17	-4.33
325	2025	70.90	0.00	-0.80	0.17	-3.73
326	126	74.23	0.00	-0.72	0.10	-3.82
326	2026	74.23	0.00	-0.72	0.10	-3.27
327	127	77.56	0.00	-0.69	0.06	-3.69
327	2027	77.56	0.00	-0.69	0.06	-3.17
328	128	80.89	0.00	-0.65	0.04	-3.52
328	2028	80.89	0.00	-0.65	0.04	-3.03

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Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.MX+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-0.57	0.04	-3.17
329	2029	84.22	0.00	-0.57	0.04	-2.74
330	130	87.55	0.00	-0.35	0.05	-2.79
330	2030	87.55	0.00	-0.35	0.05	-2.53
331	131	90.88	0.00	-0.35	0.10	-3.17
331	2031	90.88	0.00	-0.35	0.10	-2.90
332	132	94.21	0.00	-0.65	0.17	-5.05
332	2032	94.21	0.00	-0.65	0.17	-4.56
333	133	97.54	0.00	-0.98	0.24	-6.82
333	2033	97.54	0.00	-0.98	0.24	-6.08
334	134	100.87	0.00	-0.72	0.27	-5.38
334	2034	100.87	0.00	-0.72	0.27	-4.84
335	135	104.20	0.00	-0.56	0.27	-3.92
335	2035	104.20	0.00	-0.56	0.27	-3.50
336	136	107.55	0.00	-0.70	0.23	-4.01
336	2036	107.55	0.00	-0.70	0.23	-3.48
337	137	110.90	0.00	-0.81	0.15	-4.25
337	2037	110.90	0.00	-0.81	0.15	-3.64
338	138	113.77	0.00	-0.70	0.08	-3.60
338	2038	113.77	0.00	-0.70	0.08	-3.07
339	139	116.64	0.00	-0.65	0.04	-3.31
339	2039	116.64	0.00	-0.65	0.04	-2.82
340	140	119.51	0.00	-0.49	0.01	-2.57
340	2040	119.51	0.00	-0.49	0.01	-2.19
341	141	122.38	0.00	0.00	0.00	-0.21
341	2041	122.38	0.00	0.00	0.00	-0.21
342	142	125.25	0.00	-0.12	0.01	-1.35
342	2042	125.25	0.00	-0.12	0.01	-1.26
343	143	128.12	0.00	-0.38	0.07	-3.42
343	2043	128.12	0.00	-0.38	0.07	-3.13
344	144	130.99	0.00	-0.55	0.17	-4.00
344	2044	130.99	0.00	-0.55	0.17	-3.59
345	145	133.86	0.00	-0.96	0.25	-5.75
345	2045	133.86	0.00	-0.96	0.25	-5.03
346	146	136.73	0.00	-1.42	0.32	-7.50
346	2046	136.73	0.00	-1.42	0.32	-6.43
347	147	139.60	0.00	-0.94	0.17	-4.55
347	2047	139.60	0.00	-0.94	0.17	-3.84
201	2001	0.00	0.00	-0.03	0.02	-0.50
201	1001	0.00	0.00	-0.03	0.02	-0.36
202	2002	2.62	0.00	-0.10	0.04	-1.11
202	1002	2.62	0.00	-0.10	0.04	-0.62
203	2003	5.24	0.00	-0.15	0.04	-1.23
203	1003	5.24	0.00	-0.15	0.04	-0.51
204	2004	7.86	0.00	-0.20	0.04	-1.37
204	1004	7.86	0.00	-0.20	0.04	-0.39
205	2005	10.48	0.00	-0.30	0.04	-1.71
205	1005	10.48	0.00	-0.30	0.04	-0.30

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-0.47	0.05	-2.66
206	1006	13.10	0.00	-0.47	0.05	-0.43
207	2007	15.72	0.00	-0.53	0.08	-3.42
207	1007	15.72	0.00	-0.53	0.08	-0.89
208	2008	18.34	0.00	-0.69	0.14	-4.44
208	1008	18.34	0.00	-0.69	0.14	-1.16
209	2009	20.96	0.00	-0.85	0.18	-4.83
209	1009	20.96	0.00	-0.85	0.18	-0.75
210	2010	23.58	0.00	-0.45	0.21	-3.03
210	1010	23.58	0.00	-0.45	0.21	-0.87
211	2011	26.20	0.00	-0.55	0.25	-3.15
211	1011	26.20	0.00	-0.55	0.25	-0.53
212	2012	29.55	0.00	-0.79	0.26	-4.08
212	1012	29.55	0.00	-0.79	0.26	-0.27
213	2013	32.90	0.00	-0.90	0.19	-4.29
213	1013	32.90	0.00	-0.90	0.19	0.02
214	2014	36.03	0.00	-0.89	0.11	-4.10
214	1014	36.03	0.00	-0.89	0.11	0.15
215	2015	39.16	0.00	-0.78	0.08	-3.61
215	1015	39.16	0.00	-0.78	0.08	0.13
216	2016	42.29	0.00	-0.73	0.06	-3.39
216	1016	42.29	0.00	-0.73	0.06	0.11
217	2017	45.42	0.00	-0.57	0.06	-2.72
217	1017	45.42	0.00	-0.57	0.06	0.02
218	2018	48.55	0.00	-0.40	0.07	-2.36
218	1018	48.55	0.00	-0.40	0.07	-0.44
219	2019	51.68	0.00	-0.47	0.11	-3.10
219	1019	51.68	0.00	-0.47	0.11	-0.85
220	2020	54.81	0.00	-0.65	0.16	-4.09
220	1020	54.81	0.00	-0.65	0.16	-1.00
221	2021	57.94	0.00	-0.93	0.22	-5.33
221	1021	57.94	0.00	-0.93	0.22	-0.86
222	2022	61.07	0.00	-1.23	0.24	-6.00
222	1022	61.07	0.00	-1.23	0.24	-0.10
223	2023	64.20	0.00	-0.51	0.26	-3.00
223	1023	64.20	0.00	-0.51	0.26	-0.58
224	2024	67.55	0.00	-0.69	0.25	-3.39
224	1024	67.55	0.00	-0.69	0.25	-0.08
225	2025	70.90	0.00	-0.80	0.17	-3.73
225	1025	70.90	0.00	-0.80	0.17	0.11
226	2026	74.23	0.00	-0.72	0.10	-3.27
226	1026	74.23	0.00	-0.72	0.10	0.19
227	2027	77.56	0.00	-0.69	0.06	-3.17
227	1027	77.56	0.00	-0.69	0.06	0.16
228	2028	80.89	0.00	-0.65	0.04	-3.03
228	1028	80.89	0.00	-0.65	0.04	0.07
229	2029	84.22	0.00	-0.57	0.04	-2.74
229	1029	84.22	0.00	-0.57	0.04	-0.03

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Programa DINTEL IDEAM S.A.
20/10/02

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-0.35	0.05	-2.53
230	1030	87.55	0.00	-0.35	0.05	-0.85
231	2031	90.88	0.00	-0.35	0.10	-2.90
231	1031	90.88	0.00	-0.35	0.10	-1.21
232	2032	94.21	0.00	-0.65	0.17	-4.56
232	1032	94.21	0.00	-0.65	0.17	-1.46
233	2033	97.54	0.00	-0.98	0.24	-6.08
233	1033	97.54	0.00	-0.98	0.24	-1.39
234	2034	100.87	0.00	-0.72	0.27	-4.84
234	1034	100.87	0.00	-0.72	0.27	-1.42
235	2035	104.20	0.00	-0.56	0.27	-3.50
235	1035	104.20	0.00	-0.56	0.27	-0.81
236	2036	107.55	0.00	-0.70	0.23	-3.48
236	1036	107.55	0.00	-0.70	0.23	-0.15
237	2037	110.90	0.00	-0.81	0.15	-3.64
237	1037	110.90	0.00	-0.81	0.15	0.23
238	2038	113.77	0.00	-0.70	0.08	-3.07
238	1038	113.77	0.00	-0.70	0.08	0.28
239	2039	116.64	0.00	-0.65	0.04	-2.82
239	1039	116.64	0.00	-0.65	0.04	0.28
240	2040	119.51	0.00	-0.49	0.01	-2.19
240	1040	119.51	0.00	-0.49	0.01	0.16
241	2041	122.38	0.00	0.00	0.00	-0.21
241	1041	122.38	0.00	0.00	0.00	-0.19
242	2042	125.25	0.00	-0.12	0.01	-1.26
242	1042	125.25	0.00	-0.12	0.01	-0.67
243	2043	128.12	0.00	-0.38	0.07	-3.13
243	1043	128.12	0.00	-0.38	0.07	-1.31
244	2044	130.99	0.00	-0.55	0.17	-3.59
244	1044	130.99	0.00	-0.55	0.17	-0.95
245	2045	133.86	0.00	-0.96	0.25	-5.03
245	1045	133.86	0.00	-0.96	0.25	-0.44
246	2046	136.73	0.00	-1.42	0.32	-6.43
246	1046	136.73	0.00	-1.42	0.32	0.39
247	2047	139.60	0.00	-0.94	0.17	-3.84
247	1047	139.60	0.00	-0.94	0.17	0.67
401	1001	0.00	0.00	-0.03	0.02	-0.36
401	1	0.00	0.00	-0.03	0.02	-0.34
402	1002	2.62	0.00	-0.10	0.04	-0.62
402	2	2.62	0.00	-0.10	0.04	-0.54
403	1003	5.24	0.00	-0.15	0.04	-0.51
403	3	5.24	0.00	-0.15	0.04	-0.40
404	1004	7.86	0.00	-0.20	0.04	-0.39
404	4	7.86	0.00	-0.20	0.04	-0.24
405	1005	10.48	0.00	-0.30	0.04	-0.30
405	5	10.48	0.00	-0.30	0.04	-0.07
406	1006	13.10	0.00	-0.47	0.05	-0.43
406	6	13.10	0.00	-0.47	0.05	-0.08

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-0.53	0.08	-0.89
407	7	15.72	0.00	-0.53	0.08	-0.49
408	1008	18.34	0.00	-0.69	0.14	-1.16
408	8	18.34	0.00	-0.69	0.14	-0.64
409	1009	20.96	0.00	-0.85	0.18	-0.75
409	9	20.96	0.00	-0.85	0.18	-0.11
410	1010	23.58	0.00	-0.45	0.21	-0.87
410	10	23.58	0.00	-0.45	0.21	-0.53
411	1011	26.20	0.00	-0.55	0.25	-0.53
411	11	26.20	0.00	-0.55	0.25	-0.11
412	1012	29.55	0.00	-0.79	0.26	-0.27
412	12	29.55	0.00	-0.79	0.26	0.33
413	1013	32.90	0.00	-0.90	0.19	0.02
413	13	32.90	0.00	-0.90	0.19	0.70
414	1014	36.03	0.00	-0.89	0.11	0.15
414	14	36.03	0.00	-0.89	0.11	0.82
415	1015	39.16	0.00	-0.78	0.08	0.13
415	15	39.16	0.00	-0.78	0.08	0.72
416	1016	42.29	0.00	-0.73	0.06	0.11
416	16	42.29	0.00	-0.73	0.06	0.67
417	1017	45.42	0.00	-0.57	0.06	0.02
417	17	45.42	0.00	-0.57	0.06	0.45
418	1018	48.55	0.00	-0.40	0.07	-0.44
418	18	48.55	0.00	-0.40	0.07	-0.14
419	1019	51.68	0.00	-0.47	0.11	-0.85
419	19	51.68	0.00	-0.47	0.11	-0.50
420	1020	54.81	0.00	-0.65	0.16	-1.00
420	20	54.81	0.00	-0.65	0.16	-0.51
421	1021	57.94	0.00	-0.93	0.22	-0.86
421	21	57.94	0.00	-0.93	0.22	-0.15
422	1022	61.07	0.00	-1.23	0.24	-0.10
422	22	61.07	0.00	-1.23	0.24	0.83
423	1023	64.20	0.00	-0.51	0.26	-0.58
423	23	64.20	0.00	-0.51	0.26	-0.20
424	1024	67.55	0.00	-0.69	0.25	-0.08
424	24	67.55	0.00	-0.69	0.25	0.44
425	1025	70.90	0.00	-0.80	0.17	0.11
425	25	70.90	0.00	-0.80	0.17	0.72
426	1026	74.23	0.00	-0.72	0.10	0.19
426	26	74.23	0.00	-0.72	0.10	0.74
427	1027	77.56	0.00	-0.69	0.06	0.16
427	27	77.56	0.00	-0.69	0.06	0.68
428	1028	80.89	0.00	-0.65	0.04	0.07
428	28	80.89	0.00	-0.65	0.04	0.56
429	1029	84.22	0.00	-0.57	0.04	-0.03
429	29	84.22	0.00	-0.57	0.04	0.39
430	1030	87.55	0.00	-0.35	0.05	-0.85
430	30	87.55	0.00	-0.35	0.05	-0.58

~csimp4.esv
Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.MX+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano genérico. MX+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-0.35	0.10	-1.21
431	31	90.88	0.00	-0.35	0.10	-0.94
432	1032	94.21	0.00	-0.65	0.17	-1.46
432	32	94.21	0.00	-0.65	0.17	-0.98
433	1033	97.54	0.00	-0.98	0.24	-1.39
433	33	97.54	0.00	-0.98	0.24	-0.65
434	1034	100.87	0.00	-0.72	0.27	-1.42
434	34	100.87	0.00	-0.72	0.27	-0.88
435	1035	104.20	0.00	-0.56	0.27	-0.81
435	35	104.20	0.00	-0.56	0.27	-0.38
436	1036	107.55	0.00	-0.70	0.23	-0.15
436	36	107.55	0.00	-0.70	0.23	0.37
437	1037	110.90	0.00	-0.81	0.15	0.23
437	37	110.90	0.00	-0.81	0.15	0.84
438	1038	113.77	0.00	-0.70	0.08	0.28
438	38	113.77	0.00	-0.70	0.08	0.81
439	1039	116.64	0.00	-0.65	0.04	0.28
439	39	116.64	0.00	-0.65	0.04	0.77
440	1040	119.51	0.00	-0.49	0.01	0.16
440	40	119.51	0.00	-0.49	0.01	0.54
441	1041	122.38	0.00	0.00	0.00	-0.19
441	41	122.38	0.00	0.00	0.00	-0.19
442	1042	125.25	0.00	-0.12	0.01	-0.67
442	42	125.25	0.00	-0.12	0.01	-0.57
443	1043	128.12	0.00	-0.38	0.07	-1.31
443	43	128.12	0.00	-0.38	0.07	-1.03
444	1044	130.99	0.00	-0.55	0.17	-0.95
444	44	130.99	0.00	-0.55	0.17	-0.53
445	1045	133.86	0.00	-0.96	0.25	-0.44
445	45	133.86	0.00	-0.96	0.25	0.29
446	1046	136.73	0.00	-1.42	0.32	0.39
446	46	136.73	0.00	-1.42	0.32	1.46
447	1047	139.60	0.00	-0.94	0.17	0.67
447	47	139.60	0.00	-0.94	0.17	1.38

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	1.74	1.50	0.19
1	2	2.62	0.00	-0.13	-0.09	0.35
2	2	2.62	0.00	-0.16	-0.31	0.36
2	3	5.24	0.00	-0.16	-0.33	0.78
3	3	5.24	0.00	-0.19	-0.59	0.79
3	4	7.86	0.00	-0.19	-0.59	1.28
4	4	7.86	0.00	-0.20	-0.87	1.28
4	5	10.48	0.00	-0.66	0.70	2.61
5	5	10.48	0.00	-0.76	-0.13	2.71
5	6	13.10	0.00	-0.88	0.09	4.93
6	6	13.10	0.00	-0.93	-1.10	4.99
6	7	15.72	0.00	-1.27	-0.52	8.00
7	7	15.72	0.00	-1.34	-2.12	7.99
7	8	18.34	0.00	-1.60	-1.73	11.78
8	8	18.34	0.00	-1.76	-3.30	11.69
8	9	20.96	0.00	-2.14	-2.89	16.84
9	9	20.96	0.00	-2.49	-4.12	16.68
9	10	23.58	0.00	-3.19	-3.50	24.24
10	10	23.58	0.00	-3.94	-3.79	24.04
10	10011	26.20	0.00	-4.91	-2.55	36.51
11	11	26.20	0.00	7.17	-1.57	36.31
11	12	29.55	0.00	6.56	-2.83	12.54
12	12	29.55	0.00	5.08	-1.56	12.37
12	13	32.90	0.00	0.97	-2.42	0.70
13	13	32.90	0.00	0.87	-2.79	0.68
13	14	36.03	0.00	0.00	0.00	0.00
14	14	36.03	0.00	0.00	0.00	0.00
14	15	39.16	0.00	-0.24	1.46	0.19
15	15	39.16	0.00	-0.34	1.26	0.30
15	16	42.29	0.00	-0.57	2.57	1.94
16	16	42.29	0.00	-0.63	1.79	2.12
16	17	45.42	0.00	-0.76	2.65	4.45
17	17	45.42	0.00	-0.74	1.24	4.62
17	18	48.55	0.00	-0.81	1.98	7.04
18	18	48.55	0.00	-0.75	-0.32	7.15
18	19	51.68	0.00	-0.76	-0.66	9.49
19	19	51.68	0.00	-0.62	-2.79	9.51
19	20	54.81	0.00	-0.79	-2.78	11.69
20	20	54.81	0.00	-0.75	-4.84	11.62
20	21	57.94	0.00	-1.22	-4.59	14.38
21	21	57.94	0.00	-1.41	-5.72	14.20
21	22	61.07	0.00	-4.15	-2.24	24.58
22	22	61.07	0.00	-5.19	-2.39	24.36
22	10023	64.20	0.00	-6.26	-2.51	43.61
23	23	64.20	0.00	7.48	-0.97	43.41
23	24	67.55	0.00	7.31	-0.56	18.40
24	24	67.55	0.00	5.45	1.76	18.32
24	25	70.90	0.00	0.91	6.42	8.08

~csimp4.esv
Programa DINTEL IDEAM S.A. 20/10/02
SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	0.70	6.33	8.09
25	26	74.23	0.00	0.61	6.06	5.97
26	26	74.23	0.00	0.46	5.86	5.99
26	27	77.56	0.00	0.14	8.72	4.88
27	27	77.56	0.00	-0.19	8.75	5.09
27	28	80.89	0.00	-0.32	9.71	5.95
28	28	80.89	0.00	-0.45	8.61	6.20
28	29	84.22	0.00	-0.58	9.06	7.86
29	29	84.22	0.00	-0.55	7.11	8.08
29	30	87.55	0.00	-0.62	5.88	9.93
30	30	87.55	0.00	-0.48	3.39	10.05
30	31	90.88	0.00	-0.56	3.34	11.68
31	31	90.88	0.00	-0.31	0.37	11.69
31	32	94.21	0.00	-0.61	-1.58	13.35
32	32	94.21	0.00	-0.52	-3.35	13.25
32	33	97.54	0.00	-1.98	-9.48	17.67
33	33	97.54	0.00	-2.72	-10.19	17.44
33	34	100.87	0.00	-4.52	-7.25	31.50
34	34	100.87	0.00	-5.84	-6.83	31.23
34	10035	104.20	0.00	-5.84	-6.83	50.69
35	35	104.20	0.00	8.18	-5.47	50.48
35	36	107.55	0.00	7.55	-4.09	23.10
36	36	107.55	0.00	6.03	-2.33	23.05
36	37	110.90	0.00	2.35	3.17	8.95
37	37	110.90	0.00	1.94	3.76	9.09
37	38	113.77	0.00	0.61	3.25	6.80
38	38	113.77	0.00	0.49	3.07	6.81
38	39	116.64	0.00	0.43	2.89	5.48
39	39	116.64	0.00	0.35	2.66	5.49
39	40	119.51	0.00	0.35	2.66	4.49
40	40	119.51	0.00	0.30	2.37	4.50
40	41	122.38	0.00	0.30	2.37	3.65
41	41	122.38	0.00	0.26	2.06	3.66
41	42	125.25	0.00	0.26	2.06	2.92
42	42	125.25	0.00	0.23	1.71	2.93
42	43	128.12	0.00	0.22	1.45	2.28
43	43	128.12	0.00	0.20	1.15	2.28
43	44	130.99	0.00	0.20	1.15	1.70
44	44	130.99	0.00	0.20	0.83	1.70
44	45	133.86	0.00	0.20	0.83	1.13
45	45	133.86	0.00	0.20	0.50	1.13
45	46	136.73	0.00	0.20	0.50	0.57
46	46	136.73	0.00	0.20	0.17	0.57
46	47	139.60	0.00	-4.93	-1.38	0.17
101	101	0.00	0.00	0.34	0.52	0.02
101	102	2.62	0.00	-12.30	-2.41	34.78
102	102	2.62	0.00	-11.01	4.09	34.43
102	103	5.24	0.00	-8.91	-2.23	60.53

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-5.51	12.04	26.68
127	128	80.89	0.00	-7.82	25.12	51.81
128	128	80.89	0.00	-7.41	29.39	51.52
128	129	84.22	0.00	-4.74	21.37	71.75
129	129	84.22	0.00	-4.51	25.13	71.56
129	130	87.55	0.00	-2.13	12.51	82.58
130	130	87.55	0.00	-2.11	15.35	82.48
130	131	90.88	0.00	0.31	2.05	85.62
131	131	90.88	0.00	0.29	4.77	85.62
131	132	94.21	0.00	2.78	-6.52	80.69
132	132	94.21	0.00	2.77	-3.99	80.80
132	133	97.54	0.00	5.19	-16.21	67.35
133	133	97.54	0.00	5.37	-13.03	67.56
133	134	100.87	0.00	7.20	-29.36	47.41
134	134	100.87	0.00	7.71	-24.91	47.68
134	135	104.20	0.00	5.28	-13.08	23.50
135	135	104.20	0.00	5.80	-9.97	23.61
135	136	107.55	0.00	2.40	-7.15	8.80
136	136	107.55	0.00	2.75	-5.15	8.81
136	10137	110.90	0.00	-0.30	-5.18	7.00
137	137	110.90	0.00	0.05	-4.40	6.99
137	138	113.77	0.00	-2.53	-2.97	8.68
138	138	113.77	0.00	-2.28	-1.44	8.64
138	139	116.64	0.00	-8.15	12.05	22.75
139	139	116.64	0.00	-7.73	14.94	22.57
139	140	119.51	0.00	-7.23	18.99	45.94
140	140	119.51	0.00	-6.86	22.20	45.75
140	141	122.38	0.00	-4.56	15.29	62.14
141	141	122.38	0.00	-4.30	18.22	62.02
141	142	125.25	0.00	-2.00	11.30	71.06
142	142	125.25	0.00	-1.76	14.19	71.03
142	143	128.12	0.00	0.53	7.27	72.80
143	143	128.12	0.00	0.84	10.41	72.87
143	144	130.99	0.00	3.07	2.49	67.34
144	144	130.99	0.00	3.58	6.44	67.50
144	145	133.86	0.00	5.87	-0.68	53.93
145	145	133.86	0.00	6.66	4.20	54.18
145	146	136.73	0.00	8.95	-2.71	31.78
146	146	136.73	0.00	10.09	3.28	32.08
146	147	139.60	0.00	0.30	-0.15	0.00
301	101	0.00	0.00	0.00	0.00	0.00
301	2001	0.00	0.00	0.00	0.00	0.00
302	102	2.62	0.00	0.00	0.00	0.00
302	2002	2.62	0.00	0.00	0.00	0.00
303	103	5.24	0.00	0.00	0.00	0.00
303	2003	5.24	0.00	0.00	0.00	0.00
304	104	7.86	0.00	0.00	0.00	0.00
304	2004	7.86	0.00	0.00	0.00	0.00

-csimp4.esv
Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-8.00	3.10	60.23
103	104	7.86	0.00	-5.90	-3.21	78.43
104	104	7.86	0.00	-5.28	1.16	78.20
104	105	10.48	0.00	-3.24	-5.96	89.35
105	105	10.48	0.00	-2.87	-2.55	89.20
105	106	13.10	0.00	-0.78	-8.87	93.99
106	106	13.10	0.00	-0.55	-5.91	93.92
106	107	15.72	0.00	1.54	-12.22	92.63
107	107	15.72	0.00	1.71	-9.46	92.65
107	108	18.34	0.00	3.81	-15.77	85.42
108	108	18.34	0.00	4.00	-12.97	85.52
108	109	20.96	0.00	5.97	-20.89	72.31
109	109	20.96	0.00	6.18	-18.16	72.47
109	110	23.58	0.00	8.28	-24.63	53.52
110	110	23.58	0.00	8.61	-21.58	53.73
110	111	26.20	0.00	8.73	-18.63	28.70
111	111	26.20	0.00	9.16	-15.52	28.89
111	112	29.55	0.00	2.61	1.54	10.09
112	112	29.55	0.00	2.83	3.17	10.12
112	10113	32.90	0.00	-0.25	4.38	7.85
113	113	32.90	0.00	0.60	4.94	7.86
113	114	36.03	0.00	-2.11	4.69	8.19
114	114	36.03	0.00	-1.90	6.26	8.18
114	115	39.16	0.00	-5.21	11.61	20.31
115	115	39.16	0.00	-4.85	14.24	20.22
115	116	42.29	0.00	-7.40	27.18	42.19
116	116	42.29	0.00	-7.02	30.97	41.98
116	117	45.42	0.00	-5.30	17.53	60.90
117	117	45.42	0.00	-5.09	21.05	60.72
117	118	48.55	0.00	-2.78	10.66	73.13
118	118	48.55	0.00	-2.82	12.55	73.03
118	119	51.68	0.00	-0.41	2.69	77.98
119	119	51.68	0.00	-0.45	4.73	77.98
119	120	54.81	0.00	2.05	-2.81	75.47
120	120	54.81	0.00	2.06	-0.58	75.56
120	121	57.94	0.00	4.26	-14.97	65.39
121	121	57.94	0.00	4.39	-12.35	65.55
121	122	61.07	0.00	6.14	-28.16	49.49
122	122	61.07	0.00	6.63	-23.97	49.71
122	123	64.20	0.00	5.92	-16.76	27.61
123	123	64.20	0.00	6.48	-12.98	27.75
123	124	67.55	0.00	2.26	-6.26	11.73
124	124	67.55	0.00	2.69	-3.41	11.74
124	10125	70.90	0.00	-0.30	-2.17	9.26
125	125	70.90	0.00	0.04	-0.67	9.25
125	126	74.23	0.00	-2.82	-0.10	11.81
126	126	74.23	0.00	-2.47	2.36	11.76
126	127	77.56	0.00	-5.98	8.51	26.84

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.00	0.00	0.00
305	2005	10.48	0.00	0.00	0.00	0.00
306	106	13.10	0.00	0.00	0.00	0.00
306	2006	13.10	0.00	0.00	0.00	0.00
307	107	15.72	0.00	0.00	0.00	0.00
307	2007	15.72	0.00	0.00	0.00	0.00
308	108	18.34	0.00	0.00	0.00	0.00
308	2008	18.34	0.00	0.00	0.00	0.00
309	109	20.96	0.00	0.00	0.00	0.00
309	2009	20.96	0.00	0.00	0.00	0.00
310	110	23.58	0.00	0.00	0.00	0.00
310	2010	23.58	0.00	0.00	0.00	0.00
311	111	26.20	0.00	0.00	0.00	0.00
311	2011	26.20	0.00	0.00	0.00	0.00
312	112	29.55	0.00	0.00	0.00	0.00
312	2012	29.55	0.00	0.00	0.00	0.00
313	113	32.90	0.00	0.00	0.00	0.00
313	2013	32.90	0.00	0.00	0.00	0.00
314	114	36.03	0.00	0.00	0.00	0.00
314	2014	36.03	0.00	0.00	0.00	0.00
315	115	39.16	0.00	0.00	0.00	0.00
315	2015	39.16	0.00	0.00	0.00	0.00
316	116	42.29	0.00	0.00	0.00	0.00
316	2016	42.29	0.00	0.00	0.00	0.00
317	117	45.42	0.00	0.00	0.00	0.00
317	2017	45.42	0.00	0.00	0.00	0.00
318	118	48.55	0.00	0.00	0.00	0.00
318	2018	48.55	0.00	0.00	0.00	0.00
319	119	51.68	0.00	0.00	0.00	0.00
319	2019	51.68	0.00	0.00	0.00	0.00
320	120	54.81	0.00	0.00	0.00	0.00
320	2020	54.81	0.00	0.00	0.00	0.00
321	121	57.94	0.00	0.00	0.00	0.00
321	2021	57.94	0.00	0.00	0.00	0.00
322	122	61.07	0.00	0.00	0.00	0.00
322	2022	61.07	0.00	0.00	0.00	0.00
323	123	64.20	0.00	0.00	0.00	0.00
323	2023	64.20	0.00	0.00	0.00	0.00
324	124	67.55	0.00	0.00	0.00	0.00
324	2024	67.55	0.00	0.00	0.00	0.00
325	125	70.90	0.00	0.00	0.00	0.00
325	2025	70.90	0.00	0.00	0.00	0.00
326	126	74.23	0.00	0.00	0.00	0.00
326	2026	74.23	0.00	0.00	0.00	0.00
327	127	77.56	0.00	0.00	0.00	0.00
327	2027	77.56	0.00	0.00	0.00	0.00
328	128	80.89	0.00	0.00	0.00	0.00
328	2028	80.89	0.00	0.00	0.00	0.00

~csimp4.esv
Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.00	0.00	0.00
329	2029	84.22	0.00	0.00	0.00	0.00
330	130	87.55	0.00	0.00	0.00	0.00
330	2030	87.55	0.00	0.00	0.00	0.00
331	131	90.88	0.00	0.00	0.00	0.00
331	2031	90.88	0.00	0.00	0.00	0.00
332	132	94.21	0.00	0.00	0.00	0.00
332	2032	94.21	0.00	0.00	0.00	0.00
333	133	97.54	0.00	0.00	0.00	0.00
333	2033	97.54	0.00	0.00	0.00	0.00
334	134	100.87	0.00	0.00	0.00	0.00
334	2034	100.87	0.00	0.00	0.00	0.00
335	135	104.20	0.00	0.00	0.00	0.00
335	2035	104.20	0.00	0.00	0.00	0.00
336	136	107.55	0.00	0.00	0.00	0.00
336	2036	107.55	0.00	0.00	0.00	0.00
337	137	110.90	0.00	0.00	0.00	0.00
337	2037	110.90	0.00	0.00	0.00	0.00
338	138	113.77	0.00	0.00	0.00	0.00
338	2038	113.77	0.00	0.00	0.00	0.00
339	139	116.64	0.00	0.00	0.00	0.00
339	2039	116.64	0.00	0.00	0.00	0.00
340	140	119.51	0.00	0.00	0.00	0.00
340	2040	119.51	0.00	0.00	0.00	0.00
341	141	122.38	0.00	0.00	0.00	0.00
341	2041	122.38	0.00	0.00	0.00	0.00
342	142	125.25	0.00	0.00	0.00	0.00
342	2042	125.25	0.00	0.00	0.00	0.00
343	143	128.12	0.00	0.00	0.00	0.00
343	2043	128.12	0.00	0.00	0.00	0.00
344	144	130.99	0.00	0.00	0.00	0.00
344	2044	130.99	0.00	0.00	0.00	0.00
345	145	133.86	0.00	0.00	0.00	0.00
345	2045	133.86	0.00	0.00	0.00	0.00
346	146	136.73	0.00	0.00	0.00	0.00
346	2046	136.73	0.00	0.00	0.00	0.00
347	147	139.60	0.00	0.00	0.00	0.00
347	2047	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	-0.80	-0.18	1.02
202	2002	2.62	0.00	0.00	0.00	0.00
202	1002	2.62	0.00	-1.15	-0.33	1.08
203	2003	5.24	0.00	0.00	0.00	0.00
203	1003	5.24	0.00	-0.71	-0.25	0.27
204	2004	7.86	0.00	0.00	0.00	0.00
204	1004	7.86	0.00	-0.08	-0.01	0.01
205	2005	10.48	0.00	0.00	0.00	0.00
205	1005	10.48	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	0.00	0.00	0.00
206	1006	13.10	0.00	-0.23	0.03	0.07
207	2007	15.72	0.00	0.00	0.00	0.00
207	1007	15.72	0.00	-0.36	0.04	0.20
208	2008	18.34	0.00	0.00	0.00	0.00
208	1008	18.34	0.00	-0.45	0.03	0.36
209	2009	20.96	0.00	0.00	0.00	0.00
209	1009	20.96	0.00	-0.58	0.02	0.52
210	2010	23.58	0.00	0.00	0.00	0.00
210	1010	23.58	0.00	-0.68	0.00	0.67
211	2011	26.20	0.00	0.00	0.00	0.00
211	1011	26.20	0.00	-0.92	-0.04	0.90
212	2012	29.55	0.00	0.00	0.00	0.00
212	1012	29.55	0.00	-1.63	0.09	1.15
213	2013	32.90	0.00	0.00	0.00	0.00
213	1013	32.90	0.00	-1.72	-0.05	1.25
214	2014	36.03	0.00	0.00	0.00	0.00
214	1014	36.03	0.00	-1.42	-0.16	0.85
215	2015	39.16	0.00	0.00	0.00	0.00
215	1015	39.16	0.00	-0.82	0.03	0.58
216	2016	42.29	0.00	0.00	0.00	0.00
216	1016	42.29	0.00	-0.66	0.01	0.45
217	2017	45.42	0.00	0.00	0.00	0.00
217	1017	45.42	0.00	-0.48	0.00	0.32
218	2018	48.55	0.00	0.00	0.00	0.00
218	1018	48.55	0.00	-0.62	0.04	0.29
219	2019	51.68	0.00	0.00	0.00	0.00
219	1019	51.68	0.00	-0.67	0.06	0.41
220	2020	54.81	0.00	0.00	0.00	0.00
220	1020	54.81	0.00	-0.77	0.06	0.60
221	2021	57.94	0.00	0.00	0.00	0.00
221	1021	57.94	0.00	-0.88	0.04	0.85
222	2022	61.07	0.00	0.00	0.00	0.00
222	1022	61.07	0.00	-1.01	0.01	1.09
223	2023	64.20	0.00	0.00	0.00	0.00
223	1023	64.20	0.00	-1.17	-0.03	1.33
224	2024	67.55	0.00	0.00	0.00	0.00
224	1024	67.55	0.00	-1.42	-0.06	1.48
225	2025	70.90	0.00	0.00	0.00	0.00
225	1025	70.90	0.00	-1.67	-0.08	1.49
226	2026	74.23	0.00	0.00	0.00	0.00
226	1026	74.23	0.00	-1.48	-0.23	1.05
227	2027	77.56	0.00	0.00	0.00	0.00
227	1027	77.56	0.00	-0.74	0.03	0.57
228	2028	80.89	0.00	0.00	0.00	0.00
228	1028	80.89	0.00	-0.58	0.01	0.43
229	2029	84.22	0.00	0.00	0.00	0.00
229	1029	84.22	0.00	-0.44	0.00	0.29

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Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.00	0.00	0.00
230	1030	87.55	0.00	-0.30	0.00	0.17
231	2031	90.88	0.00	0.00	0.00	0.00
231	1031	90.88	0.00	-0.50	0.03	0.18
232	2032	94.21	0.00	0.00	0.00	0.00
232	1032	94.21	0.00	-0.61	0.04	0.31
233	2033	97.54	0.00	0.00	0.00	0.00
233	1033	97.54	0.00	-0.75	0.03	0.51
234	2034	100.87	0.00	0.00	0.00	0.00
234	1034	100.87	0.00	-0.90	0.00	0.70
235	2035	104.20	0.00	0.00	0.00	0.00
235	1035	104.20	0.00	-1.00	-0.04	0.80
236	2036	107.55	0.00	0.00	0.00	0.00
236	1036	107.55	0.00	-1.33	0.09	0.83
237	2037	110.90	0.00	0.00	0.00	0.00
237	1037	110.90	0.00	-1.42	-0.03	0.92
238	2038	113.77	0.00	0.00	0.00	0.00
238	1038	113.77	0.00	-1.13	-0.04	0.67
239	2039	116.64	0.00	0.00	0.00	0.00
239	1039	116.64	0.00	-0.69	0.03	0.51
240	2040	119.51	0.00	0.00	0.00	0.00
240	1040	119.51	0.00	-0.56	0.01	0.39
241	2041	122.38	0.00	0.00	0.00	0.00
241	1041	122.38	0.00	-0.49	-0.01	0.26
242	2042	125.25	0.00	0.00	0.00	0.00
242	1042	125.25	0.00	-0.35	-0.01	0.15
243	2043	128.12	0.00	0.00	0.00	0.00
243	1043	128.12	0.00	-0.23	-0.01	0.07
244	2044	130.99	0.00	0.00	0.00	0.00
244	1044	130.99	0.00	-0.12	0.00	0.02
245	2045	133.86	0.00	0.00	0.00	0.00
245	1045	133.86	0.00	-0.33	0.07	0.14
246	2046	136.73	0.00	0.00	0.00	0.00
246	1046	136.73	0.00	-1.02	0.29	0.76
247	2047	139.60	0.00	0.00	0.00	0.00
247	1047	139.60	0.00	-0.77	0.17	0.85
401	1001	0.00	0.00	-0.80	-0.18	1.02
401	1	0.00	0.00	-0.80	-0.18	1.63
402	1002	2.62	0.00	-1.15	-0.33	1.08
402	2	2.62	0.00	-1.20	-0.34	1.97
403	1003	5.24	0.00	-0.71	-0.25	0.27
403	3	5.24	0.00	-0.80	-0.28	0.84
404	1004	7.86	0.00	-0.08	-0.01	0.01
404	4	7.86	0.00	-0.27	-0.06	0.15
405	1005	10.48	0.00	0.00	0.00	0.00
405	5	10.48	0.00	-0.29	0.03	0.12
406	1006	13.10	0.00	-0.23	0.03	0.07
406	6	13.10	0.00	-0.31	0.04	0.28

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-0.36	0.04	0.20
407	7	15.72	0.00	-0.42	0.04	0.50
408	1008	18.34	0.00	-0.45	0.03	0.36
408	8	18.34	0.00	-0.52	0.04	0.74
409	1009	20.96	0.00	-0.58	0.02	0.52
409	9	20.96	0.00	-0.65	0.02	0.99
410	1010	23.58	0.00	-0.68	0.00	0.67
410	10	23.58	0.00	-0.74	0.00	1.23
411	1011	26.20	0.00	-0.92	-0.04	0.90
411	11	26.20	0.00	-1.06	-0.01	1.68
412	1012	29.55	0.00	-1.63	0.09	1.15
412	12	29.55	0.00	-1.78	0.13	2.46
413	1013	32.90	0.00	-1.72	-0.05	1.25
413	13	32.90	0.00	-1.76	-0.05	2.57
414	1014	36.03	0.00	-1.42	-0.16	0.85
414	14	36.03	0.00	-1.53	-0.19	1.98
415	1015	39.16	0.00	-0.82	0.03	0.58
415	15	39.16	0.00	-0.98	-0.01	1.27
416	1016	42.29	0.00	-0.66	0.01	0.45
416	16	42.29	0.00	-0.69	0.01	0.95
417	1017	45.42	0.00	-0.48	0.00	0.32
417	17	45.42	0.00	-0.71	0.04	0.78
418	1018	48.55	0.00	-0.62	0.04	0.29
418	18	48.55	0.00	-0.72	0.05	0.81
419	1019	51.68	0.00	-0.67	0.06	0.41
419	19	51.68	0.00	-0.78	0.06	0.97
420	1020	54.81	0.00	-0.77	0.06	0.60
420	20	54.81	0.00	-0.88	0.06	1.24
421	1021	57.94	0.00	-0.88	0.04	0.85
421	21	57.94	0.00	-1.03	0.05	1.57
422	1022	61.07	0.00	-1.01	0.01	1.09
422	22	61.07	0.00	-1.15	0.01	1.91
423	1023	64.20	0.00	-1.17	-0.03	1.33
423	23	64.20	0.00	-1.43	-0.02	2.32
424	1024	67.55	0.00	-1.42	-0.06	1.48
424	24	67.55	0.00	-1.85	0.08	2.74
425	1025	70.90	0.00	-1.67	-0.08	1.49
425	25	70.90	0.00	-1.73	-0.07	2.78
426	1026	74.23	0.00	-1.48	-0.23	1.05
426	26	74.23	0.00	-1.57	-0.24	2.20
427	1027	77.56	0.00	-0.74	0.03	0.57
427	27	77.56	0.00	-0.90	-0.02	1.22
428	1028	80.89	0.00	-0.58	0.01	0.43
428	28	80.89	0.00	-0.61	0.01	0.88
429	1029	84.22	0.00	-0.44	0.00	0.29
429	29	84.22	0.00	-0.51	0.00	0.64
430	1030	87.55	0.00	-0.30	0.00	0.17
430	30	87.55	0.00	-0.59	0.04	0.54

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Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-0.50	0.03	0.18
431	31	90.88	0.00	-0.68	0.05	0.63
432	1032	94.21	0.00	-0.61	0.04	0.31
432	32	94.21	0.00	-0.78	0.05	0.84
433	1033	97.54	0.00	-0.75	0.03	0.51
433	33	97.54	0.00	-0.91	0.04	1.13
434	1034	100.87	0.00	-0.90	0.00	0.70
434	34	100.87	0.00	-1.03	0.00	1.45
435	1035	104.20	0.00	-1.00	-0.04	0.80
435	35	104.20	0.00	-1.19	-0.02	1.64
436	1036	107.55	0.00	-1.33	0.09	0.83
436	36	107.55	0.00	-1.53	0.10	1.91
437	1037	110.90	0.00	-1.42	-0.03	0.92
437	37	110.90	0.00	-1.52	-0.04	2.03
438	1038	113.77	0.00	-1.13	-0.04	0.67
438	38	113.77	0.00	-1.36	-0.14	1.63
439	1039	116.64	0.00	-0.69	0.03	0.51
439	39	116.64	0.00	-0.91	-0.01	1.16
440	1040	119.51	0.00	-0.56	0.01	0.39
440	40	119.51	0.00	-0.69	0.00	0.87
441	1041	122.38	0.00	-0.49	-0.01	0.26
441	41	122.38	0.00	-0.57	-0.01	0.65
442	1042	125.25	0.00	-0.35	-0.01	0.15
442	42	125.25	0.00	-0.43	-0.01	0.46
443	1043	128.12	0.00	-0.23	-0.01	0.07
443	43	128.12	0.00	-0.37	-0.01	0.31
444	1044	130.99	0.00	-0.12	0.00	0.02
444	44	130.99	0.00	-0.47	0.02	0.28
445	1045	133.86	0.00	-0.33	0.07	0.14
445	45	133.86	0.00	-0.94	0.22	0.64
446	1046	136.73	0.00	-1.02	0.29	0.76
446	46	136.73	0.00	-1.41	0.31	1.71
447	1047	139.60	0.00	-0.77	0.17	0.85
447	47	139.60	0.00	-0.91	0.17	1.51

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-0.13	-0.09	0.00
1	2	2.62	0.00	-0.13	-0.09	0.35
2	2	2.62	0.00	-0.16	-0.33	0.36
2	3	5.24	0.00	-0.16	-0.33	0.78
3	3	5.24	0.00	-0.51	2.63	-2.49
3	4	7.86	0.00	-0.51	2.63	-1.16
4	4	7.86	0.00	-1.00	3.25	-3.63
4	5	10.48	0.00	-1.00	3.25	-1.00
5	5	10.48	0.00	-1.38	1.88	-1.56
5	6	13.10	0.00	-1.38	1.88	2.06
6	6	13.10	0.00	-1.78	-0.25	-4.68
6	7	15.72	0.00	-1.78	-0.25	-0.02
7	7	15.72	0.00	-2.36	-1.56	-0.10
7	8	18.34	0.00	-2.36	-1.56	6.07
8	8	18.34	0.00	-3.03	-2.60	5.91
8	9	20.96	0.00	-3.03	-2.60	13.86
9	9	20.96	0.00	-3.87	-3.37	13.55
9	10	23.58	0.00	-3.87	-3.37	23.70
10	10	23.58	0.00	-4.92	-3.59	23.30
10	10011	26.20	0.00	-4.92	-3.59	36.19
11	11	26.20	0.00	-0.01	-0.87	-0.31
11	12	29.55	0.00	-0.01	-0.87	-0.26
12	12	29.55	0.00	-0.03	-0.97	-0.26
12	13	32.90	0.00	-0.03	-0.97	-0.17
13	13	32.90	0.00	-0.07	1.48	-1.11
13	14	36.03	0.00	-0.07	1.48	-0.89
14	14	36.03	0.00	-0.40	3.92	-1.74
14	15	39.16	0.00	-0.40	3.92	-0.48
15	15	39.16	0.00	-0.73	5.10	-1.79
15	16	42.29	0.00	-0.73	5.10	0.49
16	16	42.29	0.00	-1.01	6.60	-14.11
16	17	45.42	0.00	-1.01	6.60	-10.95
17	17	45.42	0.00	-1.63	6.21	-15.48
17	18	48.55	0.00	-1.63	6.21	-10.36
18	18	48.55	0.00	-2.15	1.82	-13.79
18	19	51.68	0.00	-2.15	1.82	-7.06
19	19	51.68	0.00	-2.88	-1.80	-11.41
19	20	54.81	0.00	-2.88	-1.80	-2.41
20	20	54.81	0.00	-3.76	-2.82	-2.55
20	21	57.94	0.00	-3.76	-2.82	9.21
21	21	57.94	0.00	-4.91	-2.35	5.33
21	22	61.07	0.00	-4.91	-2.35	20.70
22	22	61.07	0.00	-6.31	-1.36	20.55
22	10023	64.20	0.00	-6.31	-1.36	40.30
23	23	64.20	0.00	0.00	0.00	0.00
23	24	67.55	0.00	0.00	0.00	0.00
24	24	67.55	0.00	0.00	0.00	0.00
24	25	70.90	0.00	0.00	0.00	0.00

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20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-0.01	1.23	-0.38
25	26	74.23	0.00	-0.01	1.23	-0.34
26	26	74.23	0.00	-0.39	4.44	-1.38
26	27	77.56	0.00	-0.39	4.44	-0.08
27	27	77.56	0.00	-0.77	4.75	-1.40
27	28	80.89	0.00	-0.77	4.75	1.15
28	28	80.89	0.00	-1.15	4.06	-17.24
28	29	84.22	0.00	-1.15	4.06	-13.42
29	29	84.22	0.00	-1.71	0.33	-15.62
29	30	87.55	0.00	-1.71	0.33	-9.92
30	30	87.55	0.00	-2.27	-3.30	-11.91
30	31	90.88	0.00	-2.27	-3.30	-4.36
31	31	90.88	0.00	-2.83	-5.17	-4.41
31	32	94.21	0.00	-2.83	-5.17	5.03
32	32	94.21	0.00	-3.59	-5.57	0.38
32	33	97.54	0.00	-3.59	-5.57	12.33
33	33	97.54	0.00	-4.64	-4.50	9.59
33	34	100.87	0.00	-4.64	-4.50	25.05
34	34	100.87	0.00	-5.94	-4.40	27.38
34	10035	104.20	0.00	-5.94	-4.40	47.17
35	35	104.20	0.00	-0.05	1.84	-1.92
35	36	107.55	0.00	-0.05	1.84	-1.74
36	36	107.55	0.00	-0.05	1.61	-1.74
36	37	110.90	0.00	-0.05	1.61	-1.58
37	37	110.90	0.00	-0.05	1.41	-1.58
37	38	113.77	0.00	-0.05	1.41	-1.45
38	38	113.77	0.00	-0.04	1.34	-1.49
38	39	116.64	0.00	-0.04	1.34	-1.36
39	39	116.64	0.00	-0.05	1.31	-1.43
39	40	119.51	0.00	-0.05	1.31	-1.30
40	40	119.51	0.00	-0.05	1.11	-1.30
40	41	122.38	0.00	-0.05	1.11	-1.16
41	41	122.38	0.00	-0.34	-0.02	-28.12
41	42	125.25	0.00	-0.34	-0.02	-27.15
42	42	125.25	0.00	-0.91	0.08	-28.36
42	43	128.12	0.00	-0.91	0.08	-25.76
43	43	128.12	0.00	-1.49	-2.45	-32.79
43	44	130.99	0.00	-1.49	-2.45	-28.52
44	44	130.99	0.00	-2.35	-3.32	-30.10
44	45	133.86	0.00	-2.35	-3.32	-23.35
45	45	133.86	0.00	-3.47	-2.82	-23.63
45	46	136.73	0.00	-3.47	-2.82	-13.67
46	46	136.73	0.00	-4.93	-1.38	-13.99
46	47	139.60	0.00	-4.93	-1.38	0.17
101	101	0.00	0.00	-14.39	3.91	-0.19
101	102	2.62	0.00	-12.30	-2.41	34.78
102	102	2.62	0.00	-11.01	4.09	34.43
102	103	5.24	0.00	-9.05	3.08	52.66

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-8.25	7.33	52.26
103	104	7.86	0.00	-6.63	5.89	60.33
104	104	7.86	0.00	-6.25	13.58	56.44
104	105	10.48	0.00	-4.90	11.89	57.59
105	105	10.48	0.00	-4.72	13.22	56.81
105	106	13.10	0.00	-3.60	11.41	53.31
106	106	13.10	0.00	-3.52	12.53	53.10
106	107	15.72	0.00	-2.60	10.71	46.71
107	107	15.72	0.00	-2.54	12.03	46.69
107	108	18.34	0.00	-1.79	10.23	38.65
108	108	18.34	0.00	-1.72	9.71	36.32
108	109	20.96	0.00	-1.13	7.90	27.65
109	109	20.96	0.00	-1.06	8.88	27.67
109	110	23.58	0.00	-0.65	7.02	19.37
110	110	23.58	0.00	-0.57	7.92	19.39
110	111	26.20	0.00	-0.33	5.92	12.40
111	111	26.20	0.00	-0.26	5.96	11.95
111	112	29.55	0.00	-0.24	3.07	6.54
112	112	29.55	0.00	-0.26	3.45	6.55
112	10113	32.90	0.00	-0.26	3.45	7.40
113	113	32.90	0.00	-22.17	0.56	-149.83
113	114	36.03	0.00	-19.66	-6.98	-84.37
114	114	36.03	0.00	-18.09	0.49	-84.94
114	115	39.16	0.00	-15.67	-3.57	-37.22
115	115	39.16	0.00	-14.47	3.27	-37.45
115	116	42.29	0.00	-12.35	-1.00	-4.41
116	116	42.29	0.00	-11.47	4.59	-4.62
116	117	45.42	0.00	-9.62	0.28	16.60
117	117	45.42	0.00	-9.03	7.42	15.10
117	118	48.55	0.00	-7.42	3.23	27.12
118	118	48.55	0.00	-6.98	4.55	26.48
118	119	51.68	0.00	-5.60	0.60	31.44
119	119	51.68	0.00	-5.24	3.77	31.39
119	120	54.81	0.00	-4.07	0.10	31.11
120	120	54.81	0.00	-3.71	3.11	31.10
120	121	57.94	0.00	-2.77	-0.30	27.17
121	121	57.94	0.00	-2.38	2.04	27.04
121	122	61.07	0.00	-1.68	-1.19	21.02
122	122	61.07	0.00	-1.35	-0.37	18.63
122	123	64.20	0.00	-0.93	-3.58	12.48
123	123	64.20	0.00	-0.63	-0.88	12.36
123	124	67.55	0.00	-0.52	-4.48	7.99
124	124	67.55	0.00	-0.34	-1.97	7.48
124	10125	70.90	0.00	-0.34	-1.97	8.62
125	125	70.90	0.00	-22.43	8.41	-151.34
125	126	74.23	0.00	-19.76	0.38	-81.10
126	126	74.23	0.00	-18.08	9.28	-82.29
126	127	77.56	0.00	-15.54	4.55	-32.11

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-14.31	12.66	-33.05
127	128	80.89	0.00	-12.08	7.72	0.92
128	128	80.89	0.00	-11.25	13.49	-1.39
128	129	84.22	0.00	-9.31	8.53	19.75
129	129	84.22	0.00	-8.80	13.16	19.37
129	130	87.55	0.00	-7.11	8.36	30.70
130	130	87.55	0.00	-6.76	10.44	30.27
130	131	90.88	0.00	-5.31	5.90	34.16
131	131	90.88	0.00	-5.03	6.85	33.55
131	132	94.21	0.00	-3.81	2.63	32.04
132	132	94.21	0.00	-3.51	5.22	32.04
132	133	97.54	0.00	-2.53	1.27	26.83
133	133	97.54	0.00	-2.18	2.12	24.52
133	134	100.87	0.00	-1.47	-1.67	17.34
134	134	100.87	0.00	-1.16	0.68	17.30
134	135	104.20	0.00	-0.76	-3.15	10.34
135	135	104.20	0.00	-0.51	-1.66	10.35
135	136	107.55	0.00	-0.44	-5.74	5.97
136	136	107.55	0.00	-0.31	-4.13	5.46
136	10137	110.90	0.00	-0.31	-4.13	6.51
137	137	110.90	0.00	-21.13	5.88	-140.36
137	138	113.77	0.00	-18.83	-1.04	-83.02
138	138	113.77	0.00	-17.40	6.92	-83.34
138	139	116.64	0.00	-15.12	2.36	-41.11
139	139	116.64	0.00	-13.97	9.48	-41.83
139	140	119.51	0.00	-11.94	4.67	-12.67
140	140	119.51	0.00	-11.03	10.34	-12.81
140	141	122.38	0.00	-9.24	5.39	5.39
141	141	122.38	0.00	-8.49	11.92	3.88
141	142	125.25	0.00	-6.94	6.91	13.11
142	142	125.25	0.00	-6.31	11.54	12.87
142	143	128.12	0.00	-5.00	6.50	15.11
143	143	128.12	0.00	-4.39	10.54	15.11
143	144	130.99	0.00	-3.36	5.42	12.34
144	144	130.99	0.00	-2.74	9.32	12.38
144	145	133.86	0.00	-2.05	4.00	6.87
145	145	133.86	0.00	-1.48	2.45	2.75
145	146	136.73	0.00	-1.19	-3.31	-2.47
146	146	136.73	0.00	-0.86	-1.07	-2.48
146	147	139.60	0.00	-0.86	-1.07	-0.01
301	101	0.00	0.00	-0.87	-0.17	-4.28
301	2001	0.00	0.00	-0.87	-0.17	-3.62
302	102	2.62	0.00	-1.36	-0.32	-7.41
302	2002	2.62	0.00	-1.36	-0.32	-6.37
303	103	5.24	0.00	-1.04	-0.26	-6.44
303	2003	5.24	0.00	-1.04	-0.26	-5.65
304	104	7.86	0.00	-0.79	-0.19	-5.65
304	2004	7.86	0.00	-0.79	-0.19	-5.05

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-0.63	-0.11	-5.14
305	2005	10.48	0.00	-0.63	-0.11	-4.67
306	106	13.10	0.00	-0.56	0.00	-4.66
306	2006	13.10	0.00	-0.56	0.00	-4.24
307	107	15.72	0.00	-0.59	0.07	-4.41
307	2007	15.72	0.00	-0.59	0.07	-3.97
308	108	18.34	0.00	-0.69	0.11	-4.81
308	2008	18.34	0.00	-0.69	0.11	-4.29
309	109	20.96	0.00	-0.85	0.18	-5.59
309	2009	20.96	0.00	-0.85	0.18	-4.94
310	110	23.58	0.00	-1.06	0.20	-6.21
310	2010	23.58	0.00	-1.06	0.20	-5.41
311	111	26.20	0.00	-1.43	0.20	-7.78
311	2011	26.20	0.00	-1.43	0.20	-6.70
312	112	29.55	0.00	-1.84	0.12	-9.51
312	2012	29.55	0.00	-1.84	0.12	-8.12
313	113	32.90	0.00	-1.83	-0.05	-9.38
313	2013	32.90	0.00	-1.83	-0.05	-8.00
314	114	36.03	0.00	-1.61	-0.17	-8.85
314	2014	36.03	0.00	-1.61	-0.17	-7.63
315	115	39.16	0.00	-1.35	-0.22	-8.03
315	2015	39.16	0.00	-1.35	-0.22	-7.01
316	116	42.29	0.00	-1.07	-0.20	-7.17
316	2016	42.29	0.00	-1.07	-0.20	-6.36
317	117	45.42	0.00	-0.92	-0.01	-5.98
317	2017	45.42	0.00	-0.92	-0.01	-5.28
318	118	48.55	0.00	-0.89	0.05	-5.46
318	2018	48.55	0.00	-0.89	0.05	-4.78
319	119	51.68	0.00	-0.94	0.07	-5.59
319	2019	51.68	0.00	-0.94	0.07	-4.89
320	120	54.81	0.00	-1.03	0.08	-5.84
320	2020	54.81	0.00	-1.03	0.08	-5.06
321	121	57.94	0.00	-1.18	0.10	-6.75
321	2021	57.94	0.00	-1.18	0.10	-5.86
322	122	61.07	0.00	-1.40	0.17	-7.87
322	2022	61.07	0.00	-1.40	0.17	-6.81
323	123	64.20	0.00	-1.74	0.20	-9.31
323	2023	64.20	0.00	-1.74	0.20	-7.99
324	124	67.55	0.00	-2.01	0.08	-10.33
324	2024	67.55	0.00	-2.01	0.08	-8.81
325	125	70.90	0.00	-1.96	-0.10	-10.10
325	2025	70.90	0.00	-1.96	-0.10	-8.62
326	126	74.23	0.00	-1.78	-0.26	-9.64
326	2026	74.23	0.00	-1.78	-0.26	-8.30
327	127	77.56	0.00	-1.41	-0.31	-8.49
327	2027	77.56	0.00	-1.41	-0.31	-7.42
328	128	80.89	0.00	-1.04	-0.28	-7.33
328	2028	80.89	0.00	-1.04	-0.28	-6.54

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20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-0.83	-0.02	-5.55
329	2029	84.22	0.00	-0.83	-0.02	-4.92
330	130	87.55	0.00	-0.79	0.02	-5.24
330	2030	87.55	0.00	-0.79	0.02	-4.65
331	131	90.88	0.00	-0.81	0.04	-4.96
331	2031	90.88	0.00	-0.81	0.04	-4.35
332	132	94.21	0.00	-0.91	0.07	-5.35
332	2032	94.21	0.00	-0.91	0.07	-4.66
333	133	97.54	0.00	-1.06	0.10	-6.33
333	2033	97.54	0.00	-1.06	0.10	-5.53
334	134	100.87	0.00	-1.32	0.27	-7.97
334	2034	100.87	0.00	-1.32	0.27	-6.97
335	135	104.20	0.00	-1.54	0.21	-8.42
335	2035	104.20	0.00	-1.54	0.21	-7.25
336	136	107.55	0.00	-1.62	0.10	-8.41
336	2036	107.55	0.00	-1.62	0.10	-7.19
337	137	110.90	0.00	-1.65	-0.05	-8.55
337	2037	110.90	0.00	-1.65	-0.05	-7.30
338	138	113.77	0.00	-1.50	-0.16	-8.09
338	2038	113.77	0.00	-1.50	-0.16	-6.96
339	139	116.64	0.00	-1.27	-0.20	-7.43
339	2039	116.64	0.00	-1.27	-0.20	-6.46
340	140	119.51	0.00	-1.04	-0.18	-6.77
340	2040	119.51	0.00	-1.04	-0.18	-5.99
341	141	122.38	0.00	-0.85	-0.12	-6.18
341	2041	122.38	0.00	-0.85	-0.12	-5.53
342	142	125.25	0.00	-0.75	-0.04	-5.85
342	2042	125.25	0.00	-0.75	-0.04	-5.29
343	143	128.12	0.00	-0.75	0.06	-5.87
343	2043	128.12	0.00	-0.75	0.06	-5.30
344	144	130.99	0.00	-0.88	0.16	-6.23
344	2044	130.99	0.00	-0.88	0.16	-5.56
345	145	133.86	0.00	-1.12	0.25	-6.86
345	2045	133.86	0.00	-1.12	0.25	-6.01
346	146	136.73	0.00	-1.47	0.32	-7.93
346	2046	136.73	0.00	-1.47	0.32	-6.82
347	147	139.60	0.00	-0.94	0.17	-4.59
347	2047	139.60	0.00	-0.94	0.17	-3.88
201	2001	0.00	0.00	-0.87	-0.17	-3.62
201	1001	0.00	0.00	-0.87	-0.17	0.54
202	2002	2.62	0.00	-1.36	-0.32	-6.37
202	1002	2.62	0.00	-1.36	-0.32	0.16
203	2003	5.24	0.00	-1.04	-0.26	-5.65
203	1003	5.24	0.00	-1.04	-0.26	-0.68
204	2004	7.86	0.00	-0.79	-0.19	-5.05
204	1004	7.86	0.00	-0.79	-0.19	-1.27
205	2005	10.48	0.00	-0.63	-0.11	-4.67
205	1005	10.48	0.00	-0.63	-0.11	-1.66

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-0.56	0.00	-4.24
206	1006	13.10	0.00	-0.56	0.00	-1.56
207	2007	15.72	0.00	-0.59	0.07	-3.97
207	1007	15.72	0.00	-0.59	0.07	-1.15
208	2008	18.34	0.00	-0.69	0.11	-4.29
208	1008	18.34	0.00	-0.69	0.11	-0.96
209	2009	20.96	0.00	-0.85	0.18	-4.94
209	1009	20.96	0.00	-0.85	0.18	-0.85
210	2010	23.58	0.00	-1.06	0.20	-5.41
210	1010	23.58	0.00	-1.06	0.20	-0.36
211	2011	26.20	0.00	-1.43	0.20	-6.70
211	1011	26.20	0.00	-1.43	0.20	0.14
212	2012	29.55	0.00	-1.84	0.12	-8.12
212	1012	29.55	0.00	-1.84	0.12	0.68
213	2013	32.90	0.00	-1.83	-0.05	-8.00
213	1013	32.90	0.00	-1.83	-0.05	0.76
214	2014	36.03	0.00	-1.61	-0.17	-7.63
214	1014	36.03	0.00	-1.61	-0.17	0.07
215	2015	39.16	0.00	-1.35	-0.22	-7.01
215	1015	39.16	0.00	-1.35	-0.22	-0.56
216	2016	42.29	0.00	-1.07	-0.20	-6.36
216	1016	42.29	0.00	-1.07	-0.20	-1.21
217	2017	45.42	0.00	-0.92	-0.01	-5.28
217	1017	45.42	0.00	-0.92	-0.01	-0.90
218	2018	48.55	0.00	-0.89	0.05	-4.78
218	1018	48.55	0.00	-0.89	0.05	-0.51
219	2019	51.68	0.00	-0.94	0.07	-4.89
219	1019	51.68	0.00	-0.94	0.07	-0.41
220	2020	54.81	0.00	-1.03	0.08	-5.06
220	1020	54.81	0.00	-1.03	0.08	-0.12
221	2021	57.94	0.00	-1.18	0.10	-5.86
221	1021	57.94	0.00	-1.18	0.10	-0.20
222	2022	61.07	0.00	-1.40	0.17	-6.81
222	1022	61.07	0.00	-1.40	0.17	-0.09
223	2023	64.20	0.00	-1.74	0.20	-7.99
223	1023	64.20	0.00	-1.74	0.20	0.32
224	2024	67.55	0.00	-2.01	0.08	-8.81
224	1024	67.55	0.00	-2.01	0.08	0.79
225	2025	70.90	0.00	-1.96	-0.10	-8.62
225	1025	70.90	0.00	-1.96	-0.10	0.75
226	2026	74.23	0.00	-1.78	-0.26	-8.30
226	1026	74.23	0.00	-1.78	-0.26	0.21
227	2027	77.56	0.00	-1.41	-0.31	-7.42
227	1027	77.56	0.00	-1.41	-0.31	-0.67
228	2028	80.89	0.00	-1.04	-0.28	-6.54
228	1028	80.89	0.00	-1.04	-0.28	-1.56
229	2029	84.22	0.00	-0.83	-0.02	-4.92
229	1029	84.22	0.00	-0.83	-0.02	-0.94

~csimp4.esv Programa DINTEL IDEAM S.A. 20/10/02
SCUPASEOSDERE.ENV_TREN_GENERICO.VY-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-0.79	0.02	-4.65
230	1030	87.55	0.00	-0.79	0.02	-0.89
231	2031	90.88	0.00	-0.81	0.04	-4.35
231	1031	90.88	0.00	-0.81	0.04	-0.45
232	2032	94.21	0.00	-0.91	0.07	-4.66
232	1032	94.21	0.00	-0.91	0.07	-0.33
233	2033	97.54	0.00	-1.06	0.10	-5.53
233	1033	97.54	0.00	-1.06	0.10	-0.44
234	2034	100.87	0.00	-1.32	0.27	-6.97
234	1034	100.87	0.00	-1.32	0.27	-0.63
235	2035	104.20	0.00	-1.54	0.21	-7.25
235	1035	104.20	0.00	-1.54	0.21	0.14
236	2036	107.55	0.00	-1.62	0.10	-7.19
236	1036	107.55	0.00	-1.62	0.10	0.57
237	2037	110.90	0.00	-1.65	-0.05	-7.30
237	1037	110.90	0.00	-1.65	-0.05	0.58
238	2038	113.77	0.00	-1.50	-0.16	-6.96
238	1038	113.77	0.00	-1.50	-0.16	0.22
239	2039	116.64	0.00	-1.27	-0.20	-6.46
239	1039	116.64	0.00	-1.27	-0.20	-0.38
240	2040	119.51	0.00	-1.04	-0.18	-5.99
240	1040	119.51	0.00	-1.04	-0.18	-1.02
241	2041	122.38	0.00	-0.85	-0.12	-5.53
241	1041	122.38	0.00	-0.85	-0.12	-1.47
242	2042	125.25	0.00	-0.75	-0.04	-5.29
242	1042	125.25	0.00	-0.75	-0.04	-1.72
243	2043	128.12	0.00	-0.75	0.06	-5.30
243	1043	128.12	0.00	-0.75	0.06	-1.70
244	2044	130.99	0.00	-0.88	0.16	-5.56
244	1044	130.99	0.00	-0.88	0.16	-1.37
245	2045	133.86	0.00	-1.12	0.25	-6.01
245	1045	133.86	0.00	-1.12	0.25	-0.65
246	2046	136.73	0.00	-1.47	0.32	-6.82
246	1046	136.73	0.00	-1.47	0.32	0.21
247	2047	139.60	0.00	-0.94	0.17	-3.88
247	1047	139.60	0.00	-0.94	0.17	0.63
401	1001	0.00	0.00	-0.87	-0.17	0.54
401	1	0.00	0.00	-0.87	-0.17	1.20
402	1002	2.62	0.00	-1.36	-0.32	0.16
402	2	2.62	0.00	-1.36	-0.32	1.19
403	1003	5.24	0.00	-1.04	-0.26	-0.68
403	3	5.24	0.00	-1.04	-0.26	0.11
404	1004	7.86	0.00	-0.79	-0.19	-1.27
404	4	7.86	0.00	-0.79	-0.19	-0.68
405	1005	10.48	0.00	-0.63	-0.11	-1.66
405	5	10.48	0.00	-0.63	-0.11	-1.19
406	1006	13.10	0.00	-0.56	0.00	-1.56
406	6	13.10	0.00	-0.56	0.00	-1.13

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-0.59	0.07	-1.15
407	7	15.72	0.00	-0.59	0.07	-0.70
408	1008	18.34	0.00	-0.69	0.11	-0.96
408	8	18.34	0.00	-0.69	0.11	-0.44
409	1009	20.96	0.00	-0.85	0.18	-0.85
409	9	20.96	0.00	-0.85	0.18	-0.21
410	1010	23.58	0.00	-1.06	0.20	-0.36
410	10	23.58	0.00	-1.06	0.20	0.43
411	1011	26.20	0.00	-1.43	0.20	0.14
411	11	26.20	0.00	-1.43	0.20	1.22
412	1012	29.55	0.00	-1.84	0.12	0.68
412	12	29.55	0.00	-1.84	0.12	2.07
413	1013	32.90	0.00	-1.83	-0.05	0.76
413	13	32.90	0.00	-1.83	-0.05	2.14
414	1014	36.03	0.00	-1.61	-0.17	0.07
414	14	36.03	0.00	-1.61	-0.17	1.28
415	1015	39.16	0.00	-1.35	-0.22	-0.56
415	15	39.16	0.00	-1.35	-0.22	0.46
416	1016	42.29	0.00	-1.07	-0.20	-1.21
416	16	42.29	0.00	-1.07	-0.20	-0.40
417	1017	45.42	0.00	-0.92	-0.01	-0.90
417	17	45.42	0.00	-0.92	-0.01	-0.21
418	1018	48.55	0.00	-0.89	0.05	-0.51
418	18	48.55	0.00	-0.89	0.05	0.16
419	1019	51.68	0.00	-0.94	0.07	-0.41
419	19	51.68	0.00	-0.94	0.07	0.30
420	1020	54.81	0.00	-1.03	0.08	-0.12
420	20	54.81	0.00	-1.03	0.08	0.66
421	1021	57.94	0.00	-1.18	0.10	-0.20
421	21	57.94	0.00	-1.18	0.10	0.69
422	1022	61.07	0.00	-1.40	0.17	-0.09
422	22	61.07	0.00	-1.40	0.17	0.97
423	1023	64.20	0.00	-1.74	0.20	0.32
423	23	64.20	0.00	-1.74	0.20	1.64
424	1024	67.55	0.00	-2.01	0.08	0.79
424	24	67.55	0.00	-2.01	0.08	2.31
425	1025	70.90	0.00	-1.96	-0.10	0.75
425	25	70.90	0.00	-1.96	-0.10	2.23
426	1026	74.23	0.00	-1.78	-0.26	0.21
426	26	74.23	0.00	-1.78	-0.26	1.55
427	1027	77.56	0.00	-1.41	-0.31	-0.67
427	27	77.56	0.00	-1.41	-0.31	0.40
428	1028	80.89	0.00	-1.04	-0.28	-1.56
428	28	80.89	0.00	-1.04	-0.28	-0.77
429	1029	84.22	0.00	-0.83	-0.02	-0.94
429	29	84.22	0.00	-0.83	-0.02	-0.31
430	1030	87.55	0.00	-0.79	0.02	-0.89
430	30	87.55	0.00	-0.79	0.02	-0.29

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Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.VY-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-0.81	0.04	-0.45
431	31	90.88	0.00	-0.81	0.04	0.17
432	1032	94.21	0.00	-0.91	0.07	-0.33
432	32	94.21	0.00	-0.91	0.07	0.36
433	1033	97.54	0.00	-1.06	0.10	-0.44
433	33	97.54	0.00	-1.06	0.10	0.36
434	1034	100.87	0.00	-1.32	0.27	-0.63
434	34	100.87	0.00	-1.32	0.27	0.37
435	1035	104.20	0.00	-1.54	0.21	0.14
435	35	104.20	0.00	-1.54	0.21	1.31
436	1036	107.55	0.00	-1.62	0.10	0.57
436	36	107.55	0.00	-1.62	0.10	1.80
437	1037	110.90	0.00	-1.65	-0.05	0.58
437	37	110.90	0.00	-1.65	-0.05	1.82
438	1038	113.77	0.00	-1.50	-0.16	0.22
438	38	113.77	0.00	-1.50	-0.16	1.36
439	1039	116.64	0.00	-1.27	-0.20	-0.38
439	39	116.64	0.00	-1.27	-0.20	0.59
440	1040	119.51	0.00	-1.04	-0.18	-1.02
440	40	119.51	0.00	-1.04	-0.18	-0.24
441	1041	122.38	0.00	-0.85	-0.12	-1.47
441	41	122.38	0.00	-0.85	-0.12	-0.83
442	1042	125.25	0.00	-0.75	-0.04	-1.72
442	42	125.25	0.00	-0.75	-0.04	-1.15
443	1043	128.12	0.00	-0.75	0.06	-1.70
443	43	128.12	0.00	-0.75	0.06	-1.13
444	1044	130.99	0.00	-0.88	0.16	-1.37
444	44	130.99	0.00	-0.88	0.16	-0.70
445	1045	133.86	0.00	-1.12	0.25	-0.65
445	45	133.86	0.00	-1.12	0.25	0.20
446	1046	136.73	0.00	-1.47	0.32	0.21
446	46	136.73	0.00	-1.47	0.32	1.31
447	1047	139.60	0.00	-0.94	0.17	0.63
447	47	139.60	0.00	-0.94	0.17	1.35

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.83	-0.47	-0.01
1	2	2.62	0.00	0.83	-0.47	-2.20
2	2	2.62	0.00	0.67	-1.30	-2.22
2	3	5.24	0.00	0.67	-1.30	-3.97
3	3	5.24	0.00	0.46	-2.03	-4.00
3	4	7.86	0.00	0.46	-2.03	-5.22
4	4	7.86	0.00	0.21	-2.62	-5.25
4	5	10.48	0.00	0.21	-2.62	-5.81
5	5	10.48	0.00	-0.16	-3.09	-6.01
5	6	13.10	0.00	-0.16	-3.09	-5.60
6	6	13.10	0.00	-0.67	-3.40	-5.37
6	7	15.72	0.00	-0.67	-3.40	-3.62
7	7	15.72	0.00	-1.30	-3.99	2.72
7	8	18.34	0.00	-1.30	-3.99	6.13
8	8	18.34	0.00	-1.45	-5.15	9.58
8	9	20.96	0.00	-1.45	-5.15	13.38
9	9	20.96	0.00	-1.65	-6.31	13.58
9	10	23.58	0.00	-1.65	-6.31	17.90
10	10	23.58	0.00	-1.87	-7.24	17.79
10	10011	26.20	0.00	-1.87	-7.24	22.68
11	11	26.20	0.00	3.80	-7.85	20.28
11	12	29.55	0.00	3.80	-7.85	7.54
12	12	29.55	0.00	3.17	-8.06	7.33
12	13	32.90	0.00	3.17	-8.06	-3.30
13	13	32.90	0.00	2.01	-7.99	-2.56
13	14	36.03	0.00	2.01	-7.99	-8.86
14	14	36.03	0.00	1.34	-7.98	-7.86
14	15	39.16	0.00	1.34	-7.98	-12.06
15	15	39.16	0.00	0.55	-8.25	-4.61
15	16	42.29	0.00	0.55	-8.25	-6.33
16	16	42.29	0.00	0.32	-8.81	-6.40
16	17	45.42	0.00	0.32	-8.81	-7.39
17	17	45.42	0.00	0.04	-9.22	-7.42
17	18	48.55	0.00	0.04	-9.22	-7.56
18	18	48.55	0.00	-0.41	-9.41	-6.97
18	19	51.68	0.00	-0.41	-9.41	-5.70
19	19	51.68	0.00	-0.95	-9.49	-4.65
19	20	54.81	0.00	-0.95	-9.49	-1.66
20	20	54.81	0.00	-1.63	-9.70	2.23
20	21	57.94	0.00	-1.63	-9.70	7.33
21	21	57.94	0.00	-2.44	-9.72	9.13
21	22	61.07	0.00	-2.44	-9.72	16.76
22	22	61.07	0.00	-1.78	-9.47	15.82
22	10023	64.20	0.00	-1.78	-9.47	21.41
23	23	64.20	0.00	4.18	-9.44	18.85
23	24	67.55	0.00	4.18	-9.44	4.85
24	24	67.55	0.00	3.04	-9.07	3.97
24	25	70.90	0.00	3.04	-9.07	-6.21

~cslmp4.esv
Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.MX-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	2.00	-8.54	-5.74
25	26	74.23	0.00	2.00	-8.54	-12.39
26	26	74.23	0.00	1.07	-8.02	-10.34
26	27	77.56	0.00	1.07	-8.02	-13.91
27	27	77.56	0.00	0.50	-7.72	-13.94
27	28	80.89	0.00	0.50	-7.72	-15.62
28	28	80.89	0.00	-0.01	-7.65	-10.05
28	29	84.22	0.00	-0.01	-7.65	-10.02
29	29	84.22	0.00	-0.28	-7.99	-3.91
29	30	87.55	0.00	-0.28	-7.99	-2.99
30	30	87.55	0.00	-0.67	-8.35	-1.96
30	31	90.88	0.00	-0.67	-8.35	0.26
31	31	90.88	0.00	-1.14	-9.05	4.80
31	32	94.21	0.00	-1.14	-9.05	8.59
32	32	94.21	0.00	-1.63	-10.20	11.50
32	33	97.54	0.00	-1.63	-10.20	16.93
33	33	97.54	0.00	-2.32	-10.75	16.72
33	34	100.87	0.00	-2.32	-10.75	24.45
34	34	100.87	0.00	-3.37	-10.27	24.21
34	10035	104.20	0.00	-3.37	-10.27	35.44
35	35	104.20	0.00	7.25	-8.90	36.29
35	36	107.55	0.00	7.25	-8.90	12.00
36	36	107.55	0.00	4.66	-7.34	7.81
36	37	110.90	0.00	4.66	-7.34	-7.80
37	37	110.90	0.00	3.14	-5.92	-7.86
37	38	113.77	0.00	3.14	-5.92	-16.88
38	38	113.77	0.00	2.05	-4.71	-16.04
38	39	116.64	0.00	2.05	-4.71	-21.92
39	39	116.64	0.00	1.25	-3.77	-21.90
39	40	119.51	0.00	1.25	-3.77	-25.48
40	40	119.51	0.00	0.56	-3.14	-24.29
40	41	122.38	0.00	0.56	-3.14	-25.90
41	41	122.38	0.00	0.03	-2.95	-25.53
41	42	125.25	0.00	0.03	-2.95	-25.61
42	42	125.25	0.00	-0.51	-3.17	-28.44
42	43	128.12	0.00	-0.51	-3.17	-26.97
43	43	128.12	0.00	-1.32	-3.70	-31.43
43	44	130.99	0.00	-1.32	-3.70	-27.64
44	44	130.99	0.00	-2.13	-3.85	-27.80
44	45	133.86	0.00	-2.13	-3.85	-21.68
45	45	133.86	0.00	-3.20	-3.22	-21.93
45	46	136.73	0.00	-3.20	-3.22	-12.75
46	46	136.73	0.00	-4.61	-1.51	-13.06
46	47	139.60	0.00	-4.61	-1.51	0.17
101	101	0.00	0.00	0.00	0.00	0.00
101	102	2.62	0.00	-0.26	-5.94	3.41
102	102	2.62	0.00	-0.11	-5.29	3.39
102	103	5.24	0.00	0.02	-10.60	11.55

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	0.23	-9.56	11.52
103	104	7.86	0.00	0.70	-14.43	21.72
104	104	7.86	0.00	0.91	-13.23	21.68
104	105	10.48	0.00	1.66	-17.85	31.76
105	105	10.48	0.00	1.83	-16.65	31.74
105	106	13.10	0.00	2.81	-21.17	40.03
106	106	13.10	0.00	2.93	-20.03	40.03
106	107	15.72	0.00	4.09	-24.52	45.25
107	107	15.72	0.00	4.16	-23.42	45.29
107	108	18.34	0.00	5.51	-27.93	46.34
108	108	18.34	0.00	5.57	-26.77	46.42
108	109	20.96	0.00	7.07	-31.28	42.27
109	109	20.96	0.00	7.17	-29.92	42.40
109	110	23.58	0.00	8.85	-34.37	31.95
110	110	23.58	0.00	9.04	-32.65	32.13
110	111	26.20	0.00	10.90	-36.96	14.16
111	111	26.20	0.00	11.28	-34.44	14.39
111	112	29.55	0.00	13.94	-39.61	-21.61
112	112	29.55	0.00	14.63	-35.85	-21.35
112	10113	32.90	0.00	17.62	-40.51	-74.59
113	113	32.90	0.00	-5.34	-36.09	-74.41
113	114	36.03	0.00	-5.55	-39.95	-56.86
114	114	36.03	0.00	-4.60	-35.36	-56.78
114	115	39.16	0.00	-4.51	-38.84	-37.41
115	115	39.16	0.00	-3.59	-34.29	-37.39
115	116	42.29	0.00	-3.20	-37.56	-17.85
116	116	42.29	0.00	-2.40	-33.34	-17.87
116	117	45.42	0.00	-1.74	-36.58	0.40
117	117	45.42	0.00	-1.10	-32.84	0.38
117	118	48.55	0.00	-0.20	-36.20	16.15
118	118	48.55	0.00	0.27	-32.97	16.15
118	119	51.68	0.00	1.39	-36.55	28.30
119	119	51.68	0.00	1.72	-33.73	28.33
119	120	54.81	0.00	3.06	-37.60	35.71
120	120	54.81	0.00	3.31	-35.01	35.81
120	121	57.94	0.00	4.87	-39.14	37.08
121	121	57.94	0.00	5.12	-36.52	37.23
121	122	61.07	0.00	6.93	-40.82	30.74
122	122	61.07	0.00	7.27	-37.91	30.94
122	123	64.20	0.00	9.35	-42.24	14.63
123	123	64.20	0.00	9.87	-38.67	14.86
123	124	67.55	0.00	12.44	-43.15	-16.21
124	124	67.55	0.00	13.20	-38.74	-15.99
124	10125	70.90	0.00	16.13	-42.86	-64.12
125	125	70.90	0.00	-4.83	-37.99	-63.97
125	126	74.23	0.00	-5.04	-41.66	-46.78
126	126	74.23	0.00	-4.03	-36.43	-46.72
126	127	77.56	0.00	-3.91	-39.72	-27.70

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Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.MX-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-2.96	-34.68	-27.71
127	128	80.89	0.00	-2.53	-37.76	-8.60
128	128	80.89	0.00	-1.74	-33.18	-8.64
128	129	84.22	0.00	-1.02	-36.25	9.04
129	129	84.22	0.00	-0.43	-32.28	9.01
129	130	87.55	0.00	0.56	-35.50	23.95
130	130	87.55	0.00	0.95	-32.14	23.94
130	131	90.88	0.00	2.16	-35.63	34.96
131	131	90.88	0.00	2.40	-32.71	35.00
131	132	94.21	0.00	3.85	-36.51	40.82
132	132	94.21	0.00	4.01	-33.78	40.94
132	133	97.54	0.00	5.70	-37.86	40.03
133	133	97.54	0.00	5.89	-35.00	40.22
133	134	100.87	0.00	7.85	-39.23	30.61
134	134	100.87	0.00	8.18	-35.87	30.85
134	135	104.20	0.00	10.44	-40.07	10.00
135	135	104.20	0.00	10.97	-36.20	10.25
135	136	107.55	0.00	13.59	-40.20	-24.92
136	136	107.55	0.00	14.31	-35.83	-24.71
136	10137	110.90	0.00	17.26	-39.45	-76.88
137	137	110.90	0.00	-5.70	-34.42	-76.74
137	138	113.77	0.00	-5.93	-37.14	-59.72
138	138	113.77	0.00	-4.96	-31.85	-59.66
138	139	116.64	0.00	-4.94	-34.20	-41.02
139	139	116.64	0.00	-3.99	-28.93	-41.02
139	140	119.51	0.00	-3.72	-31.03	-21.94
140	140	119.51	0.00	-2.87	-25.97	-21.97
140	141	122.38	0.00	-2.36	-27.93	-3.58
141	141	122.38	0.00	-1.63	-23.15	-3.61
141	142	125.25	0.00	-0.89	-25.06	12.93
142	142	125.25	0.00	-0.26	-20.50	12.92
142	143	128.12	0.00	0.73	-22.37	26.25
143	143	128.12	0.00	1.31	-17.81	26.30
143	144	130.99	0.00	2.58	-19.62	34.61
144	144	130.99	0.00	3.24	-14.67	34.74
144	145	133.86	0.00	4.84	-16.27	35.52
145	145	133.86	0.00	5.73	-10.43	35.73
145	146	136.73	0.00	7.73	-11.59	25.46
146	146	136.73	0.00	9.03	-4.25	25.75
146	147	139.60	0.00	11.52	-4.71	-0.17
301	101	0.00	0.00	-0.84	-0.19	-3.80
301	2001	0.00	0.00	-0.84	-0.19	-3.16
302	102	2.62	0.00	-1.26	-0.35	-6.27
302	2002	2.62	0.00	-1.26	-0.35	-5.32
303	103	5.24	0.00	-0.89	-0.30	-5.09
303	2003	5.24	0.00	-0.89	-0.30	-4.42
304	104	7.86	0.00	-0.59	-0.23	-4.13
304	2004	7.86	0.00	-0.59	-0.23	-3.68

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-0.33	-0.15	-3.12
305	2005	10.48	0.00	-0.33	-0.15	-2.87
306	106	13.10	0.00	-0.09	-0.07	-1.90
306	2006	13.10	0.00	-0.09	-0.07	-1.83
307	107	15.72	0.00	-0.05	-0.02	-1.17
307	2007	15.72	0.00	-0.05	-0.02	-1.13
308	108	18.34	0.00	0.00	0.00	-0.34
308	2008	18.34	0.00	0.00	0.00	-0.34
309	109	20.96	0.00	0.01	0.00	-0.34
309	2009	20.96	0.00	0.01	0.00	-0.35
310	110	23.58	0.00	-0.59	-0.01	-3.08
310	2010	23.58	0.00	-0.59	-0.01	-2.63
311	111	26.20	0.00	-0.87	-0.05	-4.50
311	2011	26.20	0.00	-0.87	-0.05	-3.84
312	112	29.55	0.00	-1.03	-0.14	-5.12
312	2012	29.55	0.00	-1.03	-0.14	-4.34
313	113	32.90	0.00	-0.92	-0.23	-4.68
313	2013	32.90	0.00	-0.92	-0.23	-3.99
314	114	36.03	0.00	-0.72	-0.29	-4.07
314	2014	36.03	0.00	-0.72	-0.29	-3.53
315	115	39.16	0.00	-0.57	-0.30	-3.82
315	2015	39.16	0.00	-0.57	-0.30	-3.40
316	116	42.29	0.00	-0.34	-0.26	-3.23
316	2016	42.29	0.00	-0.34	-0.26	-2.97
317	117	45.42	0.00	-0.29	-0.19	-3.35
317	2017	45.42	0.00	-0.29	-0.19	-3.13
318	118	48.55	0.00	-0.35	-0.11	-3.48
318	2018	48.55	0.00	-0.35	-0.11	-3.22
319	119	51.68	0.00	-0.28	-0.05	-2.71
319	2019	51.68	0.00	-0.28	-0.05	-2.49
320	120	54.81	0.00	-0.23	-0.01	-1.98
320	2020	54.81	0.00	-0.23	-0.01	-1.81
321	121	57.94	0.00	-0.18	0.00	-1.25
321	2021	57.94	0.00	-0.18	0.00	-1.12
322	122	61.07	0.00	-0.16	0.00	-1.18
322	2022	61.07	0.00	-0.16	0.00	-1.06
323	123	64.20	0.00	-1.23	-0.06	-6.01
323	2023	64.20	0.00	-1.23	-0.06	-5.08
324	124	67.55	0.00	-1.32	-0.16	-6.42
324	2024	67.55	0.00	-1.32	-0.16	-5.42
325	125	70.90	0.00	-1.15	-0.27	-5.77
325	2025	70.90	0.00	-1.15	-0.27	-4.89
326	126	74.23	0.00	-1.05	-0.36	-5.82
326	2026	74.23	0.00	-1.05	-0.36	-5.02
327	127	77.56	0.00	-0.71	-0.36	-4.71
327	2027	77.56	0.00	-0.71	-0.36	-4.18
328	128	80.89	0.00	-0.39	-0.31	-3.80
328	2028	80.89	0.00	-0.39	-0.31	-3.51

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Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.MX-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-0.18	-0.23	-3.24
329	2029	84.22	0.00	-0.18	-0.23	-3.10
330	130	87.55	0.00	-0.23	-0.13	-3.10
330	2030	87.55	0.00	-0.23	-0.13	-2.92
331	131	90.88	0.00	-0.22	-0.06	-2.68
331	2031	90.88	0.00	-0.22	-0.06	-2.52
332	132	94.21	0.00	-0.06	-0.01	-1.24
332	2032	94.21	0.00	-0.06	-0.01	-1.19
333	133	97.54	0.00	0.01	0.00	-0.30
333	2033	97.54	0.00	0.01	0.00	-0.30
334	134	100.87	0.00	-0.60	0.00	-2.81
334	2034	100.87	0.00	-0.60	0.00	-2.36
335	135	104.20	0.00	-0.97	-0.06	-4.70
335	2035	104.20	0.00	-0.97	-0.06	-3.97
336	136	107.55	0.00	-0.92	-0.13	-4.59
336	2036	107.55	0.00	-0.92	-0.13	-3.89
337	137	110.90	0.00	-0.83	-0.20	-4.43
337	2037	110.90	0.00	-0.83	-0.20	-3.80
338	138	113.77	0.00	-0.80	-0.24	-4.62
338	2038	113.77	0.00	-0.80	-0.24	-4.02
339	139	116.64	0.00	-0.62	-0.24	-4.20
339	2039	116.64	0.00	-0.62	-0.24	-3.73
340	140	119.51	0.00	-0.54	-0.19	-4.20
340	2040	119.51	0.00	-0.54	-0.19	-3.79
341	141	122.38	0.00	-0.85	-0.12	-5.96
341	2041	122.38	0.00	-0.85	-0.12	-5.32
342	142	125.25	0.00	-0.62	-0.05	-4.50
342	2042	125.25	0.00	-0.62	-0.05	-4.03
343	143	128.12	0.00	-0.37	-0.01	-2.45
343	2043	128.12	0.00	-0.37	-0.01	-2.17
344	144	130.99	0.00	-0.33	-0.01	-2.26
344	2044	130.99	0.00	-0.33	-0.01	-2.01
345	145	133.86	0.00	-0.16	0.00	-1.27
345	2045	133.86	0.00	-0.16	0.00	-1.15
346	146	136.73	0.00	-0.04	0.00	-0.61
346	2046	136.73	0.00	-0.04	0.00	-0.58
347	147	139.60	0.00	0.00	0.00	-0.15
347	2047	139.60	0.00	0.00	0.00	-0.15
201	2001	0.00	0.00	-0.84	-0.19	-3.16
201	1001	0.00	0.00	-0.84	-0.19	0.86
202	2002	2.62	0.00	-1.26	-0.35	-5.32
202	1002	2.62	0.00	-1.26	-0.35	0.72
203	2003	5.24	0.00	-0.89	-0.30	-4.42
203	1003	5.24	0.00	-0.89	-0.30	-0.16
204	2004	7.86	0.00	-0.59	-0.23	-3.68
204	1004	7.86	0.00	-0.59	-0.23	-0.88
205	2005	10.48	0.00	-0.33	-0.15	-2.87
205	1005	10.48	0.00	-0.33	-0.15	-1.30

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-0.09	-0.07	-1.83
206	1006	13.10	0.00	-0.09	-0.07	-1.38
207	2007	15.72	0.00	-0.05	-0.02	-1.13
207	1007	15.72	0.00	-0.05	-0.02	-0.88
208	2008	18.34	0.00	0.00	0.00	-0.34
208	1008	18.34	0.00	0.00	0.00	-0.36
209	2009	20.96	0.00	0.01	0.00	-0.35
209	1009	20.96	0.00	0.01	0.00	-0.37
210	2010	23.58	0.00	-0.59	-0.01	-2.63
210	1010	23.58	0.00	-0.59	-0.01	0.20
211	2011	26.20	0.00	-0.87	-0.05	-3.84
211	1011	26.20	0.00	-0.87	-0.05	0.31
212	2012	29.55	0.00	-1.03	-0.14	-4.34
212	1012	29.55	0.00	-1.03	-0.14	0.59
213	2013	32.90	0.00	-0.92	-0.23	-3.99
213	1013	32.90	0.00	-0.92	-0.23	0.43
214	2014	36.03	0.00	-0.72	-0.29	-3.53
214	1014	36.03	0.00	-0.72	-0.29	-0.08
215	2015	39.16	0.00	-0.57	-0.30	-3.40
215	1015	39.16	0.00	-0.57	-0.30	-0.69
216	2016	42.29	0.00	-0.34	-0.26	-2.97
216	1016	42.29	0.00	-0.34	-0.26	-1.33
217	2017	45.42	0.00	-0.29	-0.19	-3.13
217	1017	45.42	0.00	-0.29	-0.19	-1.74
218	2018	48.55	0.00	-0.35	-0.11	-3.22
218	1018	48.55	0.00	-0.35	-0.11	-1.56
219	2019	51.68	0.00	-0.28	-0.05	-2.49
219	1019	51.68	0.00	-0.28	-0.05	-1.13
220	2020	54.81	0.00	-0.23	-0.01	-1.81
220	1020	54.81	0.00	-0.23	-0.01	-0.69
221	2021	57.94	0.00	-0.18	0.00	-1.12
221	1021	57.94	0.00	-0.18	0.00	-0.28
222	2022	61.07	0.00	-0.16	0.00	-1.06
222	1022	61.07	0.00	-0.16	0.00	-0.32
223	2023	64.20	0.00	-1.23	-0.06	-5.08
223	1023	64.20	0.00	-1.23	-0.06	0.81
224	2024	67.55	0.00	-1.32	-0.16	-5.42
224	1024	67.55	0.00	-1.32	-0.16	0.87
225	2025	70.90	0.00	-1.15	-0.27	-4.89
225	1025	70.90	0.00	-1.15	-0.27	0.64
226	2026	74.23	0.00	-1.05	-0.36	-5.02
226	1026	74.23	0.00	-1.05	-0.36	0.02
227	2027	77.56	0.00	-0.71	-0.36	-4.18
227	1027	77.56	0.00	-0.71	-0.36	-0.78
228	2028	80.89	0.00	-0.39	-0.31	-3.51
228	1028	80.89	0.00	-0.39	-0.31	-1.62
229	2029	84.22	0.00	-0.18	-0.23	-3.10
229	1029	84.22	0.00	-0.18	-0.23	-2.23

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20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-0.23	-0.13	-2.92
230	1030	87.55	0.00	-0.23	-0.13	-1.81
231	2031	90.88	0.00	-0.22	-0.06	-2.52
231	1031	90.88	0.00	-0.22	-0.06	-1.48
232	2032	94.21	0.00	-0.06	-0.01	-1.19
232	1032	94.21	0.00	-0.06	-0.01	-0.91
233	2033	97.54	0.00	0.01	0.00	-0.30
233	1033	97.54	0.00	0.01	0.00	-0.35
234	2034	100.87	0.00	-0.60	0.00	-2.36
234	1034	100.87	0.00	-0.60	0.00	0.49
235	2035	104.20	0.00	-0.97	-0.06	-3.97
235	1035	104.20	0.00	-0.97	-0.06	0.69
236	2036	107.55	0.00	-0.92	-0.13	-3.89
236	1036	107.55	0.00	-0.92	-0.13	0.51
237	2037	110.90	0.00	-0.83	-0.20	-3.80
237	1037	110.90	0.00	-0.83	-0.20	0.19
238	2038	113.77	0.00	-0.80	-0.24	-4.02
238	1038	113.77	0.00	-0.80	-0.24	-0.20
239	2039	116.64	0.00	-0.62	-0.24	-3.73
239	1039	116.64	0.00	-0.62	-0.24	-0.74
240	2040	119.51	0.00	-0.54	-0.19	-3.79
240	1040	119.51	0.00	-0.54	-0.19	-1.19
241	2041	122.38	0.00	-0.85	-0.12	-5.32
241	1041	122.38	0.00	-0.85	-0.12	-1.28
242	2042	125.25	0.00	-0.62	-0.05	-4.03
242	1042	125.25	0.00	-0.62	-0.05	-1.05
243	2043	128.12	0.00	-0.37	-0.01	-2.17
243	1043	128.12	0.00	-0.37	-0.01	-0.39
244	2044	130.99	0.00	-0.33	-0.01	-2.01
244	1044	130.99	0.00	-0.33	-0.01	-0.45
245	2045	133.86	0.00	-0.16	0.00	-1.15
245	1045	133.86	0.00	-0.16	0.00	-0.38
246	2046	136.73	0.00	-0.04	0.00	-0.58
246	1046	136.73	0.00	-0.04	0.00	-0.38
247	2047	139.60	0.00	0.00	0.00	-0.15
247	1047	139.60	0.00	0.00	0.00	-0.16
401	1001	0.00	0.00	-0.84	-0.19	0.86
401	1	0.00	0.00	-0.84	-0.19	1.50
402	1002	2.62	0.00	-1.26	-0.35	0.72
402	2	2.62	0.00	-1.26	-0.35	1.68
403	1003	5.24	0.00	-0.89	-0.30	-0.16
403	3	5.24	0.00	-0.89	-0.30	0.51
404	1004	7.86	0.00	-0.59	-0.23	-0.88
404	4	7.86	0.00	-0.59	-0.23	-0.44
405	1005	10.48	0.00	-0.33	-0.15	-1.30
405	5	10.48	0.00	-0.33	-0.15	-1.05
406	1006	13.10	0.00	-0.09	-0.07	-1.38
406	6	13.10	0.00	-0.09	-0.07	-1.31

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-0.05	-0.02	-0.88
407	7	15.72	0.00	-0.05	-0.02	-0.84
408	1008	18.34	0.00	0.00	0.00	-0.36
408	8	18.34	0.00	0.00	0.00	-0.36
409	1009	20.96	0.00	0.01	0.00	-0.37
409	9	20.96	0.00	0.01	0.00	-0.38
410	1010	23.58	0.00	-0.59	-0.01	0.20
410	10	23.58	0.00	-0.59	-0.01	0.65
411	1011	26.20	0.00	-0.87	-0.05	0.31
411	11	26.20	0.00	-0.87	-0.05	0.96
412	1012	29.55	0.00	-1.03	-0.14	0.59
412	12	29.55	0.00	-1.03	-0.14	1.37
413	1013	32.90	0.00	-0.92	-0.23	0.43
413	13	32.90	0.00	-0.92	-0.23	1.13
414	1014	36.03	0.00	-0.72	-0.29	-0.08
414	14	36.03	0.00	-0.72	-0.29	0.46
415	1015	39.16	0.00	-0.57	-0.30	-0.69
415	15	39.16	0.00	-0.57	-0.30	-0.26
416	1016	42.29	0.00	-0.34	-0.26	-1.33
416	16	42.29	0.00	-0.34	-0.26	-1.07
417	1017	45.42	0.00	-0.29	-0.19	-1.74
417	17	45.42	0.00	-0.29	-0.19	-1.52
418	1018	48.55	0.00	-0.35	-0.11	-1.56
418	18	48.55	0.00	-0.35	-0.11	-1.30
419	1019	51.68	0.00	-0.28	-0.05	-1.13
419	19	51.68	0.00	-0.28	-0.05	-0.91
420	1020	54.81	0.00	-0.23	-0.01	-0.69
420	20	54.81	0.00	-0.23	-0.01	-0.51
421	1021	57.94	0.00	-0.18	0.00	-0.28
421	21	57.94	0.00	-0.18	0.00	-0.15
422	1022	61.07	0.00	-0.16	0.00	-0.32
422	22	61.07	0.00	-0.16	0.00	-0.20
423	1023	64.20	0.00	-1.23	-0.06	0.81
423	23	64.20	0.00	-1.23	-0.06	1.74
424	1024	67.55	0.00	-1.32	-0.16	0.87
424	24	67.55	0.00	-1.32	-0.16	1.87
425	1025	70.90	0.00	-1.15	-0.27	0.64
425	25	70.90	0.00	-1.15	-0.27	1.51
426	1026	74.23	0.00	-1.05	-0.36	0.02
426	26	74.23	0.00	-1.05	-0.36	0.82
427	1027	77.56	0.00	-0.71	-0.36	-0.78
427	27	77.56	0.00	-0.71	-0.36	-0.25
428	1028	80.89	0.00	-0.39	-0.31	-1.62
428	28	80.89	0.00	-0.39	-0.31	-1.33
429	1029	84.22	0.00	-0.18	-0.23	-2.23
429	29	84.22	0.00	-0.18	-0.23	-2.09
430	1030	87.55	0.00	-0.23	-0.13	-1.81
430	30	87.55	0.00	-0.23	-0.13	-1.63

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SCUPASEOSDERE.ENV_TREN_GENERICO.MX-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano genérico. MX-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-0.22	-0.06	-1.48
431	31	90.88	0.00	-0.22	-0.06	-1.32
432	1032	94.21	0.00	-0.06	-0.01	-0.91
432	32	94.21	0.00	-0.06	-0.01	-0.86
433	1033	97.54	0.00	0.01	0.00	-0.35
433	33	97.54	0.00	0.01	0.00	-0.35
434	1034	100.87	0.00	-0.60	0.00	0.49
434	34	100.87	0.00	-0.60	0.00	0.94
435	1035	104.20	0.00	-0.97	-0.06	0.69
435	35	104.20	0.00	-0.97	-0.06	1.42
436	1036	107.55	0.00	-0.92	-0.13	0.51
436	36	107.55	0.00	-0.92	-0.13	1.20
437	1037	110.90	0.00	-0.83	-0.20	0.19
437	37	110.90	0.00	-0.83	-0.20	0.82
438	1038	113.77	0.00	-0.80	-0.24	-0.20
438	38	113.77	0.00	-0.80	-0.24	0.40
439	1039	116.64	0.00	-0.62	-0.24	-0.74
439	39	116.64	0.00	-0.62	-0.24	-0.27
440	1040	119.51	0.00	-0.54	-0.19	-1.19
440	40	119.51	0.00	-0.54	-0.19	-0.77
441	1041	122.38	0.00	-0.85	-0.12	-1.28
441	41	122.38	0.00	-0.85	-0.12	-0.64
442	1042	125.25	0.00	-0.62	-0.05	-1.05
442	42	125.25	0.00	-0.62	-0.05	-0.58
443	1043	128.12	0.00	-0.37	-0.01	-0.39
443	43	128.12	0.00	-0.37	-0.01	-0.11
444	1044	130.99	0.00	-0.33	-0.01	-0.45
444	44	130.99	0.00	-0.33	-0.01	-0.20
445	1045	133.86	0.00	-0.16	0.00	-0.38
445	45	133.86	0.00	-0.16	0.00	-0.26
446	1046	136.73	0.00	-0.04	0.00	-0.38
446	46	136.73	0.00	-0.04	0.00	-0.35
447	1047	139.60	0.00	0.00	0.00	-0.16
447	47	139.60	0.00	0.00	0.00	-0.16

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.88	-0.34	-0.02
1	2	2.62	0.00	2.75	1.25	-7.04
2	2	2.62	0.00	1.41	2.60	-6.73
2	3	5.24	0.00	1.42	2.62	-10.44
3	3	5.24	0.00	0.40	2.99	-10.18
3	4	7.86	0.00	0.40	2.99	-11.23
4	4	7.86	0.00	-0.38	2.60	-11.04
4	5	10.48	0.00	0.08	1.03	-10.86
5	5	10.48	0.00	-0.44	0.67	-10.85
5	6	13.10	0.00	-0.33	0.45	-9.91
6	6	13.10	0.00	-0.83	0.24	-9.96
6	7	15.72	0.00	-0.50	-0.34	-8.35
7	7	15.72	0.00	-1.00	-0.08	-8.40
7	8	18.34	0.00	-0.75	-0.46	-6.04
8	8	18.34	0.00	-1.27	0.09	-6.08
8	9	20.96	0.00	-0.89	-0.32	-3.30
9	9	20.96	0.00	-1.38	0.40	-3.32
9	10	23.58	0.00	-0.68	-0.21	-0.73
10	10	23.58	0.00	-0.97	0.20	-0.73
10	10011	26.20	0.00	-0.01	-1.04	-0.32
11	11	26.20	0.00	-0.01	-1.17	-0.32
11	12	29.55	0.00	0.61	0.09	-0.55
12	12	29.55	0.00	0.26	0.51	-0.50
12	13	32.90	0.00	4.37	1.38	-6.71
13	13	32.90	0.00	2.64	3.57	-6.65
13	14	36.03	0.00	3.51	0.78	-16.97
14	14	36.03	0.00	1.91	2.06	-16.80
14	15	39.16	0.00	2.15	0.61	-22.96
15	15	39.16	0.00	0.90	1.26	-22.84
15	16	42.29	0.00	1.13	-0.05	-26.24
16	16	42.29	0.00	0.11	0.33	-26.22
16	17	45.42	0.00	0.25	-0.53	-26.93
17	17	45.42	0.00	-0.64	-0.19	-26.97
17	18	48.55	0.00	-0.56	-0.94	-25.09
18	18	48.55	0.00	-1.38	-0.07	-25.15
18	19	51.68	0.00	-1.37	0.28	-20.85
19	19	51.68	0.00	-2.26	0.99	-20.92
19	20	54.81	0.00	-2.09	0.98	-14.10
20	20	54.81	0.00	-3.01	2.02	-14.17
20	21	57.94	0.00	-2.54	1.77	-5.17
21	21	57.94	0.00	-3.45	2.60	-5.21
21	22	61.07	0.00	-0.72	-0.88	-0.35
22	22	61.07	0.00	-1.08	-0.12	-0.36
22	10023	64.20	0.00	0.00	0.00	0.00
23	23	64.20	0.00	0.00	0.00	0.00
23	24	67.55	0.00	0.17	-0.40	-0.03
24	24	67.55	0.00	0.02	-0.47	-0.03
24	25	70.90	0.00	4.56	-5.14	-8.11

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SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	2.82	-2.81	-8.02
25	26	74.23	0.00	2.90	-2.54	-17.60
26	26	74.23	0.00	1.27	-0.78	-17.36
26	27	77.56	0.00	1.59	-3.65	-22.03
27	27	77.56	0.00	0.51	-3.28	-21.94
27	28	80.89	0.00	0.64	-4.23	-23.88
28	28	80.89	0.00	-0.27	-3.90	-23.86
28	29	84.22	0.00	-0.13	-4.36	-23.13
29	29	84.22	0.00	-0.92	-4.10	-23.16
29	30	87.55	0.00	-0.84	-2.87	-20.13
30	30	87.55	0.00	-1.57	-2.60	-20.17
30	31	90.88	0.00	-1.49	-2.55	-14.98
31	31	90.88	0.00	-2.31	-1.84	-15.04
31	32	94.21	0.00	-2.00	0.11	-7.99
32	32	94.21	0.00	-2.81	0.04	-8.04
32	33	97.54	0.00	-1.34	6.17	-1.41
33	33	97.54	0.00	-1.57	5.87	-1.41
33	34	100.87	0.00	0.23	2.93	-1.18
34	34	100.87	0.00	0.24	2.57	-1.18
34	10035	104.20	0.00	0.24	2.57	-1.99
35	35	104.20	0.00	-0.05	2.26	-1.99
35	36	107.55	0.00	0.58	0.88	-1.85
36	36	107.55	0.00	0.49	0.70	-1.90
36	37	110.90	0.00	4.17	-4.80	-9.64
37	37	110.90	0.00	2.93	-3.74	-9.74
37	38	113.77	0.00	4.27	-3.22	-21.44
38	38	113.77	0.00	2.89	-1.83	-21.30
38	39	116.64	0.00	2.95	-1.65	-29.66
39	39	116.64	0.00	1.76	-0.92	-29.47
39	40	119.51	0.00	1.76	-0.92	-34.51
40	40	119.51	0.00	0.77	-0.87	-34.34
40	41	122.38	0.00	0.77	-0.87	-36.56
41	41	122.38	0.00	-0.04	-1.38	-36.45
41	42	125.25	0.00	-0.04	-1.38	-36.34
42	42	125.25	0.00	-0.75	-2.19	-36.31
42	43	128.12	0.00	-0.74	-1.93	-34.15
43	43	128.12	0.00	-1.48	-2.76	-34.22
43	44	130.99	0.00	-1.48	-2.76	-29.97
44	44	130.99	0.00	-2.35	-3.18	-30.13
44	45	133.86	0.00	-2.35	-3.18	-23.38
45	45	133.86	0.00	-3.47	-2.82	-23.63
45	46	136.73	0.00	-3.47	-2.82	-13.67
46	46	136.73	0.00	-4.93	-1.38	-13.99
46	47	139.60	0.00	0.19	0.16	0.00
101	101	0.00	0.00	-14.36	3.80	-0.19
101	102	2.62	0.00	0.38	0.42	-0.97
102	102	2.62	0.00	0.45	1.39	-0.93
102	103	5.24	0.00	0.45	1.39	-2.12

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	0.58	2.50	-2.08
103	104	7.86	0.00	0.58	2.50	-3.59
104	104	7.86	0.00	0.75	3.77	-3.55
104	105	10.48	0.00	0.80	4.58	-5.56
105	105	10.48	0.00	1.06	6.32	-5.51
105	106	13.10	0.00	1.06	6.32	-8.30
106	106	13.10	0.00	1.40	8.29	-8.25
106	107	15.72	0.00	1.40	8.29	-11.92
107	107	15.72	0.00	1.81	10.52	-11.88
107	108	18.34	0.00	1.81	10.52	-16.62
108	108	18.34	0.00	2.30	13.03	-16.58
108	109	20.96	0.00	2.43	14.64	-22.63
109	109	20.96	0.00	3.06	17.73	-22.60
109	110	23.58	0.00	3.06	17.89	-30.62
110	110	23.58	0.00	3.77	21.29	-30.62
110	111	26.20	0.00	5.74	12.03	-40.77
111	111	26.20	0.00	6.74	16.98	-40.77
111	112	29.55	0.00	15.97	-8.15	-79.70
112	112	29.55	0.00	17.57	0.02	-79.60
112	10113	32.90	0.00	23.33	-9.27	-150.14
113	113	32.90	0.00	-22.17	-0.16	-150.20
113	114	36.03	0.00	-16.95	-7.46	-86.94
114	114	36.03	0.00	-15.56	-0.18	-87.10
114	115	39.16	0.00	-9.74	-13.08	-48.52
115	115	39.16	0.00	-8.75	-7.68	-48.64
115	116	42.29	0.00	-3.70	-28.16	-31.95
116	116	42.29	0.00	-3.01	-24.78	-31.94
116	117	45.42	0.00	-2.22	-18.89	-23.40
117	117	45.42	0.00	-1.57	-15.90	-23.35
117	118	48.55	0.00	-1.38	-13.06	-18.83
118	118	48.55	0.00	-0.59	-8.80	-18.78
118	119	51.68	0.00	-0.50	-6.48	-16.97
119	119	51.68	0.00	0.30	-2.37	-16.91
119	120	54.81	0.00	0.30	-2.37	-17.85
120	120	54.81	0.00	1.17	1.97	-17.79
120	121	57.94	0.00	1.48	8.82	-21.66
121	121	57.94	0.00	2.45	13.49	-21.61
121	122	61.07	0.00	3.21	21.75	-30.89
122	122	61.07	0.00	4.12	25.76	-30.88
122	123	64.20	0.00	7.33	11.00	-46.34
123	123	64.20	0.00	8.51	16.62	-46.28
123	124	67.55	0.00	15.41	1.83	-84.97
124	124	67.55	0.00	16.98	9.36	-84.89
124	10125	70.90	0.00	22.65	0.05	-152.81
125	125	70.90	0.00	-22.33	8.64	-152.89
125	126	74.23	0.00	-16.81	0.05	-85.66
126	126	74.23	0.00	-15.38	7.22	-85.87
126	127	77.56	0.00	-9.21	-6.95	-45.93

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-8.26	-1.98	-46.08
127	128	80.89	0.00	-3.29	-23.10	-29.77
128	128	80.89	0.00	-2.66	-20.04	-29.76
128	129	84.22	0.00	-2.66	-20.04	-20.88
129	129	84.22	0.00	-2.15	-17.39	-20.88
129	130	87.55	0.00	-1.86	-12.80	-14.16
130	130	87.55	0.00	-1.30	-9.75	-14.14
130	131	90.88	0.00	-1.06	-4.47	-10.34
131	131	90.88	0.00	-0.47	-1.35	-10.31
131	132	94.21	0.00	-0.30	1.91	-9.21
132	132	94.21	0.00	0.42	5.67	-9.16
132	133	97.54	0.00	0.66	9.87	-10.77
133	133	97.54	0.00	1.46	13.80	-10.74
133	134	100.87	0.00	2.29	22.10	-17.75
134	134	100.87	0.00	3.09	25.85	-17.75
134	135	104.20	0.00	8.18	5.99	-33.96
135	135	104.20	0.00	9.20	11.51	-33.86
135	136	107.55	0.00	15.28	0.61	-73.77
136	136	107.55	0.00	16.54	7.21	-73.68
136	10137	110.90	0.00	22.27	-0.84	-140.98
137	137	110.90	0.00	-21.10	7.07	-141.02
137	138	113.77	0.00	-16.22	-1.28	-85.60
138	138	113.77	0.00	-14.97	5.42	-85.71
138	139	116.64	0.00	-6.81	-14.99	-53.60
139	139	116.64	0.00	-5.96	-10.37	-53.62
139	140	119.51	0.00	-4.16	-21.33	-41.00
140	140	119.51	0.00	-3.50	-17.78	-40.99
140	141	122.38	0.00	-3.50	-17.78	-30.96
141	141	122.38	0.00	-2.91	-14.54	-30.97
141	142	125.25	0.00	-2.91	-14.54	-22.61
142	142	125.25	0.00	-2.40	-11.58	-22.62
142	143	128.12	0.00	-2.40	-11.58	-15.72
143	143	128.12	0.00	-1.96	-8.84	-15.73
143	144	130.99	0.00	-1.90	-7.84	-10.28
144	144	130.99	0.00	-1.53	-5.53	-10.28
144	145	133.86	0.00	-1.52	-5.33	-5.90
145	145	133.86	0.00	-1.19	-3.19	-5.89
145	146	136.73	0.00	-1.19	-3.19	-2.48
146	146	136.73	0.00	-0.86	-1.07	-2.48
146	147	139.60	0.00	11.22	-4.55	-0.17
301	101	0.00	0.00	-0.87	-0.17	-4.32
301	2001	0.00	0.00	-0.87	-0.17	-3.67
302	102	2.62	0.00	-1.36	-0.31	-7.46
302	2002	2.62	0.00	-1.36	-0.31	-6.43
303	103	5.24	0.00	-1.04	-0.26	-6.44
303	2003	5.24	0.00	-1.04	-0.26	-5.65
304	104	7.86	0.00	-0.79	-0.19	-5.65
304	2004	7.86	0.00	-0.79	-0.19	-5.05

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-0.63	-0.11	-5.14
305	2005	10.48	0.00	-0.63	-0.11	-4.67
306	106	13.10	0.00	-0.56	-0.02	-4.93
306	2006	13.10	0.00	-0.56	-0.02	-4.50
307	107	15.72	0.00	-0.58	0.06	-5.00
307	2007	15.72	0.00	-0.58	0.06	-4.56
308	108	18.34	0.00	-0.68	0.13	-5.31
308	2008	18.34	0.00	-0.68	0.13	-4.80
309	109	20.96	0.00	-0.85	0.18	-5.83
309	2009	20.96	0.00	-0.85	0.18	-5.19
310	110	23.58	0.00	-1.04	0.20	-6.45
310	2010	23.58	0.00	-1.04	0.20	-5.67
311	111	26.20	0.00	-1.41	0.20	-8.06
311	2011	26.20	0.00	-1.41	0.20	-6.99
312	112	29.55	0.00	-1.82	0.13	-9.80
312	2012	29.55	0.00	-1.82	0.13	-8.42
313	113	32.90	0.00	-1.82	-0.04	-9.66
313	2013	32.90	0.00	-1.82	-0.04	-8.28
314	114	36.03	0.00	-1.61	-0.17	-8.85
314	2014	36.03	0.00	-1.61	-0.17	-7.63
315	115	39.16	0.00	-1.35	-0.22	-8.03
315	2015	39.16	0.00	-1.35	-0.22	-7.01
316	116	42.29	0.00	-1.07	-0.20	-7.17
316	2016	42.29	0.00	-1.07	-0.20	-6.36
317	117	45.42	0.00	-0.86	-0.13	-6.50
317	2017	45.42	0.00	-0.86	-0.13	-5.85
318	118	48.55	0.00	-0.75	-0.04	-6.14
318	2018	48.55	0.00	-0.75	-0.04	-5.58
319	119	51.68	0.00	-0.75	0.06	-6.16
319	2019	51.68	0.00	-0.75	0.06	-5.59
320	120	54.81	0.00	-0.88	0.15	-6.57
320	2020	54.81	0.00	-0.88	0.15	-5.90
321	121	57.94	0.00	-1.11	0.21	-7.29
321	2021	57.94	0.00	-1.11	0.21	-6.45
322	122	61.07	0.00	-1.40	0.23	-8.19
322	2022	61.07	0.00	-1.40	0.23	-7.14
323	123	64.20	0.00	-1.74	0.19	-9.40
323	2023	64.20	0.00	-1.74	0.19	-8.09
324	124	67.55	0.00	-2.01	0.08	-10.38
324	2024	67.55	0.00	-2.01	0.08	-8.87
325	125	70.90	0.00	-1.96	-0.10	-10.10
325	2025	70.90	0.00	-1.96	-0.10	-8.62
326	126	74.23	0.00	-1.78	-0.26	-9.64
326	2026	74.23	0.00	-1.78	-0.26	-8.30
327	127	77.56	0.00	-1.41	-0.31	-8.49
327	2027	77.56	0.00	-1.41	-0.31	-7.42
328	128	80.89	0.00	-1.04	-0.28	-7.33
328	2028	80.89	0.00	-1.04	-0.28	-6.54

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20/10/02

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-0.75	-0.19	-6.41
329	2029	84.22	0.00	-0.75	-0.19	-5.84
330	130	87.55	0.00	-0.58	-0.08	-5.89
330	2030	87.55	0.00	-0.58	-0.08	-5.45
331	131	90.88	0.00	-0.57	0.04	-5.85
331	2031	90.88	0.00	-0.57	0.04	-5.42
332	132	94.21	0.00	-0.71	0.15	-6.28
332	2032	94.21	0.00	-0.71	0.15	-5.75
333	133	97.54	0.00	-0.97	0.24	-7.12
333	2033	97.54	0.00	-0.97	0.24	-6.38
334	134	100.87	0.00	-1.31	0.27	-8.20
334	2034	100.87	0.00	-1.31	0.27	-7.20
335	135	104.20	0.00	-1.53	0.21	-8.62
335	2035	104.20	0.00	-1.53	0.21	-7.46
336	136	107.55	0.00	-1.61	0.10	-8.60
336	2036	107.55	0.00	-1.61	0.10	-7.38
337	137	110.90	0.00	-1.64	-0.05	-8.68
337	2037	110.90	0.00	-1.64	-0.05	-7.44
338	138	113.77	0.00	-1.50	-0.16	-8.23
338	2038	113.77	0.00	-1.50	-0.16	-7.10
339	139	116.64	0.00	-1.27	-0.20	-7.51
339	2039	116.64	0.00	-1.27	-0.20	-6.55
340	140	119.51	0.00	-1.04	-0.18	-6.77
340	2040	119.51	0.00	-1.04	-0.18	-5.99
341	141	122.38	0.00	-0.85	-0.12	-6.18
341	2041	122.38	0.00	-0.85	-0.12	-5.53
342	142	125.25	0.00	-0.75	-0.04	-5.85
342	2042	125.25	0.00	-0.75	-0.04	-5.29
343	143	128.12	0.00	-0.75	0.06	-5.87
343	2043	128.12	0.00	-0.75	0.06	-5.30
344	144	130.99	0.00	-0.88	0.16	-6.26
344	2044	130.99	0.00	-0.88	0.16	-5.60
345	145	133.86	0.00	-1.12	0.25	-7.02
345	2045	133.86	0.00	-1.12	0.25	-6.18
346	146	136.73	0.00	-1.46	0.31	-8.11
346	2046	136.73	0.00	-1.46	0.31	-7.00
347	147	139.60	0.00	-0.94	0.17	-4.71
347	2047	139.60	0.00	-0.94	0.17	-4.00
201	2001	0.00	0.00	-0.87	-0.17	-3.67
201	1001	0.00	0.00	-0.07	0.01	-0.52
202	2002	2.62	0.00	-1.36	-0.31	-6.43
202	1002	2.62	0.00	-0.21	0.02	-0.98
203	2003	5.24	0.00	-1.04	-0.26	-5.65
203	1003	5.24	0.00	-0.33	-0.01	-0.95
204	2004	7.86	0.00	-0.79	-0.19	-5.05
204	1004	7.86	0.00	-0.71	-0.18	-1.29
205	2005	10.48	0.00	-0.63	-0.11	-4.67
205	1005	10.48	0.00	-0.63	-0.11	-1.66

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-0.56	-0.02	-4.50
206	1006	13.10	0.00	-0.33	-0.05	-1.90
207	2007	15.72	0.00	-0.58	0.06	-4.56
207	1007	15.72	0.00	-0.22	0.03	-1.98
208	2008	18.34	0.00	-0.68	0.13	-4.80
208	1008	18.34	0.00	-0.23	0.10	-1.89
209	2009	20.96	0.00	-0.85	0.18	-5.19
209	1009	20.96	0.00	-0.26	0.16	-1.66
210	2010	23.58	0.00	-1.04	0.20	-5.67
210	1010	23.58	0.00	-0.36	0.20	-1.34
211	2011	26.20	0.00	-1.41	0.20	-6.99
211	1011	26.20	0.00	-0.49	0.24	-1.12
212	2012	29.55	0.00	-1.82	0.13	-8.42
212	1012	29.55	0.00	-0.19	0.04	-0.84
213	2013	32.90	0.00	-1.82	-0.04	-8.28
213	1013	32.90	0.00	-0.10	0.01	-0.80
214	2014	36.03	0.00	-1.61	-0.17	-7.63
214	1014	36.03	0.00	-0.19	-0.01	-0.79
215	2015	39.16	0.00	-1.35	-0.22	-7.01
215	1015	39.16	0.00	-0.53	-0.25	-1.14
216	2016	42.29	0.00	-1.07	-0.20	-6.36
216	1016	42.29	0.00	-0.41	-0.21	-1.66
217	2017	45.42	0.00	-0.86	-0.13	-5.85
217	1017	45.42	0.00	-0.38	-0.14	-2.05
218	2018	48.55	0.00	-0.75	-0.04	-5.58
218	1018	48.55	0.00	-0.13	-0.08	-2.29
219	2019	51.68	0.00	-0.75	0.06	-5.59
219	1019	51.68	0.00	-0.09	0.00	-2.39
220	2020	54.81	0.00	-0.88	0.15	-5.90
220	1020	54.81	0.00	-0.11	0.09	-2.29
221	2021	57.94	0.00	-1.11	0.21	-6.45
221	1021	57.94	0.00	-0.23	0.17	-1.99
222	2022	61.07	0.00	-1.40	0.23	-7.14
222	1022	61.07	0.00	-0.39	0.22	-1.54
223	2023	64.20	0.00	-1.74	0.19	-8.09
223	1023	64.20	0.00	-0.57	0.23	-1.11
224	2024	67.55	0.00	-2.01	0.08	-8.87
224	1024	67.55	0.00	-0.59	0.14	-0.74
225	2025	70.90	0.00	-1.96	-0.10	-8.62
225	1025	70.90	0.00	-0.28	-0.01	-0.74
226	2026	74.23	0.00	-1.78	-0.26	-8.30
226	1026	74.23	0.00	-0.29	-0.03	-0.84
227	2027	77.56	0.00	-1.41	-0.31	-7.42
227	1027	77.56	0.00	-0.67	-0.34	-1.24
228	2028	80.89	0.00	-1.04	-0.28	-6.54
228	1028	80.89	0.00	-0.46	-0.29	-1.98
229	2029	84.22	0.00	-0.75	-0.19	-5.84
229	1029	84.22	0.00	-0.31	-0.19	-2.55

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-0.58	-0.08	-5.45
230	1030	87.55	0.00	-0.28	-0.08	-2.83
231	2031	90.88	0.00	-0.57	0.04	-5.42
231	1031	90.88	0.00	-0.07	0.01	-2.87
232	2032	94.21	0.00	-0.71	0.15	-5.75
232	1032	94.21	0.00	-0.09	0.11	-2.68
233	2033	97.54	0.00	-0.97	0.24	-6.38
233	1033	97.54	0.00	-0.22	0.21	-2.25
234	2034	100.87	0.00	-1.31	0.27	-7.20
234	1034	100.87	0.00	-0.41	0.27	-1.63
235	2035	104.20	0.00	-1.53	0.21	-7.46
235	1035	104.20	0.00	-0.53	0.25	-0.92
236	2036	107.55	0.00	-1.61	0.10	-7.38
236	1036	107.55	0.00	-0.28	0.01	-0.47
237	2037	110.90	0.00	-1.64	-0.05	-7.44
237	1037	110.90	0.00	-0.22	-0.01	-0.49
238	2038	113.77	0.00	-1.50	-0.16	-7.10
238	1038	113.77	0.00	-0.37	-0.12	-0.59
239	2039	116.64	0.00	-1.27	-0.20	-6.55
239	1039	116.64	0.00	-0.58	-0.23	-0.97
240	2040	119.51	0.00	-1.04	-0.18	-5.99
240	1040	119.51	0.00	-0.48	-0.19	-1.41
241	2041	122.38	0.00	-0.85	-0.12	-5.53
241	1041	122.38	0.00	-0.36	-0.12	-1.73
242	2042	125.25	0.00	-0.75	-0.04	-5.29
242	1042	125.25	0.00	-0.40	-0.03	-1.87
243	2043	128.12	0.00	-0.75	0.06	-5.30
243	1043	128.12	0.00	-0.52	0.07	-1.77
244	2044	130.99	0.00	-0.88	0.16	-5.60
244	1044	130.99	0.00	-0.75	0.16	-1.42
245	2045	133.86	0.00	-1.12	0.25	-6.18
245	1045	133.86	0.00	-0.78	0.18	-0.96
246	2046	136.73	0.00	-1.46	0.31	-7.00
246	1046	136.73	0.00	-0.44	0.03	-0.76
247	2047	139.60	0.00	-0.94	0.17	-4.00
247	1047	139.60	0.00	-0.17	0.00	-0.35
401	1001	0.00	0.00	-0.07	0.01	-0.52
401	1	0.00	0.00	-0.07	0.01	-0.47
402	1002	2.62	0.00	-0.21	0.02	-0.98
402	2	2.62	0.00	-0.17	0.03	-0.84
403	1003	5.24	0.00	-0.33	-0.01	-0.95
403	3	5.24	0.00	-0.24	0.02	-0.73
404	1004	7.86	0.00	-0.71	-0.18	-1.29
404	4	7.86	0.00	-0.52	-0.13	-0.83
405	1005	10.48	0.00	-0.63	-0.11	-1.66
405	5	10.48	0.00	-0.34	-0.14	-1.31
406	1006	13.10	0.00	-0.33	-0.05	-1.90
406	6	13.10	0.00	-0.25	-0.06	-1.69

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-0.22	0.03	-1.98
407	7	15.72	0.00	-0.16	0.02	-1.83
408	1008	18.34	0.00	-0.23	0.10	-1.89
408	8	18.34	0.00	-0.16	0.10	-1.76
409	1009	20.96	0.00	-0.26	0.16	-1.66
409	9	20.96	0.00	-0.19	0.16	-1.49
410	1010	23.58	0.00	-0.36	0.20	-1.34
410	10	23.58	0.00	-0.30	0.20	-1.10
411	1011	26.20	0.00	-0.49	0.24	-1.12
411	11	26.20	0.00	-0.36	0.21	-0.83
412	1012	29.55	0.00	-0.19	0.04	-0.84
412	12	29.55	0.00	-0.05	0.00	-0.76
413	1013	32.90	0.00	-0.10	0.01	-0.80
413	13	32.90	0.00	-0.06	0.00	-0.75
414	1014	36.03	0.00	-0.19	-0.01	-0.79
414	14	36.03	0.00	-0.08	0.01	-0.70
415	1015	39.16	0.00	-0.53	-0.25	-1.14
415	15	39.16	0.00	-0.37	-0.21	-0.81
416	1016	42.29	0.00	-0.41	-0.21	-1.66
416	16	42.29	0.00	-0.39	-0.21	-1.35
417	1017	45.42	0.00	-0.38	-0.14	-2.05
417	17	45.42	0.00	-0.16	-0.17	-1.86
418	1018	48.55	0.00	-0.13	-0.08	-2.29
418	18	48.55	0.00	-0.03	-0.10	-2.24
419	1019	51.68	0.00	-0.09	0.00	-2.39
419	19	51.68	0.00	0.02	0.00	-2.38
420	1020	54.81	0.00	-0.11	0.09	-2.29
420	20	54.81	0.00	0.00	0.09	-2.25
421	1021	57.94	0.00	-0.23	0.17	-1.99
421	21	57.94	0.00	-0.08	0.16	-1.87
422	1022	61.07	0.00	-0.39	0.22	-1.54
422	22	61.07	0.00	-0.24	0.22	-1.31
423	1023	64.20	0.00	-0.57	0.23	-1.11
423	23	64.20	0.00	-0.31	0.21	-0.78
424	1024	67.55	0.00	-0.59	0.14	-0.74
424	24	67.55	0.00	-0.16	0.00	-0.49
425	1025	70.90	0.00	-0.28	-0.01	-0.74
425	25	70.90	0.00	-0.23	-0.02	-0.55
426	1026	74.23	0.00	-0.29	-0.03	-0.84
426	26	74.23	0.00	-0.21	-0.02	-0.65
427	1027	77.56	0.00	-0.67	-0.34	-1.24
427	27	77.56	0.00	-0.51	-0.28	-0.82
428	1028	80.89	0.00	-0.46	-0.29	-1.98
428	28	80.89	0.00	-0.43	-0.29	-1.65
429	1029	84.22	0.00	-0.31	-0.19	-2.55
429	29	84.22	0.00	-0.24	-0.19	-2.33
430	1030	87.55	0.00	-0.28	-0.08	-2.83
430	30	87.55	0.00	0.01	-0.12	-2.76

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Programa DINTEL IDEAM S.A.
SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SCUPASEOSDERE.SCuniTpos.Barra101.Mx+ + [0; 1]SCUPASEOSDERE.SCuniTpos.Barra102.Mx

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-0.07	0.01	-2.87
431	31	90.88	0.00	0.11	0.00	-2.89
432	1032	94.21	0.00	-0.09	0.11	-2.68
432	32	94.21	0.00	0.07	0.11	-2.68
433	1033	97.54	0.00	-0.22	0.21	-2.25
433	33	97.54	0.00	-0.06	0.20	-2.14
434	1034	100.87	0.00	-0.41	0.27	-1.63
434	34	100.87	0.00	-0.28	0.27	-1.39
435	1035	104.20	0.00	-0.53	0.25	-0.92
435	35	104.20	0.00	-0.35	0.23	-0.60
436	1036	107.55	0.00	-0.28	0.01	-0.47
436	36	107.55	0.00	-0.09	0.00	-0.33
437	1037	110.90	0.00	-0.22	-0.01	-0.49
437	37	110.90	0.00	-0.12	-0.01	-0.37
438	1038	113.77	0.00	-0.37	-0.12	-0.59
438	38	113.77	0.00	-0.14	-0.02	-0.42
439	1039	116.64	0.00	-0.58	-0.23	-0.97
439	39	116.64	0.00	-0.36	-0.18	-0.66
440	1040	119.51	0.00	-0.48	-0.19	-1.41
440	40	119.51	0.00	-0.34	-0.18	-1.11
441	1041	122.38	0.00	-0.36	-0.12	-1.73
441	41	122.38	0.00	-0.28	-0.12	-1.48
442	1042	125.25	0.00	-0.40	-0.03	-1.87
442	42	125.25	0.00	-0.32	-0.03	-1.61
443	1043	128.12	0.00	-0.52	0.07	-1.77
443	43	128.12	0.00	-0.38	0.07	-1.44
444	1044	130.99	0.00	-0.75	0.16	-1.42
444	44	130.99	0.00	-0.41	0.14	-1.02
445	1045	133.86	0.00	-0.78	0.18	-0.96
445	45	133.86	0.00	-0.18	0.03	-0.62
446	1046	136.73	0.00	-0.44	0.03	-0.76
446	46	136.73	0.00	-0.05	0.00	-0.60
447	1047	139.60	0.00	-0.17	0.00	-0.35
447	47	139.60	0.00	-0.03	0.00	-0.30

PPLOSA

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLOSA

PESO PROPIO DE LOSA

[1; 1]PPLOSA

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-51.44	-1.22	0.31
1	2	2.62	0.00	-37.68	5.54	117.05
2	2	2.62	0.00	-38.36	0.89	117.65
2	3	5.24	0.00	-24.60	7.65	200.13
3	3	5.24	0.00	-24.63	0.96	200.69
3	4	7.86	0.00	-10.88	7.72	247.20
4	4	7.86	0.00	-10.31	-0.83	247.70
4	5	10.48	0.00	3.44	5.93	256.70
5	5	10.48	0.00	4.53	-4.27	257.11
5	6	13.10	0.00	18.28	2.49	227.23
6	6	13.10	0.00	19.80	-9.05	227.53
6	7	15.72	0.00	33.55	-2.29	157.64
7	7	15.72	0.00	35.37	-14.81	157.79
7	8	18.34	0.00	49.13	-8.05	47.09
8	8	18.34	0.00	51.11	-21.05	47.05
8	9	20.96	0.00	64.86	-14.29	-104.87
9	9	20.96	0.00	66.78	-27.12	-105.16
9	10	23.58	0.00	80.54	-20.36	-298.14
10	10	23.58	0.00	82.11	-32.11	-298.74
10	10011	26.20	0.00	95.87	-25.35	-531.90
11	11	26.20	0.00	-89.06	-36.19	-533.02
11	12	29.55	0.00	-71.47	-27.55	-264.14
12	12	29.55	0.00	-72.18	-33.96	-265.70
12	13	32.90	0.00	-54.60	-25.32	-53.34
13	13	32.90	0.00	-56.93	-26.36	-54.35
13	14	36.03	0.00	-40.50	-18.29	98.12
14	14	36.03	0.00	-43.38	-17.30	97.83
14	15	39.16	0.00	-26.95	-9.22	207.90
15	15	39.16	0.00	-29.74	-8.55	208.10
15	16	42.29	0.00	-13.30	-0.48	275.46
16	16	42.29	0.00	-15.51	-1.65	276.00
16	17	45.42	0.00	0.93	6.43	298.81
17	17	45.42	0.00	-0.41	2.52	299.54
17	18	48.55	0.00	16.03	10.59	275.09
18	18	48.55	0.00	15.69	3.54	275.87
18	19	51.68	0.00	32.12	11.62	201.04
19	19	51.68	0.00	32.77	1.48	201.76
19	20	54.81	0.00	49.20	9.55	73.48
20	20	54.81	0.00	50.67	-3.19	74.01
20	21	57.94	0.00	67.10	4.88	-110.30
21	21	57.94	0.00	69.09	-9.52	-110.09
21	22	61.07	0.00	85.53	-1.44	-352.07
22	22	61.07	0.00	87.56	-15.97	-352.33
22	10023	64.20	0.00	103.99	-7.89	-652.11
23	23	64.20	0.00	-98.75	-20.78	-653.03
23	24	67.55	0.00	-81.16	-12.13	-351.69
24	24	67.55	0.00	-81.34	-20.27	-353.05
24	25	70.90	0.00	-63.75	-11.63	-110.03

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PPLOSA

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLOSA

PESO PROPIO DE LOSA

[1; 1]PPLOSA

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-65.52	-14.49	-110.94
25	26	74.23	0.00	-48.03	-5.90	78.12
26	26	74.23	0.00	-50.55	-6.62	77.91
26	27	77.56	0.00	-33.07	1.98	217.15
27	27	77.56	0.00	-35.47	0.87	217.47
27	28	80.89	0.00	-17.99	9.46	306.47
28	28	80.89	0.00	-19.70	6.19	307.14
28	29	84.22	0.00	-2.22	14.78	343.64
29	29	84.22	0.00	-2.90	8.26	344.51
29	30	87.55	0.00	14.58	16.85	325.06
30	30	87.55	0.00	15.10	6.54	326.00
30	31	90.88	0.00	32.58	15.13	246.61
31	31	90.88	0.00	34.32	0.98	247.47
31	32	94.21	0.00	51.80	9.57	104.09
32	32	94.21	0.00	54.60	-7.94	104.73
32	33	97.54	0.00	72.08	0.65	-106.20
33	33	97.54	0.00	75.61	-19.15	-105.95
33	34	100.87	0.00	93.09	-10.56	-386.83
34	34	100.87	0.00	96.74	-30.74	-387.18
34	10035	104.20	0.00	114.22	-22.15	-738.42
35	35	104.20	0.00	-107.26	-38.58	-739.53
35	36	107.55	0.00	-89.67	-29.93	-409.66
36	36	107.55	0.00	-88.87	-39.99	-411.16
36	37	110.90	0.00	-71.28	-31.35	-142.91
37	37	110.90	0.00	-72.23	-35.86	-144.14
37	38	113.77	0.00	-57.17	-28.46	41.55
38	38	113.77	0.00	-59.07	-29.96	40.81
38	39	116.64	0.00	-44.00	-22.56	188.72
39	39	116.64	0.00	-46.35	-22.68	188.38
39	40	119.51	0.00	-31.28	-15.28	299.78
40	40	119.51	0.00	-33.69	-15.20	299.73
40	41	122.38	0.00	-18.62	-7.79	374.79
41	41	122.38	0.00	-20.82	-8.36	374.98
41	42	125.25	0.00	-5.75	-0.96	413.10
42	42	125.25	0.00	-7.55	-2.80	413.46
42	43	128.12	0.00	7.52	4.61	413.50
43	43	128.12	0.00	6.27	1.06	413.99
43	44	130.99	0.00	21.34	8.47	374.38
44	44	130.99	0.00	20.73	2.87	374.96
44	45	133.86	0.00	35.80	10.27	293.83
45	45	133.86	0.00	35.94	2.34	294.49
45	46	136.73	0.00	51.01	9.75	169.71
46	46	136.73	0.00	51.97	-0.76	170.41
46	47	139.60	0.00	67.03	6.64	-0.36
101	101	0.00	0.00	-62.45	5.55	-0.31
101	102	2.62	0.00	-48.69	-1.21	145.28
102	102	2.62	0.00	-48.01	7.70	144.69
102	103	5.24	0.00	-34.26	0.94	252.46

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLOSA

PESO PROPIO DE LOSA

[1; 1]PPLOSA

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-34.23	7.80	251.91
103	104	7.86	0.00	-20.48	1.04	323.57
104	104	7.86	0.00	-21.04	6.04	323.08
104	105	10.48	0.00	-7.29	-0.72	360.19
105	105	10.48	0.00	-8.37	2.64	359.77
105	106	13.10	0.00	5.38	-4.12	363.69
106	106	13.10	0.00	3.87	-2.11	363.39
106	107	15.72	0.00	17.63	-8.87	335.23
107	107	15.72	0.00	15.80	-7.84	335.08
107	108	18.34	0.00	29.56	-14.60	275.66
108	108	18.34	0.00	27.58	-14.05	275.70
108	109	20.96	0.00	41.34	-20.81	185.42
109	109	20.96	0.00	39.42	-20.08	185.71
109	110	23.58	0.00	53.17	-26.83	64.42
110	110	23.58	0.00	51.59	-25.03	65.02
110	111	26.20	0.00	65.35	-31.79	-88.17
111	111	26.20	0.00	64.36	-27.19	-87.05
111	112	29.55	0.00	81.95	-35.83	-332.10
112	112	29.55	0.00	82.66	-24.91	-330.55
112	10113	32.90	0.00	100.25	-33.55	-636.92
113	113	32.90	0.00	-104.71	-17.82	-635.90
113	114	36.03	0.00	-88.28	-25.89	-333.86
114	114	36.03	0.00	-85.40	-8.70	-333.57
114	115	39.16	0.00	-68.96	-16.78	-91.99
115	115	39.16	0.00	-66.18	0.10	-92.20
115	116	42.29	0.00	-49.75	-7.97	89.22
116	116	42.29	0.00	-47.54	7.07	88.68
116	117	45.42	0.00	-31.11	-1.00	211.77
117	117	45.42	0.00	-29.78	11.30	211.05
117	118	48.55	0.00	-13.35	3.23	278.54
118	118	48.55	0.00	-13.01	12.40	277.76
118	119	51.68	0.00	3.42	4.32	292.76
119	119	51.68	0.00	2.78	10.41	292.04
119	120	54.81	0.00	19.21	2.33	257.62
120	120	54.81	0.00	17.74	5.82	257.09
120	121	57.94	0.00	34.17	-2.26	175.84
121	121	57.94	0.00	32.18	-0.42	175.63
121	122	61.07	0.00	48.61	-8.49	49.18
122	122	61.07	0.00	46.58	-6.78	49.44
122	123	64.20	0.00	63.01	-14.85	-122.07
123	123	64.20	0.00	61.59	-10.91	-121.15
123	124	67.55	0.00	79.18	-19.56	-356.95
124	124	67.55	0.00	79.36	-10.29	-355.58
124	10125	70.90	0.00	96.95	-18.93	-650.90
125	125	70.90	0.00	-106.79	-4.96	-649.99
125	126	74.23	0.00	-89.31	-13.55	-323.47
126	126	74.23	0.00	-86.79	3.05	-323.26
126	127	77.56	0.00	-69.31	-5.54	-63.36

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLOSA

PESO PROPIO DE LOSA

[1; 1]PPLOSA

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-66.91	10.68	-63.68
127	128	80.89	0.00	-49.43	2.08	130.02
128	128	80.89	0.00	-47.71	16.15	129.35
128	129	84.22	0.00	-30.23	7.56	259.13
129	129	84.22	0.00	-29.55	18.38	258.26
129	130	87.55	0.00	-12.07	9.79	327.54
130	130	87.55	0.00	-12.58	16.83	326.61
130	131	90.88	0.00	4.90	8.24	339.40
131	131	90.88	0.00	3.16	11.46	338.54
131	132	94.21	0.00	20.65	2.87	298.90
132	132	94.21	0.00	17.84	2.73	298.25
132	133	97.54	0.00	35.33	-5.86	209.73
133	133	97.54	0.00	31.80	-8.26	209.47
133	134	100.87	0.00	49.28	-16.85	74.46
134	134	100.87	0.00	45.64	-19.63	74.81
134	135	104.20	0.00	63.12	-28.22	-106.28
135	135	104.20	0.00	60.48	-28.42	-105.17
135	136	107.55	0.00	78.07	-37.06	-337.25
136	136	107.55	0.00	77.27	-32.08	-335.75
136	10137	110.90	0.00	94.85	-40.73	-624.05
137	137	110.90	0.00	-105.17	-30.21	-622.82
137	138	113.77	0.00	-90.10	-37.61	-342.62
138	138	113.77	0.00	-88.19	-24.10	-341.88
138	139	116.64	0.00	-73.13	-31.51	-110.39
139	139	116.64	0.00	-70.78	-16.62	-110.05
139	140	119.51	0.00	-55.71	-24.02	71.47
140	140	119.51	0.00	-53.31	-8.94	71.51
140	141	122.38	0.00	-38.24	-16.35	202.88
141	141	122.38	0.00	-36.04	-1.92	202.69
141	142	125.25	0.00	-20.97	-9.33	284.51
142	142	125.25	0.00	-19.18	3.83	284.15
142	143	128.12	0.00	-4.11	-3.58	317.56
143	143	128.12	0.00	-2.86	7.86	317.07
143	144	130.99	0.00	12.21	0.46	303.65
144	144	130.99	0.00	12.81	9.84	303.07
144	145	133.86	0.00	27.88	2.44	244.67
145	145	133.86	0.00	27.74	9.49	244.02
145	146	136.73	0.00	42.81	2.08	142.79
146	146	136.73	0.00	41.85	6.56	142.09
146	147	139.60	0.00	56.92	-0.85	0.36
301	101	0.00	0.00	-0.69	-0.31	-5.55
301	2001	0.00	0.00	-0.69	-0.31	-5.03
302	102	2.62	0.00	-0.68	-0.60	-8.91
302	2002	2.62	0.00	-0.68	-0.60	-8.40
303	103	5.24	0.00	-0.03	-0.56	-6.86
303	2003	5.24	0.00	-0.03	-0.56	-6.84
304	104	7.86	0.00	0.56	-0.50	-5.00
304	2004	7.86	0.00	0.56	-0.50	-5.42

PPLOSA

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLOSA

PESO PROPIO DE LOSA

[1; 1]PPLOSA

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	1.08	-0.41	-3.36
305	2005	10.48	0.00	1.08	-0.41	-4.18
306	106	13.10	0.00	1.51	-0.30	-2.01
306	2006	13.10	0.00	1.51	-0.30	-3.15
307	107	15.72	0.00	1.82	-0.15	-1.03
307	2007	15.72	0.00	1.82	-0.15	-2.41
308	108	18.34	0.00	1.98	0.04	-0.55
308	2008	18.34	0.00	1.98	0.04	-2.04
309	109	20.96	0.00	1.92	0.29	-0.73
309	2009	20.96	0.00	1.92	0.29	-2.18
310	110	23.58	0.00	1.58	0.60	-1.80
310	2010	23.58	0.00	1.58	0.60	-3.00
311	111	26.20	0.00	0.99	1.13	-4.61
311	2011	26.20	0.00	0.99	1.13	-5.35
312	112	29.55	0.00	-0.71	1.56	-10.92
312	2012	29.55	0.00	-0.71	1.56	-10.38
313	113	32.90	0.00	-2.33	1.02	-15.73
313	2013	32.90	0.00	-2.33	1.02	-13.97
314	114	36.03	0.00	-2.89	0.29	-17.19
314	2014	36.03	0.00	-2.89	0.29	-15.01
315	115	39.16	0.00	-2.79	-0.21	-16.88
315	2015	39.16	0.00	-2.79	-0.21	-14.77
316	116	42.29	0.00	-2.20	-0.54	-15.04
316	2016	42.29	0.00	-2.20	-0.54	-13.38
317	117	45.42	0.00	-1.33	-0.72	-12.30
317	2017	45.42	0.00	-1.33	-0.72	-11.30
318	118	48.55	0.00	-0.34	-0.78	-9.17
318	2018	48.55	0.00	-0.34	-0.78	-8.92
319	119	51.68	0.00	0.64	-0.72	-6.09
319	2019	51.68	0.00	0.64	-0.72	-6.57
320	120	54.81	0.00	1.47	-0.53	-3.49
320	2020	54.81	0.00	1.47	-0.53	-4.60
321	121	57.94	0.00	1.99	-0.21	-1.84
321	2021	57.94	0.00	1.99	-0.21	-3.35
322	122	61.07	0.00	2.03	0.26	-1.72
322	2022	61.07	0.00	2.03	0.26	-3.25
323	123	64.20	0.00	1.42	0.92	-3.94
323	2023	64.20	0.00	1.42	0.92	-5.01
324	124	67.55	0.00	-0.18	1.36	-9.27
324	2024	67.55	0.00	-0.18	1.36	-9.13
325	125	70.90	0.00	-1.76	0.91	-13.98
325	2025	70.90	0.00	-1.76	0.91	-12.64
326	126	74.23	0.00	-2.52	0.21	-16.60
326	2026	74.23	0.00	-2.52	0.21	-14.69
327	127	77.56	0.00	-2.40	-0.32	-16.21
327	2027	77.56	0.00	-2.40	-0.32	-14.40
328	128	80.89	0.00	-1.71	-0.67	-14.06
328	2028	80.89	0.00	-1.71	-0.67	-12.77

PPLOSA

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLOSA

PESO PROPIO DE LOSA

[1; 1]PPLOSA

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-0.68	-0.87	-10.82
329	2029	84.22	0.00	-0.68	-0.87	-10.31
330	130	87.55	0.00	0.52	-0.94	-7.04
330	2030	87.55	0.00	0.52	-0.94	-7.44
331	131	90.88	0.00	1.74	-0.86	-3.22
331	2031	90.88	0.00	1.74	-0.86	-4.53
332	132	94.21	0.00	2.80	-0.64	0.14
332	2032	94.21	0.00	2.80	-0.64	-1.98
333	133	97.54	0.00	3.52	-0.25	2.40
333	2033	97.54	0.00	3.52	-0.25	-0.26
334	134	100.87	0.00	3.64	0.35	2.77
334	2034	100.87	0.00	3.64	0.35	0.02
335	135	104.20	0.00	2.64	1.11	0.20
335	2035	104.20	0.00	2.64	1.11	-1.80
336	136	107.55	0.00	0.81	1.50	-4.98
336	2036	107.55	0.00	0.81	1.50	-5.59
337	137	110.90	0.00	-0.95	1.23	-10.52
337	2037	110.90	0.00	-0.95	1.23	-9.80
338	138	113.77	0.00	-1.91	0.73	-13.51
338	2038	113.77	0.00	-1.91	0.73	-12.07
339	139	116.64	0.00	-2.34	0.34	-14.89
339	2039	116.64	0.00	-2.34	0.34	-13.12
340	140	119.51	0.00	-2.41	0.04	-15.08
340	2040	119.51	0.00	-2.41	0.04	-13.26
341	141	122.38	0.00	-2.20	-0.19	-14.42
341	2041	122.38	0.00	-2.20	-0.19	-12.76
342	142	125.25	0.00	-1.80	-0.36	-13.15
342	2042	125.25	0.00	-1.80	-0.36	-11.80
343	143	128.12	0.00	-1.25	-0.49	-11.44
343	2043	128.12	0.00	-1.25	-0.49	-10.49
344	144	130.99	0.00	-0.60	-0.58	-9.38
344	2044	130.99	0.00	-0.60	-0.58	-8.93
345	145	133.86	0.00	0.14	-0.65	-7.05
345	2045	133.86	0.00	0.14	-0.65	-7.16
346	146	136.73	0.00	0.96	-0.70	-4.48
346	2046	136.73	0.00	0.96	-0.70	-5.20
347	147	139.60	0.00	0.92	-0.36	-0.85
347	2047	139.60	0.00	0.92	-0.36	-1.54
201	2001	0.00	0.00	-0.69	-0.31	-5.03
201	1001	0.00	0.00	-0.69	-0.31	-1.74
202	2002	2.62	0.00	-0.68	-0.60	-8.40
202	1002	2.62	0.00	-0.68	-0.60	-5.15
203	2003	5.24	0.00	-0.03	-0.56	-6.84
203	1003	5.24	0.00	-0.03	-0.56	-6.71
204	2004	7.86	0.00	0.56	-0.50	-5.42
204	1004	7.86	0.00	0.56	-0.50	-8.13
205	2005	10.48	0.00	1.08	-0.41	-4.18
205	1005	10.48	0.00	1.08	-0.41	-9.37

PPLOSA

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLOSA

PESO PROPIO DE LOSA

[1; 1]PPLOSA

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	1.51	-0.30	-3.15
206	1006	13.10	0.00	1.51	-0.30	-10.40
207	2007	15.72	0.00	1.82	-0.15	-2.41
207	1007	15.72	0.00	1.82	-0.15	-11.14
208	2008	18.34	0.00	1.98	0.04	-2.04
208	1008	18.34	0.00	1.98	0.04	-11.51
209	2009	20.96	0.00	1.92	0.29	-2.18
209	1009	20.96	0.00	1.92	0.29	-11.37
210	2010	23.58	0.00	1.58	0.60	-3.00
210	1010	23.58	0.00	1.58	0.60	-10.56
211	2011	26.20	0.00	0.99	1.13	-5.35
211	1011	26.20	0.00	0.99	1.13	-10.09
212	2012	29.55	0.00	-0.71	1.56	-10.38
212	1012	29.55	0.00	-0.71	1.56	-6.96
213	2013	32.90	0.00	-2.33	1.02	-13.97
213	1013	32.90	0.00	-2.33	1.02	-2.80
214	2014	36.03	0.00	-2.89	0.29	-15.01
214	1014	36.03	0.00	-2.89	0.29	-1.19
215	2015	39.16	0.00	-2.79	-0.21	-14.77
215	1015	39.16	0.00	-2.79	-0.21	-1.43
216	2016	42.29	0.00	-2.20	-0.54	-13.38
216	1016	42.29	0.00	-2.20	-0.54	-2.83
217	2017	45.42	0.00	-1.33	-0.72	-11.30
217	1017	45.42	0.00	-1.33	-0.72	-4.92
218	2018	48.55	0.00	-0.34	-0.78	-8.92
218	1018	48.55	0.00	-0.34	-0.78	-7.31
219	2019	51.68	0.00	0.64	-0.72	-6.57
219	1019	51.68	0.00	0.64	-0.72	-9.65
220	2020	54.81	0.00	1.47	-0.53	-4.60
220	1020	54.81	0.00	1.47	-0.53	-11.64
221	2021	57.94	0.00	1.99	-0.21	-3.35
221	1021	57.94	0.00	1.99	-0.21	-12.89
222	2022	61.07	0.00	2.03	0.26	-3.25
222	1022	61.07	0.00	2.03	0.26	-12.99
223	2023	64.20	0.00	1.42	0.92	-5.01
223	1023	64.20	0.00	1.42	0.92	-11.81
224	2024	67.55	0.00	-0.18	1.36	-9.13
224	1024	67.55	0.00	-0.18	1.36	-8.27
225	2025	70.90	0.00	-1.76	0.91	-12.64
225	1025	70.90	0.00	-1.76	0.91	-4.20
226	2026	74.23	0.00	-2.52	0.21	-14.69
226	1026	74.23	0.00	-2.52	0.21	-2.62
227	2027	77.56	0.00	-2.40	-0.32	-14.40
227	1027	77.56	0.00	-2.40	-0.32	-2.92
228	2028	80.89	0.00	-1.71	-0.67	-12.77
228	1028	80.89	0.00	-1.71	-0.67	-4.56
229	2029	84.22	0.00	-0.68	-0.87	-10.31
229	1029	84.22	0.00	-0.68	-0.87	-7.04

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PPLOSA

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLOSA

PESO PROPIO DE LOSA

[1; 1]PPLOSA

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.52	-0.94	-7.44
230	1030	87.55	0.00	0.52	-0.94	-9.92
231	2031	90.88	0.00	1.74	-0.86	-4.53
231	1031	90.88	0.00	1.74	-0.86	-12.84
232	2032	94.21	0.00	2.80	-0.64	-1.98
232	1032	94.21	0.00	2.80	-0.64	-15.40
233	2033	97.54	0.00	3.52	-0.25	-0.26
233	1033	97.54	0.00	3.52	-0.25	-17.13
234	2034	100.87	0.00	3.64	0.35	0.02
234	1034	100.87	0.00	3.64	0.35	-17.43
235	2035	104.20	0.00	2.64	1.11	-1.80
235	1035	104.20	0.00	2.64	1.11	-14.43
236	2036	107.55	0.00	0.81	1.50	-5.59
236	1036	107.55	0.00	0.81	1.50	-9.45
237	2037	110.90	0.00	-0.95	1.23	-9.80
237	1037	110.90	0.00	-0.95	1.23	-5.23
238	2038	113.77	0.00	-1.91	0.73	-12.07
238	1038	113.77	0.00	-1.91	0.73	-2.95
239	2039	116.64	0.00	-2.34	0.34	-13.12
239	1039	116.64	0.00	-2.34	0.34	-1.89
240	2040	119.51	0.00	-2.41	0.04	-13.26
240	1040	119.51	0.00	-2.41	0.04	-1.74
241	2041	122.38	0.00	-2.20	-0.19	-12.76
241	1041	122.38	0.00	-2.20	-0.19	-2.23
242	2042	125.25	0.00	-1.80	-0.36	-11.80
242	1042	125.25	0.00	-1.80	-0.36	-3.20
243	2043	128.12	0.00	-1.25	-0.49	-10.49
243	1043	128.12	0.00	-1.25	-0.49	-4.49
244	2044	130.99	0.00	-0.60	-0.58	-8.93
244	1044	130.99	0.00	-0.60	-0.58	-6.05
245	2045	133.86	0.00	0.14	-0.65	-7.16
245	1045	133.86	0.00	0.14	-0.65	-7.83
246	2046	136.73	0.00	0.96	-0.70	-5.20
246	1046	136.73	0.00	0.96	-0.70	-9.78
247	2047	139.60	0.00	0.92	-0.36	-1.54
247	1047	139.60	0.00	0.92	-0.36	-5.95
401	1001	0.00	0.00	-0.69	-0.31	-1.74
401	1	0.00	0.00	-0.69	-0.31	-1.22
402	1002	2.62	0.00	-0.68	-0.60	-5.15
402	2	2.62	0.00	-0.68	-0.60	-4.64
403	1003	5.24	0.00	-0.03	-0.56	-6.71
403	3	5.24	0.00	-0.03	-0.56	-6.69
404	1004	7.86	0.00	0.56	-0.50	-8.13
404	4	7.86	0.00	0.56	-0.50	-8.55
405	1005	10.48	0.00	1.08	-0.41	-9.37
405	5	10.48	0.00	1.08	-0.41	-10.19
406	1006	13.10	0.00	1.51	-0.30	-10.40
406	6	13.10	0.00	1.51	-0.30	-11.54

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLOSA

PESO PROPIO DE LOSA

[1; 1]PPLOSA

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	1.82	-0.15	-11.14
407	7	15.72	0.00	1.82	-0.15	-12.52
408	1008	18.34	0.00	1.98	0.04	-11.51
408	8	18.34	0.00	1.98	0.04	-13.00
409	1009	20.96	0.00	1.92	0.29	-11.37
409	9	20.96	0.00	1.92	0.29	-12.82
410	1010	23.58	0.00	1.58	0.60	-10.56
410	10	23.58	0.00	1.58	0.60	-11.75
411	1011	26.20	0.00	0.99	1.13	-10.09
411	11	26.20	0.00	0.99	1.13	-10.84
412	1012	29.55	0.00	-0.71	1.56	-6.96
412	12	29.55	0.00	-0.71	1.56	-6.42
413	1013	32.90	0.00	-2.33	1.02	-2.80
413	13	32.90	0.00	-2.33	1.02	-1.04
414	1014	36.03	0.00	-2.89	0.29	-1.19
414	14	36.03	0.00	-2.89	0.29	0.99
415	1015	39.16	0.00	-2.79	-0.21	-1.43
415	15	39.16	0.00	-2.79	-0.21	0.67
416	1016	42.29	0.00	-2.20	-0.54	-2.83
416	16	42.29	0.00	-2.20	-0.54	-1.17
417	1017	45.42	0.00	-1.33	-0.72	-4.92
417	17	45.42	0.00	-1.33	-0.72	-3.91
418	1018	48.55	0.00	-0.34	-0.78	-7.31
418	18	48.55	0.00	-0.34	-0.78	-7.05
419	1019	51.68	0.00	0.64	-0.72	-9.65
419	19	51.68	0.00	0.64	-0.72	-10.14
420	1020	54.81	0.00	1.47	-0.53	-11.64
420	20	54.81	0.00	1.47	-0.53	-12.75
421	1021	57.94	0.00	1.99	-0.21	-12.89
421	21	57.94	0.00	1.99	-0.21	-14.40
422	1022	61.07	0.00	2.03	0.26	-12.99
422	22	61.07	0.00	2.03	0.26	-14.53
423	1023	64.20	0.00	1.42	0.92	-11.81
423	23	64.20	0.00	1.42	0.92	-12.89
424	1024	67.55	0.00	-0.18	1.36	-8.27
424	24	67.55	0.00	-0.18	1.36	-8.14
425	1025	70.90	0.00	-1.76	0.91	-4.20
425	25	70.90	0.00	-1.76	0.91	-2.86
426	1026	74.23	0.00	-2.52	0.21	-2.62
426	26	74.23	0.00	-2.52	0.21	-0.71
427	1027	77.56	0.00	-2.40	-0.32	-2.92
427	27	77.56	0.00	-2.40	-0.32	-1.11
428	1028	80.89	0.00	-1.71	-0.67	-4.56
428	28	80.89	0.00	-1.71	-0.67	-3.27
429	1029	84.22	0.00	-0.68	-0.87	-7.04
429	29	84.22	0.00	-0.68	-0.87	-6.52
430	1030	87.55	0.00	0.52	-0.94	-9.92
430	30	87.55	0.00	0.52	-0.94	-10.31

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20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PPLOSA

PESO PROPIO DE LOSA

[1; 1]PPLOSA

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	1.74	-0.86	-12.84
431	31	90.88	0.00	1.74	-0.86	-14.15
432	1032	94.21	0.00	2.80	-0.64	-15.40
432	32	94.21	0.00	2.80	-0.64	-17.52
433	1033	97.54	0.00	3.52	-0.25	-17.13
433	33	97.54	0.00	3.52	-0.25	-19.80
434	1034	100.87	0.00	3.64	0.35	-17.43
434	34	100.87	0.00	3.64	0.35	-20.19
435	1035	104.20	0.00	2.64	1.11	-14.43
435	35	104.20	0.00	2.64	1.11	-16.42
436	1036	107.55	0.00	0.81	1.50	-9.45
436	36	107.55	0.00	0.81	1.50	-10.06
437	1037	110.90	0.00	-0.95	1.23	-5.23
437	37	110.90	0.00	-0.95	1.23	-4.51
438	1038	113.77	0.00	-1.90	0.73	-2.95
438	38	113.77	0.00	-1.90	0.73	-1.51
439	1039	116.64	0.00	-2.34	0.34	-1.89
439	39	116.64	0.00	-2.34	0.34	-0.12
440	1040	119.51	0.00	-2.41	0.04	-1.74
440	40	119.51	0.00	-2.41	0.04	0.08
441	1041	122.38	0.00	-2.20	-0.19	-2.23
441	41	122.38	0.00	-2.20	-0.19	-0.57
442	1042	125.25	0.00	-1.80	-0.36	-3.20
442	42	125.25	0.00	-1.80	-0.36	-1.84
443	1043	128.12	0.00	-1.25	-0.49	-4.49
443	43	128.12	0.00	-1.25	-0.49	-3.55
444	1044	130.99	0.00	-0.60	-0.58	-6.05
444	44	130.99	0.00	-0.60	-0.58	-5.60
445	1045	133.86	0.00	0.14	-0.65	-7.83
445	45	133.86	0.00	0.14	-0.65	-7.93
446	1046	136.73	0.00	0.96	-0.70	-9.78
446	46	136.73	0.00	0.96	-0.70	-10.51
447	1047	139.60	0.00	0.92	-0.36	-5.95
447	47	139.60	0.00	0.92	-0.36	-6.64

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-6.77	5.78	1.13
1	2	2.62	0.00	-8.61	9.97	21.29
2	2	2.62	0.00	-8.02	13.49	23.42
2	3	5.24	0.00	-9.85	17.68	46.83
3	3	5.24	0.00	-7.04	14.20	48.64
3	4	7.86	0.00	-8.87	18.39	69.48
4	4	7.86	0.00	-4.30	9.38	70.84
4	5	10.48	0.00	-6.14	13.58	84.51
5	5	10.48	0.00	-0.37	0.78	85.34
5	6	13.10	0.00	-2.20	4.97	88.70
6	6	13.10	0.00	4.19	-9.76	88.95
6	7	15.72	0.00	2.35	-5.57	80.39
7	7	15.72	0.00	8.77	-20.40	80.09
7	8	18.34	0.00	6.94	-16.21	59.51
8	8	18.34	0.00	12.85	-29.44	58.71
8	9	20.96	0.00	11.01	-25.25	27.46
9	9	20.96	0.00	15.95	-35.40	26.26
9	10	23.58	0.00	14.11	-31.21	-13.12
10	10	23.58	0.00	17.72	-37.18	-14.57
10	10011	26.20	0.00	15.88	-32.98	-58.59
11	11	26.20	0.00	1.76	-34.37	-60.32
11	12	29.55	0.00	-0.59	-29.01	-62.29
12	12	29.55	0.00	-0.21	-23.31	-63.81
12	13	32.90	0.00	-2.56	-17.95	-59.17
13	13	32.90	0.00	-3.37	-8.72	-59.45
13	14	36.03	0.00	-5.56	-3.71	-45.48
14	14	36.03	0.00	-5.78	3.42	-44.62
14	15	39.16	0.00	-7.97	8.43	-23.10
15	15	39.16	0.00	-6.62	10.62	-21.72
15	16	42.29	0.00	-8.81	15.62	2.43
16	16	42.29	0.00	-5.59	11.91	3.86
16	17	45.42	0.00	-7.78	16.92	24.79
17	17	45.42	0.00	-2.87	7.90	25.93
17	18	48.55	0.00	-5.06	12.90	38.35
18	18	48.55	0.00	1.02	0.19	39.00
18	19	51.68	0.00	-1.17	5.20	39.24
19	19	51.68	0.00	5.38	-8.98	39.28
19	20	54.81	0.00	3.19	-3.97	25.88
20	20	54.81	0.00	9.43	-17.18	25.30
20	21	57.94	0.00	7.24	-12.17	-0.78
21	21	57.94	0.00	12.43	-22.08	-1.90
21	22	61.07	0.00	10.24	-17.07	-37.37
22	22	61.07	0.00	13.79	-21.80	-38.86
22	10023	64.20	0.00	11.60	-16.80	-78.59
23	23	64.20	0.00	-1.51	-15.32	-80.19
23	24	67.55	0.00	-3.86	-9.96	-71.19
24	24	67.55	0.00	-4.20	-1.97	-72.37
24	25	70.90	0.00	-6.55	3.39	-54.36

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DEREXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-7.78	13.97	-54.28
25	26	74.23	0.00	-10.11	19.30	-24.48
26	26	74.23	0.00	-10.39	27.05	-23.11
26	27	77.56	0.00	-12.72	32.38	15.37
27	27	77.56	0.00	-10.82	33.28	17.29
27	28	80.89	0.00	-13.15	38.61	57.21
28	28	80.89	0.00	-8.76	31.65	59.14
28	29	84.22	0.00	-11.09	36.97	92.18
29	29	84.22	0.00	-4.46	23.00	93.74
29	30	87.55	0.00	-6.79	28.32	112.49
30	30	87.55	0.00	1.42	9.36	113.43
30	31	90.88	0.00	-0.92	14.69	112.60
31	31	90.88	0.00	8.02	-6.56	112.80
31	32	94.21	0.00	5.69	-1.23	89.98
32	32	94.21	0.00	14.42	-21.82	89.42
32	33	97.54	0.00	12.08	-16.49	45.30
33	33	97.54	0.00	19.70	-33.56	44.06
33	34	100.87	0.00	17.37	-28.23	-17.65
34	34	100.87	0.00	23.12	-39.44	-19.38
34	10035	104.20	0.00	20.79	-34.11	-92.50
35	35	104.20	0.00	-0.74	-37.80	-94.27
35	36	107.55	0.00	-3.08	-32.44	-87.87
36	36	107.55	0.00	-2.04	-29.76	-89.21
36	37	110.90	0.00	-4.38	-24.40	-78.45
37	37	110.90	0.00	-4.43	-18.29	-78.82
37	38	113.77	0.00	-6.44	-13.70	-63.22
38	38	113.77	0.00	-6.18	-8.53	-62.69
38	39	116.64	0.00	-8.19	-3.94	-42.06
39	39	116.64	0.00	-6.89	-2.09	-41.11
39	40	119.51	0.00	-8.90	2.51	-18.46
40	40	119.51	0.00	-6.30	0.28	-17.44
40	41	122.38	0.00	-8.31	4.87	3.52
41	41	122.38	0.00	-4.54	-1.05	4.32
41	42	125.25	0.00	-6.55	3.55	20.23
42	42	125.25	0.00	-1.99	-4.84	20.64
42	43	128.12	0.00	-4.00	-0.25	29.24
43	43	128.12	0.00	0.79	-9.37	29.15
43	44	130.99	0.00	-1.22	-4.78	29.78
44	44	130.99	0.00	3.17	-12.66	29.16
44	45	133.86	0.00	1.16	-8.07	22.95
45	45	133.86	0.00	4.52	-12.72	21.85
45	46	136.73	0.00	2.52	-8.13	11.74
46	46	136.73	0.00	4.31	-7.82	10.28
46	47	139.60	0.00	2.30	-3.23	0.80
101	101	0.00	0.00	-117.51	0.39	-1.13
101	102	2.62	0.00	-89.48	15.33	270.02
102	102	2.62	0.00	-90.07	8.08	267.88
102	103	5.24	0.00	-62.03	23.01	467.13

DEREXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-64.85	8.76	465.32
103	104	7.86	0.00	-36.81	23.70	598.50
104	104	7.86	0.00	-41.38	3.92	597.14
104	105	10.48	0.00	-13.35	18.86	668.84
105	105	10.48	0.00	-19.12	-4.70	668.01
105	106	13.10	0.00	8.92	10.23	681.38
106	106	13.10	0.00	2.53	-15.27	681.12
106	107	15.72	0.00	30.56	-0.34	637.77
107	107	15.72	0.00	24.14	-25.94	638.07
107	108	18.34	0.00	52.18	-11.01	538.09
108	108	18.34	0.00	46.27	-35.01	538.88
108	109	20.96	0.00	74.30	-20.07	380.93
109	109	20.96	0.00	69.37	-40.99	382.13
109	110	23.58	0.00	97.40	-26.06	163.66
110	110	23.58	0.00	93.80	-42.80	165.11
110	111	26.20	0.00	121.83	-27.87	-117.36
111	111	26.20	0.00	119.45	-41.52	-115.63
111	112	29.55	0.00	155.29	-22.43	-575.81
112	112	29.55	0.00	154.91	-30.50	-574.29
112	10113	32.90	0.00	190.76	-11.41	-1153.00
113	113	32.90	0.00	-183.80	-15.51	-1153.02
113	114	36.03	0.00	-150.31	2.33	-630.13
114	114	36.03	0.00	-150.09	-3.41	-630.99
114	115	39.16	0.00	-116.60	14.43	-213.61
115	115	39.16	0.00	-117.95	3.74	-214.99
115	116	42.29	0.00	-84.46	21.58	101.78
116	116	42.29	0.00	-87.68	4.98	100.35
116	117	45.42	0.00	-54.19	22.82	322.38
117	117	45.42	0.00	-59.10	0.92	321.23
117	118	48.55	0.00	-25.61	18.76	453.80
118	118	48.55	0.00	-31.69	-6.84	453.15
118	119	51.68	0.00	1.80	11.00	499.93
119	119	51.68	0.00	-4.75	-16.07	499.89
119	120	54.81	0.00	28.74	1.77	462.33
120	120	54.81	0.00	22.50	-24.34	462.92
120	121	57.94	0.00	55.99	-6.50	340.07
121	121	57.94	0.00	50.80	-29.31	341.19
121	122	61.07	0.00	84.29	-11.46	129.77
122	122	61.07	0.00	80.74	-29.11	131.26
122	123	64.20	0.00	114.23	-11.27	-173.87
123	123	64.20	0.00	112.58	-23.16	-172.27
123	124	67.55	0.00	148.42	-4.06	-609.44
124	124	67.55	0.00	148.77	-9.90	-608.26
124	10125	70.90	0.00	184.61	9.20	-1167.00
125	125	70.90	0.00	-189.19	6.40	-1166.75
125	126	74.23	0.00	-153.56	25.38	-596.08
126	126	74.23	0.00	-153.28	19.37	-597.45
126	127	77.56	0.00	-117.65	38.35	-146.35

DEREXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-119.55	25.48	-148.27
127	128	80.89	0.00	-83.92	44.47	190.50
128	128	80.89	0.00	-88.31	23.73	188.57
128	129	84.22	0.00	-52.68	42.71	423.33
129	129	84.22	0.00	-59.31	14.95	421.77
129	130	87.55	0.00	-23.68	33.93	559.94
130	130	87.55	0.00	-31.89	1.18	558.99
130	131	90.88	0.00	3.74	20.16	605.85
131	131	90.88	0.00	-5.19	-14.89	605.65
131	132	94.21	0.00	30.44	4.09	563.61
132	132	94.21	0.00	21.71	-30.30	564.17
132	133	97.54	0.00	57.35	-11.31	432.53
133	133	97.54	0.00	49.73	-42.21	433.77
133	134	100.87	0.00	85.36	-23.23	208.84
134	134	100.87	0.00	79.61	-48.27	210.57
134	135	104.20	0.00	115.24	-29.29	-113.85
135	135	104.20	0.00	112.02	-45.88	-112.07
135	136	107.55	0.00	147.87	-26.78	-547.38
136	136	107.55	0.00	146.82	-36.04	-546.05
136	10137	110.90	0.00	182.67	-16.95	-1098.00
137	137	110.90	0.00	-180.06	-22.78	-1097.57
137	138	113.77	0.00	-149.35	-6.42	-624.86
138	138	113.77	0.00	-149.61	-13.19	-625.39
138	139	116.64	0.00	-118.90	3.17	-240.09
139	139	116.64	0.00	-120.20	-6.90	-241.05
139	140	119.51	0.00	-89.49	9.46	59.86
140	140	119.51	0.00	-92.09	-4.69	58.84
140	141	122.38	0.00	-61.38	11.67	279.08
141	141	122.38	0.00	-65.15	-6.16	278.27
141	142	125.25	0.00	-34.44	10.20	421.19
142	142	125.25	0.00	-39.00	-10.10	420.78
142	143	128.12	0.00	-8.29	6.26	488.63
143	143	128.12	0.00	-13.07	-14.78	488.72
143	144	130.99	0.00	17.63	1.58	482.18
144	144	130.99	0.00	13.24	-18.21	482.80
144	145	133.86	0.00	43.95	-1.85	400.72
145	145	133.86	0.00	40.59	-18.40	401.83
145	146	136.73	0.00	71.29	-2.04	241.28
146	146	136.73	0.00	69.50	-13.63	242.74
146	147	139.60	0.00	100.21	2.73	-0.80
301	101	0.00	0.00	-0.98	-1.13	-0.39
301	2001	0.00	0.00	-0.98	-1.13	0.35
302	102	2.62	0.00	0.59	-2.14	7.25
302	2002	2.62	0.00	0.59	-2.14	6.80
303	103	5.24	0.00	2.81	-1.81	14.25
303	2003	5.24	0.00	2.81	-1.81	12.12
304	104	7.86	0.00	4.57	-1.36	19.77
304	2004	7.86	0.00	4.57	-1.36	16.32

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	5.77	-0.82	23.56
305	2005	10.48	0.00	5.77	-0.82	19.20
306	106	13.10	0.00	6.39	-0.26	25.50
306	2006	13.10	0.00	6.39	-0.26	20.67
307	107	15.72	0.00	6.42	0.30	25.61
307	2007	15.72	0.00	6.42	0.30	20.75
308	108	18.34	0.00	5.91	0.79	24.00
308	2008	18.34	0.00	5.91	0.79	19.53
309	109	20.96	0.00	4.93	1.20	20.92
309	2009	20.96	0.00	4.93	1.20	17.19
310	110	23.58	0.00	3.60	1.46	16.74
310	2010	23.58	0.00	3.60	1.46	14.02
311	111	26.20	0.00	2.39	1.74	13.66
311	2011	26.20	0.00	2.39	1.74	11.85
312	112	29.55	0.00	0.38	1.52	8.07
312	2012	29.55	0.00	0.38	1.52	7.79
313	113	32.90	0.00	-0.81	0.28	4.10
313	2013	32.90	0.00	-0.81	0.28	4.72
314	114	36.03	0.00	-0.22	-0.86	5.74
314	2014	36.03	0.00	-0.22	-0.86	5.91
315	115	39.16	0.00	1.35	-1.38	10.69
315	2015	39.16	0.00	1.35	-1.38	9.67
316	116	42.29	0.00	3.22	-1.43	16.60
316	2016	42.29	0.00	3.22	-1.43	14.16
317	117	45.42	0.00	4.91	-1.15	21.91
317	2017	45.42	0.00	4.91	-1.15	18.20
318	118	48.55	0.00	6.08	-0.65	25.60
318	2018	48.55	0.00	6.08	-0.65	21.00
319	119	51.68	0.00	6.55	-0.04	27.07
319	2019	51.68	0.00	6.55	-0.04	22.12
320	120	54.81	0.00	6.24	0.58	26.11
320	2020	54.81	0.00	6.24	0.58	21.39
321	121	57.94	0.00	5.19	1.12	22.81
321	2021	57.94	0.00	5.19	1.12	18.88
322	122	61.07	0.00	3.55	1.48	17.64
322	2022	61.07	0.00	3.55	1.48	14.96
323	123	64.20	0.00	1.65	1.60	11.89
323	2023	64.20	0.00	1.65	1.60	10.64
324	124	67.55	0.00	-0.34	1.18	5.83
324	2024	67.55	0.00	-0.34	1.18	6.09
325	125	70.90	0.00	-1.24	-0.09	2.80
325	2025	70.90	0.00	-1.24	-0.09	3.73
326	126	74.23	0.00	-0.28	-1.37	6.01
326	2026	74.23	0.00	-0.28	-1.37	6.22
327	127	77.56	0.00	1.90	-1.92	12.87
327	2027	77.56	0.00	1.90	-1.92	11.43
328	128	80.89	0.00	4.40	-1.93	20.73
328	2028	80.89	0.00	4.40	-1.93	17.41

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DEREXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	6.62	-1.56	27.76
329	2029	84.22	0.00	6.62	-1.56	22.75
330	130	87.55	0.00	8.21	-0.94	32.75
330	2030	87.55	0.00	8.21	-0.94	26.55
331	131	90.88	0.00	8.94	-0.20	35.05
331	2031	90.88	0.00	8.94	-0.20	28.29
332	132	94.21	0.00	8.73	0.56	34.39
332	2032	94.21	0.00	8.73	0.56	27.79
333	133	97.54	0.00	7.61	1.24	30.89
333	2033	97.54	0.00	7.61	1.24	25.14
334	134	100.87	0.00	5.76	1.73	25.05
334	2034	100.87	0.00	5.76	1.73	20.70
335	135	104.20	0.00	3.22	1.78	16.58
335	2035	104.20	0.00	3.22	1.78	14.15
336	136	107.55	0.00	1.05	1.34	9.26
336	2036	107.55	0.00	1.05	1.34	8.47
337	137	110.90	0.00	-0.05	0.37	5.83
337	2037	110.90	0.00	-0.05	0.37	5.86
338	138	113.77	0.00	0.25	-0.53	6.77
338	2038	113.77	0.00	0.25	-0.53	6.58
339	139	116.64	0.00	1.30	-0.96	10.07
339	2039	116.64	0.00	1.30	-0.96	9.09
340	140	119.51	0.00	2.60	-1.02	14.15
340	2040	119.51	0.00	2.60	-1.02	12.18
341	141	122.38	0.00	3.77	-0.81	17.83
341	2041	122.38	0.00	3.77	-0.81	14.98
342	142	125.25	0.00	4.55	-0.41	20.30
342	2042	125.25	0.00	4.55	-0.41	16.86
343	143	128.12	0.00	4.79	0.09	21.03
343	2043	128.12	0.00	4.79	0.09	17.41
344	144	130.99	0.00	4.39	0.62	19.79
344	2044	130.99	0.00	4.39	0.62	16.47
345	145	133.86	0.00	3.37	1.11	16.55
345	2045	133.86	0.00	3.37	1.11	14.01
346	146	136.73	0.00	1.79	1.46	11.59
346	2046	136.73	0.00	1.79	1.46	10.24
347	147	139.60	0.00	-0.08	0.80	2.73
347	2047	139.60	0.00	-0.08	0.80	2.79
201	2001	0.00	0.00	-0.98	-1.13	0.35
201	1001	0.00	0.00	-0.98	-1.13	5.04
202	2002	2.62	0.00	0.59	-2.14	6.80
202	1002	2.62	0.00	0.59	-2.14	3.97
203	2003	5.24	0.00	2.81	-1.81	12.12
203	1003	5.24	0.00	2.81	-1.81	-1.35
204	2004	7.86	0.00	4.57	-1.36	16.32
204	1004	7.86	0.00	4.57	-1.36	-5.55
205	2005	10.48	0.00	5.77	-0.82	19.20
205	1005	10.48	0.00	5.77	-0.82	-8.43

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	6.39	-0.26	20.67
206	1006	13.10	0.00	6.39	-0.26	-9.91
207	2007	15.72	0.00	6.42	0.30	20.75
207	1007	15.72	0.00	6.42	0.30	-9.98
208	2008	18.34	0.00	5.91	0.79	19.53
208	1008	18.34	0.00	5.91	0.79	-8.76
209	2009	20.96	0.00	4.93	1.20	17.19
209	1009	20.96	0.00	4.93	1.20	-6.42
210	2010	23.58	0.00	3.60	1.46	14.02
210	1010	23.58	0.00	3.60	1.46	-3.24
211	2011	26.20	0.00	2.39	1.74	11.85
211	1011	26.20	0.00	2.39	1.74	0.42
212	2012	29.55	0.00	0.38	1.52	7.79
212	1012	29.55	0.00	0.38	1.52	5.99
213	2013	32.90	0.00	-0.81	0.28	4.72
213	1013	32.90	0.00	-0.81	0.28	8.61
214	2014	36.03	0.00	-0.22	-0.86	5.91
214	1014	36.03	0.00	-0.22	-0.86	6.97
215	2015	39.16	0.00	1.35	-1.38	9.67
215	1015	39.16	0.00	1.35	-1.38	3.21
216	2016	42.29	0.00	3.22	-1.43	14.16
216	1016	42.29	0.00	3.22	-1.43	-1.28
217	2017	45.42	0.00	4.91	-1.15	18.20
217	1017	45.42	0.00	4.91	-1.15	-5.31
218	2018	48.55	0.00	6.08	-0.65	21.00
218	1018	48.55	0.00	6.08	-0.65	-8.11
219	2019	51.68	0.00	6.55	-0.04	22.12
219	1019	51.68	0.00	6.55	-0.04	-9.23
220	2020	54.81	0.00	6.24	0.58	21.39
220	1020	54.81	0.00	6.24	0.58	-8.49
221	2021	57.94	0.00	5.19	1.12	18.88
221	1021	57.94	0.00	5.19	1.12	-5.98
222	2022	61.07	0.00	3.55	1.48	14.96
222	1022	61.07	0.00	3.55	1.48	-2.05
223	2023	64.20	0.00	1.65	1.60	10.64
223	1023	64.20	0.00	1.65	1.60	2.72
224	2024	67.55	0.00	-0.34	1.18	6.09
224	1024	67.55	0.00	-0.34	1.18	7.74
225	2025	70.90	0.00	-1.23	-0.09	3.73
225	1025	70.90	0.00	-1.23	-0.09	9.65
226	2026	74.23	0.00	-0.28	-1.37	6.22
226	1026	74.23	0.00	-0.28	-1.37	7.54
227	2027	77.56	0.00	1.90	-1.92	11.43
227	1027	77.56	0.00	1.90	-1.92	2.34
228	2028	80.89	0.00	4.40	-1.93	17.41
228	1028	80.89	0.00	4.40	-1.93	-3.64
229	2029	84.22	0.00	6.62	-1.56	22.75
229	1029	84.22	0.00	6.62	-1.56	-8.97

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DEREXT
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	8.21	-0.94	26.55
230	1030	87.55	0.00	8.21	-0.94	-12.76
231	2031	90.88	0.00	8.94	-0.20	28.29
231	1031	90.88	0.00	8.94	-0.20	-14.49
232	2032	94.21	0.00	8.73	0.56	27.79
232	1032	94.21	0.00	8.73	0.56	-13.98
233	2033	97.54	0.00	7.61	1.24	25.14
233	1033	97.54	0.00	7.61	1.24	-11.31
234	2034	100.87	0.00	5.76	1.73	20.70
234	1034	100.87	0.00	5.76	1.73	-6.86
235	2035	104.20	0.00	3.22	1.78	14.15
235	1035	104.20	0.00	3.22	1.78	-1.26
236	2036	107.55	0.00	1.05	1.34	8.47
236	1036	107.55	0.00	1.05	1.34	3.47
237	2037	110.90	0.00	-0.05	0.37	5.86
237	1037	110.90	0.00	-0.05	0.37	6.08
238	2038	113.77	0.00	0.25	-0.53	6.58
238	1038	113.77	0.00	0.25	-0.53	5.36
239	2039	116.64	0.00	1.30	-0.96	9.09
239	1039	116.64	0.00	1.30	-0.96	2.84
240	2040	119.51	0.00	2.60	-1.02	12.18
240	1040	119.51	0.00	2.60	-1.02	-0.26
241	2041	122.38	0.00	3.77	-0.81	14.98
241	1041	122.38	0.00	3.77	-0.81	-3.07
242	2042	125.25	0.00	4.55	-0.41	16.86
242	1042	125.25	0.00	4.55	-0.41	-4.94
243	2043	128.12	0.00	4.79	0.09	17.41
243	1043	128.12	0.00	4.79	0.09	-5.51
244	2044	130.99	0.00	4.39	0.62	16.47
244	1044	130.99	0.00	4.39	0.62	-4.56
245	2045	133.86	0.00	3.37	1.11	14.01
245	1045	133.86	0.00	3.37	1.11	-2.11
246	2046	136.73	0.00	1.79	1.46	10.24
246	1046	136.73	0.00	1.79	1.46	1.66
247	2047	139.60	0.00	-0.08	0.80	2.79
247	1047	139.60	0.00	-0.08	0.80	3.17
401	1001	0.00	0.00	-0.98	-1.13	5.04
401	1	0.00	0.00	-0.98	-1.13	5.78
402	1002	2.62	0.00	0.59	-2.14	3.97
402	2	2.62	0.00	0.59	-2.14	3.52
403	1003	5.24	0.00	2.81	-1.81	-1.35
403	3	5.24	0.00	2.81	-1.81	-3.48
404	1004	7.86	0.00	4.57	-1.36	-5.55
404	4	7.86	0.00	4.57	-1.36	-9.01
405	1005	10.48	0.00	5.77	-0.82	-8.43
405	5	10.48	0.00	5.77	-0.82	-12.79
406	1006	13.10	0.00	6.39	-0.26	-9.91
406	6	13.10	0.00	6.39	-0.26	-14.73

DEREXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	6.42	0.30	-9.98
407	7	15.72	0.00	6.42	0.30	-14.84
408	1008	18.34	0.00	5.91	0.79	-8.76
408	8	18.34	0.00	5.91	0.79	-13.23
409	1009	20.96	0.00	4.93	1.20	-6.42
409	9	20.96	0.00	4.93	1.20	-10.15
410	1010	23.58	0.00	3.60	1.46	-3.24
410	10	23.58	0.00	3.60	1.46	-5.97
411	1011	26.20	0.00	2.39	1.74	0.42
411	11	26.20	0.00	2.39	1.74	-1.38
412	1012	29.55	0.00	0.38	1.52	5.99
412	12	29.55	0.00	0.38	1.52	5.70
413	1013	32.90	0.00	-0.81	0.28	8.61
413	13	32.90	0.00	-0.81	0.28	9.22
414	1014	36.03	0.00	-0.22	-0.86	6.97
414	14	36.03	0.00	-0.22	-0.86	7.13
415	1015	39.16	0.00	1.35	-1.38	3.21
415	15	39.16	0.00	1.35	-1.38	2.19
416	1016	42.29	0.00	3.22	-1.43	-1.28
416	16	42.29	0.00	3.22	-1.43	-3.71
417	1017	45.42	0.00	4.91	-1.15	-5.31
417	17	45.42	0.00	4.91	-1.15	-9.02
418	1018	48.55	0.00	6.08	-0.65	-8.11
418	18	48.55	0.00	6.08	-0.65	-12.71
419	1019	51.68	0.00	6.55	-0.04	-9.23
419	19	51.68	0.00	6.55	-0.04	-14.18
420	1020	54.81	0.00	6.24	0.58	-8.49
420	20	54.81	0.00	6.24	0.58	-13.21
421	1021	57.94	0.00	5.19	1.12	-5.98
421	21	57.94	0.00	5.19	1.12	-9.91
422	1022	61.07	0.00	3.55	1.48	-2.05
422	22	61.07	0.00	3.55	1.48	-4.73
423	1023	64.20	0.00	1.65	1.60	2.72
423	23	64.20	0.00	1.65	1.60	1.47
424	1024	67.55	0.00	-0.34	1.18	7.74
424	24	67.55	0.00	-0.34	1.18	7.99
425	1025	70.90	0.00	-1.23	-0.09	9.65
425	25	70.90	0.00	-1.23	-0.09	10.58
426	1026	74.23	0.00	-0.28	-1.37	7.54
426	26	74.23	0.00	-0.28	-1.37	7.75
427	1027	77.56	0.00	1.90	-1.92	2.34
427	27	77.56	0.00	1.90	-1.92	0.90
428	1028	80.89	0.00	4.40	-1.93	-3.64
428	28	80.89	0.00	4.40	-1.93	-6.96
429	1029	84.22	0.00	6.62	-1.56	-8.97
429	29	84.22	0.00	6.62	-1.56	-13.98
430	1030	87.55	0.00	8.21	-0.94	-12.76
430	30	87.55	0.00	8.21	-0.94	-18.96

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DEREXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DEREXT

[1; 1]DEREXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	8.94	-0.20	-14.49
431	31	90.88	0.00	8.94	-0.20	-21.25
432	1032	94.21	0.00	8.73	0.56	-13.98
432	32	94.21	0.00	8.73	0.56	-20.58
433	1033	97.54	0.00	7.61	1.24	-11.31
433	33	97.54	0.00	7.61	1.24	-17.07
434	1034	100.87	0.00	5.76	1.73	-6.86
434	34	100.87	0.00	5.76	1.73	-11.21
435	1035	104.20	0.00	3.22	1.78	-1.26
435	35	104.20	0.00	3.22	1.78	-3.69
436	1036	107.55	0.00	1.05	1.34	3.47
436	36	107.55	0.00	1.05	1.34	2.68
437	1037	110.90	0.00	-0.05	0.37	6.08
437	37	110.90	0.00	-0.05	0.37	6.11
438	1038	113.77	0.00	0.25	-0.53	5.36
438	38	113.77	0.00	0.25	-0.53	5.17
439	1039	116.64	0.00	1.30	-0.96	2.84
439	39	116.64	0.00	1.30	-0.96	1.85
440	1040	119.51	0.00	2.60	-1.02	-0.26
440	40	119.51	0.00	2.60	-1.02	-2.23
441	1041	122.38	0.00	3.77	-0.81	-3.07
441	41	122.38	0.00	3.77	-0.81	-5.91
442	1042	125.25	0.00	4.55	-0.41	-4.94
442	42	125.25	0.00	4.55	-0.41	-8.39
443	1043	128.12	0.00	4.79	0.09	-5.51
443	43	128.12	0.00	4.79	0.09	-9.13
444	1044	130.99	0.00	4.39	0.62	-4.56
444	44	130.99	0.00	4.39	0.62	-7.88
445	1045	133.86	0.00	3.37	1.11	-2.11
445	45	133.86	0.00	3.37	1.11	-4.65
446	1046	136.73	0.00	1.79	1.46	1.66
446	46	136.73	0.00	1.79	1.46	0.31
447	1047	139.60	0.00	-0.08	0.80	3.17
447	47	139.60	0.00	-0.08	0.80	3.23

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERI

10TN/M EN NERVIO DERECHO

[1; 1]DERI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-11.60	4.20	1.03
1	2	2.62	0.00	-13.17	31.97	33.47
2	2	2.62	0.00	-10.94	33.25	35.41
2	3	5.24	0.00	-12.51	36.65	66.14
3	3	5.24	0.00	-8.34	31.85	67.79
3	4	7.86	0.00	-9.91	35.25	91.71
4	4	7.86	0.00	-4.20	25.65	92.95
4	5	10.48	0.00	-5.77	29.05	106.02
5	5	10.48	0.00	1.00	16.16	106.79
5	6	13.10	0.00	-0.58	19.57	106.23
6	6	13.10	0.00	6.74	5.01	106.50
6	7	15.72	0.00	5.16	8.42	90.91
7	7	15.72	0.00	12.50	-6.17	90.67
7	8	18.34	0.00	10.92	-2.77	59.99
8	8	18.34	0.00	17.79	-15.85	59.29
8	9	20.96	0.00	16.22	-12.44	14.73
9	9	20.96	0.00	22.19	-22.67	13.65
9	10	23.58	0.00	20.62	-19.27	-42.43
10	10	23.58	0.00	25.36	-25.60	-43.78
10	10011	26.20	0.00	23.79	-22.19	-108.17
11	11	26.20	0.00	-6.76	-24.25	-109.81
11	12	29.55	0.00	-8.77	-19.90	-83.82
12	12	29.55	0.00	-6.77	-15.08	-85.31
12	13	32.90	0.00	-8.78	-10.73	-59.27
13	13	32.90	0.00	-8.07	-2.18	-59.60
13	14	36.03	0.00	-9.95	1.89	-31.40
14	14	36.03	0.00	-8.83	8.82	-30.64
14	15	39.16	0.00	-10.71	12.89	-0.05
15	15	39.16	0.00	-8.19	15.42	1.21
15	16	42.29	0.00	-10.07	19.49	29.78
16	16	42.29	0.00	-5.82	16.63	31.12
16	17	45.42	0.00	-7.70	20.69	52.29
17	17	45.42	0.00	-1.88	12.87	53.39
17	18	48.55	0.00	-3.75	16.94	62.20
18	18	48.55	0.00	3.21	5.58	62.86
18	19	51.68	0.00	1.33	9.65	55.76
19	19	51.68	0.00	8.79	-3.28	55.86
19	20	54.81	0.00	6.91	0.79	31.28
20	20	54.81	0.00	14.17	-11.45	30.81
20	21	57.94	0.00	12.29	-7.39	-10.60
21	21	57.94	0.00	18.65	-16.78	-11.60
21	22	61.07	0.00	16.77	-12.71	-67.03
22	22	61.07	0.00	21.65	-17.43	-68.39
22	10023	64.20	0.00	19.77	-13.36	-133.22
23	23	64.20	0.00	-10.02	-12.27	-134.74
23	24	67.55	0.00	-12.03	-7.92	-97.82
24	24	67.55	0.00	-10.76	-0.45	-99.01
24	25	70.90	0.00	-12.77	3.91	-59.58

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERI

10TN/M EN NERVIO DERECHO

[1; 1]DERI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-12.52	14.20	-59.59
25	26	74.23	0.00	-14.52	18.52	-14.58
26	26	74.23	0.00	-13.43	26.53	-13.37
26	27	77.56	0.00	-15.43	30.85	34.70
27	27	77.56	0.00	-12.38	32.68	36.45
27	28	80.89	0.00	-14.38	37.00	81.01
28	28	80.89	0.00	-9.02	31.57	82.81
28	29	84.22	0.00	-11.01	35.89	116.15
29	29	84.22	0.00	-3.55	23.85	117.64
29	30	87.55	0.00	-5.55	28.18	132.78
30	30	87.55	0.00	3.46	11.29	133.72
30	31	90.88	0.00	1.46	15.62	125.53
31	31	90.88	0.00	11.24	-3.68	125.80
31	32	94.21	0.00	9.24	0.65	91.70
32	32	94.21	0.00	18.93	-18.36	91.26
32	33	97.54	0.00	16.93	-14.03	31.54
33	33	97.54	0.00	25.70	-30.10	30.45
33	34	100.87	0.00	23.70	-25.78	-51.80
34	34	100.87	0.00	30.81	-36.62	-53.39
34	10035	104.20	0.00	28.81	-32.29	-152.67
35	35	104.20	0.00	-9.84	-36.10	-154.37
35	36	107.55	0.00	-11.85	-31.74	-118.03
36	36	107.55	0.00	-9.46	-29.30	-119.37
36	37	110.90	0.00	-11.47	-24.94	-84.31
37	37	110.90	0.00	-10.23	-18.87	-84.76
37	38	113.77	0.00	-11.95	-15.13	-52.92
38	38	113.77	0.00	-10.54	-9.61	-52.51
38	39	116.64	0.00	-12.26	-5.88	-19.79
39	39	116.64	0.00	-9.95	-3.18	-18.96
39	40	119.51	0.00	-11.67	0.55	12.06
40	40	119.51	0.00	-8.20	-0.40	12.97
40	41	122.38	0.00	-9.93	3.33	38.99
41	41	122.38	0.00	-5.39	-1.00	39.73
41	42	125.25	0.00	-7.11	2.74	57.67
42	42	125.25	0.00	-1.83	-3.92	58.07
42	43	128.12	0.00	-3.55	-0.19	65.80
43	43	128.12	0.00	1.99	-7.68	65.77
43	44	130.99	0.00	0.27	-3.95	62.53
44	44	130.99	0.00	5.51	-10.50	62.03
44	45	133.86	0.00	3.79	-6.77	48.69
45	45	133.86	0.00	8.18	-10.64	47.76
45	46	136.73	0.00	6.46	-6.91	26.75
46	46	136.73	0.00	9.51	-6.55	25.50
46	47	139.60	0.00	7.78	-2.81	0.69
101	101	0.00	0.00	-110.88	-4.06	-1.03
101	102	2.62	0.00	-83.11	17.42	253.11
102	102	2.62	0.00	-85.34	2.11	251.17
102	103	5.24	0.00	-57.57	23.60	438.37

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERI

10TN/M EN NERVIO DERECHO

[1; 1]DERI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-61.74	2.11	436.72
103	104	7.86	0.00	-33.97	23.59	562.10
104	104	7.86	0.00	-39.68	-2.79	560.86
104	105	10.48	0.00	-11.91	18.70	628.44
105	105	10.48	0.00	-18.68	-11.06	627.67
105	106	13.10	0.00	9.09	10.42	640.22
106	106	13.10	0.00	1.78	-21.08	639.96
106	107	15.72	0.00	29.56	0.41	598.91
107	107	15.72	0.00	22.22	-31.21	599.15
107	108	18.34	0.00	49.99	-9.72	504.55
108	108	18.34	0.00	43.13	-39.90	505.25
108	109	20.96	0.00	70.90	-18.42	355.87
109	109	20.96	0.00	64.93	-45.82	356.95
109	110	23.58	0.00	92.70	-24.33	150.47
110	110	23.58	0.00	87.95	-47.89	151.81
110	111	26.20	0.00	115.73	-26.40	-115.01
111	111	26.20	0.00	111.95	-48.16	-113.37
111	112	29.55	0.00	147.46	-20.69	-547.87
112	112	29.55	0.00	145.46	-38.08	-546.37
112	10113	32.90	0.00	180.97	-10.61	-1093.00
113	113	32.90	0.00	-175.59	-23.61	-1092.81
113	114	36.03	0.00	-142.42	2.06	-595.13
114	114	36.03	0.00	-143.53	-11.90	-595.88
114	115	39.16	0.00	-110.35	13.76	-198.55
115	115	39.16	0.00	-112.87	-4.66	-199.81
115	116	42.29	0.00	-79.70	21.01	101.57
116	116	42.29	0.00	-83.94	-2.87	100.23
116	117	45.42	0.00	-50.76	22.80	311.04
117	117	45.42	0.00	-56.59	-6.09	309.94
117	118	48.55	0.00	-23.41	19.58	435.15
118	118	48.55	0.00	-30.37	-12.91	434.49
118	119	51.68	0.00	2.81	12.76	477.63
119	119	51.68	0.00	-4.66	-21.34	477.53
119	120	54.81	0.00	28.52	4.33	440.18
120	120	54.81	0.00	21.26	-29.14	440.66
120	121	57.94	0.00	54.44	-3.47	322.18
121	121	57.94	0.00	48.09	-34.13	323.17
121	122	61.07	0.00	81.26	-8.46	120.74
122	122	61.07	0.00	76.38	-34.48	122.10
122	123	64.20	0.00	109.56	-8.82	-168.91
123	123	64.20	0.00	106.40	-29.83	-167.38
123	124	67.55	0.00	141.91	-2.36	-583.30
124	124	67.55	0.00	140.65	-17.78	-582.10
124	10125	70.90	0.00	176.16	9.69	-1113.00
125	125	70.90	0.00	-181.22	-2.21	-1112.74
125	126	74.23	0.00	-145.93	25.10	-568.03
126	126	74.23	0.00	-147.01	10.27	-569.24
126	127	77.56	0.00	-111.71	37.57	-138.47

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

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10TN/M EN NERVIO DERECHO

[1; 1]DERI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-114.76	16.53	-140.23
127	128	80.89	0.00	-79.47	43.83	183.17
128	128	80.89	0.00	-84.83	15.49	181.37
128	129	84.22	0.00	-49.53	42.80	405.07
129	129	84.22	0.00	-57.00	7.81	403.59
129	130	87.55	0.00	-21.70	35.12	534.61
130	130	87.55	0.00	-30.70	-4.73	533.67
130	131	90.88	0.00	4.59	22.57	577.14
131	131	90.88	0.00	-5.18	-19.73	576.88
131	132	94.21	0.00	30.12	7.58	535.37
132	132	94.21	0.00	20.42	-34.47	535.81
132	133	97.54	0.00	55.72	-7.16	409.03
133	133	97.54	0.00	46.96	-46.31	410.12
133	134	100.87	0.00	82.25	-19.00	194.98
134	134	100.87	0.00	75.14	-52.95	196.57
134	135	104.20	0.00	110.44	-25.64	-112.43
135	135	104.20	0.00	105.81	-50.99	-110.73
135	136	107.55	0.00	141.32	-23.52	-524.69
136	136	107.55	0.00	138.93	-41.04	-523.34
136	10137	110.90	0.00	174.44	-13.57	-1048.00
137	137	110.90	0.00	-172.73	-27.46	-1047.79
137	138	113.77	0.00	-142.31	-3.93	-595.71
138	138	113.77	0.00	-143.72	-18.36	-596.12
138	139	116.64	0.00	-113.30	5.18	-227.30
139	139	116.64	0.00	-115.61	-12.08	-228.12
139	140	119.51	0.00	-85.19	11.45	60.02
140	140	119.51	0.00	-88.66	-9.45	59.11
140	141	122.38	0.00	-58.24	14.08	269.91
141	141	122.38	0.00	-62.77	-10.18	269.16
141	142	125.25	0.00	-32.35	13.35	405.67
142	142	125.25	0.00	-37.63	-13.24	405.26
142	143	128.12	0.00	-7.21	10.29	469.61
143	143	128.12	0.00	-12.75	-17.13	469.64
143	144	130.99	0.00	17.67	6.40	462.57
144	144	130.99	0.00	12.43	-20.08	463.08
144	145	133.86	0.00	42.85	3.45	383.75
145	145	133.86	0.00	38.46	-20.35	384.69
145	146	136.73	0.00	68.88	3.19	230.65
146	146	136.73	0.00	65.83	-16.38	231.90
146	147	139.60	0.00	96.25	7.15	-0.69
301	101	0.00	0.00	-0.02	-1.03	4.06
301	2001	0.00	0.00	-0.02	-1.03	4.08
302	102	2.62	0.00	2.23	-1.94	15.31
302	2002	2.62	0.00	2.23	-1.94	13.62
303	103	5.24	0.00	4.17	-1.65	21.49
303	2003	5.24	0.00	4.17	-1.65	18.33
304	104	7.86	0.00	5.71	-1.25	26.38
304	2004	7.86	0.00	5.71	-1.25	22.06

CÁLCULO TENSIONAL

Hipótesis de cálculo:

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10TN/M EN NERVIO DERECHO

[1; 1]DERI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	6.77	-0.77	29.76
305	2005	10.48	0.00	6.77	-0.77	24.64
306	106	13.10	0.00	7.31	-0.26	31.50
306	2006	13.10	0.00	7.31	-0.26	25.97
307	107	15.72	0.00	7.33	0.24	31.61
307	2007	15.72	0.00	7.33	0.24	26.07
308	108	18.34	0.00	6.87	0.70	30.18
308	2008	18.34	0.00	6.87	0.70	24.99
309	109	20.96	0.00	5.97	1.08	27.40
309	2009	20.96	0.00	5.97	1.08	22.88
310	110	23.58	0.00	4.74	1.34	23.56
310	2010	23.58	0.00	4.74	1.34	19.97
311	111	26.20	0.00	3.78	1.64	21.76
311	2011	26.20	0.00	3.78	1.64	18.90
312	112	29.55	0.00	2.00	1.50	17.38
312	2012	29.55	0.00	2.00	1.50	15.88
313	113	32.90	0.00	0.71	0.33	13.00
313	2013	32.90	0.00	0.71	0.33	12.47
314	114	36.03	0.00	1.12	-0.75	13.96
314	2014	36.03	0.00	1.12	-0.75	13.12
315	115	39.16	0.00	2.52	-1.26	18.42
315	2015	39.16	0.00	2.52	-1.26	16.51
316	116	42.29	0.00	4.24	-1.34	23.88
316	2016	42.29	0.00	4.24	-1.34	20.67
317	117	45.42	0.00	5.83	-1.10	28.89
317	2017	45.42	0.00	5.83	-1.10	24.48
318	118	48.55	0.00	6.96	-0.66	32.49
318	2018	48.55	0.00	6.96	-0.66	27.22
319	119	51.68	0.00	7.46	-0.11	34.10
319	2019	51.68	0.00	7.46	-0.11	28.45
320	120	54.81	0.00	7.26	0.47	33.47
320	2020	54.81	0.00	7.26	0.47	27.98
321	121	57.94	0.00	6.36	0.99	30.65
321	2021	57.94	0.00	6.36	0.99	25.85
322	122	61.07	0.00	4.88	1.36	26.02
322	2022	61.07	0.00	4.88	1.36	22.33
323	123	64.20	0.00	3.16	1.53	21.01
323	2023	64.20	0.00	3.16	1.53	18.62
324	124	67.55	0.00	1.26	1.19	15.42
324	2024	67.55	0.00	1.26	1.19	14.47
325	125	70.90	0.00	0.25	0.01	11.89
325	2025	70.90	0.00	0.25	0.01	11.70
326	126	74.23	0.00	1.08	-1.21	14.83
326	2026	74.23	0.00	1.08	-1.21	14.01
327	127	77.56	0.00	3.05	-1.76	21.05
327	2027	77.56	0.00	3.05	-1.76	18.74
328	128	80.89	0.00	5.36	-1.80	28.34
328	2028	80.89	0.00	5.36	-1.80	24.29

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

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[1; 1]DERI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	7.47	-1.49	34.98
329	2029	84.22	0.00	7.47	-1.49	29.34
330	130	87.55	0.00	9.01	-0.94	39.85
330	2030	87.55	0.00	9.01	-0.94	33.04
331	131	90.88	0.00	9.78	-0.27	42.30
331	2031	90.88	0.00	9.78	-0.27	34.91
332	132	94.21	0.00	9.69	0.44	42.05
332	2032	94.21	0.00	9.69	0.44	34.72
333	133	97.54	0.00	8.76	1.09	39.14
333	2033	97.54	0.00	8.76	1.09	32.52
334	134	100.87	0.00	7.11	1.59	33.95
334	2034	100.87	0.00	7.11	1.59	28.57
335	135	104.20	0.00	4.63	1.70	25.35
335	2035	104.20	0.00	4.63	1.70	21.85
336	136	107.55	0.00	2.39	1.35	17.52
336	2036	107.55	0.00	2.39	1.35	15.71
337	137	110.90	0.00	1.24	0.45	13.89
337	2037	110.90	0.00	1.24	0.45	12.95
338	138	113.77	0.00	1.41	-0.41	14.43
338	2038	113.77	0.00	1.41	-0.41	13.36
339	139	116.64	0.00	2.31	-0.83	17.26
339	2039	116.64	0.00	2.31	-0.83	15.51
340	140	119.51	0.00	3.47	-0.91	20.90
340	2040	119.51	0.00	3.47	-0.91	18.28
341	141	122.38	0.00	4.54	-0.74	24.26
341	2041	122.38	0.00	4.54	-0.74	20.83
342	142	125.25	0.00	5.28	-0.40	26.60
342	2042	125.25	0.00	5.28	-0.40	22.61
343	143	128.12	0.00	5.54	0.03	27.42
343	2043	128.12	0.00	5.54	0.03	23.23
344	144	130.99	0.00	5.25	0.50	26.49
344	2044	130.99	0.00	5.25	0.50	22.52
345	145	133.86	0.00	4.39	0.93	23.80
345	2045	133.86	0.00	4.39	0.93	20.48
346	146	136.73	0.00	3.05	1.25	19.57
346	2046	136.73	0.00	3.05	1.25	17.27
347	147	139.60	0.00	0.69	0.69	7.15
347	2047	139.60	0.00	0.69	0.69	6.63
201	2001	0.00	0.00	-0.02	-1.03	4.08
201	1001	0.00	0.00	-0.02	-1.03	4.18
202	2002	2.62	0.00	2.23	-1.94	13.62
202	1002	2.62	0.00	2.23	-1.94	2.96
203	2003	5.24	0.00	4.17	-1.65	18.33
203	1003	5.24	0.00	4.17	-1.65	-1.65
204	2004	7.86	0.00	5.71	-1.25	22.06
204	1004	7.86	0.00	5.71	-1.25	-5.29
205	2005	10.48	0.00	6.77	-0.77	24.64
205	1005	10.48	0.00	6.77	-0.77	-7.78

CÁLCULO TENSIONAL

Hipótesis de cálculo:

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10TN/M EN NERVIO DERECHO

[1; 1]DERI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	7.31	-0.26	25.97
206	1006	13.10	0.00	7.31	-0.26	-9.03
207	2007	15.72	0.00	7.33	0.24	26.07
207	1007	15.72	0.00	7.33	0.24	-9.04
208	2008	18.34	0.00	6.87	0.70	24.99
208	1008	18.34	0.00	6.87	0.70	-7.89
209	2009	20.96	0.00	5.97	1.08	22.88
209	1009	20.96	0.00	5.97	1.08	-5.72
210	2010	23.58	0.00	4.74	1.34	19.97
210	1010	23.58	0.00	4.74	1.34	-2.74
211	2011	26.20	0.00	3.78	1.64	18.90
211	1011	26.20	0.00	3.78	1.64	0.80
212	2012	29.55	0.00	2.00	1.50	15.88
212	1012	29.55	0.00	2.00	1.50	6.32
213	2013	32.90	0.00	0.71	0.33	12.47
213	1013	32.90	0.00	0.71	0.33	9.08
214	2014	36.03	0.00	1.12	-0.75	13.12
214	1014	36.03	0.00	1.12	-0.75	7.77
215	2015	39.16	0.00	2.52	-1.26	16.51
215	1015	39.16	0.00	2.52	-1.26	4.44
216	2016	42.29	0.00	4.24	-1.34	20.67
216	1016	42.29	0.00	4.24	-1.34	0.34
217	2017	45.42	0.00	5.83	-1.10	24.48
217	1017	45.42	0.00	5.83	-1.10	-3.41
218	2018	48.55	0.00	6.96	-0.66	27.22
218	1018	48.55	0.00	6.96	-0.66	-6.10
219	2019	51.68	0.00	7.46	-0.11	28.45
219	1019	51.68	0.00	7.46	-0.11	-7.28
220	2020	54.81	0.00	7.26	0.47	27.98
220	1020	54.81	0.00	7.26	0.47	-6.76
221	2021	57.94	0.00	6.36	0.99	25.85
221	1021	57.94	0.00	6.36	0.99	-4.59
222	2022	61.07	0.00	4.88	1.36	22.33
222	1022	61.07	0.00	4.88	1.36	-1.03
223	2023	64.20	0.00	3.16	1.53	18.62
223	1023	64.20	0.00	3.16	1.53	3.48
224	2024	67.55	0.00	1.26	1.19	14.47
224	1024	67.55	0.00	1.26	1.19	8.42
225	2025	70.90	0.00	0.25	0.01	11.70
225	1025	70.90	0.00	0.25	0.01	10.48
226	2026	74.23	0.00	1.08	-1.21	14.01
226	1026	74.23	0.00	1.08	-1.21	8.82
227	2027	77.56	0.00	3.05	-1.76	18.74
227	1027	77.56	0.00	3.05	-1.76	4.13
228	2028	80.89	0.00	5.36	-1.80	24.29
228	1028	80.89	0.00	5.36	-1.80	-1.39
229	2029	84.22	0.00	7.47	-1.49	29.34
229	1029	84.22	0.00	7.47	-1.49	-6.40

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CÁLCULO TENSIONAL

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[1; 1]DERI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	9.01	-0.94	33.04
230	1030	87.55	0.00	9.01	-0.94	-10.07
231	2031	90.88	0.00	9.78	-0.27	34.91
231	1031	90.88	0.00	9.78	-0.27	-11.91
232	2032	94.21	0.00	9.69	0.44	34.72
232	1032	94.21	0.00	9.69	0.44	-11.69
233	2033	97.54	0.00	8.76	1.09	32.52
233	1033	97.54	0.00	8.76	1.09	-9.45
234	2034	100.87	0.00	7.11	1.59	28.57
234	1034	100.87	0.00	7.11	1.59	-5.47
235	2035	104.20	0.00	4.63	1.70	21.85
235	1035	104.20	0.00	4.63	1.70	-0.31
236	2036	107.55	0.00	2.39	1.35	15.71
236	1036	107.55	0.00	2.39	1.35	4.26
237	2037	110.90	0.00	1.24	0.45	12.95
237	1037	110.90	0.00	1.24	0.45	7.01
238	2038	113.77	0.00	1.41	-0.41	13.36
238	1038	113.77	0.00	1.41	-0.41	6.60
239	2039	116.64	0.00	2.31	-0.83	15.51
239	1039	116.64	0.00	2.31	-0.83	4.44
240	2040	119.51	0.00	3.47	-0.91	18.28
240	1040	119.51	0.00	3.47	-0.91	1.67
241	2041	122.38	0.00	4.54	-0.74	20.83
241	1041	122.38	0.00	4.54	-0.74	-0.89
242	2042	125.25	0.00	5.28	-0.40	22.61
242	1042	125.25	0.00	5.28	-0.40	-2.67
243	2043	128.12	0.00	5.54	0.03	23.23
243	1043	128.12	0.00	5.54	0.03	-3.30
244	2044	130.99	0.00	5.25	0.50	22.52
244	1044	130.99	0.00	5.25	0.50	-2.59
245	2045	133.86	0.00	4.39	0.93	20.48
245	1045	133.86	0.00	4.39	0.93	-0.55
246	2046	136.73	0.00	3.05	1.25	17.27
246	1046	136.73	0.00	3.05	1.25	2.67
247	2047	139.60	0.00	0.69	0.69	6.63
247	1047	139.60	0.00	0.69	0.69	3.33
401	1001	0.00	0.00	-0.02	-1.03	4.18
401	1	0.00	0.00	-0.02	-1.03	4.20
402	1002	2.62	0.00	2.23	-1.94	2.96
402	2	2.62	0.00	2.23	-1.94	1.27
403	1003	5.24	0.00	4.17	-1.65	-1.65
403	3	5.24	0.00	4.17	-1.65	-4.80
404	1004	7.86	0.00	5.71	-1.25	-5.29
404	4	7.86	0.00	5.71	-1.25	-9.61
405	1005	10.48	0.00	6.77	-0.77	-7.78
405	5	10.48	0.00	6.77	-0.77	-12.89
406	1006	13.10	0.00	7.31	-0.26	-9.03
406	6	13.10	0.00	7.31	-0.26	-14.56

CÁLCULO TENSIONAL

Hipótesis de cálculo:

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[1; 1]DERI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	7.33	0.24	-9.04
407	7	15.72	0.00	7.33	0.24	-14.59
408	1008	18.34	0.00	6.87	0.70	-7.89
408	8	18.34	0.00	6.87	0.70	-13.08
409	1009	20.96	0.00	5.97	1.08	-5.72
409	9	20.96	0.00	5.97	1.08	-10.23
410	1010	23.58	0.00	4.74	1.34	-2.74
410	10	23.58	0.00	4.74	1.34	-6.33
411	1011	26.20	0.00	3.78	1.64	0.80
411	11	26.20	0.00	3.78	1.64	-2.06
412	1012	29.55	0.00	2.00	1.50	6.32
412	12	29.55	0.00	2.00	1.50	4.81
413	1013	32.90	0.00	0.71	0.33	9.08
413	13	32.90	0.00	0.71	0.33	8.55
414	1014	36.03	0.00	1.12	-0.75	7.77
414	14	36.03	0.00	1.12	-0.75	6.93
415	1015	39.16	0.00	2.52	-1.26	4.44
415	15	39.16	0.00	2.52	-1.26	2.54
416	1016	42.29	0.00	4.24	-1.34	0.34
416	16	42.29	0.00	4.24	-1.34	-2.86
417	1017	45.42	0.00	5.83	-1.10	-3.41
417	17	45.42	0.00	5.83	-1.10	-7.82
418	1018	48.55	0.00	6.96	-0.66	-6.10
418	18	48.55	0.00	6.96	-0.66	-11.37
419	1019	51.68	0.00	7.46	-0.11	-7.28
419	19	51.68	0.00	7.46	-0.11	-12.92
420	1020	54.81	0.00	7.26	0.47	-6.76
420	20	54.81	0.00	7.26	0.47	-12.25
421	1021	57.94	0.00	6.36	0.99	-4.59
421	21	57.94	0.00	6.36	0.99	-9.39
422	1022	61.07	0.00	4.88	1.36	-1.03
422	22	61.07	0.00	4.88	1.36	-4.72
423	1023	64.20	0.00	3.16	1.53	3.48
423	23	64.20	0.00	3.16	1.53	1.09
424	1024	67.55	0.00	1.26	1.19	8.42
424	24	67.55	0.00	1.26	1.19	7.47
425	1025	70.90	0.00	0.25	0.01	10.48
425	25	70.90	0.00	0.25	0.01	10.29
426	1026	74.23	0.00	1.08	-1.21	8.82
426	26	74.23	0.00	1.08	-1.21	8.00
427	1027	77.56	0.00	3.05	-1.76	4.13
427	27	77.56	0.00	3.05	-1.76	1.82
428	1028	80.89	0.00	5.36	-1.80	-1.39
428	28	80.89	0.00	5.36	-1.80	-5.44
429	1029	84.22	0.00	7.47	-1.49	-6.40
429	29	84.22	0.00	7.47	-1.49	-12.05
430	1030	87.55	0.00	9.01	-0.94	-10.07
430	30	87.55	0.00	9.01	-0.94	-16.88

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Programa DINTEL IDEAM S.A.
DERI
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERI

10TN/M EN NERVIO DERECHO

[1; 1]DERI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	9.78	-0.27	-11.91
431	31	90.88	0.00	9.78	-0.27	-19.30
432	1032	94.21	0.00	9.69	0.44	-11.69
432	32	94.21	0.00	9.69	0.44	-19.01
433	1033	97.54	0.00	8.76	1.09	-9.45
433	33	97.54	0.00	8.76	1.09	-16.07
434	1034	100.87	0.00	7.11	1.59	-5.47
434	34	100.87	0.00	7.11	1.59	-10.85
435	1035	104.20	0.00	4.63	1.70	-0.31
435	35	104.20	0.00	4.63	1.70	-3.81
436	1036	107.55	0.00	2.39	1.35	4.26
436	36	107.55	0.00	2.39	1.35	2.45
437	1037	110.90	0.00	1.24	0.45	7.01
437	37	110.90	0.00	1.24	0.45	6.08
438	1038	113.77	0.00	1.41	-0.41	6.60
438	38	113.77	0.00	1.41	-0.41	5.53
439	1039	116.64	0.00	2.31	-0.83	4.44
439	39	116.64	0.00	2.31	-0.83	2.69
440	1040	119.51	0.00	3.47	-0.91	1.67
440	40	119.51	0.00	3.47	-0.91	-0.95
441	1041	122.38	0.00	4.54	-0.74	-0.89
441	41	122.38	0.00	4.54	-0.74	-4.32
442	1042	125.25	0.00	5.28	-0.40	-2.67
442	42	125.25	0.00	5.28	-0.40	-6.66
443	1043	128.12	0.00	5.54	0.03	-3.30
443	43	128.12	0.00	5.54	0.03	-7.48
444	1044	130.99	0.00	5.25	0.50	-2.59
444	44	130.99	0.00	5.25	0.50	-6.56
445	1045	133.86	0.00	4.39	0.93	-0.55
445	45	133.86	0.00	4.39	0.93	-3.87
446	1046	136.73	0.00	3.05	1.25	2.67
446	46	136.73	0.00	3.05	1.25	0.36
447	1047	139.60	0.00	0.69	0.69	3.33
447	47	139.60	0.00	0.69	0.69	2.81

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT

[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-14.11	5.68	0.97
1	2	2.62	0.00	-15.16	7.78	39.32
2	2	2.62	0.00	-12.63	12.28	41.14
2	3	5.24	0.00	-13.68	14.37	75.61
3	3	5.24	0.00	-9.24	12.88	77.17
3	4	7.86	0.00	-10.29	14.97	102.75
4	4	7.86	0.00	-4.34	8.69	103.94
4	5	10.48	0.00	-5.39	10.79	116.67
5	5	10.48	0.00	1.63	1.17	117.41
5	6	13.10	0.00	0.58	3.26	114.51
6	6	13.10	0.00	8.17	-8.17	114.78
6	7	15.72	0.00	7.12	-6.07	94.74
7	7	15.72	0.00	14.80	-17.77	94.53
7	8	18.34	0.00	13.75	-15.68	57.13
8	8	18.34	0.00	21.04	-26.18	56.49
8	9	20.96	0.00	20.00	-24.08	2.73
9	9	20.96	0.00	26.50	-32.08	1.71
9	10	23.58	0.00	25.45	-29.98	-66.33
10	10	23.58	0.00	30.82	-34.43	-67.61
10	10011	26.20	0.00	29.77	-32.33	-146.99
11	11	26.20	0.00	-14.07	-32.57	-148.60
11	12	29.55	0.00	-15.41	-29.89	-99.22
12	12	29.55	0.00	-12.45	-23.26	-100.73
12	13	32.90	0.00	-13.79	-20.58	-56.78
13	13	32.90	0.00	-12.18	-10.21	-57.20
13	14	36.03	0.00	-13.43	-7.71	-17.12
14	14	36.03	0.00	-11.54	1.26	-16.49
14	15	39.16	0.00	-12.79	3.77	21.60
15	15	39.16	0.00	-9.63	8.72	22.74
15	16	42.29	0.00	-10.88	11.22	54.84
16	16	42.29	0.00	-6.10	11.10	56.09
16	17	45.42	0.00	-7.36	13.60	77.15
17	17	45.42	0.00	-1.06	8.71	78.21
17	18	48.55	0.00	-2.32	11.21	83.50
18	18	48.55	0.00	5.11	2.77	84.17
18	19	51.68	0.00	3.85	5.27	70.15
19	19	51.68	0.00	11.84	-4.93	70.32
19	20	54.81	0.00	10.58	-2.43	35.23
20	20	54.81	0.00	18.48	-12.35	34.87
20	21	57.94	0.00	17.23	-9.85	-21.01
21	21	57.94	0.00	24.38	-17.44	-21.87
21	22	61.07	0.00	23.13	-14.94	-96.23
22	22	61.07	0.00	28.98	-18.42	-97.46
22	10023	64.20	0.00	27.73	-15.91	-186.22
23	23	64.20	0.00	-18.56	-14.00	-187.67
23	24	67.55	0.00	-19.90	-11.32	-123.24
24	24	67.55	0.00	-17.40	-3.18	-124.45
24	25	70.90	0.00	-18.74	-0.50	-63.91

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT

[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-17.35	10.61	-64.01
25	26	74.23	0.00	-18.68	13.27	-4.04
26	26	74.23	0.00	-16.58	22.61	-2.98
26	27	77.56	0.00	-17.92	25.28	54.46
27	27	77.56	0.00	-14.06	29.07	56.06
27	28	80.89	0.00	-15.39	31.74	105.09
28	28	80.89	0.00	-9.40	28.83	106.76
28	29	84.22	0.00	-10.73	31.49	140.29
29	29	84.22	0.00	-2.77	22.36	141.70
29	30	87.55	0.00	-4.10	25.02	153.13
30	30	87.55	0.00	5.37	11.17	154.06
30	31	90.88	0.00	4.04	13.83	138.39
31	31	90.88	0.00	14.33	-2.59	138.72
31	32	94.21	0.00	13.00	0.07	93.22
32	32	94.21	0.00	23.33	-16.47	92.90
32	33	97.54	0.00	22.00	-13.81	17.43
33	33	97.54	0.00	31.59	-28.00	16.49
33	34	100.87	0.00	30.25	-25.34	-86.48
34	34	100.87	0.00	38.39	-34.95	-87.92
34	10035	104.20	0.00	37.06	-32.29	-213.56
35	35	104.20	0.00	-19.23	-35.41	-215.19
35	36	107.55	0.00	-20.57	-32.73	-148.51
36	36	107.55	0.00	-17.11	-29.79	-149.87
36	37	110.90	0.00	-18.45	-27.11	-90.29
37	37	110.90	0.00	-16.21	-20.34	-90.82
37	38	113.77	0.00	-17.36	-18.05	-42.65
38	38	113.77	0.00	-15.07	-11.44	-42.36
38	39	116.64	0.00	-16.22	-9.14	2.53
39	39	116.64	0.00	-13.18	-4.90	3.22
39	40	119.51	0.00	-14.32	-2.60	42.69
40	40	119.51	0.00	-10.27	-1.57	43.49
40	41	122.38	0.00	-11.42	0.73	74.62
41	41	122.38	0.00	-6.39	-1.29	75.30
41	42	125.25	0.00	-7.54	1.00	95.29
42	42	125.25	0.00	-1.82	-3.23	95.69
42	43	128.12	0.00	-2.96	-0.93	102.55
43	43	128.12	0.00	3.05	-6.08	102.57
43	44	130.99	0.00	1.90	-3.78	95.47
44	44	130.99	0.00	7.72	-8.32	95.08
44	45	133.86	0.00	6.57	-6.02	74.57
45	45	133.86	0.00	11.71	-8.42	73.81
45	46	136.73	0.00	10.56	-6.12	41.85
46	46	136.73	0.00	14.59	-5.03	40.81
46	47	139.60	0.00	13.45	-2.74	0.58
101	101	0.00	0.00	-107.03	-6.79	-0.97
101	102	2.62	0.00	-79.78	20.19	243.75
102	102	2.62	0.00	-82.31	-0.25	241.93
102	103	5.24	0.00	-55.06	26.73	421.89

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT

[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-59.50	0.29	420.33
103	104	7.86	0.00	-32.25	27.27	540.52
104	104	7.86	0.00	-38.20	-3.96	539.34
104	105	10.48	0.00	-10.96	23.03	603.74
105	105	10.48	0.00	-17.97	-11.54	603.00
105	106	13.10	0.00	9.28	15.44	614.40
106	106	13.10	0.00	1.69	-20.94	614.13
106	107	15.72	0.00	28.93	6.05	574.02
107	107	15.72	0.00	21.26	-30.60	574.23
107	108	18.34	0.00	48.51	-3.62	482.83
108	108	18.34	0.00	41.21	-39.07	483.48
108	109	20.96	0.00	68.46	-12.09	339.80
109	109	20.96	0.00	61.96	-45.04	340.81
109	110	23.58	0.00	89.21	-18.05	142.78
110	110	23.58	0.00	83.84	-47.46	144.06
110	111	26.20	0.00	111.09	-20.47	-111.29
111	111	26.20	0.00	106.50	-49.15	-109.68
111	112	29.55	0.00	141.34	-14.64	-524.80
112	112	29.55	0.00	138.37	-39.93	-523.28
112	10113	32.90	0.00	173.21	-5.43	-1045.00
113	113	32.90	0.00	-168.37	-25.94	-1044.78
113	114	36.03	0.00	-135.82	6.30	-568.73
114	114	36.03	0.00	-137.70	-14.57	-569.36
114	115	39.16	0.00	-105.15	17.67	-189.29
115	115	39.16	0.00	-108.32	-7.22	-190.43
115	116	42.29	0.00	-75.76	25.02	97.65
116	116	42.29	0.00	-80.54	-4.95	96.41
116	117	45.42	0.00	-47.99	27.29	297.56
117	117	45.42	0.00	-54.28	-7.46	296.50
117	118	48.55	0.00	-21.73	24.78	415.46
118	118	48.55	0.00	-29.15	-13.53	414.79
118	119	51.68	0.00	3.40	18.71	455.09
119	119	51.68	0.00	-4.58	-21.37	454.92
119	120	54.81	0.00	27.97	10.87	418.31
120	120	54.81	0.00	20.08	-28.94	418.68
120	121	57.94	0.00	52.63	3.30	304.90
121	121	57.94	0.00	45.47	-34.19	305.76
121	122	61.07	0.00	78.02	-1.95	112.48
122	122	61.07	0.00	72.17	-35.34	113.72
122	123	64.20	0.00	104.73	-3.10	-163.13
123	123	64.20	0.00	100.42	-32.16	-161.67
123	124	67.55	0.00	135.26	2.34	-556.42
124	124	67.55	0.00	132.75	-21.56	-555.21
124	10125	70.90	0.00	167.59	12.95	-1058.00
125	125	70.90	0.00	-173.11	-6.95	-1058.19
125	126	74.23	0.00	-138.47	27.35	-539.41
126	126	74.23	0.00	-140.57	4.81	-540.47
126	127	77.56	0.00	-105.93	39.11	-130.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT

[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	7.59	-0.26	30.64
206	1006	13.10	0.00	7.59	-0.26	-5.69
207	2007	15.72	0.00	7.67	0.21	30.85
207	1007	15.72	0.00	7.67	0.21	-5.90
208	2008	18.34	0.00	7.29	0.64	29.94
208	1008	18.34	0.00	7.29	0.64	-4.99
209	2009	20.96	0.00	6.50	1.01	28.04
209	1009	20.96	0.00	6.50	1.01	-3.08
210	2010	23.58	0.00	5.37	1.28	25.34
210	1010	23.58	0.00	5.37	1.28	-0.38
211	2011	26.20	0.00	4.59	1.61	25.21
211	1011	26.20	0.00	4.59	1.61	3.23
212	2012	29.55	0.00	2.96	1.52	23.05
212	1012	29.55	0.00	2.96	1.52	8.87
213	2013	32.90	0.00	1.61	0.42	19.30
213	1013	32.90	0.00	1.61	0.42	11.58
214	2014	36.03	0.00	1.89	-0.63	19.44
214	1014	36.03	0.00	1.89	-0.63	10.40
215	2015	39.16	0.00	3.16	-1.14	22.50
215	1015	39.16	0.00	3.16	-1.14	7.34
216	2016	42.29	0.00	4.78	-1.25	26.36
216	1016	42.29	0.00	4.78	-1.25	3.49
217	2017	45.42	0.00	6.29	-1.06	29.99
217	1017	45.42	0.00	6.29	-1.06	-0.14
218	2018	48.55	0.00	7.42	-0.67	32.70
218	1018	48.55	0.00	7.42	-0.67	-2.83
219	2019	51.68	0.00	7.98	-0.17	34.05
219	1019	51.68	0.00	7.98	-0.17	-4.17
220	2020	54.81	0.00	7.89	0.36	33.84
220	1020	54.81	0.00	7.89	0.36	-3.96
221	2021	57.94	0.00	7.16	0.86	32.08
221	1021	57.94	0.00	7.16	0.86	-2.18
222	2022	61.07	0.00	5.85	1.24	28.96
222	1022	61.07	0.00	5.85	1.24	0.95
223	2023	64.20	0.00	4.31	1.46	25.80
223	1023	64.20	0.00	4.31	1.46	5.17
224	2024	67.55	0.00	2.50	1.21	22.01
224	1024	67.55	0.00	2.50	1.21	10.03
225	2025	70.90	0.00	1.40	0.11	18.85
225	1025	70.90	0.00	1.40	0.11	12.16
226	2026	74.23	0.00	2.09	-1.06	20.95
226	1026	74.23	0.00	2.09	-1.06	10.93
227	2027	77.56	0.00	3.86	-1.60	25.18
227	1027	77.56	0.00	3.86	-1.60	6.71
228	2028	80.89	0.00	5.99	-1.67	30.29
228	1028	80.89	0.00	5.99	-1.67	1.62
229	2029	84.22	0.00	7.97	-1.41	35.04
229	1029	84.22	0.00	7.97	-1.41	-3.11

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT

[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-109.79	11.01	-131.64
127	128	80.89	0.00	-75.16	45.31	176.31
128	128	80.89	0.00	-81.15	10.49	174.64
128	129	84.22	0.00	-46.52	44.79	387.20
129	129	84.22	0.00	-54.49	3.72	385.79
129	130	87.55	0.00	-19.85	38.02	509.57
130	130	87.55	0.00	-29.32	-7.78	508.63
130	131	90.88	0.00	5.31	26.52	548.62
131	131	90.88	0.00	-4.98	-21.88	548.29
131	132	94.21	0.00	29.65	12.42	507.21
132	132	94.21	0.00	19.32	-36.12	507.53
132	133	97.54	0.00	53.95	-1.83	385.54
133	133	97.54	0.00	44.36	-48.05	386.48
133	134	100.87	0.00	78.99	-13.75	181.09
134	134	100.87	0.00	70.85	-55.42	182.53
134	135	104.20	0.00	105.49	-21.12	-111.07
135	135	104.20	0.00	99.75	-54.12	-109.44
135	136	107.55	0.00	134.59	-19.61	-501.97
136	136	107.55	0.00	131.13	-44.35	-500.61
136	10137	110.90	0.00	165.97	-9.84	-998.27
137	137	110.90	0.00	-165.22	-30.74	-997.74
137	138	113.77	0.00	-135.37	-1.18	-566.40
138	138	113.77	0.00	-137.66	-22.23	-566.68
138	139	116.64	0.00	-107.81	7.34	-214.42
139	139	116.64	0.00	-110.85	-16.05	-215.12
139	140	119.51	0.00	-81.00	13.51	60.19
140	140	119.51	0.00	-85.06	-13.08	59.39
140	141	122.38	0.00	-55.21	16.48	260.67
141	141	122.38	0.00	-60.24	-13.15	259.99
141	142	125.25	0.00	-30.39	16.41	390.04
142	142	125.25	0.00	-36.11	-15.42	389.64
142	143	128.12	0.00	-6.27	14.14	450.45
143	143	128.12	0.00	-12.28	-18.60	450.43
143	144	130.99	0.00	17.57	10.96	442.84
144	144	130.99	0.00	11.75	-21.16	443.22
144	145	133.86	0.00	41.60	8.40	366.67
145	145	133.86	0.00	36.46	-21.58	367.42
145	146	136.73	0.00	66.31	7.98	219.95
146	146	136.73	0.00	62.28	-18.51	220.99
146	147	139.60	0.00	92.12	11.05	-0.58
301	101	0.00	0.00	0.18	-0.97	6.79
301	2001	0.00	0.00	0.18	-0.97	6.66
302	102	2.62	0.00	2.53	-1.83	20.45
302	2002	2.62	0.00	2.53	-1.83	18.53
303	103	5.24	0.00	4.44	-1.56	26.45
303	2003	5.24	0.00	4.44	-1.56	23.09
304	104	7.86	0.00	5.95	-1.18	31.23
304	2004	7.86	0.00	5.95	-1.18	26.73

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT

[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	7.02	-0.74	34.57
305	2005	10.48	0.00	7.02	-0.74	29.27
306	106	13.10	0.00	7.59	-0.26	36.38
306	2006	13.10	0.00	7.59	-0.26	30.64
307	107	15.72	0.00	7.67	0.21	36.65
307	2007	15.72	0.00	7.67	0.21	30.85
308	108	18.34	0.00	7.29	0.64	35.45
308	2008	18.34	0.00	7.29	0.64	29.94
309	109	20.96	0.00	6.50	1.01	32.95
309	2009	20.96	0.00	6.50	1.01	28.04
310	110	23.58	0.00	5.37	1.28	29.40
310	2010	23.58	0.00	5.37	1.28	25.34
311	111	26.20	0.00	4.59	1.61	28.68
311	2011	26.20	0.00	4.59	1.61	25.21
312	112	29.55	0.00	2.96	1.52	25.29
312	2012	29.55	0.00	2.96	1.52	23.05
313	113	32.90	0.00	1.61	0.42	20.51
313	2013	32.90	0.00	1.61	0.42	19.30
314	114	36.03	0.00	1.89	-0.63	20.87
314	2014	36.03	0.00	1.89	-0.63	19.44
315	115	39.16	0.00	3.16	-1.14	24.89
315	2015	39.16	0.00	3.16	-1.14	22.50
316	116	42.29	0.00	4.78	-1.25	29.97
316	2016	42.29	0.00	4.78	-1.25	26.36
317	117	45.42	0.00	6.29	-1.06	34.75
317	2017	45.42	0.00	6.29	-1.06	29.99
318	118	48.55	0.00	7.42	-0.67	38.31
318	2018	48.55	0.00	7.42	-0.67	32.70
319	119	51.68	0.00	7.98	-0.17	40.08
319	2019	51.68	0.00	7.98	-0.17	34.05
320	120	54.81	0.00	7.89	0.36	39.81
320	2020	54.81	0.00	7.89	0.36	33.84
321	121	57.94	0.00	7.16	0.86	37.49
321	2021	57.94	0.00	7.16	0.86	32.08
322	122	61.07	0.00	5.85	1.24	33.39
322	2022	61.07	0.00	5.85	1.24	28.96
323	123	64.20	0.00	4.31	1.46	29.06
323	2023	64.20	0.00	4.31	1.46	25.80
324	124	67.55	0.00	2.50	1.21	23.90
324	2024	67.55	0.00	2.50	1.21	22.01
325	125	70.90	0.00	1.40	0.11	19.90
325	2025	70.90	0.00	1.40	0.11	18.85
326	126	74.23	0.00	2.09	-1.06	22.53
326	2026	74.23	0.00	2.09	-1.06	20.95
327	127	77.56	0.00	3.86	-1.60	28.10
327	2027	77.56	0.00	3.86	-1.60	25.18
328	128	80.89	0.00	5.99	-1.67	34.82
328	2028	80.89	0.00	5.99	-1.67	30.29

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT

[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	7.97	-1.41	41.07
329	2029	84.22	0.00	7.97	-1.41	35.04
330	130	87.55	0.00	9.47	-0.93	45.80
330	2030	87.55	0.00	9.47	-0.93	38.64
331	131	90.88	0.00	10.29	-0.33	48.40
331	2031	90.88	0.00	10.29	-0.33	40.62
332	132	94.21	0.00	10.33	0.32	48.54
332	2032	94.21	0.00	10.33	0.32	40.73
333	133	97.54	0.00	9.59	0.94	46.22
333	2033	97.54	0.00	9.59	0.94	38.97
334	134	100.87	0.00	8.14	1.45	41.67
334	2034	100.87	0.00	8.14	1.45	35.52
335	135	104.20	0.00	5.74	1.63	33.00
335	2035	104.20	0.00	5.74	1.63	28.67
336	136	107.55	0.00	3.46	1.36	24.73
336	2036	107.55	0.00	3.46	1.36	22.12
337	137	110.90	0.00	2.24	0.53	20.90
337	2037	110.90	0.00	2.24	0.53	19.21
338	138	113.77	0.00	2.29	-0.28	21.04
338	2038	113.77	0.00	2.29	-0.28	19.31
339	139	116.64	0.00	3.04	-0.70	23.39
339	2039	116.64	0.00	3.04	-0.70	21.09
340	140	119.51	0.00	4.06	-0.81	26.59
340	2040	119.51	0.00	4.06	-0.81	23.52
341	141	122.38	0.00	5.02	-0.68	29.63
341	2041	122.38	0.00	5.02	-0.68	25.83
342	142	125.25	0.00	5.72	-0.40	31.83
342	2042	125.25	0.00	5.72	-0.40	27.50
343	143	128.12	0.00	6.01	-0.02	32.74
343	2043	128.12	0.00	6.01	-0.02	28.19
344	144	130.99	0.00	5.82	0.38	32.12
344	2044	130.99	0.00	5.82	0.38	27.72
345	145	133.86	0.00	5.14	0.76	29.98
345	2045	133.86	0.00	5.14	0.76	26.09
346	146	136.73	0.00	4.03	1.04	26.49
346	2046	136.73	0.00	4.03	1.04	23.44
347	147	139.60	0.00	1.32	0.58	11.05
347	2047	139.60	0.00	1.32	0.58	10.05
201	2001	0.00	0.00	0.18	-0.97	6.66
201	1001	0.00	0.00	0.18	-0.97	5.81
202	2002	2.62	0.00	2.53	-1.83	18.53
202	1002	2.62	0.00	2.53	-1.83	6.42
203	2003	5.24	0.00	4.44	-1.56	23.09
203	1003	5.24	0.00	4.44	-1.56	1.86
204	2004	7.86	0.00	5.95	-1.18	26.73
204	1004	7.86	0.00	5.95	-1.18	-1.78
205	2005	10.48	0.00	7.02	-0.74	29.27
205	1005	10.48	0.00	7.02	-0.74	-4.32

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

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[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	9.47	-0.93	38.64
230	1030	87.55	0.00	9.47	-0.93	-6.69
231	2031	90.88	0.00	10.29	-0.33	40.62
231	1031	90.88	0.00	10.29	-0.33	-8.64
232	2032	94.21	0.00	10.33	0.32	40.73
232	1032	94.21	0.00	10.33	0.32	-8.73
233	2033	97.54	0.00	9.59	0.94	38.97
233	1033	97.54	0.00	9.59	0.94	-6.94
234	2034	100.87	0.00	8.14	1.45	35.52
234	1034	100.87	0.00	8.14	1.45	-3.46
235	2035	104.20	0.00	5.74	1.63	28.67
235	1035	104.20	0.00	5.74	1.63	1.21
236	2036	107.55	0.00	3.46	1.36	22.12
236	1036	107.55	0.00	3.46	1.36	5.56
237	2037	110.90	0.00	2.24	0.53	19.21
237	1037	110.90	0.00	2.24	0.53	8.46
238	2038	113.77	0.00	2.29	-0.28	19.31
238	1038	113.77	0.00	2.29	-0.28	8.34
239	2039	116.64	0.00	3.04	-0.70	21.09
239	1039	116.64	0.00	3.04	-0.70	6.54
240	2040	119.51	0.00	4.06	-0.81	23.52
240	1040	119.51	0.00	4.06	-0.81	4.10
241	2041	122.38	0.00	5.02	-0.68	25.83
241	1041	122.38	0.00	5.02	-0.68	1.78
242	2042	125.25	0.00	5.72	-0.40	27.50
242	1042	125.25	0.00	5.72	-0.40	0.10
243	2043	128.12	0.00	6.01	-0.02	28.19
243	1043	128.12	0.00	6.01	-0.02	-0.60
244	2044	130.99	0.00	5.82	0.38	27.72
244	1044	130.99	0.00	5.82	0.38	-0.14
245	2045	133.86	0.00	5.14	0.76	26.09
245	1045	133.86	0.00	5.14	0.76	1.49
246	2046	136.73	0.00	4.03	1.04	23.44
246	1046	136.73	0.00	4.03	1.04	4.14
247	2047	139.60	0.00	1.32	0.58	10.05
247	1047	139.60	0.00	1.32	0.58	3.74
401	1001	0.00	0.00	0.18	-0.97	5.81
401	1	0.00	0.00	0.18	-0.97	5.68
402	1002	2.62	0.00	2.53	-1.83	6.42
402	2	2.62	0.00	2.53	-1.83	4.50
403	1003	5.24	0.00	4.44	-1.56	1.86
403	3	5.24	0.00	4.44	-1.56	-1.50
404	1004	7.86	0.00	5.95	-1.18	-1.78
404	4	7.86	0.00	5.95	-1.18	-6.28
405	1005	10.48	0.00	7.02	-0.74	-4.32
405	5	10.48	0.00	7.02	-0.74	-9.62
406	1006	13.10	0.00	7.59	-0.26	-5.69
406	6	13.10	0.00	7.59	-0.26	-11.43

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT

[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	7.67	0.21	-5.90
407	7	15.72	0.00	7.67	0.21	-11.70
408	1008	18.34	0.00	7.29	0.64	-4.99
408	8	18.34	0.00	7.29	0.64	-10.50
409	1009	20.96	0.00	6.50	1.01	-3.08
409	9	20.96	0.00	6.50	1.01	-8.00
410	1010	23.58	0.00	5.37	1.28	-0.38
410	10	23.58	0.00	5.37	1.28	-4.44
411	1011	26.20	0.00	4.59	1.61	3.23
411	11	26.20	0.00	4.59	1.61	-0.24
412	1012	29.55	0.00	2.96	1.52	8.87
412	12	29.55	0.00	2.96	1.52	6.63
413	1013	32.90	0.00	1.61	0.42	11.58
413	13	32.90	0.00	1.61	0.42	10.37
414	1014	36.03	0.00	1.89	-0.63	10.40
414	14	36.03	0.00	1.89	-0.63	8.97
415	1015	39.16	0.00	3.16	-1.14	7.34
415	15	39.16	0.00	3.16	-1.14	4.95
416	1016	42.29	0.00	4.78	-1.25	3.49
416	16	42.29	0.00	4.78	-1.25	-0.12
417	1017	45.42	0.00	6.29	-1.06	-0.14
417	17	45.42	0.00	6.29	-1.06	-4.89
418	1018	48.55	0.00	7.42	-0.67	-2.83
418	18	48.55	0.00	7.42	-0.67	-8.44
419	1019	51.68	0.00	7.98	-0.17	-4.17
419	19	51.68	0.00	7.98	-0.17	-10.21
420	1020	54.81	0.00	7.89	0.36	-3.96
420	20	54.81	0.00	7.89	0.36	-9.92
421	1021	57.94	0.00	7.16	0.86	-2.18
421	21	57.94	0.00	7.16	0.86	-7.59
422	1022	61.07	0.00	5.85	1.24	0.95
422	22	61.07	0.00	5.85	1.24	-3.48
423	1023	64.20	0.00	4.31	1.46	5.17
423	23	64.20	0.00	4.31	1.46	1.91
424	1024	67.55	0.00	2.50	1.21	10.03
424	24	67.55	0.00	2.50	1.21	8.14
425	1025	70.90	0.00	1.40	0.11	12.16
425	25	70.90	0.00	1.40	0.11	11.11
426	1026	74.23	0.00	2.09	-1.06	10.93
426	26	74.23	0.00	2.09	-1.06	9.35
427	1027	77.56	0.00	3.86	-1.60	6.71
427	27	77.56	0.00	3.86	-1.60	3.79
428	1028	80.89	0.00	5.99	-1.67	1.62
428	28	80.89	0.00	5.99	-1.67	-2.91
429	1029	84.22	0.00	7.97	-1.41	-3.11
429	29	84.22	0.00	7.97	-1.41	-9.14
430	1030	87.55	0.00	9.47	-0.93	-6.69
430	30	87.55	0.00	9.47	-0.93	-13.85

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT

[1; 1]DERINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	10.29	-0.33	-8.64
431	31	90.88	0.00	10.29	-0.33	-16.42
432	1032	94.21	0.00	10.33	0.32	-8.73
432	32	94.21	0.00	10.33	0.32	-16.55
433	1033	97.54	0.00	9.59	0.94	-6.94
433	33	97.54	0.00	9.59	0.94	-14.19
434	1034	100.87	0.00	8.14	1.45	-3.46
434	34	100.87	0.00	8.14	1.45	-9.61
435	1035	104.20	0.00	5.74	1.63	1.21
435	35	104.20	0.00	5.74	1.63	-3.13
436	1036	107.55	0.00	3.46	1.36	5.56
436	36	107.55	0.00	3.46	1.36	2.95
437	1037	110.90	0.00	2.24	0.53	8.46
437	37	110.90	0.00	2.24	0.53	6.77
438	1038	113.77	0.00	2.29	-0.28	8.34
438	38	113.77	0.00	2.29	-0.28	6.61
439	1039	116.64	0.00	3.04	-0.70	6.54
439	39	116.64	0.00	3.04	-0.70	4.25
440	1040	119.51	0.00	4.06	-0.81	4.10
440	40	119.51	0.00	4.06	-0.81	1.04
441	1041	122.38	0.00	5.02	-0.68	1.78
441	41	122.38	0.00	5.02	-0.68	-2.02
442	1042	125.25	0.00	5.72	-0.40	0.10
442	42	125.25	0.00	5.72	-0.40	-4.23
443	1043	128.12	0.00	6.01	-0.02	-0.60
443	43	128.12	0.00	6.01	-0.02	-5.14
444	1044	130.99	0.00	5.82	0.38	-0.14
444	44	130.99	0.00	5.82	0.38	-4.54
445	1045	133.86	0.00	5.14	0.76	1.49
445	45	133.86	0.00	5.14	0.76	-2.39
446	1046	136.73	0.00	4.03	1.04	4.14
446	46	136.73	0.00	4.03	1.04	1.09
447	1047	139.60	0.00	1.32	0.58	3.74
447	47	139.60	0.00	1.32	0.58	2.74

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQI

[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-82.23	12.21	-0.35
1	2	2.62	0.00	-55.24	-16.87	179.74
2	2	2.62	0.00	-59.39	9.98	179.12
2	3	5.24	0.00	-32.41	-19.10	299.38
3	3	5.24	0.00	-37.15	9.63	298.94
3	4	7.86	0.00	-10.17	-19.45	360.92
4	4	7.86	0.00	-15.25	10.36	360.73
4	5	10.48	0.00	11.74	-18.73	365.33
5	5	10.48	0.00	6.61	11.21	365.40
5	6	13.10	0.00	33.59	-17.87	312.73
6	6	13.10	0.00	28.72	11.28	313.04
6	7	15.72	0.00	55.71	-17.81	202.44
7	7	15.72	0.00	51.32	9.78	202.92
7	8	18.34	0.00	78.31	-19.30	33.10
8	8	18.34	0.00	74.57	6.26	33.63
8	9	20.96	0.00	101.56	-22.82	-197.11
9	9	20.96	0.00	98.47	0.71	-196.68
9	10	23.58	0.00	125.45	-28.37	-490.02
10	10	23.58	0.00	122.80	-6.22	-489.92
10	10011	26.20	0.00	149.79	-35.30	-847.01
11	11	26.20	0.00	-152.08	-9.89	-847.58
11	12	29.55	0.00	-117.58	-47.08	-395.89
12	12	29.55	0.00	-122.34	-14.43	-397.35
12	13	32.90	0.00	-87.84	-51.62	-45.30
13	13	32.90	0.00	-94.30	-14.20	-46.79
13	14	36.03	0.00	-62.06	-48.94	197.92
14	14	36.03	0.00	-69.79	-8.10	196.78
14	15	39.16	0.00	-37.55	-42.84	364.77
15	15	39.16	0.00	-46.31	1.22	364.07
15	16	42.29	0.00	-14.07	-33.52	458.55
16	16	42.29	0.00	-23.26	11.95	458.36
16	17	45.42	0.00	8.98	-22.80	480.73
17	17	45.42	0.00	-0.04	22.11	481.07
17	18	48.55	0.00	32.20	-12.63	430.75
18	18	48.55	0.00	23.95	29.83	431.57
18	19	51.68	0.00	56.19	-4.91	306.13
19	19	51.68	0.00	49.24	33.51	307.30
19	20	54.81	0.00	81.48	-1.23	102.74
20	20	54.81	0.00	76.14	32.11	104.07
20	21	57.94	0.00	108.37	-2.63	-184.69
21	21	57.94	0.00	104.70	25.46	-183.48
21	22	61.07	0.00	136.94	-9.28	-561.65
22	22	61.07	0.00	134.57	14.69	-560.96
22	10023	64.20	0.00	166.81	-20.05	-1033.00
23	23	64.20	0.00	-165.78	3.57	-1032.96
23	24	67.55	0.00	-131.28	-33.62	-535.37
24	24	67.55	0.00	-134.62	-5.39	-536.76
24	25	70.90	0.00	-100.11	-42.58	-143.59

CÁLCULO TENSIONAL

Hipótesis de cálculo:

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[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-105.32	-9.03	-145.17
25	26	74.23	0.00	-71.03	-45.99	148.45
26	26	74.23	0.00	-78.32	-5.41	147.06
26	27	77.56	0.00	-44.02	-42.37	350.75
27	27	77.56	0.00	-52.75	2.76	349.83
27	28	80.89	0.00	-18.45	-34.20	468.37
28	28	80.89	0.00	-27.93	13.29	468.03
28	29	84.22	0.00	6.37	-23.68	503.92
29	29	84.22	0.00	-3.07	23.72	504.20
29	30	87.55	0.00	31.23	-13.25	457.32
30	30	87.55	0.00	22.59	31.61	458.17
30	31	90.88	0.00	56.89	-5.35	325.84
31	31	90.88	0.00	49.73	34.87	327.13
31	32	94.21	0.00	84.03	-2.10	104.41
32	32	94.21	0.00	78.81	32.04	105.91
32	33	97.54	0.00	113.11	-4.93	-213.63
33	33	97.54	0.00	109.92	22.81	-212.28
33	34	100.87	0.00	144.22	-14.15	-635.43
34	34	100.87	0.00	142.63	8.58	-634.70
34	10035	104.20	0.00	176.93	-28.38	-1167.00
35	35	104.20	0.00	-181.01	-8.27	-1167.28
35	36	107.55	0.00	-146.50	-45.46	-618.70
36	36	107.55	0.00	-148.84	-22.79	-620.20
36	37	110.90	0.00	-114.34	-59.98	-179.38
37	37	110.90	0.00	-118.79	-30.67	-181.16
37	38	113.77	0.00	-89.23	-62.53	117.34
38	38	113.77	0.00	-95.48	-27.54	115.71
38	39	116.64	0.00	-65.92	-59.39	347.32
39	39	116.64	0.00	-73.70	-19.63	346.03
39	40	119.51	0.00	-44.14	-51.48	515.12
40	40	119.51	0.00	-52.99	-8.33	514.28
40	41	122.38	0.00	-23.43	-40.19	623.93
41	41	122.38	0.00	-32.81	4.62	623.63
41	42	125.25	0.00	-3.25	-27.24	675.38
42	42	125.25	0.00	-12.55	17.30	675.67
42	43	128.12	0.00	17.01	-14.55	669.25
43	43	128.12	0.00	8.45	27.67	670.14
43	44	130.99	0.00	38.01	-4.19	603.46
44	44	130.99	0.00	30.84	33.64	604.91
44	45	133.86	0.00	60.40	1.78	473.97
45	45	133.86	0.00	55.25	33.26	475.90
45	46	136.73	0.00	84.81	1.40	274.91
46	46	136.73	0.00	82.22	24.81	277.18
46	47	139.60	0.00	111.78	-7.05	-1.21
101	101	0.00	0.00	-14.23	-1.57	0.35
101	102	2.62	0.00	-15.01	-3.15	38.65
102	102	2.62	0.00	-10.87	-3.87	39.27
102	103	5.24	0.00	-11.65	-5.44	68.77

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQI

[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-6.91	-4.28	69.21
103	104	7.86	0.00	-7.69	-5.85	88.33
104	104	7.86	0.00	-2.61	-3.62	88.53
104	105	10.48	0.00	-3.39	-5.20	96.39
105	105	10.48	0.00	1.73	-2.83	96.32
105	106	13.10	0.00	0.95	-4.41	92.81
106	106	13.10	0.00	5.82	-2.84	92.50
106	107	15.72	0.00	5.04	-4.41	78.28
107	107	15.72	0.00	9.42	-4.40	77.80
107	108	18.34	0.00	8.63	-5.97	54.16
108	108	18.34	0.00	12.37	-7.99	53.62
108	109	20.96	0.00	11.58	-9.57	22.25
109	109	20.96	0.00	14.67	-13.62	21.83
109	110	23.58	0.00	13.89	-15.19	-15.59
110	110	23.58	0.00	16.54	-20.62	-15.69
110	111	26.20	0.00	15.76	-22.19	-58.00
111	111	26.20	0.00	18.83	-28.22	-57.43
111	112	29.55	0.00	17.83	-30.23	-118.84
112	112	29.55	0.00	22.59	-32.86	-117.38
112	10113	32.90	0.00	21.59	-34.87	-191.38
113	113	32.90	0.00	-34.48	-31.58	-189.89
113	114	36.03	0.00	-35.42	-33.46	-80.50
114	114	36.03	0.00	-27.69	-25.60	-79.36
114	115	39.16	0.00	-28.63	-27.47	8.78
115	115	39.16	0.00	-19.87	-16.39	9.48
115	116	42.29	0.00	-20.81	-18.27	73.15
116	116	42.29	0.00	-11.61	-5.79	73.33
116	117	45.42	0.00	-12.55	-7.67	111.15
117	117	45.42	0.00	-3.53	4.24	110.81
117	118	48.55	0.00	-4.47	2.36	123.34
118	118	48.55	0.00	3.77	11.82	122.53
118	119	51.68	0.00	2.83	9.94	112.21
119	119	51.68	0.00	9.79	15.34	111.04
119	120	54.81	0.00	8.85	13.47	81.88
120	120	54.81	0.00	14.19	13.78	80.55
120	121	57.94	0.00	13.25	11.90	37.61
121	121	57.94	0.00	16.92	6.95	36.40
121	122	61.07	0.00	15.98	5.07	-15.09
122	122	61.07	0.00	18.35	-4.01	-15.79
122	123	64.20	0.00	17.41	-5.89	-71.75
123	123	64.20	0.00	19.47	-16.50	-71.42
123	124	67.55	0.00	18.47	-18.51	-134.97
124	124	67.55	0.00	21.81	-25.70	-133.58
124	10125	70.90	0.00	20.80	-27.71	-204.95
125	125	70.90	0.00	-33.84	-28.43	-203.37
125	126	74.23	0.00	-34.84	-30.43	-89.01
126	126	74.23	0.00	-27.55	-25.08	-87.62
126	127	77.56	0.00	-28.55	-27.08	5.79

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

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[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-19.82	-17.20	6.71
127	128	80.89	0.00	-20.82	-19.20	74.37
128	128	80.89	0.00	-11.34	-6.98	74.71
128	129	84.22	0.00	-12.34	-8.98	114.14
129	129	84.22	0.00	-2.90	3.12	113.86
129	130	87.55	0.00	-3.89	1.12	125.17
130	130	87.55	0.00	4.74	10.67	124.32
130	131	90.88	0.00	3.74	8.67	110.19
131	131	90.88	0.00	10.90	13.55	108.90
131	132	94.21	0.00	9.90	11.55	74.27
132	132	94.21	0.00	15.12	10.32	72.77
132	133	97.54	0.00	14.12	8.32	24.07
133	133	97.54	0.00	17.31	0.66	22.72
133	134	100.87	0.00	16.31	-1.34	-33.26
134	134	100.87	0.00	17.91	-14.04	-33.99
134	135	104.20	0.00	16.91	-16.03	-91.95
135	135	104.20	0.00	18.05	-28.95	-91.43
135	136	107.55	0.00	17.04	-30.96	-150.21
136	136	107.55	0.00	19.38	-38.88	-148.71
136	10137	110.90	0.00	18.38	-40.89	-211.96
137	137	110.90	0.00	-38.35	-42.16	-210.19
137	138	113.77	0.00	-39.21	-43.89	-98.89
138	138	113.77	0.00	-32.95	-39.46	-97.26
138	139	116.64	0.00	-33.81	-41.18	-1.45
139	139	116.64	0.00	-26.04	-31.96	-0.15
139	140	119.51	0.00	-26.90	-33.68	75.81
140	140	119.51	0.00	-18.05	-21.06	76.65
140	141	122.38	0.00	-18.91	-22.78	129.68
141	141	122.38	0.00	-9.53	-8.49	129.98
141	142	125.25	0.00	-10.39	-10.21	158.56
142	142	125.25	0.00	-1.09	3.83	158.27
142	143	128.12	0.00	-1.95	2.10	162.63
143	143	128.12	0.00	6.61	13.83	161.75
143	144	130.99	0.00	5.75	12.10	144.01
144	144	130.99	0.00	12.92	19.44	142.56
144	145	133.86	0.00	12.06	17.72	106.71
145	145	133.86	0.00	17.21	18.71	104.78
145	146	136.73	0.00	16.35	16.99	56.62
146	146	136.73	0.00	18.94	9.92	54.34
146	147	139.60	0.00	18.08	8.19	1.21
301	101	0.00	0.00	-1.69	0.35	1.57
301	2001	0.00	0.00	-1.69	0.35	2.85
302	102	2.62	0.00	-4.15	0.62	0.72
302	2002	2.62	0.00	-4.15	0.62	3.86
303	103	5.24	0.00	-4.74	0.44	-1.16
303	2003	5.24	0.00	-4.74	0.44	2.43
304	104	7.86	0.00	-5.08	0.19	-2.23
304	2004	7.86	0.00	-5.08	0.19	1.61

CÁLCULO TENSIONAL

Hipótesis de cálculo:

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[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-5.13	-0.07	-2.36
305	2005	10.48	0.00	-5.13	-0.07	1.51
306	106	13.10	0.00	-4.88	-0.31	-1.57
306	2006	13.10	0.00	-4.88	-0.31	2.12
307	107	15.72	0.00	-4.38	-0.48	-0.01
307	2007	15.72	0.00	-4.38	-0.48	3.30
308	108	18.34	0.00	-3.74	-0.53	2.02
308	2008	18.34	0.00	-3.74	-0.53	4.85
309	109	20.96	0.00	-3.09	-0.42	4.05
309	2009	20.96	0.00	-3.09	-0.42	6.39
310	110	23.58	0.00	-2.65	-0.10	5.43
310	2010	23.58	0.00	-2.65	-0.10	7.44
311	111	26.20	0.00	-3.08	0.57	6.03
311	2011	26.20	0.00	-3.08	0.57	8.35
312	112	29.55	0.00	-4.76	1.45	2.63
312	2012	29.55	0.00	-4.76	1.45	6.24
313	113	32.90	0.00	-6.46	1.49	-3.29
313	2013	32.90	0.00	-6.46	1.49	1.59
314	114	36.03	0.00	-7.73	1.14	-7.86
314	2014	36.03	0.00	-7.73	1.14	-2.02
315	115	39.16	0.00	-8.75	0.70	-11.08
315	2015	39.16	0.00	-8.75	0.70	-4.47
316	116	42.29	0.00	-9.20	0.18	-12.48
316	2016	42.29	0.00	-9.20	0.18	-5.52
317	117	45.42	0.00	-9.02	-0.34	-11.91
317	2017	45.42	0.00	-9.02	-0.34	-5.09
318	118	48.55	0.00	-8.24	-0.82	-9.45
318	2018	48.55	0.00	-8.24	-0.82	-3.22
319	119	51.68	0.00	-6.96	-1.17	-5.40
319	2019	51.68	0.00	-6.96	-1.17	-0.14
320	120	54.81	0.00	-5.34	-1.33	-0.31
320	2020	54.81	0.00	-5.34	-1.33	3.73
321	121	57.94	0.00	-3.67	-1.21	4.95
321	2021	57.94	0.00	-3.67	-1.21	7.73
322	122	61.07	0.00	-2.37	-0.70	9.08
322	2022	61.07	0.00	-2.37	-0.70	10.87
323	123	64.20	0.00	-2.06	0.33	10.62
323	2023	64.20	0.00	-2.06	0.33	12.18
324	124	67.55	0.00	-3.34	1.39	7.19
324	2024	67.55	0.00	-3.34	1.39	9.71
325	125	70.90	0.00	-5.21	1.59	0.72
325	2025	70.90	0.00	-5.21	1.59	4.66
326	126	74.23	0.00	-7.29	1.39	-5.35
326	2026	74.23	0.00	-7.29	1.39	0.16
327	127	77.56	0.00	-8.73	0.92	-9.88
327	2027	77.56	0.00	-8.73	0.92	-3.28
328	128	80.89	0.00	-9.48	0.34	-12.22
328	2028	80.89	0.00	-9.48	0.34	-5.05

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

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Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-9.44	-0.28	-12.10
329	2029	84.22	0.00	-9.44	-0.28	-4.96
330	130	87.55	0.00	-8.64	-0.85	-9.55
330	2030	87.55	0.00	-8.64	-0.85	-3.02
331	131	90.88	0.00	-7.16	-1.29	-4.88
331	2031	90.88	0.00	-7.16	-1.29	0.53
332	132	94.21	0.00	-5.22	-1.50	1.23
332	2032	94.21	0.00	-5.22	-1.50	5.18
333	133	97.54	0.00	-3.19	-1.35	7.66
333	2033	97.54	0.00	-3.19	-1.35	10.07
334	134	100.87	0.00	-1.59	-0.72	12.70
334	2034	100.87	0.00	-1.59	-0.72	13.90
335	135	104.20	0.00	-1.14	0.52	12.91
335	2035	104.20	0.00	-1.14	0.52	13.78
336	136	107.55	0.00	-2.34	1.50	7.93
336	2036	107.55	0.00	-2.34	1.50	9.69
337	137	110.90	0.00	-4.45	1.78	1.27
337	2037	110.90	0.00	-4.45	1.78	4.64
338	138	113.77	0.00	-6.26	1.63	-4.43
338	2038	113.77	0.00	-6.26	1.63	0.30
339	139	116.64	0.00	-7.78	1.30	-9.22
339	2039	116.64	0.00	-7.78	1.30	-3.34
340	140	119.51	0.00	-8.85	0.84	-12.62
340	2040	119.51	0.00	-8.85	0.84	-5.93
341	141	122.38	0.00	-9.38	0.30	-14.30
341	2041	122.38	0.00	-9.38	0.30	-7.20
342	142	125.25	0.00	-9.30	-0.29	-14.03
342	2042	125.25	0.00	-9.30	-0.29	-7.00
343	143	128.12	0.00	-8.56	-0.88	-11.72
343	2043	128.12	0.00	-8.56	-0.88	-5.25
344	144	130.99	0.00	-7.17	-1.45	-7.34
344	2044	130.99	0.00	-7.17	-1.45	-1.92
345	145	133.86	0.00	-5.15	-1.93	-0.99
345	2045	133.86	0.00	-5.15	-1.93	2.91
346	146	136.73	0.00	-2.59	-2.28	7.08
346	2046	136.73	0.00	-2.59	-2.28	9.04
347	147	139.60	0.00	0.18	-1.21	8.19
347	2047	139.60	0.00	0.18	-1.21	8.06
201	2001	0.00	0.00	-1.69	0.35	2.85
201	1001	0.00	0.00	-1.69	0.35	10.94
202	2002	2.62	0.00	-4.15	0.62	3.86
202	1002	2.62	0.00	-4.15	0.62	23.72
203	2003	5.24	0.00	-4.75	0.44	2.43
203	1003	5.24	0.00	-4.75	0.44	25.15
204	2004	7.86	0.00	-5.08	0.19	1.61
204	1004	7.86	0.00	-5.08	0.19	25.96
205	2005	10.48	0.00	-5.13	-0.07	1.51
205	1005	10.48	0.00	-5.13	-0.07	26.06

CÁLCULO TENSIONAL

Hipótesis de cálculo:

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[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-4.88	-0.31	2.12
206	1006	13.10	0.00	-4.88	-0.31	25.46
207	2007	15.72	0.00	-4.38	-0.48	3.30
207	1007	15.72	0.00	-4.38	-0.48	24.28
208	2008	18.34	0.00	-3.74	-0.53	4.85
208	1008	18.34	0.00	-3.74	-0.53	22.74
209	2009	20.96	0.00	-3.09	-0.42	6.39
209	1009	20.96	0.00	-3.09	-0.42	21.19
210	2010	23.58	0.00	-2.65	-0.10	7.44
210	1010	23.58	0.00	-2.65	-0.10	20.15
211	2011	26.20	0.00	-3.08	0.57	8.35
211	1011	26.20	0.00	-3.08	0.57	23.08
212	2012	29.55	0.00	-4.76	1.45	6.24
212	1012	29.55	0.00	-4.76	1.45	29.05
213	2013	32.90	0.00	-6.46	1.49	1.59
213	1013	32.90	0.00	-6.46	1.49	32.54
214	2014	36.03	0.00	-7.73	1.14	-2.02
214	1014	36.03	0.00	-7.73	1.14	34.99
215	2015	39.16	0.00	-8.75	0.70	-4.47
215	1015	39.16	0.00	-8.75	0.70	37.45
216	2016	42.29	0.00	-9.20	0.18	-5.52
216	1016	42.29	0.00	-9.20	0.18	38.51
217	2017	45.42	0.00	-9.02	-0.34	-5.09
217	1017	45.42	0.00	-9.02	-0.34	38.09
218	2018	48.55	0.00	-8.24	-0.82	-3.22
218	1018	48.55	0.00	-8.24	-0.82	36.23
219	2019	51.68	0.00	-6.96	-1.17	-0.14
219	1019	51.68	0.00	-6.96	-1.17	33.16
220	2020	54.81	0.00	-5.34	-1.33	3.73
220	1020	54.81	0.00	-5.34	-1.33	29.30
221	2021	57.94	0.00	-3.67	-1.21	7.73
221	1021	57.94	0.00	-3.67	-1.21	25.32
222	2022	61.07	0.00	-2.37	-0.70	10.87
222	1022	61.07	0.00	-2.37	-0.70	22.19
223	2023	64.20	0.00	-2.06	0.33	12.18
223	1023	64.20	0.00	-2.06	0.33	22.06
224	2024	67.55	0.00	-3.34	1.39	9.71
224	1024	67.55	0.00	-3.34	1.39	25.70
225	2025	70.90	0.00	-5.21	1.59	4.66
225	1025	70.90	0.00	-5.21	1.59	29.61
226	2026	74.23	0.00	-7.29	1.39	0.16
226	1026	74.23	0.00	-7.29	1.39	35.07
227	2027	77.56	0.00	-8.73	0.92	-3.28
227	1027	77.56	0.00	-8.73	0.92	38.53
228	2028	80.89	0.00	-9.48	0.34	-5.05
228	1028	80.89	0.00	-9.48	0.34	40.32
229	2029	84.22	0.00	-9.44	-0.28	-4.96
229	1029	84.22	0.00	-9.44	-0.28	40.25

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IZQI

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQI

[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-8.64	-0.85	-3.02
230	1030	87.55	0.00	-8.64	-0.85	38.33
231	2031	90.88	0.00	-7.16	-1.29	0.53
231	1031	90.88	0.00	-7.16	-1.29	34.81
232	2032	94.21	0.00	-5.22	-1.50	5.18
232	1032	94.21	0.00	-5.22	-1.50	30.19
233	2033	97.54	0.00	-3.19	-1.35	10.07
233	1033	97.54	0.00	-3.19	-1.35	25.33
234	2034	100.87	0.00	-1.59	-0.72	13.90
234	1034	100.87	0.00	-1.59	-0.72	21.53
235	2035	104.20	0.00	-1.14	0.52	13.78
235	1035	104.20	0.00	-1.14	0.52	19.24
236	2036	107.55	0.00	-2.34	1.50	9.69
236	1036	107.55	0.00	-2.34	1.50	20.90
237	2037	110.90	0.00	-4.45	1.78	4.64
237	1037	110.90	0.00	-4.45	1.78	25.95
238	2038	113.77	0.00	-6.26	1.63	0.30
238	1038	113.77	0.00	-6.26	1.63	30.26
239	2039	116.64	0.00	-7.78	1.30	-3.34
239	1039	116.64	0.00	-7.78	1.30	33.89
240	2040	119.51	0.00	-8.85	0.84	-5.93
240	1040	119.51	0.00	-8.85	0.84	36.46
241	2041	122.38	0.00	-9.38	0.30	-7.20
241	1041	122.38	0.00	-9.38	0.30	37.72
242	2042	125.25	0.00	-9.30	-0.29	-7.01
242	1042	125.25	0.00	-9.30	-0.29	37.51
243	2043	128.12	0.00	-8.56	-0.88	-5.25
243	1043	128.12	0.00	-8.56	-0.88	35.75
244	2044	130.99	0.00	-7.17	-1.45	-1.92
244	1044	130.99	0.00	-7.17	-1.45	32.41
245	2045	133.86	0.00	-5.15	-1.93	2.91
245	1045	133.86	0.00	-5.15	-1.93	27.58
246	2046	136.73	0.00	-2.59	-2.28	9.04
246	1046	136.73	0.00	-2.59	-2.28	21.45
247	2047	139.60	0.00	0.18	-1.21	8.06
247	1047	139.60	0.00	0.18	-1.21	7.18
401	1001	0.00	0.00	-1.69	0.35	10.94
401	1	0.00	0.00	-1.69	0.35	12.21
402	1002	2.62	0.00	-4.15	0.62	23.72
402	2	2.62	0.00	-4.15	0.62	26.85
403	1003	5.24	0.00	-4.75	0.44	25.15
403	3	5.24	0.00	-4.75	0.44	28.73
404	1004	7.86	0.00	-5.09	0.19	25.96
404	4	7.86	0.00	-5.09	0.19	29.80
405	1005	10.48	0.00	-5.13	-0.07	26.06
405	5	10.48	0.00	-5.13	-0.07	29.94
406	1006	13.10	0.00	-4.88	-0.31	25.46
406	6	13.10	0.00	-4.88	-0.31	29.15

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQI

[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-4.38	-0.48	24.28
407	7	15.72	0.00	-4.38	-0.48	27.59
408	1008	18.34	0.00	-3.74	-0.53	22.74
408	8	18.34	0.00	-3.74	-0.53	25.56
409	1009	20.96	0.00	-3.09	-0.42	21.19
409	9	20.96	0.00	-3.09	-0.42	23.53
410	1010	23.58	0.00	-2.65	-0.10	20.15
410	10	23.58	0.00	-2.65	-0.10	22.15
411	1011	26.20	0.00	-3.08	0.57	23.08
411	11	26.20	0.00	-3.08	0.57	25.41
412	1012	29.55	0.00	-4.76	1.45	29.05
412	12	29.55	0.00	-4.76	1.45	32.65
413	1013	32.90	0.00	-6.46	1.49	32.54
413	13	32.90	0.00	-6.46	1.49	37.42
414	1014	36.03	0.00	-7.73	1.14	34.99
414	14	36.03	0.00	-7.73	1.14	40.84
415	1015	39.16	0.00	-8.75	0.70	37.45
415	15	39.16	0.00	-8.75	0.70	44.07
416	1016	42.29	0.00	-9.20	0.18	38.51
416	16	42.29	0.00	-9.20	0.18	45.47
417	1017	45.42	0.00	-9.02	-0.34	38.09
417	17	45.42	0.00	-9.02	-0.34	44.91
418	1018	48.55	0.00	-8.24	-0.82	36.23
418	18	48.55	0.00	-8.24	-0.82	42.46
419	1019	51.68	0.00	-6.96	-1.17	33.16
419	19	51.68	0.00	-6.96	-1.17	38.42
420	1020	54.81	0.00	-5.34	-1.33	29.30
420	20	54.81	0.00	-5.34	-1.33	33.34
421	1021	57.94	0.00	-3.67	-1.21	25.32
421	21	57.94	0.00	-3.67	-1.21	28.09
422	1022	61.07	0.00	-2.37	-0.70	22.19
422	22	61.07	0.00	-2.37	-0.70	23.98
423	1023	64.20	0.00	-2.06	0.33	22.06
423	23	64.20	0.00	-2.06	0.33	23.62
424	1024	67.55	0.00	-3.34	1.39	25.70
424	24	67.55	0.00	-3.34	1.39	28.22
425	1025	70.90	0.00	-5.21	1.59	29.61
425	25	70.90	0.00	-5.21	1.59	33.55
426	1026	74.23	0.00	-7.29	1.39	35.07
426	26	74.23	0.00	-7.29	1.39	40.59
427	1027	77.56	0.00	-8.73	0.92	38.53
427	27	77.56	0.00	-8.73	0.92	45.13
428	1028	80.89	0.00	-9.48	0.34	40.32
428	28	80.89	0.00	-9.48	0.34	47.49
429	1029	84.22	0.00	-9.44	-0.28	40.25
429	29	84.22	0.00	-9.44	-0.28	47.39
430	1030	87.55	0.00	-8.64	-0.85	38.33
430	30	87.55	0.00	-8.64	-0.85	44.86

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQI

[1; 1]IZQI

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-7.16	-1.29	34.81
431	31	90.88	0.00	-7.16	-1.29	40.22
432	1032	94.21	0.00	-5.22	-1.50	30.19
432	32	94.21	0.00	-5.22	-1.50	34.13
433	1033	97.54	0.00	-3.19	-1.35	25.33
433	33	97.54	0.00	-3.19	-1.35	27.74
434	1034	100.87	0.00	-1.59	-0.72	21.53
434	34	100.87	0.00	-1.59	-0.72	22.74
435	1035	104.20	0.00	-1.14	0.52	19.24
435	35	104.20	0.00	-1.14	0.52	20.11
436	1036	107.55	0.00	-2.34	1.50	20.90
436	36	107.55	0.00	-2.34	1.50	22.67
437	1037	110.90	0.00	-4.45	1.78	25.95
437	37	110.90	0.00	-4.45	1.78	29.31
438	1038	113.77	0.00	-6.26	1.63	30.26
438	38	113.77	0.00	-6.26	1.63	34.99
439	1039	116.64	0.00	-7.78	1.30	33.89
439	39	116.64	0.00	-7.78	1.30	39.77
440	1040	119.51	0.00	-8.85	0.84	36.46
440	40	119.51	0.00	-8.85	0.84	43.15
441	1041	122.38	0.00	-9.38	0.30	37.72
441	41	122.38	0.00	-9.38	0.30	44.81
442	1042	125.25	0.00	-9.30	-0.29	37.51
442	42	125.25	0.00	-9.30	-0.29	44.54
443	1043	128.12	0.00	-8.56	-0.88	35.75
443	43	128.12	0.00	-8.56	-0.88	42.22
444	1044	130.99	0.00	-7.17	-1.45	32.41
444	44	130.99	0.00	-7.17	-1.45	37.83
445	1045	133.86	0.00	-5.15	-1.93	27.58
445	45	133.86	0.00	-5.15	-1.93	31.48
446	1046	136.73	0.00	-2.59	-2.28	21.45
446	46	136.73	0.00	-2.59	-2.28	23.41
447	1047	139.60	0.00	0.18	-1.21	7.18
447	47	139.60	0.00	0.18	-1.21	7.05

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-78.20	14.24	-0.26
1	2	2.62	0.00	-52.52	-17.99	170.97
2	2	2.62	0.00	-56.65	12.35	170.49
2	3	5.24	0.00	-30.97	-19.88	285.27
3	3	5.24	0.00	-35.56	11.92	284.93
3	4	7.86	0.00	-9.89	-20.31	344.47
4	4	7.86	0.00	-14.73	12.29	344.33
4	5	10.48	0.00	10.94	-19.94	349.29
5	5	10.48	0.00	6.10	12.67	349.37
5	6	13.10	0.00	31.77	-19.56	299.77
6	6	13.10	0.00	27.17	12.26	300.06
6	7	15.72	0.00	52.85	-19.96	195.23
7	7	15.72	0.00	48.71	10.41	195.66
7	8	18.34	0.00	74.39	-21.82	34.41
8	8	18.34	0.00	70.83	6.71	34.87
8	9	20.96	0.00	96.51	-25.52	-184.34
9	9	20.96	0.00	93.53	1.21	-183.98
9	10	23.58	0.00	119.21	-31.02	-462.67
10	10	23.58	0.00	116.60	-5.47	-462.62
10	10011	26.20	0.00	142.27	-37.69	-801.74
11	11	26.20	0.00	-143.71	-8.26	-802.34
11	12	29.55	0.00	-110.88	-49.47	-375.92
12	12	29.55	0.00	-115.63	-12.31	-377.35
12	13	32.90	0.00	-82.80	-53.52	-44.97
13	13	32.90	0.00	-89.20	-11.92	-46.41
13	14	36.03	0.00	-58.52	-50.42	184.77
14	14	36.03	0.00	-66.11	-5.79	183.68
14	15	39.16	0.00	-35.44	-44.29	342.60
15	15	39.16	0.00	-43.97	3.33	341.95
15	16	42.29	0.00	-13.30	-35.17	431.57
16	16	42.29	0.00	-22.22	13.69	431.42
16	17	45.42	0.00	8.45	-24.81	452.97
17	17	45.42	0.00	-0.28	23.42	453.30
17	18	48.55	0.00	30.40	-15.08	406.16
18	18	48.55	0.00	22.43	30.77	406.94
18	19	51.68	0.00	53.10	-7.73	288.73
19	19	51.68	0.00	46.36	34.27	289.84
19	20	54.81	0.00	77.04	-4.23	96.73
20	20	54.81	0.00	71.82	32.95	97.98
20	21	57.94	0.00	102.50	-5.54	-174.83
21	21	57.94	0.00	98.85	26.72	-173.70
21	22	61.07	0.00	129.52	-11.78	-531.10
22	22	61.07	0.00	127.09	16.65	-530.46
22	10023	64.20	0.00	157.77	-21.85	-976.26
23	23	64.20	0.00	-156.83	6.53	-976.59
23	24	67.55	0.00	-124.00	-34.68	-506.20
24	24	67.55	0.00	-127.42	-1.66	-507.53
24	25	70.90	0.00	-94.59	-42.86	-135.67

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-99.77	-4.99	-137.16
25	26	74.23	0.00	-67.14	-45.95	140.74
26	26	74.23	0.00	-74.28	-1.30	139.45
26	27	77.56	0.00	-41.64	-42.26	332.47
27	27	77.56	0.00	-50.11	6.57	331.62
27	28	80.89	0.00	-17.48	-34.39	444.16
28	28	80.89	0.00	-26.61	16.56	443.87
28	29	84.22	0.00	6.02	-24.40	478.16
29	29	84.22	0.00	-3.05	26.35	478.45
29	30	87.55	0.00	29.58	-14.61	434.27
30	30	87.55	0.00	21.30	33.68	435.09
30	31	90.88	0.00	53.94	-7.28	309.82
31	31	90.88	0.00	47.06	36.58	311.04
31	32	94.21	0.00	79.70	-4.38	99.99
32	32	94.21	0.00	74.65	33.75	101.40
32	33	97.54	0.00	107.28	-7.21	-201.52
33	33	97.54	0.00	104.15	24.92	-200.26
33	34	100.87	0.00	136.78	-16.03	-601.40
34	34	100.87	0.00	135.12	11.47	-600.74
34	10035	104.20	0.00	167.75	-29.49	-1105.00
35	35	104.20	0.00	-171.33	-4.79	-1105.54
35	36	107.55	0.00	-138.50	-45.99	-586.58
36	36	107.55	0.00	-140.90	-19.20	-588.01
36	37	110.90	0.00	-108.07	-60.40	-170.98
37	37	110.90	0.00	-112.49	-27.27	-172.66
37	38	113.77	0.00	-84.36	-62.57	109.81
38	38	113.77	0.00	-90.48	-24.09	108.28
38	39	116.64	0.00	-62.35	-59.39	327.60
39	39	116.64	0.00	-69.89	-16.45	326.38
39	40	119.51	0.00	-41.77	-51.75	486.61
40	40	119.51	0.00	-50.30	-5.67	485.83
40	41	122.38	0.00	-22.18	-40.97	589.84
41	41	122.38	0.00	-31.20	6.63	589.57
41	42	125.25	0.00	-3.07	-28.67	638.75
42	42	125.25	0.00	-12.00	18.63	639.03
42	43	128.12	0.00	16.12	-16.67	633.12
43	43	128.12	0.00	7.89	28.43	633.95
43	44	130.99	0.00	36.02	-6.87	570.94
44	44	130.99	0.00	29.10	34.09	572.30
44	45	133.86	0.00	57.22	-1.21	448.43
45	45	133.86	0.00	52.19	33.80	450.24
45	46	136.73	0.00	80.32	-1.51	260.08
46	46	136.73	0.00	77.69	25.94	262.21
46	47	139.60	0.00	105.82	-9.36	-1.13
101	101	0.00	0.00	-41.65	-3.09	0.26
101	102	2.62	0.00	-13.87	-0.73	73.00
102	102	2.62	0.00	-9.75	-5.06	73.48
102	103	5.24	0.00	-10.27	-2.71	99.70

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-5.68	-5.58	100.04
103	104	7.86	0.00	-6.20	-3.22	115.61
104	104	7.86	0.00	-1.36	-5.29	115.75
104	105	10.48	0.00	-1.88	-2.93	119.99
105	105	10.48	0.00	2.97	-4.99	119.91
105	106	13.10	0.00	2.44	-2.63	112.82
106	106	13.10	0.00	7.04	-5.48	112.53
106	107	15.72	0.00	6.52	-3.12	94.77
107	107	15.72	0.00	10.66	-7.42	94.34
107	108	18.34	0.00	10.13	-5.07	67.11
108	108	18.34	0.00	13.69	-11.21	66.64
108	109	20.96	0.00	13.16	-8.85	31.47
109	109	20.96	0.00	16.14	-16.81	31.12
109	110	23.58	0.00	15.62	-14.45	-10.48
110	110	23.58	0.00	18.22	-23.57	-10.53
110	111	26.20	0.00	17.70	-21.22	-57.59
111	111	26.20	0.00	20.77	-31.30	-56.99
111	112	29.55	0.00	20.10	-28.28	-125.45
112	112	29.55	0.00	24.86	-35.48	-124.02
112	10113	32.90	0.00	24.19	-32.47	-206.17
113	113	32.90	0.00	-35.65	-33.77	-204.73
113	114	36.03	0.00	-36.28	-30.96	-92.17
114	114	36.03	0.00	-28.69	-27.78	-91.08
114	115	39.16	0.00	-29.31	-24.97	-0.31
115	115	39.16	0.00	-20.78	-18.81	0.34
115	116	42.29	0.00	-21.41	-15.99	66.36
116	116	42.29	0.00	-12.48	-8.61	66.52
116	117	45.42	0.00	-13.11	-5.80	106.56
117	117	45.42	0.00	-4.38	0.95	106.22
117	118	48.55	0.00	-5.00	3.77	120.90
118	118	48.55	0.00	2.97	8.12	120.12
118	119	51.68	0.00	2.34	10.94	111.81
119	119	51.68	0.00	9.08	11.43	110.70
119	120	54.81	0.00	8.46	14.24	83.26
120	120	54.81	0.00	13.67	9.90	82.01
120	121	57.94	0.00	13.04	12.72	40.20
121	121	57.94	0.00	16.69	3.44	39.07
121	122	61.07	0.00	16.07	6.26	-12.20
122	122	61.07	0.00	18.50	-6.86	-12.84
122	123	64.20	0.00	17.87	-4.04	-69.75
123	123	64.20	0.00	20.05	-18.70	-69.42
123	124	67.55	0.00	19.38	-15.69	-135.46
124	124	67.55	0.00	22.79	-27.19	-134.13
124	10125	70.90	0.00	22.12	-24.17	-209.37
125	125	70.90	0.00	-34.58	-29.38	-207.88
125	126	74.23	0.00	-35.25	-26.39	-91.61
126	126	74.23	0.00	-28.11	-26.04	-90.32
126	127	77.56	0.00	-28.77	-23.04	4.38

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-20.30	-18.53	5.22
127	128	80.89	0.00	-20.97	-15.53	73.95
128	128	80.89	0.00	-11.83	-8.92	74.24
128	129	84.22	0.00	-12.50	-5.93	114.76
129	129	84.22	0.00	-3.43	0.46	114.47
129	130	87.55	0.00	-4.10	3.46	127.00
130	130	87.55	0.00	4.19	7.35	126.19
130	131	90.88	0.00	3.52	10.35	113.36
131	131	90.88	0.00	10.39	9.78	112.13
131	132	94.21	0.00	9.73	12.78	78.64
132	132	94.21	0.00	14.77	6.45	77.23
132	133	97.54	0.00	14.11	9.44	29.14
133	133	97.54	0.00	17.24	-2.92	27.88
133	134	100.87	0.00	16.58	0.07	-28.43
134	134	100.87	0.00	18.24	-16.97	-29.09
134	135	104.20	0.00	17.57	-13.97	-88.72
135	135	104.20	0.00	18.83	-30.78	-88.20
135	136	107.55	0.00	18.16	-27.76	-150.15
136	136	107.55	0.00	20.56	-39.42	-148.72
136	10137	110.90	0.00	19.89	-36.41	-216.47
137	137	110.90	0.00	-38.77	-41.72	-214.78
137	138	113.77	0.00	-39.35	-39.14	-102.68
138	138	113.77	0.00	-33.23	-39.08	-101.15
138	139	116.64	0.00	-33.80	-36.50	-4.96
139	139	116.64	0.00	-26.26	-31.95	-3.75
139	140	119.51	0.00	-26.84	-29.37	72.45
140	140	119.51	0.00	-18.30	-21.66	73.23
140	141	122.38	0.00	-18.87	-19.08	126.58
141	141	122.38	0.00	-9.85	-9.85	126.85
141	142	125.25	0.00	-10.43	-7.26	155.95
142	142	125.25	0.00	-1.50	1.69	155.67
142	143	128.12	0.00	-2.07	4.27	160.79
143	143	128.12	0.00	6.16	11.03	159.96
143	144	130.99	0.00	5.59	13.61	143.10
144	144	130.99	0.00	12.51	16.25	141.74
144	145	133.86	0.00	11.93	18.83	106.67
145	145	133.86	0.00	16.96	15.51	104.87
145	146	136.73	0.00	16.39	18.09	57.01
146	146	136.73	0.00	19.02	7.21	54.88
146	147	139.60	0.00	18.44	9.80	1.13
301	101	0.00	0.00	-1.77	0.26	3.09
301	2001	0.00	0.00	-1.77	0.26	4.43
302	102	2.62	0.00	-4.13	0.48	4.33
302	2002	2.62	0.00	-4.13	0.48	7.45
303	103	5.24	0.00	-4.59	0.34	2.87
303	2003	5.24	0.00	-4.59	0.34	6.34
304	104	7.86	0.00	-4.85	0.14	2.07
304	2004	7.86	0.00	-4.85	0.14	5.73

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-4.85	-0.08	2.06
305	2005	10.48	0.00	-4.85	-0.08	5.73
306	106	13.10	0.00	-4.60	-0.29	2.85
306	2006	13.10	0.00	-4.60	-0.29	6.32
307	107	15.72	0.00	-4.14	-0.43	4.30
307	2007	15.72	0.00	-4.14	-0.43	7.43
308	108	18.34	0.00	-3.55	-0.47	6.14
308	2008	18.34	0.00	-3.55	-0.47	8.83
309	109	20.96	0.00	-2.98	-0.36	7.95
309	2009	20.96	0.00	-2.98	-0.36	10.21
310	110	23.58	0.00	-2.61	-0.04	9.13
310	2010	23.58	0.00	-2.61	-0.04	11.10
311	111	26.20	0.00	-3.07	0.59	10.08
311	2011	26.20	0.00	-3.07	0.59	12.40
312	112	29.55	0.00	-4.76	1.43	7.20
312	2012	29.55	0.00	-4.76	1.43	10.79
313	113	32.90	0.00	-6.40	1.44	1.31
313	2013	32.90	0.00	-6.40	1.44	6.14
314	114	36.03	0.00	-7.59	1.08	-3.17
314	2014	36.03	0.00	-7.59	1.08	2.56
315	115	39.16	0.00	-8.54	0.65	-6.15
315	2015	39.16	0.00	-8.54	0.65	0.30
316	116	42.29	0.00	-8.93	0.16	-7.38
316	2016	42.29	0.00	-8.93	0.16	-0.63
317	117	45.42	0.00	-8.73	-0.34	-6.75
317	2017	45.42	0.00	-8.73	-0.34	-0.15
318	118	48.55	0.00	-7.97	-0.78	-4.35
318	2018	48.55	0.00	-7.97	-0.78	1.67
319	119	51.68	0.00	-6.74	-1.11	-0.48
319	2019	51.68	0.00	-6.74	-1.11	4.61
320	120	54.81	0.00	-5.21	-1.25	4.34
320	2020	54.81	0.00	-5.21	-1.25	8.28
321	121	57.94	0.00	-3.65	-1.13	9.28
321	2021	57.94	0.00	-3.65	-1.13	12.04
322	122	61.07	0.00	-2.43	-0.64	13.12
322	2022	61.07	0.00	-2.43	-0.64	14.96
323	123	64.20	0.00	-2.18	0.33	14.66
323	2023	64.20	0.00	-2.18	0.33	16.31
324	124	67.55	0.00	-3.42	1.33	11.50
324	2024	67.55	0.00	-3.42	1.33	14.08
325	125	70.90	0.00	-5.18	1.49	5.21
325	2025	70.90	0.00	-5.18	1.49	9.13
326	126	74.23	0.00	-7.14	1.29	-0.35
326	2026	74.23	0.00	-7.14	1.29	5.05
327	127	77.56	0.00	-8.47	0.84	-4.52
327	2027	77.56	0.00	-8.47	0.84	1.89
328	128	80.89	0.00	-9.14	0.29	-6.61
328	2028	80.89	0.00	-9.14	0.29	0.30

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-9.07	-0.29	-6.39
329	2029	84.22	0.00	-9.07	-0.29	0.47
330	130	87.55	0.00	-8.28	-0.82	-3.89
330	2030	87.55	0.00	-8.28	-0.82	2.37
331	131	90.88	0.00	-6.87	-1.22	0.56
331	2031	90.88	0.00	-6.87	-1.22	5.76
332	132	94.21	0.00	-5.05	-1.41	6.34
332	2032	94.21	0.00	-5.05	-1.41	10.15
333	133	97.54	0.00	-3.14	-1.26	12.37
333	2033	97.54	0.00	-3.14	-1.26	14.74
334	134	100.87	0.00	-1.66	-0.66	17.04
334	2034	100.87	0.00	-1.66	-0.66	18.30
335	135	104.20	0.00	-1.25	0.51	16.81
335	2035	104.20	0.00	-1.25	0.51	17.75
336	136	107.55	0.00	-2.40	1.43	11.66
336	2036	107.55	0.00	-2.40	1.43	13.48
337	137	110.90	0.00	-4.41	1.69	5.32
337	2037	110.90	0.00	-4.41	1.69	8.65
338	138	113.77	0.00	-6.12	1.53	-0.06
338	2038	113.77	0.00	-6.12	1.53	4.56
339	139	116.64	0.00	-7.54	1.21	-4.55
339	2039	116.64	0.00	-7.54	1.21	1.15
340	140	119.51	0.00	-8.54	0.78	-7.70
340	2040	119.51	0.00	-8.54	0.78	-1.25
341	141	122.38	0.00	-9.02	0.27	-9.23
341	2041	122.38	0.00	-9.02	0.27	-2.41
342	142	125.25	0.00	-8.93	-0.28	-8.95
342	2042	125.25	0.00	-8.93	-0.28	-2.20
343	143	128.12	0.00	-8.23	-0.83	-6.76
343	2043	128.12	0.00	-8.23	-0.83	-0.54
344	144	130.99	0.00	-6.92	-1.36	-2.63
344	2044	130.99	0.00	-6.92	-1.36	2.60
345	145	133.86	0.00	-5.03	-1.81	3.32
345	2045	133.86	0.00	-5.03	-1.81	7.12
346	146	136.73	0.00	-2.63	-2.13	10.88
346	2046	136.73	0.00	-2.63	-2.13	12.87
347	147	139.60	0.00	0.07	-1.13	9.80
347	2047	139.60	0.00	0.07	-1.13	9.74
201	2001	0.00	0.00	-1.77	0.26	4.43
201	1001	0.00	0.00	-1.77	0.26	12.90
202	2002	2.62	0.00	-4.13	0.48	7.45
202	1002	2.62	0.00	-4.13	0.48	27.21
203	2003	5.24	0.00	-4.59	0.34	6.34
203	1003	5.24	0.00	-4.59	0.34	28.32
204	2004	7.86	0.00	-4.85	0.14	5.73
204	1004	7.86	0.00	-4.85	0.14	28.93
205	2005	10.48	0.00	-4.85	-0.08	5.73
205	1005	10.48	0.00	-4.85	-0.08	28.94

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-4.60	-0.29	6.32
206	1006	13.10	0.00	-4.60	-0.29	28.34
207	2007	15.72	0.00	-4.14	-0.43	7.43
207	1007	15.72	0.00	-4.14	-0.43	27.24
208	2008	18.34	0.00	-3.55	-0.47	8.83
208	1008	18.34	0.00	-3.55	-0.47	25.84
209	2009	20.96	0.00	-2.98	-0.36	10.21
209	1009	20.96	0.00	-2.98	-0.36	24.47
210	2010	23.58	0.00	-2.61	-0.04	11.10
210	1010	23.58	0.00	-2.61	-0.04	23.58
211	2011	26.20	0.00	-3.07	0.59	12.40
211	1011	26.20	0.00	-3.07	0.59	27.11
212	2012	29.55	0.00	-4.76	1.43	10.79
212	1012	29.55	0.00	-4.76	1.43	33.56
213	2013	32.90	0.00	-6.40	1.44	6.14
213	1013	32.90	0.00	-6.40	1.44	36.76
214	2014	36.03	0.00	-7.59	1.08	2.56
214	1014	36.03	0.00	-7.59	1.08	38.89
215	2015	39.16	0.00	-8.54	0.65	0.30
215	1015	39.16	0.00	-8.54	0.65	41.17
216	2016	42.29	0.00	-8.93	0.16	-0.63
216	1016	42.29	0.00	-8.93	0.16	42.11
217	2017	45.42	0.00	-8.73	-0.34	-0.15
217	1017	45.42	0.00	-8.73	-0.34	41.64
218	2018	48.55	0.00	-7.97	-0.78	1.67
218	1018	48.55	0.00	-7.97	-0.78	39.83
219	2019	51.68	0.00	-6.74	-1.11	4.61
219	1019	51.68	0.00	-6.74	-1.11	36.90
220	2020	54.81	0.00	-5.21	-1.25	8.28
220	1020	54.81	0.00	-5.21	-1.25	33.24
221	2021	57.94	0.00	-3.65	-1.13	12.04
221	1021	57.94	0.00	-3.65	-1.13	29.50
222	2022	61.07	0.00	-2.43	-0.64	14.96
222	1022	61.07	0.00	-2.43	-0.64	26.60
223	2023	64.20	0.00	-2.18	0.33	16.31
223	1023	64.20	0.00	-2.18	0.33	26.73
224	2024	67.55	0.00	-3.42	1.33	14.08
224	1024	67.55	0.00	-3.42	1.33	30.44
225	2025	70.90	0.00	-5.19	1.49	9.13
225	1025	70.90	0.00	-5.19	1.49	33.95
226	2026	74.23	0.00	-7.14	1.29	5.05
226	1026	74.23	0.00	-7.14	1.29	39.24
227	2027	77.56	0.00	-8.47	0.84	1.89
227	1027	77.56	0.00	-8.47	0.84	42.43
228	2028	80.89	0.00	-9.14	0.29	0.30
228	1028	80.89	0.00	-9.14	0.29	44.04
229	2029	84.22	0.00	-9.07	-0.29	0.47
229	1029	84.22	0.00	-9.07	-0.29	43.90

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CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-8.28	-0.82	2.37
230	1030	87.55	0.00	-8.28	-0.82	42.03
231	2031	90.88	0.00	-6.87	-1.22	5.76
231	1031	90.88	0.00	-6.87	-1.22	38.67
232	2032	94.21	0.00	-5.05	-1.41	10.15
232	1032	94.21	0.00	-5.05	-1.41	34.31
233	2033	97.54	0.00	-3.14	-1.26	14.74
233	1033	97.54	0.00	-3.14	-1.26	29.76
234	2034	100.87	0.00	-1.66	-0.66	18.30
234	1034	100.87	0.00	-1.66	-0.66	26.24
235	2035	104.20	0.00	-1.25	0.51	17.75
235	1035	104.20	0.00	-1.25	0.51	23.76
236	2036	107.55	0.00	-2.40	1.43	13.48
236	1036	107.55	0.00	-2.40	1.43	24.98
237	2037	110.90	0.00	-4.41	1.69	8.65
237	1037	110.90	0.00	-4.41	1.69	29.79
238	2038	113.77	0.00	-6.12	1.53	4.56
238	1038	113.77	0.00	-6.12	1.53	33.86
239	2039	116.64	0.00	-7.54	1.21	1.15
239	1039	116.64	0.00	-7.54	1.21	37.25
240	2040	119.51	0.00	-8.54	0.78	-1.25
240	1040	119.51	0.00	-8.54	0.78	39.63
241	2041	122.38	0.00	-9.02	0.27	-2.41
241	1041	122.38	0.00	-9.02	0.27	40.78
242	2042	125.25	0.00	-8.93	-0.28	-2.20
242	1042	125.25	0.00	-8.93	-0.28	40.55
243	2043	128.12	0.00	-8.23	-0.83	-0.54
243	1043	128.12	0.00	-8.23	-0.83	38.87
244	2044	130.99	0.00	-6.92	-1.36	2.60
244	1044	130.99	0.00	-6.92	-1.36	35.73
245	2045	133.86	0.00	-5.03	-1.81	7.12
245	1045	133.86	0.00	-5.03	-1.81	31.20
246	2046	136.73	0.00	-2.63	-2.13	12.87
246	1046	136.73	0.00	-2.63	-2.13	25.46
247	2047	139.60	0.00	0.07	-1.13	9.74
247	1047	139.60	0.00	0.07	-1.13	9.42
401	1001	0.00	0.00	-1.77	0.26	12.90
401	1	0.00	0.00	-1.77	0.26	14.24
402	1002	2.62	0.00	-4.13	0.48	27.21
402	2	2.62	0.00	-4.13	0.48	30.33
403	1003	5.24	0.00	-4.59	0.34	28.32
403	3	5.24	0.00	-4.59	0.34	31.79
404	1004	7.86	0.00	-4.85	0.14	28.93
404	4	7.86	0.00	-4.85	0.14	32.60
405	1005	10.48	0.00	-4.85	-0.08	28.94
405	5	10.48	0.00	-4.85	-0.08	32.61
406	1006	13.10	0.00	-4.60	-0.29	28.34
406	6	13.10	0.00	-4.60	-0.29	31.82

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-4.14	-0.43	27.24
407	7	15.72	0.00	-4.14	-0.43	30.37
408	1008	18.34	0.00	-3.55	-0.47	25.84
408	8	18.34	0.00	-3.55	-0.47	28.53
409	1009	20.96	0.00	-2.98	-0.36	24.47
409	9	20.96	0.00	-2.98	-0.36	26.72
410	1010	23.58	0.00	-2.61	-0.04	23.58
410	10	23.58	0.00	-2.61	-0.04	25.55
411	1011	26.20	0.00	-3.07	0.59	27.11
411	11	26.20	0.00	-3.07	0.59	29.43
412	1012	29.55	0.00	-4.76	1.43	33.56
412	12	29.55	0.00	-4.76	1.43	37.16
413	1013	32.90	0.00	-6.40	1.44	36.76
413	13	32.90	0.00	-6.40	1.44	41.60
414	1014	36.03	0.00	-7.59	1.08	38.89
414	14	36.03	0.00	-7.59	1.08	44.63
415	1015	39.16	0.00	-8.54	0.65	41.17
415	15	39.16	0.00	-8.54	0.65	47.62
416	1016	42.29	0.00	-8.93	0.16	42.11
416	16	42.29	0.00	-8.93	0.16	48.85
417	1017	45.42	0.00	-8.73	-0.34	41.64
417	17	45.42	0.00	-8.73	-0.34	48.23
418	1018	48.55	0.00	-7.97	-0.78	39.83
418	18	48.55	0.00	-7.97	-0.78	45.85
419	1019	51.68	0.00	-6.74	-1.11	36.90
419	19	51.68	0.00	-6.74	-1.11	41.99
420	1020	54.81	0.00	-5.21	-1.25	33.24
420	20	54.81	0.00	-5.21	-1.25	37.19
421	1021	57.94	0.00	-3.65	-1.13	29.50
421	21	57.94	0.00	-3.65	-1.13	32.26
422	1022	61.07	0.00	-2.43	-0.64	26.60
422	22	61.07	0.00	-2.43	-0.64	28.43
423	1023	64.20	0.00	-2.18	0.33	26.73
423	23	64.20	0.00	-2.18	0.33	28.38
424	1024	67.55	0.00	-3.42	1.33	30.44
424	24	67.55	0.00	-3.42	1.33	33.02
425	1025	70.90	0.00	-5.18	1.49	33.95
425	25	70.90	0.00	-5.18	1.49	37.87
426	1026	74.23	0.00	-7.14	1.29	39.24
426	26	74.23	0.00	-7.14	1.29	44.64
427	1027	77.56	0.00	-8.47	0.84	42.43
427	27	77.56	0.00	-8.47	0.84	48.83
428	1028	80.89	0.00	-9.14	0.29	44.04
428	28	80.89	0.00	-9.14	0.29	50.95
429	1029	84.22	0.00	-9.07	-0.29	43.90
429	29	84.22	0.00	-9.07	-0.29	50.75
430	1030	87.55	0.00	-8.28	-0.82	42.03
430	30	87.55	0.00	-8.28	-0.82	48.29

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT

[1; 1]IZQINT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-6.87	-1.22	38.67
431	31	90.88	0.00	-6.87	-1.22	43.86
432	1032	94.21	0.00	-5.05	-1.41	34.31
432	32	94.21	0.00	-5.05	-1.41	38.13
433	1033	97.54	0.00	-3.14	-1.26	29.76
433	33	97.54	0.00	-3.14	-1.26	32.13
434	1034	100.87	0.00	-1.66	-0.66	26.24
434	34	100.87	0.00	-1.66	-0.66	27.50
435	1035	104.20	0.00	-1.25	0.51	23.76
435	35	104.20	0.00	-1.25	0.51	24.71
436	1036	107.55	0.00	-2.40	1.43	24.98
436	36	107.55	0.00	-2.40	1.43	26.80
437	1037	110.90	0.00	-4.41	1.69	29.79
437	37	110.90	0.00	-4.41	1.69	33.13
438	1038	113.77	0.00	-6.12	1.53	33.86
438	38	113.77	0.00	-6.12	1.53	38.48
439	1039	116.64	0.00	-7.54	1.21	37.25
439	39	116.64	0.00	-7.54	1.21	42.94
440	1040	119.51	0.00	-8.54	0.78	39.63
440	40	119.51	0.00	-8.54	0.78	46.08
441	1041	122.38	0.00	-9.02	0.27	40.78
441	41	122.38	0.00	-9.02	0.27	47.60
442	1042	125.25	0.00	-8.93	-0.28	40.55
442	42	125.25	0.00	-8.93	-0.28	47.30
443	1043	128.12	0.00	-8.23	-0.83	38.87
443	43	128.12	0.00	-8.23	-0.83	45.10
444	1044	130.99	0.00	-6.92	-1.36	35.73
444	44	130.99	0.00	-6.92	-1.36	40.97
445	1045	133.86	0.00	-5.03	-1.81	31.20
445	45	133.86	0.00	-5.03	-1.81	35.00
446	1046	136.73	0.00	-2.63	-2.13	25.46
446	46	136.73	0.00	-2.63	-2.13	27.44
447	1047	139.60	0.00	0.07	-1.13	9.42
447	47	139.60	0.00	0.07	-1.13	9.36

IZQEXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-86.39	9.23	-0.44
1	2	2.62	0.00	-58.62	-15.14	189.52
2	2	2.62	0.00	-62.07	6.37	188.73
2	3	5.24	0.00	-34.30	-17.99	314.98
3	3	5.24	0.00	-38.52	5.95	314.40
3	4	7.86	0.00	-10.75	-18.42	378.95
4	4	7.86	0.00	-15.44	7.00	378.66
4	5	10.48	0.00	12.33	-17.37	382.74
5	5	10.48	0.00	7.52	8.42	382.76
5	6	13.10	0.00	35.29	-15.94	326.69
6	6	13.10	0.00	30.71	9.13	327.00
6	7	15.72	0.00	58.48	-15.24	210.16
7	7	15.72	0.00	54.42	8.18	210.68
7	8	18.34	0.00	82.19	-16.18	31.72
8	8	18.34	0.00	78.85	4.99	32.33
8	9	20.96	0.00	106.62	-19.38	-210.63
9	9	20.96	0.00	104.02	-0.55	-210.11
9	10	23.58	0.00	131.79	-24.92	-519.03
10	10	23.58	0.00	129.74	-7.81	-518.83
10	10011	26.20	0.00	157.51	-32.17	-895.13
11	11	26.20	0.00	-160.91	-12.84	-895.63
11	12	29.55	0.00	-125.40	-43.99	-416.07
12	12	29.55	0.00	-129.22	-18.35	-417.52
12	13	32.90	0.00	-93.71	-49.51	-44.12
13	13	32.90	0.00	-99.30	-18.73	-45.68
13	14	36.03	0.00	-66.12	-47.84	213.20
14	14	36.03	0.00	-73.13	-13.03	211.93
14	15	39.16	0.00	-39.96	-42.13	388.92
15	15	39.16	0.00	-48.15	-3.59	388.09
15	16	42.29	0.00	-14.98	-32.70	486.89
16	16	42.29	0.00	-23.76	7.69	486.61
16	17	45.42	0.00	9.42	-21.42	509.05
17	17	45.42	0.00	0.72	18.71	509.34
17	18	48.55	0.00	33.90	-10.40	455.16
18	18	48.55	0.00	25.96	27.35	455.98
18	19	51.68	0.00	59.14	-1.76	322.81
19	19	51.68	0.00	52.53	31.79	324.05
19	20	54.81	0.00	85.71	2.68	107.72
20	20	54.81	0.00	80.83	30.78	109.17
20	21	57.94	0.00	114.01	1.67	-195.76
21	21	57.94	0.00	110.97	23.98	-194.41
21	22	61.07	0.00	144.15	-5.13	-593.68
22	22	61.07	0.00	142.60	12.50	-592.85
22	10023	64.20	0.00	175.78	-16.61	-1091.00
23	23	64.20	0.00	-175.27	-0.04	-1091.37
23	24	67.55	0.00	-139.76	-31.20	-563.71
24	24	67.55	0.00	-142.01	-10.43	-565.11
24	25	70.90	0.00	-106.50	-41.59	-148.85

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-110.73	-15.05	-150.54
25	26	74.23	0.00	-75.43	-46.02	159.43
26	26	74.23	0.00	-81.90	-12.07	157.87
26	27	77.56	0.00	-46.60	-43.04	371.81
27	27	77.56	0.00	-54.72	-3.84	370.71
27	28	80.89	0.00	-19.43	-34.81	494.17
28	28	80.89	0.00	-28.50	7.37	493.69
28	29	84.22	0.00	6.80	-23.60	529.82
29	29	84.22	0.00	-2.37	18.91	530.02
29	30	87.55	0.00	32.92	-12.06	479.15
30	30	87.55	0.00	24.51	28.06	480.00
30	31	90.88	0.00	59.81	-2.91	339.60
31	31	90.88	0.00	52.93	32.40	340.96
31	32	94.21	0.00	88.23	1.43	105.94
32	32	94.21	0.00	83.41	30.23	107.56
32	33	97.54	0.00	118.71	-0.74	-228.98
33	33	97.54	0.00	116.13	21.04	-227.46
33	34	100.87	0.00	151.43	-9.93	-672.96
34	34	100.87	0.00	150.67	6.15	-672.08
34	10035	104.20	0.00	185.96	-24.82	-1233.00
35	35	104.20	0.00	-191.32	-11.42	-1233.01
35	36	107.55	0.00	-155.81	-42.58	-651.55
36	36	107.55	0.00	-157.25	-26.26	-653.06
36	37	110.90	0.00	-121.74	-57.41	-185.75
37	37	110.90	0.00	-125.35	-34.24	-187.61
37	38	113.77	0.00	-94.93	-60.93	128.49
38	38	113.77	0.00	-100.48	-31.65	126.73
38	39	116.64	0.00	-70.06	-58.34	371.46
39	39	116.64	0.00	-77.30	-23.77	370.02
39	40	119.51	0.00	-46.87	-50.46	548.21
40	40	119.51	0.00	-55.34	-12.03	547.25
40	41	122.38	0.00	-24.91	-38.72	662.41
41	41	122.38	0.00	-34.01	1.71	662.04
41	42	125.25	0.00	-3.59	-24.98	716.00
42	42	125.25	0.00	-12.65	15.32	716.29
42	43	128.12	0.00	17.77	-11.37	708.93
43	43	128.12	0.00	9.48	26.52	709.88
43	44	130.99	0.00	39.90	-0.17	639.02
44	44	130.99	0.00	33.11	32.98	640.59
44	45	133.86	0.00	63.53	6.29	501.91
45	45	133.86	0.00	58.94	32.50	504.03
45	46	136.73	0.00	89.36	5.81	291.21
46	46	136.73	0.00	87.59	23.15	293.72
46	47	139.60	0.00	118.01	-3.54	-1.33
101	101	0.00	0.00	-8.36	-1.41	0.44
101	102	2.62	0.00	-9.93	-4.55	24.40
102	102	2.62	0.00	-6.48	-4.31	25.19
102	103	5.24	0.00	-8.05	-7.46	44.23

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-3.83	-4.79	44.80
103	104	7.86	0.00	-5.40	-7.93	56.89
104	104	7.86	0.00	-0.71	-3.79	57.18
104	105	10.48	0.00	-2.28	-6.93	61.09
105	105	10.48	0.00	2.53	-2.41	61.07
105	106	13.10	0.00	0.96	-5.56	56.49
106	106	13.10	0.00	5.54	-1.76	56.18
106	107	15.72	0.00	3.97	-4.91	43.72
107	107	15.72	0.00	8.03	-2.76	43.20
107	108	18.34	0.00	6.46	-5.90	24.22
108	108	18.34	0.00	9.80	-6.01	23.61
108	109	20.96	0.00	8.23	-9.15	-0.01
109	109	20.96	0.00	10.83	-11.60	-0.53
109	110	23.58	0.00	9.26	-14.75	-26.84
110	110	23.58	0.00	11.31	-18.92	-27.03
110	111	26.20	0.00	9.74	-22.06	-54.60
111	111	26.20	0.00	12.03	-26.97	-54.11
111	112	29.55	0.00	10.02	-30.99	-91.03
112	112	29.55	0.00	13.84	-32.57	-89.58
112	10113	32.90	0.00	11.83	-36.59	-132.57
113	113	32.90	0.00	-25.89	-32.14	-131.01
113	114	36.03	0.00	-27.76	-35.90	-47.04
114	114	36.03	0.00	-20.75	-26.52	-45.78
114	115	39.16	0.00	-22.63	-30.28	22.11
115	115	39.16	0.00	-14.43	-17.18	22.93
115	116	42.29	0.00	-16.31	-20.93	71.04
116	116	42.29	0.00	-7.52	-5.99	71.32
116	117	45.42	0.00	-9.40	-9.75	97.81
117	117	45.42	0.00	-0.70	4.92	97.52
117	118	48.55	0.00	-2.58	1.17	102.66
118	118	48.55	0.00	5.36	13.45	101.84
118	119	51.68	0.00	3.48	9.70	88.00
119	119	51.68	0.00	10.09	17.78	86.76
119	120	54.81	0.00	8.21	14.02	58.11
120	120	54.81	0.00	13.09	16.63	56.67
120	121	57.94	0.00	11.21	12.88	18.65
121	121	57.94	0.00	14.25	9.70	17.30
121	122	61.07	0.00	12.37	5.95	-24.35
122	122	61.07	0.00	13.91	-1.93	-25.18
122	123	64.20	0.00	12.04	-5.69	-65.80
123	123	64.20	0.00	13.10	-15.53	-65.55
123	124	67.55	0.00	11.09	-19.55	-106.08
124	124	67.55	0.00	13.35	-26.10	-104.68
124	10125	70.90	0.00	11.34	-30.12	-146.04
125	125	70.90	0.00	-24.89	-30.02	-144.35
125	126	74.23	0.00	-26.89	-34.01	-58.13
126	126	74.23	0.00	-20.43	-27.24	-56.57
126	127	77.56	0.00	-22.43	-31.24	14.78

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-14.30	-19.24	15.88
127	128	80.89	0.00	-16.30	-23.24	66.82
128	128	80.89	0.00	-7.23	-8.26	67.30
128	129	84.22	0.00	-9.22	-12.26	94.69
129	129	84.22	0.00	-0.05	3.02	94.49
129	130	87.55	0.00	-2.05	-0.97	97.99
130	130	87.55	0.00	6.36	11.90	97.14
130	131	90.88	0.00	4.36	7.91	79.28
131	131	90.88	0.00	11.25	15.96	77.92
131	132	94.21	0.00	9.25	11.96	43.79
132	132	94.21	0.00	14.06	13.48	42.17
132	133	97.54	0.00	12.06	9.48	-1.33
133	133	97.54	0.00	14.64	3.95	-2.85
133	134	100.87	0.00	12.64	-0.05	-48.28
134	134	100.87	0.00	13.41	-11.30	-49.16
134	135	104.20	0.00	11.41	-15.30	-90.48
135	135	104.20	0.00	11.62	-27.37	-90.05
135	136	107.55	0.00	9.61	-31.39	-125.62
136	136	107.55	0.00	11.05	-38.67	-124.11
136	10137	110.90	0.00	9.04	-42.69	-157.76
137	137	110.90	0.00	-30.12	-43.10	-155.89
137	138	113.77	0.00	-31.84	-46.55	-66.99
138	138	113.77	0.00	-26.29	-40.84	-65.23
138	139	116.64	0.00	-28.01	-44.29	12.68
139	139	116.64	0.00	-20.77	-33.28	14.12
139	140	119.51	0.00	-22.49	-36.72	76.21
140	140	119.51	0.00	-14.03	-21.85	77.16
140	141	122.38	0.00	-15.75	-25.29	119.91
141	141	122.38	0.00	-6.66	-8.40	120.27
141	142	125.25	0.00	-8.38	-11.84	141.85
142	142	125.25	0.00	0.68	4.92	141.57
142	143	128.12	0.00	-1.04	1.48	142.09
143	143	128.12	0.00	7.25	15.84	141.14
143	144	130.99	0.00	5.53	12.40	122.80
144	144	130.99	0.00	12.32	22.03	121.23
144	145	133.86	0.00	10.60	18.59	88.33
145	145	133.86	0.00	15.19	21.28	86.22
145	146	136.73	0.00	13.47	17.84	45.10
146	146	136.73	0.00	15.24	11.66	42.59
146	147	139.60	0.00	13.52	8.22	1.33
301	101	0.00	0.00	-1.24	0.44	1.41
301	2001	0.00	0.00	-1.24	0.44	2.35
302	102	2.62	0.00	-3.45	0.79	-0.24
302	2002	2.62	0.00	-3.45	0.79	2.37
303	103	5.24	0.00	-4.22	0.58	-2.67
303	2003	5.24	0.00	-4.22	0.58	0.52
304	104	7.86	0.00	-4.69	0.29	-4.14
304	2004	7.86	0.00	-4.69	0.29	-0.60

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IZQEXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-4.81	-0.02	-4.52
305	2005	10.48	0.00	-4.81	-0.02	-0.88
306	106	13.10	0.00	-4.58	-0.31	-3.80
306	2006	13.10	0.00	-4.58	-0.31	-0.33
307	107	15.72	0.00	-4.06	-0.52	-2.15
307	2007	15.72	0.00	-4.06	-0.52	0.92
308	108	18.34	0.00	-3.34	-0.61	0.11
308	2008	18.34	0.00	-3.34	-0.61	2.63
309	109	20.96	0.00	-2.60	-0.52	2.45
309	2009	20.96	0.00	-2.60	-0.52	4.42
310	110	23.58	0.00	-2.05	-0.20	4.17
310	2010	23.58	0.00	-2.05	-0.20	5.72
311	111	26.20	0.00	-2.29	0.49	4.91
311	2011	26.20	0.00	-2.29	0.49	6.64
312	112	29.55	0.00	-3.82	1.45	1.58
312	2012	29.55	0.00	-3.82	1.45	4.46
313	113	32.90	0.00	-5.59	1.57	-4.45
313	2013	32.90	0.00	-5.59	1.57	-0.22
314	114	36.03	0.00	-7.01	1.27	-9.38
314	2014	36.03	0.00	-7.01	1.27	-4.07
315	115	39.16	0.00	-8.20	0.83	-13.10
315	2015	39.16	0.00	-8.20	0.83	-6.90
316	116	42.29	0.00	-8.78	0.28	-14.94
316	2016	42.29	0.00	-8.78	0.28	-8.30
317	117	45.42	0.00	-8.70	-0.29	-14.67
317	2017	45.42	0.00	-8.70	-0.29	-8.09
318	118	48.55	0.00	-7.94	-0.83	-12.29
318	2018	48.55	0.00	-7.94	-0.83	-6.28
319	119	51.68	0.00	-6.61	-1.24	-8.08
319	2019	51.68	0.00	-6.61	-1.24	-3.08
320	120	54.81	0.00	-4.87	-1.45	-2.61
320	2020	54.81	0.00	-4.87	-1.45	1.07
321	121	57.94	0.00	-3.04	-1.35	3.17
321	2021	57.94	0.00	-3.04	-1.35	5.47
322	122	61.07	0.00	-1.55	-0.83	7.88
322	2022	61.07	0.00	-1.55	-0.83	9.05
323	123	64.20	0.00	-1.07	0.25	9.84
323	2023	64.20	0.00	-1.07	0.25	10.65
324	124	67.55	0.00	-2.26	1.40	6.55
324	2024	67.55	0.00	-2.26	1.40	8.26
325	125	70.90	0.00	-4.23	1.69	-0.10
325	2025	70.90	0.00	-4.23	1.69	3.09
326	126	74.23	0.00	-6.46	1.56	-6.77
326	2026	74.23	0.00	-6.46	1.56	-1.88
327	127	77.56	0.00	-8.13	1.10	-12.00
327	2027	77.56	0.00	-8.13	1.10	-5.86
328	128	80.89	0.00	-9.07	0.48	-14.97
328	2028	80.89	0.00	-9.07	0.48	-8.11

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-9.17	-0.20	-15.28
329	2029	84.22	0.00	-9.17	-0.20	-8.35
330	130	87.55	0.00	-8.41	-0.84	-12.88
330	2030	87.55	0.00	-8.41	-0.84	-6.52
331	131	90.88	0.00	-6.88	-1.36	-8.05
331	2031	90.88	0.00	-6.88	-1.36	-2.85
332	132	94.21	0.00	-4.81	-1.62	-1.52
332	2032	94.21	0.00	-4.81	-1.62	2.12
333	133	97.54	0.00	-2.58	-1.51	5.54
333	2033	97.54	0.00	-2.58	-1.51	7.48
334	134	100.87	0.00	-0.77	-0.88	11.25
334	2034	100.87	0.00	-0.77	-0.88	11.83
335	135	104.20	0.00	-0.21	0.44	12.07
335	2035	104.20	0.00	-0.21	0.44	12.23
336	136	107.55	0.00	-1.44	1.51	7.28
336	2036	107.55	0.00	-1.44	1.51	8.36
337	137	110.90	0.00	-3.61	1.86	0.42
337	2037	110.90	0.00	-3.61	1.86	3.15
338	138	113.77	0.00	-5.55	1.76	-5.71
338	2038	113.77	0.00	-5.55	1.76	-1.51
339	139	116.64	0.00	-7.23	1.44	-11.01
339	2039	116.64	0.00	-7.23	1.44	-5.54
340	140	119.51	0.00	-8.46	0.95	-14.88
340	2040	119.51	0.00	-8.46	0.95	-8.48
341	141	122.38	0.00	-9.10	0.37	-16.89
341	2041	122.38	0.00	-9.10	0.37	-10.01
342	142	125.25	0.00	-9.06	-0.28	-16.77
342	2042	125.25	0.00	-9.06	-0.28	-9.92
343	143	128.12	0.00	-8.29	-0.94	-14.36
343	2043	128.12	0.00	-8.29	-0.94	-8.09
344	144	130.99	0.00	-6.79	-1.57	-9.64
344	2044	130.99	0.00	-6.79	-1.57	-4.50
345	145	133.86	0.00	-4.59	-2.12	-2.69
345	2045	133.86	0.00	-4.59	-2.12	0.77
346	146	136.73	0.00	-1.77	-2.51	6.18
346	2046	136.73	0.00	-1.77	-2.51	7.52
347	147	139.60	0.00	0.74	-1.33	8.22
347	2047	139.60	0.00	0.74	-1.33	7.66
201	2001	0.00	0.00	-1.24	0.44	2.35
201	1001	0.00	0.00	-1.24	0.44	8.29
202	2002	2.62	0.00	-3.45	0.79	2.37
202	1002	2.62	0.00	-3.45	0.79	18.90
203	2003	5.24	0.00	-4.22	0.58	0.52
203	1003	5.24	0.00	-4.22	0.58	20.75
204	2004	7.86	0.00	-4.69	0.29	-0.60
204	1004	7.86	0.00	-4.69	0.29	21.87
205	2005	10.48	0.00	-4.81	-0.02	-0.68
205	1005	10.48	0.00	-4.81	-0.02	22.15

-csimp4.esv Programa DINTEL IDEAM S.A. 20/10/02
IZQEXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-4.58	-0.31	-0.33
206	1006	13.10	0.00	-4.58	-0.31	21.61
207	2007	15.72	0.00	-4.06	-0.52	0.92
207	1007	15.72	0.00	-4.06	-0.52	20.35
208	2008	18.34	0.00	-3.34	-0.61	2.63
208	1008	18.34	0.00	-3.34	-0.61	18.64
209	2009	20.96	0.00	-2.60	-0.52	4.42
209	1009	20.96	0.00	-2.60	-0.52	16.86
210	2010	23.58	0.00	-2.05	-0.20	5.72
210	1010	23.58	0.00	-2.05	-0.20	15.56
211	2011	26.20	0.00	-2.29	0.49	6.64
211	1011	26.20	0.00	-2.29	0.49	17.60
212	2012	29.55	0.00	-3.82	1.45	4.46
212	1012	29.55	0.00	-3.82	1.45	22.75
213	2013	32.90	0.00	-5.59	1.57	-0.22
213	1013	32.90	0.00	-5.59	1.57	26.55
214	2014	36.03	0.00	-7.01	1.27	-4.07
214	1014	36.03	0.00	-7.01	1.27	29.51
215	2015	39.16	0.00	-8.20	0.83	-6.90
215	1015	39.16	0.00	-8.20	0.83	32.35
216	2016	42.29	0.00	-8.78	0.28	-8.30
216	1016	42.29	0.00	-8.78	0.28	33.75
217	2017	45.42	0.00	-8.70	-0.29	-8.09
217	1017	45.42	0.00	-8.70	-0.29	33.55
218	2018	48.55	0.00	-7.94	-0.83	-6.28
218	1018	48.55	0.00	-7.94	-0.83	31.75
219	2019	51.68	0.00	-6.61	-1.24	-3.08
219	1019	51.68	0.00	-6.61	-1.24	28.56
220	2020	54.81	0.00	-4.87	-1.45	1.07
220	1020	54.81	0.00	-4.87	-1.45	24.41
221	2021	57.94	0.00	-3.04	-1.35	5.47
221	1021	57.94	0.00	-3.04	-1.35	20.02
222	2022	61.07	0.00	-1.55	-0.83	9.05
222	1022	61.07	0.00	-1.55	-0.83	16.45
223	2023	64.20	0.00	-1.07	0.25	10.65
223	1023	64.20	0.00	-1.07	0.25	15.76
224	2024	67.55	0.00	-2.26	1.40	8.26
224	1024	67.55	0.00	-2.26	1.40	19.06
225	2025	70.90	0.00	-4.23	1.69	3.09
225	1025	70.90	0.00	-4.23	1.69	23.34
226	2026	74.23	0.00	-6.46	1.56	-1.88
226	1026	74.23	0.00	-6.46	1.56	29.06
227	2027	77.56	0.00	-8.13	1.10	-5.86
227	1027	77.56	0.00	-8.13	1.10	33.05
228	2028	80.89	0.00	-9.07	0.48	-8.11
228	1028	80.89	0.00	-9.07	0.48	35.32
229	2029	84.22	0.00	-9.17	-0.20	-8.35
229	1029	84.22	0.00	-9.17	-0.20	35.57

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-8.41	-0.84	-6.52
230	1030	87.55	0.00	-8.41	-0.84	33.76
231	2031	90.88	0.00	-6.88	-1.36	-2.85
231	1031	90.88	0.00	-6.88	-1.36	30.11
232	2032	94.21	0.00	-4.81	-1.62	2.12
232	1032	94.21	0.00	-4.81	-1.62	25.16
233	2033	97.54	0.00	-2.58	-1.51	7.48
233	1033	97.54	0.00	-2.58	-1.51	19.82
234	2034	100.87	0.00	-0.77	-0.88	11.83
234	1034	100.87	0.00	-0.77	-0.88	15.50
235	2035	104.20	0.00	-0.21	0.44	12.23
235	1035	104.20	0.00	-0.21	0.44	13.24
236	2036	107.55	0.00	-1.44	1.51	8.36
236	1036	107.55	0.00	-1.44	1.51	15.23
237	2037	110.90	0.00	-3.61	1.86	3.15
237	1037	110.90	0.00	-3.61	1.86	20.44
238	2038	113.77	0.00	-5.55	1.76	-1.51
238	1038	113.77	0.00	-5.55	1.76	25.08
239	2039	116.64	0.00	-7.23	1.44	-5.54
239	1039	116.64	0.00	-7.23	1.44	29.10
240	2040	119.51	0.00	-8.46	0.95	-8.48
240	1040	119.51	0.00	-8.46	0.95	32.03
241	2041	122.38	0.00	-9.10	0.37	-10.01
241	1041	122.38	0.00	-9.10	0.37	33.55
242	2042	125.25	0.00	-9.06	-0.28	-9.92
242	1042	125.25	0.00	-9.06	-0.28	33.45
243	2043	128.12	0.00	-8.29	-0.94	-8.09
243	1043	128.12	0.00	-8.29	-0.94	31.62
244	2044	130.99	0.00	-6.79	-1.57	-4.50
244	1044	130.99	0.00	-6.79	-1.57	28.02
245	2045	133.86	0.00	-4.59	-2.12	0.77
245	1045	133.86	0.00	-4.59	-2.12	22.74
246	2046	136.73	0.00	-1.77	-2.51	7.52
246	1046	136.73	0.00	-1.77	-2.51	16.00
247	2047	139.60	0.00	0.74	-1.33	7.66
247	1047	139.60	0.00	0.74	-1.33	4.10
401	1001	0.00	0.00	-1.24	0.44	8.29
401	1	0.00	0.00	-1.24	0.44	9.23
402	1002	2.62	0.00	-3.45	0.79	18.90
402	2	2.62	0.00	-3.45	0.79	21.51
403	1003	5.24	0.00	-4.22	0.58	20.75
403	3	5.24	0.00	-4.22	0.58	23.94
404	1004	7.86	0.00	-4.69	0.29	21.87
404	4	7.86	0.00	-4.69	0.29	25.42
405	1005	10.48	0.00	-4.81	-0.02	22.15
405	5	10.48	0.00	-4.81	-0.02	25.79
406	1006	13.10	0.00	-4.58	-0.31	21.61
406	6	13.10	0.00	-4.58	-0.31	25.07

-csimp4.esv Programa DINTEL IDEAM S.A. 20/10/02
IZQEXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-4.06	-0.52	20.35
407	7	15.72	0.00	-4.06	-0.52	23.42
408	1008	18.34	0.00	-3.34	-0.61	18.64
408	8	18.34	0.00	-3.34	-0.61	21.17
409	1009	20.96	0.00	-2.60	-0.52	16.86
409	9	20.96	0.00	-2.60	-0.52	18.83
410	1010	23.58	0.00	-2.05	-0.20	15.56
410	10	23.58	0.00	-2.05	-0.20	17.11
411	1011	26.20	0.00	-2.29	0.49	17.60
411	11	26.20	0.00	-2.29	0.49	19.34
412	1012	29.55	0.00	-3.82	1.45	22.75
412	12	29.55	0.00	-3.82	1.45	25.64
413	1013	32.90	0.00	-5.59	1.57	26.55
413	13	32.90	0.00	-5.59	1.57	30.78
414	1014	36.03	0.00	-7.01	1.27	29.51
414	14	36.03	0.00	-7.01	1.27	34.81
415	1015	39.16	0.00	-8.20	0.83	32.35
415	15	39.16	0.00	-8.20	0.83	38.54
416	1016	42.29	0.00	-8.78	0.28	33.75
416	16	42.29	0.00	-8.78	0.28	40.39
417	1017	45.42	0.00	-8.70	-0.29	33.55
417	17	45.42	0.00	-8.70	-0.29	40.12
418	1018	48.55	0.00	-7.94	-0.83	31.75
418	18	48.55	0.00	-7.94	-0.83	37.75
419	1019	51.68	0.00	-6.61	-1.24	28.55
419	19	51.68	0.00	-6.61	-1.24	33.55
420	1020	54.81	0.00	-4.87	-1.45	24.41
420	20	54.81	0.00	-4.87	-1.45	28.09
421	1021	57.94	0.00	-3.04	-1.35	20.02
421	21	57.94	0.00	-3.04	-1.35	22.31
422	1022	61.07	0.00	-1.55	-0.83	16.45
422	22	61.07	0.00	-1.55	-0.83	17.62
423	1023	64.20	0.00	-1.07	0.25	15.76
423	23	64.20	0.00	-1.07	0.25	16.57
424	1024	67.55	0.00	-2.26	1.40	19.06
424	24	67.55	0.00	-2.26	1.40	20.77
425	1025	70.90	0.00	-4.23	1.69	23.34
425	25	70.90	0.00	-4.23	1.69	26.54
426	1026	74.23	0.00	-6.46	1.56	29.06
426	26	74.23	0.00	-6.46	1.56	33.95
427	1027	77.56	0.00	-8.13	1.10	33.05
427	27	77.56	0.00	-8.13	1.10	39.19
428	1028	80.89	0.00	-9.07	0.48	35.32
428	28	80.89	0.00	-9.07	0.48	42.18
429	1029	84.22	0.00	-9.17	-0.20	35.57
429	29	84.22	0.00	-9.17	-0.20	42.51
430	1030	87.55	0.00	-8.41	-0.84	33.76
430	30	87.55	0.00	-8.41	-0.84	40.12

IZQEXT

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQEXT

[1; 1]IZQEXT

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-6.88	-1.36	30.11
431	31	90.88	0.00	-6.88	-1.36	35.31
432	1032	94.21	0.00	-4.81	-1.62	25.16
432	32	94.21	0.00	-4.81	-1.62	28.80
433	1033	97.54	0.00	-2.58	-1.51	19.82
433	33	97.54	0.00	-2.58	-1.51	21.77
434	1034	100.87	0.00	-0.77	-0.88	15.50
434	34	100.87	0.00	-0.77	-0.88	16.08
435	1035	104.20	0.00	-0.21	0.44	13.24
435	35	104.20	0.00	-0.21	0.44	13.40
436	1036	107.55	0.00	-1.44	1.51	15.23
436	36	107.55	0.00	-1.44	1.51	16.32
437	1037	110.90	0.00	-3.61	1.86	20.44
437	37	110.90	0.00	-3.61	1.86	23.17
438	1038	113.77	0.00	-5.55	1.76	25.08
438	38	113.77	0.00	-5.55	1.76	29.28
439	1039	116.64	0.00	-7.23	1.44	29.10
439	39	116.64	0.00	-7.23	1.44	34.57
440	1040	119.51	0.00	-8.46	0.95	32.03
440	40	119.51	0.00	-8.46	0.95	38.43
441	1041	122.38	0.00	-9.10	0.37	33.55
441	41	122.38	0.00	-9.10	0.37	40.43
442	1042	125.25	0.00	-9.06	-0.28	33.45
442	42	125.25	0.00	-9.06	-0.28	40.30
443	1043	128.12	0.00	-8.29	-0.94	31.62
443	43	128.12	0.00	-8.29	-0.94	37.89
444	1044	130.99	0.00	-6.79	-1.57	28.02
444	44	130.99	0.00	-6.79	-1.57	33.16
445	1045	133.86	0.00	-4.59	-2.12	22.74
445	45	133.86	0.00	-4.59	-2.12	26.21
446	1046	136.73	0.00	-1.77	-2.51	16.00
446	46	136.73	0.00	-1.77	-2.51	17.34
447	1047	139.60	0.00	0.74	-1.33	4.10
447	47	139.60	0.00	0.74	-1.33	3.54

IZQINT2.ENV_TREN_GENERICO.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen,rico. VY+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	15.07	5.98	0.20
1	2	2.62	0.00	20.81	-24.67	-20.01
2	2	2.62	0.00	19.69	-12.87	-19.62
2	3	5.24	0.00	28.06	-41.04	-13.86
3	3	5.24	0.00	26.81	-27.34	-13.54
3	4	7.86	0.00	37.66	-53.21	-2.66
4	4	7.86	0.00	36.21	-38.10	-2.39
4	5	10.48	0.00	49.30	-61.63	-4.78
5	5	10.48	0.00	47.59	-45.02	-4.51
5	6	13.10	0.00	64.54	-86.57	86.51
6	6	13.10	0.00	61.62	-65.47	86.84
6	7	15.72	0.00	82.41	-89.67	4.28
7	7	15.72	0.00	79.46	-67.91	4.69
7	8	18.34	0.00	101.90	-88.60	-102.39
8	8	18.34	0.00	98.80	-65.58	-101.92
8	9	20.96	0.00	123.77	-87.38	-307.83
9	9	20.96	0.00	120.85	-67.04	-305.08
9	10	23.58	0.00	148.21	-81.85	-615.65
10	10	23.58	0.00	145.54	-71.30	-600.09
10	10011	26.20	0.00	174.81	-97.51	-997.53
11	11	26.20	0.00	1.41	14.62	64.29
11	12	29.55	0.00	7.99	-12.61	79.44
12	12	29.55	0.00	6.64	-5.04	82.08
12	13	32.90	0.00	15.73	-33.67	114.49
13	13	32.90	0.00	13.99	-19.46	114.56
13	14	36.03	0.00	24.68	-46.04	148.97
14	14	36.03	0.00	22.46	-18.98	157.77
14	15	39.16	0.00	35.09	-44.11	184.86
15	15	39.16	0.00	32.14	-18.39	188.51
15	16	42.29	0.00	47.37	-72.53	246.72
16	16	42.29	0.00	42.98	-20.16	198.38
16	17	45.42	0.00	62.03	-69.27	258.55
17	17	45.42	0.00	56.73	-41.43	259.35
17	18	48.55	0.00	78.29	-60.27	224.56
18	18	48.55	0.00	72.88	-31.40	225.72
18	19	51.68	0.00	96.47	-48.00	126.04
19	19	51.68	0.00	91.55	-19.97	127.53
19	20	54.81	0.00	117.88	-33.04	-38.72
20	20	54.81	0.00	113.83	-0.13	-35.48
20	21	57.94	0.00	142.51	-15.80	-318.59
21	21	57.94	0.00	139.84	2.19	-314.59
21	22	61.07	0.00	171.58	-18.34	-727.44
22	22	61.07	0.00	170.21	-13.41	-712.56
22	10023	64.20	0.00	204.95	-40.44	-1269.43
23	23	64.20	0.00	1.94	-1.48	101.27
23	24	67.55	0.00	8.51	-26.21	115.62
24	24	67.55	0.00	6.40	-9.05	115.79
24	25	70.90	0.00	15.55	-35.95	150.80

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen,rico. VY+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	13.27	-12.83	165.69
25	26	74.23	0.00	24.77	-40.03	206.24
26	26	74.23	0.00	21.68	-15.36	207.81
26	27	77.56	0.00	35.24	-41.17	241.50
27	27	77.56	0.00	31.33	-17.19	241.85
27	28	80.89	0.00	47.87	-69.89	336.72
28	28	80.89	0.00	42.19	-13.63	257.90
28	29	84.22	0.00	62.74	-60.22	352.18
29	29	84.22	0.00	56.13	-25.64	353.28
29	30	87.55	0.00	79.18	-44.48	316.51
30	30	87.55	0.00	72.74	-9.60	318.07
30	31	90.88	0.00	98.02	-25.85	212.23
31	31	90.88	0.00	92.47	1.57	215.89
31	32	94.21	0.00	121.06	-17.07	7.65
32	32	94.21	0.00	117.16	11.10	9.80
32	33	97.54	0.00	146.64	-1.53	-288.25
33	33	97.54	0.00	144.49	26.76	-284.76
33	34	100.87	0.00	177.72	7.60	-733.69
34	34	100.87	0.00	177.37	11.26	-719.06
34	10035	104.20	0.00	213.77	-14.00	-1332.02
35	35	104.20	0.00	-8.08	-50.74	16.99
35	36	107.55	0.00	-1.50	-73.63	65.69
36	36	107.55	0.00	-4.11	-58.68	65.43
36	37	110.90	0.00	4.83	-84.65	137.01
37	37	110.90	0.00	1.37	-66.44	136.76
37	38	113.77	0.00	10.76	-89.75	209.22
38	38	113.77	0.00	6.78	-72.45	225.57
38	39	116.64	0.00	18.19	-108.43	292.53
39	39	116.64	0.00	13.13	-82.28	294.06
39	40	119.51	0.00	27.93	-107.98	402.55
40	40	119.51	0.00	21.71	-79.93	402.67
40	41	122.38	0.00	37.77	-102.22	500.97
41	41	122.38	0.00	30.66	-70.67	501.44
41	42	125.25	0.00	47.79	-88.92	579.15
42	42	125.25	0.00	40.27	-55.29	580.07
42	43	128.12	0.00	59.68	-70.98	618.39
43	43	128.12	0.00	52.46	-37.53	619.87
43	44	130.99	0.00	74.01	-50.18	607.23
44	44	130.99	0.00	67.96	-19.53	609.35
44	45	133.86	0.00	92.23	-30.36	519.49
45	45	133.86	0.00	88.46	-4.04	523.36
45	46	136.73	0.00	115.41	-11.56	331.37
46	46	136.73	0.00	114.61	4.05	334.64
46	47	139.60	0.00	144.79	-3.17	-1.72
101	101	0.00	0.00	9.13	-2.85	-0.12
101	102	2.62	0.00	9.13	-2.85	-24.04
102	102	2.62	0.00	9.31	-9.48	-24.33
102	103	5.24	0.00	9.31	-9.48	-48.71

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Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.VY+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen,rico. VY+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	9.15	-17.32	-48.99
103	104	7.86	0.00	9.15	-17.32	-72.97
104	104	7.86	0.00	8.67	-26.25	-73.20
104	105	10.48	0.00	8.67	-26.25	-95.92
105	105	10.48	0.00	8.03	-27.82	-69.77
105	106	13.10	0.00	8.03	-27.82	-90.81
106	106	13.10	0.00	9.62	-10.69	14.24
106	107	15.72	0.00	9.62	-10.69	-10.95
107	107	15.72	0.00	14.26	10.43	94.83
107	108	18.34	0.00	14.26	10.43	57.48
108	108	18.34	0.00	18.93	8.87	61.06
108	109	20.96	0.00	18.93	8.87	11.46
109	109	20.96	0.00	23.05	25.90	48.32
109	110	23.58	0.00	23.05	25.90	-12.06
110	110	23.58	0.00	26.74	24.52	3.12
110	111	26.20	0.00	26.74	24.52	-66.93
111	111	26.20	0.00	30.73	-4.52	-111.96
111	112	29.55	0.00	30.73	-4.52	-214.91
112	112	29.55	0.00	36.84	-5.52	-213.32
112	10113	32.90	0.00	36.84	-5.52	-336.72
113	113	32.90	0.00	13.04	-6.96	36.19
113	114	36.03	0.00	13.04	-6.96	-4.61
114	114	36.03	0.00	12.34	-36.71	35.42
114	115	39.16	0.00	12.34	-36.71	-3.22
115	115	39.16	0.00	11.68	-44.40	-3.33
115	116	42.29	0.00	11.68	-44.40	-39.90
116	116	42.29	0.00	10.79	-53.06	-39.99
116	117	45.42	0.00	10.79	-53.06	-73.75
117	117	45.42	0.00	9.65	-56.35	-58.77
117	118	48.55	0.00	9.65	-56.35	-88.98
118	118	48.55	0.00	12.05	-17.17	60.51
118	119	51.68	0.00	12.05	-17.17	22.78
119	119	51.68	0.00	17.89	34.11	166.85
119	120	54.81	0.00	17.89	34.11	110.85
120	120	54.81	0.00	23.86	42.50	134.28
120	121	57.94	0.00	23.86	42.50	59.62
121	121	57.94	0.00	27.99	47.24	78.16
121	122	61.07	0.00	27.99	47.24	-9.43
122	122	61.07	0.00	30.40	47.05	3.98
122	123	64.20	0.00	30.40	47.05	-91.17
123	123	64.20	0.00	32.10	3.70	-132.32
123	124	67.55	0.00	32.10	3.70	-239.85
124	124	67.55	0.00	35.71	-2.83	-236.66
124	10125	70.90	0.00	35.71	-2.83	-356.29
125	125	70.90	0.00	15.01	15.96	-21.05
125	126	74.23	0.00	15.01	15.96	-71.04
126	126	74.23	0.00	11.86	-6.79	-66.89
126	127	77.56	0.00	11.86	-6.79	-106.38

IZQINT2.ENV_TREN_GENERICO.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen,rico. VY+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	9.98	-46.91	2.08
127	128	80.89	0.00	9.98	-46.91	-31.17
128	128	80.89	0.00	9.28	-50.65	-24.23
128	129	84.22	0.00	9.28	-50.65	-55.15
129	129	84.22	0.00	8.55	-43.89	0.06
129	130	87.55	0.00	8.55	-43.89	-28.41
130	130	87.55	0.00	12.18	12.10	186.36
130	131	90.88	0.00	12.18	12.10	145.80
131	131	90.88	0.00	19.73	33.70	235.64
131	132	94.21	0.00	19.73	33.70	169.94
132	132	94.21	0.00	26.55	75.69	234.02
132	133	97.54	0.00	26.55	75.69	145.60
133	133	97.54	0.00	31.67	103.44	189.58
133	134	100.87	0.00	31.67	103.44	84.12
134	134	100.87	0.00	34.05	106.67	91.62
134	135	104.20	0.00	34.05	106.67	-21.76
135	135	104.20	0.00	34.43	83.48	-25.55
135	136	107.55	0.00	34.43	83.48	-140.90
136	136	107.55	0.00	34.64	36.88	-158.90
136	10137	110.90	0.00	34.64	36.88	-274.94
137	137	110.90	0.00	-1.44	60.88	-165.88
137	138	113.77	0.00	-1.44	60.88	-161.75
138	138	113.77	0.00	-3.22	29.09	-64.84
138	139	116.64	0.00	-3.22	29.09	-55.61
139	139	116.64	0.00	-2.25	4.30	39.75
139	140	119.51	0.00	-2.25	4.30	46.20
140	140	119.51	0.00	-0.82	6.61	49.66
140	141	122.38	0.00	-0.82	6.61	52.02
141	141	122.38	0.00	0.69	7.01	88.97
141	142	125.25	0.00	0.69	7.01	87.00
142	142	125.25	0.00	7.34	1.33	281.68
142	143	128.12	0.00	7.34	1.33	260.62
143	143	128.12	0.00	17.23	6.83	316.39
143	144	130.99	0.00	17.23	6.83	266.93
144	144	130.99	0.00	25.67	18.74	264.63
144	145	133.86	0.00	25.67	18.74	190.96
145	145	133.86	0.00	31.13	20.50	188.81
145	146	136.73	0.00	31.13	20.50	99.47
146	146	136.73	0.00	33.09	11.10	96.67
146	147	139.60	0.00	33.09	11.10	1.69
301	101	0.00	0.00	-0.01	-0.01	2.37
301	2001	0.00	0.00	-0.01	-0.01	2.38
302	102	2.62	0.00	0.07	-0.09	5.51
302	2002	2.62	0.00	0.07	-0.09	5.46
303	103	5.24	0.00	0.26	-0.21	7.13
303	2003	5.24	0.00	0.26	-0.21	6.94
304	104	7.86	0.00	0.52	-0.19	7.98
304	2004	7.86	0.00	0.52	-0.19	7.59

IZQINT2.ENV_TREN_GENERICO.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen,rico. VY+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.79	-0.16	9.26
305	2005	10.48	0.00	0.79	-0.16	8.67
306	106	13.10	0.00	1.00	-0.05	9.62
306	2006	13.10	0.00	1.00	-0.05	8.86
307	107	15.72	0.00	1.08	0.09	10.12
307	2007	15.72	0.00	1.08	0.09	9.30
308	108	18.34	0.00	1.00	0.31	10.14
308	2008	18.34	0.00	1.00	0.31	9.39
309	109	20.96	0.00	0.72	0.53	8.95
309	2009	20.96	0.00	0.72	0.53	8.41
310	110	23.58	0.00	0.21	0.67	6.73
310	2010	23.58	0.00	0.21	0.67	6.57
311	111	26.20	0.00	-0.05	-0.09	3.40
311	2011	26.20	0.00	-0.05	-0.09	3.45
312	112	29.55	0.00	0.49	-0.38	9.26
312	2012	29.55	0.00	0.49	-0.38	8.89
313	113	32.90	0.00	0.96	-0.22	11.32
313	2013	32.90	0.00	0.96	-0.22	10.59
314	114	36.03	0.00	1.21	-0.10	12.17
314	2014	36.03	0.00	1.21	-0.10	11.26
315	115	39.16	0.00	1.39	0.00	12.55
315	2015	39.16	0.00	1.39	0.00	11.49
316	116	42.29	0.00	1.52	0.10	13.43
316	2016	42.29	0.00	1.52	0.10	12.28
317	117	45.42	0.00	1.60	0.19	13.76
317	2017	45.42	0.00	1.60	0.19	12.54
318	118	48.55	0.00	1.62	0.27	13.49
318	2018	48.55	0.00	1.62	0.27	12.27
319	119	51.68	0.00	1.54	0.37	12.65
319	2019	51.68	0.00	1.54	0.37	11.48
320	120	54.81	0.00	1.41	0.40	11.44
320	2020	54.81	0.00	1.41	0.40	10.37
321	121	57.94	0.00	1.03	0.66	10.37
321	2021	57.94	0.00	1.03	0.66	9.59
322	122	61.07	0.00	0.70	-0.04	11.71
322	2022	61.07	0.00	0.70	-0.04	11.18
323	123	64.20	0.00	1.82	-1.40	14.31
323	2023	64.20	0.00	1.82	-1.40	12.94
324	124	67.55	0.00	3.14	-0.84	19.43
324	2024	67.55	0.00	3.14	-0.84	17.06
325	125	70.90	0.00	3.52	-0.30	20.75
325	2025	70.90	0.00	3.52	-0.30	18.09
326	126	74.23	0.00	3.64	0.04	21.61
326	2026	74.23	0.00	3.64	0.04	18.86
327	127	77.56	0.00	3.39	0.28	20.68
327	2027	77.56	0.00	3.39	0.28	18.12
328	128	80.89	0.00	3.02	0.40	19.47
328	2028	80.89	0.00	3.02	0.40	17.18

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen,rico. VY+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	2.78	0.35	18.88
329	2029	84.22	0.00	2.78	0.35	16.78
330	130	87.55	0.00	2.62	0.43	18.55
330	2030	87.55	0.00	2.62	0.43	16.57
331	131	90.88	0.00	2.43	0.51	17.82
331	2031	90.88	0.00	2.43	0.51	15.98
332	132	94.21	0.00	2.23	0.33	15.22
332	2032	94.21	0.00	2.23	0.33	13.53
333	133	97.54	0.00	1.98	0.73	15.80
333	2033	97.54	0.00	1.98	0.73	14.30
334	134	100.87	0.00	1.82	-0.03	16.89
334	2034	100.87	0.00	1.82	-0.03	15.51
335	135	104.20	0.00	2.17	-0.47	17.35
335	2035	104.20	0.00	2.17	-0.47	15.71
336	136	107.55	0.00	2.63	-0.55	15.78
336	2036	107.55	0.00	2.63	-0.55	13.79
337	137	110.90	0.00	2.72	-0.12	16.38
337	2037	110.90	0.00	2.72	-0.12	14.33
338	138	113.77	0.00	2.49	0.15	15.38
338	2038	113.77	0.00	2.49	0.15	13.50
339	139	116.64	0.00	2.06	0.32	13.80
339	2039	116.64	0.00	2.06	0.32	12.24
340	140	119.51	0.00	1.53	0.42	11.92
340	2040	119.51	0.00	1.53	0.42	10.77
341	141	122.38	0.00	0.95	0.48	9.95
341	2041	122.38	0.00	0.95	0.48	9.23
342	142	125.25	0.00	0.38	0.50	7.85
342	2042	125.25	0.00	0.38	0.50	7.56
343	143	128.12	0.00	-0.17	0.45	5.08
343	2043	128.12	0.00	-0.17	0.45	5.21
344	144	130.99	0.00	-0.60	0.24	2.44
344	2044	130.99	0.00	-0.60	0.24	2.90
345	145	133.86	0.00	-0.51	-0.23	1.24
345	2045	133.86	0.00	-0.51	-0.23	1.63
346	146	136.73	0.00	0.53	-1.86	9.51
346	2046	136.73	0.00	0.53	-1.86	9.11
347	147	139.60	0.00	1.94	-1.58	11.92
347	2047	139.60	0.00	1.94	-1.58	10.45
201	2001	0.00	0.00	-0.01	-0.01	2.38
201	1001	0.00	0.00	-0.01	-0.01	2.45
202	2002	2.62	0.00	0.07	-0.09	5.46
202	1002	2.62	0.00	0.07	-0.09	5.14
203	2003	5.24	0.00	0.26	-0.21	6.94
203	1003	5.24	0.00	0.26	-0.21	5.71
204	2004	7.86	0.00	0.52	-0.19	7.59
204	1004	7.86	0.00	0.52	-0.19	5.10
205	2005	10.48	0.00	0.79	-0.16	8.67
205	1005	10.48	0.00	0.79	-0.16	4.90

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IZQINT2.ENV_TREN_GENERICO.VY+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen,rico. VY+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	1.00	-0.05	8.86
206	1006	13.10	0.00	1.00	-0.05	4.09
207	2007	15.72	0.00	1.08	0.09	9.30
207	1007	15.72	0.00	1.08	0.09	4.11
208	2008	18.34	0.00	1.00	0.31	9.39
208	1008	18.34	0.00	1.00	0.31	4.60
209	2009	20.96	0.00	0.72	0.53	8.41
209	1009	20.96	0.00	0.72	0.53	4.97
210	2010	23.58	0.00	0.21	0.67	6.57
210	1010	23.58	0.00	0.21	0.67	5.58
211	2011	26.20	0.00	-0.05	-0.09	3.45
211	1011	26.20	0.00	-0.05	-0.09	3.71
212	2012	29.55	0.00	0.49	-0.38	8.89
212	1012	29.55	0.00	0.49	-0.38	6.55
213	2013	32.90	0.00	0.96	-0.22	10.59
213	1013	32.90	0.00	0.96	-0.22	6.00
214	2014	36.03	0.00	1.21	-0.10	11.26
214	1014	36.03	0.00	1.21	-0.10	5.46
215	2015	39.16	0.00	1.40	0.00	11.49
215	1015	39.16	0.00	1.40	0.00	4.81
216	2016	42.29	0.00	1.52	0.10	12.28
216	1016	42.29	0.00	1.52	0.10	4.99
217	2017	45.42	0.00	1.60	0.19	12.54
217	1017	45.42	0.00	1.60	0.19	4.87
218	2018	48.55	0.00	1.62	0.27	12.27
218	1018	48.55	0.00	1.62	0.27	4.49
219	2019	51.68	0.00	1.54	0.37	11.48
219	1019	51.68	0.00	1.54	0.37	4.10
220	2020	54.81	0.00	1.41	0.40	10.37
220	1020	54.81	0.00	1.41	0.40	3.61
221	2021	57.94	0.00	1.03	0.66	9.59
221	1021	57.94	0.00	1.03	0.66	4.65
222	2022	61.07	0.00	0.70	-0.04	11.18
222	1022	61.07	0.00	0.70	-0.04	7.83
223	2023	64.20	0.00	1.82	-1.40	12.94
223	1023	64.20	0.00	1.82	-1.40	4.24
224	2024	67.55	0.00	3.14	-0.84	17.06
224	1024	67.55	0.00	3.14	-0.84	2.05
225	2025	70.90	0.00	3.52	-0.30	18.09
225	1025	70.90	0.00	3.52	-0.30	1.25
226	2026	74.23	0.00	3.64	0.04	18.86
226	1026	74.23	0.00	3.64	0.04	1.41
227	2027	77.56	0.00	3.39	0.28	18.12
227	1027	77.56	0.00	3.39	0.28	1.90
228	2028	80.89	0.00	3.02	0.40	17.18
228	1028	80.89	0.00	3.02	0.40	2.71
229	2029	84.22	0.00	2.78	0.35	16.78
229	1029	84.22	0.00	2.78	0.35	3.46

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen,rico. VY+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	2.62	0.43	16.57
230	1030	87.55	0.00	2.62	0.43	4.03
231	2031	90.88	0.00	2.43	0.51	15.98
231	1031	90.88	0.00	2.43	0.51	4.33
232	2032	94.21	0.00	2.23	0.33	13.53
232	1032	94.21	0.00	2.23	0.33	2.83
233	2033	97.54	0.00	1.98	0.73	14.30
233	1033	97.54	0.00	1.98	0.73	4.83
234	2034	100.87	0.00	1.82	-0.03	15.51
234	1034	100.87	0.00	1.82	-0.03	6.79
235	2035	104.20	0.00	2.17	-0.47	15.71
235	1035	104.20	0.00	2.17	-0.47	5.34
236	2036	107.55	0.00	2.63	-0.55	13.79
236	1036	107.55	0.00	2.63	-0.55	1.20
237	2037	110.90	0.00	2.72	-0.12	14.33
237	1037	110.90	0.00	2.72	-0.12	1.30
238	2038	113.77	0.00	2.49	0.15	13.50
238	1038	113.77	0.00	2.49	0.15	1.60
239	2039	116.64	0.00	2.06	0.32	12.24
239	1039	116.64	0.00	2.06	0.32	2.39
240	2040	119.51	0.00	1.53	0.42	10.77
240	1040	119.51	0.00	1.53	0.42	3.46
241	2041	122.38	0.00	0.95	0.48	9.23
241	1041	122.38	0.00	0.95	0.48	4.66
242	2042	125.25	0.00	0.38	0.50	7.56
242	1042	125.25	0.00	0.38	0.50	5.75
243	2043	128.12	0.00	-0.17	0.45	5.21
243	1043	128.12	0.00	-0.17	0.45	6.05
244	2044	130.99	0.00	-0.60	0.24	2.90
244	1044	130.99	0.00	-0.60	0.24	5.79
245	2045	133.86	0.00	-0.51	-0.23	1.63
245	1045	133.86	0.00	-0.51	-0.23	4.09
246	2046	136.73	0.00	0.53	-1.86	9.11
246	1046	136.73	0.00	0.53	-1.86	6.55
247	2047	139.60	0.00	1.94	-1.58	10.45
247	1047	139.60	0.00	1.94	-1.58	1.14
401	1001	0.00	0.00	-0.01	-0.01	2.45
401	1	0.00	0.00	-0.01	-0.01	2.46
402	1002	2.62	0.00	0.07	-0.09	5.14
402	2	2.62	0.00	0.07	-0.09	5.09
403	1003	5.24	0.00	0.26	-0.21	5.71
403	3	5.24	0.00	0.26	-0.21	5.52
404	1004	7.86	0.00	0.52	-0.19	5.10
404	4	7.86	0.00	0.52	-0.19	4.71
405	1005	10.48	0.00	0.79	-0.16	4.90
405	5	10.48	0.00	0.79	-0.16	4.31
406	1006	13.10	0.00	1.00	-0.05	4.09
406	6	13.10	0.00	1.00	-0.05	3.34

~csimp4.esv
Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.VY+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen,rico. VY+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	1.08	0.09	4.11
407	7	15.72	0.00	1.08	0.09	3.29
408	1008	18.34	0.00	1.00	0.31	4.60
408	8	18.34	0.00	1.00	0.31	3.85
409	1009	20.96	0.00	0.72	0.53	4.97
409	9	20.96	0.00	0.72	0.53	4.43
410	1010	23.58	0.00	0.21	0.67	5.58
410	10	23.58	0.00	0.21	0.67	5.43
411	1011	26.20	0.00	-0.05	-0.09	3.71
411	11	26.20	0.00	-0.05	-0.09	3.75
412	1012	29.55	0.00	0.49	-0.38	6.55
412	12	29.55	0.00	0.49	-0.38	6.18
413	1013	32.90	0.00	0.96	-0.22	6.00
413	13	32.90	0.00	0.96	-0.22	5.28
414	1014	36.03	0.00	1.21	-0.10	5.46
414	14	36.03	0.00	1.21	-0.10	4.54
415	1015	39.16	0.00	1.39	0.00	4.81
415	15	39.16	0.00	1.39	0.00	3.76
416	1016	42.29	0.00	1.52	0.10	4.99
416	16	42.29	0.00	1.52	0.10	3.84
417	1017	45.42	0.00	1.60	0.19	4.87
417	17	45.42	0.00	1.60	0.19	3.66
418	1018	48.55	0.00	1.62	0.27	4.49
418	18	48.55	0.00	1.62	0.27	3.27
419	1019	51.68	0.00	1.54	0.37	4.10
419	19	51.68	0.00	1.54	0.37	2.94
420	1020	54.81	0.00	1.41	0.40	3.61
420	20	54.81	0.00	1.41	0.40	2.55
421	1021	57.94	0.00	1.03	0.66	4.65
421	21	57.94	0.00	1.03	0.66	3.87
422	1022	61.07	0.00	0.70	-0.04	7.83
422	22	61.07	0.00	0.70	-0.04	7.30
423	1023	64.20	0.00	1.82	-1.40	4.24
423	23	64.20	0.00	1.82	-1.40	2.87
424	1024	67.55	0.00	3.14	-0.84	2.05
424	24	67.55	0.00	3.14	-0.84	-0.32
425	1025	70.90	0.00	3.52	-0.30	1.25
425	25	70.90	0.00	3.52	-0.30	-1.41
426	1026	74.23	0.00	3.64	0.04	1.41
426	26	74.23	0.00	3.64	0.04	-1.34
427	1027	77.56	0.00	3.39	0.28	1.90
427	27	77.56	0.00	3.39	0.28	-0.66
428	1028	80.89	0.00	3.02	0.40	2.71
428	28	80.89	0.00	3.02	0.40	0.42
429	1029	84.22	0.00	2.78	0.35	3.46
429	29	84.22	0.00	2.78	0.35	1.36
430	1030	87.55	0.00	2.62	0.43	4.03
430	30	87.55	0.00	2.62	0.43	2.05

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen'rico. MX-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	8.22	-1.47	36.15
305	2005	10.48	0.00	8.22	-1.47	29.93
306	106	13.10	0.00	7.53	-0.87	32.08
306	2006	13.10	0.00	7.53	-0.87	26.39
307	107	15.72	0.00	5.89	-0.40	25.64
307	2007	15.72	0.00	5.89	-0.40	21.18
308	108	18.34	0.00	3.66	-0.13	16.79
308	2008	18.34	0.00	3.66	-0.13	14.02
309	109	20.96	0.00	2.66	0.00	13.65
309	2009	20.96	0.00	2.66	0.00	11.64
310	110	23.58	0.00	-0.12	0.01	6.25
310	2010	23.58	0.00	-0.12	0.01	6.34
311	111	26.20	0.00	-2.00	-0.21	1.78
311	2011	26.20	0.00	-2.00	-0.21	3.29
312	112	29.55	0.00	-2.57	-0.86	-0.15
312	2012	29.55	0.00	-2.57	-0.86	1.79
313	113	32.90	0.00	-1.10	-1.83	5.82
313	2013	32.90	0.00	-1.10	-1.83	6.65
314	114	36.03	0.00	1.44	-2.52	13.88
314	2014	36.03	0.00	1.44	-2.52	12.79
315	115	39.16	0.00	4.35	-2.76	23.31
315	2015	39.16	0.00	4.35	-2.76	20.02
316	116	42.29	0.00	7.35	-2.59	33.02
316	2016	42.29	0.00	7.35	-2.59	27.46
317	117	45.42	0.00	9.85	-2.16	41.05
317	2017	45.42	0.00	9.85	-2.16	33.61
318	118	48.55	0.00	9.34	-1.58	40.80
318	2018	48.55	0.00	9.34	-1.58	33.74
319	119	51.68	0.00	7.67	-1.05	35.51
319	2019	51.68	0.00	7.67	-1.05	29.71
320	120	54.81	0.00	3.99	-0.61	22.84
320	2020	54.81	0.00	3.99	-0.61	19.82
321	121	57.94	0.00	2.13	-0.37	15.70
321	2021	57.94	0.00	2.13	-0.37	14.09
322	122	61.07	0.00	0.71	-0.27	10.91
322	2022	61.07	0.00	0.71	-0.27	10.37
323	123	64.20	0.00	-2.78	-0.42	1.85
323	2023	64.20	0.00	-2.78	-0.42	3.95
324	124	67.55	0.00	-4.11	-1.11	-2.77
324	2024	67.55	0.00	-4.11	-1.11	0.34
325	125	70.90	0.00	-2.25	-2.11	3.01
325	2025	70.90	0.00	-2.25	-2.11	4.72
326	126	74.23	0.00	0.85	-3.03	13.69
326	2026	74.23	0.00	0.85	-3.03	13.05
327	127	77.56	0.00	4.43	-3.25	25.16
327	2027	77.56	0.00	4.43	-3.25	21.81
328	128	80.89	0.00	8.04	-3.01	36.73
328	2028	80.89	0.00	8.04	-3.01	30.65

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen'rico. MX-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	10.64	-2.46	44.23
329	2029	84.22	0.00	10.64	-2.46	36.19
330	130	87.55	0.00	10.84	-1.77	45.45
330	2030	87.55	0.00	10.84	-1.77	37.26
331	131	90.88	0.00	9.40	-1.12	40.71
331	2031	90.88	0.00	9.40	-1.12	33.61
332	132	94.21	0.00	6.51	-0.58	30.60
332	2032	94.21	0.00	6.51	-0.58	25.68
333	133	97.54	0.00	2.64	-0.27	17.02
333	2033	97.54	0.00	2.64	-0.27	15.03
334	134	100.87	0.00	0.72	-0.17	10.67
334	2034	100.87	0.00	0.72	-0.17	10.12
335	135	104.20	0.00	-1.23	-0.30	5.07
335	2035	104.20	0.00	-1.23	-0.30	5.99
336	136	107.55	0.00	-0.85	-0.66	6.36
336	2036	107.55	0.00	-0.85	-0.66	6.99
337	137	110.90	0.00	0.48	-1.26	10.91
337	2037	110.90	0.00	0.48	-1.26	10.54
338	138	113.77	0.00	2.27	-1.65	16.85
338	2038	113.77	0.00	2.27	-1.65	15.13
339	139	116.64	0.00	4.15	-1.68	22.93
339	2039	116.64	0.00	4.15	-1.68	19.79
340	140	119.51	0.00	5.73	-1.44	27.93
340	2040	119.51	0.00	5.73	-1.44	23.60
341	141	122.38	0.00	7.05	-1.02	32.23
341	2041	122.38	0.00	7.05	-1.02	26.90
342	142	125.25	0.00	4.80	-0.59	26.02
342	2042	125.25	0.00	4.80	-0.59	22.40
343	143	128.12	0.00	2.15	-0.37	17.39
343	2043	128.12	0.00	2.15	-0.37	15.77
344	144	130.99	0.00	0.32	-0.35	9.31
344	2044	130.99	0.00	0.32	-0.35	9.07
345	145	133.86	0.00	0.88	-0.38	11.28
345	2045	133.86	0.00	0.88	-0.38	10.61
346	146	136.73	0.00	0.79	-0.39	10.07
346	2046	136.73	0.00	0.79	-0.39	9.48
347	147	139.60	0.00	0.64	-0.20	5.80
347	2047	139.60	0.00	0.64	-0.20	5.32
201	2001	0.00	0.00	-1.15	-1.52	2.81
201	1001	0.00	0.00	-1.15	-1.52	8.30
202	2002	2.62	0.00	1.13	-2.89	13.81
202	1002	2.62	0.00	1.13	-2.89	8.39
203	2003	5.24	0.00	4.17	-2.55	21.06
203	1003	5.24	0.00	4.17	-2.55	1.08
204	2004	7.86	0.00	6.23	-2.06	25.21
204	1004	7.86	0.00	6.23	-2.06	-4.64
205	2005	10.48	0.00	8.22	-1.47	29.93
205	1005	10.48	0.00	8.22	-1.47	-9.42

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen'rico. MX-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	7.53	-0.87	26.39
206	1006	13.10	0.00	7.53	-0.87	-9.66
207	2007	15.72	0.00	5.89	-0.40	21.18
207	1007	15.72	0.00	5.89	-0.40	-7.04
208	2008	18.34	0.00	3.66	-0.13	14.02
208	1008	18.34	0.00	3.66	-0.13	-3.52
209	2009	20.96	0.00	2.66	0.00	11.64
209	1009	20.96	0.00	2.66	0.00	-1.07
210	2010	23.58	0.00	-0.12	0.01	6.34
210	1010	23.58	0.00	-0.12	0.01	6.91
211	2011	26.20	0.00	-2.00	-0.21	3.29
211	1011	26.20	0.00	-2.00	-0.21	12.86
212	2012	29.55	0.00	-2.57	-0.86	1.79
212	1012	29.55	0.00	-2.57	-0.86	14.09
213	2013	32.90	0.00	-1.10	-1.83	6.65
213	1013	32.90	0.00	-1.10	-1.83	11.91
214	2014	36.03	0.00	1.44	-2.52	12.79
214	1014	36.03	0.00	1.44	-2.52	5.91
215	2015	39.16	0.00	4.35	-2.76	20.02
215	1015	39.16	0.00	4.35	-2.76	-0.81
216	2016	42.29	0.00	7.35	-2.59	27.46
216	1016	42.29	0.00	7.35	-2.59	-7.71
217	2017	45.42	0.00	9.85	-2.16	33.61
217	1017	45.42	0.00	9.85	-2.16	-13.53
218	2018	48.55	0.00	9.34	-1.58	33.74
218	1018	48.55	0.00	9.34	-1.58	-10.97
219	2019	51.68	0.00	7.68	-1.05	29.71
219	1019	51.68	0.00	7.68	-1.05	-7.04
220	2020	54.81	0.00	3.99	-0.61	19.82
220	1020	54.81	0.00	3.99	-0.61	0.72
221	2021	57.94	0.00	2.13	-0.37	14.09
221	1021	57.94	0.00	2.13	-0.37	3.88
222	2022	61.07	0.00	0.71	-0.27	10.37
222	1022	61.07	0.00	0.71	-0.27	6.95
223	2023	64.20	0.00	-2.78	-0.42	3.95
223	1023	64.20	0.00	-2.78	-0.42	17.24
224	2024	67.55	0.00	-4.11	-1.11	0.34
224	1024	67.55	0.00	-4.11	-1.11	20.01
225	2025	70.90	0.00	-2.25	-2.11	4.72
225	1025	70.90	0.00	-2.25	-2.11	15.51
226	2026	74.23	0.00	0.85	-3.03	13.05
226	1026	74.23	0.00	0.85	-3.03	8.98
227	2027	77.56	0.00	4.43	-3.25	21.81
227	1027	77.56	0.00	4.43	-3.25	0.59
228	2028	80.89	0.00	8.04	-3.01	30.65
228	1028	80.89	0.00	8.04	-3.01	-7.87
229	2029	84.22	0.00	10.64	-2.46	36.19
229	1029	84.22	0.00	10.64	-2.46	-14.74

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen'rico. MX-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	10.84	-1.77	37.26
230	1030	87.55	0.00	10.84	-1.77	-14.65
231	2031	90.88	0.00	9.40	-1.12	33.61
231	1031	90.88	0.00	9.40	-1.12	-11.41
232	2032	94.21	0.00	6.51	-0.58	25.68
232	1032	94.21	0.00	6.51	-0.58	-5.51
233	2033	97.54	0.00	2.64	-0.27	15.03
233	1033	97.54	0.00	2.64	-0.27	2.40
234	2034	100.87	0.00	0.72	-0.17	10.12
234	1034	100.87	0.00	0.72	-0.17	6.65
235	2035	104.20	0.00	-1.23	-0.30	5.99
235	1035	104.20	0.00	-1.23	-0.30	11.86
236	2036	107.55	0.00	-0.85	-0.66	6.99
236	1036	107.55	0.00	-0.85	-0.66	11.04
237	2037	110.90	0.00	0.48	-1.26	10.54
237	1037	110.90	0.00	0.48	-1.26	8.22
238	2038	113.77	0.00	2.27	-1.65	15.13
238	1038	113.77	0.00	2.27	-1.65	4.26
239	2039	116.64	0.00	4.15	-1.68	19.79
239	1039	116.64	0.00	4.15	-1.68	-0.08
240	2040	119.51	0.00	5.73	-1.44	23.60
240	1040	119.51	0.00	5.73	-1.44	-3.82
241	2041	122.38	0.00	7.05	-1.02	26.90
241	1041	122.38	0.00	7.05	-1.02	-6.87
242	2042	125.25	0.00	4.80	-0.59	22.40
242	1042	125.25	0.00	4.80	-0.59	-0.57
243	2043	128.12	0.00	2.15	-0.37	15.77
243	1043	128.12	0.00	2.15	-0.37	5.49
244	2044	130.99	0.00	0.32	-0.35	9.07
244	1044	130.99	0.00	0.32	-0.35	7.56
245	2045	133.86	0.00	0.88	-0.38	10.61
245	1045	133.86	0.00	0.88	-0.38	6.38
246	2046	136.73	0.00	0.79	-0.39	9.48
246	1046	136.73	0.00	0.79	-0.39	5.70
247	2047	139.60	0.00	0.64	-0.20	5.32
247	1047	139.60	0.00	0.64	-0.20	2.26
401	1001	0.00	0.00	-1.15	-1.52	8.30
401	1	0.00	0.00	-1.15	-1.52	9.17
402	1002	2.62	0.00	1.13	-2.89	8.39
402	2	2.62	0.00	1.13	-2.89	7.53
403	1003	5.24	0.00	4.17	-2.55	1.08
403	3	5.24	0.00	4.17	-2.55	-2.07
404	1004	7.86	0.00	6.23	-2.06	-4.64
404	4	7.86	0.00	6.23	-2.06	-9.36
405	1005	10.48	0.00	8.22	-1.47	-9.42
405	5	10.48	0.00	8.22	-1.47	-15.63
406	1006	13.10	0.00	7.53	-0.87	-9.66
406	6	13.10	0.00	7.53	-0.87	-15.35

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen'rico. MX-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	5.89	-0.40	-7.04
407	7	15.72	0.00	5.89	-0.40	-11.49
408	1008	18.34	0.00	3.66	-0.13	-3.52
408	8	18.34	0.00	3.66	-0.13	-6.29
409	1009	20.96	0.00	2.66	0.00	-1.07
409	9	20.96	0.00	2.66	0.00	-3.08
410	1010	23.58	0.00	-0.12	0.01	6.91
410	10	23.58	0.00	-0.12	0.01	7.00
411	1011	26.20	0.00	-2.00	-0.21	12.86
411	11	26.20	0.00	-2.00	-0.21	14.37
412	1012	29.55	0.00	-2.57	-0.86	14.09
412	12	29.55	0.00	-2.57	-0.86	16.03
413	1013	32.90	0.00	-1.10	-1.83	11.91
413	13	32.90	0.00	-1.10	-1.83	12.74
414	1014	36.03	0.00	1.44	-2.52	5.91
414	14	36.03	0.00	1.44	-2.52	4.82
415	1015	39.16	0.00	4.35	-2.76	-0.81
415	15	39.16	0.00	4.35	-2.76	-4.10
416	1016	42.29	0.00	7.35	-2.59	-7.71
416	16	42.29	0.00	7.35	-2.59	-13.27
417	1017	45.42	0.00	9.85	-2.16	-13.53
417	17	45.42	0.00	9.85	-2.16	-20.98
418	1018	48.55	0.00	9.34	-1.58	-10.97
418	18	48.55	0.00	9.34	-1.58	-18.03
419	1019	51.68	0.00	7.68	-1.05	-7.04
419	19	51.68	0.00	7.68	-1.05	-12.85
420	1020	54.81	0.00	3.99	-0.61	0.72
420	20	54.81	0.00	3.99	-0.61	-2.30
421	1021	57.94	0.00	2.13	-0.37	3.88
421	21	57.94	0.00	2.13	-0.37	2.27
422	1022	61.07	0.00	0.71	-0.27	6.95
422	22	61.07	0.00	0.71	-0.27	6.41
423	1023	64.20	0.00	-2.78	-0.42	17.24
423	23	64.20	0.00	-2.78	-0.42	19.34
424	1024	67.55	0.00	-4.11	-1.11	20.01
424	24	67.55	0.00	-4.11	-1.11	23.12
425	1025	70.90	0.00	-2.25	-2.11	15.51
425	25	70.90	0.00	-2.25	-2.11	17.21
426	1026	74.23	0.00	0.85	-3.03	8.98
426	26	74.23	0.00	0.85	-3.03	8.34
427	1027	77.56	0.00	4.43	-3.25	0.59
427	27	77.56	0.00	4.43	-3.25	-2.76
428	1028	80.89	0.00	8.04	-3.01	-7.87
428	28	80.89	0.00	8.04	-3.01	-13.95
429	1029	84.22	0.00	10.64	-2.46	-14.74
429	29	84.22	0.00	10.64	-2.46	-22.78
430	1030	87.55	0.00	10.84	-1.77	-14.65
430	30	87.55	0.00	10.84	-1.77	-22.85

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.MX-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen'rico. MX-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	9.40	-1.12	-11.41
431	31	90.88	0.00	9.40	-1.12	-18.52
432	1032	94.21	0.00	6.51	-0.58	-5.51
432	32	94.21	0.00	6.51	-0.58	-10.44
433	1033	97.54	0.00	2.64	-0.27	2.40
433	33	97.54	0.00	2.64	-0.27	0.41
434	1034	100.87	0.00	0.72	-0.17	6.65
434	34	100.87	0.00	0.72	-0.17	6.10
435	1035	104.20	0.00	-1.23	-0.30	11.86
435	35	104.20	0.00	-1.23	-0.30	12.79
436	1036	107.55	0.00	-0.85	-0.66	11.04
436	36	107.55	0.00	-0.85	-0.66	11.68
437	1037	110.90	0.00	0.48	-1.26	8.22
437	37	110.90	0.00	0.48	-1.26	7.85
438	1038	113.77	0.00	2.27	-1.65	4.26
438	38	113.77	0.00	2.27	-1.65	2.54
439	1039	116.64	0.00	4.15	-1.68	-0.08
439	39	116.64	0.00	4.15	-1.68	-3.22
440	1040	119.51	0.00	5.73	-1.44	-3.82
440	40	119.51	0.00	5.73	-1.44	-8.15
441	1041	122.38	0.00	7.05	-1.02	-6.87
441	41	122.38	0.00	7.05	-1.02	-12.20
442	1042	125.25	0.00	4.80	-0.59	-0.57
442	42	125.25	0.00	4.80	-0.59	-4.20
443	1043	128.12	0.00	2.15	-0.37	5.49
443	43	128.12	0.00	2.15	-0.37	3.86
444	1044	130.99	0.00	0.32	-0.35	7.56
444	44	130.99	0.00	0.32	-0.35	7.32
445	1045	133.86	0.00	0.88	-0.38	6.38
445	45	133.86	0.00	0.88	-0.38	5.71
446	1046	136.73	0.00	0.79	-0.39	5.70
446	46	136.73	0.00	0.79	-0.39	5.11
447	1047	139.60	0.00	0.64	-0.20	2.26
447	47	139.60	0.00	0.64	-0.20	1.77

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	6.01	-0.68	-0.27
1	2	2.62	0.00	6.18	-0.54	-16.44
2	2	2.62	0.00	7.67	0.14	-16.93
2	3	5.24	0.00	7.67	0.14	-37.03
3	3	5.24	0.00	8.63	2.51	-37.52
3	4	7.86	0.00	8.80	2.37	-60.52
4	4	7.86	0.00	9.33	6.54	-61.03
4	5	10.48	0.00	9.33	6.54	-85.48
5	5	10.48	0.00	9.33	12.47	-85.99
5	6	13.10	0.00	9.33	12.47	-110.44
6	6	13.10	0.00	8.81	20.14	-110.92
6	7	15.72	0.00	8.81	20.14	-134.00
7	7	15.72	0.00	7.77	29.55	-134.44
7	8	18.34	0.00	7.82	29.42	-154.86
8	8	18.34	0.00	6.32	40.46	-155.23
8	9	20.96	0.00	7.09	40.02	-171.88
9	9	20.96	0.00	5.51	52.00	-172.13
9	10	23.58	0.00	8.34	42.15	-189.09
10	10	23.58	0.00	6.89	54.84	-189.22
10	10011	26.20	0.00	34.16	-28.99	-248.63
11	11	26.20	0.00	-26.74	-23.37	-250.22
11	12	29.55	0.00	-26.43	-22.87	-160.74
12	12	29.55	0.00	-25.66	-9.32	-162.06
12	13	32.90	0.00	-8.46	-79.85	-98.67
13	13	32.90	0.00	-9.20	-65.95	-100.03
13	14	36.03	0.00	8.58	-126.32	-102.77
14	14	36.03	0.00	8.22	-115.96	-104.30
14	15	39.16	0.00	8.75	-115.28	-131.43
15	15	39.16	0.00	7.36	-101.60	-132.55
15	16	42.29	0.00	7.55	-100.95	-155.95
16	16	42.29	0.00	5.50	-85.10	-156.80
16	17	45.42	0.00	5.50	-85.10	-174.00
17	17	45.42	0.00	3.00	-68.04	-174.64
17	18	48.55	0.00	5.23	-52.74	-186.74
18	18	48.55	0.00	2.64	-35.78	-187.38
18	19	51.68	0.00	2.67	-32.91	-195.64
19	19	51.68	0.00	-0.42	-14.67	-196.21
19	20	54.81	0.00	-0.23	-17.37	-195.42
20	20	54.81	0.00	-3.80	2.87	-195.88
20	21	57.94	0.00	-3.80	2.87	-183.98
21	21	57.94	0.00	-7.83	24.62	-184.29
21	22	61.07	0.00	20.54	23.61	-198.38
22	22	61.07	0.00	20.29	34.58	-199.20
22	10023	64.20	0.00	52.22	-17.87	-324.66
23	23	64.20	0.00	-27.63	-20.56	-326.82
23	24	67.55	0.00	-27.36	-21.41	-234.73
24	24	67.55	0.00	-25.19	-14.35	-236.62
24	25	70.90	0.00	-13.44	-54.97	-162.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-13.05	-46.58	-163.47
25	26	74.23	0.00	-0.27	-99.96	-149.99
26	26	74.23	0.00	0.70	-90.88	-151.46
26	27	77.56	0.00	1.72	-88.39	-156.56
27	27	77.56	0.00	0.94	-77.38	-157.63
27	28	80.89	0.00	1.20	-73.97	-161.22
28	28	80.89	0.00	-0.15	-60.75	-161.97
28	29	84.22	0.00	-0.15	-60.75	-161.46
29	29	84.22	0.00	-1.82	-46.61	-161.97
29	30	87.55	0.00	-1.82	-46.61	-155.92
30	30	87.55	0.00	-3.62	-32.08	-156.29
30	31	90.88	0.00	-0.98	-20.67	-145.74
31	31	90.88	0.00	-2.63	-5.91	-146.10
31	32	94.21	0.00	-2.63	-5.91	-137.33
32	32	94.21	0.00	-4.43	9.48	-137.62
32	33	97.54	0.00	1.17	13.82	-125.84
33	33	97.54	0.00	0.20	27.94	-125.96
33	34	100.87	0.00	30.94	17.98	-169.60
34	34	100.87	0.00	34.54	19.96	-170.45
34	10035	104.20	0.00	64.82	-29.72	-357.24
35	35	104.20	0.00	-27.53	-37.60	-359.52
35	36	107.55	0.00	-27.46	-37.00	-267.30
36	36	107.55	0.00	-23.45	-36.36	-269.30
36	37	110.90	0.00	-4.60	-101.97	-215.33
37	37	110.90	0.00	-2.94	-98.55	-217.34
37	38	113.77	0.00	-2.27	-97.13	-210.24
38	38	113.77	0.00	-2.65	-88.22	-211.51
38	39	116.64	0.00	-2.65	-88.22	-203.89
39	39	116.64	0.00	-3.95	-76.69	-204.66
39	40	119.51	0.00	-3.95	-76.69	-193.33
40	40	119.51	0.00	-5.63	-64.14	-193.72
40	41	122.38	0.00	-5.63	-64.14	-177.55
41	41	122.38	0.00	-7.37	-51.62	-177.68
41	42	125.25	0.00	-7.37	-51.62	-156.53
42	42	125.25	0.00	-8.94	-39.78	-156.49
42	43	128.12	0.00	-8.94	-39.78	-130.84
43	43	128.12	0.00	-10.22	-28.96	-130.69
43	44	130.99	0.00	-10.22	-28.96	-101.35
44	44	130.99	0.00	-11.17	-19.29	-101.15
44	45	133.86	0.00	-11.17	-19.29	-69.08
45	45	133.86	0.00	-11.79	-10.75	-68.85
45	46	136.73	0.00	-11.79	-10.75	-35.02
46	46	136.73	0.00	-12.08	-3.26	-34.79
46	47	139.60	0.00	-3.45	-1.77	-0.20
101	101	0.00	0.00	-145.68	-1.94	-1.52
101	102	2.62	0.00	9.26	-4.17	-20.43
102	102	2.62	0.00	7.49	-16.06	-19.91
102	103	5.24	0.00	10.21	-13.36	-43.09

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	8.99	-23.54	-42.58
103	104	7.86	0.00	11.88	-18.81	-70.08
104	104	7.86	0.00	11.33	-26.45	-69.56
104	105	10.48	0.00	14.05	-23.75	-102.80
105	105	10.48	0.00	14.04	-29.78	-102.30
105	106	13.10	0.00	16.76	-27.08	-142.64
106	106	13.10	0.00	17.27	-31.54	-142.16
106	107	15.72	0.00	20.00	-28.84	-190.98
107	107	15.72	0.00	21.02	-31.81	-190.53
107	108	18.34	0.00	23.74	-29.11	-249.16
108	108	18.34	0.00	25.24	-30.70	-248.79
108	109	20.96	0.00	28.48	-17.03	-318.79
109	109	20.96	0.00	30.21	-18.51	-318.53
109	110	23.58	0.00	32.94	-15.81	-401.26
110	110	23.58	0.00	35.01	-16.41	-401.18
110	111	26.20	0.00	58.00	2.40	-509.13
111	111	26.20	0.00	59.46	-3.23	-508.78
111	112	29.55	0.00	113.42	6.08	-804.74
112	112	29.55	0.00	114.30	-5.01	-803.96
112	10113	32.90	0.00	188.60	26.74	-1315.85
113	113	32.90	0.00	-217.03	11.91	-1315.94
113	114	36.03	0.00	-117.57	43.08	-816.48
114	114	36.03	0.00	-116.67	32.92	-816.75
114	115	39.16	0.00	-68.15	32.45	-511.80
115	115	39.16	0.00	-66.93	25.17	-511.99
115	116	42.29	0.00	-22.32	-19.47	-356.00
116	116	42.29	0.00	-20.60	-25.03	-355.24
116	117	45.42	0.00	-15.39	-16.06	-300.80
117	117	45.42	0.00	-13.05	-18.84	-300.18
117	118	48.55	0.00	-9.42	-9.96	-265.14
118	118	48.55	0.00	-6.61	-10.66	-264.64
118	119	51.68	0.00	3.57	-24.47	-252.98
119	119	51.68	0.00	6.64	-24.02	-252.42
119	120	54.81	0.00	9.90	-20.79	-278.31
120	120	54.81	0.00	13.46	-18.81	-277.85
120	121	57.94	0.00	17.20	-8.25	-325.20
121	121	57.94	0.00	21.08	-5.70	-324.90
121	122	61.07	0.00	33.83	-14.45	-399.04
122	122	61.07	0.00	36.99	-13.03	-398.82
122	123	64.20	0.00	67.39	-19.15	-561.77
123	123	64.20	0.00	69.31	-22.58	-561.17
123	124	67.55	0.00	115.13	-13.54	-880.08
124	124	67.55	0.00	116.37	-21.22	-879.29
124	10125	70.90	0.00	192.62	7.62	-1403.94
125	125	70.90	0.00	-221.16	-4.23	-1404.04
125	126	74.23	0.00	-138.97	26.81	-848.04
126	126	74.23	0.00	-138.53	16.02	-848.67
126	127	77.56	0.00	-65.10	23.07	-522.52

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.MZ-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-64.21	16.17	-522.71
127	128	80.89	0.00	-25.68	-36.09	-362.99
128	128	80.89	0.00	-24.60	-43.07	-362.31
128	129	84.22	0.00	-19.67	-35.61	-289.72
129	129	84.22	0.00	-18.15	-40.69	-289.22
129	130	87.55	0.00	-14.41	-30.49	-234.55
130	130	87.55	0.00	-13.07	-41.99	-234.20
130	131	90.88	0.00	-9.15	-30.77	-197.94
131	131	90.88	0.00	-7.30	-34.30	-197.68
131	132	94.21	0.00	1.66	-49.31	-194.40
132	132	94.21	0.00	3.45	-53.42	-194.11
132	133	97.54	0.00	7.49	-41.66	-211.84
133	133	97.54	0.00	9.21	-46.79	-211.68
133	134	100.87	0.00	31.01	-41.27	-261.93
134	134	100.87	0.00	30.89	-52.14	-261.65
134	135	104.20	0.00	69.77	-48.50	-418.33
135	135	104.20	0.00	68.07	-65.39	-417.39
135	136	107.55	0.00	127.01	-54.21	-719.55
136	136	107.55	0.00	124.86	-73.59	-718.25
136	10137	110.90	0.00	206.12	-35.28	-1258.31
137	137	110.90	0.00	-178.54	-55.84	-1257.20
137	138	113.77	0.00	-108.93	-19.79	-842.66
138	138	113.77	0.00	-109.52	-33.83	-842.21
138	139	116.64	0.00	-47.76	-3.64	-605.31
139	139	116.64	0.00	-46.96	-10.37	-604.56
139	140	119.51	0.00	-39.89	12.54	-485.06
140	140	119.51	0.00	-38.33	9.55	-484.64
140	141	122.38	0.00	-35.34	12.50	-378.93
141	141	122.38	0.00	-33.68	10.02	-378.79
141	142	125.25	0.00	-30.70	12.98	-286.41
142	142	125.25	0.00	-29.19	10.21	-286.47
142	143	128.12	0.00	-26.20	13.16	-206.99
143	143	128.12	0.00	-24.98	9.61	-207.18
143	144	130.99	0.00	-22.00	12.56	-139.76
144	144	130.99	0.00	-21.15	7.96	-140.01
144	145	133.86	0.00	-18.16	10.92	-83.60
145	145	133.86	0.00	-17.71	5.15	-83.89
145	146	136.73	0.00	-14.70	8.33	-37.37
146	146	136.73	0.00	-14.67	1.22	-37.68
146	147	139.60	0.00	127.34	8.45	-0.91
301	101	0.00	0.00	-1.43	-1.17	-1.34
301	2001	0.00	0.00	-1.07	-0.80	-0.34
302	102	2.62	0.00	0.22	-0.18	2.05
302	2002	2.62	0.00	0.22	-0.18	1.88
303	103	5.24	0.00	0.41	-0.16	2.65
303	2003	5.24	0.00	0.41	-0.16	2.34
304	104	7.86	0.00	0.56	-0.12	3.12
304	2004	7.86	0.00	0.56	-0.12	2.70

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.39	0.07	3.36
305	2005	10.48	0.00	0.67	-0.07	2.96
306	106	13.10	0.00	-0.35	0.33	2.48
306	2006	13.10	0.00	-0.12	0.25	2.74
307	107	15.72	0.00	-0.99	0.39	1.17
307	2007	15.72	0.00	-0.74	0.32	1.88
308	108	18.34	0.00	-1.44	0.34	-0.19
308	2008	18.34	0.00	-1.44	0.34	0.90
309	109	20.96	0.00	-1.87	0.25	-1.42
309	2009	20.96	0.00	-1.87	0.25	-0.01
310	110	23.58	0.00	-2.21	0.11	-2.38
310	2010	23.58	0.00	-2.21	0.11	-0.71
311	111	26.20	0.00	-2.72	-0.12	-3.27
311	2011	26.20	0.00	-2.72	-0.12	-1.22
312	112	29.55	0.00	-2.75	-0.58	-3.09
312	2012	29.55	0.00	-2.75	-0.58	-1.01
313	113	32.90	0.00	-1.69	-1.07	-0.32
313	2013	32.90	0.00	-1.14	-0.62	0.94
314	114	36.03	0.00	-0.76	0.50	1.32
314	2014	36.03	0.00	-0.45	0.29	1.80
315	115	39.16	0.00	-1.72	0.51	-0.18
315	2015	39.16	0.00	-1.53	0.42	1.05
316	116	42.29	0.00	-2.00	0.24	-0.89
316	2016	42.29	0.00	-1.84	0.21	0.57
317	117	45.42	0.00	-2.17	0.18	-0.76
317	2017	45.42	0.00	-1.72	0.02	0.67
318	118	48.55	0.00	-2.69	0.39	-1.34
318	2018	48.55	0.00	-2.40	0.32	0.60
319	119	51.68	0.00	-2.96	0.49	-2.26
319	2019	51.68	0.00	-2.61	0.49	-0.10
320	120	54.81	0.00	-3.43	0.50	-3.76
320	2020	54.81	0.00	-3.20	0.47	-1.26
321	121	57.94	0.00	-3.96	0.37	-5.35
321	2021	57.94	0.00	-3.73	0.36	-2.44
322	122	61.07	0.00	-4.48	0.15	-6.60
322	2022	61.07	0.00	-4.09	0.18	-3.47
323	123	64.20	0.00	-4.60	-0.18	-7.48
323	2023	64.20	0.00	-4.34	-0.13	-4.10
324	124	67.55	0.00	-4.32	-0.76	-6.75
324	2024	67.55	0.00	-3.97	-0.64	-3.63
325	125	70.90	0.00	-2.77	-1.36	-3.28
325	2025	70.90	0.00	-2.77	-1.36	-1.18
326	126	74.23	0.00	-0.85	-0.56	1.50
326	2026	74.23	0.00	-0.47	-0.73	1.91
327	127	77.56	0.00	-1.30	0.59	1.06
327	2027	77.56	0.00	-0.74	0.28	1.83
328	128	80.89	0.00	-1.51	0.25	0.15
328	2028	80.89	0.00	-1.51	0.25	1.29

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DERINT2.ENV_TREN_GENERICO.MZ-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-1.55	0.06	0.23
329	2029	84.22	0.00	-1.39	0.05	1.32
330	130	87.55	0.00	-1.37	-0.06	0.79
330	2030	87.55	0.00	-1.13	-0.05	1.74
331	131	90.88	0.00	-1.65	0.12	1.08
331	2031	90.88	0.00	-1.16	0.03	2.20
332	132	94.21	0.00	-1.65	0.16	1.06
332	2032	94.21	0.00	-1.42	0.11	2.25
333	133	97.54	0.00	-1.84	0.13	0.87
333	2033	97.54	0.00	-1.43	0.08	2.20
334	134	100.87	0.00	-1.93	0.11	0.75
334	2034	100.87	0.00	-1.36	0.05	2.08
335	135	104.20	0.00	-1.53	-0.05	0.91
335	2035	104.20	0.00	-1.03	-0.02	1.95
336	136	107.55	0.00	-0.76	-0.21	1.60
336	2036	107.55	0.00	-0.48	-0.09	2.05
337	137	110.90	0.00	0.19	0.06	2.09
337	2037	110.90	0.00	0.19	0.06	1.95
338	138	113.77	0.00	-0.24	0.31	1.93
338	2038	113.77	0.00	0.19	-0.02	1.95
339	139	116.64	0.00	-1.25	0.51	0.76
339	2039	116.64	0.00	-0.83	0.33	1.58
340	140	119.51	0.00	-1.63	0.29	-0.05
340	2040	119.51	0.00	-1.44	0.24	1.14
341	141	122.38	0.00	-1.60	0.07	-0.07
341	2041	122.38	0.00	-1.60	0.07	1.14
342	142	125.25	0.00	-1.41	-0.07	0.45
342	2042	125.25	0.00	-1.41	-0.07	1.51
343	143	128.12	0.00	-1.13	-0.14	1.24
343	2043	128.12	0.00	-0.97	-0.10	2.01
344	144	130.99	0.00	-0.71	-0.11	1.98
344	2044	130.99	0.00	-0.18	-0.04	2.44
345	145	133.86	0.00	-0.41	-0.04	2.45
345	2045	133.86	0.00	0.03	0.03	2.53
346	146	136.73	0.00	-0.11	0.05	2.40
346	2046	136.73	0.00	0.25	0.09	2.38
347	147	139.60	0.00	-0.05	0.04	1.05
347	2047	139.60	0.00	0.12	0.05	1.04
201	2001	0.00	0.00	-1.07	-0.80	-0.34
201	1001	0.00	0.00	1.27	0.21	-0.40
202	2002	2.62	0.00	0.22	-0.18	1.88
202	1002	2.62	0.00	1.79	-0.05	-0.09
203	2003	5.24	0.00	0.41	-0.16	2.34
203	1003	5.24	0.00	3.43	-1.42	-2.05
204	2004	7.86	0.00	0.56	-0.12	2.70
204	1004	7.86	0.00	6.22	-1.84	-6.42
205	2005	10.48	0.00	0.67	-0.07	2.96
205	1005	10.48	0.00	8.25	-1.36	-10.71

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.39	0.07	3.36
305	2005	10.48	0.00	0.67	-0.07	2.96
306	106	13.10	0.00	-0.35	0.33	2.48
306	2006	13.10	0.00	-0.12	0.25	2.74
307	107	15.72	0.00	-0.99	0.39	1.17
307	2007	15.72	0.00	-0.74	0.32	1.88
308	108	18.34	0.00	-1.44	0.34	-0.19
308	2008	18.34	0.00	-1.44	0.34	0.90
309	109	20.96	0.00	-1.87	0.25	-1.42
309	2009	20.96	0.00	-1.87	0.25	-0.01
310	110	23.58	0.00	-2.21	0.11	-2.38
310	2010	23.58	0.00	-2.21	0.11	-0.71
311	111	26.20	0.00	-2.72	-0.12	-3.27
311	2011	26.20	0.00	-2.72	-0.12	-1.22
312	112	29.55	0.00	-2.75	-0.58	-3.09
312	2012	29.55	0.00	-2.75	-0.58	-1.01
313	113	32.90	0.00	-1.69	-1.07	-0.32
313	2013	32.90	0.00	-1.14	-0.62	0.94
314	114	36.03	0.00	-0.76	0.50	1.32
314	2014	36.03	0.00	-0.45	0.29	1.80
315	115	39.16	0.00	-1.72	0.51	-0.18
315	2015	39.16	0.00	-1.53	0.42	1.05
316	116	42.29	0.00	-2.00	0.24	-0.89
316	2016	42.29	0.00	-1.84	0.21	0.57
317	117	45.42	0.00	-2.17	0.18	-0.76
317	2017	45.42	0.00	-1.72	0.02	0.67
318	118	48.55	0.00	-2.69	0.39	-1.34
318	2018	48.55	0.00	-2.40	0.32	0.60
319	119	51.68	0.00	-2.96	0.49	-2.26
319	2019	51.68	0.00	-2.61	0.49	-0.10
320	120	54.81	0.00	-3.43	0.50	-3.76
320	2020	54.81	0.00	-3.20	0.47	-1.26
321	121	57.94	0.00	-3.96	0.37	-5.35
321	2021	57.94	0.00	-3.73	0.36	-2.44
322	122	61.07	0.00	-4.48	0.15	-6.60
322	2022	61.07	0.00	-4.09	0.18	-3.47
323	123	64.20	0.00	-4.60	-0.18	-7.48
323	2023	64.20	0.00	-4.34	-0.13	-4.10
324	124	67.55	0.00	-4.32	-0.76	-6.75
324	2024	67.55	0.00	-3.97	-0.64	-3.63
325	125	70.90	0.00	-2.77	-1.36	-3.28
325	2025	70.90	0.00	-2.77	-1.36	-1.18
326	126	74.23	0.00	-0.85	-0.56	1.50
326	2026	74.23	0.00	-0.47	-0.73	1.91
327	127	77.56	0.00	-1.30	0.59	1.06
327	2027	77.56	0.00	-0.74	0.28	1.83
328	128	80.89	0.00	-1.51	0.25	0.15
328	2028	80.89	0.00	-1.51	0.25	1.29

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DERINT2.ENV_TREN_GENERICO.MZ-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-1.55	0.06	0.23
329	2029	84.22	0.00	-1.39	0.05	1.32
330	130	87.55	0.00	-1.37	-0.06	0.79
330	2030	87.55	0.00	-1.13	-0.05	1.74
331	131	90.88	0.00	-1.65	0.12	1.08
331	2031	90.88	0.00	-1.16	0.03	2.20
332	132	94.21	0.00	-1.65	0.16	1.06
332	2032	94.21	0.00	-1.42	0.11	2.25
333	133	97.54	0.00	-1.84	0.13	0.87
333	2033	97.54	0.00	-1.43	0.08	2.20
334	134	100.87	0.00	-1.93	0.11	0.75
334	2034	100.87	0.00	-1.36	0.05	2.08
335	135	104.20	0.00	-1.53	-0.05	0.91
335	2035	104.20	0.00	-1.03	-0.02	1.95
336	136	107.55	0.00	-0.76	-0.21	1.60
336	2036	107.55	0.00	-0.48	-0.09	2.05
337	137	110.90	0.00	0.19	0.06	2.09
337	2037	110.90	0.00	0.19	0.06	1.95
338	138	113.77	0.00	-0.24	0.31	1.93
338	2038	113.77	0.00	0.19	-0.02	1.95
339	139	116.64	0.00	-1.25	0.51	0.76
339	2039	116.64	0.00	-0.83	0.33	1.58
340	140	119.51	0.00	-1.63	0.29	-0.05
340	2040	119.51	0.00	-1.44	0.24	1.14
341	141	122.38	0.00	-1.60	0.07	-0.07
341	2041	122.38	0.00	-1.60	0.07	1.14
342	142	125.25	0.00	-1.41	-0.07	0.45
342	2042	125.25	0.00	-1.41	-0.07	1.51
343	143	128.12	0.00	-1.13	-0.14	1.24
343	2043	128.12	0.00	-0.97	-0.10	2.01
344	144	130.99	0.00	-0.71	-0.11	1.98
344	2044	130.99	0.00	-0.18	-0.04	2.44
345	145	133.86	0.00	-0.41	-0.04	2.45
345	2045	133.86	0.00	0.03	0.03	2.53
346	146	136.73	0.00	-0.11	0.05	2.40
346	2046	136.73	0.00	0.25	0.09	2.38
347	147	139.60	0.00	-0.05	0.04	1.05
347	2047	139.60	0.00	0.12	0.05	1.04
201	2001	0.00	0.00	-1.07	-0.80	-0.34
201	1001	0.00	0.00	1.27	0.21	-0.40
202	2002	2.62	0.00	0.22	-0.18	1.88
202	1002	2.62	0.00	1.79	-0.05	-0.09
203	2003	5.24	0.00	0.41	-0.16	2.34
203	1003	5.24	0.00	3.43	-1.42	-2.05
204	2004	7.86	0.00	0.56	-0.12	2.70
204	1004	7.86	0.00	6.22	-1.84	-6.42
205	2005	10.48	0.00	0.67	-0.07	2.96
205	1005	10.48	0.00	8.25	-1.36	-10.71

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-0.12	0.25	2.74
206	1006	13.10	0.00	9.37	-0.72	-13.55
207	2007	15.72	0.00	-0.74	0.32	1.88
207	1007	15.72	0.00	10.08	-0.09	-14.93
208	2008	18.34	0.00	-1.44	0.34	0.90
208	1008	18.34	0.00	10.01	0.50	-14.90
209	2009	20.96	0.00	-1.87	0.25	-0.01
209	1009	20.96	0.00	9.50	1.09	-13.56
210	2010	23.58	0.00	-2.21	0.11	-0.71
210	1010	23.58	0.00	8.37	1.61	-10.92
211	2011	26.20	0.00	-2.72	-0.12	-1.22
211	1011	26.20	0.00	7.46	2.26	-8.20
212	2012	29.55	0.00	-2.75	-0.58	-1.01
212	1012	29.55	0.00	4.95	2.00	-2.72
213	2013	32.90	0.00	-1.14	-0.62	0.94
213	1013	32.90	0.00	2.40	0.52	-0.03
214	2014	36.03	0.00	-0.45	0.29	1.80
214	1014	36.03	0.00	2.08	-0.21	0.06
215	2015	39.16	0.00	-1.53	0.42	1.05
215	1015	39.16	0.00	4.01	-1.78	-3.28
216	2016	42.29	0.00	-1.84	0.21	0.57
216	1016	42.29	0.00	7.16	-2.42	-9.05
217	2017	45.42	0.00	-1.72	0.02	0.67
217	1017	45.42	0.00	9.73	-2.04	-14.73
218	2018	48.55	0.00	-2.40	0.32	0.60
218	1018	48.55	0.00	11.71	-1.44	-19.05
219	2019	51.68	0.00	-2.61	0.49	-0.10
219	1019	51.68	0.00	12.79	-0.69	-21.63
220	2020	54.81	0.00	-3.20	0.47	-1.26
220	1020	54.81	0.00	13.02	0.09	-22.22
221	2021	57.94	0.00	-3.73	0.36	-2.44
221	1021	57.94	0.00	12.57	0.86	-20.90
222	2022	61.07	0.00	-4.09	0.18	-3.47
222	1022	61.07	0.00	11.20	1.62	-17.55
223	2023	64.20	0.00	-4.34	-0.13	-4.10
223	1023	64.20	0.00	9.25	2.35	-12.71
224	2024	67.55	0.00	-3.97	-0.64	-3.63
224	1024	67.55	0.00	6.49	2.68	-5.53
225	2025	70.90	0.00	-2.77	-1.36	-1.18
225	1025	70.90	0.00	2.52	0.65	-0.15
226	2026	74.23	0.00	-0.47	-0.73	1.91
226	1026	74.23	0.00	2.16	-0.39	0.13
227	2027	77.56	0.00	-0.74	0.28	1.83
227	1027	77.56	0.00	4.13	-2.03	-3.25
228	2028	80.89	0.00	-1.50	0.25	1.29
228	1028	80.89	0.00	7.48	-2.64	-9.66
229	2029	84.22	0.00	-1.39	0.05	1.32
229	1029	84.22	0.00	10.69	-2.34	-16.29

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.MZ-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-1.13	-0.05	1.74
230	1030	87.55	0.00	12.85	-1.62	-21.32
231	2031	90.88	0.00	-1.16	0.03	2.20
231	1031	90.88	0.00	14.10	-0.77	-24.21
232	2032	94.21	0.00	-1.42	0.11	2.25
232	1032	94.21	0.00	14.35	0.17	-24.74
233	2033	97.54	0.00	-1.43	0.08	2.20
233	1033	97.54	0.00	13.54	1.08	-22.79
234	2034	100.87	0.00	-1.36	0.05	2.08
234	1034	100.87	0.00	11.66	1.93	-18.38
235	2035	104.20	0.00	-1.03	-0.02	1.95
235	1035	104.20	0.00	8.21	2.45	-10.91
236	2036	107.55	0.00	-0.48	-0.09	2.05
236	1036	107.55	0.00	4.32	2.06	-3.27
237	2037	110.90	0.00	0.19	0.06	1.95
237	1037	110.90	0.00	1.27	0.29	0.38
238	2038	113.77	0.00	0.19	-0.02	1.95
238	1038	113.77	0.00	1.53	-0.26	0.30
239	2039	116.64	0.00	-0.83	0.33	1.58
239	1039	116.64	0.00	3.47	-1.21	-1.85
240	2040	119.51	0.00	-1.44	0.24	1.14
240	1040	119.51	0.00	5.47	-1.28	-5.25
241	2041	122.38	0.00	-1.60	0.07	1.14
241	1041	122.38	0.00	7.00	-0.94	-8.09
242	2042	125.25	0.00	-1.41	-0.07	1.51
242	1042	125.25	0.00	7.74	-0.43	-9.62
243	2043	128.12	0.00	-0.97	-0.10	2.01
243	1043	128.12	0.00	7.88	0.17	-9.74
244	2044	130.99	0.00	-0.18	-0.04	2.44
244	1044	130.99	0.00	7.31	0.76	-8.22
245	2045	133.86	0.00	0.03	0.03	2.53
245	1045	133.86	0.00	6.03	1.27	-5.15
246	2046	136.73	0.00	0.25	0.09	2.38
246	1046	136.73	0.00	3.06	0.88	-1.49
247	2047	139.60	0.00	0.12	0.05	1.04
247	1047	139.60	0.00	0.91	0.08	0.01
401	1001	0.00	0.00	1.27	0.21	-0.40
401	1	0.00	0.00	1.31	0.22	-1.39
402	1002	2.62	0.00	1.79	-0.05	-0.09
402	2	2.62	0.00	2.64	0.00	-1.86
403	1003	5.24	0.00	3.43	-1.42	-2.05
403	3	5.24	0.00	3.47	-1.47	-4.65
404	1004	7.86	0.00	6.22	-1.84	-6.42
404	4	7.86	0.00	6.47	-1.95	-11.23
405	1005	10.48	0.00	8.25	-1.36	-10.71
405	5	10.48	0.00	8.41	-1.38	-16.98
406	1006	13.10	0.00	9.37	-0.72	-13.55
406	6	13.10	0.00	9.57	-0.74	-20.78

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	10.08	-0.09	-14.93
407	7	15.72	0.00	10.35	-0.14	-22.68
408	1008	18.34	0.00	10.01	0.50	-14.90
408	8	18.34	0.00	10.34	0.49	-22.68
409	1009	20.96	0.00	9.50	1.09	-13.56
409	9	20.96	0.00	9.73	1.08	-20.85
410	1010	23.58	0.00	8.37	1.61	-10.92
410	10	23.58	0.00	8.64	1.60	-17.33
411	1011	26.20	0.00	7.46	2.26	-8.20
411	11	26.20	0.00	7.95	2.32	-14.05
412	1012	29.55	0.00	4.95	2.00	-2.72
412	12	29.55	0.00	5.29	2.26	-6.58
413	1013	32.90	0.00	2.40	0.52	-0.03
413	13	32.90	0.00	2.79	0.40	-2.00
414	1014	36.03	0.00	2.08	-0.21	0.06
414	14	36.03	0.00	2.74	-0.35	-1.93
415	1015	39.16	0.00	4.01	-1.78	-3.28
415	15	39.16	0.00	4.20	-2.06	-6.44
416	1016	42.29	0.00	7.16	-2.42	-9.05
416	16	42.29	0.00	7.29	-2.50	-14.48
417	1017	45.42	0.00	9.73	-2.04	-14.73
417	17	45.42	0.00	9.86	-2.06	-22.10
418	1018	48.55	0.00	11.71	-1.44	-19.05
418	18	48.55	0.00	11.71	-1.44	-27.90
419	1019	51.68	0.00	12.79	-0.69	-21.63
419	19	51.68	0.00	12.92	-0.72	-31.31
420	1020	54.81	0.00	13.02	0.09	-22.22
420	20	54.81	0.00	13.34	0.05	-32.23
421	1021	57.94	0.00	12.57	0.86	-20.90
421	21	57.94	0.00	12.78	0.85	-30.52
422	1022	61.07	0.00	11.20	1.62	-17.55
422	22	61.07	0.00	11.45	1.61	-26.13
423	1023	64.20	0.00	9.25	2.35	-12.71
423	23	64.20	0.00	9.52	2.35	-19.85
424	1024	67.55	0.00	6.49	2.68	-5.53
424	24	67.55	0.00	6.82	2.73	-10.58
425	1025	70.90	0.00	2.52	0.65	-0.15
425	25	70.90	0.00	3.09	1.20	-2.26
426	1026	74.23	0.00	2.16	-0.39	0.13
426	26	74.23	0.00	2.54	-0.27	-1.70
427	1027	77.56	0.00	4.13	-2.03	-3.25
427	27	77.56	0.00	4.13	-2.03	-6.37
428	1028	80.89	0.00	7.48	-2.64	-9.68
428	28	80.89	0.00	7.64	-2.79	-15.38
429	1029	84.22	0.00	10.69	-2.34	-16.29
429	29	84.22	0.00	10.69	-2.34	-24.38
430	1030	87.55	0.00	12.85	-1.62	-21.32
430	30	87.55	0.00	13.02	-1.64	-31.11

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.MZ-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen'rico. MZ-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	14.10	-0.77	-24.21
431	31	90.88	0.00	14.29	-0.77	-35.01
432	1032	94.21	0.00	14.35	0.17	-24.74
432	32	94.21	0.00	14.51	0.16	-35.66
433	1033	97.54	0.00	13.54	1.08	-22.79
433	33	97.54	0.00	13.76	1.06	-33.09
434	1034	100.87	0.00	11.66	1.93	-18.38
434	34	100.87	0.00	11.90	1.92	-27.25
435	1035	104.20	0.00	8.21	2.45	-10.91
435	35	104.20	0.00	8.58	2.44	-17.22
436	1036	107.55	0.00	4.32	2.06	-3.27
436	36	107.55	0.00	4.89	2.45	-6.64
437	1037	110.90	0.00	1.27	0.29	0.38
437	37	110.90	0.00	2.08	0.62	-0.84
438	1038	113.77	0.00	1.53	-0.26	0.30
438	38	113.77	0.00	2.18	-0.69	-1.02
439	1039	116.64	0.00	3.47	-1.21	-1.85
439	39	116.64	0.00	3.78	-1.39	-4.62
440	1040	119.51	0.00	5.47	-1.28	-5.25
440	40	119.51	0.00	5.71	-1.36	-9.57
441	1041	122.38	0.00	7.00	-0.94	-8.09
441	41	122.38	0.00	7.22	-0.96	-13.44
442	1042	125.25	0.00	7.74	-0.43	-9.62
442	42	125.25	0.00	7.99	-0.43	-15.62
443	1043	128.12	0.00	7.88	0.17	-9.74
443	43	128.12	0.00	8.10	0.16	-15.77
444	1044	130.99	0.00	7.31	0.76	-8.22
444	44	130.99	0.00	7.52	0.75	-13.79
445	1045	133.86	0.00	6.03	1.27	-5.15
445	45	133.86	0.00	6.28	1.26	-9.79
446	1046	136.73	0.00	3.06	0.88	-1.49
446	46	136.73	0.00	4.40	1.33	-4.18
447	1047	139.60	0.00	0.91	0.08	0.01
447	47	139.60	0.00	1.13	0.06	-0.78

LTORSION

CÁLCULO TENSIONAL

Hipótesis de cálculo:

LTORSION

[1; 1]LTORSION

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-0.06	-3.24	0.00
1	2	2.62	0.00	-0.06	23.46	0.16
2	2	2.62	0.00	-0.12	17.08	0.16
2	3	5.24	0.00	-0.12	17.08	0.47
3	3	5.24	0.00	-0.17	10.75	0.47
3	4	7.86	0.00	-0.17	10.75	0.92
4	4	7.86	0.00	-0.22	4.46	0.92
4	5	10.48	0.00	-0.22	4.46	1.49
5	5	10.48	0.00	-0.26	-1.83	1.48
5	6	13.10	0.00	-0.26	-1.83	2.16
6	6	13.10	0.00	-0.29	-8.13	2.15
6	7	15.72	0.00	-0.29	-8.13	2.92
7	7	15.72	0.00	-0.32	-14.48	2.91
7	8	18.34	0.00	-0.32	-14.48	3.75
8	8	18.34	0.00	-0.34	-20.92	3.75
8	9	20.96	0.00	-0.34	-20.92	4.64
9	9	20.96	0.00	-0.35	-27.48	4.65
9	10	23.58	0.00	-0.35	-27.48	5.57
10	10	23.58	0.00	-0.35	-34.21	5.58
10	10011	26.20	0.00	-0.35	-34.21	6.48
11	11	26.20	0.00	1.81	-42.13	6.50
11	12	29.55	0.00	1.81	32.44	0.44
12	12	29.55	0.00	1.44	24.81	0.47
12	13	32.90	0.00	1.44	24.81	-4.34
13	13	32.90	0.00	0.67	18.61	-4.32
13	14	36.03	0.00	0.67	18.61	-6.41
14	14	36.03	0.00	0.13	12.22	-6.40
14	15	39.16	0.00	0.13	12.22	-6.80
15	15	39.16	0.00	-0.25	5.48	-6.79
15	16	42.29	0.00	-0.25	5.48	-6.01
16	16	42.29	0.00	-0.48	-1.58	-6.02
16	17	45.42	0.00	-0.48	-1.58	-4.50
17	17	45.42	0.00	-0.60	-8.94	-4.52
17	18	48.55	0.00	-0.60	-8.94	-2.63
18	18	48.55	0.00	-0.62	-16.61	-2.65
18	19	51.68	0.00	-0.62	-16.61	-0.70
19	19	51.68	0.00	-0.54	-24.60	-0.72
19	20	54.81	0.00	-0.54	-24.60	0.99
20	20	54.81	0.00	-0.37	-33.00	0.97
20	21	57.94	0.00	-0.37	-33.00	2.12
21	21	57.94	0.00	-0.08	-41.88	2.11
21	22	61.07	0.00	-0.08	-41.88	2.35
22	22	61.07	0.00	0.34	-51.35	2.35
22	10023	64.20	0.00	0.34	-51.35	1.28
23	23	64.20	0.00	0.12	-61.89	1.28
23	24	67.55	0.00	0.12	42.61	0.88
24	24	67.55	0.00	0.29	33.15	0.88
24	25	70.90	0.00	0.29	33.15	-0.08

LTORSION

CÁLCULO TENSIONAL

Hipótesis de cálculo:

LTORSION

[1; 1]LTORSION

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	0.02	25.34	-0.09
25	26	74.23	0.00	0.02	25.34	-0.15
26	26	74.23	0.00	-0.16	17.26	-0.17
26	27	77.56	0.00	-0.16	17.26	0.35
27	27	77.56	0.00	-0.25	9.13	0.32
27	28	80.89	0.00	-0.25	9.13	1.15
28	28	80.89	0.00	-0.27	0.91	1.12
28	29	84.22	0.00	-0.27	0.91	2.03
29	29	84.22	0.00	-0.23	-7.44	2.00
29	30	87.55	0.00	-0.23	-7.44	2.76
30	30	87.55	0.00	-0.10	-16.03	2.73
30	31	90.88	0.00	-0.10	-16.03	3.07
31	31	90.88	0.00	0.13	-24.99	3.06
31	32	94.21	0.00	0.13	-24.99	2.62
32	32	94.21	0.00	0.50	-34.48	2.63
32	33	97.54	0.00	0.50	-34.48	0.98
33	33	97.54	0.00	1.04	-44.68	1.01
33	34	100.87	0.00	1.04	-44.68	-2.45
34	34	100.87	0.00	1.80	-55.80	-2.41
34	10035	104.20	0.00	1.80	-55.80	-8.41
35	35	104.20	0.00	-1.25	-67.19	-8.37
35	36	107.55	0.00	-1.25	53.67	-4.19
36	36	107.55	0.00	-0.75	44.41	-4.17
36	37	110.90	0.00	-0.75	44.41	-1.66
37	37	110.90	0.00	-0.63	36.38	-1.65
37	38	113.77	0.00	-0.63	36.38	0.15
38	38	113.77	0.00	-0.50	28.52	0.16
38	39	116.64	0.00	-0.50	28.52	1.59
39	39	116.64	0.00	-0.38	20.82	1.59
39	40	119.51	0.00	-0.38	20.82	2.67
40	40	119.51	0.00	-0.26	13.25	2.66
40	41	122.38	0.00	-0.26	13.25	3.40
41	41	122.38	0.00	-0.14	5.78	3.39
41	42	125.25	0.00	-0.14	5.78	3.79
42	42	125.25	0.00	-0.02	-1.66	3.79
42	43	128.12	0.00	-0.02	-1.66	3.86
43	43	128.12	0.00	0.10	-9.13	3.86
43	44	130.99	0.00	0.10	-9.13	3.57
44	44	130.99	0.00	0.24	-16.69	3.58
44	45	133.86	0.00	0.24	-16.69	2.89
45	45	133.86	0.00	0.41	-24.41	2.90
45	46	136.73	0.00	0.41	-24.41	1.73
46	46	136.73	0.00	0.61	-32.37	1.74
46	47	139.60	0.00	0.61	4.13	-0.01
101	101	0.00	0.00	-0.17	3.45	0.00
101	102	2.62	0.00	-0.17	-27.13	0.45
102	102	2.62	0.00	-0.11	-20.37	0.45
102	103	5.24	0.00	-0.11	-20.37	0.74

LTORSION

CÁLCULO TENSIONAL

Hipótesis de cálculo:

LTORSION

[1; 1]LTORSION

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-0.06	-13.71	0.75
103	104	7.86	0.00	-0.06	-13.71	0.91
104	104	7.86	0.00	-0.02	-7.14	0.91
104	105	10.48	0.00	-0.02	-7.14	0.95
105	105	10.48	0.00	0.02	-0.61	0.95
105	106	13.10	0.00	0.02	-0.61	0.89
106	106	13.10	0.00	0.06	5.91	0.89
106	107	15.72	0.00	0.06	5.91	0.74
107	107	15.72	0.00	0.09	12.44	0.74
107	108	18.34	0.00	0.09	12.44	0.52
108	108	18.34	0.00	0.11	19.01	0.51
108	109	20.96	0.00	0.11	19.01	0.23
109	109	20.96	0.00	0.12	25.64	0.23
109	110	23.58	0.00	0.12	25.64	-0.08
110	110	23.58	0.00	0.11	32.34	-0.09
110	111	26.20	0.00	0.11	32.34	-0.39
111	111	26.20	0.00	0.08	40.06	-0.41
111	112	29.55	0.00	0.08	40.06	-0.68
112	112	29.55	0.00	0.45	50.04	-0.71
112	10113	32.90	0.00	0.45	50.04	-2.23
113	113	32.90	0.00	-0.92	61.06	-2.26
113	114	36.03	0.00	-0.92	-49.94	0.62
114	114	36.03	0.00	-0.38	-40.14	0.60
114	115	39.16	0.00	-0.38	-40.14	1.78
115	115	39.16	0.00	0.00	-31.03	1.78
115	116	42.29	0.00	0.00	-31.03	1.78
116	116	42.29	0.00	0.23	-22.48	1.79
116	117	45.42	0.00	0.23	-22.48	1.05
117	117	45.42	0.00	0.36	-14.36	1.06
117	118	48.55	0.00	0.36	-14.36	-0.05
118	118	48.55	0.00	0.37	-6.58	-0.03
118	119	51.68	0.00	0.37	-6.58	-1.20
119	119	51.68	0.00	0.30	0.93	-1.18
119	120	54.81	0.00	0.30	0.93	-2.10
120	120	54.81	0.00	0.12	8.20	-2.08
120	121	57.94	0.00	0.12	8.20	-2.45
121	121	57.94	0.00	-0.17	15.26	-2.44
121	122	61.07	0.00	-0.17	15.26	-1.91
122	122	61.07	0.00	-0.59	22.10	-1.90
122	123	64.20	0.00	-0.59	22.10	-0.06
123	123	64.20	0.00	-1.18	28.94	-0.05
123	124	67.55	0.00	-1.18	28.94	3.89
124	124	67.55	0.00	-1.34	37.35	3.89
124	10125	70.90	0.00	-1.34	37.35	8.39
125	125	70.90	0.00	0.62	46.84	8.40
125	126	74.23	0.00	0.62	-46.89	6.34
126	126	74.23	0.00	0.80	-37.71	6.36
126	127	77.56	0.00	0.80	-37.71	3.71

LTORSION

CÁLCULO TENSIONAL

Hipótesis de cálculo:

LTORSION

[1; 1]LTORSION

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	0.89	-28.99	3.74
127	128	80.89	0.00	0.89	-28.99	0.79
128	128	80.89	0.00	0.91	-20.63	0.82
128	129	84.22	0.00	0.91	-20.63	-2.22
129	129	84.22	0.00	0.87	-12.56	-2.18
129	130	87.55	0.00	0.87	-12.56	-5.07
130	130	87.55	0.00	0.74	-4.77	-5.04
130	131	90.88	0.00	0.74	-4.77	-7.50
131	131	90.88	0.00	0.51	2.73	-7.49
131	132	94.21	0.00	0.51	2.73	-9.18
132	132	94.21	0.00	0.14	9.91	-9.19
132	133	97.54	0.00	0.14	9.91	-9.66
133	133	97.54	0.00	-0.40	16.70	-9.69
133	134	100.87	0.00	-0.40	16.70	-8.35
134	134	100.87	0.00	-1.16	23.02	-8.39
134	135	104.20	0.00	-1.16	23.02	-4.52
135	135	104.20	0.00	-2.12	28.41	-4.56
135	136	107.55	0.00	-2.12	28.41	2.53
136	136	107.55	0.00	-2.62	34.52	2.50
136	10137	110.90	0.00	-2.62	34.52	11.26
137	137	110.90	0.00	0.96	41.79	11.25
137	138	113.77	0.00	0.96	-35.32	8.49
138	138	113.77	0.00	0.83	-28.26	8.48
138	139	116.64	0.00	0.83	-28.26	6.09
139	139	116.64	0.00	0.71	-21.35	6.09
139	140	119.51	0.00	0.71	-21.35	4.05
140	140	119.51	0.00	0.59	-14.54	4.06
140	141	122.38	0.00	0.59	-14.54	2.37
141	141	122.38	0.00	0.48	-7.79	2.37
141	142	125.25	0.00	0.48	-7.79	1.01
142	142	125.25	0.00	0.36	-1.07	1.02
142	143	128.12	0.00	0.36	-1.07	-0.02
143	143	128.12	0.00	0.24	5.62	-0.01
143	144	130.99	0.00	0.24	5.62	-0.69
144	144	130.99	0.00	0.10	12.29	-0.69
144	145	133.86	0.00	0.10	12.29	-0.97
145	145	133.86	0.00	-0.07	18.96	-0.98
145	146	136.73	0.00	-0.07	18.96	-0.77
146	146	136.73	0.00	-0.28	25.64	-0.78
146	147	139.60	0.00	-0.28	-3.34	0.01
301	101	0.00	0.00	-0.03	0.00	-3.45
301	2001	0.00	0.00	-0.03	0.00	-3.43
302	102	2.62	0.00	-0.06	0.00	-6.76
302	2002	2.62	0.00	-0.06	0.00	-6.72
303	103	5.24	0.00	-0.05	0.00	-6.65
303	2003	5.24	0.00	-0.05	0.00	-6.61
304	104	7.86	0.00	-0.04	0.00	-6.58
304	2004	7.86	0.00	-0.04	0.00	-6.54

CÁLCULO TENSIONAL

Hipótesis de cálculo:

LTORSION

[1; 1]LTORSION

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-0.04	0.00	-6.53
305	2005	10.48	0.00	-0.04	0.00	-6.50
306	106	13.10	0.00	-0.03	0.00	-6.52
306	2006	13.10	0.00	-0.03	0.00	-6.49
307	107	15.72	0.00	-0.03	0.00	-6.53
307	2007	15.72	0.00	-0.03	0.00	-6.51
308	108	18.34	0.00	-0.02	0.00	-6.57
308	2008	18.34	0.00	-0.02	0.00	-6.55
309	109	20.96	0.00	-0.01	0.00	-6.63
309	2009	20.96	0.00	-0.01	0.00	-6.62
310	110	23.58	0.00	0.01	-0.01	-6.70
310	2010	23.58	0.00	0.01	-0.01	-6.70
311	111	26.20	0.00	0.03	-0.02	-7.73
311	2011	26.20	0.00	0.03	-0.02	-7.75
312	112	29.55	0.00	-0.37	-0.03	-9.98
312	2012	29.55	0.00	-0.37	-0.03	-9.70
313	113	32.90	0.00	-0.77	-0.02	-11.02
313	2013	32.90	0.00	-0.77	-0.02	-10.44
314	114	36.03	0.00	-0.54	-0.02	-9.80
314	2014	36.03	0.00	-0.54	-0.02	-9.39
315	115	39.16	0.00	-0.38	-0.01	-9.11
315	2015	39.16	0.00	-0.38	-0.01	-8.82
316	116	42.29	0.00	-0.24	0.00	-8.55
316	2016	42.29	0.00	-0.24	0.00	-8.37
317	117	45.42	0.00	-0.12	0.01	-8.12
317	2017	45.42	0.00	-0.12	0.01	-8.03
318	118	48.55	0.00	-0.02	0.02	-7.78
318	2018	48.55	0.00	-0.02	0.02	-7.77
319	119	51.68	0.00	0.08	0.02	-7.51
319	2019	51.68	0.00	0.08	0.02	-7.57
320	120	54.81	0.00	0.18	0.02	-7.28
320	2020	54.81	0.00	0.18	0.02	-7.41
321	121	57.94	0.00	0.29	0.01	-7.06
321	2021	57.94	0.00	0.29	0.01	-7.28
322	122	61.07	0.00	0.42	0.01	-6.84
322	2022	61.07	0.00	0.42	0.01	-7.15
323	123	64.20	0.00	0.59	0.00	-6.84
323	2023	64.20	0.00	0.59	0.00	-7.28
324	124	67.55	0.00	0.17	0.00	-8.41
324	2024	67.55	0.00	0.17	0.00	-8.53
325	125	70.90	0.00	-0.27	0.01	-9.50
325	2025	70.90	0.00	-0.27	0.01	-9.30
326	126	74.23	0.00	-0.17	0.02	-9.18
326	2026	74.23	0.00	-0.17	0.02	-9.05
327	127	77.56	0.00	-0.09	0.03	-8.72
327	2027	77.56	0.00	-0.09	0.03	-8.65
328	128	80.89	0.00	-0.02	0.03	-8.36
328	2028	80.89	0.00	-0.02	0.03	-8.34

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LTORSION
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

LTORSION

[1; 1]LTORSION

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.05	0.03	-8.06
329	2029	84.22	0.00	0.05	0.03	-8.10
330	130	87.55	0.00	0.13	0.02	-7.79
330	2030	87.55	0.00	0.13	0.02	-7.89
331	131	90.88	0.00	0.23	0.01	-7.51
331	2031	90.88	0.00	0.23	0.01	-7.68
332	132	94.21	0.00	0.37	-0.01	-7.18
332	2032	94.21	0.00	0.37	-0.01	-7.46
333	133	97.54	0.00	0.54	-0.03	-6.79
333	2033	97.54	0.00	0.54	-0.03	-7.20
334	134	100.87	0.00	0.76	-0.04	-6.32
334	2034	100.87	0.00	0.76	-0.04	-6.90
335	135	104.20	0.00	0.95	-0.04	-5.39
335	2035	104.20	0.00	0.95	-0.04	-6.11
336	136	107.55	0.00	0.50	-0.03	-6.11
336	2036	107.55	0.00	0.50	-0.03	-6.49
337	137	110.90	0.00	0.12	-0.02	-7.28
337	2037	110.90	0.00	0.12	-0.02	-7.37
338	138	113.77	0.00	0.13	0.00	-7.06
338	2038	113.77	0.00	0.13	0.00	-7.15
339	139	116.64	0.00	0.12	0.00	-6.91
339	2039	116.64	0.00	0.12	0.00	-7.01
340	140	119.51	0.00	0.12	0.01	-6.81
340	2040	119.51	0.00	0.12	0.01	-6.90
341	141	122.38	0.00	0.12	0.01	-6.75
341	2041	122.38	0.00	0.12	0.01	-6.84
342	142	125.25	0.00	0.12	0.01	-6.71
342	2042	125.25	0.00	0.12	0.01	-6.80
343	143	128.12	0.00	0.12	0.00	-6.69
343	2043	128.12	0.00	0.12	0.00	-6.78
344	144	130.99	0.00	0.14	0.00	-6.68
344	2044	130.99	0.00	0.14	0.00	-6.78
345	145	133.86	0.00	0.17	-0.01	-6.67
345	2045	133.86	0.00	0.17	-0.01	-6.80
346	146	136.73	0.00	0.20	-0.01	-6.67
346	2046	136.73	0.00	0.20	-0.01	-6.83
347	147	139.60	0.00	0.12	-0.01	-3.34
347	2047	139.60	0.00	0.12	-0.01	-3.44
201	2001	0.00	0.00	-0.03	0.00	-3.43
201	1001	0.00	0.00	-0.03	0.00	-3.26
202	2002	2.62	0.00	-0.06	0.00	-6.72
202	1002	2.62	0.00	-0.06	0.00	-6.43
203	2003	5.24	0.00	-0.05	0.00	-6.61
203	1003	5.24	0.00	-0.05	0.00	-6.37
204	2004	7.86	0.00	-0.04	0.00	-6.54
204	1004	7.86	0.00	-0.04	0.00	-6.33
205	2005	10.48	0.00	-0.04	0.00	-6.50
205	1005	10.48	0.00	-0.04	0.00	-6.31

CÁLCULO TENSIONAL

Hipótesis de cálculo:

LTORSION

[1; 1]LTORSION

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-0.03	0.00	-6.49
206	1006	13.10	0.00	-0.03	0.00	-6.33
207	2007	15.72	0.00	-0.03	0.00	-6.51
207	1007	15.72	0.00	-0.03	0.00	-6.37
208	2008	18.34	0.00	-0.02	0.00	-6.55
208	1008	18.34	0.00	-0.02	0.00	-6.45
209	2009	20.96	0.00	-0.01	0.00	-6.62
209	1009	20.96	0.00	-0.01	0.00	-6.57
210	2010	23.58	0.00	0.01	-0.01	-6.70
210	1010	23.58	0.00	0.01	-0.01	-6.73
211	2011	26.20	0.00	0.03	-0.02	-7.75
211	1011	26.20	0.00	0.03	-0.02	-7.90
212	2012	29.55	0.00	-0.37	-0.03	-9.70
212	1012	29.55	0.00	-0.37	-0.03	-7.91
213	2013	32.90	0.00	-0.77	-0.02	-10.44
213	1013	32.90	0.00	-0.77	-0.02	-6.78
214	2014	36.03	0.00	-0.54	-0.02	-9.39
214	1014	36.03	0.00	-0.54	-0.02	-6.80
215	2015	39.16	0.00	-0.38	-0.01	-8.82
215	1015	39.16	0.00	-0.38	-0.01	-7.03
216	2016	42.29	0.00	-0.24	0.00	-8.37
216	1016	42.29	0.00	-0.24	0.00	-7.24
217	2017	45.42	0.00	-0.12	0.01	-8.03
217	1017	45.42	0.00	-0.12	0.01	-7.45
218	2018	48.55	0.00	-0.02	0.02	-7.77
218	1018	48.55	0.00	-0.02	0.02	-7.68
219	2019	51.68	0.00	0.08	0.02	-7.57
219	1019	51.68	0.00	0.08	0.02	-7.94
220	2020	54.81	0.00	0.18	0.02	-7.41
220	1020	54.81	0.00	0.18	0.02	-8.26
221	2021	57.94	0.00	0.29	0.01	-7.28
221	1021	57.94	0.00	0.29	0.01	-8.66
222	2022	61.07	0.00	0.42	0.01	-7.15
222	1022	61.07	0.00	0.42	0.01	-9.16
223	2023	64.20	0.00	0.59	0.00	-7.28
223	1023	64.20	0.00	0.59	0.00	-10.10
224	2024	67.55	0.00	0.17	0.00	-8.53
224	1024	67.55	0.00	0.17	0.00	-9.33
225	2025	70.90	0.00	-0.27	0.01	-9.30
225	1025	70.90	0.00	-0.27	0.01	-8.01
226	2026	74.23	0.00	-0.17	0.02	-9.05
226	1026	74.23	0.00	-0.17	0.02	-8.21
227	2027	77.56	0.00	-0.09	0.03	-8.65
227	1027	77.56	0.00	-0.09	0.03	-8.21
228	2028	80.89	0.00	-0.02	0.03	-8.34
228	1028	80.89	0.00	-0.02	0.03	-8.23
229	2029	84.22	0.00	0.05	0.03	-8.10
229	1029	84.22	0.00	0.05	0.03	-8.32

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LTORSION
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

LTORSION

[1; 1]LTORSION

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.13	0.02	-7.89
230	1030	87.55	0.00	0.13	0.02	-8.49
231	2031	90.88	0.00	0.23	0.01	-7.68
231	1031	90.88	0.00	0.23	0.01	-8.78
232	2032	94.21	0.00	0.37	-0.01	-7.46
232	1032	94.21	0.00	0.37	-0.01	-9.21
233	2033	97.54	0.00	0.54	-0.03	-7.20
233	1033	97.54	0.00	0.54	-0.03	-9.79
234	2034	100.87	0.00	0.76	-0.04	-6.90
234	1034	100.87	0.00	0.76	-0.04	-10.55
235	2035	104.20	0.00	0.95	-0.04	-6.11
235	1035	104.20	0.00	0.95	-0.04	-10.67
236	2036	107.55	0.00	0.50	-0.03	-6.49
236	1036	107.55	0.00	0.50	-0.03	-8.88
237	2037	110.90	0.00	0.12	-0.02	-7.37
237	1037	110.90	0.00	0.12	-0.02	-7.94
238	2038	113.77	0.00	0.13	0.00	-7.15
238	1038	113.77	0.00	0.13	0.00	-7.76
239	2039	116.64	0.00	0.12	0.00	-7.01
239	1039	116.64	0.00	0.12	0.00	-7.60
240	2040	119.51	0.00	0.12	0.01	-6.90
240	1040	119.51	0.00	0.12	0.01	-7.48
241	2041	122.38	0.00	0.12	0.01	-6.84
241	1041	122.38	0.00	0.12	0.01	-7.39
242	2042	125.25	0.00	0.12	0.01	-6.80
242	1042	125.25	0.00	0.12	0.01	-7.35
243	2043	128.12	0.00	0.12	0.00	-6.78
243	1043	128.12	0.00	0.12	0.00	-7.37
244	2044	130.99	0.00	0.14	0.00	-6.78
244	1044	130.99	0.00	0.14	0.00	-7.45
245	2045	133.86	0.00	0.17	-0.01	-6.80
245	1045	133.86	0.00	0.17	-0.01	-7.60
246	2046	136.73	0.00	0.20	-0.01	-6.83
246	1046	136.73	0.00	0.20	-0.01	-7.80
247	2047	139.60	0.00	0.12	-0.01	-3.44
247	1047	139.60	0.00	0.12	-0.01	-4.04
401	1001	0.00	0.00	-0.03	0.00	-3.26
401	1	0.00	0.00	-0.03	0.00	-3.24
402	1002	2.62	0.00	-0.06	0.00	-6.43
402	2	2.62	0.00	-0.06	0.00	-6.39
403	1003	5.24	0.00	-0.05	0.00	-6.37
403	3	5.24	0.00	-0.05	0.00	-6.33
404	1004	7.86	0.00	-0.04	0.00	-6.33
404	4	7.86	0.00	-0.04	0.00	-6.29
405	1005	10.48	0.00	-0.04	0.00	-6.31
405	5	10.48	0.00	-0.04	0.00	-6.28
406	1006	13.10	0.00	-0.03	0.00	-6.33
406	6	13.10	0.00	-0.03	0.00	-6.30

LTORSION

CÁLCULO TENSIONAL

Hipótesis de cálculo:

LTORSION

[1; 1]LTORSION

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-0.03	0.00	-6.37
407	7	15.72	0.00	-0.03	0.00	-6.35
408	1008	18.34	0.00	-0.02	0.00	-6.45
408	8	18.34	0.00	-0.02	0.00	-6.44
409	1009	20.96	0.00	-0.01	0.00	-6.57
409	9	20.96	0.00	-0.01	0.00	-6.56
410	1010	23.58	0.00	0.01	-0.01	-6.73
410	10	23.58	0.00	0.01	-0.01	-6.73
411	1011	26.20	0.00	0.03	-0.02	-7.90
411	11	26.20	0.00	0.03	-0.02	-7.92
412	1012	29.55	0.00	-0.37	-0.03	-7.91
412	12	29.55	0.00	-0.37	-0.03	-7.63
413	1013	32.90	0.00	-0.77	-0.02	-6.78
413	13	32.90	0.00	-0.77	-0.02	-6.20
414	1014	36.03	0.00	-0.54	-0.02	-6.80
414	14	36.03	0.00	-0.54	-0.02	-6.39
415	1015	39.16	0.00	-0.38	-0.01	-7.03
415	15	39.16	0.00	-0.38	-0.01	-6.74
416	1016	42.29	0.00	-0.24	0.00	-7.24
416	16	42.29	0.00	-0.24	0.00	-7.06
417	1017	45.42	0.00	-0.12	0.01	-7.45
417	17	45.42	0.00	-0.12	0.01	-7.36
418	1018	48.55	0.00	-0.02	0.02	-7.68
418	18	48.55	0.00	-0.02	0.02	-7.66
419	1019	51.68	0.00	0.08	0.02	-7.94
419	19	51.68	0.00	0.08	0.02	-8.00
420	1020	54.81	0.00	0.18	0.02	-8.26
420	20	54.81	0.00	0.18	0.02	-8.40
421	1021	57.94	0.00	0.29	0.01	-8.66
421	21	57.94	0.00	0.29	0.01	-8.88
422	1022	61.07	0.00	0.42	0.01	-9.16
422	22	61.07	0.00	0.42	0.01	-9.47
423	1023	64.20	0.00	0.59	0.00	-10.10
423	23	64.20	0.00	0.59	0.00	-10.54
424	1024	67.55	0.00	0.17	0.00	-9.33
424	24	67.55	0.00	0.17	0.00	-9.46
425	1025	70.90	0.00	-0.27	0.01	-8.01
425	25	70.90	0.00	-0.27	0.01	-7.81
426	1026	74.23	0.00	-0.17	0.02	-8.21
426	26	74.23	0.00	-0.17	0.02	-8.08
427	1027	77.56	0.00	-0.09	0.03	-8.21
427	27	77.56	0.00	-0.09	0.03	-8.13
428	1028	80.89	0.00	-0.02	0.03	-8.23
428	28	80.89	0.00	-0.02	0.03	-8.21
429	1029	84.22	0.00	0.05	0.03	-8.32
429	29	84.22	0.00	0.05	0.03	-8.35
430	1030	87.55	0.00	0.13	0.02	-8.49
430	30	87.55	0.00	0.13	0.02	-8.59

LTORSION

CÁLCULO TENSIONAL

Hipótesis de cálculo:

LTORSION

[1; 1]LTORSION

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	0.23	0.01	-8.78
431	31	90.88	0.00	0.23	0.01	-8.96
432	1032	94.21	0.00	0.37	-0.01	-9.21
432	32	94.21	0.00	0.37	-0.01	-9.49
433	1033	97.54	0.00	0.54	-0.03	-9.79
433	33	97.54	0.00	0.54	-0.03	-10.20
434	1034	100.87	0.00	0.76	-0.04	-10.55
434	34	100.87	0.00	0.76	-0.04	-11.12
435	1035	104.20	0.00	0.95	-0.04	-10.67
435	35	104.20	0.00	0.95	-0.04	-11.39
436	1036	107.55	0.00	0.50	-0.03	-8.88
436	36	107.55	0.00	0.50	-0.03	-9.26
437	1037	110.90	0.00	0.12	-0.02	-7.94
437	37	110.90	0.00	0.12	-0.02	-8.03
438	1038	113.77	0.00	0.13	0.00	-7.76
438	38	113.77	0.00	0.13	0.00	-7.86
439	1039	116.64	0.00	0.12	0.00	-7.60
439	39	116.64	0.00	0.12	0.00	-7.70
440	1040	119.51	0.00	0.12	0.01	-7.48
440	40	119.51	0.00	0.12	0.01	-7.57
441	1041	122.38	0.00	0.12	0.01	-7.39
441	41	122.38	0.00	0.12	0.01	-7.48
442	1042	125.25	0.00	0.12	0.01	-7.35
442	42	125.25	0.00	0.12	0.01	-7.44
443	1043	128.12	0.00	0.12	0.00	-7.37
443	43	128.12	0.00	0.12	0.00	-7.47
444	1044	130.99	0.00	0.14	0.00	-7.45
444	44	130.99	0.00	0.14	0.00	-7.56
445	1045	133.86	0.00	0.17	-0.01	-7.60
445	45	133.86	0.00	0.17	-0.01	-7.72
446	1046	136.73	0.00	0.20	-0.01	-7.80
446	46	136.73	0.00	0.20	-0.01	-7.96
447	1047	139.60	0.00	0.12	-0.01	-4.04
447	47	139.60	0.00	0.12	-0.01	-4.13

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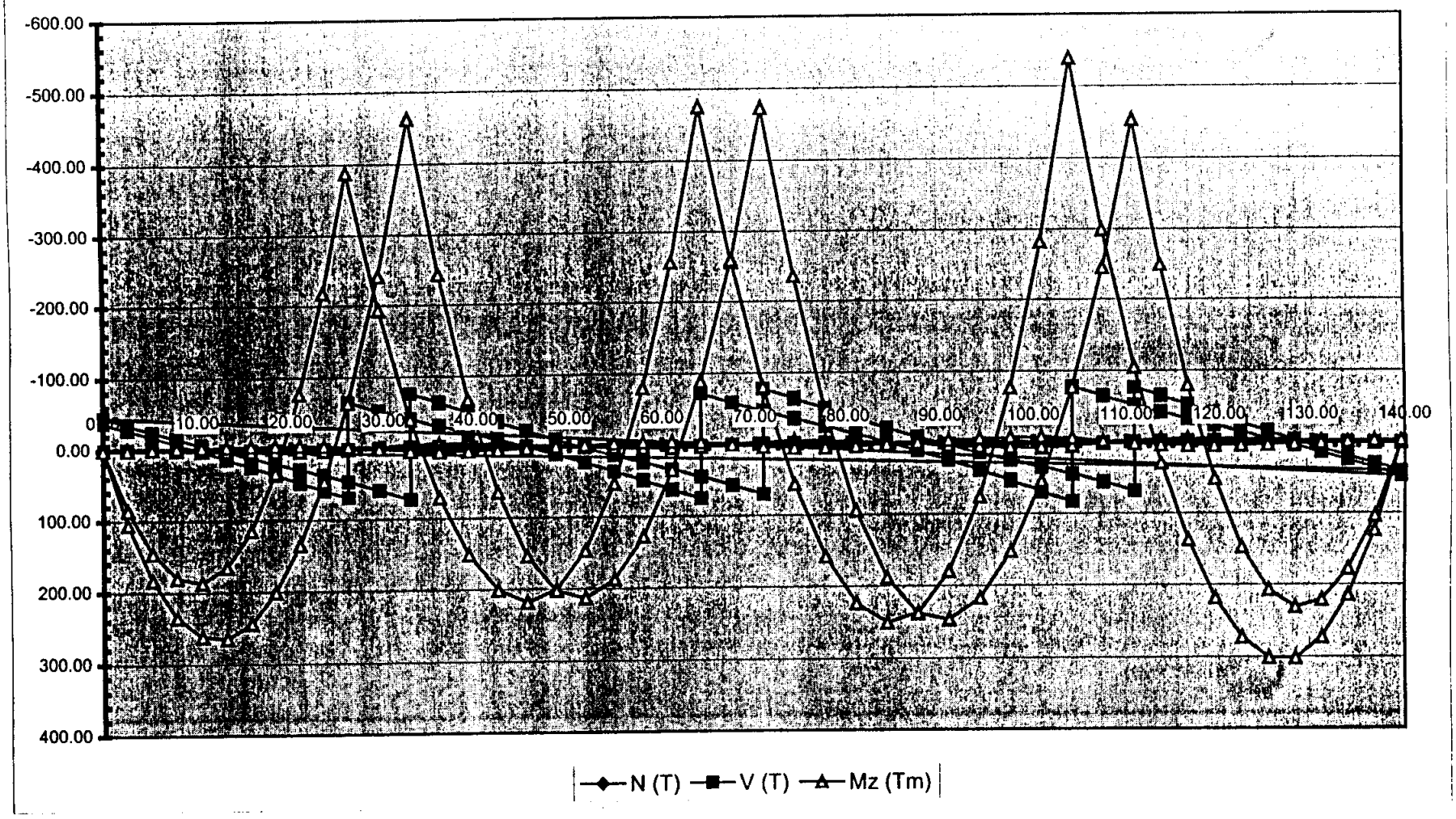


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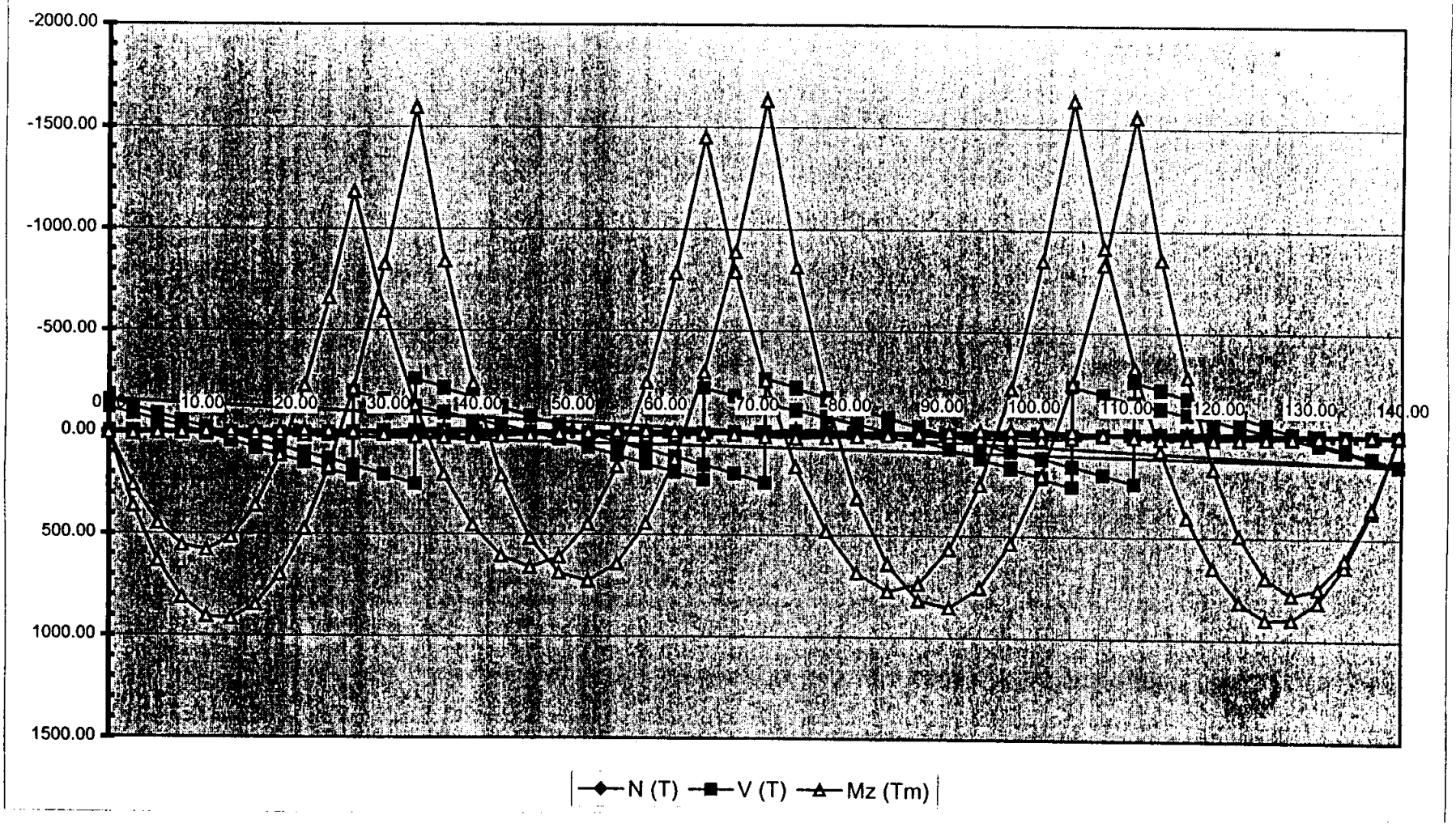


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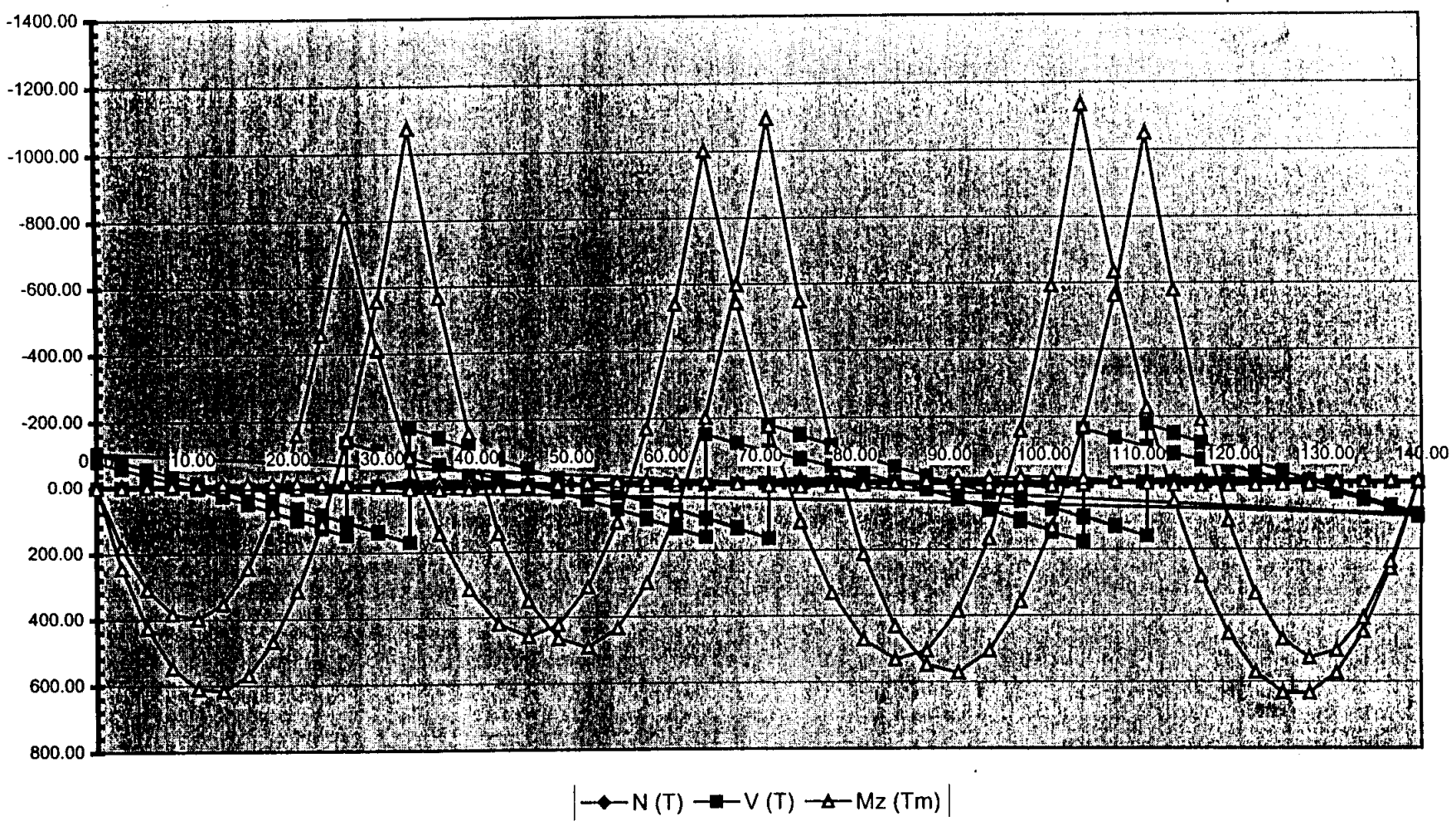


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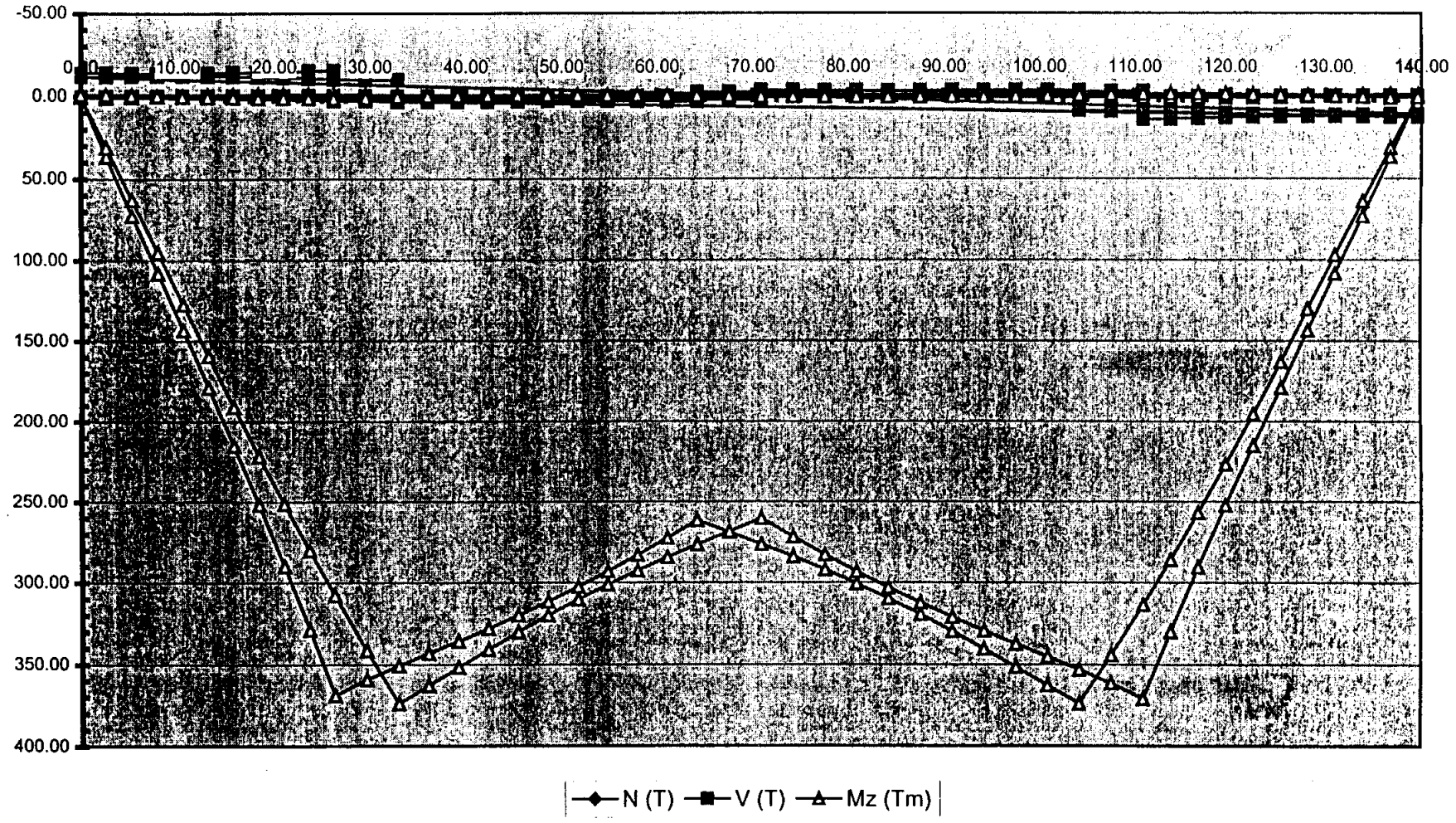


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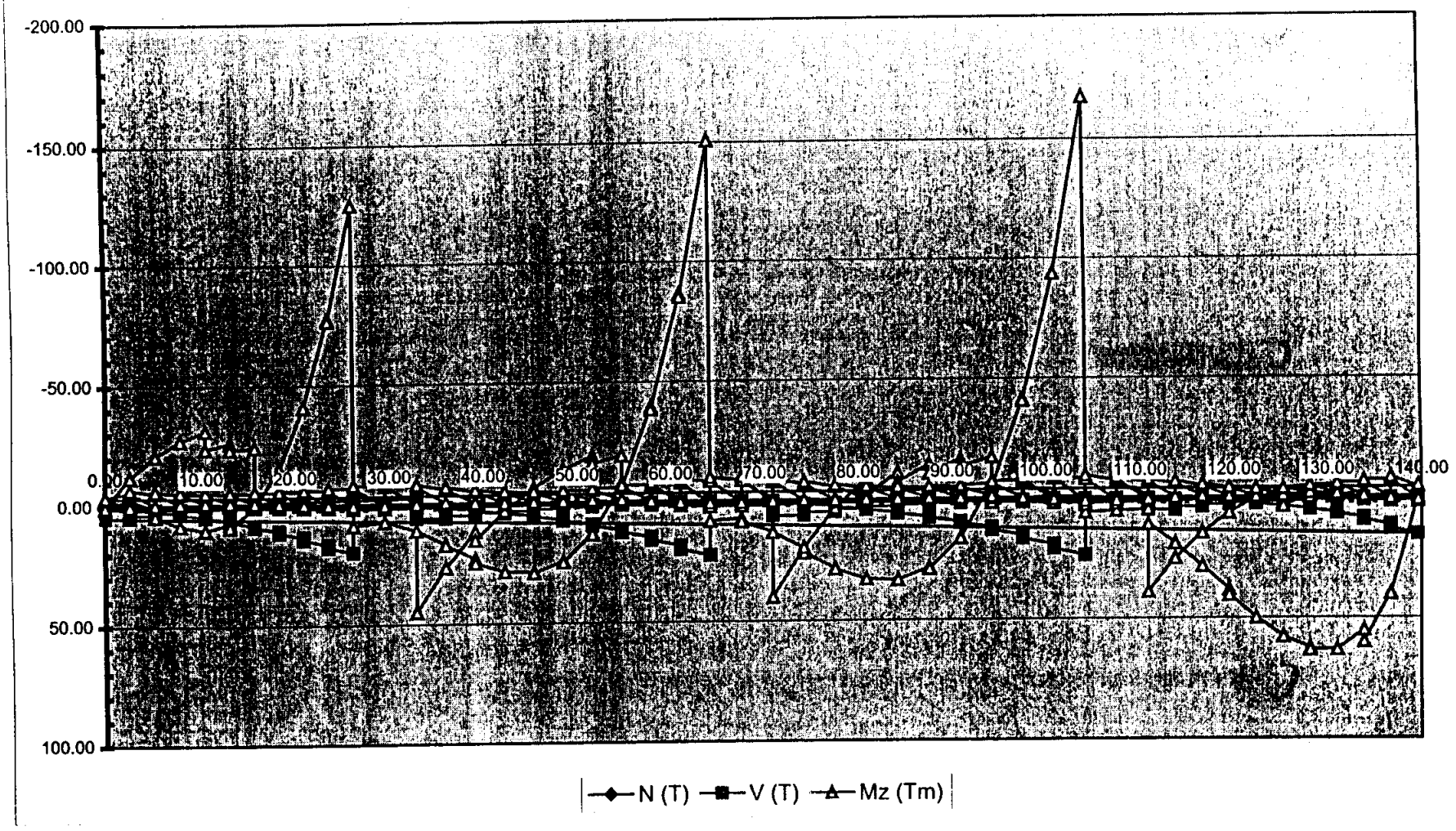


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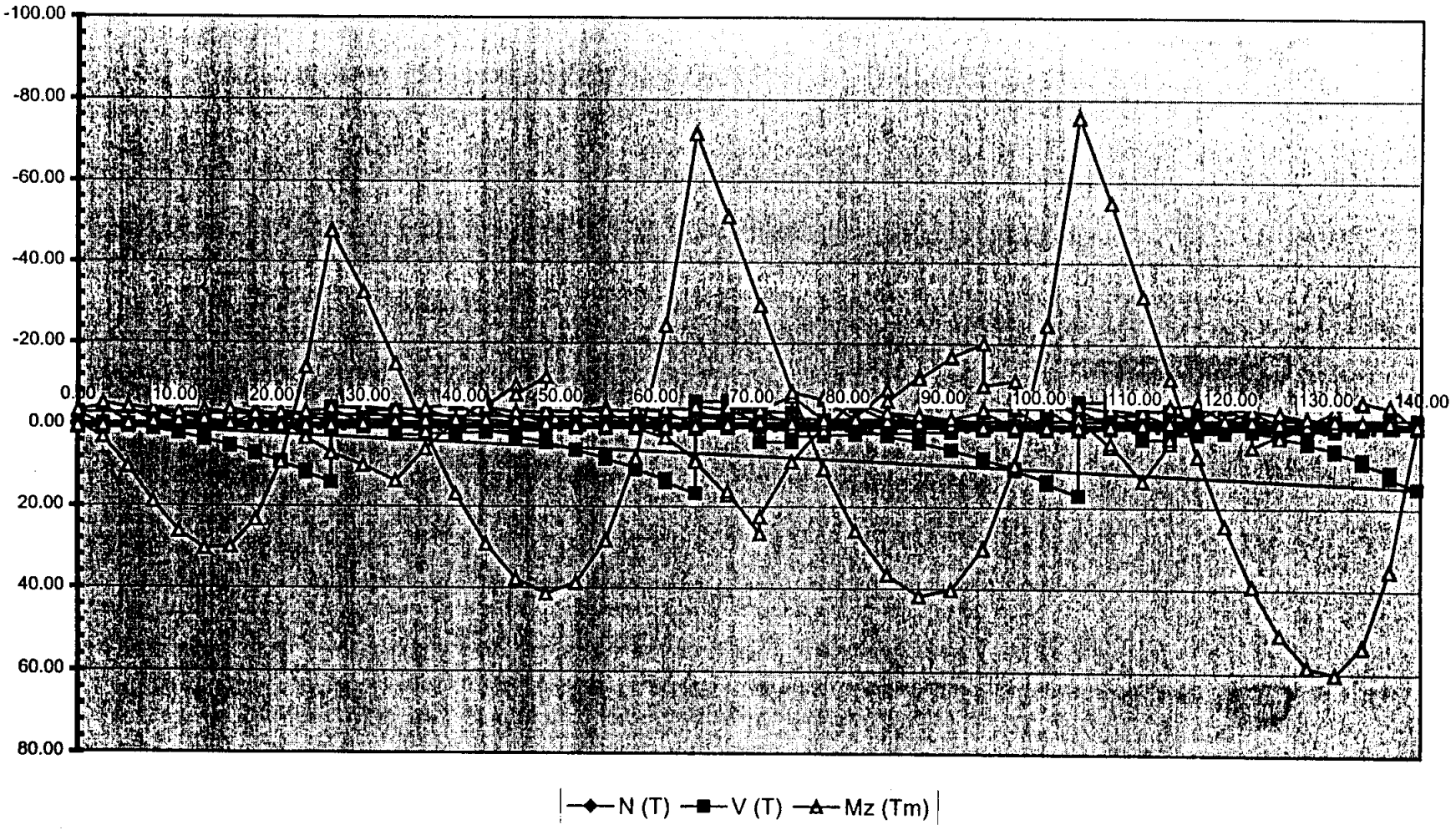


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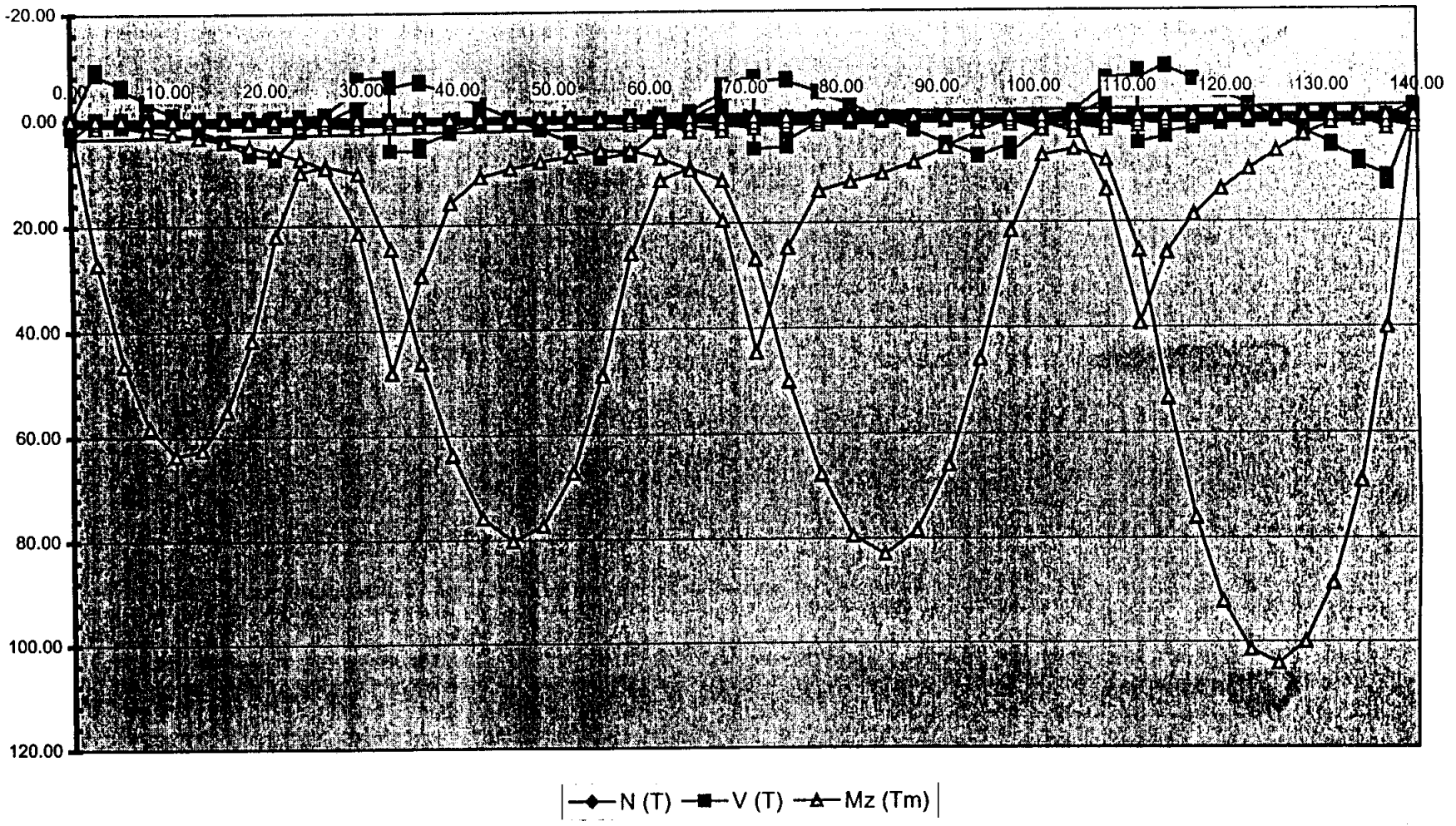


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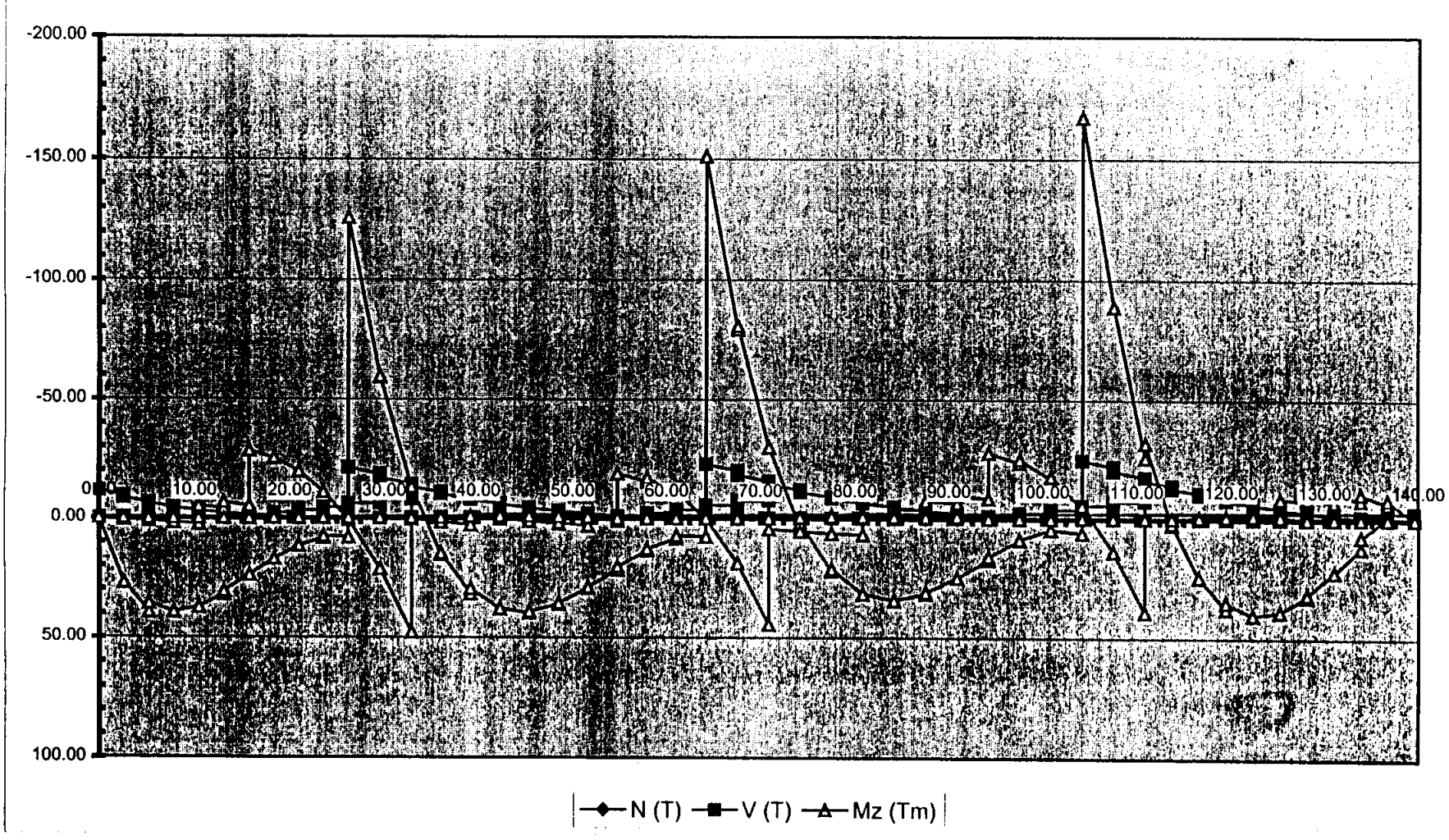


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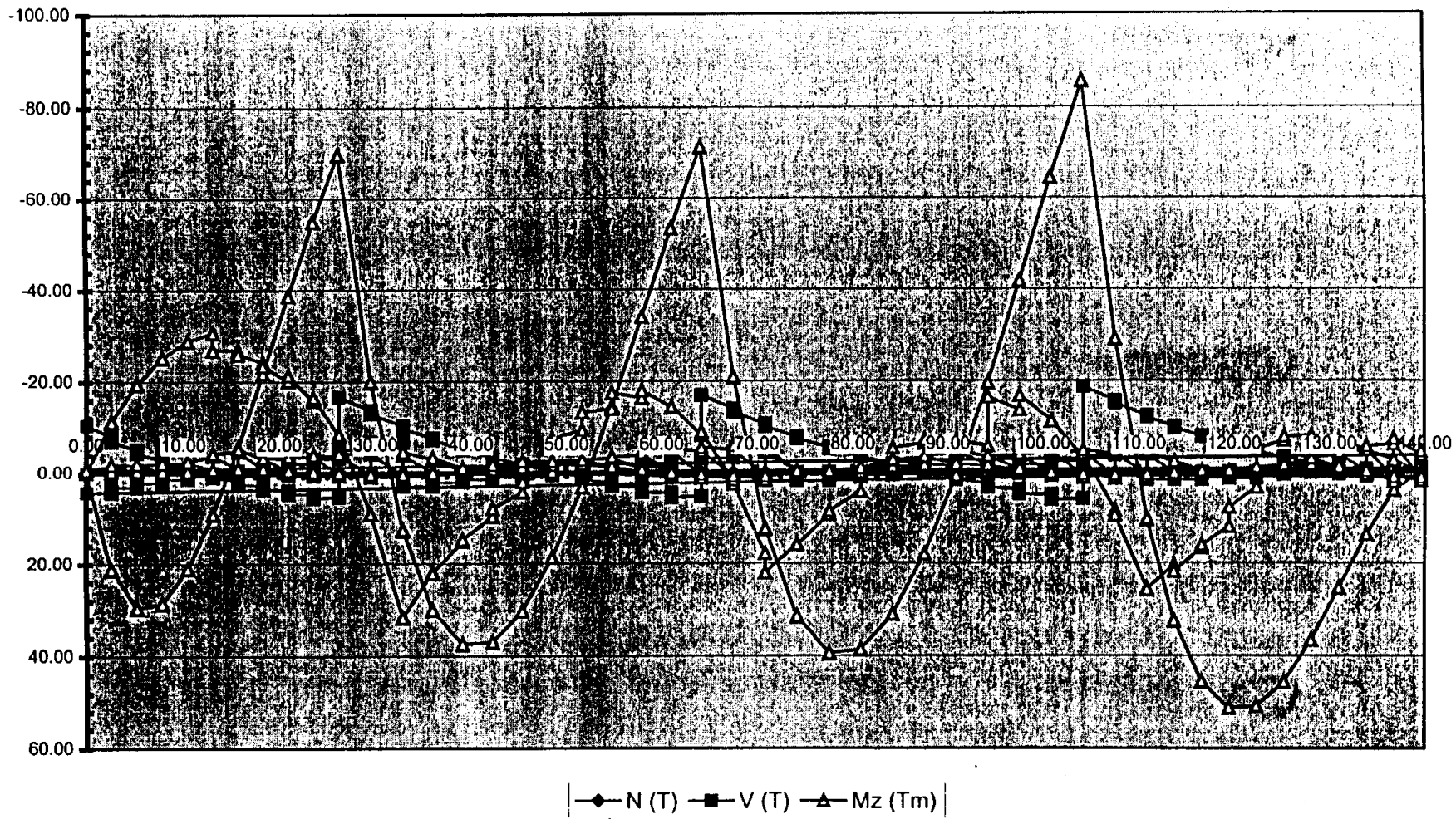


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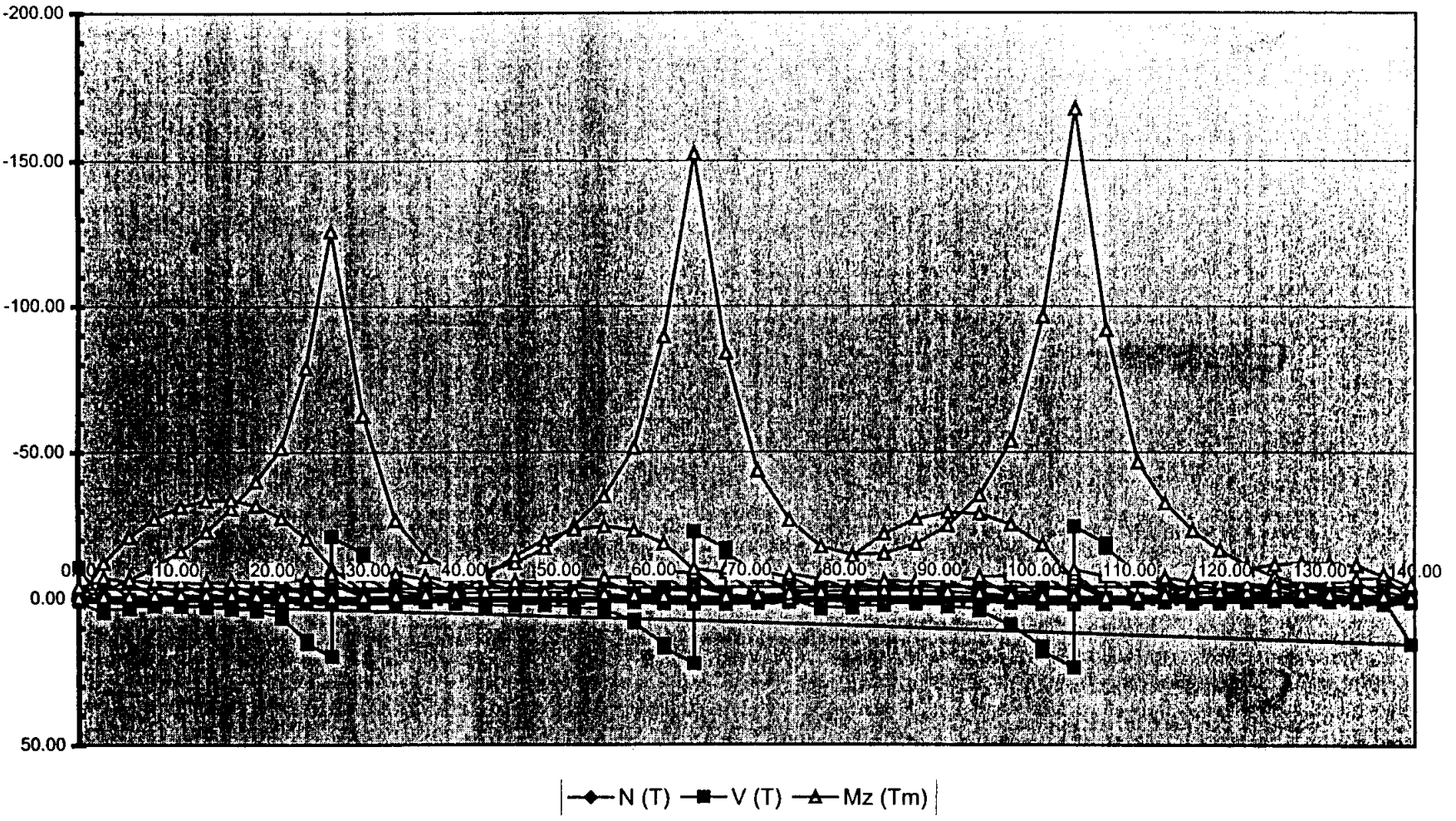


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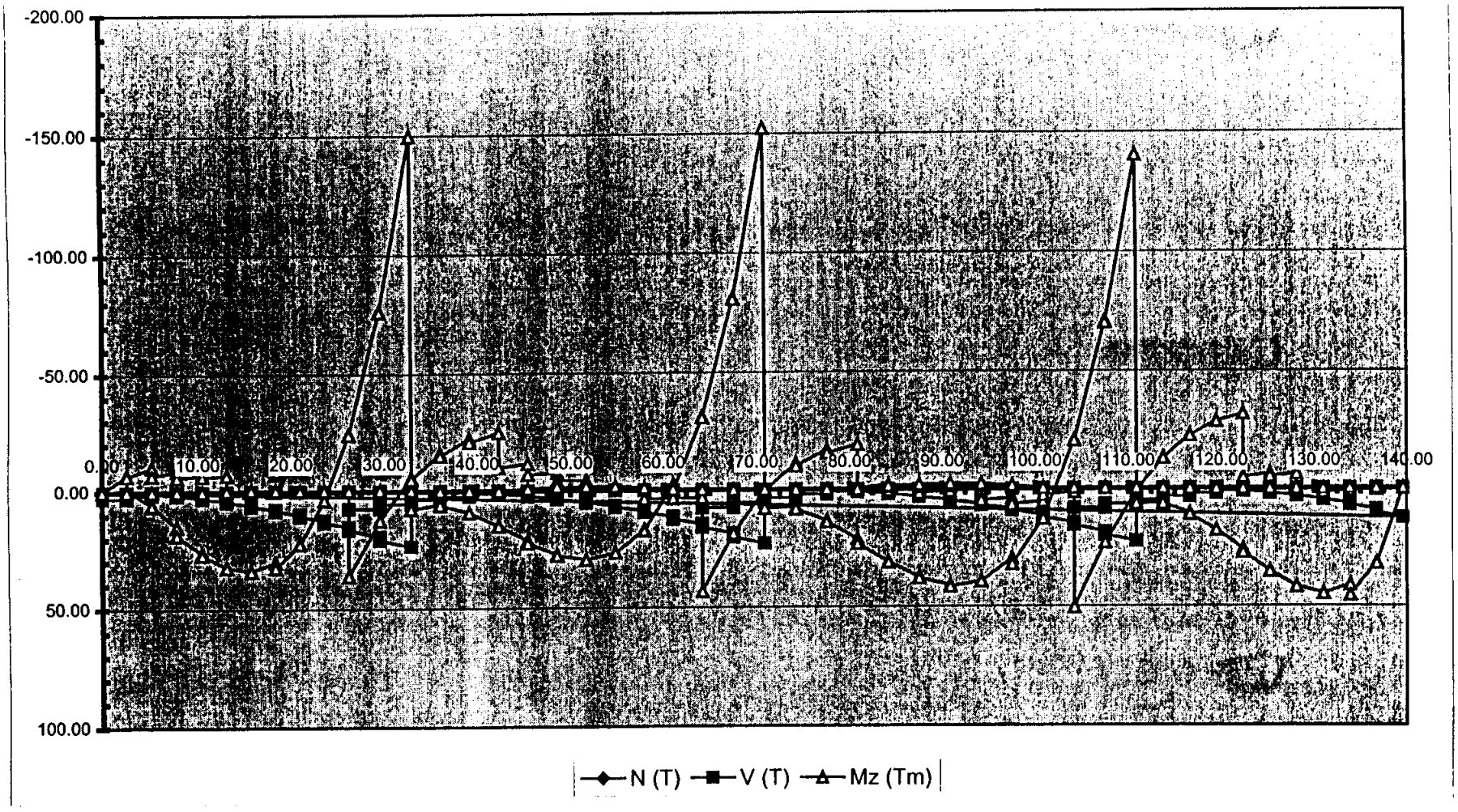


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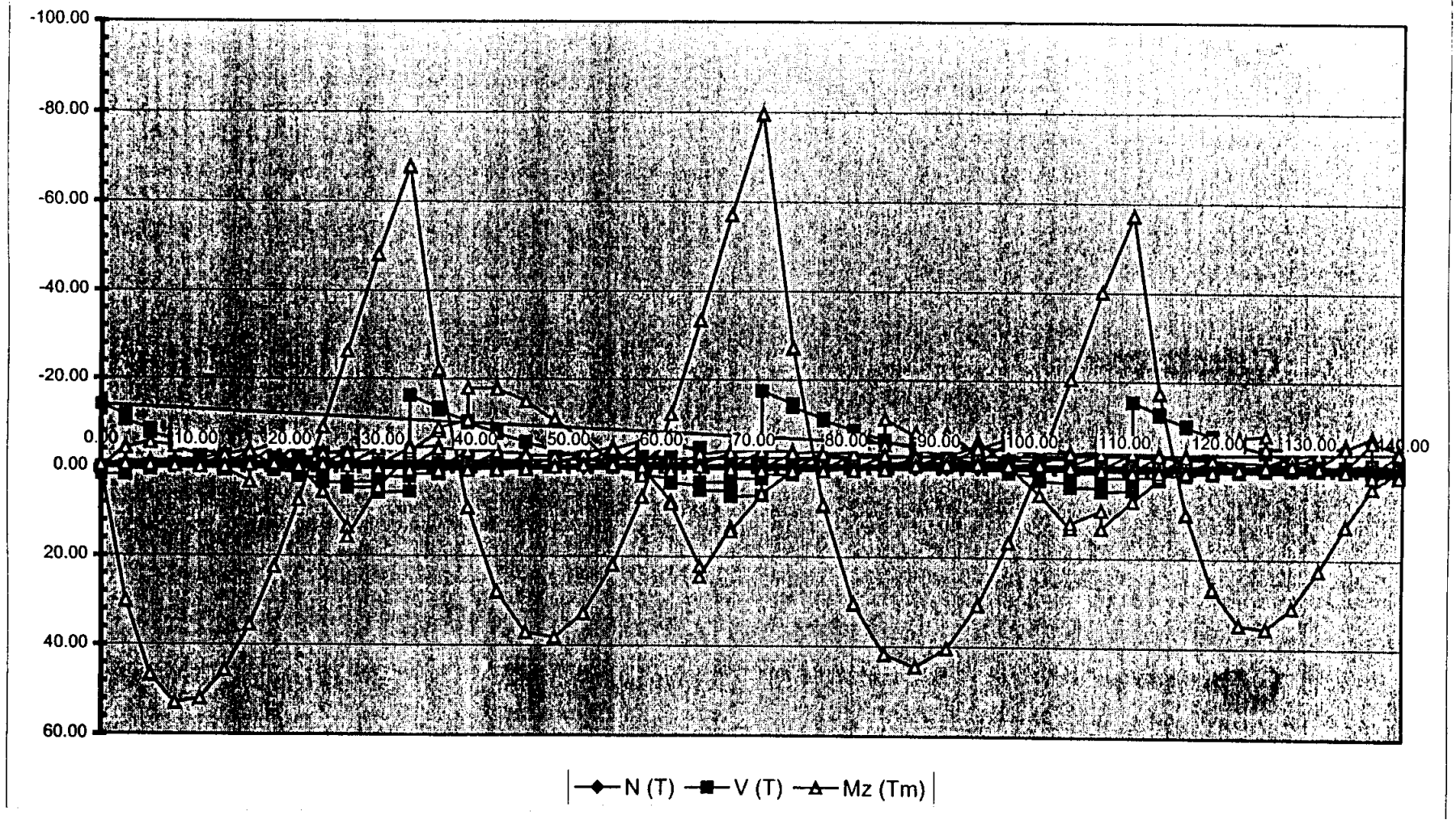


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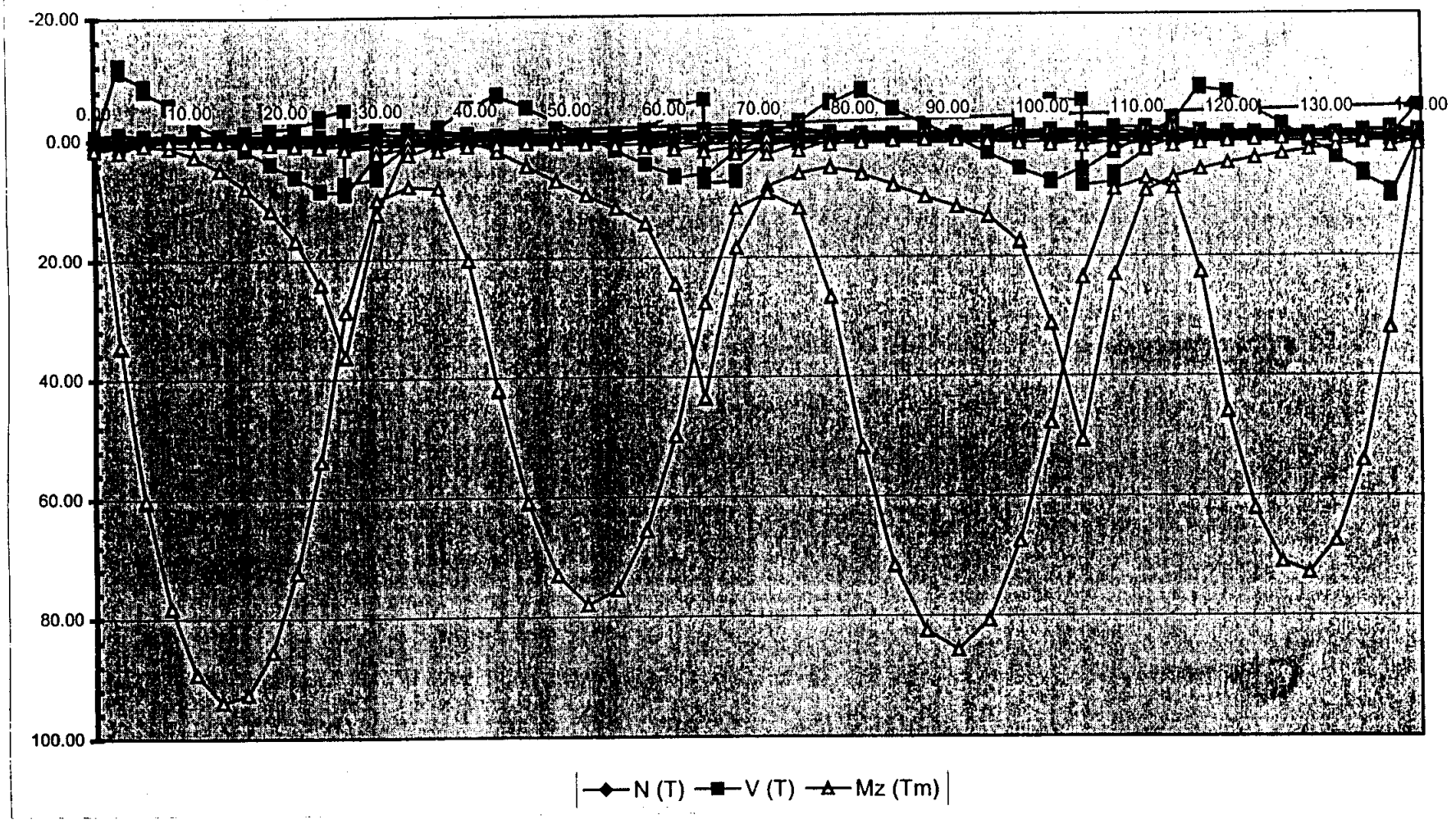


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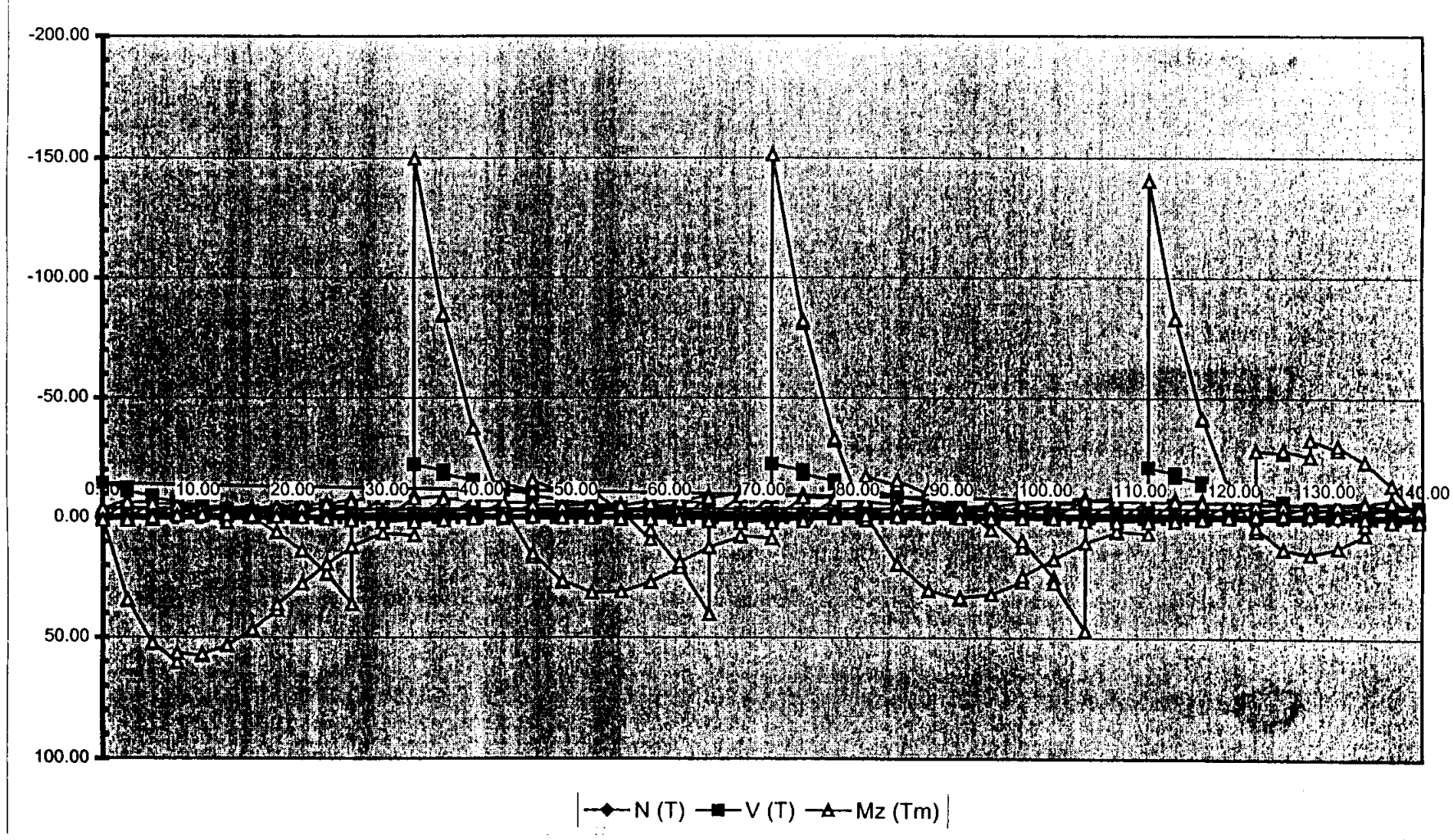
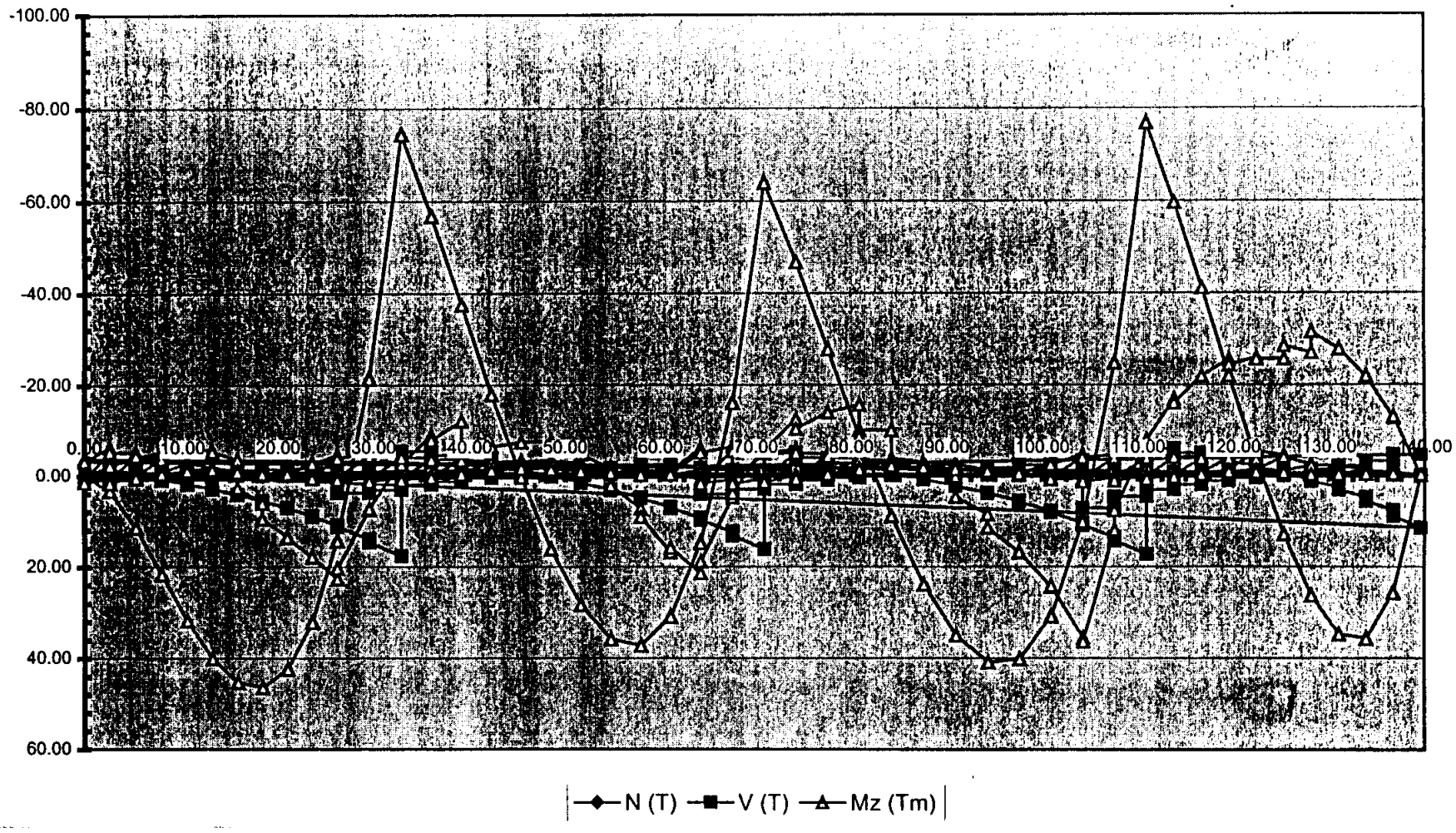


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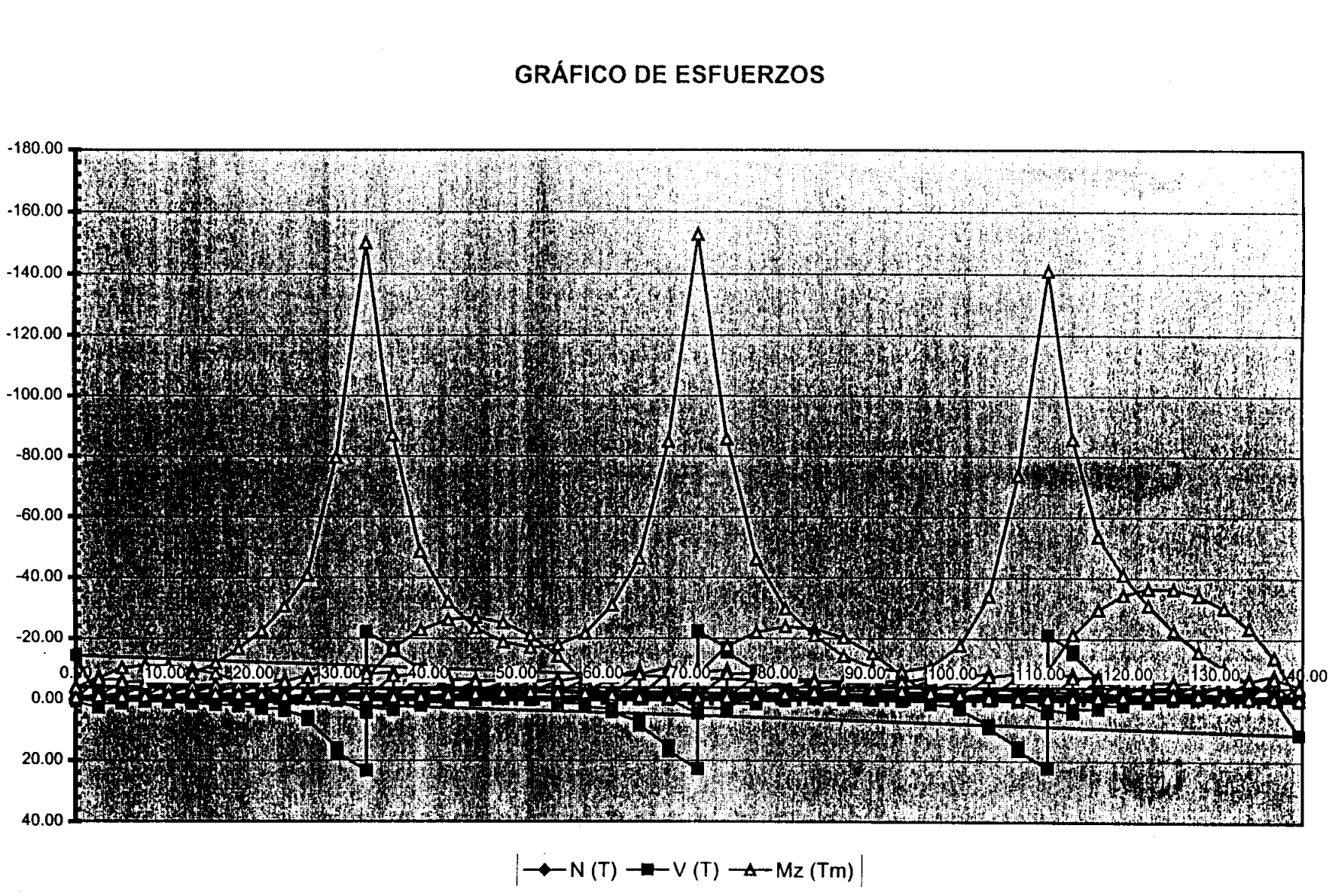


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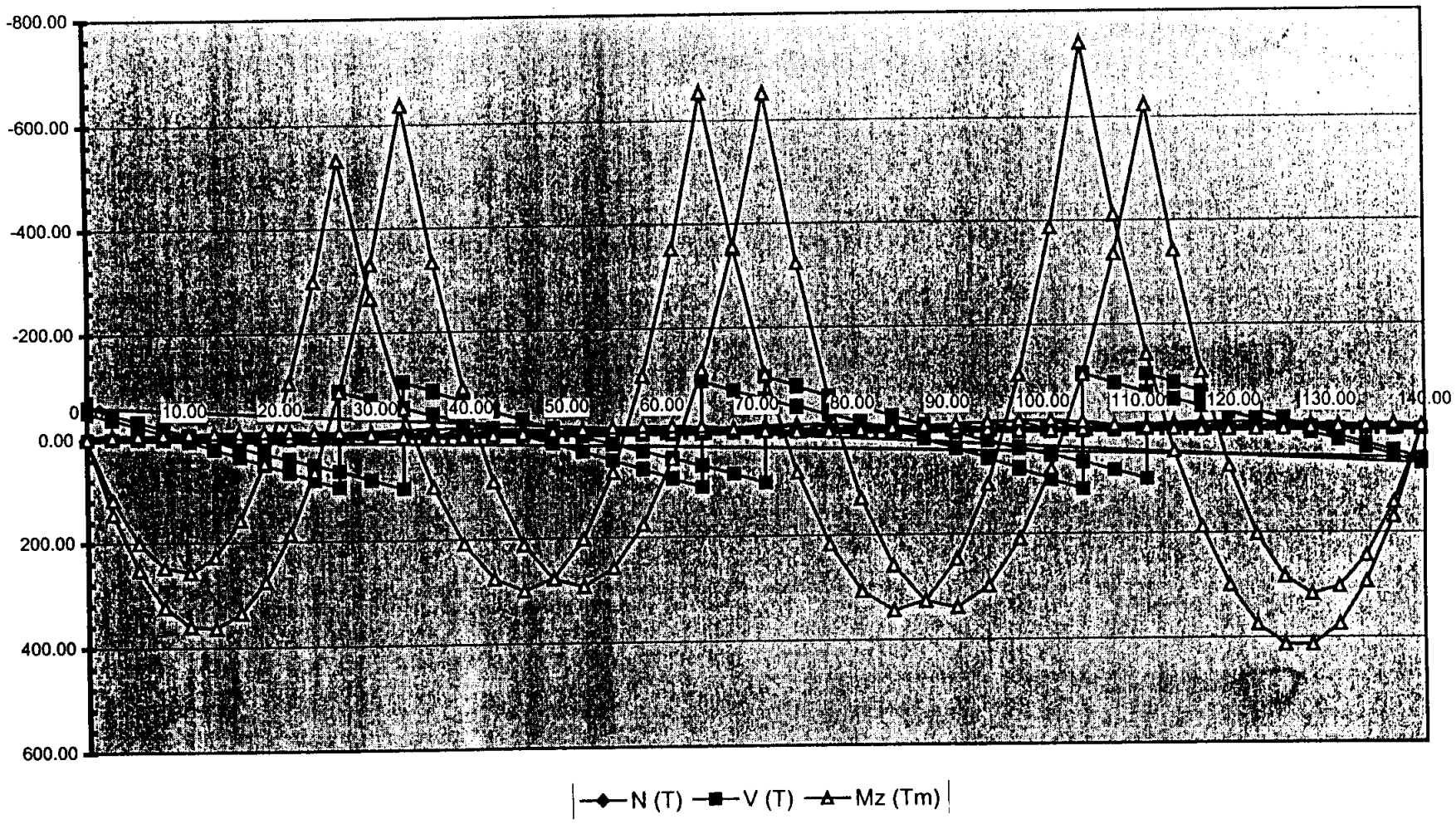


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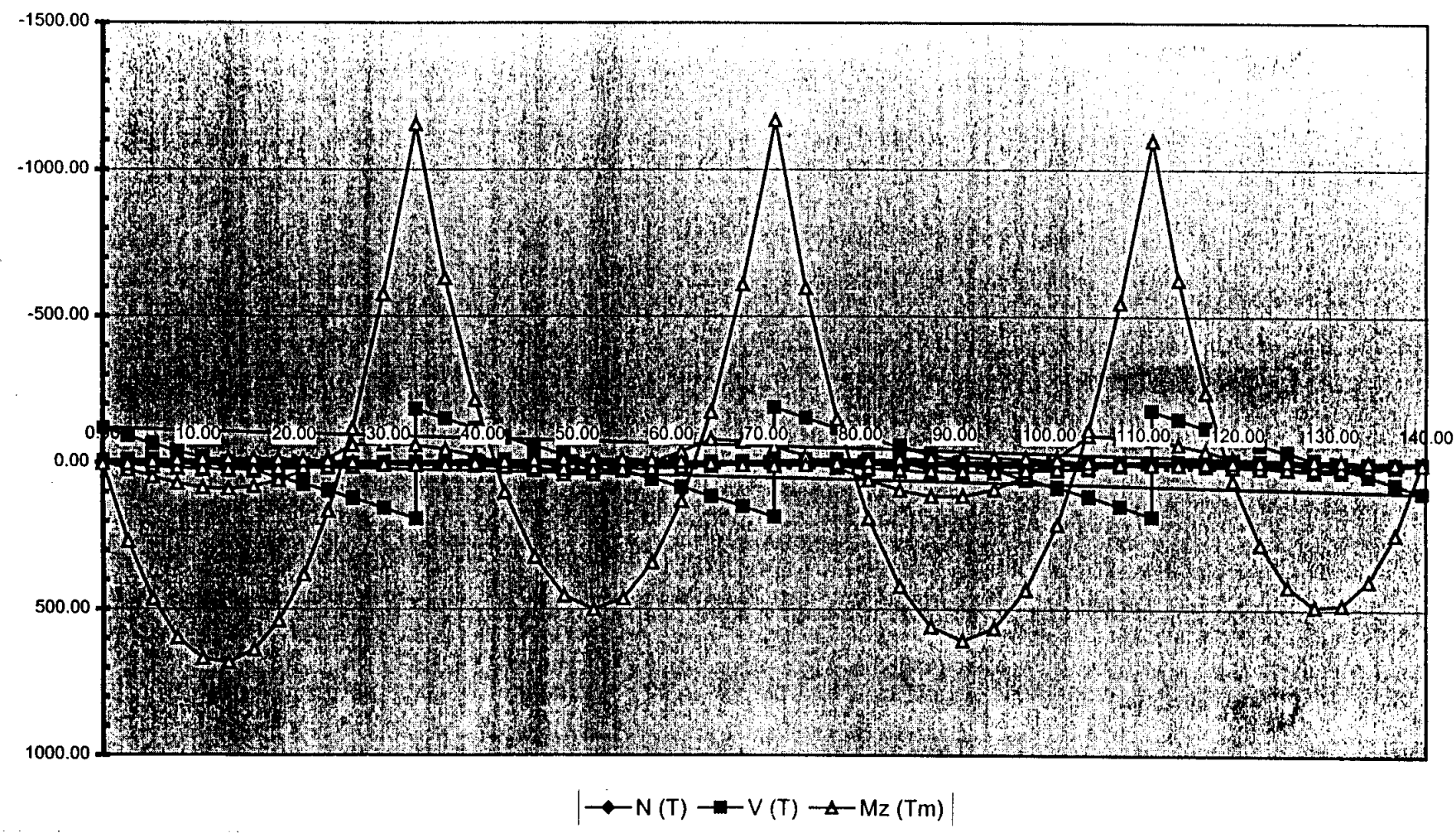


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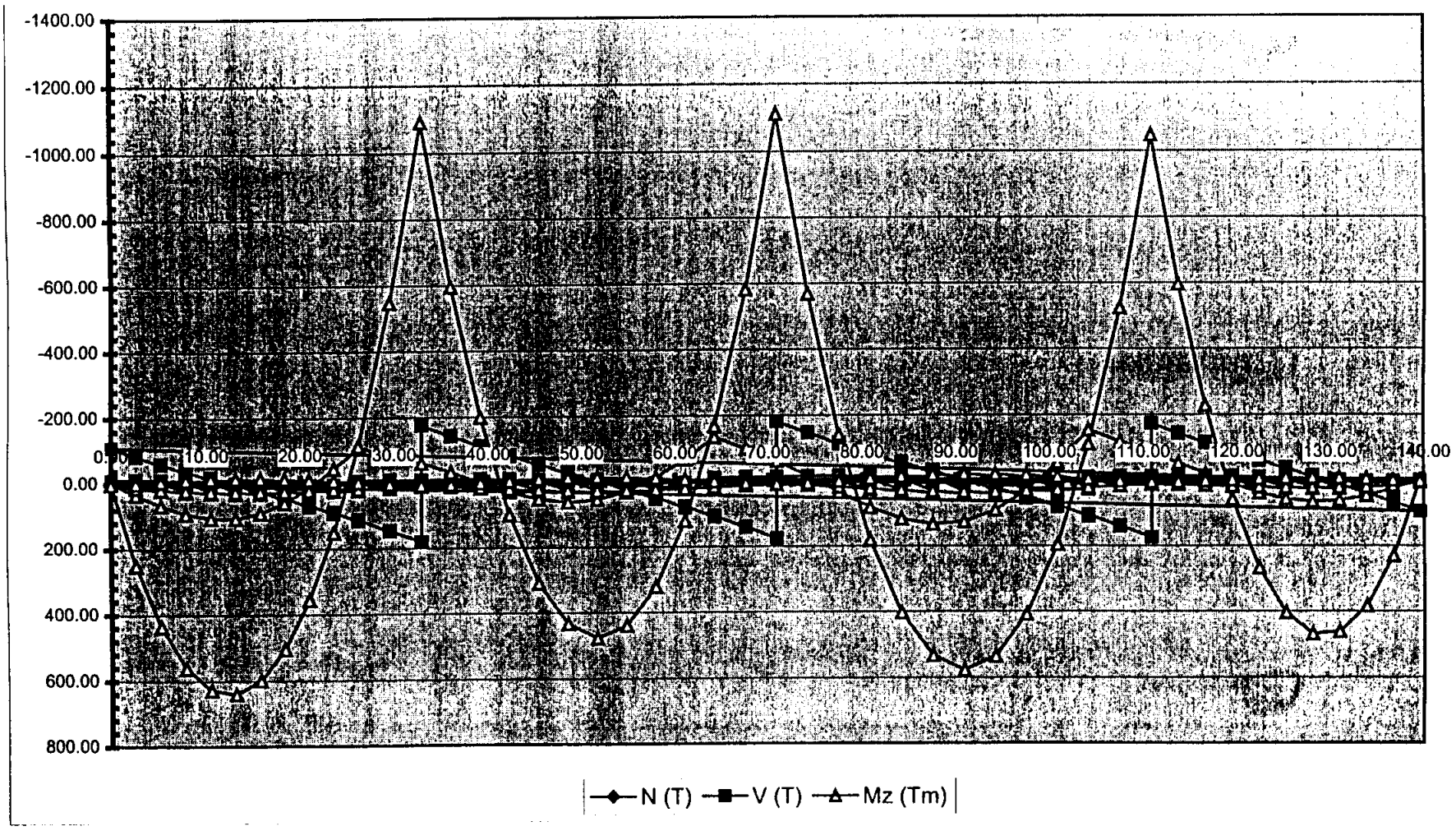


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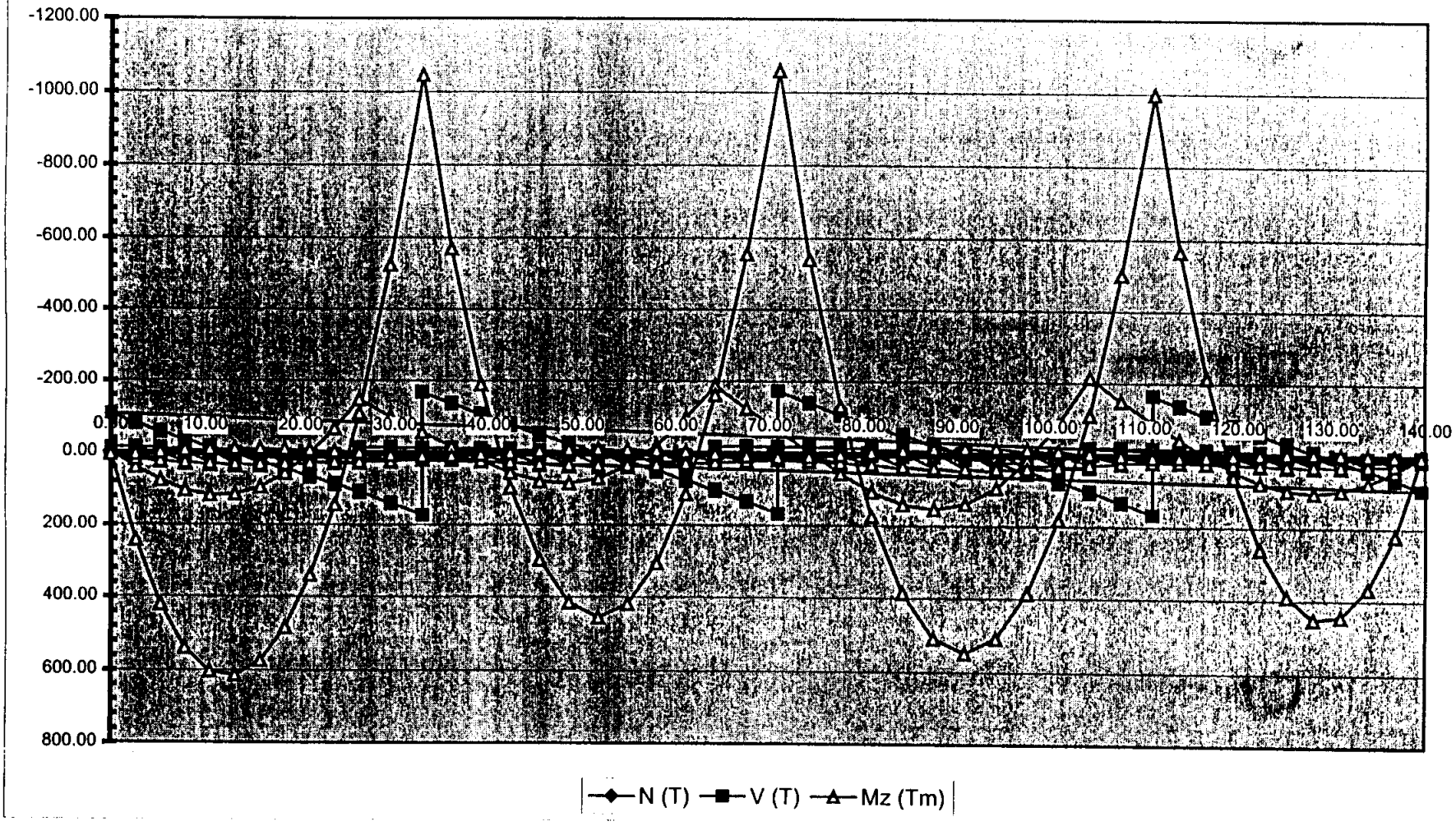


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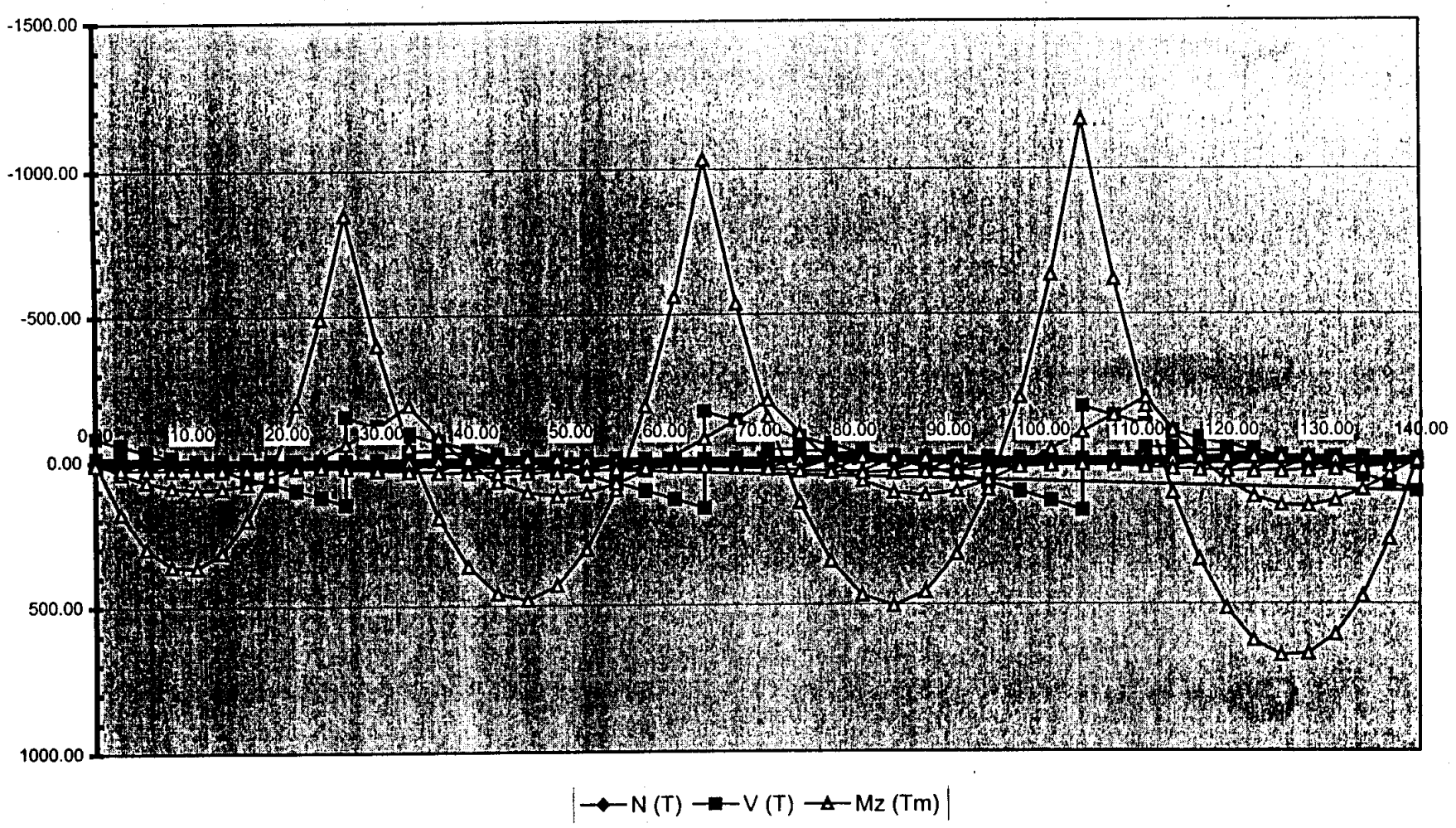


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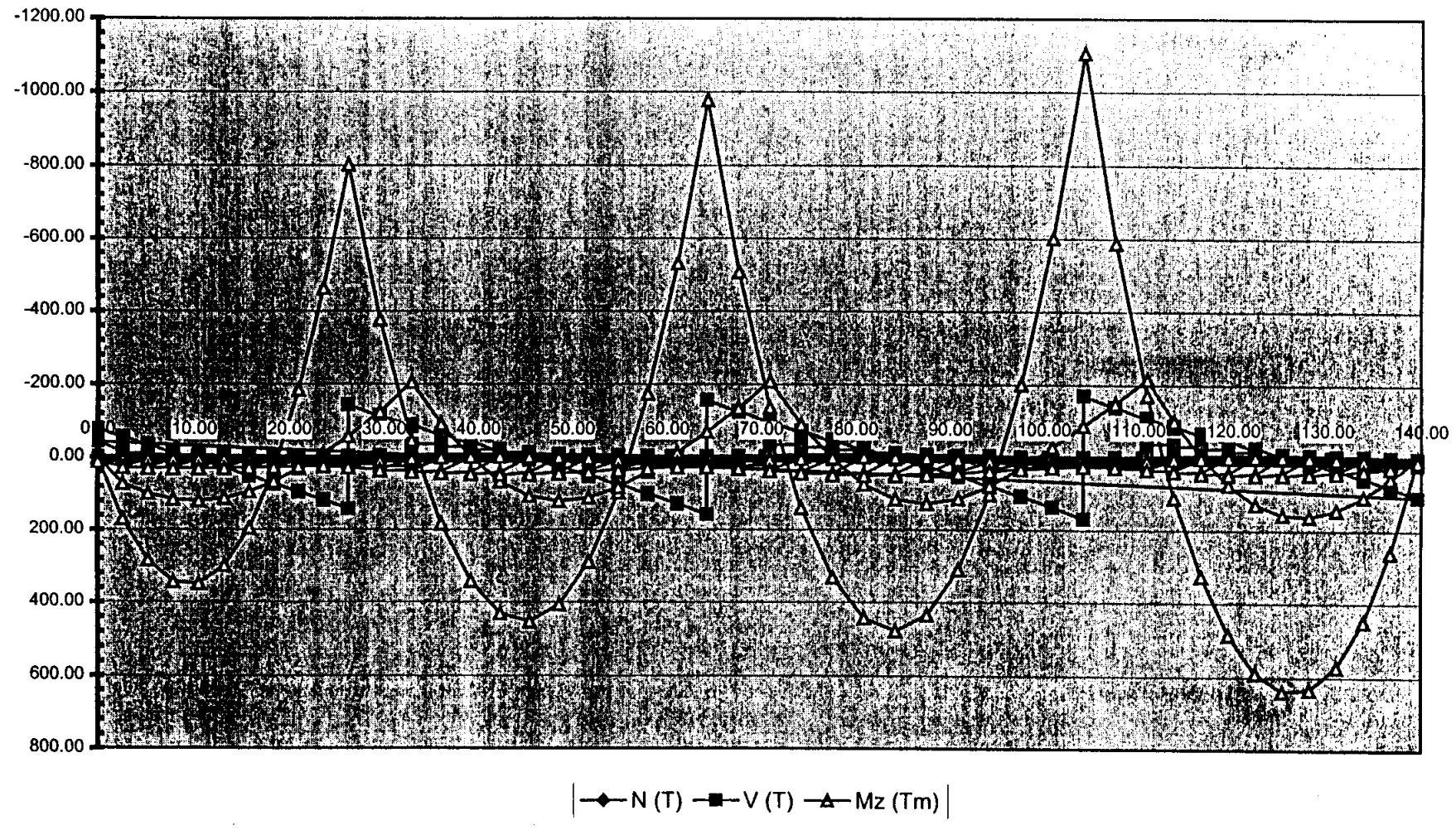


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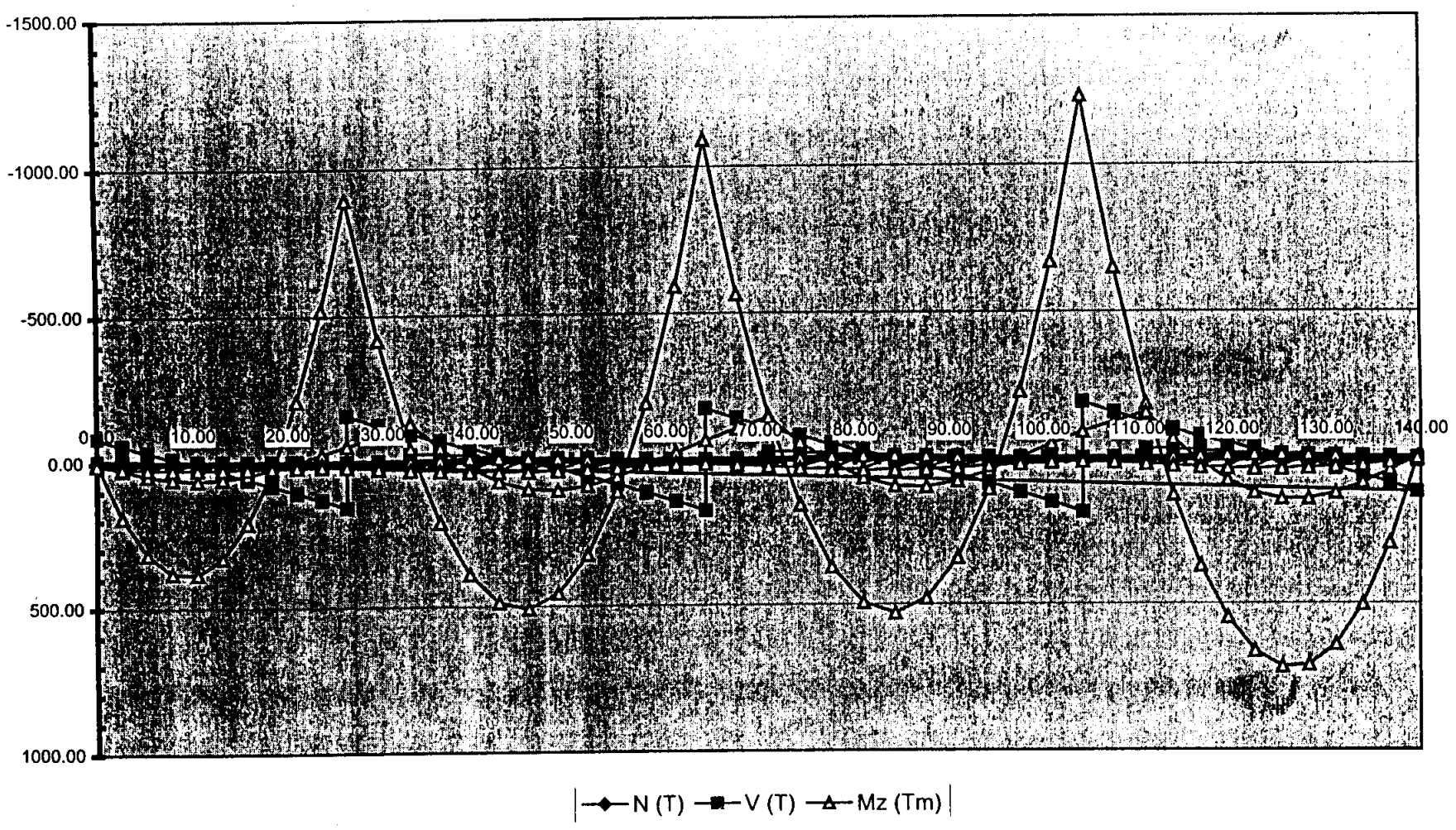


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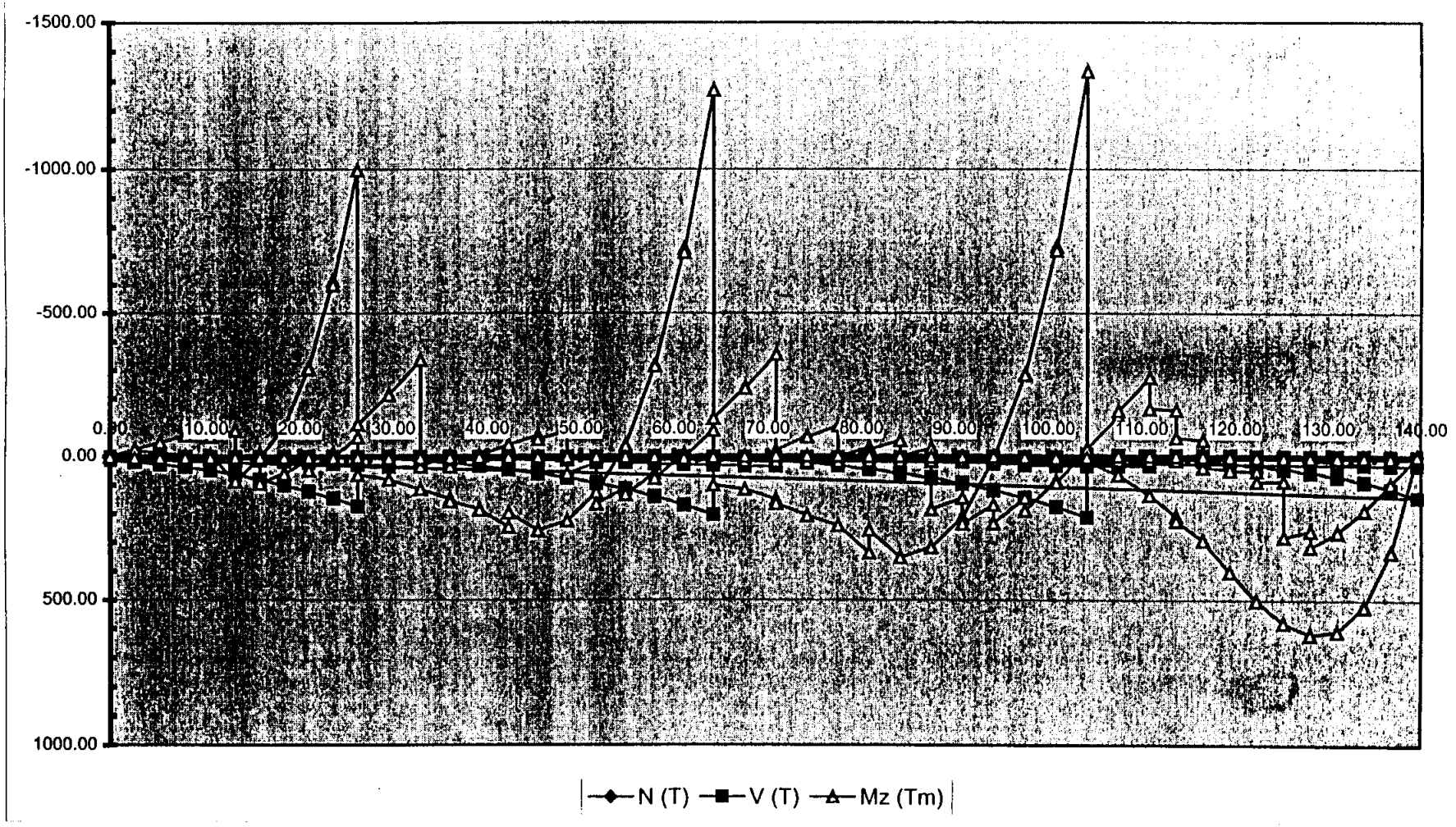
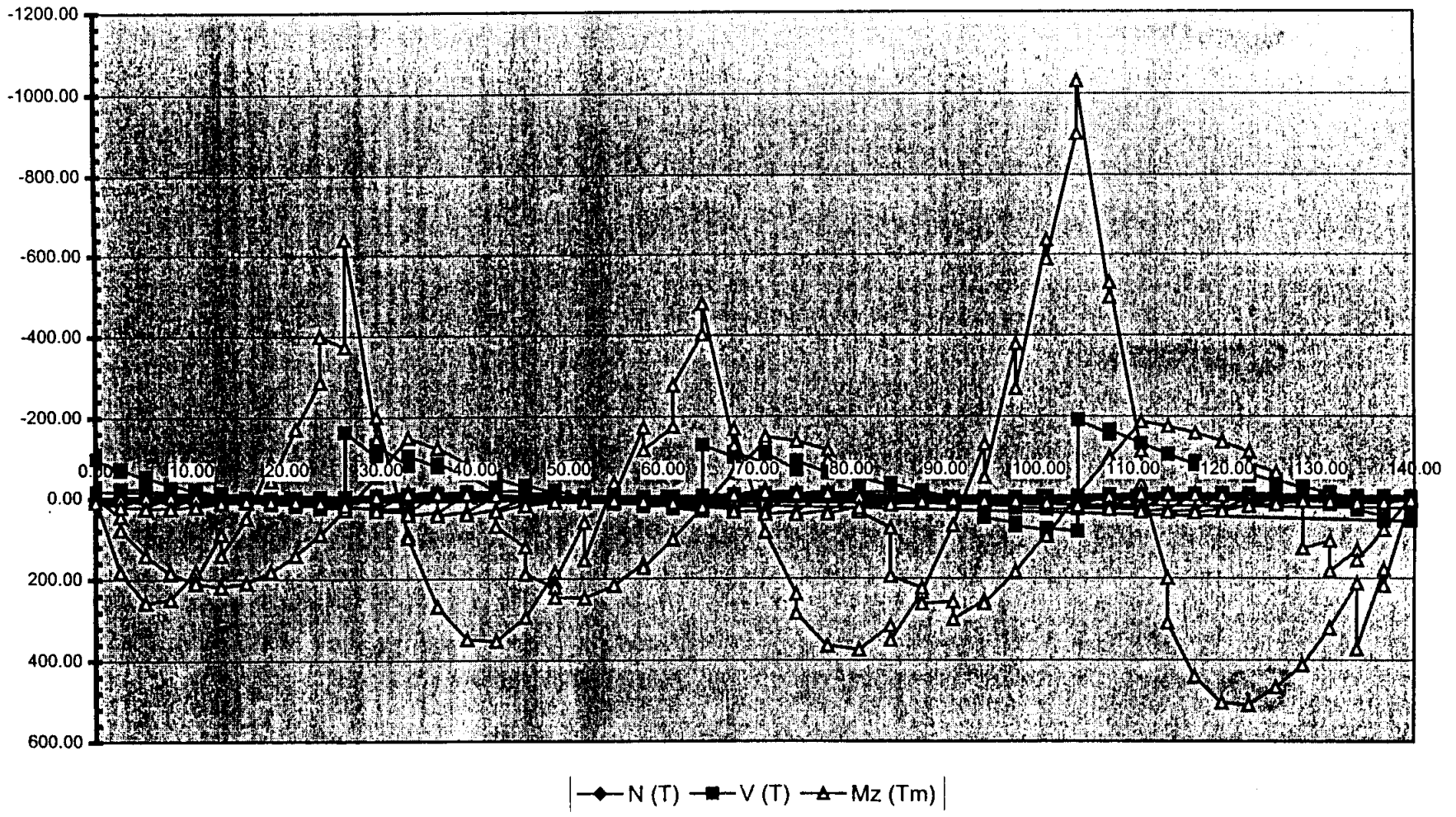


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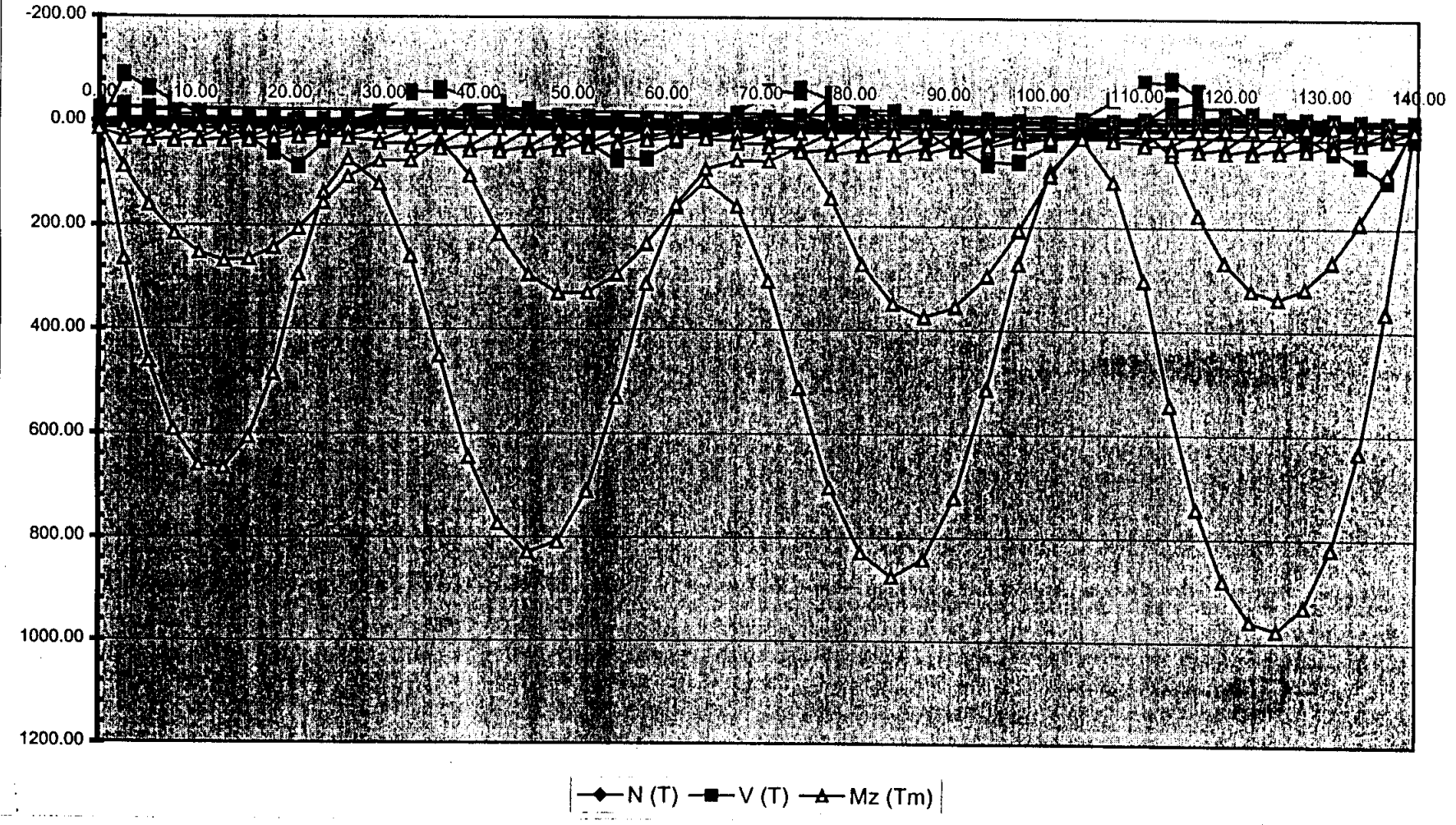


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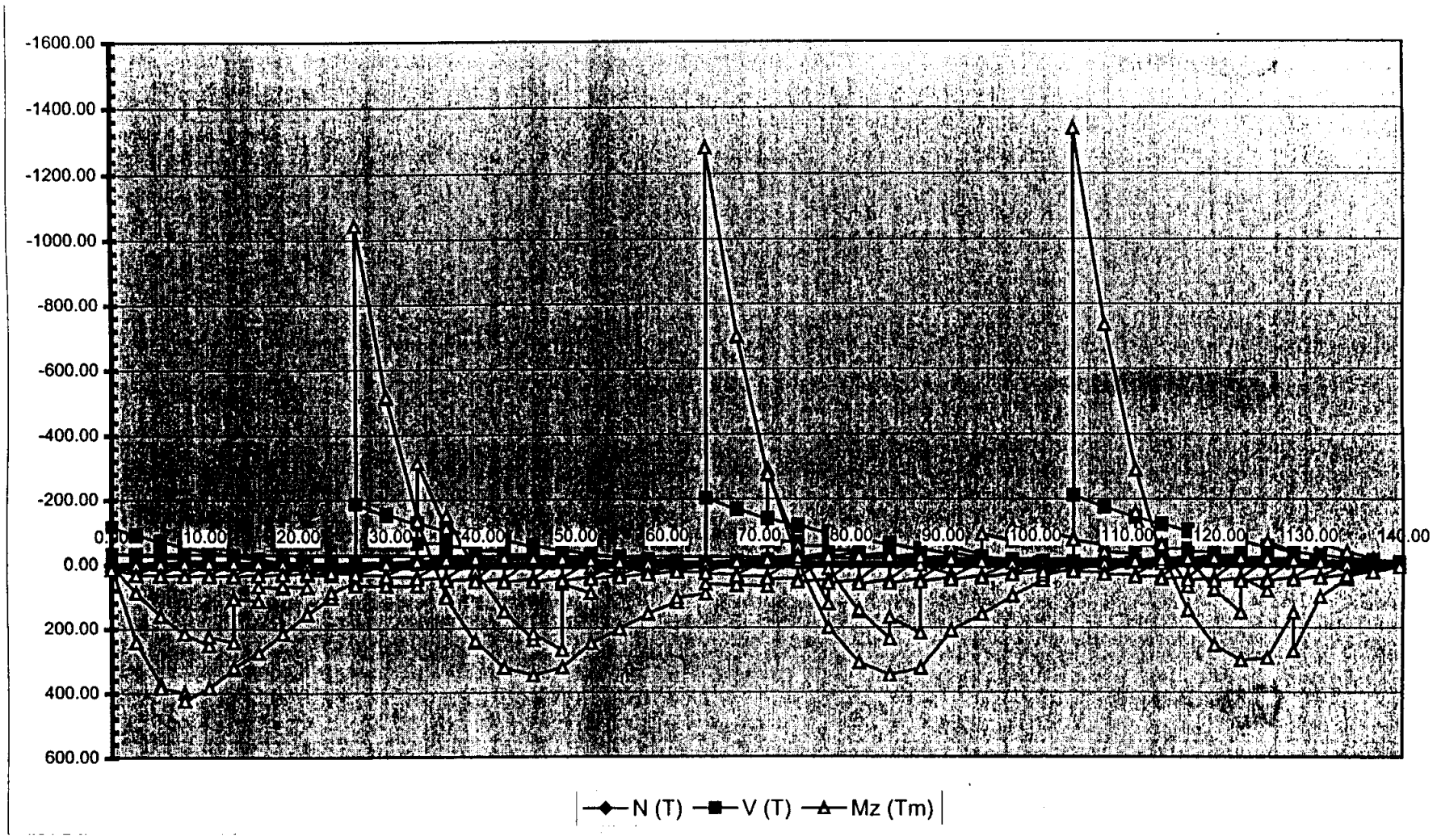


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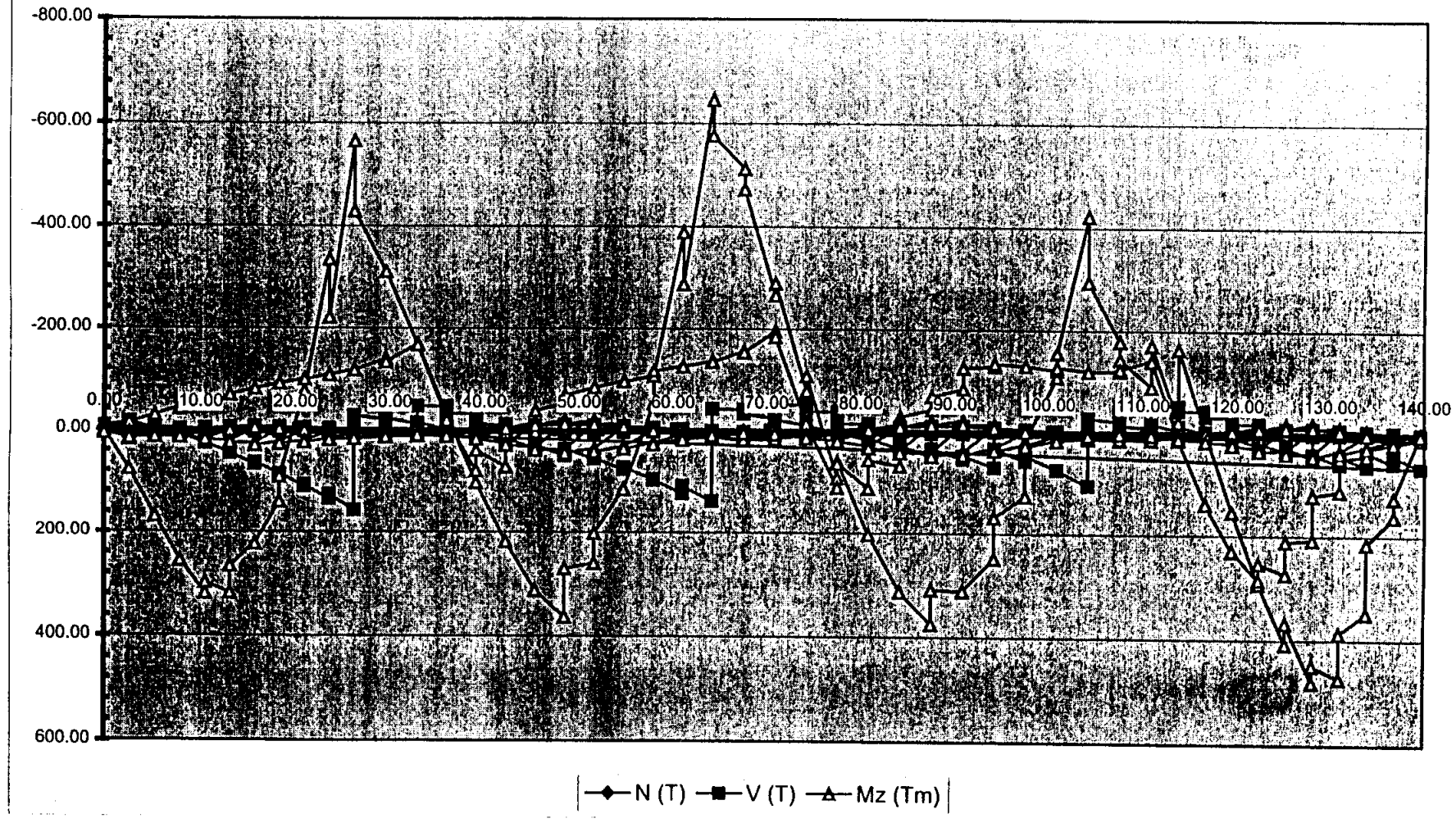


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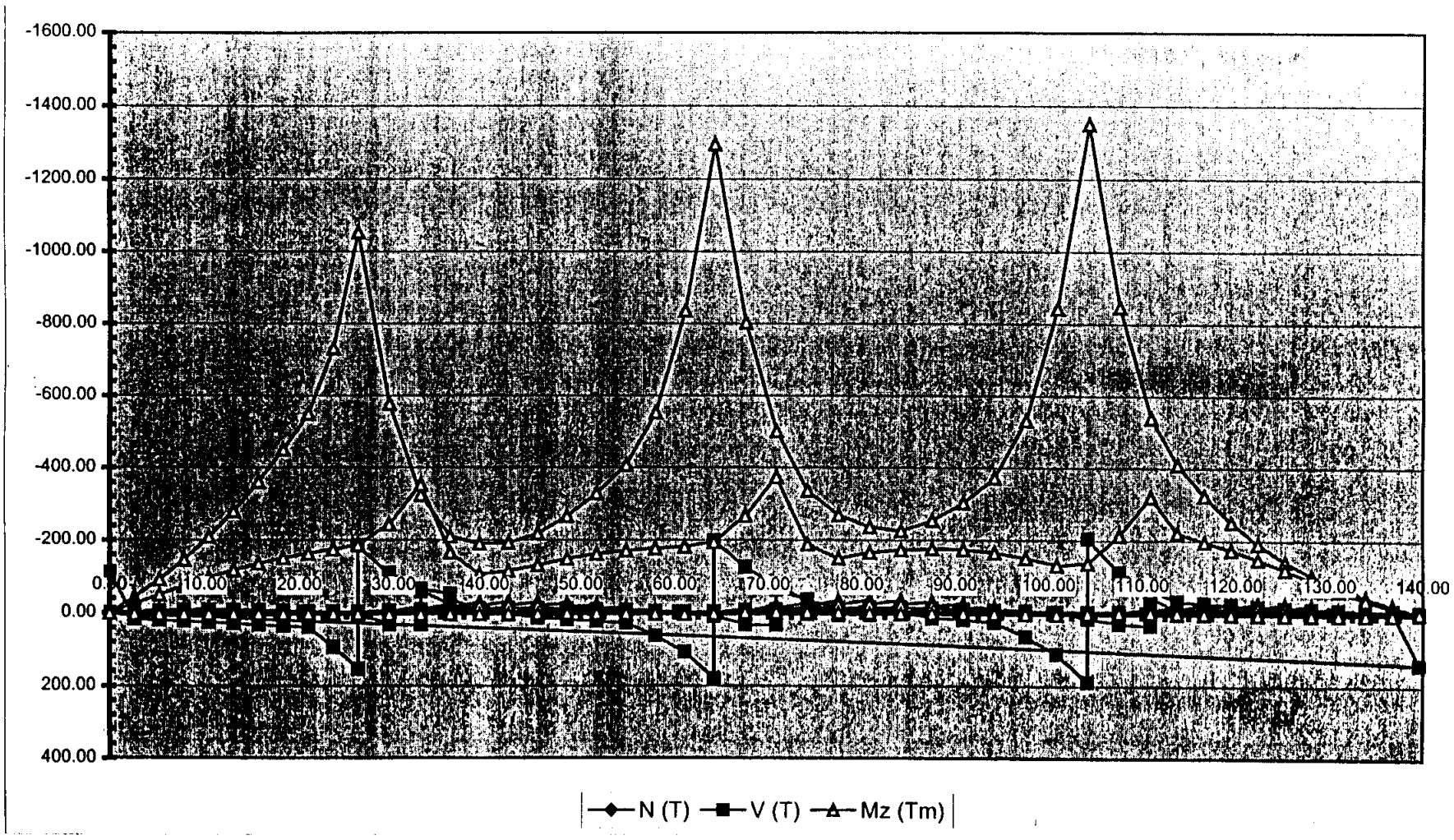


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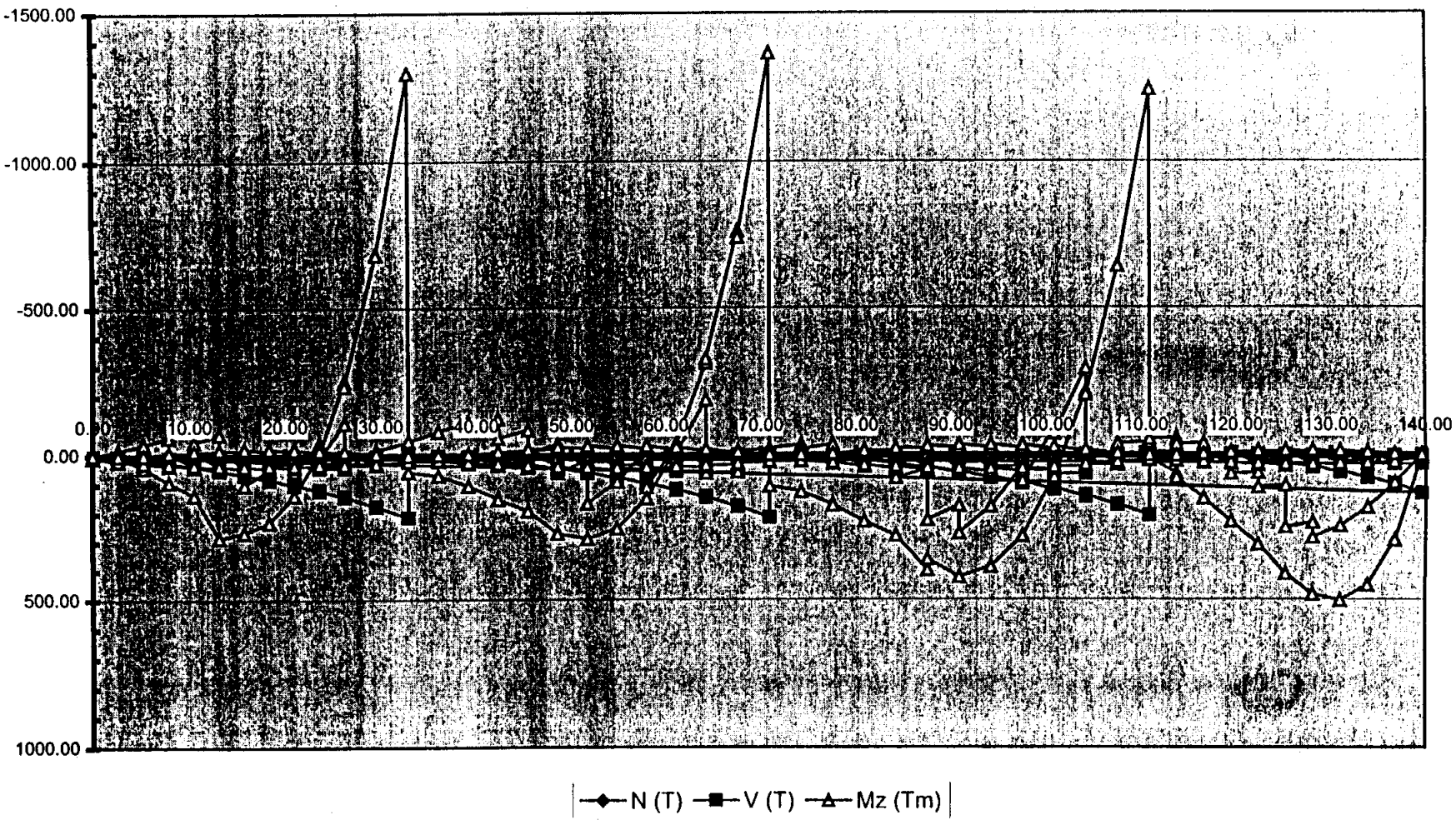


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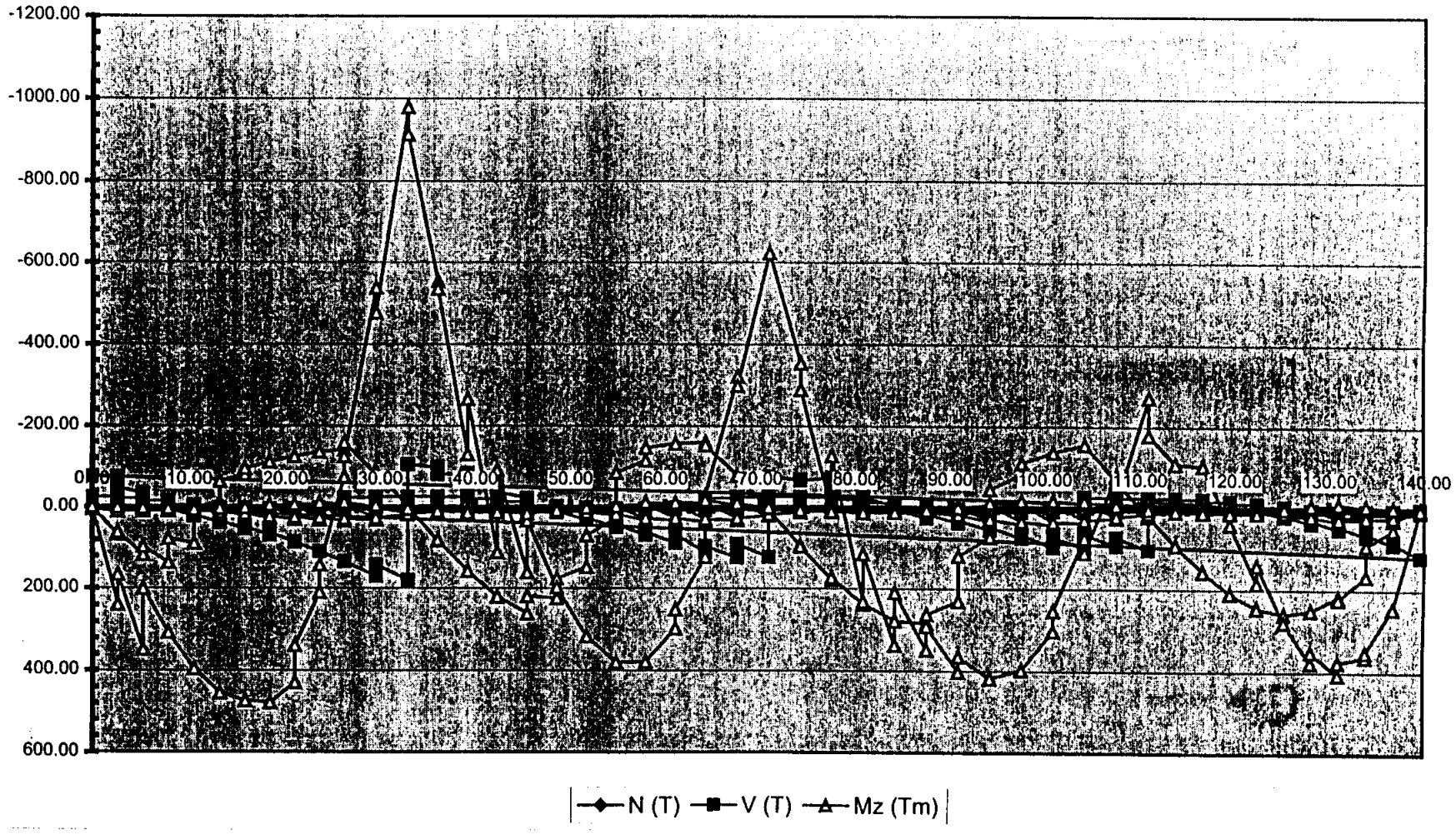
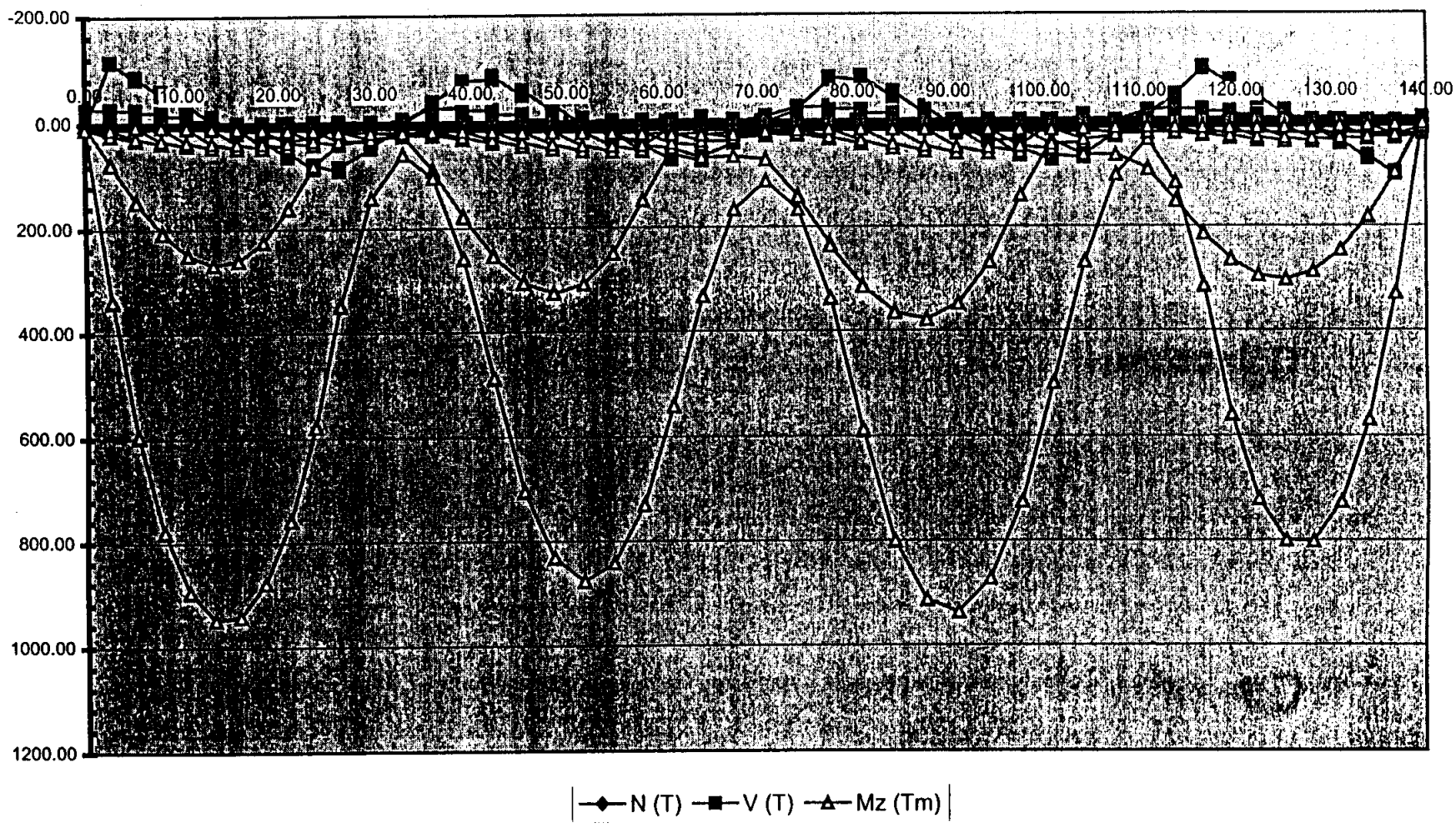


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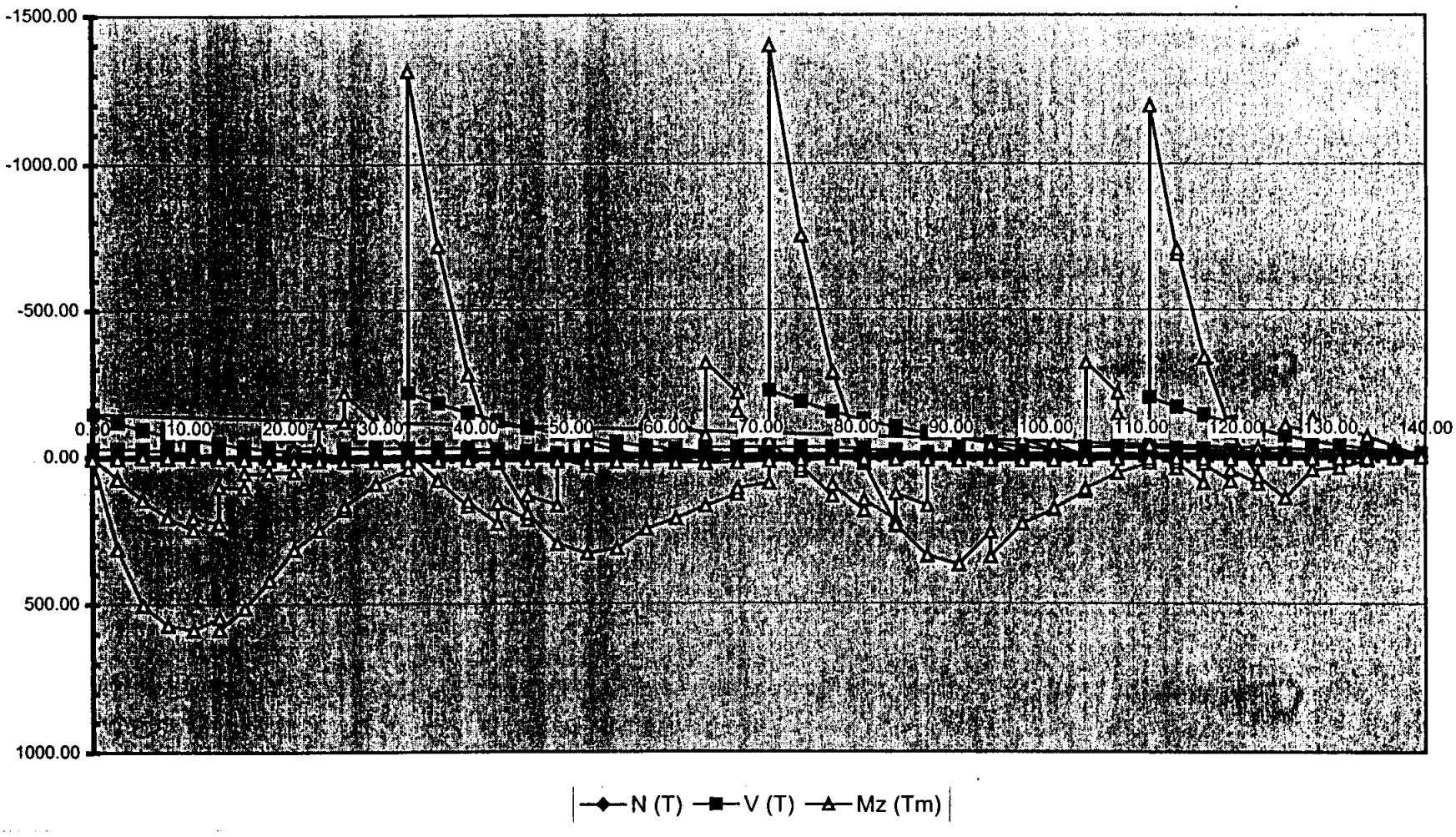


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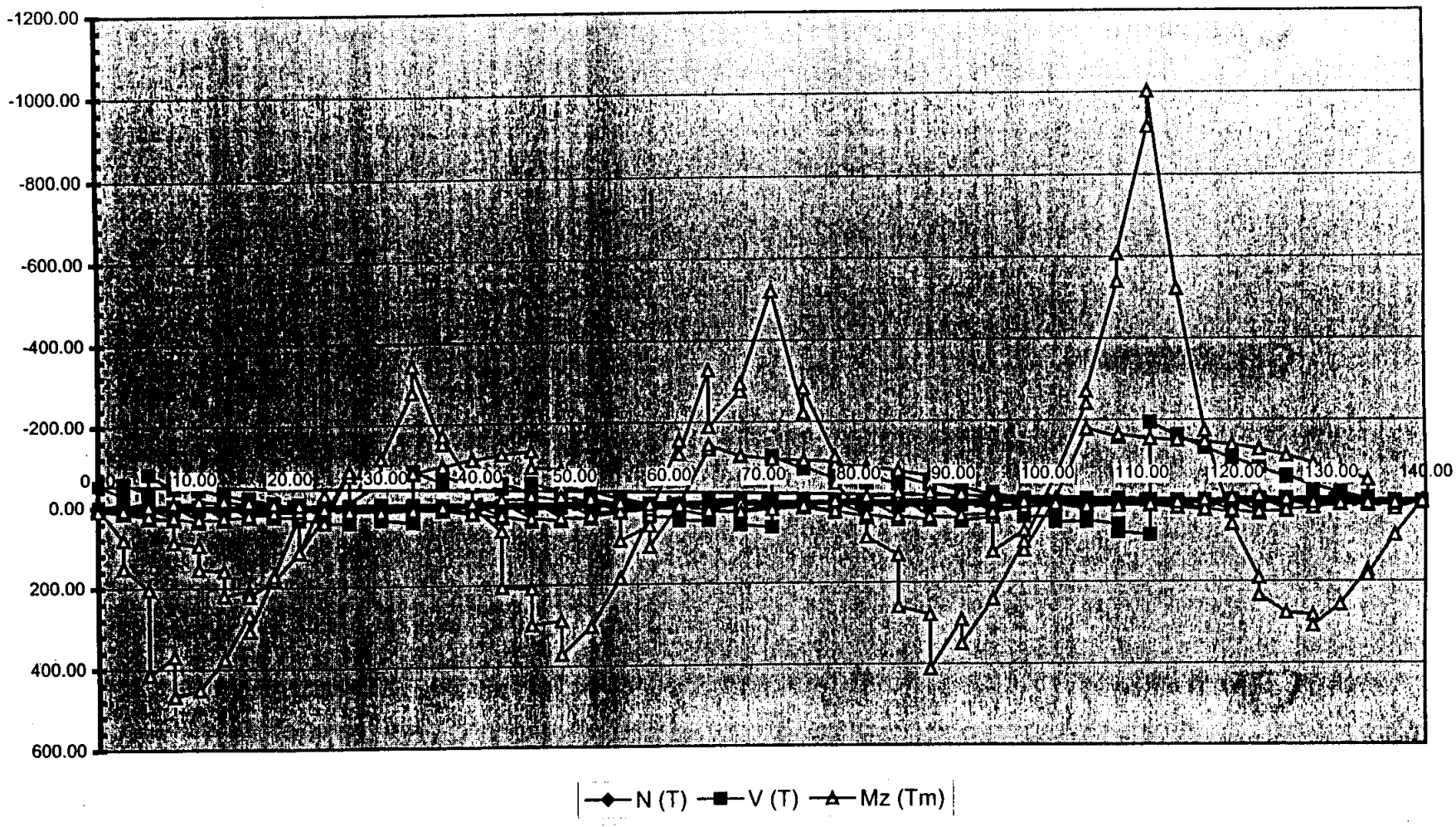
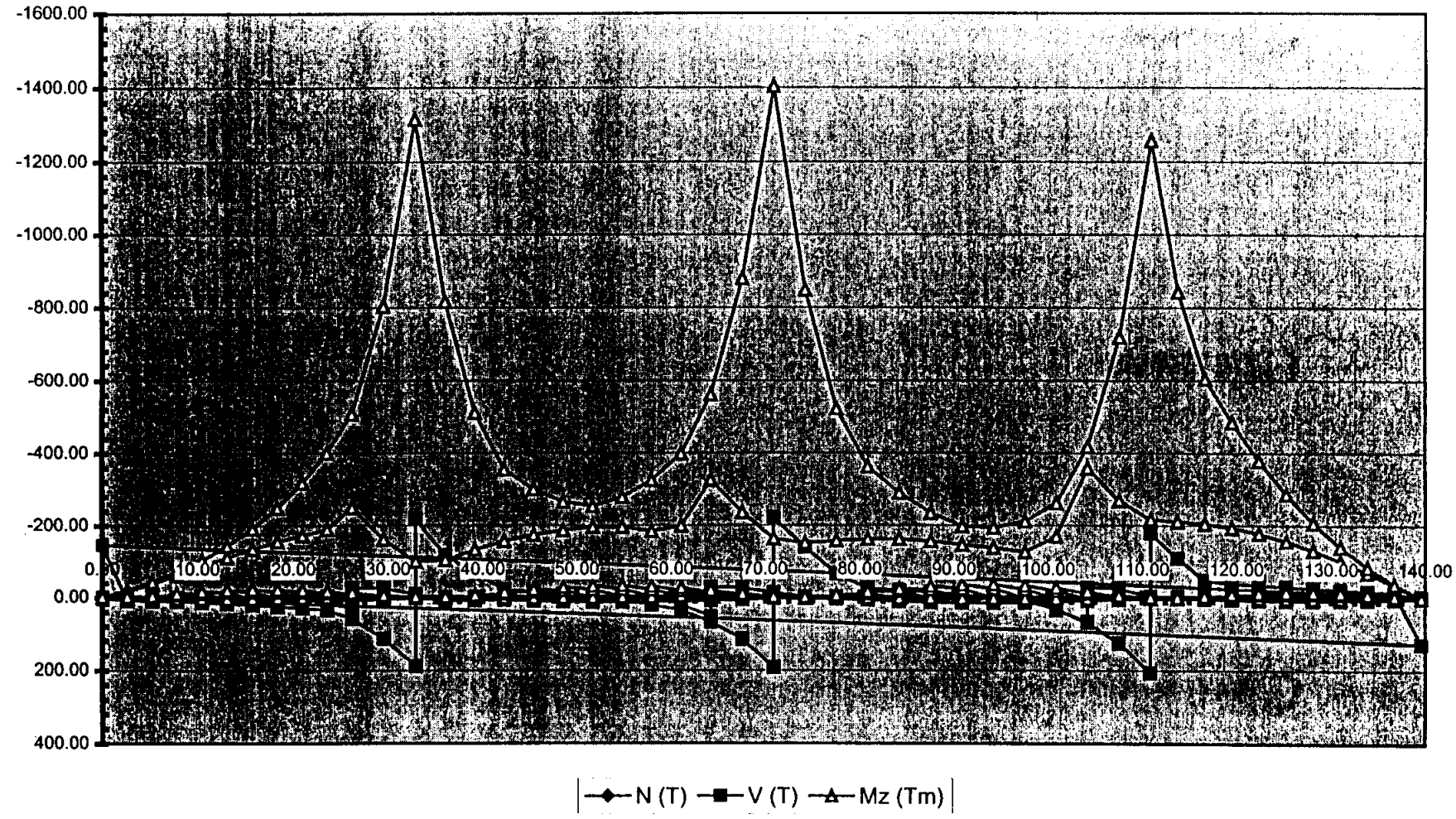
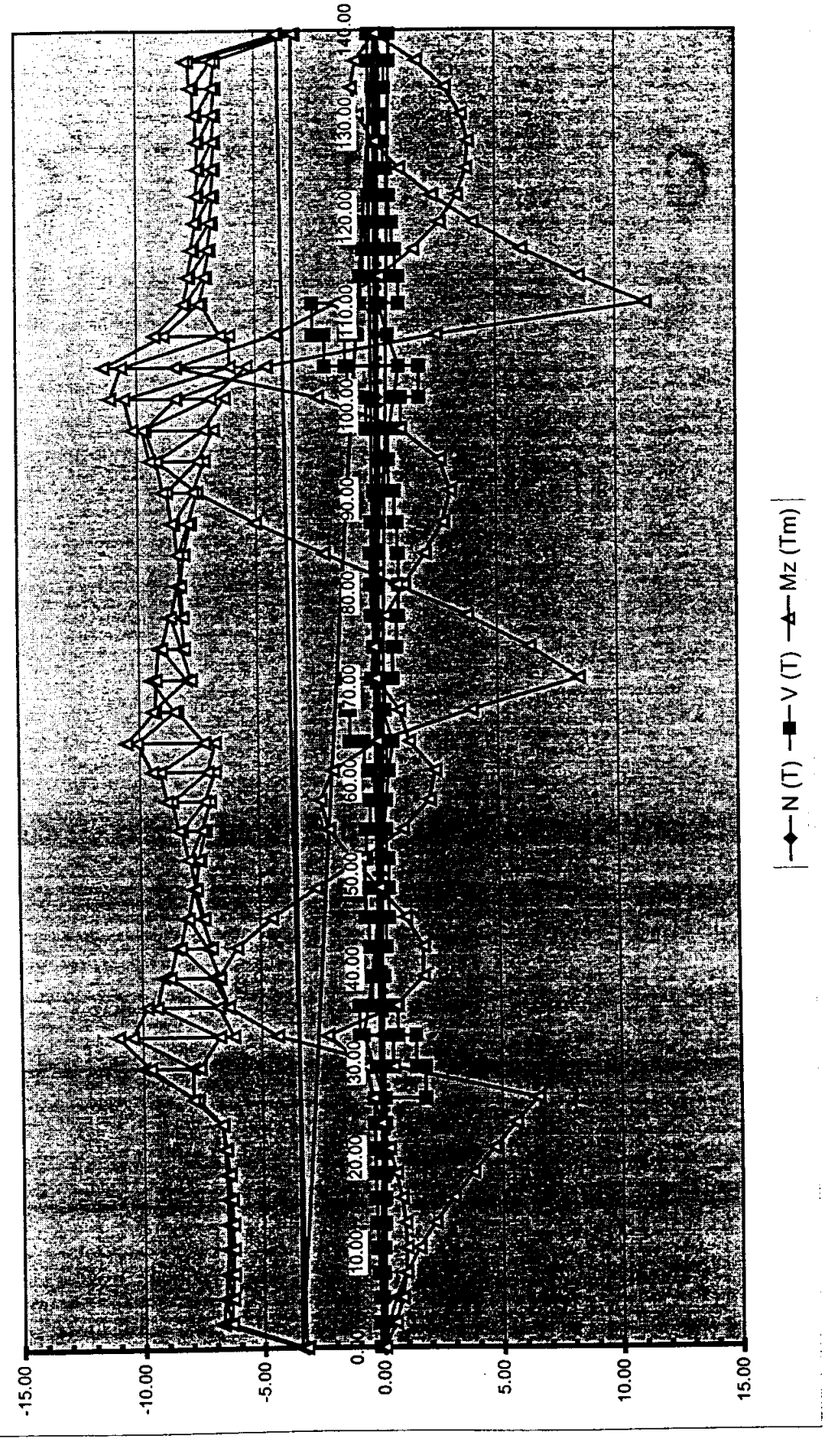


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IDEAM

2.2.3.4. *Definición de pretensado. Estimación de las pérdidas de pretensado*

Este apartado se divide en una primera parte en la cual se definen los pretensados que requiere son:

Sobre fases:

Fase 1 { "PRETF1B" pretensado de vigas nudo de 1a 49. Calzada izquierda.
"PRETF1A" pretensado de vigas nudo de 101 a 149 Calzada derecha

Fase 3 { "PRETF3C" pretensado sobre pila en calzada derecha
"PRETF3D" pretensado sobre pila en calzada izquierda

Estos mismos pretensados se introducen en estructura cuando queremos obtener las redistribuciones resultando: "PRETF3B", "PRETF1A", "PRETF3C", "PRETF3D."

Las pérdidas se calculan al final del apartado.

PRETENSADO VIGAS PREFABRICADAS NUDO DEL 1 AL 9

CALZADA IZQUIERDA

"PREF1B"

Reservas pretensado introducido.

- GRUPO 1 - CALZADA IZQUIERDA "PREF1B"

VIGA DE 26'20 m

		Vi	Ximed	Xfmed	Vs
①	24 torones	0'05	0	26'20	2'80
②	12 torones	0'098	2'62	23'58	2'752
③	12 torones	0'098	5'24	18'34	2'752
④	8 torones	2'4	0	26'20	0'45

VIGA DE 38'00 m

		Vi	Ximed	Xfmed	Vs
⑤	24 torones	0'05	26'20	64'20	2'80
⑥	12 torones	0'098	29'55	61'07	2'752
⑦	22 torones	0'146	32'90	57'84	2'704
⑧	8 torones	2'4	64'20	64'20	0'45

VIGA DE 50'20 m

		Vi	Ximed	Xfmed	Vs
⑨	28 torones	0'05	0'20	100'1	2'80
⑩	26 torones	0026	67'55	100'87	2'752
⑪	26 torones	0'146	70'90	97'52	2'704
⑫	8 torones	2'4	64'20	64'20	0'45

VIGA DE 35'40m

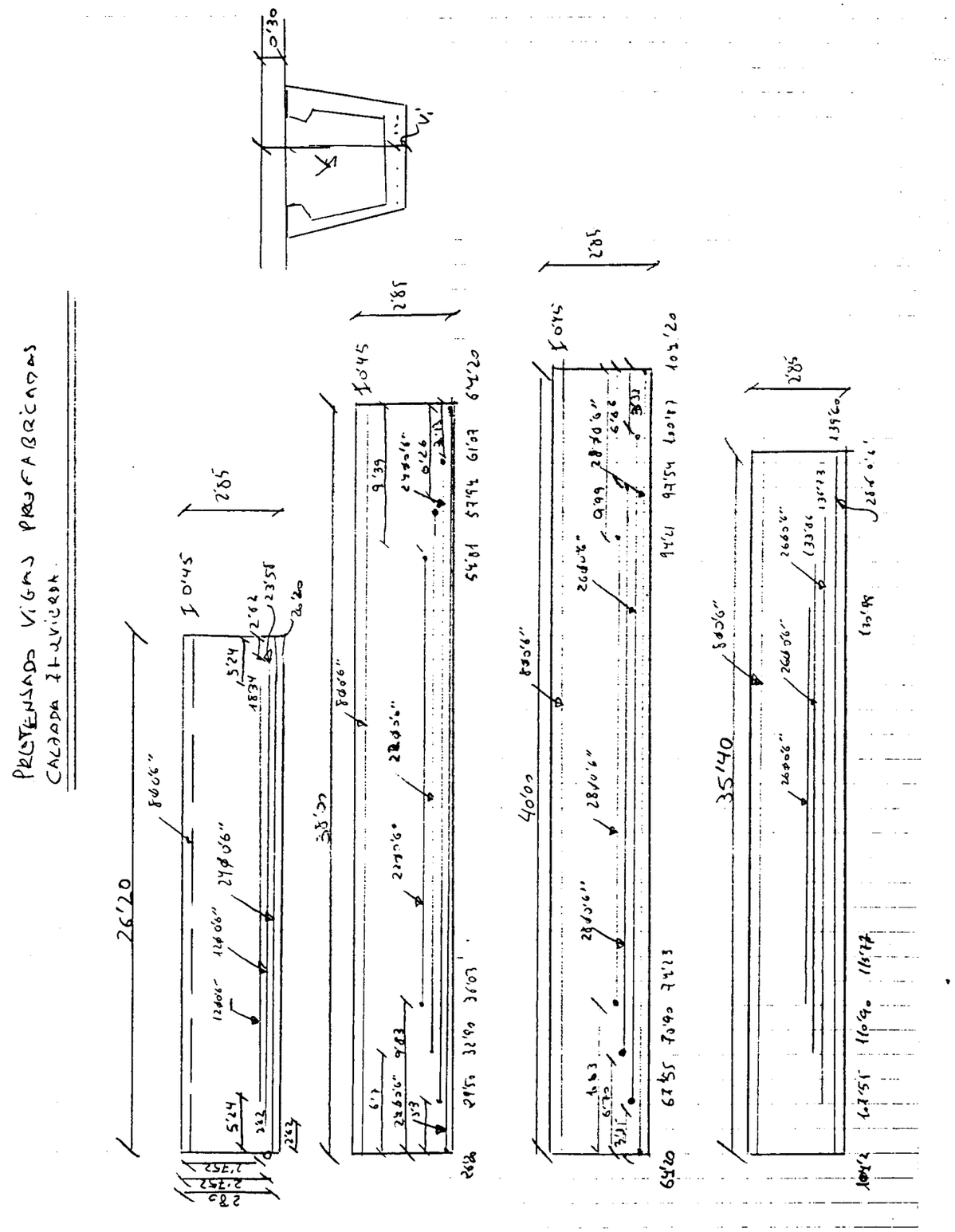
		Vi	Yinf	Ysup	Vs
(13)	28 torones	0'05	104'2	139'60	2'80
(14)	26 torones	0'098	~~104'55~~	136'73	2'752
(15)	26 torones	0'146	110'20	133'86	2'708
(16)	26 torones	0'194	113'77	130'29	2'656
(17)	28 torones	2'20	104'2	139'60	0'45

Viga 38'00m

(18)	22 torones	0'194	36'03	54'81	2'656

Viga 40'00m

(19)	28 torones	0'194	74'23	94'21	2'656



FAMILIA2

FAMILIA DE 2

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.18	0	1950000	2.62	23.58	AMBOS	12	140	129	0
								67.8947368	

TRAZADO EN ALZADO

		RECTA 1			PARABOLA			RECTA 2		
TRAMO	Xfin	Yfin	Pend	Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	23.58	2.752	0	23.58	2.752	0		23.58	2.752	0

TRAZADO EN PLANTA

		RECTA 1			PARABOLA			RECTA 2		
TRAMO	Xfin	Yfin	Pend	Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	2.62	0	0	2.62	0	0		23.58	0	0

									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
2	2.62	2.752	0	1.7899999	0	0	129	0	0	0	-216.72	0	-208.484662
3	5.24	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	-216.72	0	-208.484662
4	7.86	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	-216.72	0	-208.484662
5	10.48	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	-216.72	0	-208.484662
6	13.1	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	-216.72	0	-208.484662
7	15.72	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	-216.72	0	-208.484662
8	18.34	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	-216.72	0	-208.484662
9	20.96	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	-216.72	0	-208.484662
10	23.58	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	0	0	0

ALARGAMIENTO DE TESADO 138.658462

FAMILIA3

FAMILIA DE 3

FAMILIA1

FAMILIA DE 1

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.18	0	1950000	0	26.2	AMBOS	24	140	129	0
								67.8947368	

TRAZADO EN ALZADO

		RECTA 1			PARABOLA			RECTA 2		
TRAMO	Xfin	Yfin	Pend	Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	26.2000008	2.8	0	26.2000008	2.8	0		26.2000008	2.8	0

TRAZADO EN PLANTA

		RECTA 1			PARABOLA			RECTA 2		
TRAMO	Xfin	Yfin	Pend	Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	0	0	0	0	0	0		26.2	0	0

									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
1	0	2.8	0	1.7899999	0	0	129	0	0	0	-433.44	0	-437.774444
2	2.62	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
3	5.24	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
4	7.86	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
5	10.48	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
6	13.1	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
7	15.72	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
8	18.34	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
9	20.96	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
10	23.58	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
10011	26.2	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	0	0	0
11	26.2	2.8	0	1.7899999	0	0	129	0	0	0	0	0	0

ALARGAMIENTO DE TESADO 173.323077

FAMILIA4													
		FAMILIA DE	4										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	0	26.2	AMBOS	8	140	148.2	0				
								78					
TRAZADO EN ALZADO													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	26.2000008	0.45	0		26.2000008	0.45	0		26.2000008	0.45	0		
TRAZADO EN PLANTA													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	0	0	0		0	0	0		26.2	0	0		
									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
1	0	0.45	0	1.7899999	0	0	148.2	0	0	0	-165.984	0	222.418536
2	2.62	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
3	5.24	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
4	7.86	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
5	10.48	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
6	13.1	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
7	15.72	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
8	18.34	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
9	20.96	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
10	23.58	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
10011	26.2	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	0	0	0
11	26.2	0.45	0	1.7899999	0	0	148.2	0	0	0	0	0	0
ALARGAMIENTO DE TESADO			199.12										

COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	5.24	18.34	AMBOS	12	140	129	0				
								67.8947368					
TRAZADO EN ALZADO													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	18.3399995	2.752	0		18.3399995	2.752	0		18.3399995	2.752	0		
TRAZADO EN PLANTA													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	5.24	0	0		5.24	0	0		18.34	0	0		
									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
3	5.24	2.752	0	1.7899999	0	0	129	0	0	0	-216.72	0	-208.484662
4	7.86	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	-216.72	0	-208.484662
5	10.48	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	-216.72	0	-208.484662
6	13.1	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	-216.72	0	-208.484662
7	15.72	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	-216.72	0	-208.484662
8	18.34	2.752	0	1.7899999	0	0	129	-216.72	0	-208.484662	0	0	0
ALARGAMIENTO DE TESADO			86 6615385										

FAMILIA6

		FAMILIA DE	6										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	29.55	61.07	AMBOS	24	140	129	0				
								67.8947368					

TRAZADO EN ALZADO

		RECTA 1			PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend	
1	61.07	2.752	0		61.07	2.752	0		61.07	2.752	0	

TRAZADO EN PLANTA

		RECTA 1			PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend	
1	29.55	0	0		29.55	0	0		61.07	0	0	

									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
12	29.55	2.752	0	1.7899999	0	0	129	0	0	0	-433.44	0	-416.969324
13	32.9	2.752	0	1.7899999	0	0	129	-433.44	0	-416.969324	-433.44	0	-416.969324
14	36.03	2.752	0	1.7899999	0	0	129	-433.44	0	-416.969324	-433.44	0	-416.969324
15	39.16	2.752	0	1.7899999	0	0	129	-433.44	0	-416.969324	-433.44	0	-416.969324
16	42.29	2.752	0	1.7899999	0	0	129	-433.44	0	-416.969324	-433.44	0	-416.969324
17	45.42	2.752	0	1.7899999	0	0	129	-433.44	0	-416.969324	-433.44	0	-416.969324
18	48.55	2.752	0	1.7899999	0	0	129	-433.44	0	-416.969324	-433.44	0	-416.969324
19	51.68	2.752	0	1.7899999	0	0	129	-433.44	0	-416.969324	-433.44	0	-416.969324
20	54.81	2.752	0	1.7899999	0	0	129	-433.44	0	-416.969324	-433.44	0	-416.969324
21	57.94	2.752	0	1.7899999	0	0	129	-433.44	0	-416.969324	-433.44	0	-416.969324
22	61.07	2.752	0	1.7899999	0	0	129	-433.44	0	-416.969324	0	0	0

ALARGAMIENTO DE TESADO 208.516923

FAMILIA5

		FAMILIA DE	5										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	26.2	64.2	AMBOS	24	140	129	0				
								67.8947368					

TRAZADO EN ALZADO

		RECTA 1			PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend	
1	64.2	2.8	0		64.2	2.8	0		64.2	2.8	0	

TRAZADO EN PLANTA

		RECTA 1			PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend	
1	26.2	0	0		26.2	0	0		64.2	0	0	

									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
11	26.2	2.8	0	1.7899999	0	0	129	0	0	0	-433.44	0	-437.774444
12	29.55	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
13	32.9	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
14	36.03	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
15	39.16	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
16	42.29	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
17	45.42	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
18	48.55	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
19	51.68	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
20	54.81	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
21	57.94	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
22	61.07	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
10023	64.2	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	0	0	0
23	64.2	2.8	0	1.7899999	0	0	129	0	0	0	0	0	0

ALARGAMIENTO DE TESADO 251.384615

FAMILIA8													
		FAMILIA DE	8										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	26.2	64.2	AMBOS	8	140	148.2	0				
								78					
TRAZADO EN ALZADO													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	64.2	0.45	0		64.2	0.45	0		64.2	0.45	0		
TRAZADO EN PLANTA													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	26.2	0	0		26.2	0	0		64.2	0	0		
									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
11	26.2	0.45	0	1.7899999	0	0	148.2	0	0	0	-165.984	0	222.418536
12	29.55	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
13	32.9	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
14	36.03	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
15	39.16	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
16	42.29	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
17	45.42	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
18	48.55	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
19	51.68	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
20	54.81	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
21	57.94	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
22	61.07	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
10023	64.2	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	0	0	0
23	64.2	0.45	0	1.7899999	0	0	148.2	0	0	0	0	0	0
ALARGAMIENTO DE TESADO			288.8										

FAMILIA7													
		FAMILIA DE	7										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0 18	0	1950000	32.9	57.94	AMBOS	22	140	129	0				
								67.8947368					
TRAZADO EN ALZADO													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	57.94	2.704	0		57.94	2.704	0		57.94	2.704	0		
TRAZADO EN PLANTA													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	32.9	0	0		32.9	0	0		57.94	0	0		
									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
13	32.9	2.704	0	1.7899999	0	0	129	0	0	0	-397.32	0	-363.150525
14	36.03	2.704	0	1.7899999	0	0	129	-397.32	0	-363.150525	-397.32	0	-363.150525
15	39.16	2.704	0	1.7899999	0	0	129	-397.32	0	-363.150525	-397.32	0	-363.150525
16	42.29	2.704	0	1.7899999	0	0	129	-397.32	0	-363.150525	-397.32	0	-363.150525
17	45.42	2.704	0	1.7899999	0	0	129	-397.32	0	-363.150525	-397.32	0	-363.150525
18	48.55	2.704	0	1.7899999	0	0	129	-397.32	0	-363.150525	-397.32	0	-363.150525
19	51.68	2.704	0	1.7899999	0	0	129	-397.32	0	-363.150525	-397.32	0	-363.150525
20	54.81	2.704	0	1.7899999	0	0	129	-397.32	0	-363.150525	-397.32	0	-363.150525
21	57.94	2.704	0	1.7899999	0	0	129	-397.32	0	-363.150525	0	0	0
ALARGAMIENTO DE TESADO			165.649231										

FAMILIA10													
		FAMILIA DE	10										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	67.55	100.87	AMBOS	26	140	129	0				
								67.8947368					
TRAZADO EN ALZADO													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	100.87	2.752	0		100.87	2.752	0		100.87	2.752	0		
TRAZADO EN PLANTA													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	67.55	0	0		67.55	0	0		100.87	0	0		
									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
24	67.55	2.752	0	1.7899999	0	0	129	0	0	0	-469.56	0	-451.716762
25	70.9	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
26	74.23	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
27	77.56	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
28	80.89	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
29	84.22	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
30	87.55	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
31	90.88	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
32	94.21	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
33	97.54	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
34	100.87	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	0	0	0
ALARGAMIENTO DE TESADO			220.424615										

FAMILIA9													
		FAMILIA DE	9										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	64.2	104.2	AMBOS	28	140	129	0				
								67.8947368					
TRAZADO EN ALZADO													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	104.2	2.8	0		104.2	2.8	0		104.2	2.8	0		
TRAZADO EN PLANTA													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	64.2	0	0		64.2	0	0		104.2	0	0		
									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
23	64.2	2.8	0	1.7899999	0	0	129	0	0	0	-505.68	0	-510.736841
24	67.55	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
25	70.9	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
26	74.23	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
27	77.56	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
28	80.89	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
29	84.22	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
30	87.55	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
31	90.88	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
32	94.21	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
33	97.54	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
34	100.87	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
10035	104.2	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	0	0	0
35	104.2	2.8	0	1.7899999	0	0	129	0	0	0	0	0	0
ALARGAMIENTO DE TESADO			264.615385										

FAMILIA12

		FAMILIA DE	12										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	64.2	104.2	AMBOS	8	140	148.2	0				
								78					

TRAZADO EN ALZADO

		RECTA 1			PARABOLA				RECTA 2	
TRAMO	Xfin	Yfin	Pend	Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	104.2	0.45	0	104.2	0.45	0		104.2	0.45	0

TRAZADO EN PLANTA

		RECTA 1			PARABOLA				RECTA 2	
TRAMO	Xfin	Yfin	Pend	Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	64.2	0	0	64.2	0	0		104.2	0	0

									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
23	64.2	0.45	0	1.7899999	0	0	148.2	0	0	0	-165.984	0	222.418536
24	67.55	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
25	70.9	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
26	74.23	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
27	77.56	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
28	80.89	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
29	84.22	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
30	87.55	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
31	90.88	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
32	94.21	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
33	97.54	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
34	100.87	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
10035	104.2	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	0	0	0
35	104.2	0.45	0	1.7899999	0	0	148.2	0	0	0	0	0	0

ALARGAMIENTO DE TESADO 304

FAMILIA11

		FAMILIA DE	11										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	70.9	97.54	AMBOS	28	140	129	0				
								67.8947368					

TRAZADO EN ALZADO

		RECTA 1			PARABOLA				RECTA 2	
TRAMO	Xfin	Yfin	Pend	Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	97.54	2.704	0	97.54	2.704	0		97.54	2.704	0

TRAZADO EN PLANTA

		RECTA 1			PARABOLA				RECTA 2	
TRAMO	Xfin	Yfin	Pend	Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	70.9	0	0	70.9	0	0		97.54	0	0

									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
25	70.9	2.704	0	1.7899999	0	0	129	0	0	0	-505.68	0	-462.191562
26	74.23	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
27	77.56	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
28	80.89	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
29	84.22	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
30	87.55	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
31	90.88	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
32	94.21	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
33	97.54	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	0	0	0

ALARGAMIENTO DE TESADO 176.233846

FAMILIA14													
		FAMILIA DE	14										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	107.55	136.73	AMBOS	26	140	129	0				
								67.8947368					
TRAZADO EN ALZADO													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	136.73	2.752	0		136.73	2.752	0		136.73	2.752	0		
TRAZADO EN PLANTA													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	107.55	0	0		107.55	0	0		136.73	0	0		
									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
36	107.55	2.752	0	1.7899999	0	0	129	0	0	0	-469.56	0	-451.716762
37	110.9	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
38	113.77	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
39	116.64	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
40	119.51	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
41	122.38	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
42	125.25	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
43	128.12	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
44	130.99	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
45	133.86	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
46	136.73	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	0	0	0
ALARGAMIENTO DE TESADO			193.036923										

FAMILIA13													
		FAMILIA DE	13										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	104.2	139.6	AMBOS	28	140	129	0				
								67.8947368					
TRAZADO EN ALZADO													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	139.600002	2.8	0		139.600002	2.8	0		139.600002	2.8	0		
TRAZADO EN PLANTA													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	104.2	0	0		104.2	0	0		139.6	0	0		
									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
35	104.2	2.8	0	1.7899999	0	0	129	0	0	0	-505.68	0	-510.736841
36	107.55	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
37	110.9	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
38	113.77	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
39	116.64	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
40	119.51	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
41	122.38	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
42	125.25	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
43	128.12	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
44	130.99	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
45	133.86	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
46	136.73	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
47	139.6	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	0	0	0
0	139.6	2.8	0	1.7899999	0	0	129	0	0	0	-505.68	0	-510.736848
ALARGAMIENTO DE TESADO			234.184615										

FAMILIA16

		FAMILIA DE	16										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	113.77	130.99	AMBOS	26	140	129	0				
								67.8947368					

TRAZADO EN ALZADO

		RECTA 1			PARABOLA				RECTA 2		
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	130.99	2.656	0		130.99	2.656	0		130.99	2.656	0

TRAZADO EN PLANTA

		RECTA 1			PARABOLA				RECTA 2		
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	113.77	0	0		113.77	0	0		130.99	0	0

									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
38	113.77	2.656	0	1.7899999	0	0	129	0	0	0	-469.56	0	-406.639003
39	116.64	2.656	0	1.7899999	0	0	129	-469.56	0	-406.639003	-469.56	0	-406.639003
40	119.51	2.656	0	1.7899999	0	0	129	-469.56	0	-406.639003	-469.56	0	-406.639003
41	122.38	2.656	0	1.7899999	0	0	129	-469.56	0	-406.639003	-469.56	0	-406.639003
42	125.25	2.656	0	1.7899999	0	0	129	-469.56	0	-406.639003	-469.56	0	-406.639003
43	128.12	2.656	0	1.7899999	0	0	129	-469.56	0	-406.639003	-469.56	0	-406.639003
44	130.99	2.656	0	1.7899999	0	0	129	-469.56	0	-406.639003	0	0	0

ALARGAMIENTO DE TESADO 113.916923

FAMILIA15

		FAMILIA DE	15										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	110.9	133.86	AMBOS	26	140	129	0				
								67.8947368					

TRAZADO EN ALZADO

		RECTA 1			PARABOLA				RECTA 2		
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	133.86	2.704	0		133.86	2.704	0		133.86	2.704	0

TRAZADO EN PLANTA

		RECTA 1			PARABOLA				RECTA 2		
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	110.9	0	0		110.9	0	0		133.86	0	0

									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
37	110.9	2.704	0	1.7899999	0	0	129	0	0	0	-469.56	0	-429.177883
38	113.77	2.704	0	1.7899999	0	0	129	-469.56	0	-429.177883	-469.56	0	-429.177883
39	116.64	2.704	0	1.7899999	0	0	129	-469.56	0	-429.177883	-469.56	0	-429.177883
40	119.51	2.704	0	1.7899999	0	0	129	-469.56	0	-429.177883	-469.56	0	-429.177883
41	122.38	2.704	0	1.7899999	0	0	129	-469.56	0	-429.177883	-469.56	0	-429.177883
42	125.25	2.704	0	1.7899999	0	0	129	-469.56	0	-429.177883	-469.56	0	-429.177883
43	128.12	2.704	0	1.7899999	0	0	129	-469.56	0	-429.177883	-469.56	0	-429.177883
44	130.99	2.704	0	1.7899999	0	0	129	-469.56	0	-429.177883	-469.56	0	-429.177883
45	133.86	2.704	0	1.7899999	0	0	129	-469.56	0	-429.177883	0	0	0

ALARGAMIENTO DE TESADO 151.889231

FAMILIA17													
		FAMILIA DE	17										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	104.2	139.6	AMBOS	8	140	148.2	0				
								78					
TRAZADO EN ALZADO													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	139.6	0.45	0		139.6	0.45	0		139.6	0.45	0		
TRAZADO EN PLANTA													
		RECTA 1				PARABOLA				RECTA 2			
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend		
1	104.2	0	0		104.2	0	0		139.6	0	0		
									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
35	104.2	0.45	0	1.7899999	0	0	148.2	0	0	0	-165.984	0	222.418536
36	107.55	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
37	110.9	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
38	113.77	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
39	116.64	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
40	119.51	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
41	122.38	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
42	125.25	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
43	128.12	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
44	130.99	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
45	133.86	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
46	136.73	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
47	139.6	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	0	0	0
0	139.6	0.45	0	1.7899999	0	0	148.2	0	0	0	-165.984	0	222.418544
ALARGAMIENTO DE TESADO			269.04										

FAMILIA19

		FAMILIA DE	19										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	74.23	94.21	AMBOS	28	140	129	0				
								67.8947368					

TRAZADO EN ALZADO

		RECTA 1			PARABOLA				RECTA 2		
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	94.21	2.656	0		94.21	2.656	0		94.21	2.656	0

TRAZADO EN PLANTA

		RECTA 1			PARABOLA				RECTA 2		
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	74.23	0	0		74.23	0	0		94.21	0	0

									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
26	74.23	2.656	0	1.7899999	0	0	129	0	0	0	-505.68	0	-437.918922
27	77.56	2.656	0	1.7899999	0	0	129	-505.68	0	-437.918922	-505.68	0	-437.918922
28	80.89	2.656	0	1.7899999	0	0	129	-505.68	0	-437.918922	-505.68	0	-437.918922
29	84.22	2.656	0	1.7899999	0	0	129	-505.68	0	-437.918922	-505.68	0	-437.918922
30	87.55	2.656	0	1.7899999	0	0	129	-505.68	0	-437.918922	-505.68	0	-437.918922
31	90.88	2.656	0	1.7899999	0	0	129	-505.68	0	-437.918922	-505.68	0	-437.918922
32	94.21	2.656	0	1.7899999	0	0	129	-505.68	0	-437.918922	0	0	0

ALARGAMIENTO DE TESADO 132.175385

FAMILIA18

		FAMILIA DE	18										
COEFICIEN	DESVIACIÓ	MÓDULO DE	ANCLAJE	ANCLAJE	TESADO	NÚMERO	ÁREA	TENSIÓN	PENETRACIÓN				
ROZAMIENT	PARÁSITA	ELASTICIDA	ORIGEN	FINAL	DESDE	DE	TORÓN	TESADO	DE CUÑA				
VAINA-TEN	(rad/m)	ACERO (kg/c	(m.)	(m.)	EXTREMOS	TORONES	(mm2)	(kg/mm2)	(mm.)				
0.18	0	1950000	36.03	54.81	AMBOS	22	140	129	0				
								67.8947368					

TRAZADO EN ALZADO

		RECTA 1			PARABOLA				RECTA 2		
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	54.81	2.656	0		54.81	2.656	0		54.81	2.656	0

TRAZADO EN PLANTA

		RECTA 1			PARABOLA				RECTA 2		
TRAMO	Xfin	Yfin	Pend		Xfin	Yfin	Pend		Xfin	Yfin	Pend
1	36.03	0	0		36.03	0	0		54.81	0	0

									Sección dorsal			Sección frontal	
	X	Y	Pend.	Ycdg	Z	Pend.	TENSIÓN	AXIL	CORTANTE	MOMENTO	AXIL	CORTANTE	MOMENTO
NUDO	(m.)	(m.)	Y	(m.)	(m.)	Z	(kg/mm2)	(t.)	(t.)	(mt.)	(t.)	(t.)	(mt.)
14	36.03	2.656	0	1.7899999	0	0	129	0	0	0	-397.32	0	-344.079164
15	39.16	2.656	0	1.7899999	0	0	129	-397.32	0	-344.079164	-397.32	0	-344.079164
16	42.29	2.656	0	1.7899999	0	0	129	-397.32	0	-344.079164	-397.32	0	-344.079164
17	45.42	2.656	0	1.7899999	0	0	129	-397.32	0	-344.079164	-397.32	0	-344.079164
18	48.55	2.656	0	1.7899999	0	0	129	-397.32	0	-344.079164	-397.32	0	-344.079164
19	51.68	2.656	0	1.7899999	0	0	129	-397.32	0	-344.079164	-397.32	0	-344.079164
20	54.81	2.656	0	1.7899999	0	0	129	-397.32	0	-344.079164	0	0	0

ALARGAMIENTO DE TESADO 124.236923

PRETENSADO VIGAS PRETENSADAS VIGAS DE LOSA DE 1,20

CALZADA DERECHA

"PREFLA"

-GRUPO 2- CALZADA DERECHA

VIGA 32'90m "PREFLA"

		Vi	Xinicial	Xfinal	Vs
①	26 torones	0'05	0	32'90	2'80
②	16 torones	0'098	2'62	29'55	2'752
③	18 torones	0'146	5'24	26'20	2'704
④	18 torones	0'194	7'86	23'58	2'656
⑤	8 torones	2'20	0	32'90	0'45
⑥	22 torones	0'194	42'29	61'07	2'654

VIGA DE 38'00m

		Vi	Xinicial	Xfinal	
①	24 torones	0'05	32'90	70'90	2'80
⑧	22 torones	0'098	36'03	67'55	2'752
⑨	24 torones	0'146	39'16	64'20	2'704
⑩	8 torones	2'20	32'90	70'90	0'45

VIGA DE 110'90m

		Vi	Xinicial	Xfinal	
⑪	28 torones	0'05	70'90	110'90	2'80
⑫	28 torones	0'098	74'23	107'55	2'752
⑬	28 torones	0'146	77'56	104'20	2'704
⑭	8 torones	2'20	70'90	110'90	0'45

POSTESADO SOBRE P.CA

Pretensado superior sobre pila

"PRETF3c" => Calzada derecha (grupo 2)

		NUDO INICIAL			NUDO FINAL		Familia
		X	Y		X	Y	
8vd7	A 110	23'58	0'09	P 115	39'16	0'09	1
7vd7	P 111	26'2	0'09	A 116	42'29	0'09	4
8vd7	A 122	61'67	0'09	P 127	77'56	0'09	2
7vd7	P 123	64'2	0'09	A 128	80'89	0'09	5
8vd7	A 134	100'87	0'09	P 139	116'64	0'09	3
7vd7	P 135	104'2	0'09	A 140	119'51	0'09	6

"PRETF3d" => Calzada izquierda (grupo 1)

		NUDO INICIAL			NUDO FINAL		Familia
		X	Y		X	Y	
8vd7	A 8	18'34	0'09	P 13	32'9	0'09	1
7vd7	P 9	20'96	0'09	A 14	36'03	0'09	3
8vd7	A 20	54'81	0'09	P 25	70'9	0'09	2
7vd7	P 21	57'42	0'09	A 26	74'23	0'09	4
8vd7	A 32	94'21	0'09	P 37	110'9	0'09	3
7vd7	P 33	97'54	0'09	A 38	113'77	0'09	5

IDEAM

"PRETF3C"

FAMILIA 1

FAMILIA DE 1

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	23.58	39.16	ORIGEN	56	140	140 73.68421053	5

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	39.15999992	0.12	0	39.15999992	0.12	0	39.15999992	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	23.58	0	0	23.58	0	0	39.16	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
110	23.58	0.12	0	0.904999905	0	0	127.875	0	0	0	-1002.54	0	786.9937871
111	26.2	0.12	0	0.904999905	0	0	128.336406	-1006.15742	0	789.8334706	-1006.15742	0	789.8334706
112	29.55	0.12	0	0.904999905	0	0	128.9241571	-1010.76539	0	793.4507276	-1010.76539	0	793.4507276
10113	32.9	0.12	0	0.904999905	0	0	129.5094325	-1015.35395	0	797.0527483	0	0	0
113	32.9	0.12	0	0.904999905	0	0	129.5094325	0	0	0	-1015.35395	0	797.0527483
114	36.03	0.12	0	0.904999905	0	0	137.820956	-1080.5163	0	848.2051417	-1080.5163	0	848.2051417
115	39.16	0.12	0	0.904999905	0	0	137.2784881	-1076.26335	0	844.8665923	0	0	0

ALARGAMIENTO DE TESADO 110.7657893

FAMILIA 2

FAMILIA DE 2

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	61.07	77.56	ORIGEN	56	140	140 73.68421053	5

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	77.55999977	0.12	0	77.55999977	0.12	0	77.55999977	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	61.07	0	0	61.07	0	0	77.56	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
122	61.07	0.12	0 0.904999905	0	0	128.3333333	0	0	0	-1006.13333	0	789.8145931	
123	64.2	0.12	0 0.904999905	0	0	128.884378	-1010.45352	0	793.2059421	-1010.45352	0	793.2059421	
124	67.55	0.12	0 0.904999905	0	0	129.4717515	-1015.05853	0	796.8208514	-1015.05853	0	796.8208514	
10125	70.9	0.12	0 0.904999905	0	0	130.056651	-1019.64414	0	800.4205723	0	0	0	
125	70.9	0.12	0 0.904999905	0	0	130.056651	0	0	0	-1019.64414	0	800.4205723	
126	74.23	0.12	0 0.904999905	0	0	137.6977165	-1079.5501	0	847.4466854	-1079.5501	0	847.4466854	
127	77.56	0.12	0 0.904999905	0	0	137.1211748	-1075.03001	0	843.8984705	0	0	0	

ALARGAMIENTO DE TESADO 117.168471

FAMILIA 3

FAMILIA DE 3

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	100.87	116.64	ORIGEN	56	140	140 73.68421053	5

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	116.6400005	0.12	0	116.6400005	0.12	0	116.6400005	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	100.87	0	0	100.87	0	0	116.64	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
134	100.87	0.12	0 0.904999905	0	0	128.625	0	0	0	-1008.42	0	791.6095904	
135	104.2	0.12	0 0.904999905	0	0	129.2111814	-1013.01566	0	795.2172169	-1013.01566	0	795.2172169	
136	107.55	0.12	0 0.904999905	0	0	129.7984069	-1017.61951	0	798.8312158	-1017.61951	0	798.8312158	
10137	110.9	0.12	0 0.904999905	0	0	130.383159	-1022.20397	0	802.4300264	0	0	0	
137	110.9	0.12	0 0.904999905	0	0	130.383159	0	0	0	-1022.20397	0	802.4300264	
138	113.77	0.12	0 0.904999905	0	0	137.7428337	-1079.90382	0	847.7243868	-1079.90382	0	847.7243868	
139	116.64	0.12	0 0.904999905	0	0	137.2456276	-1076.00572	0	844.6644012	0	0	0	

ALARGAMIENTO DE TESADO 112.1032192

FAMILIA 4

FAMILIA DE 4

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	26.2	42.29	FINAL	49	140	140 73.68421053	5

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	42.29000015	0.12	0	42.29000015	0.12	0	42.29000015	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	26.2	0	0	26.2	0	0	42.29	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
111	26.2	0.12	0	0.904999905	0	0	137.1903013	0	0	0	-941.125467	0	738.7834185
112	29.55	0.12	0	0.904999905	0	0	137.7706054	-945.106353	0	741.9083736	-945.106353	0	741.9083736
10113	32.9	0.12	0	0.904999905	0	0	129.6674691	-889.518838	0	698.2722202	0	0	0
113	32.9	0.12	0	0.904999905	0	0	129.6674691	0	0	0	-889.518838	0	698.2722202
114	36.03	0.12	0	0.904999905	0	0	129.1207538	-885.768371	0	695.3280872	-885.768371	0	695.3280872
115	39.16	0.12	0	0.904999905	0	0	128.571878	-882.003083	0	692.3723594	-882.003083	0	692.3723594
116	42.29	0.12	0	0.904999905	0	0	128.0208333	-878.222917	0	689.4048931	0	0	0

ALARGAMIENTO DE TESADO 114.3550083

FAMILIA 5

FAMILIA DE 5

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	64.2	80.89	FINAL	49	140	140 73.68421053	5

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	80.89000053	0.12	0	80.89000053	0.12	0	80.89000053	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	64.2	0	0	64.2	0	0	80.89	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
123	64.2	0.12	0	0.904999905	0	0	137.0866246	0	0	0	-940.414245	0	738.2250931
124	67.55	0.12	0	0.904999905	0	0	137.6664902	-944.392123	0	741.3477484	-944.392123	0	741.3477484
10125	70.9	0.12	0	0.904999905	0	0	130.0011914	-891.808173	0	700.0693257	0	0	0
125	70.9	0.12	0	0.904999905	0	0	130.0011914	0	0	0	-891.808173	0	700.0693257
126	74.23	0.12	0	0.904999905	0	0	129.4199084	-887.820572	0	696.9390523	-887.820572	0	696.9390523
127	77.56	0.12	0	0.904999905	0	0	128.8361814	-883.816204	0	693.7956509	-883.816204	0	693.7956509
128	80.89	0.12	0	0.904999905	0	0	128.25	-879.795	0	690.6389777	0	0	0

ALARGAMIENTO DE TESADO 118.5746708

FAMILIA 6

FAMILIA DE 6

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	104.2	119.51	FINAL	49	140	140 73.68421053	5

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	119.5100004	0.12	0	119.5100004	0.12	0	119.5100004	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	104.2	0	0	104.2	0	0	119.51	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
135	104.2	0.12	0	0.904999905	0	0	137.3251982	0	0	0	-942.05086	0	739.5098214
136	107.55	0.12	0	0.904999905	0	0	137.9060729	-946.03566	0	742.6378907	-946.03566	0	742.6378907
10137	110.9	0.12	0	0.904999905	0	0	128.6355953	-882.440184	0	692.7154615	0	0	0
137	110.9	0.12	0	0.904999905	0	0	128.6355953	0	0	0	-882.440184	0	692.7154615
138	113.77	0.12	0	0.904999905	0	0	128.1338833	-878.998439	0	690.0136704	-878.998439	0	690.0136704
139	116.64	0.12	0	0.904999905	0	0	127.6303537	-875.544227	0	687.3021531	-875.544227	0	687.3021531
140	119.51	0.12	0	0.904999905	0	0	127.125	-872.0775	0	684.5807658	0	0	0

ALARGAMIENTO DE TESADO 108.864679

IDEAM

"PRETF4d"

FAMILIA2

FAMILIA DE 2

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	54.81	70.9	ORIGEN	56	140	140	5
								73.68421053	

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	70.90000015	0.12	0	70.90000015	0.12	0	70.90000015	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	54.81	0	0	54.81	0	0	70.9	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
20	54.81	0.12	0	0.904999905	0	0	128.0208333	0	0	0	-1003.68333	0	787.8913337
21	57.94	0.12	0	0.904999905	0	0	128.571878	-1008.00352	0	791.2826828	-1008.00352	0	791.2826828
22	61.07	0.12	0	0.904999905	0	0	129.1207538	-1012.30671	0	794.6606643	-1012.30671	0	794.6606643
10023	64.2	0.12	0	0.904999905	0	0	129.6674691	-1016.59296	0	798.0253739	0	0	0
23	64.2	0.12	0	0.904999905	0	0	129.6674691	0	0	0	-1016.59296	0	798.0253739
24	67.55	0.12	0	0.904999905	0	0	137.7706054	-1080.12155	0	847.8953389	-1080.12155	0	847.8953389
25	70.9	0.12	0	0.904999905	0	0	137.1903013	-1075.57196	0	844.3239343	0	0	0

ALARGAMIENTO DE TESADO 114.3550083

FAMILIA1

FAMILIA DE 1

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	18.34	32.9	ORIGEN	56	140	140	5
								73.68421053	

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	32.90000042	0.12	0	32.90000042	0.12	0	32.90000042	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	18.34	0	0	18.34	0	0	32.9	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
8	18.34	0.12	0	0.904999905	0	0	126.2708333	0	0	0	-989.963333	0	777.1211101
9	20.96	0.12	0	0.904999905	0	0	126.7322393	-993.580756	0	779.9607936	-993.580756	0	779.9607936
10	23.58	0.12	0	0.904999905	0	0	127.1921246	-997.186257	0	782.7911341	-997.186257	0	782.7911341
10011	26.2	0.12	0	0.904999905	0	0	127.6504943	-1000.77987	0	785.6120838	0	0	0
11	26.2	0.12	0	0.904999905	0	0	127.6504943	0	0	0	-1000.77987	0	785.6120838
12	29.55	0.12	0	0.904999905	0	0	138.0364558	-1082.20581	0	849.5314581	-1082.20581	0	849.5314581
13	32.9	0.12	0	0.904999905	0	0	137.4550319	-1077.64745	0	845.9531541	0	0	0

ALARGAMIENTO DE TESADO 103.5804282

FAMILIA3

FAMILIA DE 3

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	94.21	110.9	ORIGEN	56	140	140 73.68421053	5

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	110.9000005	0.12	0	110.9000005	0.12	0	110.9000005	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	94.21	0	0	94.21	0	0	110.9	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
32	94.21	0.12	0 0.904999905	0	0	0	128.25	0	0	0	-1005.48	0	789.3016888
33	97.54	0.12	0 0.904999905	0	0	0	128.8361814	-1010.07566	0	792.9093153	-1010.07566	0	792.9093153
34	100.87	0.12	0 0.904999905	0	0	0	129.4199084	-1014.65208	0	796.5018014	-1014.65208	0	796.5018014
10035	104.2	0.12	0 0.904999905	0	0	0	130.0011914	-1019.20934	0	800.079243	0	0	0
35	104.2	0.12	0 0.904999905	0	0	0	130.0011914	0	0	0	-1019.20934	0	800.079243
36	107.55	0.12	0 0.904999905	0	0	0	137.6664902	-1079.30528	0	847.2545559	-1079.30528	0	847.2545559
37	110.9	0.12	0 0.904999905	0	0	0	137.0866246	-1074.75914	0	843.6858344	0	0	0

ALARGAMIENTO DE TESADO 118.5746708

FAMILIA4

FAMILIA DE 4

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	20.96	36.03	FINAL	49	140	140 73.68421053	5

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	36.02999969	0.12	0	36.02999969	0.12	0	36.02999969	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	20.96	0	0	20.96	0	0	36.03	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
9	20.96	0.12	0 0.904999905	0	0	0	137.3667316	0	0	0	-942.335779	0	739.7334773
10	23.58	0.12	0 0.904999905	0	0	0	137.820956	-945.451758	0	742.1795589	-945.451758	0	742.1795589
10011	26.2	0.12	0 0.904999905	0	0	0	130.056651	-892.188626	0	700.3679648	0	0	0
11	26.2	0.12	0 0.904999905	0	0	0	130.056651	0	0	0	-892.188626	0	700.3679648
12	29.55	0.12	0 0.904999905	0	0	0	129.4717515	-888.176215	0	697.218239	-888.176215	0	697.218239
13	32.9	0.12	0 0.904999905	0	0	0	128.884378	-884.146833	0	694.0551934	-884.146833	0	694.0551934
14	36.03	0.12	0 0.904999905	0	0	0	128.3333333	-880.366667	0	691.087727	0	0	0

ALARGAMIENTO DE TESADO 107.1742633

FAMILIA5

FAMILIA DE 5

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	57.94	74.23	FINAL	49	140	140 73.68421053	5

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	74.22999939	0.12	0	74.22999939	0.12	0	74.22999939	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	57.94	0	0	57.94	0	0	74.23	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
21	57.94	0.12	0	0.904999905	0	0	137.1557337	0	0	0	-940.888333	0	738.5972302
22	61.07	0.12	0	0.904999905	0	0	137.6977165	-944.606335	0	741.5158737	-944.606335	0	741.5158737
10023	64.2	0.12	0	0.904999905	0	0	130.383159	-894.428471	0	702.1262611	0	0	0
23	64.2	0.12	0	0.904999905	0	0	130.383159	0	0	0	-894.428471	0	702.1262611
24	67.55	0.12	0	0.904999905	0	0	129.7984069	-890.417071	0	698.9773019	-890.417071	0	698.9773019
25	70.9	0.12	0	0.904999905	0	0	129.2111814	-886.388704	0	695.8150708	-886.388704	0	695.8150708
26	74.23	0.12	0	0.904999905	0	0	128.625	-882.3675	0	692.6583976	0	0	0

ALARGAMIENTO DE TESADO 115.761917

FAMILIA6

FAMILIA DE 6

COEFICIENT ROZAMIENT VAINA-TEND	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0.006	1950000	97.54	113.77	FINAL	49	140	140 73.68421053	5

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	113.7699995	0.12	0	113.7699995	0.12	0	113.7699995	0.12	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	97.54	0	0	97.54	0	0	113.77	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
33	97.54	0.12	0	0.904999905	0	0	137.1661031	0	0	0	-940.959467	0	738.6530963
34	100.87	0.12	0	0.904999905	0	0	137.7428337	-944.915839	0	741.7588384	-944.915839	0	741.7588384
10035	104.2	0.12	0	0.904999905	0	0	129.8863441	-891.020321	0	699.4508699	0	0	0
35	104.2	0.12	0	0.904999905	0	0	129.8863441	0	0	0	-891.020321	0	699.4508699
36	107.55	0.12	0	0.904999905	0	0	129.301253	-887.006596	0	696.30009	-887.006596	0	696.30009
37	110.9	0.12	0	0.904999905	0	0	128.7136871	-882.975893	0	693.1359903	-882.975893	0	693.1359903
38	113.77	0.12	0	0.904999905	0	0	128.2083333	-879.509167	0	690.414603	0	0	0

ALARGAMIENTO DE TESADO 115.3398826

ESTIMACIÓN DE PÉRDIDAS DE PRETENSADO

Del estudio de las pérdidas que se incluyen a continuación, se deduce:

- Pretensado de vigas prefabricadas:

  Pérdida por acortamiento elástico = 13'3%

  Pérdidas a t= INF => 19'50%

- Postesado vigas de pilas

  Pérdida por acortamiento elástico = 1'82%

  Pérdida de relajación a penetración de cuña (5%) incluido en el cálculo del pretensado.

  Pérdidas a t= INF => 15%

  Coeficiente de relajación vaina - tendón = 0'21

  Desviación parásita = 0'06

- PERDIDAS INSTANTANEAS :

Torones pretensados: En este caso solo existen las perdidas por penetracion de cuña que resultan :

$$\Delta P = \sigma_{cp} \cdot A_p \cdot \frac{E_p}{E_{cj}}$$

Para el nudo 131 :

$E_{cj} = 330.000 \text{ kg/cm}^2 \times \frac{10}{8'1} \cdot 0'97^2 = 294450 \text{ kg/cm}^2$
a 3 días

$E_p = 1.900.000 \text{ kg/cm}^2$

$A_p = 1'4 \text{cm}^2 \times (2 \times 26 + 2 \times 26) = 145 \text{cm}^2$

σ_p: Tpretensado + $\sigma_{peso\ propio}$ = 213 kg/cm²

$$\Delta P = 213 \text{ kg/cm}^2 \times 145 \text{cm}^2 \times \frac{19}{2'9445} =$$

$$= 199 \text{ tn}$$

Tesado = 3824 toneres × 20'75 tn = 1494 tn

perdidas = 13'3 %

Tension de tesado para cumplir la perdida:

0'87 × 148'2 = 129

Postesado : Las perdidas de rozamiento y de penetracion de cuña.

$$\Delta P_3 = \sigma_{cp} \cdot \frac{n-1}{2n} \cdot \frac{A_p \cdot E_p}{E_{cj}} =$$

$$= \sigma_{cp} \times \frac{15-1}{2 \cdot 15} \times 1'4 \text{cm}^2 \cdot 15 \cdot 7 \frac{19}{2'85} =$$

$$= 87 \text{kg/cm}^2 \cdot 457 = 39759 \text{ kg} = 397 \text{ tn}$$

Tesado = 15 · 7 · 19'95 tn = 2094 tn .

perdidas = 0'018 1'8 % de perdidas

Tension de tesado para cumplir la perdida =

142'5 · 0'982 = 139'9

Pérdidas a $t=\infty$:

- Pretensado en centro de vano: (Prefabricado) Nudo 31

$$\Delta P_{def} = \frac{n \cdot \varphi(t,t_0)\,\sigma_{cp} + E_{cp}\cdot\varepsilon_{cs}(t,t_0) + 0'8\cdot\Delta\sigma_{pr}}{1 + n\cdot\frac{A_c}{A_c}\left(1+\frac{A_c\cdot y_s^2}{I_c}\right)\left(1+\chi\cdot\varphi(t,t_0)\right)}$$

CAJON → $\varepsilon_{cs} = -29'16\cdot10^{-5}$ $\quad n = 5'75 = E_p/E_c$

$\varphi = 1'765$ $\quad E_p = 1900000\ kg/cm^2$

$A_c = 145\ cm^2$

$\sigma_{cp} = 187\ kg/cm^2$

- $n\cdot\varphi(t,t_0)\cdot\sigma_{cp} = 5'75 * 187 \cdot 1'765 = 1897'81\ kg/cm^2$
- $E_{cp}\cdot\varepsilon_{cs}(t,t_0) = 29'16 * 10^{-5}\cdot 1950000 = 568'32\ kg/cm^2$
- $\Delta\sigma_{cp} = \rho_p\cdot P_{ki} = \rho_p\cdot 12900 kg/cm^2 = 0'05\cdot 12900 = 665'64\ kg/cm^2$

$$\rho_p = \left(\frac{129000}{190000} = 5'61\right) = 5'16\%$$

$$1 + 6'60 * \frac{145cm^2}{38230cm^2}\cdot\left(1+\frac{3'89\cdot1'82^2}{4'0}\right)\cdot(1+0'8\cdot1'76) =$$

$$= 1'24$$

$$\text{Pérdidas diferidas} = \frac{\frac{1897'81 + 568 + 665}{1'24}}{12900\ kg/cm^2} = 0'195$$

pérdidas diferidas $\simeq 19'50\%$

- Pretensado de 2ª fase: (Postensado) Nudo 125

$n\cdot\varphi(t,t_0)\cdot\sigma_{cp} = 6'60 * 2'28 * 37'5 = 564'30\ kg/cm^2$

$E_p\,\varepsilon_{cs}(t,t_0) = 41\cdot10^{-5}\cdot 1950000 = 799'5\ kg/cm^2$

$\Delta\sigma_{pr} = \rho_p\cdot P_{ki} = 0'058\cdot 13200 = 765'6\ kg/cm^2$

$$\rho_p = \left(\frac{13200}{190000} = 0'699\right) = 5'8\%$$

$$1 + 6'60\ \frac{147cm^2}{38930} \cdot \left(1+\frac{3'89\cdot0'78^2}{4}\right)\cdot(1+0'8\cdot2'28)$$

$= 1'07$

$$\text{Pérdidas diferidas} = \frac{\frac{564'3 + 799 + 765}{1'07}}{13200} = 0'15$$

pérdidas diferidas = 15%

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CUASIPERM1.T0.MZ+
SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [1; 1]PRETF1A.ISO.To + [1; 1]PRETF1A.HIP.To + [1; 1]PRETF1B.ISO.To + [1; 1]PRETF1B.HIP.To + [1; 1]PRETF3

Coef. exc:

Barra	Nudo	X	N (T)	Mz (Tm)	InfCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
1	1	0.00	-590.11	-248.59	-608.13	2.55	-0.11	2.85	-0.17
1	2	2.62	-590.11	132.54	-338.94	2.55	-33.06	2.85	-49.71
2	2	2.62	-590.11	133.95	-338.14	2.55	-33.27	2.85	-50.03
2	3	5.24	-590.11	389.89	-160.24	2.55	-56.75	2.85	-85.34
3	3	5.24	-811.40	178.30	-494.05	2.55	-56.95	2.85	-85.63
3	4	7.86	-811.40	305.10	-409.70	2.55	-70.35	2.85	-105.78
4	4	7.86	-1032.68	93.33	-743.61	2.55	-70.52	2.85	-106.03
4	5	10.48	-1032.68	87.45	-754.81	2.55	-73.31	2.85	-110.24
5	5	10.48	-1032.68	88.34	-754.31	2.55	-73.45	2.85	-110.44
5	6	13.10	-1032.68	-53.17	-862.75	2.55	-65.19	2.85	-98.03
6	6	13.10	-1032.68	-52.57	-862.41	2.55	-65.28	2.85	-98.17
6	7	15.72	-1032.68	-332.04	-1069.42	2.55	-45.63	2.85	-68.61
7	7	15.72	-1032.68	-331.81	-1069.28	2.55	-45.67	2.85	-68.67
7	8	18.34	-1032.68	-750.72	-1375.70	2.55	-14.39	2.85	-21.63
8	8	18.34	-1814.53	249.43	-748.57	2.55	-325.63	2.85	-358.69
8	9	20.96	-1818.20	-306.62	-1093.10	2.55	-255.40	2.85	-252.59
9	9	20.96	-2552.71	655.86	-617.05	2.55	-616.09	2.85	-670.18
9	10	23.58	-2559.52	-37.10	-1060.48	2.55	-535.42	2.85	-547.99
10	10	23.58	-2542.69	-38.12	-1056.04	2.55	-530.91	2.85	-543.40
10	10011	26.20	-2493.97	-915.16	-1607.71	2.55	-417.49	2.85	-379.22
11	11	26.20	-2506.96	-916.50	-1612.36	2.55	-420.66	2.85	-382.28
11	12	29.55	-2586.46	214.70	-877.04	2.55	-557.78	2.85	-578.10
12	12	29.55	-3042.43	-213.67	-1551.61	2.55	-560.86	2.85	-580.98
12	13	32.90	-3033.72	632.34	-985.07	2.55	-647.50	2.85	-712.39
13	13	32.90	-2405.61	-631.21	-1804.76	2.55	-240.54	2.85	-240.24
13	14	36.03	-2401.77	-26.24	-1411.88	2.55	-308.52	2.85	-342.95
14	14	36.03	-1917.67	-1111.75	-2302.20	2.55	-26.26	2.85	-39.49
14	15	39.16	-1917.67	-685.30	-1988.72	2.55	-57.37	2.85	-86.27
15	15	39.16	-1917.67	-684.73	-1988.39	2.55	-57.46	2.85	-86.40
15	16	42.29	-1917.67	-425.82	-1798.87	2.55	-76.72	2.85	-115.37
16	16	42.29	-1917.67	-424.63	-1798.19	2.55	-76.90	2.85	-115.64
16	17	45.42	-1917.67	-337.43	-1735.01	2.55	-83.70	2.85	-125.85
17	17	45.42	-1917.67	-335.93	-1734.16	2.55	-83.92	2.85	-126.19
17	18	48.55	-1917.67	-426.24	-1800.61	2.55	-77.36	2.85	-116.33
18	18	48.55	-1917.67	-424.71	-1799.73	2.55	-77.59	2.85	-116.68
18	19	51.68	-1917.67	-698.77	-1999.36	2.55	-56.74	2.85	-85.32
19	19	51.68	-1917.67	-697.44	-1998.60	2.55	-56.94	2.85	-85.62
19	20	54.81	-1917.67	-1161.16	-2334.79	2.55	-20.90	2.85	-31.43
20	20	54.81	-2491.94	21.23	-1430.38	2.55	-347.77	2.85	-390.21
20	21	57.94	-2496.32	-633.36	-1857.88	2.55	-275.36	2.85	-280.76
21	21	57.94	-3008.07	520.53	-1065.90	2.55	-635.64	2.85	-697.91
21	22	61.07	-3016.21	-327.95	-1633.47	2.55	-548.39	2.85	-565.65
22	22	61.07	-2546.49	99.31	-955.42	2.55	-541.58	2.85	-558.95
22	10023	64.20	-2499.85	-965.94	-1658.64	2.55	-420.86	2.85	-383.52
23	23	64.20	-2557.93	-1002.02	-1721.63	2.55	-426.54	2.85	-389.28
23	24	67.55	-2619.47	154.11	-958.48	2.55	-558.88	2.85	-580.25
24	24	67.55	-3115.76	-307.11	-1688.34	2.55	-563.24	2.85	-584.62
24	25	70.90	-3107.06	586.57	-1086.37	2.55	-653.17	2.85	-720.98

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CUASIPERM1.T0.MZ+
SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [1; 1]PRETF1A.ISO.To + [1; 1]PRETF1A.HIP.To + [1; 1]PRETF1B.ISO.To + [1; 1]PRETF1B.HIP.To + [1; 1]PRETF3

Coef. exc

Barra	Nudo	X	N (T)	Mz (Tm)	InfCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
25	25	70.90	-2521.12	-706.78	-1959.59	2.55	-248.18	2.85	-251.08
25	26	74.23	-2517.04	-23.42	-1511.72	2.55	-323.08	2.85	-364.25
26	26	74.23	-2065.20	-1139.04	-2412.21	2.55	-21.14	2.85	-31.79
26	27	77.56	-2065.20	-668.67	-2077.82	2.55	-60.79	2.85	-91.41
27	27	77.56	-2065.20	-667.81	-2077.33	2.55	-60.92	2.85	-91.61
27	28	80.89	-2065.20	-390.65	-1885.27	2.55	-86.62	2.85	-130.25
28	28	80.89	-2065.20	-389.14	-1884.41	2.55	-86.85	2.85	-130.59
28	29	84.22	-2065.20	-310.55	-1837.75	2.55	-97.79	2.85	-147.04
29	29	84.22	-2065.20	-308.72	-1836.70	2.55	-98.06	2.85	-147.46
29	30	87.55	-2065.20	-436.14	-1939.68	2.55	-93.13	2.85	-140.04
30	30	87.55	-2065.20	-434.28	-1938.61	2.55	-93.41	2.85	-140.46
30	31	90.88	-2065.20	-775.78	-2195.80	2.55	-71.37	2.85	-107.32
31	31	90.88	-2065.20	-774.15	-2194.87	2.55	-71.62	2.85	-107.69
31	32	94.21	-2065.20	-1337.61	-2610.77	2.55	-31.31	2.85	-47.08
32	32	94.21	-2609.45	-117.67	-1589.70	2.55	-331.30	2.85	-364.55
32	33	97.54	-2614.11	-905.79	-2096.29	2.55	-240.25	2.85	-227.03
33	33	97.54	-3089.05	281.93	-1250.08	2.55	-600.57	2.85	-644.23
33	34	100.87	-3097.71	-735.32	-1920.66	2.55	-491.19	2.85	-478.63
34	34	100.87	-2588.54	-274.35	-1187.10	2.55	-483.45	2.85	-470.87
34	10035	104.20	-2538.73	-1552.52	-2021.12	2.55	-334.77	2.85	-253.80
35	35	104.20	-2561.29	-1553.60	-2028.46	2.55	-340.46	2.85	-259.41
35	36	107.55	-2614.31	-300.14	-1221.30	2.55	-491.79	2.85	-480.05
36	36	107.55	-3106.78	-764.02	-1951.53	2.55	-494.77	2.85	-482.82
36	37	110.90	-3098.08	234.76	-1303.69	2.55	-607.08	2.85	-652.84
37	37	110.90	-2357.45	-926.12	-1959.39	2.55	-199.87	2.85	-180.54
37	38	113.77	-2353.93	-223.36	-1518.64	2.55	-286.27	2.85	-310.93
38	38	113.77	-1770.32	-1212.44	-2260.29	2.55	-9.81	2.85	-14.75
38	39	116.64	-1770.32	-646.39	-1844.11	2.55	-51.07	2.85	-76.79
39	39	116.64	-1770.32	-646.87	-1844.38	2.55	-51.00	2.85	-76.69
39	40	119.51	-1770.32	-222.87	-1533.10	2.55	-82.12	2.85	-123.48
40	40	119.51	-1770.32	-222.79	-1533.05	2.55	-82.13	2.85	-123.50
40	41	122.38	-1770.32	58.86	-1326.84	2.55	-103.06	2.85	-154.98
41	41	122.38	-1770.32	59.33	-1326.57	2.55	-103.13	2.85	-155.08
41	42	125.25	-1770.32	197.01	-1226.34	2.55	-113.64	2.85	-170.88
42	42	125.25	-1770.32	197.74	-1225.93	2.55	-113.75	2.85	-171.05
42	43	128.12	-1770.32	189.02	-1233.07	2.55	-113.46	2.85	-170.61
43	43	128.12	-1770.32	189.89	-1232.58	2.55	-113.59	2.85	-170.81
43	44	130.99	-1770.32	36.03	-1346.38	2.55	-102.69	2.85	-154.42
44	44	130.99	-1438.38	324.46	-872.38	2.55	-102.84	2.85	-154.64
44	45	133.86	-1438.38	22.23	-1094.69	2.55	-80.85	2.85	-121.58
45	45	133.86	-1106.45	326.63	-606.49	2.55	-81.00	2.85	-121.81
45	46	136.73	-1106.45	-131.59	-941.61	2.55	-46.77	2.85	-70.33
46	46	136.73	-626.99	330.69	-216.18	2.55	-46.93	2.85	-70.57
46	47	139.60	-626.99	-287.09	-666.18	2.55	0.08	2.85	0.12
101	101	0.00	-626.89	-287.26	-666.20	2.55	0.11	2.85	0.17
101	102	2.62	-626.89	275.07	-264.22	2.55	-46.26	2.85	-69.55
102	102	2.62	-1106.28	-187.51	-989.76	2.55	-46.04	2.85	-69.23
102	103	5.24	-1106.28	232.42	-688.87	2.55	-80.34	2.85	-120.80

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CUASIPERM1.T0.MZ+
SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [1; 1]PRETF1A.ISO.To + [1; 1]PRETF1A.HIP.To + [1; 1]PRETF1B.ISO.To + [1; 1]PRETF1B.HIP.To + [1; 1]PRETF3
Coef. exc.

Barra	Nudo	X	N (T)	Mz (Tm)	InfCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
103	103	5.24	-1438.16	-72.22	-1177.16	2.55	-80.14	2.85	-120.51
103	104	7.86	-1438.16	209.25	-975.12	2.55	-102.96	2.85	-154.82
104	104	7.86	-1770.05	-79.26	-1449.12	2.55	-102.79	2.85	-154.57
104	105	10.48	-1770.05	67.30	-1343.90	2.55	-114.67	2.85	-172.43
105	105	10.48	-1770.05	66.42	-1344.41	2.55	-114.54	2.85	-172.23
105	106	13.10	-1770.05	81.04	-1334.33	2.55	-115.92	2.85	-174.31
106	106	13.10	-1770.05	80.45	-1334.66	2.55	-115.83	2.85	-174.18
106	107	15.72	-1770.05	-34.57	-1418.42	2.55	-107.07	2.85	-161.00
107	107	15.72	-1770.05	-34.82	-1418.56	2.55	-107.03	2.85	-160.94
107	108	18.34	-1770.05	-277.97	-1595.28	2.55	-88.34	2.85	-132.84
108	108	18.34	-1770.05	-277.77	-1595.17	2.55	-88.37	2.85	-132.89
108	109	20.96	-1770.05	-648.51	-1864.55	2.55	-59.85	2.85	-90.00
109	109	20.96	-1770.05	-647.80	-1864.15	2.55	-59.96	2.85	-90.16
109	110	23.58	-1770.05	-1146.75	-2226.54	2.55	-21.50	2.85	-32.33
110	110	23.58	-2472.82	-59.33	-1475.73	2.55	-348.92	2.85	-389.59
110	111	26.20	-2476.49	-682.78	-1863.46	2.55	-270.79	2.85	-271.63
111	111	26.20	-3086.19	371.54	-1229.37	2.55	-628.01	2.85	-685.84
111	112	29.55	-3094.90	-611.70	-1861.44	2.55	-514.79	2.85	-514.46
112	112	29.55	-2602.11	-147.89	-1131.20	2.55	-511.72	2.85	-511.59
112	10113	32.90	-2549.35	-1400.80	-1931.19	2.55	-357.28	2.85	-286.24
113	113	32.90	-2490.13	-1362.66	-1866.68	2.55	-351.62	2.85	-280.65
113	114	36.03	-2551.46	-170.85	-1098.74	2.55	-496.58	2.85	-490.63
114	114	36.03	-2989.17	-561.11	-1721.57	2.55	-504.89	2.85	-498.94
114	115	39.16	-2981.04	375.79	-1106.59	2.55	-606.84	2.85	-653.30
115	115	39.16	-2331.91	-886.18	-1919.07	2.55	-194.68	2.85	-176.06
115	116	42.29	-2328.07	-160.28	-1454.07	2.55	-279.35	2.85	-303.87
116	116	42.29	-1843.97	-1210.40	-2343.13	2.55	-26.88	2.85	-40.43
116	117	45.42	-1843.97	-691.71	-1964.38	2.55	-65.91	2.85	-99.11
117	117	45.42	-1843.97	-693.21	-1965.23	2.55	-65.69	2.85	-98.77
117	118	48.55	-1843.97	-378.93	-1731.41	2.55	-87.31	2.85	-131.29
118	118	48.55	-1843.97	-380.47	-1732.29	2.55	-87.08	2.85	-130.94
118	119	51.68	-1843.97	-264.27	-1639.81	2.55	-92.24	2.85	-138.71
119	119	51.68	-1843.97	-265.60	-1640.57	2.55	-92.04	2.85	-138.40
119	120	54.81	-1843.97	-341.69	-1686.14	2.55	-81.64	2.85	-122.76
120	120	54.81	-1843.97	-342.59	-1686.66	2.55	-81.50	2.85	-122.55
120	121	57.94	-1843.97	-606.26	-1867.60	2.55	-56.22	2.85	-84.54
121	121	57.94	-1843.97	-606.49	-1867.73	2.55	-56.19	2.85	-84.49
121	122	61.07	-1843.97	-1055.24	-2182.62	2.55	-16.42	2.85	-24.70
122	122	61.07	-2487.88	96.29	-1354.67	2.55	-358.95	2.85	-402.70
122	123	64.20	-2492.26	-557.40	-1778.38	2.55	-285.14	2.85	-291.15
123	123	64.20	-2982.40	594.94	-980.87	2.55	-639.58	2.85	-702.35
123	124	67.55	-2991.11	-326.40	-1593.43	2.55	-543.06	2.85	-556.08
124	124	67.55	-2568.65	63.80	-975.18	2.55	-538.70	2.85	-551.71
124	10125	70.90	-2523.34	-1130.14	-1759.56	2.55	-402.45	2.85	-352.75
125	125	70.90	-2571.56	-1205.81	-1867.26	2.55	-395.66	2.85	-345.87
125	126	74.23	-2626.39	41.22	-1050.67	2.55	-540.10	2.85	-555.92
126	126	74.23	-3179.06	-457.50	-1843.21	2.55	-549.23	2.85	-564.88
126	127	77.56	-3170.41	523.64	-1191.40	2.55	-652.32	2.85	-721.03

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CUASIPERM1.T0.MZ+
SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [1; 1]PRETF1A.ISO.To + [1; 1]PRETF1A.HIP.To + [1; 1]PRETF1B.ISO.To + [1; 1]PRETF1B.HIP.To + [1; 1]PRETF3
Coef. exc.

Barra	Nudo	X	N (T)	Mz (Tm)	InfCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
127	127	77.56	-2559.41	-771.34	-2058.02	2.55	-240.59	2.85	-244.27
127	128	80.89	-2555.33	-25.65	-1573.95	2.55	-324.55	2.85	-371.05
128	128	80.89	-2138.98	-1144.51	-2506.05	2.55	-40.20	2.85	-60.45
128	129	84.22	-2138.98	-629.32	-2135.13	2.55	-81.44	2.85	-122.46
129	129	84.22	-2138.98	-631.16	-2136.18	2.55	-81.16	2.85	-122.04
129	130	87.55	-2138.98	-342.21	-1926.39	2.55	-103.47	2.85	-155.59
130	130	87.55	-2138.98	-344.07	-1927.45	2.55	-103.19	2.85	-155.16
130	131	90.88	-2138.98	-273.31	-1874.23	2.55	-107.79	2.85	-162.08
131	131	90.88	-2138.98	-274.94	-1875.15	2.55	-107.54	2.85	-161.71
131	132	94.21	-2138.98	-414.52	-1974.03	2.55	-95.61	2.85	-143.77
132	132	94.21	-2138.98	-415.64	-1974.66	2.55	-95.44	2.85	-143.51
132	133	97.54	-2138.98	-759.10	-2221.94	2.55	-67.94	2.85	-102.17
133	133	97.54	-2138.98	-759.39	-2222.11	2.55	-67.90	2.85	-102.10
133	134	100.87	-2138.98	-1302.88	-2615.62	2.55	-25.43	2.85	-38.24
134	134	100.87	-2712.03	-85.59	-1647.32	2.55	-352.61	2.85	-392.80
134	135	104.20	-2716.69	-843.06	-2135.77	2.55	-265.85	2.85	-261.73
135	135	104.20	-3170.25	346.65	-1282.09	2.55	-620.92	2.85	-673.83
135	136	107.55	-3178.96	-634.89	-1932.27	2.55	-516.90	2.85	-516.28
136	136	107.55	-2649.69	-135.60	-1146.39	2.55	-513.92	2.85	-513.51
136	10137	110.90	-2590.75	-1401.71	-1971.13	2.55	-364.84	2.85	-297.02
137	137	110.90	-2536.32	-1362.48	-1907.44	2.55	-360.59	2.85	-292.92
137	138	113.77	-2591.45	-265.66	-1219.47	2.55	-502.65	2.85	-499.34
138	138	113.77	-3094.08	-725.65	-1950.47	2.55	-508.85	2.85	-505.63
138	139	116.64	-3086.63	140.42	-1399.22	2.55	-611.18	2.85	-660.48
139	139	116.64	-2437.76	-1120.28	-2211.05	2.55	-199.27	2.85	-183.58
139	140	119.51	-2434.24	-430.13	-1785.15	2.55	-287.38	2.85	-316.52
140	140	119.51	-1548.79	-1125.30	-2061.39	2.55	-20.97	2.85	-31.53
140	141	122.38	-1548.79	-611.16	-1691.45	2.55	-62.23	2.85	-93.58
141	141	122.38	-1548.79	-611.63	-1691.72	2.55	-62.16	2.85	-93.47
141	142	125.25	-1548.79	-274.64	-1446.66	2.55	-87.99	2.85	-132.31
142	142	125.25	-1548.79	-275.36	-1447.08	2.55	-87.88	2.85	-132.15
142	143	128.12	-1548.79	-113.02	-1325.46	2.55	-98.66	2.85	-148.36
143	143	128.12	-1548.79	-113.90	-1325.97	2.55	-98.53	2.85	-148.16
143	144	130.99	-1548.79	-123.30	-1326.16	2.55	-94.70	2.85	-142.40
144	144	130.99	-1548.79	-124.26	-1326.71	2.55	-94.55	2.85	-142.18
144	145	133.86	-1548.79	-302.12	-1446.83	2.55	-76.60	2.85	-115.18
145	145	133.86	-1106.28	101.32	-797.34	2.55	-76.45	2.85	-114.95
145	146	136.73	-1106.28	-241.63	-1035.49	2.55	-44.88	2.85	-67.49
146	146	136.73	-626.89	218.50	-311.34	2.55	-44.72	2.85	-67.25
146	147	139.60	-626.89	-286.01	-665.48	2.55	-0.08	2.85	-0.12

ESFUERZOS DE PRETENSADO EN FASE 1

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	2.62	0.00	0.00	0.00	0.00
2	2	2.62	0.00	0.00	0.00	0.00
2	3	5.24	0.00	0.00	0.00	0.00
3	3	5.24	0.00	0.00	0.00	0.00
3	4	7.86	0.00	0.00	0.00	0.00
4	4	7.86	0.00	0.00	0.00	0.00
4	5	10.48	0.00	0.00	0.00	0.00
5	5	10.48	0.00	0.00	0.00	0.00
5	6	13.10	0.00	0.00	0.00	0.00
6	6	13.10	0.00	0.00	0.00	0.00
6	7	15.72	0.00	0.00	0.00	0.00
7	7	15.72	0.00	0.00	0.00	0.00
7	8	18.34	0.00	0.00	0.00	0.00
8	8	18.34	0.00	0.00	0.00	0.00
8	9	20.96	0.00	0.00	0.00	0.00
9	9	20.96	0.00	0.00	0.00	0.00
9	10	23.58	0.00	0.00	0.00	0.00
10	10	23.58	0.00	0.00	0.00	0.00
10	10011	26.20	0.00	0.00	0.00	0.00
11	11	26.20	0.00	0.00	0.00	0.00
11	12	29.55	0.00	0.00	0.00	0.00
12	12	29.55	0.00	0.00	0.00	0.00
12	13	32.90	0.00	0.00	0.00	0.00
13	13	32.90	0.00	0.00	0.00	0.00
13	14	36.03	0.00	0.00	0.00	0.00
14	14	36.03	0.00	0.00	0.00	0.00
14	15	39.16	0.00	0.00	0.00	0.00
15	15	39.16	0.00	0.00	0.00	0.00
15	16	42.29	0.00	0.00	0.00	0.00
16	16	42.29	0.00	0.00	0.00	0.00
16	17	45.42	0.00	0.00	0.00	0.00
17	17	45.42	0.00	0.00	0.00	0.00
17	18	48.55	0.00	0.00	0.00	0.00
18	18	48.55	0.00	0.00	0.00	0.00
18	19	51.68	0.00	0.00	0.00	0.00
19	19	51.68	0.00	0.00	0.00	0.00
19	20	54.81	0.00	0.00	0.00	0.00
20	20	54.81	0.00	0.00	0.00	0.00
20	21	57.94	0.00	0.00	0.00	0.00
21	21	57.94	0.00	0.00	0.00	0.00
21	22	61.07	0.00	0.00	0.00	0.00
22	22	61.07	0.00	0.00	0.00	0.00
22	10023	64.20	0.00	0.00	0.00	0.00
23	23	64.20	0.00	0.00	0.00	0.00
23	24	67.55	0.00	0.00	0.00	0.00
24	24	67.55	0.00	0.00	0.00	0.00
24	25	70.90	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	0.00	0.00	0.00
25	26	74.23	0.00	0.00	0.00	0.00
26	26	74.23	0.00	0.00	0.00	0.00
26	27	77.56	0.00	0.00	0.00	0.00
27	27	77.56	0.00	0.00	0.00	0.00
27	28	80.89	0.00	0.00	0.00	0.00
28	28	80.89	0.00	0.00	0.00	0.00
28	29	84.22	0.00	0.00	0.00	0.00
29	29	84.22	0.00	0.00	0.00	0.00
29	30	87.55	0.00	0.00	0.00	0.00
30	30	87.55	0.00	0.00	0.00	0.00
30	31	90.88	0.00	0.00	0.00	0.00
31	31	90.88	0.00	0.00	0.00	0.00
31	32	94.21	0.00	0.00	0.00	0.00
32	32	94.21	0.00	0.00	0.00	0.00
32	33	97.54	0.00	0.00	0.00	0.00
33	33	97.54	0.00	0.00	0.00	0.00
33	34	100.87	0.00	0.00	0.00	0.00
34	34	100.87	0.00	0.00	0.00	0.00
34	10035	104.20	0.00	0.00	0.00	0.00
35	35	104.20	0.00	0.00	0.00	0.00
35	36	107.55	0.00	0.00	0.00	0.00
36	36	107.55	0.00	0.00	0.00	0.00
36	37	110.90	0.00	0.00	0.00	0.00
37	37	110.90	0.00	0.00	0.00	0.00
37	38	113.77	0.00	0.00	0.00	0.00
38	38	113.77	0.00	0.00	0.00	0.00
38	39	116.64	0.00	0.00	0.00	0.00
39	39	116.64	0.00	0.00	0.00	0.00
39	40	119.51	0.00	0.00	0.00	0.00
40	40	119.51	0.00	0.00	0.00	0.00
40	41	122.38	0.00	0.00	0.00	0.00
41	41	122.38	0.00	0.00	0.00	0.00
41	42	125.25	0.00	0.00	0.00	0.00
42	42	125.25	0.00	0.00	0.00	0.00
42	43	128.12	0.00	0.00	0.00	0.00
43	43	128.12	0.00	0.00	0.00	0.00
43	44	130.99	0.00	0.00	0.00	0.00
44	44	130.99	0.00	0.00	0.00	0.00
44	45	133.86	0.00	0.00	0.00	0.00
45	45	133.86	0.00	0.00	0.00	0.00
45	46	136.73	0.00	0.00	0.00	0.00
46	46	136.73	0.00	0.00	0.00	0.00
46	47	139.60	0.00	0.00	0.00	0.00
101	101	0.00	-635.54	0.00	0.00	-251.84
101	102	2.62	-635.54	0.00	0.00	-251.84
102	102	2.62	-1105.10	0.00	0.00	-703.56
102	103	5.24	-1105.10	0.00	0.00	-703.56

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-1430.18	0.00	0.00	-1000.68
103	104	7.86	-1430.18	0.00	0.00	-1000.68
104	104	7.86	-1755.26	0.00	0.00	-1282.20
104	105	10.48	-1755.26	0.00	0.00	-1282.21
105	105	10.48	-1755.26	0.00	0.00	-1282.21
105	106	13.10	-1755.26	0.00	0.00	-1282.21
106	106	13.10	-1755.26	0.00	0.00	-1282.21
106	107	15.72	-1755.26	0.00	0.00	-1282.21
107	107	15.72	-1755.26	0.00	0.00	-1282.21
107	108	18.34	-1755.26	0.00	0.00	-1282.20
108	108	18.34	-1755.26	0.00	0.00	-1282.20
108	109	20.96	-1755.26	0.00	0.00	-1282.20
109	109	20.96	-1755.26	0.00	0.00	-1282.20
109	110	23.58	-1755.26	0.00	0.00	-1282.20
110	110	23.58	-1430.18	0.00	0.00	-1000.68
110	111	26.20	-1430.18	0.00	0.00	-1000.68
111	111	26.20	-1105.10	0.00	0.00	-703.56
111	112	29.55	-1105.10	0.00	0.00	-703.56
112	112	29.55	-635.54	0.00	0.00	-251.84
112	10113	32.90	-635.54	0.00	0.00	-251.84
113	113	32.90	-599.42	0.00	0.00	-215.36
113	114	36.03	-599.42	0.00	0.00	-215.35
114	114	36.03	-996.74	0.00	0.00	-597.58
114	115	39.16	-996.74	0.00	0.00	-597.57
115	115	39.16	-1430.18	0.00	0.00	-993.74
115	116	42.29	-1430.18	0.00	0.00	-993.73
116	116	42.29	-1827.50	0.00	0.00	-1337.02
116	117	45.42	-1827.50	0.00	0.00	-1337.02
117	117	45.42	-1827.50	0.00	0.00	-1337.02
117	118	48.55	-1827.50	0.00	0.00	-1337.02
118	118	48.55	-1827.50	0.00	0.00	-1337.02
118	119	51.68	-1827.50	0.00	0.00	-1337.02
119	119	51.68	-1827.50	0.00	0.00	-1337.02
119	120	54.81	-1827.50	0.00	0.00	-1337.02
120	120	54.81	-1827.50	0.00	0.00	-1337.02
120	121	57.94	-1827.50	0.00	0.00	-1337.02
121	121	57.94	-1827.50	0.00	0.00	-1337.02
121	122	61.07	-1827.50	0.00	0.00	-1337.02
122	122	61.07	-1430.18	0.00	0.00	-993.74
122	123	64.20	-1430.18	0.00	0.00	-993.74
123	123	64.20	-996.74	0.00	0.00	-597.58
123	124	67.55	-996.74	0.00	0.00	-597.58
124	124	67.55	-599.42	0.00	0.00	-215.36
124	10125	70.90	-599.42	0.00	0.00	-215.36
125	125	70.90	-671.66	0.00	0.00	-288.32
125	126	74.23	-671.66	0.00	0.00	-288.33
126	126	74.23	-1141.22	0.00	0.00	-740.05
126	127	77.56	-1141.22	0.00	0.00	-740.07

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-1646.90	0.00	0.00	-1202.26
127	128	80.89	-1646.90	0.00	0.00	-1202.27
128	128	80.89	-2152.58	0.00	0.00	-1639.18
128	129	84.22	-2152.58	0.00	0.00	-1639.19
129	129	84.22	-2152.58	0.00	0.00	-1639.19
129	130	87.55	-2152.58	0.00	0.00	-1639.20
130	130	87.55	-2152.58	0.00	0.00	-1639.20
130	131	90.88	-2152.58	0.00	0.00	-1639.20
131	131	90.88	-2152.58	0.00	0.00	-1639.20
131	132	94.21	-2152.58	0.00	0.00	-1639.20
132	132	94.21	-2152.58	0.00	0.00	-1639.20
132	133	97.54	-2152.58	0.00	0.00	-1639.20
133	133	97.54	-2152.58	0.00	0.00	-1639.20
133	134	100.87	-2152.58	0.00	0.00	-1639.18
134	134	100.87	-1646.90	0.00	0.00	-1202.28
134	135	104.20	-1646.90	0.00	0.00	-1202.26
135	135	104.20	-1141.22	-0.01	0.00	-740.07
135	136	107.55	-1141.22	-0.01	0.00	-740.05
136	136	107.55	-671.66	-0.01	0.00	-288.34
136	10137	110.90	-671.66	-0.01	0.00	-288.32
137	137	110.90	-635.54	0.00	0.00	-251.84
137	138	113.77	-635.54	0.00	0.00	-251.82
138	138	113.77	-1105.10	0.00	0.00	-703.54
138	139	116.64	-1105.10	0.00	0.00	-703.53
139	139	116.64	-1321.82	0.00	0.00	-901.61
139	140	119.51	-1321.82	0.00	0.00	-901.60
140	140	119.51	-1321.82	0.00	0.00	-901.60
140	141	122.38	-1321.82	0.00	0.00	-901.59
141	141	122.38	-1321.82	0.00	0.00	-901.59
141	142	125.25	-1321.82	0.00	0.00	-901.59
142	142	125.25	-1321.82	0.00	0.00	-901.59
142	143	128.12	-1321.82	0.00	0.00	-901.60
143	143	128.12	-1321.82	0.00	0.00	-901.60
143	144	130.99	-1321.82	0.00	0.00	-901.60
144	144	130.99	-1321.82	0.00	0.00	-901.60
144	145	133.86	-1321.82	0.00	0.00	-901.61
145	145	133.86	-1105.10	0.00	0.00	-703.53
145	146	136.73	-1105.10	0.00	0.00	-703.54
146	146	136.73	-635.54	0.00	0.00	-251.82
146	147	139.60	-635.54	0.00	0.00	-251.84
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	2.62	0.00	0.00	0.00	0.00
2	2	2.62	0.00	0.00	0.00	0.00
2	3	5.24	0.00	0.00	0.00	0.00
3	3	5.24	0.00	0.00	0.00	0.00
3	4	7.86	0.00	0.00	0.00	0.00
4	4	7.86	0.00	0.00	0.00	0.00
4	5	10.48	0.00	0.00	0.00	0.00
5	5	10.48	0.00	0.00	0.00	0.00
5	6	13.10	0.00	0.00	0.00	0.00
6	6	13.10	0.00	0.00	0.00	0.00
6	7	15.72	0.00	0.00	0.00	0.00
7	7	15.72	0.00	0.00	0.00	0.00
7	8	18.34	0.00	0.00	0.00	0.00
8	8	18.34	0.00	0.00	0.00	0.00
8	9	20.96	0.00	0.00	0.00	0.00
9	9	20.96	0.00	0.00	0.00	0.00
9	10	23.58	0.00	0.00	0.00	0.00
10	10	23.58	0.00	0.00	0.00	0.00
10	10011	26.20	0.00	0.00	0.00	0.00
11	11	26.20	0.00	0.00	0.00	0.00
11	12	29.55	0.00	0.00	0.00	0.00
12	12	29.55	0.00	0.00	0.00	0.00
12	13	32.90	0.00	0.00	0.00	0.00
13	13	32.90	0.00	0.00	0.00	0.00
13	14	36.03	0.00	0.00	0.00	0.00
14	14	36.03	0.00	0.00	0.00	0.00
14	15	39.16	0.00	0.00	0.00	0.00
15	15	39.16	0.00	0.00	0.00	0.00
15	16	42.29	0.00	0.00	0.00	0.00
16	16	42.29	0.00	0.00	0.00	0.00
16	17	45.42	0.00	0.00	0.00	0.00
17	17	45.42	0.00	0.00	0.00	0.00
17	18	48.55	0.00	0.00	0.00	0.00
18	18	48.55	0.00	0.00	0.00	0.00
18	19	51.68	0.00	0.00	0.00	0.00
19	19	51.68	0.00	0.00	0.00	0.00
19	20	54.81	0.00	0.00	0.00	0.00
20	20	54.81	0.00	0.00	0.00	0.00
20	21	57.94	0.00	0.00	0.00	0.00
21	21	57.94	0.00	0.00	0.00	0.00
21	22	61.07	0.00	0.00	0.00	0.00
22	22	61.07	0.00	0.00	0.00	0.00
22	10023	64.20	0.00	0.00	0.00	0.00
23	23	64.20	0.00	0.00	0.00	0.00
23	24	67.55	0.00	0.00	0.00	0.00
24	24	67.55	0.00	0.00	0.00	0.00
24	25	70.90	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	0.00	0.00	0.00
25	26	74.23	0.00	0.00	0.00	0.00
26	26	74.23	0.00	0.00	0.00	0.00
26	27	77.56	0.00	0.00	0.00	0.00
27	27	77.56	0.00	0.00	0.00	0.00
27	28	80.89	0.00	0.00	0.00	0.00
28	28	80.89	0.00	0.00	0.00	0.00
28	29	84.22	0.00	0.00	0.00	0.00
29	29	84.22	0.00	0.00	0.00	0.00
29	30	87.55	0.00	0.00	0.00	0.00
30	30	87.55	0.00	0.00	0.00	0.00
30	31	90.88	0.00	0.00	0.00	0.00
31	31	90.88	0.00	0.00	0.00	0.00
31	32	94.21	0.00	0.00	0.00	0.00
32	32	94.21	0.00	0.00	0.00	0.00
32	33	97.54	0.00	0.00	0.00	0.00
33	33	97.54	0.00	0.00	0.00	0.00
33	34	100.87	0.00	0.00	0.00	0.00
34	34	100.87	0.00	0.00	0.00	0.00
34	10035	104.20	0.00	0.00	0.00	0.00
35	35	104.20	0.00	0.00	0.00	0.00
35	36	107.55	0.00	0.00	0.00	0.00
36	36	107.55	0.00	0.00	0.00	0.00
36	37	110.90	0.00	0.00	0.00	0.00
37	37	110.90	0.00	0.00	0.00	0.00
37	38	113.77	0.00	0.00	0.00	0.00
38	38	113.77	0.00	0.00	0.00	0.00
38	39	116.64	0.00	0.00	0.00	0.00
39	39	116.64	0.00	0.00	0.00	0.00
39	40	119.51	0.00	0.00	0.00	0.00
40	40	119.51	0.00	0.00	0.00	0.00
40	41	122.38	0.00	0.00	0.00	0.00
41	41	122.38	0.00	0.00	0.00	0.00
41	42	125.25	0.00	0.00	0.00	0.00
42	42	125.25	0.00	0.00	0.00	0.00
42	43	128.12	0.00	0.00	0.00	0.00
43	43	128.12	0.00	0.00	0.00	0.00
43	44	130.99	0.00	0.00	0.00	0.00
44	44	130.99	0.00	0.00	0.00	0.00
44	45	133.86	0.00	0.00	0.00	0.00
45	45	133.86	0.00	0.00	0.00	0.00
45	46	136.73	0.00	0.00	0.00	0.00
46	46	136.73	0.00	0.00	0.00	0.00
46	47	139.60	0.00	0.00	0.00	0.00
101	101	0.00	-635.54	0.00	0.00	-251.84
101	102	2.62	-635.54	0.00	0.00	-251.84
102	102	2.62	-1105.10	0.00	0.00	-703.56
102	103	5.24	-1105.10	0.00	0.00	-703.56

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-1430.18	0.00	0.00	-1000.68
103	104	7.86	-1430.18	0.00	0.00	-1000.68
104	104	7.86	-1755.26	0.00	0.00	-1282.20
104	105	10.48	-1755.26	0.00	0.00	-1282.21
105	105	10.48	-1755.26	0.00	0.00	-1282.21
105	106	13.10	-1755.26	0.00	0.00	-1282.21
106	106	13.10	-1755.26	0.00	0.00	-1282.21
106	107	15.72	-1755.26	0.00	0.00	-1282.21
107	107	15.72	-1755.26	0.00	0.00	-1282.21
107	108	18.34	-1755.26	0.00	0.00	-1282.20
108	108	18.34	-1755.26	0.00	0.00	-1282.20
108	109	20.96	-1755.26	0.00	0.00	-1282.20
109	109	20.96	-1755.26	0.00	0.00	-1282.20
109	110	23.58	-1755.26	0.00	0.00	-1282.20
110	110	23.58	-1430.18	0.00	0.00	-1000.68
110	111	26.20	-1430.18	0.00	0.00	-1000.68
111	111	26.20	-1105.10	0.00	0:00	-703.56
111	112	29.55	-1105.10	0.00	0.00	-703.56
112	112	29.55	-635.54	0.00	0.00	-251.84
112	10113	32.90	-635.54	0.00	0.00	-251.84
113	113	32.90	-599.42	0.00	0.00	-215.36
113	114	36.03	-599.42	0.00	0.00	-215.35
114	114	36.03	-996.74	0.00	0.00	-597.58
114	115	39.16	-996.74	0.00	0.00	-597.57
115	115	39.16	-1430.18	0.00	0.00	-993.74
115	116	42.29	-1430.18	0.00	0.00	-993.73
116	116	42.29	-1827.50	0.00	0.00	-1337.02
116	117	45.42	-1827.50	0.00	0.00	-1337.02
117	117	45.42	-1827.50	0.00	0.00	-1337.02
117	118	48.55	-1827.50	0.00	0.00	-1337.02
118	118	48.55	-1827.50	0.00	0.00	-1337.02
118	119	51.68	-1827.50	0.00	0.00	-1337.02
119	119	51.68	-1827.50	0.00	0.00	-1337.02
119	120	54.81	-1827.50	0.00	0.00	-1337.02
120	120	54.81	-1827.50	0.00	0.00	-1337.02
120	121	57.94	-1827.50	0.00	0.00	-1337.02
121	121	57.94	-1827.50	0.00	0.00	-1337.02
121	122	61.07	-1827.50	0.00	0.00	-1337.02
122	122	61.07	-1430.18	0.00	0.00	-993.74
122	123	64.20	-1430.18	0.00	0.00	-993.74
123	123	64.20	-996.74	0.00	0.00	-597.58
123	124	67.55	-996.74	0.00	0.00	-597.58
124	124	67.55	-599.42	0.00	0.00	-215.36
124	10125	70.90	-599.42	0.00	0.00	-215.36
125	125	70.90	-671.66	0.00	0.00	-288.32
125	126	74.23	-671.66	0.00	0.00	-288.33
126	126	74.23	-1141.22	0.00	0.00	-740.05
126	127	77.56	-1141.22	0.00	0.00	-740.07

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-1646.90	0.00	0.00	-1202.26
127	128	80.89	-1646.90	0.00	0.00	-1202.27
128	128	80.89	-2152.58	0.00	0.00	-1639.18
128	129	84.22	-2152.58	0.00	0.00	-1639.19
129	129	84.22	-2152.58	0.00	0.00	-1639.19
129	130	87.55	-2152.58	0.00	0.00	-1639.20
130	130	87.55	-2152.58	0.00	0.00	-1639.20
130	131	90.88	-2152.58	0.00	0.00	-1639.20
131	131	90.88	-2152.58	0.00	0.00	-1639.20
131	132	94.21	-2152.58	0.00	0.00	-1639.20
132	132	94.21	-2152.58	0.00	0.00	-1639.20
132	133	97.54	-2152.58	0.00	0.00	-1639.20
133	133	97.54	-2152.58	0.00	0.00	-1639.20
133	134	100.87	-2152.58	0.00	0.00	-1639.18
134	134	100.87	-1646.90	0.00	0.00	-1202.28
134	135	104.20	-1646.90	0.00	0.00	-1202.26
135	135	104.20	-1141.22	-0.01	0.00	-740.07
135	136	107.55	-1141.22	-0.01	0.00	-740.05
136	136	107.55	-671.66	-0.01	0.00	-288.34
136	10137	110.90	-671.66	-0.01	0.00	-288.32
137	137	110.90	-635.54	0.00	0.00	-251.84
137	138	113.77	-635.54	0.00	0.00	-251.82
138	138	113.77	-1105.10	0.00	0.00	-703.54
138	139	116.64	-1105.10	0.00	0.00	-703.53
139	139	116.64	-1321.82	0.00	0.00	-901.61
139	140	119.51	-1321.82	0.00	0.00	-901.60
140	140	119.51	-1321.82	0.00	0.00	-901.60
140	141	122.38	-1321.82	0.00	0.00	-901.59
141	141	122.38	-1321.82	0.00	0.00	-901.59
141	142	125.25	-1321.82	0.00	0.00	-901.59
142	142	125.25	-1321.82	0.00	0.00	-901.59
142	143	128.12	-1321.82	0.00	0.00	-901.60
143	143	128.12	-1321.82	0.00	0.00	-901.60
143	144	130.99	-1321.82	0.00	0.00	-901.60
144	144	130.99	-1321.82	0.00	0.00	-901.60
144	145	133.86	-1321.82	0.00	0.00	-901.61
145	145	133.86	-1105.10	0.00	0.00	-703.53
145	146	136.73	-1105.10	0.00	0.00	-703.54
146	146	136.73	-635.54	0.00	0.00	-251.82
146	147	139.60	-635.54	0.00	0.00	-251.84
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

IDEAM

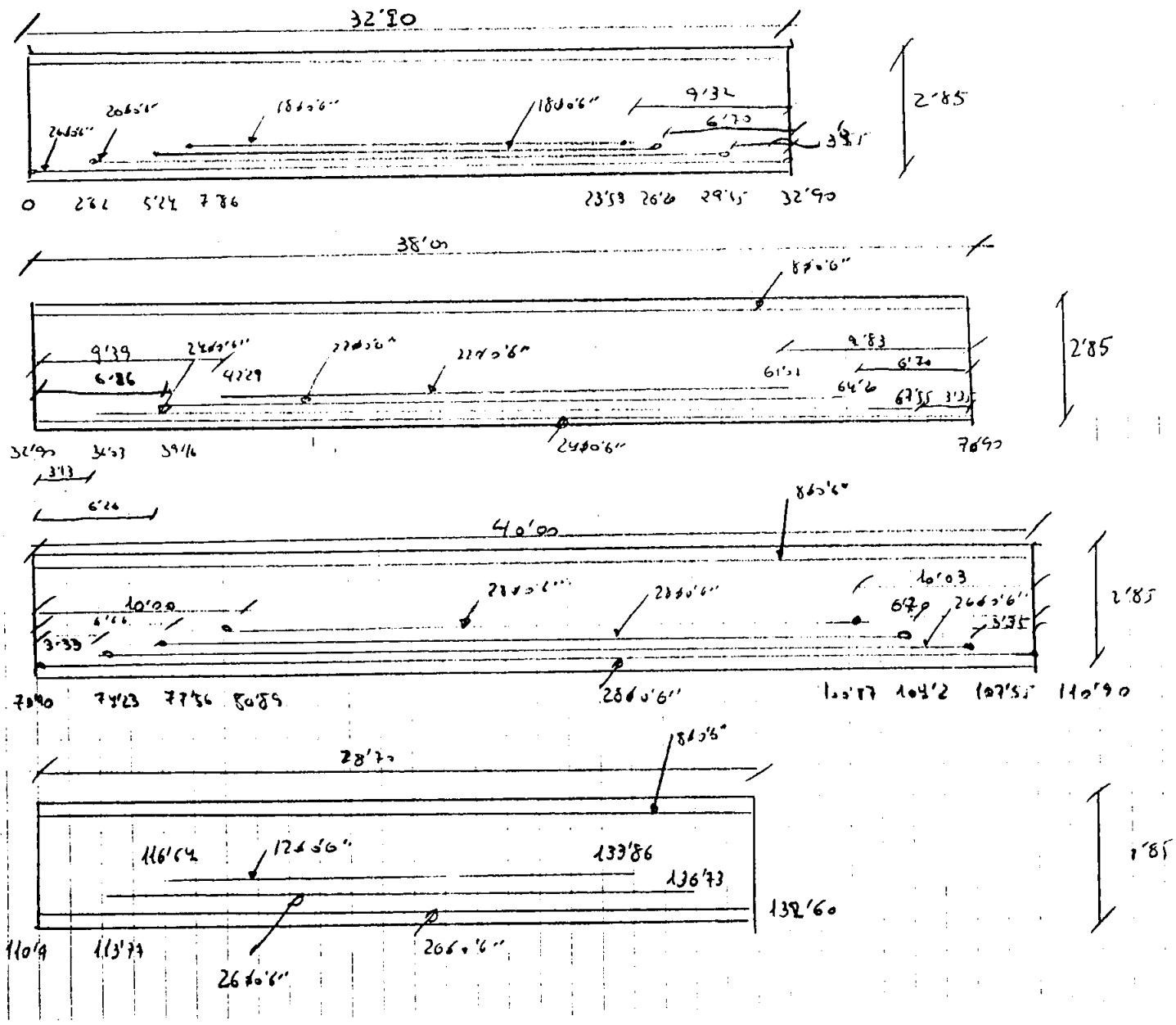
VIGA DE 28'70

		Vi	Xmid	Xfmid	Vf	
(15)	26 torones	0'05	110'9	139'60	2'80	
(16)	26 torones	0'098	113'77	136'73	2'752	*
(17)	12 torones	0'496	116'62	133'86	2'704	
(18)	8 torones	2'50	110'9	139'60	0'95	

VIGA DE 40'00 m.

(19)	28 torones	0'194	80'89	100'87	2'654

PRETENSADO VIGAS PREFABRICADAS
CALZADA DERECHA



familia1

FAMILIA DE 1

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c (m.)	ANCLAJE ORIGEN	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	0	32.9	AMBOS	26	140	129	0
								67.8947368	

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	32.9000015	2.8	0	32.9000015	2.8	0	32.9000015	2.8	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	0	0	0	0	0	0	32.9	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	Sección dorsal AXIL (t.)	CORTANTE (t.)	MOMENTO (mt.)	Sección frontal AXIL (t.)	CORTANTE (t.)	MOMENTO (mt.)
101	0	2.8	0	1.7899999	0	0	129	0	0	0	-469.56	0	-474.255642
102	2.62	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
103	5.24	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
104	7.86	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
105	10.48	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
106	13.1	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
107	15.72	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
108	18.34	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
109	20.96	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
110	23.58	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
111	26.2	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
112	29.55	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
10113	32.9	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	0	0	0
113	32.9	2.8	0	1.7899999	0	0	129	0	0	0	0	0	0

ALARGAMIENTO DE TESADO 217.646154

familia2

FAMILIA DE 2

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	2.62	29.55	AMBOS	26	140	129	0
								67.8947368	

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	29.55	2.752	0	29.55	2.752	0	29.55	2.752	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	2.62	0	0	2.62	0	0	29.55	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
102	2.62	2.752	0	1.7899999	0	0	129	0	0	0	-469.56	0	-451.716762
103	5.24	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
104	7.86	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
105	10.48	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
106	13.1	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
107	15.72	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
108	18.34	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
109	20.96	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
110	23.58	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
111	26.2	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
112	29.55	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	0	0	0

ALARGAMIENTO DE TESADO 178.152308

familia3

FAMILIA DE 3

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	5.24	26.2	AMBOS	18	140	129	0
								67.8947368	

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	26.2	2.704	0	26.2	2.704	0	26.2	2.704	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	5.24	0	0	5.24	0	0	26.2	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
103	5.24	2.704	0	1.7899999	0	0	129	0	0	0	-325.08	0	-297.123139
104	7.86	2.704	0	1.7899999	0	0	129	-325.08	0	-297.123139	-325.08	0	-297.123139
105	10.48	2.704	0	1.7899999	0	0	129	-325.08	0	-297.123139	-325.08	0	-297.123139
106	13.1	2.704	0	1.7899999	0	0	129	-325.08	0	-297.123139	-325.08	0	-297.123139
107	15.72	2.704	0	1.7899999	0	0	129	-325.08	0	-297.123139	-325.08	0	-297.123139
108	18.34	2.704	0	1.7899999	0	0	129	-325.08	0	-297.123139	-325.08	0	-297.123139
109	20.96	2.704	0	1.7899999	0	0	129	-325.08	0	-297.123139	-325.08	0	-297.123139
110	23.58	2.704	0	1.7899999	0	0	129	-325.08	0	-297.123139	-325.08	0	-297.123139
111	26.2	2.704	0	1.7899999	0	0	129	-325.08	0	-297.123139	0	0	0

ALARGAMIENTO DE TESADO 138.658462

familia4

FAMILIA DE 4

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	7.86	23.58	AMBOS	18	140	129 67.8947368	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	23.5800003	2.656	0	23.5800003	2.656	0	23.5800003	2.656	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	7.86	0	0	7.86	0	0	23.58	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	Sección dorsal MOMENTO (mt.)	Sección frontal AXIL (t.)	Sección frontal CORTANTE (t.)	Sección frontal MOMENTO (mt.)
104	7.86	2.656	0	1.7899999	0	0	129	0	0	0	-325.08	0	-281.519299
105	10.48	2.656	0	1.7899999	0	0	129	-325.08	0	-281.519299	-325.08	0	-281.519299
106	13.1	2.656	0	1.7899999	0	0	129	-325.08	0	-281.519299	-325.08	0	-281.519299
107	15.72	2.656	0	1.7899999	0	0	129	-325.08	0	-281.519299	-325.08	0	-281.519299
108	18.34	2.656	0	1.7899999	0	0	129	-325.08	0	-281.519299	-325.08	0	-281.519299
109	20.96	2.656	0	1.7899999	0	0	129	-325.08	0	-281.519299	-325.08	0	-281.519299
110	23.58	2.656	0	1.7899999	0	0	129	-325.08	0	-281.519299	0	0	0

ALARGAMIENTO DE TESADO 103.993846

familia5

FAMILIA DE 5

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	0	32.9	AMBOS	8	140	148.2 78	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	32.9	0.45	0	32.9	0.45	0	32.9	0.45	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	0	0	0	0	0	0	32.9	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	Sección dorsal MOMENTO (mt.)	Sección frontal AXIL (t.)	Sección frontal CORTANTE (t.)	Sección frontal MOMENTO (mt.)
101	0	0.45	0	1.7899999	0	0	148.2	0	0	0	-165.984	0	222.418536
102	2.62	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
103	5.24	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
104	7.86	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
105	10.48	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
106	13.1	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
107	15.72	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
108	18.34	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
109	20.96	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
110	23.58	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
111	26.2	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
112	29.55	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
10113	32.9	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	0	0	0
113	32.9	0.45	0	1.7899999	0	0	148.2	0	0	0	0	0	0

ALARGAMIENTO DE TESADO 250.04

familia6

FAMILIA DE 6

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	42.29	61.07	AMBOS	22	140	129 67.8947368	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	61.07	2.654	0	61.07	2.654	0	61.07	2.654	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	42.29	0	0	42.29	0	0	61.07	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	Sección dorsal MOMENTO (mt.)	Sección frontal AXIL (t.)	Sección frontal CORTANTE (t.)	Sección frontal MOMENTO (mt.)
116	42.29	2.654	0	1.7899999	0	0	129	0	0	0	-397.32	0	-343.284524
117	45.42	2.654	0	1.7899999	0	0	129	-397.32	0	-343.284524	-397.32	0	-343.284524
118	48.55	2.654	0	1.7899999	0	0	129	-397.32	0	-343.284524	-397.32	0	-343.284524
119	51.68	2.654	0	1.7899999	0	0	129	-397.32	0	-343.284524	-397.32	0	-343.284524
120	54.81	2.654	0	1.7899999	0	0	129	-397.32	0	-343.284524	-397.32	0	-343.284524
121	57.94	2.654	0	1.7899999	0	0	129	-397.32	0	-343.284524	-397.32	0	-343.284524
122	61.07	2.654	0	1.7899999	0	0	129	-397.32	0	-343.284524	0	0	0

ALARGAMIENTO DE TESADO 124.236923

familia7

FAMILIA DE 7

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	32.9	70.9	AMBOS	24	140	129 67.8947368	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	70.9	2.8	0	70.9	2.8	0	70.9	2.8	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	32.9	0	0	32.9	0	0	70.9	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	Sección dorsal MOMENTO (mt.)	Sección frontal AXIL (t.)	Sección frontal CORTANTE (t.)	Sección frontal MOMENTO (mt.)
113	32.9	2.8	0	1.7899999	0	0	129	0	0	0	-433.44	0	-437.774444
114	36.03	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
115	39.16	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
116	42.29	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
117	45.42	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
118	48.55	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
119	51.68	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
120	54.81	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
121	57.94	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
122	61.07	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
123	64.2	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
124	67.55	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	-433.44	0	-437.774444
10125	70.9	2.8	0	1.7899999	0	0	129	-433.44	0	-437.774444	0	0	0
125	70.9	2.8	0	1.7899999	0	0	129	0	0	0	0	0	0

ALARGAMIENTO DE TESADO 251.384615

familia8

FAMILIA DE 8

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	36.03	67.55	AMBOS	22	140	129	0
								67.8947368	—

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	67.55	2.752	0	67.55	2.752	0	67.55	2.752	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	36.03	0	0	36.03	0	0	67.55	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
114	36.03	2.752	0	1.7899999	0	0	129	0	0	0	-397.32	0	-382.221885
115	39.16	2.752	0	1.7899999	0	0	129	-397.32	0	-382.221885	-397.32	0	-382.221885
116	42.29	2.752	0	1.7899999	0	0	129	-397.32	0	-382.221885	-397.32	0	-382.221885
117	45.42	2.752	0	1.7899999	0	0	129	-397.32	0	-382.221885	-397.32	0	-382.221885
118	48.55	2.752	0	1.7899999	0	0	129	-397.32	0	-382.221885	-397.32	0	-382.221885
119	51.68	2.752	0	1.7899999	0	0	129	-397.32	0	-382.221885	-397.32	0	-382.221885
120	54.81	2.752	0	1.7899999	0	0	129	-397.32	0	-382.221885	-397.32	0	-382.221885
121	57.94	2.752	0	1.7899999	0	0	129	-397.32	0	-382.221885	-397.32	0	-382.221885
122	61.07	2.752	0	1.7899999	0	0	129	-397.32	0	-382.221885	-397.32	0	-382.221885
123	64.2	2.752	0	1.7899999	0	0	129	-397.32	0	-382.221885	-397.32	0	-382.221885
124	67.55	2.752	0	1.7899999	0	0	129	-397.32	0	-382.221885	0	0	0

ALARGAMIENTO DE TESADO 208.516923

familia9

FAMILIA DE 9

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	39.16	64.2	AMBOS	24	140	129	0
								67.8947368	

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	64.2	2.704	0	64.2	2.704	0	64.2	2.704	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	39.16	0	0	39.16	0	0	64.2	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
115	39.16	2.704	0	1.7899999	0	0	129	0	0	0	-433.44	0	-396.164204
116	42.29	2.704	0	1.7899999	0	0	129	-433.44	0	-396.164204	-433.44	0	-396.164204
117	45.42	2.704	0	1.7899999	0	0	129	-433.44	0	-396.164204	-433.44	0	-396.164204
118	48.55	2.704	0	1.7899999	0	0	129	-433.44	0	-396.164204	-433.44	0	-396.164204
119	51.68	2.704	0	1.7899999	0	0	129	-433.44	0	-396.164204	-433.44	0	-396.164204
120	54.81	2.704	0	1.7899999	0	0	129	-433.44	0	-396.164204	-433.44	0	-396.164204
121	57.94	2.704	0	1.7899999	0	0	129	-433.44	0	-396.164204	-433.44	0	-396.164204
122	61.07	2.704	0	1.7899999	0	0	129	-433.44	0	-396.164204	-433.44	0	-396.164204
123	64.2	2.704	0	1.7899999	0	0	129	-433.44	0	-396.164204	0	0	0

ALARGAMIENTO DE TESADO 165.649231

familia10

FAMILIA DE 10

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	32.9	70.9	AMBOS	8	140	148.2 78	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	70.9	0.45	0	70.9	0.45	0	70.9	0.45	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	32.9	0	0	32.9	0	0	70.9	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	Sección dorsal MOMENTO (mt.)	Sección frontal AXIL (t.)	Sección frontal CORTANTE (t.)	Sección frontal MOMENTO (mt.)
113	32.9	0.45	0	1.7899999	0	0	148.2	0	0	0	-165.984	0	222.418536
114	36.03	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
115	39.16	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
116	42.29	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
117	45.42	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
118	48.55	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
119	51.68	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
120	54.81	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
121	57.94	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
122	61.07	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
123	64.2	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
124	67.55	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
10125	70.9	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	0	0	0
125	70.9	0.45	0	1.7899999	0	0	148.2	0	0	0	0	0	0

ALARGAMIENTO DE TESADO 288.8

familia11

FAMILIA DE 11

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	70.9	110.9	AMBOS	28	140	129 67.8947368	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	110.9	2.8	0	110.9	2.8	0	110.9	2.8	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	70.9	0	0	70.9	0	0	110.9	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	Sección dorsal MOMENTO (mt.)	Sección frontal AXIL (t.)	Sección frontal CORTANTE (t.)	Sección frontal MOMENTO (mt.)
125	70.9	2.8	0	1.7899999	0	0	129	0	0	0	-505.68	0	-510.736841
126	74.23	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
127	77.56	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
128	80.89	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
129	84.22	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
130	87.55	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
131	90.88	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
132	94.21	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
133	97.54	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
134	100.87	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
135	104.2	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
136	107.55	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	-505.68	0	-510.736841
10137	110.9	2.8	0	1.7899999	0	0	129	-505.68	0	-510.736841	0	0	0
137	110.9	2.8	0	1.7899999	0	0	129	0	0	0	0	0	0

ALARGAMIENTO DE TESADO 264.615385

familia12

FAMILIA DE 12

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	74.23	107.55	AMBOS	26	140	129	0
								67.8947368	

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	107.55	2.752	0	107.55	2.752	0	107.55	2.752	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	74.23	0	0	74.23	0	0	107.55	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	Sección dorsal MOMENTO (mt.)	Sección frontal AXIL (t.)	Sección frontal CORTANTE (t.)	Sección frontal MOMENTO (mt.)
126	74.23	2.752	0	1.7899999	0	0	129	0	0	0	-469.56	0	-451.716762
127	77.56	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
128	80.89	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
129	84.22	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
130	87.55	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
131	90.88	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
132	94.21	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
133	97.54	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
134	100.87	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
135	104.2	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
136	107.55	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	0	0	0

ALARGAMIENTO DE TESADO 220.424615

familia13

FAMILIA DE 13

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	77.56	104.2	AMBOS	28	140	129	0
								67.8947368	

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	104.2	2.704	0	104.2	2.704	0	104.2	2.704	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	RECTA 1 Yfin	RECTA 1 Pend	PARABOLA Xfin	PARABOLA Yfin	PARABOLA Pend	RECTA 2 Xfin	RECTA 2 Yfin	RECTA 2 Pend
1	77.56	0	0	77.56	0	0	104.2	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	Sección dorsal MOMENTO (mt.)	Sección frontal AXIL (t.)	Sección frontal CORTANTE (t.)	Sección frontal MOMENTO (mt.)
127	77.56	2.704	0	1.7899999	0	0	129	0	0	0	-505.68	0	-462.191562
128	80.89	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
129	84.22	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
130	87.55	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
131	90.88	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
132	94.21	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
133	97.54	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
134	100.87	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	-505.68	0	-462.191562
135	104.2	2.704	0	1.7899999	0	0	129	-505.68	0	-462.191562	0	0	0

ALARGAMIENTO DE TESADO 176.233846

familia14

FAMILIA DE 14

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	70.9	110.9	AMBOS	8	140	148.2 78	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	110.9	0.45	0	110.9	0.45	0	110.9	0.45	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	70.9	0	0	70.9	0	0	110.9	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
125	70.9	0.45	0	1.7899999	0	0	148.2	0	0	0	-165.984	0	222.418536
126	74.23	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
127	77.56	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
128	80.89	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
129	84.22	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
130	87.55	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
131	90.88	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
132	94.21	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
133	97.54	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
134	100.87	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
135	104.2	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
136	107.55	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
10137	110.9	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	0	0	0
137	110.9	0.45	0	1.7899999	0	0	148.2	0	0	0	0	0	0

ALARGAMIENTO DE TESADO 304

familia15

FAMILIA DE 15

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	110.9	139.6	AMBOS	26	140	129 67.8947368	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	139.6	2.8	0	139.6	2.8	0	139.6	2.8	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	110.9	0	0	110.9	0	0	139.6	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
137	110.9	2.8	0	1.7899999	0	0	129	0	0	0	-469.56	0	-474.255642
138	113.77	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
139	116.64	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
140	119.51	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
141	122.38	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
142	125.25	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
143	128.12	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
144	130.99	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
145	133.86	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
146	136.73	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	-469.56	0	-474.255642
147	139.6	2.8	0	1.7899999	0	0	129	-469.56	0	-474.255642	0	0	0
0	139.6	2.8	0	1.7899999	0	0	129	0	0	0	-469.56	0	-474.255645

ALARGAMIENTO DE TESADO 189.861538

familia16

FAMILIA DE 16

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	113.77	136.73	AMBOS	26	140	129 67.8947368	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	136.73	2.752	0	136.73	2.752	0	136.73	2.752	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	113.77	0	0	113.77	0	0	136.73	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
138	113.77	2.752	0	1.7899999	0	0	129	0	0	0	-469.56	0	-451.716762
139	116.64	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
140	119.51	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
141	122.38	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
142	125.25	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
143	128.12	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
144	130.99	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
145	133.86	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	-469.56	0	-451.716762
146	136.73	2.752	0	1.7899999	0	0	129	-469.56	0	-451.716762	0	0	0

ALARGAMIENTO DE TESADO 151.889231

familia17

FAMILIA DE 17

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	116.64	133.86	AMBOS	12	140	129 67.8947368	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	133.86	2.704	0	133.86	2.704	0	133.86	2.704	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	116.64	0	0	116.64	0	0	133.86	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
139	116.64	2.704	0	1.7899999	0	0	129	0	0	0	-216.72	0	-198.082102
140	119.51	2.704	0	1.7899999	0	0	129	-216.72	0	-198.082102	-216.72	0	-198.082102
141	122.38	2.704	0	1.7899999	0	0	129	-216.72	0	-198.082102	-216.72	0	-198.082102
142	125.25	2.704	0	1.7899999	0	0	129	-216.72	0	-198.082102	-216.72	0	-198.082102
143	128.12	2.704	0	1.7899999	0	0	129	-216.72	0	-198.082102	-216.72	0	-198.082102
144	130.99	2.704	0	1.7899999	0	0	129	-216.72	0	-198.082102	-216.72	0	-198.082102
145	133.86	2.704	0	1.7899999	0	0	129	-216.72	0	-198.082102	0	0	0

ALARGAMIENTO DE TESADO 113.916923

familia18

FAMILIA DE 18

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	110.9	139.6	AMBOS	8	140	148.2 78	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	139.6	0.45	0	139.6	0.45	0	139.6	0.45	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	110.9	0	0	110.9	0	0	139.6	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
137	110.9	0.45	0	1.7899999	0	0	148.2	0	0	0	-165.984	0	222.418536
138	113.77	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
139	116.64	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
140	119.51	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
141	122.38	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
142	125.25	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
143	128.12	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
144	130.99	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
145	133.86	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
146	136.73	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	-165.984	0	222.418536
147	139.6	0.45	0	1.7899999	0	0	148.2	-165.984	0	222.418536	0	0	0
0	139.6	0.45	0	1.7899999	0	0	148.2	0	0	0	-165.984	0	222.418544

ALARGAMIENTO DE TESADO 218.12

familia19

FAMILIA DE 19

COEFICIEN ROZAMIENT VAINA-TEN	DESVIACIÓ PARÁSITA (rad/m)	MÓDULO DE ELASTICIDA ACERO (kg/c	ANCLAJE ORIGEN (m.)	ANCLAJE FINAL (m.)	TESADO DESDE EXTREMOS	NÚMERO DE TORONES	ÁREA TORÓN (mm2)	TENSIÓN TESADO (kg/mm2)	PENETRACIÓN DE CUÑA (mm.)
0.21	0	1950000	80.89	100.87	AMBOS	28	140	129 67.8947368	0

TRAZADO EN ALZADO

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	100.87	2.654	0	100.87	2.654	0	100.87	2.654	0

TRAZADO EN PLANTA

TRAMO	RECTA 1 Xfin	Yfin	Pend	PARABOLA Xfin	Yfin	Pend	RECTA 2 Xfin	Yfin	Pend
1	80.89	0	0	80.89	0	0	100.87	0	0

NUDO	X (m.)	Y (m.)	Pend. Y	Ycdg (m.)	Z (m.)	Pend. Z	TENSIÓN (kg/mm2)	AXIL (t.)	Sección dorsal CORTANTE (t.)	MOMENTO (mt.)	AXIL (t.)	Sección frontal CORTANTE (t.)	MOMENTO (mt.)
128	80.89	2.654	0	1.7899999	0	0	129	0	0	0	-505.68	0	-436.907562
129	84.22	2.654	0	1.7899999	0	0	129	-505.68	0	-436.907562	-505.68	0	-436.907562
130	87.55	2.654	0	1.7899999	0	0	129	-505.68	0	-436.907562	-505.68	0	-436.907562
131	90.88	2.654	0	1.7899999	0	0	129	-505.68	0	-436.907562	-505.68	0	-436.907562
132	94.21	2.654	0	1.7899999	0	0	129	-505.68	0	-436.907562	-505.68	0	-436.907562
133	97.54	2.654	0	1.7899999	0	0	129	-505.68	0	-436.907562	-505.68	0	-436.907562
134	100.87	2.654	0	1.7899999	0	0	129	-505.68	0	-436.907562	0	0	0

ALARGAMIENTO DE TESADO 132.175385

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen,rico. VY+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	2.43	0.51	4.33
431	31	90.88	0.00	2.43	0.51	2.49
432	1032	94.21	0.00	2.23	0.33	2.83
432	32	94.21	0.00	2.23	0.33	1.14
433	1033	97.54	0.00	1.98	0.73	4.83
433	33	97.54	0.00	1.98	0.73	3.33
434	1034	100.87	0.00	1.82	-0.03	6.79
434	34	100.87	0.00	1.82	-0.03	5.41
435	1035	104.20	0.00	2.17	-0.47	5.34
435	35	104.20	0.00	2.17	-0.47	3.70
436	1036	107.55	0.00	2.63	-0.55	1.20
436	36	107.55	0.00	2.63	-0.55	-0.78
437	1037	110.90	0.00	2.72	-0.12	1.30
437	37	110.90	0.00	2.72	-0.12	-0.76
438	1038	113.77	0.00	2.49	0.15	1.60
438	38	113.77	0.00	2.49	0.15	-0.28
439	1039	116.64	0.00	2.06	0.32	2.39
439	39	116.64	0.00	2.06	0.32	0.84
440	1040	119.51	0.00	1.53	0.42	3.46
440	40	119.51	0.00	1.53	0.42	2.31
441	1041	122.38	0.00	0.95	0.48	4.66
441	41	122.38	0.00	0.95	0.48	3.94
442	1042	125.25	0.00	0.38	0.50	5.75
442	42	125.25	0.00	0.38	0.50	5.47
443	1043	128.12	0.00	-0.17	0.45	6.05
443	43	128.12	0.00	-0.17	0.45	6.18
444	1044	130.99	0.00	-0.60	0.24	5.79
444	44	130.99	0.00	-0.60	0.24	6.24
445	1045	133.86	0.00	-0.51	-0.23	4.09
445	45	133.86	0.00	-0.51	-0.23	4.48
446	1046	136.73	0.00	0.53	-1.86	6.55
446	46	136.73	0.00	0.53	-1.86	6.15
447	1047	139.60	0.00	1.94	-1.58	1.14
447	47	139.60	0.00	1.94	-1.58	-0.33

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano gen,rico. MX+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-97.68	16.21	-0.37
1	2	2.62	0.00	-68.50	11.13	182.56
2	2	2.62	0.00	-73.12	42.51	181.92
2	3	5.24	0.00	-48.50	34.57	256.88
3	3	5.24	0.00	-53.04	64.82	256.48
3	4	7.86	0.00	-31.40	54.10	248.85
4	4	7.86	0.00	-35.54	82.31	248.69
4	5	10.48	0.00	-16.59	68.68	180.46
5	5	10.48	0.00	-22.34	94.02	201.01
5	6	13.10	0.00	-5.16	77.04	88.70
6	6	13.10	0.00	-12.70	99.16	140.97
6	7	15.72	0.00	1.48	80.37	49.88
7	7	15.72	0.00	-0.95	100.27	49.93
7	8	18.34	0.00	10.58	80.83	-90.61
8	8	18.34	0.00	5.47	98.15	-42.18
8	9	20.96	0.00	14.88	77.91	-171.08
9	9	20.96	0.00	13.31	93.69	-171.37
9	10	23.58	0.00	21.13	73.48	-286.34
10	10	23.58	0.00	25.58	89.21	-399.36
10	10011	26.20	0.00	25.06	72.45	-373.64
11	11	26.20	0.00	-163.01	92.30	-639.97
11	12	29.55	0.00	-102.71	73.68	-146.43
12	12	29.55	0.00	-130.91	102.16	-200.77
12	13	32.90	0.00	-80.50	85.01	90.27
13	13	32.90	0.00	-105.07	119.36	98.35
13	14	36.03	0.00	-76.79	102.40	268.64
14	14	36.03	0.00	-84.13	138.67	267.48
14	15	39.16	0.00	-58.08	119.93	348.16
15	15	39.16	0.00	-65.35	155.74	347.51
15	16	42.29	0.00	-41.36	133.96	352.73
16	16	42.29	0.00	-47.85	167.13	352.50
16	17	45.42	0.00	-25.85	141.79	294.35
17	17	45.42	0.00	-31.10	170.89	294.39
17	18	48.55	0.00	-11.15	142.22	184.12
18	18	48.55	0.00	-17.32	166.61	206.35
18	19	51.68	0.00	0.56	135.21	60.82
19	19	51.68	0.00	-5.73	155.86	154.05
19	20	54.81	0.00	8.12	123.36	-36.33
20	20	54.81	0.00	7.72	141.38	-4.08
20	21	57.94	0.00	20.58	109.05	-173.11
21	21	57.94	0.00	15.31	125.33	-117.12
21	22	61.07	0.00	17.19	96.51	-174.99
22	22	61.07	0.00	28.24	111.34	-276.40
22	10023	64.20	0.00	33.98	89.16	-402.79
23	23	64.20	0.00	-129.16	107.12	-477.87
23	24	67.55	0.00	-98.88	86.53	-127.74
24	24	67.55	0.00	-111.47	112.62	-168.56
24	25	70.90	0.00	-83.77	94.19	86.71

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano gen,rico. MX+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-108.68	125.49	84.49
25	26	74.23	0.00	-67.14	106.96	238.05
26	26	74.23	0.00	-89.50	145.65	285.17
26	27	77.56	0.00	-59.93	124.32	365.24
27	27	77.56	0.00	-68.00	162.12	364.46
27	28	80.89	0.00	-42.84	138.19	374.73
28	28	80.89	0.00	-49.97	172.95	374.43
28	29	84.22	0.00	-26.79	144.89	315.26
29	29	84.22	0.00	-33.17	175.33	350.85
29	30	87.55	0.00	-11.31	142.88	234.60
30	30	87.55	0.00	-15.58	168.56	234.82
30	31	90.88	0.00	4.06	132.95	69.63
31	31	90.88	0.00	1.58	152.84	69.81
31	32	94.21	0.00	18.66	115.60	-131.50
32	32	94.21	0.00	50.17	133.69	-49.22
32	33	97.54	0.00	64.35	96.62	-378.47
33	33	97.54	0.00	71.70	114.46	-268.58
33	34	100.87	0.00	80.49	80.25	-636.53
34	34	100.87	0.00	77.25	94.76	-589.18
34	10035	104.20	0.00	84.26	65.90	-901.56
35	35	104.20	0.00	-190.81	79.39	-1030.84
35	36	107.55	0.00	-154.89	54.47	-493.78
36	36	107.55	0.00	-166.49	72.90	-530.07
36	37	110.90	0.00	-132.79	51.08	-114.23
37	37	110.90	0.00	-132.38	76.51	-33.99
37	38	113.77	0.00	-105.79	58.13	200.02
38	38	113.77	0.00	-105.34	88.77	309.02
38	39	116.64	0.00	-80.44	69.89	441.62
39	39	116.64	0.00	-88.15	102.81	440.35
39	40	119.51	0.00	-64.80	82.22	504.74
40	40	119.51	0.00	-72.35	114.19	503.95
40	41	122.38	0.00	-50.51	90.98	509.88
41	41	122.38	0.00	-57.40	120.28	509.52
41	42	125.25	0.00	-37.15	93.91	466.40
42	42	125.25	0.00	-43.00	119.29	466.39
42	43	128.12	0.00	-21.77	87.40	411.84
43	43	128.12	0.00	-26.62	109.07	412.09
43	44	130.99	0.00	-7.18	74.67	322.44
44	44	130.99	0.00	-10.90	92.13	322.86
44	45	133.86	0.00	6.37	55.60	211.97
45	45	133.86	0.00	31.63	69.79	372.49
45	46	136.73	0.00	46.41	31.43	177.85
46	46	136.73	0.00	59.04	41.52	217.66
46	47	139.60	0.00	59.14	1.40	-1.15
101	101	0.00	0.00	-17.09	1.39	0.19
101	102	2.62	0.00	-17.09	1.39	44.95
102	102	2.62	0.00	-23.83	6.45	77.78
102	103	5.24	0.00	-23.83	6.45	140.22

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Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.MX+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano gen,rico. MX+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-17.56	15.15	140.71
103	104	7.86	0.00	-17.56	15.15	186.71
104	104	7.86	0.00	-10.45	26.18	183.23
104	105	10.48	0.00	-10.45	26.18	210.60
105	105	10.48	0.00	-3.37	38.34	209.90
105	106	13.10	0.00	-3.37	38.34	218.73
106	106	13.10	0.00	3.52	50.23	218.04
106	107	15.72	0.00	3.52	50.23	208.82
107	107	15.72	0.00	9.83	60.55	208.57
107	108	18.34	0.00	9.83	60.55	182.81
108	108	18.34	0.00	15.21	68.20	181.89
108	109	20.96	0.00	15.21	68.20	142.03
109	109	20.96	0.00	19.40	72.40	140.97
109	110	23.58	0.00	19.40	72.40	90.15
110	110	23.58	0.00	22.41	72.88	89.62
110	111	26.20	0.00	22.41	72.88	30.91
111	111	26.20	0.00	24.41	69.73	30.10
111	112	29.55	0.00	24.41	69.73	-51.67
112	112	29.55	0.00	27.46	64.07	-56.03
112	10113	32.90	0.00	27.46	64.07	-148.03
113	113	32.90	0.00	-8.94	57.95	-149.39
113	114	36.03	0.00	-8.94	57.95	-121.41
114	114	36.03	0.00	-12.60	53.67	-123.71
114	115	39.16	0.00	-12.60	53.67	-84.28
115	115	39.16	0.00	-14.86	54.16	-59.59
115	116	42.29	0.00	-14.86	54.16	-13.09
116	116	42.29	0.00	-16.60	63.36	69.99
116	117	45.42	0.00	-16.60	63.36	121.94
117	117	45.42	0.00	-10.31	82.66	188.71
117	118	48.55	0.00	-10.31	82.66	220.98
118	118	48.55	0.00	-0.37	103.23	245.50
118	119	51.68	0.00	-0.37	103.23	246.65
119	119	51.68	0.00	9.21	119.96	246.53
119	120	54.81	0.00	9.21	119.96	217.70
120	120	54.81	0.00	16.54	130.23	215.67
120	121	57.94	0.00	16.54	130.23	163.89
121	121	57.94	0.00	22.12	133.45	172.95
121	122	61.07	0.00	22.12	133.45	103.73
122	122	61.07	0.00	24.66	129.20	101.69
122	123	64.20	0.00	24.66	129.20	24.52
123	123	64.20	0.00	24.93	118.12	23.06
123	124	67.55	0.00	24.93	118.12	-60.47
124	124	67.55	0.00	23.76	102.87	-61.12
124	10125	70.90	0.00	23.76	102.87	-140.71
125	125	70.90	0.00	-3.57	87.85	-150.22
125	126	74.23	0.00	-3.57	87.85	-138.34
126	126	74.23	0.00	-6.59	73.83	-138.92
126	127	77.56	0.00	-6.59	73.83	-116.97

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano gen,rico. MX+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-10.64	64.81	-91.06
127	128	80.89	0.00	-10.64	64.81	-55.62
128	128	80.89	0.00	-12.16	66.89	36.00
128	129	84.22	0.00	-12.16	66.89	76.48
129	129	84.22	0.00	-8.93	83.66	193.94
129	130	87.55	0.00	-8.93	83.66	223.68
130	130	87.55	0.00	1.20	104.42	260.83
130	131	90.88	0.00	1.20	104.42	256.82
131	131	90.88	0.00	13.59	122.01	299.45
131	132	94.21	0.00	13.59	122.01	254.20
132	132	94.21	0.00	22.60	133.24	261.05
132	133	97.54	0.00	22.60	133.24	185.81
133	133	97.54	0.00	27.88	135.36	183.85
133	134	100.87	0.00	27.88	135.36	90.99
134	134	100.87	0.00	29.92	128.06	95.67
134	135	104.20	0.00	29.92	128.06	-3.96
135	135	104.20	0.00	29.07	114.58	-3.56
135	136	107.55	0.00	29.07	114.58	-100.95
136	136	107.55	0.00	27.20	99.23	-95.68
136	10137	110.90	0.00	27.20	99.23	-186.81
137	137	110.90	0.00	-4.19	83.41	-186.96
137	138	113.77	0.00	-4.19	83.41	-174.93
138	138	113.77	0.00	-5.67	68.17	-174.85
138	139	116.64	0.00	-5.67	68.17	-158.58
139	139	116.64	0.00	-6.90	54.05	-158.33
139	140	119.51	0.00	-6.90	54.05	-138.52
140	140	119.51	0.00	-8.30	41.67	-136.03
140	141	122.38	0.00	-8.30	41.67	-112.21
141	141	122.38	0.00	-8.47	31.41	-84.60
141	142	125.25	0.00	-8.47	31.41	-60.29
142	142	125.25	0.00	-5.25	25.76	-9.28
142	143	128.12	0.00	-5.25	25.76	5.80
143	143	128.12	0.00	6.26	25.98	126.15
143	144	130.99	0.00	6.26	25.98	108.19
144	144	130.99	0.00	18.28	28.38	182.64
144	145	133.86	0.00	18.28	28.38	130.16
145	145	133.86	0.00	26.10	25.38	155.50
145	146	136.73	0.00	26.10	25.38	80.58
146	146	136.73	0.00	27.12	12.53	79.40
146	147	139.60	0.00	27.12	12.53	1.56
301	101	0.00	0.00	-1.71	0.58	0.06
301	2001	0.00	0.00	-1.71	0.58	1.35
302	102	2.62	0.00	-4.07	1.08	-2.85
302	2002	2.62	0.00	-4.07	1.08	0.23
303	103	5.24	0.00	-5.27	0.85	-6.40
303	2003	5.24	0.00	-5.27	0.85	-2.42
304	104	7.86	0.00	-5.44	0.52	-7.39
304	2004	7.86	0.00	-5.44	0.52	-3.27

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Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.MX+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano gen,rico. MX+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-4.42	0.20	-5.29
305	2005	10.48	0.00	-4.42	0.20	-1.95
306	106	13.10	0.00	-1.75	0.05	2.14
306	2006	13.10	0.00	-1.75	0.05	3.46
307	107	15.72	0.00	0.58	0.15	11.07
307	2007	15.72	0.00	0.58	0.15	10.64
308	108	18.34	0.00	0.33	0.40	10.57
308	2008	18.34	0.00	0.33	0.40	10.32
309	109	20.96	0.00	0.00	0.73	9.51
309	2009	20.96	0.00	0.00	0.73	9.51
310	110	23.58	0.00	-0.91	1.16	6.87
310	2010	23.58	0.00	-0.91	1.16	7.55
311	111	26.20	0.00	-2.70	1.91	2.86
311	2011	26.20	0.00	-2.70	1.91	4.90
312	112	29.55	0.00	-6.37	2.61	-6.86
312	2012	29.55	0.00	-6.37	2.61	-2.05
313	113	32.90	0.00	-9.29	2.23	-16.18
313	2013	32.90	0.00	-9.29	2.23	-9.15
314	114	36.03	0.00	-9.56	1.58	-16.47
314	2014	36.03	0.00	-9.56	1.58	-9.24
315	115	39.16	0.00	-8.97	1.07	-15.01
315	2015	39.16	0.00	-8.97	1.07	-8.23
316	116	42.29	0.00	-7.03	0.66	-9.58
316	2016	42.29	0.00	-7.03	0.66	-4.27
317	117	45.42	0.00	-2.91	0.47	2.15
317	2017	45.42	0.00	-2.91	0.47	4.35
318	118	48.55	0.00	-0.55	0.43	8.93
318	2018	48.55	0.00	-0.55	0.43	9.34
319	119	51.68	0.00	0.50	0.56	13.05
319	2019	51.68	0.00	0.50	0.56	12.67
320	120	54.81	0.00	0.78	0.81	13.58
320	2020	54.81	0.00	0.78	0.81	12.99
321	121	57.94	0.00	0.03	1.19	11.15
321	2021	57.94	0.00	0.03	1.19	11.13
322	122	61.07	0.00	-1.39	1.69	6.95
322	2022	61.07	0.00	-1.39	1.69	8.00
323	123	64.20	0.00	-3.80	2.40	0.48
323	2023	64.20	0.00	-3.80	2.40	3.35
324	124	67.55	0.00	-7.26	2.86	-10.05
324	2024	67.55	0.00	-7.26	2.86	-4.57
325	125	70.90	0.00	-9.69	2.42	-19.04
325	2025	70.90	0.00	-9.69	2.42	-11.71
326	126	74.23	0.00	-9.12	1.89	-14.84
326	2026	74.23	0.00	-9.12	1.89	-7.94
327	127	77.56	0.00	-8.90	1.38	-15.14
327	2027	77.56	0.00	-8.90	1.38	-8.41
328	128	80.89	0.00	-4.93	0.96	-3.63
328	2028	80.89	0.00	-4.93	0.96	0.10

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano gen,rico. MX+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-2.77	0.74	2.24
329	2029	84.22	0.00	-2.77	0.74	4.33
330	130	87.55	0.00	-0.20	0.62	9.94
330	2030	87.55	0.00	-0.20	0.62	10.09
331	131	90.88	0.00	1.48	0.68	17.15
331	2031	90.88	0.00	1.48	0.68	16.03
332	132	94.21	0.00	0.87	0.88	15.51
332	2032	94.21	0.00	0.87	0.88	14.85
333	133	97.54	0.00	0.97	1.26	16.06
333	2033	97.54	0.00	0.97	1.26	15.33
334	134	100.87	0.00	-0.57	1.82	12.13
334	2034	100.87	0.00	-0.57	1.82	12.56
335	135	104.20	0.00	-2.82	2.40	4.82
335	2035	104.20	0.00	-2.82	2.40	6.95
336	136	107.55	0.00	-5.38	2.61	-3.59
336	2036	107.55	0.00	-5.38	2.61	0.48
337	137	110.90	0.00	-7.63	2.40	-11.45
337	2037	110.90	0.00	-7.63	2.40	-5.68
338	138	113.77	0.00	-7.54	1.97	-10.39
338	2038	113.77	0.00	-7.54	1.97	-4.69
339	139	116.64	0.00	-7.76	1.53	-10.13
339	2039	116.64	0.00	-7.76	1.53	-4.26
340	140	119.51	0.00	-6.81	1.10	-8.13
340	2040	119.51	0.00	-6.81	1.10	-2.98
341	141	122.38	0.00	-3.68	0.76	0.35
341	2041	122.38	0.00	-3.68	0.76	3.13
342	142	125.25	0.00	-2.51	0.59	3.23
342	2042	125.25	0.00	-2.51	0.59	5.13
343	143	128.12	0.00	-0.74	0.56	6.23
343	2043	128.12	0.00	-0.74	0.56	6.78
344	144	130.99	0.00	-1.44	0.57	4.01
344	2044	130.99	0.00	-1.44	0.57	5.09
345	145	133.86	0.00	-2.16	0.57	1.73
345	2045	133.86	0.00	-2.16	0.57	3.36
346	146	136.73	0.00	-2.18	0.57	0.60
346	2046	136.73	0.00	-2.18	0.57	2.25
347	147	139.60	0.00	-1.44	0.29	-0.81
347	2047	139.60	0.00	-1.44	0.29	0.28
201	2001	0.00	0.00	-1.71	0.58	1.35
201	1001	0.00	0.00	-1.71	0.58	9.55
202	2002	2.62	0.00	-4.07	1.08	0.23
202	1002	2.62	0.00	-4.07	1.08	19.71
203	2003	5.24	0.00	-5.27	0.85	-2.42
203	1003	5.24	0.00	-5.27	0.85	22.83
204	2004	7.86	0.00	-5.44	0.52	-3.27
204	1004	7.86	0.00	-5.44	0.52	22.77
205	2005	10.48	0.00	-4.42	0.20	-1.95
205	1005	10.48	0.00	-4.42	0.20	19.22

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano gen,rico. MX+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-1.75	0.05	3.46
206	1006	13.10	0.00	-1.75	0.05	11.85
207	2007	15.72	0.00	0.58	0.15	10.64
207	1007	15.72	0.00	0.58	0.15	7.87
208	2008	18.34	0.00	0.33	0.40	10.32
208	1008	18.34	0.00	0.33	0.40	8.76
209	2009	20.96	0.00	0.00	0.73	9.51
209	1009	20.96	0.00	0.00	0.73	9.49
210	2010	23.58	0.00	-0.91	1.16	7.55
210	1010	23.58	0.00	-0.91	1.16	11.89
211	2011	26.20	0.00	-2.70	1.91	4.90
211	1011	26.20	0.00	-2.70	1.91	17.85
212	2012	29.55	0.00	-6.37	2.61	-2.05
212	1012	29.55	0.00	-6.37	2.61	28.43
213	2013	32.90	0.00	-9.29	2.23	-9.15
213	1013	32.90	0.00	-9.29	2.23	35.34
214	2014	36.03	0.00	-9.56	1.58	-9.24
214	1014	36.03	0.00	-9.56	1.58	36.53
215	2015	39.16	0.00	-8.97	1.07	-8.23
215	1015	39.16	0.00	-8.97	1.07	34.74
216	2016	42.29	0.00	-7.03	0.66	-4.27
216	1016	42.29	0.00	-7.03	0.66	29.39
217	2017	45.42	0.00	-2.91	0.47	4.35
217	1017	45.42	0.00	-2.91	0.47	18.27
218	2018	48.55	0.00	-0.55	0.43	9.34
218	1018	48.55	0.00	-0.55	0.43	11.95
219	2019	51.68	0.00	0.50	0.56	12.67
219	1019	51.68	0.00	0.50	0.56	10.27
220	2020	54.81	0.00	0.78	0.81	12.99
220	1020	54.81	0.00	0.78	0.81	9.24
221	2021	57.94	0.00	0.03	1.19	11.13
221	1021	57.94	0.00	0.03	1.19	10.99
222	2022	61.07	0.00	-1.39	1.69	8.00
222	1022	61.07	0.00	-1.39	1.69	14.64
223	2023	64.20	0.00	-3.80	2.40	3.35
223	1023	64.20	0.00	-3.80	2.40	21.52
224	2024	67.55	0.00	-7.26	2.86	-4.57
224	1024	67.55	0.00	-7.26	2.86	30.19
225	2025	70.90	0.00	-9.69	2.42	-11.71
225	1025	70.90	0.00	-9.69	2.42	34.68
226	2026	74.23	0.00	-9.12	1.89	-7.94
226	1026	74.23	0.00	-9.12	1.89	35.74
227	2027	77.56	0.00	-8.90	1.38	-8.41
227	1027	77.56	0.00	-8.90	1.38	34.22
228	2028	80.89	0.00	-4.93	0.96	0.10
228	1028	80.89	0.00	-4.93	0.96	23.68
229	2029	84.22	0.00	-2.77	0.74	4.33
229	1029	84.22	0.00	-2.77	0.74	17.59

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano gen,rico. MX+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-0.20	0.62	10.09
230	1030	87.55	0.00	-0.20	0.62	11.05
231	2031	90.88	0.00	1.48	0.68	16.03
231	1031	90.88	0.00	1.48	0.68	8.96
232	2032	94.21	0.00	0.87	0.88	14.85
232	1032	94.21	0.00	0.87	0.88	10.71
233	2033	97.54	0.00	0.97	1.26	15.33
233	1033	97.54	0.00	0.97	1.26	10.71
234	2034	100.87	0.00	-0.57	1.82	12.56
234	1034	100.87	0.00	-0.57	1.82	15.27
235	2035	104.20	0.00	-2.82	2.40	6.95
235	1035	104.20	0.00	-2.82	2.40	20.44
236	2036	107.55	0.00	-5.38	2.61	0.48
236	1036	107.55	0.00	-5.38	2.61	26.23
237	2037	110.90	0.00	-7.63	2.40	-5.68
237	1037	110.90	0.00	-7.63	2.40	30.86
238	2038	113.77	0.00	-7.54	1.97	-4.69
238	1038	113.77	0.00	-7.54	1.97	31.42
239	2039	116.64	0.00	-7.76	1.53	-4.26
239	1039	116.64	0.00	-7.76	1.53	32.90
240	2040	119.51	0.00	-6.81	1.10	-2.98
240	1040	119.51	0.00	-6.81	1.10	29.64
241	2041	122.38	0.00	-3.68	0.76	3.13
241	1041	122.38	0.00	-3.68	0.76	20.75
242	2042	125.25	0.00	-2.51	0.59	5.13
242	1042	125.25	0.00	-2.51	0.59	17.13
243	2043	128.12	0.00	-0.74	0.56	6.78
243	1043	128.12	0.00	-0.74	0.56	10.31
244	2044	130.99	0.00	-1.44	0.57	5.09
244	1044	130.99	0.00	-1.44	0.57	11.99
245	2045	133.86	0.00	-2.16	0.57	3.36
245	1045	133.86	0.00	-2.16	0.57	13.70
246	2046	136.73	0.00	-2.18	0.57	2.25
246	1046	136.73	0.00	-2.18	0.57	12.68
247	2047	139.60	0.00	-1.44	0.29	0.28
247	1047	139.60	0.00	-1.44	0.29	7.18
401	1001	0.00	0.00	-1.71	0.58	9.55
401	1	0.00	0.00	-1.71	0.58	10.84
402	1002	2.62	0.00	-4.07	1.08	19.71
402	2	2.62	0.00	-4.07	1.08	22.79
403	1003	5.24	0.00	-5.27	0.85	22.84
403	3	5.24	0.00	-5.27	0.85	26.82
404	1004	7.86	0.00	-5.44	0.52	22.77
404	4	7.86	0.00	-5.44	0.52	26.89
405	1005	10.48	0.00	-4.42	0.20	19.22
405	5	10.48	0.00	-4.42	0.20	22.56
406	1006	13.10	0.00	-1.75	0.05	11.85
406	6	13.10	0.00	-1.75	0.05	13.18

~csimp4.esv
Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.MX+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano gen,rico. MX+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.58	0.15	7.87
407	7	15.72	0.00	0.58	0.15	7.43
408	1008	18.34	0.00	0.33	0.40	8.76
408	8	18.34	0.00	0.33	0.40	8.51
409	1009	20.96	0.00	0.00	0.73	9.49
409	9	20.96	0.00	0.00	0.73	9.49
410	1010	23.58	0.00	-0.91	1.16	11.89
410	10	23.58	0.00	-0.91	1.16	12.58
411	1011	26.20	0.00	-2.70	1.91	17.85
411	11	26.20	0.00	-2.70	1.91	19.89
412	1012	29.55	0.00	-6.37	2.61	28.43
412	12	29.55	0.00	-6.37	2.61	33.24
413	1013	32.90	0.00	-9.29	2.23	35.34
413	13	32.90	0.00	-9.29	2.23	42.37
414	1014	36.03	0.00	-9.56	1.58	36.53
414	14	36.03	0.00	-9.56	1.58	43.75
415	1015	39.16	0.00	-8.97	1.07	34.74
415	15	39.16	0.00	-8.97	1.07	41.52
416	1016	42.29	0.00	-7.03	0.66	29.39
416	16	42.29	0.00	-7.03	0.66	34.70
417	1017	45.42	0.00	-2.91	0.47	18.27
417	17	45.42	0.00	-2.91	0.47	20.47
418	1018	48.55	0.00	-0.55	0.43	11.95
418	18	48.55	0.00	-0.55	0.43	12.37
419	1019	51.68	0.00	0.50	0.56	10.27
419	19	51.68	0.00	0.50	0.56	9.89
420	1020	54.81	0.00	0.78	0.81	9.24
420	20	54.81	0.00	0.78	0.81	8.65
421	1021	57.94	0.00	0.03	1.19	10.99
421	21	57.94	0.00	0.03	1.19	10.96
422	1022	61.07	0.00	-1.39	1.69	14.64
422	22	61.07	0.00	-1.39	1.69	15.69
423	1023	64.20	0.00	-3.80	2.40	21.52
423	23	64.20	0.00	-3.80	2.40	24.39
424	1024	67.55	0.00	-7.26	2.86	30.19
424	24	67.55	0.00	-7.26	2.86	35.68
425	1025	70.90	0.00	-9.69	2.42	34.68
425	25	70.90	0.00	-9.69	2.42	42.01
426	1026	74.23	0.00	-9.12	1.89	35.74
426	26	74.23	0.00	-9.12	1.89	42.64
427	1027	77.56	0.00	-8.90	1.38	34.21
427	27	77.56	0.00	-8.90	1.38	40.95
428	1028	80.89	0.00	-4.93	0.96	23.68
428	28	80.89	0.00	-4.93	0.96	27.41
429	1029	84.22	0.00	-2.77	0.74	17.59
429	29	84.22	0.00	-2.77	0.74	19.68
430	1030	87.55	0.00	-0.20	0.62	11.05
430	30	87.55	0.00	-0.20	0.62	11.20

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX+

Envolvente de tren de cargas plano gen,rico. MX+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	1.48	0.68	8.96
431	31	90.88	0.00	1.48	0.68	7.85
432	1032	94.21	0.00	0.87	0.88	10.71
432	32	94.21	0.00	0.87	0.88	10.05
433	1033	97.54	0.00	0.97	1.26	10.71
433	33	97.54	0.00	0.97	1.26	9.98
434	1034	100.87	0.00	-0.57	1.82	15.27
434	34	100.87	0.00	-0.57	1.82	15.70
435	1035	104.20	0.00	-2.82	2.40	20.44
435	35	104.20	0.00	-2.82	2.40	22.57
436	1036	107.55	0.00	-5.38	2.61	26.23
436	36	107.55	0.00	-5.38	2.61	30.30
437	1037	110.90	0.00	-7.63	2.40	30.86
437	37	110.90	0.00	-7.63	2.40	36.62
438	1038	113.77	0.00	-7.54	1.97	31.42
438	38	113.77	0.00	-7.54	1.97	37.12
439	1039	116.64	0.00	-7.76	1.53	32.90
439	39	116.64	0.00	-7.76	1.53	38.77
440	1040	119.51	0.00	-6.81	1.10	29.64
440	40	119.51	0.00	-6.81	1.10	34.79
441	1041	122.38	0.00	-3.68	0.76	20.75
441	41	122.38	0.00	-3.68	0.76	23.53
442	1042	125.25	0.00	-2.51	0.59	17.13
442	42	125.25	0.00	-2.51	0.59	19.02
443	1043	128.12	0.00	-0.74	0.56	10.31
443	43	128.12	0.00	-0.74	0.56	10.87
444	1044	130.99	0.00	-1.44	0.57	11.99
444	44	130.99	0.00	-1.44	0.57	13.07
445	1045	133.86	0.00	-2.16	0.57	13.70
445	45	133.86	0.00	-2.16	0.57	15.34
446	1046	136.73	0.00	-2.18	0.57	12.68
446	46	136.73	0.00	-2.18	0.57	14.33
447	1047	139.60	0.00	-1.44	0.29	7.18
447	47	139.60	0.00	-1.44	0.29	8.27

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen,rico. MZ+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	10.11	7.16	0.22
1	2	2.62	0.00	-85.76	-26.67	265.33
2	2	2.62	0.00	-90.93	1.27	264.30
2	3	5.24	0.00	-59.68	-35.66	461.85
3	3	5.24	0.00	-66.06	-3.44	461.08
3	4	7.86	0.00	-34.62	-42.11	592.96
4	4	7.86	0.00	-41.68	-7.82	592.52
4	5	10.48	0.00	-10.24	-46.49	660.53
5	5	10.48	0.00	-17.57	-11.45	660.47
5	6	13.10	0.00	13.85	-49.86	665.35
6	6	13.10	0.00	6.66	-15.41	665.70
6	7	15.72	0.00	38.10	-54.08	607.06
7	7	15.72	0.00	31.50	-21.65	607.76
7	8	18.34	0.00	62.94	-60.32	484.05
8	8	18.34	0.00	57.30	-31.13	485.05
8	9	20.96	0.00	88.74	-69.80	293.73
9	9	20.96	0.00	84.35	-44.81	294.90
9	10	23.58	0.00	40.48	9.37	136.60
10	10	23.58	0.00	38.98	20.21	136.99
10	10011	26.20	0.00	7.22	29.17	72.36
11	11	26.20	0.00	0.28	35.18	72.57
11	12	29.55	0.00	-16.77	17.15	120.73
12	12	29.55	0.00	-18.31	29.70	120.69
12	13	32.90	0.00	-52.71	-8.25	259.68
13	13	32.90	0.00	-58.41	20.48	258.63
13	14	36.03	0.00	-55.30	-19.88	451.59
14	14	36.03	0.00	-64.51	21.06	450.30
14	15	39.16	0.00	-46.56	-14.28	646.17
15	15	39.16	0.00	-59.11	37.23	645.39
15	16	42.29	0.00	-22.92	5.26	773.33
16	16	42.29	0.00	-36.25	59.94	773.31
16	17	45.42	0.00	1.31	13.74	827.99
17	17	45.42	0.00	-11.78	67.75	828.73
17	18	48.55	0.00	25.34	31.36	807.38
18	18	48.55	0.00	13.51	80.86	808.80
18	19	51.68	0.00	50.31	38.68	709.72
19	19	51.68	0.00	40.23	82.66	711.72
19	20	54.81	0.00	76.19	43.29	528.40
20	20	54.81	0.00	68.63	78.76	530.77
20	21	57.94	0.00	73.82	-15.93	310.70
21	21	57.94	0.00	68.81	12.28	312.23
21	22	61.07	0.00	38.94	-13.20	164.15
22	22	61.07	0.00	36.40	4.54	164.59
22	10023	64.20	0.00	-0.52	0.94	114.87
23	23	64.20	0.00	1.30	12.39	114.97
23	24	67.55	0.00	-15.69	-1.36	162.64
24	24	67.55	0.00	-18.08	16.09	162.53
24	25	70.90	0.00	-54.54	-20.53	307.83

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen,rico. MZ+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-61.43	13.72	306.68
25	26	74.23	0.00	-54.87	-26.87	511.89
26	26	74.23	0.00	-66.27	23.84	510.51
26	27	77.56	0.00	-42.36	-45.00	704.63
27	27	77.56	0.00	-57.05	14.13	703.77
27	28	80.89	0.00	-18.60	-21.43	828.44
28	28	80.89	0.00	-34.00	40.46	828.45
28	29	84.22	0.00	5.96	-8.69	875.14
29	29	84.22	0.00	-9.04	51.87	876.01
29	30	87.55	0.00	29.50	14.71	840.13
30	30	87.55	0.00	16.06	69.79	841.72
30	31	90.88	0.00	55.96	22.45	721.74
31	31	90.88	0.00	44.64	70.54	723.99
31	32	94.21	0.00	82.52	31.23	510.89
32	32	94.21	0.00	74.16	68.92	513.52
32	33	97.54	0.00	77.81	-26.12	271.04
33	33	97.54	0.00	72.30	2.49	272.54
33	34	100.87	0.00	42.12	-58.25	91.51
34	34	100.87	0.00	39.14	-40.86	91.64
34	10035	104.20	0.00	0.51	-44.93	29.76
35	35	104.20	0.00	-8.79	-34.48	29.46
35	36	107.55	0.00	-44.47	-47.45	114.14
36	36	107.55	0.00	-47.74	-30.50	113.44
36	37	110.90	0.00	-74.73	-58.27	304.39
37	37	110.90	0.00	-81.58	-27.08	302.79
37	38	113.77	0.00	-77.18	-45.54	543.65
38	38	113.77	0.00	-87.61	0.15	541.78
38	39	116.64	0.00	-53.17	-42.21	743.79
39	39	116.64	0.00	-65.03	8.24	742.54
39	40	119.51	0.00	-31.28	-29.63	881.39
40	40	119.51	0.00	-43.89	23.41	880.82
40	41	122.38	0.00	-10.07	-3.82	958.66
41	41	122.38	0.00	-22.99	51.12	958.82
41	42	125.25	0.00	11.45	8.76	975.39
42	42	125.25	0.00	-0.77	61.66	976.28
42	43	128.12	0.00	33.33	24.06	929.76
43	43	128.12	0.00	22.79	71.20	931.37
43	44	130.99	0.00	56.86	32.86	816.92
44	44	130.99	0.00	48.51	73.27	819.19
44	45	133.86	0.00	82.95	30.91	630.54
45	45	133.86	0.00	77.61	61.98	633.39
45	46	136.73	0.00	112.05	19.62	361.24
46	46	136.73	0.00	110.39	39.14	364.51
46	47	139.60	0.00	-6.04	-8.27	0.29
101	101	0.00	0.00	-25.73	-0.06	0.58
101	102	2.62	0.00	-33.14	0.63	87.31
102	102	2.62	0.00	-27.48	5.35	88.23
102	103	5.24	0.00	-27.48	5.35	160.23

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen,rico. MZ+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-20.89	13.17	160.94
103	104	7.86	0.00	-20.89	13.17	215.67
104	104	7.86	0.00	-13.66	23.07	216.06
104	105	10.48	0.00	-13.66	23.07	251.86
105	105	10.48	0.00	-6.19	33.85	251.88
105	106	13.10	0.00	-6.19	33.85	268.09
106	106	13.10	0.00	1.13	44.26	267.73
106	107	15.72	0.00	1.13	44.26	264.77
107	107	15.72	0.00	7.88	53.07	264.08
107	108	18.34	0.00	7.88	53.07	243.42
108	108	18.34	0.00	13.73	59.20	242.45
108	109	20.96	0.00	13.73	59.20	206.49
109	109	20.96	0.00	18.41	61.88	205.37
109	110	23.58	0.00	18.41	61.88	157.15
110	110	23.58	0.00	21.81	60.82	156.06
110	111	26.20	0.00	17.22	46.31	106.82
111	111	26.20	0.00	19.22	40.97	105.98
111	112	29.55	0.00	0.05	-18.23	76.02
112	112	29.55	0.00	0.02	-23.69	75.82
112	10113	32.90	0.00	0.02	-23.69	75.77
113	113	32.90	0.00	12.80	-29.89	75.61
113	114	36.03	0.00	7.55	-33.60	36.15
114	114	36.03	0.00	4.22	-40.06	36.41
114	115	39.16	0.00	-39.66	-53.03	104.36
115	115	39.16	0.00	-28.24	-28.88	105.20
115	116	42.29	0.00	-37.93	-17.06	217.04
116	116	42.29	0.00	-24.59	12.06	217.06
116	117	45.42	0.00	-24.97	12.20	295.03
117	117	45.42	0.00	-11.85	40.27	294.27
117	118	48.55	0.00	-11.85	40.27	331.37
118	118	48.55	0.00	0.21	64.98	329.93
118	119	51.68	0.00	0.05	63.47	329.58
119	119	51.68	0.00	10.34	82.60	327.56
119	120	54.81	0.00	10.18	84.68	295.39
120	120	54.81	0.00	18.18	96.28	292.98
120	121	57.94	0.00	18.06	98.71	236.18
121	121	57.94	0.00	23.34	101.65	233.62
121	122	61.07	0.00	22.91	104.55	160.98
122	122	61.07	0.00	25.29	99.83	158.66
122	123	64.20	0.00	17.78	78.74	92.14
123	123	64.20	0.00	17.57	59.73	90.88
123	124	67.55	0.00	-1.16	-11.21	74.43
124	124	67.55	0.00	-0.35	-16.55	74.29
124	10125	70.90	0.00	-0.57	-18.29	76.14
125	125	70.90	0.00	9.92	-24.38	75.97
125	126	74.23	0.00	-5.70	-45.82	46.41
126	126	74.23	0.00	-1.47	-42.69	46.72
126	127	77.56	0.00	-51.63	-53.18	146.56

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen,rico. MZ+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-36.22	-23.29	147.43
127	128	80.89	0.00	-38.10	-13.30	274.13
128	128	80.89	0.00	-22.68	21.60	274.12
128	129	84.22	0.00	-22.93	18.66	350.30
129	129	84.22	0.00	-7.90	51.78	349.42
129	130	87.55	0.00	-7.90	51.78	375.73
130	130	87.55	0.00	5.79	80.74	374.08
130	131	90.88	0.00	5.48	82.81	355.64
131	131	90.88	0.00	17.01	105.40	353.37
131	132	94.21	0.00	16.82	106.54	296.75
132	132	94.21	0.00	25.59	120.29	294.07
132	133	97.54	0.00	25.55	121.76	208.88
133	133	97.54	0.00	31.12	125.53	206.04
133	134	100.87	0.00	29.81	123.84	103.30
134	134	100.87	0.00	32.55	118.23	100.86
134	135	104.20	0.00	7.06	23.82	17.79
135	135	104.20	0.00	9.83	23.88	17.56
135	136	107.55	0.00	-1.74	3.26	14.72
136	136	107.55	0.00	-0.26	3.60	14.95
136	10137	110.90	0.00	-0.47	2.79	16.28
137	137	110.90	0.00	-5.38	3.57	16.44
137	138	113.77	0.00	-40.13	-94.57	59.66
138	138	113.77	0.00	-31.90	-78.93	61.16
138	139	116.64	0.00	-42.26	-112.88	176.04
139	139	116.64	0.00	-30.61	-89.27	177.31
139	140	119.51	0.00	-31.49	-89.40	267.35
140	140	119.51	0.00	-18.63	-62.92	267.91
140	141	122.38	0.00	-18.63	-62.92	321.37
141	141	122.38	0.00	-5.71	-36.45	321.22
141	142	125.25	0.00	-5.81	-37.23	337.70
142	142	125.25	0.00	6.41	-13.21	336.81
142	143	128.12	0.00	6.41	-13.21	318.43
143	143	128.12	0.00	17.16	6.04	316.82
143	144	130.99	0.00	17.16	6.04	267.58
144	144	130.99	0.00	25.65	18.06	265.30
144	145	133.86	0.00	25.48	17.89	191.99
145	145	133.86	0.00	31.11	20.26	189.17
145	146	136.73	0.00	31.11	20.26	99.89
146	146	136.73	0.00	33.09	11.10	96.67
146	147	139.60	0.00	32.73	11.44	1.72
301	101	0.00	0.00	-0.73	0.19	3.65
301	2001	0.00	0.00	-1.23	0.22	4.28
302	102	2.62	0.00	-0.53	-0.32	7.49
302	2002	2.62	0.00	-1.65	-0.24	8.18
303	103	5.24	0.00	-0.34	-0.36	8.81
303	2003	5.24	0.00	-0.53	-0.37	9.14
304	104	7.86	0.00	0.03	-0.30	10.10
304	2004	7.86	0.00	-0.18	-0.32	10.16

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Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.MZ+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen,rico. MZ+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.32	-0.22	11.21
305	2005	10.48	0.00	0.13	-0.22	11.03
306	106	13.10	0.00	0.53	-0.09	12.03
306	2006	13.10	0.00	0.31	-0.09	11.66
307	107	15.72	0.00	0.58	0.09	12.40
307	2007	15.72	0.00	0.34	0.08	12.04
308	108	18.34	0.00	0.42	0.32	12.14
308	2008	18.34	0.00	-0.03	0.27	11.97
309	109	20.96	0.00	-0.12	0.54	11.11
309	2009	20.96	0.00	-0.56	0.49	11.44
310	110	23.58	0.00	-1.13	0.60	9.80
310	2010	23.58	0.00	-1.32	0.45	10.77
311	111	26.20	0.00	-1.85	0.14	9.90
311	2011	26.20	0.00	-2.16	0.32	11.40
312	112	29.55	0.00	-0.59	-0.60	12.00
312	2012	29.55	0.00	-1.35	-0.21	12.72
313	113	32.90	0.00	0.24	-0.28	13.52
313	2013	32.90	0.00	-0.18	-0.30	13.50
314	114	36.03	0.00	0.56	-0.10	14.02
314	2014	36.03	0.00	0.23	-0.12	13.81
315	115	39.16	0.00	0.77	-0.05	14.72
315	2015	39.16	0.00	0.46	0.01	14.23
316	116	42.29	0.00	0.97	0.04	15.35
316	2016	42.29	0.00	0.80	0.03	14.68
317	117	45.42	0.00	1.08	0.14	15.80
317	2017	45.42	0.00	0.89	0.14	15.01
318	118	48.55	0.00	1.10	0.27	16.00
318	2018	48.55	0.00	0.90	0.25	15.25
319	119	51.68	0.00	0.81	0.43	15.84
319	2019	51.68	0.00	0.81	0.43	15.22
320	120	54.81	0.00	0.33	0.62	15.05
320	2020	54.81	0.00	0.14	0.50	14.86
321	121	57.94	0.00	-0.30	0.45	14.09
321	2021	57.94	0.00	-0.73	0.24	14.55
322	122	61.07	0.00	-0.40	0.09	14.23
322	2022	61.07	0.00	-1.09	-0.01	14.88
323	123	64.20	0.00	0.63	-0.61	16.96
323	2023	64.20	0.00	-0.16	-0.44	16.75
324	124	67.55	0.00	2.75	-1.00	20.69
324	2024	67.55	0.00	2.01	-0.86	18.82
325	125	70.90	0.00	3.30	-0.38	21.79
325	2025	70.90	0.00	2.69	-0.40	19.51
326	126	74.23	0.00	3.17	-0.02	22.54
326	2026	74.23	0.00	2.94	-0.04	20.24
327	127	77.56	0.00	3.04	0.22	21.93
327	2027	77.56	0.00	2.59	0.17	19.81
328	128	80.89	0.00	2.62	0.33	21.01
328	2028	80.89	0.00	2.23	0.29	19.22

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen,rico. MZ+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	2.35	0.26	20.76
329	2029	84.22	0.00	2.12	0.25	19.05
330	130	87.55	0.00	2.29	0.37	20.67
330	2030	87.55	0.00	2.10	0.34	19.02
331	131	90.88	0.00	2.02	0.52	20.46
331	2031	90.88	0.00	2.02	0.52	18.93
332	132	94.21	0.00	1.58	0.73	19.75
332	2032	94.21	0.00	1.40	0.59	18.64
333	133	97.54	0.00	0.56	0.31	19.01
333	2033	97.54	0.00	0.56	0.31	18.59
334	134	100.87	0.00	1.14	0.12	19.79
334	2034	100.87	0.00	0.62	-0.10	19.14
335	135	104.20	0.00	1.59	-0.15	19.44
335	2035	104.20	0.00	0.92	-0.06	18.50
336	136	107.55	0.00	1.65	0.08	17.48
336	2036	107.55	0.00	1.26	0.34	16.30
337	137	110.90	0.00	2.63	-0.12	16.92
337	2037	110.90	0.00	1.64	0.01	15.36
338	138	113.77	0.00	2.18	0.12	16.01
338	2038	113.77	0.00	1.85	0.10	14.56
339	139	116.64	0.00	1.76	0.30	14.60
339	2039	116.64	0.00	1.41	0.27	13.46
340	140	119.51	0.00	1.24	0.40	12.90
340	2040	119.51	0.00	0.68	0.35	12.16
341	141	122.38	0.00	0.60	0.44	11.12
341	2041	122.38	0.00	0.14	0.41	10.84
342	142	125.25	0.00	-0.02	0.45	9.43
342	2042	125.25	0.00	-0.25	0.43	9.54
343	143	128.12	0.00	-0.68	0.45	7.78
343	2043	128.12	0.00	-0.68	0.45	8.30
344	144	130.99	0.00	-1.34	0.39	6.17
344	2044	130.99	0.00	-1.59	0.28	7.24
345	145	133.86	0.00	-2.36	-0.71	6.07
345	2045	133.86	0.00	-2.65	-1.02	7.94
346	146	136.73	0.00	-0.06	-2.60	13.14
346	2046	136.73	0.00	-0.88	-2.70	13.43
347	147	139.60	0.00	1.78	-1.56	12.53
347	2047	139.60	0.00	1.56	-1.65	11.32
201	2001	0.00	0.00	-1.23	0.22	4.28
201	1001	0.00	0.00	-2.31	0.37	14.46
202	2002	2.62	0.00	-1.65	-0.24	8.18
202	1002	2.62	0.00	-5.44	0.65	30.89
203	2003	5.24	0.00	-0.53	-0.37	9.14
203	1003	5.24	0.00	-6.06	0.46	32.38
204	2004	7.86	0.00	-0.18	-0.32	10.16
204	1004	7.86	0.00	-6.41	0.19	33.20
205	2005	10.48	0.00	0.13	-0.22	11.03
205	1005	10.48	0.00	-6.77	-0.07	33.28

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20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen,rico. MZ+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	0.31	-0.09	11.66
206	1006	13.10	0.00	-6.72	-0.35	32.68
207	2007	15.72	0.00	0.34	0.08	12.04
207	1007	15.72	0.00	-6.18	-0.59	31.33
208	2008	18.34	0.00	-0.03	0.27	11.97
208	1008	18.34	0.00	-5.41	-0.74	29.41
209	2009	20.96	0.00	-0.56	0.49	11.44
209	1009	20.96	0.00	-4.09	-0.52	27.47
210	2010	23.58	0.00	-1.32	0.45	10.77
210	1010	23.58	0.00	-3.53	-0.19	26.08
211	2011	26.20	0.00	-2.16	0.32	11.40
211	1011	26.20	0.00	-4.07	0.68	29.70
212	2012	29.55	0.00	-1.35	-0.21	12.72
212	1012	29.55	0.00	-6.31	1.83	37.35
213	2013	32.90	0.00	-0.18	-0.30	13.50
213	1013	32.90	0.00	-8.87	1.85	41.76
214	2014	36.03	0.00	0.24	-0.12	13.81
214	1014	36.03	0.00	-10.58	1.36	44.78
215	2015	39.16	0.00	0.46	0.01	14.23
215	1015	39.16	0.00	-12.00	0.80	47.75
216	2016	42.29	0.00	0.80	0.03	14.68
216	1016	42.29	0.00	-12.73	0.18	49.01
217	2017	45.42	0.00	0.89	0.14	15.01
217	1017	45.42	0.00	-12.62	-0.48	48.57
218	2018	48.55	0.00	0.90	0.25	15.25
218	1018	48.55	0.00	-11.77	-1.11	46.36
219	2019	51.68	0.00	0.81	0.43	15.22
219	1019	51.68	0.00	-10.14	-1.60	42.58
220	2020	54.81	0.00	0.14	0.50	14.86
220	1020	54.81	0.00	-7.93	-1.87	37.62
221	2021	57.94	0.00	-0.73	0.24	14.55
221	1021	57.94	0.00	-5.41	-1.71	32.32
222	2022	61.07	0.00	-1.09	-0.01	14.88
222	1022	61.07	0.00	-3.33	-0.74	28.68
223	2023	64.20	0.00	-0.16	-0.44	16.75
223	1023	64.20	0.00	-4.28	1.17	29.76
224	2024	67.55	0.00	2.01	-0.86	18.82
224	1024	67.55	0.00	-7.33	2.27	36.41
225	2025	70.90	0.00	2.69	-0.40	19.51
225	1025	70.90	0.00	-10.12	2.08	41.93
226	2026	74.23	0.00	2.94	-0.04	20.24
226	1026	74.23	0.00	-13.08	1.50	48.63
227	2027	77.56	0.00	2.59	0.17	19.81
227	1027	77.56	0.00	-14.57	0.74	52.01
228	2028	80.89	0.00	2.23	0.29	19.22
228	1028	80.89	0.00	-14.88	-0.04	53.12
229	2029	84.22	0.00	2.12	0.25	19.05
229	1029	84.22	0.00	-14.49	-0.75	52.19

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen,rico. MZ+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	2.10	0.34	19.02
230	1030	87.55	0.00	-12.72	-1.18	49.36
231	2031	90.88	0.00	2.02	0.52	18.93
231	1031	90.88	0.00	-10.98	-1.70	45.30
232	2032	94.21	0.00	1.40	0.59	18.64
232	1032	94.21	0.00	-8.52	-2.04	39.71
233	2033	97.54	0.00	0.56	0.31	18.59
233	1033	97.54	0.00	-5.57	-1.93	33.48
234	2034	100.87	0.00	0.62	-0.10	19.14
234	1034	100.87	0.00	-2.60	-0.77	28.55
235	2035	104.20	0.00	0.92	-0.06	18.50
235	1035	104.20	0.00	-3.35	1.27	26.93
236	2036	107.55	0.00	1.26	0.34	16.30
236	1036	107.55	0.00	-5.86	2.32	30.26
237	2037	110.90	0.00	1.64	0.01	15.36
237	1037	110.90	0.00	-8.52	2.26	36.87
238	2038	113.77	0.00	1.85	0.10	14.56
238	1038	113.77	0.00	-10.46	1.81	41.68
239	2039	116.64	0.00	1.41	0.27	13.46
239	1039	116.64	0.00	-12.08	1.24	45.18
240	2040	119.51	0.00	0.68	0.35	12.16
240	1040	119.51	0.00	-12.54	0.64	47.25
241	2041	122.38	0.00	0.14	0.41	10.84
241	1041	122.38	0.00	-12.68	-0.04	47.70
242	2042	125.25	0.00	-0.25	0.43	9.54
242	1042	125.25	0.00	-11.56	-0.53	46.62
243	2043	128.12	0.00	-0.68	0.45	8.30
243	1043	128.12	0.00	-10.31	-1.09	44.39
244	2044	130.99	0.00	-1.59	0.28	7.24
244	1044	130.99	0.00	-8.65	-1.71	40.44
245	2045	133.86	0.00	-2.65	-1.02	7.94
245	1045	133.86	0.00	-6.30	-2.25	34.83
246	2046	136.73	0.00	-0.88	-2.70	13.43
246	1046	136.73	0.00	-3.34	-2.63	27.76
247	2047	139.60	0.00	1.56	-1.65	11.32
247	1047	139.60	0.00	-1.79	-0.24	11.51
401	1001	0.00	0.00	-2.31	0.37	14.46
401	1	0.00	0.00	-2.31	0.37	16.21
402	1002	2.62	0.00	-5.44	0.65	30.89
402	2	2.62	0.00	-5.44	0.65	35.00
403	1003	5.24	0.00	-6.06	0.46	32.38
403	3	5.24	0.00	-6.06	0.46	36.97
404	1004	7.86	0.00	-6.41	0.19	33.20
404	4	7.86	0.00	-6.94	0.27	38.22
405	1005	10.48	0.00	-6.77	-0.07	33.28
405	5	10.48	0.00	-7.23	-0.02	38.61
406	1006	13.10	0.00	-6.72	-0.35	32.68
406	6	13.10	0.00	-7.04	-0.35	37.95

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Programa DINTEL - IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.MZ+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen,rico. MZ+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-6.18	-0.59	31.33
407	7	15.72	0.00	-6.52	-0.62	36.21
408	1008	18.34	0.00	-5.41	-0.74	29.41
408	8	18.34	0.00	-5.72	-0.81	33.61
409	1009	20.96	0.00	-4.09	-0.52	27.47
409	9	20.96	0.00	-4.55	-0.73	30.68
410	1010	23.58	0.00	-3.53	-0.19	26.08
410	10	23.58	0.00	-3.53	-0.19	28.75
411	1011	26.20	0.00	-4.07	0.68	29.70
411	11	26.20	0.00	-4.07	0.68	32.78
412	1012	29.55	0.00	-6.31	1.83	37.35
412	12	29.55	0.00	-6.65	1.92	42.26
413	1013	32.90	0.00	-8.87	1.85	41.76
413	13	32.90	0.00	-8.99	1.89	48.55
414	1014	36.03	0.00	-10.58	1.36	44.78
414	14	36.03	0.00	-11.11	1.39	52.95
415	1015	39.16	0.00	-11.99	0.80	47.75
415	15	39.16	0.00	-12.51	0.79	56.95
416	1016	42.29	0.00	-12.73	0.18	49.01
416	16	42.29	0.00	-12.94	0.14	58.64
417	1017	45.42	0.00	-12.62	-0.48	48.57
417	17	45.42	0.00	-12.62	-0.48	58.11
418	1018	48.55	0.00	-11.77	-1.11	46.36
418	18	48.55	0.00	-11.77	-1.11	55.26
419	1019	51.68	0.00	-10.14	-1.60	42.58
419	19	51.68	0.00	-10.27	-1.62	50.33
420	1020	54.81	0.00	-7.93	-1.87	37.62
420	20	54.81	0.00	-8.24	-1.99	43.72
421	1021	57.94	0.00	-5.41	-1.71	32.32
421	21	57.94	0.00	-5.73	-1.89	36.52
422	1022	61.07	0.00	-3.34	-0.74	28.68
422	22	61.07	0.00	-3.34	-0.74	31.20
423	1023	64.20	0.00	-4.28	1.17	29.76
423	23	64.20	0.00	-4.62	1.42	33.09
424	1024	67.55	0.00	-7.33	2.27	36.40
424	24	67.55	0.00	-7.67	2.37	42.04
425	1025	70.90	0.00	-10.12	2.08	41.93
425	25	70.90	0.00	-10.53	2.17	49.82
426	1026	74.23	0.00	-13.08	1.50	48.63
426	26	74.23	0.00	-13.20	1.54	58.58
427	1027	77.56	0.00	-14.57	0.74	52.01
427	27	77.56	0.00	-14.79	0.78	63.05
428	1028	80.89	0.00	-14.88	-0.04	53.12
428	28	80.89	0.00	-15.25	-0.03	64.55
429	1029	84.22	0.00	-14.49	-0.75	52.19
429	29	84.22	0.00	-14.75	-0.81	63.21
430	1030	87.55	0.00	-12.72	-1.18	49.36
430	30	87.55	0.00	-13.30	-1.44	59.20

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen,rico. MZ+

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-10.99	-1.70	45.30
431	31	90.88	0.00	-11.12	-1.71	53.62
432	1032	94.21	0.00	-8.52	-2.04	39.71
432	32	94.21	0.00	-8.74	-2.09	46.28
433	1033	97.54	0.00	-5.57	-1.93	33.48
433	33	97.54	0.00	-6.00	-2.08	38.01
434	1034	100.87	0.00	-2.60	-0.77	28.55
434	34	100.87	0.00	-3.25	-1.17	30.89
435	1035	104.20	0.00	-3.35	1.27	26.93
435	35	104.20	0.00	-3.73	1.53	29.66
436	1036	107.55	0.00	-5.86	2.32	30.26
436	36	107.55	0.00	-5.86	2.32	34.69
437	1037	110.90	0.00	-8.53	2.26	36.87
437	37	110.90	0.00	-8.72	2.30	43.35
438	1038	113.77	0.00	-10.46	1.81	41.68
438	38	113.77	0.00	-10.69	1.83	49.75
439	1039	116.64	0.00	-12.08	1.24	45.18
439	39	116.64	0.00	-12.08	1.24	54.31
440	1040	119.51	0.00	-12.54	0.64	47.25
440	40	119.51	0.00	-12.84	0.60	56.89
441	1041	122.38	0.00	-12.68	-0.04	47.70
441	41	122.38	0.00	-12.84	-0.08	57.29
442	1042	125.25	0.00	-11.56	-0.53	46.62
442	42	125.25	0.00	-12.09	-0.73	55.58
443	1043	128.12	0.00	-10.31	-1.09	44.39
443	43	128.12	0.00	-10.31	-1.09	52.18
444	1044	130.99	0.00	-8.65	-1.71	40.44
444	44	130.99	0.00	-8.65	-1.71	46.98
445	1045	133.86	0.00	-6.30	-2.25	34.83
445	45	133.86	0.00	-6.30	-2.25	39.59
446	1046	136.73	0.00	-3.34	-2.63	27.76
446	46	136.73	0.00	-3.34	-2.63	30.28
447	1047	139.60	0.00	-1.79	-0.24	11.51
447	47	139.60	0.00	-1.79	-0.24	12.86

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen,rico. VY-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-117.20	12.01	-0.56
1	2	2.62	0.00	-88.89	0.77	242.63
2	2	2.62	0.00	-93.59	27.46	241.60
2	3	5.24	0.00	-67.98	21.62	374.41
3	3	5.24	0.00	-73.07	40.58	384.01
3	4	7.86	0.00	-50.87	40.77	399.20
4	4	7.86	0.00	-55.78	62.70	422.90
4	5	10.48	0.00	-36.76	51.91	383.41
5	5	10.48	0.00	-41.13	74.45	383.28
5	6	13.10	0.00	-24.00	50.35	326.64
6	6	13.10	0.00	-27.54	76.80	320.29
6	7	15.72	0.00	-15.50	52.04	275.32
7	7	15.72	0.00	-18.15	66.92	275.49
7	8	18.34	0.00	-8.13	49.87	215.66
8	8	18.34	0.00	-10.10	62.20	215.58
8	9	20.96	0.00	-1.89	44.84	156.61
9	9	20.96	0.00	-3.29	57.46	154.44
9	10	23.58	0.00	3.15	40.62	104.54
10	10	23.58	0.00	1.96	62.18	88.45
10	10011	26.20	0.00	6.75	46.49	54.82
11	11	26.20	0.00	-186.79	-9.95	-1044.09
11	12	29.55	0.00	-150.21	-34.45	-513.03
12	12	29.55	0.00	-155.55	3.43	-517.40
12	13	32.90	0.00	-122.23	-11.46	-146.35
13	13	32.90	0.00	-129.20	21.30	-133.19
13	14	36.03	0.00	-100.84	8.43	97.30
14	14	36.03	0.00	-108.71	32.93	104.15
14	15	39.16	0.00	-82.56	17.10	244.46
15	15	39.16	0.00	-90.52	48.81	240.06
15	16	42.29	0.00	-66.53	27.02	324.08
16	16	42.29	0.00	-74.06	63.98	323.50
16	17	45.42	0.00	-52.06	38.63	347.39
17	17	45.42	0.00	-58.66	71.94	347.12
17	18	48.55	0.00	-38.72	43.27	323.13
18	18	48.55	0.00	-44.16	72.19	323.06
18	19	51.68	0.00	-27.41	8.41	247.79
19	19	51.68	0.00	-31.34	31.57	247.74
19	20	54.81	0.00	-18.71	4.44	205.55
20	20	54.81	0.00	-21.81	17.30	203.98
20	21	57.94	0.00	-11.43	-9.31	158.78
21	21	57.94	0.00	-13.96	12.28	156.34
21	22	61.07	0.00	-5.94	-12.57	121.40
22	22	61.07	0.00	-8.14	16.89	107.51
22	10023	64.20	0.00	-2.40	-5.28	94.99
23	23	64.20	0.00	-202.44	25.42	-1279.17
23	24	67.55	0.00	-166.09	-0.80	-698.60
24	24	67.55	0.00	-169.28	23.37	-700.64
24	25	70.90	0.00	-136.17	2.18	-273.37

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen,rico. VY-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-141.52	27.02	-290.26
25	26	74.23	0.00	-112.28	10.52	-2.34
26	26	74.23	0.00	-119.07	41.58	-5.50
26	27	77.56	0.00	-90.34	17.42	201.50
27	27	77.56	0.00	-97.83	54.11	200.17
27	28	80.89	0.00	-72.01	29.73	309.88
28	28	80.89	0.00	-79.35	65.15	308.95
28	29	84.22	0.00	-55.48	36.73	347.22
29	29	84.22	0.00	-62.12	69.19	346.64
29	30	87.55	0.00	-40.26	36.75	326.81
30	30	87.55	0.00	-45.86	65.15	326.48
30	31	90.88	0.00	-28.37	-1.97	211.50
31	31	90.88	0.00	-32.04	24.20	209.40
31	32	94.21	0.00	-18.34	-6.82	159.50
32	32	94.21	0.00	-21.37	11.48	159.21
32	33	97.54	0.00	-10.04	-19.16	102.77
33	33	97.54	0.00	-12.55	-8.09	101.02
33	34	100.87	0.00	-3.76	-36.91	53.48
34	34	100.87	0.00	-6.14	-7.27	39.89
34	10035	104.20	0.00	0.14	-33.13	16.40
35	35	104.20	0.00	-210.50	47.12	-1337.28
35	36	107.55	0.00	-174.58	22.19	-734.26
36	36	107.55	0.00	-176.00	41.45	-736.08
36	37	110.90	0.00	-142.29	19.63	-288.38
37	37	110.90	0.00	-145.53	44.01	-290.39
37	38	113.77	0.00	-118.94	25.63	-18.63
38	38	113.77	0.00	-123.68	57.22	-36.95
38	39	116.64	0.00	-98.78	38.35	148.28
39	39	116.64	0.00	-104.28	67.67	145.22
39	40	119.51	0.00	-80.93	47.08	255.92
40	40	119.51	0.00	-86.61	78.68	254.84
40	41	122.38	0.00	-64.77	55.47	301.69
41	41	122.38	0.00	-70.20	85.54	300.95
41	42	125.25	0.00	-49.95	59.17	294.57
42	42	125.25	0.00	-54.82	86.67	294.09
42	43	128.12	0.00	-34.61	35.56	154.61
43	43	128.12	0.00	-37.99	80.14	273.20
43	44	130.99	0.00	-24.24	29.94	105.24
44	44	130.99	0.00	-27.26	49.62	104.59
44	45	133.86	0.00	-15.73	20.16	48.88
45	45	133.86	0.00	-18.74	37.32	47.30
45	46	136.73	0.00	-9.70	6.02	5.45
46	46	136.73	0.00	-12.74	24.77	4.89
46	47	139.60	0.00	-6.29	-8.75	0.29
101	101	0.00	0.00	-33.14	0.63	0.48
101	102	2.62	0.00	-33.14	0.63	87.31
102	102	2.62	0.00	-27.48	5.35	88.23
102	103	5.24	0.00	-27.48	5.35	160.23

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IZQINT2.ENV_TREN_GENERICO.VY-
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CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen,rico. VY-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-20.89	13.17	160.94
103	104	7.86	0.00	-20.89	13.17	215.67
104	104	7.86	0.00	-13.66	23.07	216.06
104	105	10.48	0.00	-13.66	23.07	251.86
105	105	10.48	0.00	-6.30	25.53	225.57
105	106	13.10	0.00	-6.30	25.53	242.07
106	106	13.10	0.00	-2.56	-1.54	106.70
106	107	15.72	0.00	-2.56	-1.54	113.40
107	107	15.72	0.00	-1.59	-7.06	68.43
107	108	18.34	0.00	-1.59	-7.06	72.59
108	108	18.34	0.00	-1.00	-8.69	67.48
108	109	20.96	0.00	-1.00	-8.69	70.09
109	109	20.96	0.00	-0.68	-31.38	32.66
109	110	23.58	0.00	-0.68	-31.38	34.45
110	110	23.58	0.00	-0.56	-37.54	19.05
110	111	26.20	0.00	-0.56	-37.54	20.50
111	111	26.20	0.00	-0.30	-17.35	66.04
111	112	29.55	0.00	-0.30	-17.35	67.03
112	112	29.55	0.00	-0.40	-22.31	66.93
112	10113	32.90	0.00	-0.40	-22.31	68.27
113	113	32.90	0.00	-64.68	-41.56	-312.73
113	114	36.03	0.00	-64.68	-41.56	-110.28
114	114	36.03	0.00	-53.61	-2.25	-148.94
114	115	39.16	0.00	-53.61	-2.25	18.86
115	115	39.16	0.00	-41.36	18.71	19.74
115	116	42.29	0.00	-41.36	18.71	149.21
116	116	42.29	0.00	-28.53	40.70	148.45
116	117	45.42	0.00	-28.53	40.70	237.75
117	117	45.42	0.00	-15.85	55.42	219.01
117	118	48.55	0.00	-15.85	55.42	268.62
118	118	48.55	0.00	-8.88	21.68	63.36
118	119	51.68	0.00	-8.88	21.68	91.14
119	119	51.68	0.00	-6.17	2.03	14.08
119	120	54.81	0.00	-6.17	2.03	33.38
120	120	54.81	0.00	-4.83	-7.08	11.28
120	121	57.94	0.00	-4.83	-7.08	26.41
121	121	57.94	0.00	-3.77	-19.82	7.32
121	122	61.07	0.00	-3.77	-19.82	19.13
122	122	61.07	0.00	-2.63	-31.87	4.61
122	123	64.20	0.00	-2.63	-31.87	12.85
123	123	64.20	0.00	-1.53	-11.44	64.30
123	124	67.55	0.00	-1.53	-11.44	69.43
124	124	67.55	0.00	-1.04	-18.95	67.48
124	10125	70.90	0.00	-1.04	-18.95	70.98
125	125	70.90	0.00	-67.50	-67.01	-276.77
125	126	74.23	0.00	-67.50	-67.01	-52.00
126	126	74.23	0.00	-54.15	-36.85	-54.52
126	127	77.56	0.00	-54.15	-36.85	125.78

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen,rico. VY-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-40.46	14.70	16.72
127	128	80.89	0.00	-40.46	14.70	151.44
128	128	80.89	0.00	-27.31	32.72	144.76
128	129	84.22	0.00	-27.31	32.72	235.70
129	129	84.22	0.00	-14.49	34.97	169.09
129	130	87.55	0.00	-14.49	34.97	217.33
130	130	87.55	0.00	-8.59	13.61	5.91
130	131	90.88	0.00	-8.59	13.61	34.50
131	131	90.88	0.00	-6.72	-2.86	-50.44
131	132	94.21	0.00	-6.72	-2.86	-28.06
132	132	94.21	0.00	-6.36	-47.19	-90.34
132	133	97.54	0.00	-6.36	-47.19	-69.16
133	133	97.54	0.00	-6.79	-85.94	-113.25
133	134	100.87	0.00	-6.79	-85.94	-90.64
134	134	100.87	0.00	-6.46	-105.27	-99.18
134	135	104.20	0.00	-6.46	-105.27	-77.68
135	135	104.20	0.00	-4.92	-100.83	-72.79
135	136	107.55	0.00	-4.92	-100.83	-56.32
136	136	107.55	0.00	-2.03	-68.20	-36.17
136	10137	110.90	0.00	-2.03	-68.20	-29.38
137	137	110.90	0.00	-55.91	-118.98	-158.79
137	138	113.77	0.00	-55.91	-118.98	1.67
138	138	113.77	0.00	-45.76	-90.67	-58.11
138	139	116.64	0.00	-45.76	-90.67	73.21
139	139	116.64	0.00	-35.99	-54.12	-20.22
139	140	119.51	0.00	-35.99	-54.12	83.08
140	140	119.51	0.00	-25.48	-40.50	81.09
140	141	122.38	0.00	-25.48	-40.50	154.23
141	141	122.38	0.00	-14.86	-12.23	43.19
141	142	125.25	0.00	-14.86	-12.23	85.83
142	142	125.25	0.00	-10.75	1.45	-67.43
142	143	128.12	0.00	-10.75	1.45	-36.57
143	143	128.12	0.00	-9.68	7.26	-90.50
143	144	130.99	0.00	-9.68	7.26	-62.71
144	144	130.99	0.00	-8.78	2.54	-62.15
144	145	133.86	0.00	-8.78	2.54	-36.94
145	145	133.86	0.00	-7.29	-0.05	-36.60
145	146	136.73	0.00	-7.29	-0.05	-15.67
146	146	136.73	0.00	-5.34	-0.60	-15.59
146	147	139.60	0.00	-5.34	-0.60	-0.25
301	101	0.00	0.00	-2.47	0.40	-0.13
301	2001	0.00	0.00	-2.47	0.40	1.73
302	102	2.62	0.00	-5.88	0.75	-3.63
302	2002	2.62	0.00	-5.88	0.75	0.81
303	103	5.24	0.00	-6.69	0.65	-7.15
303	2003	5.24	0.00	-6.69	0.65	-2.10
304	104	7.86	0.00	-7.27	0.34	-8.95
304	2004	7.86	0.00	-7.27	0.34	-3.46

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IZQINT2.ENV_TREN_GENERICO.VY-
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CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen,rico. VY-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-7.51	0.03	-10.16
305	2005	10.48	0.00	-7.51	0.03	-4.48
306	106	13.10	0.00	-7.36	-0.34	-9.41
306	2006	13.10	0.00	-7.36	-0.34	-3.85
307	107	15.72	0.00	-6.83	-0.66	-7.99
307	2007	15.72	0.00	-6.83	-0.66	-2.82
308	108	18.34	0.00	-5.98	-0.91	-5.62
308	2008	18.34	0.00	-5.98	-0.91	-1.10
309	109	20.96	0.00	-4.97	-0.96	-2.14
309	2009	20.96	0.00	-4.97	-0.96	1.62
310	110	23.58	0.00	-3.99	-0.70	1.44
310	2010	23.58	0.00	-3.99	-0.70	4.46
311	111	26.20	0.00	-4.32	0.88	4.97
311	2011	26.20	0.00	-4.32	0.88	8.23
312	112	29.55	0.00	-7.21	2.30	-5.63
312	2012	29.55	0.00	-7.21	2.30	-0.18
313	113	32.90	0.00	-9.88	2.11	-15.49
313	2013	32.90	0.00	-9.88	2.11	-8.02
314	114	36.03	0.00	-11.67	1.46	-21.88
314	2014	36.03	0.00	-11.67	1.46	-13.06
315	115	39.16	0.00	-13.01	0.76	-25.90
315	2015	39.16	0.00	-13.01	0.76	-16.06
316	116	42.29	0.00	-13.55	0.01	-28.04
316	2016	42.29	0.00	-13.55	0.01	-17.80
317	117	45.42	0.00	-13.28	-0.73	-27.18
317	2017	45.42	0.00	-13.28	-0.73	-17.14
318	118	48.55	0.00	-12.23	-1.38	-23.49
318	2018	48.55	0.00	-12.23	-1.38	-14.25
319	119	51.68	0.00	-10.49	-1.85	-17.46
319	2019	51.68	0.00	-10.49	-1.85	-9.53
320	120	54.81	0.00	-8.35	-2.04	-9.89
320	2020	54.81	0.00	-8.35	-2.04	-3.58
321	121	57.94	0.00	-5.98	-2.03	-2.46
321	2021	57.94	0.00	-5.98	-2.03	2.06
322	122	61.07	0.00	-4.25	-0.54	0.59
322	2022	61.07	0.00	-4.25	-0.54	3.80
323	123	64.20	0.00	-5.01	1.82	0.01
323	2023	64.20	0.00	-5.01	1.82	3.80
324	124	67.55	0.00	-8.04	2.67	-9.77
324	2024	67.55	0.00	-8.04	2.67	-3.69
325	125	70.90	0.00	-10.84	2.29	-19.47
325	2025	70.90	0.00	-10.84	2.29	-11.28
326	126	74.23	0.00	-13.57	1.63	-27.89
326	2026	74.23	0.00	-13.57	1.63	-17.63
327	127	77.56	0.00	-15.05	0.80	-32.47
327	2027	77.56	0.00	-15.05	0.80	-21.09
328	128	80.89	0.00	-15.54	-0.04	-33.98
328	2028	80.89	0.00	-15.54	-0.04	-22.23

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen,rico. VY-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-15.10	-0.87	-32.63
329	2029	84.22	0.00	-15.10	-0.87	-21.21
330	130	87.55	0.00	-13.75	-1.63	-28.48
330	2030	87.55	0.00	-13.75	-1.63	-18.08
331	131	90.88	0.00	-11.64	-2.18	-21.55
331	2031	90.88	0.00	-11.64	-2.18	-12.75
332	132	94.21	0.00	-9.01	-2.20	-11.18
332	2032	94.21	0.00	-9.01	-2.20	-4.37
333	133	97.54	0.00	-6.31	-2.29	-3.89
333	2033	97.54	0.00	-6.31	-2.29	0.88
334	134	100.87	0.00	-4.40	-0.60	0.40
334	2034	100.87	0.00	-4.40	-0.60	3.73
335	135	104.20	0.00	-4.15	1.00	0.17
335	2035	104.20	0.00	-4.15	1.00	3.31
336	136	107.55	0.00	-6.08	2.43	-4.64
336	2036	107.55	0.00	-6.08	2.43	-0.04
337	137	110.90	0.00	-8.84	2.34	-13.55
337	2037	110.90	0.00	-8.84	2.34	-6.87
338	138	113.77	0.00	-10.84	1.84	-19.57
338	2038	113.77	0.00	-10.84	1.84	-11.38
339	139	116.64	0.00	-12.23	1.23	-23.74
339	2039	116.64	0.00	-12.23	1.23	-14.49
340	140	119.51	0.00	-12.98	0.57	-25.86
340	2040	119.51	0.00	-12.98	0.57	-16.05
341	141	122.38	0.00	-13.02	-0.15	-25.80
341	2041	122.38	0.00	-13.02	-0.15	-15.96
342	142	125.25	0.00	-12.31	-0.87	-23.30
342	2042	125.25	0.00	-12.31	-0.87	-13.99
343	143	128.12	0.00	-10.87	-1.52	-17.65
343	2043	128.12	0.00	-10.87	-1.52	-9.43
344	144	130.99	0.00	-8.76	-2.01	-9.79
344	2044	130.99	0.00	-8.76	-2.01	-3.16
345	145	133.86	0.00	-6.32	-2.20	-0.99
345	2045	133.86	0.00	-6.32	-2.20	3.79
346	146	136.73	0.00	-4.29	-1.08	0.88
346	2046	136.73	0.00	-4.29	-1.08	4.13
347	147	139.60	0.00	-2.07	0.17	-1.24
347	2047	139.60	0.00	-2.07	0.17	0.32
201	2001	0.00	0.00	-2.47	0.40	1.73
201	1001	0.00	0.00	-2.47	0.40	13.56
202	2002	2.62	0.00	-5.88	0.75	0.81
202	1002	2.62	0.00	-5.88	0.75	28.94
203	2003	5.24	0.00	-6.69	0.65	-2.10
203	1003	5.24	0.00	-6.69	0.65	29.91
204	2004	7.86	0.00	-7.27	0.34	-3.46
204	1004	7.86	0.00	-7.27	0.34	31.34
205	2005	10.48	0.00	-7.51	0.03	-4.48
205	1005	10.48	0.00	-7.51	0.03	31.46

~csimp4.esv
Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.VY-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen,rico. VY-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-7.36	-0.34	-3.85
206	1006	13.10	0.00	-7.36	-0.34	31.41
207	2007	15.72	0.00	-6.83	-0.66	-2.82
207	1007	15.72	0.00	-6.83	-0.66	29.90
208	2008	18.34	0.00	-5.98	-0.91	-1.10
208	1008	18.34	0.00	-5.98	-0.91	27.55
209	2009	20.96	0.00	-4.97	-0.96	1.62
209	1009	20.96	0.00	-4.97	-0.96	25.41
210	2010	23.58	0.00	-3.99	-0.70	4.46
210	1010	23.58	0.00	-3.99	-0.70	23.59
211	2011	26.20	0.00	-4.32	0.88	8.23
211	1011	26.20	0.00	-4.32	0.88	28.91
212	2012	29.55	0.00	-7.21	2.30	-0.18
212	1012	29.55	0.00	-7.21	2.30	34.35
213	2013	32.90	0.00	-9.88	2.11	-8.02
213	1013	32.90	0.00	-9.88	2.11	39.31
214	2014	36.03	0.00	-11.67	1.46	-13.06
214	1014	36.03	0.00	-11.67	1.46	42.79
215	2015	39.16	0.00	-13.01	0.76	-16.06
215	1015	39.16	0.00	-13.01	0.76	46.25
216	2016	42.29	0.00	-13.55	0.01	-17.80
216	1016	42.29	0.00	-13.55	0.01	47.06
217	2017	45.42	0.00	-13.28	-0.73	-17.14
217	1017	45.42	0.00	-13.28	-0.73	46.45
218	2018	48.55	0.00	-12.23	-1.38	-14.25
218	1018	48.55	0.00	-12.23	-1.38	44.29
219	2019	51.68	0.00	-10.49	-1.85	-9.53
219	1019	51.68	0.00	-10.49	-1.85	40.71
220	2020	54.81	0.00	-8.35	-2.04	-3.58
220	1020	54.81	0.00	-8.35	-2.04	36.41
221	2021	57.94	0.00	-5.98	-2.03	2.06
221	1021	57.94	0.00	-5.98	-2.03	30.68
222	2022	61.07	0.00	-4.25	-0.54	3.80
222	1022	61.07	0.00	-4.25	-0.54	24.17
223	2023	64.20	0.00	-5.01	1.82	3.80
223	1023	64.20	0.00	-5.01	1.82	27.80
224	2024	67.55	0.00	-8.04	2.67	-3.69
224	1024	67.55	0.00	-8.04	2.67	34.82
225	2025	70.90	0.00	-10.84	2.29	-11.28
225	1025	70.90	0.00	-10.84	2.29	40.60
226	2026	74.23	0.00	-13.57	1.63	-17.63
226	1026	74.23	0.00	-13.57	1.63	47.34
227	2027	77.56	0.00	-15.05	0.80	-21.09
227	1027	77.56	0.00	-15.05	0.80	50.96
228	2028	80.89	0.00	-15.54	-0.04	-22.23
228	1028	80.89	0.00	-15.54	-0.04	52.15
229	2029	84.22	0.00	-15.10	-0.87	-21.21
229	1029	84.22	0.00	-15.10	-0.87	51.09

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen,rico. VY-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-13.75	-1.63	-18.08
230	1030	87.55	0.00	-13.75	-1.63	47.78
231	2031	90.88	0.00	-11.64	-2.18	-12.75
231	1031	90.88	0.00	-11.64	-2.18	42.97
232	2032	94.21	0.00	-9.01	-2.20	-4.37
232	1032	94.21	0.00	-9.01	-2.20	38.76
233	2033	97.54	0.00	-6.31	-2.29	0.88
233	1033	97.54	0.00	-6.31	-2.29	31.09
234	2034	100.87	0.00	-4.40	-0.60	3.73
234	1034	100.87	0.00	-4.40	-0.60	24.81
235	2035	104.20	0.00	-4.15	1.00	3.31
235	1035	104.20	0.00	-4.15	1.00	23.19
236	2036	107.55	0.00	-6.08	2.43	-0.04
236	1036	107.55	0.00	-6.08	2.43	29.09
237	2037	110.90	0.00	-8.84	2.34	-6.87
237	1037	110.90	0.00	-8.84	2.34	35.44
238	2038	113.77	0.00	-10.84	1.84	-11.38
238	1038	113.77	0.00	-10.84	1.84	40.50
239	2039	116.64	0.00	-12.23	1.23	-14.49
239	1039	116.64	0.00	-12.23	1.23	44.08
240	2040	119.51	0.00	-12.98	0.57	-16.05
240	1040	119.51	0.00	-12.98	0.57	46.10
241	2041	122.38	0.00	-13.02	-0.15	-15.96
241	1041	122.38	0.00	-13.02	-0.15	46.38
242	2042	125.25	0.00	-12.31	-0.87	-13.99
242	1042	125.25	0.00	-12.31	-0.87	44.95
243	2043	128.12	0.00	-10.87	-1.52	-9.43
243	1043	128.12	0.00	-10.87	-1.52	42.61
244	2044	130.99	0.00	-8.76	-2.01	-3.16
244	1044	130.99	0.00	-8.76	-2.01	38.78
245	2045	133.86	0.00	-6.32	-2.20	3.79
245	1045	133.86	0.00	-6.32	-2.20	34.06
246	2046	136.73	0.00	-4.29	-1.08	4.13
246	1046	136.73	0.00	-4.29	-1.08	24.69
247	2047	139.60	0.00	-2.07	0.17	0.32
247	1047	139.60	0.00	-2.07	0.17	10.23
401	1001	0.00	0.00	-2.47	0.40	13.56
401	1	0.00	0.00	-2.47	0.40	15.43
402	1002	2.62	0.00	-5.88	0.75	28.94
402	2	2.62	0.00	-5.88	0.75	33.38
403	1003	5.24	0.00	-6.69	0.65	29.91
403	3	5.24	0.00	-6.69	0.65	34.97
404	1004	7.86	0.00	-7.27	0.34	31.34
404	4	7.86	0.00	-7.27	0.34	36.83
405	1005	10.48	0.00	-7.51	0.03	31.46
405	5	10.48	0.00	-7.51	0.03	37.13
406	1006	13.10	0.00	-7.36	-0.34	31.41
406	6	13.10	0.00	-7.36	-0.34	36.98

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen,rico. VY-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-6.83	-0.66	29.90
407	7	15.72	0.00	-6.83	-0.66	35.07
408	1008	18.34	0.00	-5.98	-0.91	27.55
408	8	18.34	0.00	-5.98	-0.91	32.08
409	1009	20.96	0.00	-4.97	-0.96	25.41
409	9	20.96	0.00	-4.97	-0.96	29.16
410	1010	23.58	0.00	-3.99	-0.70	23.59
410	10	23.58	0.00	-3.99	-0.70	26.61
411	1011	26.20	0.00	-4.32	0.88	28.91
411	11	26.20	0.00	-4.32	0.88	32.17
412	1012	29.55	0.00	-7.21	2.30	34.35
412	12	29.55	0.00	-7.21	2.30	39.80
413	1013	32.90	0.00	-9.88	2.11	39.31
413	13	32.90	0.00	-9.88	2.11	46.78
414	1014	36.03	0.00	-11.67	1.46	42.79
414	14	36.03	0.00	-11.67	1.46	51.61
415	1015	39.16	0.00	-13.01	0.76	46.25
415	15	39.16	0.00	-13.01	0.76	56.09
416	1016	42.29	0.00	-13.55	0.01	47.06
416	16	42.29	0.00	-13.55	0.01	57.30
417	1017	45.42	0.00	-13.28	-0.73	46.45
417	17	45.42	0.00	-13.28	-0.73	56.49
418	1018	48.55	0.00	-12.23	-1.38	44.29
418	18	48.55	0.00	-12.23	-1.38	53.53
419	1019	51.68	0.00	-10.49	-1.85	40.71
419	19	51.68	0.00	-10.49	-1.85	48.64
420	1020	54.81	0.00	-8.35	-2.04	36.41
420	20	54.81	0.00	-8.35	-2.04	42.73
421	1021	57.94	0.00	-5.98	-2.03	30.68
421	21	57.94	0.00	-5.98	-2.03	35.20
422	1022	61.07	0.00	-4.25	-0.54	24.17
422	22	61.07	0.00	-4.25	-0.54	27.39
423	1023	64.20	0.00	-5.01	1.82	27.80
423	23	64.20	0.00	-5.01	1.82	31.58
424	1024	67.55	0.00	-8.04	2.67	34.82
424	24	67.55	0.00	-8.04	2.67	40.91
425	1025	70.90	0.00	-10.84	2.29	40.60
425	25	70.90	0.00	-10.84	2.29	48.79
426	1026	74.23	0.00	-13.57	1.63	47.34
426	26	74.23	0.00	-13.57	1.63	57.60
427	1027	77.56	0.00	-15.05	0.80	50.96
427	27	77.56	0.00	-15.05	0.80	62.33
428	1028	80.89	0.00	-15.54	-0.04	52.15
428	28	80.89	0.00	-15.54	-0.04	63.90
429	1029	84.22	0.00	-15.10	-0.87	51.09
429	29	84.22	0.00	-15.10	-0.87	62.51
430	1030	87.55	0.00	-13.75	-1.63	47.78
430	30	87.55	0.00	-13.75	-1.63	58.18

IZQINT2.ENV_TREN_GENERICO.VY-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen,rico. VY-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-11.64	-2.18	42.96
431	31	90.88	0.00	-11.64	-2.18	51.76
432	1032	94.21	0.00	-9.01	-2.20	38.76
432	32	94.21	0.00	-9.01	-2.20	45.57
433	1033	97.54	0.00	-6.31	-2.29	31.09
433	33	97.54	0.00	-6.31	-2.29	35.85
434	1034	100.87	0.00	-4.40	-0.60	24.81
434	34	100.87	0.00	-4.40	-0.60	28.14
435	1035	104.20	0.00	-4.15	1.00	23.19
435	35	104.20	0.00	-4.15	1.00	26.33
436	1036	107.55	0.00	-6.08	2.43	29.09
436	36	107.55	0.00	-6.08	2.43	33.69
437	1037	110.90	0.00	-8.84	2.34	35.44
437	37	110.90	0.00	-8.84	2.34	42.11
438	1038	113.77	0.00	-10.84	1.84	40.50
438	38	113.77	0.00	-10.84	1.84	48.69
439	1039	116.64	0.00	-12.23	1.23	44.08
439	39	116.64	0.00	-12.23	1.23	53.33
440	1040	119.51	0.00	-12.98	0.57	46.10
440	40	119.51	0.00	-12.98	0.57	55.91
441	1041	122.38	0.00	-13.02	-0.15	46.38
441	41	122.38	0.00	-13.02	-0.15	56.22
442	1042	125.25	0.00	-12.31	-0.87	44.95
442	42	125.25	0.00	-12.31	-0.87	54.26
443	1043	128.12	0.00	-10.87	-1.52	42.61
443	43	128.12	0.00	-10.87	-1.52	50.83
444	1044	130.99	0.00	-8.76	-2.01	38.78
444	44	130.99	0.00	-8.76	-2.01	45.40
445	1045	133.86	0.00	-6.32	-2.20	34.06
445	45	133.86	0.00	-6.32	-2.20	38.84
446	1046	136.73	0.00	-4.29	-1.08	24.69
446	46	136.73	0.00	-4.29	-1.08	27.93
447	1047	139.60	0.00	-2.07	0.17	10.23
447	47	139.60	0.00	-2.07	0.17	11.79

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen,rico. MX-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-7.88	1.43	-0.03
1	2	2.62	0.00	-13.97	-34.45	77.69
2	2	2.62	0.00	-15.70	-25.47	77.51
2	3	5.24	0.00	-2.09	-60.08	169.13
3	3	5.24	0.00	-4.54	-48.02	168.98
3	4	7.86	0.00	11.55	-80.33	255.13
4	4	7.86	0.00	8.43	-65.49	255.07
4	5	10.48	0.00	26.76	-95.47	318.58
5	5	10.48	0.00	25.40	-78.37	298.14
5	6	13.10	0.00	45.75	-106.14	318.03
6	6	13.10	0.00	46.78	-87.83	266.16
6	7	15.72	0.00	67.57	-112.03	222.49
7	7	15.72	0.00	64.09	-93.44	223.02
7	8	18.34	0.00	86.35	-115.10	139.62
8	8	18.34	0.00	86.42	-96.62	91.81
8	9	20.96	0.00	110.88	-117.87	-76.83
9	9	20.96	0.00	108.21	-100.33	-76.09
9	10	23.58	0.00	134.84	-122.19	-334.74
10	10	23.58	0.00	126.63	-106.10	-221.71
10	10011	26.20	0.00	156.62	-130.47	-565.27
11	11	26.20	0.00	-27.17	-114.16	-429.10
11	12	29.55	0.00	-20.66	-146.09	-311.03
12	12	29.55	0.00	-22.48	-129.39	-310.78
12	13	32.90	0.00	-12.00	-161.05	-168.04
13	13	32.90	0.00	-14.33	-142.86	-168.18
13	14	36.03	0.00	-1.16	-173.36	-29.26
14	14	36.03	0.00	-4.46	-152.31	-29.49
14	15	39.16	0.00	10.11	-179.86	103.19
15	15	39.16	0.00	5.57	-154.72	103.04
15	16	42.29	0.00	22.19	-179.46	218.07
16	16	42.29	0.00	16.47	-150.49	218.17
16	17	45.42	0.00	35.82	-172.43	311.60
17	17	45.42	0.00	29.17	-140.38	312.08
17	18	48.55	0.00	50.72	-159.22	363.58
18	18	48.55	0.00	36.62	-126.72	270.01
18	19	51.68	0.00	56.35	-142.66	259.93
19	19	51.68	0.00	55.49	-114.22	201.85
19	20	54.81	0.00	77.29	-129.44	114.57
20	20	54.81	0.00	72.99	-103.72	115.81
20	21	57.94	0.00	97.04	-119.47	-53.06
21	21	57.94	0.00	97.54	-97.52	-108.00
21	22	61.07	0.00	123.96	-115.02	-388.57
22	22	61.07	0.00	109.53	-96.71	-286.54
22	10023	64.20	0.00	138.22	-116.88	-645.26
23	23	64.20	0.00	-42.18	-101.38	-576.52
23	24	67.55	0.00	-41.38	-127.70	-511.54
24	24	67.55	0.00	-32.98	-115.91	-472.05
24	25	70.90	0.00	-24.23	-146.88	-265.75

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen,rico. MX-

1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-22.79	-133.41	-289.37
25	26	74.23	0.00	-10.32	-164.94	-78.37
26	26	74.23	0.00	-11.24	-146.09	-107.78
26	27	77.56	0.00	4.44	-175.51	92.78
27	27	77.56	0.00	0.95	-151.05	60.02
27	28	80.89	0.00	18.98	-176.99	203.01
28	28	80.89	0.00	13.54	-147.06	203.03
28	29	84.22	0.00	33.81	-169.12	312.65
29	29	84.22	0.00	27.05	-134.90	313.10
29	30	87.55	0.00	49.41	-153.14	375.07
30	30	87.55	0.00	33.50	-118.19	308.51
30	31	90.88	0.00	54.29	-133.26	311.85
31	31	90.88	0.00	47.38	-101.14	310.67
31	32	94.21	0.00	70.31	-115.18	248.51
32	32	94.21	0.00	32.47	-88.48	167.68
32	33	97.54	0.00	57.78	-102.90	126.14
33	33	97.54	0.00	46.34	-82.94	17.44
33	34	100.87	0.00	74.18	-99.17	-108.52
34	34	100.87	0.00	74.99	-81.18	-155.52
34	10035	104.20	0.00	105.34	-100.37	-422.29
35	35	104.20	0.00	-27.96	-83.35	-294.07
35	36	107.55	0.00	-21.38	-106.24	-178.77
36	36	107.55	0.00	-13.79	-90.49	-144.55
36	37	110.90	0.00	-9.84	-121.69	-89.31
37	37	110.90	0.00	-16.86	-103.91	-171.79
37	38	113.77	0.00	-5.69	-131.93	-21.44
38	38	113.77	0.00	-13.28	-112.42	-164.69
38	39	116.64	0.00	-0.15	-139.98	-0.81
39	39	116.64	0.00	-3.00	-117.43	-1.07
39	40	119.51	0.00	11.79	-143.12	153.72
40	40	119.51	0.00	7.45	-115.43	153.56
40	41	122.38	0.00	23.51	-137.72	292.79
41	41	122.38	0.00	17.86	-105.41	292.87
41	42	125.25	0.00	35.00	-123.66	407.31
42	42	125.25	0.00	26.59	-88.00	367.96
42	43	128.12	0.00	47.86	-103.60	480.01
43	43	128.12	0.00	39.31	-67.26	448.16
43	44	130.99	0.00	60.26	-79.54	472.25
44	44	130.99	0.00	44.06	-44.80	387.18
44	45	133.86	0.00	64.09	-54.17	349.38
45	45	133.86	0.00	36.12	-24.80	214.96
45	46	136.73	0.00	58.65	-32.34	161.63
46	46	136.73	0.00	42.41	-7.55	125.63
46	47	139.60	0.00	67.54	-12.86	-0.24
101	101	0.00	0.00	-7.10	-3.65	0.19
101	102	2.62	0.00	-7.10	-3.65	18.80
102	102	2.62	0.00	5.63	-10.63	-13.83
102	103	5.24	0.00	5.63	-10.63	-28.58

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen,rico. MX-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-14.25	-84.69	64.89
127	128	80.89	0.00	-14.25	-84.69	112.36
128	128	80.89	0.00	-3.61	-79.36	56.90
128	129	84.22	0.00	-3.61	-79.36	68.93
129	129	84.22	0.00	4.13	-84.81	-28.86
129	130	87.55	0.00	4.13	-84.81	-42.60
130	130	87.55	0.00	4.59	-96.42	-68.61
130	131	90.88	0.00	4.59	-96.42	-83.90
131	131	90.88	0.00	1.17	-110.85	-125.32
131	132	94.21	0.00	1.17	-110.85	-129.23
132	132	94.21	0.00	-1.18	-126.76	-134.10
132	133	97.54	0.00	-1.18	-126.76	-130.16
133	133	97.54	0.00	-2.36	-141.28	-129.87
133	134	100.87	0.00	-2.36	-141.28	-122.01
134	134	100.87	0.00	-2.23	-152.54	-127.53
134	135	104.20	0.00	-2.23	-152.54	-120.12
135	135	104.20	0.00	0.33	-157.41	-119.81
135	136	107.55	0.00	0.33	-157.41	-120.91
136	136	107.55	0.00	5.51	-153.65	-124.25
136	10137	110.90	0.00	5.51	-153.65	-142.71
137	137	110.90	0.00	-53.06	-140.96	-140.53
137	138	113.77	0.00	-53.06	-140.96	11.75
138	138	113.77	0.00	-43.36	-121.89	13.66
138	139	116.64	0.00	-43.36	-121.89	138.09
139	139	116.64	0.00	-32.02	-98.08	139.41
139	140	119.51	0.00	-32.02	-98.08	231.32
140	140	119.51	0.00	-19.22	-71.93	229.82
140	141	122.38	0.00	-19.22	-71.93	284.97
141	141	122.38	0.00	-7.01	-45.97	253.88
141	142	125.25	0.00	-7.01	-45.97	274.01
142	142	125.25	0.00	1.35	-25.52	211.29
142	143	128.12	0.00	1.35	-25.52	207.41
143	143	128.12	0.00	2.89	-12.85	120.98
143	144	130.99	0.00	2.89	-12.85	112.67
144	144	130.99	0.00	1.62	-6.77	48.03
144	145	133.86	0.00	1.62	-6.77	43.38
145	145	133.86	0.00	-2.57	-4.31	-5.62
145	146	136.73	0.00	-2.57	-4.31	1.74
146	146	136.73	0.00	0.19	-1.85	0.39
146	147	139.60	0.00	0.19	-1.85	-0.15
301	101	0.00	0.00	-0.81	-0.22	2.07
301	2001	0.00	0.00	-0.81	-0.22	2.68
302	102	2.62	0.00	-1.76	-0.44	4.61
302	2002	2.62	0.00	-1.76	-0.44	5.94
303	103	5.24	0.00	-1.16	-0.42	6.27
303	2003	5.24	0.00	-1.16	-0.42	7.15
304	104	7.86	0.00	-1.30	-0.36	6.28
304	2004	7.86	0.00	-1.30	-0.36	7.26

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Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.MX-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen,rico. MX-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-2.34	-0.33	4.23
305	2005	10.48	0.00	-2.34	-0.33	6.00
306	106	13.10	0.00	-4.34	-0.44	-2.04
306	2006	13.10	0.00	-4.34	-0.44	1.24
307	107	15.72	0.00	-6.22	-0.71	-8.94
307	2007	15.72	0.00	-6.22	-0.71	-4.23
308	108	18.34	0.00	-5.28	-1.00	-6.08
308	2008	18.34	0.00	-5.28	-1.00	-2.09
309	109	20.96	0.00	-4.21	-1.17	-2.71
309	2009	20.96	0.00	-4.21	-1.17	0.47
310	110	23.58	0.00	-2.84	-1.17	1.35
310	2010	23.58	0.00	-2.84	-1.17	3.50
311	111	26.20	0.00	-1.75	-1.06	5.90
311	2011	26.20	0.00	-1.75	-1.06	7.22
312	112	29.55	0.00	-0.48	-0.67	10.87
312	2012	29.55	0.00	-0.48	-0.67	11.23
313	113	32.90	0.00	0.32	-0.35	11.96
313	2013	32.90	0.00	0.32	-0.35	11.72
314	114	36.03	0.00	-0.88	-0.23	6.82
314	2014	36.03	0.00	-0.88	-0.23	7.49
315	115	39.16	0.00	-2.49	-0.30	2.15
315	2015	39.16	0.00	-2.49	-0.30	4.03
316	116	42.29	0.00	-5.92	-0.53	-7.35
316	2016	42.29	0.00	-5.92	-0.53	-2.88
317	117	45.42	0.00	-8.68	-0.96	-15.17
317	2017	45.42	0.00	-8.68	-0.96	-8.61
318	118	48.55	0.00	-10.31	-1.48	-19.70
318	2018	48.55	0.00	-10.31	-1.48	-11.90
319	119	51.68	0.00	-9.75	-2.04	-18.85
319	2019	51.68	0.00	-9.75	-2.04	-11.48
320	120	54.81	0.00	-7.67	-2.47	-11.84
320	2020	54.81	0.00	-7.67	-2.47	-6.04
321	121	57.94	0.00	-4.86	-2.65	-2.92
321	2021	57.94	0.00	-4.86	-2.65	0.76
322	122	61.07	0.00	-1.99	-2.47	5.91
322	2022	61.07	0.00	-1.99	-2.47	7.42
323	123	64.20	0.00	0.64	-1.89	13.94
323	2023	64.20	0.00	0.64	-1.89	13.46
324	124	67.55	0.00	2.33	-1.04	19.71
324	2024	67.55	0.00	2.33	-1.04	17.95
325	125	70.90	0.00	1.91	-0.43	18.55
325	2025	70.90	0.00	1.91	-0.43	17.11
326	126	74.23	0.00	-1.14	-0.28	7.29
326	2026	74.23	0.00	-1.14	-0.28	8.15
327	127	77.56	0.00	-2.70	-0.39	3.41
327	2027	77.56	0.00	-2.70	-0.39	5.45
328	128	80.89	0.00	-6.45	-0.67	-7.48
328	2028	80.89	0.00	-6.45	-0.67	-2.60

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen,rico. MX-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-9.18	-1.16	-15.04
329	2029	84.22	0.00	-9.18	-1.16	-8.11
330	130	87.55	0.00	-11.05	-1.72	-20.55
330	2030	87.55	0.00	-11.05	-1.72	-12.19
331	131	90.88	0.00	-10.94	-2.31	-22.19
331	2031	90.88	0.00	-10.94	-2.31	-13.92
332	132	94.21	0.00	-8.08	-2.77	-13.46
332	2032	94.21	0.00	-8.08	-2.77	-7.35
333	133	97.54	0.00	-5.11	-2.93	-3.74
333	2033	97.54	0.00	-5.11	-2.93	0.12
334	134	100.87	0.00	-1.81	-2.67	5.93
334	2034	100.87	0.00	-1.81	-2.67	7.30
335	135	104.20	0.00	0.92	-1.69	13.06
335	2035	104.20	0.00	0.92	-1.69	12.36
336	136	107.55	0.00	1.90	-0.70	14.78
336	2036	107.55	0.00	1.90	-0.70	13.34
337	137	110.90	0.00	1.48	-0.18	14.26
337	2037	110.90	0.00	1.48	-0.18	13.15
338	138	113.77	0.00	-0.92	0.01	6.00
338	2038	113.77	0.00	-0.92	0.01	6.70
339	139	116.64	0.00	-3.05	-0.02	-2.28
339	2039	116.64	0.00	-3.05	-0.02	0.03
340	140	119.51	0.00	-4.72	-0.16	-6.84
340	2040	119.51	0.00	-4.72	-0.16	-3.27
341	141	122.38	0.00	-7.76	-0.47	-14.42
341	2041	122.38	0.00	-7.76	-0.47	-8.55
342	142	125.25	0.00	-9.21	-0.97	-18.06
342	2042	125.25	0.00	-9.21	-0.97	-11.09
343	143	128.12	0.00	-10.20	-1.64	-18.51
343	2043	128.12	0.00	-10.20	-1.64	-10.80
344	144	130.99	0.00	-7.91	-2.31	-11.21
344	2044	130.99	0.00	-7.91	-2.31	-5.22
345	145	133.86	0.00	-4.76	-2.88	-1.27
345	2045	133.86	0.00	-4.76	-2.88	2.33
346	146	136.73	0.00	-1.67	-3.28	9.54
346	2046	136.73	0.00	-1.67	-3.28	10.79
347	147	139.60	0.00	1.28	-1.72	11.44
347	2047	139.60	0.00	1.28	-1.72	10.47
201	2001	0.00	0.00	-0.81	-0.22	2.68
201	1001	0.00	0.00	-0.81	-0.22	6.55
202	2002	2.62	0.00	-1.76	-0.44	5.94
202	1002	2.62	0.00	-1.76	-0.44	14.38
203	2003	5.24	0.00	-1.16	-0.42	7.15
203	1003	5.24	0.00	-1.16	-0.42	12.68
204	2004	7.86	0.00	-1.30	-0.36	7.26
204	1004	7.86	0.00	-1.30	-0.36	13.47
205	2005	10.48	0.00	-2.34	-0.33	6.00
205	1005	10.48	0.00	-2.34	-0.33	17.18

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Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.MX-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen,rico. MX-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-4.34	-0.44	1.24
206	1006	13.10	0.00	-4.34	-0.44	22.02
207	2007	15.72	0.00	-6.22	-0.71	-4.24
207	1007	15.72	0.00	-6.22	-0.71	25.56
208	2008	18.34	0.00	-5.28	-1.00	-2.09
208	1008	18.34	0.00	-5.28	-1.00	23.19
209	2009	20.96	0.00	-4.21	-1.17	0.47
209	1009	20.96	0.00	-4.21	-1.17	20.65
210	2010	23.58	0.00	-2.84	-1.17	3.50
210	1010	23.58	0.00	-2.84	-1.17	17.12
211	2011	26.20	0.00	-1.75	-1.06	7.22
211	1011	26.20	0.00	-1.75	-1.06	15.61
212	2012	29.55	0.00	-0.48	-0.67	11.23
212	1012	29.55	0.00	-0.48	-0.67	13.54
213	2013	32.90	0.00	0.32	-0.35	11.72
213	1013	32.90	0.00	0.32	-0.35	10.18
214	2014	36.03	0.00	-0.88	-0.23	7.49
214	1014	36.03	0.00	-0.88	-0.23	11.70
215	2015	39.16	0.00	-2.49	-0.30	4.03
215	1015	39.16	0.00	-2.49	-0.30	15.93
216	2016	42.29	0.00	-5.92	-0.53	-2.88
216	1016	42.29	0.00	-5.92	-0.53	25.44
217	2017	45.42	0.00	-8.68	-0.96	-8.61
217	1017	45.42	0.00	-8.68	-0.96	32.98
218	2018	48.55	0.00	-10.31	-1.48	-11.90
218	1018	48.55	0.00	-10.31	-1.48	37.48
219	2019	51.68	0.00	-9.75	-2.04	-11.48
219	1019	51.68	0.00	-9.75	-2.04	35.20
220	2020	54.81	0.00	-7.67	-2.47	-6.04
220	1020	54.81	0.00	-7.67	-2.47	30.69
221	2021	57.94	0.00	-4.86	-2.65	0.76
221	1021	57.94	0.00	-4.86	-2.65	24.01
222	2022	61.07	0.00	-1.99	-2.47	7.42
222	1022	61.07	0.00	-1.99	-2.47	16.96
223	2023	64.20	0.00	0.64	-1.89	13.46
223	1023	64.20	0.00	0.64	-1.89	10.38
224	2024	67.55	0.00	2.33	-1.04	17.95
224	1024	67.55	0.00	2.33	-1.04	6.81
225	2025	70.90	0.00	1.91	-0.43	17.11
225	1025	70.90	0.00	1.91	-0.43	7.97
226	2026	74.23	0.00	-1.14	-0.28	8.15
226	1026	74.23	0.00	-1.14	-0.28	13.59
227	2027	77.56	0.00	-2.70	-0.39	5.45
227	1027	77.56	0.00	-2.70	-0.39	18.38
228	2028	80.89	0.00	-6.45	-0.67	-2.60
228	1028	80.89	0.00	-6.45	-0.67	28.28
229	2029	84.22	0.00	-9.18	-1.16	-8.11
229	1029	84.22	0.00	-9.18	-1.16	35.83

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen,rico. MX-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-11.05	-1.72	-12.19
230	1030	87.55	0.00	-11.05	-1.72	40.70
231	2031	90.88	0.00	-10.94	-2.31	-13.92
231	1031	90.88	0.00	-10.94	-2.31	38.46
232	2032	94.21	0.00	-8.08	-2.77	-7.35
232	1032	94.21	0.00	-8.08	-2.77	31.33
233	2033	97.54	0.00	-5.11	-2.93	0.12
233	1033	97.54	0.00	-5.11	-2.93	24.61
234	2034	100.87	0.00	-1.81	-2.67	7.30
234	1034	100.87	0.00	-1.81	-2.67	15.96
235	2035	104.20	0.00	0.92	-1.69	12.36
235	1035	104.20	0.00	0.92	-1.69	7.95
236	2036	107.55	0.00	1.90	-0.70	13.34
236	1036	107.55	0.00	1.90	-0.70	4.24
237	2037	110.90	0.00	1.48	-0.18	13.15
237	1037	110.90	0.00	1.48	-0.18	6.07
238	2038	113.77	0.00	-0.92	0.01	6.70
238	1038	113.77	0.00	-0.92	0.01	11.08
239	2039	116.64	0.00	-3.05	-0.02	0.03
239	1039	116.64	0.00	-3.05	-0.02	14.64
240	2040	119.51	0.00	-4.72	-0.16	-3.27
240	1040	119.51	0.00	-4.72	-0.16	19.34
241	2041	122.38	0.00	-7.76	-0.47	-8.55
241	1041	122.38	0.00	-7.76	-0.47	28.61
242	2042	125.25	0.00	-9.21	-0.97	-11.09
242	1042	125.25	0.00	-9.21	-0.97	33.02
243	2043	128.12	0.00	-10.20	-1.64	-10.80
243	1043	128.12	0.00	-10.20	-1.64	38.01
244	2044	130.99	0.00	-7.91	-2.31	-5.22
244	1044	130.99	0.00	-7.91	-2.31	32.67
245	2045	133.86	0.00	-4.76	-2.88	2.33
245	1045	133.86	0.00	-4.76	-2.88	25.12
246	2046	136.73	0.00	-1.67	-3.28	10.79
246	1046	136.73	0.00	-1.67	-3.28	18.77
247	2047	139.60	0.00	1.28	-1.72	10.47
247	1047	139.60	0.00	1.28	-1.72	4.32
401	1001	0.00	0.00	-0.81	-0.22	6.55
401	1	0.00	0.00	-0.81	-0.22	7.16
402	1002	2.62	0.00	-1.76	-0.44	14.38
402	2	2.62	0.00	-1.76	-0.44	15.71
403	1003	5.24	0.00	-1.16	-0.42	12.68
403	3	5.24	0.00	-1.16	-0.42	13.56
404	1004	7.86	0.00	-1.30	-0.36	13.47
404	4	7.86	0.00	-1.30	-0.36	14.45
405	1005	10.48	0.00	-2.34	-0.33	17.18
405	5	10.48	0.00	-2.34	-0.33	18.95
406	1006	13.10	0.00	-4.34	-0.44	22.02
406	6	13.10	0.00	-4.34	-0.44	25.30

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Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.MX-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen,rico. MX-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-6.22	-0.71	25.56
407	7	15.72	0.00	-6.22	-0.71	30.27
408	1008	18.34	0.00	-5.28	-1.00	23.19
408	8	18.34	0.00	-5.28	-1.00	27.18
409	1009	20.96	0.00	-4.21	-1.17	20.65
409	9	20.96	0.00	-4.21	-1.17	23.84
410	1010	23.58	0.00	-2.84	-1.17	17.12
410	10	23.58	0.00	-2.84	-1.17	19.27
411	1011	26.20	0.00	-1.75	-1.06	15.61
411	11	26.20	0.00	-1.75	-1.06	16.93
412	1012	29.55	0.00	-0.48	-0.67	13.54
412	12	29.55	0.00	-0.48	-0.67	13.90
413	1013	32.90	0.00	0.32	-0.35	10.18
413	13	32.90	0.00	0.32	-0.35	9.93
414	1014	36.03	0.00	-0.88	-0.23	11.70
414	14	36.03	0.00	-0.88	-0.23	12.36
415	1015	39.16	0.00	-2.49	-0.30	15.93
415	15	39.16	0.00	-2.49	-0.30	17.81
416	1016	42.29	0.00	-5.91	-0.53	25.44
416	16	42.29	0.00	-5.91	-0.53	29.91
417	1017	45.42	0.00	-8.68	-0.96	32.98
417	17	45.42	0.00	-8.68	-0.96	39.54
418	1018	48.55	0.00	-10.31	-1.48	37.48
418	18	48.55	0.00	-10.31	-1.48	45.27
419	1019	51.68	0.00	-9.75	-2.04	35.20
419	19	51.68	0.00	-9.75	-2.04	42.57
420	1020	54.81	0.00	-7.67	-2.47	30.69
420	20	54.81	0.00	-7.67	-2.47	36.49
421	1021	57.94	0.00	-4.86	-2.65	24.01
421	21	57.94	0.00	-4.86	-2.65	27.69
422	1022	61.07	0.00	-1.99	-2.47	16.96
422	22	61.07	0.00	-1.99	-2.47	18.47
423	1023	64.20	0.00	0.64	-1.89	10.38
423	23	64.20	0.00	0.64	-1.89	9.89
424	1024	67.55	0.00	2.33	-1.04	6.81
424	24	67.55	0.00	2.33	-1.04	5.05
425	1025	70.90	0.00	1.91	-0.43	7.97
425	25	70.90	0.00	1.91	-0.43	6.53
426	1026	74.23	0.00	-1.14	-0.28	13.59
426	26	74.23	0.00	-1.14	-0.28	14.45
427	1027	77.56	0.00	-2.70	-0.39	18.38
427	27	77.56	0.00	-2.70	-0.39	20.42
428	1028	80.89	0.00	-6.45	-0.67	28.28
428	28	80.89	0.00	-6.45	-0.67	33.15
429	1029	84.22	0.00	-9.18	-1.16	35.83
429	29	84.22	0.00	-9.18	-1.16	42.76
430	1030	87.55	0.00	-11.05	-1.72	40.70
430	30	87.55	0.00	-11.05	-1.72	49.06

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen,rico. MX-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-10.94	-2.31	38.46
431	31	90.88	0.00	-10.94	-2.31	46.73
432	1032	94.21	0.00	-8.08	-2.77	31.33
432	32	94.21	0.00	-8.08	-2.77	37.44
433	1033	97.54	0.00	-5.11	-2.93	24.61
433	33	97.54	0.00	-5.11	-2.93	28.48
434	1034	100.87	0.00	-1.81	-2.67	15.96
434	34	100.87	0.00	-1.81	-2.67	17.33
435	1035	104.20	0.00	0.92	-1.69	7.95
435	35	104.20	0.00	0.92	-1.69	7.25
436	1036	107.55	0.00	1.90	-0.70	4.24
436	36	107.55	0.00	1.90	-0.70	2.81
437	1037	110.90	0.00	1.48	-0.18	6.07
437	37	110.90	0.00	1.48	-0.18	4.95
438	1038	113.77	0.00	-0.92	0.01	11.08
438	38	113.77	0.00	-0.92	0.01	11.77
439	1039	116.64	0.00	-3.05	-0.02	14.64
439	39	116.64	0.00	-3.05	-0.02	16.94
440	1040	119.51	0.00	-4.72	-0.16	19.34
440	40	119.51	0.00	-4.72	-0.16	22.91
441	1041	122.38	0.00	-7.76	-0.47	28.61
441	41	122.38	0.00	-7.76	-0.47	34.48
442	1042	125.25	0.00	-9.21	-0.97	33.02
442	42	125.25	0.00	-9.21	-0.97	39.98
443	1043	128.12	0.00	-10.20	-1.64	38.01
443	43	128.12	0.00	-10.20	-1.64	45.72
444	1044	130.99	0.00	-7.91	-2.31	32.67
444	44	130.99	0.00	-7.91	-2.31	38.65
445	1045	133.86	0.00	-4.76	-2.88	25.12
445	45	133.86	0.00	-4.76	-2.88	28.72
446	1046	136.73	0.00	-1.67	-3.28	18.77
446	46	136.73	0.00	-1.67	-3.28	20.02
447	1047	139.60	0.00	1.28	-1.72	4.32
447	47	139.60	0.00	1.28	-1.72	3.35

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen,rico. MZ-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-112.29	10.84	-0.58
1	2	2.62	0.00	17.69	2.76	-42.71
2	2	2.62	0.00	17.04	13.32	-42.33
2	3	5.24	0.00	19.84	8.36	-90.89
3	3	5.24	0.00	19.80	16.52	-90.55
3	4	7.86	0.00	22.42	13.30	-145.87
4	4	7.86	0.00	22.75	20.37	-145.59
4	5	10.48	0.00	25.37	17.15	-208.64
5	5	10.48	0.00	26.01	23.37	-208.46
5	6	13.10	0.00	28.63	20.14	-280.04
6	6	13.10	0.00	29.46	25.88	-279.99
6	7	15.72	0.00	32.08	22.65	-360.60
7	7	15.72	0.00	32.94	28.43	-360.74
7	8	18.34	0.00	35.56	25.21	-450.49
8	8	18.34	0.00	36.24	31.79	-450.89
8	9	20.96	0.00	38.86	28.57	-549.27
9	9	20.96	0.00	39.03	36.97	-550.00
9	10	23.58	0.00	95.84	-35.19	-730.86
10	10	23.58	0.00	94.02	-16.36	-731.39
10	10011	26.20	0.00	154.60	-60.78	-1052.98
11	11	26.20	0.00	-183.88	-31.69	-1054.15
11	12	29.55	0.00	-105.55	-86.39	-576.11
12	12	29.55	0.00	-109.88	-55.76	-577.51
12	13	32.90	0.00	-56.78	-76.04	-324.52
13	13	32.90	0.00	-60.14	-51.49	-325.37
13	14	36.03	0.00	-23.08	-58.56	-209.73
14	14	36.03	0.00	-24.46	-42.35	-209.84
14	15	39.16	0.00	-2.00	-55.55	-190.14
15	15	39.16	0.00	-1.24	-46.21	-190.17
15	16	42.29	0.00	2.52	-61.41	-192.22
16	16	42.29	0.00	3.57	-53.70	-192.38
16	17	45.42	0.00	12.23	-35.19	-217.49
17	17	45.42	0.00	13.64	-29.05	-217.69
17	18	48.55	0.00	17.21	-42.71	-265.84
18	18	48.55	0.00	18.44	-35.42	-266.16
18	19	51.68	0.00	21.57	-39.27	-328.77
19	19	51.68	0.00	22.70	-31.61	-329.28
19	20	54.81	0.00	27.29	-41.60	-406.48
20	20	54.81	0.00	27.90	-31.71	-407.20
20	21	57.94	0.00	63.40	12.94	-552.96
21	21	57.94	0.00	63.48	23.76	-553.03
21	22	61.07	0.00	109.46	11.15	-836.21
22	22	61.07	0.00	108.87	26.08	-836.22
22	10023	64.20	0.00	180.22	-12.67	-1295.04
23	23	64.20	0.00	-199.05	9.97	-1295.90
23	24	67.55	0.00	-124.72	-37.19	-802.22
24	24	67.55	0.00	-126.22	-17.86	-803.41
24	25	70.90	0.00	-70.88	-40.59	-501.36

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen,rico. MZ-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-71.36	-27.22	-502.18
25	26	74.23	0.00	-35.09	-38.08	-336.47
26	26	74.23	0.00	-33.67	-32.33	-336.75
26	27	77.56	0.00	-14.79	-14.54	-269.00
27	27	77.56	0.00	-11.78	-11.84	-269.22
27	28	80.89	0.00	-7.99	-24.97	-236.21
28	28	80.89	0.00	-5.12	-22.42	-236.58
28	29	84.22	0.00	-1.77	-26.78	-225.09
29	29	84.22	0.00	0.76	-23.14	-225.56
29	30	87.55	0.00	10.70	-14.85	-253.98
30	30	87.55	0.00	13.01	-9.67	-254.39
30	31	90.88	0.00	16.40	-15.57	-303.29
31	31	90.88	0.00	18.50	-9.33	-303.87
31	32	94.21	0.00	23.46	-21.62	-372.39
32	32	94.21	0.00	25.02	-12.49	-373.15
32	33	97.54	0.00	64.18	30.92	-532.56
33	33	97.54	0.00	65.33	41.57	-532.43
33	34	100.87	0.00	112.78	37.04	-842.61
34	34	100.87	0.00	113.45	51.68	-842.43
34	10035	104.20	0.00	188.84	9.03	-1349.96
35	35	104.20	0.00	-204.47	28.79	-1350.72
35	36	107.55	0.00	-112.44	-14.09	-845.89
36	36	107.55	0.00	-112.12	-0.58	-846.69
36	37	110.90	0.00	-67.03	-14.55	-539.34
37	37	110.90	0.00	-66.34	-4.15	-539.95
37	38	113.77	0.00	-33.51	-31.17	-409.73
38	38	113.77	0.00	-31.47	-28.27	-409.84
38	39	116.64	0.00	-28.60	-31.80	-323.65
39	39	116.64	0.00	-26.94	-27.93	-323.94
39	40	119.51	0.00	-24.07	-31.46	-250.74
40	40	119.51	0.00	-22.93	-26.16	-251.15
40	41	122.38	0.00	-19.38	-45.43	-190.83
41	41	122.38	0.00	-18.56	-40.00	-191.32
41	42	125.25	0.00	-15.69	-43.53	-142.17
42	42	125.25	0.00	-15.44	-36.48	-142.69
42	43	128.12	0.00	-12.23	-44.76	-103.20
43	43	128.12	0.00	-12.74	-34.85	-103.72
43	44	130.99	0.00	-9.87	-38.38	-71.29
44	44	130.99	0.00	-10.94	-26.82	-71.83
44	45	133.86	0.00	-8.07	-30.35	-44.57
45	45	133.86	0.00	-9.73	-17.00	-45.12
45	46	136.73	0.00	-6.86	-20.53	-21.32
46	46	136.73	0.00	-9.16	-5.22	-21.89
46	47	139.60	0.00	140.77	-3.35	-1.72
101	101	0.00	0.00	1.62	-2.07	-0.22
101	102	2.62	0.00	9.13	-2.85	-24.04
102	102	2.62	0.00	9.31	-9.48	-24.33
102	103	5.24	0.00	9.31	-9.48	-48.71

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Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.MZ-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen,rico. MZ-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	9.15	-17.32	-48.99
103	104	7.86	0.00	9.15	-17.32	-72.97
104	104	7.86	0.00	8.67	-26.25	-73.20
104	105	10.48	0.00	8.67	-26.25	-95.92
105	105	10.48	0.00	7.92	-36.14	-96.08
105	106	13.10	0.00	7.92	-36.14	-116.82
106	106	13.10	0.00	6.97	-46.75	-116.86
106	107	15.72	0.00	6.97	-46.75	-135.12
107	107	15.72	0.00	5.96	-57.69	-134.98
107	108	18.34	0.00	5.96	-57.69	-150.61
108	108	18.34	0.00	5.10	-68.35	-150.24
108	109	20.96	0.00	5.10	-68.35	-163.61
109	109	20.96	0.00	4.68	-77.84	-162.93
109	110	23.58	0.00	4.68	-77.84	-175.18
110	110	23.58	0.00	5.07	-84.98	-174.11
110	111	26.20	0.00	5.37	-85.70	-187.60
111	111	26.20	0.00	7.42	-88.76	-185.85
111	112	29.55	0.00	26.62	-30.14	-245.20
112	112	29.55	0.00	33.18	-28.70	-243.05
112	10113	32.90	0.00	33.18	-28.70	-354.19
113	113	32.90	0.00	-64.44	-18.62	-352.14
113	114	36.03	0.00	-51.24	5.80	-166.32
114	114	36.03	0.00	-39.15	16.79	-165.46
114	115	39.16	0.00	-5.08	29.33	-105.66
115	115	39.16	0.00	-4.70	18.59	-105.67
115	116	42.29	0.00	4.99	6.77	-114.40
116	116	42.29	0.00	3.94	-7.33	-114.24
116	117	45.42	0.00	7.32	-23.28	-130.34
117	117	45.42	0.00	5.87	-37.87	-130.11
117	118	48.55	0.00	5.87	-37.87	-148.50
118	118	48.55	0.00	4.41	-52.52	-148.15
118	119	51.68	0.00	4.41	-52.52	-161.96
119	119	51.68	0.00	3.07	-66.84	-161.43
119	120	54.81	0.00	3.23	-68.92	-171.23
120	120	54.81	0.00	2.17	-82.07	-170.47
120	121	57.94	0.00	2.29	-84.51	-177.36
121	121	57.94	0.00	1.91	-95.46	-176.26
121	122	61.07	0.00	2.31	-98.73	-182.59
122	122	61.07	0.00	3.27	-106.91	-181.07
122	123	64.20	0.00	6.25	-106.83	-195.67
123	123	64.20	0.00	9.59	-101.51	-193.72
123	124	67.55	0.00	28.33	-30.58	-268.28
124	124	67.55	0.00	32.52	-33.96	-266.29
124	10125	70.90	0.00	32.84	-32.81	-375.95
125	125	70.90	0.00	-62.41	-26.67	-373.79
125	126	74.23	0.00	-36.14	21.32	-188.71
126	126	74.23	0.00	-32.63	18.26	-187.66
126	127	77.56	0.00	6.93	26.47	-149.92

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen,rico. MZ-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	3.17	8.30	-149.70
127	128	80.89	0.00	5.04	-1.70	-166.34
128	128	80.89	0.00	2.16	-22.07	-165.96
128	129	84.22	0.00	2.45	-19.05	-173.80
129	129	84.22	0.00	-0.13	-37.86	-173.31
129	130	87.55	0.00	2.35	-54.57	-176.27
130	130	87.55	0.00	-0.21	-73.60	-175.82
130	131	90.88	0.00	-0.13	-77.33	-175.35
131	131	90.88	0.00	-2.46	-96.19	-174.75
131	132	94.21	0.00	-2.26	-97.33	-166.60
132	132	94.21	0.00	-4.27	-115.14	-165.80
132	133	97.54	0.00	-4.23	-116.61	-151.60
133	133	97.54	0.00	-5.55	-132.44	-150.43
133	134	100.87	0.00	-4.42	-132.81	-132.48
134	134	100.87	0.00	-4.71	-145.07	-130.88
134	135	104.20	0.00	14.97	-67.02	-138.05
135	135	104.20	0.00	14.42	-83.17	-136.79
135	136	107.55	0.00	25.94	-62.48	-215.05
136	136	107.55	0.00	28.39	-71.83	-213.23
136	10137	110.90	0.00	33.00	-30.75	-321.29
137	137	110.90	0.00	-44.09	-36.35	-319.63
137	138	113.77	0.00	-9.20	62.18	-221.09
138	138	113.77	0.00	-10.49	47.46	-220.93
138	139	116.64	0.00	-6.90	59.40	-196.64
139	139	116.64	0.00	-8.36	45.69	-196.35
139	140	119.51	0.00	-7.49	45.82	-174.53
140	140	119.51	0.00	-8.88	33.25	-174.11
140	141	122.38	0.00	-8.88	33.25	-148.63
141	141	122.38	0.00	-9.72	22.62	-148.14
141	142	125.25	0.00	-9.72	22.62	-120.25
142	142	125.25	0.00	-9.99	13.95	-119.72
142	143	128.12	0.00	-9.95	14.10	-91.12
143	143	128.12	0.00	-9.65	7.42	-90.58
143	144	130.99	0.00	-9.65	7.42	-62.88
144	144	130.99	0.00	-8.77	2.70	-62.33
144	145	133.86	0.00	-8.60	2.86	-37.46
145	145	133.86	0.00	-7.26	0.19	-36.95
145	146	136.73	0.00	-7.26	0.19	-16.10
146	146	136.73	0.00	-5.34	-0.60	-15.59
146	147	139.60	0.00	-5.03	-0.81	-0.29
301	101	0.00	0.00	-1.75	0.19	-1.39
301	2001	0.00	0.00	-1.15	0.13	-0.22
302	102	2.62	0.00	-5.28	0.97	-5.56
302	2002	2.62	0.00	-3.91	0.85	-1.92
303	103	5.24	0.00	-6.04	0.80	-8.82
303	2003	5.24	0.00	-5.81	0.82	-4.34
304	104	7.86	0.00	-6.74	0.47	-11.12
304	2004	7.86	0.00	-6.51	0.48	-6.12

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IZQINT2.ENV_TREN_GENERICO.MZ-
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CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen,rico. MZ-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-7.03	0.09	-12.17
305	2005	10.48	0.00	-6.78	0.09	-6.93
306	106	13.10	0.00	-6.88	-0.30	-11.89
306	2006	13.10	0.00	-6.66	-0.30	-6.72
307	107	15.72	0.00	-6.32	-0.65	-10.32
307	2007	15.72	0.00	-6.07	-0.64	-5.63
308	108	18.34	0.00	-5.38	-0.92	-7.65
308	2008	18.34	0.00	-4.92	-0.87	-3.73
309	109	20.96	0.00	-4.11	-0.97	-4.32
309	2009	20.96	0.00	-3.64	-0.93	-1.45
310	110	23.58	0.00	-2.67	-0.60	-1.60
310	2010	23.58	0.00	-1.93	-0.29	0.16
311	111	26.20	0.00	-2.70	0.55	-1.45
311	2011	26.20	0.00	-1.91	0.22	0.27
312	112	29.55	0.00	-6.23	2.53	-8.03
312	2012	29.55	0.00	-5.53	2.13	-3.60
313	113	32.90	0.00	-9.24	2.19	-17.34
313	2013	32.90	0.00	-8.86	2.20	-10.48
314	114	36.03	0.00	-11.13	1.50	-23.57
314	2014	36.03	0.00	-10.80	1.53	-15.37
315	115	39.16	0.00	-12.40	0.80	-28.05
315	2015	39.16	0.00	-12.25	0.81	-18.75
316	116	42.29	0.00	-13.00	0.06	-29.92
316	2016	42.29	0.00	-12.83	0.07	-20.16
317	117	45.42	0.00	-12.76	-0.68	-29.23
317	2017	45.42	0.00	-12.56	-0.68	-19.61
318	118	48.55	0.00	-11.70	-1.38	-25.99
318	2018	48.55	0.00	-11.51	-1.35	-17.24
319	119	51.68	0.00	-9.77	-1.92	-20.59
319	2019	51.68	0.00	-9.77	-1.92	-13.21
320	120	54.81	0.00	-7.28	-2.26	-13.47
320	2020	54.81	0.00	-7.09	-2.14	-8.02
321	121	57.94	0.00	-4.64	-1.87	-6.20
321	2021	57.94	0.00	-4.23	-1.66	-2.91
322	122	61.07	0.00	-3.16	-0.64	-1.90
322	2022	61.07	0.00	-1.98	-0.40	0.00
323	123	64.20	0.00	-3.83	1.02	-2.62
323	2023	64.20	0.00	-3.04	0.85	0.01
324	124	67.55	0.00	-7.66	2.81	-10.99
324	2024	67.55	0.00	-6.92	2.67	-5.40
325	125	70.90	0.00	-10.62	2.37	-20.51
325	2025	70.90	0.00	-10.00	2.40	-12.70
326	126	74.23	0.00	-13.10	1.71	-28.83
326	2026	74.23	0.00	-12.87	1.73	-19.03
327	127	77.56	0.00	-14.70	0.86	-33.71
327	2027	77.56	0.00	-14.25	0.91	-22.78
328	128	80.89	0.00	-15.13	0.04	-35.52
328	2028	80.89	0.00	-14.76	0.08	-24.26

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen,rico. MZ-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-14.67	-0.78	-34.51
329	2029	84.22	0.00	-14.45	-0.78	-23.48
330	130	87.55	0.00	-13.43	-1.57	-30.60
330	2030	87.55	0.00	-13.25	-1.55	-20.52
331	131	90.88	0.00	-11.22	-2.20	-24.18
331	2031	90.88	0.00	-11.22	-2.20	-15.69
332	132	94.21	0.00	-8.35	-2.60	-15.72
332	2032	94.21	0.00	-8.17	-2.46	-9.49
333	133	97.54	0.00	-4.88	-1.93	-7.12
333	2033	97.54	0.00	-4.88	-1.93	-3.43
334	134	100.87	0.00	-3.74	-0.79	-2.26
334	2034	100.87	0.00	-2.68	-0.30	0.10
335	135	104.20	0.00	-3.32	0.57	-2.16
335	2035	104.20	0.00	-2.65	0.48	0.08
336	136	107.55	0.00	-5.10	1.78	-6.28
336	2036	107.55	0.00	-4.72	1.51	-2.49
337	137	110.90	0.00	-8.74	2.34	-14.09
337	2037	110.90	0.00	-7.75	2.21	-7.90
338	138	113.77	0.00	-10.53	1.86	-20.20
338	2038	113.77	0.00	-10.20	1.88	-12.44
339	139	116.64	0.00	-11.93	1.25	-24.55
339	2039	116.64	0.00	-11.61	1.28	-15.70
340	140	119.51	0.00	-12.71	0.59	-26.83
340	2040	119.51	0.00	-12.15	0.64	-17.42
341	141	122.38	0.00	-12.68	-0.11	-26.95
341	2041	122.38	0.00	-12.22	-0.08	-17.54
342	142	125.25	0.00	-11.92	-0.82	-24.83
342	2042	125.25	0.00	-11.69	-0.80	-15.91
343	143	128.12	0.00	-10.37	-1.52	-20.34
343	2043	128.12	0.00	-10.37	-1.52	-12.49
344	144	130.99	0.00	-8.03	-2.12	-13.47
344	2044	130.99	0.00	-7.75	-1.98	-7.47
345	145	133.86	0.00	-4.65	-1.69	-5.96
345	2045	133.86	0.00	-4.29	-1.31	-2.56
346	146	136.73	0.00	-3.61	-0.02	-2.70
346	2046	136.73	0.00	-2.48	-0.05	-0.24
347	147	139.60	0.00	-1.90	0.15	-1.85
347	2047	139.60	0.00	-1.68	0.23	-0.55
201	2001	0.00	0.00	-1.15	0.13	-0.22
201	1001	0.00	0.00	-0.20	0.03	1.28
202	2002	2.62	0.00	-3.91	0.85	-1.92
202	1002	2.62	0.00	-0.46	0.05	2.71
203	2003	5.24	0.00	-5.81	0.82	-4.34
203	1003	5.24	0.00	-0.50	0.03	2.81
204	2004	7.86	0.00	-6.51	0.48	-6.12
204	1004	7.86	0.00	-0.52	0.01	2.87
205	2005	10.48	0.00	-6.78	0.09	-6.93
205	1005	10.48	0.00	-0.19	-0.03	2.83

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Programa DINTEL IDEAM S.A.
IZQINT2.ENV_TREN_GENERICO.MZ-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen,rico. MZ-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-6.66	-0.30	-6.72
206	1006	13.10	0.00	0.08	-0.04	2.64
207	2007	15.72	0.00	-6.07	-0.64	-5.63
207	1007	15.72	0.00	0.15	0.00	2.49
208	2008	18.34	0.00	-4.92	-0.87	-3.73
208	1008	18.34	0.00	0.18	0.07	2.47
209	2009	20.96	0.00	-3.64	-0.93	-1.45
209	1009	20.96	0.00	-0.33	-0.03	2.41
210	2010	23.58	0.00	-1.93	-0.29	0.16
210	1010	23.58	0.00	-0.30	0.00	2.33
211	2011	26.20	0.00	-1.91	0.22	0.27
211	1011	26.20	0.00	-0.35	0.06	2.69
212	2012	29.55	0.00	-5.53	2.13	-3.60
212	1012	29.55	0.00	-0.53	0.15	3.34
213	2013	32.90	0.00	-8.86	2.20	-10.48
213	1013	32.90	0.00	-0.23	0.07	3.51
214	2014	36.03	0.00	-10.80	1.53	-15.37
214	1014	36.03	0.00	0.11	0.01	3.45
215	2015	39.16	0.00	-12.25	0.81	-18.75
215	1015	39.16	0.00	0.38	-0.04	3.31
216	2016	42.29	0.00	-12.83	0.07	-20.16
216	1016	42.29	0.00	0.71	-0.08	3.06
217	2017	45.42	0.00	-12.56	-0.68	-19.61
217	1017	45.42	0.00	0.94	-0.05	2.70
218	2018	48.55	0.00	-11.51	-1.35	-17.24
218	1018	48.55	0.00	1.16	0.01	2.37
219	2019	51.68	0.00	-9.77	-1.92	-13.21
219	1019	51.68	0.00	1.19	0.11	2.23
220	2020	54.81	0.00	-7.09	-2.14	-8.02
220	1020	54.81	0.00	1.00	0.26	2.41
221	2021	57.94	0.00	-4.23	-1.66	-2.91
221	1021	57.94	0.00	0.21	0.18	2.75
222	2022	61.07	0.00	-1.98	-0.40	0.00
222	1022	61.07	0.00	-0.28	-0.06	2.62
223	2023	64.20	0.00	-3.04	0.85	0.01
223	1023	64.20	0.00	0.77	-0.50	2.04
224	2024	67.55	0.00	-6.92	2.67	-5.40
224	1024	67.55	0.00	2.43	-0.49	0.50
225	2025	70.90	0.00	-10.00	2.40	-12.70
225	1025	70.90	0.00	2.79	-0.08	-0.10
226	2026	74.23	0.00	-12.86	1.73	-19.03
226	1026	74.23	0.00	3.15	0.17	0.12
227	2027	77.56	0.00	-14.25	0.91	-22.78
227	1027	77.56	0.00	2.91	0.34	0.85
228	2028	80.89	0.00	-14.76	0.08	-24.26
228	1028	80.89	0.00	2.37	0.41	1.74
229	2029	84.22	0.00	-14.45	-0.78	-23.48
229	1029	84.22	0.00	2.17	0.23	2.37

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen,rico. MZ-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-13.25	-1.55	-20.52
230	1030	87.55	0.00	1.58	-0.02	2.45
231	2031	90.88	0.00	-11.22	-2.20	-15.69
231	1031	90.88	0.00	1.78	0.03	2.00
232	2032	94.21	0.00	-8.17	-2.46	-9.49
232	1032	94.21	0.00	1.68	0.18	1.90
233	2033	97.54	0.00	-4.88	-1.93	-3.43
233	1033	97.54	0.00	0.82	0.21	2.19
234	2034	100.87	0.00	-2.68	-0.30	0.10
234	1034	100.87	0.00	-0.21	-0.06	2.57
235	2035	104.20	0.00	-2.65	0.48	0.08
235	1035	104.20	0.00	1.00	-0.49	1.48
236	2036	107.55	0.00	-4.72	1.51	-2.49
236	1036	107.55	0.00	2.40	-0.44	0.03
237	2037	110.90	0.00	-7.75	2.21	-7.90
237	1037	110.90	0.00	2.39	-0.03	-0.16
238	2038	113.77	0.00	-10.20	1.88	-12.44
238	1038	113.77	0.00	2.11	0.17	0.41
239	2039	116.64	0.00	-11.61	1.28	-15.70
239	1039	116.64	0.00	1.90	0.31	1.30
240	2040	119.51	0.00	-12.15	0.64	-17.42
240	1040	119.51	0.00	1.08	0.35	2.31
241	2041	122.38	0.00	-12.22	-0.08	-17.54
241	1041	122.38	0.00	0.59	0.36	3.34
242	2042	125.25	0.00	-11.69	-0.80	-15.91
242	1042	125.25	0.00	-0.61	0.08	3.97
243	2043	128.12	0.00	-10.37	-1.52	-12.49
243	1043	128.12	0.00	-0.86	-0.08	3.85
244	2044	130.99	0.00	-7.75	-1.98	-7.47
244	1044	130.99	0.00	-0.73	-0.13	3.53
245	2045	133.86	0.00	-4.29	-1.31	-2.56
245	1045	133.86	0.00	-0.54	-0.18	3.09
246	2046	136.73	0.00	-2.48	-0.05	-0.24
246	1046	136.73	0.00	-0.31	-0.21	2.52
247	2047	139.60	0.00	-1.68	0.23	-0.55
247	1047	139.60	0.00	1.35	-0.92	-0.19
401	1001	0.00	0.00	-0.20	0.03	1.28
401	1	0.00	0.00	-0.20	0.03	1.43
402	1002	2.62	0.00	-0.46	0.05	2.71
402	2	2.62	0.00	-0.46	0.05	3.05
403	1003	5.24	0.00	-0.50	0.03	2.81
403	3	5.24	0.00	-0.50	0.03	3.19
404	1004	7.86	0.00	-0.52	0.01	2.87
404	4	7.86	0.00	0.01	-0.07	3.09
405	1005	10.48	0.00	-0.19	-0.03	2.83
405	5	10.48	0.00	0.27	-0.08	2.76
406	1006	13.10	0.00	0.08	-0.04	2.64
406	6	13.10	0.00	0.65	-0.04	2.37

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IZQINT2.ENV_TREN_GENERICO.MZ-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen,rico. MZ-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.15	0.00	2.49
407	7	15.72	0.00	0.77	0.06	2.15
408	1008	18.34	0.00	0.18	0.07	2.47
408	8	18.34	0.00	0.48	0.14	2.23
409	1009	20.96	0.00	-0.33	-0.03	2.41
409	9	20.96	0.00	0.12	0.17	2.55
410	1010	23.58	0.00	-0.30	0.00	2.33
410	10	23.58	0.00	-0.30	0.00	2.56
411	1011	26.20	0.00	-0.35	0.06	2.69
411	11	26.20	0.00	-0.35	0.06	2.95
412	1012	29.55	0.00	-0.53	0.15	3.34
412	12	29.55	0.00	-0.19	0.05	3.61
413	1013	32.90	0.00	-0.23	0.07	3.51
413	13	32.90	0.00	0.06	-0.01	3.55
414	1014	36.03	0.00	0.11	0.01	3.45
414	14	36.03	0.00	0.65	-0.02	3.19
415	1015	39.16	0.00	0.38	-0.04	3.31
415	15	39.16	0.00	0.89	-0.03	2.90
416	1016	42.29	0.00	0.71	-0.08	3.06
416	16	42.29	0.00	0.92	-0.03	2.52
417	1017	45.42	0.00	0.94	-0.05	2.70
417	17	45.42	0.00	0.94	-0.05	1.99
418	1018	48.55	0.00	1.16	0.01	2.37
418	18	48.55	0.00	1.16	0.01	1.49
419	1019	51.68	0.00	1.19	0.11	2.23
419	19	51.68	0.00	1.32	0.14	1.24
420	1020	54.81	0.00	1.00	0.26	2.41
420	20	54.81	0.00	1.30	0.35	1.56
421	1021	57.94	0.00	0.21	0.18	2.75
421	21	57.94	0.00	0.53	0.36	2.47
422	1022	61.07	0.00	-0.28	-0.06	2.62
422	22	61.07	0.00	-0.28	-0.06	2.83
423	1023	64.20	0.00	0.77	-0.50	2.04
423	23	64.20	0.00	1.11	-0.75	1.36
424	1024	67.55	0.00	2.43	-0.49	0.50
424	24	67.55	0.00	2.77	-0.59	-1.42
425	1025	70.90	0.00	2.79	-0.08	-0.10
425	25	70.90	0.00	3.20	-0.16	-2.45
426	1026	74.23	0.00	3.15	0.17	0.12
426	26	74.23	0.00	3.27	0.14	-2.33
427	1027	77.56	0.00	2.91	0.34	0.85
427	27	77.56	0.00	3.13	0.30	-1.38
428	1028	80.89	0.00	2.37	0.41	1.74
428	28	80.89	0.00	2.74	0.40	-0.23
429	1029	84.22	0.00	2.17	0.23	2.37
429	29	84.22	0.00	2.43	0.29	0.66
430	1030	87.55	0.00	1.58	-0.02	2.45
430	30	87.55	0.00	2.17	0.24	1.02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IZQINT2.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano gen,rico. MZ-

[0; 1]IZQINT3.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]IZQINT3.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]IZQINT3

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	1.78	0.03	2.00
431	31	90.88	0.00	1.92	0.04	0.64
432	1032	94.21	0.00	1.68	0.18	1.90
432	32	94.21	0.00	1.96	0.24	0.45
433	1033	97.54	0.00	0.82	0.21	2.19
433	33	97.54	0.00	1.63	0.48	1.11
434	1034	100.87	0.00	-0.21	-0.06	2.57
434	34	100.87	0.00	0.44	0.33	2.36
435	1035	104.20	0.00	1.00	-0.49	1.48
435	35	104.20	0.00	1.74	-0.98	0.33
436	1036	107.55	0.00	2.40	-0.44	0.03
436	36	107.55	0.00	2.40	-0.44	-1.78
437	1037	110.90	0.00	2.39	-0.03	-0.16
437	37	110.90	0.00	2.59	-0.08	-2.00
438	1038	113.77	0.00	2.11	0.17	0.41
438	38	113.77	0.00	2.34	0.16	-1.34
439	1039	116.64	0.00	1.90	0.31	1.30
439	39	116.64	0.00	1.90	0.31	-0.14
440	1040	119.51	0.00	1.08	0.35	2.31
440	40	119.51	0.00	1.39	0.39	1.33
441	1041	122.38	0.00	0.59	0.36	3.34
441	41	122.38	0.00	0.77	0.41	2.87
442	1042	125.25	0.00	-0.61	0.08	3.97
442	42	125.25	0.00	0.15	0.35	4.20
443	1043	128.12	0.00	-0.86	-0.08	3.85
443	43	128.12	0.00	-0.86	-0.08	4.50
444	1044	130.99	0.00	-0.73	-0.13	3.53
444	44	130.99	0.00	-0.73	-0.13	4.09
445	1045	133.86	0.00	-0.54	-0.18	3.09
445	45	133.86	0.00	-0.54	-0.18	3.50
446	1046	136.73	0.00	-0.31	-0.21	2.52
446	46	136.73	0.00	-0.31	-0.21	2.76
447	1047	139.60	0.00	1.35	-0.92	-0.19
447	47	139.60	0.00	1.66	-1.15	-1.40

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen'rico. VY+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	6.18	-0.54	-0.24
1	2	2.62	0.00	6.18	-0.54	-16.44
2	2	2.62	0.00	7.72	-0.04	-16.71
2	3	5.24	0.00	7.72	-0.04	-36.94
3	3	5.24	0.00	8.80	2.37	-37.46
3	4	7.86	0.00	8.80	2.37	-60.52
4	4	7.86	0.00	9.34	6.42	-60.76
4	5	10.48	0.00	9.34	6.42	-85.23
5	5	10.48	0.00	9.77	2.77	-45.91
5	6	13.10	0.00	9.77	2.77	-71.50
6	6	13.10	0.00	12.47	-8.21	23.68
6	7	15.72	0.00	12.47	-8.21	-8.98
7	7	15.72	0.00	20.45	-33.87	101.81
7	8	18.34	0.00	20.45	-33.87	48.22
8	8	18.34	0.00	28.65	-45.70	50.66
8	9	20.96	0.00	28.65	-45.70	-24.39
9	9	20.96	0.00	36.27	-77.81	53.80
9	10	23.58	0.00	36.27	-77.81	-41.23
10	10	23.58	0.00	44.32	-103.46	8.31
10	10011	26.20	0.00	44.32	-103.46	-107.81
11	11	26.20	0.00	4.96	-77.12	4.79
11	12	29.55	0.00	4.96	-77.12	-11.83
12	12	29.55	0.00	8.31	-88.14	-16.80
12	13	32.90	0.00	8.31	-88.14	-44.63
13	13	32.90	0.00	9.88	-92.40	-48.09
13	14	36.03	0.00	9.88	-92.40	-79.01
14	14	36.03	0.00	10.02	-84.56	-80.28
14	15	39.16	0.00	10.02	-84.56	-111.64
15	15	39.16	0.00	9.28	-63.08	-94.26
15	16	42.29	0.00	9.28	-63.08	-123.30
16	16	42.29	0.00	8.94	-12.56	-56.66
16	17	45.42	0.00	8.94	-12.56	-84.63
17	17	45.42	0.00	9.92	10.47	-5.70
17	18	48.55	0.00	9.92	10.47	-36.74
18	18	48.55	0.00	13.88	25.81	61.36
18	19	51.68	0.00	13.88	25.81	17.93
19	19	51.68	0.00	24.48	28.99	167.00
19	20	54.81	0.00	24.48	28.99	90.37
20	20	54.81	0.00	35.17	10.84	93.78
20	21	57.94	0.00	35.17	10.84	-16.31
21	21	57.94	0.00	46.26	-37.92	112.12
21	22	61.07	0.00	46.26	-37.92	-32.68
22	22	61.07	0.00	57.68	-65.53	-6.72
22	10023	64.20	0.00	57.68	-65.53	-187.24
23	23	64.20	0.00	1.05	-13.86	62.88
23	24	67.55	0.00	1.05	-13.86	59.35
24	24	67.55	0.00	2.41	-52.34	-12.11
24	25	70.90	0.00	2.41	-52.34	-20.20

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen'rico. VY+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	4.16	-57.21	-21.00
25	26	74.23	0.00	4.16	-57.21	-34.84
26	26	74.23	0.00	5.09	-40.23	-17.93
26	27	77.56	0.00	5.09	-40.23	-34.89
27	27	77.56	0.00	5.71	-20.34	3.82
27	28	80.89	0.00	5.71	-20.34	-15.19
28	28	80.89	0.00	6.68	-0.70	18.43
28	29	84.22	0.00	6.68	-0.70	-3.80
29	29	84.22	0.00	8.86	15.37	80.32
29	30	87.55	0.00	8.86	15.37	50.83
30	30	87.55	0.00	14.90	33.27	224.54
30	31	90.88	0.00	14.90	33.27	174.92
31	31	90.88	0.00	27.96	36.79	271.02
31	32	94.21	0.00	27.96	36.79	177.90
32	32	94.21	0.00	41.57	10.41	179.13
32	33	97.54	0.00	41.57	10.41	40.71
33	33	97.54	0.00	54.52	-32.24	90.86
33	34	100.87	0.00	54.52	-32.24	-90.71
34	34	100.87	0.00	66.59	-65.88	-71.81
34	10035	104.20	0.00	66.59	-65.88	-293.56
35	35	104.20	0.00	0.13	-27.45	35.59
35	36	107.55	0.00	0.13	-27.45	35.14
36	36	107.55	0.00	1.07	-61.55	-37.43
36	37	110.90	0.00	1.07	-61.55	-41.02
37	37	110.90	0.00	1.34	-63.88	-52.00
37	38	113.77	0.00	1.34	-63.88	-55.84
38	38	113.77	0.00	0.93	-54.18	-34.50
38	39	116.64	0.00	0.93	-54.18	-37.17
39	39	116.64	0.00	0.53	-23.30	28.09
39	40	119.51	0.00	0.53	-23.30	26.57
40	40	119.51	0.00	0.93	-4.40	66.00
40	41	122.38	0.00	0.93	-4.40	63.34
41	41	122.38	0.00	1.88	1.32	111.54
41	42	125.25	0.00	1.88	1.32	106.15
42	42	125.25	0.00	5.88	23.74	250.63
42	43	128.12	0.00	5.88	23.74	233.76
43	43	128.12	0.00	14.03	24.32	286.46
43	44	130.99	0.00	14.03	24.32	246.20
44	44	130.99	0.00	21.93	11.47	245.53
44	45	133.86	0.00	21.93	11.47	182.58
45	45	133.86	0.00	28.67	2.38	181.41
45	46	136.73	0.00	28.67	2.38	99.12
46	46	136.73	0.00	33.72	-1.34	97.60
46	47	139.60	0.00	33.72	-1.34	0.83
101	101	0.00	0.00	6.53	-6.87	0.26
101	102	2.62	0.00	12.21	18.91	3.96
102	102	2.62	0.00	9.96	5.60	4.62
102	103	5.24	0.00	18.12	30.02	41.54

~csimp4.esv
Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.VY+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen'rico. VY+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	16.04	16.19	41.97
103	104	7.86	0.00	26.59	39.04	91.64
104	104	7.86	0.00	24.45	24.39	92.02
104	105	10.48	0.00	37.09	45.58	136.61
105	105	10.48	0.00	34.75	29.69	137.01
105	106	13.10	0.00	51.97	68.79	284.32
106	106	13.10	0.00	48.30	48.06	284.71
106	107	15.72	0.00	68.21	68.92	266.79
107	107	15.72	0.00	64.30	46.99	267.41
107	108	18.34	0.00	84.70	64.39	230.31
108	108	18.34	0.00	80.58	41.26	231.21
108	109	20.96	0.00	102.55	56.46	136.35
109	109	20.96	0.00	98.56	33.23	137.54
109	110	23.58	0.00	122.31	45.51	-6.41
110	110	23.58	0.00	118.68	22.82	-4.93
110	111	26.20	0.00	144.36	36.78	-250.90
111	111	26.20	0.00	141.33	21.97	-235.25
111	112	29.55	0.00	177.04	42.37	-685.88
112	112	29.55	0.00	176.02	16.76	-682.34
112	10113	32.90	0.00	214.27	37.66	-1298.12
113	113	32.90	0.00	2.50	-43.49	57.86
113	114	36.03	0.00	8.24	-22.93	70.38
114	114	36.03	0.00	6.52	-33.84	70.73
114	115	39.16	0.00	14.70	-10.50	105.92
115	115	39.16	0.00	12.74	-22.91	106.25
115	116	42.29	0.00	23.38	2.14	150.87
116	116	42.29	0.00	21.08	-16.68	153.09
116	117	45.42	0.00	34.06	8.74	192.59
117	117	45.42	0.00	31.28	-7.32	193.02
117	118	48.55	0.00	47.37	48.33	270.87
118	118	48.55	0.00	43.31	27.06	271.29
118	119	51.68	0.00	63.82	53.29	288.97
119	119	51.68	0.00	58.98	28.94	289.63
119	120	54.81	0.00	81.62	51.56	253.06
120	120	54.81	0.00	76.31	25.14	254.04
120	121	57.94	0.00	101.03	44.04	148.82
121	121	57.94	0.00	95.73	17.08	150.17
121	122	61.07	0.00	122.68	30.29	-20.85
122	122	61.07	0.00	117.97	7.34	-37.49
122	123	64.20	0.00	147.33	18.03	-312.42
123	123	64.20	0.00	143.78	-1.34	-326.78
123	124	67.55	0.00	178.53	11.77	-764.60
124	124	67.55	0.00	176.83	5.18	-742.57
124	10125	70.90	0.00	215.26	27.62	-1364.53
125	125	70.90	0.00	0.96	-16.56	107.85
125	126	74.23	0.00	7.00	3.59	126.03
126	126	74.23	0.00	5.07	-6.08	127.83
126	127	77.56	0.00	13.74	17.32	171.54

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen'rico. VY+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	11.29	-1.99	173.97
127	128	80.89	0.00	22.69	23.56	229.01
128	128	80.89	0.00	19.50	4.49	229.04
128	129	84.22	0.00	33.46	30.69	279.73
129	129	84.22	0.00	29.40	8.40	279.92
129	130	87.55	0.00	47.70	66.90	399.52
130	130	87.55	0.00	41.70	36.77	361.32
130	131	90.88	0.00	64.22	64.45	422.74
131	131	90.88	0.00	56.96	30.15	423.20
131	132	94.21	0.00	81.77	53.49	387.58
132	132	94.21	0.00	73.69	15.90	388.44
132	133	97.54	0.00	100.65	35.05	279.57
133	133	97.54	0.00	92.35	-3.98	280.93
133	134	100.87	0.00	122.41	14.33	71.23
134	134	100.87	0.00	114.86	-16.11	77.01
134	135	104.20	0.00	145.59	-5.05	-216.88
135	135	104.20	0.00	139.86	-24.87	-203.95
135	136	107.55	0.00	174.62	-9.87	-643.96
136	136	107.55	0.00	171.35	-32.42	-641.96
136	10137	110.90	0.00	209.56	-12.49	-1243.16
137	137	110.90	0.00	-10.65	39.50	15.68
137	138	113.77	0.00	-5.43	54.65	64.51
138	138	113.77	0.00	-6.29	36.51	80.94
138	139	116.64	0.00	0.90	53.40	149.19
139	139	116.64	0.00	-0.42	41.91	151.83
139	140	119.51	0.00	8.86	59.74	230.79
140	140	119.51	0.00	6.79	47.81	230.52
140	141	122.38	0.00	18.14	65.49	310.12
141	141	122.38	0.00	15.22	50.25	310.05
141	142	125.25	0.00	30.84	76.07	412.06
142	142	125.25	0.00	26.60	55.27	412.00
142	143	128.12	0.00	45.60	72.23	482.65
143	143	128.12	0.00	40.52	48.10	482.88
143	144	130.99	0.00	62.24	61.75	503.34
144	144	130.99	0.00	56.80	35.73	504.00
144	145	133.86	0.00	81.62	46.10	450.58
145	145	133.86	0.00	76.50	20.25	451.72
145	146	136.73	0.00	104.86	27.72	294.45
146	146	136.73	0.00	100.74	4.13	296.02
146	147	139.60	0.00	132.98	10.01	-0.86
301	101	0.00	0.00	1.56	0.16	8.93
301	2001	0.00	0.00	1.56	0.16	7.75
302	102	2.62	0.00	3.13	-0.85	20.26
302	2002	2.62	0.00	3.13	-0.85	17.89
303	103	5.24	0.00	4.81	-1.93	29.42
303	2003	5.24	0.00	4.81	-1.93	25.78
304	104	7.86	0.00	6.89	-1.88	34.45
304	2004	7.86	0.00	6.89	-1.88	29.24

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.VY+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen'rico. VY+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	8.70	-1.39	39.70
305	2005	10.48	0.00	8.70	-1.39	33.12
306	106	13.10	0.00	9.95	-0.81	42.98
306	2006	13.10	0.00	9.95	-0.81	35.46
307	107	15.72	0.00	10.56	-0.16	44.74
307	2007	15.72	0.00	10.56	-0.16	36.76
308	108	18.34	0.00	10.56	0.47	44.53
308	2008	18.34	0.00	10.56	0.47	36.55
309	109	20.96	0.00	9.95	1.06	42.47
309	2009	20.96	0.00	9.95	1.06	34.94
310	110	23.58	0.00	8.82	1.58	38.72
310	2010	23.58	0.00	8.82	1.58	32.05
311	111	26.20	0.00	8.21	2.29	38.11
311	2011	26.20	0.00	8.21	2.29	31.91
312	112	29.55	0.00	6.07	2.74	33.14
312	2012	29.55	0.00	6.07	2.74	28.55
313	113	32.90	0.00	3.47	0.99	22.47
313	2013	32.90	0.00	3.47	0.99	19.85
314	114	36.03	0.00	3.45	-0.77	21.21
314	2014	36.03	0.00	3.45	-0.77	18.60
315	115	39.16	0.00	5.28	-2.16	29.17
315	2015	39.16	0.00	5.28	-2.16	25.18
316	116	42.29	0.00	7.66	-2.27	36.15
316	2016	42.29	0.00	7.66	-2.27	30.36
317	117	45.42	0.00	10.09	-2.09	43.23
317	2017	45.42	0.00	10.09	-2.09	35.60
318	118	48.55	0.00	12.00	-1.50	49.34
318	2018	48.55	0.00	12.00	-1.50	40.27
319	119	51.68	0.00	13.18	-0.77	53.13
319	2019	51.68	0.00	13.18	-0.77	43.16
320	120	54.81	0.00	13.53	0.01	54.25
320	2020	54.81	0.00	13.53	0.01	44.03
321	121	57.94	0.00	13.05	0.80	52.71
321	2021	57.94	0.00	13.05	0.80	42.85
322	122	61.07	0.00	11.70	1.56	48.39
322	2022	61.07	0.00	11.70	1.56	39.55
323	123	64.20	0.00	9.87	2.30	42.93
323	2023	64.20	0.00	9.87	2.30	35.47
324	124	67.55	0.00	7.06	2.67	34.63
324	2024	67.55	0.00	7.06	2.67	29.30
325	125	70.90	0.00	4.07	1.90	25.45
325	2025	70.90	0.00	4.07	1.90	22.38
326	126	74.23	0.00	3.62	-0.55	23.12
326	2026	74.23	0.00	3.62	-0.55	20.39
327	127	77.56	0.00	5.50	-2.34	31.03
327	2027	77.56	0.00	5.50	-2.34	26.88
328	128	80.89	0.00	8.56	-2.54	42.03
328	2028	80.89	0.00	8.56	-2.54	35.56

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen'rico. VY+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	11.29	-2.32	49.08
329	2029	84.22	0.00	11.29	-2.32	40.54
330	130	87.55	0.00	13.45	-1.67	55.28
330	2030	87.55	0.00	13.45	-1.67	45.11
331	131	90.88	0.00	14.72	-0.79	58.86
331	2031	90.88	0.00	14.72	-0.79	47.73
332	132	94.21	0.00	14.95	0.09	60.00
332	2032	94.21	0.00	14.95	0.09	48.69
333	133	97.54	0.00	14.19	1.01	57.32
333	2033	97.54	0.00	14.19	1.01	46.60
334	134	100.87	0.00	12.37	1.88	51.45
334	2034	100.87	0.00	12.37	1.88	42.11
335	135	104.20	0.00	8.94	2.37	39.95
335	2035	104.20	0.00	8.94	2.37	33.19
336	136	107.55	0.00	5.37	2.31	28.39
336	2036	107.55	0.00	5.37	2.31	24.33
337	137	110.90	0.00	2.92	0.87	20.27
337	2037	110.90	0.00	2.92	0.87	18.07
338	138	113.77	0.00	3.16	-1.14	22.66
338	2038	113.77	0.00	3.16	-1.14	20.28
339	139	116.64	0.00	4.73	-1.46	27.42
339	2039	116.64	0.00	4.73	-1.46	23.84
340	140	119.51	0.00	6.35	-1.36	32.04
340	2040	119.51	0.00	6.35	-1.36	27.23
341	141	122.38	0.00	7.62	-0.97	36.43
341	2041	122.38	0.00	7.62	-0.97	30.67
342	142	125.25	0.00	8.35	-0.46	39.10
342	2042	125.25	0.00	8.35	-0.46	32.79
343	143	128.12	0.00	8.46	0.10	39.05
343	2043	128.12	0.00	8.46	0.10	32.65
344	144	130.99	0.00	7.92	0.67	37.35
344	2044	130.99	0.00	7.92	0.67	31.36
345	145	133.86	0.00	6.79	1.10	34.37
345	2045	133.86	0.00	6.79	1.10	29.24
346	146	136.73	0.00	5.23	1.38	29.93
346	2046	136.73	0.00	5.23	1.38	25.98
347	147	139.60	0.00	1.75	0.51	11.74
347	2047	139.60	0.00	1.75	0.51	10.42
201	2001	0.00	0.00	1.56	0.16	7.75
201	1001	0.00	0.00	1.56	0.16	0.28
202	2002	2.62	0.00	3.13	-0.85	17.89
202	1002	2.62	0.00	3.13	-0.85	2.90
203	2003	5.24	0.00	4.81	-1.93	25.78
203	1003	5.24	0.00	4.81	-1.93	2.74
204	2004	7.86	0.00	6.89	-1.88	29.24
204	1004	7.86	0.00	6.89	-1.88	-3.76
205	2005	10.48	0.00	8.70	-1.39	33.12
205	1005	10.48	0.00	8.70	-1.39	-8.53

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.VY+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen'rico. VY+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	9.95	-0.81	35.46
206	1006	13.10	0.00	9.95	-0.81	-12.16
207	2007	15.72	0.00	10.56	-0.16	36.76
207	1007	15.72	0.00	10.56	-0.16	-13.83
208	2008	18.34	0.00	10.56	0.47	36.55
208	1008	18.34	0.00	10.56	0.47	-13.99
209	2009	20.96	0.00	9.95	1.06	34.94
209	1009	20.96	0.00	9.95	1.06	-12.72
210	2010	23.58	0.00	8.82	1.58	32.05
210	1010	23.58	0.00	8.82	1.58	-10.16
211	2011	26.20	0.00	8.21	2.29	31.91
211	1011	26.20	0.00	8.21	2.29	-7.40
212	2012	29.55	0.00	6.07	2.74	28.55
212	1012	29.55	0.00	6.07	2.74	-0.49
213	2013	32.90	0.00	3.47	0.99	19.85
213	1013	32.90	0.00	3.47	0.99	3.26
214	2014	36.03	0.00	3.45	-0.77	18.60
214	1014	36.03	0.00	3.45	-0.77	2.08
215	2015	39.16	0.00	5.28	-2.16	25.18
215	1015	39.16	0.00	5.28	-2.16	-0.09
216	2016	42.29	0.00	7.66	-2.27	30.36
216	1016	42.29	0.00	7.66	-2.27	-6.33
217	2017	45.42	0.00	10.09	-2.09	35.60
217	1017	45.42	0.00	10.09	-2.09	-12.69
218	2018	48.55	0.00	12.00	-1.50	40.27
218	1018	48.55	0.00	12.00	-1.50	-17.17
219	2019	51.68	0.00	13.18	-0.77	43.16
219	1019	51.68	0.00	13.18	-0.77	-19.94
220	2020	54.81	0.00	13.53	0.01	44.03
220	1020	54.81	0.00	13.53	0.01	-20.76
221	2021	57.94	0.00	13.05	0.80	42.85
221	1021	57.94	0.00	13.05	0.80	-19.61
222	2022	61.07	0.00	11.70	1.56	39.55
222	1022	61.07	0.00	11.70	1.56	-16.45
223	2023	64.20	0.00	9.87	2.30	35.47
223	1023	64.20	0.00	9.87	2.30	-11.78
224	2024	67.55	0.00	7.06	2.67	29.30
224	1024	67.55	0.00	7.06	2.67	-4.50
225	2025	70.90	0.00	4.07	1.90	22.38
225	1025	70.90	0.00	4.07	1.90	2.90
226	2026	74.23	0.00	3.62	-0.55	20.39
226	1026	74.23	0.00	3.62	-0.55	3.08
227	2027	77.56	0.00	5.50	-2.34	26.88
227	1027	77.56	0.00	5.50	-2.34	0.56
228	2028	80.89	0.00	8.56	-2.54	35.56
228	1028	80.89	0.00	8.56	-2.54	-5.45
229	2029	84.22	0.00	11.29	-2.32	40.54
229	1029	84.22	0.00	11.29	-2.32	-13.53

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen'rico. VY+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	13.45	-1.67	45.11
230	1030	87.55	0.00	13.45	-1.67	-19.27
231	2031	90.88	0.00	14.72	-0.79	47.73
231	1031	90.88	0.00	14.72	-0.79	-22.74
232	2032	94.21	0.00	14.96	0.09	48.69
232	1032	94.21	0.00	14.96	0.09	-22.91
233	2033	97.54	0.00	14.19	1.01	46.60
233	1033	97.54	0.00	14.19	1.01	-21.32
234	2034	100.87	0.00	12.37	1.88	42.11
234	1034	100.87	0.00	12.37	1.88	-17.10
235	2035	104.20	0.00	8.94	2.37	33.19
235	1035	104.20	0.00	8.94	2.37	-9.61
236	2036	107.55	0.00	5.37	2.31	24.33
236	1036	107.55	0.00	5.37	2.31	-1.37
237	2037	110.90	0.00	2.92	0.87	18.07
237	1037	110.90	0.00	2.92	0.87	4.11
238	2038	113.77	0.00	3.16	-1.14	20.28
238	1038	113.77	0.00	3.16	-1.14	5.15
239	2039	116.64	0.00	4.73	-1.46	23.84
239	1039	116.64	0.00	4.73	-1.46	1.21
240	2040	119.51	0.00	6.35	-1.36	27.23
240	1040	119.51	0.00	6.35	-1.36	-3.18
241	2041	122.38	0.00	7.62	-0.97	30.67
241	1041	122.38	0.00	7.62	-0.97	-5.81
242	2042	125.25	0.00	8.35	-0.46	32.79
242	1042	125.25	0.00	8.35	-0.46	-7.20
243	2043	128.12	0.00	8.46	0.10	32.65
243	1043	128.12	0.00	8.46	0.10	-7.86
244	2044	130.99	0.00	7.92	0.67	31.36
244	1044	130.99	0.00	7.92	0.67	-6.54
245	2045	133.86	0.00	6.79	1.10	29.24
245	1045	133.86	0.00	6.79	1.10	-3.28
246	2046	136.73	0.00	5.23	1.38	25.98
246	1046	136.73	0.00	5.23	1.38	0.95
247	2047	139.60	0.00	1.75	0.51	10.42
247	1047	139.60	0.00	1.75	0.51	2.06
401	1001	0.00	0.00	1.56	0.16	0.28
401	1	0.00	0.00	1.56	0.16	-0.90
402	1002	2.62	0.00	3.13	-0.85	2.90
402	2	2.62	0.00	3.13	-0.85	0.54
403	1003	5.24	0.00	4.81	-1.93	2.74
403	3	5.24	0.00	4.81	-1.93	-0.90
404	1004	7.86	0.00	6.89	-1.88	-3.76
404	4	7.86	0.00	6.89	-1.88	-8.97
405	1005	10.48	0.00	8.70	-1.39	-8.53
405	5	10.48	0.00	8.70	-1.39	-15.10
406	1006	13.10	0.00	9.95	-0.81	-12.16
406	6	13.10	0.00	9.95	-0.81	-19.68

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen'rico. VY+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	10.56	-0.16	-13.83
407	7	15.72	0.00	10.56	-0.16	-21.81
408	1008	18.34	0.00	10.56	0.47	-13.99
408	8	18.34	0.00	10.56	0.47	-21.97
409	1009	20.96	0.00	9.95	1.06	-12.72
409	9	20.96	0.00	9.95	1.06	-20.24
410	1010	23.58	0.00	8.82	1.58	-10.16
410	10	23.58	0.00	8.82	1.58	-16.82
411	1011	26.20	0.00	8.21	2.29	-7.40
411	11	26.20	0.00	8.21	2.29	-13.60
412	1012	29.55	0.00	6.07	2.74	-0.49
412	12	29.55	0.00	6.07	2.74	-5.08
413	1013	32.90	0.00	3.47	0.99	3.26
413	13	32.90	0.00	3.47	0.99	0.64
414	1014	36.03	0.00	3.45	-0.77	2.08
414	14	36.03	0.00	3.45	-0.77	-0.53
415	1015	39.16	0.00	5.28	-2.16	-0.09
415	15	39.16	0.00	5.28	-2.16	-4.08
416	1016	42.29	0.00	7.66	-2.27	-6.33
416	16	42.29	0.00	7.66	-2.27	-12.12
417	1017	45.42	0.00	10.09	-2.09	-12.69
417	17	45.42	0.00	10.09	-2.09	-20.31
418	1018	48.55	0.00	12.00	-1.50	-17.17
418	18	48.55	0.00	12.00	-1.50	-26.24
419	1019	51.68	0.00	13.18	-0.77	-19.94
419	19	51.68	0.00	13.18	-0.77	-29.90
420	1020	54.81	0.00	13.53	0.01	-20.76
420	20	54.81	0.00	13.53	0.01	-30.99
421	1021	57.94	0.00	13.05	0.80	-19.61
421	21	57.94	0.00	13.05	0.80	-29.48
422	1022	61.07	0.00	11.70	1.56	-16.45
422	22	61.07	0.00	11.70	1.56	-25.29
423	1023	64.20	0.00	9.87	2.30	-11.78
423	23	64.20	0.00	9.87	2.30	-19.24
424	1024	67.55	0.00	7.06	2.67	-4.50
424	24	67.55	0.00	7.06	2.67	-9.83
425	1025	70.90	0.00	4.07	1.90	2.90
425	25	70.90	0.00	4.07	1.90	-0.18
426	1026	74.23	0.00	3.62	-0.55	3.08
426	26	74.23	0.00	3.62	-0.55	0.34
427	1027	77.56	0.00	5.50	-2.34	0.56
427	27	77.56	0.00	5.50	-2.34	-3.60
428	1028	80.89	0.00	8.56	-2.54	-5.45
428	28	80.89	0.00	8.56	-2.54	-11.93
429	1029	84.22	0.00	11.29	-2.32	-13.53
429	29	84.22	0.00	11.29	-2.32	-22.07
430	1030	87.55	0.00	13.45	-1.67	-19.27
430	30	87.55	0.00	13.45	-1.67	-29.44

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano gen'rico. VY+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	14.72	-0.79	-22.74
431	31	90.88	0.00	14.72	-0.79	-33.86
432	1032	94.21	0.00	14.96	0.09	-22.91
432	32	94.21	0.00	14.96	0.09	-34.22
433	1033	97.54	0.00	14.19	1.01	-21.32
433	33	97.54	0.00	14.19	1.01	-32.04
434	1034	100.87	0.00	12.37	1.88	-17.10
434	34	100.87	0.00	12.37	1.88	-26.45
435	1035	104.20	0.00	8.94	2.37	-9.61
435	35	104.20	0.00	8.94	2.37	-16.37
436	1036	107.55	0.00	5.37	2.31	-1.37
436	36	107.55	0.00	5.37	2.31	-5.42
437	1037	110.90	0.00	2.92	0.87	4.11
437	37	110.90	0.00	2.92	0.87	1.90
438	1038	113.77	0.00	3.16	-1.14	5.15
438	38	113.77	0.00	3.16	-1.14	2.76
439	1039	116.64	0.00	4.73	-1.46	1.21
439	39	116.64	0.00	4.73	-1.46	-2.37
440	1040	119.51	0.00	6.35	-1.36	-3.18
440	40	119.51	0.00	6.35	-1.36	-7.98
441	1041	122.38	0.00	7.62	-0.97	-5.81
441	41	122.38	0.00	7.62	-0.97	-11.56
442	1042	125.25	0.00	8.35	-0.46	-7.20
442	42	125.25	0.00	8.35	-0.46	-13.52
443	1043	128.12	0.00	8.46	0.10	-7.86
443	43	128.12	0.00	8.46	0.10	-14.26
444	1044	130.99	0.00	7.92	0.67	-6.54
444	44	130.99	0.00	7.92	0.67	-12.53
445	1045	133.86	0.00	6.79	1.10	-3.28
445	45	133.86	0.00	6.79	1.10	-8.42
446	1046	136.73	0.00	5.23	1.38	0.95
446	46	136.73	0.00	5.23	1.38	-3.00
447	1047	139.60	0.00	1.75	0.51	2.06
447	47	139.60	0.00	1.75	0.51	0.74

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.Mx-

Envolvente de tren de cargas plano gen'rico. Mx-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-24.67	9.95	1.47
1	2	2.62	0.00	-24.67	9.95	66.10
2	2	2.62	0.00	-21.55	19.92	60.96
2	3	5.24	0.00	-21.55	19.92	117.42
3	3	5.24	0.00	-14.96	21.95	97.09
3	4	7.86	0.00	-14.96	21.95	136.29
4	4	7.86	0.00	-4.67	20.07	76.64
4	5	10.48	0.00	-4.67	20.07	88.88
5	5	10.48	0.00	4.47	21.01	-0.24
5	6	13.10	0.00	4.47	21.01	-11.95
6	6	13.10	0.00	7.03	26.90	-63.59
6	7	15.72	0.00	7.03	26.90	-82.00
7	7	15.72	0.00	6.14	36.25	-95.46
7	8	18.34	0.00	6.14	36.25	-111.56
8	8	18.34	0.00	5.15	47.19	-111.85
8	9	20.96	0.00	5.15	47.19	-125.34
9	9	20.96	0.00	3.84	59.30	-125.53
9	10	23.58	0.00	3.84	59.30	-135.60
10	10	23.58	0.00	2.34	72.28	-135.65
10	10011	26.20	0.00	2.34	72.28	-141.77
11	11	26.20	0.00	-22.73	87.77	-158.58
11	12	29.55	0.00	-22.73	87.77	-82.44
12	12	29.55	0.00	-25.71	104.98	-88.44
12	13	32.90	0.00	-25.71	104.98	-2.30
13	13	32.90	0.00	-26.49	117.85	-0.56
13	14	36.03	0.00	-26.49	117.85	82.36
14	14	36.03	0.00	-25.06	123.45	79.90
14	15	39.16	0.00	-25.06	123.45	158.34
15	15	39.16	0.00	-20.00	120.57	157.45
15	16	42.29	0.00	-20.00	120.57	220.04
16	16	42.29	0.00	-12.95	109.37	219.60
16	17	45.42	0.00	-12.95	109.37	260.15
17	17	45.42	0.00	-1.47	91.68	218.85
17	18	48.55	0.00	-1.47	91.68	223.44
18	18	48.55	0.00	9.07	72.73	176.19
18	19	51.68	0.00	9.07	72.73	147.80
19	19	51.68	0.00	13.65	57.65	69.84
19	20	54.81	0.00	13.65	57.65	27.13
20	20	54.81	0.00	9.67	57.83	-84.75
20	21	57.94	0.00	9.67	57.83	-115.01
21	21	57.94	0.00	3.31	69.10	-145.85
21	22	61.07	0.00	3.31	69.10	-156.22
22	22	61.07	0.00	1.09	84.71	-156.48
22	10023	64.20	0.00	1.09	84.71	-159.89
23	23	64.20	0.00	-21.98	103.00	-152.11
23	24	67.55	0.00	-21.98	103.00	-78.47
24	24	67.55	0.00	-24.76	121.53	-77.74
24	25	70.90	0.00	-24.76	121.53	5.19

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.Mx-

Envolvente de tren de cargas plano gen'rico. Mx-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-26.04	135.71	6.87
25	26	74.23	0.00	-26.04	135.71	93.60
26	26	74.23	0.00	-24.61	142.28	96.15
26	27	77.56	0.00	-24.61	142.28	178.10
27	27	77.56	0.00	-19.54	138.91	172.37
27	28	80.89	0.00	-19.54	138.91	237.43
28	28	80.89	0.00	-11.86	126.69	236.28
28	29	84.22	0.00	-11.86	126.69	275.77
29	29	84.22	0.00	-1.54	106.44	277.74
29	30	87.55	0.00	-1.54	106.44	282.88
30	30	87.55	0.00	9.53	81.29	261.28
30	31	90.88	0.00	9.53	81.29	229.54
31	31	90.88	0.00	14.19	57.95	119.19
31	32	94.21	0.00	14.19	57.95	71.93
32	32	94.21	0.00	11.24	48.36	-45.58
32	33	97.54	0.00	11.24	48.36	-83.03
33	33	97.54	0.00	7.96	51.33	-110.07
33	34	100.87	0.00	7.96	51.33	-136.57
34	34	100.87	0.00	5.67	59.99	-136.25
34	10035	104.20	0.00	5.67	59.99	-155.11
35	35	104.20	0.00	-26.09	69.25	-155.12
35	36	107.55	0.00	-26.09	69.25	-67.71
36	36	107.55	0.00	-24.94	77.92	-63.23
36	37	110.90	0.00	-24.94	77.92	20.32
37	37	110.90	0.00	-24.22	83.86	21.31
37	38	113.77	0.00	-24.22	83.86	90.83
38	38	113.77	0.00	-21.95	85.01	92.34
38	39	116.64	0.00	-21.95	85.01	155.34
39	39	116.64	0.00	-17.80	80.64	156.92
39	40	119.51	0.00	-17.80	80.64	208.01
40	40	119.51	0.00	-11.92	71.12	209.38
40	41	122.38	0.00	-11.92	71.12	243.58
41	41	122.38	0.00	-4.70	57.68	244.54
41	42	125.25	0.00	-4.70	57.68	258.02
42	42	125.25	0.00	3.29	42.06	258.45
42	43	128.12	0.00	3.29	42.06	249.00
43	43	128.12	0.00	11.39	26.29	248.84
43	44	130.99	0.00	11.39	26.29	216.16
44	44	130.99	0.00	19.48	12.56	221.96
44	45	133.86	0.00	19.48	12.56	166.06
45	45	133.86	0.00	13.85	4.18	90.88
45	46	136.73	0.00	13.85	4.18	51.12
46	46	136.73	0.00	9.52	0.78	27.39
46	47	139.60	0.00	9.52	0.78	0.06
101	101	0.00	0.00	-76.64	1.34	-1.17
101	102	2.62	0.00	-75.28	32.25	238.86
102	102	2.62	0.00	-48.32	24.98	165.82
102	103	5.24	0.00	-34.71	54.60	348.30

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.Mx-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.Mx-

Envolvente de tren de cargas plano gen'rico. Mx-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-8.44	43.87	200.33
103	104	7.86	0.00	7.55	72.11	307.01
104	104	7.86	0.00	4.68	58.88	306.59
104	105	10.48	0.00	22.78	85.46	395.84
105	105	10.48	0.00	18.96	68.75	395.57
105	106	13.10	0.00	38.83	93.30	454.66
106	106	13.10	0.00	34.15	73.44	454.62
106	107	15.72	0.00	54.05	94.30	473.78
107	107	15.72	0.00	48.70	71.99	474.05
107	108	18.34	0.00	69.10	89.39	477.83
108	108	18.34	0.00	63.17	64.83	478.47
108	109	20.96	0.00	85.14	80.03	429.22
109	109	20.96	0.00	85.89	55.80	338.55
109	110	23.58	0.00	109.44	69.56	208.98
110	110	23.58	0.00	109.43	48.15	142.29
110	111	26.20	0.00	134.66	61.49	-74.83
111	111	26.20	0.00	134.22	40.63	-124.95
111	112	29.55	0.00	170.27	58.96	-538.77
112	112	29.55	0.00	141.88	44.25	-477.83
112	10113	32.90	0.00	180.13	65.15	-979.24
113	113	32.90	0.00	-104.72	55.34	-912.45
113	114	36.03	0.00	-98.21	78.74	-554.81
114	114	36.03	0.00	-80.58	67.87	-536.25
114	115	39.16	0.00	-83.69	96.09	-130.10
115	115	39.16	0.00	-57.24	79.58	-266.43
115	116	42.29	0.00	-53.40	109.96	111.22
116	116	42.29	0.00	-38.32	91.48	-91.59
116	117	45.42	0.00	-22.18	122.31	160.74
117	117	45.42	0.00	-4.26	106.93	33.44
117	118	48.55	0.00	14.12	136.13	197.42
118	118	48.55	0.00	11.04	117.05	197.23
118	119	51.68	0.00	31.56	143.29	315.90
119	119	51.68	0.00	26.85	119.01	315.86
119	120	54.81	0.00	49.50	141.63	379.83
120	120	54.81	0.00	43.44	113.00	380.11
120	121	57.94	0.00	68.16	131.90	377.77
121	121	57.94	0.00	61.26	100.57	378.51
121	122	61.07	0.00	88.16	116.39	297.02
122	122	61.07	0.00	66.69	85.42	250.56
122	123	64.20	0.00	110.50	98.95	122.10
123	123	64.20	0.00	95.73	74.32	-28.56
123	124	67.55	0.00	124.66	88.92	-321.82
124	124	67.55	0.00	90.64	75.32	-298.70
124	10125	70.90	0.00	122.44	92.11	-623.20
125	125	70.90	0.00	-74.54	82.77	-623.30
125	126	74.23	0.00	-68.50	102.92	-353.69
126	126	74.23	0.00	-65.59	90.66	-290.03
126	127	77.56	0.00	-73.74	117.78	5.91

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.Mx-

Envolvente de tren de cargas plano gen'rico. Mx-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-51.93	98.33	-126.83
127	128	80.89	0.00	-45.40	129.85	230.98
128	128	80.89	0.00	-23.21	106.52	115.34
128	129	84.22	0.00	-5.90	138.40	337.11
129	129	84.22	0.00	5.83	116.35	209.05
129	130	87.55	0.00	25.96	146.79	348.38
130	130	87.55	0.00	15.26	120.54	291.12
130	131	90.88	0.00	37.84	147.92	402.04
131	131	90.88	0.00	31.21	117.52	364.85
131	132	94.21	0.00	55.31	140.53	416.98
132	132	94.21	0.00	48.00	106.30	417.37
132	133	97.54	0.00	74.29	125.08	396.45
133	133	97.54	0.00	66.21	88.22	397.37
133	134	100.87	0.00	97.20	104.00	301.42
134	134	100.87	0.00	72.55	68.20	251.60
134	135	104.20	0.00	98.94	80.78	73.91
135	135	104.20	0.00	64.39	55.75	110.47
135	136	107.55	0.00	93.52	68.68	-80.36
136	136	107.55	0.00	71.55	53.18	-10.74
136	10137	110.90	0.00	103.40	68.23	-272.07
137	137	110.90	0.00	-18.09	55.78	-178.84
137	138	113.77	0.00	-12.88	70.93	-108.64
138	138	113.77	0.00	-14.19	58.84	-108.41
138	139	116.64	0.00	-11.63	76.59	-103.58
139	139	116.64	0.00	-12.98	63.38	-103.40
139	140	119.51	0.00	-1.57	85.35	39.82
140	140	119.51	0.00	-3.50	69.84	39.78
140	141	122.38	0.00	10.32	91.27	184.23
141	141	122.38	0.00	4.44	72.36	140.46
141	142	125.25	0.00	20.34	91.62	278.37
142	142	125.25	0.00	16.67	69.09	278.29
142	143	128.12	0.00	35.67	86.06	377.42
143	143	128.12	0.00	28.48	60.03	350.67
143	144	130.99	0.00	50.21	73.68	405.67
144	144	130.99	0.00	42.90	45.75	375.98
144	145	133.86	0.00	66.99	56.01	362.16
145	145	133.86	0.00	60.15	27.77	351.40
145	146	136.73	0.00	87.75	35.16	242.74
146	146	136.73	0.00	83.74	7.97	243.96
146	147	139.60	0.00	119.44	12.83	-0.70
301	101	0.00	0.00	1.14	0.27	6.49
301	2001	0.00	0.00	1.14	0.27	5.63
302	102	2.62	0.00	1.67	0.53	11.09
302	2002	2.62	0.00	1.67	0.53	9.83
303	103	5.24	0.00	1.10	0.53	9.32
303	2003	5.24	0.00	1.10	0.53	8.49
304	104	7.86	0.00	0.95	0.52	9.56
304	2004	7.86	0.00	0.95	0.52	8.84

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.Mx-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.Mx-

Envolvente de tren de cargas plano gen'rico. Mx-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.35	0.51	7.71
305	2005	10.48	0.00	0.35	0.51	7.45
306	106	13.10	0.00	1.69	0.52	13.75
306	2006	13.10	0.00	1.69	0.52	12.47
307	107	15.72	0.00	2.81	0.65	18.40
307	2007	15.72	0.00	2.81	0.65	16.27
308	108	18.34	0.00	5.28	0.92	27.45
308	2008	18.34	0.00	5.28	0.92	23.46
309	109	20.96	0.00	5.78	1.29	29.27
309	2009	20.96	0.00	5.78	1.29	24.90
310	110	23.58	0.00	6.66	1.67	31.25
310	2010	23.58	0.00	6.66	1.67	26.21
311	111	26.20	0.00	7.32	2.34	34.14
311	2011	26.20	0.00	7.32	2.34	28.61
312	112	29.55	0.00	5.59	2.90	31.15
312	2012	29.55	0.00	5.59	2.90	26.92
313	113	32.90	0.00	2.33	2.39	18.78
313	2013	32.90	0.00	2.33	2.39	17.02
314	114	36.03	0.00	0.17	1.68	11.17
314	2014	36.03	0.00	0.17	1.68	11.05
315	115	39.16	0.00	-1.15	1.20	6.68
315	2015	39.16	0.00	-1.15	1.20	7.54
316	116	42.29	0.00	-1.49	0.90	4.81
316	2016	42.29	0.00	-1.49	0.90	5.94
317	117	45.42	0.00	-2.08	0.74	2.79
317	2017	45.42	0.00	-2.08	0.74	4.37
318	118	48.55	0.00	-0.13	0.68	7.66
318	2018	48.55	0.00	-0.13	0.68	7.76
319	119	51.68	0.00	1.95	0.81	14.28
319	2019	51.68	0.00	1.95	0.81	12.80
320	120	54.81	0.00	3.50	1.03	19.94
320	2020	54.81	0.00	3.50	1.03	17.29
321	121	57.94	0.00	6.96	1.40	32.50
321	2021	57.94	0.00	6.96	1.40	27.24
322	122	61.07	0.00	6.89	1.85	32.54
322	2022	61.07	0.00	6.89	1.85	27.33
323	123	64.20	0.00	8.36	2.38	35.82
323	2023	64.20	0.00	8.36	2.38	29.50
324	124	67.55	0.00	6.62	2.79	31.76
324	2024	67.55	0.00	6.62	2.79	26.76
325	125	70.90	0.00	3.21	2.33	20.39
325	2025	70.90	0.00	3.21	2.33	17.97
326	126	74.23	0.00	0.92	1.89	12.87
326	2026	74.23	0.00	0.92	1.89	12.17
327	127	77.56	0.00	-0.49	1.15	8.19
327	2027	77.56	0.00	-0.49	1.15	8.56
328	128	80.89	0.00	-1.26	0.77	5.57
328	2028	80.89	0.00	-1.26	0.77	6.53

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.Mx-

Envolvente de tren de cargas plano gen'rico. Mx-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-0.88	0.58	7.40
329	2029	84.22	0.00	-0.88	0.58	8.06
330	130	87.55	0.00	0.85	0.51	12.38
330	2030	87.55	0.00	0.85	0.51	11.73
331	131	90.88	0.00	3.07	0.63	19.62
331	2031	90.88	0.00	3.07	0.63	17.31
332	132	94.21	0.00	7.23	0.92	34.03
332	2032	94.21	0.00	7.23	0.92	28.56
333	133	97.54	0.00	9.19	1.43	41.04
333	2033	97.54	0.00	9.19	1.43	34.10
334	134	100.87	0.00	9.55	2.02	42.55
334	2034	100.87	0.00	9.55	2.02	35.33
335	135	104.20	0.00	8.46	2.48	37.14
335	2035	104.20	0.00	8.46	2.48	30.75
336	136	107.55	0.00	4.86	2.52	24.87
336	2036	107.55	0.00	4.86	2.52	21.20
337	137	110.90	0.00	1.84	2.04	15.03
337	2037	110.90	0.00	1.84	2.04	13.64
338	138	113.77	0.00	0.10	1.36	9.32
338	2038	113.77	0.00	0.10	1.36	9.24
339	139	116.64	0.00	-0.91	0.82	5.87
339	2039	116.64	0.00	-0.91	0.82	6.56
340	140	119.51	0.00	-1.19	0.42	5.01
340	2040	119.51	0.00	-1.19	0.42	5.90
341	141	122.38	0.00	-1.37	0.14	4.10
341	2041	122.38	0.00	-1.37	0.14	5.13
342	142	125.25	0.00	1.79	0.07	12.68
342	2042	125.25	0.00	1.79	0.07	11.33
343	143	128.12	0.00	4.69	0.31	22.81
343	2043	128.12	0.00	4.69	0.31	19.26
344	144	130.99	0.00	6.67	0.80	31.41
344	2044	130.99	0.00	6.67	0.80	26.37
345	145	133.86	0.00	5.28	1.31	26.88
345	2045	133.86	0.00	5.28	1.31	22.88
346	146	136.73	0.00	4.03	1.67	23.83
346	2046	136.73	0.00	4.03	1.67	20.78
347	147	139.60	0.00	0.91	0.91	8.45
347	2047	139.60	0.00	0.91	0.91	7.76
201	2001	0.00	0.00	1.14	0.27	5.63
201	1001	0.00	0.00	1.14	0.27	0.18
202	2002	2.62	0.00	1.67	0.53	9.83
202	1002	2.62	0.00	1.67	0.53	1.82
203	2003	5.24	0.00	1.10	0.53	8.49
203	1003	5.24	0.00	1.10	0.53	3.22
204	2004	7.86	0.00	0.95	0.52	8.84
204	1004	7.86	0.00	0.95	0.52	4.31
205	2005	10.48	0.00	0.35	0.51	7.45
205	1005	10.48	0.00	0.35	0.51	5.76

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.Mx-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.Mx-

Envolvente de tren de cargas plano gen'rico. Mx-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	1.69	0.52	12.47
206	1006	13.10	0.00	1.69	0.52	4.40
207	2007	15.72	0.00	2.81	0.65	16.27
207	1007	15.72	0.00	2.81	0.65	2.84
208	2008	18.34	0.00	5.28	0.92	23.46
208	1008	18.34	0.00	5.28	0.92	-1.83
209	2009	20.96	0.00	5.78	1.29	24.90
209	1009	20.96	0.00	5.78	1.29	-2.76
210	2010	23.58	0.00	6.66	1.67	26.21
210	1010	23.58	0.00	6.66	1.67	-5.67
211	2011	26.20	0.00	7.32	2.34	28.61
211	1011	26.20	0.00	7.32	2.34	-6.45
212	2012	29.55	0.00	5.59	2.90	26.92
212	1012	29.55	0.00	5.59	2.90	0.13
213	2013	32.90	0.00	2.33	2.39	17.02
213	1013	32.90	0.00	2.33	2.39	5.87
214	2014	36.03	0.00	0.17	1.68	11.05
214	1014	36.03	0.00	0.17	1.68	10.24
215	2015	39.16	0.00	-1.15	1.20	7.54
215	1015	39.16	0.00	-1.15	1.20	13.03
216	2016	42.29	0.00	-1.49	0.90	5.94
216	1016	42.29	0.00	-1.49	0.90	13.06
217	2017	45.42	0.00	-2.08	0.74	4.37
217	1017	45.42	0.00	-2.08	0.74	14.34
218	2018	48.55	0.00	-0.13	0.68	7.76
218	1018	48.55	0.00	-0.13	0.68	8.37
219	2019	51.68	0.00	1.95	0.81	12.80
219	1019	51.68	0.00	1.95	0.81	3.45
220	2020	54.81	0.00	3.50	1.03	17.29
220	1020	54.81	0.00	3.50	1.03	0.51
221	2021	57.94	0.00	6.96	1.40	27.24
221	1021	57.94	0.00	6.96	1.40	-6.08
222	2022	61.07	0.00	6.89	1.85	27.33
222	1022	61.07	0.00	6.89	1.85	-5.66
223	2023	64.20	0.00	8.36	2.38	29.50
223	1023	64.20	0.00	8.36	2.38	-10.52
224	2024	67.55	0.00	6.62	2.79	26.76
224	1024	67.55	0.00	6.62	2.79	-4.96
225	2025	70.90	0.00	3.21	2.33	17.97
225	1025	70.90	0.00	3.21	2.33	2.60
226	2026	74.23	0.00	0.92	1.69	12.17
226	1026	74.23	0.00	0.92	1.69	7.75
227	2027	77.56	0.00	-0.49	1.15	8.56
227	1027	77.56	0.00	-0.49	1.15	10.90
228	2028	80.89	0.00	-1.26	0.77	6.53
228	1028	80.89	0.00	-1.26	0.77	12.58
229	2029	84.22	0.00	-0.88	0.58	8.06
229	1029	84.22	0.00	-0.88	0.58	12.27

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.Mx-

Envolvente de tren de cargas plano gen'rico. Mx-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	0.85	0.51	11.73
230	1030	87.55	0.00	0.85	0.51	7.66
231	2031	90.88	0.00	3.07	0.63	17.31
231	1031	90.88	0.00	3.07	0.63	2.63
232	2032	94.21	0.00	7.23	0.92	28.56
232	1032	94.21	0.00	7.23	0.92	-6.07
233	2033	97.54	0.00	9.19	1.43	34.10
233	1033	97.54	0.00	9.19	1.43	-9.89
234	2034	100.87	0.00	9.55	2.02	35.33
234	1034	100.87	0.00	9.55	2.02	-10.40
235	2035	104.20	0.00	8.46	2.48	30.75
235	1035	104.20	0.00	8.46	2.48	-9.75
236	2036	107.55	0.00	4.86	2.52	21.20
236	1036	107.55	0.00	4.86	2.52	-2.08
237	2037	110.90	0.00	1.84	2.04	13.64
237	1037	110.90	0.00	1.84	2.04	4.83
238	2038	113.77	0.00	0.10	1.36	9.24
238	1038	113.77	0.00	0.10	1.36	8.75
239	2039	116.64	0.00	-0.91	0.82	6.56
239	1039	116.64	0.00	-0.91	0.82	10.94
240	2040	119.51	0.00	-1.19	0.42	5.90
240	1040	119.51	0.00	-1.19	0.42	11.58
241	2041	122.38	0.00	-1.37	0.14	5.13
241	1041	122.38	0.00	-1.37	0.14	11.67
242	2042	125.25	0.00	1.79	0.07	11.33
242	1042	125.25	0.00	1.79	0.07	2.75
243	2043	128.12	0.00	4.69	0.31	19.26
243	1043	128.12	0.00	4.69	0.31	-3.20
244	2044	130.99	0.00	6.67	0.80	26.37
244	1044	130.99	0.00	6.67	0.80	-5.56
245	2045	133.86	0.00	5.29	1.31	22.88
245	1045	133.86	0.00	5.29	1.31	-2.42
246	2046	136.73	0.00	4.03	1.67	20.78
246	1046	136.73	0.00	4.03	1.67	1.49
247	2047	139.60	0.00	0.91	0.91	7.76
247	1047	139.60	0.00	0.91	0.91	3.40
401	1001	0.00	0.00	1.14	0.27	0.18
401	1	0.00	0.00	1.14	0.27	-0.68
402	1002	2.62	0.00	1.67	0.53	1.82
402	2	2.62	0.00	1.67	0.53	0.55
403	1003	5.24	0.00	1.10	0.53	3.22
403	3	5.24	0.00	1.10	0.53	2.38
404	1004	7.86	0.00	0.95	0.52	4.31
404	4	7.86	0.00	0.95	0.52	3.59
405	1005	10.48	0.00	0.35	0.51	5.76
405	5	10.48	0.00	0.35	0.51	5.49
406	1006	13.10	0.00	1.69	0.52	4.40
406	6	13.10	0.00	1.69	0.52	3.13

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.Mx-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.Mx-

Envolvente de tren de cargas plano gen'rico. Mx-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	2.81	0.65	2.84
407	7	15.72	0.00	2.81	0.65	0.72
408	1008	18.34	0.00	5.28	0.92	-1.83
408	8	18.34	0.00	5.28	0.92	-5.82
409	1009	20.96	0.00	5.78	1.29	-2.76
409	9	20.96	0.00	5.78	1.29	-7.13
410	1010	23.58	0.00	6.66	1.67	-5.67
410	10	23.58	0.00	6.66	1.67	-10.71
411	1011	26.20	0.00	7.32	2.34	-6.45
411	11	26.20	0.00	7.32	2.34	-11.98
412	1012	29.55	0.00	5.59	2.90	0.13
412	12	29.55	0.00	5.59	2.90	-4.10
413	1013	32.90	0.00	2.33	2.39	5.87
413	13	32.90	0.00	2.33	2.39	4.11
414	1014	36.03	0.00	0.17	1.68	10.24
414	14	36.03	0.00	0.17	1.68	10.11
415	1015	39.16	0.00	-1.15	1.20	13.03
415	15	39.16	0.00	-1.15	1.20	13.89
416	1016	42.29	0.00	-1.49	0.90	13.06
416	16	42.29	0.00	-1.49	0.90	14.18
417	1017	45.42	0.00	-2.08	0.74	14.34
417	17	45.42	0.00	-2.08	0.74	15.92
418	1018	48.55	0.00	-0.13	0.68	8.37
418	18	48.55	0.00	-0.13	0.68	8.47
419	1019	51.68	0.00	1.95	0.81	3.45
419	19	51.68	0.00	1.95	0.81	1.98
420	1020	54.81	0.00	3.50	1.03	0.51
420	20	54.81	0.00	3.50	1.03	-2.14
421	1021	57.94	0.00	6.96	1.40	-6.08
421	21	57.94	0.00	6.96	1.40	-11.34
422	1022	61.07	0.00	6.89	1.85	-5.66
422	22	61.07	0.00	6.89	1.85	-10.87
423	1023	64.20	0.00	8.36	2.38	-10.52
423	23	64.20	0.00	8.36	2.38	-16.84
424	1024	67.55	0.00	6.62	2.79	-4.96
424	24	67.55	0.00	6.62	2.79	-9.96
425	1025	70.90	0.00	3.21	2.33	2.60
425	25	70.90	0.00	3.21	2.33	0.18
426	1026	74.23	0.00	0.92	1.69	7.75
426	26	74.23	0.00	0.92	1.69	7.06
427	1027	77.56	0.00	-0.49	1.15	10.90
427	27	77.56	0.00	-0.49	1.15	11.27
428	1028	80.89	0.00	-1.26	0.77	12.58
428	28	80.89	0.00	-1.26	0.77	13.53
429	1029	84.22	0.00	-0.88	0.58	12.27
429	29	84.22	0.00	-0.88	0.58	12.94
430	1030	87.55	0.00	0.85	0.51	7.66
430	30	87.55	0.00	0.85	0.51	7.02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.Mx-

Envolvente de tren de cargas plano gen'rico. Mx-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	3.07	0.63	2.63
431	31	90.88	0.00	3.07	0.63	0.31
432	1032	94.21	0.00	7.23	0.92	-6.07
432	32	94.21	0.00	7.23	0.92	-11.54
433	1033	97.54	0.00	9.19	1.43	-9.89
433	33	97.54	0.00	9.19	1.43	-16.84
434	1034	100.87	0.00	9.55	2.02	-10.40
434	34	100.87	0.00	9.55	2.02	-17.62
435	1035	104.20	0.00	8.46	2.48	-9.75
435	35	104.20	0.00	8.46	2.48	-16.15
436	1036	107.55	0.00	4.86	2.52	-2.08
436	36	107.55	0.00	4.86	2.52	-5.76
437	1037	110.90	0.00	1.84	2.04	4.83
437	37	110.90	0.00	1.84	2.04	3.44
438	1038	113.77	0.00	0.10	1.36	8.75
438	38	113.77	0.00	0.10	1.36	8.68
439	1039	116.64	0.00	-0.91	0.82	10.94
439	39	116.64	0.00	-0.91	0.82	11.63
440	1040	119.51	0.00	-1.19	0.42	11.58
440	40	119.51	0.00	-1.19	0.42	12.48
441	1041	122.38	0.00	-1.37	0.14	11.67
441	41	122.38	0.00	-1.37	0.14	12.71
442	1042	125.25	0.00	1.79	0.07	2.75
442	42	125.25	0.00	1.79	0.07	1.40
443	1043	128.12	0.00	4.69	0.31	-3.20
443	43	128.12	0.00	4.69	0.31	-6.74
444	1044	130.99	0.00	6.67	0.80	-5.56
444	44	130.99	0.00	6.67	0.80	-10.60
445	1045	133.86	0.00	5.29	1.31	-2.42
445	45	133.86	0.00	5.29	1.31	-6.42
446	1046	136.73	0.00	4.03	1.67	1.49
446	46	136.73	0.00	4.03	1.67	-1.55
447	1047	139.60	0.00	0.91	0.91	3.40
447	47	139.60	0.00	0.91	0.91	2.71

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen'rico. MZ+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-27.41	9.17	1.52
1	2	2.62	0.00	-27.56	9.02	73.70
2	2	2.62	0.00	-26.25	16.41	76.56
2	3	5.24	0.00	-26.25	16.41	145.32
3	3	5.24	0.00	-21.94	14.33	147.83
3	4	7.86	0.00	-22.10	14.47	205.68
4	4	7.86	0.00	-15.40	4.39	207.73
4	5	10.48	0.00	-15.40	4.39	248.07
5	5	10.48	0.00	-6.79	-11.78	249.54
5	6	13.10	0.00	-6.79	-11.78	267.32
6	6	13.10	0.00	3.09	-32.05	268.15
6	7	15.72	0.00	3.09	-32.05	260.06
7	7	15.72	0.00	13.58	-54.38	260.24
7	8	18.34	0.00	13.56	-54.22	224.69
8	8	18.34	0.00	24.03	-76.66	224.22
8	9	20.96	0.00	23.27	-76.21	161.34
9	9	20.96	0.00	32.78	-96.32	160.26
9	10	23.58	0.00	24.27	-67.50	80.44
10	10	23.58	0.00	31.01	-80.94	79.18
10	10011	26.20	0.00	3.77	2.75	39.25
11	11	26.20	0.00	2.84	1.55	39.10
11	12	29.55	0.00	2.84	1.55	29.58
12	12	29.55	0.00	4.52	0.67	29.33
12	13	32.90	0.00	-7.92	30.62	22.48
13	13	32.90	0.00	-5.58	31.72	22.91
13	14	36.03	0.00	-29.17	109.83	87.29
14	14	36.03	0.00	-27.23	114.44	89.67
14	15	39.16	0.00	-27.75	113.76	176.28
15	15	39.16	0.00	-23.07	109.61	178.94
15	16	42.29	0.00	-23.30	109.34	251.64
16	16	42.29	0.00	-15.81	96.24	254.19
16	17	45.42	0.00	-15.81	96.24	303.68
17	17	45.42	0.00	-5.81	75.37	305.81
17	18	48.55	0.00	-5.99	76.75	324.52
18	18	48.55	0.00	5.94	49.88	326.05
18	19	51.68	0.00	5.91	47.02	307.47
19	19	51.68	0.00	19.04	16.68	308.26
19	20	54.81	0.00	18.85	19.38	249.19
20	20	54.81	0.00	32.31	-12.44	249.16
20	21	57.94	0.00	32.31	-12.44	148.03
21	21	57.94	0.00	45.22	-42.56	147.19
21	22	61.07	0.00	9.77	-29.37	49.91
22	22	61.07	0.00	15.60	-38.97	49.36
22	10023	64.20	0.00	-9.25	-20.11	66.99
23	23	64.20	0.00	0.70	-14.90	67.19
23	24	67.55	0.00	0.50	-13.50	65.15
24	24	67.55	0.00	1.25	-9.21	65.32
24	25	70.90	0.00	-10.50	31.41	70.94

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen'rico. MZ+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-9.56	37.98	71.91
25	26	74.23	0.00	-27.11	114.13	140.23
26	26	74.23	0.00	-26.29	120.34	143.04
26	27	77.56	0.00	-27.30	117.85	233.34
27	27	77.56	0.00	-22.57	116.02	236.49
27	28	80.89	0.00	-22.83	112.60	312.11
28	28	80.89	0.00	-14.62	98.71	315.08
28	29	84.22	0.00	-14.62	98.71	363.78
29	29	84.22	0.00	-3.45	75.56	366.20
29	30	87.55	0.00	-3.68	77.11	378.06
30	30	87.55	0.00	9.67	47.08	379.76
30	31	90.88	0.00	9.52	49.12	347.67
31	31	90.88	0.00	24.13	14.64	348.48
31	32	94.21	0.00	24.13	14.64	268.13
32	32	94.21	0.00	38.95	-20.55	268.00
32	33	97.54	0.00	33.40	-24.65	141.15
33	33	97.54	0.00	46.43	-55.46	140.04
33	34	100.87	0.00	5.65	-42.33	36.36
34	34	100.87	0.00	10.22	-49.39	35.65
34	10035	104.20	0.00	-10.76	-23.13	63.36
35	35	104.20	0.00	-0.23	-18.24	63.45
35	36	107.55	0.00	-0.23	-18.24	64.21
36	36	107.55	0.00	-0.33	-14.23	64.33
36	37	110.90	0.00	-19.17	51.38	90.00
37	37	110.90	0.00	-18.69	58.90	91.08
37	38	113.77	0.00	-23.78	74.49	151.10
38	38	113.77	0.00	-21.09	76.93	152.68
38	39	116.64	0.00	-21.09	76.93	213.20
39	39	116.64	0.00	-16.54	73.81	214.83
39	40	119.51	0.00	-16.54	73.81	262.31
40	40	119.51	0.00	-10.29	65.56	263.72
40	41	122.38	0.00	-10.29	65.56	293.26
41	41	122.38	0.00	-2.73	53.38	294.27
41	42	125.25	0.00	-2.73	53.38	302.12
42	42	125.25	0.00	5.59	38.97	302.59
42	43	128.12	0.00	5.59	38.97	286.56
43	43	128.12	0.00	14.03	24.32	286.46
43	44	130.99	0.00	14.03	24.32	246.20
44	44	130.99	0.00	21.93	11.47	245.53
44	45	133.86	0.00	21.93	11.47	182.58
45	45	133.86	0.00	28.67	2.38	181.41
45	46	136.73	0.00	28.67	2.38	99.12
46	46	136.73	0.00	33.72	-1.34	97.60
46	47	139.60	0.00	25.44	-2.71	0.91
101	101	0.00	0.00	6.48	-6.49	0.27
101	102	2.62	0.00	-114.40	30.71	341.05
102	102	2.62	0.00	-115.47	16.70	338.17
102	103	5.24	0.00	-82.87	47.82	597.90

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.MZ+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen'rico. MZ+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-86.92	24.45	595.37
103	104	7.86	0.00	-54.39	54.85	780.64
104	104	7.86	0.00	-61.07	22.76	778.59
104	105	10.48	0.00	-28.38	55.14	895.77
105	105	10.48	0.00	-36.98	17.11	894.30
105	106	13.10	0.00	-4.28	49.49	948.35
106	106	13.10	0.00	-14.15	7.56	947.52
106	107	15.72	0.00	18.54	39.94	941.77
107	107	15.72	0.00	8.05	-3.83	941.60
107	108	18.34	0.00	40.75	28.55	877.68
108	108	18.34	0.00	30.27	-15.00	878.15
108	109	20.96	0.00	62.17	3.50	756.82
109	109	20.96	0.00	52.50	-36.85	757.89
109	110	23.58	0.00	85.19	-4.47	577.52
110	110	23.58	0.00	76.67	-41.03	579.12
110	111	26.20	0.00	89.10	-24.76	348.06
111	111	26.20	0.00	82.32	-55.04	349.85
111	112	29.55	0.00	47.69	-29.45	141.40
112	112	29.55	0.00	44.27	-46.84	142.18
112	10113	32.90	0.00	8.30	-40.63	58.66
113	113	32.90	0.00	2.34	-49.70	58.98
113	114	36.03	0.00	-36.72	-38.68	103.26
114	114	36.03	0.00	-39.17	-52.74	103.19
114	115	39.16	0.00	-72.86	3.22	259.24
115	115	39.16	0.00	-77.41	-19.98	257.92
115	116	42.29	0.00	-80.31	64.85	489.32
116	116	42.29	0.00	-87.48	33.32	486.85
116	117	45.42	0.00	-50.54	65.70	704.92
117	117	45.42	0.00	-60.39	24.97	702.81
117	118	48.55	0.00	-22.52	54.75	832.01
118	118	48.55	0.00	-34.44	6.98	830.49
118	119	51.68	0.00	4.62	45.66	877.16
119	119	51.68	0.00	-8.49	-5.97	876.39
119	120	54.81	0.00	30.57	32.72	841.84
120	120	54.81	0.00	17.12	-20.00	841.87
120	121	57.94	0.00	54.83	7.71	729.40
121	121	57.94	0.00	42.05	-42.50	730.23
121	122	61.07	0.00	71.35	7.02	540.77
122	122	61.07	0.00	61.03	-36.58	542.20
122	123	64.20	0.00	72.94	11.44	332.13
123	123	64.20	0.00	65.97	-21.42	333.51
123	124	67.55	0.00	40.64	4.52	166.44
124	124	67.55	0.00	37.54	-14.14	166.88
124	10125	70.90	0.00	-0.39	-5.20	111.76
125	125	70.90	0.00	0.88	-16.01	111.74
125	126	74.23	0.00	-20.16	12.69	167.07
126	126	74.23	0.00	-22.33	-2.37	166.80
126	127	77.56	0.00	-76.92	30.93	339.02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen'rico. MZ+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-81.93	3.82	337.15
127	128	80.89	0.00	-75.92	99.72	590.13
128	128	80.89	0.00	-83.88	64.05	587.25
128	129	84.22	0.00	-44.27	99.82	802.00
129	129	84.22	0.00	-55.29	54.01	799.59
129	130	87.55	0.00	-14.01	88.39	914.52
130	130	87.55	0.00	-26.89	42.63	912.87
130	131	90.88	0.00	13.17	72.58	938.00
131	131	90.88	0.00	-1.44	14.99	937.19
131	132	94.21	0.00	40.12	56.15	872.79
132	132	94.21	0.00	25.30	-2.01	872.92
132	133	97.54	0.00	65.19	26.96	722.96
133	133	97.54	0.00	51.37	-27.39	724.01
133	134	100.87	0.00	74.07	9.92	498.25
134	134	100.87	0.00	63.96	-32.87	499.87
134	135	104.20	0.00	69.63	7.06	266.35
135	135	104.20	0.00	64.25	-18.42	267.58
135	136	107.55	0.00	24.18	22.40	101.67
136	136	107.55	0.00	23.05	13.52	101.77
136	10137	110.90	0.00	4.50	29.57	34.91
137	137	110.90	0.00	-10.84	25.25	34.74
137	138	113.77	0.00	-47.62	21.71	116.62
138	138	113.77	0.00	-49.00	11.79	116.12
138	139	116.64	0.00	-95.93	3.31	314.97
139	139	116.64	0.00	-100.00	-18.89	313.36
139	140	119.51	0.00	-68.27	-3.38	559.94
140	140	119.51	0.00	-74.39	-33.44	558.50
140	141	122.38	0.00	-38.57	2.03	720.60
141	141	122.38	0.00	-46.05	-32.53	719.59
141	142	125.25	0.00	-10.23	2.94	800.35
142	142	125.25	0.00	-18.49	-34.26	799.89
142	143	128.12	0.00	17.32	1.21	801.56
143	143	128.12	0.00	8.95	-36.52	801.69
143	144	130.99	0.00	44.77	-1.05	724.61
144	144	130.99	0.00	36.95	-37.11	725.32
144	145	133.86	0.00	72.77	-1.64	567.86
145	145	133.86	0.00	66.16	-34.27	569.08
145	146	136.73	0.00	101.98	1.20	327.81
146	146	136.73	0.00	97.16	-25.46	329.40
146	147	139.60	0.00	-5.96	5.80	0.20
301	101	0.00	0.00	1.39	-0.05	9.61
301	2001	0.00	0.00	1.28	-0.20	8.62
302	102	2.62	0.00	2.37	-2.30	22.45
302	2002	2.62	0.00	2.37	-2.30	20.66
303	103	5.24	0.00	4.77	-1.98	30.01
303	2003	5.24	0.00	4.77	-1.98	26.40
304	104	7.86	0.00	6.70	-1.52	36.07
304	2004	7.86	0.00	6.70	-1.52	31.00

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Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.MZ+
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen'rico. MZ+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	8.36	-1.13	40.48
305	2005	10.48	0.00	8.08	-0.98	34.27
306	106	13.10	0.00	9.71	-0.68	43.82
306	2006	13.10	0.00	9.71	-0.68	36.48
307	107	15.72	0.00	10.44	-0.12	45.46
307	2007	15.72	0.00	10.21	-0.06	37.59
308	108	18.34	0.00	10.40	0.50	45.21
308	2008	18.34	0.00	10.40	0.50	37.35
309	109	20.96	0.00	9.77	1.08	43.12
309	2009	20.96	0.00	9.77	1.08	35.73
310	110	23.58	0.00	8.63	1.58	39.39
310	2010	23.58	0.00	8.63	1.58	32.86
311	111	26.20	0.00	8.01	2.26	38.99
311	2011	26.20	0.00	8.01	2.26	32.93
312	112	29.55	0.00	5.74	2.61	33.82
312	2012	29.55	0.00	5.74	2.61	29.48
313	113	32.90	0.00	2.96	1.49	24.88
313	2013	32.90	0.00	2.75	1.27	22.65
314	114	36.03	0.00	2.69	-1.43	23.78
314	2014	36.03	0.00	2.38	-1.21	21.84
315	115	39.16	0.00	5.04	-2.05	30.44
315	2015	39.16	0.00	4.89	-1.97	26.69
316	116	42.29	0.00	7.45	-1.95	37.88
316	2016	42.29	0.00	7.32	-1.93	32.28
317	117	45.42	0.00	9.69	-1.66	44.20
317	2017	45.42	0.00	9.24	-1.51	37.09
318	118	48.55	0.00	11.81	-1.40	49.77
318	2018	48.55	0.00	11.52	-1.34	40.93
319	119	51.68	0.00	12.99	-0.71	53.38
319	2019	51.68	0.00	12.65	-0.71	43.63
320	120	54.81	0.00	13.31	-0.01	54.42
320	2020	54.81	0.00	13.08	0.02	44.45
321	121	57.94	0.00	12.85	0.77	52.93
321	2021	57.94	0.00	12.62	0.78	43.30
322	122	61.07	0.00	11.62	1.51	48.69
322	2022	61.07	0.00	11.23	1.48	40.15
323	123	64.20	0.00	9.60	2.15	43.60
323	2023	64.20	0.00	9.34	2.10	36.43
324	124	67.55	0.00	6.81	2.43	35.67
324	2024	67.55	0.00	6.49	2.33	30.66
325	125	70.90	0.00	3.74	1.49	26.75
325	2025	70.90	0.00	3.74	1.49	23.92
326	126	74.23	0.00	2.99	-0.76	25.43
326	2026	74.23	0.00	2.61	-0.58	23.40
327	127	77.56	0.00	5.41	-2.58	32.88
327	2027	77.56	0.00	5.16	-2.43	28.95
328	128	80.89	0.00	8.37	-2.46	42.43
328	2028	80.89	0.00	8.37	-2.46	36.10

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen'rico. MZ+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	11.05	-1.97	50.61
329	2029	84.22	0.00	10.90	-1.96	42.34
330	130	87.55	0.00	12.92	-1.27	56.50
330	2030	87.55	0.00	12.69	-1.27	46.82
331	131	90.88	0.00	14.41	-0.66	59.99
331	2031	90.88	0.00	13.92	-0.57	49.23
332	132	94.21	0.00	14.59	0.13	60.59
332	2032	94.21	0.00	14.36	0.18	49.61
333	133	97.54	0.00	13.96	1.00	58.17
333	2033	97.54	0.00	13.56	1.05	47.68
334	134	100.87	0.00	12.11	1.79	52.54
334	2034	100.87	0.00	11.68	1.80	43.45
335	135	104.20	0.00	8.60	2.24	41.09
335	2035	104.20	0.00	8.38	2.23	34.65
336	136	107.55	0.00	5.00	2.11	29.37
336	2036	107.55	0.00	4.72	2.00	25.72
337	137	110.90	0.00	2.26	0.72	23.34
337	2037	110.90	0.00	2.26	0.72	21.63
338	138	113.77	0.00	2.73	-0.79	23.72
338	2038	113.77	0.00	2.30	-0.46	21.81
339	139	116.64	0.00	4.50	-1.38	28.14
339	2039	116.64	0.00	4.39	-1.34	24.79
340	140	119.51	0.00	6.19	-1.31	33.09
340	2040	119.51	0.00	6.00	-1.26	28.45
341	141	122.38	0.00	7.43	-0.95	37.11
341	2041	122.38	0.00	7.43	-0.95	31.50
342	142	125.25	0.00	8.16	-0.46	39.53
342	2042	125.25	0.00	8.16	-0.46	33.36
343	143	128.12	0.00	8.29	0.09	40.03
343	2043	128.12	0.00	8.12	0.05	33.84
344	144	130.99	0.00	7.68	0.58	38.63
344	2044	130.99	0.00	7.40	0.54	32.87
345	145	133.86	0.00	6.54	1.00	35.51
345	2045	133.86	0.00	6.29	0.96	30.64
346	146	136.73	0.00	4.98	1.30	31.01
346	2046	136.73	0.00	4.63	1.26	27.34
347	147	139.60	0.00	1.59	0.70	12.83
347	2047	139.60	0.00	1.42	0.69	11.68
201	2001	0.00	0.00	1.28	-0.20	8.62
201	1001	0.00	0.00	-1.31	-1.45	8.93
202	2002	2.62	0.00	2.37	-2.30	20.66
202	1002	2.62	0.00	0.63	-2.37	10.42
203	2003	5.24	0.00	4.77	-1.98	26.40
203	1003	5.24	0.00	1.82	-0.59	6.11
204	2004	7.86	0.00	6.70	-1.52	31.00
204	1004	7.86	0.00	0.98	0.34	5.97
205	2005	10.48	0.00	8.08	-0.98	34.27
205	1005	10.48	0.00	0.38	0.40	6.98

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen'rico. MZ+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	9.71	-0.68	36.48
206	1006	13.10	0.00	0.00	0.38	8.03
207	2007	15.72	0.00	10.21	-0.06	37.59
207	1007	15.72	0.00	-0.61	0.36	9.14
208	2008	18.34	0.00	10.40	0.50	37.35
208	1008	18.34	0.00	-1.04	0.34	10.28
209	2009	20.96	0.00	9.77	1.08	35.73
209	1009	20.96	0.00	-1.60	0.24	11.42
210	2010	23.58	0.00	8.63	1.58	32.86
210	1010	23.58	0.00	-1.95	0.08	12.32
211	2011	26.20	0.00	8.01	2.26	32.93
211	1011	26.20	0.00	-2.18	-0.12	14.65
212	2012	29.55	0.00	5.74	2.61	29.48
212	1012	29.55	0.00	-1.96	0.01	16.97
213	2013	32.90	0.00	2.75	1.27	22.65
213	1013	32.90	0.00	-1.27	-0.24	17.04
214	2014	36.03	0.00	2.38	-1.21	21.84
214	1014	36.03	0.00	-0.57	-0.15	15.64
215	2015	39.16	0.00	4.89	-1.97	26.69
215	1015	39.16	0.00	-0.71	0.27	15.34
216	2016	42.29	0.00	7.32	-1.93	32.28
216	1016	42.29	0.00	-1.72	0.71	15.92
217	2017	45.42	0.00	9.24	-1.51	37.09
217	1017	45.42	0.00	-2.23	0.55	16.59
218	2018	48.55	0.00	11.52	-1.34	40.93
218	1018	48.55	0.00	-2.60	0.42	17.00
219	2019	51.68	0.00	12.65	-0.71	43.63
219	1019	51.68	0.00	-2.78	0.32	17.39
220	2020	54.81	0.00	13.08	0.02	44.45
220	1020	54.81	0.00	-3.13	0.40	18.12
221	2021	57.94	0.00	12.62	0.78	43.30
221	1021	57.94	0.00	-3.67	0.28	19.19
222	2022	61.07	0.00	11.23	1.48	40.15
222	1022	61.07	0.00	-4.06	0.04	20.06
223	2023	64.20	0.00	9.34	2.10	36.43
223	1023	64.20	0.00	-4.24	-0.37	21.03
224	2024	67.55	0.00	6.49	2.33	30.66
224	1024	67.55	0.00	-4.00	-1.01	20.62
225	2025	70.90	0.00	3.74	1.49	23.92
225	1025	70.90	0.00	-1.77	-0.76	18.16
226	2026	74.23	0.00	2.61	-0.58	23.40
226	1026	74.23	0.00	-0.58	-1.12	15.98
227	2027	77.56	0.00	5.16	-2.43	28.95
227	1027	77.56	0.00	0.00	0.05	14.40
228	2028	80.89	0.00	8.37	-2.46	36.10
228	1028	80.89	0.00	-0.61	0.44	14.21
229	2029	84.22	0.00	10.90	-1.96	42.34
229	1029	84.22	0.00	-1.19	0.43	14.51

DERINT2.ENV_TREN_GENERICO.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen'rico. MZ+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	12.69	-1.27	46.82
230	1030	87.55	0.00	-1.29	0.29	14.61
231	2031	90.88	0.00	13.92	-0.57	49.23
231	1031	90.88	0.00	-1.34	0.22	14.59
232	2032	94.21	0.00	14.36	0.18	49.61
232	1032	94.21	0.00	-1.32	0.25	14.77
233	2033	97.54	0.00	13.56	1.05	47.68
233	1033	97.54	0.00	-1.45	0.14	15.16
234	2034	100.87	0.00	11.68	1.80	43.45
234	1034	100.87	0.00	-1.45	-0.02	15.34
235	2035	104.20	0.00	8.38	2.23	34.65
235	1035	104.20	0.00	-1.14	-0.26	14.00
236	2036	107.55	0.00	4.72	2.00	25.72
236	1036	107.55	0.00	-0.28	-0.21	12.15
237	2037	110.90	0.00	2.26	0.72	21.63
237	1037	110.90	0.00	0.76	0.18	12.20
238	2038	113.77	0.00	2.30	-0.46	21.81
238	1038	113.77	0.00	0.37	0.22	12.48
239	2039	116.64	0.00	4.39	-1.34	24.79
239	1039	116.64	0.00	-0.21	0.35	12.72
240	2040	119.51	0.00	6.00	-1.26	28.45
240	1040	119.51	0.00	-0.91	0.26	13.03
241	2041	122.38	0.00	7.43	-0.95	31.50
241	1041	122.38	0.00	-1.18	0.06	12.86
242	2042	125.25	0.00	8.16	-0.46	33.36
242	1042	125.25	0.00	-1.03	-0.10	12.18
243	2043	128.12	0.00	8.12	0.05	33.84
243	1043	128.12	0.00	-0.75	-0.22	11.32
244	2044	130.99	0.00	7.40	0.54	32.87
244	1044	130.99	0.00	-0.38	-0.30	10.28
245	2045	133.86	0.00	6.29	0.96	30.64
245	1045	133.86	0.00	0.01	-0.33	9.18
246	2046	136.73	0.00	4.63	1.26	27.34
246	1046	136.73	0.00	1.48	0.33	8.70
247	2047	139.60	0.00	1.42	0.69	11.68
247	1047	139.60	0.00	0.38	0.50	5.45
401	1001	0.00	0.00	-1.31	-1.45	8.93
401	1	0.00	0.00	-1.35	-1.47	9.95
402	1002	2.62	0.00	0.63	-2.37	10.42
402	2	2.62	0.00	0.02	-2.30	10.23
403	1003	5.24	0.00	1.82	-0.59	6.11
403	3	5.24	0.00	1.66	-0.45	4.79
404	1004	7.86	0.00	0.98	0.34	5.97
404	4	7.86	0.00	0.77	0.41	5.32
405	1005	10.48	0.00	0.38	0.40	6.98
405	5	10.48	0.00	0.20	0.42	6.74
406	1006	13.10	0.00	0.00	0.38	8.03
406	6	13.10	0.00	-0.23	0.40	8.19

~csimp4.esv
Programa DINTEL IDEAM S.A.
20/10/02

DERINT2.ENV_TREN_GENERICO.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen'rico. MZ+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-0.61	0.36	9.14
407	7	15.72	0.00	-0.90	0.41	9.73
408	1008	18.34	0.00	-1.04	0.34	10.28
408	8	18.34	0.00	-1.38	0.35	11.30
409	1009	20.96	0.00	-1.60	0.24	11.42
409	9	20.96	0.00	-1.82	0.25	12.73
410	1010	23.58	0.00	-1.95	0.08	12.32
410	10	23.58	0.00	-2.22	0.09	13.88
411	1011	26.20	0.00	-2.18	-0.12	14.65
411	11	26.20	0.00	-2.67	-0.18	16.51
412	1012	29.55	0.00	-1.96	0.01	16.97
412	12	29.55	0.00	-2.30	-0.25	18.58
413	1013	32.90	0.00	-1.27	-0.24	17.04
413	13	32.90	0.00	-1.66	-0.12	18.14
414	1014	36.03	0.00	-0.57	-0.15	15.64
414	14	36.03	0.00	-1.23	0.00	16.49
415	1015	39.16	0.00	-0.71	0.27	15.34
415	15	39.16	0.00	-0.90	0.55	16.01
416	1016	42.29	0.00	-1.72	0.71	15.92
416	16	42.29	0.00	-1.85	0.79	17.23
417	1017	45.42	0.00	-2.23	0.55	16.59
417	17	45.42	0.00	-2.35	0.57	18.29
418	1018	48.55	0.00	-2.60	0.42	17.00
418	18	48.55	0.00	-2.60	0.42	18.96
419	1019	51.68	0.00	-2.78	0.32	17.39
419	19	51.68	0.00	-2.92	0.35	19.51
420	1020	54.81	0.00	-3.13	0.40	18.12
420	20	54.81	0.00	-3.45	0.44	20.64
421	1021	57.94	0.00	-3.67	0.28	19.19
421	21	57.94	0.00	-3.87	0.29	22.08
422	1022	61.07	0.00	-4.06	0.04	20.06
422	22	61.07	0.00	-4.32	0.05	23.24
423	1023	64.20	0.00	-4.24	-0.37	21.03
423	23	64.20	0.00	-4.51	-0.36	24.38
424	1024	67.55	0.00	-4.00	-1.01	20.62
424	24	67.55	0.00	-4.33	-1.06	23.79
425	1025	70.90	0.00	-1.77	-0.76	18.16
425	25	70.90	0.00	-2.13	-0.99	19.63
426	1026	74.23	0.00	-0.58	-1.12	15.98
426	26	74.23	0.00	-0.78	-1.15	16.54
427	1027	77.56	0.00	0.00	0.05	14.40
427	27	77.56	0.00	-0.02	0.04	14.40
428	1028	80.89	0.00	-0.61	0.44	14.21
428	28	80.89	0.00	-0.76	0.59	14.71
429	1029	84.22	0.00	-1.19	0.43	14.51
429	29	84.22	0.00	-1.19	0.43	15.41
430	1030	87.55	0.00	-1.29	0.29	14.61
430	30	87.55	0.00	-1.47	0.31	15.66

DERINT2.ENV_TREN_GENERICO.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano gen'rico. MZ+

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-1.34	0.22	14.59
431	31	90.88	0.00	-1.53	0.22	15.75
432	1032	94.21	0.00	-1.32	0.25	14.77
432	32	94.21	0.00	-1.49	0.25	15.84
433	1033	97.54	0.00	-1.45	0.14	15.16
433	33	97.54	0.00	-1.66	0.16	16.31
434	1034	100.87	0.00	-1.45	-0.02	15.34
434	34	100.87	0.00	-1.69	-0.01	16.49
435	1035	104.20	0.00	-1.14	-0.26	14.00
435	35	104.20	0.00	-1.54	-0.25	14.98
436	1036	107.55	0.00	-0.28	-0.21	12.15
436	36	107.55	0.00	-0.86	-0.60	12.47
437	1037	110.90	0.00	0.76	0.18	12.20
437	37	110.90	0.00	0.32	0.06	11.84
438	1038	113.77	0.00	0.37	0.22	12.48
438	38	113.77	0.00	0.16	0.43	12.29
439	1039	116.64	0.00	-0.21	0.35	12.72
439	39	116.64	0.00	-0.53	0.52	13.03
440	1040	119.51	0.00	-0.91	0.26	13.03
440	40	119.51	0.00	-1.15	0.34	13.89
441	1041	122.38	0.00	-1.18	0.06	12.86
441	41	122.38	0.00	-1.40	0.08	13.81
442	1042	125.25	0.00	-1.03	-0.10	12.18
442	42	125.25	0.00	-1.24	-0.10	13.09
443	1043	128.12	0.00	-0.75	-0.22	11.32
443	43	128.12	0.00	-0.94	-0.22	11.95
444	1044	130.99	0.00	-0.38	-0.30	10.28
444	44	130.99	0.00	-0.55	-0.29	10.61
445	1045	133.86	0.00	0.01	-0.33	9.18
445	45	133.86	0.00	-0.16	-0.32	9.22
446	1046	136.73	0.00	1.48	0.33	8.70
446	46	136.73	0.00	0.32	-0.02	7.96
447	1047	139.60	0.00	0.37	0.50	5.45
447	47	139.60	0.00	0.16	0.52	5.27

DERINT2.ENV_TREN_GENERICO.VY-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen'rico. VY-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-27.56	9.02	1.50
1	2	2.62	0.00	-27.56	9.02	73.70
2	2	2.62	0.00	-26.29	16.59	76.34
2	3	5.24	0.00	-26.29	16.59	145.23
3	3	5.24	0.00	-22.10	14.47	147.77
3	4	7.86	0.00	-22.10	14.47	205.68
4	4	7.86	0.00	-15.41	4.57	207.55
4	5	10.48	0.00	-15.41	4.57	247.93
5	5	10.48	0.00	-7.26	-1.26	207.99
5	6	13.10	0.00	-7.26	-1.26	227.01
6	6	13.10	0.00	-1.69	4.16	100.88
6	7	15.72	0.00	-1.69	4.16	105.32
7	7	15.72	0.00	-0.37	5.49	55.87
7	8	18.34	0.00	-0.37	5.49	56.84
8	8	18.34	0.00	0.89	3.98	53.62
8	9	20.96	0.00	0.89	3.98	51.28
9	9	20.96	0.00	1.74	25.84	-28.93
9	10	23.58	0.00	1.74	25.84	-33.49
10	10	23.58	0.00	0.25	55.44	-119.66
10	10011	26.20	0.00	0.25	55.44	-120.33
11	11	26.20	0.00	-28.95	54.10	-215.63
11	12	29.55	0.00	-28.95	54.10	-118.66
12	12	29.55	0.00	-29.66	78.75	-115.83
12	13	32.90	0.00	-29.66	78.75	-16.47
13	13	32.90	0.00	-29.96	99.14	-13.37
13	14	36.03	0.00	-29.96	99.14	80.39
14	14	36.03	0.00	-28.18	105.28	81.81
14	15	39.16	0.00	-28.18	105.28	170.01
15	15	39.16	0.00	-23.76	91.53	154.24
15	16	42.29	0.00	-23.76	91.53	228.61
16	16	42.29	0.00	-17.58	42.24	160.83
16	17	45.42	0.00	-17.58	42.24	215.85
17	17	45.42	0.00	-10.82	14.04	133.14
17	18	48.55	0.00	-10.82	14.04	167.02
18	18	48.55	0.00	-7.49	-30.61	8.69
18	19	51.68	0.00	-7.49	-30.61	32.14
19	19	51.68	0.00	-8.27	-42.36	-45.83
19	20	54.81	0.00	-8.27	-42.36	-19.94
20	20	54.81	0.00	-9.02	-34.87	-21.82
20	21	57.94	0.00	-9.02	-34.87	6.40
21	21	57.94	0.00	-10.89	4.43	-123.05
21	22	61.07	0.00	-10.89	4.43	-88.96
22	22	61.07	0.00	-14.71	27.60	-116.50
22	10023	64.20	0.00	-14.71	27.60	-70.45
23	23	64.20	0.00	-30.67	6.97	-319.07
23	24	67.55	0.00	-30.67	6.97	-216.32
24	24	67.55	0.00	-30.18	69.32	-153.59
24	25	70.90	0.00	-30.18	69.32	-52.50

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen'rico. VY-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-31.03	92.02	-51.95
25	26	74.23	0.00	-31.03	92.02	51.37
26	26	74.23	0.00	-29.94	89.50	36.11
26	27	77.56	0.00	-29.94	89.50	135.81
27	27	77.56	0.00	-26.18	77.44	97.87
27	28	80.89	0.00	-26.18	77.44	185.03
28	28	80.89	0.00	-19.91	56.05	149.99
28	29	84.22	0.00	-19.91	56.05	216.30
29	29	84.22	0.00	-12.37	30.17	127.90
29	30	87.55	0.00	-12.37	30.17	169.09
30	30	87.55	0.00	-8.48	-24.08	-12.20
30	31	90.88	0.00	-8.48	-24.08	16.04
31	31	90.88	0.00	-9.01	-43.05	-69.95
31	32	94.21	0.00	-9.01	-43.05	-39.93
32	32	94.21	0.00	-9.80	-35.55	-39.83
32	33	97.54	0.00	-9.80	-35.55	-7.18
33	33	97.54	0.00	-10.69	-9.18	-56.91
33	34	100.87	0.00	-10.69	-9.18	-21.30
34	34	100.87	0.00	-12.53	13.03	-42.07
34	10035	104.20	0.00	-12.53	13.03	-0.33
35	35	104.20	0.00	-31.47	-1.13	-321.51
35	36	107.55	0.00	-31.47	-1.13	-216.08
36	36	107.55	0.00	-29.11	41.22	-144.87
36	37	110.90	0.00	-29.11	41.22	-47.34
37	37	110.90	0.00	-27.24	54.85	-36.78
37	38	113.77	0.00	-27.24	54.85	41.40
38	38	113.77	0.00	-24.38	55.54	20.86
38	39	116.64	0.00	-24.38	55.54	90.84
39	39	116.64	0.00	-20.41	31.55	26.60
39	40	119.51	0.00	-20.41	31.55	85.18
40	40	119.51	0.00	-15.83	15.24	47.69
40	41	122.38	0.00	-15.83	15.24	93.12
41	41	122.38	0.00	-10.84	-10.51	-28.63
41	42	125.25	0.00	-10.84	-10.51	2.49
42	42	125.25	0.00	-9.21	-25.29	-106.19
42	43	128.12	0.00	-9.21	-25.29	-79.75
43	43	128.12	0.00	-10.22	-28.96	-130.69
43	44	130.99	0.00	-10.22	-28.96	-101.35
44	44	130.99	0.00	-11.17	-19.29	-101.15
44	45	133.86	0.00	-11.17	-19.29	-69.08
45	45	133.86	0.00	-11.79	-10.75	-68.85
45	46	136.73	0.00	-11.79	-10.75	-35.02
46	46	136.73	0.00	-12.08	-3.26	-34.79
46	47	139.60	0.00	-12.08	-3.26	-0.11
101	101	0.00	0.00	-147.06	-1.63	-1.51
101	102	2.62	0.00	-117.55	2.50	310.06
102	102	2.62	0.00	-118.04	-6.39	313.44
102	103	5.24	0.00	-91.46	-0.38	506.06

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen'rico. VY-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-94.57	-19.73	503.62
103	104	7.86	0.00	-71.02	-15.68	572.52
104	104	7.86	0.00	-75.80	-39.50	570.67
104	105	10.48	0.00	-55.12	-30.29	587.95
105	105	10.48	0.00	-60.88	-56.55	586.65
105	106	13.10	0.00	-41.59	-44.58	546.42
106	106	13.10	0.00	-47.63	-69.42	586.42
106	107	15.72	0.00	-31.08	-55.69	514.27
107	107	15.72	0.00	-36.98	-81.33	513.87
107	108	18.34	0.00	-22.31	-64.71	419.14
108	108	18.34	0.00	-27.43	-87.39	419.05
108	109	20.96	0.00	-14.09	-67.90	314.94
109	109	20.96	0.00	-18.23	-87.00	315.05
109	110	23.58	0.00	-7.59	-58.89	249.35
110	110	23.58	0.00	-10.81	-74.02	249.54
110	111	26.20	0.00	-2.08	-55.87	181.15
111	111	26.20	0.00	-5.00	-78.32	167.68
111	112	29.55	0.00	4.03	-56.08	93.66
112	112	29.55	0.00	1.33	-63.03	92.34
112	10113	32.90	0.00	7.82	-43.56	44.84
113	113	32.90	0.00	-218.31	5.12	-1313.51
113	114	36.03	0.00	-181.98	25.70	-717.77
114	114	36.03	0.00	-182.21	11.17	-719.13
114	115	39.16	0.00	-149.05	25.86	-278.00
115	115	39.16	0.00	-150.76	7.40	-279.94
115	116	42.29	0.00	-120.82	17.39	22.32
116	116	42.29	0.00	-124.19	-0.95	18.41
116	117	45.42	0.00	-96.59	6.73	195.50
117	117	45.42	0.00	-101.14	-19.54	193.71
117	118	48.55	0.00	-76.37	-8.42	298.24
118	118	48.55	0.00	-81.63	-36.31	296.82
118	119	51.68	0.00	-58.92	-22.62	330.63
119	119	51.68	0.00	-64.24	-50.06	329.64
119	120	54.81	0.00	-43.74	-32.85	312.05
120	120	54.81	0.00	-48.54	-58.02	311.47
120	121	57.94	0.00	-32.35	-13.62	246.76
121	121	57.94	0.00	-35.60	-33.03	246.42
121	122	61.07	0.00	-22.32	-12.28	211.33
122	122	61.07	0.00	-24.87	-28.83	211.16
122	123	64.20	0.00	-13.67	-6.77	168.81
123	123	64.20	0.00	-15.60	-21.01	168.71
123	124	67.55	0.00	-6.20	2.35	129.34
124	124	67.55	0.00	-7.67	-21.73	109.10
124	10125	70.90	0.00	-1.14	-0.57	91.42
125	125	70.90	0.00	-224.03	-5.21	-1397.03
125	126	74.23	0.00	-185.70	17.36	-751.15
126	126	74.23	0.00	-185.79	0.00	-754.50
126	127	77.56	0.00	-150.71	16.98	-282.24

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen'rico. VY-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-152.63	1.81	-286.85
127	128	80.89	0.00	-121.50	12.29	24.70
128	128	80.89	0.00	-125.30	-11.39	22.45
128	129	84.22	0.00	-95.23	3.82	236.73
129	129	84.22	0.00	-100.70	-24.50	234.74
129	130	87.55	0.00	-74.17	-11.46	339.54
130	130	87.55	0.00	-80.48	-41.79	338.02
130	131	90.88	0.00	-56.39	-26.25	368.44
131	131	90.88	0.00	-62.74	-56.09	367.43
131	132	94.21	0.00	-41.19	-17.38	258.10
132	132	94.21	0.00	-46.62	-63.95	341.69
132	133	97.54	0.00	-29.44	-18.36	229.70
133	133	97.54	0.00	-32.76	-36.71	229.49
133	134	100.87	0.00	-18.85	-13.23	181.23
134	134	100.87	0.00	-21.21	-34.71	177.29
134	135	104.20	0.00	-9.50	-9.57	120.59
135	135	104.20	0.00	-10.88	-31.13	109.72
135	136	107.55	0.00	-1.68	-6.11	57.07
136	136	107.55	0.00	-2.53	-14.44	56.99
136	10137	110.90	0.00	3.94	8.46	22.91
137	137	110.90	0.00	-201.44	-82.43	-1195.34
137	138	113.77	0.00	-168.21	-65.03	-690.35
138	138	113.77	0.00	-169.75	-72.43	-707.34
138	139	116.64	0.00	-138.95	-53.81	-336.09
139	139	116.64	0.00	-141.06	-71.03	-339.75
139	140	119.51	0.00	-112.80	-53.58	-84.50
140	140	119.51	0.00	-115.44	-74.28	-85.33
140	141	122.38	0.00	-89.70	-56.67	70.25
141	141	122.38	0.00	-92.61	-77.60	69.56
141	142	125.25	0.00	-69.39	-58.51	142.88
142	142	125.25	0.00	-72.22	-78.48	142.40
142	143	128.12	0.00	-51.03	-43.93	46.63
143	143	128.12	0.00	-52.49	-58.92	46.33
143	144	130.99	0.00	-37.45	-38.20	39.79
144	144	130.99	0.00	-38.57	-51.42	39.56
144	145	133.86	0.00	-26.11	-28.11	13.76
145	145	133.86	0.00	-26.92	-39.59	13.52
145	146	136.73	0.00	-17.41	-13.94	-8.42
146	146	136.73	0.00	-18.02	-23.83	-8.74
146	147	139.60	0.00	-11.69	4.17	0.15
301	101	0.00	0.00	-1.60	-1.40	-0.66
301	2001	0.00	0.00	-1.60	-1.40	0.55
302	102	2.62	0.00	-0.46	-1.43	4.11
302	2002	2.62	0.00	-0.46	-1.43	4.45
303	103	5.24	0.00	0.36	-0.22	3.40
303	2003	5.24	0.00	0.36	-0.22	3.13
304	104	7.86	0.00	0.34	0.33	5.14
304	2004	7.86	0.00	0.34	0.33	4.89

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen'rico. VY-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	-0.09	0.43	4.19
305	2005	10.48	0.00	-0.09	0.43	4.26
306	106	13.10	0.00	-0.60	0.46	3.33
306	2006	13.10	0.00	-0.60	0.46	3.78
307	107	15.72	0.00	-1.11	0.43	1.88
307	2007	15.72	0.00	-1.11	0.43	2.72
308	108	18.34	0.00	-1.60	0.37	0.44
308	2008	18.34	0.00	-1.60	0.37	1.65
309	109	20.96	0.00	-2.05	0.27	-0.77
309	2009	20.96	0.00	-2.05	0.27	0.77
310	110	23.58	0.00	-2.39	0.10	-1.71
310	2010	23.58	0.00	-2.39	0.10	0.10
311	111	26.20	0.00	-2.93	-0.16	-2.39
311	2011	26.20	0.00	-2.93	-0.16	-0.17
312	112	29.55	0.00	-3.08	-0.71	-2.41
312	2012	29.55	0.00	-3.08	-0.71	-0.08
313	113	32.90	0.00	-2.21	-0.61	2.09
313	2013	32.90	0.00	-2.21	-0.61	3.76
314	114	36.03	0.00	-1.75	0.05	4.06
314	2014	36.03	0.00	-1.75	0.05	5.38
315	115	39.16	0.00	-1.98	0.63	1.12
315	2015	39.16	0.00	-1.98	0.63	2.62
316	116	42.29	0.00	-2.22	0.58	0.77
316	2016	42.29	0.00	-2.22	0.58	2.45
317	117	45.42	0.00	-2.58	0.60	0.23
317	2017	45.42	0.00	-2.58	0.60	2.18
318	118	48.55	0.00	-2.89	0.49	-0.90
318	2018	48.55	0.00	-2.89	0.49	1.28
319	119	51.68	0.00	-3.18	0.41	-1.94
319	2019	51.68	0.00	-3.18	0.41	0.47
320	120	54.81	0.00	-3.65	0.48	-3.60
320	2020	54.81	0.00	-3.65	0.48	-0.84
321	121	57.94	0.00	-4.15	0.34	-5.13
321	2021	57.94	0.00	-4.15	0.34	-1.99
322	122	61.07	0.00	-4.56	0.10	-6.31
322	2022	61.07	0.00	-4.56	0.10	-2.87
323	123	64.20	0.00	-4.86	-0.31	-6.82
323	2023	64.20	0.00	-4.86	-0.31	-3.15
324	124	67.55	0.00	-4.56	-1.00	-5.71
324	2024	67.55	0.00	-4.56	-1.00	-2.26
325	125	70.90	0.00	-3.10	-1.77	-1.99
325	2025	70.90	0.00	-3.10	-1.77	0.36
326	126	74.23	0.00	-1.67	-1.12	4.06
326	2026	74.23	0.00	-1.67	-1.12	5.32
327	127	77.56	0.00	-1.38	0.35	2.91
327	2027	77.56	0.00	-1.38	0.35	3.96
328	128	80.89	0.00	-1.70	0.33	0.55
328	2028	80.89	0.00	-1.70	0.33	1.83

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen'rico. VY-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	-1.79	0.41	1.77
329	2029	84.22	0.00	-1.79	0.41	3.12
330	130	87.55	0.00	-1.90	0.34	2.05
330	2030	87.55	0.00	-1.90	0.34	3.48
331	131	90.88	0.00	-1.96	0.24	2.25
331	2031	90.88	0.00	-1.96	0.24	3.74
332	132	94.21	0.00	-2.01	0.21	1.65
332	2032	94.21	0.00	-2.01	0.21	3.17
333	133	97.54	0.00	-2.11	0.21	1.93
333	2033	97.54	0.00	-2.11	0.21	3.53
334	134	100.87	0.00	-2.18	0.03	1.93
334	2034	100.87	0.00	-2.18	0.03	3.58
335	135	104.20	0.00	-1.90	-0.19	2.07
335	2035	104.20	0.00	-1.90	-0.19	3.51
336	136	107.55	0.00	-1.35	-0.49	2.75
336	2036	107.55	0.00	-1.35	-0.49	3.77
337	137	110.90	0.00	-0.53	-0.20	5.63
337	2037	110.90	0.00	-0.53	-0.20	6.03
338	138	113.77	0.00	-0.82	0.85	3.27
338	2038	113.77	0.00	-0.82	0.85	3.89
339	139	116.64	0.00	-1.48	0.60	1.48
339	2039	116.64	0.00	-1.48	0.60	2.60
340	140	119.51	0.00	-1.79	0.34	1.01
340	2040	119.51	0.00	-1.79	0.34	2.36
341	141	122.38	0.00	-1.79	0.09	0.61
341	2041	122.38	0.00	-1.79	0.09	1.97
342	142	125.25	0.00	-1.60	-0.07	0.87
342	2042	125.25	0.00	-1.60	-0.07	2.08
343	143	128.12	0.00	-1.30	-0.16	2.15
343	2043	128.12	0.00	-1.30	-0.16	3.14
344	144	130.99	0.00	-0.97	-0.21	3.27
344	2044	130.99	0.00	-0.97	-0.21	4.00
345	145	133.86	0.00	-0.67	-0.15	3.58
345	2045	133.86	0.00	-0.67	-0.15	4.09
346	146	136.73	0.00	-0.50	-0.07	3.61
346	2046	136.73	0.00	-0.50	-0.07	3.99
347	147	139.60	0.00	-0.26	0.22	2.23
347	2047	139.60	0.00	-0.26	0.22	2.43
201	2001	0.00	0.00	-1.60	-1.40	0.55
201	1001	0.00	0.00	-1.60	-1.40	8.21
202	2002	2.62	0.00	-0.46	-1.43	4.45
202	1002	2.62	0.00	-0.46	-1.43	6.64
203	2003	5.24	0.00	0.36	-0.22	3.13
203	1003	5.24	0.00	0.36	-0.22	1.39
204	2004	7.86	0.00	0.34	0.33	4.89
204	1004	7.86	0.00	0.34	0.33	3.28
205	2005	10.48	0.00	-0.09	0.43	4.26
205	1005	10.48	0.00	-0.09	0.43	4.68

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen'rico. VY-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	13.10	0.00	-0.60	0.46	3.78
206	1006	13.10	0.00	-0.60	0.46	6.64
207	2007	15.72	0.00	-1.11	0.43	2.72
207	1007	15.72	0.00	-1.11	0.43	8.03
208	2008	18.34	0.00	-1.60	0.37	1.65
208	1008	18.34	0.00	-1.60	0.37	9.32
209	2009	20.96	0.00	-2.05	0.27	0.77
209	1009	20.96	0.00	-2.05	0.27	10.58
210	2010	23.58	0.00	-2.39	0.10	0.10
210	1010	23.58	0.00	-2.39	0.10	11.56
211	2011	26.20	0.00	-2.93	-0.16	-0.17
211	1011	26.20	0.00	-2.93	-0.16	13.85
212	2012	29.55	0.00	-3.08	-0.71	-0.08
212	1012	29.55	0.00	-3.08	-0.71	14.68
213	2013	32.90	0.00	-2.21	-0.61	3.76
213	1013	32.90	0.00	-2.21	-0.61	14.36
214	2014	36.03	0.00	-1.75	0.05	5.38
214	1014	36.03	0.00	-1.75	0.05	13.76
215	2015	39.16	0.00	-1.98	0.63	2.62
215	1015	39.16	0.00	-1.98	0.63	12.08
216	2016	42.29	0.00	-2.22	0.58	2.45
216	1016	42.29	0.00	-2.22	0.58	13.09
217	2017	45.42	0.00	-2.58	0.60	2.18
217	1017	45.42	0.00	-2.58	0.60	14.55
218	2018	48.55	0.00	-2.89	0.49	1.28
218	1018	48.55	0.00	-2.89	0.49	15.12
219	2019	51.68	0.00	-3.18	0.41	0.47
219	1019	51.68	0.00	-3.18	0.41	15.69
220	2020	54.81	0.00	-3.65	0.48	-0.84
220	1020	54.81	0.00	-3.65	0.48	16.63
221	2021	57.94	0.00	-4.15	0.34	-1.99
221	1021	57.94	0.00	-4.15	0.34	17.90
222	2022	61.07	0.00	-4.56	0.10	-2.87
222	1022	61.07	0.00	-4.56	0.10	18.96
223	2023	64.20	0.00	-4.86	-0.31	-3.15
223	1023	64.20	0.00	-4.86	-0.31	20.10
224	2024	67.55	0.00	-4.56	-1.00	-2.26
224	1024	67.55	0.00	-4.56	-1.00	19.59
225	2025	70.90	0.00	-3.10	-1.77	0.36
225	1025	70.90	0.00	-3.10	-1.77	15.21
226	2026	74.23	0.00	-1.67	-1.12	5.32
226	1026	74.23	0.00	-1.67	-1.12	13.31
227	2027	77.56	0.00	-1.38	0.35	3.96
227	1027	77.56	0.00	-1.38	0.35	10.56
228	2028	80.89	0.00	-1.69	0.33	1.83
228	1028	80.89	0.00	-1.69	0.33	9.95
229	2029	84.22	0.00	-1.79	0.41	3.12
229	1029	84.22	0.00	-1.79	0.41	11.70

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen'rico. VY-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	87.55	0.00	-1.90	0.34	3.48
230	1030	87.55	0.00	-1.90	0.34	12.56
231	2031	90.88	0.00	-1.96	0.24	3.74
231	1031	90.88	0.00	-1.96	0.24	13.12
232	2032	94.21	0.00	-2.01	0.21	3.17
232	1032	94.21	0.00	-2.01	0.21	12.80
233	2033	97.54	0.00	-2.11	0.21	3.53
233	1033	97.54	0.00	-2.11	0.21	13.65
234	2034	100.87	0.00	-2.18	0.03	3.58
234	1034	100.87	0.00	-2.18	0.03	14.04
235	2035	104.20	0.00	-1.90	-0.19	3.51
235	1035	104.20	0.00	-1.90	-0.19	12.60
236	2036	107.55	0.00	-1.35	-0.49	3.77
236	1036	107.55	0.00	-1.35	-0.49	10.23
237	2037	110.90	0.00	-0.53	-0.20	6.03
237	1037	110.90	0.00	-0.53	-0.20	8.57
238	2038	113.77	0.00	-0.82	0.85	3.89
238	1038	113.77	0.00	-0.82	0.85	7.83
239	2039	116.64	0.00	-1.48	0.60	2.60
239	1039	116.64	0.00	-1.48	0.60	9.66
240	2040	119.51	0.00	-1.79	0.34	2.36
240	1040	119.51	0.00	-1.79	0.34	10.93
241	2041	122.38	0.00	-1.79	0.09	1.97
241	1041	122.38	0.00	-1.79	0.09	10.55
242	2042	125.25	0.00	-1.60	-0.07	2.08
242	1042	125.25	0.00	-1.60	-0.07	9.74
243	2043	128.12	0.00	-1.30	-0.16	3.14
243	1043	128.12	0.00	-1.30	-0.16	9.38
244	2044	130.99	0.00	-0.97	-0.21	4.00
244	1044	130.99	0.00	-0.97	-0.21	8.63
245	2045	133.86	0.00	-0.67	-0.15	4.09
245	1045	133.86	0.00	-0.67	-0.15	7.31
246	2046	136.73	0.00	-0.50	-0.07	3.99
246	1046	136.73	0.00	-0.50	-0.07	6.39
247	2047	139.60	0.00	-0.26	0.22	2.43
247	1047	139.60	0.00	-0.26	0.22	3.68
401	1001	0.00	0.00	-1.60	-1.40	8.21
401	1	0.00	0.00	-1.60	-1.40	9.42
402	1002	2.62	0.00	-0.46	-1.43	6.64
402	2	2.62	0.00	-0.46	-1.43	6.99
403	1003	5.24	0.00	0.36	-0.22	1.39
403	3	5.24	0.00	0.36	-0.22	1.11
404	1004	7.86	0.00	0.34	0.33	3.28
404	4	7.86	0.00	0.34	0.33	3.03
405	1005	10.48	0.00	-0.09	0.43	4.68
405	5	10.48	0.00	-0.09	0.43	4.75
406	1006	13.10	0.00	-0.60	0.46	6.64
406	6	13.10	0.00	-0.60	0.46	7.09

~csimp4.esv
Programa DINTEL IDEAM S.A.
DERINT2.ENV_TREN_GENERICO.VY-
20/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen'rico. VY-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	-1.11	0.43	8.03
407	7	15.72	0.00	-1.11	0.43	8.86
408	1008	18.34	0.00	-1.60	0.37	9.32
408	8	18.34	0.00	-1.60	0.37	10.53
409	1009	20.96	0.00	-2.05	0.27	10.58
409	9	20.96	0.00	-2.05	0.27	12.12
410	1010	23.58	0.00	-2.39	0.10	11.56
410	10	23.58	0.00	-2.39	0.10	13.37
411	1011	26.20	0.00	-2.93	-0.16	13.85
411	11	26.20	0.00	-2.93	-0.16	16.06
412	1012	29.55	0.00	-3.08	-0.71	14.68
412	12	29.55	0.00	-3.08	-0.71	17.01
413	1013	32.90	0.00	-2.21	-0.61	14.36
413	13	32.90	0.00	-2.21	-0.61	16.04
414	1014	36.03	0.00	-1.75	0.05	13.76
414	14	36.03	0.00	-1.75	0.05	15.08
415	1015	39.16	0.00	-1.98	0.63	12.08
415	15	39.16	0.00	-1.98	0.63	13.57
416	1016	42.29	0.00	-2.22	0.58	13.09
416	16	42.29	0.00	-2.22	0.58	14.77
417	1017	45.42	0.00	-2.58	0.60	14.55
417	17	45.42	0.00	-2.58	0.60	16.50
418	1018	48.55	0.00	-2.89	0.49	15.12
418	18	48.55	0.00	-2.89	0.49	17.31
419	1019	51.68	0.00	-3.18	0.41	15.69
419	19	51.68	0.00	-3.18	0.41	18.09
420	1020	54.81	0.00	-3.65	0.48	16.63
420	20	54.81	0.00	-3.65	0.48	19.39
421	1021	57.94	0.00	-4.15	0.34	17.90
421	21	57.94	0.00	-4.15	0.34	21.04
422	1022	61.07	0.00	-4.56	0.10	18.96
422	22	61.07	0.00	-4.56	0.10	22.41
423	1023	64.20	0.00	-4.86	-0.31	20.10
423	23	64.20	0.00	-4.86	-0.31	23.77
424	1024	67.55	0.00	-4.56	-1.00	19.59
424	24	67.55	0.00	-4.56	-1.00	23.04
425	1025	70.90	0.00	-3.10	-1.77	15.21
425	25	70.90	0.00	-3.10	-1.77	17.56
426	1026	74.23	0.00	-1.67	-1.12	13.31
426	26	74.23	0.00	-1.67	-1.12	14.57
427	1027	77.56	0.00	-1.38	0.35	10.58
427	27	77.56	0.00	-1.38	0.35	11.63
428	1028	80.89	0.00	-1.69	0.33	9.95
428	28	80.89	0.00	-1.69	0.33	11.23
429	1029	84.22	0.00	-1.79	0.41	11.70
429	29	84.22	0.00	-1.79	0.41	13.05
430	1030	87.55	0.00	-1.90	0.34	12.56
430	30	87.55	0.00	-1.90	0.34	13.99

DERINT2.ENV_TREN_GENERICO.VY-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano gen'rico. VY-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	-1.96	0.24	13.12
431	31	90.88	0.00	-1.96	0.24	14.60
432	1032	94.21	0.00	-2.01	0.21	12.80
432	32	94.21	0.00	-2.01	0.21	14.32
433	1033	97.54	0.00	-2.11	0.21	13.65
433	33	97.54	0.00	-2.11	0.21	15.25
434	1034	100.87	0.00	-2.18	0.03	14.04
434	34	100.87	0.00	-2.18	0.03	15.69
435	1035	104.20	0.00	-1.90	-0.19	12.60
435	35	104.20	0.00	-1.90	-0.19	14.04
436	1036	107.55	0.00	-1.35	-0.49	10.23
436	36	107.55	0.00	-1.35	-0.49	11.25
437	1037	110.90	0.00	-0.53	-0.20	8.57
437	37	110.90	0.00	-0.53	-0.20	8.98
438	1038	113.77	0.00	-0.82	0.85	7.83
438	38	113.77	0.00	-0.82	0.85	8.45
439	1039	116.64	0.00	-1.48	0.60	9.66
439	39	116.64	0.00	-1.48	0.60	10.78
440	1040	119.51	0.00	-1.79	0.34	10.93
440	40	119.51	0.00	-1.79	0.34	12.28
441	1041	122.38	0.00	-1.79	0.09	10.55
441	41	122.38	0.00	-1.79	0.09	11.91
442	1042	125.25	0.00	-1.60	-0.07	9.74
442	42	125.25	0.00	-1.60	-0.07	10.95
443	1043	128.12	0.00	-1.30	-0.16	9.38
443	43	128.12	0.00	-1.30	-0.16	10.36
444	1044	130.99	0.00	-0.97	-0.21	8.63
444	44	130.99	0.00	-0.97	-0.21	9.36
445	1045	133.86	0.00	-0.67	-0.15	7.31
445	45	133.86	0.00	-0.67	-0.15	7.82
446	1046	136.73	0.00	-0.50	-0.07	6.39
446	46	136.73	0.00	-0.50	-0.07	6.76
447	1047	139.60	0.00	-0.26	0.22	3.68
447	47	139.60	0.00	-0.26	0.22	3.88

DERINT2.ENV_TREN_GENERICO.MX-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen'rico. MX-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	3.48	-1.39	-0.22
1	2	2.62	0.00	3.48	-1.39	-9.35
2	2	2.62	0.00	3.49	-3.04	-3.16
2	3	5.24	0.00	3.49	-3.04	-12.31
3	3	5.24	0.00	-0.90	-4.54	27.76
3	4	7.86	0.00	-0.90	-4.54	30.12
4	4	7.86	0.00	-3.17	-9.67	86.84
4	5	10.48	0.00	-3.17	-9.67	95.14
5	5	10.48	0.00	-1.66	-20.70	153.82
5	6	13.10	0.00	-1.66	-20.70	158.18
6	6	13.10	0.00	4.86	-38.82	219.80
6	7	15.72	0.00	4.86	-38.82	207.08
7	7	15.72	0.00	15.20	-61.08	221.26
7	8	18.34	0.00	15.20	-61.08	181.43
8	8	18.34	0.00	25.15	-83.37	180.88
8	9	20.96	0.00	25.15	-83.37	115.00
9	9	20.96	0.00	34.34	-103.54	113.87
9	10	23.58	0.00	34.34	-103.54	23.89
10	10	23.58	0.00	42.24	-119.88	22.24
10	10011	26.20	0.00	42.24	-119.88	-88.43
11	11	26.20	0.00	-1.73	-132.76	-73.75
11	12	29.55	0.00	-1.73	-132.76	-67.97
12	12	29.55	0.00	4.15	-137.76	-63.89
12	13	32.90	0.00	4.15	-137.76	-77.79
13	13	32.90	0.00	6.00	-133.40	-80.10
13	14	36.03	0.00	6.00	-133.40	-98.89
14	14	36.03	0.00	6.02	-123.68	-95.58
14	15	39.16	0.00	6.02	-123.68	-114.43
15	15	39.16	0.00	4.14	-110.96	-111.99
15	16	42.29	0.00	4.14	-110.96	-124.94
16	16	42.29	0.00	2.46	-96.54	-125.61
16	17	45.42	0.00	2.46	-96.54	-133.30
17	17	45.42	0.00	-1.67	-82.33	-92.06
17	18	48.55	0.00	-1.67	-82.33	-86.84
18	18	48.55	0.00	-3.35	-71.76	-42.17
18	19	51.68	0.00	-3.35	-71.76	-31.69
19	19	51.68	0.00	0.75	-66.50	20.65
19	20	54.81	0.00	0.75	-66.50	18.30
20	20	54.81	0.00	11.67	-71.52	91.24
20	21	57.94	0.00	11.67	-71.52	54.72
21	21	57.94	0.00	33.80	-87.36	107.48
21	22	61.07	0.00	33.80	-87.36	1.69
22	22	61.07	0.00	43.31	-105.26	1.40
22	10023	64.20	0.00	43.31	-105.26	-134.15
23	23	64.20	0.00	-8.41	-118.79	-143.93
23	24	67.55	0.00	-8.41	-118.79	-115.75
24	24	67.55	0.00	-3.28	-123.78	-118.16
24	25	70.90	0.00	-3.28	-123.78	-107.17

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen'rico. MX-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	-1.21	-120.18	-109.07
25	26	74.23	0.00	-1.21	-120.18	-105.05
26	26	74.23	0.00	-0.99	-110.92	-104.73
26	27	77.56	0.00	-0.99	-110.92	-101.43
27	27	77.56	0.00	-2.12	-99.05	-93.61
27	28	80.89	0.00	-2.12	-99.05	-86.54
28	28	80.89	0.00	-3.12	-86.97	-87.87
28	29	84.22	0.00	-3.12	-86.97	-77.48
29	29	84.22	0.00	-4.10	-75.27	-77.51
29	30	87.55	0.00	-4.10	-75.27	-63.86
30	30	87.55	0.00	-3.95	-64.94	-47.17
30	31	90.88	0.00	-3.95	-64.94	-34.01
31	31	90.88	0.00	2.67	-58.84	48.02
31	32	94.21	0.00	2.67	-58.84	39.13
32	32	94.21	0.00	15.55	-62.75	124.01
32	33	97.54	0.00	15.55	-62.75	72.22
33	33	97.54	0.00	38.29	-79.30	121.21
33	34	100.87	0.00	38.29	-79.30	-6.30
34	34	100.87	0.00	51.13	-98.10	-6.90
34	10035	104.20	0.00	51.13	-98.10	-177.15
35	35	104.20	0.00	-6.21	-109.37	-179.34
35	36	107.55	0.00	-6.21	-109.37	-158.54
36	36	107.55	0.00	-3.41	-111.93	-164.88
36	37	110.90	0.00	-3.41	-111.93	-153.46
37	37	110.90	0.00	-1.77	-106.44	-155.28
37	38	113.77	0.00	-1.77	-106.44	-150.21
38	38	113.77	0.00	-1.75	-96.22	-151.41
38	39	116.64	0.00	-1.75	-96.22	-146.38
39	39	116.64	0.00	-2.67	-83.43	-147.09
39	40	119.51	0.00	-2.67	-83.43	-139.43
40	40	119.51	0.00	-4.00	-69.62	-139.77
40	41	122.38	0.00	-4.00	-69.62	-128.28
41	41	122.38	0.00	-5.41	-55.87	-128.36
41	42	125.25	0.00	-5.41	-55.87	-112.64
42	42	125.25	0.00	-6.65	-42.83	-112.74
42	43	128.12	0.00	-6.65	-42.83	-93.65
43	43	128.12	0.00	-7.60	-30.92	-93.43
43	44	130.99	0.00	-7.60	-30.92	-71.63
44	44	130.99	0.00	-8.63	-20.38	-76.91
44	45	133.86	0.00	-8.63	-20.38	-52.14
45	45	133.86	0.00	0.88	-12.49	8.41
45	46	136.73	0.00	0.88	-12.49	5.90
46	46	136.73	0.00	7.13	-5.27	20.98
46	47	139.60	0.00	7.13	-5.27	0.52
101	101	0.00	0.00	-53.80	-9.61	-0.05
101	102	2.62	0.00	-29.50	-5.70	80.82
102	102	2.62	0.00	-59.11	-24.27	150.97
102	103	5.24	0.00	-37.29	-18.80	203.55

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen'rico. MX-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-81.60	-41.20	414.71
103	104	7.86	0.00	-45.57	-34.26	369.27
104	104	7.86	0.00	-63.19	-61.70	467.32
104	105	10.48	0.00	-42.51	-52.49	451.56
105	105	10.48	0.00	-47.74	-81.06	450.75
105	106	13.10	0.00	-28.45	-69.09	376.09
106	106	13.10	0.00	-33.38	-96.23	375.72
106	107	15.72	0.00	-16.17	-81.38	266.11
107	107	15.72	0.00	-21.38	-106.33	307.22
107	108	18.34	0.00	-6.71	-89.70	171.63
108	108	18.34	0.00	-10.01	-110.96	171.79
108	109	20.96	0.00	3.32	-91.47	22.06
109	109	20.96	0.00	-5.56	-109.57	114.04
109	110	23.58	0.00	6.95	-87.76	-26.86
110	110	23.58	0.00	0.39	-103.80	41.50
110	111	26.20	0.00	11.05	-81.57	-86.13
111	111	26.20	0.00	8.14	-97.58	-8.28
111	112	29.55	0.00	10.99	-72.91	-57.65
112	112	29.55	0.00	35.68	-90.74	-116.37
112	10113	32.90	0.00	42.18	-71.27	-278.96
113	113	32.90	0.00	-85.88	-86.84	-344.81
113	114	36.03	0.00	-55.82	-71.93	-152.37
114	114	36.03	0.00	-75.10	-85.69	-171.30
114	115	39.16	0.00	-47.47	-73.56	-47.88
115	115	39.16	0.00	-64.33	-87.23	4.48
115	116	42.29	0.00	-39.17	-76.82	65.33
116	116	42.29	0.00	-52.50	-93.89	205.28
116	117	45.42	0.00	-29.68	-83.86	208.10
117	117	45.42	0.00	-52.65	-109.43	297.99
117	118	48.55	0.00	-31.96	-98.47	288.54
118	118	48.55	0.00	-49.37	-126.30	370.89
118	119	51.68	0.00	-26.65	-112.61	303.70
119	119	51.68	0.00	-32.12	-140.13	303.41
119	120	54.81	0.00	-11.62	-122.92	185.28
120	120	54.81	0.00	-15.67	-145.88	185.40
120	121	57.94	0.00	2.61	-124.91	28.71
121	121	57.94	0.00	0.36	-142.11	29.06
121	122	61.07	0.00	16.31	-117.94	-155.31
122	122	61.07	0.00	16.68	-130.15	-121.75
122	123	64.20	0.00	30.53	-103.77	-327.80
123	123	64.20	0.00	20.49	-113.27	-188.36
123	124	67.55	0.00	23.62	-85.29	-276.69
124	124	67.55	0.00	54.50	-100.03	-294.55
124	10125	70.90	0.00	61.03	-78.86	-520.48
125	125	70.90	0.00	-115.29	-93.22	-520.22
125	126	74.23	0.00	-83.24	-75.63	-221.10
126	126	74.23	0.00	-88.04	-89.81	-282.87
126	127	77.56	0.00	-58.62	-75.47	-113.68

CÁLCULO TENSIONAL

Hipótesis de cálculo:

DERINT2.ENV_TREN_GENERICO.MX-

Envolvente de tren de cargas plano gen'rico. MX-

[0; 1]DERINT3.PaseoTren.Nudo101.Pos2.Mx- + [0; 1]DERINT3.PaseoTren.Nudo101.Pos3.Mx- + [0; 1]D

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	-73.17	-90.23	-47.44
127	128	80.89	0.00	-46.47	-78.05	40.14
128	128	80.89	0.00	-67.44	-95.86	86.84
128	129	84.22	0.00	-43.31	-84.33	132.35
129	129	84.22	0.00	-63.89	-110.98	258.87
129	130	87.55	0.00	-42.07	-98.60	279.10
130	130	87.55	0.00	-53.23	-127.70	411.48
130	131	90.88	0.00	-23.86	-113.03	291.30
131	131	90.88	0.00	-36.74	-144.48	351.13
131	132	94.21	0.00	-15.73	-125.74	241.15
132	132	94.21	0.00	-21.32	-153.34	241.11
132	133	97.54	0.00	-2.96	-130.75	99.92
133	133	97.54	0.00	-6.91	-153.07	100.17
133	134	100.87	0.00	9.15	-127.01	-65.06
134	134	100.87	0.00	6.93	-143.73	-64.74
134	135	104.20	0.00	20.38	-115.70	-241.29
135	135	104.20	0.00	47.72	-129.42	-271.86
135	136	107.55	0.00	58.45	-101.57	-539.48
136	136	107.55	0.00	76.95	-115.15	-607.66
136	10137	110.90	0.00	83.73	-89.42	-915.78
137	137	110.90	0.00	-194.07	-101.94	-1001.65
137	138	113.77	0.00	-160.88	-80.82	-521.55
138	138	113.77	0.00	-161.99	-94.41	-522.33
138	139	116.64	0.00	-131.19	-75.79	-173.35
139	139	116.64	0.00	-133.17	-91.65	-174.40
139	140	119.51	0.00	-104.91	-74.20	58.20
140	140	119.51	0.00	-107.68	-92.07	57.20
140	141	122.38	0.00	-81.95	-74.46	190.52
141	141	122.38	0.00	-82.12	-93.15	233.38
141	142	125.25	0.00	-58.89	-74.05	276.58
142	142	125.25	0.00	-62.29	-92.31	276.12
142	143	128.12	0.00	-39.00	-68.23	282.22
143	143	128.12	0.00	-39.53	-85.11	308.94
143	144	130.99	0.00	-18.52	-58.48	256.65
144	144	130.99	0.00	-21.24	-73.10	256.74
144	145	133.86	0.00	-2.81	-43.89	172.62
145	145	133.86	0.00	-2.65	-55.39	184.44
145	146	136.73	0.00	12.83	-23.83	84.28
146	146	136.73	0.00	11.61	-31.93	84.56
146	147	139.60	0.00	5.22	1.05	-0.04
301	101	0.00	0.00	-1.15	-1.52	1.94
301	2001	0.00	0.00	-1.15	-1.52	2.81
302	102	2.62	0.00	1.13	-2.89	14.67
302	2002	2.62	0.00	1.13	-2.89	13.81
303	103	5.24	0.00	4.17	-2.55	24.21
303	2003	5.24	0.00	4.17	-2.55	21.06
304	104	7.86	0.00	6.23	-2.06	29.92
304	2004	7.86	0.00	6.23	-2.06	25.21

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	2.62	0.00	0.00	0.00	0.00
2	2	2.62	0.00	0.00	0.00	0.00
2	3	5.24	0.00	0.00	0.00	0.00
3	3	5.24	0.00	0.00	0.00	0.00
3	4	7.86	0.00	0.00	0.00	0.00
4	4	7.86	0.00	0.00	0.00	0.00
4	5	10.48	0.00	0.00	0.00	0.00
5	5	10.48	0.00	0.00	0.00	0.00
5	6	13.10	0.00	0.00	0.00	0.00
6	6	13.10	0.00	0.00	0.00	0.00
6	7	15.72	0.00	0.00	0.00	0.00
7	7	15.72	0.00	0.00	0.00	0.00
7	8	18.34	0.00	0.00	0.00	0.00
8	8	18.34	0.00	0.00	0.00	0.00
8	9	20.96	0.00	0.00	0.00	0.00
9	9	20.96	0.00	0.00	0.00	0.00
9	10	23.58	0.00	0.00	0.00	0.00
10	10	23.58	0.00	0.00	0.00	0.00
10	10011	26.20	0.00	0.00	0.00	0.00
11	11	26.20	0.00	0.00	0.00	0.00
11	12	29.55	0.00	0.00	0.00	0.00
12	12	29.55	0.00	0.00	0.00	0.00
12	13	32.90	0.00	0.00	0.00	0.00
13	13	32.90	0.00	0.00	0.00	0.00
13	14	36.03	0.00	0.00	0.00	0.00
14	14	36.03	0.00	0.00	0.00	0.00
14	15	39.16	0.00	0.00	0.00	0.00
15	15	39.16	0.00	0.00	0.00	0.00
15	16	42.29	0.00	0.00	0.00	0.00
16	16	42.29	0.00	0.00	0.00	0.00
16	17	45.42	0.00	0.00	0.00	0.00
17	17	45.42	0.00	0.00	0.00	0.00
17	18	48.55	0.00	0.00	0.00	0.00
18	18	48.55	0.00	0.00	0.00	0.00
18	19	51.68	0.00	0.00	0.00	0.00
19	19	51.68	0.00	0.00	0.00	0.00
19	20	54.81	0.00	0.00	0.00	0.00
20	20	54.81	0.00	0.00	0.00	0.00
20	21	57.94	0.00	0.00	0.00	0.00
21	21	57.94	0.00	0.00	0.00	0.00
21	22	61.07	0.00	0.00	0.00	0.00
22	22	61.07	0.00	0.00	0.00	0.00
22	10023	64.20	0.00	0.00	0.00	0.00
23	23	64.20	0.00	0.00	0.00	0.00
23	24	67.55	0.00	0.00	0.00	0.00
24	24	67.55	0.00	0.00	0.00	0.00
24	25	70.90	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [1; 1]PRETF1A.FAM2.TOT + [1; 1]PRETF1A.FAM3.TOT + [1; 1]PRETF1A.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	0.00	0.00	0.00
103	104	7.86	0.00	0.00	0.00	-0.01
104	104	7.86	0.00	0.00	0.00	-0.01
104	105	10.48	0.00	0.00	0.00	-0.01
105	105	10.48	0.00	0.00	0.00	-0.01
105	106	13.10	0.00	0.00	0.00	-0.01
106	106	13.10	0.00	0.00	0.00	-0.01
106	107	15.72	0.00	0.00	0.00	-0.01
107	107	15.72	0.00	0.00	0.00	-0.01
107	108	18.34	0.00	0.00	0.00	-0.01
108	108	18.34	0.00	0.00	0.00	-0.01
108	109	20.96	0.00	0.00	0.00	-0.01
109	109	20.96	0.00	0.00	0.00	-0.01
109	110	23.58	0.00	0.00	0.00	-0.01
110	110	23.58	0.00	0.00	0.00	-0.01
110	111	26.20	0.00	0.00	0.00	0.00
111	111	26.20	0.00	0.00	0.00	0.00
111	112	29.55	0.00	0.00	0.00	0.00
112	112	29.55	0.00	0.00	0.00	0.00
112	10113	32.90	0.00	0.00	0.00	0.00
113	113	32.90	0.00	0.00	0.00	0.00
113	114	36.03	0.00	0.00	0.00	0.00
114	114	36.03	0.00	0.00	0.00	0.00
114	115	39.16	0.00	0.00	0.00	0.00
115	115	39.16	0.00	0.00	0.00	0.00
115	116	42.29	0.00	0.00	0.00	0.01
116	116	42.29	0.00	0.00	0.00	0.01
116	117	45.42	0.00	0.00	0.00	0.01
117	117	45.42	0.00	0.00	0.00	0.01
117	118	48.55	0.00	0.00	0.00	0.01
118	118	48.55	0.00	0.00	0.00	0.01
118	119	51.68	0.00	0.00	0.00	0.01
119	119	51.68	0.00	0.00	0.00	0.01
119	120	54.81	0.00	0.00	0.00	0.01
120	120	54.81	0.00	0.00	0.00	0.01
120	121	57.94	0.00	0.00	0.00	0.01
121	121	57.94	0.00	0.00	0.00	0.01
121	122	61.07	0.00	0.00	0.00	0.00
122	122	61.07	0.00	0.00	0.00	0.00
122	123	64.20	0.00	0.00	0.00	0.00
123	123	64.20	0.00	0.00	0.00	0.00
123	124	67.55	0.00	0.00	0.00	0.00
124	124	67.55	0.00	0.00	0.00	0.00
124	10125	70.90	0.00	0.00	0.00	0.00
125	125	70.90	0.00	0.00	0.00	0.00
125	126	74.23	0.00	0.00	0.00	-0.02
126	126	74.23	0.00	0.00	0.00	-0.02
126	127	77.56	0.00	0.00	0.00	-0.03

Programa DINTEL IDEAM S.A. 28/10/02
PRETF1A.HIP.To

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	0.00	0.00	0.00
25	26	74.23	0.00	0.00	0.00	0.00
26	26	74.23	0.00	0.00	0.00	0.00
26	27	77.56	0.00	0.00	0.00	0.00
27	27	77.56	0.00	0.00	0.00	0.00
27	28	80.89	0.00	0.00	0.00	0.00
28	28	80.89	0.00	0.00	0.00	0.00
28	29	84.22	0.00	0.00	0.00	0.00
29	29	84.22	0.00	0.00	0.00	0.00
29	30	87.55	0.00	0.00	0.00	0.00
30	30	87.55	0.00	0.00	0.00	0.00
30	31	90.88	0.00	0.00	0.00	0.00
31	31	90.88	0.00	0.00	0.00	0.00
31	32	94.21	0.00	0.00	0.00	0.00
32	32	94.21	0.00	0.00	0.00	0.00
32	33	97.54	0.00	0.00	0.00	0.00
33	33	97.54	0.00	0.00	0.00	0.00
33	34	100.87	0.00	0.00	0.00	0.00
34	34	100.87	0.00	0.00	0.00	0.00
34	10035	104.20	0.00	0.00	0.00	0.00
35	35	104.20	0.00	0.00	0.00	0.00
35	36	107.55	0.00	0.00	0.00	0.00
36	36	107.55	0.00	0.00	0.00	0.00
36	37	110.90	0.00	0.00	0.00	0.00
37	37	110.90	0.00	0.00	0.00	0.00
37	38	113.77	0.00	0.00	0.00	0.00
38	38	113.77	0.00	0.00	0.00	0.00
38	39	116.64	0.00	0.00	0.00	0.00
39	39	116.64	0.00	0.00	0.00	0.00
39	40	119.51	0.00	0.00	0.00	0.00
40	40	119.51	0.00	0.00	0.00	0.00
40	41	122.38	0.00	0.00	0.00	0.00
41	41	122.38	0.00	0.00	0.00	0.00
41	42	125.25	0.00	0.00	0.00	0.00
42	42	125.25	0.00	0.00	0.00	0.00
42	43	128.12	0.00	0.00	0.00	0.00
43	43	128.12	0.00	0.00	0.00	0.00
43	44	130.99	0.00	0.00	0.00	0.00
44	44	130.99	0.00	0.00	0.00	0.00
44	45	133.86	0.00	0.00	0.00	0.00
45	45	133.86	0.00	0.00	0.00	0.00
45	46	136.73	0.00	0.00	0.00	0.00
46	46	136.73	0.00	0.00	0.00	0.00
46	47	139.60	0.00	0.00	0.00	0.00
101	101	0.00	0.00	0.00	0.00	0.00
101	102	2.62	0.00	0.00	0.00	0.00
102	102	2.62	0.00	0.00	0.00	0.00
102	103	5.24	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	0.00	0.00	-0.03
127	128	80.89	0.00	0.00	0.00	-0.04
128	128	80.89	0.00	0.00	0.00	-0.04
128	129	84.22	0.00	0.00	0.00	-0.05
129	129	84.22	0.00	0.00	0.00	-0.05
129	130	87.55	0.00	0.00	0.00	-0.07
130	130	87.55	0.00	0.00	0.00	-0.07
130	131	90.88	0.00	0.00	0.00	-0.07
131	131	90.88	0.00	0.00	0.00	-0.07
131	132	94.21	0.00	0.00	0.00	-0.07
132	132	94.21	0.00	0.00	0.00	-0.07
132	133	97.54	0.00	0.00	0.00	-0.06
133	133	97.54	0.00	0.00	0.00	-0.06
133	134	100.87	0.00	0.00	0.00	-0.05
134	134	100.87	0.00	0.00	0.00	-0.05
134	135	104.20	0.00	0.00	0.00	-0.04
135	135	104.20	0.00	-0.01	0.00	-0.04
135	136	107.55	0.00	-0.01	0.00	-0.02
136	136	107.55	0.00	-0.01	0.00	-0.02
136	10137	110.90	0.00	-0.01	0.00	0.00
137	137	110.90	0.00	0.00	0.00	0.00
137	138	113.77	0.00	0.00	0.00	0.01
138	138	113.77	0.00	0.00	0.00	0.01
138	139	116.64	0.00	0.00	0.00	0.03
139	139	116.64	0.00	0.00	0.00	0.03
139	140	119.51	0.00	0.00	0.00	0.04
140	140	119.51	0.00	0.00	0.00	0.04
140	141	122.38	0.00	0.00	0.00	0.04
141	141	122.38	0.00	0.00	0.00	0.04
141	142	125.25	0.00	0.00	0.00	0.04
142	142	125.25	0.00	0.00	0.00	0.04
142	143	128.12	0.00	0.00	0.00	0.04
143	143	128.12	0.00	0.00	0.00	0.04
143	144	130.99	0.00	0.00	0.00	0.03
144	144	130.99	0.00	0.00	0.00	0.03
144	145	133.86	0.00	0.00	0.00	0.02
145	145	133.86	0.00	0.00	0.00	0.02
145	146	136.73	0.00	0.00	0.00	0.01
146	146	136.73	0.00	0.00	0.00	0.01
146	147	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	2.62	0.00	0.00	0.00	0.00
2	2	2.62	0.00	0.00	0.00	0.00
2	3	5.24	0.00	0.00	0.00	0.00
3	3	5.24	0.00	0.00	0.00	0.00
3	4	7.86	0.00	0.00	0.00	0.00
4	4	7.86	0.00	0.00	0.00	0.00
4	5	10.48	0.00	0.00	0.00	0.00
5	5	10.48	0.00	0.00	0.00	0.00
5	6	13.10	0.00	0.00	0.00	0.00
6	6	13.10	0.00	0.00	0.00	0.00
6	7	15.72	0.00	0.00	0.00	0.00
7	7	15.72	0.00	0.00	0.00	0.00
7	8	18.34	0.00	0.00	0.00	0.00
8	8	18.34	0.00	0.00	0.00	0.00
8	9	20.96	0.00	0.00	0.00	0.00
9	9	20.96	0.00	0.00	0.00	0.00
9	10	23.58	0.00	0.00	0.00	0.00
10	10	23.58	0.00	0.00	0.00	0.00
10	10011	26.20	0.00	0.00	0.00	0.00
11	11	26.20	0.00	0.00	0.00	0.00
11	12	29.55	0.00	0.00	0.00	0.00
12	12	29.55	0.00	0.00	0.00	0.00
12	13	32.90	0.00	0.00	0.00	0.00
13	13	32.90	0.00	0.00	0.00	0.00
13	14	36.03	0.00	0.00	0.00	0.00
14	14	36.03	0.00	0.00	0.00	0.00
14	15	39.16	0.00	0.00	0.00	0.00
15	15	39.16	0.00	0.00	0.00	0.00
15	16	42.29	0.00	0.00	0.00	0.00
16	16	42.29	0.00	0.00	0.00	0.00
16	17	45.42	0.00	0.00	0.00	0.00
17	17	45.42	0.00	0.00	0.00	0.00
17	18	48.55	0.00	0.00	0.00	0.00
18	18	48.55	0.00	0.00	0.00	0.00
18	19	51.68	0.00	0.00	0.00	0.00
19	19	51.68	0.00	0.00	0.00	0.00
19	20	54.81	0.00	0.00	0.00	0.00
20	20	54.81	0.00	0.00	0.00	0.00
20	21	57.94	0.00	0.00	0.00	0.00
21	21	57.94	0.00	0.00	0.00	0.00
21	22	61.07	0.00	0.00	0.00	0.00
22	22	61.07	0.00	0.00	0.00	0.00
22	10023	64.20	0.00	0.00	0.00	0.00
23	23	64.20	0.00	0.00	0.00	0.00
23	24	67.55	0.00	0.00	0.00	0.00
24	24	67.55	0.00	0.00	0.00	0.00
24	25	70.90	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	0.00	0.00	0.00
103	104	7.86	0.00	0.00	0.00	-0.01
104	104	7.86	0.00	0.00	0.00	-0.01
104	105	10.48	0.00	0.00	0.00	-0.01
105	105	10.48	0.00	0.00	0.00	-0.01
105	106	13.10	0.00	0.00	0.00	-0.01
106	106	13.10	0.00	0.00	0.00	-0.01
106	107	15.72	0.00	0.00	0.00	-0.01
107	107	15.72	0.00	0.00	0.00	-0.01
107	108	18.34	0.00	0.00	0.00	-0.01
108	108	18.34	0.00	0.00	0.00	-0.01
108	109	20.96	0.00	0.00	0.00	-0.01
109	109	20.96	0.00	0.00	0.00	-0.01
109	110	23.58	0.00	0.00	0.00	-0.01
110	110	23.58	0.00	0.00	0.00	-0.01
110	111	26.20	0.00	0.00	0.00	0.00
111	111	26.20	0.00	0.00	0.00	0.00
111	112	29.55	0.00	0.00	0.00	0.00
112	112	29.55	0.00	0.00	0.00	0.00
112	10113	32.90	0.00	0.00	0.00	0.00
113	113	32.90	0.00	0.00	0.00	0.00
113	114	36.03	0.00	0.00	0.00	0.00
114	114	36.03	0.00	0.00	0.00	0.00
114	115	39.16	0.00	0.00	0.00	0.00
115	115	39.16	0.00	0.00	0.00	0.00
115	116	42.29	0.00	0.00	0.00	0.01
116	116	42.29	0.00	0.00	0.00	0.01
116	117	45.42	0.00	0.00	0.00	0.01
117	117	45.42	0.00	0.00	0.00	0.01
117	118	48.55	0.00	0.00	0.00	0.01
118	118	48.55	0.00	0.00	0.00	0.01
118	119	51.68	0.00	0.00	0.00	0.01
119	119	51.68	0.00	0.00	0.00	0.01
119	120	54.81	0.00	0.00	0.00	0.01
120	120	54.81	0.00	0.00	0.00	0.01
120	121	57.94	0.00	0.00	0.00	0.01
121	121	57.94	0.00	0.00	0.00	0.01
121	122	61.07	0.00	0.00	0.00	0.00
122	122	61.07	0.00	0.00	0.00	0.00
122	123	64.20	0.00	0.00	0.00	0.00
123	123	64.20	0.00	0.00	0.00	0.00
123	124	67.55	0.00	0.00	0.00	0.00
124	124	67.55	0.00	0.00	0.00	0.00
124	10125	70.90	0.00	0.00	0.00	0.00
125	125	70.90	0.00	0.00	0.00	0.00
125	126	74.23	0.00	0.00	0.00	-0.02
126	126	74.23	0.00	0.00	0.00	-0.02
126	127	77.56	0.00	0.00	0.00	-0.03

Programa DINTEL IDEAM S.A. 28/10/02
PRETF1A.HIP.Tinf

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	0.00	0.00	0.00
25	26	74.23	0.00	0.00	0.00	0.00
26	26	74.23	0.00	0.00	0.00	0.00
26	27	77.56	0.00	0.00	0.00	0.00
27	27	77.56	0.00	0.00	0.00	0.00
27	28	80.89	0.00	0.00	0.00	0.00
28	28	80.89	0.00	0.00	0.00	0.00
28	29	84.22	0.00	0.00	0.00	0.00
29	29	84.22	0.00	0.00	0.00	0.00
29	30	87.55	0.00	0.00	0.00	0.00
30	30	87.55	0.00	0.00	0.00	0.00
30	31	90.88	0.00	0.00	0.00	0.00
31	31	90.88	0.00	0.00	0.00	0.00
31	32	94.21	0.00	0.00	0.00	0.00
32	32	94.21	0.00	0.00	0.00	0.00
32	33	97.54	0.00	0.00	0.00	0.00
33	33	97.54	0.00	0.00	0.00	0.00
33	34	100.87	0.00	0.00	0.00	0.00
34	34	100.87	0.00	0.00	0.00	0.00
34	10035	104.20	0.00	0.00	0.00	0.00
35	35	104.20	0.00	0.00	0.00	0.00
35	36	107.55	0.00	0.00	0.00	0.00
36	36	107.55	0.00	0.00	0.00	0.00
36	37	110.90	0.00	0.00	0.00	0.00
37	37	110.90	0.00	0.00	0.00	0.00
37	38	113.77	0.00	0.00	0.00	0.00
38	38	113.77	0.00	0.00	0.00	0.00
38	39	116.64	0.00	0.00	0.00	0.00
39	39	116.64	0.00	0.00	0.00	0.00
39	40	119.51	0.00	0.00	0.00	0.00
40	40	119.51	0.00	0.00	0.00	0.00
40	41	122.38	0.00	0.00	0.00	0.00
41	41	122.38	0.00	0.00	0.00	0.00
41	42	125.25	0.00	0.00	0.00	0.00
42	42	125.25	0.00	0.00	0.00	0.00
42	43	128.12	0.00	0.00	0.00	0.00
43	43	128.12	0.00	0.00	0.00	0.00
43	44	130.99	0.00	0.00	0.00	0.00
44	44	130.99	0.00	0.00	0.00	0.00
44	45	133.86	0.00	0.00	0.00	0.00
45	45	133.86	0.00	0.00	0.00	0.00
45	46	136.73	0.00	0.00	0.00	0.00
46	46	136.73	0.00	0.00	0.00	0.00
46	47	139.60	0.00	0.00	0.00	0.00
101	101	0.00	0.00	0.00	0.00	0.00
101	102	2.62	0.00	0.00	0.00	0.00
102	102	2.62	0.00	0.00	0.00	0.00
102	103	5.24	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	0.00	0.00	-0.03
127	128	80.89	0.00	0.00	0.00	-0.04
128	128	80.89	0.00	0.00	0.00	-0.04
128	129	84.22	0.00	0.00	0.00	-0.05
129	129	84.22	0.00	0.00	0.00	-0.05
129	130	87.55	0.00	0.00	0.00	-0.07
130	130	87.55	0.00	0.00	0.00	-0.07
130	131	90.88	0.00	0.00	0.00	-0.07
131	131	90.88	0.00	0.00	0.00	-0.07
131	132	94.21	0.00	0.00	0.00	-0.07
132	132	94.21	0.00	0.00	0.00	-0.07
132	133	97.54	0.00	0.00	0.00	-0.06
133	133	97.54	0.00	0.00	0.00	-0.06
133	134	100.87	0.00	0.00	0.00	-0.05
134	134	100.87	0.00	0.00	0.00	-0.05
134	135	104.20	0.00	0.00	0.00	-0.04
135	135	104.20	0.00	-0.01	0.00	-0.04
135	136	107.55	0.00	-0.01	0.00	-0.02
136	136	107.55	0.00	-0.01	0.00	-0.02
136	10137	110.90	0.00	-0.01	0.00	0.00
137	137	110.90	0.00	0.00	0.00	0.00
137	138	113.77	0.00	0.00	0.00	0.01
138	138	113.77	0.00	0.00	0.00	0.01
138	139	116.64	0.00	0.00	0.00	0.03
139	139	116.64	0.00	0.00	0.00	0.03
139	140	119.51	0.00	0.00	0.00	0.04
140	140	119.51	0.00	0.00	0.00	0.04
140	141	122.38	0.00	0.00	0.00	0.04
141	141	122.38	0.00	0.00	0.00	0.04
141	142	125.25	0.00	0.00	0.00	0.04
142	142	125.25	0.00	0.00	0.00	0.04
142	143	128.12	0.00	0.00	0.00	0.04
143	143	128.12	0.00	0.00	0.00	0.04
143	144	130.99	0.00	0.00	0.00	0.03
144	144	130.99	0.00	0.00	0.00	0.03
144	145	133.86	0.00	0.00	0.00	0.02
145	145	133.86	0.00	0.00	0.00	0.02
145	146	136.73	0.00	0.00	0.00	0.01
146	146	136.73	0.00	0.00	0.00	0.01
146	147	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.ISO + [1; 1]PRETF1A.FAM3.ISO + [1; 1]PRETF1A.FAM4.ISO + [1; 1

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	0.00	0.00	0.00	0.00	0.00
2	2	0.00	0.00	0.00	0.00	0.00
2	3	0.00	0.00	0.00	0.00	0.00
3	3	0.00	0.00	0.00	0.00	0.00
3	4	0.00	0.00	0.00	0.00	0.00
4	4	0.00	0.00	0.00	0.00	0.00
4	5	0.00	0.00	0.00	0.00	0.00
5	5	0.00	0.00	0.00	0.00	0.00
5	6	0.00	0.00	0.00	0.00	0.00
6	6	0.00	0.00	0.00	0.00	0.00
6	7	0.00	0.00	0.00	0.00	0.00
7	7	0.00	0.00	0.00	0.00	0.00
7	8	0.00	0.00	0.00	0.00	0.00
8	8	0.00	0.00	0.00	0.00	0.00
8	9	0.00	0.00	0.00	0.00	0.00
9	9	0.00	0.00	0.00	0.00	0.00
9	10	0.00	0.00	0.00	0.00	0.00
10	10	0.00	0.00	0.00	0.00	0.00
10	10011	0.00	0.00	0.00	0.00	0.00
11	11	0.00	0.00	0.00	0.00	0.00
11	12	0.00	0.00	0.00	0.00	0.00
12	12	0.00	0.00	0.00	0.00	0.00
12	13	0.00	0.00	0.00	0.00	0.00
13	13	0.00	0.00	0.00	0.00	0.00
13	14	0.00	0.00	0.00	0.00	0.00
14	14	0.00	0.00	0.00	0.00	0.00
14	15	0.00	0.00	0.00	0.00	0.00
15	15	0.00	0.00	0.00	0.00	0.00
15	16	0.00	0.00	0.00	0.00	0.00
16	16	0.00	0.00	0.00	0.00	0.00
16	17	0.00	0.00	0.00	0.00	0.00
17	17	0.00	0.00	0.00	0.00	0.00
17	18	0.00	0.00	0.00	0.00	0.00
18	18	0.00	0.00	0.00	0.00	0.00
18	19	0.00	0.00	0.00	0.00	0.00
19	19	0.00	0.00	0.00	0.00	0.00
19	20	0.00	0.00	0.00	0.00	0.00
20	20	0.00	0.00	0.00	0.00	0.00
20	21	0.00	0.00	0.00	0.00	0.00
21	21	0.00	0.00	0.00	0.00	0.00
21	22	0.00	0.00	0.00	0.00	0.00
22	22	0.00	0.00	0.00	0.00	0.00
22	10023	0.00	0.00	0.00	0.00	0.00
23	23	0.00	0.00	0.00	0.00	0.00
23	24	0.00	0.00	0.00	0.00	0.00
24	24	0.00	0.00	0.00	0.00	0.00
24	25	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1A.FAM1.TOT + [-1;-1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.TOT + [-1;-1]PRETF1A.FAM2.ISO + [1;

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.ISO + [1; 1]PRETF1A.FAM3.ISO + [1; 1]PRETF1A.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-1430.18	0.00	0.00	-1000.68
103	104	7.86	-1430.18	0.00	0.00	-1000.68
104	104	7.86	-1755.26	0.00	0.00	-1282.20
104	105	10.48	-1755.26	0.00	0.00	-1282.20
105	105	10.48	-1755.26	0.00	0.00	-1282.20
105	106	13.10	-1755.26	0.00	0.00	-1282.20
106	106	13.10	-1755.26	0.00	0.00	-1282.20
106	107	15.72	-1755.26	0.00	0.00	-1282.20
107	107	15.72	-1755.26	0.00	0.00	-1282.20
107	108	18.34	-1755.26	0.00	0.00	-1282.20
108	108	18.34	-1755.26	0.00	0.00	-1282.20
108	109	20.96	-1755.26	0.00	0.00	-1282.20
109	109	20.96	-1755.26	0.00	0.00	-1282.20
109	110	23.58	-1755.26	0.00	0.00	-1282.20
110	110	23.58	-1430.18	0.00	0.00	-1000.68
110	111	26.20	-1430.18	0.00	0.00	-1000.68
111	111	26.20	-1105.10	0.00	0.00	-703.55
111	112	29.55	-1105.10	0.00	0.00	-703.55
112	112	29.55	-635.54	0.00	0.00	-251.84
112	10113	32.90	-635.54	0.00	0.00	-251.84
113	113	32.90	-599.42	0.00	0.00	-215.36
113	114	36.03	-599.42	0.00	0.00	-215.36
114	114	36.03	-996.74	0.00	0.00	-597.58
114	115	39.16	-996.74	0.00	0.00	-597.58
115	115	39.16	-1430.18	0.00	0.00	-993.74
115	116	42.29	-1430.18	0.00	0.00	-993.74
116	116	42.29	-1827.50	0.00	0.00	-1337.03
116	117	45.42	-1827.50	0.00	0.00	-1337.03
117	117	45.42	-1827.50	0.00	0.00	-1337.03
117	118	48.55	-1827.50	0.00	0.00	-1337.03
118	118	48.55	-1827.50	0.00	0.00	-1337.03
118	119	51.68	-1827.50	0.00	0.00	-1337.03
119	119	51.68	-1827.50	0.00	0.00	-1337.03
119	120	54.81	-1827.50	0.00	0.00	-1337.03
120	120	54.81	-1827.50	0.00	0.00	-1337.03
120	121	57.94	-1827.50	0.00	0.00	-1337.03
121	121	57.94	-1827.50	0.00	0.00	-1337.03
121	122	61.07	-1827.50	0.00	0.00	-1337.03
122	122	61.07	-1430.18	0.00	0.00	-993.74
122	123	64.20	-1430.18	0.00	0.00	-993.74
123	123	64.20	-996.74	0.00	0.00	-597.58
123	124	67.55	-996.74	0.00	0.00	-597.58
124	124	67.55	-599.42	0.00	0.00	-215.36
124	10125	70.90	-599.42	0.00	0.00	-215.36
125	125	70.90	-671.66	0.00	0.00	-288.32
125	126	74.23	-671.66	0.00	0.00	-288.32
126	126	74.23	-1141.22	0.00	0.00	-740.04
126	127	77.56	-1141.22	0.00	0.00	-740.04

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	0.00	0.00	0.00	0.00	0.00
25	26	0.00	0.00	0.00	0.00	0.00
26	26	0.00	0.00	0.00	0.00	0.00
26	27	0.00	0.00	0.00	0.00	0.00
27	27	0.00	0.00	0.00	0.00	0.00
27	28	0.00	0.00	0.00	0.00	0.00
28	28	0.00	0.00	0.00	0.00	0.00
28	29	0.00	0.00	0.00	0.00	0.00
29	29	0.00	0.00	0.00	0.00	0.00
29	30	0.00	0.00	0.00	0.00	0.00
30	30	0.00	0.00	0.00	0.00	0.00
30	31	0.00	0.00	0.00	0.00	0.00
31	31	0.00	0.00	0.00	0.00	0.00
31	32	0.00	0.00	0.00	0.00	0.00
32	32	0.00	0.00	0.00	0.00	0.00
32	33	0.00	0.00	0.00	0.00	0.00
33	33	0.00	0.00	0.00	0.00	0.00
33	34	0.00	0.00	0.00	0.00	0.00
34	34	0.00	0.00	0.00	0.00	0.00
34	10035	0.00	0.00	0.00	0.00	0.00
35	35	0.00	0.00	0.00	0.00	0.00
35	36	0.00	0.00	0.00	0.00	0.00
36	36	0.00	0.00	0.00	0.00	0.00
36	37	0.00	0.00	0.00	0.00	0.00
37	37	0.00	0.00	0.00	0.00	0.00
37	38	0.00	0.00	0.00	0.00	0.00
38	38	0.00	0.00	0.00	0.00	0.00
38	39	0.00	0.00	0.00	0.00	0.00
39	39	0.00	0.00	0.00	0.00	0.00
39	40	0.00	0.00	0.00	0.00	0.00
40	40	0.00	0.00	0.00	0.00	0.00
40	41	0.00	0.00	0.00	0.00	0.00
41	41	0.00	0.00	0.00	0.00	0.00
41	42	0.00	0.00	0.00	0.00	0.00
42	42	0.00	0.00	0.00	0.00	0.00
42	43	0.00	0.00	0.00	0.00	0.00
43	43	0.00	0.00	0.00	0.00	0.00
43	44	0.00	0.00	0.00	0.00	0.00
44	44	0.00	0.00	0.00	0.00	0.00
44	45	0.00	0.00	0.00	0.00	0.00
45	45	0.00	0.00	0.00	0.00	0.00
45	46	0.00	0.00	0.00	0.00	0.00
46	46	0.00	0.00	0.00	0.00	0.00
46	47	0.00	0.00	0.00	0.00	0.00
101	101	0.00	-635.54	0.00	0.00	-251.84
101	102	2.62	-635.54	0.00	0.00	-251.84
102	102	2.62	-1105.10	0.00	0.00	-703.55
102	103	5.24	-1105.10	0.00	0.00	-703.55

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.ISO + [1; 1]PRETF1A.FAM3.ISO + [1; 1]PRETF1A.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.ISO + [1; 1]PRETF1A.FAM3.ISO + [1; 1]PRETF1A.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-1646.90	0.00	0.00	-1202.23
127	128	80.89	-1646.90	0.00	0.00	-1202.23
128	128	80.89	-2152.58	0.00	0.00	-1639.13
128	129	84.22	-2152.58	0.00	0.00	-1639.13
129	129	84.22	-2152.58	0.00	0.00	-1639.13
129	130	87.55	-2152.58	0.00	0.00	-1639.13
130	130	87.55	-2152.58	0.00	0.00	-1639.13
130	131	90.88	-2152.58	0.00	0.00	-1639.13
131	131	90.88	-2152.58	0.00	0.00	-1639.13
131	132	94.21	-2152.58	0.00	0.00	-1639.13
132	132	94.21	-2152.58	0.00	0.00	-1639.13
132	133	97.54	-2152.58	0.00	0.00	-1639.13
133	133	97.54	-2152.58	0.00	0.00	-1639.13
133	134	100.87	-2152.58	0.00	0.00	-1639.13
134	134	100.87	-1646.90	0.00	0.00	-1202.23
134	135	104.20	-1646.90	0.00	0.00	-1202.23
135	135	104.20	-1141.22	0.00	0.00	-740.04
135	136	107.55	-1141.22	0.00	0.00	-740.04
136	136	107.55	-671.66	0.00	0.00	-288.32
136	10137	110.90	-671.66	0.00	0.00	-288.32
137	137	110.90	-635.54	0.00	0.00	-251.84
137	138	113.77	-635.54	0.00	0.00	-251.84
138	138	113.77	-1105.10	0.00	0.00	-703.55
138	139	116.64	-1105.10	0.00	0.00	-703.55
139	139	116.64	-1321.82	0.00	0.00	-901.64
139	140	119.51	-1321.82	0.00	0.00	-901.64
140	140	119.51	-1321.82	0.00	0.00	-901.64
140	141	122.38	-1321.82	0.00	0.00	-901.64
141	141	122.38	-1321.82	0.00	0.00	-901.64
141	142	125.25	-1321.82	0.00	0.00	-901.64
142	142	125.25	-1321.82	0.00	0.00	-901.64
142	143	128.12	-1321.82	0.00	0.00	-901.64
143	143	128.12	-1321.82	0.00	0.00	-901.64
143	144	130.99	-1321.82	0.00	0.00	-901.64
144	144	130.99	-1321.82	0.00	0.00	-901.64
144	145	133.86	-1321.82	0.00	0.00	-901.64
145	145	133.86	-1105.10	0.00	0.00	-703.55
145	146	136.73	-1105.10	0.00	0.00	-703.55
146	146	136.73	-635.54	0.00	0.00	-251.84
146	147	139.60	-635.54	0.00	0.00	-251.84
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.ISO.Tinf

Pretensado Isostático (t=INF)

[1; 1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.ISO + [1; 1]PRETF1A.FAM3.ISO + [1; 1]PRETF1A.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	0.00	0.00	0.00	0.00	0.00
25	26	0.00	0.00	0.00	0.00	0.00
26	26	0.00	0.00	0.00	0.00	0.00
26	27	0.00	0.00	0.00	0.00	0.00
27	27	0.00	0.00	0.00	0.00	0.00
27	28	0.00	0.00	0.00	0.00	0.00
28	28	0.00	0.00	0.00	0.00	0.00
28	29	0.00	0.00	0.00	0.00	0.00
29	29	0.00	0.00	0.00	0.00	0.00
29	30	0.00	0.00	0.00	0.00	0.00
30	30	0.00	0.00	0.00	0.00	0.00
30	31	0.00	0.00	0.00	0.00	0.00
31	31	0.00	0.00	0.00	0.00	0.00
31	32	0.00	0.00	0.00	0.00	0.00
32	32	0.00	0.00	0.00	0.00	0.00
32	33	0.00	0.00	0.00	0.00	0.00
33	33	0.00	0.00	0.00	0.00	0.00
33	34	0.00	0.00	0.00	0.00	0.00
34	34	0.00	0.00	0.00	0.00	0.00
34	10035	0.00	0.00	0.00	0.00	0.00
35	35	0.00	0.00	0.00	0.00	0.00
35	36	0.00	0.00	0.00	0.00	0.00
36	36	0.00	0.00	0.00	0.00	0.00
36	37	0.00	0.00	0.00	0.00	0.00
37	37	0.00	0.00	0.00	0.00	0.00
37	38	0.00	0.00	0.00	0.00	0.00
38	38	0.00	0.00	0.00	0.00	0.00
38	39	0.00	0.00	0.00	0.00	0.00
39	39	0.00	0.00	0.00	0.00	0.00
39	40	0.00	0.00	0.00	0.00	0.00
40	40	0.00	0.00	0.00	0.00	0.00
40	41	0.00	0.00	0.00	0.00	0.00
41	41	0.00	0.00	0.00	0.00	0.00
41	42	0.00	0.00	0.00	0.00	0.00
42	42	0.00	0.00	0.00	0.00	0.00
42	43	0.00	0.00	0.00	0.00	0.00
43	43	0.00	0.00	0.00	0.00	0.00
43	44	0.00	0.00	0.00	0.00	0.00
44	44	0.00	0.00	0.00	0.00	0.00
44	45	0.00	0.00	0.00	0.00	0.00
45	45	0.00	0.00	0.00	0.00	0.00
45	46	0.00	0.00	0.00	0.00	0.00
46	46	0.00	0.00	0.00	0.00	0.00
46	47	0.00	0.00	0.00	0.00	0.00
101	101	0.00	-635.54	0.00	0.00	-251.84
101	102	2.62	-635.54	0.00	0.00	-251.84
102	102	2.62	-1105.10	0.00	0.00	-703.55
102	103	5.24	-1105.10	0.00	0.00	-703.55

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1A.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.ISO + [1; 1]PRETF1A.FAM3.ISO + [1; 1]PRETF1A.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.ISO.Tinf

Pretensado Isostático (t=INF)

[1; 1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.ISO + [1; 1]PRETF1A.FAM3.ISO + [1; 1]PRETF1A.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-1646.90	0.00	0.00	-1202.23
127	128	80.89	-1646.90	0.00	0.00	-1202.23
128	128	80.89	-2152.58	0.00	0.00	-1639.13
128	129	84.22	-2152.58	0.00	0.00	-1639.13
129	129	84.22	-2152.58	0.00	0.00	-1639.13
129	130	87.55	-2152.58	0.00	0.00	-1639.13
130	130	87.55	-2152.58	0.00	0.00	-1639.13
130	131	90.88	-2152.58	0.00	0.00	-1639.13
131	131	90.88	-2152.58	0.00	0.00	-1639.13
131	132	94.21	-2152.58	0.00	0.00	-1639.13
132	132	94.21	-2152.58	0.00	0.00	-1639.13
132	133	97.54	-2152.58	0.00	0.00	-1639.13
133	133	97.54	-2152.58	0.00	0.00	-1639.13
133	134	100.87	-2152.58	0.00	0.00	-1639.13
134	134	100.87	-1646.90	0.00	0.00	-1202.23
134	135	104.20	-1646.90	0.00	0.00	-1202.23
135	135	104.20	-1141.22	0.00	0.00	-740.04
135	136	107.55	-1141.22	0.00	0.00	-740.04
136	136	107.55	-671.66	0.00	0.00	-288.32
136	10137	110.90	-671.66	0.00	0.00	-288.32
137	137	110.90	-635.54	0.00	0.00	-251.84
137	138	113.77	-635.54	0.00	0.00	-251.84
138	138	113.77	-1105.10	0.00	0.00	-703.55
138	139	116.64	-1105.10	0.00	0.00	-703.55
139	139	116.64	-1321.82	0.00	0.00	-901.64
139	140	119.51	-1321.82	0.00	0.00	-901.64
140	140	119.51	-1321.82	0.00	0.00	-901.64
140	141	122.38	-1321.82	0.00	0.00	-901.64
141	141	122.38	-1321.82	0.00	0.00	-901.64
141	142	125.25	-1321.82	0.00	0.00	-901.64
142	142	125.25	-1321.82	0.00	0.00	-901.64
142	143	128.12	-1321.82	0.00	0.00	-901.64
143	143	128.12	-1321.82	0.00	0.00	-901.64
143	144	130.99	-1321.82	0.00	0.00	-901.64
144	144	130.99	-1321.82	0.00	0.00	-901.64
144	145	133.86	-1321.82	0.00	0.00	-901.64
145	145	133.86	-1105.10	0.00	0.00	-703.55
145	146	136.73	-1105.10	0.00	0.00	-703.55
146	146	136.73	-635.54	0.00	0.00	-251.84
146	147	139.60	-635.54	0.00	0.00	-251.84
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.ISO.Tinf

Pretensado Isostático (t=INF)

[1; 1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.ISO + [1; 1]PRETF1A.FAM3.ISO + [1; 1]PRETF1A.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-1430.18	0.00	0.00	-1000.68
103	104	7.86	-1430.18	0.00	0.00	-1000.68
104	104	7.86	-1755.26	0.00	0.00	-1282.20
104	105	10.48	-1755.26	0.00	0.00	-1282.20
105	105	10.48	-1755.26	0.00	0.00	-1282.20
105	106	13.10	-1755.26	0.00	0.00	-1282.20
106	106	13.10	-1755.26	0.00	0.00	-1282.20
106	107	15.72	-1755.26	0.00	0.00	-1282.20
107	107	15.72	-1755.26	0.00	0.00	-1282.20
107	108	18.34	-1755.26	0.00	0.00	-1282.20
108	108	18.34	-1755.26	0.00	0.00	-1282.20
108	109	20.96	-1755.26	0.00	0.00	-1282.20
109	109	20.96	-1755.26	0.00	0.00	-1282.20
109	110	23.58	-1755.26	0.00	0.00	-1282.20
110	110	23.58	-1430.18	0.00	0.00	-1000.68
110	111	26.20	-1430.18	0.00	0.00	-1000.68
111	111	26.20	-1105.10	0.00	0.00	-703.55
111	112	29.55	-1105.10	0.00	0.00	-703.55
112	112	29.55	-635.54	0.00	0.00	-251.84
112	10113	32.90	-635.54	0.00	0.00	-251.84
113	113	32.90	-599.42	0.00	0.00	-215.36
113	114	36.03	-599.42	0.00	0.00	-215.36
114	114	36.03	-996.74	0.00	0.00	-597.58
114	115	39.16	-996.74	0.00	0.00	-597.58
115	115	39.16	-1430.18	0.00	0.00	-993.74
115	116	42.29	-1430.18	0.00	0.00	-993.74
116	116	42.29	-1827.50	0.00	0.00	-1337.03
116	117	45.42	-1827.50	0.00	0.00	-1337.03
117	117	45.42	-1827.50	0.00	0.00	-1337.03
117	118	48.55	-1827.50	0.00	0.00	-1337.03
118	118	48.55	-1827.50	0.00	0.00	-1337.03
118	119	51.68	-1827.50	0.00	0.00	-1337.03
119	119	51.68	-1827.50	0.00	0.00	-1337.03
119	120	54.81	-1827.50	0.00	0.00	-1337.03
120	120	54.81	-1827.50	0.00	0.00	-1337.03
120	121	57.94	-1827.50	0.00	0.00	-1337.03
121	121	57.94	-1827.50	0.00	0.00	-1337.03
121	122	61.07	-1827.50	0.00	0.00	-1337.03
122	122	61.07	-1430.18	0.00	0.00	-993.74
122	123	64.20	-1430.18	0.00	0.00	-993.74
123	123	64.20	-996.74	0.00	0.00	-597.58
123	124	67.55	-996.74	0.00	0.00	-597.58
124	124	67.55	-599.42	0.00	0.00	-215.36
124	10125	70.90	-599.42	0.00	0.00	-215.36
125	125	70.90	-671.66	0.00	0.00	-288.32
125	126	74.23	-671.66	0.00	0.00	-288.32
126	126	74.23	-1141.22	0.00	0.00	-740.04
126	127	77.56	-1141.22	0.00	0.00	-740.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.ISO.Tinf

Pretensado Isostático (t=INF)

[1; 1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.ISO + [1; 1]PRETF1A.FAM3.ISO + [1; 1]PRETF1A.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

-Copia1.esv Programa DINTEL IDEAM S.A. 28/10/02
PRETF1A.ISO.Tinf

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1A.ISO.Tinf

Pretensado Isostático (t=INF)

[1; 1]PRETF1A.FAM1.ISO + [1; 1]PRETF1A.FAM2.ISO + [1; 1]PRETF1A.FAM3.ISO + [1; 1]PRETF1A.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-1646.90	0.00	0.00	-1202.26
25	26	74.23	-1646.90	0.00	0.00	-1202.28
26	26	74.23	-2152.58	0.00	0.00	-1640.19
26	27	77.56	-2152.58	0.00	0.00	-1640.20
27	27	77.56	-2152.58	0.00	0.00	-1640.20
27	28	80.89	-2152.58	0.00	0.00	-1640.22
28	28	80.89	-2152.58	0.00	0.00	-1640.22
28	29	84.22	-2152.58	0.00	0.00	-1640.22
29	29	84.22	-2152.58	0.00	0.00	-1640.22
29	30	87.55	-2152.58	0.00	0.00	-1640.22
30	30	87.55	-2152.58	0.00	0.00	-1640.22
30	31	90.88	-2152.58	0.00	0.00	-1640.21
31	31	90.88	-2152.58	0.00	0.00	-1640.21
31	32	94.21	-2152.58	0.00	0.00	-1640.20
32	32	94.21	-1646.90	-0.01	0.00	-1202.28
32	33	97.54	-1646.90	-0.01	0.00	-1202.26
33	33	97.54	-1141.22	-0.01	0.00	-740.07
33	34	100.87	-1141.22	-0.01	0.00	-740.05
34	34	100.87	-671.66	-0.01	0.00	-288.34
34	10035	104.20	-671.66	-0.01	0.00	-288.32
35	35	104.20	-671.66	-0.01	0.01	-288.32
35	36	107.55	-671.66	-0.01	0.01	-288.28
36	36	107.55	-1141.22	-0.01	0.01	-740.00
36	37	110.90	-1141.22	-0.01	0.01	-739.96
37	37	110.90	-1610.78	-0.01	0.01	-1169.14
37	38	113.77	-1610.78	-0.01	0.01	-1169.12
38	38	113.77	-2080.34	-0.01	0.00	-1575.76
38	39	116.64	-2080.34	-0.01	0.00	-1575.74
39	39	116.64	-2080.34	0.00	0.00	-1575.74
39	40	119.51	-2080.34	0.00	0.00	-1575.73
40	40	119.51	-2080.34	0.00	0.00	-1575.73
40	41	122.38	-2080.34	0.00	0.00	-1575.73
41	41	122.38	-2080.34	0.00	0.00	-1575.73
41	42	125.25	-2080.34	0.00	0.00	-1575.73
42	42	125.25	-2080.34	0.00	0.00	-1575.73
42	43	128.12	-2080.34	0.00	0.00	-1575.75
43	43	128.12	-2080.34	0.01	0.00	-1575.75
43	44	130.99	-2080.34	0.01	0.00	-1575.76
44	44	130.99	-1610.78	0.01	-0.01	-1169.13
44	45	133.86	-1610.78	0.01	-0.01	-1169.15
45	45	133.86	-1141.22	0.01	-0.01	-739.97
45	46	136.73	-1141.22	0.01	-0.01	-740.00
46	46	136.73	-671.66	0.01	-0.01	-288.29
46	47	139.60	-671.66	0.01	-0.01	-288.32
101	101	0.00	0.00	0.00	0.00	0.00
101	102	2.62	0.00	0.00	0.00	0.00
102	102	2.62	0.00	0.00	0.00	0.00
102	103	5.24	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-599.42	0.00	0.00	-215.36
1	2	2.62	-599.42	0.00	0.00	-215.36
2	2	2.62	-816.14	0.00	0.00	-423.84
2	3	5.24	-816.14	0.00	0.00	-423.84
3	3	5.24	-1032.86	0.00	0.00	-632.33
3	4	7.86	-1032.86	0.00	0.00	-632.33
4	4	7.86	-1032.86	0.00	0.00	-632.33
4	5	10.48	-1032.86	0.00	0.00	-632.33
5	5	10.48	-1032.86	0.00	0.00	-632.33
5	6	13.10	-1032.86	0.00	0.00	-632.33
6	6	13.10	-1032.86	0.00	0.00	-632.33
6	7	15.72	-1032.86	0.00	0.00	-632.33
7	7	15.72	-1032.86	0.00	0.00	-632.33
7	8	18.34	-1032.86	0.00	0.00	-632.33
8	8	18.34	-816.14	0.00	0.00	-423.84
8	9	20.96	-816.14	0.00	0.00	-423.84
9	9	20.96	-816.14	0.00	0.00	-423.84
9	10	23.58	-816.14	0.00	0.00	-423.84
10	10	23.58	-599.42	0.00	0.00	-215.36
10	10011	26.20	-599.42	0.00	0.00	-215.36
11	11	26.20	-599.42	0.00	0.00	-215.36
11	12	29.55	-599.42	0.00	0.00	-215.36
12	12	29.55	-1032.86	0.00	0.00	-632.32
12	13	32.90	-1032.86	0.00	0.00	-632.32
13	13	32.90	-1430.18	0.00	0.00	-995.47
13	14	36.03	-1430.18	0.00	0.00	-995.47
14	14	36.03	-1827.50	0.00	0.00	-1339.55
14	15	39.16	-1827.50	0.00	0.00	-1339.55
15	15	39.16	-1827.50	0.00	0.00	-1339.55
15	16	42.29	-1827.50	0.00	0.00	-1339.54
16	16	42.29	-1827.50	0.00	0.00	-1339.54
16	17	45.42	-1827.50	0.00	0.00	-1339.54
17	17	45.42	-1827.50	0.00	0.00	-1339.54
17	18	48.55	-1827.50	0.00	0.00	-1339.54
18	18	48.55	-1827.50	0.00	0.00	-1339.54
18	19	51.68	-1827.50	0.00	0.00	-1339.54
19	19	51.68	-1827.50	0.00	0.00	-1339.54
19	20	54.81	-1827.50	0.00	0.00	-1339.55
20	20	54.81	-1430.18	0.00	0.00	-995.47
20	21	57.94	-1430.18	0.00	0.00	-995.47
21	21	57.94	-1032.86	0.00	0.00	-632.32
21	22	61.07	-1032.86	0.00	0.00	-632.32
22	22	61.07	-599.42	0.00	0.00	-215.35
22	10023	64.20	-599.42	0.00	0.00	-215.36
23	23	64.20	-671.66	0.01	0.00	-288.32
23	24	67.55	-671.66	0.01	0.00	-288.34
24	24	67.55	-1141.22	0.00	0.00	-740.05
24	25	70.90	-1141.22	0.00	0.00	-740.07

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	0.00	0.00	0.00
127	128	80.89	0.00	0.00	0.00	0.00
128	128	80.89	0.00	0.00	0.00	0.00
128	129	84.22	0.00	0.00	0.00	0.00
129	129	84.22	0.00	0.00	0.00	0.00
129	130	87.55	0.00	0.00	0.00	0.00
130	130	87.55	0.00	0.00	0.00	0.00
130	131	90.88	0.00	0.00	0.00	0.00
131	131	90.88	0.00	0.00	0.00	0.00
131	132	94.21	0.00	0.00	0.00	0.00
132	132	94.21	0.00	0.00	0.00	0.00
132	133	97.54	0.00	0.00	0.00	0.00
133	133	97.54	0.00	0.00	0.00	0.00
133	134	100.87	0.00	0.00	0.00	0.00
134	134	100.87	0.00	0.00	0.00	0.00
134	135	104.20	0.00	0.00	0.00	0.00
135	135	104.20	0.00	0.00	0.00	0.00
135	136	107.55	0.00	0.00	0.00	0.00
136	136	107.55	0.00	0.00	0.00	0.00
136	10137	110.90	0.00	0.00	0.00	0.00
137	137	110.90	0.00	0.00	0.00	0.00
137	138	113.77	0.00	0.00	0.00	0.00
138	138	113.77	0.00	0.00	0.00	0.00
138	139	116.64	0.00	0.00	0.00	0.00
139	139	116.64	0.00	0.00	0.00	0.00
139	140	119.51	0.00	0.00	0.00	0.00
140	140	119.51	0.00	0.00	0.00	0.00
140	141	122.38	0.00	0.00	0.00	0.00
141	141	122.38	0.00	0.00	0.00	0.00
141	142	125.25	0.00	0.00	0.00	0.00
142	142	125.25	0.00	0.00	0.00	0.00
142	143	128.12	0.00	0.00	0.00	0.00
143	143	128.12	0.00	0.00	0.00	0.00
143	144	130.99	0.00	0.00	0.00	0.00
144	144	130.99	0.00	0.00	0.00	0.00
144	145	133.86	0.00	0.00	0.00	0.00
145	145	133.86	0.00	0.00	0.00	0.00
145	146	136.73	0.00	0.00	0.00	0.00
146	146	136.73	0.00	0.00	0.00	0.00
146	147	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	0.00	0.00	0.00
103	104	7.86	0.00	0.00	0.00	0.00
104	104	7.86	0.00	0.00	0.00	0.00
104	105	10.48	0.00	0.00	0.00	0.00
105	105	10.48	0.00	0.00	0.00	0.00
105	106	13.10	0.00	0.00	0.00	0.00
106	106	13.10	0.00	0.00	0.00	0.00
106	107	15.72	0.00	0.00	0.00	0.00
107	107	15.72	0.00	0.00	0.00	0.00
107	108	18.34	0.00	0.00	0.00	0.00
108	108	18.34	0.00	0.00	0.00	0.00
108	109	20.96	0.00	0.00	0.00	0.00
109	109	20.96	0.00	0.00	0.00	0.00
109	110	23.58	0.00	0.00	0.00	0.00
110	110	23.58	0.00	0.00	0.00	0.00
110	111	26.20	0.00	0.00	0.00	0.00
111	111	26.20	0.00	0.00	0.00	0.00
111	112	29.55	0.00	0.00	0.00	0.00
112	112	29.55	0.00	0.00	0.00	0.00
112	10113	32.90	0.00	0.00	0.00	0.00
113	113	32.90	0.00	0.00	0.00	0.00
113	114	36.03	0.00	0.00	0.00	0.00
114	114	36.03	0.00	0.00	0.00	0.00
114	115	39.16	0.00	0.00	0.00	0.00
115	115	39.16	0.00	0.00	0.00	0.00
115	116	42.29	0.00	0.00	0.00	0.00
116	116	42.29	0.00	0.00	0.00	0.00
116	117	45.42	0.00	0.00	0.00	0.00
117	117	45.42	0.00	0.00	0.00	0.00
117	118	48.55	0.00	0.00	0.00	0.00
118	118	48.55	0.00	0.00	0.00	0.00
118	119	51.68	0.00	0.00	0.00	0.00
119	119	51.68	0.00	0.00	0.00	0.00
119	120	54.81	0.00	0.00	0.00	0.00
120	120	54.81	0.00	0.00	0.00	0.00
120	121	57.94	0.00	0.00	0.00	0.00
121	121	57.94	0.00	0.00	0.00	0.00
121	122	61.07	0.00	0.00	0.00	0.00
122	122	61.07	0.00	0.00	0.00	0.00
122	123	64.20	0.00	0.00	0.00	0.00
123	123	64.20	0.00	0.00	0.00	0.00
123	124	67.55	0.00	0.00	0.00	0.00
124	124	67.55	0.00	0.00	0.00	0.00
124	10125	70.90	0.00	0.00	0.00	0.00
125	125	70.90	0.00	0.00	0.00	0.00
125	126	74.23	0.00	0.00	0.00	0.00
126	126	74.23	0.00	0.00	0.00	0.00
126	127	77.56	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-1646.90	0.00	0.00	-1202.26
25	26	74.23	-1646.90	0.00	0.00	-1202.28
26	26	74.23	-2152.58	0.00	0.00	-1640.19
26	27	77.56	-2152.58	0.00	0.00	-1640.20
27	27	77.56	-2152.58	0.00	0.00	-1640.20
27	28	80.89	-2152.58	0.00	0.00	-1640.22
28	28	80.89	-2152.58	0.00	0.00	-1640.22
28	29	84.22	-2152.58	0.00	0.00	-1640.22
29	29	84.22	-2152.58	0.00	0.00	-1640.22
29	30	87.55	-2152.58	0.00	0.00	-1640.22
30	30	87.55	-2152.58	0.00	0.00	-1640.22
30	31	90.88	-2152.58	0.00	0.00	-1640.21
31	31	90.88	-2152.58	0.00	0.00	-1640.21
31	32	94.21	-2152.58	0.00	0.00	-1640.20
32	32	94.21	-1646.90	-0.01	0.00	-1202.28
32	33	97.54	-1646.90	-0.01	0.00	-1202.26
33	33	97.54	-1141.22	-0.01	0.00	-740.07
33	34	100.87	-1141.22	-0.01	0.00	-740.05
34	34	100.87	-671.66	-0.01	0.00	-288.34
34	10035	104.20	-671.66	-0.01	0.00	-288.32
35	35	104.20	-671.66	-0.01	0.01	-288.32
35	36	107.55	-671.66	-0.01	0.01	-288.28
36	36	107.55	-1141.22	-0.01	0.01	-740.00
36	37	110.90	-1141.22	-0.01	0.01	-739.96
37	37	110.90	-1610.78	-0.01	0.01	-1169.14
37	38	113.77	-1610.78	-0.01	0.01	-1169.12
38	38	113.77	-2080.34	-0.01	0.00	-1575.76
38	39	116.64	-2080.34	-0.01	0.00	-1575.74
39	39	116.64	-2080.34	0.00	0.00	-1575.74
39	40	119.51	-2080.34	0.00	0.00	-1575.73
40	40	119.51	-2080.34	0.00	0.00	-1575.73
40	41	122.38	-2080.34	0.00	0.00	-1575.73
41	41	122.38	-2080.34	0.00	0.00	-1575.73
41	42	125.25	-2080.34	0.00	0.00	-1575.73
42	42	125.25	-2080.34	0.00	0.00	-1575.73
42	43	128.12	-2080.34	0.00	0.00	-1575.75
43	43	128.12	-2080.34	0.01	0.00	-1575.75
43	44	130.99	-2080.34	0.01	0.00	-1575.76
44	44	130.99	-1610.78	0.01	-0.01	-1169.13
44	45	133.86	-1610.78	0.01	-0.01	-1169.15
45	45	133.86	-1141.22	0.01	-0.01	-739.97
45	46	136.73	-1141.22	0.01	-0.01	-740.00
46	46	136.73	-671.66	0.01	-0.01	-288.29
46	47	139.60	-671.66	0.01	-0.01	-288.32
101	101	0.00	0.00	0.00	0.00	0.00
101	102	2.62	0.00	0.00	0.00	0.00
102	102	2.62	0.00	0.00	0.00	0.00
102	103	5.24	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-599.42	0.00	0.00	-215.36
1	2	2.62	-599.42	0.00	0.00	-215.36
2	2	2.62	-816.14	0.00	0.00	-423.84
2	3	5.24	-816.14	0.00	0.00	-423.84
3	3	5.24	-1032.86	0.00	0.00	-632.33
3	4	7.86	-1032.86	0.00	0.00	-632.33
4	4	7.86	-1032.86	0.00	0.00	-632.33
4	5	10.48	-1032.86	0.00	0.00	-632.33
5	5	10.48	-1032.86	0.00	0.00	-632.33
5	6	13.10	-1032.86	0.00	0.00	-632.33
6	6	13.10	-1032.86	0.00	0.00	-632.33
6	7	15.72	-1032.86	0.00	0.00	-632.33
7	7	15.72	-1032.86	0.00	0.00	-632.33
7	8	18.34	-1032.86	0.00	0.00	-632.33
8	8	18.34	-816.14	0.00	0.00	-423.84
8	9	20.96	-816.14	0.00	0.00	-423.84
9	9	20.96	-816.14	0.00	0.00	-423.84
9	10	23.58	-816.14	0.00	0.00	-423.84
10	10	23.58	-599.42	0.00	0.00	-215.36
10	10011	26.20	-599.42	0.00	0.00	-215.36
11	11	26.20	-599.42	0.00	0.00	-215.36
11	12	29.55	-599.42	0.00	0.00	-215.36
12	12	29.55	-1032.86	0.00	0.00	-632.32
12	13	32.90	-1032.86	0.00	0.00	-632.32
13	13	32.90	-1430.18	0.00	0.00	-995.47
13	14	36.03	-1430.18	0.00	0.00	-995.47
14	14	36.03	-1827.50	0.00	0.00	-1339.55
14	15	39.16	-1827.50	0.00	0.00	-1339.55
15	15	39.16	-1827.50	0.00	0.00	-1339.55
15	16	42.29	-1827.50	0.00	0.00	-1339.54
16	16	42.29	-1827.50	0.00	0.00	-1339.54
16	17	45.42	-1827.50	0.00	0.00	-1339.54
17	17	45.42	-1827.50	0.00	0.00	-1339.54
17	18	48.55	-1827.50	0.00	0.00	-1339.54
18	18	48.55	-1827.50	0.00	0.00	-1339.54
18	19	51.68	-1827.50	0.00	0.00	-1339.54
19	19	51.68	-1827.50	0.00	0.00	-1339.54
19	20	54.81	-1827.50	0.00	0.00	-1339.55
20	20	54.81	-1430.18	0.00	0.00	-995.47
20	21	57.94	-1430.18	0.00	0.00	-995.47
21	21	57.94	-1032.86	0.00	0.00	-632.32
21	22	61.07	-1032.86	0.00	0.00	-632.32
22	22	61.07	-599.42	0.00	0.00	-215.35
22	10023	64.20	-599.42	0.00	0.00	-215.36
23	23	64.20	-671.66	0.01	0.00	-288.32
23	24	67.55	-671.66	0.01	0.00	-288.34
24	24	67.55	-1141.22	0.00	0.00	-740.05
24	25	70.90	-1141.22	0.00	0.00	-740.07

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	0.00	0.00	0.00
103	104	7.86	0.00	0.00	0.00	0.00
104	104	7.86	0.00	0.00	0.00	0.00
104	105	10.48	0.00	0.00	0.00	0.00
105	105	10.48	0.00	0.00	0.00	0.00
105	106	13.10	0.00	0.00	0.00	0.00
106	106	13.10	0.00	0.00	0.00	0.00
106	107	15.72	0.00	0.00	0.00	0.00
107	107	15.72	0.00	0.00	0.00	0.00
107	108	18.34	0.00	0.00	0.00	0.00
108	108	18.34	0.00	0.00	0.00	0.00
108	109	20.96	0.00	0.00	0.00	0.00
109	109	20.96	0.00	0.00	0.00	0.00
109	110	23.58	0.00	0.00	0.00	0.00
110	110	23.58	0.00	0.00	0.00	0.00
110	111	26.20	0.00	0.00	0.00	0.00
111	111	26.20	0.00	0.00	0.00	0.00
111	112	29.55	0.00	0.00	0.00	0.00
112	112	29.55	0.00	0.00	0.00	0.00
112	10113	32.90	0.00	0.00	0.00	0.00
113	113	32.90	0.00	0.00	0.00	0.00
113	114	36.03	0.00	0.00	0.00	0.00
114	114	36.03	0.00	0.00	0.00	0.00
114	115	39.16	0.00	0.00	0.00	0.00
115	115	39.16	0.00	0.00	0.00	0.00
115	116	42.29	0.00	0.00	0.00	0.00
116	116	42.29	0.00	0.00	0.00	0.00
116	117	45.42	0.00	0.00	0.00	0.00
117	117	45.42	0.00	0.00	0.00	0.00
117	118	48.55	0.00	0.00	0.00	0.00
118	118	48.55	0.00	0.00	0.00	0.00
118	119	51.68	0.00	0.00	0.00	0.00
119	119	51.68	0.00	0.00	0.00	0.00
119	120	54.81	0.00	0.00	0.00	0.00
120	120	54.81	0.00	0.00	0.00	0.00
120	121	57.94	0.00	0.00	0.00	0.00
121	121	57.94	0.00	0.00	0.00	0.00
121	122	61.07	0.00	0.00	0.00	0.00
122	122	61.07	0.00	0.00	0.00	0.00
122	123	64.20	0.00	0.00	0.00	0.00
123	123	64.20	0.00	0.00	0.00	0.00
123	124	67.55	0.00	0.00	0.00	0.00
124	124	67.55	0.00	0.00	0.00	0.00
124	10125	70.90	0.00	0.00	0.00	0.00
125	125	70.90	0.00	0.00	0.00	0.00
125	126	74.23	0.00	0.00	0.00	0.00
126	126	74.23	0.00	0.00	0.00	0.00
126	127	77.56	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	0.00	0.00	0.00
127	128	80.89	0.00	0.00	0.00	0.00
128	128	80.89	0.00	0.00	0.00	0.00
128	129	84.22	0.00	0.00	0.00	0.00
129	129	84.22	0.00	0.00	0.00	0.00
129	130	87.55	0.00	0.00	0.00	0.00
130	130	87.55	0.00	0.00	0.00	0.00
130	131	90.88	0.00	0.00	0.00	0.00
131	131	90.88	0.00	0.00	0.00	0.00
131	132	94.21	0.00	0.00	0.00	0.00
132	132	94.21	0.00	0.00	0.00	0.00
132	133	97.54	0.00	0.00	0.00	0.00
133	133	97.54	0.00	0.00	0.00	0.00
133	134	100.87	0.00	0.00	0.00	0.00
134	134	100.87	0.00	0.00	0.00	0.00
134	135	104.20	0.00	0.00	0.00	0.00
135	135	104.20	0.00	0.00	0.00	0.00
135	136	107.55	0.00	0.00	0.00	0.00
136	136	107.55	0.00	0.00	0.00	0.00
136	10137	110.90	0.00	0.00	0.00	0.00
137	137	110.90	0.00	0.00	0.00	0.00
137	138	113.77	0.00	0.00	0.00	0.00
138	138	113.77	0.00	0.00	0.00	0.00
138	139	116.64	0.00	0.00	0.00	0.00
139	139	116.64	0.00	0.00	0.00	0.00
139	140	119.51	0.00	0.00	0.00	0.00
140	140	119.51	0.00	0.00	0.00	0.00
140	141	122.38	0.00	0.00	0.00	0.00
141	141	122.38	0.00	0.00	0.00	0.00
141	142	125.25	0.00	0.00	0.00	0.00
142	142	125.25	0.00	0.00	0.00	0.00
142	143	128.12	0.00	0.00	0.00	0.00
143	143	128.12	0.00	0.00	0.00	0.00
143	144	130.99	0.00	0.00	0.00	0.00
144	144	130.99	0.00	0.00	0.00	0.00
144	145	133.86	0.00	0.00	0.00	0.00
145	145	133.86	0.00	0.00	0.00	0.00
145	146	136.73	0.00	0.00	0.00	0.00
146	146	136.73	0.00	0.00	0.00	0.00
146	147	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.TOT.Tinf

Pretensado Total (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [1; 1]PRETF1B.FAM2.TOT + [1; 1]PRETF1B.FAM3.TOT + [1; 1]PRETF1B.FAM4.TOT + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF1B.FAM1.TOT + [-1;-1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.TOT + [-1;-1]PRETF1B.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	2.62	0.00	0.00	0.00	0.00
2	2	2.62	0.00	0.00	0.00	0.00
2	3	5.24	0.00	0.00	0.00	0.00
3	3	5.24	0.00	0.00	0.00	0.00
3	4	7.86	0.00	0.00	0.00	0.00
4	4	7.86	0.00	0.00	0.00	0.00
4	5	10.48	0.00	0.00	0.00	0.00
5	5	10.48	0.00	0.00	0.00	0.00
5	6	13.10	0.00	0.00	0.00	0.00
6	6	13.10	0.00	0.00	0.00	0.00
6	7	15.72	0.00	0.00	0.00	0.00
7	7	15.72	0.00	0.00	0.00	0.00
7	8	18.34	0.00	0.00	0.00	0.00
8	8	18.34	0.00	0.00	0.00	0.00
8	9	20.96	0.00	0.00	0.00	0.00
9	9	20.96	0.00	0.00	0.00	0.00
9	10	23.58	0.00	0.00	0.00	0.00
10	10	23.58	0.00	0.00	0.00	0.00
10	10011	26.20	0.00	0.00	0.00	0.00
11	11	26.20	0.00	0.00	0.00	0.00
11	12	29.55	0.00	0.00	0.00	0.00
12	12	29.55	0.00	0.00	0.00	0.00
12	13	32.90	0.00	0.00	0.00	0.00
13	13	32.90	0.00	0.00	0.00	0.00
13	14	36.03	0.00	0.00	0.00	0.01
14	14	36.03	0.00	0.00	0.00	0.01
14	15	39.16	0.00	0.00	0.00	0.01
15	15	39.16	0.00	0.00	0.00	0.01
15	16	42.29	0.00	0.00	0.00	0.01
16	16	42.29	0.00	0.00	0.00	0.01
16	17	45.42	0.00	0.00	0.00	0.01
17	17	45.42	0.00	0.00	0.00	0.01
17	18	48.55	0.00	0.00	0.00	0.01
18	18	48.55	0.00	0.00	0.00	0.01
18	19	51.68	0.00	0.00	0.00	0.01
19	19	51.68	0.00	0.00	0.00	0.01
19	20	54.81	0.00	0.00	0.00	0.01
20	20	54.81	0.00	0.00	0.00	0.00
20	21	57.94	0.00	0.00	0.00	0.00
21	21	57.94	0.00	0.00	0.00	0.00
21	22	61.07	0.00	0.00	0.00	0.00
22	22	61.07	0.00	0.00	0.00	0.00
22	10023	64.20	0.00	0.01	0.00	0.00
23	23	64.20	0.00	0.01	0.00	-0.02
23	24	67.55	0.00	0.00	0.00	-0.02
24	24	67.55	0.00	0.00	0.00	-0.04
24	25	70.90	0.00	0.00	0.00	-0.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF1B.FAM1.TOT + [-1;-1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.TOT + [-1;-1]PRETF1B.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	0.00	0.00	-0.04
25	26	74.23	0.00	0.00	0.00	-0.05
26	26	74.23	0.00	0.00	0.00	-0.05
26	27	77.56	0.00	0.00	0.00	-0.06
27	27	77.56	0.00	0.00	0.00	-0.06
27	28	80.89	0.00	0.00	0.00	-0.07
28	28	80.89	0.00	0.00	0.00	-0.07
28	29	84.22	0.00	0.00	0.00	-0.08
29	29	84.22	0.00	0.00	0.00	-0.08
29	30	87.55	0.00	0.00	0.00	-0.08
30	30	87.55	0.00	0.00	0.00	-0.08
30	31	90.88	0.00	0.00	0.00	-0.07
31	31	90.88	0.00	0.00	0.00	-0.07
31	32	94.21	0.00	0.00	0.00	-0.06
32	32	94.21	0.00	-0.01	0.00	-0.06
32	33	97.54	0.00	-0.01	0.00	-0.04
33	33	97.54	0.00	-0.01	0.00	-0.04
33	34	100.87	0.00	-0.01	0.00	-0.02
34	34	100.87	0.00	-0.01	0.00	-0.02
34	10035	104.20	0.00	-0.01	0.00	0.00
35	35	104.20	0.00	-0.01	0.01	0.00
35	36	107.55	0.00	-0.01	0.01	0.03
36	36	107.55	0.00	-0.01	0.01	0.03
36	37	110.90	0.00	-0.01	0.01	0.07
37	37	110.90	0.00	-0.01	0.01	0.07
37	38	113.77	0.00	-0.01	0.01	0.10
38	38	113.77	0.00	-0.01	0.00	0.10
38	39	116.64	0.00	-0.01	0.00	0.11
39	39	116.64	0.00	0.00	0.00	0.11
39	40	119.51	0.00	0.00	0.00	0.12
40	40	119.51	0.00	0.00	0.00	0.12
40	41	122.38	0.00	0.00	0.00	0.13
41	41	122.38	0.00	0.00	0.00	0.13
41	42	125.25	0.00	0.00	0.00	0.12
42	42	125.25	0.00	0.00	0.00	0.12
42	43	128.12	0.00	0.00	0.00	0.11
43	43	128.12	0.00	0.01	0.00	0.11
43	44	130.99	0.00	0.01	0.00	0.09
44	44	130.99	0.00	0.01	-0.01	0.09
44	45	133.86	0.00	0.01	-0.01	0.06
45	45	133.86	0.00	0.01	-0.01	0.06
45	46	136.73	0.00	0.01	-0.01	0.03
46	46	136.73	0.00	0.01	-0.01	0.03
46	47	139.60	0.00	0.01	-0.01	0.00
101	101	0.00	0.00	0.00	0.00	0.00
101	102	2.62	0.00	0.00	0.00	0.00
102	102	2.62	0.00	0.00	0.00	0.00
102	103	5.24	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF1B.FAM1.TOT + [-1;-1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.TOT + [-1;-1]PRETF1B.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	0.00	0.00	0.00
103	104	7.86	0.00	0.00	0.00	0.00
104	104	7.86	0.00	0.00	0.00	0.00
104	105	10.48	0.00	0.00	0.00	0.00
105	105	10.48	0.00	0.00	0.00	0.00
105	106	13.10	0.00	0.00	0.00	0.00
106	106	13.10	0.00	0.00	0.00	0.00
106	107	15.72	0.00	0.00	0.00	0.00
107	107	15.72	0.00	0.00	0.00	0.00
107	108	18.34	0.00	0.00	0.00	0.00
108	108	18.34	0.00	0.00	0.00	0.00
108	109	20.96	0.00	0.00	0.00	0.00
109	109	20.96	0.00	0.00	0.00	0.00
109	110	23.58	0.00	0.00	0.00	0.00
110	110	23.58	0.00	0.00	0.00	0.00
110	111	26.20	0.00	0.00	0.00	0.00
111	111	26.20	0.00	0.00	0.00	0.00
111	112	29.55	0.00	0.00	0.00	0.00
112	112	29.55	0.00	0.00	0.00	0.00
112	10113	32.90	0.00	0.00	0.00	0.00
113	113	32.90	0.00	0.00	0.00	0.00
113	114	36.03	0.00	0.00	0.00	0.00
114	114	36.03	0.00	0.00	0.00	0.00
114	115	39.16	0.00	0.00	0.00	0.00
115	115	39.16	0.00	0.00	0.00	0.00
115	116	42.29	0.00	0.00	0.00	0.00
116	116	42.29	0.00	0.00	0.00	0.00
116	117	45.42	0.00	0.00	0.00	0.00
117	117	45.42	0.00	0.00	0.00	0.00
117	118	48.55	0.00	0.00	0.00	0.00
118	118	48.55	0.00	0.00	0.00	0.00
118	119	51.68	0.00	0.00	0.00	0.00
119	119	51.68	0.00	0.00	0.00	0.00
119	120	54.81	0.00	0.00	0.00	0.00
120	120	54.81	0.00	0.00	0.00	0.00
120	121	57.94	0.00	0.00	0.00	0.00
121	121	57.94	0.00	0.00	0.00	0.00
121	122	61.07	0.00	0.00	0.00	0.00
122	122	61.07	0.00	0.00	0.00	0.00
122	123	64.20	0.00	0.00	0.00	0.00
123	123	64.20	0.00	0.00	0.00	0.00
123	124	67.55	0.00	0.00	0.00	0.00
124	124	67.55	0.00	0.00	0.00	0.00
124	10125	70.90	0.00	0.00	0.00	0.00
125	125	70.90	0.00	0.00	0.00	0.00
125	126	74.23	0.00	0.00	0.00	0.00
126	126	74.23	0.00	0.00	0.00	0.00
126	127	77.56	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF1B.FAM1.TOT + [-1;-1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.TOT + [-1;-1]PRETF1B.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	0.00	0.00	0.00
127	128	80.89	0.00	0.00	0.00	0.00
128	128	80.89	0.00	0.00	0.00	0.00
128	129	84.22	0.00	0.00	0.00	0.00
129	129	84.22	0.00	0.00	0.00	0.00
129	130	87.55	0.00	0.00	0.00	0.00
130	130	87.55	0.00	0.00	0.00	0.00
130	131	90.88	0.00	0.00	0.00	0.00
131	131	90.88	0.00	0.00	0.00	0.00
131	132	94.21	0.00	0.00	0.00	0.00
132	132	94.21	0.00	0.00	0.00	0.00
132	133	97.54	0.00	0.00	0.00	0.00
133	133	97.54	0.00	0.00	0.00	0.00
133	134	100.87	0.00	0.00	0.00	0.00
134	134	100.87	0.00	0.00	0.00	0.00
134	135	104.20	0.00	0.00	0.00	0.00
135	135	104.20	0.00	0.00	0.00	0.00
135	136	107.55	0.00	0.00	0.00	0.00
136	136	107.55	0.00	0.00	0.00	0.00
136	10137	110.90	0.00	0.00	0.00	0.00
137	137	110.90	0.00	0.00	0.00	0.00
137	138	113.77	0.00	0.00	0.00	0.00
138	138	113.77	0.00	0.00	0.00	0.00
138	139	116.64	0.00	0.00	0.00	0.00
139	139	116.64	0.00	0.00	0.00	0.00
139	140	119.51	0.00	0.00	0.00	0.00
140	140	119.51	0.00	0.00	0.00	0.00
140	141	122.38	0.00	0.00	0.00	0.00
141	141	122.38	0.00	0.00	0.00	0.00
141	142	125.25	0.00	0.00	0.00	0.00
142	142	125.25	0.00	0.00	0.00	0.00
142	143	128.12	0.00	0.00	0.00	0.00
143	143	128.12	0.00	0.00	0.00	0.00
143	144	130.99	0.00	0.00	0.00	0.00
144	144	130.99	0.00	0.00	0.00	0.00
144	145	133.86	0.00	0.00	0.00	0.00
145	145	133.86	0.00	0.00	0.00	0.00
145	146	136.73	0.00	0.00	0.00	0.00
146	146	136.73	0.00	0.00	0.00	0.00
146	147	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.HIP.To

Pretensado Hiperestático (t=0)

[1, 1]PRETF1B.FAM1.TOT + [-1,-1]PRETF1B.FAM1.ISO + [1, 1]PRETF1B.FAM2.TOT + [-1,-1]PRETF1B.FAM2.ISO + [1,

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.HIP.To

Pretensado Hiperestático (t=0)

[1, 1]PRETF1B.FAM1.TOT + [-1,-1]PRETF1B.FAM1.ISO + [1, 1]PRETF1B.FAM2.TOT + [-1,-1]PRETF1B.FAM2.ISO + [1,

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [-1;-1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.TOT + [-1;-1]PRETF1B.FAM2.ISO + [1; Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	2.62	0.00	0.00	0.00	0.00
2	2	2.62	0.00	0.00	0.00	0.00
2	3	5.24	0.00	0.00	0.00	0.00
3	3	5.24	0.00	0.00	0.00	0.00
3	4	7.86	0.00	0.00	0.00	0.00
4	4	7.86	0.00	0.00	0.00	0.00
4	5	10.48	0.00	0.00	0.00	0.00
5	5	10.48	0.00	0.00	0.00	0.00
5	6	13.10	0.00	0.00	0.00	0.00
6	6	13.10	0.00	0.00	0.00	0.00
6	7	15.72	0.00	0.00	0.00	0.00
7	7	15.72	0.00	0.00	0.00	0.00
7	8	18.34	0.00	0.00	0.00	0.00
8	8	18.34	0.00	0.00	0.00	0.00
8	9	20.96	0.00	0.00	0.00	0.00
9	9	20.96	0.00	0.00	0.00	0.00
9	10	23.58	0.00	0.00	0.00	0.00
10	10	23.58	0.00	0.00	0.00	0.00
10	10011	26.20	0.00	0.00	0.00	0.00
11	11	26.20	0.00	0.00	0.00	0.00
11	12	29.55	0.00	0.00	0.00	0.00
12	12	29.55	0.00	0.00	0.00	0.00
12	13	32.90	0.00	0.00	0.00	0.00
13	13	32.90	0.00	0.00	0.00	0.00
13	14	36.03	0.00	0.00	0.00	0.01
14	14	36.03	0.00	0.00	0.00	0.01
14	15	39.16	0.00	0.00	0.00	0.01
15	15	39.16	0.00	0.00	0.00	0.01
15	16	42.29	0.00	0.00	0.00	0.01
16	16	42.29	0.00	0.00	0.00	0.01
16	17	45.42	0.00	0.00	0.00	0.01
17	17	45.42	0.00	0.00	0.00	0.01
17	18	48.55	0.00	0.00	0.00	0.01
18	18	48.55	0.00	0.00	0.00	0.01
18	19	51.68	0.00	0.00	0.00	0.01
19	19	51.68	0.00	0.00	0.00	0.01
19	20	54.81	0.00	0.00	0.00	0.01
20	20	54.81	0.00	0.00	0.00	0.01
20	21	57.94	0.00	0.00	0.00	0.00
21	21	57.94	0.00	0.00	0.00	0.00
21	22	61.07	0.00	0.00	0.00	0.00
22	22	61.07	0.00	0.00	0.00	0.00
22	10023	64.20	0.00	0.00	0.00	0.00
23	23	64.20	0.00	0.01	0.00	0.00
23	24	67.55	0.00	0.01	0.00	-0.02
24	24	67.55	0.00	0.00	0.00	-0.02
24	25	70.90	0.00	0.00	0.00	-0.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [-1;-1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.TOT + [-1;-1]PRETF1B.FAM2.ISO + [1; Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	0.00	0.00	0.00	-0.04
25	26	74.23	0.00	0.00	0.00	-0.05
26	26	74.23	0.00	0.00	0.00	-0.05
26	27	77.56	0.00	0.00	0.00	-0.06
27	27	77.56	0.00	0.00	0.00	-0.06
27	28	80.89	0.00	0.00	0.00	-0.07
28	28	80.89	0.00	0.00	0.00	-0.07
28	29	84.22	0.00	0.00	0.00	-0.08
29	29	84.22	0.00	0.00	0.00	-0.08
29	30	87.55	0.00	0.00	0.00	-0.08
30	30	87.55	0.00	0.00	0.00	-0.08
30	31	90.88	0.00	0.00	0.00	-0.07
31	31	90.88	0.00	0.00	0.00	-0.07
31	32	94.21	0.00	0.00	0.00	-0.06
32	32	94.21	0.00	-0.01	0.00	-0.06
32	33	97.54	0.00	-0.01	0.00	-0.04
33	33	97.54	0.00	-0.01	0.00	-0.04
33	34	100.87	0.00	-0.01	0.00	-0.02
34	34	100.87	0.00	-0.01	0.00	-0.02
34	10035	104.20	0.00	-0.01	0.00	0.00
35	35	104.20	0.00	-0.01	0.01	0.00
35	36	107.55	0.00	-0.01	0.01	0.03
36	36	107.55	0.00	-0.01	0.01	0.03
36	37	110.90	0.00	-0.01	0.01	0.07
37	37	110.90	0.00	-0.01	0.01	0.07
37	38	113.77	0.00	-0.01	0.01	0.10
38	38	113.77	0.00	-0.01	0.00	0.10
38	39	116.64	0.00	-0.01	0.00	0.11
39	39	116.64	0.00	0.00	0.00	0.11
39	40	119.51	0.00	0.00	0.00	0.12
40	40	119.51	0.00	0.00	0.00	0.12
40	41	122.38	0.00	0.00	0.00	0.13
41	41	122.38	0.00	0.00	0.00	0.13
41	42	125.25	0.00	0.00	0.00	0.12
42	42	125.25	0.00	0.00	0.00	0.12
42	43	128.12	0.00	0.00	0.00	0.11
43	43	128.12	0.00	0.01	0.00	0.11
43	44	130.99	0.00	0.01	0.00	0.09
44	44	130.99	0.00	0.01	-0.01	0.09
44	45	133.86	0.00	0.01	-0.01	0.06
45	45	133.86	0.00	0.01	-0.01	0.06
45	46	136.73	0.00	0.01	-0.01	0.03
46	46	136.73	0.00	0.01	-0.01	0.03
46	47	139.60	0.00	0.01	-0.01	0.00
101	101	0.00	0.00	0.00	0.00	0.00
101	102	2.62	0.00	0.00	0.00	0.00
102	102	2.62	0.00	0.00	0.00	0.00
102	103	5.24	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [-1;-1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.TOT + [-1;-1]PRETF1B.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	0.00	0.00	0.00
103	104	7.86	0.00	0.00	0.00	0.00
104	104	7.86	0.00	0.00	0.00	0.00
104	105	10.48	0.00	0.00	0.00	0.00
105	105	10.48	0.00	0.00	0.00	0.00
105	106	13.10	0.00	0.00	0.00	0.00
106	106	13.10	0.00	0.00	0.00	0.00
106	107	15.72	0.00	0.00	0.00	0.00
107	107	15.72	0.00	0.00	0.00	0.00
107	108	18.34	0.00	0.00	0.00	0.00
108	108	18.34	0.00	0.00	0.00	0.00
108	109	20.96	0.00	0.00	0.00	0.00
109	109	20.96	0.00	0.00	0.00	0.00
109	110	23.58	0.00	0.00	0.00	0.00
110	110	23.58	0.00	0.00	0.00	0.00
110	111	26.20	0.00	0.00	0.00	0.00
111	111	26.20	0.00	0.00	0.00	0.00
111	112	29.55	0.00	0.00	0.00	0.00
112	112	29.55	0.00	0.00	0.00	0.00
112	10113	32.90	0.00	0.00	0.00	0.00
113	113	32.90	0.00	0.00	0.00	0.00
113	114	36.03	0.00	0.00	0.00	0.00
114	114	36.03	0.00	0.00	0.00	0.00
114	115	39.16	0.00	0.00	0.00	0.00
115	115	39.16	0.00	0.00	0.00	0.00
115	116	42.29	0.00	0.00	0.00	0.00
116	116	42.29	0.00	0.00	0.00	0.00
116	117	45.42	0.00	0.00	0.00	0.00
117	117	45.42	0.00	0.00	0.00	0.00
117	118	48.55	0.00	0.00	0.00	0.00
118	118	48.55	0.00	0.00	0.00	0.00
118	119	51.68	0.00	0.00	0.00	0.00
119	119	51.68	0.00	0.00	0.00	0.00
119	120	54.81	0.00	0.00	0.00	0.00
120	120	54.81	0.00	0.00	0.00	0.00
120	121	57.94	0.00	0.00	0.00	0.00
121	121	57.94	0.00	0.00	0.00	0.00
121	122	61.07	0.00	0.00	0.00	0.00
122	122	61.07	0.00	0.00	0.00	0.00
122	123	64.20	0.00	0.00	0.00	0.00
123	123	64.20	0.00	0.00	0.00	0.00
123	124	67.55	0.00	0.00	0.00	0.00
124	124	67.55	0.00	0.00	0.00	0.00
124	10125	70.90	0.00	0.00	0.00	0.00
125	125	70.90	0.00	0.00	0.00	0.00
125	126	74.23	0.00	0.00	0.00	0.00
126	126	74.23	0.00	0.00	0.00	0.00
126	127	77.56	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [-1;-1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.TOT + [-1;-1]PRETF1B.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	0.00	0.00	0.00	0.00
127	128	80.89	0.00	0.00	0.00	0.00
128	128	80.89	0.00	0.00	0.00	0.00
128	129	84.22	0.00	0.00	0.00	0.00
129	129	84.22	0.00	0.00	0.00	0.00
129	130	87.55	0.00	0.00	0.00	0.00
130	130	87.55	0.00	0.00	0.00	0.00
130	131	90.88	0.00	0.00	0.00	0.00
131	131	90.88	0.00	0.00	0.00	0.00
131	132	94.21	0.00	0.00	0.00	0.00
132	132	94.21	0.00	0.00	0.00	0.00
132	133	97.54	0.00	0.00	0.00	0.00
133	133	97.54	0.00	0.00	0.00	0.00
133	134	100.87	0.00	0.00	0.00	0.00
134	134	100.87	0.00	0.00	0.00	0.00
134	135	104.20	0.00	0.00	0.00	0.00
135	135	104.20	0.00	0.00	0.00	0.00
135	136	107.55	0.00	0.00	0.00	0.00
136	136	107.55	0.00	0.00	0.00	0.00
136	10137	110.90	0.00	0.00	0.00	0.00
137	137	110.90	0.00	0.00	0.00	0.00
137	138	113.77	0.00	0.00	0.00	0.00
138	138	113.77	0.00	0.00	0.00	0.00
138	139	116.64	0.00	0.00	0.00	0.00
139	139	116.64	0.00	0.00	0.00	0.00
139	140	119.51	0.00	0.00	0.00	0.00
140	140	119.51	0.00	0.00	0.00	0.00
140	141	122.38	0.00	0.00	0.00	0.00
141	141	122.38	0.00	0.00	0.00	0.00
141	142	125.25	0.00	0.00	0.00	0.00
142	142	125.25	0.00	0.00	0.00	0.00
142	143	128.12	0.00	0.00	0.00	0.00
143	143	128.12	0.00	0.00	0.00	0.00
143	144	130.99	0.00	0.00	0.00	0.00
144	144	130.99	0.00	0.00	0.00	0.00
144	145	133.86	0.00	0.00	0.00	0.00
145	145	133.86	0.00	0.00	0.00	0.00
145	146	136.73	0.00	0.00	0.00	0.00
146	146	136.73	0.00	0.00	0.00	0.00
146	147	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [-1;-1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.TOT + [-1;-1]PRETF1B.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.HIP.Tinf

Pretensado Hiperestático (t=INF)

[1; 1]PRETF1B.FAM1.TOT + [-1;-1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.TOT + [-1;-1]PRETF1B.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-599.42	0.00	0.00	-215.36
1	2	2.62	-599.42	0.00	0.00	-215.36
2	2	2.62	-816.14	0.00	0.00	-423.84
2	3	5.24	-816.14	0.00	0.00	-423.84
3	3	5.24	-1032.86	0.00	0.00	-632.33
3	4	7.86	-1032.86	0.00	0.00	-632.33
4	4	7.86	-1032.86	0.00	0.00	-632.33
4	5	10.48	-1032.86	0.00	0.00	-632.33
5	5	10.48	-1032.86	0.00	0.00	-632.33
5	6	13.10	-1032.86	0.00	0.00	-632.33
6	6	13.10	-1032.86	0.00	0.00	-632.33
6	7	15.72	-1032.86	0.00	0.00	-632.33
7	7	15.72	-1032.86	0.00	0.00	-632.33
7	8	18.34	-1032.86	0.00	0.00	-632.33
8	8	18.34	-816.14	0.00	0.00	-423.84
8	9	20.96	-816.14	0.00	0.00	-423.84
9	9	20.96	-816.14	0.00	0.00	-423.84
9	10	23.58	-816.14	0.00	0.00	-423.84
10	10	23.58	-599.42	0.00	0.00	-215.36
10	10011	26.20	-599.42	0.00	0.00	-215.36
11	11	26.20	-599.42	0.00	0.00	-215.36
11	12	29.55	-599.42	0.00	0.00	-215.36
12	12	29.55	-1032.86	0.00	0.00	-632.33
12	13	32.90	-1032.86	0.00	0.00	-632.33
13	13	32.90	-1430.18	0.00	0.00	-995.48
13	14	36.03	-1430.18	0.00	0.00	-995.48
14	14	36.03	-1827.50	0.00	0.00	-1339.56
14	15	39.16	-1827.50	0.00	0.00	-1339.56
15	15	39.16	-1827.50	0.00	0.00	-1339.56
15	16	42.29	-1827.50	0.00	0.00	-1339.56
16	16	42.29	-1827.50	0.00	0.00	-1339.56
16	17	45.42	-1827.50	0.00	0.00	-1339.56
17	17	45.42	-1827.50	0.00	0.00	-1339.56
17	18	48.55	-1827.50	0.00	0.00	-1339.56
18	18	48.55	-1827.50	0.00	0.00	-1339.56
18	19	51.68	-1827.50	0.00	0.00	-1339.56
19	19	51.68	-1827.50	0.00	0.00	-1339.56
19	20	54.81	-1827.50	0.00	0.00	-1339.56
20	20	54.81	-1430.18	0.00	0.00	-995.48
20	21	57.94	-1430.18	0.00	0.00	-995.48
21	21	57.94	-1032.86	0.00	0.00	-632.33
21	22	61.07	-1032.86	0.00	0.00	-632.33
22	22	61.07	-599.42	0.00	0.00	-215.36
22	10023	64.20	-599.42	0.00	0.00	-215.36
23	23	64.20	-671.66	0.00	0.00	-288.32
23	24	67.55	-671.66	0.00	0.00	-288.32
24	24	67.55	-1141.22	0.00	0.00	-740.04
24	25	70.90	-1141.22	0.00	0.00	-740.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (T...)
25	25	70.90	-1646.90	0.00	0.00	-1202.23
25	26	74.23	-1646.90	0.00	0.00	-1202.23
26	26	74.23	-2152.58	0.00	0.00	-1640.15
26	27	77.56	-2152.58	0.00	0.00	-1640.15
27	27	77.56	-2152.58	0.00	0.00	-1640.15
27	28	80.89	-2152.58	0.00	0.00	-1640.15
28	28	80.89	-2152.58	0.00	0.00	-1640.15
28	29	84.22	-2152.58	0.00	0.00	-1640.15
29	29	84.22	-2152.58	0.00	0.00	-1640.15
29	30	87.55	-2152.58	0.00	0.00	-1640.15
30	30	87.55	-2152.58	0.00	0.00	-1640.15
30	31	90.88	-2152.58	0.00	0.00	-1640.15
31	31	90.88	-2152.58	0.00	0.00	-1640.15
31	32	94.21	-2152.58	0.00	0.00	-1640.15
32	32	94.21	-1646.90	0.00	0.00	-1202.23
32	33	97.54	-1646.90	0.00	0.00	-1202.23
33	33	97.54	-1141.22	0.00	0.00	-740.04
33	34	100.87	-1141.22	0.00	0.00	-740.04
34	34	100.87	-671.66	0.00	0.00	-288.32
34	10035	104.20	-671.66	0.00	0.00	-288.32
35	35	104.20	-671.66	0.00	0.00	-288.32
35	36	107.55	-671.66	0.00	0.00	-288.32
36	36	107.55	-1141.22	0.00	0.00	-740.04
36	37	110.90	-1141.22	0.00	0.00	-740.04
37	37	110.90	-1610.78	0.00	0.00	-1169.21
37	38	113.77	-1610.78	0.00	0.00	-1169.21
38	38	113.77	-2080.34	0.00	0.00	-1575.85
38	39	116.64	-2080.34	0.00	0.00	-1575.85
39	39	116.64	-2080.34	0.00	0.00	-1575.85
39	40	119.51	-2080.34	0.00	0.00	-1575.85
40	40	119.51	-2080.34	0.00	0.00	-1575.85
40	41	122.38	-2080.34	0.00	0.00	-1575.85
41	41	122.38	-2080.34	0.00	0.00	-1575.85
41	42	125.25	-2080.34	0.00	0.00	-1575.85
42	42	125.25	-2080.34	0.00	0.00	-1575.85
42	43	128.12	-2080.34	0.00	0.00	-1575.85
43	43	128.12	-2080.34	0.00	0.00	-1575.85
43	44	130.99	-2080.34	0.00	0.00	-1575.85
44	44	130.99	-1610.78	0.00	0.00	-1169.21
44	45	133.86	-1610.78	0.00	0.00	-1169.21
45	45	133.86	-1141.22	0.00	0.00	-740.04
45	46	136.73	-1141.22	0.00	0.00	-740.04
46	46	136.73	-671.66	0.00	0.00	-288.32
46	47	139.60	-671.66	0.00	0.00	-288.32
101	101	0.00	0.00	0.00	0.00	0.00
101	102	0.00	0.00	0.00	0.00	0.00
102	102	0.00	0.00	0.00	0.00	0.00
102	103	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	0.00	0.00	0.00	0.00	0.00
103	104	0.00	0.00	0.00	0.00	0.00
104	104	0.00	0.00	0.00	0.00	0.00
104	105	0.00	0.00	0.00	0.00	0.00
105	105	0.00	0.00	0.00	0.00	0.00
105	106	0.00	0.00	0.00	0.00	0.00
106	106	0.00	0.00	0.00	0.00	0.00
106	107	0.00	0.00	0.00	0.00	0.00
107	107	0.00	0.00	0.00	0.00	0.00
107	108	0.00	0.00	0.00	0.00	0.00
108	108	0.00	0.00	0.00	0.00	0.00
108	109	0.00	0.00	0.00	0.00	0.00
109	109	0.00	0.00	0.00	0.00	0.00
109	110	0.00	0.00	0.00	0.00	0.00
110	110	0.00	0.00	0.00	0.00	0.00
110	111	0.00	0.00	0.00	0.00	0.00
111	111	0.00	0.00	0.00	0.00	0.00
111	112	0.00	0.00	0.00	0.00	0.00
112	112	0.00	0.00	0.00	0.00	0.00
112	10113	0.00	0.00	0.00	0.00	0.00
113	113	0.00	0.00	0.00	0.00	0.00
113	114	0.00	0.00	0.00	0.00	0.00
114	114	0.00	0.00	0.00	0.00	0.00
114	115	0.00	0.00	0.00	0.00	0.00
115	115	0.00	0.00	0.00	0.00	0.00
115	116	0.00	0.00	0.00	0.00	0.00
116	116	0.00	0.00	0.00	0.00	0.00
116	117	0.00	0.00	0.00	0.00	0.00
117	117	0.00	0.00	0.00	0.00	0.00
117	118	0.00	0.00	0.00	0.00	0.00
118	118	0.00	0.00	0.00	0.00	0.00
118	119	0.00	0.00	0.00	0.00	0.00
119	119	0.00	0.00	0.00	0.00	0.00
119	120	0.00	0.00	0.00	0.00	0.00
120	120	0.00	0.00	0.00	0.00	0.00
120	121	0.00	0.00	0.00	0.00	0.00
121	121	0.00	0.00	0.00	0.00	0.00
121	122	0.00	0.00	0.00	0.00	0.00
122	122	0.00	0.00	0.00	0.00	0.00
122	123	0.00	0.00	0.00	0.00	0.00
123	123	0.00	0.00	0.00	0.00	0.00
123	124	0.00	0.00	0.00	0.00	0.00
124	124	0.00	0.00	0.00	0.00	0.00
124	10125	0.00	0.00	0.00	0.00	0.00
125	125	0.00	0.00	0.00	0.00	0.00
125	126	0.00	0.00	0.00	0.00	0.00
126	126	0.00	0.00	0.00	0.00	0.00
126	127	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	0.00	0.00	0.00	0.00	0.00
127	128	0.00	0.00	0.00	0.00	0.00
128	128	0.00	0.00	0.00	0.00	0.00
128	129	0.00	0.00	0.00	0.00	0.00
129	129	0.00	0.00	0.00	0.00	0.00
129	130	0.00	0.00	0.00	0.00	0.00
130	130	0.00	0.00	0.00	0.00	0.00
130	131	0.00	0.00	0.00	0.00	0.00
131	131	0.00	0.00	0.00	0.00	0.00
131	132	0.00	0.00	0.00	0.00	0.00
132	132	0.00	0.00	0.00	0.00	0.00
132	133	0.00	0.00	0.00	0.00	0.00
133	133	0.00	0.00	0.00	0.00	0.00
133	134	0.00	0.00	0.00	0.00	0.00
134	134	0.00	0.00	0.00	0.00	0.00
134	135	0.00	0.00	0.00	0.00	0.00
135	135	0.00	0.00	0.00	0.00	0.00
135	136	0.00	0.00	0.00	0.00	0.00
136	136	0.00	0.00	0.00	0.00	0.00
136	10137	0.00	0.00	0.00	0.00	0.00
137	137	0.00	0.00	0.00	0.00	0.00
137	138	0.00	0.00	0.00	0.00	0.00
138	138	0.00	0.00	0.00	0.00	0.00
138	139	0.00	0.00	0.00	0.00	0.00
139	139	0.00	0.00	0.00	0.00	0.00
139	140	0.00	0.00	0.00	0.00	0.00
140	140	0.00	0.00	0.00	0.00	0.00
140	141	0.00	0.00	0.00	0.00	0.00
141	141	0.00	0.00	0.00	0.00	0.00
141	142	0.00	0.00	0.00	0.00	0.00
142	142	0.00	0.00	0.00	0.00	0.00
142	143	0.00	0.00	0.00	0.00	0.00
143	143	0.00	0.00	0.00	0.00	0.00
143	144	0.00	0.00	0.00	0.00	0.00
144	144	0.00	0.00	0.00	0.00	0.00
144	145	0.00	0.00	0.00	0.00	0.00
145	145	0.00	0.00	0.00	0.00	0.00
145	146	0.00	0.00	0.00	0.00	0.00
146	146	0.00	0.00	0.00	0.00	0.00
146	147	0.00	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF1B.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.ISO.Tinf

Pretensado Isostático (t=INF)

[1; 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-599.42	0.00	0.00	-215.36
1	2	2.62	-599.42	0.00	0.00	-215.36
2	2	2.62	-816.14	0.00	0.00	-423.84
2	3	5.24	-816.14	0.00	0.00	-423.84
3	3	5.24	-1032.86	0.00	0.00	-632.33
3	4	7.86	-1032.86	0.00	0.00	-632.33
4	4	7.86	-1032.86	0.00	0.00	-632.33
4	5	10.48	-1032.86	0.00	0.00	-632.33
5	5	10.48	-1032.86	0.00	0.00	-632.33
5	6	13.10	-1032.86	0.00	0.00	-632.33
6	6	13.10	-1032.86	0.00	0.00	-632.33
6	7	15.72	-1032.86	0.00	0.00	-632.33
7	7	15.72	-1032.86	0.00	0.00	-632.33
7	8	18.34	-1032.86	0.00	0.00	-632.33
8	8	18.34	-816.14	0.00	0.00	-423.84
8	9	20.96	-816.14	0.00	0.00	-423.84
9	9	20.96	-816.14	0.00	0.00	-423.84
9	10	23.58	-816.14	0.00	0.00	-423.84
10	10	23.58	-599.42	0.00	0.00	-215.36
10	10011	26.20	-599.42	0.00	0.00	-215.36
11	11	26.20	-599.42	0.00	0.00	-215.36
11	12	29.55	-599.42	0.00	0.00	-215.36
12	12	29.55	-1032.86	0.00	0.00	-632.33
12	13	32.90	-1032.86	0.00	0.00	-632.33
13	13	32.90	-1430.18	0.00	0.00	-995.48
13	14	36.03	-1430.18	0.00	0.00	-995.48
14	14	36.03	-1827.50	0.00	0.00	-1339.56
14	15	39.16	-1827.50	0.00	0.00	-1339.56
15	15	39.16	-1827.50	0.00	0.00	-1339.56
15	16	42.29	-1827.50	0.00	0.00	-1339.56
16	16	42.29	-1827.50	0.00	0.00	-1339.56
16	17	45.42	-1827.50	0.00	0.00	-1339.56
17	17	45.42	-1827.50	0.00	0.00	-1339.56
17	18	48.55	-1827.50	0.00	0.00	-1339.56
18	18	48.55	-1827.50	0.00	0.00	-1339.56
18	19	51.68	-1827.50	0.00	0.00	-1339.56
19	19	51.68	-1827.50	0.00	0.00	-1339.56
19	20	54.81	-1827.50	0.00	0.00	-1339.56
20	20	54.81	-1430.18	0.00	0.00	-995.48
20	21	57.94	-1430.18	0.00	0.00	-995.48
21	21	57.94	-1032.86	0.00	0.00	-632.33
21	22	61.07	-1032.86	0.00	0.00	-632.33
22	22	61.07	-599.42	0.00	0.00	-215.36
22	10023	64.20	-599.42	0.00	0.00	-215.36
23	23	64.20	-671.66	0.00	0.00	-288.32
23	24	67.55	-671.66	0.00	0.00	-288.32
24	24	67.55	-1141.22	0.00	0.00	-740.04
24	25	70.90	-1141.22	0.00	0.00	-740.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.ISO.Tinf

Pretensado Isostático (t=INF)

[1; 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-1646.90	0.00	0.00	-1202.23
25	26	74.23	-1646.90	0.00	0.00	-1202.23
26	26	74.23	-2152.58	0.00	0.00	-1640.15
26	27	77.56	-2152.58	0.00	0.00	-1640.15
27	27	77.56	-2152.58	0.00	0.00	-1640.15
27	28	80.89	-2152.58	0.00	0.00	-1640.15
28	28	80.89	-2152.58	0.00	0.00	-1640.15
28	29	84.22	-2152.58	0.00	0.00	-1640.15
29	29	84.22	-2152.58	0.00	0.00	-1640.15
29	30	87.55	-2152.58	0.00	0.00	-1640.15
30	30	87.55	-2152.58	0.00	0.00	-1640.15
30	31	90.88	-2152.58	0.00	0.00	-1640.15
31	31	90.88	-2152.58	0.00	0.00	-1640.15
31	32	94.21	-2152.58	0.00	0.00	-1640.15
32	32	94.21	-1646.90	0.00	0.00	-1202.23
32	33	97.54	-1646.90	0.00	0.00	-1202.23
33	33	97.54	-1141.22	0.00	0.00	-740.04
33	34	100.87	-1141.22	0.00	0.00	-740.04
34	34	100.87	-671.66	0.00	0.00	-288.32
34	10035	104.20	-671.66	0.00	0.00	-288.32
35	35	104.20	-671.66	0.00	0.00	-288.32
35	36	107.55	-671.66	0.00	0.00	-288.32
36	36	107.55	-1141.22	0.00	0.00	-740.04
36	37	110.90	-1141.22	0.00	0.00	-740.04
37	37	110.90	-1610.78	0.00	0.00	-1169.21
37	38	113.77	-1610.78	0.00	0.00	-1169.21
38	38	113.77	-2080.34	0.00	0.00	-1575.85
38	39	116.64	-2080.34	0.00	0.00	-1575.85
39	39	116.64	-2080.34	0.00	0.00	-1575.85
39	40	119.51	-2080.34	0.00	0.00	-1575.85
40	40	119.51	-2080.34	0.00	0.00	-1575.85
40	41	122.38	-2080.34	0.00	0.00	-1575.85
41	41	122.38	-2080.34	0.00	0.00	-1575.85
41	42	125.25	-2080.34	0.00	0.00	-1575.85
42	42	125.25	-2080.34	0.00	0.00	-1575.85
42	43	128.12	-2080.34	0.00	0.00	-1575.85
43	43	128.12	-2080.34	0.00	0.00	-1575.85
43	44	130.99	-2080.34	0.00	0.00	-1575.85
44	44	130.99	-1610.78	0.00	0.00	-1169.21
44	45	133.86	-1610.78	0.00	0.00	-1169.21
45	45	133.86	-1141.22	0.00	0.00	-740.04
45	46	136.73	-1141.22	0.00	0.00	-740.04
46	46	136.73	-671.66	0.00	0.00	-288.32
46	47	139.60	-671.66	0.00	0.00	-288.32
101	101	0.00	0.00	0.00	0.00	0.00
101	102	0.00	0.00	0.00	0.00	0.00
102	102	0.00	0.00	0.00	0.00	0.00
102	103	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.ISO.Tinf

Pretensado Isostático (t=INF)

[1; 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	0.00	0.00	0.00	0.00	0.00
103	104	0.00	0.00	0.00	0.00	0.00
104	104	0.00	0.00	0.00	0.00	0.00
104	105	0.00	0.00	0.00	0.00	0.00
105	105	0.00	0.00	0.00	0.00	0.00
105	106	0.00	0.00	0.00	0.00	0.00
106	106	0.00	0.00	0.00	0.00	0.00
106	107	0.00	0.00	0.00	0.00	0.00
107	107	0.00	0.00	0.00	0.00	0.00
107	108	0.00	0.00	0.00	0.00	0.00
108	108	0.00	0.00	0.00	0.00	0.00
108	109	0.00	0.00	0.00	0.00	0.00
109	109	0.00	0.00	0.00	0.00	0.00
109	110	0.00	0.00	0.00	0.00	0.00
110	110	0.00	0.00	0.00	0.00	0.00
110	111	0.00	0.00	0.00	0.00	0.00
111	111	0.00	0.00	0.00	0.00	0.00
111	112	0.00	0.00	0.00	0.00	0.00
112	112	0.00	0.00	0.00	0.00	0.00
112	10113	0.00	0.00	0.00	0.00	0.00
113	113	0.00	0.00	0.00	0.00	0.00
113	114	0.00	0.00	0.00	0.00	0.00
114	114	0.00	0.00	0.00	0.00	0.00
114	115	0.00	0.00	0.00	0.00	0.00
115	115	0.00	0.00	0.00	0.00	0.00
115	116	0.00	0.00	0.00	0.00	0.00
116	116	0.00	0.00	0.00	0.00	0.00
116	117	0.00	0.00	0.00	0.00	0.00
117	117	0.00	0.00	0.00	0.00	0.00
117	118	0.00	0.00	0.00	0.00	0.00
118	118	0.00	0.00	0.00	0.00	0.00
118	119	0.00	0.00	0.00	0.00	0.00
119	119	0.00	0.00	0.00	0.00	0.00
119	120	0.00	0.00	0.00	0.00	0.00
120	120	0.00	0.00	0.00	0.00	0.00
120	121	0.00	0.00	0.00	0.00	0.00
121	121	0.00	0.00	0.00	0.00	0.00
121	122	0.00	0.00	0.00	0.00	0.00
122	122	0.00	0.00	0.00	0.00	0.00
122	123	0.00	0.00	0.00	0.00	0.00
123	123	0.00	0.00	0.00	0.00	0.00
123	124	0.00	0.00	0.00	0.00	0.00
124	124	0.00	0.00	0.00	0.00	0.00
124	10125	0.00	0.00	0.00	0.00	0.00
125	125	0.00	0.00	0.00	0.00	0.00
125	126	0.00	0.00	0.00	0.00	0.00
126	126	0.00	0.00	0.00	0.00	0.00
126	127	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.ISO.Tinf

Pretensado Isostático (t=INF)

[1; 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	0.00	0.00	0.00	0.00	0.00
127	128	0.00	0.00	0.00	0.00	0.00
128	128	0.00	0.00	0.00	0.00	0.00
128	129	0.00	0.00	0.00	0.00	0.00
129	129	0.00	0.00	0.00	0.00	0.00
129	130	0.00	0.00	0.00	0.00	0.00
130	130	0.00	0.00	0.00	0.00	0.00
130	131	0.00	0.00	0.00	0.00	0.00
131	131	0.00	0.00	0.00	0.00	0.00
131	132	0.00	0.00	0.00	0.00	0.00
132	132	0.00	0.00	0.00	0.00	0.00
132	133	0.00	0.00	0.00	0.00	0.00
133	133	0.00	0.00	0.00	0.00	0.00
133	134	0.00	0.00	0.00	0.00	0.00
134	134	0.00	0.00	0.00	0.00	0.00
134	135	0.00	0.00	0.00	0.00	0.00
135	135	0.00	0.00	0.00	0.00	0.00
135	136	0.00	0.00	0.00	0.00	0.00
136	136	0.00	0.00	0.00	0.00	0.00
136	10137	0.00	0.00	0.00	0.00	0.00
137	137	0.00	0.00	0.00	0.00	0.00
137	138	0.00	0.00	0.00	0.00	0.00
138	138	0.00	0.00	0.00	0.00	0.00
138	139	0.00	0.00	0.00	0.00	0.00
139	139	0.00	0.00	0.00	0.00	0.00
139	140	0.00	0.00	0.00	0.00	0.00
140	140	0.00	0.00	0.00	0.00	0.00
140	141	0.00	0.00	0.00	0.00	0.00
141	141	0.00	0.00	0.00	0.00	0.00
141	142	0.00	0.00	0.00	0.00	0.00
142	142	0.00	0.00	0.00	0.00	0.00
142	143	0.00	0.00	0.00	0.00	0.00
143	143	0.00	0.00	0.00	0.00	0.00
143	144	0.00	0.00	0.00	0.00	0.00
144	144	0.00	0.00	0.00	0.00	0.00
144	145	0.00	0.00	0.00	0.00	0.00
145	145	0.00	0.00	0.00	0.00	0.00
145	146	0.00	0.00	0.00	0.00	0.00
146	146	0.00	0.00	0.00	0.00	0.00
146	147	0.00	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.ISO.Tinf

Pretensado Isostático (t=INF)

[1; 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF1B.ISO.Tinf

Pretensado Isostático (t=INF)

[1, 1]PRETF1B.FAM1.ISO + [1; 1]PRETF1B.FAM2.ISO + [1; 1]PRETF1B.FAM3.ISO + [1; 1]PRETF1B.FAM4.ISO + [1; 1

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

EJEMPLO DE PRETENSADO EN FASE 2

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3C.FAM1.TOT + [1; 1]PRETF3C.FAM2.TOT + [1; 1]PRETF3C.FAM3.TOT + [1; 1]PRETF3C.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-0.03	-0.01	0.00
1	2	2.62	0.00	-0.03	-0.01	0.08
2	2	2.62	0.00	-0.03	-0.01	0.08
2	3	5.24	0.00	-0.03	-0.01	0.17
3	3	5.24	0.00	-0.03	-0.01	0.17
3	4	7.86	0.00	-0.03	-0.01	0.25
4	4	7.86	0.00	-0.03	-0.01	0.25
4	5	10.48	0.00	-0.03	-0.01	0.33
5	5	10.48	0.00	-0.03	-0.01	0.33
5	6	13.10	0.00	-0.03	-0.01	0.42
6	6	13.10	0.00	-0.03	-0.01	0.42
6	7	15.72	0.00	-0.03	-0.01	0.50
7	7	15.72	0.00	-0.03	-0.01	0.50
7	8	18.34	0.00	-0.03	-0.01	0.59
8	8	18.34	0.00	-0.03	-0.01	0.59
8	9	20.96	0.00	-0.03	-0.01	0.67
9	9	20.96	0.00	-0.03	-0.01	0.67
9	10	23.58	0.00	-0.03	-0.01	0.75
10	10	23.58	-75.51	-3.84	12.07	3.05
10	10011	26.20	-75.51	-3.84	12.07	13.11
11	11	26.20	-155.83	1.37	-4.36	15.27
11	12	29.55	-155.83	1.37	-4.36	10.68
12	12	29.55	-191.09	1.78	-5.61	11.37
12	13	32.90	-191.09	1.78	-5.61	5.40
13	13	32.90	-175.66	1.94	-6.14	4.51
13	14	36.03	-175.66	1.94	-6.14	-1.55
14	14	36.03	-107.94	-0.02	-0.02	-3.81
14	15	39.16	-107.94	-0.02	-0.02	-3.76
15	15	39.16	-107.94	-0.02	-0.02	-3.76
15	16	42.29	-107.94	-0.02	-0.02	-3.70
16	16	42.29	-107.94	-0.02	-0.02	-3.70
16	17	45.42	-107.94	-0.02	-0.02	-3.65
17	17	45.42	-107.94	-0.02	-0.02	-3.65
17	18	48.55	-107.94	-0.02	-0.02	-3.60
18	18	48.55	-107.94	-0.02	-0.02	-3.60
18	19	51.68	-107.94	-0.02	-0.02	-3.54
19	19	51.68	-107.94	-0.02	-0.02	-3.54
19	20	54.81	-107.94	-0.02	-0.02	-3.49
20	20	54.81	-107.94	-0.02	-0.02	-3.49
20	21	57.94	-107.94	-0.02	-0.02	-3.43
21	21	57.94	-107.94	-0.02	-0.02	-3.43
21	22	61.07	-107.94	-0.02	-0.02	-3.38
22	22	61.07	-182.43	-9.06	28.76	0.63
22	10023	64.20	-182.43	-9.06	28.76	28.99
23	23	64.20	-243.42	3.15	-6.81	32.45
23	24	67.55	-243.42	3.15	-6.81	21.91
24	24	67.55	-251.18	2.37	-4.21	23.58
24	25	70.90	-251.18	2.37	-4.21	15.66

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3C.FAM1.TOT + [1; 1]PRETF3C.FAM2.TOT + [1; 1]PRETF3C.FAM3.TOT + [1; 1]PRETF3C.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-215.12	2.46	-4.55	15.50
25	26	74.23	-215.12	2.46	-4.55	7.31
26	26	74.23	-103.55	1.01	-0.03	5.31
26	27	77.56	-103.55	1.01	-0.03	1.94
27	27	77.56	-103.55	1.01	-0.03	1.94
27	28	80.89	-103.55	1.01	-0.03	-1.43
28	28	80.89	-103.55	1.01	-0.03	-1.43
28	29	84.22	-103.55	1.01	-0.03	-4.80
29	29	84.22	-103.55	1.01	-0.03	-4.80
29	30	87.55	-103.55	1.01	-0.03	-8.17
30	30	87.55	-103.55	1.01	-0.03	-8.17
30	31	90.88	-103.55	1.01	-0.03	-11.54
31	31	90.88	-103.55	1.01	-0.03	-11.54
31	32	94.21	-103.55	1.01	-0.03	-14.91
32	32	94.21	-103.55	1.01	-0.03	-14.91
32	33	97.54	-103.55	1.01	-0.03	-18.28
33	33	97.54	-103.55	1.01	-0.03	-18.28
33	34	100.87	-103.55	1.01	-0.03	-21.65
34	34	100.87	-154.56	-10.40	36.32	-17.26
34	10035	104.20	-154.56	-10.40	36.32	17.37
35	35	104.20	-169.90	2.48	-6.86	20.85
35	36	107.55	-169.90	2.48	-6.86	12.55
36	36	107.55	-159.43	0.96	-1.91	14.30
36	37	110.90	-159.43	0.96	-1.91	11.09
37	37	110.90	-108.30	0.75	-1.28	11.49
37	38	113.77	-108.30	0.75	-1.28	9.34
38	38	113.77	0.00	0.33	0.01	8.58
38	39	116.64	0.00	0.33	0.01	7.62
39	39	116.64	0.00	0.33	0.01	7.62
39	40	119.51	0.00	0.33	0.01	6.67
40	40	119.51	0.00	0.33	0.01	6.67
40	41	122.38	0.00	0.33	0.01	5.72
41	41	122.38	0.00	0.33	0.01	5.72
41	42	125.25	0.00	0.33	0.01	4.77
42	42	125.25	0.00	0.33	0.01	4.77
42	43	128.12	0.00	0.33	0.01	3.81
43	43	128.12	0.00	0.33	0.01	3.81
43	44	130.99	0.00	0.33	0.01	2.86
44	44	130.99	0.00	0.33	0.01	2.86
44	45	133.86	0.00	0.33	0.01	1.91
45	45	133.86	0.00	0.33	0.01	1.91
45	46	136.73	0.00	0.33	0.01	0.95
46	46	136.73	0.00	0.33	0.01	0.95
46	47	139.60	0.00	0.33	0.01	0.00
101	101	0.00	0.00	13.84	-0.05	0.00
101	102	2.62	0.00	13.84	-0.05	-36.25
102	102	2.62	0.00	13.84	-0.05	-36.25
102	103	5.24	0.00	13.84	-0.05	-72.50

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3C.FAM1.TOT + [1; 1]PRETF3C.FAM2.TOT + [1; 1]PRETF3C.FAM3.TOT + [1; 1]PRETF3C.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	13.84	-0.05	-72.50
103	104	7.86	0.00	13.84	-0.05	-108.75
104	104	7.86	0.00	13.84	-0.05	-108.75
104	105	10.48	0.00	13.84	-0.05	-145.00
105	105	10.48	0.00	13.84	-0.05	-145.00
105	106	13.10	0.00	13.84	-0.05	-181.25
106	106	13.10	0.00	13.84	-0.05	-181.25
106	107	15.72	0.00	13.84	-0.05	-217.50
107	107	15.72	0.00	13.84	-0.05	-217.50
107	108	18.34	0.00	13.84	-0.05	-253.75
108	108	18.34	0.00	13.84	-0.05	-253.75
108	109	20.96	0.00	13.84	-0.05	-290.00
109	109	20.96	0.00	13.84	-0.05	-290.00
109	110	23.58	0.00	13.84	-0.05	-326.25
110	110	23.58	-927.03	17.64	11.85	458.45
110	111	26.20	-930.65	17.64	11.85	415.06
111	111	26.20	-1791.45	19.28	16.91	1151.69
111	112	29.55	-1800.04	19.28	16.91	1093.83
112	112	29.55	-1764.78	18.87	15.57	1093.14
112	10113	32.90	-1713.78	18.87	15.57	989.89
113	113	32.90	-1729.21	-9.82	-6.33	990.78
113	114	36.03	-1790.62	-9.82	-6.33	1069.71
114	114	36.03	-1858.34	-7.86	-0.14	1071.98
114	115	39.16	-1850.32	-7.86	-0.14	1090.29
115	115	39.16	-774.06	-7.86	-0.14	245.42
115	116	42.29	-770.28	-7.86	-0.14	267.07
116	116	42.29	107.94	-7.86	-0.14	-422.34
116	117	45.42	107.94	-7.86	-0.14	-397.73
117	117	45.42	107.94	-7.86	-0.14	-397.73
117	118	48.55	107.94	-7.86	-0.14	-373.12
118	118	48.55	107.94	-7.86	-0.14	-373.12
118	119	51.68	107.94	-7.86	-0.14	-348.51
119	119	51.68	107.94	-7.86	-0.14	-348.51
119	120	54.81	107.94	-7.86	-0.14	-323.90
120	120	54.81	107.94	-7.86	-0.14	-323.90
120	121	57.94	107.94	-7.86	-0.14	-299.29
121	121	57.94	107.94	-7.86	-0.14	-299.29
121	122	61.07	107.94	-7.86	-0.14	-274.68
122	122	61.07	-823.71	1.18	28.05	511.12
122	123	64.20	-828.03	1.18	28.05	510.82
123	123	64.20	-1707.45	5.53	41.46	1245.59
123	124	67.55	-1716.03	5.53	41.46	1233.79
124	124	67.55	-1708.27	6.31	43.78	1232.11
124	10125	70.90	-1660.27	6.31	43.78	1173.28
125	125	70.90	-1696.33	-0.53	-4.78	1173.44
125	126	74.23	-1752.25	-0.53	-4.78	1219.12
126	126	74.23	-1863.82	0.91	-0.18	1221.11
126	127	77.56	-1855.30	0.91	-0.18	1211.38

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3C.FAM1.TOT + [1; 1]PRETF3C.FAM2.TOT + [1; 1]PRETF3C.FAM3.TOT + [1; 1]PRETF3C.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-780.27	0.91	-0.18	367.48
127	128	80.89	-776.25	0.91	-0.18	361.28
128	128	80.89	103.55	0.91	-0.18	-329.36
128	129	84.22	103.55	0.91	-0.18	-332.40
129	129	84.22	103.55	0.91	-0.18	-332.40
129	130	87.55	103.55	0.91	-0.18	-335.45
130	130	87.55	103.55	0.91	-0.18	-335.45
130	131	90.88	103.55	0.91	-0.18	-338.49
131	131	90.88	103.55	0.91	-0.18	-338.49
131	132	94.21	103.55	0.91	-0.18	-341.53
132	132	94.21	103.55	0.91	-0.18	-341.53
132	133	97.54	103.55	0.91	-0.18	-344.57
133	133	97.54	103.55	0.91	-0.18	-344.57
133	134	100.87	103.55	0.91	-0.18	-347.61
134	134	100.87	-853.86	12.33	35.38	439.61
134	135	104.20	-858.46	12.33	35.38	402.17
135	135	104.20	-1765.28	17.73	52.04	1138.20
135	136	107.55	-1773.87	17.73	52.04	1085.54
136	136	107.55	-1784.34	19.25	56.67	1083.78
136	10137	110.90	-1725.33	19.25	56.67	972.96
137	137	110.90	-1796.35	-18.56	-1.34	972.56
137	138	113.77	-1850.61	-18.56	-1.34	1068.41
138	138	113.77	-1958.90	-18.14	0.00	1069.17
138	139	116.64	-1951.55	-18.14	0.00	1115.47
139	139	116.64	-875.54	-18.14	0.00	270.80
139	140	119.51	-872.08	-18.14	0.00	320.14
140	140	119.51	0.00	-18.14	0.00	-364.44
140	141	122.38	0.00	-18.14	0.00	-312.37
141	141	122.38	0.00	-18.14	0.00	-312.37
141	142	125.25	0.00	-18.14	0.00	-260.31
142	142	125.25	0.00	-18.14	0.00	-260.31
142	143	128.12	0.00	-18.14	0.00	-208.25
143	143	128.12	0.00	-18.14	0.00	-208.25
143	144	130.99	0.00	-18.14	0.00	-156.18
144	144	130.99	0.00	-18.14	0.00	-156.18
144	145	133.86	0.00	-18.14	0.00	-104.12
145	145	133.86	0.00	-18.14	0.00	-104.12
145	146	136.73	0.00	-18.14	0.00	-52.06
146	146	136.73	0.00	-18.14	0.00	-52.06
146	147	139.60	0.00	-18.14	0.00	0.00
301	101	0.00	0.00	0.00	0.00	0.00
301	2001	0.00	0.00	0.00	0.00	0.00
302	102	2.62	0.00	0.00	0.00	0.00
302	2002	2.62	0.00	0.00	0.00	0.00
303	103	5.24	0.00	0.00	0.00	0.00
303	2003	5.24	0.00	0.00	0.00	0.00
304	104	7.86	0.00	0.00	0.00	0.00
304	2004	7.86	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3C.FAM1.TOT + [1; 1]PRETF3C.FAM2.TOT + [1; 1]PRETF3C.FAM3.TOT + [1; 1]PRETF3C.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.00	0.00	0.00
329	2029	84.22	0.00	0.00	0.00	0.00
330	130	87.55	0.00	0.00	0.00	0.00
330	2030	87.55	0.00	0.00	0.00	0.00
331	131	90.88	0.00	0.00	0.00	0.00
331	2031	90.88	0.00	0.00	0.00	0.00
332	132	94.21	0.00	0.00	0.00	0.00
332	2032	94.21	0.00	0.00	0.00	0.00
333	133	97.54	0.00	0.00	0.00	0.00
333	2033	97.54	0.00	0.00	0.00	0.00
334	134	100.87	-4.80	-11.41	-4.39	-35.56
334	2034	100.87	-4.80	-11.41	-4.39	-26.93
335	135	104.20	-2.84	-5.41	-3.48	-16.66
335	2035	104.20	-2.84	-5.41	-3.48	-12.57
336	136	107.55	-5.21	-1.52	-1.76	-4.63
336	2036	107.55	-5.21	-1.52	-1.76	-3.48
337	137	110.90	-1.59	-0.21	-0.40	-0.69
337	2037	110.90	-1.59	-0.21	-0.40	-0.53
338	138	113.77	18.94	-0.42	0.76	-1.34
338	2038	113.77	18.94	-0.42	0.76	-1.03
339	139	116.64	0.00	0.00	0.00	0.00
339	2039	116.64	0.00	0.00	0.00	0.00
340	140	119.51	0.00	0.00	0.00	0.00
340	2040	119.51	0.00	0.00	0.00	0.00
341	141	122.38	0.00	0.00	0.00	0.00
341	2041	122.38	0.00	0.00	0.00	0.00
342	142	125.25	0.00	0.00	0.00	0.00
342	2042	125.25	0.00	0.00	0.00	0.00
343	143	128.12	0.00	0.00	0.00	0.00
343	2043	128.12	0.00	0.00	0.00	0.00
344	144	130.99	0.00	0.00	0.00	0.00
344	2044	130.99	0.00	0.00	0.00	0.00
345	145	133.86	0.00	0.00	0.00	0.00
345	2045	133.86	0.00	0.00	0.00	0.00
346	146	136.73	0.00	0.00	0.00	0.00
346	2046	136.73	0.00	0.00	0.00	0.00
347	147	139.60	0.00	0.00	0.00	0.00
347	2047	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00

~cpret3.esv
Programa DINTEL IDEAM S.A.
PRETF3C.TOT.To
28/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3C.FAM1.TOT + [1; 1]PRETF3C.FAM2.TOT + [1; 1]PRETF3C.FAM3.TOT + [1; 1]PRETF3C.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.00	0.00	0.00
329	2029	84.22	0.00	0.00	0.00	0.00
330	130	87.55	0.00	0.00	0.00	0.00
330	2030	87.55	0.00	0.00	0.00	0.00
331	131	90.88	0.00	0.00	0.00	0.00
331	2031	90.88	0.00	0.00	0.00	0.00
332	132	94.21	0.00	0.00	0.00	0.00
332	2032	94.21	0.00	0.00	0.00	0.00
333	133	97.54	0.00	0.00	0.00	0.00
333	2033	97.54	0.00	0.00	0.00	0.00
334	134	100.87	-4.80	-11.41	-4.39	-35.56
334	2034	100.87	-4.80	-11.41	-4.39	-26.93
335	135	104.20	-2.84	-5.41	-3.48	-16.66
335	2035	104.20	-2.84	-5.41	-3.48	-12.57
336	136	107.55	-5.21	-1.52	-1.76	-4.63
336	2036	107.55	-5.21	-1.52	-1.76	-3.48
337	137	110.90	-1.59	-0.21	-0.40	-0.69
337	2037	110.90	-1.59	-0.21	-0.40	-0.53
338	138	113.77	18.94	-0.42	0.76	-1.34
338	2038	113.77	18.94	-0.42	0.76	-1.03
339	139	116.64	0.00	0.00	0.00	0.00
339	2039	116.64	0.00	0.00	0.00	0.00
340	140	119.51	0.00	0.00	0.00	0.00
340	2040	119.51	0.00	0.00	0.00	0.00
341	141	122.38	0.00	0.00	0.00	0.00
341	2041	122.38	0.00	0.00	0.00	0.00
342	142	125.25	0.00	0.00	0.00	0.00
342	2042	125.25	0.00	0.00	0.00	0.00
343	143	128.12	0.00	0.00	0.00	0.00
343	2043	128.12	0.00	0.00	0.00	0.00
344	144	130.99	0.00	0.00	0.00	0.00
344	2044	130.99	0.00	0.00	0.00	0.00
345	145	133.86	0.00	0.00	0.00	0.00
345	2045	133.86	0.00	0.00	0.00	0.00
346	146	136.73	0.00	0.00	0.00	0.00
346	2046	136.73	0.00	0.00	0.00	0.00
347	147	139.60	0.00	0.00	0.00	0.00
347	2047	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3C.FAM1.TOT + [1; 1]PRETF3C.FAM2.TOT + [1; 1]PRETF3C.FAM3.TOT + [1; 1]PRETF3C.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	23.58	23.85	-3.81	-2.30	-9.02
210	1010	23.58	23.85	-3.81	-2.30	9.21
211	2011	26.20	-1.24	-1.64	-2.16	-3.82
211	1011	26.20	-1.24	-1.64	-2.16	4.03
212	2012	29.55	-11.48	0.41	-0.69	1.02
212	1012	29.55	-11.48	0.41	-0.69	-0.94
213	2013	32.90	-6.83	0.16	0.89	0.34
213	1013	32.90	-6.83	0.16	0.89	-0.41
214	2014	36.03	4.07	-1.95	2.26	-4.71
214	1014	36.03	4.07	-1.95	2.26	4.65
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	61.07	-3.98	-9.04	-4.01	-21.36
222	1022	61.07	-3.98	-9.04	-4.01	21.94
223	2023	64.20	-5.67	-4.35	-3.45	-10.12
223	1023	64.20	-5.67	-4.35	-3.45	10.73
224	2024	67.55	-3.64	-0.78	-1.68	-1.73
224	1024	67.55	-3.64	-0.78	-1.68	2.01
225	2025	70.90	-0.82	0.09	0.16	0.19
225	1025	70.90	-0.82	0.09	0.16	-0.27
226	2026	74.23	1.22	-1.45	2.00	-3.51
226	1026	74.23	1.22	-1.45	2.00	3.43
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3C.FAM1.TOT + [1; 1]PRETF3C.FAM2.TOT + [1; 1]PRETF3C.FAM3.TOT + [1; 1]PRETF3C.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	100.87	-4.80	-11.41	-4.39	-26.93
234	1034	100.87	-4.80	-11.41	-4.39	27.72
235	2035	104.20	-2.84	-5.41	-3.48	-12.57
235	1035	104.20	-2.84	-5.41	-3.48	13.32
236	2036	107.55	-5.21	-1.52	-1.76	-3.48
236	1036	107.55	-5.21	-1.52	-1.76	3.80
237	2037	110.90	-1.59	-0.21	-0.40	-0.53
237	1037	110.90	-1.59	-0.21	-0.40	0.47
238	2038	113.77	18.94	-0.42	0.76	-1.03
238	1038	113.77	18.94	-0.42	0.76	0.97
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00
401	1001	0.00	0.00	0.00	0.00	0.00
401	1	0.00	0.00	0.00	0.00	0.00
402	1002	2.62	0.00	0.00	0.00	0.00
402	2	2.62	0.00	0.00	0.00	0.00
403	1003	5.24	0.00	0.00	0.00	0.00
403	3	5.24	0.00	0.00	0.00	0.00
404	1004	7.86	0.00	0.00	0.00	0.00
404	4	7.86	0.00	0.00	0.00	0.00
405	1005	10.48	0.00	0.00	0.00	0.00
405	5	10.48	0.00	0.00	0.00	0.00
406	1006	13.10	0.00	0.00	0.00	0.00
406	6	13.10	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3C.FAM1.TOT + [1; 1]PRETF3C.FAM2.TOT + [1; 1]PRETF3C.FAM3.TOT + [1; 1]PRETF3C.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.00	0.00	0.00
407	7	15.72	0.00	0.00	0.00	0.00
408	1008	18.34	0.00	0.00	0.00	0.00
408	8	18.34	0.00	0.00	0.00	0.00
409	1009	20.96	0.00	0.00	0.00	0.00
409	9	20.96	0.00	0.00	0.00	0.00
410	1010	23.58	23.85	-3.81	-2.30	9.21
410	10	23.58	23.85	-3.81	-2.30	12.09
411	1011	26.20	-1.24	-1.64	-2.16	4.03
411	11	26.20	-1.24	-1.64	-2.16	5.27
412	1012	29.55	-11.48	0.41	-0.69	-0.94
412	12	29.55	-11.48	0.41	-0.69	-1.25
413	1013	32.90	-6.83	0.16	0.89	-0.41
413	13	32.90	-6.83	0.16	0.89	-0.53
414	1014	36.03	4.07	-1.95	2.26	4.65
414	14	36.03	4.07	-1.95	2.26	6.12
415	1015	39.16	0.00	0.00	0.00	0.00
415	15	39.16	0.00	0.00	0.00	0.00
416	1016	42.29	0.00	0.00	0.00	0.00
416	16	42.29	0.00	0.00	0.00	0.00
417	1017	45.42	0.00	0.00	0.00	0.00
417	17	45.42	0.00	0.00	0.00	0.00
418	1018	48.55	0.00	0.00	0.00	0.00
418	18	48.55	0.00	0.00	0.00	0.00
419	1019	51.68	0.00	0.00	0.00	0.00
419	19	51.68	0.00	0.00	0.00	0.00
420	1020	54.81	0.00	0.00	0.00	0.00
420	20	54.81	0.00	0.00	0.00	0.00
421	1021	57.94	0.00	0.00	0.00	0.00
421	21	57.94	0.00	0.00	0.00	0.00
422	1022	61.07	-3.98	-9.04	-4.01	21.94
422	22	61.07	-3.98	-9.04	-4.01	28.78
423	1023	64.20	-5.67	-4.35	-3.45	10.73
423	23	64.20	-5.67	-4.35	-3.45	14.02
424	1024	67.55	-3.64	-0.78	-1.68	2.01
424	24	67.55	-3.64	-0.78	-1.68	2.60
425	1025	70.90	-0.82	0.09	0.16	-0.27
425	25	70.90	-0.82	0.09	0.16	-0.34
426	1026	74.23	1.22	-1.45	2.00	3.43
426	26	74.23	1.22	-1.45	2.00	4.52
427	1027	77.56	0.00	0.00	0.00	0.00
427	27	77.56	0.00	0.00	0.00	0.00
428	1028	80.89	0.00	0.00	0.00	0.00
428	28	80.89	0.00	0.00	0.00	0.00
429	1029	84.22	0.00	0.00	0.00	0.00
429	29	84.22	0.00	0.00	0.00	0.00
430	1030	87.55	0.00	0.00	0.00	0.00
430	30	87.55	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3C.FAM1.TOT + [1; 1]PRETF3C.FAM2.TOT + [1; 1]PRETF3C.FAM3.TOT + [1; 1]PRETF3C.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	0.00	0.00	0.00
431	31	90.88	0.00	0.00	0.00	0.00
432	1032	94.21	0.00	0.00	0.00	0.00
432	32	94.21	0.00	0.00	0.00	0.00
433	1033	97.54	0.00	0.00	0.00	0.00
433	33	97.54	0.00	0.00	0.00	0.00
434	1034	100.87	-4.80	-11.41	-4.39	27.72
434	34	100.87	-4.80	-11.41	-4.39	36.35
435	1035	104.20	-2.84	-5.41	-3.48	13.32
435	35	104.20	-2.84	-5.41	-3.48	17.41
436	1036	107.55	-5.21	-1.52	-1.76	3.80
436	36	107.55	-5.21	-1.52	-1.76	4.95
437	1037	110.90	-1.59	-0.21	-0.40	0.47
437	37	110.90	-1.59	-0.21	-0.40	0.63
438	1038	113.77	18.94	-0.42	0.76	0.97
438	38	113.77	18.94	-0.42	0.76	1.29
439	1039	116.64	0.00	0.00	0.00	0.00
439	39	116.64	0.00	0.00	0.00	0.00
440	1040	119.51	0.00	0.00	0.00	0.00
440	40	119.51	0.00	0.00	0.00	0.00
441	1041	122.38	0.00	0.00	0.00	0.00
441	41	122.38	0.00	0.00	0.00	0.00
442	1042	125.25	0.00	0.00	0.00	0.00
442	42	125.25	0.00	0.00	0.00	0.00
443	1043	128.12	0.00	0.00	0.00	0.00
443	43	128.12	0.00	0.00	0.00	0.00
444	1044	130.99	0.00	0.00	0.00	0.00
444	44	130.99	0.00	0.00	0.00	0.00
445	1045	133.86	0.00	0.00	0.00	0.00
445	45	133.86	0.00	0.00	0.00	0.00
446	1046	136.73	0.00	0.00	0.00	0.00
446	46	136.73	0.00	0.00	0.00	0.00
447	1047	139.60	0.00	0.00	0.00	0.00
447	47	139.60	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3C.FAM1.TOT + [-1;-1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.TOT + [-1;-1]PRETF3C.FAM2.ISO + [1,

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	-0.03	-0.01	0.00
1	2	2.62	0.00	-0.03	-0.01	0.08
2	2	2.62	0.00	-0.03	-0.01	0.08
2	3	5.24	0.00	-0.03	-0.01	0.17
3	3	5.24	0.00	-0.03	-0.01	0.17
3	4	7.86	0.00	-0.03	-0.01	0.25
4	4	7.86	0.00	-0.03	-0.01	0.25
4	5	10.48	0.00	-0.03	-0.01	0.33
5	5	10.48	0.00	-0.03	-0.01	0.33
5	6	13.10	0.00	-0.03	-0.01	0.42
6	6	13.10	0.00	-0.03	-0.01	0.42
6	7	15.72	0.00	-0.03	-0.01	0.50
7	7	15.72	0.00	-0.03	-0.01	0.50
7	8	18.34	0.00	-0.03	-0.01	0.59
8	8	18.34	0.00	-0.03	-0.01	0.59
8	9	20.96	0.00	-0.03	-0.01	0.67
9	9	20.96	0.00	-0.03	-0.01	0.67
9	10	23.58	0.00	-0.03	-0.01	0.75
10	10	23.58	-75.51	-3.84	12.07	3.05
10	10011	26.20	-75.51	-3.84	12.07	13.11
11	11	26.20	-155.83	1.37	-4.36	15.27
11	12	29.55	-155.83	1.37	-4.36	10.68
12	12	29.55	-191.09	1.78	-5.61	11.37
12	13	32.90	-191.09	1.78	-5.61	5.40
13	13	32.90	-175.66	1.94	-6.14	4.51
13	14	36.03	-175.66	1.94	-6.14	-1.55
14	14	36.03	-107.94	-0.02	-0.02	-3.81
14	15	39.16	-107.94	-0.02	-0.02	-3.76
15	15	39.16	-107.94	-0.02	-0.02	-3.76
15	16	42.29	-107.94	-0.02	-0.02	-3.70
16	16	42.29	-107.94	-0.02	-0.02	-3.70
16	17	45.42	-107.94	-0.02	-0.02	-3.65
17	17	45.42	-107.94	-0.02	-0.02	-3.65
17	18	48.55	-107.94	-0.02	-0.02	-3.60
18	18	48.55	-107.94	-0.02	-0.02	-3.60
18	19	51.68	-107.94	-0.02	-0.02	-3.54
19	19	51.68	-107.94	-0.02	-0.02	-3.54
19	20	54.81	-107.94	-0.02	-0.02	-3.49
20	20	54.81	-107.94	-0.02	-0.02	-3.49
20	21	57.94	-107.94	-0.02	-0.02	-3.43
21	21	57.94	-107.94	-0.02	-0.02	-3.43
21	22	61.07	-107.94	-0.02	-0.02	-3.38
22	22	61.07	-182.43	-9.06	28.76	0.63
22	10023	64.20	-182.43	-9.06	28.76	28.99
23	23	64.20	-243.42	3.15	-6.81	32.45
23	24	67.55	-243.42	3.15	-6.81	21.91
24	24	67.55	-251.18	2.37	-4.21	23.58
24	25	70.90	-251.18	2.37	-4.21	15.66

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3C.FAM1.TOT + [-1;-1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.TOT + [-1;-1]PRETF3C.FAM2.ISO + [1,

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-215.12	2.46	-4.55	15.50
25	26	74.23	-215.12	2.46	-4.55	7.31
26	26	74.23	-103.55	1.01	-0.03	5.31
26	27	77.56	-103.55	1.01	-0.03	1.94
27	27	77.56	-103.55	1.01	-0.03	1.94
27	28	80.89	-103.55	1.01	-0.03	-1.43
28	28	80.89	-103.55	1.01	-0.03	-1.43
28	29	84.22	-103.55	1.01	-0.03	-4.80
29	29	84.22	-103.55	1.01	-0.03	-4.80
29	30	87.55	-103.55	1.01	-0.03	-8.17
30	30	87.55	-103.55	1.01	-0.03	-8.17
30	31	90.88	-103.55	1.01	-0.03	-11.54
31	31	90.88	-103.55	1.01	-0.03	-11.54
31	32	94.21	-103.55	1.01	-0.03	-14.91
32	32	94.21	-103.55	1.01	-0.03	-14.91
32	33	97.54	-103.55	1.01	-0.03	-18.28
33	33	97.54	-103.55	1.01	-0.03	-18.28
33	34	100.87	-103.55	1.01	-0.03	-21.65
34	34	100.87	-154.56	-10.40	36.32	-17.26
34	10035	104.20	-154.56	-10.40	36.32	17.37
35	35	104.20	-169.90	2.48	-6.86	20.85
35	36	107.55	-169.90	2.48	-6.86	12.55
36	36	107.55	-159.43	0.96	-1.91	14.30
36	37	110.90	-159.43	0.96	-1.91	11.09
37	37	110.90	-108.30	0.75	-1.28	11.49
37	38	113.77	-108.30	0.75	-1.28	9.34
38	38	113.77	0.00	0.33	0.01	8.58
38	39	116.64	0.00	0.33	0.01	7.62
39	39	116.64	0.00	0.33	0.01	7.62
39	40	119.51	0.00	0.33	0.01	6.67
40	40	119.51	0.00	0.33	0.01	6.67
40	41	122.38	0.00	0.33	0.01	5.72
41	41	122.38	0.00	0.33	0.01	5.72
41	42	125.25	0.00	0.33	0.01	4.77
42	42	125.25	0.00	0.33	0.01	4.77
42	43	128.12	0.00	0.33	0.01	3.81
43	43	128.12	0.00	0.33	0.01	3.81
43	44	130.99	0.00	0.33	0.01	2.86
44	44	130.99	0.00	0.33	0.01	2.86
44	45	133.86	0.00	0.33	0.01	1.91
45	45	133.86	0.00	0.33	0.01	1.91
45	46	136.73	0.00	0.33	0.01	0.95
46	46	136.73	0.00	0.33	0.01	0.95
46	47	139.60	0.00	0.33	0.01	0.00
101	101	0.00	0.00	13.84	-0.05	0.00
101	102	2.62	0.00	13.84	-0.05	-36.25
102	102	2.62	0.00	13.84	-0.05	-36.25
102	103	5.24	0.00	13.84	-0.05	-72.50

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.HIP.To

Pretensado Hiperestático (t=0)

[1: 1]PRETF3C.FAM1.TOT + [-1;-1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.TOT + [-1;-1]PRETF3C.FAM2.ISO + [1;

Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	13.84	-0.05	-72.50
103	104	7.86	0.00	13.84	-0.05	-108.75
104	104	7.86	0.00	13.84	-0.05	-108.75
104	105	10.48	0.00	13.84	-0.05	-145.00
105	105	10.48	0.00	13.84	-0.05	-145.00
105	106	13.10	0.00	13.84	-0.05	-181.25
106	106	13.10	0.00	13.84	-0.05	-181.25
106	107	15.72	0.00	13.84	-0.05	-217.50
107	107	15.72	0.00	13.84	-0.05	-217.50
107	108	18.34	0.00	13.84	-0.05	-253.75
108	108	18.34	0.00	13.84	-0.05	-253.75
108	109	20.96	0.00	13.84	-0.05	-290.00
109	109	20.96	0.00	13.84	-0.05	-290.00
109	110	23.58	0.00	13.84	-0.05	-326.25
110	110	23.58	75.51	17.64	11.85	-328.54
110	111	26.20	75.51	17.64	11.85	-374.77
111	111	26.20	155.83	19.28	16.91	-376.93
111	112	29.55	155.83	19.28	16.91	-441.53
112	112	29.55	191.09	18.87	15.57	-442.22
112	10113	32.90	191.09	18.87	15.57	-505.44
113	113	32.90	175.66	-9.82	-6.33	-504.55
113	114	36.03	175.66	-9.82	-6.33	-473.82
114	114	36.03	107.94	-7.86	-0.14	-471.56
114	115	39.16	107.94	-7.86	-0.14	-446.95
115	115	39.16	107.94	-7.86	-0.14	-446.95
115	116	42.29	107.94	-7.86	-0.14	-422.34
116	116	42.29	107.94	-7.86	-0.14	-422.34
116	117	45.42	107.94	-7.86	-0.14	-397.73
117	117	45.42	107.94	-7.86	-0.14	-397.73
117	118	48.55	107.94	-7.86	-0.14	-373.12
118	118	48.55	107.94	-7.86	-0.14	-373.12
118	119	51.68	107.94	-7.86	-0.14	-348.51
119	119	51.68	107.94	-7.86	-0.14	-348.51
119	120	54.81	107.94	-7.86	-0.14	-323.90
120	120	54.81	107.94	-7.86	-0.14	-323.90
120	121	57.94	107.94	-7.86	-0.14	-299.29
121	121	57.94	107.94	-7.86	-0.14	-299.29
121	122	61.07	107.94	-7.86	-0.14	-274.68
122	122	61.07	182.43	1.18	28.05	-278.69
122	123	64.20	182.43	1.18	28.05	-282.39
123	123	64.20	243.42	5.53	41.46	-285.84
123	124	67.55	243.42	5.53	41.46	-304.38
124	124	67.55	251.18	6.31	43.78	-306.06
124	10125	70.90	251.18	6.31	43.78	-327.21
125	125	70.90	215.12	-0.53	-4.78	-327.05
125	126	74.23	215.12	-0.53	-4.78	-325.27
126	126	74.23	103.55	0.91	-0.18	-323.27
126	127	77.56	103.55	0.91	-0.18	-326.32

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.HIP.To

Pretensado Hiperestático (t=0)

[1: 1]PRETF3C.FAM1.TOT + [-1;-1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.TOT + [-1;-1]PRETF3C.FAM2.ISO + [1;

Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	103.55	0.91	-0.18	-326.32
127	128	80.89	103.55	0.91	-0.18	-329.36
128	128	80.89	103.55	0.91	-0.18	-329.36
128	129	84.22	103.55	0.91	-0.18	-332.40
129	129	84.22	103.55	0.91	-0.18	-332.40
129	130	87.55	103.55	0.91	-0.18	-335.45
130	130	87.55	103.55	0.91	-0.18	-335.45
130	131	90.88	103.55	0.91	-0.18	-338.49
131	131	90.88	103.55	0.91	-0.18	-338.49
131	132	94.21	103.55	0.91	-0.18	-341.53
132	132	94.21	103.55	0.91	-0.18	-341.53
132	133	97.54	103.55	0.91	-0.18	-344.57
133	133	97.54	103.55	0.91	-0.18	-344.57
133	134	100.87	103.55	0.91	-0.18	-347.61
134	134	100.87	154.56	12.33	35.38	-352.00
134	135	104.20	154.56	12.33	35.38	-393.04
135	135	104.20	189.79	17.73	52.04	-396.52
135	136	107.55	189.79	17.73	52.04	-455.93
136	136	107.55	179.32	19.25	56.67	-457.69
136	10137	110.90	179.32	19.25	56.67	-522.19
137	137	110.90	108.30	-18.56	-1.34	-522.59
137	138	113.77	108.30	-18.56	-1.34	-469.32
138	138	113.77	0.00	-18.14	0.00	-468.57
138	139	116.64	0.00	-18.14	0.00	-416.50
139	139	116.64	0.00	-18.14	0.00	-416.50
139	140	119.51	0.00	-18.14	0.00	-364.44
140	140	119.51	0.00	-18.14	0.00	-364.44
140	141	122.38	0.00	-18.14	0.00	-312.37
141	141	122.38	0.00	-18.14	0.00	-312.37
141	142	125.25	0.00	-18.14	0.00	-260.31
142	142	125.25	0.00	-18.14	0.00	-260.31
142	143	128.12	0.00	-18.14	0.00	-208.25
143	143	128.12	0.00	-18.14	0.00	-208.25
143	144	130.99	0.00	-18.14	0.00	-156.18
144	144	130.99	0.00	-18.14	0.00	-156.18
144	145	133.86	0.00	-18.14	0.00	-104.12
145	145	133.86	0.00	-18.14	0.00	-104.12
145	146	136.73	0.00	-18.14	0.00	-52.06
146	146	136.73	0.00	-18.14	0.00	-52.06
146	147	139.60	0.00	-18.14	0.00	0.00
301	101	0.00	0.00	0.00	0.00	0.00
301	2001	0.00	0.00	0.00	0.00	0.00
302	102	2.62	0.00	0.00	0.00	0.00
302	2002	2.62	0.00	0.00	0.00	0.00
303	103	5.24	0.00	0.00	0.00	0.00
303	2003	5.24	0.00	0.00	0.00	0.00
304	104	7.86	0.00	0.00	0.00	0.00
304	2004	7.86	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3C.FAM1.TOT + [-1;-1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.TOT + [-1;-1]PRETF3C.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.00	0.00	0.00
305	2005	10.48	0.00	0.00	0.00	0.00
306	106	13.10	0.00	0.00	0.00	0.00
306	2006	13.10	0.00	0.00	0.00	0.00
307	107	15.72	0.00	0.00	0.00	0.00
307	2007	15.72	0.00	0.00	0.00	0.00
308	108	18.34	0.00	0.00	0.00	0.00
308	2008	18.34	0.00	0.00	0.00	0.00
309	109	20.96	0.00	0.00	0.00	0.00
309	2009	20.96	0.00	0.00	0.00	0.00
310	110	23.58	23.85	-3.81	-2.30	-11.90
310	2010	23.58	23.85	-3.81	-2.30	-9.02
311	111	26.20	-1.24	-1.64	-2.16	-5.05
311	2011	26.20	-1.24	-1.64	-2.16	-3.82
312	112	29.55	-11.48	0.41	-0.69	1.34
312	2012	29.55	-11.48	0.41	-0.69	1.02
313	113	32.90	-6.83	0.16	0.89	0.45
313	2013	32.90	-6.83	0.16	0.89	0.34
314	114	36.03	4.07	-1.95	2.26	-6.19
314	2014	36.03	4.07	-1.95	2.26	-4.71
315	115	39.16	0.00	0.00	0.00	0.00
315	2015	39.16	0.00	0.00	0.00	0.00
316	116	42.29	0.00	0.00	0.00	0.00
316	2016	42.29	0.00	0.00	0.00	0.00
317	117	45.42	0.00	0.00	0.00	0.00
317	2017	45.42	0.00	0.00	0.00	0.00
318	118	48.55	0.00	0.00	0.00	0.00
318	2018	48.55	0.00	0.00	0.00	0.00
319	119	51.68	0.00	0.00	0.00	0.00
319	2019	51.68	0.00	0.00	0.00	0.00
320	120	54.81	0.00	0.00	0.00	0.00
320	2020	54.81	0.00	0.00	0.00	0.00
321	121	57.94	0.00	0.00	0.00	0.00
321	2021	57.94	0.00	0.00	0.00	0.00
322	122	61.07	-3.98	-9.04	-4.01	-28.19
322	2022	61.07	-3.98	-9.04	-4.01	-21.36
323	123	64.20	-5.67	-4.35	-3.45	-13.41
323	2023	64.20	-5.67	-4.35	-3.45	-10.12
324	124	67.55	-3.64	-0.78	-1.68	-2.32
324	2024	67.55	-3.64	-0.78	-1.68	-1.73
325	125	70.90	-0.82	0.09	0.16	0.26
325	2025	70.90	-0.82	0.09	0.16	0.19
326	126	74.23	1.22	-1.45	2.00	-4.60
326	2026	74.23	1.22	-1.45	2.00	-3.51
327	127	77.56	0.00	0.00	0.00	0.00
327	2027	77.56	0.00	0.00	0.00	0.00
328	128	80.89	0.00	0.00	0.00	0.00
328	2028	80.89	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3C.FAM1.TOT + [-1;-1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.TOT + [-1;-1]PRETF3C.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.00	0.00	0.00
329	2029	84.22	0.00	0.00	0.00	0.00
330	130	87.55	0.00	0.00	0.00	0.00
330	2030	87.55	0.00	0.00	0.00	0.00
331	131	90.88	0.00	0.00	0.00	0.00
331	2031	90.88	0.00	0.00	0.00	0.00
332	132	94.21	0.00	0.00	0.00	0.00
332	2032	94.21	0.00	0.00	0.00	0.00
333	133	97.54	0.00	0.00	0.00	0.00
333	2033	97.54	0.00	0.00	0.00	0.00
334	134	100.87	-4.80	-11.41	-4.39	-35.56
334	2034	100.87	-4.80	-11.41	-4.39	-26.93
335	135	104.20	-2.84	-5.41	-3.48	-16.66
335	2035	104.20	-2.84	-5.41	-3.48	-12.57
336	136	107.55	-5.21	-1.52	-1.76	-4.63
336	2036	107.55	-5.21	-1.52	-1.76	-3.48
337	137	110.90	-1.59	-0.21	-0.40	-0.69
337	2037	110.90	-1.59	-0.21	-0.40	-0.53
338	138	113.77	18.94	-0.42	0.76	-1.34
338	2038	113.77	18.94	-0.42	0.76	-1.03
339	139	116.64	0.00	0.00	0.00	0.00
339	2039	116.64	0.00	0.00	0.00	0.00
340	140	119.51	0.00	0.00	0.00	0.00
340	2040	119.51	0.00	0.00	0.00	0.00
341	141	122.38	0.00	0.00	0.00	0.00
341	2041	122.38	0.00	0.00	0.00	0.00
342	142	125.25	0.00	0.00	0.00	0.00
342	2042	125.25	0.00	0.00	0.00	0.00
343	143	128.12	0.00	0.00	0.00	0.00
343	2043	128.12	0.00	0.00	0.00	0.00
344	144	130.99	0.00	0.00	0.00	0.00
344	2044	130.99	0.00	0.00	0.00	0.00
345	145	133.86	0.00	0.00	0.00	0.00
345	2045	133.86	0.00	0.00	0.00	0.00
346	146	136.73	0.00	0.00	0.00	0.00
346	2046	136.73	0.00	0.00	0.00	0.00
347	147	139.60	0.00	0.00	0.00	0.00
347	2047	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.HIP.To

Pretensado Hiperestático (t=0)

[1, 1]PRETF3C.FAM1.TOT + [-1;-1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.TOT + [-1;-1]PRETF3C.FAM2.ISO + [1;

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	23.58	23.85	-3.81	-2.30	-9.02
210	1010	23.58	23.85	-3.81	-2.30	9.21
211	2011	26.20	-1.24	-1.64	-2.16	-3.82
211	1011	26.20	-1.24	-1.64	-2.16	4.03
212	2012	29.55	-11.48	0.41	-0.69	1.02
212	1012	29.55	-11.48	0.41	-0.69	-0.94
213	2013	32.90	-6.83	0.16	0.89	0.34
213	1013	32.90	-6.83	0.16	0.89	-0.41
214	2014	36.03	4.07	-1.95	2.26	-4.71
214	1014	36.03	4.07	-1.95	2.26	4.65
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	61.07	-3.98	-9.04	-4.01	-21.36
222	1022	61.07	-3.98	-9.04	-4.01	21.94
223	2023	64.20	-5.67	-4.35	-3.45	-10.12
223	1023	64.20	-5.67	-4.35	-3.45	10.73
224	2024	67.55	-3.64	-0.78	-1.68	-1.73
224	1024	67.55	-3.64	-0.78	-1.68	2.01
225	2025	70.90	-0.82	0.09	0.16	0.19
225	1025	70.90	-0.82	0.09	0.16	-0.27
226	2026	74.23	1.22	-1.45	2.00	-3.51
226	1026	74.23	1.22	-1.45	2.00	3.43
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3C.FAM1.TOT + [-1;-1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.TOT + [-1;-1]PRETF3C.FAM2.ISO + [1;

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	100.87	-4.80	-11.41	-4.39	-26.93
234	1034	100.87	-4.80	-11.41	-4.39	27.72
235	2035	104.20	-2.84	-5.41	-3.48	-12.57
235	1035	104.20	-2.84	-5.41	-3.48	13.32
236	2036	107.55	-5.21	-1.52	-1.76	-3.48
236	1036	107.55	-5.21	-1.52	-1.76	3.80
237	2037	110.90	-1.59	-0.21	-0.40	-0.53
237	1037	110.90	-1.59	-0.21	-0.40	0.47
238	2038	113.77	18.94	-0.42	0.76	-1.03
238	1038	113.77	18.94	-0.42	0.76	0.97
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00
401	1001	0.00	0.00	0.00	0.00	0.00
401	1	0.00	0.00	0.00	0.00	0.00
402	1002	2.62	0.00	0.00	0.00	0.00
402	2	2.62	0.00	0.00	0.00	0.00
403	1003	5.24	0.00	0.00	0.00	0.00
403	3	5.24	0.00	0.00	0.00	0.00
404	1004	7.86	0.00	0.00	0.00	0.00
404	4	7.86	0.00	0.00	0.00	0.00
405	1005	10.48	0.00	0.00	0.00	0.00
405	5	10.48	0.00	0.00	0.00	0.00
406	1006	13.10	0.00	0.00	0.00	0.00
406	6	13.10	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3C.FAM1.TOT + [-1;-1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.TOT + [-1;-1]PRETF3C.FAM2.ISO + [1;

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.00	0.00	0.00
407	7	15.72	0.00	0.00	0.00	0.00
408	1008	18.34	0.00	0.00	0.00	0.00
408	8	18.34	0.00	0.00	0.00	0.00
409	1009	20.96	0.00	0.00	0.00	0.00
409	9	20.96	0.00	0.00	0.00	0.00
410	1010	23.58	23.85	-3.81	-2.30	9.21
410	10	23.58	23.85	-3.81	-2.30	12.09
411	1011	26.20	-1.24	-1.64	-2.16	4.03
411	11	26.20	-1.24	-1.64	-2.16	5.27
412	1012	29.55	-11.48	0.41	-0.69	-0.94
412	12	29.55	-11.48	0.41	-0.69	-1.25
413	1013	32.90	-6.83	0.16	0.89	-0.41
413	13	32.90	-6.83	0.16	0.89	-0.53
414	1014	36.03	4.07	-1.95	2.26	4.65
414	14	36.03	4.07	-1.95	2.26	6.12
415	1015	39.16	0.00	0.00	0.00	0.00
415	15	39.16	0.00	0.00	0.00	0.00
416	1016	42.29	0.00	0.00	0.00	0.00
416	16	42.29	0.00	0.00	0.00	0.00
417	1017	45.42	0.00	0.00	0.00	0.00
417	17	45.42	0.00	0.00	0.00	0.00
418	1018	48.55	0.00	0.00	0.00	0.00
418	18	48.55	0.00	0.00	0.00	0.00
419	1019	51.68	0.00	0.00	0.00	0.00
419	19	51.68	0.00	0.00	0.00	0.00
420	1020	54.81	0.00	0.00	0.00	0.00
420	20	54.81	0.00	0.00	0.00	0.00
421	1021	57.94	0.00	0.00	0.00	0.00
421	21	57.94	0.00	0.00	0.00	0.00
422	1022	61.07	-3.98	-9.04	-4.01	21.94
422	22	61.07	-3.98	-9.04	-4.01	28.78
423	1023	64.20	-5.67	-4.35	-3.45	10.73
423	23	64.20	-5.67	-4.35	-3.45	14.02
424	1024	67.55	-3.64	-0.78	-1.68	2.01
424	24	67.55	-3.64	-0.78	-1.68	2.60
425	1025	70.90	-0.82	0.09	0.16	-0.27
425	25	70.90	-0.82	0.09	0.16	-0.34
426	1026	74.23	1.22	-1.45	2.00	3.43
426	26	74.23	1.22	-1.45	2.00	4.52
427	1027	77.56	0.00	0.00	0.00	0.00
427	27	77.56	0.00	0.00	0.00	0.00
428	1028	80.89	0.00	0.00	0.00	0.00
428	28	80.89	0.00	0.00	0.00	0.00
429	1029	84.22	0.00	0.00	0.00	0.00
429	29	84.22	0.00	0.00	0.00	0.00
430	1030	87.55	0.00	0.00	0.00	0.00
430	30	87.55	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3C.FAM1.TOT + [-1;-1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.TOT + [-1;-1]PRETF3C.FAM2.ISO + [1;

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	0.00	0.00	0.00
431	31	90.88	0.00	0.00	0.00	0.00
432	1032	94.21	0.00	0.00	0.00	0.00
432	32	94.21	0.00	0.00	0.00	0.00
433	1033	97.54	0.00	0.00	0.00	0.00
433	33	97.54	0.00	0.00	0.00	0.00
434	1034	100.87	-4.80	-11.41	-4.39	27.72
434	34	100.87	-4.80	-11.41	-4.39	36.35
435	1035	104.20	-2.84	-5.41	-3.48	13.32
435	35	104.20	-2.84	-5.41	-3.48	17.41
436	1036	107.55	-5.21	-1.52	-1.76	3.80
436	36	107.55	-5.21	-1.52	-1.76	4.95
437	1037	110.90	-1.59	-0.21	-0.40	0.47
437	37	110.90	-1.59	-0.21	-0.40	0.63
438	1038	113.77	18.94	-0.42	0.76	0.97
438	38	113.77	18.94	-0.42	0.76	1.29
439	1039	116.64	0.00	0.00	0.00	0.00
439	39	116.64	0.00	0.00	0.00	0.00
440	1040	119.51	0.00	0.00	0.00	0.00
440	40	119.51	0.00	0.00	0.00	0.00
441	1041	122.38	0.00	0.00	0.00	0.00
441	41	122.38	0.00	0.00	0.00	0.00
442	1042	125.25	0.00	0.00	0.00	0.00
442	42	125.25	0.00	0.00	0.00	0.00
443	1043	128.12	0.00	0.00	0.00	0.00
443	43	128.12	0.00	0.00	0.00	0.00
444	1044	130.99	0.00	0.00	0.00	0.00
444	44	130.99	0.00	0.00	0.00	0.00
445	1045	133.86	0.00	0.00	0.00	0.00
445	45	133.86	0.00	0.00	0.00	0.00
446	1046	136.73	0.00	0.00	0.00	0.00
446	46	136.73	0.00	0.00	0.00	0.00
447	1047	139.60	0.00	0.00	0.00	0.00
447	47	139.60	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.ISO + [1; 1]PRETF3C.FAM3.ISO + [1; 1]PRETF3C.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	0.00	0.00	0.00	0.00	0.00
2	2	0.00	0.00	0.00	0.00	0.00
2	3	0.00	0.00	0.00	0.00	0.00
3	3	0.00	0.00	0.00	0.00	0.00
3	4	0.00	0.00	0.00	0.00	0.00
4	4	0.00	0.00	0.00	0.00	0.00
4	5	0.00	0.00	0.00	0.00	0.00
5	5	0.00	0.00	0.00	0.00	0.00
5	6	0.00	0.00	0.00	0.00	0.00
6	6	0.00	0.00	0.00	0.00	0.00
6	7	0.00	0.00	0.00	0.00	0.00
7	7	0.00	0.00	0.00	0.00	0.00
7	8	0.00	0.00	0.00	0.00	0.00
8	8	0.00	0.00	0.00	0.00	0.00
8	9	0.00	0.00	0.00	0.00	0.00
9	9	0.00	0.00	0.00	0.00	0.00
9	10	0.00	0.00	0.00	0.00	0.00
10	10	0.00	0.00	0.00	0.00	0.00
10	10011	0.00	0.00	0.00	0.00	0.00
11	11	0.00	0.00	0.00	0.00	0.00
11	12	0.00	0.00	0.00	0.00	0.00
12	12	0.00	0.00	0.00	0.00	0.00
12	13	0.00	0.00	0.00	0.00	0.00
13	13	0.00	0.00	0.00	0.00	0.00
13	14	0.00	0.00	0.00	0.00	0.00
14	14	0.00	0.00	0.00	0.00	0.00
14	15	0.00	0.00	0.00	0.00	0.00
15	15	0.00	0.00	0.00	0.00	0.00
15	16	0.00	0.00	0.00	0.00	0.00
16	16	0.00	0.00	0.00	0.00	0.00
16	17	0.00	0.00	0.00	0.00	0.00
17	17	0.00	0.00	0.00	0.00	0.00
17	18	0.00	0.00	0.00	0.00	0.00
18	18	0.00	0.00	0.00	0.00	0.00
18	19	0.00	0.00	0.00	0.00	0.00
19	19	0.00	0.00	0.00	0.00	0.00
19	20	0.00	0.00	0.00	0.00	0.00
20	20	0.00	0.00	0.00	0.00	0.00
20	21	0.00	0.00	0.00	0.00	0.00
21	21	0.00	0.00	0.00	0.00	0.00
21	22	0.00	0.00	0.00	0.00	0.00
22	22	0.00	0.00	0.00	0.00	0.00
22	10023	0.00	0.00	0.00	0.00	0.00
23	23	0.00	0.00	0.00	0.00	0.00
23	24	0.00	0.00	0.00	0.00	0.00
24	24	0.00	0.00	0.00	0.00	0.00
24	25	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.ISO + [1; 1]PRETF3C.FAM3.ISO + [1; 1]PRETF3C.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	0.00	0.00	0.00	0.00	0.00
25	26	0.00	0.00	0.00	0.00	0.00
26	26	0.00	0.00	0.00	0.00	0.00
26	27	0.00	0.00	0.00	0.00	0.00
27	27	0.00	0.00	0.00	0.00	0.00
27	28	0.00	0.00	0.00	0.00	0.00
28	28	0.00	0.00	0.00	0.00	0.00
28	29	0.00	0.00	0.00	0.00	0.00
29	29	0.00	0.00	0.00	0.00	0.00
29	30	0.00	0.00	0.00	0.00	0.00
30	30	0.00	0.00	0.00	0.00	0.00
30	31	0.00	0.00	0.00	0.00	0.00
31	31	0.00	0.00	0.00	0.00	0.00
31	32	0.00	0.00	0.00	0.00	0.00
32	32	0.00	0.00	0.00	0.00	0.00
32	33	0.00	0.00	0.00	0.00	0.00
33	33	0.00	0.00	0.00	0.00	0.00
33	34	0.00	0.00	0.00	0.00	0.00
34	34	0.00	0.00	0.00	0.00	0.00
34	10035	0.00	0.00	0.00	0.00	0.00
35	35	0.00	0.00	0.00	0.00	0.00
35	36	0.00	0.00	0.00	0.00	0.00
36	36	0.00	0.00	0.00	0.00	0.00
36	37	0.00	0.00	0.00	0.00	0.00
37	37	0.00	0.00	0.00	0.00	0.00
37	38	0.00	0.00	0.00	0.00	0.00
38	38	0.00	0.00	0.00	0.00	0.00
38	39	0.00	0.00	0.00	0.00	0.00
39	39	0.00	0.00	0.00	0.00	0.00
39	40	0.00	0.00	0.00	0.00	0.00
40	40	0.00	0.00	0.00	0.00	0.00
40	41	0.00	0.00	0.00	0.00	0.00
41	41	0.00	0.00	0.00	0.00	0.00
41	42	0.00	0.00	0.00	0.00	0.00
42	42	0.00	0.00	0.00	0.00	0.00
42	43	0.00	0.00	0.00	0.00	0.00
43	43	0.00	0.00	0.00	0.00	0.00
43	44	0.00	0.00	0.00	0.00	0.00
44	44	0.00	0.00	0.00	0.00	0.00
44	45	0.00	0.00	0.00	0.00	0.00
45	45	0.00	0.00	0.00	0.00	0.00
45	46	0.00	0.00	0.00	0.00	0.00
46	46	0.00	0.00	0.00	0.00	0.00
46	47	0.00	0.00	0.00	0.00	0.00
101	101	0.00	0.00	0.00	0.00	0.00
101	102	2.62	0.00	0.00	0.00	0.00
102	102	2.62	0.00	0.00	0.00	0.00
102	103	5.24	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.ISO + [1; 1]PRETF3C.FAM3.ISO + [1; 1]PRETF3C.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	0.00	0.00	0.00
103	104	7.86	0.00	0.00	0.00	0.00
104	104	7.86	0.00	0.00	0.00	0.00
104	105	10.48	0.00	0.00	0.00	0.00
105	105	10.48	0.00	0.00	0.00	0.00
105	106	13.10	0.00	0.00	0.00	0.00
106	106	13.10	0.00	0.00	0.00	0.00
106	107	15.72	0.00	0.00	0.00	0.00
107	107	15.72	0.00	0.00	0.00	0.00
107	108	18.34	0.00	0.00	0.00	0.00
108	108	18.34	0.00	0.00	0.00	0.00
108	109	20.96	0.00	0.00	0.00	0.00
109	109	20.96	0.00	0.00	0.00	0.00
109	110	23.58	0.00	0.00	0.00	0.00
110	110	23.58	-1002.54	0.00	0.00	786.99
110	111	26.20	-1006.16	0.00	0.00	789.83
111	111	26.20	-1947.28	0.00	0.00	1528.62
111	112	29.55	-1955.87	0.00	0.00	1535.36
112	112	29.55	-1955.87	0.00	0.00	1535.36
112	10113	32.90	-1904.87	0.00	0.00	1495.33
113	113	32.90	-1904.87	0.00	0.00	1495.33
113	114	36.03	-1966.29	0.00	0.00	1543.53
114	114	36.03	-1966.29	0.00	0.00	1543.53
114	115	39.16	-1958.27	0.00	0.00	1537.24
115	115	39.16	-882.00	0.00	0.00	692.37
115	116	42.29	-878.22	0.00	0.00	689.40
116	116	42.29	0.00	0.00	0.00	0.00
116	117	45.42	0.00	0.00	0.00	0.00
117	117	45.42	0.00	0.00	0.00	0.00
117	118	48.55	0.00	0.00	0.00	0.00
118	118	48.55	0.00	0.00	0.00	0.00
118	119	51.68	0.00	0.00	0.00	0.00
119	119	51.68	0.00	0.00	0.00	0.00
119	120	54.81	0.00	0.00	0.00	0.00
120	120	54.81	0.00	0.00	0.00	0.00
120	121	57.94	0.00	0.00	0.00	0.00
121	121	57.94	0.00	0.00	0.00	0.00
121	122	61.07	0.00	0.00	0.00	0.00
122	122	61.07	-1006.13	0.00	0.00	789.81
122	123	64.20	-1010.45	0.00	0.00	793.21
123	123	64.20	-1950.87	0.00	0.00	1531.43
123	124	67.55	-1959.45	0.00	0.00	1538.17
124	124	67.55	-1959.45	0.00	0.00	1538.17
124	10125	70.90	-1911.45	0.00	0.00	1500.49
125	125	70.90	-1911.45	0.00	0.00	1500.49
125	126	74.23	-1967.37	0.00	0.00	1544.39
126	126	74.23	-1967.37	0.00	0.00	1544.39
126	127	77.56	-1958.85	0.00	0.00	1537.69

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.ISO + [1; 1]PRETF3C.FAM3.ISO + [1; 1]PRETF3C.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-883.82	0.00	0.00	693.80
127	128	80.89	-879.80	0.00	0.00	690.64
128	128	80.89	0.00	0.00	0.00	0.00
128	129	84.22	0.00	0.00	0.00	0.00
129	129	84.22	0.00	0.00	0.00	0.00
129	130	87.55	0.00	0.00	0.00	0.00
130	130	87.55	0.00	0.00	0.00	0.00
130	131	90.88	0.00	0.00	0.00	0.00
131	131	90.88	0.00	0.00	0.00	0.00
131	132	94.21	0.00	0.00	0.00	0.00
132	132	94.21	0.00	0.00	0.00	0.00
132	133	97.54	0.00	0.00	0.00	0.00
133	133	97.54	0.00	0.00	0.00	0.00
133	134	100.87	0.00	0.00	0.00	0.00
134	134	100.87	-1008.42	0.00	0.00	791.61
134	135	104.20	-1013.02	0.00	0.00	795.22
135	135	104.20	-1955.07	0.00	0.00	1534.73
135	136	107.55	-1963.66	0.00	0.00	1541.47
136	136	107.55	-1963.66	0.00	0.00	1541.47
136	10137	110.90	-1904.64	0.00	0.00	1495.15
137	137	110.90	-1904.64	0.00	0.00	1495.15
137	138	113.77	-1958.90	0.00	0.00	1537.74
138	138	113.77	-1958.90	0.00	0.00	1537.74
138	139	116.64	-1951.55	0.00	0.00	1531.97
139	139	116.64	-875.54	0.00	0.00	687.30
139	140	119.51	-872.08	0.00	0.00	684.58
140	140	119.51	0.00	0.00	0.00	0.00
140	141	122.38	0.00	0.00	0.00	0.00
141	141	122.38	0.00	0.00	0.00	0.00
141	142	125.25	0.00	0.00	0.00	0.00
142	142	125.25	0.00	0.00	0.00	0.00
142	143	128.12	0.00	0.00	0.00	0.00
143	143	128.12	0.00	0.00	0.00	0.00
143	144	130.99	0.00	0.00	0.00	0.00
144	144	130.99	0.00	0.00	0.00	0.00
144	145	133.86	0.00	0.00	0.00	0.00
145	145	133.86	0.00	0.00	0.00	0.00
145	146	136.73	0.00	0.00	0.00	0.00
146	146	136.73	0.00	0.00	0.00	0.00
146	147	139.60	0.00	0.00	0.00	0.00
301	101	0.00	0.00	0.00	0.00	0.00
301	2001	0.00	0.00	0.00	0.00	0.00
302	102	0.00	0.00	0.00	0.00	0.00
302	2002	0.00	0.00	0.00	0.00	0.00
303	103	0.00	0.00	0.00	0.00	0.00
303	2003	0.00	0.00	0.00	0.00	0.00
304	104	0.00	0.00	0.00	0.00	0.00
304	2004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.ISO.To

Pretensado Isostático (t=0)

[1: 1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.ISO + [1: 1]PRETF3C.FAM3.ISO + [1; 1]PRETF3C.FAM4.ISO + [1; 1

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	0.00	0.00	0.00	0.00	0.00
305	2005	0.00	0.00	0.00	0.00	0.00
306	106	0.00	0.00	0.00	0.00	0.00
306	2006	0.00	0.00	0.00	0.00	0.00
307	107	0.00	0.00	0.00	0.00	0.00
307	2007	0.00	0.00	0.00	0.00	0.00
308	108	0.00	0.00	0.00	0.00	0.00
308	2008	0.00	0.00	0.00	0.00	0.00
309	109	0.00	0.00	0.00	0.00	0.00
309	2009	0.00	0.00	0.00	0.00	0.00
310	110	0.00	0.00	0.00	0.00	0.00
310	2010	0.00	0.00	0.00	0.00	0.00
311	111	0.00	0.00	0.00	0.00	0.00
311	2011	0.00	0.00	0.00	0.00	0.00
312	112	0.00	0.00	0.00	0.00	0.00
312	2012	0.00	0.00	0.00	0.00	0.00
313	113	0.00	0.00	0.00	0.00	0.00
313	2013	0.00	0.00	0.00	0.00	0.00
314	114	0.00	0.00	0.00	0.00	0.00
314	2014	0.00	0.00	0.00	0.00	0.00
315	115	0.00	0.00	0.00	0.00	0.00
315	2015	0.00	0.00	0.00	0.00	0.00
316	116	0.00	0.00	0.00	0.00	0.00
316	2016	0.00	0.00	0.00	0.00	0.00
317	117	0.00	0.00	0.00	0.00	0.00
317	2017	0.00	0.00	0.00	0.00	0.00
318	118	0.00	0.00	0.00	0.00	0.00
318	2018	0.00	0.00	0.00	0.00	0.00
319	119	0.00	0.00	0.00	0.00	0.00
319	2019	0.00	0.00	0.00	0.00	0.00
320	120	0.00	0.00	0.00	0.00	0.00
320	2020	0.00	0.00	0.00	0.00	0.00
321	121	0.00	0.00	0.00	0.00	0.00
321	2021	0.00	0.00	0.00	0.00	0.00
322	122	0.00	0.00	0.00	0.00	0.00
322	2022	0.00	0.00	0.00	0.00	0.00
323	123	0.00	0.00	0.00	0.00	0.00
323	2023	0.00	0.00	0.00	0.00	0.00
324	124	0.00	0.00	0.00	0.00	0.00
324	2024	0.00	0.00	0.00	0.00	0.00
325	125	0.00	0.00	0.00	0.00	0.00
325	2025	0.00	0.00	0.00	0.00	0.00
326	126	0.00	0.00	0.00	0.00	0.00
326	2026	0.00	0.00	0.00	0.00	0.00
327	127	0.00	0.00	0.00	0.00	0.00
327	2027	0.00	0.00	0.00	0.00	0.00
328	128	0.00	0.00	0.00	0.00	0.00
328	2028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.ISO + [1; 1]PRETF3C.FAM3.ISO + [1; 1]PRETF3C.FAM4.ISO + [1; 1

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	0.00	0.00	0.00	0.00	0.00
329	2029	0.00	0.00	0.00	0.00	0.00
330	130	0.00	0.00	0.00	0.00	0.00
330	2030	0.00	0.00	0.00	0.00	0.00
331	131	0.00	0.00	0.00	0.00	0.00
331	2031	0.00	0.00	0.00	0.00	0.00
332	132	0.00	0.00	0.00	0.00	0.00
332	2032	0.00	0.00	0.00	0.00	0.00
333	133	0.00	0.00	0.00	0.00	0.00
333	2033	0.00	0.00	0.00	0.00	0.00
334	134	0.00	0.00	0.00	0.00	0.00
334	2034	0.00	0.00	0.00	0.00	0.00
335	135	0.00	0.00	0.00	0.00	0.00
335	2035	0.00	0.00	0.00	0.00	0.00
336	136	0.00	0.00	0.00	0.00	0.00
336	2036	0.00	0.00	0.00	0.00	0.00
337	137	0.00	0.00	0.00	0.00	0.00
337	2037	0.00	0.00	0.00	0.00	0.00
338	138	0.00	0.00	0.00	0.00	0.00
338	2038	0.00	0.00	0.00	0.00	0.00
339	139	0.00	0.00	0.00	0.00	0.00
339	2039	0.00	0.00	0.00	0.00	0.00
340	140	0.00	0.00	0.00	0.00	0.00
340	2040	0.00	0.00	0.00	0.00	0.00
341	141	0.00	0.00	0.00	0.00	0.00
341	2041	0.00	0.00	0.00	0.00	0.00
342	142	0.00	0.00	0.00	0.00	0.00
342	2042	0.00	0.00	0.00	0.00	0.00
343	143	0.00	0.00	0.00	0.00	0.00
343	2043	0.00	0.00	0.00	0.00	0.00
344	144	0.00	0.00	0.00	0.00	0.00
344	2044	0.00	0.00	0.00	0.00	0.00
345	145	0.00	0.00	0.00	0.00	0.00
345	2045	0.00	0.00	0.00	0.00	0.00
346	146	0.00	0.00	0.00	0.00	0.00
346	2046	0.00	0.00	0.00	0.00	0.00
347	147	0.00	0.00	0.00	0.00	0.00
347	2047	0.00	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.ISO + [1; 1]PRETF3C.FAM3.ISO + [1; 1]PRETF3C.FAM4.ISO + [1; 1

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3C.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.ISO + [1; 1]PRETF3C.FAM3.ISO + [1; 1]PRETF3C.FAM4.ISO + [1; 1

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00
401	1001	0.00	0.00	0.00	0.00	0.00
401	1	0.00	0.00	0.00	0.00	0.00
402	1002	0.00	0.00	0.00	0.00	0.00
402	2	0.00	0.00	0.00	0.00	0.00
403	1003	0.00	0.00	0.00	0.00	0.00
403	3	0.00	0.00	0.00	0.00	0.00
404	1004	0.00	0.00	0.00	0.00	0.00
404	4	0.00	0.00	0.00	0.00	0.00
405	1005	0.00	0.00	0.00	0.00	0.00
405	5	0.00	0.00	0.00	0.00	0.00
406	1006	0.00	0.00	0.00	0.00	0.00
406	6	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.ISO + [1; 1]PRETF3C.FAM3.ISO + [1; 1]PRETF3C.FAM4.ISO + [1; 1

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	0.00	0.00	0.00	0.00	0.00
407	7	0.00	0.00	0.00	0.00	0.00
408	1008	0.00	0.00	0.00	0.00	0.00
408	8	0.00	0.00	0.00	0.00	0.00
409	1009	0.00	0.00	0.00	0.00	0.00
409	9	0.00	0.00	0.00	0.00	0.00
410	1010	0.00	0.00	0.00	0.00	0.00
410	10	0.00	0.00	0.00	0.00	0.00
411	1011	0.00	0.00	0.00	0.00	0.00
411	11	0.00	0.00	0.00	0.00	0.00
412	1012	0.00	0.00	0.00	0.00	0.00
412	12	0.00	0.00	0.00	0.00	0.00
413	1013	0.00	0.00	0.00	0.00	0.00
413	13	0.00	0.00	0.00	0.00	0.00
414	1014	0.00	0.00	0.00	0.00	0.00
414	14	0.00	0.00	0.00	0.00	0.00
415	1015	0.00	0.00	0.00	0.00	0.00
415	15	0.00	0.00	0.00	0.00	0.00
416	1016	0.00	0.00	0.00	0.00	0.00
416	16	0.00	0.00	0.00	0.00	0.00
417	1017	0.00	0.00	0.00	0.00	0.00
417	17	0.00	0.00	0.00	0.00	0.00
418	1018	0.00	0.00	0.00	0.00	0.00
418	18	0.00	0.00	0.00	0.00	0.00
419	1019	0.00	0.00	0.00	0.00	0.00
419	19	0.00	0.00	0.00	0.00	0.00
420	1020	0.00	0.00	0.00	0.00	0.00
420	20	0.00	0.00	0.00	0.00	0.00
421	1021	0.00	0.00	0.00	0.00	0.00
421	21	0.00	0.00	0.00	0.00	0.00
422	1022	0.00	0.00	0.00	0.00	0.00
422	22	0.00	0.00	0.00	0.00	0.00
423	1023	0.00	0.00	0.00	0.00	0.00
423	23	0.00	0.00	0.00	0.00	0.00
424	1024	0.00	0.00	0.00	0.00	0.00
424	24	0.00	0.00	0.00	0.00	0.00
425	1025	0.00	0.00	0.00	0.00	0.00
425	25	0.00	0.00	0.00	0.00	0.00
426	1026	0.00	0.00	0.00	0.00	0.00
426	26	0.00	0.00	0.00	0.00	0.00
427	1027	0.00	0.00	0.00	0.00	0.00
427	27	0.00	0.00	0.00	0.00	0.00
428	1028	0.00	0.00	0.00	0.00	0.00
428	28	0.00	0.00	0.00	0.00	0.00
429	1029	0.00	0.00	0.00	0.00	0.00
429	29	0.00	0.00	0.00	0.00	0.00
430	1030	0.00	0.00	0.00	0.00	0.00
430	30	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3C.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3C.FAM1.ISO + [1; 1]PRETF3C.FAM2.ISO + [1; 1]PRETF3C.FAM3.ISO + [1; 1]PRETF3C.FAM4.ISO + [1; 1

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	0.00	0.00	0.00	0.00	0.00
431	31	0.00	0.00	0.00	0.00	0.00
432	1032	0.00	0.00	0.00	0.00	0.00
432	32	0.00	0.00	0.00	0.00	0.00
433	1033	0.00	0.00	0.00	0.00	0.00
433	33	0.00	0.00	0.00	0.00	0.00
434	1034	0.00	0.00	0.00	0.00	0.00
434	34	0.00	0.00	0.00	0.00	0.00
435	1035	0.00	0.00	0.00	0.00	0.00
435	35	0.00	0.00	0.00	0.00	0.00
436	1036	0.00	0.00	0.00	0.00	0.00
436	36	0.00	0.00	0.00	0.00	0.00
437	1037	0.00	0.00	0.00	0.00	0.00
437	37	0.00	0.00	0.00	0.00	0.00
438	1038	0.00	0.00	0.00	0.00	0.00
438	38	0.00	0.00	0.00	0.00	0.00
439	1039	0.00	0.00	0.00	0.00	0.00
439	39	0.00	0.00	0.00	0.00	0.00
440	1040	0.00	0.00	0.00	0.00	0.00
440	40	0.00	0.00	0.00	0.00	0.00
441	1041	0.00	0.00	0.00	0.00	0.00
441	41	0.00	0.00	0.00	0.00	0.00
442	1042	0.00	0.00	0.00	0.00	0.00
442	42	0.00	0.00	0.00	0.00	0.00
443	1043	0.00	0.00	0.00	0.00	0.00
443	43	0.00	0.00	0.00	0.00	0.00
444	1044	0.00	0.00	0.00	0.00	0.00
444	44	0.00	0.00	0.00	0.00	0.00
445	1045	0.00	0.00	0.00	0.00	0.00
445	45	0.00	0.00	0.00	0.00	0.00
446	1046	0.00	0.00	0.00	0.00	0.00
446	46	0.00	0.00	0.00	0.00	0.00
447	1047	0.00	0.00	0.00	0.00	0.00
447	47	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3D.FAM1.TOT + [1; 1]PRETF3D.FAM2.TOT + [1; 1]PRETF3D.FAM3.TOT + [1; 1]PRETF3D.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	20.17	0.00	0.00
1	2	2.62	0.00	20.17	0.00	-52.85
2	2	2.62	0.00	20.17	0.00	-52.85
2	3	5.24	0.00	20.17	0.00	-105.70
3	3	5.24	0.00	20.17	0.00	-105.70
3	4	7.86	0.00	20.17	0.00	-158.55
4	4	7.86	0.00	20.17	0.00	-158.55
4	5	10.48	0.00	20.17	0.00	-211.40
5	5	10.48	0.00	20.17	0.00	-211.40
5	6	13.10	0.00	20.17	0.00	-264.25
6	6	13.10	0.00	20.17	0.00	-264.25
6	7	15.72	0.00	20.17	0.00	-317.10
7	7	15.72	0.00	20.17	0.00	-317.10
7	8	18.34	0.00	20.17	0.00	-369.95
8	8	18.34	-989.96	20.17	0.00	407.18
8	9	20.96	-993.58	20.17	0.00	357.17
9	9	20.96	-1935.92	20.17	0.00	1096.90
9	10	23.58	-1942.64	20.17	0.00	1049.33
10	10	23.58	-1850.82	20.43	-0.84	1048.73
10	10011	26.20	-1801.16	20.43	-0.84	956.21
11	11	26.20	-1733.97	-19.11	53.71	956.61
11	12	29.55	-1811.38	-19.11	53.71	1081.41
12	12	29.55	-1789.73	-17.44	48.61	1083.44
12	13	32.90	-1781.14	-17.44	48.61	1135.12
13	13	32.90	-741.35	-11.91	31.54	292.78
13	14	36.03	-737.57	-11.91	31.54	327.08
14	14	36.03	106.25	-1.73	-0.17	-360.09
14	15	39.16	106.25	-1.73	-0.17	-354.69
15	15	39.16	106.25	-1.73	-0.17	-354.69
15	16	42.29	106.25	-1.73	-0.17	-349.29
16	16	42.29	106.25	-1.73	-0.17	-349.29
16	17	45.42	106.25	-1.73	-0.17	-343.89
17	17	45.42	106.25	-1.73	-0.17	-343.89
17	18	48.55	106.25	-1.73	-0.17	-338.49
18	18	48.55	106.25	-1.73	-0.17	-338.49
18	19	51.68	106.25	-1.73	-0.17	-333.09
19	19	51.68	106.25	-1.73	-0.17	-333.09
19	20	54.81	106.25	-1.73	-0.17	-327.69
20	20	54.81	-897.44	-1.73	-0.17	460.20
20	21	57.94	-901.76	-1.73	-0.17	469.00
21	21	57.94	-1842.64	-1.73	-0.17	1207.59
21	22	61.07	-1850.67	-1.73	-0.17	1219.29
22	22	61.07	-1749.65	-0.45	-4.23	1217.52
22	10023	64.20	-1703.76	-0.45	-4.23	1182.90
23	23	64.20	-1663.98	-7.41	47.74	1182.75
23	24	67.55	-1723.49	-7.41	47.74	1254.30
24	24	67.55	-1732.75	-6.54	45.15	1256.01
24	25	70.90	-1724.17	-6.54	45.15	1271.19

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3D.FAM1.TOT + [1; 1]PRETF3D.FAM2.TOT + [1; 1]PRETF3D.FAM3.TOT + [1; 1]PRETF3D.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-710.49	-2.05	31.33	430.39
25	26	74.23	-706.47	-2.05	31.33	434.05
26	26	74.23	98.81	8.05	-0.15	-254.34
26	27	77.56	98.81	8.05	-0.15	-281.16
27	27	77.56	98.81	8.05	-0.15	-281.16
27	28	80.89	98.81	8.05	-0.15	-307.98
28	28	80.89	98.81	8.05	-0.15	-307.98
28	29	84.22	98.81	8.05	-0.15	-334.79
29	29	84.22	98.81	8.05	-0.15	-334.79
29	30	87.55	98.81	8.05	-0.15	-361.61
30	30	87.55	98.81	8.05	-0.15	-361.61
30	31	90.88	98.81	8.05	-0.15	-388.43
31	31	90.88	98.81	8.05	-0.15	-388.43
31	32	94.21	98.81	8.05	-0.15	-415.25
32	32	94.21	-906.67	8.05	-0.15	374.05
32	33	97.54	-911.27	8.05	-0.15	350.84
33	33	97.54	-1852.23	8.05	-0.15	1089.49
33	34	100.87	-1860.76	8.05	-0.15	1069.37
34	34	100.87	-1781.58	10.00	-6.30	1067.09
34	10035	104.20	-1732.24	10.00	-6.30	995.08
35	35	104.20	-1730.66	-19.45	22.03	994.43
35	36	107.55	-1786.74	-19.45	22.03	1103.62
36	36	107.55	-1810.63	-19.56	22.43	1104.41
36	37	110.90	-1802.05	-19.56	22.43	1163.21
37	37	110.90	-796.60	-17.46	15.96	321.81
37	38	113.77	-793.14	-17.46	15.96	369.21
38	38	113.77	0.00	-12.33	-0.06	-318.54
38	39	116.64	0.00	-12.33	-0.06	-283.14
39	39	116.64	0.00	-12.33	-0.06	-283.14
39	40	119.51	0.00	-12.33	-0.06	-247.74
40	40	119.51	0.00	-12.33	-0.06	-247.74
40	41	122.38	0.00	-12.33	-0.06	-212.35
41	41	122.38	0.00	-12.33	-0.06	-212.35
41	42	125.25	0.00	-12.33	-0.06	-176.96
42	42	125.25	0.00	-12.33	-0.06	-176.96
42	43	128.12	0.00	-12.33	-0.06	-141.56
43	43	128.12	0.00	-12.33	-0.06	-141.56
43	44	130.99	0.00	-12.33	-0.06	-106.17
44	44	130.99	0.00	-12.33	-0.06	-106.17
44	45	133.86	0.00	-12.33	-0.06	-70.78
45	45	133.86	0.00	-12.33	-0.06	-70.78
45	46	136.73	0.00	-12.33	-0.06	-35.39
46	46	136.73	0.00	-12.33	-0.06	-35.39
46	47	139.60	0.00	-12.33	-0.06	0.00
101	101	0.00	0.00	-0.29	0.01	0.00
101	102	2.62	0.00	-0.29	0.01	0.75
102	102	2.62	0.00	-0.29	0.01	0.75
102	103	5.24	0.00	-0.29	0.01	1.50

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3D.FAM1.TOT + [1; 1]PRETF3D.FAM2.TOT + [1; 1]PRETF3D.FAM3.TOT + [1; 1]PRETF3D.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-0.29	0.01	1.50
103	104	7.86	0.00	-0.29	0.01	2.25
104	104	7.86	0.00	-0.29	0.01	2.25
104	105	10.48	0.00	-0.29	0.01	3.00
105	105	10.48	0.00	-0.29	0.01	3.00
105	106	13.10	0.00	-0.29	0.01	3.75
106	106	13.10	0.00	-0.29	0.01	3.75
106	107	15.72	0.00	-0.29	0.01	4.50
107	107	15.72	0.00	-0.29	0.01	4.50
107	108	18.34	0.00	-0.29	0.01	5.25
108	108	18.34	0.00	-0.29	0.01	5.25
108	109	20.96	0.00	-0.29	0.01	6.00
109	109	20.96	0.00	-0.29	0.01	6.00
109	110	23.58	0.00	-0.29	0.01	6.75
110	110	23.58	-91.81	-0.55	-0.78	7.35
110	111	26.20	-91.81	-0.55	-0.78	8.78
111	111	26.20	-159.00	-0.69	-1.22	8.38
111	112	29.55	-159.00	-0.69	-1.22	10.69
112	112	29.55	-180.65	-2.36	-6.66	8.67
112	10113	32.90	-180.65	-2.36	-6.66	16.58
113	113	32.90	-142.80	9.12	32.40	12.97
113	114	36.03	-142.80	9.12	32.40	-15.59
114	114	36.03	-106.25	-1.06	-0.02	-19.51
114	115	39.16	-106.25	-1.06	-0.02	-16.20
115	115	39.16	-106.25	-1.06	-0.02	-16.20
115	116	42.29	-106.25	-1.06	-0.02	-12.89
116	116	42.29	-106.25	-1.06	-0.02	-12.89
116	117	45.42	-106.25	-1.06	-0.02	-9.58
117	117	45.42	-106.25	-1.06	-0.02	-9.58
117	118	48.55	-106.25	-1.06	-0.02	-6.27
118	118	48.55	-106.25	-1.06	-0.02	-6.27
118	119	51.68	-106.25	-1.06	-0.02	-2.96
119	119	51.68	-106.25	-1.06	-0.02	-2.96
119	120	54.81	-106.25	-1.06	-0.02	0.34
120	120	54.81	-106.25	-1.06	-0.02	0.34
120	121	57.94	-106.25	-1.06	-0.02	3.65
121	121	57.94	-106.25	-1.06	-0.02	3.65
121	122	61.07	-106.25	-1.06	-0.02	6.96
122	122	61.07	-207.27	-2.33	-4.01	8.73
122	123	64.20	-207.27	-2.33	-4.01	16.03
123	123	64.20	-247.05	-2.32	-3.93	16.19
123	124	67.55	-247.05	-2.32	-3.93	23.96
124	124	67.55	-237.79	-3.19	-6.82	22.25
124	10125	70.90	-237.79	-3.19	-6.82	32.94
125	125	70.90	-175.90	9.90	32.14	29.41
125	126	74.23	-175.90	9.90	32.14	-3.55
126	126	74.23	-98.81	-0.20	-0.02	-7.81
126	127	77.56	-98.81	-0.20	-0.02	-7.14

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3D.FAM1.TOT + [1; 1]PRETF3D.FAM2.TOT + [1; 1]PRETF3D.FAM3.TOT + [1; 1]PRETF3D.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-98.81	-0.20	-0.02	-7.14
127	128	80.89	-98.81	-0.20	-0.02	-6.46
128	128	80.89	-98.81	-0.20	-0.02	-6.46
128	129	84.22	-98.81	-0.20	-0.02	-5.78
129	129	84.22	-98.81	-0.20	-0.02	-5.78
129	130	87.55	-98.81	-0.20	-0.02	-5.10
130	130	87.55	-98.81	-0.20	-0.02	-5.10
130	131	90.88	-98.81	-0.20	-0.02	-4.43
131	131	90.88	-98.81	-0.20	-0.02	-4.43
131	132	94.21	-98.81	-0.20	-0.02	-3.75
132	132	94.21	-98.81	-0.20	-0.02	-3.75
132	133	97.54	-98.81	-0.20	-0.02	-3.07
133	133	97.54	-98.81	-0.20	-0.02	-3.07
133	134	100.87	-98.81	-0.20	-0.02	-2.39
134	134	100.87	-177.99	-2.14	-6.09	-0.12
134	135	104.20	-177.99	-2.14	-6.09	7.02
135	135	104.20	-190.11	-1.98	-5.53	7.67
135	136	107.55	-190.11	-1.98	-5.53	14.29
136	136	107.55	-166.22	-1.87	-5.24	13.50
136	10137	110.90	-166.22	-1.87	-5.24	19.76
137	137	110.90	-86.37	5.13	16.28	17.47
137	138	113.77	-86.37	5.13	16.28	2.74
138	138	113.77	0.00	0.00	-0.02	0.07
138	139	116.64	0.00	0.00	-0.02	0.06
139	139	116.64	0.00	0.00	-0.02	0.06
139	140	119.51	0.00	0.00	-0.02	0.06
140	140	119.51	0.00	0.00	-0.02	0.06
140	141	122.38	0.00	0.00	-0.02	0.05
141	141	122.38	0.00	0.00	-0.02	0.05
141	142	125.25	0.00	0.00	-0.02	0.04
142	142	125.25	0.00	0.00	-0.02	0.04
142	143	128.12	0.00	0.00	-0.02	0.03
143	143	128.12	0.00	0.00	-0.02	0.03
143	144	130.99	0.00	0.00	-0.02	0.02
144	144	130.99	0.00	0.00	-0.02	0.02
144	145	133.86	0.00	0.00	-0.02	0.02
145	145	133.86	0.00	0.00	-0.02	0.02
145	146	136.73	0.00	0.00	-0.02	0.01
146	146	136.73	0.00	0.00	-0.02	0.01
146	147	139.60	0.00	0.00	-0.02	0.00
301	101	0.00	0.00	0.00	0.00	0.00
301	2001	0.00	0.00	0.00	0.00	0.00
302	102	2.62	0.00	0.00	0.00	0.00
302	2002	2.62	0.00	0.00	0.00	0.00
303	103	5.24	0.00	0.00	0.00	0.00
303	2003	5.24	0.00	0.00	0.00	0.00
304	104	7.86	0.00	0.00	0.00	0.00
304	2004	7.86	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3D.FAM1.TOT + [1; 1]PRETF3D.FAM2.TOT + [1; 1]PRETF3D.FAM3.TOT + [1; 1]PRETF3D.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.00	0.00	0.00
305	2005	10.48	0.00	0.00	0.00	0.00
306	106	13.10	0.00	0.00	0.00	0.00
306	2006	13.10	0.00	0.00	0.00	0.00
307	107	15.72	0.00	0.00	0.00	0.00
307	2007	15.72	0.00	0.00	0.00	0.00
308	108	18.34	0.00	0.00	0.00	0.00
308	2008	18.34	0.00	0.00	0.00	0.00
309	109	20.96	0.00	0.00	0.00	0.00
309	2009	20.96	0.00	0.00	0.00	0.00
310	110	23.58	-23.44	0.26	0.60	0.79
310	2010	23.58	-23.44	0.26	0.60	0.60
311	111	26.20	1.27	0.15	-0.40	0.43
311	2011	26.20	1.27	0.15	-0.40	0.32
312	112	29.55	11.37	1.67	-2.02	5.44
312	2012	29.55	11.37	1.67	-2.02	4.18
313	113	32.90	6.74	5.54	-3.61	17.80
313	2013	32.90	6.74	5.54	-3.61	13.62
314	114	36.03	-4.19	10.18	-3.92	32.42
314	2014	36.03	-4.19	10.18	-3.92	24.73
315	115	39.16	0.00	0.00	0.00	0.00
315	2015	39.16	0.00	0.00	0.00	0.00
316	116	42.29	0.00	0.00	0.00	0.00
316	2016	42.29	0.00	0.00	0.00	0.00
317	117	45.42	0.00	0.00	0.00	0.00
317	2017	45.42	0.00	0.00	0.00	0.00
318	118	48.55	0.00	0.00	0.00	0.00
318	2018	48.55	0.00	0.00	0.00	0.00
319	119	51.68	0.00	0.00	0.00	0.00
319	2019	51.68	0.00	0.00	0.00	0.00
320	120	54.81	0.00	0.00	0.00	0.00
320	2020	54.81	0.00	0.00	0.00	0.00
321	121	57.94	0.00	0.00	0.00	0.00
321	2021	57.94	0.00	0.00	0.00	0.00
322	122	61.07	4.26	1.28	1.77	3.99
322	2022	61.07	4.26	1.28	1.77	3.02
323	123	64.20	5.71	-0.01	0.15	-0.08
323	2023	64.20	5.71	-0.01	0.15	-0.07
324	124	67.55	3.64	0.87	-1.71	2.89
324	2024	67.55	3.64	0.87	-1.71	2.23
325	125	70.90	0.79	4.49	-3.52	14.49
325	2025	70.90	0.79	4.49	-3.52	11.09
326	126	74.23	-1.43	10.10	-4.27	32.16
326	2026	74.23	-1.43	10.10	-4.27	24.52
327	127	77.56	0.00	0.00	0.00	0.00
327	2027	77.56	0.00	0.00	0.00	0.00
328	128	80.89	0.00	0.00	0.00	0.00
328	2028	80.89	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3D.FAM1.TOT + [1; 1]PRETF3D.FAM2.TOT + [1; 1]PRETF3D.FAM3.TOT + [1; 1]PRETF3D.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.00	0.00	0.00
329	2029	84.22	0.00	0.00	0.00	0.00
330	130	87.55	0.00	0.00	0.00	0.00
330	2030	87.55	0.00	0.00	0.00	0.00
331	131	90.88	0.00	0.00	0.00	0.00
331	2031	90.88	0.00	0.00	0.00	0.00
332	132	94.21	0.00	0.00	0.00	0.00
332	2032	94.21	0.00	0.00	0.00	0.00
333	133	97.54	0.00	0.00	0.00	0.00
333	2033	97.54	0.00	0.00	0.00	0.00
334	134	100.87	5.21	1.94	2.28	6.08
334	2034	100.87	5.21	1.94	2.28	4.61
335	135	104.20	2.87	-0.17	0.64	-0.56
335	2035	104.20	2.87	-0.17	0.64	-0.44
336	136	107.55	5.33	-0.11	-0.79	-0.29
336	2036	107.55	5.33	-0.11	-0.79	-0.21
337	137	110.90	1.60	2.10	-2.29	6.75
337	2037	110.90	1.60	2.10	-2.29	5.17
338	138	113.77	-19.74	5.13	-2.67	16.30
338	2038	113.77	-19.74	5.13	-2.67	12.42
339	139	116.64	0.00	0.00	0.00	0.00
339	2039	116.64	0.00	0.00	0.00	0.00
340	140	119.51	0.00	0.00	0.00	0.00
340	2040	119.51	0.00	0.00	0.00	0.00
341	141	122.38	0.00	0.00	0.00	0.00
341	2041	122.38	0.00	0.00	0.00	0.00
342	142	125.25	0.00	0.00	0.00	0.00
342	2042	125.25	0.00	0.00	0.00	0.00
343	143	128.12	0.00	0.00	0.00	0.00
343	2043	128.12	0.00	0.00	0.00	0.00
344	144	130.99	0.00	0.00	0.00	0.00
344	2044	130.99	0.00	0.00	0.00	0.00
345	145	133.86	0.00	0.00	0.00	0.00
345	2045	133.86	0.00	0.00	0.00	0.00
346	146	136.73	0.00	0.00	0.00	0.00
346	2046	136.73	0.00	0.00	0.00	0.00
347	147	139.60	0.00	0.00	0.00	0.00
347	2047	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3D.FAM1.TOT + [1; 1]PRETF3D.FAM2.TOT + [1; 1]PRETF3D.FAM3.TOT + [1; 1]PRETF3D.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	23.58	-23.44	0.26	0.60	0.60
210	1010	23.58	-23.44	0.26	0.60	-0.64
211	2011	26.20	1.27	0.15	-0.40	0.32
211	1011	26.20	1.27	0.15	-0.40	-0.38
212	2012	29.55	11.37	1.67	-2.02	4.18
212	1012	29.55	11.37	1.67	-2.02	-3.83
213	2013	32.90	6.74	5.54	-3.61	13.62
213	1013	32.90	6.74	5.54	-3.61	-12.88
214	2014	36.03	-4.19	10.18	-3.92	24.73
214	1014	36.03	-4.19	10.18	-3.92	-24.02
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	61.07	4.26	1.28	1.77	3.02
222	1022	61.07	4.26	1.28	1.77	-3.09
223	2023	64.20	5.71	-0.01	0.15	-0.07
223	1023	64.20	5.71	-0.01	0.15	-0.01
224	2024	67.55	3.64	0.87	-1.71	2.23
224	1024	67.55	3.64	0.87	-1.71	-1.93
225	2025	70.90	0.79	4.49	-3.52	11.09
225	1025	70.90	0.79	4.49	-3.52	-10.42
226	2026	74.23	-1.43	10.10	-4.27	24.52
226	1026	74.23	-1.43	10.10	-4.27	-23.84
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3D.FAM1.TOT + [1; 1]PRETF3D.FAM2.TOT + [1; 1]PRETF3D.FAM3.TOT + [1; 1]PRETF3D.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	100.87	5.21	1.94	2.28	4.61
234	1034	100.87	5.21	1.94	2.28	-4.69
235	2035	104.20	2.87	-0.17	0.64	-0.44
235	1035	104.20	2.87	-0.17	0.64	0.36
236	2036	107.55	5.33	-0.11	-0.79	-0.21
236	1036	107.55	5.33	-0.11	-0.79	0.32
237	2037	110.90	1.60	2.10	-2.29	5.17
237	1037	110.90	1.60	2.10	-2.29	-4.88
238	2038	113.77	-19.74	5.13	-2.67	12.42
238	1038	113.77	-19.74	5.13	-2.67	-12.14
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00
401	1001	0.00	0.00	0.00	0.00	0.00
401	1	0.00	0.00	0.00	0.00	0.00
402	1002	2.62	0.00	0.00	0.00	0.00
402	2	2.62	0.00	0.00	0.00	0.00
403	1003	5.24	0.00	0.00	0.00	0.00
403	3	5.24	0.00	0.00	0.00	0.00
404	1004	7.86	0.00	0.00	0.00	0.00
404	4	7.86	0.00	0.00	0.00	0.00
405	1005	10.48	0.00	0.00	0.00	0.00
405	5	10.48	0.00	0.00	0.00	0.00
406	1006	13.10	0.00	0.00	0.00	0.00
406	6	13.10	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3D.FAM1.TOT + [1; 1]PRETF3D.FAM2.TOT + [1; 1]PRETF3D.FAM3.TOT + [1; 1]PRETF3D.FAM4.TOT + [1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.00	0.00	0.00
407	7	15.72	0.00	0.00	0.00	0.00
408	1008	18.34	0.00	0.00	0.00	0.00
408	8	18.34	0.00	0.00	0.00	0.00
409	1009	20.96	0.00	0.00	0.00	0.00
409	9	20.96	0.00	0.00	0.00	0.00
410	1010	23.58	-23.44	0.26	0.60	-0.64
410	10	23.58	-23.44	0.26	0.60	-0.84
411	1011	26.20	1.27	0.15	-0.40	-0.38
411	11	26.20	1.27	0.15	-0.40	-0.49
412	1012	29.55	11.37	1.67	-2.02	-3.83
412	12	29.55	11.37	1.67	-2.02	-5.09
413	1013	32.90	6.74	5.54	-3.61	-12.88
413	13	32.90	6.74	5.54	-3.61	-17.07
414	1014	36.03	-4.19	10.18	-3.92	-24.02
414	14	36.03	-4.19	10.18	-3.92	-31.72
415	1015	39.16	0.00	0.00	0.00	0.00
415	15	39.16	0.00	0.00	0.00	0.00
416	1016	42.29	0.00	0.00	0.00	0.00
416	16	42.29	0.00	0.00	0.00	0.00
417	1017	45.42	0.00	0.00	0.00	0.00
417	17	45.42	0.00	0.00	0.00	0.00
418	1018	48.55	0.00	0.00	0.00	0.00
418	18	48.55	0.00	0.00	0.00	0.00
419	1019	51.68	0.00	0.00	0.00	0.00
419	19	51.68	0.00	0.00	0.00	0.00
420	1020	54.81	0.00	0.00	0.00	0.00
420	20	54.81	0.00	0.00	0.00	0.00
421	1021	57.94	0.00	0.00	0.00	0.00
421	21	57.94	0.00	0.00	0.00	0.00
422	1022	61.07	4.26	1.28	1.77	-3.09
422	22	61.07	4.26	1.28	1.77	-4.06
423	1023	64.20	5.71	-0.01	0.15	-0.01
423	23	64.20	5.71	-0.01	0.15	0.00
424	1024	67.55	3.64	0.87	-1.71	-1.93
424	24	67.55	3.64	0.87	-1.71	-2.59
425	1025	70.90	0.79	4.49	-3.52	-10.42
425	25	70.90	0.79	4.49	-3.52	-13.82
426	1026	74.23	-1.43	10.10	-4.27	-23.84
426	26	74.23	-1.43	10.10	-4.27	-31.48
427	1027	77.56	0.00	0.00	0.00	0.00
427	27	77.56	0.00	0.00	0.00	0.00
428	1028	80.89	0.00	0.00	0.00	0.00
428	28	80.89	0.00	0.00	0.00	0.00
429	1029	84.22	0.00	0.00	0.00	0.00
429	29	84.22	0.00	0.00	0.00	0.00
430	1030	87.55	0.00	0.00	0.00	0.00
430	30	87.55	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.TOT.To

Pretensado Total (t=0)

[1; 1]PRETF3D.FAM1.TOT + [1; 1]PRETF3D.FAM2.TOT + [1; 1]PRETF3D.FAM3.TOT + [1; 1]PRETF3D.FAM4.TOT + [1

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	0.00	0.00	0.00
431	31	90.88	0.00	0.00	0.00	0.00
432	1032	94.21	0.00	0.00	0.00	0.00
432	32	94.21	0.00	0.00	0.00	0.00
433	1033	97.54	0.00	0.00	0.00	0.00
433	33	97.54	0.00	0.00	0.00	0.00
434	1034	100.87	5.21	1.94	2.28	-4.69
434	34	100.87	5.21	1.94	2.28	-6.15
435	1035	104.20	2.87	-0.17	0.64	0.36
435	35	104.20	2.87	-0.17	0.64	0.49
436	1036	107.55	5.33	-0.11	-0.79	0.32
436	36	107.55	5.33	-0.11	-0.79	0.40
437	1037	110.90	1.60	2.10	-2.29	-4.88
437	37	110.90	1.60	2.10	-2.29	-6.47
438	1038	113.77	-19.74	5.13	-2.67	-12.14
438	38	113.77	-19.74	5.13	-2.67	-16.02
439	1039	116.64	0.00	0.00	0.00	0.00
439	39	116.64	0.00	0.00	0.00	0.00
440	1040	119.51	0.00	0.00	0.00	0.00
440	40	119.51	0.00	0.00	0.00	0.00
441	1041	122.38	0.00	0.00	0.00	0.00
441	41	122.38	0.00	0.00	0.00	0.00
442	1042	125.25	0.00	0.00	0.00	0.00
442	42	125.25	0.00	0.00	0.00	0.00
443	1043	128.12	0.00	0.00	0.00	0.00
443	43	128.12	0.00	0.00	0.00	0.00
444	1044	130.99	0.00	0.00	0.00	0.00
444	44	130.99	0.00	0.00	0.00	0.00
445	1045	133.86	0.00	0.00	0.00	0.00
445	45	133.86	0.00	0.00	0.00	0.00
446	1046	136.73	0.00	0.00	0.00	0.00
446	46	136.73	0.00	0.00	0.00	0.00
447	1047	139.60	0.00	0.00	0.00	0.00
447	47	139.60	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3D.FAM1.TOT + [-1;-1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.TOT + [-1;-1]PRETF3D.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	20.17	0.00	0.00
1	2	2.62	0.00	20.17	0.00	-52.85
2	2	2.62	0.00	20.17	0.00	-52.85
2	3	5.24	0.00	20.17	0.00	-105.70
3	3	5.24	0.00	20.17	0.00	-105.70
3	4	7.86	0.00	20.17	0.00	-158.55
4	4	7.86	0.00	20.17	0.00	-158.55
4	5	10.48	0.00	20.17	0.00	-211.40
5	5	10.48	0.00	20.17	0.00	-211.40
5	6	13.10	0.00	20.17	0.00	-264.25
6	6	13.10	0.00	20.17	0.00	-264.25
6	7	15.72	0.00	20.17	0.00	-317.10
7	7	15.72	0.00	20.17	0.00	-317.10
7	8	18.34	0.00	20.17	0.00	-369.95
8	8	18.34	0.00	20.17	0.00	-369.95
8	9	20.96	0.00	20.17	0.00	-422.79
9	9	20.96	0.00	20.17	0.00	-422.79
9	10	23.58	0.00	20.17	0.00	-475.64
10	10	23.58	91.81	20.43	-0.84	-476.24
10	10011	26.20	91.81	20.43	-0.84	-529.77
11	11	26.20	159.00	-19.11	53.71	-529.37
11	12	29.55	159.00	-19.11	53.71	-465.34
12	12	29.55	180.65	-17.44	48.61	-463.31
12	13	32.90	180.65	-17.44	48.61	-404.89
13	13	32.90	142.80	-11.91	31.54	-401.27
13	14	36.03	142.80	-11.91	31.54	-364.01
14	14	36.03	106.25	-1.73	-0.17	-360.09
14	15	39.16	106.25	-1.73	-0.17	-354.69
15	15	39.16	106.25	-1.73	-0.17	-354.69
15	16	42.29	106.25	-1.73	-0.17	-349.29
16	16	42.29	106.25	-1.73	-0.17	-349.29
16	17	45.42	106.25	-1.73	-0.17	-343.89
17	17	45.42	106.25	-1.73	-0.17	-343.89
17	18	48.55	106.25	-1.73	-0.17	-338.49
18	18	48.55	106.25	-1.73	-0.17	-338.49
18	19	51.68	106.25	-1.73	-0.17	-333.09
19	19	51.68	106.25	-1.73	-0.17	-333.09
19	20	54.81	106.25	-1.73	-0.17	-327.69
20	20	54.81	106.25	-1.73	-0.17	-327.69
20	21	57.94	106.25	-1.73	-0.17	-322.29
21	21	57.94	106.25	-1.73	-0.17	-322.29
21	22	61.07	106.25	-1.73	-0.17	-316.89
22	22	61.07	207.27	-0.45	-4.23	-318.65
22	10023	64.20	207.27	-0.45	-4.23	-317.25
23	23	64.20	247.05	-7.41	47.74	-317.40
23	24	67.55	247.05	-7.41	47.74	-292.58
24	24	67.55	237.79	-6.54	45.15	-290.86
24	25	70.90	237.79	-6.54	45.15	-268.95

~cpret3.esv Programa DINTEL IDEAM S.A. 28/10/02
PRETF3D.HIP.To

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3D.FAM1.TOT + [-1;-1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.TOT + [-1;-1]PRETF3D.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	175.90	-2.05	31.33	-265.43
25	26	74.23	175.90	-2.05	31.33	-258.61
26	26	74.23	98.81	8.05	-0.15	-254.34
26	27	77.56	98.81	8.05	-0.15	-281.16
27	27	77.56	98.81	8.05	-0.15	-281.16
27	28	80.89	98.81	8.05	-0.15	-307.98
28	28	80.89	98.81	8.05	-0.15	-307.98
28	29	84.22	98.81	8.05	-0.15	-334.79
29	29	84.22	98.81	8.05	-0.15	-334.79
29	30	87.55	98.81	8.05	-0.15	-361.61
30	30	87.55	98.81	8.05	-0.15	-361.61
30	31	90.88	98.81	8.05	-0.15	-388.43
31	31	90.88	98.81	8.05	-0.15	-388.43
31	32	94.21	98.81	8.05	-0.15	-415.25
32	32	94.21	98.81	8.05	-0.15	-415.25
32	33	97.54	98.81	8.05	-0.15	-442.07
33	33	97.54	98.81	8.05	-0.15	-442.07
33	34	100.87	98.81	8.05	-0.15	-468.89
34	34	100.87	177.99	10.00	-6.30	-471.17
34	10035	104.20	177.99	10.00	-6.30	-504.45
35	35	104.20	179.57	-19.45	22.03	-505.10
35	36	107.55	179.57	-19.45	22.03	-439.93
36	36	107.55	155.68	-19.56	22.43	-439.14
36	37	110.90	155.68	-19.56	22.43	-373.61
37	37	110.90	86.37	-17.46	15.96	-371.32
37	38	113.77	86.37	-17.46	15.96	-321.21
38	38	113.77	0.00	-12.33	-0.06	-318.54
38	39	116.64	0.00	-12.33	-0.06	-283.14
39	39	116.64	0.00	-12.33	-0.06	-283.14
39	40	119.51	0.00	-12.33	-0.06	-247.74
40	40	119.51	0.00	-12.33	-0.06	-247.74
40	41	122.38	0.00	-12.33	-0.06	-212.35
41	41	122.38	0.00	-12.33	-0.06	-212.35
41	42	125.25	0.00	-12.33	-0.06	-176.96
42	42	125.25	0.00	-12.33	-0.06	-176.96
42	43	128.12	0.00	-12.33	-0.06	-141.56
43	43	128.12	0.00	-12.33	-0.06	-141.56
43	44	130.99	0.00	-12.33	-0.06	-106.17
44	44	130.99	0.00	-12.33	-0.06	-106.17
44	45	133.86	0.00	-12.33	-0.06	-70.78
45	45	133.86	0.00	-12.33	-0.06	-70.78
45	46	136.73	0.00	-12.33	-0.06	-35.39
46	46	136.73	0.00	-12.33	-0.06	-35.39
46	47	139.60	0.00	-12.33	-0.06	0.00
101	101	0.00	0.00	-0.29	0.01	0.00
101	102	2.62	0.00	-0.29	0.01	0.75
102	102	2.62	0.00	-0.29	0.01	0.75
102	103	5.24	0.00	-0.29	0.01	1.50

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3D.FAM1.TOT + [-1;-1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.TOT + [-1;-1]PRETF3D.FAM2.ISO + [1;

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	-0.29	0.01	1.50
103	104	7.86	0.00	-0.29	0.01	2.25
104	104	7.86	0.00	-0.29	0.01	2.25
104	105	10.48	0.00	-0.29	0.01	3.00
105	105	10.48	0.00	-0.29	0.01	3.00
105	106	13.10	0.00	-0.29	0.01	3.75
106	106	13.10	0.00	-0.29	0.01	3.75
106	107	15.72	0.00	-0.29	0.01	4.50
107	107	15.72	0.00	-0.29	0.01	4.50
107	108	18.34	0.00	-0.29	0.01	5.25
108	108	18.34	0.00	-0.29	0.01	5.25
108	109	20.96	0.00	-0.29	0.01	6.00
109	109	20.96	0.00	-0.29	0.01	6.00
109	110	23.58	0.00	-0.29	0.01	6.75
110	110	23.58	-91.81	-0.55	-0.78	7.35
110	111	26.20	-91.81	-0.55	-0.78	8.78
111	111	26.20	-159.00	-0.69	-1.22	8.38
111	112	29.55	-159.00	-0.69	-1.22	10.69
112	112	29.55	-180.65	-2.36	-6.66	8.67
112	10113	32.90	-180.65	-2.36	-6.66	16.58
113	113	32.90	-142.80	9.12	32.40	12.97
113	114	36.03	-142.80	9.12	32.40	-15.59
114	114	36.03	-106.25	-1.06	-0.02	-19.51
114	115	39.16	-106.25	-1.06	-0.02	-16.20
115	115	39.16	-106.25	-1.06	-0.02	-16.20
115	116	42.29	-106.25	-1.06	-0.02	-12.89
116	116	42.29	-106.25	-1.06	-0.02	-12.89
116	117	45.42	-106.25	-1.06	-0.02	-9.58
117	117	45.42	-106.25	-1.06	-0.02	-9.58
117	118	48.55	-106.25	-1.06	-0.02	-6.27
118	118	48.55	-106.25	-1.06	-0.02	-6.27
118	119	51.68	-106.25	-1.06	-0.02	-2.96
119	119	51.68	-106.25	-1.06	-0.02	-2.96
119	120	54.81	-106.25	-1.06	-0.02	0.34
120	120	54.81	-106.25	-1.06	-0.02	0.34
120	121	57.94	-106.25	-1.06	-0.02	3.65
121	121	57.94	-106.25	-1.06	-0.02	3.65
121	122	61.07	-106.25	-1.06	-0.02	6.96
122	122	61.07	-207.27	-2.33	-4.01	8.73
122	123	64.20	-207.27	-2.33	-4.01	16.03
123	123	64.20	-247.05	-2.32	-3.93	16.19
123	124	67.55	-247.05	-2.32	-3.93	23.96
124	124	67.55	-237.79	-3.19	-6.82	22.25
124	10125	70.90	-237.79	-3.19	-6.82	32.94
125	125	70.90	-175.90	9.90	32.14	29.41
125	126	74.23	-175.90	9.90	32.14	-3.55
126	126	74.23	-98.81	-0.20	-0.02	-7.81
126	127	77.56	-98.81	-0.20	-0.02	-7.14

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3D.FAM1.TOT + [-1;-1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.TOT + [-1;-1]PRETF3D.FAM2.ISO + [1;

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-98.81	-0.20	-0.02	-7.14
127	128	80.89	-98.81	-0.20	-0.02	-6.46
128	128	80.89	-98.81	-0.20	-0.02	-6.46
128	129	84.22	-98.81	-0.20	-0.02	-5.78
129	129	84.22	-98.81	-0.20	-0.02	-5.78
129	130	87.55	-98.81	-0.20	-0.02	-5.10
130	130	87.55	-98.81	-0.20	-0.02	-5.10
130	131	90.88	-98.81	-0.20	-0.02	-4.43
131	131	90.88	-98.81	-0.20	-0.02	-4.43
131	132	94.21	-98.81	-0.20	-0.02	-3.75
132	132	94.21	-98.81	-0.20	-0.02	-3.75
132	133	97.54	-98.81	-0.20	-0.02	-3.07
133	133	97.54	-98.81	-0.20	-0.02	-3.07
133	134	100.87	-98.81	-0.20	-0.02	-2.39
134	134	100.87	-177.99	-2.14	-6.09	-0.12
134	135	104.20	-177.99	-2.14	-6.09	7.02
135	135	104.20	-190.11	-1.98	-5.53	7.67
135	136	107.55	-190.11	-1.98	-5.53	14.29
136	136	107.55	-166.22	-1.87	-5.24	13.50
136	10137	110.90	-166.22	-1.87	-5.24	19.76
137	137	110.90	-86.37	5.13	16.28	17.47
137	138	113.77	-86.37	5.13	16.28	2.74
138	138	113.77	0.00	0.00	-0.02	0.07
138	139	116.64	0.00	0.00	-0.02	0.06
139	139	116.64	0.00	0.00	-0.02	0.06
139	140	119.51	0.00	0.00	-0.02	0.06
140	140	119.51	0.00	0.00	-0.02	0.06
140	141	122.38	0.00	0.00	-0.02	0.05
141	141	122.38	0.00	0.00	-0.02	0.05
141	142	125.25	0.00	0.00	-0.02	0.04
142	142	125.25	0.00	0.00	-0.02	0.04
142	143	128.12	0.00	0.00	-0.02	0.03
143	143	128.12	0.00	0.00	-0.02	0.03
143	144	130.99	0.00	0.00	-0.02	0.02
144	144	130.99	0.00	0.00	-0.02	0.02
144	145	133.86	0.00	0.00	-0.02	0.02
145	145	133.86	0.00	0.00	-0.02	0.02
145	146	136.73	0.00	0.00	-0.02	0.01
146	146	136.73	0.00	0.00	-0.02	0.01
146	147	139.60	0.00	0.00	-0.02	0.00
301	101	0.00	0.00	0.00	0.00	0.00
301	2001	0.00	0.00	0.00	0.00	0.00
302	102	2.62	0.00	0.00	0.00	0.00
302	2002	2.62	0.00	0.00	0.00	0.00
303	103	5.24	0.00	0.00	0.00	0.00
303	2003	5.24	0.00	0.00	0.00	0.00
304	104	7.86	0.00	0.00	0.00	0.00
304	2004	7.86	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3D.FAM1.TOT + [-1;-1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.TOT + [-1;-1]PRETF3D.FAM2.ISO + [1;

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	10.48	0.00	0.00	0.00	0.00
305	2005	10.48	0.00	0.00	0.00	0.00
306	106	13.10	0.00	0.00	0.00	0.00
306	2006	13.10	0.00	0.00	0.00	0.00
307	107	15.72	0.00	0.00	0.00	0.00
307	2007	15.72	0.00	0.00	0.00	0.00
308	108	18.34	0.00	0.00	0.00	0.00
308	2008	18.34	0.00	0.00	0.00	0.00
309	109	20.96	0.00	0.00	0.00	0.00
309	2009	20.96	0.00	0.00	0.00	0.00
310	110	23.58	-23.44	0.26	0.60	0.79
310	2010	23.58	-23.44	0.26	0.60	0.60
311	111	26.20	1.27	0.15	-0.40	0.43
311	2011	26.20	1.27	0.15	-0.40	0.32
312	112	29.55	11.37	1.67	-2.02	5.44
312	2012	29.55	11.37	1.67	-2.02	4.18
313	113	32.90	6.74	5.54	-3.61	17.80
313	2013	32.90	6.74	5.54	-3.61	13.62
314	114	36.03	-4.19	10.18	-3.92	32.42
314	2014	36.03	-4.19	10.18	-3.92	24.73
315	115	39.16	0.00	0.00	0.00	0.00
315	2015	39.16	0.00	0.00	0.00	0.00
316	116	42.29	0.00	0.00	0.00	0.00
316	2016	42.29	0.00	0.00	0.00	0.00
317	117	45.42	0.00	0.00	0.00	0.00
317	2017	45.42	0.00	0.00	0.00	0.00
318	118	48.55	0.00	0.00	0.00	0.00
318	2018	48.55	0.00	0.00	0.00	0.00
319	119	51.68	0.00	0.00	0.00	0.00
319	2019	51.68	0.00	0.00	0.00	0.00
320	120	54.81	0.00	0.00	0.00	0.00
320	2020	54.81	0.00	0.00	0.00	0.00
321	121	57.94	0.00	0.00	0.00	0.00
321	2021	57.94	0.00	0.00	0.00	0.00
322	122	61.07	4.26	1.28	1.77	3.99
322	2022	61.07	4.26	1.28	1.77	3.02
323	123	64.20	5.71	-0.01	0.15	-0.08
323	2023	64.20	5.71	-0.01	0.15	-0.07
324	124	67.55	3.64	0.87	-1.71	2.89
324	2024	67.55	3.64	0.87	-1.71	2.23
325	125	70.90	0.79	4.49	-3.52	14.49
325	2025	70.90	0.79	4.49	-3.52	11.09
326	126	74.23	-1.43	10.10	-4.27	32.16
326	2026	74.23	-1.43	10.10	-4.27	24.52
327	127	77.56	0.00	0.00	0.00	0.00
327	2027	77.56	0.00	0.00	0.00	0.00
328	128	80.89	0.00	0.00	0.00	0.00
328	2028	80.89	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3D.FAM1.TOT + [-1;-1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.TOT + [-1;-1]PRETF3D.FAM2.ISO + [1;

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	84.22	0.00	0.00	0.00	0.00
329	2029	84.22	0.00	0.00	0.00	0.00
330	130	87.55	0.00	0.00	0.00	0.00
330	2030	87.55	0.00	0.00	0.00	0.00
331	131	90.88	0.00	0.00	0.00	0.00
331	2031	90.88	0.00	0.00	0.00	0.00
332	132	94.21	0.00	0.00	0.00	0.00
332	2032	94.21	0.00	0.00	0.00	0.00
333	133	97.54	0.00	0.00	0.00	0.00
333	2033	97.54	0.00	0.00	0.00	0.00
334	134	100.87	5.21	1.94	2.28	6.08
334	2034	100.87	5.21	1.94	2.28	4.61
335	135	104.20	2.87	-0.17	0.64	-0.56
335	2035	104.20	2.87	-0.17	0.64	-0.44
336	136	107.55	5.33	-0.11	-0.79	-0.29
336	2036	107.55	5.33	-0.11	-0.79	-0.21
337	137	110.90	1.60	2.10	-2.29	6.75
337	2037	110.90	1.60	2.10	-2.29	5.17
338	138	113.77	-19.74	5.13	-2.67	16.30
338	2038	113.77	-19.74	5.13	-2.67	12.42
339	139	116.64	0.00	0.00	0.00	0.00
339	2039	116.64	0.00	0.00	0.00	0.00
340	140	119.51	0.00	0.00	0.00	0.00
340	2040	119.51	0.00	0.00	0.00	0.00
341	141	122.38	0.00	0.00	0.00	0.00
341	2041	122.38	0.00	0.00	0.00	0.00
342	142	125.25	0.00	0.00	0.00	0.00
342	2042	125.25	0.00	0.00	0.00	0.00
343	143	128.12	0.00	0.00	0.00	0.00
343	2043	128.12	0.00	0.00	0.00	0.00
344	144	130.99	0.00	0.00	0.00	0.00
344	2044	130.99	0.00	0.00	0.00	0.00
345	145	133.86	0.00	0.00	0.00	0.00
345	2045	133.86	0.00	0.00	0.00	0.00
346	146	136.73	0.00	0.00	0.00	0.00
346	2046	136.73	0.00	0.00	0.00	0.00
347	147	139.60	0.00	0.00	0.00	0.00
347	2047	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3D.FAM1.TOT + [-1;-1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.TOT + [-1;-1]PRETF3D.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	23.58	-23.44	0.26	0.60	0.60
210	1010	23.58	-23.44	0.26	0.60	-0.64
211	2011	26.20	1.27	0.15	-0.40	0.32
211	1011	26.20	1.27	0.15	-0.40	-0.38
212	2012	29.55	11.37	1.67	-2.02	4.18
212	1012	29.55	11.37	1.67	-2.02	-3.83
213	2013	32.90	6.74	5.54	-3.61	13.62
213	1013	32.90	6.74	5.54	-3.61	-12.88
214	2014	36.03	-4.19	10.18	-3.92	24.73
214	1014	36.03	-4.19	10.18	-3.92	-24.02
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	61.07	4.26	1.28	1.77	3.02
222	1022	61.07	4.26	1.28	1.77	-3.09
223	2023	64.20	5.71	-0.01	0.15	-0.07
223	1023	64.20	5.71	-0.01	0.15	-0.01
224	2024	67.55	3.64	0.87	-1.71	2.23
224	1024	67.55	3.64	0.87	-1.71	-1.93
225	2025	70.90	0.79	4.49	-3.52	11.09
225	1025	70.90	0.79	4.49	-3.52	-10.42
226	2026	74.23	-1.43	10.10	-4.27	24.52
226	1026	74.23	-1.43	10.10	-4.27	-23.84
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3D.FAM1.TOT + [-1;-1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.TOT + [-1;-1]PRETF3D.FAM2.ISO + [1;

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	100.87	5.21	1.94	2.28	4.61
234	1034	100.87	5.21	1.94	2.28	-4.69
235	2035	104.20	2.87	-0.17	0.64	-0.44
235	1035	104.20	2.87	-0.17	0.64	0.36
236	2036	107.55	5.33	-0.11	-0.79	-0.21
236	1036	107.55	5.33	-0.11	-0.79	0.32
237	2037	110.90	1.60	2.10	-2.29	5.17
237	1037	110.90	1.60	2.10	-2.29	-4.88
238	2038	113.77	-19.74	5.13	-2.67	12.42
238	1038	113.77	-19.74	5.13	-2.67	-12.14
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00
401	1001	0.00	0.00	0.00	0.00	0.00
401	1	0.00	0.00	0.00	0.00	0.00
402	1002	2.62	0.00	0.00	0.00	0.00
402	2	2.62	0.00	0.00	0.00	0.00
403	1003	5.24	0.00	0.00	0.00	0.00
403	3	5.24	0.00	0.00	0.00	0.00
404	1004	7.86	0.00	0.00	0.00	0.00
404	4	7.86	0.00	0.00	0.00	0.00
405	1005	10.48	0.00	0.00	0.00	0.00
405	5	10.48	0.00	0.00	0.00	0.00
406	1006	13.10	0.00	0.00	0.00	0.00
406	6	13.10	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3D.FAM1.TOT + [-1;-1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.TOT + [-1;-1]PRETF3D.FAM2.ISO + [1;
Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	15.72	0.00	0.00	0.00	0.00
407	7	15.72	0.00	0.00	0.00	0.00
408	1008	18.34	0.00	0.00	0.00	0.00
408	8	18.34	0.00	0.00	0.00	0.00
409	1009	20.96	0.00	0.00	0.00	0.00
409	9	20.96	0.00	0.00	0.00	0.00
410	1010	23.58	-23.44	0.26	0.60	-0.64
410	10	23.58	-23.44	0.26	0.60	-0.84
411	1011	26.20	1.27	0.15	-0.40	-0.38
411	11	26.20	1.27	0.15	-0.40	-0.49
412	1012	29.55	11.37	1.67	-2.02	-3.83
412	12	29.55	11.37	1.67	-2.02	-5.09
413	1013	32.90	6.74	5.54	-3.61	-12.88
413	13	32.90	6.74	5.54	-3.61	-17.07
414	1014	36.03	-4.19	10.18	-3.92	-24.02
414	14	36.03	-4.19	10.18	-3.92	-31.72
415	1015	39.16	0.00	0.00	0.00	0.00
415	15	39.16	0.00	0.00	0.00	0.00
416	1016	42.29	0.00	0.00	0.00	0.00
416	16	42.29	0.00	0.00	0.00	0.00
417	1017	45.42	0.00	0.00	0.00	0.00
417	17	45.42	0.00	0.00	0.00	0.00
418	1018	48.55	0.00	0.00	0.00	0.00
418	18	48.55	0.00	0.00	0.00	0.00
419	1019	51.68	0.00	0.00	0.00	0.00
419	19	51.68	0.00	0.00	0.00	0.00
420	1020	54.81	0.00	0.00	0.00	0.00
420	20	54.81	0.00	0.00	0.00	0.00
421	1021	57.94	0.00	0.00	0.00	0.00
421	21	57.94	0.00	0.00	0.00	0.00
422	1022	61.07	4.26	1.28	1.77	-3.09
422	22	61.07	4.26	1.28	1.77	-4.06
423	1023	64.20	5.71	-0.01	0.15	-0.01
423	23	64.20	5.71	-0.01	0.15	0.00
424	1024	67.55	3.64	0.87	-1.71	-1.93
424	24	67.55	3.64	0.87	-1.71	-2.59
425	1025	70.90	0.79	4.49	-3.52	-10.42
425	25	70.90	0.79	4.49	-3.52	-13.82
426	1026	74.23	-1.43	10.10	-4.27	-23.84
426	26	74.23	-1.43	10.10	-4.27	-31.48
427	1027	77.56	0.00	0.00	0.00	0.00
427	27	77.56	0.00	0.00	0.00	0.00
428	1028	80.89	0.00	0.00	0.00	0.00
428	28	80.89	0.00	0.00	0.00	0.00
429	1029	84.22	0.00	0.00	0.00	0.00
429	29	84.22	0.00	0.00	0.00	0.00
430	1030	87.55	0.00	0.00	0.00	0.00
430	30	87.55	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETF3D.FAM1.TOT + [-1;-1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.TOT + [-1;-1]PRETF3D.FAM2.ISO + [1;
Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	90.88	0.00	0.00	0.00	0.00
431	31	90.88	0.00	0.00	0.00	0.00
432	1032	94.21	0.00	0.00	0.00	0.00
432	32	94.21	0.00	0.00	0.00	0.00
433	1033	97.54	0.00	0.00	0.00	0.00
433	33	97.54	0.00	0.00	0.00	0.00
434	1034	100.87	5.21	1.94	2.28	-4.69
434	34	100.87	5.21	1.94	2.28	-6.15
435	1035	104.20	2.87	-0.17	0.64	0.36
435	35	104.20	2.87	-0.17	0.64	0.49
436	1036	107.55	5.33	-0.11	-0.79	0.32
436	36	107.55	5.33	-0.11	-0.79	0.40
437	1037	110.90	1.60	2.10	-2.29	-4.88
437	37	110.90	1.60	2.10	-2.29	-6.47
438	1038	113.77	-19.74	5.13	-2.67	-12.14
438	38	113.77	-19.74	5.13	-2.67	-16.02
439	1039	116.64	0.00	0.00	0.00	0.00
439	39	116.64	0.00	0.00	0.00	0.00
440	1040	119.51	0.00	0.00	0.00	0.00
440	40	119.51	0.00	0.00	0.00	0.00
441	1041	122.38	0.00	0.00	0.00	0.00
441	41	122.38	0.00	0.00	0.00	0.00
442	1042	125.25	0.00	0.00	0.00	0.00
442	42	125.25	0.00	0.00	0.00	0.00
443	1043	128.12	0.00	0.00	0.00	0.00
443	43	128.12	0.00	0.00	0.00	0.00
444	1044	130.99	0.00	0.00	0.00	0.00
444	44	130.99	0.00	0.00	0.00	0.00
445	1045	133.86	0.00	0.00	0.00	0.00
445	45	133.86	0.00	0.00	0.00	0.00
446	1046	136.73	0.00	0.00	0.00	0.00
446	46	136.73	0.00	0.00	0.00	0.00
447	1047	139.60	0.00	0.00	0.00	0.00
447	47	139.60	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.ISO + [1; 1]PRETF3D.FAM3.ISO + [1; 1]PRETF3D.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	2.62	0.00	0.00	0.00	0.00
2	2	2.62	0.00	0.00	0.00	0.00
2	3	5.24	0.00	0.00	0.00	0.00
3	3	5.24	0.00	0.00	0.00	0.00
3	4	7.86	0.00	0.00	0.00	0.00
4	4	7.86	0.00	0.00	0.00	0.00
4	5	10.48	0.00	0.00	0.00	0.00
5	5	10.48	0.00	0.00	0.00	0.00
5	6	13.10	0.00	0.00	0.00	0.00
6	6	13.10	0.00	0.00	0.00	0.00
6	7	15.72	0.00	0.00	0.00	0.00
7	7	15.72	0.00	0.00	0.00	0.00
7	8	18.34	0.00	0.00	0.00	0.00
8	8	18.34	-989.96	0.00	0.00	777.12
8	9	20.96	-993.58	0.00	0.00	779.96
9	9	20.96	-1935.92	0.00	0.00	1519.69
9	10	23.58	-1942.64	0.00	0.00	1524.97
10	10	23.58	-1942.64	0.00	0.00	1524.97
10	10011	26.20	-1892.97	0.00	0.00	1485.98
11	11	26.20	-1892.97	0.00	0.00	1485.98
11	12	29.55	-1970.38	0.00	0.00	1546.75
12	12	29.55	-1970.38	0.00	0.00	1546.75
12	13	32.90	-1961.79	0.00	0.00	1540.01
13	13	32.90	-884.15	0.00	0.00	694.06
13	14	36.03	-880.37	0.00	0.00	691.09
14	14	36.03	0.00	0.00	0.00	0.00
14	15	39.16	0.00	0.00	0.00	0.00
15	15	39.16	0.00	0.00	0.00	0.00
15	16	42.29	0.00	0.00	0.00	0.00
16	16	42.29	0.00	0.00	0.00	0.00
16	17	45.42	0.00	0.00	0.00	0.00
17	17	45.42	0.00	0.00	0.00	0.00
17	18	48.55	0.00	0.00	0.00	0.00
18	18	48.55	0.00	0.00	0.00	0.00
18	19	51.68	0.00	0.00	0.00	0.00
19	19	51.68	0.00	0.00	0.00	0.00
19	20	54.81	0.00	0.00	0.00	0.00
20	20	54.81	-1003.68	0.00	0.00	787.89
20	21	57.94	-1008.00	0.00	0.00	791.28
21	21	57.94	-1948.89	0.00	0.00	1529.88
21	22	61.07	-1956.91	0.00	0.00	1536.18
22	22	61.07	-1956.91	0.00	0.00	1536.18
22	10023	64.20	-1911.02	0.00	0.00	1500.15
23	23	64.20	-1911.02	0.00	0.00	1500.15
23	24	67.55	-1970.54	0.00	0.00	1546.87
24	24	67.55	-1970.54	0.00	0.00	1546.87
24	25	70.90	-1961.96	0.00	0.00	1540.14

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.ISO + [1; 1]PRETF3D.FAM3.ISO + [1; 1]PRETF3D.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-886.39	0.00	0.00	695.82
25	26	74.23	-882.37	0.00	0.00	692.66
26	26	74.23	0.00	0.00	0.00	0.00
26	27	77.56	0.00	0.00	0.00	0.00
27	27	77.56	0.00	0.00	0.00	0.00
27	28	80.89	0.00	0.00	0.00	0.00
28	28	80.89	0.00	0.00	0.00	0.00
28	29	84.22	0.00	0.00	0.00	0.00
29	29	84.22	0.00	0.00	0.00	0.00
29	30	87.55	0.00	0.00	0.00	0.00
30	30	87.55	0.00	0.00	0.00	0.00
30	31	90.88	0.00	0.00	0.00	0.00
31	31	90.88	0.00	0.00	0.00	0.00
31	32	94.21	0.00	0.00	0.00	0.00
32	32	94.21	-1005.48	0.00	0.00	789.30
32	33	97.54	-1010.08	0.00	0.00	792.91
33	33	97.54	-1951.04	0.00	0.00	1531.56
33	34	100.87	-1959.57	0.00	0.00	1538.26
34	34	100.87	-1959.57	0.00	0.00	1538.26
34	10035	104.20	-1910.23	0.00	0.00	1499.53
35	35	104.20	-1910.23	0.00	0.00	1499.53
35	36	107.55	-1966.31	0.00	0.00	1543.56
36	36	107.55	-1966.31	0.00	0.00	1543.56
36	37	110.90	-1957.74	0.00	0.00	1536.82
37	37	110.90	-882.98	0.00	0.00	693.14
37	38	113.77	-879.51	0.00	0.00	690.41
38	38	113.77	0.00	0.00	0.00	0.00
38	39	116.64	0.00	0.00	0.00	0.00
39	39	116.64	0.00	0.00	0.00	0.00
39	40	119.51	0.00	0.00	0.00	0.00
40	40	119.51	0.00	0.00	0.00	0.00
40	41	122.38	0.00	0.00	0.00	0.00
41	41	122.38	0.00	0.00	0.00	0.00
41	42	125.25	0.00	0.00	0.00	0.00
42	42	125.25	0.00	0.00	0.00	0.00
42	43	128.12	0.00	0.00	0.00	0.00
43	43	128.12	0.00	0.00	0.00	0.00
43	44	130.99	0.00	0.00	0.00	0.00
44	44	130.99	0.00	0.00	0.00	0.00
44	45	133.86	0.00	0.00	0.00	0.00
45	45	133.86	0.00	0.00	0.00	0.00
45	46	136.73	0.00	0.00	0.00	0.00
46	46	136.73	0.00	0.00	0.00	0.00
46	47	139.60	0.00	0.00	0.00	0.00
101	101	0.00	0.00	0.00	0.00	0.00
101	102	0.00	0.00	0.00	0.00	0.00
102	102	0.00	0.00	0.00	0.00	0.00
102	103	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.ISO + [1; 1]PRETF3D.FAM3.ISO + [1; 1]PRETF3D.FAM4.ISO + [1; 1

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	0.00	0.00	0.00	0.00	0.00
103	104	0.00	0.00	0.00	0.00	0.00
104	104	0.00	0.00	0.00	0.00	0.00
104	105	0.00	0.00	0.00	0.00	0.00
105	105	0.00	0.00	0.00	0.00	0.00
105	106	0.00	0.00	0.00	0.00	0.00
106	106	0.00	0.00	0.00	0.00	0.00
106	107	0.00	0.00	0.00	0.00	0.00
107	107	0.00	0.00	0.00	0.00	0.00
107	108	0.00	0.00	0.00	0.00	0.00
108	108	0.00	0.00	0.00	0.00	0.00
108	109	0.00	0.00	0.00	0.00	0.00
109	109	0.00	0.00	0.00	0.00	0.00
109	110	0.00	0.00	0.00	0.00	0.00
110	110	0.00	0.00	0.00	0.00	0.00
110	111	0.00	0.00	0.00	0.00	0.00
111	111	0.00	0.00	0.00	0.00	0.00
111	112	0.00	0.00	0.00	0.00	0.00
112	112	0.00	0.00	0.00	0.00	0.00
112	10113	0.00	0.00	0.00	0.00	0.00
113	113	0.00	0.00	0.00	0.00	0.00
113	114	0.00	0.00	0.00	0.00	0.00
114	114	0.00	0.00	0.00	0.00	0.00
114	115	0.00	0.00	0.00	0.00	0.00
115	115	0.00	0.00	0.00	0.00	0.00
115	116	0.00	0.00	0.00	0.00	0.00
116	116	0.00	0.00	0.00	0.00	0.00
116	117	0.00	0.00	0.00	0.00	0.00
117	117	0.00	0.00	0.00	0.00	0.00
117	118	0.00	0.00	0.00	0.00	0.00
118	118	0.00	0.00	0.00	0.00	0.00
118	119	0.00	0.00	0.00	0.00	0.00
119	119	0.00	0.00	0.00	0.00	0.00
119	120	0.00	0.00	0.00	0.00	0.00
120	120	0.00	0.00	0.00	0.00	0.00
120	121	0.00	0.00	0.00	0.00	0.00
121	121	0.00	0.00	0.00	0.00	0.00
121	122	0.00	0.00	0.00	0.00	0.00
122	122	0.00	0.00	0.00	0.00	0.00
122	123	0.00	0.00	0.00	0.00	0.00
123	123	0.00	0.00	0.00	0.00	0.00
123	124	0.00	0.00	0.00	0.00	0.00
124	124	0.00	0.00	0.00	0.00	0.00
124	10125	0.00	0.00	0.00	0.00	0.00
125	125	0.00	0.00	0.00	0.00	0.00
125	126	0.00	0.00	0.00	0.00	0.00
126	126	0.00	0.00	0.00	0.00	0.00
126	127	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.ISO + [1; 1]PRETF3D.FAM3.ISO + [1; 1]PRETF3D.FAM4.ISO + [1; 1

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	0.00	0.00	0.00	0.00	0.00
127	128	0.00	0.00	0.00	0.00	0.00
128	128	0.00	0.00	0.00	0.00	0.00
128	129	0.00	0.00	0.00	0.00	0.00
129	129	0.00	0.00	0.00	0.00	0.00
129	130	0.00	0.00	0.00	0.00	0.00
130	130	0.00	0.00	0.00	0.00	0.00
130	131	0.00	0.00	0.00	0.00	0.00
131	131	0.00	0.00	0.00	0.00	0.00
131	132	0.00	0.00	0.00	0.00	0.00
132	132	0.00	0.00	0.00	0.00	0.00
132	133	0.00	0.00	0.00	0.00	0.00
133	133	0.00	0.00	0.00	0.00	0.00
133	134	0.00	0.00	0.00	0.00	0.00
134	134	0.00	0.00	0.00	0.00	0.00
134	135	0.00	0.00	0.00	0.00	0.00
135	135	0.00	0.00	0.00	0.00	0.00
135	136	0.00	0.00	0.00	0.00	0.00
136	136	0.00	0.00	0.00	0.00	0.00
136	10137	0.00	0.00	0.00	0.00	0.00
137	137	0.00	0.00	0.00	0.00	0.00
137	138	0.00	0.00	0.00	0.00	0.00
138	138	0.00	0.00	0.00	0.00	0.00
138	139	0.00	0.00	0.00	0.00	0.00
139	139	0.00	0.00	0.00	0.00	0.00
139	140	0.00	0.00	0.00	0.00	0.00
140	140	0.00	0.00	0.00	0.00	0.00
140	141	0.00	0.00	0.00	0.00	0.00
141	141	0.00	0.00	0.00	0.00	0.00
141	142	0.00	0.00	0.00	0.00	0.00
142	142	0.00	0.00	0.00	0.00	0.00
142	143	0.00	0.00	0.00	0.00	0.00
143	143	0.00	0.00	0.00	0.00	0.00
143	144	0.00	0.00	0.00	0.00	0.00
144	144	0.00	0.00	0.00	0.00	0.00
144	145	0.00	0.00	0.00	0.00	0.00
145	145	0.00	0.00	0.00	0.00	0.00
145	146	0.00	0.00	0.00	0.00	0.00
146	146	0.00	0.00	0.00	0.00	0.00
146	147	0.00	0.00	0.00	0.00	0.00
301	101	0.00	0.00	0.00	0.00	0.00
301	2001	0.00	0.00	0.00	0.00	0.00
302	102	0.00	0.00	0.00	0.00	0.00
302	2002	0.00	0.00	0.00	0.00	0.00
303	103	0.00	0.00	0.00	0.00	0.00
303	2003	0.00	0.00	0.00	0.00	0.00
304	104	0.00	0.00	0.00	0.00	0.00
304	2004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.ISO + [1; 1]PRETF3D.FAM3.ISO + [1; 1]PRETF3D.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
305	105	0.00	0.00	0.00	0.00	0.00
305	2005	0.00	0.00	0.00	0.00	0.00
306	106	0.00	0.00	0.00	0.00	0.00
306	2006	0.00	0.00	0.00	0.00	0.00
307	107	0.00	0.00	0.00	0.00	0.00
307	2007	0.00	0.00	0.00	0.00	0.00
308	108	0.00	0.00	0.00	0.00	0.00
308	2008	0.00	0.00	0.00	0.00	0.00
309	109	0.00	0.00	0.00	0.00	0.00
309	2009	0.00	0.00	0.00	0.00	0.00
310	110	0.00	0.00	0.00	0.00	0.00
310	2010	0.00	0.00	0.00	0.00	0.00
311	111	0.00	0.00	0.00	0.00	0.00
311	2011	0.00	0.00	0.00	0.00	0.00
312	112	0.00	0.00	0.00	0.00	0.00
312	2012	0.00	0.00	0.00	0.00	0.00
313	113	0.00	0.00	0.00	0.00	0.00
313	2013	0.00	0.00	0.00	0.00	0.00
314	114	0.00	0.00	0.00	0.00	0.00
314	2014	0.00	0.00	0.00	0.00	0.00
315	115	0.00	0.00	0.00	0.00	0.00
315	2015	0.00	0.00	0.00	0.00	0.00
316	116	0.00	0.00	0.00	0.00	0.00
316	2016	0.00	0.00	0.00	0.00	0.00
317	117	0.00	0.00	0.00	0.00	0.00
317	2017	0.00	0.00	0.00	0.00	0.00
318	118	0.00	0.00	0.00	0.00	0.00
318	2018	0.00	0.00	0.00	0.00	0.00
319	119	0.00	0.00	0.00	0.00	0.00
319	2019	0.00	0.00	0.00	0.00	0.00
320	120	0.00	0.00	0.00	0.00	0.00
320	2020	0.00	0.00	0.00	0.00	0.00
321	121	0.00	0.00	0.00	0.00	0.00
321	2021	0.00	0.00	0.00	0.00	0.00
322	122	0.00	0.00	0.00	0.00	0.00
322	2022	0.00	0.00	0.00	0.00	0.00
323	123	0.00	0.00	0.00	0.00	0.00
323	2023	0.00	0.00	0.00	0.00	0.00
324	124	0.00	0.00	0.00	0.00	0.00
324	2024	0.00	0.00	0.00	0.00	0.00
325	125	0.00	0.00	0.00	0.00	0.00
325	2025	0.00	0.00	0.00	0.00	0.00
326	126	0.00	0.00	0.00	0.00	0.00
326	2026	0.00	0.00	0.00	0.00	0.00
327	127	0.00	0.00	0.00	0.00	0.00
327	2027	0.00	0.00	0.00	0.00	0.00
328	128	0.00	0.00	0.00	0.00	0.00
328	2028	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.ISO + [1; 1]PRETF3D.FAM3.ISO + [1; 1]PRETF3D.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
329	129	0.00	0.00	0.00	0.00	0.00
329	2029	0.00	0.00	0.00	0.00	0.00
330	130	0.00	0.00	0.00	0.00	0.00
330	2030	0.00	0.00	0.00	0.00	0.00
331	131	0.00	0.00	0.00	0.00	0.00
331	2031	0.00	0.00	0.00	0.00	0.00
332	132	0.00	0.00	0.00	0.00	0.00
332	2032	0.00	0.00	0.00	0.00	0.00
333	133	0.00	0.00	0.00	0.00	0.00
333	2033	0.00	0.00	0.00	0.00	0.00
334	134	0.00	0.00	0.00	0.00	0.00
334	2034	0.00	0.00	0.00	0.00	0.00
335	135	0.00	0.00	0.00	0.00	0.00
335	2035	0.00	0.00	0.00	0.00	0.00
336	136	0.00	0.00	0.00	0.00	0.00
336	2036	0.00	0.00	0.00	0.00	0.00
337	137	0.00	0.00	0.00	0.00	0.00
337	2037	0.00	0.00	0.00	0.00	0.00
338	138	0.00	0.00	0.00	0.00	0.00
338	2038	0.00	0.00	0.00	0.00	0.00
339	139	0.00	0.00	0.00	0.00	0.00
339	2039	0.00	0.00	0.00	0.00	0.00
340	140	0.00	0.00	0.00	0.00	0.00
340	2040	0.00	0.00	0.00	0.00	0.00
341	141	0.00	0.00	0.00	0.00	0.00
341	2041	0.00	0.00	0.00	0.00	0.00
342	142	0.00	0.00	0.00	0.00	0.00
342	2042	0.00	0.00	0.00	0.00	0.00
343	143	0.00	0.00	0.00	0.00	0.00
343	2043	0.00	0.00	0.00	0.00	0.00
344	144	0.00	0.00	0.00	0.00	0.00
344	2044	0.00	0.00	0.00	0.00	0.00
345	145	0.00	0.00	0.00	0.00	0.00
345	2045	0.00	0.00	0.00	0.00	0.00
346	146	0.00	0.00	0.00	0.00	0.00
346	2046	0.00	0.00	0.00	0.00	0.00
347	147	0.00	0.00	0.00	0.00	0.00
347	2047	0.00	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.ISO + [1; 1]PRETF3D.FAM3.ISO + [1; 1]PRETF3D.FAM4.ISO + [1; 1

Coef. exc.:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETF3D.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.ISO + [1; 1]PRETF3D.FAM3.ISO + [1; 1]PRETF3D.FAM4.ISO + [1; 1

Coef. exc.:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00
401	1001	0.00	0.00	0.00	0.00	0.00
401	1	0.00	0.00	0.00	0.00	0.00
402	1002	0.00	0.00	0.00	0.00	0.00
402	2	0.00	0.00	0.00	0.00	0.00
403	1003	0.00	0.00	0.00	0.00	0.00
403	3	0.00	0.00	0.00	0.00	0.00
404	1004	0.00	0.00	0.00	0.00	0.00
404	4	0.00	0.00	0.00	0.00	0.00
405	1005	0.00	0.00	0.00	0.00	0.00
405	5	0.00	0.00	0.00	0.00	0.00
406	1006	0.00	0.00	0.00	0.00	0.00
406	6	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.ISO + [1; 1]PRETF3D.FAM3.ISO + [1; 1]PRETF3D.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
407	1007	0.00	0.00	0.00	0.00	0.00
407	7	0.00	0.00	0.00	0.00	0.00
408	1008	0.00	0.00	0.00	0.00	0.00
408	8	0.00	0.00	0.00	0.00	0.00
409	1009	0.00	0.00	0.00	0.00	0.00
409	9	0.00	0.00	0.00	0.00	0.00
410	1010	0.00	0.00	0.00	0.00	0.00
410	10	0.00	0.00	0.00	0.00	0.00
411	1011	0.00	0.00	0.00	0.00	0.00
411	11	0.00	0.00	0.00	0.00	0.00
412	1012	0.00	0.00	0.00	0.00	0.00
412	12	0.00	0.00	0.00	0.00	0.00
413	1013	0.00	0.00	0.00	0.00	0.00
413	13	0.00	0.00	0.00	0.00	0.00
414	1014	0.00	0.00	0.00	0.00	0.00
414	14	0.00	0.00	0.00	0.00	0.00
415	1015	0.00	0.00	0.00	0.00	0.00
415	15	0.00	0.00	0.00	0.00	0.00
416	1016	0.00	0.00	0.00	0.00	0.00
416	16	0.00	0.00	0.00	0.00	0.00
417	1017	0.00	0.00	0.00	0.00	0.00
417	17	0.00	0.00	0.00	0.00	0.00
418	1018	0.00	0.00	0.00	0.00	0.00
418	18	0.00	0.00	0.00	0.00	0.00
419	1019	0.00	0.00	0.00	0.00	0.00
419	19	0.00	0.00	0.00	0.00	0.00
420	1020	0.00	0.00	0.00	0.00	0.00
420	20	0.00	0.00	0.00	0.00	0.00
421	1021	0.00	0.00	0.00	0.00	0.00
421	21	0.00	0.00	0.00	0.00	0.00
422	1022	0.00	0.00	0.00	0.00	0.00
422	22	0.00	0.00	0.00	0.00	0.00
423	1023	0.00	0.00	0.00	0.00	0.00
423	23	0.00	0.00	0.00	0.00	0.00
424	1024	0.00	0.00	0.00	0.00	0.00
424	24	0.00	0.00	0.00	0.00	0.00
425	1025	0.00	0.00	0.00	0.00	0.00
425	25	0.00	0.00	0.00	0.00	0.00
426	1026	0.00	0.00	0.00	0.00	0.00
426	26	0.00	0.00	0.00	0.00	0.00
427	1027	0.00	0.00	0.00	0.00	0.00
427	27	0.00	0.00	0.00	0.00	0.00
428	1028	0.00	0.00	0.00	0.00	0.00
428	28	0.00	0.00	0.00	0.00	0.00
429	1029	0.00	0.00	0.00	0.00	0.00
429	29	0.00	0.00	0.00	0.00	0.00
430	1030	0.00	0.00	0.00	0.00	0.00
430	30	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETF3D.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETF3D.FAM1.ISO + [1; 1]PRETF3D.FAM2.ISO + [1; 1]PRETF3D.FAM3.ISO + [1; 1]PRETF3D.FAM4.ISO + [1; 1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
431	1031	0.00	0.00	0.00	0.00	0.00
431	31	0.00	0.00	0.00	0.00	0.00
432	1032	0.00	0.00	0.00	0.00	0.00
432	32	0.00	0.00	0.00	0.00	0.00
433	1033	0.00	0.00	0.00	0.00	0.00
433	33	0.00	0.00	0.00	0.00	0.00
434	1034	0.00	0.00	0.00	0.00	0.00
434	34	0.00	0.00	0.00	0.00	0.00
435	1035	0.00	0.00	0.00	0.00	0.00
435	35	0.00	0.00	0.00	0.00	0.00
436	1036	0.00	0.00	0.00	0.00	0.00
436	36	0.00	0.00	0.00	0.00	0.00
437	1037	0.00	0.00	0.00	0.00	0.00
437	37	0.00	0.00	0.00	0.00	0.00
438	1038	0.00	0.00	0.00	0.00	0.00
438	38	0.00	0.00	0.00	0.00	0.00
439	1039	0.00	0.00	0.00	0.00	0.00
439	39	0.00	0.00	0.00	0.00	0.00
440	1040	0.00	0.00	0.00	0.00	0.00
440	40	0.00	0.00	0.00	0.00	0.00
441	1041	0.00	0.00	0.00	0.00	0.00
441	41	0.00	0.00	0.00	0.00	0.00
442	1042	0.00	0.00	0.00	0.00	0.00
442	42	0.00	0.00	0.00	0.00	0.00
443	1043	0.00	0.00	0.00	0.00	0.00
443	43	0.00	0.00	0.00	0.00	0.00
444	1044	0.00	0.00	0.00	0.00	0.00
444	44	0.00	0.00	0.00	0.00	0.00
445	1045	0.00	0.00	0.00	0.00	0.00
445	45	0.00	0.00	0.00	0.00	0.00
446	1046	0.00	0.00	0.00	0.00	0.00
446	46	0.00	0.00	0.00	0.00	0.00
447	1047	0.00	0.00	0.00	0.00	0.00
447	47	0.00	0.00	0.00	0.00	0.00

ESFUERZO DE PRETENSADO FASE 4

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFD.FAM1.TOT + [1; 1]PRETFD.FAM2.TOT + [1; 1]PRETFD.FAM3.TOT + [1; 1]PRETFD.FAM4.TOT + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	2.28	34.78	4.54	0.53
1	2	2.62	2.28	34.78	4.54	-90.60
2	2	2.62	19.30	33.09	9.88	-89.59
2	3	5.24	19.30	33.09	9.88	-176.29
3	3	5.24	36.32	32.44	11.93	-175.41
3	4	7.86	36.32	32.44	11.93	-260.40
4	4	7.86	54.67	32.60	11.41	-259.75
4	5	10.48	54.67	32.60	11.41	-345.17
5	5	10.48	76.04	33.28	9.29	-344.83
5	6	13.10	76.04	33.28	9.29	-432.01
6	6	13.10	103.10	34.06	6.81	-432.06
6	7	15.72	103.10	34.06	6.81	-521.31
7	7	15.72	140.29	34.47	5.54	-521.84
7	8	18.34	140.29	34.47	5.54	-612.14
8	8	18.34	-794.79	33.87	7.41	163.87
8	9	20.96	-798.41	33.87	7.41	77.97
9	9	20.96	-1688.13	31.96	13.42	816.66
9	10	23.58	-1694.85	31.96	13.42	738.19
10	10	23.58	-1663.68	29.14	22.33	737.83
10	10011	26.20	-1614.01	29.14	22.33	622.49
11	11	26.20	-1590.15	-13.10	33.29	622.76
11	12	29.55	-1667.56	-13.10	33.29	727.41
12	12	29.55	-1667.54	-16.25	43.22	728.69
12	13	32.90	-1658.96	-16.25	43.22	776.38
13	13	32.90	-626.98	-17.13	46.01	-67.23
13	14	36.03	-623.20	-17.13	46.01	-16.57
14	14	36.03	214.78	-15.35	40.40	-705.43
14	15	39.16	214.78	-15.35	40.40	-657.37
15	15	39.16	199.91	-11.50	28.28	-656.01
15	16	42.29	199.91	-11.50	28.28	-620.00
16	16	42.29	198.74	-6.60	12.83	-619.41
16	17	45.42	198.74	-6.60	12.83	-598.75
17	17	45.42	206.18	-1.51	-3.20	-598.88
17	18	48.55	206.18	-1.51	-3.20	-594.14
18	18	48.55	222.62	2.94	-17.21	-594.97
18	19	51.68	222.62	2.94	-17.21	-604.16
19	19	51.68	254.12	5.89	-26.51	-605.74
19	20	54.81	254.12	5.89	-26.51	-624.16
20	20	54.81	-687.33	6.36	-27.99	161.34
20	21	57.94	-691.65	6.36	-27.99	144.84
21	21	57.94	-1572.77	3.92	-20.33	881.23
21	22	61.07	-1580.79	3.92	-20.33	875.25
22	22	61.07	-1554.27	-0.58	-6.14	874.17
22	10023	64.20	-1508.38	-0.58	-6.14	839.96
23	23	64.20	-1500.55	-0.70	10.82	839.94
23	24	67.55	-1560.07	-0.70	10.82	889.00
24	24	67.55	-1576.96	-5.53	26.03	890.19
24	25	70.90	-1568.38	-5.53	26.03	901.98

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.TOT.To

Pretensado Total (t=0)

[1. 1]PRETFD.FAM1.TOT + [1; 1]PRETFD.FAM2.TOT + [1; 1]PRETFD.FAM3.TOT + [1; 1]PRETFD.FAM4.TOT + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-551.52	-7.86	33.38	60.05
25	26	74.23	-547.49	-7.86	33.38	83.07
26	26	74.23	271.31	-6.99	30.64	-607.09
26	27	77.56	271.31	-6.99	30.64	-583.81
27	27	77.56	240.33	-3.46	19.50	-582.22
27	28	80.89	240.33	-3.46	19.50	-570.71
28	28	80.89	223.81	1.60	3.59	-569.94
28	29	84.22	223.81	1.60	3.59	-575.26
29	29	84.22	215.45	7.19	-14.04	-575.24
29	30	87.55	215.45	7.19	-14.04	-599.20
30	30	87.55	215.53	12.40	-30.46	-599.96
30	31	90.88	215.53	12.40	-30.46	-641.27
31	31	90.88	231.23	16.23	-42.51	-642.87
31	32	94.21	231.23	16.23	-42.51	-696.92
32	32	94.21	-723.04	17.48	-46.45	89.81
32	33	97.54	-727.64	17.48	-46.45	35.20
33	33	97.54	-1620.87	15.58	-40.45	771.40
33	34	100.87	-1629.41	15.58	-40.45	726.22
34	34	100.87	-1621.74	11.37	-27.18	724.90
34	10035	104.20	-1572.40	11.37	-27.18	648.32
35	35	104.20	-1591.57	-21.57	-12.19	648.00
35	36	107.55	-1647.65	-21.57	-12.19	764.29
36	36	107.55	-1677.95	-25.65	0.66	764.88
36	37	110.90	-1669.37	-25.65	0.66	844.08
37	37	110.90	-656.76	-28.12	8.44	1.99
37	38	113.77	-653.30	-28.12	8.44	79.98
38	38	113.77	165.57	-28.62	10.00	-608.82
38	39	116.64	165.57	-28.62	10.00	-526.69
39	39	116.64	127.62	-27.57	6.69	-525.74
39	40	119.51	127.62	-27.57	6.69	-446.62
40	40	119.51	101.42	-25.72	0.88	-446.22
40	41	122.38	101.42	-25.72	0.88	-372.40
41	41	122.38	81.26	-23.67	-5.59	-372.45
41	42	125.25	81.26	-23.67	-5.59	-304.52
42	42	125.25	64.18	-21.87	-11.26	-304.93
42	43	128.12	64.18	-21.87	-11.26	-242.17
43	43	128.12	48.57	-20.68	-14.99	-242.87
43	44	130.99	48.57	-20.68	-14.99	-183.51
44	44	130.99	33.52	-20.42	-15.84	-184.43
44	45	133.86	33.52	-20.42	-15.84	-125.84
45	45	133.86	18.32	-21.31	-13.03	-126.93
45	46	136.73	18.32	-21.31	-13.03	-65.79
46	46	136.73	2.24	-23.56	-5.94	-66.99
46	47	139.60	2.24	-23.56	-5.94	0.62
101	101	0.00	-2.28	-3.91	4.54	-0.53
101	102	2.62	-2.28	-3.91	4.54	9.71
102	102	2.62	-19.30	-2.21	9.88	8.70
102	103	5.24	-19.30	-2.21	9.88	14.50

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1. 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-2.12	-0.88	-4.73	-0.53
1	2	2.62	-2.12	-0.88	-4.73	1.77
2	2	2.62	-17.75	0.93	-10.42	0.75
2	3	5.24	-17.75	0.93	-10.42	-1.68
3	3	5.24	-32.82	1.65	-12.71	-2.62
3	4	7.86	-32.82	1.65	-12.71	-6.95
4	4	7.86	-47.97	1.46	-12.11	-7.74
4	5	10.48	-47.97	1.46	-12.11	-11.57
5	5	10.48	-63.86	0.55	-9.24	-12.15
5	6	13.10	-63.86	0.55	-9.24	-13.59
6	6	13.10	-81.37	-0.83	-4.89	-13.92
6	7	15.72	-81.37	-0.83	-4.89	-11.75
7	7	15.72	-101.90	-2.37	-0.04	-11.75
7	8	18.34	-101.90	-2.37	-0.04	-5.54
8	8	18.34	-127.80	-3.69	4.12	-5.15
8	9	20.96	-127.80	-3.69	4.12	4.52
9	9	20.96	-163.05	-4.31	6.07	5.38
9	10	23.58	-163.05	-4.31	6.07	16.67
10	10	23.58	-214.59	-3.64	3.96	18.09
10	10011	26.20	-214.59	-3.64	3.96	27.62
11	11	26.20	-283.11	-4.24	-4.07	29.12
11	12	29.55	-283.11	-4.24	-4.07	43.32
12	12	29.55	-326.42	0.29	-18.32	43.82
12	13	32.90	-326.42	0.29	-18.32	42.86
13	13	32.90	-338.84	4.83	-32.65	42.35
13	14	36.03	-338.84	4.83	-32.65	27.22
14	14	36.03	-327.45	8.28	-43.51	25.84
14	15	39.16	-327.45	8.28	-43.51	-0.08
15	15	39.16	-279.84	9.57	-47.56	-2.47
15	16	42.29	-279.84	9.57	-47.56	-32.42
16	16	42.29	-234.75	8.06	-42.82	-34.76
16	17	45.42	-234.75	8.06	-42.82	-60.00
17	17	45.42	-218.80	4.35	-31.14	-61.48
17	18	48.55	-218.80	4.35	-31.14	-75.11
18	18	48.55	-217.29	-0.53	-15.74	-75.80
18	19	51.68	-217.29	-0.53	-15.74	-74.13
19	19	51.68	-224.66	-5.71	0.56	-74.09
19	20	54.81	-224.66	-5.71	0.56	-56.23
20	20	54.81	-241.03	-10.32	15.09	-55.46
20	21	57.94	-241.03	-10.32	15.09	-23.15
21	21	57.94	-272.20	-13.48	25.05	-21.61
21	22	61.07	-272.20	-13.48	25.05	20.60
22	22	61.07	-333.39	-14.17	27.22	22.99
22	10023	64.20	-333.39	-14.17	27.22	67.34
23	23	64.20	-396.54	-4.92	19.85	69.67
23	24	67.55	-396.54	-4.92	19.85	86.14
24	24	67.55	-422.75	-0.06	4.55	87.32
24	25	70.90	-422.75	-0.06	4.55	87.51

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-422.54	5.43	-12.74	87.51
25	26	74.23	-422.54	5.43	-12.74	69.43
26	26	74.23	-396.35	10.35	-28.23	68.24
26	27	77.56	-396.35	10.35	-28.23	33.78
27	27	77.56	-327.84	12.89	-36.25	31.31
27	28	80.89	-327.84	12.89	-36.25	-11.62
28	28	80.89	-262.45	12.16	-33.94	-14.16
28	29	84.22	-262.45	12.16	-33.94	-54.65
29	29	84.22	-230.78	8.73	-23.13	-56.30
29	30	87.55	-230.78	8.73	-23.13	-85.37
30	30	87.55	-214.10	3.71	-7.32	-86.23
30	31	90.88	-214.10	3.71	-7.32	-98.58
31	31	90.88	-205.83	-1.94	10.48	-98.69
31	32	94.21	-205.83	-1.94	10.48	-92.22
32	32	94.21	-206.27	-7.32	27.42	-91.57
32	33	97.54	-206.27	-7.32	27.42	-67.20
33	33	97.54	-222.79	-11.44	40.40	-65.70
33	34	100.87	-222.79	-11.44	40.40	-27.61
34	34	100.87	-275.85	-13.12	45.71	-25.15
34	10035	104.20	-275.85	-13.12	45.71	18.55
35	35	104.20	-307.15	-7.92	41.83	20.74
35	36	107.55	-307.15	-7.92	41.83	47.27
36	36	107.55	-312.07	-4.91	32.34	48.34
36	37	110.90	-312.07	-4.91	32.34	64.78
37	37	110.90	-297.31	-1.27	20.89	65.02
37	38	113.77	-297.31	-1.27	20.89	68.67
38	38	113.77	-263.76	2.03	10.48	68.20
38	39	116.64	-263.76	2.03	10.48	62.36
39	39	116.64	-201.48	4.11	3.94	61.05
39	40	119.51	-201.48	4.11	3.94	49.26
40	40	119.51	-140.72	4.49	2.72	47.98
40	41	122.38	-140.72	4.49	2.72	35.08
41	41	122.38	-102.47	3.66	5.35	34.48
41	42	125.25	-102.47	3.66	5.35	23.97
42	42	125.25	-75.79	2.39	9.34	23.94
42	43	128.12	-75.79	2.39	9.34	17.07
43	43	128.12	-54.99	1.31	12.74	17.50
43	44	130.99	-54.99	1.31	12.74	13.73
44	44	130.99	-36.98	0.91	14.01	14.52
44	45	133.86	-36.98	0.91	14.01	11.90
45	45	133.86	-19.92	1.57	11.93	12.95
45	46	136.73	-19.92	1.57	11.93	8.44
46	46	136.73	-2.41	3.58	5.60	9.64
46	47	139.60	-2.41	3.58	5.60	-0.63
101	101	0.00	2.12	26.14	-4.73	0.53
101	102	2.62	2.12	26.14	-4.73	-67.97
102	102	2.62	17.75	24.34	-10.42	-66.94
102	103	5.24	17.75	24.34	-10.42	-130.71

~cpret4.esv
Programa DINTEL IDEAM S.A.
PRETFC.HIP.To
28/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	32.82	23.61	-12.71	-129.77
103	104	7.86	32.82	23.61	-12.71	-191.63
104	104	7.86	47.97	23.80	-12.11	-190.85
104	105	10.48	47.97	23.80	-12.11	-253.21
105	105	10.48	63.86	24.71	-9.24	-252.63
105	106	13.10	63.86	24.71	-9.24	-317.38
106	106	13.10	81.37	26.09	-4.89	-317.06
106	107	15.72	81.37	26.09	-4.89	-385.43
107	107	15.72	101.91	27.64	-0.04	-385.43
107	108	18.34	101.91	27.64	-0.04	-457.83
108	108	18.34	127.80	28.95	4.12	-458.22
108	109	20.96	127.80	28.95	4.12	-534.08
109	109	20.96	163.05	29.57	6.07	-534.95
109	110	23.58	163.05	29.57	6.07	-612.43
110	110	23.58	214.59	28.90	3.96	-613.85
110	111	26.20	214.59	28.90	3.96	-689.58
111	111	26.20	283.11	26.35	-4.07	-691.08
111	112	29.55	283.11	26.35	-4.07	-779.37
112	112	29.55	326.42	21.83	-18.32	-779.86
112	10113	32.90	326.42	21.83	-18.32	-852.99
113	113	32.90	338.84	-11.89	-32.65	-852.48
113	114	36.03	338.84	-11.89	-32.65	-815.27
114	114	36.03	327.45	-15.34	-43.50	-813.89
114	115	39.16	327.45	-15.34	-43.50	-765.88
115	115	39.16	279.84	-16.62	-47.56	-763.49
115	116	42.29	279.84	-16.62	-47.56	-711.46
116	116	42.29	234.75	-15.12	-42.82	-709.11
116	117	45.42	234.75	-15.12	-42.82	-661.78
117	117	45.42	218.80	-11.41	-31.14	-660.31
117	118	48.55	218.80	-11.41	-31.14	-624.59
118	118	48.55	217.29	-6.52	-15.74	-623.90
118	119	51.68	217.29	-6.52	-15.74	-603.48
119	119	51.68	224.66	-1.35	0.56	-603.52
119	120	54.81	224.66	-1.35	0.56	-599.29
120	120	54.81	241.03	3.26	15.09	-600.07
120	121	57.94	241.03	3.26	15.09	-610.28
121	121	57.94	272.20	6.43	25.05	-611.83
121	122	61.07	272.20	6.43	25.05	-631.94
122	122	61.07	333.39	7.11	27.22	-634.33
122	123	64.20	333.39	7.11	27.22	-656.60
123	123	64.20	396.54	4.78	19.85	-658.93
123	124	67.55	396.54	4.78	19.85	-674.93
124	124	67.55	422.75	-0.08	4.55	-676.10
124	10125	70.90	422.75	-0.08	4.55	-675.83
125	125	70.90	422.54	-0.87	-12.74	-675.82
125	126	74.23	422.54	-0.87	-12.74	-672.93
126	126	74.23	396.35	-5.79	-28.23	-671.74
126	127	77.56	396.35	-5.79	-28.23	-652.46

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	327.84	-8.33	-36.25	-650.00
127	128	80.89	327.84	-8.33	-36.25	-622.25
128	128	80.89	262.45	-7.60	-33.94	-619.71
128	129	84.22	262.45	-7.60	-33.94	-594.41
129	129	84.22	230.79	-4.17	-23.13	-592.75
129	130	87.55	230.79	-4.17	-23.13	-578.87
130	130	87.55	214.10	0.85	-7.32	-578.01
130	131	90.88	214.10	0.85	-7.32	-580.85
131	131	90.88	205.83	6.50	10.48	-580.74
131	132	94.21	205.83	6.50	10.48	-602.39
132	132	94.21	206.27	11.88	27.42	-603.05
132	133	97.54	206.27	11.88	27.42	-642.61
133	133	97.54	222.79	16.00	40.40	-644.10
133	134	100.87	222.79	16.00	40.40	-697.38
134	134	100.87	275.85	17.69	45.71	-699.84
134	135	104.20	275.85	17.69	45.71	-758.73
135	135	104.20	317.58	16.45	41.83	-760.92
135	136	107.55	317.58	16.45	41.83	-816.04
136	136	107.55	322.51	13.44	32.34	-817.11
136	10137	110.90	322.51	13.44	32.34	-862.14
137	137	110.90	297.31	-26.51	20.89	-862.37
137	138	113.77	297.31	-26.51	20.89	-786.29
138	138	113.77	263.76	-29.82	10.48	-785.81
138	139	116.64	263.76	-29.82	10.48	-700.24
139	139	116.64	201.48	-31.89	3.94	-698.93
139	140	119.51	201.48	-31.89	3.94	-607.41
140	140	119.51	140.72	-32.28	2.72	-606.12
140	141	122.38	140.72	-32.28	2.72	-513.49
141	141	122.38	102.47	-31.44	5.35	-512.89
141	142	125.25	102.47	-31.44	5.35	-422.65
142	142	125.25	75.79	-30.18	9.34	-422.62
142	143	128.12	75.79	-30.18	9.34	-336.01
143	143	128.12	54.99	-29.10	12.74	-336.45
143	144	130.99	54.99	-29.10	12.74	-252.94
144	144	130.99	36.98	-28.69	14.01	-253.73
144	145	133.86	36.98	-28.69	14.01	-171.37
145	145	133.86	19.92	-29.35	11.93	-172.42
145	146	136.73	19.92	-29.35	11.93	-88.17
146	146	136.73	2.41	-31.36	5.60	-89.38
146	147	139.60	2.41	-31.36	5.60	0.63
201	2001	0.00	-10.59	1.50	0.53	3.60
201	1001	0.00	-10.59	1.50	0.53	-3.60
202	2002	2.62	-9.87	1.81	1.03	4.33
202	1002	2.62	-9.87	1.81	1.03	-4.33
203	2003	5.24	-2.62	0.73	0.93	1.74
203	1003	5.24	-2.62	0.73	0.93	-1.74
204	2004	7.86	0.52	-0.19	0.78	-0.46
204	1004	7.86	0.52	-0.19	0.78	0.46

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	10.48	1.21	-0.91	0.58	-2.18
205	1005	10.48	1.21	-0.91	0.58	2.18
206	2006	13.10	0.89	-1.38	0.32	-3.30
206	1006	13.10	0.89	-1.38	0.32	3.30
207	2007	15.72	0.39	-1.54	0.00	-3.69
207	1007	15.72	0.39	-1.54	0.00	3.69
208	2008	18.34	0.03	-1.32	-0.39	-3.16
208	1008	18.34	0.03	-1.32	-0.39	3.16
209	2009	20.96	-0.10	-0.62	-0.86	-1.48
209	1009	20.96	-0.10	-0.62	-0.86	1.48
210	2010	23.58	0.08	0.67	-1.42	1.60
210	1010	23.58	0.08	0.67	-1.42	-1.60
211	2011	26.20	0.78	2.55	-1.50	6.10
211	1011	26.20	0.78	2.55	-1.50	-6.10
212	2012	29.55	2.66	4.52	-0.50	10.83
212	1012	29.55	2.66	4.52	-0.50	-10.83
213	2013	32.90	3.96	4.55	0.51	10.89
213	1013	32.90	3.96	4.55	0.51	-10.89
214	2014	36.03	2.60	3.45	1.38	8.25
214	1014	36.03	2.60	3.45	1.38	-8.25
215	2015	39.16	1.01	1.29	2.39	3.08
215	1015	39.16	1.01	1.29	2.39	-3.08
216	2016	42.29	0.14	-1.50	2.35	-3.60
216	1016	42.29	0.14	-1.50	2.35	3.60
217	2017	45.42	-0.12	-3.71	1.48	-8.88
217	1017	45.42	-0.12	-3.71	1.48	8.88
218	2018	48.55	-0.14	-4.89	0.69	-11.70
218	1018	48.55	-0.14	-4.89	0.69	11.70
219	2019	51.68	-0.15	-5.17	-0.04	-12.39
219	1019	51.68	-0.15	-5.17	-0.04	12.39
220	2020	54.81	-0.22	-4.61	-0.77	-11.05
220	1020	54.81	-0.22	-4.61	-0.77	11.05
221	2021	57.94	-0.25	-3.16	-1.54	-7.57
221	1021	57.94	-0.25	-3.16	-1.54	7.57
222	2022	61.07	0.14	-0.69	-2.39	-1.65
222	1022	61.07	0.14	-0.69	-2.39	1.65
223	2023	64.20	1.62	2.34	-2.33	5.60
223	1023	64.20	1.62	2.34	-2.33	-5.60
224	2024	67.55	4.93	4.86	-1.18	11.63
224	1024	67.55	4.93	4.86	-1.18	-11.63
225	2025	70.90	7.33	5.49	0.00	13.14
225	1025	70.90	7.33	5.49	0.00	-13.14
226	2026	74.23	4.91	4.92	1.19	11.77
226	1026	74.23	4.91	4.92	1.19	-11.77
227	2027	77.56	1.68	2.54	2.47	6.09
227	1027	77.56	1.68	2.54	2.47	-6.09
228	2028	80.89	0.11	-0.73	2.54	-1.75
228	1028	80.89	0.11	-0.73	2.54	1.75

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1. 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1. 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1. 1]P
Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	84.22	-0.27	-3.43	1.66	-8.22
229	1029	84.22	-0.27	-3.43	1.66	8.22
230	2030	87.55	-0.20	-5.02	0.86	-12.01
230	1030	87.55	-0.20	-5.02	0.86	12.01
231	2031	90.88	-0.11	-5.65	0.11	-13.53
231	1031	90.88	-0.11	-5.65	0.11	13.53
232	2032	94.21	-0.11	-5.38	-0.66	-12.87
232	1032	94.21	-0.11	-5.38	-0.66	12.87
233	2033	97.54	-0.12	-4.12	-1.49	-9.86
233	1033	97.54	-0.12	-4.12	-1.49	9.86
234	2034	100.87	0.09	-1.68	-2.46	-4.03
234	1034	100.87	0.09	-1.68	-2.46	4.03
235	2035	104.20	0.84	1.23	-2.19	2.95
235	1035	104.20	0.84	1.23	-2.19	-2.95
236	2036	107.55	2.13	3.01	-1.07	7.21
236	1036	107.55	2.13	3.01	-1.07	-7.21
237	2037	110.90	3.14	3.63	-0.24	8.70
237	1037	110.90	3.14	3.63	-0.24	-8.70
238	2038	113.77	2.19	3.31	0.48	7.92
238	1038	113.77	2.19	3.31	0.48	-7.92
239	2039	116.64	0.94	2.08	1.31	4.97
239	1039	116.64	0.94	2.08	1.31	-4.97
240	2040	119.51	0.25	0.39	1.28	0.92
240	1040	119.51	0.25	0.39	1.28	-0.92
241	2041	122.38	0.20	-0.83	0.60	-1.99
241	1041	122.38	0.20	-0.83	0.60	1.99
242	2042	125.25	0.61	-1.27	0.03	-3.04
242	1042	125.25	0.61	-1.27	0.03	3.04
243	2043	128.12	1.11	-1.08	-0.43	-2.59
243	1043	128.12	1.11	-1.08	-0.43	2.59
244	2044	130.99	0.84	-0.40	-0.79	-0.96
244	1044	130.99	0.84	-0.40	-0.79	0.96
245	2045	133.86	-1.93	0.66	-1.05	1.58
245	1045	133.86	-1.93	0.66	-1.05	-1.58
246	2046	136.73	-9.46	2.01	-1.21	4.81
246	1046	136.73	-9.46	2.01	-1.21	-4.81
247	2047	139.60	-11.05	1.78	-0.63	4.26
247	1047	139.60	-11.05	1.78	-0.63	-4.26

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1. 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1; 1]P

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-2.12	-0.88	-4.73	-0.53
1	2	2.62	-2.12	-0.88	-4.73	1.77
2	2	2.62	-17.75	0.93	-10.42	0.75
2	3	5.24	-17.75	0.93	-10.42	-1.68
3	3	5.24	-32.82	1.65	-12.71	-2.62
3	4	7.86	-32.82	1.65	-12.71	-6.95
4	4	7.86	-47.97	1.46	-12.11	-7.74
4	5	10.48	-47.97	1.46	-12.11	-11.57
5	5	10.48	-63.86	0.55	-9.24	-12.15
5	6	13.10	-63.86	0.55	-9.24	-13.59
6	6	13.10	-81.37	-0.83	-4.89	-13.92
6	7	15.72	-81.37	-0.83	-4.89	-11.75
7	7	15.72	-101.90	-2.37	-0.04	-11.75
7	8	18.34	-101.90	-2.37	-0.04	-5.54
8	8	18.34	-127.80	-3.69	4.12	-5.15
8	9	20.96	-127.80	-3.69	4.12	4.52
9	9	20.96	-163.05	-4.31	6.07	5.38
9	10	23.58	-163.05	-4.31	6.07	16.67
10	10	23.58	-214.59	-3.64	3.96	18.09
10	10011	26.20	-214.59	-3.64	3.96	27.62
11	11	26.20	-283.11	-4.24	-4.07	29.12
11	12	29.55	-283.11	-4.24	-4.07	43.32
12	12	29.55	-326.42	0.29	-18.32	43.82
12	13	32.90	-326.42	0.29	-18.32	42.86
13	13	32.90	-338.84	4.83	-32.65	42.35
13	14	36.03	-338.84	4.83	-32.65	27.22
14	14	36.03	-327.45	8.28	-43.51	25.84
14	15	39.16	-327.45	8.28	-43.51	-0.08
15	15	39.16	-279.84	9.57	-47.56	-2.47
15	16	42.29	-279.84	9.57	-47.56	-32.42
16	16	42.29	-234.75	8.06	-42.82	-34.76
16	17	45.42	-234.75	8.06	-42.82	-60.00
17	17	45.42	-218.80	4.35	-31.14	-61.48
17	18	48.55	-218.80	4.35	-31.14	-75.11
18	18	48.55	-217.29	-0.53	-15.74	-75.80
18	19	51.68	-217.29	-0.53	-15.74	-74.13
19	19	51.68	-224.66	-5.71	0.56	-74.09
19	20	54.81	-224.66	-5.71	0.56	-56.23
20	20	54.81	-241.03	-10.32	15.09	-55.46
20	21	57.94	-241.03	-10.32	15.09	-23.15
21	21	57.94	-272.20	-13.48	25.05	-21.61
21	22	61.07	-272.20	-13.48	25.05	20.60
22	22	61.07	-333.39	-14.17	27.22	22.99
22	10023	64.20	-333.39	-14.17	27.22	67.34
23	23	64.20	-396.54	-4.92	19.85	69.67
23	24	67.55	-396.54	-4.92	19.85	86.14
24	24	67.55	-422.75	-0.06	4.55	87.32
24	25	70.90	-422.75	-0.06	4.55	87.51

~cpret4.esv Programa DINTEL IDEAM S.A. 28/10/02
PRETFC.HIP.To

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1. 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-422.54	5.43	-12.74	87.51
25	26	74.23	-422.54	5.43	-12.74	69.43
26	26	74.23	-396.35	10.35	-28.23	68.24
26	27	77.56	-396.35	10.35	-28.23	33.78
27	27	77.56	-327.84	12.89	-36.25	31.31
27	28	80.89	-327.84	12.89	-36.25	-11.62
28	28	80.89	-262.45	12.16	-33.94	-14.16
28	29	84.22	-262.45	12.16	-33.94	-54.65
29	29	84.22	-230.78	8.73	-23.13	-56.30
29	30	87.55	-230.78	8.73	-23.13	-85.37
30	30	87.55	-214.10	3.71	-7.32	-86.23
30	31	90.88	-214.10	3.71	-7.32	-98.58
31	31	90.88	-205.83	-1.94	10.48	-98.69
31	32	94.21	-205.83	-1.94	10.48	-92.22
32	32	94.21	-206.27	-7.32	27.42	-91.57
32	33	97.54	-206.27	-7.32	27.42	-67.20
33	33	97.54	-222.79	-11.44	40.40	-65.70
33	34	100.87	-222.79	-11.44	40.40	-27.61
34	34	100.87	-275.85	-13.12	45.71	-25.15
34	10035	104.20	-275.85	-13.12	45.71	18.55
35	35	104.20	-307.15	-7.92	41.83	20.74
35	36	107.55	-307.15	-7.92	41.83	47.27
36	36	107.55	-312.07	-4.91	32.34	48.34
36	37	110.90	-312.07	-4.91	32.34	64.78
37	37	110.90	-297.31	-1.27	20.89	65.02
37	38	113.77	-297.31	-1.27	20.89	68.67
38	38	113.77	-263.76	2.03	10.48	68.20
38	39	116.64	-263.76	2.03	10.48	62.36
39	39	116.64	-201.48	4.11	3.94	61.05
39	40	119.51	-201.48	4.11	3.94	49.26
40	40	119.51	-140.72	4.49	2.72	47.98
40	41	122.38	-140.72	4.49	2.72	35.08
41	41	122.38	-102.47	3.66	5.35	34.48
41	42	125.25	-102.47	3.66	5.35	23.97
42	42	125.25	-75.79	2.39	9.34	23.94
42	43	128.12	-75.79	2.39	9.34	17.07
43	43	128.12	-54.99	1.31	12.74	17.50
43	44	130.99	-54.99	1.31	12.74	13.73
44	44	130.99	-36.98	0.91	14.01	14.52
44	45	133.86	-36.98	0.91	14.01	11.90
45	45	133.86	-19.92	1.57	11.93	12.95
45	46	136.73	-19.92	1.57	11.93	8.44
46	46	136.73	-2.41	3.58	5.60	9.64
46	47	139.60	-2.41	3.58	5.60	-0.63
101	101	0.00	2.12	26.14	-4.73	0.53
101	102	2.62	2.12	26.14	-4.73	-67.97
102	102	2.62	17.75	24.34	-10.42	-66.94
102	103	5.24	17.75	24.34	-10.42	-130.71

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1. 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1. 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	32.82	23.61	-12.71	-129.77
103	104	7.86	32.82	23.61	-12.71	-191.63
104	104	7.86	47.97	23.80	-12.11	-190.85
104	105	10.48	47.97	23.80	-12.11	-253.21
105	105	10.48	63.86	24.71	-9.24	-252.63
105	106	13.10	63.86	24.71	-9.24	-317.38
106	106	13.10	81.37	26.09	-4.89	-317.06
106	107	15.72	81.37	26.09	-4.89	-385.43
107	107	15.72	101.91	27.64	-0.04	-385.43
107	108	18.34	101.91	27.64	-0.04	-457.83
108	108	18.34	127.80	28.95	4.12	-458.22
108	109	20.96	127.80	28.95	4.12	-534.08
109	109	20.96	163.05	29.57	6.07	-534.95
109	110	23.58	163.05	29.57	6.07	-612.43
110	110	23.58	214.59	28.90	3.96	-613.85
110	111	26.20	214.59	28.90	3.96	-689.58
111	111	26.20	283.11	26.35	-4.07	-691.08
111	112	29.55	283.11	26.35	-4.07	-779.37
112	112	29.55	326.42	21.83	-18.32	-779.86
112	10113	32.90	326.42	21.83	-18.32	-852.99
113	113	32.90	338.84	-11.89	-32.65	-852.48
113	114	36.03	338.84	-11.89	-32.65	-815.27
114	114	36.03	327.45	-15.34	-43.50	-813.89
114	115	39.16	327.45	-15.34	-43.50	-765.88
115	115	39.16	279.84	-16.62	-47.56	-763.49
115	116	42.29	279.84	-16.62	-47.56	-711.46
116	116	42.29	234.75	-15.12	-42.82	-709.11
116	117	45.42	234.75	-15.12	-42.82	-661.78
117	117	45.42	218.80	-11.41	-31.14	-660.31
117	118	48.55	218.80	-11.41	-31.14	-624.59
118	118	48.55	217.29	-6.52	-15.74	-623.90
118	119	51.68	217.29	-6.52	-15.74	-603.48
119	119	51.68	224.66	-1.35	0.56	-603.52
119	120	54.81	224.66	-1.35	0.56	-599.29
120	120	54.81	241.03	3.26	15.09	-600.07
120	121	57.94	241.03	3.26	15.09	-610.28
121	121	57.94	272.20	6.43	25.05	-611.83
121	122	61.07	272.20	6.43	25.05	-631.94
122	122	61.07	333.39	7.11	27.22	-634.33
122	123	64.20	333.39	7.11	27.22	-656.60
123	123	64.20	396.54	4.78	19.85	-658.93
123	124	67.55	396.54	4.78	19.85	-674.93
124	124	67.55	422.75	-0.08	4.55	-676.10
124	10125	70.90	422.75	-0.08	4.55	-675.83
125	125	70.90	422.54	-0.87	-12.74	-675.82
125	126	74.23	422.54	-0.87	-12.74	-672.93
126	126	74.23	396.35	-5.79	-28.23	-671.74
126	127	77.56	396.35	-5.79	-28.23	-652.46

~cpret4.esv Programa DINTEL IDEAM S.A. 28/10/02
PRETFC.HIP.To

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1. 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1. 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	327.84	-8.33	-36.25	-650.00
127	128	80.89	327.84	-8.33	-36.25	-622.25
128	128	80.89	262.45	-7.60	-33.94	-619.71
128	129	84.22	262.45	-7.60	-33.94	-594.41
129	129	84.22	230.79	-4.17	-23.13	-592.75
129	130	87.55	230.79	-4.17	-23.13	-578.87
130	130	87.55	214.10	0.85	-7.32	-578.01
130	131	90.88	214.10	0.85	-7.32	-580.85
131	131	90.88	205.83	6.50	10.48	-580.74
131	132	94.21	205.83	6.50	10.48	-602.39
132	132	94.21	206.27	11.88	27.42	-603.05
132	133	97.54	206.27	11.88	27.42	-642.61
133	133	97.54	222.79	16.00	40.40	-644.10
133	134	100.87	222.79	16.00	40.40	-697.38
134	134	100.87	275.85	17.69	45.71	-699.84
134	135	104.20	275.85	17.69	45.71	-758.73
135	135	104.20	317.58	16.45	41.83	-760.92
135	136	107.55	317.58	16.45	41.83	-816.04
136	136	107.55	322.51	13.44	32.34	-817.11
136	10137	110.90	322.51	13.44	32.34	-862.14
137	137	110.90	297.31	-26.51	20.89	-862.37
137	138	113.77	297.31	-26.51	20.89	-786.29
138	138	113.77	263.76	-29.82	10.48	-785.81
138	139	116.64	263.76	-29.82	10.48	-700.24
139	139	116.64	201.48	-31.89	3.94	-698.93
139	140	119.51	201.48	-31.89	3.94	-607.41
140	140	119.51	140.72	-32.28	2.72	-606.12
140	141	122.38	140.72	-32.28	2.72	-513.49
141	141	122.38	102.47	-31.44	5.35	-512.89
141	142	125.25	102.47	-31.44	5.35	-422.65
142	142	125.25	75.79	-30.18	9.34	-422.62
142	143	128.12	75.79	-30.18	9.34	-336.01
143	143	128.12	54.99	-29.10	12.74	-336.45
143	144	130.99	54.99	-29.10	12.74	-252.94
144	144	130.99	36.98	-28.69	14.01	-253.73
144	145	133.86	36.98	-28.69	14.01	-171.37
145	145	133.86	19.92	-29.35	11.93	-172.42
145	146	136.73	19.92	-29.35	11.93	-88.17
146	146	136.73	2.41	-31.36	5.60	-89.38
146	147	139.60	2.41	-31.36	5.60	0.63
201	2001	0.00	-10.59	1.50	0.53	3.60
201	1001	0.00	-10.59	1.50	0.53	-3.60
202	2002	2.62	-9.87	1.81	1.03	4.33
202	1002	2.62	-9.87	1.81	1.03	-4.33
203	2003	5.24	-2.62	0.73	0.93	1.74
203	1003	5.24	-2.62	0.73	0.93	-1.74
204	2004	7.86	0.52	-0.19	0.78	-0.46
204	1004	7.86	0.52	-0.19	0.78	0.46

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	10.48	1.21	-0.91	0.58	-2.18
205	1005	10.48	1.21	-0.91	0.58	2.18
206	2006	13.10	0.89	-1.38	0.32	-3.30
206	1006	13.10	0.89	-1.38	0.32	3.30
207	2007	15.72	0.39	-1.54	0.00	-3.69
207	1007	15.72	0.39	-1.54	0.00	3.69
208	2008	18.34	0.03	-1.32	-0.39	-3.16
208	1008	18.34	0.03	-1.32	-0.39	3.16
209	2009	20.96	-0.10	-0.62	-0.86	-1.48
209	1009	20.96	-0.10	-0.62	-0.86	1.48
210	2010	23.58	0.08	0.67	-1.42	1.60
210	1010	23.58	0.08	0.67	-1.42	-1.60
211	2011	26.20	0.78	2.55	-1.50	6.10
211	1011	26.20	0.78	2.55	-1.50	-6.10
212	2012	29.55	2.66	4.52	-0.50	10.83
212	1012	29.55	2.66	4.52	-0.50	-10.83
213	2013	32.90	3.96	4.55	0.51	10.89
213	1013	32.90	3.96	4.55	0.51	-10.89
214	2014	36.03	2.60	3.45	1.38	8.25
214	1014	36.03	2.60	3.45	1.38	-8.25
215	2015	39.16	1.01	1.29	2.39	3.08
215	1015	39.16	1.01	1.29	2.39	-3.08
216	2016	42.29	0.14	-1.50	2.35	-3.60
216	1016	42.29	0.14	-1.50	2.35	3.60
217	2017	45.42	-0.12	-3.71	1.48	-8.88
217	1017	45.42	-0.12	-3.71	1.48	8.88
218	2018	48.55	-0.14	-4.89	0.69	-11.70
218	1018	48.55	-0.14	-4.89	0.69	11.70
219	2019	51.68	-0.15	-5.17	-0.04	-12.39
219	1019	51.68	-0.15	-5.17	-0.04	12.39
220	2020	54.81	-0.22	-4.61	-0.77	-11.05
220	1020	54.81	-0.22	-4.61	-0.77	11.05
221	2021	57.94	-0.25	-3.16	-1.54	-7.57
221	1021	57.94	-0.25	-3.16	-1.54	7.57
222	2022	61.07	0.14	-0.69	-2.39	-1.65
222	1022	61.07	0.14	-0.69	-2.39	1.65
223	2023	64.20	1.62	2.34	-2.33	5.60
223	1023	64.20	1.62	2.34	-2.33	-5.60
224	2024	67.55	4.93	4.86	-1.18	11.63
224	1024	67.55	4.93	4.86	-1.18	-11.63
225	2025	70.90	7.33	5.49	0.00	13.14
225	1025	70.90	7.33	5.49	0.00	-13.14
226	2026	74.23	4.91	4.92	1.19	11.77
226	1026	74.23	4.91	4.92	1.19	-11.77
227	2027	77.56	1.68	2.54	2.47	6.09
227	1027	77.56	1.68	2.54	2.47	-6.09
228	2028	80.89	0.11	-0.73	2.54	-1.75
228	1028	80.89	0.11	-0.73	2.54	1.75

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFC.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFC.FAM1.TOT + [-1;-1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.TOT + [-1;-1]PRETFC.FAM2.ISO + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	84.22	-0.27	-3.43	1.66	-8.22
229	1029	84.22	-0.27	-3.43	1.66	8.22
230	2030	87.55	-0.20	-5.02	0.86	-12.01
230	1030	87.55	-0.20	-5.02	0.86	12.01
231	2031	90.88	-0.11	-5.65	0.11	-13.53
231	1031	90.88	-0.11	-5.65	0.11	13.53
232	2032	94.21	-0.11	-5.38	-0.66	-12.87
232	1032	94.21	-0.11	-5.38	-0.66	12.87
233	2033	97.54	-0.12	-4.12	-1.49	-9.86
233	1033	97.54	-0.12	-4.12	-1.49	9.86
234	2034	100.87	0.09	-1.68	-2.46	-4.03
234	1034	100.87	0.09	-1.68	-2.46	4.03
235	2035	104.20	0.84	1.23	-2.19	2.95
235	1035	104.20	0.84	1.23	-2.19	-2.95
236	2036	107.55	2.13	3.01	-1.07	7.21
236	1036	107.55	2.13	3.01	-1.07	-7.21
237	2037	110.90	3.14	3.63	-0.24	8.70
237	1037	110.90	3.14	3.63	-0.24	-8.70
238	2038	113.77	2.19	3.31	0.48	7.92
238	1038	113.77	2.19	3.31	0.48	-7.92
239	2039	116.64	0.94	2.08	1.31	4.97
239	1039	116.64	0.94	2.08	1.31	-4.97
240	2040	119.51	0.25	0.39	1.28	0.92
240	1040	119.51	0.25	0.39	1.28	-0.92
241	2041	122.38	0.20	-0.83	0.60	-1.99
241	1041	122.38	0.20	-0.83	0.60	1.99
242	2042	125.25	0.61	-1.27	0.03	-3.04
242	1042	125.25	0.61	-1.27	0.03	3.04
243	2043	128.12	1.11	-1.08	-0.43	-2.59
243	1043	128.12	1.11	-1.08	-0.43	2.59
244	2044	130.99	0.84	-0.40	-0.79	-0.96
244	1044	130.99	0.84	-0.40	-0.79	0.96
245	2045	133.86	-1.93	0.66	-1.05	1.58
245	1045	133.86	-1.93	0.66	-1.05	-1.58
246	2046	136.73	-9.46	2.01	-1.21	4.81
246	1046	136.73	-9.46	2.01	-1.21	-4.81
247	2047	139.60	-11.05	1.78	-0.63	4.26
247	1047	139.60	-11.05	1.78	-0.63	-4.26

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFC.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.ISO + [1; 1]PRETFC.FAM3.ISO + [1; 1]PRETFC.FAM4.ISO + [1; 1]PR

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	0.00	0.00	0.00	0.00	0.00
2	2	0.00	0.00	0.00	0.00	0.00
2	3	0.00	0.00	0.00	0.00	0.00
3	3	0.00	0.00	0.00	0.00	0.00
3	4	0.00	0.00	0.00	0.00	0.00
4	4	0.00	0.00	0.00	0.00	0.00
4	5	0.00	0.00	0.00	0.00	0.00
5	5	0.00	0.00	0.00	0.00	0.00
5	6	0.00	0.00	0.00	0.00	0.00
6	6	0.00	0.00	0.00	0.00	0.00
6	7	0.00	0.00	0.00	0.00	0.00
7	7	0.00	0.00	0.00	0.00	0.00
7	8	0.00	0.00	0.00	0.00	0.00
8	8	0.00	0.00	0.00	0.00	0.00
8	9	0.00	0.00	0.00	0.00	0.00
9	9	0.00	0.00	0.00	0.00	0.00
9	10	0.00	0.00	0.00	0.00	0.00
10	10	0.00	0.00	0.00	0.00	0.00
10	10011	0.00	0.00	0.00	0.00	0.00
11	11	0.00	0.00	0.00	0.00	0.00
11	12	0.00	0.00	0.00	0.00	0.00
12	12	0.00	0.00	0.00	0.00	0.00
12	13	0.00	0.00	0.00	0.00	0.00
13	13	0.00	0.00	0.00	0.00	0.00
13	14	0.00	0.00	0.00	0.00	0.00
14	14	0.00	0.00	0.00	0.00	0.00
14	15	0.00	0.00	0.00	0.00	0.00
15	15	0.00	0.00	0.00	0.00	0.00
15	16	0.00	0.00	0.00	0.00	0.00
16	16	0.00	0.00	0.00	0.00	0.00
16	17	0.00	0.00	0.00	0.00	0.00
17	17	0.00	0.00	0.00	0.00	0.00
17	18	0.00	0.00	0.00	0.00	0.00
18	18	0.00	0.00	0.00	0.00	0.00
18	19	0.00	0.00	0.00	0.00	0.00
19	19	0.00	0.00	0.00	0.00	0.00
19	20	0.00	0.00	0.00	0.00	0.00
20	20	0.00	0.00	0.00	0.00	0.00
20	21	0.00	0.00	0.00	0.00	0.00
21	21	0.00	0.00	0.00	0.00	0.00
21	22	0.00	0.00	0.00	0.00	0.00
22	22	0.00	0.00	0.00	0.00	0.00
22	10023	0.00	0.00	0.00	0.00	0.00
23	23	0.00	0.00	0.00	0.00	0.00
23	24	0.00	0.00	0.00	0.00	0.00
24	24	0.00	0.00	0.00	0.00	0.00
24	25	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFC.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.ISO + [1; 1]PRETFC.FAM3.ISO + [1; 1]PRETFC.FAM4.ISO + [1; 1]PR

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	0.00	0.00	0.00	0.00	0.00
25	26	0.00	0.00	0.00	0.00	0.00
26	26	0.00	0.00	0.00	0.00	0.00
26	27	0.00	0.00	0.00	0.00	0.00
27	27	0.00	0.00	0.00	0.00	0.00
27	28	0.00	0.00	0.00	0.00	0.00
28	28	0.00	0.00	0.00	0.00	0.00
28	29	0.00	0.00	0.00	0.00	0.00
29	29	0.00	0.00	0.00	0.00	0.00
29	30	0.00	0.00	0.00	0.00	0.00
30	30	0.00	0.00	0.00	0.00	0.00
30	31	0.00	0.00	0.00	0.00	0.00
31	31	0.00	0.00	0.00	0.00	0.00
31	32	0.00	0.00	0.00	0.00	0.00
32	32	0.00	0.00	0.00	0.00	0.00
32	33	0.00	0.00	0.00	0.00	0.00
33	33	0.00	0.00	0.00	0.00	0.00
33	34	0.00	0.00	0.00	0.00	0.00
34	34	0.00	0.00	0.00	0.00	0.00
34	10035	0.00	0.00	0.00	0.00	0.00
35	35	0.00	0.00	0.00	0.00	0.00
35	36	0.00	0.00	0.00	0.00	0.00
36	36	0.00	0.00	0.00	0.00	0.00
36	37	0.00	0.00	0.00	0.00	0.00
37	37	0.00	0.00	0.00	0.00	0.00
37	38	0.00	0.00	0.00	0.00	0.00
38	38	0.00	0.00	0.00	0.00	0.00
38	39	0.00	0.00	0.00	0.00	0.00
39	39	0.00	0.00	0.00	0.00	0.00
39	40	0.00	0.00	0.00	0.00	0.00
40	40	0.00	0.00	0.00	0.00	0.00
40	41	0.00	0.00	0.00	0.00	0.00
41	41	0.00	0.00	0.00	0.00	0.00
41	42	0.00	0.00	0.00	0.00	0.00
42	42	0.00	0.00	0.00	0.00	0.00
42	43	0.00	0.00	0.00	0.00	0.00
43	43	0.00	0.00	0.00	0.00	0.00
43	44	0.00	0.00	0.00	0.00	0.00
44	44	0.00	0.00	0.00	0.00	0.00
44	45	0.00	0.00	0.00	0.00	0.00
45	45	0.00	0.00	0.00	0.00	0.00
45	46	0.00	0.00	0.00	0.00	0.00
46	46	0.00	0.00	0.00	0.00	0.00
46	47	0.00	0.00	0.00	0.00	0.00
101	101	0.00	0.00	0.00	0.00	0.00
101	102	2.62	0.00	0.00	0.00	0.00
102	102	2.62	0.00	0.00	0.00	0.00
102	103	5.24	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFC.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.ISO + [1; 1]PRETFC.FAM3.ISO + [1; 1]PRETFC.FAM4.ISO + [1; 1]PR

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	0.00	0.00	0.00	0.00
103	104	7.86	0.00	0.00	0.00	0.00
104	104	7.86	0.00	0.00	0.00	0.00
104	105	10.48	0.00	0.00	0.00	0.00
105	105	10.48	0.00	0.00	0.00	0.00
105	106	13.10	0.00	0.00	0.00	0.00
106	106	13.10	0.00	0.00	0.00	0.00
106	107	15.72	0.00	0.00	0.00	0.00
107	107	15.72	0.00	0.00	0.00	0.00
107	108	18.34	0.00	0.00	0.00	0.00
108	108	18.34	0.00	0.00	0.00	0.00
108	109	20.96	0.00	0.00	0.00	0.00
109	109	20.96	0.00	0.00	0.00	0.00
109	110	23.58	0.00	0.00	0.00	0.00
110	110	23.58	-1002.54	0.00	0.00	786.99
110	111	26.20	-1006.16	0.00	0.00	789.83
111	111	26.20	-1947.28	0.00	0.00	1528.62
111	112	29.55	-1955.87	0.00	0.00	1535.36
112	112	29.55	-1955.87	0.00	0.00	1535.36
112	10113	32.90	-1904.87	0.00	0.00	1495.33
113	113	32.90	-1904.87	0.00	0.00	1495.33
113	114	36.03	-1966.29	0.00	0.00	1543.53
114	114	36.03	-1966.29	0.00	0.00	1543.53
114	115	39.16	-1958.27	0.00	0.00	1537.24
115	115	39.16	-882.00	0.00	0.00	692.37
115	116	42.29	-878.22	0.00	0.00	689.40
116	116	42.29	0.00	0.00	0.00	0.00
116	117	45.42	0.00	0.00	0.00	0.00
117	117	45.42	0.00	0.00	0.00	0.00
117	118	48.55	0.00	0.00	0.00	0.00
118	118	48.55	0.00	0.00	0.00	0.00
118	119	51.68	0.00	0.00	0.00	0.00
119	119	51.68	0.00	0.00	0.00	0.00
119	120	54.81	0.00	0.00	0.00	0.00
120	120	54.81	0.00	0.00	0.00	0.00
120	121	57.94	0.00	0.00	0.00	0.00
121	121	57.94	0.00	0.00	0.00	0.00
121	122	61.07	0.00	0.00	0.00	0.00
122	122	61.07	-1006.13	0.00	0.00	789.81
122	123	64.20	-1010.45	0.00	0.00	793.21
123	123	64.20	-1950.87	0.00	0.00	1531.43
123	124	67.55	-1959.45	0.00	0.00	1538.17
124	124	67.55	-1959.45	0.00	0.00	1538.17
124	10125	70.90	-1911.45	0.00	0.00	1500.49
125	125	70.90	-1911.45	0.00	0.00	1500.49
125	126	74.23	-1967.37	0.00	0.00	1544.39
126	126	74.23	-1967.37	0.00	0.00	1544.39
126	127	77.56	-1958.85	0.00	0.00	1537.69

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFC.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFC.FAM1.ISO + [1; 1]PRETFC.FAM2.ISO + [1; 1]PRETFC.FAM3.ISO + [1; 1]PRETFC.FAM4.ISO + [1; 1]PR

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-883.82	0.00	0.00	693.80
127	128	80.89	-879.80	0.00	0.00	690.64
128	128	80.89	0.00	0.00	0.00	0.00
128	129	84.22	0.00	0.00	0.00	0.00
129	129	84.22	0.00	0.00	0.00	0.00
129	130	87.55	0.00	0.00	0.00	0.00
130	130	87.55	0.00	0.00	0.00	0.00
130	131	90.88	0.00	0.00	0.00	0.00
131	131	90.88	0.00	0.00	0.00	0.00
131	132	94.21	0.00	0.00	0.00	0.00
132	132	94.21	0.00	0.00	0.00	0.00
132	133	97.54	0.00	0.00	0.00	0.00
133	133	97.54	0.00	0.00	0.00	0.00
133	134	100.87	0.00	0.00	0.00	0.00
134	134	100.87	-1008.42	0.00	0.00	791.61
134	135	104.20	-1013.02	0.00	0.00	795.22
135	135	104.20	-1955.07	0.00	0.00	1534.73
135	136	107.55	-1963.66	0.00	0.00	1541.47
136	136	107.55	-1963.66	0.00	0.00	1541.47
136	10137	110.90	-1904.64	0.00	0.00	1495.15
137	137	110.90	-1904.64	0.00	0.00	1495.15
137	138	113.77	-1958.90	0.00	0.00	1537.74
138	138	113.77	-1958.90	0.00	0.00	1537.74
138	139	116.64	-1951.55	0.00	0.00	1531.97
139	139	116.64	-875.54	0.00	0.00	687.30
139	140	119.51	-872.08	0.00	0.00	684.58
140	140	119.51	0.00	0.00	0.00	0.00
140	141	122.38	0.00	0.00	0.00	0.00
141	141	122.38	0.00	0.00	0.00	0.00
141	142	125.25	0.00	0.00	0.00	0.00
142	142	125.25	0.00	0.00	0.00	0.00
142	143	128.12	0.00	0.00	0.00	0.00
143	143	128.12	0.00	0.00	0.00	0.00
143	144	130.99	0.00	0.00	0.00	0.00
144	144	130.99	0.00	0.00	0.00	0.00
144	145	133.86	0.00	0.00	0.00	0.00
145	145	133.86	0.00	0.00	0.00	0.00
145	146	136.73	0.00	0.00	0.00	0.00
146	146	136.73	0.00	0.00	0.00	0.00
146	147	139.60	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFA.FAM1.TOT + [1; 1]PRETFA.FAM2.TOT + [1; 1]PRETFA.FAM3.TOT + [1; 1]PRETFA.FAM4.TOT + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-541.41	5.85	-41.69	37.03
25	26	74.23	-541.41	5.85	-41.69	17.53
26	26	74.23	-562.15	12.69	-63.22	14.61
26	27	77.56	-562.15	12.69	-63.22	-27.64
27	27	77.56	-587.59	15.25	-71.30	-31.51
27	28	80.89	-587.59	15.25	-71.30	-82.31
28	28	80.89	-607.23	13.11	-64.54	-85.96
28	29	84.22	-607.23	13.11	-64.54	-129.61
29	29	84.22	-605.83	7.35	-46.40	-131.89
29	30	87.55	-605.83	7.35	-46.40	-156.36
30	30	87.55	-595.10	-0.34	-22.17	-157.45
30	31	90.88	-595.10	-0.34	-22.17	-156.31
31	31	90.88	-579.11	-8.58	3.77	-156.32
31	32	94.21	-579.11	-8.58	3.77	-127.75
32	32	94.21	-557.69	-16.08	27.41	-126.70
32	33	97.54	-557.69	-16.08	27.41	-73.15
33	33	97.54	-526.25	-21.51	44.52	-70.96
33	34	100.87	-526.25	-21.51	44.52	0.68
34	34	100.87	-472.03	-23.31	50.16	4.13
34	10035	104.20	-472.03	-23.31	50.16	81.73
35	35	104.20	-399.69	-9.66	42.04	85.01
35	36	107.55	-399.69	-9.66	42.04	117.39
36	36	107.55	-360.46	-3.95	24.03	119.39
36	37	110.90	-360.46	-3.95	24.03	132.61
37	37	110.90	-337.22	2.93	2.37	132.49
37	38	113.77	-337.22	2.93	2.37	124.09
38	38	113.77	-327.23	8.47	-15.10	122.22
38	39	116.64	-327.23	8.47	-15.10	97.90
39	39	116.64	-314.75	11.42	-24.39	95.55
39	40	119.51	-314.75	11.42	-24.39	62.76
40	40	119.51	-295.10	11.69	-25.22	60.63
40	41	122.38	-295.10	11.69	-25.22	27.08
41	41	122.38	-270.79	9.69	-18.94	25.38
41	42	125.25	-270.79	9.69	-18.94	-2.44
42	42	125.25	-242.23	6.10	-7.61	-3.45
42	43	128.12	-242.23	6.10	-7.61	-20.95
43	43	128.12	-207.93	1.84	5.82	-21.03
43	44	130.99	-207.93	1.84	5.82	-26.30
44	44	130.99	-163.81	-1.83	17.36	-25.16
44	45	133.86	-163.81	-1.83	17.36	-19.91
45	45	133.86	-101.40	-3.23	21.76	-17.23
45	46	136.73	-101.40	-3.23	21.76	-7.97
46	46	136.73	-14.42	-0.49	13.15	-3.86
46	47	139.60	-14.42	-0.49	13.15	-2.44
101	101	0.00	-622.27	-97.48	-19.70	-811.04
101	102	2.62	-622.27	-97.48	-19.70	-555.65
102	102	2.62	-1006.07	-102.91	-36.80	-1417.08
102	103	5.24	-1006.07	-102.91	-36.80	-1147.46

~cpret4.esv Programa DINTEL IDEAM S.A. 28/10/02
PRETFA.TOT.To

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFA.FAM1.TOT + [1; 1]PRETFA.FAM2.TOT + [1; 1]PRETFA.FAM3.TOT + [1; 1]PRETFA.FAM4.TOT + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-1262.27	-102.43	-35.32	-1727.58
103	104	7.86	-1262.27	-102.43	-35.32	-1459.20
104	104	7.86	-1532.00	-97.55	-19.93	-2025.11
104	105	10.48	-1532.00	-97.55	-19.93	-1769.53
105	105	10.48	-1491.03	-89.92	4.10	-1767.86
105	106	13.10	-1491.03	-89.92	4.10	-1532.27
106	106	13.10	-1458.93	-81.13	31.78	-1531.98
106	107	15.72	-1458.93	-81.13	31.78	-1319.41
107	107	15.72	-1432.98	-72.47	59.07	-1320.28
107	108	18.34	-1432.98	-72.47	59.07	-1130.41
108	108	18.34	-1412.35	-64.98	82.67	-1132.27
108	109	20.96	-1412.35	-64.98	82.67	-962.02
109	109	20.96	-1397.86	-59.56	99.72	-964.73
109	110	23.58	-1397.86	-59.56	99.72	-808.67
110	110	23.58	-1067.19	-57.04	107.67	-242.92
110	111	26.20	-1067.19	-57.04	107.67	-93.47
111	111	26.20	-739.13	-57.99	104.69	487.23
111	112	29.55	-739.13	-57.99	104.69	681.49
112	112	29.55	-265.57	-64.09	85.46	1544.99
112	10113	32.90	-265.57	-64.09	85.46	1759.70
113	113	32.90	-207.59	19.79	58.16	1826.82
113	114	36.03	-207.59	19.79	58.16	1764.87
114	114	36.03	-567.27	11.83	33.08	1031.98
114	115	39.16	-567.27	11.83	33.08	994.96
115	115	39.16	-956.89	6.40	15.99	217.35
115	116	42.29	-956.89	6.40	15.99	197.30
116	116	42.29	-1314.50	4.23	9.15	-495.35
116	117	45.42	-1314.50	4.23	9.15	-508.61
117	117	45.42	-1289.31	4.75	10.77	-507.16
117	118	48.55	-1289.31	4.75	10.77	-522.03
118	118	48.55	-1271.31	6.85	17.38	-521.37
118	119	51.68	-1271.31	6.85	17.38	-542.80
119	119	51.68	-1257.69	9.51	25.76	-542.92
119	120	54.81	-1257.69	9.51	25.76	-572.68
120	120	54.81	-1248.46	11.74	32.79	-573.57
120	121	57.94	-1248.46	11.74	32.79	-610.31
121	121	57.94	-1246.38	12.50	35.18	-612.02
121	122	61.07	-1246.38	12.50	35.18	-651.13
122	122	61.07	-861.47	10.64	29.34	41.21
122	123	64.20	-861.47	10.64	29.34	7.90
123	123	64.20	-446.21	5.36	12.71	785.05
123	124	67.55	-446.21	5.36	12.71	767.08
124	124	67.55	-62.47	-3.07	-13.87	1499.43
124	10125	70.90	-62.47	-3.07	-13.87	1509.73
125	125	70.90	-130.25	-18.63	-41.69	1373.61
125	126	74.23	-130.25	-18.63	-41.69	1435.64
126	126	74.23	-579.08	-25.46	-63.22	571.28
126	127	77.56	-579.08	-25.46	-63.22	656.07

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFA.FAM1.TOT + [1; 1]PRETFA.FAM2.TOT + [1; 1]PRETFA.FAM3.TOT + [1; 1]PRETFA.FAM4.TOT + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-1059.31	-28.03	-71.30	-249.77
127	128	80.89	-1059.31	-28.03	-71.30	-156.44
128	128	80.89	-1545.36	-25.88	-64.54	-1037.23
128	129	84.22	-1545.36	-25.88	-64.54	-951.04
129	129	84.22	-1546.75	-20.12	-46.40	-948.76
129	130	87.55	-1546.75	-20.12	-46.40	-881.75
130	130	87.55	-1557.49	-12.43	-22.17	-880.66
130	131	90.88	-1557.49	-12.43	-22.17	-839.26
131	131	90.88	-1573.47	-4.19	3.77	-839.26
131	132	94.21	-1573.47	-4.19	3.77	-825.29
132	132	94.21	-1594.89	3.31	27.41	-826.34
132	133	97.54	-1594.89	3.31	27.41	-837.36
133	133	97.54	-1626.33	8.74	44.52	-839.55
133	134	100.87	-1626.33	8.74	44.52	-868.65
134	134	100.87	-1174.87	10.53	50.16	12.34
134	135	104.20	-1174.87	10.53	50.16	-22.73
135	135	104.20	-720.97	7.95	42.04	883.71
135	136	107.55	-720.97	7.95	42.04	857.07
136	136	107.55	-290.64	2.23	24.03	1722.34
136	10137	110.90	-290.64	2.23	24.03	1714.85
137	137	110.90	-298.32	92.20	2.37	1783.42
137	138	113.77	-298.32	92.20	2.37	1518.81
138	138	113.77	-777.88	86.65	-15.10	653.39
138	139	116.64	-777.88	86.65	-15.10	404.70
139	139	116.64	-1007.07	83.70	-24.39	17.16
139	140	119.51	-1007.07	83.70	-24.39	-223.07
140	140	119.51	-1026.72	83.44	-25.22	-220.93
140	141	122.38	-1026.72	83.44	-25.22	-460.41
141	141	122.38	-1051.03	85.44	-18.94	-458.71
141	142	125.25	-1051.03	85.44	-18.94	-703.91
142	142	125.25	-1079.59	89.03	-7.61	-702.89
142	143	128.12	-1079.59	89.03	-7.61	-958.41
143	143	128.12	-1113.89	93.29	5.81	-958.33
143	144	130.99	-1113.89	93.29	5.81	-1226.09
144	144	130.99	-1158.01	96.96	17.36	-1227.23
144	145	133.86	-1158.01	96.96	17.36	-1505.50
145	145	133.86	-1003.70	98.36	21.76	-1118.30
145	146	136.73	-1003.70	98.36	21.76	-1400.58
146	146	136.73	-621.13	95.62	13.15	-537.41
146	147	139.60	-621.13	95.62	13.15	-811.85
201	2001	0.00	-18.94	6.25	3.25	14.97
201	1001	0.00	-18.94	6.25	3.25	-14.97
202	2002	2.62	-17.65	5.43	5.85	13.00
202	1002	2.62	-17.65	5.43	5.85	-13.00
203	2003	5.24	-4.69	-0.47	4.70	-1.13
203	1003	5.24	-4.69	-0.47	4.70	1.13
204	2004	7.86	0.94	-4.88	3.31	-11.69
204	1004	7.86	0.94	-4.88	3.31	11.69

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFA.FAM1.TOT + [1; 1]PRETFA.FAM2.TOT + [1; 1]PRETFA.FAM3.TOT + [1; 1]PRETFA.FAM4.TOT + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	10.48	2.16	-7.63	1.67	-18.27
205	1005	10.48	2.16	-7.63	1.67	18.27
206	2006	13.10	1.59	-8.79	0.29	-21.04
206	1006	13.10	1.59	-8.79	0.29	21.04
207	2007	15.72	0.70	-8.66	-0.87	-20.74
207	1007	15.72	0.70	-8.66	-0.87	20.74
208	2008	18.34	0.06	-7.49	-1.85	-17.93
208	1008	18.34	0.06	-7.49	-1.85	17.93
209	2009	20.96	-0.17	-5.41	-2.71	-12.96
209	1009	20.96	-0.17	-5.41	-2.71	12.96
210	2010	23.58	0.14	-2.52	-3.46	-6.04
210	1010	23.58	0.14	-2.52	-3.46	6.04
211	2011	26.20	1.32	0.95	-4.12	2.27
211	1011	26.20	1.32	0.95	-4.12	-2.27
212	2012	29.55	4.53	6.11	-3.79	14.62
212	1012	29.55	4.53	6.11	-3.79	-14.62
213	2013	32.90	6.75	8.67	-1.33	20.75
213	1013	32.90	6.75	8.67	-1.33	-20.75
214	2014	36.03	4.43	7.96	0.97	19.06
214	1014	36.03	4.43	7.96	0.97	-19.06
215	2015	39.16	1.71	5.42	2.15	12.99
215	1015	39.16	1.71	5.42	2.15	-12.99
216	2016	42.29	0.24	2.17	2.26	5.20
216	1016	42.29	0.24	2.17	2.26	-5.20
217	2017	45.42	-0.21	-0.52	1.44	-1.23
217	1017	45.42	-0.21	-0.52	1.44	1.23
218	2018	48.55	-0.24	-2.10	0.66	-5.02
218	1018	48.55	-0.24	-2.10	0.66	5.02
219	2019	51.68	-0.27	-2.66	-0.12	-6.37
219	1019	51.68	-0.27	-2.66	-0.12	6.37
220	2020	54.81	-0.41	-2.23	-0.90	-5.34
220	1020	54.81	-0.41	-2.23	-0.90	5.34
221	2021	57.94	-0.46	-0.76	-1.71	-1.82
221	1021	57.94	-0.46	-0.76	-1.71	1.82
222	2022	61.07	0.26	1.85	-2.57	4.44
222	1022	61.07	0.26	1.85	-2.57	-4.44
223	2023	64.20	3.01	5.28	-2.61	12.64
223	1023	64.20	3.01	5.28	-2.61	-12.64
224	2024	67.55	9.15	8.44	-1.50	20.20
224	1024	67.55	9.15	8.44	-1.50	-20.20
225	2025	70.90	13.60	8.83	0.77	21.15
225	1025	70.90	13.60	8.83	0.77	-21.15
226	2026	74.23	9.11	6.83	2.92	16.36
226	1026	74.23	9.11	6.83	2.92	-16.36
227	2027	77.56	3.12	2.57	3.87	6.14
227	1027	77.56	3.12	2.57	3.87	-6.14
228	2028	80.89	0.20	-2.15	3.65	-5.14
228	1028	80.89	0.20	-2.15	3.65	5.14

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFA.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFA.FAM1.TOT + [1; 1]PRETFA.FAM2.TOT + [1; 1]PRETFA.FAM3.TOT + [1; 1]PRETFA.FAM4.TOT + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	84.22	-0.50	-5.76	2.28	-13.79
229	1029	84.22	-0.50	-5.76	2.28	13.79
230	2030	87.55	-0.38	-7.69	1.09	-18.42
230	1030	87.55	-0.38	-7.69	1.09	18.42
231	2031	90.88	-0.21	-8.24	0.01	-19.72
231	1031	90.88	-0.21	-8.24	0.01	19.72
232	2032	94.21	-0.19	-7.50	-1.06	-17.96
232	1032	94.21	-0.19	-7.50	-1.06	17.96
233	2033	97.54	-0.21	-5.43	-2.19	-13.00
233	1033	97.54	-0.21	-5.43	-2.19	13.00
234	2034	100.87	0.17	-1.79	-3.45	-4.29
234	1034	100.87	0.17	-1.79	-3.45	4.29
235	2035	104.20	1.50	2.58	-3.28	6.18
235	1035	104.20	1.50	2.58	-3.28	-6.18
236	2036	107.55	3.82	5.72	-2.01	13.69
236	1036	107.55	3.82	5.72	-2.01	-13.69
237	2037	110.90	5.61	6.87	0.12	16.46
237	1037	110.90	5.61	6.87	0.12	-16.46
238	2038	113.77	3.92	5.55	1.87	13.28
238	1038	113.77	3.92	5.55	1.87	-13.28
239	2039	116.64	1.68	2.95	2.35	7.06
239	1039	116.64	1.68	2.95	2.35	-7.06
240	2040	119.51	0.44	0.26	2.14	0.63
240	1040	119.51	0.44	0.26	2.14	-0.63
241	2041	122.38	0.36	-2.00	1.70	-4.78
241	1041	122.38	0.36	-2.00	1.70	4.78
242	2042	125.25	1.10	-3.60	1.02	-8.61
242	1042	125.25	1.10	-3.60	1.02	8.61
243	2043	128.12	2.02	-4.26	0.08	-10.20
243	1043	128.12	2.02	-4.26	0.08	10.20
244	2044	130.99	1.53	-3.66	-1.14	-8.77
244	1044	130.99	1.53	-3.66	-1.14	8.77
245	2045	133.86	-3.49	-1.40	-2.68	-3.35
245	1045	133.86	-3.49	-1.40	-2.68	3.35
246	2046	136.73	-17.13	2.73	-4.11	6.54
246	1046	136.73	-17.13	2.73	-4.11	-6.54
247	2047	139.60	-20.00	4.18	-2.44	10.00
247	1047	139.60	-20.00	4.18	-2.44	-10.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFA.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFA.FAM1.TOT + [-1;-1]PRETFA.FAM1.ISO + [1; 1]PRETFA.FAM2.TOT + [-1;-1]PRETFA.FAM2.ISO + [1; 1]PR

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-13.27	14.11	-19.70	-3.25
1	2	2.62	-13.27	14.11	-19.70	-40.22
2	2	2.62	-99.03	19.54	-36.80	-46.07
2	3	5.24	-99.03	19.54	-36.80	-97.26
3	3	5.24	-167.91	19.07	-35.32	-101.96
3	4	7.86	-167.91	19.07	-35.32	-151.91
4	4	7.86	-223.26	14.18	-19.93	-155.22
4	5	10.48	-223.26	14.18	-19.93	-192.37
5	5	10.48	-264.24	6.55	4.10	-194.04
5	6	13.10	-264.24	6.55	4.10	-211.21
6	6	13.10	-296.33	-2.24	31.78	-211.49
6	7	15.72	-296.33	-2.24	31.78	-205.64
7	7	15.72	-322.28	-10.90	59.07	-204.77
7	8	18.34	-322.28	-10.90	59.07	-176.21
8	8	18.34	-342.92	-18.39	82.67	-174.36
8	9	20.96	-342.92	-18.39	82.67	-126.18
9	9	20.96	-357.40	-23.80	99.72	-123.47
9	10	23.58	-357.40	-23.80	99.72	-61.10
10	10	23.58	-362.99	-26.33	107.67	-57.64
10	10011	26.20	-362.99	-26.33	107.67	11.34
11	11	26.20	-365.97	-20.05	104.69	15.45
11	12	29.55	-365.97	-20.05	104.69	82.62
12	12	29.55	-369.97	-13.94	85.46	86.40
12	13	32.90	-369.97	-13.94	85.46	133.12
13	13	32.90	-391.84	-5.28	58.16	134.45
13	14	36.03	-391.84	-5.28	58.16	150.97
14	14	36.03	-429.48	2.68	33.08	150.00
14	15	39.16	-429.48	2.68	33.08	141.60
15	15	39.16	-473.29	8.11	15.99	139.45
15	16	42.29	-473.29	8.11	15.99	114.07
16	16	42.29	-513.01	10.28	9.15	111.81
16	17	45.42	-513.01	10.28	9.15	79.64
17	17	45.42	-538.19	9.76	10.77	78.19
17	18	48.55	-538.19	9.76	10.77	47.63
18	18	48.55	-556.19	7.67	17.38	46.97
18	19	51.68	-556.19	7.67	17.38	22.97
19	19	51.68	-569.81	5.01	25.76	23.09
19	20	54.81	-569.81	5.01	25.76	7.42
20	20	54.81	-579.05	2.78	32.79	8.32
20	21	57.94	-579.05	2.78	32.79	-0.38
21	21	57.94	-581.12	2.02	35.18	1.33
21	22	61.07	-581.12	2.02	35.18	-4.98
22	22	61.07	-568.72	3.87	29.34	-2.42
22	10023	64.20	-568.72	3.87	29.34	-14.53
23	23	64.20	-550.53	-11.42	12.71	-11.92
23	24	67.55	-550.53	-11.42	12.71	26.32
24	24	67.55	-536.95	-2.98	-13.87	27.82
24	25	70.90	-536.95	-2.98	-13.87	37.80

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.HIP.To

Pretensado Hiperestático (t=0)

[1. 1]PRETFA.FAM1.TOT + [-1;-1]PRETFA.FAM1.ISO + [1; 1]PRETFA.FAM2.TOT + [-1;-1]PRETFA.FAM2.ISO + [1; 1]PR

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-541.41	5.85	-41.69	37.03
25	26	74.23	-541.41	5.85	-41.69	17.53
26	26	74.23	-562.15	12.69	-63.22	14.61
26	27	77.56	-562.15	12.69	-63.22	-27.64
27	27	77.56	-587.59	15.25	-71.30	-31.51
27	28	80.89	-587.59	15.25	-71.30	-82.31
28	28	80.89	-607.23	13.11	-64.54	-85.96
28	29	84.22	-607.23	13.11	-64.54	-129.61
29	29	84.22	-605.83	7.35	-46.40	-131.89
29	30	87.55	-605.83	7.35	-46.40	-156.36
30	30	87.55	-595.10	-0.34	-22.17	-157.45
30	31	90.88	-595.10	-0.34	-22.17	-156.31
31	31	90.88	-579.11	-8.58	3.77	-156.32
31	32	94.21	-579.11	-8.58	3.77	-127.75
32	32	94.21	-557.69	-16.08	27.41	-126.70
32	33	97.54	-557.69	-16.08	27.41	-73.15
33	33	97.54	-526.25	-21.51	44.52	-70.96
33	34	100.87	-526.25	-21.51	44.52	0.68
34	34	100.87	-472.03	-23.31	50.16	4.13
34	10035	104.20	-472.03	-23.31	50.16	81.73
35	35	104.20	-399.69	-9.66	42.04	85.01
35	36	107.55	-399.69	-9.66	42.04	117.39
36	36	107.55	-360.46	-3.95	24.03	119.39
36	37	110.90	-360.46	-3.95	24.03	132.61
37	37	110.90	-337.22	2.93	2.37	132.49
37	38	113.77	-337.22	2.93	2.37	124.09
38	38	113.77	-327.23	8.47	-15.10	122.22
38	39	116.64	-327.23	8.47	-15.10	97.90
39	39	116.64	-314.75	11.42	-24.39	95.55
39	40	119.51	-314.75	11.42	-24.39	62.76
40	40	119.51	-295.10	11.69	-25.22	60.63
40	41	122.38	-295.10	11.69	-25.22	27.08
41	41	122.38	-270.79	9.69	-18.94	25.38
41	42	125.25	-270.79	9.69	-18.94	-2.44
42	42	125.25	-242.23	6.10	-7.61	-3.45
42	43	128.12	-242.23	6.10	-7.61	-20.95
43	43	128.12	-207.93	1.84	5.82	-21.03
43	44	130.99	-207.93	1.84	5.82	-26.30
44	44	130.99	-163.81	-1.83	17.36	-25.16
44	45	133.86	-163.81	-1.83	17.36	-19.91
45	45	133.86	-101.40	-3.23	21.76	-17.23
45	46	136.73	-101.40	-3.23	21.76	-7.97
46	46	136.73	-14.42	-0.49	13.15	-3.86
46	47	139.60	-14.42	-0.49	13.15	-2.44
101	101	0.00	13.27	-97.48	-19.70	3.25
101	102	2.62	13.27	-97.48	-19.70	258.64
102	102	2.62	99.03	-102.91	-36.80	264.49
102	103	5.24	99.03	-102.91	-36.80	534.11

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.HIP.To

Pretensado Hiperestático (t=0)

[1. 1]PRETFA.FAM1.TOT + [-1;-1]PRETFA.FAM1.ISO + [1; 1]PRETFA.FAM2.TOT + [-1;-1]PRETFA.FAM2.ISO + [1; 1]PR

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	167.91	-102.43	-35.32	538.81
103	104	7.86	167.91	-102.43	-35.32	807.19
104	104	7.86	223.26	-97.55	-19.93	810.49
104	105	10.48	223.26	-97.55	-19.93	1066.08
105	105	10.48	264.24	-89.92	4.10	1067.74
105	106	13.10	264.24	-89.92	4.10	1303.33
106	106	13.10	296.33	-81.13	31.78	1303.62
106	107	15.72	296.33	-81.13	31.78	1516.19
107	107	15.72	322.28	-72.47	59.07	1515.32
107	108	18.34	322.28	-72.47	59.07	1705.19
108	108	18.34	342.92	-64.98	82.67	1703.34
108	109	20.96	342.92	-64.98	82.67	1873.58
109	109	20.96	357.40	-59.56	99.72	1870.88
109	110	23.58	357.40	-59.56	99.72	2026.94
110	110	23.58	363.00	-57.04	107.67	2023.47
110	111	26.20	363.00	-57.04	107.67	2172.92
111	111	26.20	365.98	-57.99	104.69	2168.80
111	112	29.55	365.98	-57.99	104.69	2363.07
112	112	29.55	369.98	-64.09	85.46	2359.28
112	10113	32.90	369.98	-64.09	85.46	2573.99
113	113	32.90	391.84	19.79	58.16	2572.66
113	114	36.03	391.84	19.79	58.16	2510.71
114	114	36.03	429.48	11.83	33.08	2511.68
114	115	39.16	429.48	11.83	33.08	2474.65
115	115	39.16	473.29	6.40	15.99	2476.80
115	116	42.29	473.29	6.40	15.99	2456.76
116	116	42.29	513.01	4.23	9.15	2459.01
116	117	45.42	513.01	4.23	9.15	2445.76
117	117	45.42	538.19	4.75	10.77	2447.20
117	118	48.55	538.19	4.75	10.77	2432.34
118	118	48.55	556.20	6.85	17.38	2433.00
118	119	51.68	556.20	6.85	17.38	2411.57
119	119	51.68	569.81	9.51	25.76	2411.45
119	120	54.81	569.81	9.51	25.76	2381.69
120	120	54.81	579.05	11.74	32.79	2380.79
120	121	57.94	579.05	11.74	32.79	2344.06
121	121	57.94	581.12	12.50	35.18	2342.35
121	122	61.07	581.12	12.50	35.18	2303.24
122	122	61.07	568.72	10.64	29.34	2300.67
122	123	64.20	568.72	10.64	29.34	2267.36
123	123	64.20	550.53	5.36	12.71	2264.75
123	124	67.55	550.53	5.36	12.71	2246.78
124	124	67.55	536.95	-3.07	-13.87	2245.28
124	10125	70.90	536.95	-3.07	-13.87	2255.57
125	125	70.90	541.41	-18.63	-41.69	2256.35
125	126	74.23	541.41	-18.63	-41.69	2318.38
126	126	74.23	562.15	-25.46	-63.22	2321.30
126	127	77.56	562.15	-25.46	-63.22	2406.09

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFA.FAM1.TOT + [-1;-1]PRETFA.FAM1.ISO + [1; 1]PRETFA.FAM2.TOT + [-1;-1]PRETFA.FAM2.ISO + [1; 1]PR

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	587.59	-28.03	-71.30	2409.96
127	128	80.89	587.59	-28.03	-71.30	2503.30
128	128	80.89	607.23	-25.88	-64.54	2506.95
128	129	84.22	607.23	-25.88	-64.54	2593.13
129	129	84.22	605.83	-20.12	-46.40	2595.41
129	130	87.55	605.83	-20.12	-46.40	2662.42
130	130	87.55	595.10	-12.43	-22.17	2663.51
130	131	90.88	595.10	-12.43	-22.17	2704.91
131	131	90.88	579.11	-4.19	3.77	2704.91
131	132	94.21	579.11	-4.19	3.77	2718.88
132	132	94.21	557.70	3.31	27.41	2717.83
132	133	97.54	557.70	3.31	27.41	2706.81
133	133	97.54	526.25	8.74	44.52	2704.63
133	134	100.87	526.25	8.74	44.52	2675.52
134	134	100.87	472.04	10.53	50.16	2672.08
134	135	104.20	472.04	10.53	50.16	2637.00
135	135	104.20	420.25	7.95	42.04	2633.72
135	136	107.55	420.25	7.95	42.04	2607.09
136	136	107.55	381.02	2.23	24.03	2605.08
136	10137	110.90	381.02	2.23	24.03	2597.59
137	137	110.90	337.22	92.20	2.37	2597.71
137	138	113.77	337.22	92.20	2.37	2333.10
138	138	113.77	327.23	86.65	-15.10	2334.97
138	139	116.64	327.23	86.65	-15.10	2086.27
139	139	116.64	314.75	83.70	-24.39	2088.61
139	140	119.51	314.75	83.70	-24.39	1848.38
140	140	119.51	295.10	83.44	-25.22	1850.52
140	141	122.38	295.10	83.44	-25.22	1611.05
141	141	122.38	270.79	85.44	-18.94	1612.74
141	142	125.25	270.79	85.44	-18.94	1367.54
142	142	125.25	242.23	89.03	-7.61	1368.56
142	143	128.12	242.23	89.03	-7.61	1113.04
143	143	128.12	207.93	93.29	5.81	1113.12
143	144	130.99	207.93	93.29	5.81	845.37
144	144	130.99	163.81	96.96	17.36	844.22
144	145	133.86	163.81	96.96	17.36	565.95
145	145	133.86	101.40	98.36	21.76	563.27
145	146	136.73	101.40	98.36	21.76	280.99
146	146	136.73	14.42	95.62	13.15	276.88
146	147	139.60	14.42	95.62	13.15	2.44
201	2001	0.00	-18.94	6.25	3.25	14.97
201	1001	0.00	-18.94	6.25	3.25	-14.97
202	2002	2.62	-17.65	5.43	5.85	13.00
202	1002	2.62	-17.65	5.43	5.85	-13.00
203	2003	5.24	-4.69	-0.47	4.70	-1.13
203	1003	5.24	-4.69	-0.47	4.70	1.13
204	2004	7.86	0.94	-4.88	3.31	-11.69
204	1004	7.86	0.94	-4.88	3.31	11.69

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFA.FAM1.TOT + [-1;-1]PRETFA.FAM1.ISO + [1; 1]PRETFA.FAM2.TOT + [-1;-1]PRETFA.FAM2.ISO + [1; 1]PR

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	10.48	2.16	-7.63	1.67	-18.27
205	1005	10.48	2.16	-7.63	1.67	18.27
206	2006	13.10	1.59	-8.79	0.29	-21.04
206	1006	13.10	1.59	-8.79	0.29	21.04
207	2007	15.72	0.70	-8.66	-0.87	-20.74
207	1007	15.72	0.70	-8.66	-0.87	20.74
208	2008	18.34	0.06	-7.49	-1.85	-17.93
208	1008	18.34	0.06	-7.49	-1.85	17.93
209	2009	20.96	-0.17	-5.41	-2.71	-12.96
209	1009	20.96	-0.17	-5.41	-2.71	12.96
210	2010	23.58	0.14	-2.52	-3.46	-6.04
210	1010	23.58	0.14	-2.52	-3.46	6.04
211	2011	26.20	1.32	0.95	-4.12	2.27
211	1011	26.20	1.32	0.95	-4.12	-2.27
212	2012	29.55	4.53	6.11	-3.79	14.62
212	1012	29.55	4.53	6.11	-3.79	-14.62
213	2013	32.90	6.75	8.67	-1.33	20.75
213	1013	32.90	6.75	8.67	-1.33	-20.75
214	2014	36.03	4.43	7.96	0.97	19.06
214	1014	36.03	4.43	7.96	0.97	-19.06
215	2015	39.16	1.71	5.42	2.15	12.99
215	1015	39.16	1.71	5.42	2.15	-12.99
216	2016	42.29	0.24	2.17	2.26	5.20
216	1016	42.29	0.24	2.17	2.26	-5.20
217	2017	45.42	-0.21	-0.52	1.44	-1.23
217	1017	45.42	-0.21	-0.52	1.44	1.23
218	2018	48.55	-0.24	-2.10	0.66	-5.02
218	1018	48.55	-0.24	-2.10	0.66	5.02
219	2019	51.68	-0.27	-2.66	-0.12	-6.37
219	1019	51.68	-0.27	-2.66	-0.12	6.37
220	2020	54.81	-0.41	-2.23	-0.90	-5.34
220	1020	54.81	-0.41	-2.23	-0.90	5.34
221	2021	57.94	-0.46	-0.76	-1.71	-1.82
221	1021	57.94	-0.46	-0.76	-1.71	1.82
222	2022	61.07	0.26	1.85	-2.57	4.44
222	1022	61.07	0.26	1.85	-2.57	-4.44
223	2023	64.20	3.01	5.28	-2.61	12.64
223	1023	64.20	3.01	5.28	-2.61	-12.64
224	2024	67.55	9.15	8.44	-1.50	20.20
224	1024	67.55	9.15	8.44	-1.50	-20.20
225	2025	70.90	13.60	8.83	0.77	21.15
225	1025	70.90	13.60	8.83	0.77	-21.15
226	2026	74.23	9.11	6.83	2.92	16.36
226	1026	74.23	9.11	6.83	2.92	-16.36
227	2027	77.56	3.12	2.57	3.87	6.14
227	1027	77.56	3.12	2.57	3.87	-6.14
228	2028	80.89	0.20	-2.15	3.65	-5.14
228	1028	80.89	0.20	-2.15	3.65	5.14

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFA.FAM1.TOT + [-1;-1]PRETFA.FAM1.ISO + [1; 1]PRETFA.FAM2.TOT + [-1,-1]PRETFA.FAM2.ISO + [1; 1]PR

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	84.22	-0.50	-5.76	2.28	-13.79
229	1029	84.22	-0.50	-5.76	2.28	13.79
230	2030	87.55	-0.38	-7.69	1.09	-18.42
230	1030	87.55	-0.38	-7.69	1.09	18.42
231	2031	90.88	-0.21	-8.24	0.01	-19.72
231	1031	90.88	-0.21	-8.24	0.01	19.72
232	2032	94.21	-0.19	-7.50	-1.06	-17.96
232	1032	94.21	-0.19	-7.50	-1.06	17.96
233	2033	97.54	-0.21	-5.43	-2.19	-13.00
233	1033	97.54	-0.21	-5.43	-2.19	13.00
234	2034	100.87	0.17	-1.79	-3.45	-4.29
234	1034	100.87	0.17	-1.79	-3.45	4.29
235	2035	104.20	1.50	2.58	-3.28	6.18
235	1035	104.20	1.50	2.58	-3.28	-6.18
236	2036	107.55	3.82	5.72	-2.01	13.69
236	1036	107.55	3.82	5.72	-2.01	-13.69
237	2037	110.90	5.61	6.87	0.12	16.46
237	1037	110.90	5.61	6.87	0.12	-16.46
238	2038	113.77	3.92	5.55	1.87	13.28
238	1038	113.77	3.92	5.55	1.87	-13.28
239	2039	116.64	1.68	2.95	2.35	7.06
239	1039	116.64	1.68	2.95	2.35	-7.06
240	2040	119.51	0.44	0.26	2.14	0.63
240	1040	119.51	0.44	0.26	2.14	-0.63
241	2041	122.38	0.36	-2.00	1.70	-4.78
241	1041	122.38	0.36	-2.00	1.70	4.78
242	2042	125.25	1.10	-3.60	1.02	-8.61
242	1042	125.25	1.10	-3.60	1.02	8.61
243	2043	128.12	2.02	-4.26	0.08	-10.20
243	1043	128.12	2.02	-4.26	0.08	10.20
244	2044	130.99	1.53	-3.66	-1.14	-8.77
244	1044	130.99	1.53	-3.66	-1.14	8.77
245	2045	133.86	-3.49	-1.40	-2.68	-3.35
245	1045	133.86	-3.49	-1.40	-2.68	3.35
246	2046	136.73	-17.13	2.73	-4.11	6.54
246	1046	136.73	-17.13	2.73	-4.11	-6.54
247	2047	139.60	-20.00	4.18	-2.44	10.00
247	1047	139.60	-20.00	4.18	-2.44	-10.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFA.FAM1.ISO + [1; 1]PRETFA.FAM2.ISO + [1; 1]PRETFA.FAM3.ISO + [1; 1]PRETFA.FAM4.ISO + [1; 1]PRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	0.00	0.00	0.00	0.00	0.00
2	2	0.00	0.00	0.00	0.00	0.00
2	3	0.00	0.00	0.00	0.00	0.00
3	3	0.00	0.00	0.00	0.00	0.00
3	4	0.00	0.00	0.00	0.00	0.00
4	4	0.00	0.00	0.00	0.00	0.00
4	5	0.00	0.00	0.00	0.00	0.00
5	5	0.00	0.00	0.00	0.00	0.00
5	6	0.00	0.00	0.00	0.00	0.00
6	6	0.00	0.00	0.00	0.00	0.00
6	7	0.00	0.00	0.00	0.00	0.00
7	7	0.00	0.00	0.00	0.00	0.00
7	8	0.00	0.00	0.00	0.00	0.00
8	8	0.00	0.00	0.00	0.00	0.00
8	9	0.00	0.00	0.00	0.00	0.00
9	9	0.00	0.00	0.00	0.00	0.00
9	10	0.00	0.00	0.00	0.00	0.00
10	10	0.00	0.00	0.00	0.00	0.00
10	10011	0.00	0.00	0.00	0.00	0.00
11	11	0.00	0.00	0.00	0.00	0.00
11	12	0.00	0.00	0.00	0.00	0.00
12	12	0.00	0.00	0.00	0.00	0.00
12	13	0.00	0.00	0.00	0.00	0.00
13	13	0.00	0.00	0.00	0.00	0.00
13	14	0.00	0.00	0.00	0.00	0.00
14	14	0.00	0.00	0.00	0.00	0.00
14	15	0.00	0.00	0.00	0.00	0.00
15	15	0.00	0.00	0.00	0.00	0.00
15	16	0.00	0.00	0.00	0.00	0.00
16	16	0.00	0.00	0.00	0.00	0.00
16	17	0.00	0.00	0.00	0.00	0.00
17	17	0.00	0.00	0.00	0.00	0.00
17	18	0.00	0.00	0.00	0.00	0.00
18	18	0.00	0.00	0.00	0.00	0.00
18	19	0.00	0.00	0.00	0.00	0.00
19	19	0.00	0.00	0.00	0.00	0.00
19	20	0.00	0.00	0.00	0.00	0.00
20	20	0.00	0.00	0.00	0.00	0.00
20	21	0.00	0.00	0.00	0.00	0.00
21	21	0.00	0.00	0.00	0.00	0.00
21	22	0.00	0.00	0.00	0.00	0.00
22	22	0.00	0.00	0.00	0.00	0.00
22	10023	0.00	0.00	0.00	0.00	0.00
23	23	0.00	0.00	0.00	0.00	0.00
23	24	0.00	0.00	0.00	0.00	0.00
24	24	0.00	0.00	0.00	0.00	0.00
24	25	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFA.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFA.FAM1.ISO + [1; 1]PRETFA.FAM2.ISO + [1; 1]PRETFA.FAM3.ISO + [1; 1]PRETFA.FAM4.ISO + [1; 1]PRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	0.00	0.00	0.00	0.00	0.00
25	26	0.00	0.00	0.00	0.00	0.00
26	26	0.00	0.00	0.00	0.00	0.00
26	27	0.00	0.00	0.00	0.00	0.00
27	27	0.00	0.00	0.00	0.00	0.00
27	28	0.00	0.00	0.00	0.00	0.00
28	28	0.00	0.00	0.00	0.00	0.00
28	29	0.00	0.00	0.00	0.00	0.00
29	29	0.00	0.00	0.00	0.00	0.00
29	30	0.00	0.00	0.00	0.00	0.00
30	30	0.00	0.00	0.00	0.00	0.00
30	31	0.00	0.00	0.00	0.00	0.00
31	31	0.00	0.00	0.00	0.00	0.00
31	32	0.00	0.00	0.00	0.00	0.00
32	32	0.00	0.00	0.00	0.00	0.00
32	33	0.00	0.00	0.00	0.00	0.00
33	33	0.00	0.00	0.00	0.00	0.00
33	34	0.00	0.00	0.00	0.00	0.00
34	34	0.00	0.00	0.00	0.00	0.00
34	10035	0.00	0.00	0.00	0.00	0.00
35	35	0.00	0.00	0.00	0.00	0.00
35	36	0.00	0.00	0.00	0.00	0.00
36	36	0.00	0.00	0.00	0.00	0.00
36	37	0.00	0.00	0.00	0.00	0.00
37	37	0.00	0.00	0.00	0.00	0.00
37	38	0.00	0.00	0.00	0.00	0.00
38	38	0.00	0.00	0.00	0.00	0.00
38	39	0.00	0.00	0.00	0.00	0.00
39	39	0.00	0.00	0.00	0.00	0.00
39	40	0.00	0.00	0.00	0.00	0.00
40	40	0.00	0.00	0.00	0.00	0.00
40	41	0.00	0.00	0.00	0.00	0.00
41	41	0.00	0.00	0.00	0.00	0.00
41	42	0.00	0.00	0.00	0.00	0.00
42	42	0.00	0.00	0.00	0.00	0.00
42	43	0.00	0.00	0.00	0.00	0.00
43	43	0.00	0.00	0.00	0.00	0.00
43	44	0.00	0.00	0.00	0.00	0.00
44	44	0.00	0.00	0.00	0.00	0.00
44	45	0.00	0.00	0.00	0.00	0.00
45	45	0.00	0.00	0.00	0.00	0.00
45	46	0.00	0.00	0.00	0.00	0.00
46	46	0.00	0.00	0.00	0.00	0.00
46	47	0.00	0.00	0.00	0.00	0.00
101	101	0.00	-635.54	0.00	0.00	-814.29
101	102	2.62	-635.54	0.00	0.00	-814.29
102	102	2.62	-1105.10	0.00	0.00	-1681.57
102	103	5.24	-1105.10	0.00	0.00	-1681.57

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFA.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFA.FAM1.ISO + [1; 1]PRETFA.FAM2.ISO + [1; 1]PRETFA.FAM3.ISO + [1; 1]PRETFA.FAM4.ISO + [1; 1]PRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-1430.18	0.00	0.00	-2266.39
103	104	7.86	-1430.18	0.00	0.00	-2266.39
104	104	7.86	-1755.26	0.00	0.00	-2835.61
104	105	10.48	-1755.26	0.00	0.00	-2835.61
105	105	10.48	-1755.26	0.00	0.00	-2835.61
105	106	13.10	-1755.26	0.00	0.00	-2835.61
106	106	13.10	-1755.26	0.00	0.00	-2835.61
106	107	15.72	-1755.26	0.00	0.00	-2835.61
107	107	15.72	-1755.26	0.00	0.00	-2835.61
107	108	18.34	-1755.26	0.00	0.00	-2835.61
108	108	18.34	-1755.26	0.00	0.00	-2835.61
108	109	20.96	-1755.26	0.00	0.00	-2835.61
109	109	20.96	-1755.26	0.00	0.00	-2835.61
109	110	23.58	-1755.26	0.00	0.00	-2835.61
110	110	23.58	-1430.18	0.00	0.00	-2266.39
110	111	26.20	-1430.18	0.00	0.00	-2266.39
111	111	26.20	-1105.10	0.00	0.00	-1681.57
111	112	29.55	-1105.10	0.00	0.00	-1681.57
112	112	29.55	-635.54	0.00	0.00	-814.29
112	10113	32.90	-635.54	0.00	0.00	-814.29
113	113	32.90	-599.42	0.00	0.00	-745.85
113	114	36.03	-599.42	0.00	0.00	-745.85
114	114	36.03	-996.74	0.00	0.00	-1479.70
114	115	39.16	-996.74	0.00	0.00	-1479.70
115	115	39.16	-1430.18	0.00	0.00	-2259.46
115	116	42.29	-1430.18	0.00	0.00	-2259.46
116	116	42.29	-1827.50	0.00	0.00	-2954.37
116	117	45.42	-1827.50	0.00	0.00	-2954.37
117	117	45.42	-1827.50	0.00	0.00	-2954.37
117	118	48.55	-1827.50	0.00	0.00	-2954.37
118	118	48.55	-1827.50	0.00	0.00	-2954.37
118	119	51.68	-1827.50	0.00	0.00	-2954.37
119	119	51.68	-1827.50	0.00	0.00	-2954.37
119	120	54.81	-1827.50	0.00	0.00	-2954.37
120	120	54.81	-1827.50	0.00	0.00	-2954.37
120	121	57.94	-1827.50	0.00	0.00	-2954.37
121	121	57.94	-1827.50	0.00	0.00	-2954.37
121	122	61.07	-1827.50	0.00	0.00	-2954.37
122	122	61.07	-1430.18	0.00	0.00	-2259.46
122	123	64.20	-1430.18	0.00	0.00	-2259.46
123	123	64.20	-996.74	0.00	0.00	-1479.70
123	124	67.55	-996.74	0.00	0.00	-1479.70
124	124	67.55	-599.42	0.00	0.00	-745.85
124	10125	70.90	-599.42	0.00	0.00	-745.85
125	125	70.90	-671.66	0.00	0.00	-882.74
125	126	74.23	-671.66	0.00	0.00	-882.74
126	126	74.23	-1141.22	0.00	0.00	-1750.02
126	127	77.56	-1141.22	0.00	0.00	-1750.02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFA.FAM1.ISO + [1; 1]PRETFA.FAM2.ISO + [1; 1]PRETFA.FAM3.ISO + [1; 1]PRETFA.FAM4.ISO + [1; 1]PRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-1646.90	0.00	0.00	-2659.74
127	128	80.89	-1646.90	0.00	0.00	-2659.74
128	128	80.89	-2152.58	0.00	0.00	-3544.17
128	129	84.22	-2152.58	0.00	0.00	-3544.17
129	129	84.22	-2152.58	0.00	0.00	-3544.17
129	130	87.55	-2152.58	0.00	0.00	-3544.17
130	130	87.55	-2152.58	0.00	0.00	-3544.17
130	131	90.88	-2152.58	0.00	0.00	-3544.17
131	131	90.88	-2152.58	0.00	0.00	-3544.17
131	132	94.21	-2152.58	0.00	0.00	-3544.17
132	132	94.21	-2152.58	0.00	0.00	-3544.17
132	133	97.54	-2152.58	0.00	0.00	-3544.17
133	133	97.54	-2152.58	0.00	0.00	-3544.17
133	134	100.87	-2152.58	0.00	0.00	-3544.17
134	134	100.87	-1646.90	0.00	0.00	-2659.74
134	135	104.20	-1646.90	0.00	0.00	-2659.74
135	135	104.20	-1141.22	0.00	0.00	-1750.02
135	136	107.55	-1141.22	0.00	0.00	-1750.02
136	136	107.55	-671.66	0.00	0.00	-882.74
136	10137	110.90	-671.66	0.00	0.00	-882.74
137	137	110.90	-635.54	0.00	0.00	-814.29
137	138	113.77	-635.54	0.00	0.00	-814.29
138	138	113.77	-1105.10	0.00	0.00	-1681.57
138	139	116.64	-1105.10	0.00	0.00	-1681.57
139	139	116.64	-1321.82	0.00	0.00	-2071.45
139	140	119.51	-1321.82	0.00	0.00	-2071.45
140	140	119.51	-1321.82	0.00	0.00	-2071.45
140	141	122.38	-1321.82	0.00	0.00	-2071.45
141	141	122.38	-1321.82	0.00	0.00	-2071.45
141	142	125.25	-1321.82	0.00	0.00	-2071.45
142	142	125.25	-1321.82	0.00	0.00	-2071.45
142	143	128.12	-1321.82	0.00	0.00	-2071.45
143	143	128.12	-1321.82	0.00	0.00	-2071.45
143	144	130.99	-1321.82	0.00	0.00	-2071.45
144	144	130.99	-1321.82	0.00	0.00	-2071.45
144	145	133.86	-1321.82	0.00	0.00	-2071.45
145	145	133.86	-1105.10	0.00	0.00	-1681.57
145	146	136.73	-1105.10	0.00	0.00	-1681.57
146	146	136.73	-635.54	0.00	0.00	-814.29
146	147	139.60	-635.54	0.00	0.00	-814.29
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFA.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFA.FAM1.ISO + [1; 1]PRETFA.FAM2.ISO + [1; 1]PRETFA.FAM3.ISO + [1; 1]PRETFA.FAM4.ISO + [1; 1]PRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFB.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFB.FAM1.TOT + [1; 1]PRETFB.FAM2.TOT + [1; 1]PRETFB.FAM3.TOT + [1; 1]PRETFB.FAM4.TOT + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-588.76	-76.33	7.65	-744.31
1	2	2.62	-588.76	-76.33	7.65	-544.34
2	2	2.62	-740.20	-78.02	13.00	-942.18
2	3	5.24	-740.20	-78.02	13.00	-737.76
3	3	5.24	-905.82	-77.44	11.15	-1136.40
3	4	7.86	-905.82	-77.44	11.15	-933.51
4	4	7.86	-867.30	-75.60	5.36	-932.85
4	5	10.48	-867.30	-75.60	5.36	-734.79
5	5	10.48	-836.46	-73.51	-1.22	-734.92
5	6	13.10	-836.46	-73.51	-1.22	-542.33
6	6	13.10	-810.78	-71.95	-6.13	-543.08
6	7	15.72	-810.78	-71.95	-6.13	-354.57
7	7	15.72	-789.37	-71.52	-7.50	-355.77
7	8	18.34	-789.37	-71.52	-7.50	-168.40
8	8	18.34	-555.91	-72.63	-3.99	230.39
8	9	20.96	-555.91	-72.63	-3.99	420.67
9	9	20.96	-538.49	-75.34	4.53	419.43
9	10	23.58	-538.49	-75.34	4.53	616.81
10	10	23.58	-305.36	-79.30	17.04	1016.28
10	10011	26.20	-305.36	-79.30	17.04	1224.06
11	11	26.20	-274.79	-14.59	33.15	1224.26
11	12	29.55	-274.79	-14.59	33.15	1273.13
12	12	29.55	-649.74	-19.01	47.08	474.66
12	13	32.90	-649.74	-19.01	47.08	538.35
13	13	32.90	-993.17	-20.30	51.14	-173.69
13	14	36.03	-993.17	-20.30	51.14	-110.15
14	14	36.03	-1347.86	-18.53	45.57	-803.39
14	15	39.16	-1347.86	-18.53	45.57	-745.39
15	15	39.16	-1320.61	-14.50	32.88	-743.91
15	16	42.29	-1320.61	-14.50	32.88	-698.52
16	16	42.29	-1300.91	-9.39	16.76	-697.93
16	17	45.42	-1300.91	-9.39	16.76	-668.55
17	17	45.42	-1285.73	-4.19	0.40	-668.77
17	18	48.55	-1285.73	-4.19	0.40	-655.64
18	18	48.55	-1274.92	0.13	-13.22	-656.66
18	19	51.68	-1274.92	0.13	-13.22	-657.06
19	19	51.68	-1271.10	2.61	-21.02	-658.90
19	20	54.81	-1271.10	2.61	-21.02	-667.05
20	20	54.81	-884.00	2.14	-19.55	25.96
20	21	57.94	-884.00	2.14	-19.55	19.26
21	21	57.94	-499.92	-1.88	-6.90	731.35
21	22	61.07	-499.92	-1.88	-6.90	737.22
22	22	61.07	-73.60	-8.92	15.27	1536.05
22	10023	64.20	-73.60	-8.92	15.27	1563.95
23	23	64.20	-129.83	-19.45	42.05	1427.37
23	24	67.55	-129.83	-19.45	42.05	1492.51
24	24	67.55	-559.38	-26.62	64.65	627.78
24	25	70.90	-559.38	-26.62	64.65	716.96

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFB.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFB.FAM1.TOT + [1; 1]PRETFB.FAM2.TOT + [1; 1]PRETFB.FAM3.TOT + [1; 1]PRETFB.FAM4.TOT + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-1028.45	-29.89	74.96	-189.27
25	26	74.23	-1028.45	-29.89	74.96	-89.73
26	26	74.23	-1508.37	-28.95	72.00	-971.73
26	27	77.56	-1508.37	-28.95	72.00	-875.32
27	27	77.56	-1507.03	-24.77	58.82	-873.20
27	28	80.89	-1507.03	-24.77	58.82	-790.72
28	28	80.89	-1516.39	-19.04	40.77	-789.78
28	29	84.22	-1516.39	-19.04	40.77	-726.39
29	29	84.22	-1531.40	-13.21	22.43	-726.53
29	30	87.55	-1531.40	-13.21	22.43	-682.52
30	30	87.55	-1551.65	-8.65	8.04	-683.71
30	31	90.88	-1551.65	-8.65	8.04	-654.91
31	31	90.88	-1580.95	-6.73	2.00	-657.15
31	32	94.21	-1580.95	-6.73	2.00	-634.75
32	32	94.21	-1124.82	-9.01	9.18	247.33
32	33	97.54	-1124.82	-9.01	9.18	277.33
33	33	97.54	-672.59	-16.28	32.09	1183.86
33	34	100.87	-672.59	-16.28	32.09	1238.08
34	34	100.87	-247.17	-27.52	67.50	2103.75
34	10035	104.20	-247.17	-27.52	67.50	2195.40
35	35	104.20	-271.73	69.40	103.39	2196.69
35	36	107.55	-271.73	69.40	103.39	1964.20
36	36	107.55	-734.68	61.51	128.26	1100.66
36	37	110.90	-734.68	61.51	128.26	894.62
37	37	110.90	-1194.67	58.79	136.83	54.81
37	38	113.77	-1194.67	58.79	136.83	-113.91
38	38	113.77	-1661.29	61.14	129.41	-931.24
38	39	116.64	-1661.29	61.14	129.41	-1106.71
39	39	116.64	-1674.02	67.91	108.09	-1102.91
39	40	119.51	-1674.02	67.91	108.09	-1297.81
40	40	119.51	-1695.90	77.85	76.77	-1295.19
40	41	122.38	-1695.90	77.85	76.77	-1518.62
41	41	122.38	-1724.56	89.64	39.63	-1517.33
41	42	125.25	-1724.56	89.64	39.63	-1774.60
42	42	125.25	-1760.63	101.76	1.47	-1774.88
42	43	128.12	-1760.63	101.76	1.47	-2066.93
43	43	128.12	-1808.10	112.33	-31.83	-2069.10
43	44	130.99	-1808.10	112.33	-31.83	-2391.48
44	44	130.99	-1406.51	118.98	-52.78	-1573.73
44	45	133.86	-1406.51	118.98	-52.78	-1915.20
45	45	133.86	-1021.16	119.28	-53.71	-1076.72
45	46	136.73	-1021.16	119.28	-53.71	-1419.04
46	46	136.73	-655.06	111.22	-28.34	-559.34
46	47	139.60	-655.06	111.22	-28.34	-878.55
101	101	0.00	-10.66	-1.59	7.65	-1.53
101	102	2.62	-10.66	-1.59	7.65	2.62
102	102	2.62	-75.95	0.11	13.00	0.18
102	103	5.24	-75.95	0.11	13.00	-0.11

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFB.FAM1.TOT + [1; 1]PRETFB.FAM2.TOT + [1; 1]PRETFB.FAM3.TOT + [1; 1]PRETFB.FAM4.TOT + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-645.55	-0.61	58.82	-70.90
127	128	80.89	-645.55	-0.61	58.82	-68.87
128	128	80.89	-636.19	-6.34	40.77	-69.80
128	129	84.22	-636.19	-6.34	40.77	-48.69
129	129	84.22	-621.18	-12.16	22.42	-48.55
129	130	87.55	-621.18	-12.16	22.42	-8.05
130	130	87.55	-600.94	-16.73	8.04	-6.87
130	131	90.88	-600.94	-16.73	8.04	48.84
131	131	90.88	-571.63	-18.65	1.99	51.09
131	132	94.21	-571.63	-18.65	1.99	113.19
132	132	94.21	-522.08	-16.37	9.18	116.56
132	133	97.54	-522.08	-16.37	9.18	171.06
133	133	97.54	-468.63	-9.10	32.09	174.25
133	134	100.87	-468.63	-9.10	32.09	204.54
134	134	100.87	-424.49	2.14	67.49	206.15
134	135	104.20	-424.49	2.14	67.49	199.01
135	135	104.20	-410.61	13.54	103.39	197.71
135	136	107.55	-410.61	13.54	103.39	152.36
136	136	107.55	-417.22	21.44	128.26	148.61
136	10137	110.90	-417.22	21.44	128.26	76.80
137	137	110.90	-416.11	36.04	136.82	71.87
137	138	113.77	-416.11	36.04	136.82	-31.55
138	138	113.77	-419.05	33.68	129.41	-36.42
138	139	116.64	-419.05	33.68	129.41	-133.09
139	139	116.64	-406.33	26.91	108.09	-136.89
139	140	119.51	-406.33	26.91	108.09	-214.13
140	140	119.51	-384.44	16.97	76.77	-216.76
140	141	122.38	-384.44	16.97	76.77	-265.46
141	141	122.38	-355.79	5.18	39.63	-266.76
141	142	125.25	-355.79	5.18	39.63	-281.63
142	142	125.25	-319.72	-6.93	1.47	-281.35
142	143	128.12	-319.72	-6.93	1.47	-261.44
143	143	128.12	-272.24	-17.50	-31.83	-259.28
143	144	130.99	-272.24	-17.50	-31.83	-209.04
144	144	130.99	-204.27	-24.15	-52.78	-204.59
144	145	133.86	-204.27	-24.15	-52.78	-135.26
145	145	133.86	-120.07	-24.45	-53.71	-129.00
145	146	136.73	-120.07	-24.45	-53.71	-58.83
146	146	136.73	-16.60	-16.40	-28.34	-51.25
146	147	139.60	-16.60	-16.40	-28.34	-4.19
201	2001	0.00	18.50	-2.43	-1.53	-5.81
201	1001	0.00	18.50	-2.43	-1.53	5.81
202	2002	2.62	17.24	-1.70	-2.44	-4.07
202	1002	2.62	17.24	-1.70	-2.44	4.07
203	2003	5.24	4.58	0.59	-1.64	1.41
203	1003	5.24	4.58	0.59	-1.64	-1.41
204	2004	7.86	-0.92	1.84	-0.66	4.40
204	1004	7.86	-0.92	1.84	-0.66	-4.40

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFB.FAM1.TOT + [1; 1]PRETFB.FAM2.TOT + [1; 1]PRETFB.FAM3.TOT + [1; 1]PRETFB.FAM4.TOT + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	10.48	-2.11	2.09	0.14	5.00
205	1005	10.48	-2.11	2.09	0.14	-5.00
206	2006	13.10	-1.56	1.56	0.75	3.73
206	1006	13.10	-1.56	1.56	0.75	-3.73
207	2007	15.72	-0.70	0.44	1.20	1.04
207	1007	15.72	-0.70	0.44	1.20	-1.04
208	2008	18.34	-0.08	-1.11	1.49	-2.66
208	1008	18.34	-0.08	-1.11	1.49	2.66
209	2009	20.96	0.14	-2.71	1.24	-6.48
209	1009	20.96	0.14	-2.71	1.24	6.48
210	2010	23.58	-0.11	-3.97	0.82	-9.50
210	1010	23.58	-0.11	-3.97	0.82	9.50
211	2011	26.20	-1.13	-5.11	-0.21	-12.25
211	1011	26.20	-1.13	-5.11	-0.21	12.25
212	2012	29.55	-3.90	-4.42	-2.09	-10.59
212	1012	29.55	-3.90	-4.42	-2.09	10.59
213	2013	32.90	-5.81	-1.29	-2.74	-3.09
213	1013	32.90	-5.81	-1.29	-2.74	3.09
214	2014	36.03	-3.82	1.77	-2.47	4.24
214	1014	36.03	-3.82	1.77	-2.47	-4.24
215	2015	39.16	-1.48	4.03	-1.48	9.65
215	1015	39.16	-1.48	4.03	-1.48	-9.65
216	2016	42.29	-0.21	5.12	-0.59	12.25
216	1016	42.29	-0.21	5.12	-0.59	-12.25
217	2017	45.42	0.18	5.19	0.22	12.43
217	1017	45.42	0.18	5.19	0.22	-12.43
218	2018	48.55	0.22	4.32	1.02	10.35
218	1018	48.55	0.22	4.32	1.02	-10.35
219	2019	51.68	0.27	2.48	1.83	5.93
219	1019	51.68	0.27	2.48	1.83	-5.93
220	2020	54.81	0.43	-0.46	2.70	-1.11
220	1020	54.81	0.43	-0.46	2.70	1.11
221	2021	57.94	0.48	-4.02	2.68	-9.62
221	1021	57.94	0.48	-4.02	2.68	9.62
222	2022	61.07	-0.27	-7.04	1.74	-16.85
222	1022	61.07	-0.27	-7.04	1.74	16.85
223	2023	64.20	-3.13	-8.50	-0.31	-20.35
223	1023	64.20	-3.13	-8.50	-0.31	20.35
224	2024	67.55	-9.51	-7.17	-2.54	-17.18
224	1024	67.55	-9.51	-7.17	-2.54	17.18
225	2025	70.90	-14.13	-3.27	-3.49	-7.84
225	1025	70.90	-14.13	-3.27	-3.49	7.84
226	2026	74.23	-9.46	0.94	-3.44	2.25
226	1026	74.23	-9.46	0.94	-3.44	-2.25
227	2027	77.56	-3.24	4.18	-2.11	10.02
227	1027	77.56	-3.24	4.18	-2.11	-10.02
228	2028	80.89	-0.21	5.73	-0.94	13.72
228	1028	80.89	-0.21	5.73	-0.94	-13.72

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.TOT.To

Pretensado Total (t=0)

[1. 1]PRETFB.FAM1.TOT + [1; 1]PRETFB.FAM2.TOT + [1; 1]PRETFB.FAM3.TOT + [1; 1]PRETFB.FAM4.TOT + [1. 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	84.22	0.52	5.82	0.14	13.94
229	1029	84.22	0.52	5.82	0.14	-13.94
230	2030	87.55	0.40	4.57	1.18	10.93
230	1030	87.55	0.40	4.57	1.18	-10.93
231	2031	90.88	0.23	1.92	2.25	4.59
231	1031	90.88	0.23	1.92	2.25	-4.59
232	2032	94.21	0.23	-2.28	3.37	-5.46
232	1032	94.21	0.23	-2.28	3.37	5.46
233	2033	97.54	0.25	-7.27	3.19	-17.41
233	1033	97.54	0.25	-7.27	3.19	17.41
234	2034	100.87	-0.20	-11.24	1.61	-26.91
234	1034	100.87	-0.20	-11.24	1.61	26.91
235	2035	104.20	-1.77	-11.39	-1.29	-27.28
235	1035	104.20	-1.77	-11.39	-1.29	27.28
236	2036	107.55	-4.53	-7.90	-3.75	-18.90
236	1036	107.55	-4.53	-7.90	-3.75	18.90
237	2037	110.90	-6.66	-2.72	-4.93	-6.51
237	1037	110.90	-6.66	-2.72	-4.93	6.51
238	2038	113.77	-4.66	2.35	-4.87	5.63
238	1038	113.77	-4.66	2.35	-4.87	-5.63
239	2039	116.64	-2.00	6.77	-3.80	16.21
239	1039	116.64	-2.00	6.77	-3.80	-16.21
240	2040	119.51	-0.52	9.94	-2.63	23.80
240	1040	119.51	-0.52	9.94	-2.63	-23.80
241	2041	122.38	-0.37	11.79	-1.29	28.23
241	1041	122.38	-0.37	11.79	-1.29	-28.23
242	2042	125.25	-1.16	12.12	0.28	29.00
242	1042	125.25	-1.16	12.12	0.28	-29.00
243	2043	128.12	-2.16	10.57	2.17	25.30
243	1043	128.12	-2.16	10.57	2.17	-25.30
244	2044	130.99	-1.64	6.65	4.45	15.92
244	1044	130.99	-1.64	6.65	4.45	-15.92
245	2045	133.86	3.77	0.30	6.26	0.71
245	1045	133.86	3.77	0.30	6.26	-0.71
246	2046	136.73	18.47	-8.05	7.58	-19.28
246	1046	136.73	18.47	-8.05	7.58	19.28
247	2047	139.60	21.57	-9.00	4.19	-21.54
247	1047	139.60	21.57	-9.00	4.19	21.54

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.HIP.To

Pretensado Hiperestático (t=0)

[1. 1]PRETFB.FAM1.TOT + [-1;-1]PRETFB.FAM1.ISO + [1; 1]PRETFB.FAM2.TOT + [-1,-1]PRETFB.FAM2.ISO + [1. 1]PR

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	618.46	-29.89	74.96	2470.46
25	26	74.23	618.46	-29.89	74.96	2570.01
26	26	74.23	644.21	-28.95	72.00	2573.45
26	27	77.56	644.21	-28.95	72.00	2669.87
27	27	77.56	645.55	-24.77	58.82	2671.98
27	28	80.89	645.55	-24.77	58.82	2754.46
28	28	80.89	636.20	-19.04	40.77	2755.40
28	29	84.22	636.20	-19.04	40.77	2818.80
29	29	84.22	621.18	-13.21	22.43	2818.66
29	30	87.55	621.18	-13.21	22.43	2862.66
30	30	87.55	600.94	-8.65	8.04	2861.48
30	31	90.88	600.94	-8.65	8.04	2890.28
31	31	90.88	571.64	-6.73	2.00	2888.03
31	32	94.21	571.64	-6.73	2.00	2910.43
32	32	94.21	522.08	-9.01	9.18	2907.06
32	33	97.54	522.08	-9.01	9.18	2937.07
33	33	97.54	468.63	-16.28	32.09	2933.88
33	34	100.87	468.63	-16.28	32.09	2988.10
34	34	100.87	424.49	-27.52	67.50	2986.49
34	10035	104.20	424.49	-27.52	67.50	3078.14
35	35	104.20	399.93	69.40	103.39	3079.43
35	36	107.55	399.93	69.40	103.39	2846.94
36	36	107.55	406.54	61.51	128.26	2850.68
36	37	110.90	406.54	61.51	128.26	2644.64
37	37	110.90	416.11	58.79	136.83	2649.57
37	38	113.77	416.11	58.79	136.83	2480.85
38	38	113.77	419.05	61.14	129.41	2485.72
38	39	116.64	419.05	61.14	129.41	2310.24
39	39	116.64	406.33	67.91	108.09	2314.05
39	40	119.51	406.33	67.91	108.09	2119.14
40	40	119.51	384.44	77.85	76.77	2121.77
40	41	122.38	384.44	77.85	76.77	1898.34
41	41	122.38	355.79	89.64	39.63	1899.63
41	42	125.25	355.79	89.64	39.63	1642.35
42	42	125.25	319.71	101.76	1.47	1642.08
42	43	128.12	319.71	101.76	1.47	1350.03
43	43	128.12	272.24	112.33	-31.83	1347.86
43	44	130.99	272.24	112.33	-31.83	1025.48
44	44	130.99	204.27	118.98	-52.78	1021.02
44	45	133.86	204.27	118.98	-52.78	679.55
45	45	133.86	120.07	119.28	-53.71	673.30
45	46	136.73	120.07	119.28	-53.71	330.97
46	46	136.73	16.60	111.22	-28.34	323.40
46	47	139.60	16.60	111.22	-28.34	4.19
101	101	0.00	-10.66	-1.59	7.65	-1.53
101	102	2.62	-10.66	-1.59	7.65	2.62
102	102	2.62	-75.95	0.11	13.00	0.18
102	103	5.24	-75.95	0.11	13.00	-0.11

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFB.FAM1.TOT + [-1;-1]PRETFB.FAM1.ISO + [1; 1]PRETFB.FAM2.TOT + [-1;-1]PRETFB.FAM2.ISO + [1; 1]PR

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-127.05	-0.48	11.15	-1.75
103	104	7.86	-127.05	-0.48	11.15	-0.51
104	104	7.86	-165.57	-2.31	5.36	-1.16
104	105	10.48	-165.57	-2.31	5.36	4.90
105	105	10.48	-196.40	-4.40	-1.22	5.03
105	106	13.10	-196.40	-4.40	-1.22	16.57
106	106	13.10	-222.08	-5.96	-6.13	17.32
106	107	15.72	-222.08	-5.96	-6.13	32.94
107	107	15.72	-243.50	-6.39	-7.50	34.14
107	108	18.34	-243.50	-6.39	-7.50	50.90
108	108	18.34	-260.24	-5.28	-3.99	52.39
108	109	20.96	-260.24	-5.28	-3.99	66.23
109	109	20.96	-277.65	-2.58	4.53	67.47
109	110	23.58	-277.65	-2.58	4.53	74.22
110	110	23.58	-294.07	1.39	17.04	75.04
110	111	26.20	-294.07	1.39	17.04	71.39
111	111	26.20	-324.63	6.51	33.15	71.18
111	112	29.55	-324.63	6.51	33.15	49.38
112	112	29.55	-383.12	10.93	47.08	47.29
112	10113	32.90	-383.12	10.93	47.08	10.67
113	113	32.90	-437.01	11.80	51.14	7.93
113	114	36.03	-437.01	11.80	51.14	-29.01
114	114	36.03	-479.64	10.03	45.57	-31.47
114	115	39.16	-479.64	10.03	45.57	-62.87
115	115	39.16	-506.90	6.00	32.88	-64.35
115	116	42.29	-506.90	6.00	32.88	-83.13
116	116	42.29	-526.60	0.89	16.76	-83.73
116	117	45.42	-526.60	0.89	16.76	-86.50
117	117	45.42	-541.77	-4.31	0.40	-86.28
117	118	48.55	-541.77	-4.31	0.40	-72.79
118	118	48.55	-552.58	-8.63	-13.22	-71.78
118	119	51.68	-552.58	-8.63	-13.22	-44.77
119	119	51.68	-556.40	-11.11	-21.02	-42.93
119	120	54.81	-556.40	-11.11	-21.02	-8.17
120	120	54.81	-546.18	-10.64	-19.55	-5.47
120	121	57.94	-546.18	-10.64	-19.55	27.84
121	121	57.94	-532.95	-6.62	-6.90	30.52
121	122	61.07	-532.95	-6.62	-6.90	51.26
122	122	61.07	-525.82	0.41	15.27	53.00
122	123	64.20	-525.82	0.41	15.27	51.71
123	123	64.20	-541.83	8.91	42.05	51.39
123	124	67.55	-541.83	8.91	42.05	21.53
124	124	67.55	-581.84	16.09	64.65	18.98
124	10125	70.90	-581.84	16.09	64.65	-34.91
125	125	70.90	-618.45	4.52	74.96	-38.40
125	126	74.23	-618.45	4.52	74.96	-53.44
126	126	74.23	-644.21	3.58	72.00	-56.88
126	127	77.56	-644.21	3.58	72.00	-68.78

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFB.FAM1.TOT + [-1;-1]PRETFB.FAM1.ISO + [1; 1]PRETFB.FAM2.TOT + [-1;-1]PRETFB.FAM2.ISO + [1; 1]PR

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-645.55	-0.61	58.82	-70.90
127	128	80.89	-645.55	-0.61	58.82	-68.87
128	128	80.89	-636.19	-6.34	40.77	-69.80
128	129	84.22	-636.19	-6.34	40.77	-48.69
129	129	84.22	-621.18	-12.16	22.42	-48.55
129	130	87.55	-621.18	-12.16	22.42	-8.05
130	130	87.55	-600.94	-16.73	8.04	-6.87
130	131	90.88	-600.94	-16.73	8.04	48.84
131	131	90.88	-571.63	-18.65	1.99	51.09
131	132	94.21	-571.63	-18.65	1.99	113.19
132	132	94.21	-522.08	-16.37	9.18	116.56
132	133	97.54	-522.08	-16.37	9.18	171.06
133	133	97.54	-468.63	-9.10	32.09	174.25
133	134	100.87	-468.63	-9.10	32.09	204.54
134	134	100.87	-424.49	2.14	67.49	206.15
134	135	104.20	-424.49	2.14	67.49	199.01
135	135	104.20	-410.61	13.54	103.39	197.71
135	136	107.55	-410.61	13.54	103.39	152.36
136	136	107.55	-417.22	21.44	128.26	148.61
136	10137	110.90	-417.22	21.44	128.26	76.80
137	137	110.90	-416.11	36.04	136.82	71.87
137	138	113.77	-416.11	36.04	136.82	-31.55
138	138	113.77	-419.05	33.68	129.41	-36.42
138	139	116.64	-419.05	33.68	129.41	-133.09
139	139	116.64	-406.33	26.91	108.09	-136.89
139	140	119.51	-406.33	26.91	108.09	-214.13
140	140	119.51	-384.44	16.97	76.77	-216.76
140	141	122.38	-384.44	16.97	76.77	-265.46
141	141	122.38	-355.79	5.18	39.63	-266.76
141	142	125.25	-355.79	5.18	39.63	-281.63
142	142	125.25	-319.72	-6.93	1.47	-281.35
142	143	128.12	-319.72	-6.93	1.47	-261.44
143	143	128.12	-272.24	-17.50	-31.83	-259.28
143	144	130.99	-272.24	-17.50	-31.83	-209.04
144	144	130.99	-204.27	-24.15	-52.78	-204.59
144	145	133.86	-204.27	-24.15	-52.78	-135.26
145	145	133.86	-120.07	-24.45	-53.71	-129.00
145	146	136.73	-120.07	-24.45	-53.71	-58.83
146	146	136.73	-16.60	-16.40	-28.34	-51.25
146	147	139.60	-16.60	-16.40	-28.34	-4.19
201	2001	0.00	18.50	-2.43	-1.53	-5.81
201	1001	0.00	18.50	-2.43	-1.53	5.81
202	2002	2.62	17.24	-1.70	-2.44	-4.07
202	1002	2.62	17.24	-1.70	-2.44	4.07
203	2003	5.24	4.58	0.59	-1.64	1.41
203	1003	5.24	4.58	0.59	-1.64	-1.41
204	2004	7.86	-0.92	1.84	-0.66	4.40
204	1004	7.86	-0.92	1.84	-0.66	-4.40

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.HIP.To

Pretensado Hiperestático (t=0)

[1. 1]PRETFB.FAM1.TOT + [-1;-1]PRETFB.FAM1.ISO + [1; 1]PRETFB.FAM2.TOT + [-1;-1]PRETFB.FAM2.ISO + [1. 1]PR

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	10.48	-2.11	2.09	0.14	5.00
205	1005	10.48	-2.11	2.09	0.14	-5.00
206	2006	13.10	-1.56	1.56	0.75	3.73
206	1006	13.10	-1.56	1.56	0.75	-3.73
207	2007	15.72	-0.70	0.44	1.20	1.04
207	1007	15.72	-0.70	0.44	1.20	-1.04
208	2008	18.34	-0.08	-1.11	1.49	-2.66
208	1008	18.34	-0.08	-1.11	1.49	2.66
209	2009	20.96	0.14	-2.71	1.24	-6.48
209	1009	20.96	0.14	-2.71	1.24	6.48
210	2010	23.58	-0.11	-3.97	0.82	-9.50
210	1010	23.58	-0.11	-3.97	0.82	9.50
211	2011	26.20	-1.13	-5.11	-0.21	-12.25
211	1011	26.20	-1.13	-5.11	-0.21	12.25
212	2012	29.55	-3.90	-4.42	-2.09	-10.59
212	1012	29.55	-3.90	-4.42	-2.09	10.59
213	2013	32.90	-5.81	-1.29	-2.74	-3.09
213	1013	32.90	-5.81	-1.29	-2.74	3.09
214	2014	36.03	-3.82	1.77	-2.47	4.24
214	1014	36.03	-3.82	1.77	-2.47	-4.24
215	2015	39.16	-1.48	4.03	-1.48	9.65
215	1015	39.16	-1.48	4.03	-1.48	-9.65
216	2016	42.29	-0.21	5.12	-0.59	12.25
216	1016	42.29	-0.21	5.12	-0.59	-12.25
217	2017	45.42	0.18	5.19	0.22	12.43
217	1017	45.42	0.18	5.19	0.22	-12.43
218	2018	48.55	0.22	4.32	1.02	10.35
218	1018	48.55	0.22	4.32	1.02	-10.35
219	2019	51.68	0.27	2.48	1.83	5.93
219	1019	51.68	0.27	2.48	1.83	-5.93
220	2020	54.81	0.43	-0.46	2.70	-1.11
220	1020	54.81	0.43	-0.46	2.70	1.11
221	2021	57.94	0.48	-4.02	2.68	-9.62
221	1021	57.94	0.48	-4.02	2.68	9.62
222	2022	61.07	-0.27	-7.04	1.74	-16.85
222	1022	61.07	-0.27	-7.04	1.74	16.85
223	2023	64.20	-3.13	-8.50	-0.31	-20.35
223	1023	64.20	-3.13	-8.50	-0.31	20.35
224	2024	67.55	-9.51	-7.17	-2.54	-17.18
224	1024	67.55	-9.51	-7.17	-2.54	17.18
225	2025	70.90	-14.13	-3.27	-3.49	-7.84
225	1025	70.90	-14.13	-3.27	-3.49	7.84
226	2026	74.23	-9.46	0.94	-3.44	2.25
226	1026	74.23	-9.46	0.94	-3.44	-2.25
227	2027	77.56	-3.24	4.18	-2.11	10.02
227	1027	77.56	-3.24	4.18	-2.11	-10.02
228	2028	80.89	-0.21	5.73	-0.94	13.72
228	1028	80.89	-0.21	5.73	-0.94	-13.72

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFB.FAM1.TOT + [-1;-1]PRETFB.FAM1.ISO + [1; 1]PRETFB.FAM2.TOT + [-1;-1]PRETFB.FAM2.ISO + [1. 1]PR

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	84.22	0.52	5.82	0.14	13.94
229	1029	84.22	0.52	5.82	0.14	-13.94
230	2030	87.55	0.40	4.57	1.18	10.93
230	1030	87.55	0.40	4.57	1.18	-10.93
231	2031	90.88	0.23	1.92	2.25	4.59
231	1031	90.88	0.23	1.92	2.25	-4.59
232	2032	94.21	0.23	-2.28	3.37	-5.46
232	1032	94.21	0.23	-2.28	3.37	5.46
233	2033	97.54	0.25	-7.27	3.19	-17.41
233	1033	97.54	0.25	-7.27	3.19	17.41
234	2034	100.87	-0.20	-11.24	1.61	-26.91
234	1034	100.87	-0.20	-11.24	1.61	26.91
235	2035	104.20	-1.77	-11.39	-1.29	-27.28
235	1035	104.20	-1.77	-11.39	-1.29	27.28
236	2036	107.55	-4.53	-7.90	-3.75	-18.90
236	1036	107.55	-4.53	-7.90	-3.75	18.90
237	2037	110.90	-6.66	-2.72	-4.93	-6.51
237	1037	110.90	-6.66	-2.72	-4.93	6.51
238	2038	113.77	-4.66	2.35	-4.87	5.63
238	1038	113.77	-4.66	2.35	-4.87	-5.63
239	2039	116.64	-2.00	6.77	-3.80	16.21
239	1039	116.64	-2.00	6.77	-3.80	-16.21
240	2040	119.51	-0.52	9.94	-2.63	23.80
240	1040	119.51	-0.52	9.94	-2.63	-23.80
241	2041	122.38	-0.37	11.79	-1.29	28.23
241	1041	122.38	-0.37	11.79	-1.29	-28.23
242	2042	125.25	-1.16	12.12	0.28	29.00
242	1042	125.25	-1.16	12.12	0.28	-29.00
243	2043	128.12	-2.16	10.57	2.17	25.30
243	1043	128.12	-2.16	10.57	2.17	-25.30
244	2044	130.99	-1.64	6.65	4.45	15.92
244	1044	130.99	-1.64	6.65	4.45	-15.92
245	2045	133.86	3.77	0.30	6.26	0.71
245	1045	133.86	3.77	0.30	6.26	-0.71
246	2046	136.73	18.47	-8.05	7.58	-19.28
246	1046	136.73	18.47	-8.05	7.58	19.28
247	2047	139.60	21.57	-9.00	4.19	-21.54
247	1047	139.60	21.57	-9.00	4.19	21.54

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFB.FAM1.ISO + [1; 1]PRETFB.FAM2.ISO + [1; 1]PRETFB.FAM3.ISO + [1; 1]PRETFB.FAM4.ISO + [1; 1]PRE

Coef exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	-599.42	0.00	0.00	-745.85
1	2	2.62	-599.42	0.00	0.00	-745.85
2	2	2.62	-816.14	0.00	0.00	-1146.13
2	3	5.24	-816.14	0.00	0.00	-1146.13
3	3	5.24	-1032.86	0.00	0.00	-1546.41
3	4	7.86	-1032.86	0.00	0.00	-1546.41
4	4	7.86	-1032.86	0.00	0.00	-1546.41
4	5	10.48	-1032.86	0.00	0.00	-1546.41
5	5	10.48	-1032.86	0.00	0.00	-1546.41
5	6	13.10	-1032.86	0.00	0.00	-1546.41
6	6	13.10	-1032.86	0.00	0.00	-1546.41
6	7	15.72	-1032.86	0.00	0.00	-1546.41
7	7	15.72	-1032.86	0.00	0.00	-1546.41
7	8	18.34	-1032.86	0.00	0.00	-1546.41
8	8	18.34	-816.14	0.00	0.00	-1146.13
8	9	20.96	-816.14	0.00	0.00	-1146.13
9	9	20.96	-816.14	0.00	0.00	-1146.13
9	10	23.58	-816.14	0.00	0.00	-1146.13
10	10	23.58	-599.42	0.00	0.00	-745.85
10	10011	26.20	-599.42	0.00	0.00	-745.85
11	11	26.20	-599.42	0.00	0.00	-745.85
11	12	29.55	-599.42	0.00	0.00	-745.85
12	12	29.55	-1032.86	0.00	0.00	-1546.41
12	13	32.90	-1032.86	0.00	0.00	-1546.41
13	13	32.90	-1430.18	0.00	0.00	-2261.19
13	14	36.03	-1430.18	0.00	0.00	-2261.19
14	14	36.03	-1827.50	0.00	0.00	-2956.90
14	15	39.16	-1827.50	0.00	0.00	-2956.90
15	15	39.16	-1827.50	0.00	0.00	-2956.90
15	16	42.29	-1827.50	0.00	0.00	-2956.90
16	16	42.29	-1827.50	0.00	0.00	-2956.90
16	17	45.42	-1827.50	0.00	0.00	-2956.90
17	17	45.42	-1827.50	0.00	0.00	-2956.90
17	18	48.55	-1827.50	0.00	0.00	-2956.90
18	18	48.55	-1827.50	0.00	0.00	-2956.90
18	19	51.68	-1827.50	0.00	0.00	-2956.90
19	19	51.68	-1827.50	0.00	0.00	-2956.90
19	20	54.81	-1827.50	0.00	0.00	-2956.90
20	20	54.81	-1430.18	0.00	0.00	-2261.19
20	21	57.94	-1430.18	0.00	0.00	-2261.19
21	21	57.94	-1032.86	0.00	0.00	-1546.41
21	22	61.07	-1032.86	0.00	0.00	-1546.41
22	22	61.07	-599.42	0.00	0.00	-745.85
22	10023	64.20	-599.42	0.00	0.00	-745.85
23	23	64.20	-671.66	0.00	0.00	-882.74
23	24	67.55	-671.66	0.00	0.00	-882.74
24	24	67.55	-1141.22	0.00	0.00	-1750.02
24	25	70.90	-1141.22	0.00	0.00	-1750.02

~cpret4.esv Programa DINTEL IDEAM S.A. 28/10/02
PRETFB.ISO.To

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFB.FAM1.ISO + [1; 1]PRETFB.FAM2.ISO + [1; 1]PRETFB.FAM3.ISO + [1; 1]PRETFB.FAM4.ISO + [1; 1]PRE

Coef exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-1646.90	0.00	0.00	-2659.74
25	26	74.23	-1646.90	0.00	0.00	-2659.74
26	26	74.23	-2152.58	0.00	0.00	-3545.18
26	27	77.56	-2152.58	0.00	0.00	-3545.18
27	27	77.56	-2152.58	0.00	0.00	-3545.18
27	28	80.89	-2152.58	0.00	0.00	-3545.18
28	28	80.89	-2152.58	0.00	0.00	-3545.18
28	29	84.22	-2152.58	0.00	0.00	-3545.18
29	29	84.22	-2152.58	0.00	0.00	-3545.18
29	30	87.55	-2152.58	0.00	0.00	-3545.18
30	30	87.55	-2152.58	0.00	0.00	-3545.18
30	31	90.88	-2152.58	0.00	0.00	-3545.18
31	31	90.88	-2152.58	0.00	0.00	-3545.18
31	32	94.21	-2152.58	0.00	0.00	-3545.18
32	32	94.21	-1646.90	0.00	0.00	-2659.74
32	33	97.54	-1646.90	0.00	0.00	-2659.74
33	33	97.54	-1141.22	0.00	0.00	-1750.02
33	34	100.87	-1141.22	0.00	0.00	-1750.02
34	34	100.87	-671.66	0.00	0.00	-882.74
34	10035	104.20	-671.66	0.00	0.00	-882.74
35	35	104.20	-671.66	0.00	0.00	-882.74
35	36	107.55	-671.66	0.00	0.00	-882.74
36	36	107.55	-1141.22	0.00	0.00	-1750.02
36	37	110.90	-1141.22	0.00	0.00	-1750.02
37	37	110.90	-1610.78	0.00	0.00	-2594.76
37	38	113.77	-1610.78	0.00	0.00	-2594.76
38	38	113.77	-2080.34	0.00	0.00	-3416.96
38	39	116.64	-2080.34	0.00	0.00	-3416.96
39	39	116.64	-2080.34	0.00	0.00	-3416.96
39	40	119.51	-2080.34	0.00	0.00	-3416.96
40	40	119.51	-2080.34	0.00	0.00	-3416.96
40	41	122.38	-2080.34	0.00	0.00	-3416.96
41	41	122.38	-2080.34	0.00	0.00	-3416.96
41	42	125.25	-2080.34	0.00	0.00	-3416.96
42	42	125.25	-2080.34	0.00	0.00	-3416.96
42	43	128.12	-2080.34	0.00	0.00	-3416.96
43	43	128.12	-2080.34	0.00	0.00	-3416.96
43	44	130.99	-2080.34	0.00	0.00	-3416.96
44	44	130.99	-1610.78	0.00	0.00	-2594.76
44	45	133.86	-1610.78	0.00	0.00	-2594.76
45	45	133.86	-1141.22	0.00	0.00	-1750.02
45	46	136.73	-1141.22	0.00	0.00	-1750.02
46	46	136.73	-671.66	0.00	0.00	-882.74
46	47	139.60	-671.66	0.00	0.00	-882.74
101	101	0.00	0.00	0.00	0.00	0.00
101	102	0.00	0.00	0.00	0.00	0.00
102	102	0.00	0.00	0.00	0.00	0.00
102	103	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFB.FAM1.ISO + [1; 1]PRETFB.FAM2.ISO + [1; 1]PRETFB.FAM3.ISO + [1; 1]PRETFB.FAM4.ISO + [1; 1]PRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	0.00	0.00	0.00	0.00	0.00
103	104	0.00	0.00	0.00	0.00	0.00
104	104	0.00	0.00	0.00	0.00	0.00
104	105	0.00	0.00	0.00	0.00	0.00
105	105	0.00	0.00	0.00	0.00	0.00
105	106	0.00	0.00	0.00	0.00	0.00
106	106	0.00	0.00	0.00	0.00	0.00
106	107	0.00	0.00	0.00	0.00	0.00
107	107	0.00	0.00	0.00	0.00	0.00
107	108	0.00	0.00	0.00	0.00	0.00
108	108	0.00	0.00	0.00	0.00	0.00
108	109	0.00	0.00	0.00	0.00	0.00
109	109	0.00	0.00	0.00	0.00	0.00
109	110	0.00	0.00	0.00	0.00	0.00
110	110	0.00	0.00	0.00	0.00	0.00
110	111	0.00	0.00	0.00	0.00	0.00
111	111	0.00	0.00	0.00	0.00	0.00
111	112	0.00	0.00	0.00	0.00	0.00
112	112	0.00	0.00	0.00	0.00	0.00
112	10113	0.00	0.00	0.00	0.00	0.00
113	113	0.00	0.00	0.00	0.00	0.00
113	114	0.00	0.00	0.00	0.00	0.00
114	114	0.00	0.00	0.00	0.00	0.00
114	115	0.00	0.00	0.00	0.00	0.00
115	115	0.00	0.00	0.00	0.00	0.00
115	116	0.00	0.00	0.00	0.00	0.00
116	116	0.00	0.00	0.00	0.00	0.00
116	117	0.00	0.00	0.00	0.00	0.00
117	117	0.00	0.00	0.00	0.00	0.00
117	118	0.00	0.00	0.00	0.00	0.00
118	118	0.00	0.00	0.00	0.00	0.00
118	119	0.00	0.00	0.00	0.00	0.00
119	119	0.00	0.00	0.00	0.00	0.00
119	120	0.00	0.00	0.00	0.00	0.00
120	120	0.00	0.00	0.00	0.00	0.00
120	121	0.00	0.00	0.00	0.00	0.00
121	121	0.00	0.00	0.00	0.00	0.00
121	122	0.00	0.00	0.00	0.00	0.00
122	122	0.00	0.00	0.00	0.00	0.00
122	123	0.00	0.00	0.00	0.00	0.00
123	123	0.00	0.00	0.00	0.00	0.00
123	124	0.00	0.00	0.00	0.00	0.00
124	124	0.00	0.00	0.00	0.00	0.00
124	10125	0.00	0.00	0.00	0.00	0.00
125	125	0.00	0.00	0.00	0.00	0.00
125	126	0.00	0.00	0.00	0.00	0.00
126	126	0.00	0.00	0.00	0.00	0.00
126	127	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFB.FAM1.ISO + [1; 1]PRETFB.FAM2.ISO + [1; 1]PRETFB.FAM3.ISO + [1; 1]PRETFB.FAM4.ISO + [1; 1]PRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	0.00	0.00	0.00	0.00	0.00
127	128	0.00	0.00	0.00	0.00	0.00
128	128	0.00	0.00	0.00	0.00	0.00
128	129	0.00	0.00	0.00	0.00	0.00
129	129	0.00	0.00	0.00	0.00	0.00
129	130	0.00	0.00	0.00	0.00	0.00
130	130	0.00	0.00	0.00	0.00	0.00
130	131	0.00	0.00	0.00	0.00	0.00
131	131	0.00	0.00	0.00	0.00	0.00
131	132	0.00	0.00	0.00	0.00	0.00
132	132	0.00	0.00	0.00	0.00	0.00
132	133	0.00	0.00	0.00	0.00	0.00
133	133	0.00	0.00	0.00	0.00	0.00
133	134	0.00	0.00	0.00	0.00	0.00
134	134	0.00	0.00	0.00	0.00	0.00
134	135	0.00	0.00	0.00	0.00	0.00
135	135	0.00	0.00	0.00	0.00	0.00
135	136	0.00	0.00	0.00	0.00	0.00
136	136	0.00	0.00	0.00	0.00	0.00
136	10137	0.00	0.00	0.00	0.00	0.00
137	137	0.00	0.00	0.00	0.00	0.00
137	138	0.00	0.00	0.00	0.00	0.00
138	138	0.00	0.00	0.00	0.00	0.00
138	139	0.00	0.00	0.00	0.00	0.00
139	139	0.00	0.00	0.00	0.00	0.00
139	140	0.00	0.00	0.00	0.00	0.00
140	140	0.00	0.00	0.00	0.00	0.00
140	141	0.00	0.00	0.00	0.00	0.00
141	141	0.00	0.00	0.00	0.00	0.00
141	142	0.00	0.00	0.00	0.00	0.00
142	142	0.00	0.00	0.00	0.00	0.00
142	143	0.00	0.00	0.00	0.00	0.00
143	143	0.00	0.00	0.00	0.00	0.00
143	144	0.00	0.00	0.00	0.00	0.00
144	144	0.00	0.00	0.00	0.00	0.00
144	145	0.00	0.00	0.00	0.00	0.00
145	145	0.00	0.00	0.00	0.00	0.00
145	146	0.00	0.00	0.00	0.00	0.00
146	146	0.00	0.00	0.00	0.00	0.00
146	147	0.00	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFB.FAM1.ISO + [1; 1]PRETFB.FAM2.ISO + [1; 1]PRETFB.FAM3.ISO + [1; 1]PRETFB.FAM4.ISO + [1; 1]PRE

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

~cpret4.esv Programa DINTEL IDEAM S.A. 28/10/02
PRETFB.ISO.To

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFB.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFB.FAM1.ISO + [1; 1]PRETFB.FAM2.ISO + [1; 1]PRETFB.FAM3.ISO + [1; 1]PRETFB.FAM4.ISO + [1; 1]PRE

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFD.FAM1.TOT + [1; 1]PRETFD.FAM2.TOT + [1; 1]PRETFD.FAM3.TOT + [1; 1]PRETFD.FAM4.TOT + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-551.52	-7.86	33.38	60.05
25	26	74.23	-547.49	-7.86	33.38	83.07
26	26	74.23	271.31	-6.99	30.64	-607.09
26	27	77.56	271.31	-6.99	30.64	-583.81
27	27	77.56	240.33	-3.46	19.50	-582.22
27	28	80.89	240.33	-3.46	19.50	-570.71
28	28	80.89	223.81	1.60	3.59	-569.94
28	29	84.22	223.81	1.60	3.59	-575.26
29	29	84.22	215.45	7.19	-14.04	-575.24
29	30	87.55	215.45	7.19	-14.04	-599.20
30	30	87.55	215.53	12.40	-30.46	-599.96
30	31	90.88	215.53	12.40	-30.46	-641.27
31	31	90.88	231.23	16.23	-42.51	-642.87
31	32	94.21	231.23	16.23	-42.51	-696.92
32	32	94.21	-723.04	17.48	-46.45	89.81
32	33	97.54	-727.64	17.48	-46.45	35.20
33	33	97.54	-1620.87	15.58	-40.45	771.40
33	34	100.87	-1629.41	15.58	-40.45	726.22
34	34	100.87	-1621.74	11.37	-27.18	724.90
34	10035	104.20	-1572.40	11.37	-27.18	648.32
35	35	104.20	-1591.57	-21.57	-12.19	648.00
35	36	107.55	-1647.65	-21.57	-12.19	764.29
36	36	107.55	-1677.95	-25.65	0.66	764.88
36	37	110.90	-1669.37	-25.65	0.66	844.08
37	37	110.90	-656.76	-28.12	8.44	1.99
37	38	113.77	-653.30	-28.12	8.44	79.98
38	38	113.77	165.57	-28.62	10.00	-608.82
38	39	116.64	165.57	-28.62	10.00	-526.69
39	39	116.64	127.62	-27.57	6.69	-525.74
39	40	119.51	127.62	-27.57	6.69	-446.62
40	40	119.51	101.42	-25.72	0.88	-446.22
40	41	122.38	101.42	-25.72	0.88	-372.40
41	41	122.38	81.26	-23.67	-5.59	-372.45
41	42	125.25	81.26	-23.67	-5.59	-304.52
42	42	125.25	64.18	-21.87	-11.26	-304.93
42	43	128.12	64.18	-21.87	-11.26	-242.17
43	43	128.12	48.57	-20.68	-14.99	-242.87
43	44	130.99	48.57	-20.68	-14.99	-183.51
44	44	130.99	33.52	-20.42	-15.84	-184.43
44	45	133.86	33.52	-20.42	-15.84	-125.84
45	45	133.86	18.32	-21.31	-13.03	-126.93
45	46	136.73	18.32	-21.31	-13.03	-65.79
46	46	136.73	2.24	-23.56	-5.94	-66.99
46	47	139.60	2.24	-23.56	-5.94	0.62
101	101	0.00	-2.28	-3.91	4.54	-0.53
101	102	2.62	-2.28	-3.91	4.54	9.71
102	102	2.62	-19.30	-2.21	9.88	8.70
102	103	5.24	-19.30	-2.21	9.88	14.50

~cpret4.esv
Programa DINTEL IDEAM S.A.
PRETFD.TOT.To
28/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFD.FAM1.TOT + [1; 1]PRETFD.FAM2.TOT + [1; 1]PRETFD.FAM3.TOT + [1; 1]PRETFD.FAM4.TOT + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-36.32	-1.56	11.93	13.62
103	104	7.86	-36.32	-1.56	11.93	17.72
104	104	7.86	-54.67	-1.73	11.41	17.07
104	105	10.48	-54.67	-1.73	11.41	21.59
105	105	10.48	-76.04	-2.40	9.29	21.25
105	106	13.10	-76.04	-2.40	9.29	27.54
106	106	13.10	-103.10	-3.19	6.81	27.59
106	107	15.72	-103.10	-3.19	6.81	35.94
107	107	15.72	-140.29	-3.59	5.54	36.47
107	108	18.34	-140.29	-3.59	5.54	45.87
108	108	18.34	-195.17	-3.00	7.42	46.98
108	109	20.96	-195.17	-3.00	7.42	54.83
109	109	20.96	-247.79	-1.09	13.43	55.88
109	110	23.58	-247.79	-1.09	13.43	58.73
110	110	23.58	-278.96	1.74	22.33	59.08
110	111	26.20	-278.96	1.74	22.33	54.53
111	111	26.20	-302.82	5.22	33.29	54.26
111	112	29.55	-302.82	5.22	33.29	36.78
112	112	29.55	-302.84	8.37	43.22	35.49
112	10113	32.90	-302.84	8.37	43.22	7.45
113	113	32.90	-257.16	11.26	46.01	5.11
113	114	36.03	-257.16	11.26	46.01	-30.14
114	114	36.03	-214.78	9.48	40.40	-32.37
114	115	39.16	-214.78	9.48	40.40	-62.04
115	115	39.16	-199.91	5.63	28.28	-63.40
115	116	42.29	-199.91	5.63	28.28	-81.03
116	116	42.29	-198.74	0.73	12.83	-81.62
116	117	45.42	-198.74	0.73	12.83	-83.90
117	117	45.42	-206.18	-4.36	-3.20	-83.77
117	118	48.55	-206.18	-4.36	-3.20	-70.13
118	118	48.55	-222.62	-8.81	-17.21	-69.29
118	119	51.68	-222.62	-8.81	-17.21	-41.72
119	119	51.68	-254.12	-11.76	-26.51	-40.15
119	120	54.81	-254.12	-11.76	-26.51	-3.34
120	120	54.81	-316.36	-12.23	-27.99	-0.95
120	121	57.94	-316.36	-12.23	-27.99	37.33
121	121	57.94	-376.12	-9.80	-20.33	39.53
121	122	61.07	-376.12	-9.80	-20.33	70.20
122	122	61.07	-402.64	-5.29	-6.14	71.28
122	123	64.20	-402.64	-5.29	-6.14	87.85
123	123	64.20	-410.47	0.09	10.82	87.87
123	124	67.55	-410.47	0.09	10.82	87.57
124	124	67.55	-393.58	4.92	26.03	86.37
124	10125	70.90	-393.58	4.92	26.03	69.89
125	125	70.90	-334.87	14.77	33.38	67.51
125	126	74.23	-334.87	14.77	33.38	18.31
126	126	74.23	-271.31	13.90	30.64	15.81
126	127	77.56	-271.31	13.90	30.64	-30.49

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFD.FAM1.TOT + [1; 1]PRETFD.FAM2.TOT + [1; 1]PRETFD.FAM3.TOT + [1; 1]PRETFD.FAM4.TOT + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	77.56	-240.33	10.37	19.50	-32.08
127	128	80.89	-240.33	10.37	19.50	-66.60
128	128	80.89	-223.81	5.32	3.59	-67.38
128	129	84.22	-223.81	5.32	3.59	-85.08
129	129	84.22	-215.45	-0.28	-14.04	-85.10
129	130	87.55	-215.45	-0.28	-14.04	-84.16
130	130	87.55	-215.53	-5.49	-30.46	-83.40
130	131	90.88	-215.53	-5.49	-30.46	-65.11
131	131	90.88	-231.23	-9.32	-42.51	-63.51
131	132	94.21	-231.23	-9.32	-42.51	-32.48
132	132	94.21	-282.44	-10.57	-46.45	-29.91
132	133	97.54	-282.44	-10.57	-46.45	5.29
133	133	97.54	-330.16	-8.67	-40.46	7.74
133	134	100.87	-330.16	-8.67	-40.46	36.59
134	134	100.87	-337.83	-4.45	-27.18	37.92
134	135	104.20	-337.83	-4.45	-27.18	52.75
135	135	104.20	-323.91	0.31	-12.19	53.06
135	136	107.55	-323.91	0.31	-12.19	52.04
136	136	107.55	-293.61	4.39	0.66	51.46
136	10137	110.90	-293.61	4.39	0.66	36.76
137	137	110.90	-226.21	5.27	8.44	35.16
137	138	113.77	-226.21	5.27	8.44	20.05
138	138	113.77	-165.57	5.76	10.00	18.44
138	139	116.64	-165.57	5.76	10.00	1.91
139	139	116.64	-127.62	4.71	6.69	0.96
139	140	119.51	-127.62	4.71	6.69	-12.57
140	140	119.51	-101.42	2.87	0.88	-12.97
140	141	122.38	-101.42	2.87	0.88	-21.19
141	141	122.38	-81.26	0.81	-5.59	-21.14
141	142	125.25	-81.26	0.81	-5.59	-23.47
142	142	125.25	-64.18	-0.99	-11.26	-23.06
142	143	128.12	-64.18	-0.99	-11.26	-20.22
143	143	128.12	-48.57	-2.17	-14.99	-19.52
143	144	130.99	-48.57	-2.17	-14.99	-13.29
144	144	130.99	-33.52	-2.44	-15.84	-12.36
144	145	133.86	-33.52	-2.44	-15.84	-5.35
145	145	133.86	-18.32	-1.55	-13.03	-4.26
145	146	136.73	-18.32	-1.55	-13.03	0.19
146	146	136.73	-2.24	0.70	-5.94	1.39
146	147	139.60	-2.24	0.70	-5.94	-0.62
201	2001	0.00	10.43	-1.44	-0.53	-3.45
201	1001	0.00	10.43	-1.44	-0.53	3.45
202	2002	2.62	9.72	-1.69	-1.01	-4.05
202	1002	2.62	9.72	-1.69	-1.01	4.05
203	2003	5.24	2.58	-0.65	-0.87	-1.56
203	1003	5.24	2.58	-0.65	-0.87	1.56
204	2004	7.86	-0.52	0.16	-0.65	0.39
204	1004	7.86	-0.52	0.16	-0.65	-0.39

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFD.FAM1.TOT + [1; 1]PRETFD.FAM2.TOT + [1; 1]PRETFD.FAM3.TOT + [1; 1]PRETFD.FAM4.TOT + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	10.48	-1.19	0.67	-0.34	1.61
205	1005	10.48	-1.19	0.67	-0.34	-1.61
206	2006	13.10	-0.88	0.79	0.05	1.88
206	1006	13.10	-0.88	0.79	0.05	-1.88
207	2007	15.72	-0.38	0.40	0.53	0.97
207	1007	15.72	-0.38	0.40	0.53	-0.97
208	2008	18.34	-0.02	-0.59	1.11	-1.42
208	1008	18.34	-0.02	-0.59	1.11	1.42
209	2009	20.96	0.10	-1.91	1.04	-4.57
209	1009	20.96	0.10	-1.91	1.04	4.57
210	2010	23.58	-0.09	-2.83	0.36	-6.76
210	1010	23.58	-0.09	-2.83	0.36	6.76
211	2011	26.20	-0.79	-3.48	-0.27	-8.33
211	1011	26.20	-0.79	-3.48	-0.27	8.33
212	2012	29.55	-2.70	-3.15	-1.28	-7.54
212	1012	29.55	-2.70	-3.15	-1.28	7.54
213	2013	32.90	-4.02	-0.89	-2.34	-2.12
213	1013	32.90	-4.02	-0.89	-2.34	2.12
214	2014	36.03	-2.64	1.78	-2.23	4.27
214	1014	36.03	-2.64	1.78	-2.23	-4.27
215	2015	39.16	-1.02	3.85	-1.36	9.21
215	1015	39.16	-1.02	3.85	-1.36	-9.21
216	2016	42.29	-0.14	4.90	-0.59	11.74
216	1016	42.29	-0.14	4.90	-0.59	-11.74
217	2017	45.42	0.13	5.09	0.13	12.18
217	1017	45.42	0.13	5.09	0.13	-12.18
218	2018	48.55	0.14	4.45	0.84	10.65
218	1018	48.55	0.14	4.45	0.84	-10.65
219	2019	51.68	0.15	2.95	1.58	7.07
219	1019	51.68	0.15	2.95	1.58	-7.07
220	2020	54.81	0.22	0.47	2.38	1.13
220	1020	54.81	0.22	0.47	2.38	-1.13
221	2021	57.94	0.24	-2.43	2.20	-5.82
221	1021	57.94	0.24	-2.43	2.20	5.82
222	2022	61.07	-0.14	-4.50	1.08	-10.78
222	1022	61.07	-0.14	-4.50	1.08	10.78
223	2023	64.20	-1.60	-5.38	0.02	-12.89
223	1023	64.20	-1.60	-5.38	0.02	12.89
224	2024	67.55	-4.85	-4.83	-1.19	-11.56
224	1024	67.55	-4.85	-4.83	-1.19	11.56
225	2025	70.90	-7.21	-2.33	-2.39	-5.59
225	1025	70.90	-7.21	-2.33	-2.39	5.59
226	2026	74.23	-4.83	0.87	-2.50	2.09
226	1026	74.23	-4.83	0.87	-2.50	-2.09
227	2027	77.56	-1.65	3.53	-1.59	8.46
227	1027	77.56	-1.65	3.53	-1.59	-8.46
228	2028	80.89	-0.10	5.05	-0.78	12.10
228	1028	80.89	-0.10	5.05	-0.78	-12.10

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.TOT.To

Pretensado Total (t=0)

[1; 1]PRETFD.FAM1.TOT + [1; 1]PRETFD.FAM2.TOT + [1; 1]PRETFD.FAM3.TOT + [1; 1]PRETFD.FAM4.TOT + [1; 1]P

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	84.22	0.26	5.60	-0.01	13.40
229	1029	84.22	0.26	5.60	-0.01	-13.40
230	2030	87.55	0.20	5.21	0.76	12.48
230	1030	87.55	0.20	5.21	0.76	-12.48
231	2031	90.88	0.11	3.83	1.61	9.16
231	1031	90.88	0.11	3.83	1.61	-9.16
232	2032	94.21	0.10	1.25	2.56	3.00
232	1032	94.21	0.10	1.25	2.56	-3.00
233	2033	97.54	0.11	-1.90	2.45	-4.56
233	1033	97.54	0.11	-1.90	2.45	4.56
234	2034	100.87	-0.09	-4.21	1.33	-10.09
234	1034	100.87	-0.09	-4.21	1.33	10.09
235	2035	104.20	-0.77	-4.76	0.32	-11.39
235	1035	104.20	-0.77	-4.76	0.32	11.39
236	2036	107.55	-1.97	-4.08	-0.58	-9.77
236	1036	107.55	-1.97	-4.08	-0.58	9.77
237	2037	110.90	-2.89	-2.47	-1.60	-5.91
237	1037	110.90	-2.89	-2.47	-1.60	5.91
238	2038	113.77	-2.02	-0.50	-1.61	-1.19
238	1038	113.77	-2.02	-0.50	-1.61	1.19
239	2039	116.64	-0.86	1.05	-0.95	2.51
239	1039	116.64	-0.86	1.05	-0.95	-2.51
240	2040	119.51	-0.23	1.85	-0.40	4.42
240	1040	119.51	-0.23	1.85	-0.40	-4.42
241	2041	122.38	-0.19	2.05	0.05	4.92
241	1041	122.38	-0.19	2.05	0.05	-4.92
242	2042	125.25	-0.59	1.80	0.41	4.31
242	1042	125.25	-0.59	1.80	0.41	-4.31
243	2043	128.12	-1.08	1.18	0.70	2.83
243	1043	128.12	-1.08	1.18	0.70	-2.83
244	2044	130.99	-0.82	0.27	0.92	0.64
244	1044	130.99	-0.82	0.27	0.92	-0.64
245	2045	133.86	1.87	-0.89	1.09	-2.13
245	1045	133.86	1.87	-0.89	1.09	2.13
246	2046	136.73	9.19	-2.25	1.20	-5.39
246	1046	136.73	9.19	-2.25	1.20	5.39
247	2047	139.60	10.73	-1.89	0.62	-4.52
247	1047	139.60	10.73	-1.89	0.62	4.52

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFD.FAM1.TOT + [-1;-1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.TOT + [-1;-1]PRETFD.FAM2.ISO + [1; 1]P

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	2.28	34.78	4.54	0.53
1	2	2.62	2.28	34.78	4.54	-90.60
2	2	2.62	19.30	33.09	9.88	-89.59
2	3	5.24	19.30	33.09	9.88	-176.29
3	3	5.24	36.32	32.44	11.93	-175.41
3	4	7.86	36.32	32.44	11.93	-260.40
4	4	7.86	54.67	32.60	11.41	-259.75
4	5	10.48	54.67	32.60	11.41	-345.17
5	5	10.48	76.04	33.28	9.29	-344.83
5	6	13.10	76.04	33.28	9.29	-432.01
6	6	13.10	103.10	34.06	6.81	-432.06
6	7	15.72	103.10	34.06	6.81	-521.31
7	7	15.72	140.29	34.47	5.54	-521.84
7	8	18.34	140.29	34.47	5.54	-612.14
8	8	18.34	195.17	33.87	7.41	-613.25
8	9	20.96	195.17	33.87	7.41	-702.00
9	9	20.96	247.79	31.96	13.42	-703.04
9	10	23.58	247.79	31.96	13.42	-786.78
10	10	23.58	278.96	29.14	22.33	-787.14
10	10011	26.20	278.96	29.14	22.33	-863.49
11	11	26.20	302.82	-13.10	33.29	-863.22
11	12	29.55	302.82	-13.10	33.29	-819.34
12	12	29.55	302.84	-16.25	43.22	-818.06
12	13	32.90	302.84	-16.25	43.22	-763.63
13	13	32.90	257.16	-17.13	46.01	-761.29
13	14	36.03	257.16	-17.13	46.01	-707.65
14	14	36.03	214.78	-15.35	40.40	-705.43
14	15	39.16	214.78	-15.35	40.40	-657.37
15	15	39.16	199.91	-11.50	28.28	-656.01
15	16	42.29	199.91	-11.50	28.28	-620.00
16	16	42.29	198.74	-6.60	12.83	-619.41
16	17	45.42	198.74	-6.60	12.83	-598.75
17	17	45.42	206.18	-1.51	-3.20	-598.88
17	18	48.55	206.18	-1.51	-3.20	-594.14
18	18	48.55	222.62	2.94	-17.21	-594.97
18	19	51.68	222.62	2.94	-17.21	-604.16
19	19	51.68	254.12	5.89	-26.51	-605.74
19	20	54.81	254.12	5.89	-26.51	-624.16
20	20	54.81	316.36	6.36	-27.99	-626.55
20	21	57.94	316.36	6.36	-27.99	-646.44
21	21	57.94	376.12	3.92	-20.33	-648.65
21	22	61.07	376.12	3.92	-20.33	-660.93
22	22	61.07	402.64	-0.58	-6.14	-662.01
22	10023	64.20	402.64	-0.58	-6.14	-660.19
23	23	64.20	410.47	-0.70	10.82	-660.21
23	24	67.55	410.47	-0.70	10.82	-657.87
24	24	67.55	393.58	-5.53	26.03	-656.68
24	25	70.90	393.58	-5.53	26.03	-638.16

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFD.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFD.FAM1.TOT + [-1;-1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.TOT + [-1;-1]PRETFD.FAM2.ISO + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	334.87	-7.86	33.38	-635.77
25	26	74.23	334.87	-7.86	33.38	-609.59
26	26	74.23	271.31	-6.99	30.64	-607.09
26	27	77.56	271.31	-6.99	30.64	-583.81
27	27	77.56	240.33	-3.46	19.50	-582.22
27	28	80.89	240.33	-3.46	19.50	-570.71
28	28	80.89	223.81	1.60	3.59	-569.94
28	29	84.22	223.81	1.60	3.59	-575.26
29	29	84.22	215.45	7.19	-14.04	-575.24
29	30	87.55	215.45	7.19	-14.04	-599.20
30	30	87.55	215.53	12.40	-30.46	-599.96
30	31	90.88	215.53	12.40	-30.46	-641.27
31	31	90.88	231.23	16.23	-42.51	-642.87
31	32	94.21	231.23	16.23	-42.51	-696.92
32	32	94.21	282.44	17.48	-46.45	-699.49
32	33	97.54	282.44	17.48	-46.45	-757.71
33	33	97.54	330.16	15.58	-40.45	-760.16
33	34	100.87	330.16	15.58	-40.45	-812.04
34	34	100.87	337.83	11.37	-27.18	-813.37
34	10035	104.20	337.83	11.37	-27.18	-851.21
35	35	104.20	318.66	-21.57	-12.19	-851.53
35	36	107.55	318.66	-21.57	-12.19	-779.26
36	36	107.55	288.36	-25.65	0.66	-778.68
36	37	110.90	288.36	-25.65	0.66	-692.74
37	37	110.90	226.21	-28.12	8.44	-691.15
37	38	113.77	226.21	-28.12	8.44	-610.44
38	38	113.77	165.57	-28.62	10.00	-608.82
38	39	116.64	165.57	-28.62	10.00	-526.69
39	39	116.64	127.62	-27.57	6.69	-525.74
39	40	119.51	127.62	-27.57	6.69	-446.62
40	40	119.51	101.42	-25.72	0.88	-446.22
40	41	122.38	101.42	-25.72	0.88	-372.40
41	41	122.38	81.26	-23.67	-5.59	-372.45
41	42	125.25	81.26	-23.67	-5.59	-304.52
42	42	125.25	64.18	-21.87	-11.26	-304.93
42	43	128.12	64.18	-21.87	-11.26	-242.17
43	43	128.12	48.57	-20.68	-14.99	-242.87
43	44	130.99	48.57	-20.68	-14.99	-183.51
44	44	130.99	33.52	-20.42	-15.84	-184.43
44	45	133.86	33.52	-20.42	-15.84	-125.84
45	45	133.86	18.32	-21.31	-13.03	-126.93
45	46	136.73	18.32	-21.31	-13.03	-65.79
46	46	136.73	2.24	-23.56	-5.94	-66.99
46	47	139.60	2.24	-23.56	-5.94	0.62
101	101	0.00	-2.28	-3.91	4.54	-0.53
101	102	2.62	-2.28	-3.91	4.54	9.71
102	102	2.62	-19.30	-2.21	9.88	8.70
102	103	5.24	-19.30	-2.21	9.88	14.50

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.HIP.To

Pretensado Hiperestático (t=0)

[1. 1]PRETFD.FAM1.TOT + [-1;-1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.TOT + [-1;-1]PRETFD.FAM2.ISO + [1. 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	5.24	-36.32	-1.56	11.93	13.62
103	104	7.86	-36.32	-1.56	11.93	17.72
104	104	7.86	-54.67	-1.73	11.41	17.07
104	105	10.48	-54.67	-1.73	11.41	21.59
105	105	10.48	-76.04	-2.40	9.29	21.25
105	106	13.10	-76.04	-2.40	9.29	27.54
106	106	13.10	-103.10	-3.19	6.81	27.59
106	107	15.72	-103.10	-3.19	6.81	35.94
107	107	15.72	-140.29	-3.59	5.54	36.47
107	108	18.34	-140.29	-3.59	5.54	45.87
108	108	18.34	-195.17	-3.00	7.42	46.98
108	109	20.96	-195.17	-3.00	7.42	54.83
109	109	20.96	-247.79	-1.09	13.43	55.88
109	110	23.58	-247.79	-1.09	13.43	58.73
110	110	23.58	-278.96	1.74	22.33	59.08
110	111	26.20	-278.96	1.74	22.33	54.53
111	111	26.20	-302.82	5.22	33.29	54.26
111	112	29.55	-302.82	5.22	33.29	36.78
112	112	29.55	-302.84	8.37	43.22	35.49
112	10113	32.90	-302.84	8.37	43.22	7.45
113	113	32.90	-257.16	11.26	46.01	5.11
113	114	36.03	-257.16	11.26	46.01	-30.14
114	114	36.03	-214.78	9.48	40.40	-32.37
114	115	39.16	-214.78	9.48	40.40	-62.04
115	115	39.16	-199.91	5.63	28.28	-63.40
115	116	42.29	-199.91	5.63	28.28	-81.03
116	116	42.29	-198.74	0.73	12.83	-81.62
116	117	45.42	-198.74	0.73	12.83	-83.90
117	117	45.42	-206.18	-4.36	-3.20	-83.77
117	118	48.55	-206.18	-4.36	-3.20	-70.13
118	118	48.55	-222.62	-8.81	-17.21	-69.29
118	119	51.68	-222.62	-8.81	-17.21	-41.72
119	119	51.68	-254.12	-11.76	-26.51	-40.15
119	120	54.81	-254.12	-11.76	-26.51	-3.34
120	120	54.81	-316.36	-12.23	-27.99	-0.95
120	121	57.94	-316.36	-12.23	-27.99	37.33
121	121	57.94	-376.12	-9.80	-20.33	39.53
121	122	61.07	-376.12	-9.80	-20.33	70.20
122	122	61.07	-402.64	-5.29	-6.14	71.28
122	123	64.20	-402.64	-5.29	-6.14	87.85
123	123	64.20	-410.47	0.09	10.82	87.87
123	124	67.55	-410.47	0.09	10.82	87.57
124	124	67.55	-393.58	4.92	26.03	86.37
124	10125	70.90	-393.58	4.92	26.03	69.89
125	125	70.90	-334.87	14.77	33.38	67.51
125	126	74.23	-334.87	14.77	33.38	18.31
126	126	74.23	-271.31	13.90	30.64	15.81
126	127	77.56	-271.31	13.90	30.64	-30.49

~cpret4.esv
Programa DINTEL IDEAM S.A.
PRETFD.HIP.To
28/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFD.FAM1.TOT + [-1;-1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.TOT + [-1;-1]PRETFD.FAM2.ISO + [1; 1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (T..)	Mz (Tm)
127	127	77.56	-240.33	10.37	19.50	-32.08
127	128	80.89	-240.33	10.37	19.50	-66.60
128	128	80.89	-223.81	5.32	3.59	-67.38
128	129	84.22	-223.81	5.32	3.59	-85.08
129	129	84.22	-215.45	-0.28	-14.04	-85.10
129	130	87.55	-215.45	-0.28	-14.04	-84.16
130	130	87.55	-215.53	-5.49	-30.46	-83.40
130	131	90.88	-215.53	-5.49	-30.46	-65.11
131	131	90.88	-231.23	-9.32	-42.51	-63.51
131	132	94.21	-231.23	-9.32	-42.51	-32.48
132	132	94.21	-282.44	-10.57	-46.45	-29.91
132	133	97.54	-282.44	-10.57	-46.45	5.29
133	133	97.54	-330.16	-8.67	-40.46	7.74
133	134	100.87	-330.16	-8.67	-40.46	36.59
134	134	100.87	-337.83	-4.45	-27.18	37.92
134	135	104.20	-337.83	-4.45	-27.18	52.75
135	135	104.20	-323.91	0.31	-12.19	53.06
135	136	107.55	-323.91	0.31	-12.19	52.04
136	136	107.55	-293.61	4.39	0.66	51.46
136	10137	110.90	-293.61	4.39	0.66	36.76
137	137	110.90	-226.21	5.27	8.44	35.16
137	138	113.77	-226.21	5.27	8.44	20.05
138	138	113.77	-165.57	5.76	10.00	18.44
138	139	116.64	-165.57	5.76	10.00	1.91
139	139	116.64	-127.62	4.71	6.69	0.96
139	140	119.51	-127.62	4.71	6.69	-12.57
140	140	119.51	-101.42	2.87	0.88	-12.97
140	141	122.38	-101.42	2.87	0.88	-21.19
141	141	122.38	-81.26	0.81	-5.59	-21.14
141	142	125.25	-81.26	0.81	-5.59	-23.47
142	142	125.25	-64.18	-0.99	-11.26	-23.06
142	143	128.12	-64.18	-0.99	-11.26	-20.22
143	143	128.12	-48.57	-2.17	-14.99	-19.52
143	144	130.99	-48.57	-2.17	-14.99	-13.29
144	144	130.99	-33.52	-2.44	-15.84	-12.36
144	145	133.86	-33.52	-2.44	-15.84	-5.35
145	145	133.86	-18.32	-1.55	-13.03	-4.26
145	146	136.73	-18.32	-1.55	-13.03	0.19
146	146	136.73	-2.24	0.70	-5.94	1.39
146	147	139.60	-2.24	0.70	-5.94	-0.62
201	2001	0.00	10.43	-1.44	-0.53	-3.45
201	1001	0.00	10.43	-1.44	-0.53	3.45
202	2002	2.62	9.72	-1.69	-1.01	-4.05
202	1002	2.62	9.72	-1.69	-1.01	4.05
203	2003	5.24	2.58	-0.65	-0.87	-1.56
203	1003	5.24	2.58	-0.65	-0.87	1.56
204	2004	7.86	-0.52	0.16	-0.65	0.39
204	1004	7.86	-0.52	0.16	-0.65	-0.39

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFD.FAM1.TOT + [-1;-1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.TOT + [-1;-1]PRETFD.FAM2.ISO + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	10.48	-1.19	0.67	-0.34	1.61
205	1005	10.48	-1.19	0.67	-0.34	-1.61
206	2006	13.10	-0.88	0.79	0.05	1.88
206	1006	13.10	-0.88	0.79	0.05	-1.88
207	2007	15.72	-0.38	0.40	0.53	0.97
207	1007	15.72	-0.38	0.40	0.53	-0.97
208	2008	18.34	-0.02	-0.59	1.11	-1.42
208	1008	18.34	-0.02	-0.59	1.11	1.42
209	2009	20.96	0.10	-1.91	1.04	-4.57
209	1009	20.96	0.10	-1.91	1.04	4.57
210	2010	23.58	-0.09	-2.83	0.36	-6.76
210	1010	23.58	-0.09	-2.83	0.36	6.76
211	2011	26.20	-0.79	-3.48	-0.27	-8.33
211	1011	26.20	-0.79	-3.48	-0.27	8.33
212	2012	29.55	-2.70	-3.15	-1.28	-7.54
212	1012	29.55	-2.70	-3.15	-1.28	7.54
213	2013	32.90	-4.02	-0.89	-2.34	-2.12
213	1013	32.90	-4.02	-0.89	-2.34	2.12
214	2014	36.03	-2.64	1.78	-2.23	4.27
214	1014	36.03	-2.64	1.78	-2.23	-4.27
215	2015	39.16	-1.02	3.85	-1.36	9.21
215	1015	39.16	-1.02	3.85	-1.36	-9.21
216	2016	42.29	-0.14	4.90	-0.59	11.74
216	1016	42.29	-0.14	4.90	-0.59	-11.74
217	2017	45.42	0.13	5.09	0.13	12.18
217	1017	45.42	0.13	5.09	0.13	-12.18
218	2018	48.55	0.14	4.45	0.84	10.65
218	1018	48.55	0.14	4.45	0.84	-10.65
219	2019	51.68	0.15	2.95	1.58	7.07
219	1019	51.68	0.15	2.95	1.58	-7.07
220	2020	54.81	0.22	0.47	2.38	1.13
220	1020	54.81	0.22	0.47	2.38	-1.13
221	2021	57.94	0.24	-2.43	2.20	-5.82
221	1021	57.94	0.24	-2.43	2.20	5.82
222	2022	61.07	-0.14	-4.50	1.08	-10.78
222	1022	61.07	-0.14	-4.50	1.08	10.78
223	2023	64.20	-1.60	-5.38	0.02	-12.89
223	1023	64.20	-1.60	-5.38	0.02	12.89
224	2024	67.55	-4.85	-4.83	-1.19	-11.56
224	1024	67.55	-4.85	-4.83	-1.19	11.56
225	2025	70.90	-7.21	-2.33	-2.39	-5.59
225	1025	70.90	-7.21	-2.33	-2.39	5.59
226	2026	74.23	-4.83	0.87	-2.50	2.09
226	1026	74.23	-4.83	0.87	-2.50	-2.09
227	2027	77.56	-1.65	3.53	-1.59	8.46
227	1027	77.56	-1.65	3.53	-1.59	-8.46
228	2028	80.89	-0.10	5.05	-0.78	12.10
228	1028	80.89	-0.10	5.05	-0.78	-12.10

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PRETFD.HIP.To

Pretensado Hiperestático (t=0)

[1; 1]PRETFD.FAM1.TOT + [-1;-1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.TOT + [-1;-1]PRETFD.FAM2.ISO + [1; 1]P

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	84.22	0.26	5.60	-0.01	13.40
229	1029	84.22	0.26	5.60	-0.01	-13.40
230	2030	87.55	0.20	5.21	0.76	12.48
230	1030	87.55	0.20	5.21	0.76	-12.48
231	2031	90.88	0.11	3.83	1.61	9.16
231	1031	90.88	0.11	3.83	1.61	-9.16
232	2032	94.21	0.10	1.25	2.56	3.00
232	1032	94.21	0.10	1.25	2.56	-3.00
233	2033	97.54	0.11	-1.90	2.45	-4.56
233	1033	97.54	0.11	-1.90	2.45	4.56
234	2034	100.87	-0.09	-4.21	1.33	-10.09
234	1034	100.87	-0.09	-4.21	1.33	10.09
235	2035	104.20	-0.77	-4.76	0.32	-11.39
235	1035	104.20	-0.77	-4.76	0.32	11.39
236	2036	107.55	-1.97	-4.08	-0.58	-9.77
236	1036	107.55	-1.97	-4.08	-0.58	9.77
237	2037	110.90	-2.89	-2.47	-1.60	-5.91
237	1037	110.90	-2.89	-2.47	-1.60	5.91
238	2038	113.77	-2.02	-0.50	-1.61	-1.19
238	1038	113.77	-2.02	-0.50	-1.61	1.19
239	2039	116.64	-0.86	1.05	-0.95	2.51
239	1039	116.64	-0.86	1.05	-0.95	-2.51
240	2040	119.51	-0.23	1.85	-0.40	4.42
240	1040	119.51	-0.23	1.85	-0.40	-4.42
241	2041	122.38	-0.19	2.05	0.05	4.92
241	1041	122.38	-0.19	2.05	0.05	-4.92
242	2042	125.25	-0.59	1.80	0.41	4.31
242	1042	125.25	-0.59	1.80	0.41	-4.31
243	2043	128.12	-1.08	1.18	0.70	2.83
243	1043	128.12	-1.08	1.18	0.70	-2.83
244	2044	130.99	-0.82	0.27	0.92	0.64
244	1044	130.99	-0.82	0.27	0.92	-0.64
245	2045	133.86	1.87	-0.89	1.09	-2.13
245	1045	133.86	1.87	-0.89	1.09	2.13
246	2046	136.73	9.19	-2.25	1.20	-5.39
246	1046	136.73	9.19	-2.25	1.20	5.39
247	2047	139.60	10.73	-1.89	0.62	-4.52
247	1047	139.60	10.73	-1.89	0.62	4.52

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFD.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.ISO + [1; 1]PRETFD.FAM3.ISO + [1; 1]PRETFD.FAM4.ISO + [1; 1]PR

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00	0.00
1	2	2.62	0.00	0.00	0.00	0.00
2	2	2.62	0.00	0.00	0.00	0.00
2	3	5.24	0.00	0.00	0.00	0.00
3	3	5.24	0.00	0.00	0.00	0.00
3	4	7.86	0.00	0.00	0.00	0.00
4	4	7.86	0.00	0.00	0.00	0.00
4	5	10.48	0.00	0.00	0.00	0.00
5	5	10.48	0.00	0.00	0.00	0.00
5	6	13.10	0.00	0.00	0.00	0.00
6	6	13.10	0.00	0.00	0.00	0.00
6	7	15.72	0.00	0.00	0.00	0.00
7	7	15.72	0.00	0.00	0.00	0.00
7	8	18.34	0.00	0.00	0.00	0.00
8	8	18.34	-989.96	0.00	0.00	777.12
8	9	20.96	-993.58	0.00	0.00	779.96
9	9	20.96	-1935.92	0.00	0.00	1519.69
9	10	23.58	-1942.64	0.00	0.00	1524.97
10	10	23.58	-1942.64	0.00	0.00	1524.97
10	10011	26.20	-1892.97	0.00	0.00	1485.98
11	11	26.20	-1892.97	0.00	0.00	1485.98
11	12	29.55	-1970.38	0.00	0.00	1546.75
12	12	29.55	-1970.38	0.00	0.00	1546.75
12	13	32.90	-1961.79	0.00	0.00	1540.01
13	13	32.90	-884.15	0.00	0.00	694.06
13	14	36.03	-880.37	0.00	0.00	691.09
14	14	36.03	0.00	0.00	0.00	0.00
14	15	39.16	0.00	0.00	0.00	0.00
15	15	39.16	0.00	0.00	0.00	0.00
15	16	42.29	0.00	0.00	0.00	0.00
16	16	42.29	0.00	0.00	0.00	0.00
16	17	45.42	0.00	0.00	0.00	0.00
17	17	45.42	0.00	0.00	0.00	0.00
17	18	48.55	0.00	0.00	0.00	0.00
18	18	48.55	0.00	0.00	0.00	0.00
18	19	51.68	0.00	0.00	0.00	0.00
19	19	51.68	0.00	0.00	0.00	0.00
19	20	54.81	0.00	0.00	0.00	0.00
20	20	54.81	-1003.68	0.00	0.00	787.89
20	21	57.94	-1008.00	0.00	0.00	791.28
21	21	57.94	-1948.89	0.00	0.00	1529.88
21	22	61.07	-1956.91	0.00	0.00	1536.18
22	22	61.07	-1956.91	0.00	0.00	1536.18
22	10023	64.20	-1911.02	0.00	0.00	1500.15
23	23	64.20	-1911.02	0.00	0.00	1500.15
23	24	67.55	-1970.54	0.00	0.00	1546.87
24	24	67.55	-1970.54	0.00	0.00	1546.87
24	25	70.90	-1961.96	0.00	0.00	1540.14

~cpret4.esv Programa DINTEL IDEAM S.A. 28/10/02
PRETFD.ISO.To

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFD.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.ISO + [1; 1]PRETFD.FAM3.ISO + [1; 1]PRETFD.FAM4.ISO + [1; 1]PR

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
25	25	70.90	-886.39	0.00	0.00	695.82
25	26	74.23	-882.37	0.00	0.00	692.66
26	26	74.23	0.00	0.00	0.00	0.00
26	27	77.56	0.00	0.00	0.00	0.00
27	27	77.56	0.00	0.00	0.00	0.00
27	28	80.89	0.00	0.00	0.00	0.00
28	28	80.89	0.00	0.00	0.00	0.00
28	29	84.22	0.00	0.00	0.00	0.00
29	29	84.22	0.00	0.00	0.00	0.00
29	30	87.55	0.00	0.00	0.00	0.00
30	30	87.55	0.00	0.00	0.00	0.00
30	31	90.88	0.00	0.00	0.00	0.00
31	31	90.88	0.00	0.00	0.00	0.00
31	32	94.21	0.00	0.00	0.00	0.00
32	32	94.21	-1005.48	0.00	0.00	789.30
32	33	97.54	-1010.08	0.00	0.00	792.91
33	33	97.54	-1951.04	0.00	0.00	1531.56
33	34	100.87	-1959.57	0.00	0.00	1538.26
34	34	100.87	-1959.57	0.00	0.00	1538.26
34	10035	104.20	-1910.23	0.00	0.00	1499.53
35	35	104.20	-1910.23	0.00	0.00	1499.53
35	36	107.55	-1966.31	0.00	0.00	1543.56
36	36	107.55	-1966.31	0.00	0.00	1543.56
36	37	110.90	-1957.74	0.00	0.00	1536.82
37	37	110.90	-882.98	0.00	0.00	693.14
37	38	113.77	-879.51	0.00	0.00	690.41
38	38	113.77	0.00	0.00	0.00	0.00
38	39	116.64	0.00	0.00	0.00	0.00
39	39	116.64	0.00	0.00	0.00	0.00
39	40	119.51	0.00	0.00	0.00	0.00
40	40	119.51	0.00	0.00	0.00	0.00
40	41	122.38	0.00	0.00	0.00	0.00
41	41	122.38	0.00	0.00	0.00	0.00
41	42	125.25	0.00	0.00	0.00	0.00
42	42	125.25	0.00	0.00	0.00	0.00
42	43	128.12	0.00	0.00	0.00	0.00
43	43	128.12	0.00	0.00	0.00	0.00
43	44	130.99	0.00	0.00	0.00	0.00
44	44	130.99	0.00	0.00	0.00	0.00
44	45	133.86	0.00	0.00	0.00	0.00
45	45	133.86	0.00	0.00	0.00	0.00
45	46	136.73	0.00	0.00	0.00	0.00
46	46	136.73	0.00	0.00	0.00	0.00
46	47	139.60	0.00	0.00	0.00	0.00
101	101	0.00	0.00	0.00	0.00	0.00
101	102	0.00	0.00	0.00	0.00	0.00
102	102	0.00	0.00	0.00	0.00	0.00
102	103	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFD.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.ISO + [1; 1]PRETFD.FAM3.ISO + [1; 1]PRETFD.FAM4.ISO + [1; 1]PR

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
103	103	0.00	0.00	0.00	0.00	0.00
103	104	0.00	0.00	0.00	0.00	0.00
104	104	0.00	0.00	0.00	0.00	0.00
104	105	0.00	0.00	0.00	0.00	0.00
105	105	0.00	0.00	0.00	0.00	0.00
105	106	0.00	0.00	0.00	0.00	0.00
106	106	0.00	0.00	0.00	0.00	0.00
106	107	0.00	0.00	0.00	0.00	0.00
107	107	0.00	0.00	0.00	0.00	0.00
107	108	0.00	0.00	0.00	0.00	0.00
108	108	0.00	0.00	0.00	0.00	0.00
108	109	0.00	0.00	0.00	0.00	0.00
109	109	0.00	0.00	0.00	0.00	0.00
109	110	0.00	0.00	0.00	0.00	0.00
110	110	0.00	0.00	0.00	0.00	0.00
110	111	0.00	0.00	0.00	0.00	0.00
111	111	0.00	0.00	0.00	0.00	0.00
111	112	0.00	0.00	0.00	0.00	0.00
112	112	0.00	0.00	0.00	0.00	0.00
112	10113	0.00	0.00	0.00	0.00	0.00
113	113	0.00	0.00	0.00	0.00	0.00
113	114	0.00	0.00	0.00	0.00	0.00
114	114	0.00	0.00	0.00	0.00	0.00
114	115	0.00	0.00	0.00	0.00	0.00
115	115	0.00	0.00	0.00	0.00	0.00
115	116	0.00	0.00	0.00	0.00	0.00
116	116	0.00	0.00	0.00	0.00	0.00
116	117	0.00	0.00	0.00	0.00	0.00
117	117	0.00	0.00	0.00	0.00	0.00
117	118	0.00	0.00	0.00	0.00	0.00
118	118	0.00	0.00	0.00	0.00	0.00
118	119	0.00	0.00	0.00	0.00	0.00
119	119	0.00	0.00	0.00	0.00	0.00
119	120	0.00	0.00	0.00	0.00	0.00
120	120	0.00	0.00	0.00	0.00	0.00
120	121	0.00	0.00	0.00	0.00	0.00
121	121	0.00	0.00	0.00	0.00	0.00
121	122	0.00	0.00	0.00	0.00	0.00
122	122	0.00	0.00	0.00	0.00	0.00
122	123	0.00	0.00	0.00	0.00	0.00
123	123	0.00	0.00	0.00	0.00	0.00
123	124	0.00	0.00	0.00	0.00	0.00
124	124	0.00	0.00	0.00	0.00	0.00
124	10125	0.00	0.00	0.00	0.00	0.00
125	125	0.00	0.00	0.00	0.00	0.00
125	126	0.00	0.00	0.00	0.00	0.00
126	126	0.00	0.00	0.00	0.00	0.00
126	127	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFD.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.ISO + [1; 1]PRETFD.FAM3.ISO + [1; 1]PRETFD.FAM4.ISO + [1; 1]PR

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
127	127	0.00	0.00	0.00	0.00	0.00
127	128	0.00	0.00	0.00	0.00	0.00
128	128	0.00	0.00	0.00	0.00	0.00
128	129	0.00	0.00	0.00	0.00	0.00
129	129	0.00	0.00	0.00	0.00	0.00
129	130	0.00	0.00	0.00	0.00	0.00
130	130	0.00	0.00	0.00	0.00	0.00
130	131	0.00	0.00	0.00	0.00	0.00
131	131	0.00	0.00	0.00	0.00	0.00
131	132	0.00	0.00	0.00	0.00	0.00
132	132	0.00	0.00	0.00	0.00	0.00
132	133	0.00	0.00	0.00	0.00	0.00
133	133	0.00	0.00	0.00	0.00	0.00
133	134	0.00	0.00	0.00	0.00	0.00
134	134	0.00	0.00	0.00	0.00	0.00
134	135	0.00	0.00	0.00	0.00	0.00
135	135	0.00	0.00	0.00	0.00	0.00
135	136	0.00	0.00	0.00	0.00	0.00
136	136	0.00	0.00	0.00	0.00	0.00
136	10137	0.00	0.00	0.00	0.00	0.00
137	137	0.00	0.00	0.00	0.00	0.00
137	138	0.00	0.00	0.00	0.00	0.00
138	138	0.00	0.00	0.00	0.00	0.00
138	139	0.00	0.00	0.00	0.00	0.00
139	139	0.00	0.00	0.00	0.00	0.00
139	140	0.00	0.00	0.00	0.00	0.00
140	140	0.00	0.00	0.00	0.00	0.00
140	141	0.00	0.00	0.00	0.00	0.00
141	141	0.00	0.00	0.00	0.00	0.00
141	142	0.00	0.00	0.00	0.00	0.00
142	142	0.00	0.00	0.00	0.00	0.00
142	143	0.00	0.00	0.00	0.00	0.00
143	143	0.00	0.00	0.00	0.00	0.00
143	144	0.00	0.00	0.00	0.00	0.00
144	144	0.00	0.00	0.00	0.00	0.00
144	145	0.00	0.00	0.00	0.00	0.00
145	145	0.00	0.00	0.00	0.00	0.00
145	146	0.00	0.00	0.00	0.00	0.00
146	146	0.00	0.00	0.00	0.00	0.00
146	147	0.00	0.00	0.00	0.00	0.00
201	2001	0.00	0.00	0.00	0.00	0.00
201	1001	0.00	0.00	0.00	0.00	0.00
202	2002	0.00	0.00	0.00	0.00	0.00
202	1002	0.00	0.00	0.00	0.00	0.00
203	2003	0.00	0.00	0.00	0.00	0.00
203	1003	0.00	0.00	0.00	0.00	0.00
204	2004	0.00	0.00	0.00	0.00	0.00
204	1004	0.00	0.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFD.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.ISO + [1; 1]PRETFD.FAM3.ISO + [1; 1]PRETFD.FAM4.ISO + [1; 1]PR

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
205	2005	0.00	0.00	0.00	0.00	0.00
205	1005	0.00	0.00	0.00	0.00	0.00
206	2006	0.00	0.00	0.00	0.00	0.00
206	1006	0.00	0.00	0.00	0.00	0.00
207	2007	0.00	0.00	0.00	0.00	0.00
207	1007	0.00	0.00	0.00	0.00	0.00
208	2008	0.00	0.00	0.00	0.00	0.00
208	1008	0.00	0.00	0.00	0.00	0.00
209	2009	0.00	0.00	0.00	0.00	0.00
209	1009	0.00	0.00	0.00	0.00	0.00
210	2010	0.00	0.00	0.00	0.00	0.00
210	1010	0.00	0.00	0.00	0.00	0.00
211	2011	0.00	0.00	0.00	0.00	0.00
211	1011	0.00	0.00	0.00	0.00	0.00
212	2012	0.00	0.00	0.00	0.00	0.00
212	1012	0.00	0.00	0.00	0.00	0.00
213	2013	0.00	0.00	0.00	0.00	0.00
213	1013	0.00	0.00	0.00	0.00	0.00
214	2014	0.00	0.00	0.00	0.00	0.00
214	1014	0.00	0.00	0.00	0.00	0.00
215	2015	0.00	0.00	0.00	0.00	0.00
215	1015	0.00	0.00	0.00	0.00	0.00
216	2016	0.00	0.00	0.00	0.00	0.00
216	1016	0.00	0.00	0.00	0.00	0.00
217	2017	0.00	0.00	0.00	0.00	0.00
217	1017	0.00	0.00	0.00	0.00	0.00
218	2018	0.00	0.00	0.00	0.00	0.00
218	1018	0.00	0.00	0.00	0.00	0.00
219	2019	0.00	0.00	0.00	0.00	0.00
219	1019	0.00	0.00	0.00	0.00	0.00
220	2020	0.00	0.00	0.00	0.00	0.00
220	1020	0.00	0.00	0.00	0.00	0.00
221	2021	0.00	0.00	0.00	0.00	0.00
221	1021	0.00	0.00	0.00	0.00	0.00
222	2022	0.00	0.00	0.00	0.00	0.00
222	1022	0.00	0.00	0.00	0.00	0.00
223	2023	0.00	0.00	0.00	0.00	0.00
223	1023	0.00	0.00	0.00	0.00	0.00
224	2024	0.00	0.00	0.00	0.00	0.00
224	1024	0.00	0.00	0.00	0.00	0.00
225	2025	0.00	0.00	0.00	0.00	0.00
225	1025	0.00	0.00	0.00	0.00	0.00
226	2026	0.00	0.00	0.00	0.00	0.00
226	1026	0.00	0.00	0.00	0.00	0.00
227	2027	0.00	0.00	0.00	0.00	0.00
227	1027	0.00	0.00	0.00	0.00	0.00
228	2028	0.00	0.00	0.00	0.00	0.00
228	1028	0.00	0.00	0.00	0.00	0.00

~cpret4.esv
Programa DINTEL IDEAM S.A.
PRETFD.ISO.To
28/10/02

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PRETFD.ISO.To

Pretensado Isostático (t=0)

[1; 1]PRETFD.FAM1.ISO + [1; 1]PRETFD.FAM2.ISO + [1; 1]PRETFD.FAM3.ISO + [1; 1]PRETFD.FAM4.ISO + [1; 1]PR

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mx (Tm)	Mz (Tm)
229	2029	0.00	0.00	0.00	0.00	0.00
229	1029	0.00	0.00	0.00	0.00	0.00
230	2030	0.00	0.00	0.00	0.00	0.00
230	1030	0.00	0.00	0.00	0.00	0.00
231	2031	0.00	0.00	0.00	0.00	0.00
231	1031	0.00	0.00	0.00	0.00	0.00
232	2032	0.00	0.00	0.00	0.00	0.00
232	1032	0.00	0.00	0.00	0.00	0.00
233	2033	0.00	0.00	0.00	0.00	0.00
233	1033	0.00	0.00	0.00	0.00	0.00
234	2034	0.00	0.00	0.00	0.00	0.00
234	1034	0.00	0.00	0.00	0.00	0.00
235	2035	0.00	0.00	0.00	0.00	0.00
235	1035	0.00	0.00	0.00	0.00	0.00
236	2036	0.00	0.00	0.00	0.00	0.00
236	1036	0.00	0.00	0.00	0.00	0.00
237	2037	0.00	0.00	0.00	0.00	0.00
237	1037	0.00	0.00	0.00	0.00	0.00
238	2038	0.00	0.00	0.00	0.00	0.00
238	1038	0.00	0.00	0.00	0.00	0.00
239	2039	0.00	0.00	0.00	0.00	0.00
239	1039	0.00	0.00	0.00	0.00	0.00
240	2040	0.00	0.00	0.00	0.00	0.00
240	1040	0.00	0.00	0.00	0.00	0.00
241	2041	0.00	0.00	0.00	0.00	0.00
241	1041	0.00	0.00	0.00	0.00	0.00
242	2042	0.00	0.00	0.00	0.00	0.00
242	1042	0.00	0.00	0.00	0.00	0.00
243	2043	0.00	0.00	0.00	0.00	0.00
243	1043	0.00	0.00	0.00	0.00	0.00
244	2044	0.00	0.00	0.00	0.00	0.00
244	1044	0.00	0.00	0.00	0.00	0.00
245	2045	0.00	0.00	0.00	0.00	0.00
245	1045	0.00	0.00	0.00	0.00	0.00
246	2046	0.00	0.00	0.00	0.00	0.00
246	1046	0.00	0.00	0.00	0.00	0.00
247	2047	0.00	0.00	0.00	0.00	0.00
247	1047	0.00	0.00	0.00	0.00	0.00

2.2.3.5. *Comprobación en estado límite de servicio*

- El presente apartado se estructura en 3

1) Definición de hipótesis de combinación en servicio

2) Cálculo tensional :

2a) En construcción

2b) En t= 0

2c) En t= INF

3) Comprobación de secciones críticas con programa "CSCC"

4) Estudio de redistribuciones a nivel de sección de las tensiones.

programa "CSCC"

sección de

en estado límite de servicio

partecto se estructura en 3

de redistribuidores a nivel de sección de

1) DEFINICIÓN DE HIPÓTESIS DE COMBINACIÓN EN SERVICIO Y FICHERO DE COMBINACIONES.

IDEAM

"SPRET" ESTADO DE REDISTRIBUCIÓN ? →

En este caso :

ESFUERZO A TRAS = 0'5 * ESFUERZO SOBRE PUNTOS
CENTRO DE GRAVEDAD DE PARTES ORIENTACIONALES

"REDPP" REDISTRIBUCIÓN DE PESO PROPIO

REDPP = 0'65 * (PPVIGAS + PPLOSA) - 0'85 * (
PPCF1 + PPLF3 + PPLF2)

"REDPRE" [illegible]

REPRET = 0'65 * (PRETFA . [illegible] + PRETFB . [illegible])
- p * (PRETFA . [illegible] + PRETFB . [illegible])
- 0'85 . ([illegible] + PRETF2B . HIP + (∠))

(K) = (PRETFE + PRETFD) HIP
(∠) = (PRETF3C + PRETF3D) HIP

p = 0'15 para PRETFC y PRETFD
p = 0'195 para PRETFA y PRETFB

```
7
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret1.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp1.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp2.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret3.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp3.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp4.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret4.coe"
2
"ESFUERZOS"
"REDPP","redistribuci¢n de peso propio"
"MZ"
"+"
0
5
"PPVIGAS","()",.85,.85,"P",0,"",""
"PPLOSA","()",.85,.85,"P",0,"",""
"PPCF1","(PESODELCAJàNENFASE1)",-.85,-.85,"P",0,"",""
"PPLF3","(PESOLOSAFASE3)",-.85,-.85,"P",0,"",""
"PPLF2","(PESOLOSAFASE2)",-.85,-.85,"P",0,"",""
"ESFUERZOS"
"REDPRE","Redistribuci¢n hiperestaticos de pretensado"
"MZ"
"+"
0
8
"PRETF1A.HIP.To","(PretensadoHiperest tico A
fase1)",-.85,-.85,"P",0,"",""
"PRETF1B.HIP.To","(PretensadoHiperest tico B
fase1)",-.85,-.85,"P",0,"",""
"PRETFA.HIP.To","(PretensadoHiperest tico A
ideal)",.655,.655,"P",0,"",""
"PRETFB.HIP.To","(PretensadoHiperest tico B
ideal)",.655,.655,"P",0,"",""
"PRETF3C.HIP.To","(PretensadoHiperest tico C
fase3)",-.85,-.85,"P",0,"",""
"PRETF3D.HIP.To","(PretensadoHiperest tico D
fase3)",-.85,-.85,"P",0,"",""
"PRETFC.HIP.To","(PretensadoHiperest tico C ideal)",.7,.7,"P",0,"",""
"PRETFD.HIP.To","(PretensadoHiperest tico D ideal)",.7,.7,"P",0,"",""
```

DEAM

"TGUST" HIPÓTESIS EN CONSTRUCCIÓN :

"CONSTA .. FASE1"

PPCF1 · 1 + 1.05 · US PRETF1

"CONST B . FASE 2"

PPCF1 + PPLF2 + 1.05 · 0.95 · PRETF1

"CONST C. FASE 2"

PPCF1 + PPLF2 + 1.05 · 0.95 · PRETF1 + GRAD

"CONST D. FASE 3"

PPCF1 + PPLF2 − 1.05 · 0.95 (PRETF1) + 1.1 · 0.9 (PRETF2)

"CONST E. FASE 3"

PPCF1 + PPLF2 + PPLF3 + 1.05 · 0.95 · (PRETF1) +

1.1 · 0.9 (PRETF2)

"CONST F FASE 3"

PPCF1 + PPLF2 + PPLF3 + 1.05 · 0.95 (PRETF1) + 1.1 · 0.9 (PRETF2)

+ GRAD

```
8
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret1.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp1.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp2.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret3.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp3.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp4.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret4.coe"
"C:\PDANIEL\sanoliva\dapoy1","spret.esf"
10
"ESFUERZOS"
"CONSTA.F1.T0.MZ+","Construcción sin gradiente en fase constructiva 1
HIPOTESIS A"
"MZ"
"+"
0
5
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"ESFUERZOS"
"CONST1A.F1.T0.MZ-","Construcción sin gradiente en fase constructiva
1 HIPOTESIS A"
"MZ"
"-"
0
5
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"ESFUERZOS"
"CONST1B.F2.T0.MZ+","Construcción sin gradiente en fase constructiva
2 HIPOTESIS B"
"MZ"
"+"
0
6
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"ESFUERZOS"
"CONST1B.F1.T0.MZ-","Construcción sin gradiente en fase constructiva
2 HIPOTESIS B"
"MZ"
"-"
0
6
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"ESFUERZOS"
"CONST1C.F1.T0.MZ+","Construcción CON gradiente en fase constructiva
2 HIPOTESIS C"
"MZ"
"+"
0
6
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"GRADF2","(GRADIENTE FASE 2)",0,1,"P",0,"","CTESF2.C0"
"ESFUERZOS"
"CONST1D.F3.T0.MZ+","Construcción CON gradiente en fase constructiva
3 HIPOTESIS D"
"MZ"
"+"
0
11
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"GRADF3","(GRADIENTE FASE 3)",0,1,"P",0,"","CTESF3.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"ESFUERZOS"
"CONST1D.F3.T0.MZ-","Construcción CON gradiente en fase constructiva
3 HIPOTESIS D"
"MZ"
"-"
0
11
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
```

```
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"GRADF3","(GRADIENTE FASE 3)",0,1,"P",0,"","CTESF3.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"ESFUERZOS"
"CONST1E.F3.T0.MZ+","Construcción SIN gradiente en fase constructiva
3 HIPOTESIS E"
"MZ"
"+"
0
11
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"ESFUERZOS"
"CONST1E.F3.T0.MZ-","Construcción SIN gradiente en fase constructiva
3 HIPOTESIS E"
"MZ"
"-"
0
11
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"ESFUERZOS"
"CONST1E.F3.T0.MZ+","Construcción CON gradiente en fase constructiva
3 HIPOTESIS E"
"MZ"
"+"
0
12.
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"GRADF3","(GRADIENTE FASE 3)",0,1,"P",0,"","CTESF3.C0"
```

IDEAM

"TCIERRE" HIPOTESIS A T=0

o Vacio:

PPCF1 + PPLF1 + PPLF2 + (1'05 o 0'95) * (PRETF1 +
+ (0 o 1) * GRAD.

o Cuasipermanente:

PPCF1 + PPLF1 + PPLF2 + (1'05 o 0'95) * (PRETF1) + PRETF3 (1'
(0'2 o 0'_) * GRAD + (0'2 o 0) * Paseos. + CMuerta
+0'2 * TRENES * 1'08 * 1'2.

o FRECUENTES: Los trenes se multiplican por 1'08 debido a que el paso se a reducido un Los trenes siguen hasta distancia.

A los vecinos tienen se multiplican por 1'6 que es el coeficiente de impacto.

-TREN DOMINANTE:

PPCF1 + PP_F1 + PPLF2 + (1'05 o 0'95) * (PRETF1) + PRETF3 (1'
(0'5 o 0) * GRAD + (Muerta + (0'8 · IFRINT2 ó
0'8 · DERINT2) * 1'08 * 1'20 + (0'5 o 0) * Paseos

o INFRECUENTES:

IDEAM

-TREN DOMINANTE:

PPCF1 + PPLF1 + PPLF2 + (1'05 o 0'95) (PRETF1) + (PRETF3) (1'
(0'6 o 0) * GRAD + (Muerta + (IFRINT2) * 1'08 * 1'20
+ (DERINT2) * 1'08 * 1'20 + Paseos

- Gradiente dominante:

PPCF1 + PPLF1 + PPLF2 + (1'05 o 0'95) (PRETF1) + (PRETF3) (1'
(1 o 0) * GRAD + (Muerta + 0'8 * (IFRINT2 · 1'08 · 1'2
+ (DERINT2) · 1'08 · 1'2 + Paseos)

La carga muerta se toma de un 0 en pasillo en vías o 1 para cada una de ellas

```
8
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret1.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp1.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp2.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret3.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp3.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp4.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret4.coe"
"C:\PDANIEL\sanoliva\dapoy1","spret.esf"
13
"ESFUERZOS"
"VACIO1.T0.MZ+","PP sin gradiente"
"MZ"
"+"
0
11
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"ESFUERZOS"
"VACIO1.T0.MZ-","PP sin gradiente"
"MZ"
"-"
0
11
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"ESFUERZOS"
"VACIO2.T0.MZ+","PP CON gradiente"
"MZ"
"+"
0
12
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"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"GRAD","(GRADIENTE)",0,1,"P",0,"","CTESF4.C0"
"ESFUERZOS"
"CUASIPERM1.T0.MZ+"," SIN GRADIENTE"
"MZ"
"+"
0
17
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C0"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,.2,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,.2,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen,ri
co.MZ+)",0,.26,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,.26,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,0,"P",0,"","CTESF4.C0"
"ESFUERZOS"
"CUASIPERM1.T0.MZ-"," SIN GRADIENTE"
"MZ"
"-"
0
17
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
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```
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C0"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
genérico.MZ-)",0,.2,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
genérico.MZ-)",0,.2,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen,ri
co.MZ-)",0,.26,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen'ri
co.MZ-)",0,.26,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,0,"P",0,"","CTESF4.C0"
"ESFUERZOS"
"CUASIPERM2.T0.MZ+","_CON GRADIENTE"
"MZ"
"+"
0
17
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C0"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,.2,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,.2,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen,ri
co.MZ+)",0,.26,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,.26,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,.5,"P",0,"","CTESF4.C0"
"ESFUERZOS"
"FRECUENTES1.T0.MZ+","TREN DOMINANTE SIN GRADIENTE"
"Mz"
"+"
0
17
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
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"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C0"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,.5,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,.5,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen,ri
co.MZ+)",0,1.03,"P",1,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.03,"P",1,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,0,"P",0,"","CTESF4.C0"
"ESFUERZOS"
"FRECUENTES1.T0.MZ-","TREN DOMINANTE SIN GRADIENTE"
"Mz"
"-"
0
17
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C0"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
genérico.MZ-)",0,.5,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
genérico.MZ-)",0,.5,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen,ri
co.MZ-)",0,1.03,"P",1,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen'ri
co.MZ-)",0,1.03,"P",1,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,0,"P",0,"","CTESF4.C0"
"ESFUERZOS"
"FRECUENTES2.T0.MZ+","TREN DOMINANTE CON GRADIENTE"
"Mz"
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"+"
0
17
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C0"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,.5,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,.5,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen,ri
co.MZ+)",0,1.03,"P",1,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.03,"P",1,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,.5,"P",0,"","CTESF4.C0"
"ESFUERZOS"
"INFRECUENTES1.T0.MZ+","TREN DOMINANTE SIN GRADIENTE"
"MZ"
"+"
0
17
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C0"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,1,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,1,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen,ri
co.MZ+)",0,1.3,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.3,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,.5,"P",0,"","CTESF4.C0"
"ESFUERZOS"
"INFRECUENTES1.T0.MZ-","TREN DOMINANTE SIN GRADIENTE"
"MZ"
"-"
0
17
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C0"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
genérico.MZ-)",0,1,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
genérico.MZ-)",0,1,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen,ri
co.MZ-)",0,1.3,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen'ri
co.MZ-)",0,1.3,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,0,"P",0,"","CTESF4.C0"
"ESFUERZOS"
"INFRECUENTES2.T0.MZ+","TREN DOMINANTE CON GRADIENTE"
"MZ"
"+"
0
17
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C0"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,1,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,1,"P",0,"","CTESF4.C0"
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"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen,ri
co.MZ+)",0,1.3,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.3,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,.6,"P",0,"","CTESF4.C0"
"ESFUERZOS"
"INFRECUENTES3.T0.MZ+","GRADIENTE DOMINATE"
"MZ"
"+"
0
17
"PPCF1","(PESODELCAJÓNENFASE1)",1,1,"P",0,"","CTESF1.C0"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C0"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C0"
"PRETF1A.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1A.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.ISO.To","(PretensadoIsostático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF1B.HIP.To","(PretensadoHiperestático(t=
0))",.95,1.05,"P",0,"","CTESF1.C0"
"PRETF3C.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3C.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.ISO.To","(PretensadoIsostático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"PRETF3D.HIP.To","(PretensadoHiperestático(t=
0))",.9,1.1,"P",0,"","CTESF3.C0"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C0"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,.8,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
genérico.MZ+)",0,.8,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen,ri
co.MZ+)",0,1.03,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.03,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,1,"P",0,"","CTESF4.C0"
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IDEAM

"INFI" HIPOTESIS A T=INFINITO

Las hipotesis son las mismo que el de T=cero con la siguiente salvedad =>

- A cada ciclo se le suman los efectos: REDPP y REDPRE ponderada por 1.

- También se suma un estado que supone las pérdidas:

  -(PRETF1A · 0'195) · 105,095

  -(PRETF1 · 015) · 110 · 090

- Se ajustan los coeficientes de las [illegible] por 1.

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8
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret1.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp1.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp2.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret3.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp3.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp4.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret4.coe"
"C:\PDANIEL\sanoliva\dapoy1","spret.esf"
10
"ESFUERZOS"
"CUASIPERM1.Tinf.MZ+"," SIN GRADIENTE"
"MZ"
"+"
0
23
"PPCF1","(PESODELCAJàNENFASE1)",1,1,"P",0,"","CTESF1.C1"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C1"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C1"
"PRETF1A.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF3C.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C1"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,.2,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,.2,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,.26,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,.26,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,0,"P",0,"","CTESF4.C0"
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",1,1,"P",0,"","CTESF4.C2"
"REDPRE","(REDISTRIBUCIàN HIP PRET)",1,1,"P",0,"","CTESF4.C2"
"PRETFA.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"ESFUERZOS"
"CUASIPERM1.Tinf.MZ-"," SIN GRADIENTE"
"MZ"
"-"
0
23
"PPCF1","(PESODELCAJàNENFASE1)",1,1,"P",0,"","CTESF1.C1"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C1"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C1"
"PRETF1A.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF3C.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C1"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
gen,rico.MZ-)",0,.2,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
gen,rico.MZ-)",0,.2,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen'ri
co.MZ-)",0,.26,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen'ri
co.MZ-)",0,.26,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,0,"P",0,"","CTESF4.C0"
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",1,1,"P",0,"","CTESF4.C2"
"REDPRE","(REDISTRIBUCIàN HIP PRET)",1,1,"P",0,"","CTESF4.C2"
"PRETFA.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"ESFUERZOS"
"CUASIPERM2.Tinf.MZ+"," CON GRADIENTE"
"Mz"
"+"
0
23
"PPCF1","(PESODELCAJàNENFASE1)",1,1,"P",0,"","CTESF1.C1"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C1"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C1"
"PRETF1A.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF3C.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C1"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,.2,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,.2,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,.26,"P",0,"","CTESF4.C0"
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"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,.26,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,.2,"P",0,"","CTESF4.C0"
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",1,1,"P",0,"","CTESF4.C2"
"REDPRE","(REDISTRIBUCIàN HIP PRET)",1,1,"P",0,"","CTESF4.C2"
"PRETFA.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"ESFUERZOS"
"FRECUENTES1.Tinf.MZ+","TREN DOMINANTE SIN GRADIENTE"
"MZ"
"+"
0
23
"PPCF1","(PESODELCAJàNENFASE1)",1,1,"P",0,"","CTESF1.C1"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C1"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C1"
"PRETF1A.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF3C.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C1"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,.5,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,.5,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.03,"P",1,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.03,"P",1,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,0,"P",0,"","CTESF4.C0"
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",1,1,"P",0,"","CTESF4.C2"
"REDPRE","(REDISTRIBUCIàN HIP PRET)",1,1,"P",0,"","CTESF4.C2"
"PRETFA.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"ESFUERZOS"
"FRECUENTES1.Tinf.MZ-","TREN DOMINANTE SIN GRADIENTE"
"MZ"
"-"
0
23
"PPCF1","(PESODELCAJàNENFASE1)",1,1,"P",0,"","CTESF1.C1"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C1"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C1"
"PRETF1A.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF3C.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C1"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
gen,rico.MZ-)",0,.5,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
gen,rico.MZ-)",0,.5,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen'ri
co.MZ-)",0,1.03,"P",1,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen'ri
co.MZ-)",0,1.03,"P",1,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,0,"P",0,"","CTESF4.C0"
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",1,1,"P",0,"","CTESF4.C2"
"REDPRE","(REDISTRIBUCIàN HIP PRET)",1,1,"P",0,"","CTESF4.C2"
"PRETFA.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"ESFUERZOS"
"FRECUENTES2.Tinf.MZ+","TREN DOMINANTE CON GRADIENTE"
"MZ"
"+"
0
23
"PPCF1","(PESODELCAJàNENFASE1)",1,1,"P",0,"","CTESF1.C1"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C1"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C1"
"PRETF1A.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF3C.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C1"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,.5,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
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gen,rico.MZ+)",0,.5,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.03,"P",1,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.03,"P",1,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,.5,"P",0,"","CTESF4.C0"
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",1,1,"P",0,"","CTESF4.C2"
"REDPRE","(REDISTRIBUCIàN HIP PRET)",1,1,"P",0,"","CTESF4.C2"
"PRETFA.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"ESFUERZOS"
"INFRECUENTES1.Tinf.MZ+","TREN DOMINANTE SIN GRADIENTE"
"MZ"
"+"
0
23
"PPCF1","(PESODELCAJàNENFASE1)",1,1,"P",0,"","CTESF1.C1"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C1"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C1"
"PRETF1A.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF3C.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C1"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,1,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,1,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.3,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.3,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,0,"P",0,"","CTESF4.C0"
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",1,1,"P",0,"","CTESF4.C2"
"REDPRE","(REDISTRIBUCIàN HIP PRET)",1,1,"P",0,"","CTESF4.C2"
"PRETFA.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"ESFUERZOS"
"INFRECUENTES1.Tinf.MZ-","TREN DOMINANTE SIN GRADIENTE"
"MZ"
"-"
0
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23
"PPCF1","(PESODELCAJàNENFASE1)",1,1,"P",0,"","CTESF1.C1"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C1"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C1"
"PRETF1A.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF3C.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C1"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
gen,rico.MZ-)",0,1,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
gen,rico.MZ-)",0,1,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen'ri
co.MZ-)",0,1.3,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen'ri
co.MZ-)",0,1.3,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,0,"P",0,"","CTESF4.C0"
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",1,1,"P",0,"","CTESF4.C2"
"REDPRE","(REDISTRIBUCIàN HIP PRET)",1,1,"P",0,"","CTESF4.C2"
"PRETFA.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"ESFUERZOS"
"INFRECUENTES2.Tinf.MZ+","TREN DOMINANTE CON GRADIENTE"
"MZ"
"+"
0
23
"PPCF1","(PESODELCAJàNENFASE1)",1,1,"P",0,"","CTESF1.C1"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C1"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C1"
"PRETF1A.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF3C.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C1"
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"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,1,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,1,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.3,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.3,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,.6,"P",0,"","CTESF4.C0"
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",1,1,"P",0,"","CTESF4.C2"
"REDPRE","(REDISTRIBUCIàN HIP PRET)",1,1,"P",0,"","CTESF4.C2"
"PRETFA.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"ESFUERZOS"
"INFRECUENTES3.Tinf.MZ+","DOMINANTE CON GRADIENTE"
"MZ"
"+"
0
23
"PPCF1","(PESODELCAJàNENFASE1)",1,1,"P",0,"","CTESF1.C1"
"PPLF3","(PESOPROPIODELAFASE3)",1,1,"P",0,"","CTESF3.C1"
"PPLF2","(PESOPROPIODELAFASE2)",1,1,"P",0,"","CTESF2.C1"
"PRETF1A.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.ISO.To","(PretensadoIsost tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","CTESF1.C1"
"PRETF3C.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.ISO.To","(PretensadoIsost tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=
0))",.9,1.1,"P",0,"","CTESF3.C1"
"CMmax","(CARGAMUERTAMAXIMA)",.68,1,"P",0,"","CTESF4.C1"
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanc
gen,rico.MZ+)",0,.8,"P",0,"","CTESF4.C0"
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanc
gen,rico.MZ+)",0,.8,"P",0,"","CTESF4.C0"
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.04,"P",0,"","CTESF4.C0"
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.04,"P",0,"","CTESF4.C0"
"GRAD","(GRADIENTE)",0,1,"P",0,"","CTESF4.C0"
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",1,1,"P",0,"","CTESF4.C2"
"REDPRE","(REDISTRIBUCIàN HIP PRET)",1,1,"P",0,"","CTESF4.C2"
"PRETFA.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-0.1852,-
0.20475,"P",0,"","CTESF4.C2"
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-0.135,-
0.165,"P",0,"","CTESF4.C2"
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IDEAM

2) Cálculo temporal:

Cálculo terminal:

Los resultados del cálculo terminal se incluye a continuación, como resumen se tiene:

CONSTRUCCIÓN

Máximo comprimido en el terreno de vigas:

$\sigma = 221'5$ Kg/cm² por lo que el hormigón en el momento de tesado tiene que ser mayor

$\frac{221}{56} = 368'33$ Kg/cm².

TIERRA + TINF

- En compresiones la tensión máxima que se produce en viga estará comprendida, no obstante se mantiene como en la hipótesis de comportamiento mixto considerando el pretensado, de tal modo que el valor del [illegible] es del 5%. En todo caso los pretensados [illegible] en este caso no son perjudiciales [illegible] en los casos [illegible] compresiones.

- En flexiones la tensión máxima de $f_{ct,k}$

HP-35 $< f_{ctk} = 29$ Kg/cm²

HP-50 $< f_{ctk} = 33'6$ Kg/cm²

- En compresiones:

Compresiones $= \leq f_{ck} \times 0'6 = 600 \cdot 0'6 = 360$ Kg/cm²

Tracciones = 75'6 Kg/cm², estas tensiones en el [illegible] son [illegible] compresiones que se reducen a [illegible]

CÁLCULO TENSIONAL

Hipótesis de cálculo:

REDPP

redistribuci¢n de peso propio

[.85; .85]PPVIGAS + [.85; .85]PPLOSA + [-.85;-.85]PPCF1 + [-.85;-.85]PPLF3 + [-.85;-.85]PPLF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	4.59	0.45
1	2	2.62	0.00	4.61	-11.60
2	2	2.62	0.00	3.60	-10.72
2	3	5.24	0.00	3.60	-20.17
3	3	5.24	0.00	3.55	-19.35
3	4	7.86	0.00	3.56	-28.70
4	4	7.86	0.00	4.39	-27.96
4	5	10.48	0.00	4.39	-39.48
5	5	10.48	0.00	5.98	-38.88
5	6	13.10	0.00	5.98	-54.57
6	6	13.10	0.00	8.21	-54.13
6	7	15.72	0.00	8.20	-75.65
7	7	15.72	0.00	10.88	-75.43
7	8	18.34	0.00	10.89	-103.96
8	8	18.34	0.00	13.80	-104.02
8	9	20.96	0.00	13.80	-140.17
9	9	20.96	0.00	16.62	-140.60
9	10	23.58	0.00	16.62	-184.13
10	10	23.58	0.00	14.92	-183.79
10	10011	26.20	0.00	14.93	-222.90
11	11	26.20	0.00	11.91	-222.92
11	12	29.55	0.00	11.92	-262.81
12	12	29.55	0.00	9.99	-263.17
12	13	32.90	0.00	9.98	-296.60
13	13	32.90	0.00	7.85	-296.53
13	14	36.03	0.00	7.85	-321.10
14	14	36.03	0.00	6.55	-320.49
14	15	39.16	0.00	6.53	-340.95
15	15	39.16	0.00	2.44	-340.65
15	16	42.29	0.00	2.45	-348.30
16	16	42.29	0.00	-0.80	-347.51
16	17	45.42	0.00	-0.78	-345.02
17	17	45.42	0.00	-2.75	-343.95
17	18	48.55	0.00	-2.74	-335.34
18	18	48.55	0.00	-3.24	-334.19
18	19	51.68	0.00	-3.26	-324.05
19	19	51.68	0.00	-2.30	-322.98
19	20	54.81	0.00	-2.29	-315.80
20	20	54.81	0.00	-0.14	-315.03
20	21	57.94	0.00	-0.14	-314.59
21	21	57.94	0.00	2.78	-314.28
21	22	61.07	0.00	2.79	-323.00
22	22	61.07	0.00	5.26	-323.31
22	10023	64.20	0.00	5.27	-339.79
23	23	64.20	0.00	3.57	-340.71
23	24	67.55	0.00	3.57	-352.67
24	24	67.55	0.00	3.63	-354.04
24	25	70.90	0.00	3.63	-366.22

SPRET.esv Programa DINTEL IDEAM S.A. 20/10/02
REDPP

CÁLCULO TENSIONAL

Hipótesis de cálculo:

REDPP

redistribuci¢n de peso propio

[.85; .85]PPVIGAS + [.85; .85]PPLOSA + [-.85;-.85]PPCF1 + [-.85;-.85]PPLF3 + [-.85;-.85]PPLF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
25	25	70.90	0.00	1.88	-367.16
25	26	74.23	0.00	1.88	-373.41
26	26	74.23	0.00	-0.67	-373.71
26	27	77.56	0.00	-0.69	-371.43
27	27	77.56	0.00	-4.21	-370.97
27	28	80.89	0.00	-4.21	-356.97
28	28	80.89	0.00	-6.72	-356.00
28	29	84.22	0.00	-6.73	-333.61
29	29	84.22	0.00	-7.73	-332.32
29	30	87.55	0.00	-7.73	-306.60
30	30	87.55	0.00	-6.96	-305.22
30	31	90.88	0.00	-6.97	-282.03
31	31	90.88	0.00	-4.42	-280.76
31	32	94.21	0.00	-4.42	-266.04
32	32	94.21	0.00	-0.31	-265.10
32	33	97.54	0.00	-0.31	-264.10
33	33	97.54	0.00	4.88	-263.74
33	34	100.87	0.00	4.87	-279.98
34	34	100.87	0.00	6.51	-279.19
34	10035	104.20	0.00	6.52	-300.87
35	35	104.20	0.00	-6.24	-300.74
35	36	107.55	0.00	-6.23	-279.83
36	36	107.55	0.00	-4.12	-280.08
36	37	110.90	0.00	-4.11	-266.30
37	37	110.90	0.00	-2.14	-266.25
37	38	113.77	0.00	-2.15	-260.10
38	38	113.77	0.00	0.45	-259.62
38	39	116.64	0.00	0.46	-260.92
39	39	116.64	0.00	-2.99	-261.42
39	40	119.51	0.00	-2.99	-252.84
40	40	119.51	0.00	-6.53	-252.91
40	41	122.38	0.00	-6.54	-234.19
41	41	122.38	0.00	-9.77	-233.91
41	42	125.25	0.00	-9.75	-205.92
42	42	125.25	0.00	-12.39	-205.39
42	43	128.12	0.00	-12.39	-169.84
43	43	128.12	0.00	-14.23	-169.12
43	44	130.99	0.00	-14.24	-128.27
44	44	130.99	0.00	-15.12	-127.42
44	45	133.86	0.00	-15.12	-84.04
45	45	133.86	0.00	-14.91	-83.08
45	46	136.73	0.00	-14.91	-40.30
46	46	136.73	0.00	-13.50	-39.28
46	47	139.60	0.00	-13.51	-0.53
101	101	0.00	0.00	12.63	-0.45
101	102	2.62	0.00	12.63	-33.56
102	102	2.62	0.00	13.63	-34.43
102	103	5.24	0.00	13.63	-70.16

CÁLCULO TENSIONAL

Hipótesis de cálculo:

REDPP

redistribuci¢n de peso propio

[.85; .85]PPVIGAS + [.85; .85]PPLOSA + [-.85;-.85]PPCF1 + [-.85;-.85]PPLF3 + [-.85;-.85]PPLF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	5.24	0.00	13.68	-70.98
103	104	7.86	0.00	13.67	-106.79
104	104	7.86	0.00	12.84	-107.53
104	105	10.48	0.00	12.84	-141.17
105	105	10.48	0.00	11.25	-141.78
105	106	13.10	0.00	11.24	-171.25
106	106	13.10	0.00	9.02	-171.69
106	107	15.72	0.00	9.03	-195.32
107	107	15.72	0.00	6.34	-195.54
107	108	18.34	0.00	6.34	-212.17
108	108	18.34	0.00	3.43	-212.11
108	109	20.96	0.00	3.45	-221.13
109	109	20.96	0.00	0.63	-220.70
109	110	23.58	0.00	0.62	-222.33
110	110	23.58	0.00	2.31	-222.67
110	111	26.20	0.00	2.31	-228.72
111	111	26.20	0.00	3.79	-228.70
111	112	29.55	0.00	3.79	-241.39
112	112	29.55	0.00	5.72	-241.06
112	10113	32.90	0.00	5.73	-260.22
113	113	32.90	0.00	-3.55	-260.28
113	114	36.03	0.00	-3.56	-249.15
114	114	36.03	0.00	-2.25	-249.76
114	115	39.16	0.00	-2.24	-242.73
115	115	39.16	0.00	1.84	-243.04
115	116	42.29	0.00	1.85	-248.85
116	116	42.29	0.00	5.09	-249.64
116	117	45.42	0.00	5.09	-265.55
117	117	45.42	0.00	7.05	-266.61
117	118	48.55	0.00	7.04	-288.64
118	118	48.55	0.00	7.53	-289.79
118	119	51.68	0.00	7.53	-313.40
119	119	51.68	0.00	6.60	-314.47
119	120	54.81	0.00	6.60	-335.10
120	120	54.81	0.00	4.44	-335.88
120	121	57.94	0.00	4.44	-349.76
121	121	57.94	0.00	1.51	-350.06
121	122	61.07	0.00	1.50	-354.78
122	122	61.07	0.00	-0.96	-354.47
122	123	64.20	0.00	-0.97	-351.42
123	123	64.20	0.00	-2.86	-350.50
123	124	67.55	0.00	-2.85	-340.94
124	124	67.55	0.00	-2.92	-339.57
124	10125	70.90	0.00	-2.92	-329.80
125	125	70.90	0.00	-3.64	-328.87
125	126	74.23	0.00	-3.64	-316.75
126	126	74.23	0.00	-1.08	-316.47
126	127	77.56	0.00	-1.08	-312.89

SPRET.esv Programa DINTEL IDEAM S.A. 20/10/02
REDPP

CÁLCULO TENSIONAL

Hipótesis de cálculo:

REDPP

redistribuci¢n de peso propio

[.85; .85]PPVIGAS + [.85; .85]PPLOSA + [-.85;-.85]PPCF1 + [-.85;-.85]PPLF3 + [-.85;-.85]PPLF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
127	127	77.56	0.00	2.45	-313.35
127	128	80.89	0.00	2.44	-321.50
128	128	80.89	0.00	4.96	-322.49
128	129	84.22	0.00	4.96	-339.01
129	129	84.22	0.00	5.96	-340.29
129	130	87.55	0.00	5.98	-360.19
130	130	87.55	0.00	5.20	-361.56
130	131	90.88	0.00	5.21	-378.89
131	131	90.88	0.00	2.65	-380.15
131	132	94.21	0.00	2.65	-388.99
132	132	94.21	0.00	-1.47	-389.95
132	133	97.54	0.00	-1.46	-385.07
133	133	97.54	0.00	-6.65	-385.44
133	134	100.87	0.00	-6.65	-363.33
134	134	100.87	0.00	-8.28	-364.11
134	135	104.20	0.00	-8.27	-336.56
135	135	104.20	0.00	-10.75	-336.69
135	136	107.55	0.00	-10.76	-300.65
136	136	107.55	0.00	-12.89	-300.40
136	10137	110.90	0.00	-12.88	-257.24
137	137	110.90	0.00	-16.10	-257.29
137	138	113.77	0.00	-16.11	-211.05
138	138	113.77	0.00	-18.69	-211.55
138	139	116.64	0.00	-18.70	-157.88
139	139	116.64	0.00	-15.26	-157.38
139	140	119.51	0.00	-15.25	-113.59
140	140	119.51	0.00	-11.72	-113.53
140	141	122.38	0.00	-11.71	-79.89
141	141	122.38	0.00	-8.48	-80.16
141	142	125.25	0.00	-8.48	-55.79
142	142	125.25	0.00	-5.85	-56.32
142	143	128.12	0.00	-5.85	-39.54
143	143	128.12	0.00	-4.01	-40.26
143	144	130.99	0.00	-4.00	-28.76
144	144	130.99	0.00	-3.12	-29.61
144	145	133.86	0.00	-3.12	-20.65
145	145	133.86	0.00	-3.32	-21.60
145	146	136.73	0.00	-3.32	-12.04
146	146	136.73	0.00	-4.73	-13.07
146	147	139.60	0.00	-4.73	0.53

CÁLCULO TENSIONAL

Hipótesis de cálculo:

REDPRE

Redistribuci¢n hiperestaticos de pretensado

[-.85;-.85]PRETF1A.HIP.To + [-.85;-.85]PRETF1B.HIP.To + [.655; .655]PRETFA.HIP.To + [.655; .655]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	-2.32	-34.14	-1.13
1	2	2.62	-2.32	-34.14	88.32
2	2	2.62	-20.04	-31.61	86.08
2	3	5.24	-20.04	-31.61	168.90
3	3	5.24	-35.28	-31.49	166.85
3	4	7.86	-35.28	-31.49	249.36
4	4	7.86	-48.85	-33.51	247.52
4	5	10.48	-48.85	-33.51	335.30
5	5	10.48	-56.26	-37.30	333.95
5	6	13.10	-56.26	-37.30	431.67
6	6	13.10	-58.22	-42.45	430.72
6	7	15.72	-58.22	-42.45	541.93
7	7	15.72	-53.74	-48.63	541.34
7	8	18.34	-53.74	-48.63	668.76
8	8	18.34	-39.83	-55.61	668.49
8	9	20.96	-39.83	-55.61	814.17
9	9	20.96	-28.96	-62.70	815.01
9	10	23.58	-28.96	-62.70	979.28
10	10	23.58	-52.36	-65.44	980.32
10	10011	26.20	-52.36	-65.44	1151.76
11	11	26.20	-55.04	-19.75	1153.66
11	12	29.55	-55.04	-19.75	1219.80
12	12	29.55	-34.99	-19.44	1222.57
12	13	32.90	-34.99	-19.44	1287.74
13	13	32.90	-31.52	-16.89	1289.36
13	14	36.03	-31.52	-16.89	1342.23
14	14	36.03	-72.54	-13.84	1342.39
14	15	39.16	-72.54	-13.84	1385.75
15	15	39.16	-55.90	-4.05	1384.58
15	16	42.29	-55.90	-4.05	1397.29
16	16	42.29	-33.61	3.09	1394.98
16	17	45.42	-33.61	3.09	1385.31
17	17	45.42	-19.12	7.12	1383.09
17	18	48.55	-19.12	7.12	1360.81
18	18	48.55	-6.61	8.28	1358.65
18	19	51.68	-6.61	8.28	1332.76
19	19	51.68	8.51	6.60	1330.56
19	20	54.81	8.51	6.60	1309.93
20	20	54.81	32.41	1.94	1307.62
20	21	57.94	32.41	1.94	1301.59
21	21	57.94	46.70	-5.11	1300.48
21	22	61.07	46.70	-5.11	1316.51
22	22	61.07	6.81	-5.55	1316.06
22	10023	64.20	6.81	-5.55	1333.43
23	23	64.20	11.22	-20.54	1334.14
23	24	67.55	11.22	-20.54	1402.90
24	24	67.55	32.29	-19.76	1404.33
24	25	70.90	32.29	-19.76	1470.51

CÁLCULO TENSIONAL

Hipótesis de cálculo:

REDPRE

Redistribuci¢n hiperestaticos de pretensado

[-.85;-.85]PRETF1A.HIP.To + [-.85;-.85]PRETF1B.HIP.To + [.655; .655]PRETFA.HIP.To + [.655; .655]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
25	25	70.90	35.39	-17.80	1471.10
25	26	74.23	35.39	-17.80	1530.37
26	26	74.23	-16.19	-16.00	1529.70
26	27	77.56	-16.19	-16.00	1583.03
27	27	77.56	-4.14	-7.34	1581.26
27	28	80.89	-4.14	-7.34	1605.69
28	28	80.89	12.62	-1.95	1602.67
28	29	84.22	12.62	-1.95	1609.20
29	29	84.22	21.55	-0.40	1606.48
29	30	87.55	21.55	-0.40	1607.81
30	30	87.55	28.58	-2.31	1605.19
30	31	90.88	28.58	-2.31	1612.89
31	31	90.88	38.11	-7.73	1610.21
31	32	94.21	38.11	-7.73	1635.94
32	32	94.21	56.62	-17.01	1633.08
32	33	97.54	56.62	-17.01	1689.76
33	33	97.54	65.25	-29.55	1688.44
33	34	100.87	65.25	-29.55	1786.87
34	34	100.87	16.03	-34.18	1787.08
34	10035	104.20	16.03	-34.18	1900.87
35	35	104.20	20.44	32.92	1902.77
35	36	107.55	20.44	32.92	1792.49
36	36	107.55	35.30	32.13	1795.25
36	37	110.90	35.30	32.13	1687.61
37	37	110.90	36.88	34.07	1689.75
37	38	113.77	36.88	34.07	1592.00
38	38	113.77	5.36	37.19	1593.15
38	39	116.64	5.36	37.19	1486.40
39	39	116.64	20.64	45.74	1487.10
39	40	119.51	20.64	45.74	1355.80
40	40	119.51	41.73	53.99	1355.51
40	41	122.38	41.73	53.99	1200.55
41	41	122.38	49.90	61.25	1199.83
41	42	125.25	49.90	61.25	1024.02
42	42	125.25	50.03	67.21	1022.87
42	43	128.12	50.03	67.21	829.97
43	43	128.12	43.35	71.41	828.31
43	44	130.99	43.35	71.41	623.35
44	44	130.99	28.07	73.27	621.09
44	45	133.86	28.07	73.27	410.79
45	45	133.86	13.30	72.39	408.43
45	46	136.73	13.30	72.39	200.67
46	46	136.73	1.58	68.73	198.40
46	47	139.60	1.58	68.73	1.14
101	101	0.00	2.32	-60.85	1.13
101	102	2.62	2.32	-60.85	160.52
102	102	2.62	20.04	-63.36	162.77
102	103	5.24	20.04	-63.36	328.77

CÁLCULO TENSIONAL

Hipótesis de cálculo:

REDPRE

Redistribuci¢n hiperestaticos de pretensado

[-.85;-.85]PRETF1A.HIP.To + [-.85;-.85]PRETF1B.HIP.To + [.655; .655]PRETFA.HIP.To + [.655; .655]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	5.24	35.28	-63.49	330.82
103	104	7.86	35.28	-63.49	497.17
104	104	7.86	48.85	-61.48	499.00
104	105	10.48	48.85	-61.48	660.07
105	105	10.48	56.26	-57.68	661.41
105	106	13.10	56.26	-57.68	812.53
106	106	13.10	58.22	-52.53	813.47
106	107	15.72	58.22	-52.53	951.10
107	107	15.72	53.74	-46.34	951.68
107	108	18.34	53.74	-46.34	1073.10
108	108	18.34	39.83	-39.37	1073.37
108	109	20.96	39.83	-39.37	1176.51
109	109	20.96	28.96	-32.28	1175.68
109	110	23.58	28.96	-32.28	1260.25
110	110	23.58	52.37	-29.53	1259.21
110	111	26.20	52.37	-29.53	1336.58
111	111	26.20	55.04	-27.42	1334.68
111	112	29.55	55.04	-27.42	1426.55
112	112	29.55	35.00	-27.71	1423.76
112	10113	32.90	35.00	-27.71	1516.61
113	113	32.90	31.52	20.85	1514.97
113	114	36.03	31.52	20.85	1449.73
114	114	36.03	72.54	17.80	1449.57
114	115	39.16	72.54	17.80	1393.85
115	115	39.16	55.90	8.01	1395.01
115	116	42.29	55.90	8.01	1369.92
116	116	42.29	33.61	0.86	1372.23
116	117	45.42	33.61	0.86	1369.54
117	117	45.42	19.12	-3.17	1371.75
117	118	48.55	19.12	-3.17	1381.67
118	118	48.55	6.61	-4.31	1383.84
118	119	51.68	6.61	-4.31	1397.36
119	119	51.68	-8.51	-2.64	1399.55
119	120	54.81	-8.51	-2.64	1407.83
120	120	54.81	-32.41	2.02	1410.14
120	121	57.94	-32.41	2.02	1403.82
121	121	57.94	-46.70	9.07	1404.91
121	122	61.07	-46.70	9.07	1376.54
122	122	61.07	-6.81	9.49	1376.99
122	123	64.20	-6.81	9.49	1347.27
123	123	64.20	-11.22	10.03	1346.53
123	124	67.55	-11.22	10.03	1312.95
124	124	67.55	-32.29	9.26	1311.52
124	10125	70.90	-32.29	9.26	1280.50
125	125	70.90	-35.39	-7.48	1279.93
125	126	74.23	-35.39	-7.48	1304.82
126	126	74.23	16.19	-9.26	1305.48
126	127	77.56	16.19	-9.26	1336.34

CÁLCULO TENSIONAL

Hipótesis de cálculo:

REDPRE

Redistribuci¢n hiperestaticos de pretensado

[-.85;-.85]PRETF1A.HIP.To + [-.85;-.85]PRETF1B.HIP.To + [.655; .655]PRETFA.HIP.To + [.655; .655]

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
127	127	77.56	4.14	-17.93	1338.10
127	128	80.89	4.14	-17.93	1397.84
128	128	80.89	-12.62	-23.30	1400.85
128	129	84.22	-12.62	-23.30	1478.46
129	129	84.22	-21.55	-24.86	1481.19
129	130	87.55	-21.55	-24.86	1564.02
130	130	87.55	-28.58	-22.95	1566.64
130	131	90.88	-28.58	-22.95	1643.08
131	131	90.88	-38.11	-17.54	1645.75
131	132	94.21	-38.11	-17.54	1704.14
132	132	94.21	-56.62	-8.24	1707.00
132	133	97.54	-56.62	-8.24	1734.43
133	133	97.54	-65.25	4.29	1735.75
133	134	100.87	-65.25	4.29	1721.43
134	134	100.87	-16.03	8.91	1721.24
134	135	104.20	-16.03	8.91	1691.55
135	135	104.20	-20.44	12.43	1689.64
135	136	107.55	-20.43	12.43	1648.04
136	136	107.55	-35.31	13.22	1645.29
136	10137	110.90	-35.31	13.22	1601.03
137	137	110.90	-36.88	80.54	1598.88
137	138	113.77	-36.88	80.54	1367.73
138	138	113.77	-5.36	77.39	1366.60
138	139	116.64	-5.36	77.39	1144.45
139	139	116.64	-20.64	68.84	1143.75
139	140	119.51	-20.64	68.84	946.14
140	140	119.51	-41.73	60.60	946.44
140	141	122.38	-41.73	60.60	772.52
141	141	122.38	-49.90	53.33	773.23
141	142	125.25	-49.90	53.33	620.18
142	142	125.25	-50.03	47.38	621.34
142	143	128.12	-50.03	47.38	485.39
143	143	128.12	-43.35	43.17	487.04
143	144	130.99	-43.35	43.17	363.15
144	144	130.99	-28.07	41.32	365.41
144	145	133.86	-28.07	41.32	246.87
145	145	133.86	-13.30	42.20	249.24
145	146	136.73	-13.30	42.20	128.16
146	146	136.73	-1.58	45.85	130.43
146	147	139.60	-1.58	45.85	-1.14

GRÁFICO DE ESFUERZOS

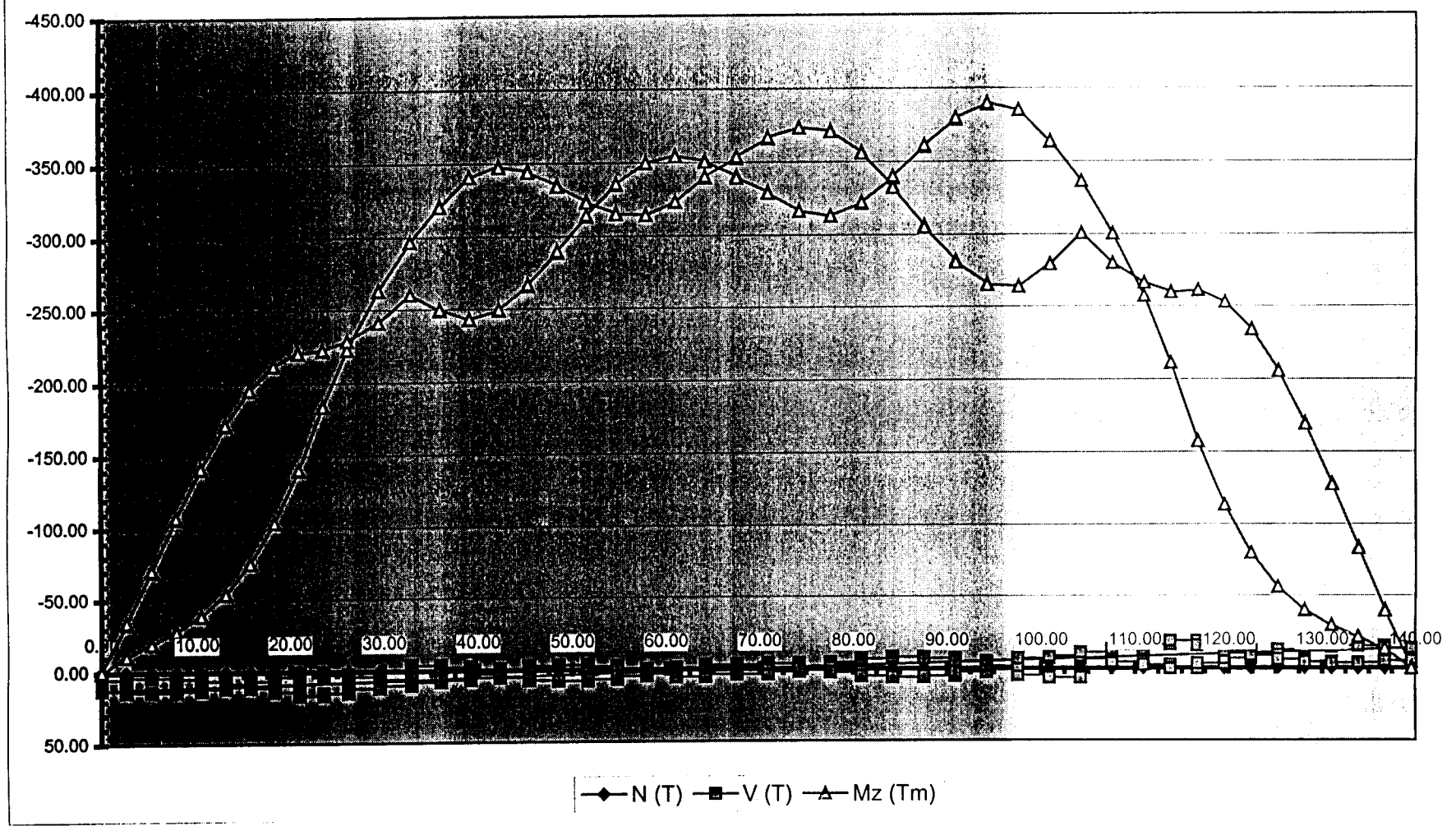
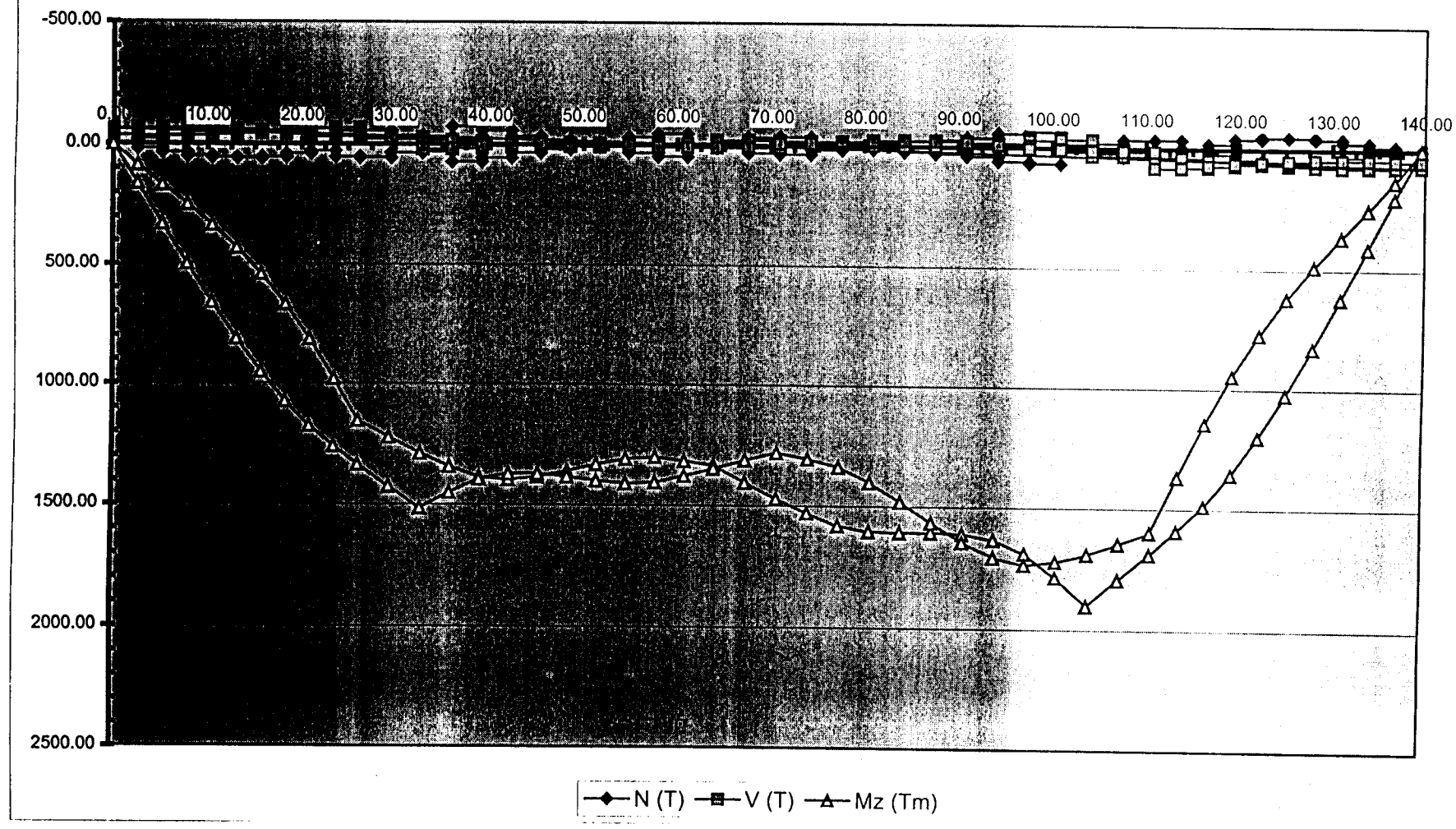


GRÁFICO DE ESFUERZOS



CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO1.T0.MZ+

PP sin gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-569.45	-76.19	-204.59	-555.18	-118.34	0.00	0.00
1	2	2.62	-569.45	-52.43	-36.09	-405.08	-328.03	0.00	0.00
2	2	2.62	-775.33	-52.43	-234.15	-716.34	-216.40	0.00	0.00
2	3	5.24	-775.33	-28.64	-127.92	-621.72	-348.59	0.00	0.00
3	3	5.24	-981.22	-28.64	-325.99	-932.98	-236.95	0.00	0.00
3	4	7.86	-981.22	-4.87	-282.06	-893.85	-291.61	0.00	0.00
4	4	7.86	-981.22	-4.87	-282.06	-893.85	-291.61	0.00	0.00
4	5	10.48	-981.22	18.91	-300.44	-910.22	-268.74	0.00	0.00
5	5	10.48	-981.22	18.91	-300.44	-910.22	-268.74	0.00	0.00
5	6	13.10	-981.22	42.68	-381.10	-982.07	-168.37	0.00	0.00
6	6	13.10	-981.22	42.68	-381.10	-982.07	-168.37	0.00	0.00
6	7	15.72	-981.22	66.46	-524.06	-1109.41	9.54	0.00	0.00
7	7	15.72	-981.22	66.46	-524.06	-1109.41	9.54	0.00	0.00
7	8	18.34	-981.22	90.23	-729.31	-1292.23	264.95	0.00	0.00
8	8	18.34	-1864.29	90.23	323.59	-689.21	-753.39	-350.08	-384.24
8	9	20.96	-1868.27	114.00	59.17	-867.80	-619.18	-323.87	-344.31
9	9	20.96	-2904.85	114.00	872.88	-713.90	-1069.69	-715.15	-797.35
9	10	23.58	-2912.24	137.79	548.83	-947.49	-859.43	-690.23	-758.90
10	10	23.58	-2703.14	138.55	747.44	-634.96	-970.19	-689.48	-758.20
10	10011	26.20	-2648.50	162.32	310.42	-934.36	-655.13	-640.83	-692.18
11	11	26.20	-2672.88	-183.64	311.24	-941.18	-662.54	-647.28	-698.69
11	12	29.55	-2758.03	-153.25	942.39	-492.23	-1180.75	-710.52	-782.67
12	12	29.55	-3185.54	-150.26	546.57	-1119.27	-962.23	-714.64	-786.82
12	13	32.90	-3176.09	-119.86	991.58	-780.80	-1310.83	-740.67	-827.18
13	13	32.90	-2381.65	-116.23	-283.51	-1515.07	-617.63	-296.77	-312.69
13	14	36.03	-2355.46	-88.20	32.88	-1279.80	-822.38	-315.47	-344.23
14	14	36.03	-1735.96	-84.27	-1053.93	-2075.68	174.62	0.00	0.00
14	15	39.16	-1735.96	-55.85	-834.69	-1880.39	-98.21	0.00	0.00
15	15	39.16	-1735.96	-55.85	-834.69	-1880.39	-98.21	0.00	0.00
15	16	42.29	-1735.96	-27.45	-704.35	-1764.29	-260.40	0.00	0.00
16	16	42.29	-1735.96	-27.45	-704.35	-1764.29	-260.40	0.00	0.00
16	17	45.42	-1735.96	0.96	-662.94	-1727.40	-311.94	0.00	0.00
17	17	45.42	-1735.96	0.96	-662.94	-1727.40	-311.94	0.00	0.00
17	18	48.55	-1735.96	29.36	-710.42	-1769.70	-252.85	0.00	0.00
18	18	48.55	-1735.96	29.36	-710.42	-1769.70	-252.85	0.00	0.00
18	19	51.68	-1735.96	57.78	-846.80	-1891.18	-83.14	0.00	0.00
19	19	51.68	-1735.96	57.78	-846.80	-1891.18	-83.14	0.00	0.00
19	20	54.81	-1735.96	86.18	-1072.08	-2091.85	197.21	0.00	0.00
20	20	54.81	-2462.56	86.18	121.47	-1279.95	-807.68	-365.30	-405.18
20	21	57.94	-2467.31	114.59	-189.01	-1511.65	-576.88	-344.85	-373.80
21	21	57.94	-3124.83	114.59	968.45	-803.49	-1208.82	-735.53	-826.15
21	22	61.07	-3133.66	142.99	572.26	-1113.78	-869.17	-716.61	-796.55
22	22	61.07	-2714.87	134.79	970.45	-487.99	-1090.70	-715.10	-795.20
22	10023	64.20	-2664.39	163.19	464.47	-871.67	-619.08	-677.66	-745.49
23	23	64.20	-2763.38	-178.08	398.33	-985.61	-587.39	-686.01	-754.08
23	24	67.55	-2828.85	-147.68	995.40	-541.90	-1121.42	-735.13	-819.39
24	24	67.55	-3291.77	-148.15	568.91	-1219.81	-885.03	-739.89	-824.36
24	25	70.90	-3282.33	-117.75	1006.91	-877.04	-1260.05	-760.97	-857.29

CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO1.T0.MZ+

PP sin gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2596.00	-114.60	-358.41	-1761.88	-519.40	-318.99	-345.01
25	26	74.23	-2591.58	-84.38	-30.60	-1516.32	-766.91	-340.23	-377.52
26	26	74.23	-2048.57	-78.23	-1206.93	-2416.68	160.28	0.00	0.00
26	27	77.56	-2048.57	-48.00	-996.77	-2229.49	-101.24	0.00	0.00
27	27	77.56	-2048.57	-48.00	-996.77	-2229.49	-101.24	0.00	0.00
27	28	80.89	-2044.80	-17.99	-886.95	-2129.20	-235.44	0.00	0.00
28	28	80.89	-2044.80	-17.99	-886.95	-2129.20	-235.44	0.00	0.00
28	29	84.22	-2044.80	12.23	-877.37	-2120.67	-247.36	0.00	0.00
29	29	84.22	-2044.80	12.23	-877.37	-2120.67	-247.36	0.00	0.00
29	30	87.55	-2044.80	42.44	-968.43	-2201.78	-134.04	0.00	0.00
30	30	87.55	-2044.80	42.44	-968.43	-2201.78	-134.04	0.00	0.00
30	31	90.88	-2044.80	72.67	-1160.10	-2372.51	104.48	0.00	0.00
31	31	90.88	-2044.80	72.67	-1160.10	-2372.51	104.48	0.00	0.00
31	32	94.21	-2044.80	102.89	-1452.42	-2632.89	468.25	0.00	0.00
32	32	94.21	-2670.43	102.88	-168.17	-1614.92	-777.43	-338.42	-364.50
32	33	97.54	-2675.49	133.10	-557.13	-1894.39	-523.13	-307.62	-317.52
33	33	97.54	-3230.15	133.10	694.47	-1034.99	-1204.77	-698.33	-769.90
33	34	100.87	-3239.53	163.32	208.26	-1403.46	-827.12	-669.16	-724.82
34	34	100.87	-2767.24	159.19	637.77	-721.04	-1061.23	-662.43	-718.11
34	10035	104.20	-2731.01	187.32	18.23	-1184.15	-539.06	-616.51	-653.79
35	35	104.20	-2760.13	-192.86	19.40	-1192.18	-547.96	-624.23	-661.61
35	36	107.55	-2821.82	-162.46	662.99	-734.80	-1042.47	-685.92	-746.32
36	36	107.55	-3278.88	-165.33	234.20	-1412.27	-803.93	-688.82	-749.24
36	37	110.90	-3269.45	-134.93	729.75	-1050.69	-1142.47	-725.11	-805.04
37	37	110.90	-2540.64	-137.24	-605.69	-1883.53	-415.68	-280.79	-290.31
37	38	113.77	-2536.82	-111.19	-252.19	-1641.51	-607.90	-314.49	-341.48
38	38	113.77	-1976.32	-113.38	-1398.23	-2539.77	445.65	0.00	0.00
38	39	116.64	-1976.32	-87.34	-1110.21	-2283.22	87.23	0.00	0.00
39	39	116.64	-1976.32	-87.33	-1110.21	-2283.22	87.23	0.00	0.00
39	40	119.51	-1976.32	-61.28	-896.91	-2093.23	-178.19	0.00	0.00
40	40	119.51	-1976.32	-61.28	-896.91	-2093.23	-178.19	0.00	0.00
40	41	122.38	-1976.32	-35.23	-758.37	-1969.83	-350.59	0.00	0.00
41	41	122.38	-1976.32	-35.23	-758.37	-1969.83	-350.59	0.00	0.00
41	42	125.25	-1976.32	-9.20	-694.61	-1913.03	-429.94	0.00	0.00
42	42	125.25	-1976.32	-9.20	-694.61	-1913.03	-429.94	0.00	0.00
42	43	128.12	-1976.32	16.85	-705.59	-1922.81	-416.28	0.00	0.00
43	43	128.12	-1976.32	16.86	-705.59	-1922.81	-416.28	0.00	0.00
43	44	130.99	-1976.32	42.91	-791.32	-1999.17	-309.59	0.00	0.00
44	44	130.99	-1530.24	42.91	-405.01	-1362.93	-498.17	0.00	0.00
44	45	133.86	-1530.24	68.95	-565.51	-1505.89	-298.45	0.00	0.00
45	45	133.86	-1084.16	68.95	-157.80	-850.58	-513.67	0.00	0.00
45	46	136.73	-1084.16	94.99	-393.04	-1060.13	-220.92	0.00	0.00
46	46	136.73	-638.08	94.99	36.09	-385.74	-462.80	0.00	0.00
46	47	139.60	-638.08	120.97	-273.90	-661.86	-77.04	0.00	0.00
101	101	0.00	-603.76	-110.62	-239.25	-608.52	-97.69	0.00	0.00
101	102	2.62	-603.76	-86.89	19.56	-377.99	-419.75	0.00	0.00
102	102	2.62	-1049.85	-86.89	-409.56	-1052.37	-177.89	0.00	0.00
102	103	5.24	-1049.85	-63.12	-213.03	-877.31	-422.46	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO1.T0.MZ+

PP sin gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1358.67	-63.12	-495.31	-1331.00	-273.45	0.00	0.00
103	104	7.86	-1358.67	-39.34	-361.10	-1211.45	-440.46	0.00	0.00
104	104	7.86	-1667.50	-39.34	-628.54	-1651.93	-309.90	0.00	0.00
104	105	10.48	-1667.50	-15.57	-556.61	-1587.86	-399.41	0.00	0.00
105	105	10.48	-1667.50	-15.57	-556.61	-1587.86	-399.41	0.00	0.00
105	106	13.10	-1667.50	8.22	-546.97	-1579.27	-411.41	0.00	0.00
106	106	13.10	-1667.50	8.22	-546.97	-1579.27	-411.41	0.00	0.00
106	107	15.72	-1667.50	31.99	-599.64	-1626.18	-345.87	0.00	0.00
107	107	15.72	-1667.50	31.99	-599.64	-1626.18	-345.87	0.00	0.00
107	108	18.34	-1667.50	55.77	-714.59	-1728.57	-202.82	0.00	0.00
108	108	18.34	-1667.50	55.77	-714.59	-1728.57	-202.82	0.00	0.00
108	109	20.96	-1667.50	79.54	-891.84	-1886.46	17.75	0.00	0.00
109	109	20.96	-1667.50	79.54	-891.84	-1886.46	17.75	0.00	0.00
109	110	23.58	-1667.50	103.32	-1131.38	-2099.82	315.83	0.00	0.00
110	110	23.58	-2491.45	101.73	1.78	-1385.89	-698.32	-368.43	-406.12
110	111	26.20	-2495.43	125.51	-292.80	-1586.49	-542.77	-339.94	-362.76
111	111	26.20	-3220.56	123.38	801.68	-978.98	-1141.25	-730.32	-814.78
111	112	29.55	-3230.01	153.78	344.84	-1311.59	-832.55	-696.62	-762.86
112	112	29.55	-2773.14	150.54	773.41	-634.31	-1071.10	-693.74	-759.94
112	10113	32.90	-2717.04	180.94	174.13	-1061.19	-609.06	-636.92	-681.83
113	113	32.90	-2652.14	-175.63	207.44	-999.48	-620.36	-628.79	-673.60
113	114	36.03	-2703.97	-149.04	768.84	-587.59	-1092.21	-676.31	-738.28
114	114	36.03	-3109.97	-153.00	405.46	-1166.90	-896.03	-683.67	-745.62
114	115	39.16	-3101.16	-124.60	832.99	-841.70	-1231.35	-708.69	-784.40
115	115	39.16	-2329.03	-124.60	-472.72	-1622.38	-518.14	-261.79	-266.96
115	116	42.29	-2324.88	-96.20	-130.43	-1375.67	-744.87	-288.57	-307.77
116	116	42.29	-1736.29	-96.20	-1214.90	-2219.27	374.71	0.00	0.00
116	117	45.42	-1736.29	-67.80	-958.28	-1990.69	55.37	0.00	0.00
117	117	45.42	-1736.29	-67.80	-958.28	-1990.69	55.37	0.00	0.00
117	118	48.55	-1736.29	-39.38	-790.56	-1841.29	-153.34	0.00	0.00
118	118	48.55	-1736.29	-39.38	-790.56	-1841.29	-153.34	0.00	0.00
118	119	51.68	-1736.29	-10.98	-711.72	-1771.07	-251.44	0.00	0.00
119	119	51.68	-1736.29	-10.98	-711.72	-1771.07	-251.44	0.00	0.00
119	120	54.81	-1740.31	17.21	-721.75	-1782.64	-241.59	0.00	0.00
120	120	54.81	-1740.31	17.21	-721.75	-1782.64	-241.59	0.00	0.00
120	121	57.94	-1740.31	45.61	-820.08	-1870.23	-119.23	0.00	0.00
121	121	57.94	-1740.31	45.61	-820.08	-1870.23	-119.23	0.00	0.00
121	122	61.07	-1740.31	74.02	-1007.33	-2037.02	113.79	0.00	0.00
122	122	61.07	-2512.45	80.15	186.00	-1250.48	-859.15	-384.39	-427.37
122	123	64.20	-2517.21	108.56	-105.61	-1468.17	-642.55	-365.24	-397.95
123	123	64.20	-3128.56	112.25	1080.36	-707.69	-1287.00	-752.42	-846.58
123	124	67.55	-3138.00	142.65	660.80	-1034.80	-932.36	-731.70	-814.20
124	124	67.55	-2744.30	142.78	1021.26	-460.83	-1131.71	-727.09	-809.38
124	10125	70.90	-2691.50	173.19	450.56	-888.15	-623.19	-682.82	-749.70
125	125	70.90	-2726.11	-169.91	377.99	-986.54	-571.16	-673.51	-740.14
125	126	74.23	-2770.24	-141.67	942.48	-555.33	-1092.12	-712.34	-792.77
126	126	74.23	-3248.42	-148.11	511.34	-1240.44	-859.47	-720.35	-800.63
126	127	77.56	-3239.05	-117.90	946.85	-899.04	-1234.32	-741.04	-832.97

CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO1.T0.MZ+

PP sin gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2536.91	-117.90	-420.51	-1780.32	-488.59	-294.66	-316.13
127	128	80.89	-2532.49	-87.67	-81.70	-1527.79	-740.38	-317.22	-350.64
128	128	80.89	-2045.10	-87.67	-1256.46	-2458.54	224.19	0.00	0.00
128	129	84.22	-2045.10	-57.45	-1014.82	-2243.30	-76.51	0.00	0.00
129	129	84.22	-2045.10	-57.45	-1014.82	-2243.30	-76.51	0.00	0.00
129	130	87.55	-2045.10	-27.24	-873.80	-2117.69	-251.99	0.00	0.00
130	130	87.55	-2045.10	-27.23	-873.80	-2117.69	-251.99	0.00	0.00
130	131	90.88	-2045.10	2.98	-833.44	-2081.74	-302.23	0.00	0.00
131	131	90.88	-2045.10	2.98	-833.44	-2081.74	-302.23	0.00	0.00
131	132	94.21	-2045.10	33.21	-893.68	-2135.40	-227.26	0.00	0.00
132	132	94.21	-2045.10	33.21	-893.68	-2135.40	-227.26	0.00	0.00
132	133	97.54	-2045.10	63.43	-1054.56	-2278.69	-27.06	0.00	0.00
133	133	97.54	-2045.10	63.43	-1054.56	-2278.69	-27.06	0.00	0.00
133	134	100.87	-2045.10	93.65	-1316.06	-2511.63	298.35	0.00	0.00
134	134	100.87	-2700.18	97.80	-30.61	-1541.24	-824.31	-364.86	-400.38
134	135	104.20	-2729.13	127.58	-401.19	-1816.67	-582.68	-342.70	-363.27
135	135	104.20	-3269.70	130.97	851.01	-952.73	-1260.21	-729.85	-812.14
135	136	107.55	-3279.16	161.38	368.69	-1318.93	-883.53	-701.25	-767.89
136	136	107.55	-2818.56	163.98	797.66	-640.30	-1121.05	-697.46	-764.10
136	10137	110.90	-2753.64	194.37	146.45	-1113.19	-583.80	-639.48	-685.38
137	137	110.90	-2692.12	-173.90	180.40	-1052.13	-596.22	-632.32	-678.17
137	138	113.77	-2751.81	-147.85	688.95	-700.43	-968.78	-686.92	-752.48
138	138	113.77	-3204.64	-146.78	259.43	-1377.05	-728.86	-688.61	-754.14
138	139	116.64	-3196.55	-120.73	636.96	-1103.73	-978.43	-717.16	-798.13
139	139	116.64	-2218.82	-120.73	-480.36	-1581.92	-364.67	-270.37	-280.81
139	140	119.51	-2215.02	-94.69	-174.24	-1374.56	-523.07	-300.53	-326.67
140	140	119.51	-1255.73	-94.69	-927.28	-1648.35	331.52	0.00	0.00
140	141	122.38	-1255.73	-68.65	-692.91	-1439.60	39.88	0.00	0.00
141	141	122.38	-1255.73	-68.65	-692.91	-1439.60	39.88	0.00	0.00
141	142	125.25	-1255.73	-42.60	-533.32	-1297.44	-158.72	0.00	0.00
142	142	125.25	-1255.73	-42.60	-533.32	-1297.44	-158.72	0.00	0.00
142	143	128.12	-1255.73	-16.55	-448.46	-1221.85	-264.33	0.00	0.00
143	143	128.12	-1255.73	-16.55	-448.46	-1221.85	-264.33	0.00	0.00
143	144	130.99	-1255.73	9.48	-438.36	-1212.85	-276.90	0.00	0.00
144	144	130.99	-1255.73	9.48	-438.36	-1212.85	-276.90	0.00	0.00
144	145	133.86	-1255.73	35.53	-503.00	-1270.43	-196.45	0.00	0.00
145	145	133.86	-1049.85	35.53	-314.82	-967.97	-295.79	0.00	0.00
145	146	136.73	-1049.85	61.58	-454.22	-1092.14	-122.33	0.00	0.00
146	146	136.73	-603.76	61.58	-25.09	-417.76	-364.19	0.00	0.00
146	147	139.60	-603.76	87.63	-239.25	-608.52	-97.69	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO1.T0.MZ-

PP sin gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-629.39	-76.19	-226.13	-613.62	-130.80	0.00	0.00
1	2	2.62	-629.39	-48.39	-63.21	-472.95	-327.31	0.00	0.00
2	2	2.62	-856.95	-48.39	-237.12	-816.97	-203.94	0.00	0.00
2	3	5.24	-856.95	-24.60	-191.48	-731.78	-322.95	0.00	0.00
3	3	5.24	-1084.50	-24.60	-410.39	-1075.81	-199.56	0.00	0.00
3	4	7.86	-1084.50	-0.83	-377.06	-1046.11	-241.04	0.00	0.00
4	4	7.86	-1084.50	-0.83	-377.06	-1046.11	-241.04	0.00	0.00
4	5	10.48	-1084.50	22.95	-406.02	-1071.91	-205.00	0.00	0.00
5	5	10.48	-1084.50	22.95	-406.02	-1071.91	-205.00	0.00	0.00
5	6	13.10	-1084.50	46.72	-497.26	-1153.18	-91.45	0.00	0.00
6	6	13.10	-1084.50	46.72	-497.26	-1153.18	-91.45	0.00	0.00
6	7	15.72	-1084.50	70.50	-650.82	-1289.96	99.63	0.00	0.00
7	7	15.72	-1084.50	70.50	-650.82	-1289.96	99.63	0.00	0.00
7	8	18.34	-1084.50	94.27	-866.65	-1482.21	368.21	0.00	0.00
8	8	18.34	-1747.91	94.27	51.67	-851.99	-655.19	-264.17	-280.92
8	9	20.96	-1751.17	118.04	-223.89	-1036.72	-518.83	-236.09	-238.27
9	9	20.96	-2599.28	118.04	441.86	-910.81	-887.43	-556.24	-608.94
9	10	23.58	-2605.32	141.83	106.17	-1150.62	-674.75	-529.21	-567.50
10	10	23.58	-2347.78	143.41	325.06	-797.66	-789.17	-521.43	-559.73
10	10011	26.20	-2303.08	167.18	-116.88	-1102.84	-476.22	-474.62	-495.18
11	11	26.20	-2304.36	-187.74	-116.42	-1102.95	-476.68	-475.02	-495.61
11	12	29.55	-2374.03	-157.35	516.30	-648.50	-990.53	-534.49	-575.94
12	12	29.55	-2839.92	-154.10	79.05	-1339.43	-747.08	-537.37	-578.86
12	13	32.90	-2832.19	-123.70	538.28	-993.37	-1098.66	-565.98	-622.89
13	13	32.90	-2310.09	-119.00	-603.03	-1758.59	-485.22	-208.00	-207.23
13	14	36.03	-2328.72	-90.20	-278.00	-1531.79	-704.84	-239.62	-252.34
14	14	36.03	-1918.68	-84.62	-1260.67	-2379.49	312.22	0.00	0.00
14	15	39.16	-1918.68	-56.20	-1040.33	-2183.23	38.04	0.00	0.00
15	15	39.16	-1918.68	-56.20	-1040.33	-2183.23	38.04	0.00	0.00
15	16	42.29	-1918.68	-27.80	-908.91	-2066.16	-125.51	0.00	0.00
16	16	42.29	-1918.68	-27.80	-908.91	-2066.16	-125.51	0.00	0.00
16	17	45.42	-1918.68	0.60	-866.40	-2028.30	-178.41	0.00	0.00
17	17	45.42	-1918.68	0.60	-866.40	-2028.30	-178.41	0.00	0.00
17	18	48.55	-1918.68	29.01	-912.80	-2069.63	-120.67	0.00	0.00
18	18	48.55	-1918.68	29.01	-912.80	-2069.63	-120.67	0.00	0.00
18	19	51.68	-1918.68	57.43	-1048.08	-2190.13	47.68	0.00	0.00
19	19	51.68	-1918.68	57.43	-1048.08	-2190.13	47.68	0.00	0.00
19	20	54.81	-1918.68	85.83	-1272.28	-2389.83	326.67	0.00	0.00
20	20	54.81	-2404.80	85.83	-201.89	-1529.78	-678.72	-279.54	-302.43
20	21	57.94	-2408.69	114.24	-511.95	-1760.99	-447.74	-258.92	-270.92
21	21	57.94	-2838.31	114.24	534.09	-1022.41	-1017.06	-578.57	-641.03
21	22	61.07	-2845.52	142.64	137.74	-1332.31	-676.90	-559.21	-610.97
22	22	61.07	-2343.57	136.51	577.83	-629.00	-910.08	-547.41	-599.34
22	10023	64.20	-2302.27	164.91	73.65	-1014.39	-441.52	-512.62	-552.42
23	23	64.20	-2389.46	-180.20	-0.51	-1134.29	-399.67	-515.93	-555.92
23	24	67.55	-2443.03	-149.80	594.30	-688.32	-929.76	-561.62	-617.63
24	24	67.55	-2952.31	-149.93	122.65	-1437.04	-667.74	-566.23	-622.44
24	25	70.90	-2944.59	-119.53	567.95	-1090.62	-1044.53	-588.86	-657.48

CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO1.T0.MZ-

PP sin gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2541.56	-115.50	-673.99	-2022.65	-378.36	-232.76	-243.95
25	26	74.23	-2537.95	-85.28	-342.54	-1775.26	-626.74	-254.76	-277.50
26	26	74.23	-2256.25	-76.83	-1422.88	-2745.05	292.99	0.00	0.00
26	27	77.56	-2256.25	-46.60	-1217.41	-2562.04	37.31	0.00	0.00
27	27	77.56	-2256.25	-46.60	-1217.41	-2562.04	37.31	0.00	0.00
27	28	80.89	-2260.02	-16.17	-1112.85	-2471.37	-95.27	0.00	0.00
28	28	80.89	-2260.02	-16.17	-1112.85	-2471.37	-95.27	0.00	0.00
28	29	84.22	-2260.02	14.05	-1109.31	-2468.22	-99.68	0.00	0.00
29	29	84.22	-2260.02	14.05	-1109.31	-2468.22	-99.68	0.00	0.00
29	30	87.55	-2260.02	44.26	-1206.41	-2554.71	21.15	0.00	0.00
30	30	87.55	-2260.02	44.26	-1206.41	-2554.71	21.15	0.00	0.00
30	31	90.88	-2260.02	74.49	-1404.12	-2730.81	267.18	0.00	0.00
31	31	90.88	-2260.02	74.49	-1404.12	-2730.81	267.18	0.00	0.00
31	32	94.21	-2260.02	104.71	-1702.48	-2996.57	638.46	0.00	0.00
32	32	94.21	-2633.99	104.70	-532.29	-1908.69	-633.33	-249.53	-257.10
32	33	97.54	-2638.13	134.92	-928.01	-2191.73	-377.60	-217.48	-208.36
33	33	97.54	-2954.03	134.92	222.08	-1285.99	-1001.84	-537.15	-578.49
33	34	100.87	-2961.71	165.14	-271.50	-1658.15	-622.40	-506.43	-531.29
34	34	100.87	-2436.64	159.11	203.59	-902.76	-880.31	-498.25	-523.17
34	10035	104.20	-2374.20	191.40	-414.87	-1357.44	-350.51	-445.70	-452.30
35	35	104.20	-2389.49	-197.24	-414.52	-1361.81	-355.13	-449.72	-456.34
35	36	107.55	-2439.96	-166.84	234.95	-897.74	-847.31	-509.38	-539.48
36	36	107.55	-2947.50	-169.43	-239.20	-1647.36	-584.33	-513.16	-543.27
36	37	110.90	-2939.79	-139.03	271.43	-1277.70	-926.00	-552.18	-602.94
37	37	110.90	-2492.74	-140.88	-937.81	-2153.31	-275.97	-194.20	-187.39
37	38	113.77	-2489.62	-114.83	-573.31	-1905.25	-470.31	-229.74	-241.23
38	38	113.77	-2184.36	-115.92	-1621.25	-2874.67	586.94	0.00	0.00
38	39	116.64	-2184.36	-89.88	-1325.95	-2611.64	219.47	0.00	0.00
39	39	116.64	-2184.36	-89.87	-1325.95	-2611.64	219.47	0.00	0.00
39	40	119.51	-2184.36	-63.82	-1105.39	-2415.17	-55.00	0.00	0.00
40	40	119.51	-2184.36	-63.82	-1105.39	-2415.17	-55.00	0.00	0.00
40	41	122.38	-2184.36	-37.77	-959.59	-2285.30	-236.44	0.00	0.00
41	41	122.38	-2184.36	-37.77	-959.59	-2285.30	-236.44	0.00	0.00
41	42	125.25	-2184.36	-11.74	-888.55	-2222.02	-324.84	0.00	0.00
42	42	125.25	-2184.36	-11.74	-888.55	-2222.02	-324.84	0.00	0.00
42	43	128.12	-2184.36	14.31	-892.25	-2225.32	-320.23	0.00	0.00
43	43	128.12	-2184.36	14.32	-892.25	-2225.32	-320.23	0.00	0.00
43	44	130.99	-2184.36	40.37	-970.72	-2295.22	-222.59	0.00	0.00
44	44	130.99	-1691.32	40.37	-543.75	-1592.00	-431.02	0.00	0.00
44	45	133.86	-1691.32	66.41	-696.97	-1728.48	-240.35	0.00	0.00
45	45	133.86	-1198.28	66.41	-246.34	-1004.20	-478.22	0.00	0.00
45	46	136.73	-1198.28	92.45	-474.32	-1207.26	-194.52	0.00	0.00
46	46	136.73	-705.24	92.45	-0.01	-461.88	-461.86	0.00	0.00
46	47	139.60	-705.24	120.97	-302.74	-731.53	-85.14	0.00	0.00
101	101	0.00	-667.32	-110.62	-264.43	-672.57	-107.97	0.00	0.00
101	102	2.62	-667.32	-84.07	-13.02	-448.63	-420.83	0.00	0.00
102	102	2.62	-1160.36	-84.07	-487.32	-1194.00	-153.51	0.00	0.00
102	103	5.24	-1160.36	-60.30	-298.19	-1025.54	-388.86	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO1.T0.MZ-

PP sin gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1501.69	-60.30	-610.17	-1526.98	-224.17	0.00	0.00
103	104	7.86	-1501.69	-36.52	-483.36	-1414.02	-381.97	0.00	0.00
104	104	7.86	-1843.02	-36.52	-778.96	-1900.87	-237.67	0.00	0.00
104	105	10.48	-1843.02	-12.75	-714.43	-1843.39	-317.97	0.00	0.00
105	105	10.48	-1843.02	-12.75	-714.43	-1843.39	-317.97	0.00	0.00
105	106	13.10	-1843.02	11.04	-712.19	-1841.39	-320.76	0.00	0.00
106	106	13.10	-1843.02	11.04	-712.19	-1841.39	-320.76	0.00	0.00
106	107	15.72	-1843.02	34.81	-772.26	-1894.90	-246.01	0.00	0.00
107	107	15.72	-1843.02	34.81	-772.26	-1894.90	-246.01	0.00	0.00
107	108	18.34	-1843.02	58.59	-894.61	-2003.88	-93.76	0.00	0.00
108	108	18.34	-1843.02	58.59	-894.61	-2003.88	-93.76	0.00	0.00
108	109	20.96	-1843.02	82.36	-1079.26	-2168.35	136.02	0.00	0.00
109	109	20.96	-1843.02	82.36	-1079.26	-2168.35	136.02	0.00	0.00
109	110	23.58	-1843.02	106.14	-1326.20	-2388.31	443.32	0.00	0.00
110	110	23.58	-2407.19	105.37	-322.86	-1628.71	-560.67	-275.69	-296.33
110	111	26.20	-2410.45	129.15	-627.54	-1834.84	-403.15	-245.48	-250.49
111	111	26.20	-2891.74	127.38	348.54	-1200.83	-928.55	-558.77	-614.18
111	112	29.55	-2899.48	157.78	-123.04	-1541.32	-616.79	-522.40	-558.48
112	112	29.55	-2390.70	154.78	350.97	-791.42	-879.36	-518.28	-554.33
112	10113	32.90	-2344.80	185.18	-254.53	-1224.88	-419.29	-463.17	-477.46
113	113	32.90	-2293.36	-179.41	-216.66	-1162.14	-438.01	-459.60	-473.86
113	114	36.03	-2364.35	-149.18	340.72	-758.26	-914.89	-511.48	-542.59
114	114	36.03	-2816.43	-154.78	-61.22	-1399.71	-699.00	-520.43	-551.50
114	115	39.16	-2809.22	-126.38	373.15	-1071.10	-1035.98	-546.90	-592.24
115	115	39.16	-2295.69	-126.38	-803.20	-1883.49	-395.42	-181.25	-168.88
115	116	42.29	-2292.29	-97.98	-454.73	-1633.49	-623.44	-209.16	-211.29
116	116	42.29	-1919.07	-97.98	-1435.65	-2535.60	529.71	0.00	0.00
116	117	45.42	-1919.07	-69.58	-1173.44	-2302.05	203.42	0.00	0.00
117	117	45.42	-1919.07	-69.58	-1173.44	-2302.05	203.42	0.00	0.00
117	118	48.55	-1919.07	-41.16	-1000.14	-2147.68	-12.24	0.00	0.00
118	118	48.55	-1919.07	-41.16	-1000.14	-2147.68	-12.24	0.00	0.00
118	119	51.68	-1919.07	-12.76	-915.72	-2072.49	-117.29	0.00	0.00
119	119	51.68	-1919.07	-12.76	-915.72	-2072.49	-117.29	0.00	0.00
119	120	54.81	-1915.05	15.85	-920.31	-2073.94	-108.95	0.00	0.00
120	120	54.81	-1915.05	15.85	-920.31	-2073.94	-108.95	0.00	0.00
120	121	57.94	-1915.05	44.25	-1014.38	-2157.73	8.11	0.00	0.00
121	121	57.94	-1915.05	44.25	-1014.38	-2157.73	8.11	0.00	0.00
121	122	61.07	-1915.05	72.66	-1197.37	-2320.73	235.82	0.00	0.00
122	122	61.07	-2414.39	80.85	-128.82	-1483.37	-719.83	-289.43	-316.06
122	123	64.20	-2418.28	109.26	-423.31	-1702.44	-502.47	-269.63	-285.77
123	123	64.20	-2779.18	113.82	653.91	-900.94	-1080.29	-580.77	-647.10
123	124	67.55	-2786.90	144.22	227.74	-1231.30	-723.99	-558.61	-612.77
124	124	67.55	-2352.88	144.68	626.42	-597.08	-944.70	-553.85	-607.81
124	10125	70.90	-2309.68	175.09	56.90	-1026.61	-439.25	-512.24	-550.88
125	125	70.90	-2369.14	-171.99	-22.23	-1141.06	-388.26	-507.61	-546.06
125	126	74.23	-2436.84	-139.79	539.00	-718.74	-915.68	-552.06	-604.06
126	126	74.23	-2969.10	-147.97	62.24	-1477.22	-659.63	-561.85	-613.67
126	127	77.56	-2961.43	-117.76	498.61	-1135.84	-1035.13	-583.12	-646.64

CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO1.T0.MZ-

PP sin gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2524.87	-117.76	-746.19	-2059.49	-358.45	-217.89	-223.77
127	128	80.89	-2521.25	-87.53	-407.22	-1807.11	-610.51	-240.69	-258.52
128	128	80.89	-2260.40	-87.53	-1487.54	-2805.37	370.75	0.00	0.00
128	129	84.22	-2260.40	-57.31	-1246.38	-2590.55	70.64	0.00	0.00
129	129	84.22	-2260.40	-57.31	-1246.38	-2590.55	70.64	0.00	0.00
129	130	87.55	-2260.40	-27.10	-1105.84	-2465.37	-104.25	0.00	0.00
130	130	87.55	-2260.40	-27.09	-1105.84	-2465.37	-104.25	0.00	0.00
130	131	90.88	-2260.40	3.12	-1065.94	-2429.83	-153.89	0.00	0.00
131	131	90.88	-2260.40	3.12	-1065.94	-2429.83	-153.89	0.00	0.00
131	132	94.21	-2260.40	33.35	-1126.66	-2483.91	-78.34	0.00	0.00
132	132	94.21	-2260.40	33.35	-1126.66	-2483.91	-78.34	0.00	0.00
132	133	97.54	-2260.40	63.57	-1288.00	-2627.63	122.44	0.00	0.00
133	133	97.54	-2260.40	63.57	-1288.00	-2627.63	122.44	0.00	0.00
133	134	100.87	-2260.40	93.79	-1549.98	-2860.98	448.45	0.00	0.00
134	134	100.87	-2669.04	99.84	-379.59	-1827.97	-684.43	-279.64	-297.79
134	135	104.20	-2649.29	130.48	-760.47	-2094.74	-426.47	-243.29	-245.72
135	135	104.20	-2937.04	134.91	389.21	-1180.82	-1042.24	-555.61	-608.47
135	136	107.55	-2944.78	165.32	-107.65	-1554.79	-662.54	-524.38	-560.48
136	136	107.55	-2440.76	168.20	366.30	-806.34	-926.53	-521.47	-557.55
136	10137	110.90	-2387.64	198.59	-289.81	-1285.53	-391.96	-465.81	-480.79
137	137	110.90	-2342.38	-178.64	-251.82	-1224.57	-412.54	-463.86	-478.82
137	138	113.77	-2391.21	-152.59	261.81	-866.74	-782.74	-516.41	-551.46
138	138	113.77	-2923.37	-150.40	-212.21	-1623.62	-527.14	-526.60	-561.67
138	139	116.64	-2916.75	-124.35	176.90	-1344.15	-779.16	-557.27	-608.66
139	139	116.64	-2175.90	-124.35	-791.30	-1822.23	-248.47	-191.72	-185.40
139	140	119.51	-2172.78	-98.31	-474.22	-1608.84	-408.98	-223.71	-233.92
140	140	119.51	-1387.91	-98.31	-1090.34	-1880.17	447.87	0.00	0.00
140	141	122.38	-1387.91	-72.27	-845.57	-1662.14	143.27	0.00	0.00
141	141	122.38	-1387.91	-72.27	-845.57	-1662.14	143.27	0.00	0.00
141	142	125.25	-1387.91	-46.22	-675.56	-1510.70	-68.29	0.00	0.00
142	142	125.25	-1387.91	-46.22	-675.56	-1510.70	-68.29	0.00	0.00
142	143	128.12	-1387.91	-20.17	-580.28	-1425.84	-186.85	0.00	0.00
143	143	128.12	-1387.91	-20.17	-580.28	-1425.84	-186.85	0.00	0.00
143	144	130.99	-1387.91	5.86	-559.76	-1407.56	-212.38	0.00	0.00
144	144	130.99	-1387.91	5.86	-559.76	-1407.56	-212.38	0.00	0.00
144	145	133.86	-1387.91	31.91	-614.00	-1455.87	-144.90	0.00	0.00
145	145	133.86	-1160.36	31.91	-406.00	-1121.57	-254.70	0.00	0.00
145	146	136.73	-1160.36	57.96	-534.98	-1236.46	-94.19	0.00	0.00
146	146	136.73	-667.32	57.96	-60.69	-491.09	-361.51	0.00	0.00
146	147	139.60	-667.32	87.63	-264.43	-672.57	-107.97	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO2.T0.MZ+

PP CON gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-569.45	-76.19	-204.59	-555.18	-118.34	0.00	0.00
1	2	2.62	-569.45	-66.49	0.66	-384.16	-334.40	-5.54	-8.33
2	2	2.62	-775.33	-66.16	-197.54	-695.49	-222.75	-5.52	-8.30
2	3	5.24	-775.33	-42.37	-55.33	-580.39	-361.18	-10.94	-16.45
3	3	5.24	-981.22	-42.21	-253.54	-891.73	-249.52	-10.92	-16.42
3	4	7.86	-981.22	-18.44	-174.07	-832.38	-310.34	-16.27	-24.47
4	4	7.86	-981.22	-18.40	-174.19	-832.44	-310.32	-16.25	-24.44
4	5	10.48	-981.22	5.38	-157.11	-828.63	-293.61	-21.66	-32.48
5	5	10.48	-981.22	5.28	-157.23	-828.69	-293.58	-21.58	-32.45
5	6	13.10	-981.22	29.05	-202.19	-880.21	-199.41	-26.96	-40.54
6	6	13.10	-981.22	28.86	-202.28	-880.26	-199.39	-26.94	-40.52
6	7	15.72	-981.22	52.64	-309.02	-986.99	-27.77	-32.40	-48.72
7	7	15.72	-981.22	52.35	-309.10	-987.04	-27.75	-32.39	-48.71
7	8	18.34	-981.22	76.12	-477.37	-1148.80	221.24	-37.96	-57.08
8	8	18.34	-1864.29	75.76	575.48	-545.81	-797.09	-388.03	-441.32
8	9	20.96	-1868.27	99.53	348.97	-702.81	-669.45	-367.53	-409.97
9	9	20.96	-2904.85	99.13	1162.67	-548.93	-1119.97	-758.82	-863.01
9	10	23.58	-2912.24	122.92	877.58	-760.33	-916.46	-739.76	-833.39
10	10	23.58	-2703.14	123.27	1076.22	-447.78	-1027.23	-739.02	-832.69
10	10011	26.20	-2648.50	147.04	679.24	-724.40	-719.11	-696.41	-775.75
11	11	26.20	-2672.88	-180.72	680.15	-731.16	-726.55	-702.86	-782.28
11	12	29.55	-2758.03	-150.33	1301.50	-287.79	-1243.05	-764.63	-864.04
12	12	29.55	-3185.54	-147.67	905.84	-914.73	-1024.56	-768.78	-868.22
12	13	32.90	-3176.09	-117.27	1342.16	-581.21	-1371.65	-793.49	-906.61
13	13	32.90	-2381.65	-113.78	67.22	-1315.40	-678.48	-349.61	-392.16
13	14	36.03	-2355.46	-85.75	375.96	-1084.49	-881.90	-367.16	-421.96
14	14	36.03	-1735.96	-81.85	-710.74	-1880.30	115.08	-51.71	-77.76
14	15	39.16	-1735.96	-53.43	-499.08	-1689.33	-156.44	-50.57	-76.04
15	15	39.16	-1735.96	-53.37	-498.98	-1689.27	-156.45	-50.58	-76.06
15	16	42.29	-1735.96	-24.97	-376.40	-1577.59	-317.30	-49.42	-74.31
16	16	42.29	-1735.96	-24.86	-376.33	-1577.55	-317.31	-49.43	-74.32
16	17	45.42	-1735.96	3.55	-343.02	-1545.28	-367.44	-48.21	-72.49
17	17	45.42	-1735.96	3.69	-342.97	-1545.25	-367.45	-48.21	-72.50
17	18	48.55	-1735.96	32.09	-398.99	-1592.41	-306.88	-46.93	-70.56
18	18	48.55	-1735.96	32.25	-398.95	-1592.38	-306.88	-46.93	-70.57
18	19	51.68	-1735.96	60.67	-544.36	-1719.00	-135.61	-45.57	-68.53
19	19	51.68	-1735.96	60.83	-544.33	-1718.98	-135.61	-45.58	-68.53
19	20	54.81	-1735.96	89.23	-779.16	-1925.09	146.39	-44.14	-66.37
20	20	54.81	-2462.56	89.39	414.41	-1113.18	-858.50	-409.44	-471.56
20	21	57.94	-2467.31	117.80	93.89	-1350.60	-625.96	-387.47	-437.90
21	21	57.94	-3124.83	117.94	1251.36	-642.43	-1257.90	-778.16	-890.25
21	22	61.07	-3133.66	146.34	844.67	-958.70	-916.43	-757.66	-858.27
22	22	61.07	-2714.87	138.26	1242.85	-332.92	-1137.96	-756.15	-856.92
22	10023	64.20	-2664.39	166.66	726.01	-722.78	-664.46	-717.07	-804.75
23	23	64.20	-2763.38	-180.28	659.85	-836.73	-632.76	-725.42	-813.33
23	24	67.55	-2828.85	-149.88	1264.30	-388.82	-1168.07	-775.65	-880.32
24	24	67.55	-3291.77	-150.36	837.78	-1066.74	-931.68	-780.41	-885.28
24	25	70.90	-3282.33	-119.96	1283.18	-719.76	-1307.98	-802.60	-919.88

CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO2.T0.MZ+

PP CON gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2596.00	-116.89	-82.17	-1604.62	-567.32	-360.62	-407.60
25	26	74.23	-2591.58	-86.67	253.26	-1354.72	-816.16	-383.00	-441.84
26	26	74.23	-2048.57	-80.65	-923.06	-2255.08	111.03	-42.77	-64.32
26	27	77.56	-2048.57	-50.42	-704.86	-2063.30	-151.88	-43.98	-66.14
27	27	77.56	-2048.57	-50.57	-704.85	-2063.30	-151.89	-43.99	-66.14
27	28	80.89	-2044.80	-20.56	-586.46	-1958.13	-287.57	-45.28	-68.08
28	28	80.89	-2044.80	-20.73	-586.43	-1958.11	-287.57	-45.28	-68.09
28	29	84.22	-2044.80	9.49	-567.72	-1944.38	-301.08	-46.66	-70.16
29	29	84.22	-2044.80	9.32	-567.68	-1944.36	-301.08	-46.66	-70.17
29	30	87.55	-2044.80	39.53	-649.06	-2019.96	-189.45	-48.12	-72.36
30	30	87.55	-2044.80	39.38	-649.01	-2019.93	-189.45	-48.13	-72.37
30	31	90.88	-2044.80	69.61	-830.47	-2184.85	47.29	-49.67	-74.69
31	31	90.88	-2044.80	69.47	-830.41	-2184.81	47.28	-49.68	-74.70
31	32	94.21	-2044.80	99.69	-1112.07	-2439.13	409.20	-51.28	-77.12
32	32	94.21	-2670.43	99.58	172.26	-1421.11	-836.49	-389.71	-441.63
32	33	97.54	-2675.49	129.80	-205.70	-1694.32	-584.10	-360.57	-397.15
33	33	97.54	-3230.15	129.75	1045.99	-834.87	-1265.75	-751.30	-849.55
33	34	100.87	-3239.53	159.97	570.93	-1197.00	-890.04	-723.81	-806.99
34	34	100.87	-2767.24	155.89	1000.56	-514.51	-1124.17	-717.09	-800.31
34	10035	104.20	-2731.01	184.02	392.02	-971.35	-603.91	-672.83	-738.49
35	35	104.20	-2760.13	-183.95	393.33	-979.30	-612.83	-680.58	-746.33
35	36	107.55	-2821.82	-153.55	1007.09	-538.91	-1102.16	-737.77	-824.28
36	36	107.55	-3278.88	-156.13	578.43	-1216.30	-863.65	-740.69	-827.23
36	37	110.90	-3269.45	-125.73	1043.15	-872.28	-1196.84	-772.33	-876.05
37	37	110.90	-2540.64	-127.62	-292.21	-1705.06	-470.07	-328.02	-361.34
37	38	113.77	-2536.82	-101.57	33.69	-1478.76	-657.50	-357.56	-406.25
38	38	113.77	-1976.32	-103.31	-1112.33	-2377.01	396.05	-43.08	-64.78
38	39	116.64	-1976.32	-77.27	-853.22	-2136.91	42.65	-38.72	-58.23
39	39	116.64	-1976.32	-76.81	-853.24	-2136.93	42.65	-38.72	-58.22
39	40	119.51	-1976.32	-50.76	-670.12	-1964.12	-217.54	-34.17	-51.39
40	40	119.51	-1976.32	-50.38	-670.17	-1964.14	-217.53	-34.17	-51.37
40	41	122.38	-1976.32	-24.33	-562.93	-1858.56	-384.50	-29.45	-44.28
41	41	122.38	-1976.32	-24.02	-563.01	-1858.61	-384.48	-29.44	-44.26
41	42	125.25	-1976.32	2.01	-531.43	-1820.13	-458.25	-24.59	-36.97
42	42	125.25	-1976.32	2.22	-531.53	-1820.19	-458.23	-24.57	-36.95
42	43	128.12	-1976.32	28.27	-575.30	-1848.63	-438.88	-19.63	-29.52
43	43	128.12	-1976.32	28.38	-575.41	-1848.70	-438.87	-19.62	-29.50
43	44	130.99	-1976.32	54.43	-694.20	-1943.88	-326.44	-14.63	-22.01
44	44	130.99	-1530.24	54.38	-308.02	-1307.71	-515.00	-14.61	-21.98
44	45	133.86	-1530.24	80.42	-501.45	-1469.42	-309.56	-9.65	-14.51
45	45	133.86	-1084.16	80.23	-93.88	-814.19	-524.75	-9.63	-14.48
45	46	136.73	-1084.16	106.27	-361.49	-1042.16	-226.40	-4.75	-7.15
46	46	136.73	-638.08	105.90	67.49	-367.86	-468.24	-4.73	-7.11
46	47	139.60	-638.08	131.88	-273.82	-661.81	-77.05	-0.01	-0.02
101	101	0.00	-603.76	-122.39	-239.18	-608.48	-97.70	-0.01	-0.02
101	102	2.62	-603.76	-98.66	50.46	-360.40	-425.11	-4.66	-7.00
102	102	2.62	-1049.65	-98.98	-378.51	-1034.69	-183.28	-4.68	-7.04
102	103	5.24	-1049.65	-75.21	-150.31	-841.60	-433.34	-9.45	-14.21

CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO2.T0.MZ+

PP CON gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1358.67	-75.38	-432.45	-1295.21	-284.35	-9.47	-14.24
103	104	7.86	-1358.67	-51.60	-266.13	-1157.38	-456.93	-14.31	-21.52
104	104	7.86	-1667.50	-51.63	-533.45	-1597.79	-326.40	-14.33	-21.55
104	105	10.48	-1667.50	-27.86	-429.32	-1515.39	-421.50	-19.18	-28.84
105	105	10.48	-1667.50	-27.77	-429.21	-1515.33	-421.52	-19.20	-28.87
105	106	13.10	-1667.50	-3.98	-387.62	-1488.55	-439.05	-24.01	-36.11
106	106	13.10	-1667.50	-3.78	-387.52	-1488.49	-439.07	-24.03	-36.13
106	107	15.72	-1667.50	19.99	-408.76	-1517.52	-378.98	-28.76	-43.25
107	107	15.72	-1667.50	20.23	-408.68	-1517.47	-379.00	-28.77	-43.27
107	108	18.34	-1667.50	44.06	-492.96	-1602.40	-241.27	-33.40	-50.22
108	108	18.34	-1667.50	44.42	-492.91	-1602.37	-241.28	-33.40	-50.23
108	109	20.96	-1667.50	68.19	-640.42	-1743.32	-25.87	-37.88	-56.97
109	109	20.96	-1667.50	68.59	-640.40	-1743.31	-25.87	-37.89	-56.97
109	110	23.58	-1667.50	92.37	-851.25	-1940.35	267.24	-42.21	-63.47
110	110	23.58	-2491.45	91.19	281.88	-1226.43	-746.91	-410.64	-469.59
110	111	26.20	-2495.43	114.97	14.91	-1411.31	-596.15	-386.31	-432.48
111	111	26.20	-3220.56	113.27	1109.31	-803.85	-1194.62	-776.68	-884.49
111	112	29.55	-3230.01	143.67	686.34	-1117.18	-891.79	-748.07	-840.24
112	112	29.55	-2773.14	140.76	1114.75	-439.99	-1130.32	-745.17	-837.28
112	10113	32.90	-2717.04	171.16	548.23	-848.21	-673.97	-693.29	-766.60
113	113	32.90	-2652.14	-172.11	581.39	-786.59	-685.23	-685.14	-758.33
113	114	36.03	-2703.97	-145.52	1131.78	-380.97	-1155.18	-730.99	-820.52
114	114	36.03	-3109.97	-149.46	768.28	-960.35	-958.97	-738.33	-827.83
114	115	39.16	-3101.16	-121.06	1184.72	-641.47	-1292.37	-761.69	-864.09
115	115	39.16	-2329.03	-121.11	-121.08	-1422.19	-579.15	-314.77	-346.63
115	116	42.29	-2324.88	-92.71	210.30	-1181.69	-803.98	-339.91	-384.97
116	116	42.29	-1736.29	-92.82	-874.23	-2025.33	315.61	-51.33	-77.19
116	117	45.42	-1736.29	-64.42	-628.18	-1802.76	-1.89	-49.74	-74.79
117	117	45.42	-1736.29	-64.57	-628.24	-1802.80	-1.88	-49.73	-74.78
117	118	48.55	-1736.29	-36.15	-470.65	-1659.17	-208.84	-48.20	-72.48
118	118	48.55	-1736.29	-36.30	-470.69	-1659.19	-208.83	-48.20	-72.48
118	119	51.68	-1736.29	-7.90	-401.48	-1594.45	-305.27	-46.75	-70.29
119	119	51.68	-1736.29	-8.07	-401.51	-1594.47	-305.26	-46.74	-70.29
119	120	54.81	-1740.31	20.12	-420.66	-1611.23	-293.83	-45.37	-68.22
120	120	54.81	-1740.31	19.96	-420.69	-1611.25	-293.82	-45.36	-68.21
120	121	57.94	-1740.31	48.36	-527.64	-1703.74	-169.96	-44.06	-66.26
121	121	57.94	-1740.31	48.22	-527.65	-1703.75	-169.96	-44.06	-66.26
121	122	61.07	-1740.31	76.63	-723.07	-1875.19	64.47	-42.83	-64.41
122	122	61.07	-2512.45	82.64	470.27	-1088.65	-908.47	-427.22	-491.78
122	123	64.20	-2517.21	111.05	170.85	-1310.78	-690.51	-406.89	-460.59
123	123	64.20	-3128.56	114.67	1356.85	-550.28	-1334.97	-794.08	-909.23
123	124	67.55	-3138.00	145.07	929.17	-882.02	-978.92	-772.14	-875.00
124	124	67.55	-2744.30	145.21	1289.67	-308.02	-1178.27	-767.54	-870.20
124	10125	70.90	-2691.50	175.62	710.84	-739.98	-668.34	-722.03	-808.67
125	125	70.90	-2726.11	-173.34	638.29	-838.35	-616.32	-712.73	-799.12
125	126	74.23	-2770.24	-145.10	1214.19	-400.65	-1139.26	-753.28	-854.33
126	126	74.23	-3248.42	-151.41	783.05	-1085.76	-906.61	-761.29	-862.20
126	127	77.56	-3239.05	-121.20	1229.54	-738.10	-1283.36	-783.64	-897.02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

VACIO2.T0.MZ+

PP CON gradiente

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2536.91	-121.04	-137.83	-1619.39	-537.63	-337.25	-380.18
127	128	80.89	-2532.49	-90.81	211.44	-1360.90	-791.24	-361.39	-417.05
128	128	80.89	-2045.10	-90.64	-963.35	-2291.67	173.34	-44.17	-66.41
128	129	84.22	-2045.10	-60.42	-711.81	-2070.80	-129.08	-45.66	-68.66
129	129	84.22	-2045.10	-60.26	-711.85	-2070.82	-129.07	-45.65	-68.65
129	130	87.55	-2045.10	-30.05	-561.48	-1939.89	-306.18	-47.06	-70.76
130	130	87.55	-2045.10	-29.88	-561.54	-1939.92	-306.17	-47.05	-70.75
130	131	90.88	-2045.10	0.33	-512.35	-1898.94	-357.93	-48.38	-72.75
131	131	90.88	-2045.10	0.47	-512.41	-1898.97	-357.92	-48.37	-72.74
131	132	94.21	-2045.10	30.70	-564.29	-1947.88	-284.40	-49.63	-74.63
132	132	94.21	-2045.10	30.80	-564.36	-1947.92	-284.39	-49.62	-74.62
132	133	97.54	-2045.10	61.02	-717.22	-2086.65	-85.59	-50.83	-76.43
133	133	97.54	-2045.10	61.06	-717.31	-2086.70	-85.57	-50.82	-76.41
133	134	100.87	-2045.10	91.28	-970.93	-2315.14	238.48	-52.00	-78.20
134	134	100.87	-2700.18	95.39	314.40	-1344.82	-884.17	-416.85	-478.55
134	135	104.20	-2729.13	125.17	-48.15	-1615.68	-643.93	-395.89	-443.26
135	135	104.20	-3269.70	128.40	1203.91	-751.83	-1321.43	-783.03	-892.10
135	136	107.55	-3279.16	158.81	730.21	-1113.11	-946.25	-755.72	-849.81
136	136	107.55	-2818.56	161.11	1159.04	-434.57	-1183.74	-751.92	-845.98
136	10137	110.90	-2753.64	191.50	517.45	-901.98	-648.17	-695.38	-769.44
137	137	110.90	-2692.12	-159.67	551.31	-840.97	-660.56	-688.21	-762.21
137	138	113.77	-2751.81	-133.62	1019.03	-512.51	-1026.04	-736.66	-827.27
138	138	113.77	-3204.64	-133.01	589.49	-1189.15	-786.12	-738.34	-828.92
138	139	116.64	-3196.55	-106.96	927.49	-938.33	-1028.84	-760.94	-863.95
139	139	116.64	-2218.82	-107.40	-189.81	-1416.51	-415.08	-314.15	-346.65
139	140	119.51	-2215.02	-81.36	78.05	-1230.94	-566.84	-338.55	-383.83
140	140	119.51	-1255.73	-81.75	-674.94	-1504.69	287.74	-38.02	-57.17
140	141	122.38	-1255.73	-55.71	-477.71	-1317.08	2.54	-32.43	-48.76
141	141	122.38	-1255.73	-56.02	-477.63	-1317.04	2.53	-32.44	-48.78
141	142	125.25	-1255.73	-29.97	-354.30	-1195.52	-189.78	-26.97	-40.56
142	142	125.25	-1255.73	-30.18	-354.20	-1195.47	-189.80	-26.99	-40.58
142	143	128.12	-1255.73	-4.13	-304.99	-1140.17	-289.22	-21.62	-32.51
143	143	128.12	-1255.73	-4.22	-304.88	-1140.11	-289.24	-21.63	-32.53
143	144	130.99	-1255.73	21.81	-330.16	-1151.25	-295.67	-16.30	-24.52
144	144	130.99	-1255.73	21.85	-330.03	-1151.18	-295.69	-16.32	-24.55
144	145	133.86	-1255.73	47.90	-430.18	-1228.98	-209.08	-10.97	-16.50
145	145	133.86	-1049.85	48.10	-241.86	-926.44	-308.45	-10.99	-16.53
145	146	136.73	-1049.85	74.15	-417.33	-1071.14	-128.73	-5.56	-8.36
146	146	136.73	-603.76	74.51	11.95	-396.67	-370.61	-5.58	-8.39
146	147	139.60	-603.76	87.63	-239.25	-608.52	-97.69	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.T0.MZ+

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-569.45	-195.15	-203.23	-554.40	-118.58	-0.20	-0.31
1	2	2.62	-569.45	-167.72	318.80	-203.05	-389.60	-53.43	-80.41
2	2	2.62	-775.33	-170.86	122.86	-513.09	-278.34	-53.71	-80.89
2	3	5.24	-775.33	-107.64	487.78	-271.20	-455.40	-92.77	-139.50
3	3	5.24	-981.22	-108.55	291.67	-581.35	-344.10	-93.07	-139.95
3	4	7.86	-981.22	-45.34	493.33	-452.43	-426.13	-116.64	-175.69
4	4	7.86	-981.22	-44.24	495.04	-451.45	-426.43	-117.03	-176.08
4	5	10.48	-981.22	18.92	528.27	-438.44	-412.51	-124.87	-187.77
5	5	10.48	-981.22	21.73	529.70	-437.63	-412.76	-125.09	-188.09
5	6	13.10	-981.22	84.96	389.96	-543.10	-302.14	-116.18	-174.71
6	6	13.10	-981.22	89.20	391.00	-542.52	-302.32	-116.34	-174.94
6	7	15.72	-981.22	152.40	74.54	-768.63	-94.31	-90.20	-135.63
7	7	15.72	-981.22	157.63	75.07	-768.33	-94.40	-90.28	-135.75
7	8	18.34	-981.22	220.82	-420.69	-1116.53	211.41	-46.50	-69.93
8	8	18.34	-1864.29	226.55	632.13	-513.55	-806.92	-396.57	-454.15
8	9	20.96	-1868.27	242.76	31.43	-883.59	-614.36	-319.69	-338.02
9	9	20.96	-2904.85	246.91	844.58	-730.01	-1064.78	-710.89	-790.94
9	10	23.58	-2912.24	276.86	164.33	-1166.38	-792.73	-632.29	-671.79
10	10	23.58	-2703.14	281.03	361.63	-854.60	-903.26	-631.34	-670.78
10	10011	26.20	-2648.50	309.79	-454.59	-1369.88	-522.41	-525.56	-518.85
11	11	26.20	-2672.88	-314.78	-455.43	-1377.64	-529.54	-531.75	-524.98
11	12	29.55	-2758.03	-262.70	583.46	-696.57	-1118.48	-656.43	-701.34
12	12	29.55	-3185.54	-261.71	185.03	-1325.09	-899.51	-660.17	-704.90
12	13	32.90	-3176.09	-218.33	983.22	-785.55	-1309.38	-739.41	-825.29
13	13	32.90	-2381.65	-219.83	-293.61	-1520.81	-615.88	-295.24	-310.40
13	14	36.03	-2355.46	-201.08	390.20	-1076.38	-884.37	-369.31	-425.19
14	14	36.03	-1735.96	-206.41	-696.86	-1872.40	112.67	-53.80	-80.90
14	15	39.16	-1735.96	-136.33	-154.76	-1493.31	-216.17	-102.45	-154.06
15	15	39.16	-1735.96	-145.36	-153.61	-1492.65	-216.37	-102.63	-154.32
15	16	42.29	-1735.96	-70.29	183.88	-1258.62	-414.50	-133.84	-201.25
16	16	42.29	-1735.96	-77.22	185.98	-1257.43	-414.86	-134.16	-201.73
16	17	45.42	-1735.96	-1.71	309.47	-1173.81	-480.64	-146.52	-220.33
17	17	45.42	-1735.96	-5.70	312.03	-1172.36	-481.08	-146.91	-220.91
17	18	48.55	-1735.96	69.65	211.94	-1244.60	-412.86	-138.98	-208.99
18	18	48.55	-1735.96	68.88	214.57	-1243.10	-413.32	-139.38	-209.58
18	19	51.68	-1735.96	144.21	-118.75	-1476.70	-209.45	-109.70	-164.96
19	19	51.68	-1735.96	146.51	-116.39	-1475.36	-209.86	-110.06	-165.49
19	20	54.81	-1735.96	221.58	-692.70	-1875.86	131.39	-57.17	-85.96
20	20	54.81	-2462.56	226.39	502.57	-1062.99	-873.80	-422.73	-491.53
20	21	57.94	-2467.31	244.91	-227.63	-1533.64	-570.18	-339.03	-365.05
21	21	57.94	-3124.83	249.85	930.18	-825.28	-1202.18	-729.77	-817.48
21	22	61.07	-3133.66	284.86	103.21	-1380.81	-787.80	-645.93	-690.27
22	22	61.07	-2714.87	280.08	500.78	-755.38	-1009.22	-644.33	-688.78
22	10023	64.20	-2664.39	316.75	-463.62	-1400.03	-458.07	-537.82	-535.20
23	23	64.20	-2763.38	-324.42	-531.09	-1514.73	-426.15	-545.97	-543.49
23	24	67.55	-2828.85	-272.27	525.49	-809.42	-1039.90	-664.33	-712.92
24	24	67.55	-3291.77	-274.57	96.82	-1488.57	-803.13	-668.76	-717.39
24	25	70.90	-3282.33	-231.70	940.97	-914.58	-1248.61	-751.04	-842.35

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.T0.MZ+

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2596.00	-233.59	-425.78	-1800.23	-507.71	-308.84	-329.74
25	26	74.23	-2591.58	-213.90	317.47	-1318.16	-827.30	-392.68	-456.39
26	26	74.23	-2048.57	-217.24	-858.76	-2218.47	99.88	-52.46	-78.89
26	27	77.56	-2048.57	-141.47	-258.03	-1808.93	-229.40	-111.31	-167.38
27	27	77.56	-2048.57	-150.24	-256.42	-1808.01	-229.68	-111.56	-167.75
27	28	80.89	-2044.80	-70.62	111.05	-1561.04	-408.58	-150.38	-226.12
28	28	80.89	-2044.80	-76.77	113.65	-1559.56	-409.03	-150.77	-226.71
28	29	84.22	-2044.80	3.60	235.49	-1487.12	-440.42	-167.69	-252.15
29	29	84.22	-2044.80	0.98	238.57	-1485.36	-440.96	-168.15	-252.85
29	30	87.55	-2044.80	80.90	101.73	-1592.54	-319.70	-161.25	-242.48
30	30	87.55	-2044.80	82.19	104.86	-1590.76	-320.24	-161.72	-243.18
30	31	90.88	-2044.80	162.50	-302.65	-1884.36	-44.28	-129.20	-194.28
31	31	90.88	-2044.80	167.52	-299.87	-1882.78	-44.76	-129.62	-194.91
31	32	94.21	-2044.80	247.22	-990.69	-2370.03	388.14	-69.57	-104.62
32	32	94.21	-2670.43	255.38	295.57	-1350.91	-857.88	-408.29	-469.57
32	33	97.54	-2675.49	272.11	-592.98	-1914.79	-516.92	-302.22	-309.40
33	33	97.54	-3230.15	279.57	658.94	-1055.22	-1198.60	-692.98	-761.85
33	34	100.87	-3239.53	316.72	-327.86	-1708.68	-734.11	-588.38	-603.35
34	34	100.87	-2767.24	318.04	100.72	-1026.78	-968.06	-581.51	-596.43
34	10035	104.20	-2731.01	356.80	-1057.30	-1796.45	-352.47	-454.45	-410.10
35	35	104.20	-2760.13	-353.97	-1057.76	-1805.40	-361.08	-461.93	-417.55
35	36	107.55	-2821.82	-306.73	95.46	-1057.90	-944.01	-600.41	-617.72
36	36	107.55	-3278.88	-310.13	-335.87	-1736.82	-705.03	-602.92	-620.07
36	37	110.90	-3269.45	-266.71	617.11	-1114.82	-1122.93	-708.14	-779.52
37	37	110.90	-2540.64	-272.57	-720.34	-1948.79	-395.79	-263.51	-264.33
37	38	113.77	-2536.82	-264.56	19.51	-1486.83	-655.04	-355.43	-403.04
38	38	113.77	-1976.32	-273.87	-1128.15	-2386.01	398.80	-40.70	-61.20
38	39	116.64	-1976.32	-204.61	-441.55	-1902.55	-28.77	-100.75	-151.50
39	39	116.64	-1976.32	-212.39	-442.07	-1902.85	-28.68	-100.68	-151.39
39	40	119.51	-1976.32	-143.29	68.58	-1543.58	-345.69	-145.48	-218.76
40	40	119.51	-1976.32	-150.74	68.87	-1543.41	-345.74	-145.52	-218.82
40	41	122.38	-1976.32	-81.60	402.43	-1308.99	-551.97	-174.91	-263.01
41	41	122.38	-1976.32	-88.12	403.28	-1308.50	-552.12	-175.04	-263.21
41	42	125.25	-1976.32	-18.85	556.79	-1200.61	-647.04	-188.56	-283.54
42	42	125.25	-1976.32	-23.94	558.02	-1199.91	-647.26	-188.75	-283.82
42	43	128.12	-1976.32	45.24	527.49	-1220.82	-630.20	-185.80	-279.39
43	43	128.12	-1976.32	41.89	528.96	-1219.98	-630.46	-186.02	-279.72
43	44	130.99	-1976.32	107.56	314.48	-1369.64	-501.43	-166.62	-250.55
44	44	130.99	-1530.24	106.03	702.41	-732.48	-690.29	-166.87	-250.92
44	45	133.86	-1530.24	175.32	298.68	-1013.91	-448.38	-130.22	-195.81
45	45	133.86	-1084.16	175.75	708.11	-357.62	-663.89	-130.48	-196.20
45	46	136.73	-1084.16	245.05	104.26	-777.01	-307.20	-74.93	-112.68
46	46	136.73	-638.08	247.58	535.17	-101.61	-549.38	-75.20	-113.08
46	47	139.60	-638.08	224.47	-273.98	-661.90	-77.02	0.01	0.02
101	101	0.00	-603.76	-221.52	-239.59	-608.71	-97.63	0.05	0.08
101	102	2.62	-603.76	-250.53	503.47	-102.50	-503.71	-72.91	-109.64
102	102	2.62	-1049.85	-246.77	72.08	-778.17	-261.45	-72.57	-109.13
102	103	5.24	-1049.85	-180.01	631.15	-396.72	-568.91	-127.20	-191.27

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.T0.MZ+

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
103	103	5.24	-1358.67	-178.66	346.80	-851.59	-419.54	-126.89	-190.80
103	104	7.86	-1358.67	-111.92	727.48	-591.73	-629.31	-164.03	-246.65
104	104	7.86	-1667.50	-112.74	458.24	-1033.23	-498.44	-163.75	-246.24
104	105	10.48	-1667.50	-45.98	666.14	-891.74	-611.55	-184.24	-277.05
105	105	10.48	-1667.50	-48.64	664.69	-892.57	-611.29	-184.02	-276.72
105	106	13.10	-1667.50	18.16	704.62	-866.74	-628.54	-188.53	-283.58
106	106	13.10	-1667.50	14.05	703.60	-867.32	-628.37	-188.43	-283.35
106	107	15.72	-1667.50	80.83	579.31	-955.01	-550.40	-177.64	-267.12
107	107	15.72	-1667.50	75.71	578.80	-955.30	-550.31	-177.57	-267.01
107	108	18.34	-1667.50	142.49	292.97	-1154.97	-377.62	-151.82	-228.29
108	108	18.34	-1667.50	136.90	293.08	-1154.91	-377.64	-151.84	-228.32
108	109	20.96	-1667.50	203.43	-152.84	-1465.75	-110.46	-111.35	-167.44
109	109	20.96	-1667.50	198.03	-151.98	-1465.26	-110.61	-111.48	-167.64
109	110	23.58	-1667.50	264.81	-758.30	-1887.43	251.11	-56.22	-84.53
110	110	23.58	-2491.45	258.78	376.61	-1172.50	-763.35	-424.91	-491.05
110	111	26.20	-2495.43	266.22	-312.07	-1597.46	-539.42	-337.04	-358.39
111	111	26.20	-3220.56	261.86	784.57	-988.72	-1138.28	-727.75	-810.91
111	112	29.55	-3230.01	305.71	-155.17	-1596.24	-745.80	-621.28	-649.57
112	112	29.55	-2773.14	303.00	276.08	-917.44	-984.82	-618.80	-647.26
112	10113	32.90	-2717.04	353.01	-865.04	-1652.78	-428.78	-480.34	-446.38
113	113	32.90	-2652.14	-347.82	-830.16	-1590.19	-440.35	-472.45	-438.50
113	114	36.03	-2703.97	-305.61	240.89	-888.15	-1000.62	-596.75	-618.66
114	114	36.03	-3109.97	-306.17	-122.06	-1467.22	-804.51	-604.18	-626.10
114	115	39.16	-3101.16	-271.33	772.75	-876.00	-1220.90	-699.61	-770.75
115	115	39.16	-2329.03	-264.84	-533.52	-1656.99	-507.59	-252.63	-253.18
115	116	42.29	-2324.88	-252.52	277.68	-1143.33	-815.67	-350.06	-400.24
116	116	42.29	-1736.29	-245.47	-808.87	-1988.12	304.27	-61.18	-92.00
116	117	45.42	-1736.29	-166.57	-163.48	-1538.21	-82.51	-119.76	-180.08
117	117	45.42	-1736.29	-162.46	-166.05	-1539.67	-82.07	-119.37	-179.50
117	118	48.55	-1736.29	-83.02	218.00	-1267.12	-328.31	-151.97	-228.52
118	118	48.55	-1736.29	-82.16	215.36	-1268.63	-327.85	-151.57	-227.92
118	119	51.68	-1736.29	-2.48	347.86	-1167.85	-435.27	-159.66	-240.08
119	119	51.68	-1736.29	-4.64	345.51	-1169.19	-434.86	-159.30	-239.55
119	120	54.81	-1740.31	74.88	235.29	-1237.80	-407.62	-144.21	-216.84
120	120	54.81	-1740.31	70.25	233.57	-1238.77	-407.33	-143.95	-216.46
120	121	57.94	-1740.31	149.57	-110.49	-1466.25	-242.33	-106.92	-160.78
121	121	57.94	-1740.31	143.44	-111.21	-1466.67	-242.21	-106.81	-160.62
121	122	61.07	-1740.31	220.38	-683.70	-1852.77	57.64	-48.77	-73.33
122	122	61.07	-2512.45	220.55	510.27	-1065.88	-915.41	-433.25	-500.84
122	123	64.20	-2517.21	240.26	-190.88	-1516.71	-627.76	-352.39	-378.63
123	123	64.20	-3128.56	240.62	996.71	-755.30	-1272.49	-739.82	-827.63
123	124	67.55	-3138.00	287.69	124.85	-1339.92	-839.38	-650.94	-692.76
124	124	67.55	-2744.30	288.10	487.56	-764.66	-1039.12	-646.67	-688.46
124	10125	70.90	-2691.50	337.34	-598.94	-1485.63	-441.11	-524.68	-511.91
125	125	70.90	-2726.11	-347.23	-670.11	-1583.22	-389.33	-515.58	-502.67
125	126	74.23	-2770.24	-299.71	452.41	-834.33	-1007.10	-638.49	-681.73
126	126	74.23	-3248.42	-301.16	21.48	-1519.32	-774.49	-646.54	-689.64
126	127	77.56	-3239.05	-270.12	969.85	-885.94	-1238.31	-744.51	-838.18

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.T0.MZ+

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
127	127	77.56	-2536.91	-263.16	-398.45	-1767.76	-492.42	-297.98	-321.13
127	128	80.89	-2532.49	-242.55	475.21	-1210.74	-837.00	-401.14	-476.82
128	128	80.89	-2045.10	-236.26	-702.13	-2142.96	128.02	-83.53	-125.60
128	129	84.22	-2045.10	-151.98	-55.29	-1697.04	-242.97	-144.58	-217.41
129	129	84.22	-2045.10	-149.25	-58.38	-1698.80	-242.44	-144.12	-216.71
129	130	87.55	-2045.10	-64.51	297.39	-1450.93	-455.18	-176.48	-265.37
130	130	87.55	-2045.10	-65.55	294.27	-1452.71	-454.64	-176.01	-264.66
130	131	90.88	-2045.10	18.80	372.81	-1395.02	-511.49	-181.76	-273.31
131	131	90.88	-2045.10	13.91	370.03	-1396.60	-511.01	-181.34	-272.68
131	132	94.21	-2045.10	98.70	182.51	-1522.72	-413.96	-162.16	-243.84
132	132	94.21	-2045.10	90.70	180.49	-1523.87	-413.61	-161.86	-243.38
132	133	97.54	-2045.10	175.07	-261.86	-1827.41	-164.59	-119.44	-179.61
133	133	97.54	-2045.10	165.12	-262.67	-1827.87	-164.45	-119.32	-179.43
133	134	100.87	-2045.10	244.52	-949.25	-2302.80	234.72	-55.27	-83.11
134	134	100.87	-2700.18	239.12	337.08	-1331.91	-888.10	-420.27	-483.69
134	135	104.20	-2729.13	255.86	-493.83	-1869.41	-566.61	-328.74	-342.28
135	135	104.20	-3269.70	255.12	760.50	-1004.25	-1244.51	-716.21	-791.63
135	136	107.55	-3279.16	300.13	-163.83	-1622.09	-791.15	-621.01	-647.24
136	136	107.55	-2818.56	301.97	267.65	-942.04	-1029.10	-617.60	-644.01
136	10137	110.90	-2753.64	356.43	-891.15	-1703.89	-403.79	-483.13	-450.28
137	137	110.90	-2692.12	-354.68	-855.10	-1641.64	-416.57	-476.29	-443.55
137	138	113.77	-2751.81	-322.58	156.79	-1003.39	-876.45	-606.74	-631.90
138	138	113.77	-3204.64	-316.34	-271.41	-1679.25	-636.76	-608.62	-633.86
138	139	116.64	-3196.55	-281.12	579.33	-1136.54	-968.43	-708.48	-785.07
139	139	116.64	-2218.82	-275.11	-537.69	-1614.55	-354.72	-261.73	-267.83
139	140	119.51	-2215.02	-259.82	218.56	-1150.94	-591.21	-359.72	-415.67
140	140	119.51	-1255.73	-252.21	-534.82	-1424.92	263.43	-59.14	-88.92
140	141	122.38	-1255.73	-179.11	84.11	-997.24	-94.93	-117.08	-176.06
141	141	122.38	-1255.73	-172.50	83.23	-997.74	-94.77	-116.95	-175.86
141	142	125.25	-1255.73	-99.41	473.32	-724.36	-333.36	-151.68	-228.08
142	142	125.25	-1255.73	-94.22	472.09	-725.06	-333.15	-151.50	-227.80
142	143	128.12	-1255.73	-21.09	637.54	-603.59	-452.73	-163.64	-246.06
143	143	128.12	-1255.73	-17.54	636.09	-604.42	-452.48	-163.42	-245.74
143	144	130.99	-1255.73	55.56	581.55	-632.22	-453.84	-153.68	-231.09
144	144	130.99	-1255.73	57.31	580.00	-633.10	-453.57	-153.45	-230.74
144	145	133.86	-1255.73	130.38	310.66	-807.22	-337.61	-122.60	-184.36
145	145	133.86	-1049.85	130.41	497.28	-505.65	-436.68	-122.37	-184.00
145	146	136.73	-1049.85	203.57	17.98	-823.32	-204.25	-71.15	-106.99
146	146	136.73	-603.76	201.72	445.51	-149.85	-445.83	-70.91	-106.63
146	147	139.60	-603.76	235.78	-238.08	-607.85	-97.89	-0.18	-0.26

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.T0.MZ-

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-629.39	-183.88	-225.79	-613.42	-130.86	-0.05	-0.08
1	2	2.62	-629.39	-98.49	92.07	-381.71	-355.12	-24.15	-36.32
2	2	2.62	-856.95	-100.05	-125.66	-725.05	-231.95	-24.33	-36.58
2	3	5.24	-856.95	-54.53	76.79	-579.06	-369.49	-40.42	-60.78
3	3	5.24	-1084.50	-54.77	-141.06	-922.48	-246.28	-40.56	-61.02
3	4	7.86	-1084.50	-9.27	-57.18	-864.01	-296.53	-48.20	-72.48
4	4	7.86	-1084.50	-8.39	-56.31	-863.51	-296.69	-48.33	-72.68
4	5	10.48	-1084.50	37.18	-94.04	-894.30	-259.12	-47.01	-70.69
5	5	10.48	-1084.50	38.98	-93.41	-893.94	-259.23	-47.10	-70.83
5	6	13.10	-1084.50	84.46	-255.11	-1015.33	-133.47	-36.49	-54.87
6	6	13.10	-1084.50	86.91	-254.75	-1015.12	-133.53	-36.54	-54.95
6	7	15.72	-1084.50	132.44	-542.11	-1228.07	80.77	-16.38	-24.63
7	7	15.72	-1084.50	135.24	-542.08	-1228.05	80.76	-16.38	-24.64
7	8	18.34	-1084.50	180.75	-955.99	-1533.07	383.71	13.46	20.24
8	8	18.34	-1747.91	183.56	-38.04	-903.06	-639.63	-250.66	-260.59
8	9	20.96	-1751.17	276.06	-648.56	-1278.48	-445.15	-172.11	-142.05
9	9	20.96	-2599.28	279.87	16.10	-1153.19	-813.56	-492.08	-512.47
9	10	23.58	-2605.32	351.71	-807.39	-1670.71	-516.26	-391.55	-360.51
10	10	23.58	-2347.78	355.75	-590.22	-1318.73	-630.38	-383.52	-352.35
10	10011	26.20	-2303.08	434.33	-1661.57	-1982.22	-208.23	-241.87	-145.19
11	11	26.20	-2304.36	-443.02	-1664.22	-1984.12	-208.15	-241.80	-144.92
11	12	29.55	-2374.03	-351.42	-279.92	-1101.78	-852.40	-414.52	-395.53
12	12	29.55	-2839.92	-351.60	-721.56	-1795.21	-608.18	-416.73	-397.46
12	13	32.90	-2832.19	-261.19	293.96	-1132.46	-1056.28	-529.17	-567.53
13	13	32.90	-2310.09	-264.13	-850.21	-1899.31	-442.34	-170.76	-151.22
13	14	36.03	-2328.72	-154.64	-224.10	-1501.10	-714.19	-247.74	-264.56
14	14	36.03	-1918.68	-154.79	-1207.49	-2349.21	303.00	-8.01	-12.05
14	15	39.16	-1918.68	-95.03	-822.20	-2059.04	0.19	-32.87	-49.42
15	15	39.16	-1918.68	-100.07	-822.01	-2058.94	0.16	-32.90	-49.47
15	16	42.29	-1918.68	-45.46	-594.40	-1887.11	-180.07	-47.39	-71.26
16	16	42.29	-1918.68	-49.46	-593.70	-1886.71	-180.20	-47.50	-71.42
16	17	45.42	-1918.68	6.34	-526.36	-1834.71	-237.40	-51.24	-77.05
17	17	45.42	-1918.68	3.82	-525.38	-1834.16	-237.57	-51.39	-77.27
17	18	48.55	-1918.68	58.89	-623.32	-1904.82	-170.89	-43.62	-65.59
18	18	48.55	-1918.68	57.93	-622.34	-1904.27	-171.06	-43.77	-65.81
18	19	51.68	-1918.68	112.32	-888.79	-2099.44	20.04	-24.00	-36.09
19	19	51.68	-1918.68	112.71	-888.01	-2099.00	19.91	-24.12	-36.27
19	20	54.81	-1918.68	167.48	-1326.29	-2420.58	336.04	8.14	12.24
20	20	54.81	-2404.80	168.82	-255.50	-1560.30	-669.42	-271.46	-290.28
20	21	57.94	-2408.69	280.19	-958.85	-2015.41	-370.21	-191.58	-169.66
21	21	57.94	-2838.31	283.32	87.38	-1276.72	-939.56	-511.26	-539.81
21	22	61.07	-2845.52	369.95	-931.59	-1941.08	-491.39	-398.08	-368.68
22	22	61.07	-2343.57	367.77	-492.51	-1238.34	-724.39	-386.13	-356.82
22	10023	64.20	-2302.27	461.19	-1827.97	-2096.98	-111.61	-226.09	-121.56
23	23	64.20	-2389.46	-461.93	-1904.92	-2218.47	-69.28	-228.97	-124.42
23	24	67.55	-2443.03	-371.45	-479.17	-1299.44	-743.53	-399.87	-374.41
24	24	67.55	-2952.31	-372.80	-954.84	-2050.45	-480.81	-403.88	-378.31
24	25	70.90	-2944.59	-283.07	133.01	-1338.23	-969.08	-523.32	-558.93

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.T0.MZ-

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2541.56	-284.45	-1111.49	-2271.72	-302.46	-166.84	-144.82
25	26	74.23	-2537.95	-167.32	-364.15	-1787.56	-622.99	-251.59	-272.60
26	26	74.23	-2256.25	-163.02	-1445.05	-2757.68	296.84	3.34	5.02
26	27	77.56	-2256.25	-100.71	-1009.40	-2443.62	1.22	-31.34	-47.13
27	27	77.56	-2256.25	-104.37	-1009.03	-2443.41	1.16	-31.40	-47.21
27	28	80.89	-2260.02	-46.08	-758.57	-2269.68	-156.73	-53.38	-80.27
28	28	80.89	-2260.02	-48.58	-757.65	-2269.16	-156.90	-53.52	-80.48
28	29	84.22	-2260.02	9.25	-692.15	-2230.73	-172.05	-62.86	-94.52
29	29	84.22	-2260.02	8.38	-690.94	-2230.04	-172.26	-63.04	-94.79
29	30	87.55	-2260.02	67.92	-820.42	-2334.96	-45.81	-58.16	-87.46
30	30	87.55	-2260.02	68.96	-819.13	-2334.23	-46.04	-58.36	-87.75
30	31	90.88	-2260.02	127.49	-1145.40	-2583.52	222.30	-38.98	-58.62
31	31	90.88	-2260.02	130.39	-1144.34	-2582.92	222.11	-39.14	-58.86
31	32	94.21	-2260.02	188.76	-1675.45	-2981.19	633.77	-4.07	-6.12
32	32	94.21	-2633.99	193.03	-504.65	-1892.95	-638.13	-253.70	-263.37
32	33	97.54	-2638.13	314.38	-1332.13	-2421.79	-307.49	-156.58	-116.79
33	33	97.54	-2954.03	322.13	-181.67	-1515.85	-931.79	-476.32	-487.01
33	34	100.87	-2961.71	413.79	-1402.98	-2302.30	-426.10	-335.94	-274.92
34	34	100.87	-2436.64	416.94	-929.06	-1547.58	-683.81	-327.58	-266.53
34	10035	104.20	-2374.20	517.08	-2526.63	-2559.66	15.86	-127.50	26.18
35	35	104.20	-2389.49	-498.45	-2529.32	-2565.76	11.76	-131.06	22.82
35	36	107.55	-2439.96	-403.32	-985.27	-1592.41	-635.62	-325.52	-263.00
36	36	107.55	-2947.50	-403.60	-1463.68	-2344.45	-371.90	-328.66	-265.83
36	37	110.90	-2939.79	-314.62	-262.62	-1581.74	-833.35	-471.70	-481.93
37	37	110.90	-2492.74	-319.28	-1475.32	-2459.32	-182.72	-113.21	-65.60
37	38	113.77	-2489.62	-209.34	-691.60	-1972.59	-449.78	-211.91	-214.43
38	38	113.77	-2184.36	-213.60	-1740.89	-2942.77	607.69	18.03	27.11
38	39	116.64	-2184.36	-163.79	-1199.34	-2539.55	197.50	-19.08	-28.69
39	39	116.64	-2184.36	-167.80	-1199.97	-2539.91	197.61	-18.98	-28.55
39	40	119.51	-2184.36	-117.96	-789.90	-2235.56	-109.74	-47.54	-71.48
40	40	119.51	-2184.36	-122.14	-790.02	-2235.63	-109.72	-47.52	-71.46
40	41	122.38	-2184.36	-72.16	-511.27	-2030.07	-314.22	-67.55	-101.58
41	41	122.38	-2184.36	-75.95	-511.04	-2029.94	-314.26	-67.59	-101.63
41	42	125.25	-2184.36	-26.17	-364.49	-1923.68	-415.76	-78.97	-118.74
42	42	125.25	-2184.36	-29.37	-364.03	-1923.42	-415.84	-79.03	-118.85
42	43	128.12	-2184.36	20.53	-351.38	-1917.41	-414.07	-81.50	-122.55
43	43	128.12	-2184.36	18.02	-350.79	-1917.07	-414.17	-81.59	-122.68
43	44	130.99	-2184.36	65.43	-470.52	-2010.45	-309.37	-75.37	-113.34
44	44	130.99	-1691.32	63.71	-42.89	-1306.86	-517.91	-75.47	-113.48
44	45	133.86	-1691.32	113.51	-297.19	-1500.89	-309.70	-60.24	-90.58
45	45	133.86	-1198.28	112.62	154.12	-776.21	-547.69	-60.34	-90.74
45	46	136.73	-1198.28	162.42	-240.57	-1074.19	-235.07	-35.22	-52.96
46	46	136.73	-705.24	162.38	234.41	-328.43	-502.53	-35.32	-53.11
46	47	139.60	-705.24	306.03	-303.90	-732.19	-84.94	0.18	0.26
101	101	0.00	-667.32	-307.80	-265.79	-673.35	-107.74	0.20	0.31
101	102	2.62	-667.32	-161.75	221.27	-315.25	-461.48	-35.30	-53.09
102	102	2.62	-1160.36	-160.83	-254.06	-1061.21	-193.98	-35.15	-52.85
102	103	5.24	-1160.36	-113.17	104.89	-796.07	-458.79	-60.74	-91.33

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.T0.MZ-

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
103	103	5.24	-1501.69	-113.36	-208.04	-1298.04	-293.93	-60.59	-91.11
103	104	7.86	-1501.69	-65.65	26.40	-1123.82	-470.41	-75.31	-115.50
104	104	7.86	-1843.02	-66.30	-269.99	-1611.11	-325.97	-75.69	-115.32
104	105	10.48	-1843.02	-19.13	-157.43	-1526.29	-414.61	-83.93	-126.20
105	105	10.48	-1843.02	-21.08	-158.03	-1526.63	-414.50	-83.94	-126.07
105	106	13.10	-1843.02	26.59	-165.24	-1530.01	-415.65	-82.41	-123.93
106	106	13.10	-1843.02	24.02	-165.59	-1530.21	-415.59	-82.36	-123.85
106	107	15.72	-1843.02	71.63	-290.96	-1620.90	-329.51	-72.52	-109.05
107	107	15.72	-1843.02	68.77	-291.02	-1620.93	-329.50	-72.51	-109.04
107	108	18.34	-1843.02	116.43	-533.61	-1798.36	-156.38	-54.40	-81.79
108	108	18.34	-1843.02	113.50	-533.28	-1798.17	-156.44	-54.45	-81.87
108	109	20.96	-1843.02	161.32	-893.17	-2062.41	103.74	-28.04	-42.16
109	109	20.96	-1843.02	158.76	-892.37	-2061.96	103.60	-28.16	-42.34
109	110	23.58	-1843.02	206.45	-1370.80	-2413.70	451.05	6.72	10.11
110	110	23.58	-2407.19	204.07	-366.11	-1653.33	-553.17	-269.17	-286.53
110	111	26.20	-2410.45	309.95	-1032.38	-2065.32	-332.92	-184.48	-158.76
111	111	26.20	-2891.74	307.50	-52.99	-1429.42	-858.90	-498.27	-523.21
111	112	29.55	-2899.48	403.24	-1240.16	-2177.30	-422.98	-354.07	-305.36
112	112	29.55	-2390.70	405.28	-761.67	-1424.85	-686.33	-350.62	-302.23
112	10113	32.90	-2344.80	499.79	-2315.30	-2398.07	-61.78	-152.65	-10.53
113	113	32.90	-2293.36	-518.03	-2274.76	-2333.81	-80.96	-149.49	-7.54
113	114	36.03	-2364.35	-416.75	-773.33	-1392.48	-721.62	-343.61	-290.17
114	114	36.03	-2816.43	-411.20	-1174.64	-2033.58	-505.83	-352.66	-299.22
114	115	39.16	-2809.22	-319.02	-35.60	-1303.80	-965.07	-485.31	-499.63
115	115	39.16	-2295.69	-311.45	-1212.71	-2116.62	-324.37	-119.55	-76.10
115	116	42.29	-2292.29	-187.21	-439.54	-1624.84	-626.08	-211.45	-214.73
116	116	42.29	-1919.07	-183.34	-1421.17	-2527.36	527.19	-2.18	-3.28
116	117	45.42	-1919.07	-124.78	-939.04	-2168.61	162.75	-35.32	-53.11
117	117	45.42	-1919.07	-122.38	-940.02	-2169.16	162.92	-35.17	-52.89
117	118	48.55	-1919.07	-65.27	-646.42	-1946.31	-73.61	-53.30	-80.15
118	118	48.55	-1919.07	-64.36	-647.42	-1946.88	-73.43	-53.15	-79.92
118	119	51.68	-1919.07	-5.57	-536.15	-1856.40	-183.15	-57.19	-86.00
119	119	51.68	-1919.07	-6.10	-536.93	-1856.84	-183.01	-57.08	-85.83
119	120	54.81	-1915.05	51.11	-607.11	-1895.64	-163.29	-47.19	-70.96
120	120	54.81	-1915.05	49.59	-607.52	-1895.87	-163.22	-47.13	-70.87
120	121	57.94	-1915.05	106.76	-851.96	-2065.27	-20.07	-24.47	-36.80
121	121	57.94	-1915.05	104.82	-851.78	-2065.17	-20.10	-24.50	-36.84
121	122	61.07	-1915.05	164.53	-1270.28	-2362.24	248.47	10.99	16.52
122	122	61.07	-2414.39	170.97	-200.76	-1524.32	-707.35	-278.60	-299.76
122	123	64.20	-2418.28	286.81	-930.15	-1990.98	-414.54	-193.26	-170.93
123	123	64.20	-2779.18	290.38	150.04	-1187.79	-992.87	-504.85	-532.94
123	124	67.55	-2786.90	383.20	-977.43	-1917.40	-514.91	-377.02	-339.71
124	124	67.55	-2352.88	386.99	-574.77	-1280.92	-736.31	-372.86	-335.65
124	10125	70.90	-2309.68	482.32	-2067.44	-2235.99	-70.71	-192.15	-69.55
125	125	70.90	-2369.14	-516.87	-2143.98	-2348.97	-20.17	-187.91	-65.32
125	126	74.23	-2436.84	-411.97	-560.71	-1344.80	-724.90	-386.35	-354.89
126	126	74.23	-2969.10	-412.08	-1037.17	-2103.12	-468.90	-396.20	-364.56
126	127	77.56	-2961.43	-307.23	149.93	-1334.34	-974.64	-530.58	-567.63

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.T0.MZ-

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
127	127	77.56	-2524.87	-301.80	-1095.90	-2258.58	-297.78	-165.20	-144.53
127	128	80.89	-2521.25	-177.07	-336.51	-1766.85	-622.78	-251.34	-274.54
128	128	80.89	-2260.40	-174.71	-1417.75	-2765.64	358.64	-10.52	-15.81
129	129	84.22	-2260.40	-113.65	-937.97	-2414.98	17.14	-46.47	-69.88
129	129	84.22	-2260.40	-112.91	-939.19	-2415.67	17.35	-46.29	-69.60
129	130	87.55	-2260.40	-51.55	-665.03	-2214.42	-180.72	-66.42	-99.88
130	130	87.55	-2260.40	-52.81	-666.32	-2215.15	-180.50	-66.23	-99.58
130	131	90.88	-2260.40	7.95	-591.88	-2159.95	-236.14	-71.43	-107.41
131	131	90.88	-2260.40	4.97	-592.95	-2160.56	-235.95	-71.27	-107.17
131	132	94.21	-2260.40	67.10	-714.50	-2249.28	-149.84	-62.10	-93.39
132	132	94.21	-2260.40	62.62	-715.12	-2249.62	-149.73	-62.01	-93.25
132	133	97.54	-2260.40	123.44	-1024.68	-2477.72	76.76	-39.68	-59.66
133	133	97.54	-2260.40	118.13	-1024.58	-2477.66	76.74	-39.69	-59.69
133	134	100.87	-2260.40	184.01	-1523.11	-2845.68	443.78	-4.05	-6.09
134	134	100.87	-2669.04	184.48	-351.56	-1812.01	-689.30	-283.86	-304.14
134	135	104.20	-2649.29	311.55	-1165.30	-2325.20	-356.24	-182.30	-154.00
135	135	104.20	-2937.04	310.05	-12.31	-1409.41	-972.58	-495.11	-517.49
135	136	107.55	-2944.78	404.50	-1199.70	-2176.49	-473.08	-359.83	-313.05
136	136	107.55	-2440.76	406.79	-721.43	-1425.58	-737.82	-357.58	-311.10
136	10137	110.90	-2387.64	504.31	-2287.73	-2422.95	-45.34	-164.77	-28.11
137	137	110.90	-2342.38	-501.88	-2246.02	-2359.86	-66.57	-163.38	-26.98
137	138	113.77	-2391.21	-410.13	-892.15	-1523.68	-582.54	-342.54	-290.00
138	138	113.77	-2923.37	-403.10	-1364.53	-2279.63	-327.23	-352.97	-300.58
138	139	116.64	-2916.75	-320.93	-327.86	-1631.51	-691.59	-481.22	-494.29
139	139	116.64	-2175.90	-315.14	-1295.21	-2109.11	-161.05	-115.79	-71.23
139	140	119.51	-2172.78	-205.08	-542.76	-1647.86	-397.09	-213.38	-218.39
140	140	119.51	-1387.91	-201.07	-1158.72	-1919.10	459.74	10.30	15.49
140	141	122.38	-1387.91	-148.81	-656.67	-1554.60	110.50	-28.46	-42.80
141	141	122.38	-1387.91	-145.10	-656.87	-1554.71	110.53	-28.43	-42.75
141	142	125.25	-1387.91	-92.85	-315.44	-1305.69	-130.76	-54.26	-81.60
142	142	125.25	-1387.91	-89.72	-315.89	-1305.94	-130.69	-54.19	-81.49
142	143	128.12	-1387.91	-37.47	-133.36	-1171.40	-264.39	-67.34	-101.26
143	143	128.12	-1387.91	-35.13	-133.98	-1171.76	-264.28	-67.25	-101.12
143	144	130.99	-1387.91	17.12	-108.19	-1150.48	-290.73	-68.04	-102.32
144	144	130.99	-1387.91	18.59	-108.92	-1150.90	-290.60	-67.93	-102.15
144	145	133.86	-1387.91	70.90	-237.41	-1241.48	-210.23	-56.74	-85.33
145	145	133.86	-1160.36	71.30	-30.24	-907.65	-319.89	-56.62	-85.14
145	146	136.73	-1160.36	123.52	-309.83	-1108.28	-133.25	-33.93	-51.01
146	146	136.73	-667.32	122.87	163.59	-363.41	-400.42	-33.79	-50.82
146	147	139.60	-667.32	217.76	-264.36	-672.53	-107.98	-0.01	-0.02

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM2.T0.MZ+

CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-569.45	-195.15	-203.23	-554.40	-118.58	-0.20	-0.31
1	2	2.62	-569.45	-174.75	337.18	-192.53	-392.79	-56.24	-84.57
2	2	2.62	-775.33	-177.73	141.16	-502.67	-281.51	-56.55	-85.04
2	3	5.24	-775.33	-114.50	524.07	-250.54	-461.70	-98.24	-147.73
3	3	5.24	-981.22	-115.34	327.89	-560.73	-350.39	-98.53	-148.15
3	4	7.86	-981.22	-52.12	547.32	-421.69	-435.50	-124.97	-187.92
4	4	7.86	-981.22	-51.00	548.98	-420.75	-435.78	-125.22	-188.30
4	5	10.48	-981.22	12.15	599.94	-397.64	-424.94	-135.67	-204.01
5	5	10.48	-981.22	14.92	601.31	-396.86	-425.18	-135.87	-204.32
5	6	13.10	-981.22	78.14	479.42	-492.18	-317.66	-129.66	-194.97
6	6	13.10	-981.22	82.29	480.41	-491.61	-317.83	-129.81	-195.20
6	7	15.72	-981.22	145.49	182.06	-707.42	-112.96	-106.40	-159.99
7	7	15.72	-981.22	150.57	182.55	-707.14	-113.05	-106.47	-160.10
7	8	18.34	-981.22	213.77	-294.72	-1044.82	189.55	-65.48	-98.47
8	8	18.34	-1864.29	219.31	758.07	-441.85	-828.77	-415.55	-482.69
8	9	20.96	-1868.27	235.53	176.33	-801.10	-639.50	-341.52	-370.85
9	9	20.96	-2904.85	239.48	989.47	-647.53	-1089.92	-732.72	-823.77
9	10	23.58	-2912.24	269.42	328.71	-1072.80	-821.24	-657.06	-709.03
10	10	23.58	-2703.14	273.39	526.02	-761.01	-931.78	-656.11	-708.03
10	10011	26.20	-2648.50	302.15	-270.18	-1264.90	-554.40	-553.35	-560.63
11	11	26.20	-2672.88	-313.32	-270.97	-1272.63	-561.54	-559.55	-566.77
11	12	29.55	-2758.03	-261.24	763.01	-594.35	-1149.63	-683.49	-742.03
12	12	29.55	-3185.54	-260.41	364.66	-1222.83	-930.67	-687.23	-745.60
12	13	32.90	-3176.09	-217.03	1158.51	-685.76	-1339.79	-765.82	-865.00
13	13	32.90	-2381.65	-218.60	-118.24	-1420.98	-646.30	-321.67	-350.13
13	14	36.03	-2355.46	-199.85	561.74	-978.72	-914.13	-395.16	-464.06
14	14	36.03	-1735.96	-205.20	-525.27	-1774.71	82.90	-79.66	-119.78
14	15	39.16	-1735.96	-135.12	13.04	-1397.78	-245.28	-127.74	-192.08
15	15	39.16	-1735.96	-144.12	14.25	-1397.09	-245.49	-127.92	-192.35
15	16	42.29	-1735.96	-69.05	347.86	-1165.27	-442.94	-158.55	-238.41
16	16	42.29	-1735.96	-75.92	349.99	-1164.06	-443.31	-158.87	-238.89
16	17	45.42	-1735.96	-0.42	469.43	-1082.75	-508.39	-170.63	-256.57
17	17	45.42	-1735.96	-4.34	472.02	-1081.28	-508.84	-171.02	-257.16
17	18	48.55	-1735.96	71.01	367.65	-1155.96	-439.88	-162.44	-244.27
18	18	48.55	-1735.96	70.33	370.31	-1154.44	-440.34	-162.84	-244.87
18	19	51.68	-1735.96	145.66	32.47	-1390.61	-235.68	-132.49	-199.22
19	19	51.68	-1735.96	148.04	34.84	-1389.26	-236.09	-132.85	-199.76
19	20	54.81	-1735.96	223.10	-546.24	-1792.48	105.98	-79.23	-119.15
20	20	54.81	-2462.56	227.99	649.04	-979.60	-899.21	-444.80	-524.72
20	21	57.94	-2467.31	246.51	-86.18	-1453.11	-594.72	-360.34	-397.10
21	21	57.94	-3124.83	251.53	1071.64	-744.75	-1226.72	-751.08	-849.53
21	22	61.07	-3133.66	286.54	239.41	-1303.27	-811.43	-666.46	-721.13
22	22	61.07	-2714.87	281.81	636.98	-677.84	-1032.85	-664.85	-719.64
22	10023	64.20	-2664.39	318.48	-332.85	-1325.59	-480.76	-557.52	-564.83
23	23	64.20	-2763.38	-325.52	-400.33	-1440.29	-448.83	-565.67	-573.12
23	24	67.55	-2828.85	-273.37	659.94	-732.88	-1063.23	-684.58	-743.39
24	24	67.55	-3291.77	-275.68	231.26	-1412.04	-826.45	-689.02	-747.85
24	25	70.90	-3282.33	-232.80	1079.10	-835.94	-1272.58	-771.85	-873.64

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM2.T0.MZ+

CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2596.00	-234.74	-287.66	-1721.60	-531.67	-329.65	-361.04
25	26	74.23	-2591.58	-215.05	459.40	-1237.36	-851.92	-414.07	-488.55
26	26	74.23	-2048.57	-218.45	-716.83	-2137.67	75.25	-79.48	-111.04
26	27	77.56	-2048.57	-142.68	-112.08	-1725.84	-254.72	-133.31	-200.45
27	27	77.56	-2048.57	-151.52	-110.46	-1724.91	-255.00	-133.55	-200.82
27	28	80.89	-2044.80	-71.90	261.30	-1475.51	-434.64	-173.92	-260.17
28	28	80.89	-2044.80	-78.14	263.91	-1474.02	-435.10	-173.41	-260.76
29	29	84.22	-2044.80	2.23	390.32	-1398.98	-467.28	-191.01	-287.23
29	29	84.22	-2044.80	-0.47	393.42	-1397.21	-467.82	-191.48	-287.93
29	30	87.55	-2044.80	79.44	261.42	-1501.63	-347.40	-185.31	-278.66
30	30	87.55	-2044.80	80.66	264.57	-1499.84	-347.95	-185.79	-279.37
30	31	90.88	-2044.80	160.97	-137.84	-1790.53	-72.87	-154.03	-231.62
31	31	90.88	-2044.80	165.92	-135.03	-1788.94	-73.36	-154.46	-232.26
31	32	94.21	-2044.80	245.62	-820.52	-2273.15	358.62	-95.22	-143.18
32	32	94.21	-2670.43	253.73	465.79	-1254.01	-887.41	-433.94	-508.14
32	33	97.54	-2675.49	270.46	-417.26	-1814.76	-547.40	-328.69	-349.21
33	33	97.54	-3230.15	277.90	834.70	-955.16	-1229.10	-719.46	-801.68
33	34	100.87	-3239.53	315.04	-146.53	-1605.45	-765.57	-615.70	-644.43
34	34	100.87	-2767.24	316.39	282.12	-923.51	-999.53	-608.84	-637.53
34	10035	104.20	-2731.01	355.15	-870.40	-1690.05	-384.89	-482.61	-452.45
35	35	104.20	-2760.13	-349.51	-870.80	-1698.97	-393.52	-490.10	-459.91
35	36	107.55	-2821.82	-302.27	267.51	-959.95	-973.86	-626.33	-656.71
36	36	107.55	-3278.88	-305.53	-163.76	-1638.83	-734.89	-628.85	-659.07
36	37	110.90	-3269.45	-262.11	773.81	-1025.61	-1150.11	-731.75	-815.03
37	37	110.90	-2540.64	-267.76	-563.60	-1859.56	-422.98	-287.13	-299.84
37	38	113.77	-2536.82	-259.75	162.45	-1405.45	-679.84	-376.97	-435.43
38	38	113.77	-1976.32	-268.84	-985.20	-2304.63	374.00	-62.24	-93.58
38	39	116.64	-1976.32	-199.57	-313.06	-1829.40	-51.06	-120.11	-180.62
39	39	116.64	-1976.32	-207.13	-313.58	-1829.70	-50.97	-120.04	-180.50
39	40	119.51	-1976.32	-138.03	181.97	-1479.02	-365.37	-162.57	-244.45
40	40	119.51	-1976.32	-145.29	182.24	-1478.87	-365.41	-162.61	-244.51
40	41	122.38	-1976.32	-76.15	500.15	-1253.35	-568.93	-189.63	-285.15
41	41	122.38	-1976.32	-82.52	500.96	-1252.89	-569.07	-189.76	-285.34
41	42	125.25	-1976.32	-13.24	638.38	-1154.16	-661.20	-200.86	-302.03
42	42	125.25	-1976.32	-18.23	639.56	-1153.49	-661.40	-201.03	-302.29
42	43	128.12	-1976.32	50.95	592.64	-1183.73	-641.51	-195.62	-294.15
43	43	128.12	-1976.32	47.65	594.05	-1182.93	-641.75	-195.83	-294.47
43	44	130.99	-1976.32	113.32	363.04	-1342.00	-509.86	-173.94	-261.55
44	44	130.99	-1530.24	111.77	750.90	-704.87	-698.71	-174.17	-261.91
44	45	133.86	-1530.24	181.06	330.71	-995.68	-453.93	-135.04	-203.06
45	45	133.86	-1084.16	181.39	740.07	-339.43	-669.43	-135.29	-203.44
45	46	136.73	-1084.16	250.69	120.03	-768.03	-309.93	-77.31	-116.25
46	46	136.73	-638.08	253.03	550.87	-92.67	-552.10	-77.57	-116.64
46	47	139.60	-638.08	229.93	-273.94	-661.88	-77.03	0.00	0.01
101	101	0.00	-603.76	-227.41	-239.56	-608.69	-97.64	0.05	0.07
101	102	2.62	-603.76	-256.42	518.92	-93.71	-506.39	-75.24	-113.14
102	102	2.62	-1049.85	-252.82	87.61	-769.33	-264.14	-74.91	-112.65
102	103	5.24	-1049.85	-186.06	662.51	-378.87	-574.35	-131.93	-198.38

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM2.T0.MZ+

CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1358.67	-184.79	378.23	-833.69	-424.99	-131.62	-197.92
103	104	7.86	-1358.67	-118.05	774.96	-564.69	-637.55	-171.18	-257.41
104	104	7.86	-1667.50	-118.88	505.78	-1006.16	-506.69	-170.92	-257.01
104	105	10.48	-1667.50	-52.13	729.79	-855.51	-622.59	-193.83	-291.47
105	105	10.48	-1667.50	-54.74	728.39	-856.31	-622.34	-193.62	-291.15
105	106	13.10	-1667.50	12.06	784.30	-821.38	-642.37	-200.59	-301.64
106	106	13.10	-1667.50	8.05	783.32	-821.94	-642.20	-200.45	-301.41
106	107	15.72	-1667.50	74.83	674.75	-900.68	-566.96	-192.02	-288.75
107	107	15.72	-1667.50	69.85	674.28	-900.95	-566.87	-191.95	-288.64
107	108	18.34	-1667.50	136.64	403.78	-1091.89	-396.84	-168.52	-253.40
108	108	18.34	-1667.50	131.22	403.92	-1091.81	-396.87	-168.54	-253.43
108	109	20.96	-1667.50	197.76	-27.13	-1394.18	-132.27	-130.29	-195.92
109	109	20.96	-1667.50	192.56	-26.26	-1393.69	-132.42	-130.43	-196.12
109	110	23.58	-1667.50	259.34	-618.23	-1807.69	226.81	-77.32	-116.27
110	110	23.58	-2491.45	253.51	516.66	-1092.77	-787.64	-446.02	-522.78
110	111	26.20	-2495.43	260.95	-158.22	-1509.87	-566.11	-360.22	-393.25
111	111	26.20	-3220.56	256.81	938.39	-901.15	-1164.96	-750.92	-845.76
111	112	29.55	-3230.01	300.65	15.58	-1499.04	-775.43	-647.00	-688.26
112	112	29.55	-2773.14	298.11	446.75	-820.27	-1014.43	-644.52	-685.93
112	10113	32.90	-2717.04	348.12	-677.99	-1546.30	-461.23	-508.52	-488.76
113	113	32.90	-2652.14	-346.06	-643.19	-1483.74	-472.78	-500.62	-480.87
113	114	36.03	-2703.97	-303.85	422.36	-784.84	-1032.10	-624.10	-659.78
114	114	36.03	-3109.97	-304.40	59.35	-1363.94	-835.98	-631.51	-667.20
114	115	39.16	-3101.16	-269.56	948.62	-775.88	-1251.41	-726.11	-810.60
115	115	39.16	-2329.03	-263.09	-357.70	-1556.90	-538.10	-279.12	-293.02
115	116	42.29	-2324.88	-250.78	448.04	-1046.34	-845.23	-375.73	-438.84
116	116	42.29	-1736.29	-243.78	-638.54	-1891.15	274.72	-86.85	-130.59
116	117	45.42	-1736.29	-164.88	1.57	-1444.25	-111.15	-144.63	-217.48
117	117	45.42	-1736.29	-160.84	-1.03	-1445.73	-110.70	-144.24	-216.89
117	118	48.55	-1736.29	-81.41	377.96	-1176.06	-356.06	-176.07	-264.76
118	118	48.55	-1736.29	-80.62	375.30	-1177.57	-355.60	-175.67	-264.16
118	119	51.68	-1736.29	-0.94	502.98	-1079.54	-462.18	-183.03	-275.23
119	119	51.68	-1736.29	-3.19	500.62	-1080.89	-461.77	-182.67	-274.69
119	120	54.81	-1740.31	76.34	385.83	-1152.09	-433.74	-166.89	-250.95
120	120	54.81	-1740.31	71.62	384.10	-1153.08	-433.44	-166.63	-250.56
120	121	57.94	-1740.31	150.94	35.73	-1383.01	-267.70	-128.95	-193.91
121	121	57.94	-1740.31	144.74	35.00	-1383.43	-267.57	-128.84	-193.74
121	122	61.07	-1740.31	221.68	-541.57	-1771.86	32.98	-70.18	-105.53
122	122	61.07	-2512.45	221.79	652.40	-984.96	-940.06	-454.66	-533.04
122	123	64.20	-2517.21	241.51	-52.65	-1438.02	-651.74	-373.22	-409.95
123	123	64.20	-3128.56	241.83	1134.96	-676.60	-1296.48	-760.65	-858.95
123	124	67.55	-3138.00	288.90	259.03	-1263.52	-862.66	-671.16	-723.16
124	124	67.55	-2744.30	289.31	621.76	-688.26	-1062.40	-666.90	-718.87
124	10125	70.90	-2691.50	338.55	-468.80	-1411.54	-463.69	-544.29	-541.39
125	125	70.90	-2726.11	-348.94	-539.96	-1509.12	-411.91	-535.19	-532.16
125	126	74.23	-2770.24	-301.43	588.26	-756.99	-1030.67	-658.96	-712.51
126	126	74.23	-3248.42	-302.81	157.34	-1441.97	-798.06	-667.01	-720.42
126	127	77.56	-3239.05	-271.77	1111.20	-805.47	-1262.83	-765.81	-870.21

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM2.T0.MZ+

CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2536.91	-264.73	-257.11	-1687.30	-516.94	-319.28	-353.15
127	128	80.89	-2532.49	-244.12	621.78	-1127.30	-862.42	-423.22	-510.03
128	128	80.89	-2045.10	-237.75	-555.58	-2059.53	102.59	-105.61	-158.80
128	129	84.22	-2045.10	-153.47	96.22	-1610.79	-269.26	-167.41	-251.74
129	129	84.22	-2045.10	-150.65	93.11	-1612.56	-268.72	-166.94	-251.03
129	130	87.55	-2045.10	-65.91	453.55	-1362.03	-482.27	-200.01	-300.75
130	130	87.55	-2045.10	-66.87	450.40	-1363.82	-481.72	-199.53	-300.04
130	131	90.88	-2045.10	17.47	533.35	-1303.63	-539.34	-205.35	-309.68
131	131	90.88	-2045.10	12.66	530.55	-1305.22	-538.86	-205.53	-309.05
131	132	94.21	-2045.10	97.44	347.21	-1428.96	-442.54	-186.98	-281.16
132	132	94.21	-2045.10	89.50	345.15	-1430.13	-442.18	-186.67	-280.69
132	133	97.54	-2045.10	173.86	-93.19	-1731.39	-193.85	-144.86	-217.82
133	133	97.54	-2045.10	163.94	-94.04	-1731.87	-193.70	-144.73	-217.63
133	134	100.87	-2045.10	243.33	-776.68	-2204.56	204.78	-81.27	-122.21
134	134	100.87	-2700.18	237.91	509.59	-1233.70	-918.03	-446.26	-522.78
134	135	104.20	-2729.13	254.65	-317.31	-1768.92	-597.23	-355.34	-382.28
135	135	104.20	-3269.70	253.83	936.95	-903.80	-1275.12	-742.80	-831.61
135	136	107.55	-3279.16	298.84	16.93	-1519.18	-822.51	-648.25	-688.19
136	136	107.55	-2818.56	300.54	448.34	-839.17	-1060.45	-644.83	-684.95
136	10137	110.90	-2753.64	355.00	-705.65	-1598.29	-435.97	-511.09	-492.31
137	137	110.90	-2692.12	-347.57	-669.65	-1536.06	-448.74	-504.24	-485.57
137	138	113.77	-2751.81	-315.47	321.83	-909.43	-905.08	-631.60	-669.30
138	138	113.77	-3204.64	-309.45	-106.38	-1585.30	-665.39	-633.49	-671.25
138	139	116.64	-3196.55	-274.24	724.60	-1053.84	-993.64	-730.37	-817.98
139	139	116.64	-2218.82	-268.45	-392.41	-1531.85	-379.93	-283.62	-300.74
139	140	119.51	-2215.02	-253.15	344.70	-1079.13	-613.10	-378.73	-444.25
140	140	119.51	-1255.73	-245.74	-408.65	-1353.10	241.54	-78.15	-117.51
140	141	122.38	-1255.73	-172.64	191.71	-935.98	-113.59	-133.29	-200.44
141	141	122.38	-1255.73	-166.19	190.87	-936.46	-113.45	-133.17	-200.25
141	142	125.25	-1255.73	-93.09	562.83	-673.40	-348.89	-165.17	-248.36
142	142	125.25	-1255.73	-88.01	561.65	-674.07	-348.69	-164.99	-248.10
142	143	128.12	-1255.73	-14.88	709.28	-562.75	-465.18	-174.45	-262.32
143	143	128.12	-1255.73	-11.37	707.88	-563.55	-464.94	-174.24	-262.00
143	144	130.99	-1255.73	61.72	635.65	-601.42	-463.22	-161.83	-243.35
144	144	130.99	-1255.73	63.50	634.16	-602.27	-462.96	-161.61	-243.01
144	145	133.86	-1255.73	136.57	347.07	-786.49	-343.93	-128.09	-192.61
145	145	133.86	-1049.85	136.70	533.76	-484.88	-443.01	-127.86	-192.27
145	146	136.73	-1049.85	209.86	36.43	-812.82	-207.45	-73.93	-111.17
146	146	136.73	-603.76	208.18	464.03	-139.30	-449.04	-73.70	-110.82
146	147	139.60	-603.76	235.78	-238.08	-607.85	-97.89	-0.18	-0.26

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.T0.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-569.45	-218.37	-202.06	-553.74	-118.78	-0.38	-0.57
1	2	2.62	-569.45	-229.46	512.25	-92.92	-423.16	-82.62	-124.24
2	2	2.62	-775.33	-236.64	314.70	-403.88	-311.62	-82.70	-124.36
2	3	5.24	-775.33	-148.73	819.81	-32.18	-513.01	-142.80	-214.74
3	3	5.24	-981.22	-155.47	622.41	-393.06	-401.48	-142.90	-214.89
3	4	7.86	-981.22	-67.38	914.35	-212.74	-499.17	-180.27	-271.03
4	4	7.86	-981.22	-73.30	915.15	-212.28	-499.31	-180.40	-271.26
4	5	10.48	-981.22	14.53	992.26	-174.29	-493.01	-194.78	-292.90
5	5	10.48	-981.22	9.55	993.27	-173.72	-493.18	-194.94	-293.13
5	6	13.10	-981.22	97.56	853.02	-279.48	-382.47	-185.96	-279.62
6	6	13.10	-981.22	93.77	854.13	-278.85	-382.67	-186.12	-279.88
6	7	15.72	-981.22	181.70	493.33	-530.21	-166.97	-153.30	-230.52
7	7	15.72	-981.22	179.20	494.37	-529.62	-167.15	-153.46	-230.75
7	8	18.34	-981.22	267.16	-90.36	-928.48	154.10	-96.28	-144.77
8	8	18.34	-1864.29	265.89	963.35	-324.99	-864.38	-446.48	-529.20
8	9	20.96	-1868.27	306.52	227.29	-772.09	-648.34	-349.20	-382.40
9	9	20.96	-2904.85	304.83	1041.62	-617.84	-1098.96	-740.58	-835.58
9	10	23.58	-2912.24	301.36	258.84	-1112.58	-809.12	-646.53	-693.20
10	10	23.58	-2703.14	302.46	456.72	-800.47	-919.76	-645.67	-692.33
10	10011	26.20	-2648.50	312.86	-395.50	-1336.24	-532.66	-534.47	-532.24
11	11	26.20	-2672.88	-313.01	-396.19	-1343.92	-539.81	-540.68	-538.40
11	12	29.55	-2758.03	-275.16	675.57	-644.13	-1134.46	-670.31	-722.22
12	12	29.55	-3185.54	-276.11	277.12	-1272.66	-915.48	-674.04	-725.77
12	13	32.90	-3176.09	-258.53	1184.92	-670.73	-1344.38	-769.80	-870.99
13	13	32.90	-2381.65	-264.89	-92.87	-1406.54	-650.70	-325.49	-355.88
13	14	36.03	-2355.46	-238.20	729.11	-883.44	-943.16	-420.37	-501.98
14	14	36.03	-1735.96	-250.98	-359.63	-1680.41	54.17	-104.62	-157.31
14	15	39.16	-1735.96	-166.58	316.18	-1225.20	-297.87	-173.41	-260.76
15	15	39.16	-1735.96	-186.47	316.03	-1225.29	-297.84	-173.39	-260.73
15	16	42.29	-1735.96	-82.85	737.27	-943.58	-510.50	-217.22	-326.64
16	16	42.29	-1735.96	-101.99	738.71	-942.76	-510.75	-217.44	-326.97
16	17	45.42	-1735.96	3.10	893.46	-841.35	-581.95	-234.52	-352.65
17	17	45.42	-1735.96	-13.55	896.09	-839.85	-582.41	-234.91	-353.24
17	18	48.55	-1735.96	91.09	774.53	-924.32	-510.47	-223.75	-336.46
18	18	48.55	-1735.96	78.17	777.92	-922.39	-511.05	-224.26	-337.23
18	19	51.68	-1735.96	182.51	370.77	-1198.02	-294.37	-183.46	-275.87
19	19	51.68	-1735.96	173.76	374.51	-1195.89	-295.02	-184.03	-276.72
19	20	54.81	-1735.96	277.27	-332.53	-1670.82	68.90	-111.44	-167.57
20	20	54.81	-2462.56	272.90	864.63	-856.87	-936.61	-477.28	-573.57
20	21	57.94	-2467.31	294.96	-14.90	-1412.53	-607.09	-371.08	-413.25
21	21	57.94	-3124.83	292.79	1144.31	-703.38	-1239.33	-762.03	-866.00
21	22	61.07	-3133.66	311.77	227.54	-1310.03	-809.37	-664.67	-718.44
22	22	61.07	-2714.87	303.30	625.54	-684.35	-1030.86	-663.13	-717.05
22	10023	64.20	-2664.39	316.86	-376.65	-1350.52	-473.16	-550.92	-554.91
23	23	64.20	-2763.38	-321.29	-444.15	-1465.23	-441.23	-559.07	-563.19
23	24	67.55	-2828.85	-283.13	642.89	-742.59	-1060.27	-682.02	-739.52
24	24	67.55	-3291.77	-287.88	214.06	-1421.83	-823.47	-686.42	-743.96
24	25	70.90	-3282.33	-272.80	1170.06	-784.16	-1288.36	-785.56	-894.25

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.T0.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2596.00	-280.13	-197.87	-1670.49	-547.25	-343.18	-381.38
25	26	74.23	-2591.58	-251.07	692.04	-1104.92	-892.28	-449.12	-541.26
26	26	74.23	-2048.57	-263.28	-486.06	-2006.29	35.22	-108.62	-163.33
26	27	77.56	-2048.57	-168.35	245.71	-1522.15	-316.80	-187.22	-281.52
27	27	77.56	-2048.57	-189.70	245.84	-1522.07	-316.82	-187.24	-281.55
27	28	80.89	-2044.80	-79.78	693.45	-1229.48	-509.61	-238.13	-358.08
28	28	80.89	-2044.80	-99.99	695.32	-1228.42	-509.94	-238.42	-358.51
28	29	84.22	-2044.80	11.90	842.01	-1141.83	-545.65	-259.08	-389.57
29	29	84.22	-2044.80	-5.21	845.20	-1140.01	-546.20	-259.56	-390.30
29	30	87.55	-2044.80	105.16	676.84	-1265.13	-419.47	-247.91	-372.78
30	30	87.55	-2044.80	92.64	680.81	-1262.87	-420.16	-248.51	-373.68
30	31	90.88	-2044.80	204.46	185.95	-1606.21	-129.04	-202.82	-304.98
31	31	90.88	-2044.80	197.05	190.31	-1603.72	-129.80	-203.48	-305.97
31	32	94.21	-2044.80	306.48	-649.29	-2175.66	328.91	-121.02	-181.97
32	32	94.21	-2670.43	304.48	639.09	-1155.35	-917.47	-460.05	-547.40
32	33	97.54	-2675.49	324.32	-409.21	-1810.17	-548.80	-329.91	-351.04
33	33	97.54	-3230.15	324.47	844.12	-949.79	-1230.73	-720.88	-803.81
33	34	100.87	-3239.53	346.99	-255.20	-1667.31	-746.71	-599.33	-619.81
34	34	100.87	-2767.24	344.51	173.60	-985.29	-980.71	-592.49	-612.94
34	10035	104.20	-2731.01	346.50	-999.18	-1763.36	-362.55	-463.20	-423.27
35	35	104.20	-2760.13	-349.35	-999.56	-1772.27	-371.18	-470.70	-430.74
35	36	107.55	-2821.82	-339.52	176.07	-1012.01	-957.99	-612.55	-635.99
36	36	107.55	-3278.88	-345.81	-255.86	-1691.26	-718.91	-614.98	-638.20
36	37	110.90	-3269.45	-321.15	838.43	-988.82	-1161.33	-741.49	-829.67
37	37	110.90	-2540.64	-332.04	-500.53	-1823.66	-433.92	-296.63	-314.13
37	38	113.77	-2536.82	-320.46	416.96	-1260.57	-723.99	-415.31	-493.09
38	38	113.77	-1976.32	-338.44	-732.63	-2160.85	330.18	-100.29	-150.81
38	39	116.64	-1976.32	-241.99	100.25	-1594.11	-122.77	-182.39	-274.26
39	39	116.64	-1976.32	-260.06	98.29	-1595.22	-122.43	-182.10	-273.82
39	40	119.51	-1976.32	-164.33	708.08	-1179.51	-456.64	-241.84	-363.65
40	40	119.51	-1976.32	-183.10	707.52	-1179.83	-456.54	-241.76	-363.53
40	41	122.38	-1976.32	-87.23	1095.90	-914.20	-672.28	-279.40	-420.14
41	41	122.38	-1976.32	-105.65	1096.60	-913.79	-672.40	-279.51	-420.30
41	42	125.25	-1976.32	-9.17	1261.39	-799.48	-769.28	-294.73	-443.19
42	42	125.25	-1976.32	-25.82	1263.21	-798.45	-769.60	-295.00	-443.60
42	43	128.12	-1976.32	70.29	1199.55	-838.22	-746.80	-287.07	-431.66
43	43	128.12	-1976.32	56.72	1202.34	-836.63	-747.28	-287.49	-432.29
43	44	130.99	-1976.32	149.31	906.55	-1032.58	-604.15	-255.84	-384.70
44	44	130.99	-1530.24	139.48	1296.49	-394.27	-793.36	-256.38	-385.52
44	45	133.86	-1530.24	235.98	757.72	-752.58	-528.01	-199.38	-299.81
45	45	133.86	-1084.16	230.85	1169.77	-94.80	-743.98	-200.04	-300.80
45	46	136.73	-1084.16	327.35	368.74	-626.44	-353.08	-114.79	-172.60
46	46	136.73	-638.08	327.75	802.71	50.70	-595.79	-115.51	-173.70
46	47	139.60	-638.08	244.08	-273.29	-661.51	-77.14	-0.09	-0.14
101	101	0.00	-603.76	-241.88	-239.17	-608.47	-97.70	-0.01	-0.02
101	102	2.62	-603.76	-333.77	753.99	40.12	-547.17	-110.66	-166.41
102	102	2.62	-1049.85	-331.91	320.05	-637.00	-304.47	-109.94	-165.31
102	103	5.24	-1049.85	-239.42	1068.40	-147.79	-644.77	-193.09	-290.34

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.T0.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1358.67	-242.64	781.83	-603.93	-495.01	-192.44	-289.37
103	104	7.86	-1358.67	-150.21	1296.59	-267.73	-728.05	-249.78	-375.60
104	104	7.86	-1667.50	-157.87	1025.60	-710.23	-596.87	-249.25	-374.79
104	105	10.48	-1667.50	-65.33	1317.97	-520.66	-724.63	-282.46	-424.74
105	105	10.48	-1667.50	-76.45	1315.33	-522.16	-724.17	-282.06	-424.14
105	106	13.10	-1667.50	16.16	1394.33	-474.09	-748.20	-292.51	-439.86
106	106	13.10	-1667.50	2.60	1392.74	-475.00	-747.92	-292.27	-439.49
106	107	15.72	-1667.50	95.18	1264.65	-564.85	-669.30	-280.91	-422.41
107	107	15.72	-1667.50	80.26	1264.19	-565.11	-669.22	-280.84	-422.30
107	108	18.34	-1667.50	172.85	932.63	-790.82	-488.59	-248.20	-373.22
108	108	18.34	-1667.50	157.71	933.38	-790.39	-488.72	-248.32	-373.39
108	109	20.96	-1667.50	249.40	399.75	-1151.16	-206.32	-194.62	-292.64
109	109	20.96	-1667.50	235.38	401.76	-1150.01	-206.67	-194.92	-293.10
109	110	23.58	-1667.50	327.94	-336.17	-1647.11	177.88	-119.82	-180.18
110	110	23.58	-2491.45	314.53	800.31	-931.29	-836.85	-488.76	-587.05
110	111	26.20	-2495.43	332.74	-60.47	-1454.22	-583.07	-374.95	-415.40
111	111	26.20	-3220.56	322.72	1037.83	-844.54	-1182.22	-765.91	-868.29
111	112	29.55	-3230.01	341.58	-56.59	-1540.12	-762.91	-636.13	-671.91
112	112	29.55	-2773.14	335.66	375.34	-860.93	-1002.04	-633.76	-669.75
112	10113	32.90	-2717.04	348.42	-805.22	-1618.72	-439.16	-489.36	-459.94
113	113	32.90	-2652.14	-336.61	-770.48	-1556.21	-450.70	-481.44	-452.03
113	114	36.03	-2703.97	-334.70	322.32	-841.80	-1014.75	-609.02	-637.11
114	114	36.03	-3109.97	-336.57	-40.69	-1420.89	-818.63	-616.44	-644.53
114	115	39.16	-3101.16	-317.89	956.04	-771.65	-1252.70	-727.23	-812.28
115	115	39.16	-2329.03	-317.96	-351.44	-1553.33	-539.18	-280.06	-294.44
115	116	42.29	-2324.88	-306.45	613.96	-951.89	-874.01	-400.73	-476.43
116	116	42.29	-1736.29	-308.32	-474.53	-1797.78	246.27	-111.56	-167.75
116	117	45.42	-1736.29	-200.49	323.70	-1260.86	-167.03	-193.17	-290.47
117	117	45.42	-1736.29	-207.28	319.64	-1263.17	-166.33	-192.56	-289.55
117	118	48.55	-1736.29	-98.01	796.92	-937.54	-428.74	-239.20	-359.69
118	118	48.55	-1736.29	-109.47	793.42	-939.54	-428.14	-238.67	-358.90
118	119	51.68	-1736.29	1.02	963.15	-817.57	-542.01	-252.37	-379.49
119	119	51.68	-1736.29	-13.93	960.68	-818.98	-541.58	-252.00	-378.93
119	120	54.81	-1740.31	96.44	831.26	-898.51	-511.02	-234.01	-351.88
120	120	54.81	-1740.31	79.31	830.16	-899.14	-510.83	-233.84	-351.63
120	121	57.94	-1740.31	188.35	411.25	-1169.23	-332.85	-185.54	-278.99
121	121	57.94	-1740.31	170.96	411.82	-1168.90	-332.95	-185.62	-279.12
121	122	61.07	-1740.31	271.03	-292.02	-1629.79	-10.31	-107.78	-162.07
122	122	61.07	-2512.45	262.73	903.71	-841.89	-983.66	-492.53	-589.98
122	123	64.20	-2517.21	293.33	52.18	-1378.34	-669.92	-389.01	-433.70
123	123	64.20	-3128.56	288.47	1241.20	-616.12	-1314.91	-776.66	-883.03
123	124	67.55	-3138.00	318.65	243.04	-1272.63	-859.88	-668.75	-719.54
124	124	67.55	-2744.30	316.06	606.12	-697.17	-1059.69	-664.54	-715.32
124	10125	70.90	-2691.50	334.82	-516.59	-1438.75	-455.40	-537.09	-530.56
125	125	70.90	-2726.11	-347.31	-587.66	-1536.28	-403.63	-528.00	-521.35
125	126	74.23	-2770.24	-312.91	579.90	-761.75	-1029.21	-657.70	-710.62
126	126	74.23	-3248.42	-317.36	148.75	-1446.86	-796.57	-665.72	-718.48
126	127	77.56	-3239.05	-317.42	1204.98	-752.08	-1279.10	-779.94	-891.46

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.T0.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2536.91	-318.24	-164.97	-1634.84	-532.92	-333.16	-374.03
127	128	80.89	-2532.49	-293.32	877.54	-981.69	-906.80	-461.76	-567.98
128	128	80.89	-2045.10	-297.01	-302.07	-1915.20	58.61	-143.61	-216.24
129	129	84.22	-2045.10	-181.41	495.93	-1383.23	-338.60	-227.64	-342.30
129	129	84.22	-2045.10	-190.93	491.15	-1385.95	-337.78	-226.92	-341.22
129	130	87.55	-2045.10	-73.71	931.27	-1090.07	-565.15	-271.99	-408.99
130	130	87.55	-2045.10	-88.15	927.24	-1092.36	-564.45	-271.38	-408.08
130	131	90.88	-2045.10	27.84	1030.06	-1020.85	-625.52	-280.79	-422.23
131	131	90.88	-2045.10	8.73	1027.19	-1022.48	-625.02	-280.36	-421.58
131	132	94.21	-2045.10	126.28	802.53	-1169.75	-521.53	-255.58	-384.32
132	132	94.21	-2045.10	104.57	801.26	-1170.47	-521.31	-255.39	-384.04
132	133	97.54	-2045.10	220.34	260.92	-1529.80	-255.28	-198.22	-298.06
133	133	97.54	-2045.10	198.31	261.66	-1529.37	-255.41	-198.33	-298.23
133	134	100.87	-2045.10	295.96	-578.23	-2091.58	170.35	-111.18	-167.18
134	134	100.87	-2700.18	282.21	710.06	-1119.57	-952.81	-476.47	-568.20
134	135	104.20	-2729.13	308.97	-286.05	-1751.12	-602.65	-360.05	-389.36
135	135	104.20	-3269.70	303.49	969.33	-885.37	-1280.74	-747.68	-838.95
135	136	107.55	-3279.16	318.24	-82.59	-1575.84	-805.24	-633.25	-665.64
136	136	107.55	-2818.56	318.47	348.95	-895.75	-1043.20	-629.85	-662.43
136	10137	110.90	-2753.64	357.67	-854.69	-1683.14	-410.12	-488.63	-458.55
137	137	110.90	-2692.12	-360.11	-818.75	-1620.94	-422.88	-481.77	-451.79
137	138	113.77	-2751.81	-348.40	241.36	-955.24	-891.12	-619.48	-651.07
138	138	113.77	-3204.64	-345.54	-187.54	-1631.51	-651.31	-621.26	-652.86
138	139	116.64	-3196.55	-345.76	788.47	-1017.48	-1004.72	-739.99	-832.45
139	139	116.64	-2218.82	-345.89	-330.11	-1496.38	-390.74	-293.01	-314.86
139	140	119.51	-2215.02	-305.90	598.12	-934.86	-657.06	-416.91	-501.67
140	140	119.51	-1255.73	-306.26	-156.53	-1209.57	197.80	-116.14	-174.63
140	141	122.38	-1255.73	-204.96	577.08	-716.59	-180.45	-191.36	-287.75
141	141	122.38	-1255.73	-207.39	575.44	-717.52	-180.17	-191.12	-287.38
141	142	125.25	-1255.73	-106.06	1025.12	-410.22	-429.09	-234.83	-353.11
142	142	125.25	-1255.73	-110.33	1023.74	-411.01	-428.85	-234.62	-352.80
142	143	128.12	-1255.73	-8.98	1194.91	-286.28	-549.43	-247.62	-372.35
143	143	128.12	-1255.73	-14.60	1193.96	-286.83	-549.26	-247.48	-372.14
143	144	130.99	-1255.73	86.69	1090.56	-342.44	-542.14	-230.38	-346.42
144	144	130.99	-1255.73	80.28	1090.16	-342.67	-542.07	-230.32	-346.33
144	145	133.86	-1255.73	181.60	714.37	-577.38	-407.65	-183.43	-275.83
145	145	133.86	-1049.85	175.30	902.74	-274.82	-507.02	-183.46	-275.87
145	146	136.73	-1049.85	276.73	254.05	-688.93	-245.20	-106.72	-160.48
146	146	136.73	-603.76	270.98	683.73	-14.23	-487.16	-106.80	-160.60
146	147	139.60	-603.76	261.96	-236.74	-607.09	-98.12	-0.38	-0.57

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.T0.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-629.39	-274.87	-226.20	-613.66	-130.79	0.01	0.02
1	2	2.62	-629.39	-85.32	60.51	-399.68	-349.64	-19.39	-29.16
2	2	2.62	-856.95	-88.09	-156.71	-742.73	-226.56	-19.65	-29.55
2	3	5.24	-856.95	-40.41	11.39	-616.29	-358.14	-30.57	-45.96
3	3	5.24	-1084.50	-41.14	-206.00	-959.44	-235.02	-30.80	-46.31
3	4	7.86	-1084.50	6.33	-160.38	-922.76	-278.63	-32.65	-49.09
4	4	7.86	-1084.50	7.20	-159.10	-922.03	-278.85	-32.64	-49.38
4	5	10.48	-1084.50	54.95	-240.61	-977.74	-233.70	-24.92	-37.48
5	5	10.48	-1084.50	57.21	-239.70	-977.22	-233.85	-25.06	-37.68
5	6	13.10	-1084.50	104.74	-451.88	-1127.35	-99.33	-6.84	-10.28
6	6	13.10	-1084.50	107.96	-451.37	-1127.06	-99.42	-6.92	-10.40
6	7	15.72	-1084.50	155.61	-796.69	-1373.00	124.93	21.98	33.05
7	7	15.72	-1084.50	159.35	-796.67	-1372.99	124.93	21.98	33.05
7	8	18.34	-1084.50	206.95	-1276.47	-1715.52	439.31	61.75	92.86
8	8	18.34	-1747.91	210.69	-358.75	-1085.64	-583.99	-202.33	-187.92
8	9	20.96	-1751.17	305.62	-1043.24	-1503.17	-376.68	-112.64	-52.62
9	9	20.96	-2599.28	310.06	-379.08	-1378.17	-745.00	-432.54	-422.93
9	10	23.58	-2605.32	427.38	-1344.86	-1976.69	-423.01	-310.57	-238.73
10	10	23.58	-2347.78	430.62	-1128.05	-1624.91	-537.08	-302.48	-230.49
10	10011	26.20	-2303.08	550.39	-2445.61	-2428.57	-72.21	-123.73	32.46
11	11	26.20	-2304.36	-584.01	-2448.74	-2430.74	-72.05	-123.59	32.84
11	12	29.55	-2374.03	-430.27	-700.65	-1341.30	-779.41	-351.12	-300.20
12	12	29.55	-2839.92	-433.71	-1143.05	-2035.17	-535.06	-353.23	-301.96
12	13	32.90	-2832.19	-303.53	59.71	-1265.82	-1015.64	-493.87	-514.46
13	13	32.90	-2310.09	-309.11	-1084.76	-2032.84	-401.64	-135.41	-98.08
13	14	36.03	-2328.72	-174.36	-368.26	-1583.17	-689.18	-226.02	-231.89
14	14	36.03	-1918.68	-175.77	-1351.29	-2431.08	327.94	13.65	20.53
14	15	39.16	-1918.68	-98.46	-944.15	-2128.47	21.35	-14.49	-21.79
15	15	39.16	-1918.68	-102.71	-943.67	-2128.20	21.27	-14.56	-21.90
15	16	42.29	-1918.68	-45.12	-712.62	-1954.41	-159.57	-29.58	-44.48
16	16	42.29	-1918.68	-47.88	-711.82	-1953.96	-159.70	-29.70	-44.66
16	17	45.42	-1918.68	14.68	-660.31	-1910.97	-214.16	-31.05	-46.70
17	17	45.42	-1918.68	13.81	-659.34	-1910.42	-214.33	-31.20	-46.92
17	18	48.55	-1918.68	71.14	-792.17	-2000.95	-141.60	-18.18	-27.33
18	18	48.55	-1918.68	71.73	-791.30	-2000.45	-141.75	-18.31	-27.53
18	19	51.68	-1918.68	128.60	-1104.86	-2222.45	57.53	8.55	12.86
19	19	51.68	-1918.68	130.57	-1104.34	-2222.16	57.44	8.48	12.75
19	20	54.81	-1918.68	188.87	-1603.21	-2578.23	384.08	49.86	74.98
20	20	54.81	-2404.80	191.54	-532.88	-1718.22	-621.30	-229.66	-227.44
20	21	57.94	-2408.69	331.45	-1353.81	-2240.26	-301.69	-132.07	-80.17
21	21	57.94	-2838.31	335.69	-307.55	-1501.55	-871.04	-451.75	-450.33
21	22	61.07	-2845.52	453.34	-1550.90	-2293.65	-383.94	-304.76	-228.36
22	22	61.07	-2343.57	451.08	-1111.58	-1590.77	-616.99	-292.85	-216.56
22	10023	64.20	-2302.27	593.03	-2786.49	-2642.66	54.68	-81.66	95.62
23	23	64.20	-2389.46	-614.84	-2863.52	-2764.20	97.02	-84.53	92.78
23	24	67.55	-2443.03	-465.44	-1061.03	-1630.69	-642.58	-312.20	-242.57
24	24	67.55	-2952.31	-468.09	-1537.16	-2381.96	-379.78	-316.14	-246.37
24	25	70.90	-2944.59	-335.24	-226.44	-1542.86	-906.72	-469.16	-477.48

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.T0.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2541.56	-337.28	-1471.20	-2476.50	-240.05	-112.64	-63.32
25	26	74.23	-2537.95	-194.51	-597.54	-1920.43	-582.50	-216.33	-219.72
26	26	74.23	-2256.25	-189.59	-1678.20	-2890.41	337.29	38.47	57.85
26	27	77.56	-2256.25	-112.69	-1187.74	-2545.15	32.16	-4.47	-6.72
27	27	77.56	-2256.25	-113.91	-1187.25	-2544.87	32.08	-4.54	-6.83
27	28	80.89	-2260.02	-52.58	-910.17	-2355.99	-130.43	-30.54	-45.92
28	28	80.89	-2260.02	-52.54	-909.35	-2355.52	-130.58	-30.66	-46.11
29	29	84.22	-2260.02	7.92	-835.02	-2312.06	-147.27	-41.33	-62.15
29	29	84.22	-2260.02	9.44	-834.07	-2311.52	-147.43	-41.47	-62.36
29	30	87.55	-2260.02	76.71	-987.08	-2429.84	-16.90	-33.05	-49.70
30	30	87.55	-2260.02	80.00	-986.04	-2429.25	-17.08	-33.21	-49.93
30	31	90.88	-2260.02	140.52	-1353.02	-2701.72	258.32	-7.70	-11.58
31	31	90.88	-2260.02	145.45	-1352.34	-2701.34	258.20	-7.80	-11.73
31	32	94.21	-2260.02	207.88	-1939.46	-3131.49	679.57	35.71	53.70
32	32	94.21	-2633.99	213.82	-769.19	-2043.55	-592.24	-213.84	-203.43
32	33	97.54	-2638.13	365.80	-1726.10	-2646.08	-239.14	-97.22	-27.53
33	33	97.54	-2954.03	374.54	-575.48	-1740.04	-863.47	-416.98	-397.78
33	34	100.87	-2961.71	497.53	-2037.03	-2663.26	-316.10	-240.40	-131.26
34	34	100.87	-2436.64	500.76	-1562.70	-1908.31	-573.88	-232.10	-122.96
34	10035	104.20	-2374.20	652.73	-3524.04	-3127.48	188.89	22.79	252.17
35	35	104.20	-2389.49	-656.15	-3526.71	-3133.57	184.79	19.23	248.81
35	36	107.55	-2439.96	-488.26	-1595.25	-1939.67	-529.80	-233.61	-124.79
36	36	107.55	-2947.50	-488.90	-2073.80	-2691.79	-266.05	-236.73	-127.59
36	37	110.90	-2939.79	-366.41	-638.81	-1795.90	-768.08	-415.02	-396.70
37	37	110.90	-2492.74	-371.39	-1851.50	-2673.48	-117.46	-56.53	19.64
37	38	113.77	-2489.62	-234.50	-968.65	-2130.31	-401.72	-170.17	-151.65
38	38	113.77	-2184.36	-237.25	-2017.65	-3100.33	655.70	59.73	89.81
38	39	116.64	-2184.36	-185.21	-1411.43	-2660.30	234.30	12.88	19.37
39	39	116.64	-2184.36	-187.73	-1412.04	-2660.64	234.40	12.97	19.50
39	40	119.51	-2184.36	-135.65	-948.03	-2325.59	-82.30	-23.71	-35.65
40	40	119.51	-2184.36	-138.64	-948.33	-2325.76	-82.25	-23.67	-35.59
40	41	122.38	-2184.36	-85.92	-626.46	-2095.65	-294.24	-50.20	-75.48
41	41	122.38	-2184.36	-88.74	-626.56	-2095.71	-294.22	-50.18	-75.46
41	42	125.25	-2184.36	-28.18	-461.26	-1978.77	-398.97	-64.38	-96.81
42	42	125.25	-2184.36	-32.76	-460.65	-1978.42	-399.08	-64.48	-96.95
42	43	128.12	-2184.36	16.34	-437.04	-1966.17	-399.20	-68.59	-103.14
43	43	128.12	-2184.36	12.82	-436.24	-1965.71	-399.34	-68.71	-103.32
43	44	130.99	-2184.36	59.48	-539.96	-2049.99	-297.32	-64.91	-97.60
44	44	130.99	-1691.32	57.11	-112.10	-1346.27	-505.90	-65.04	-97.80
44	45	133.86	-1691.32	106.16	-346.35	-1528.88	-301.17	-52.83	-79.44
45	45	133.86	-1198.28	104.92	105.19	-804.07	-539.20	-52.97	-79.65
45	46	136.73	-1198.28	153.97	-266.34	-1088.86	-230.60	-31.34	-47.12
46	46	136.73	-705.24	153.89	208.86	-342.97	-498.09	-31.47	-47.33
46	47	139.60	-705.24	419.89	-305.25	-732.96	-84.71	0.38	0.57
101	101	0.00	-667.32	-424.71	-266.96	-674.01	-107.53	0.38	0.57
101	102	2.62	-667.32	-155.59	204.09	-325.03	-458.50	-32.71	-49.19
102	102	2.62	-1160.36	-154.43	-271.51	-1071.15	-190.95	-32.52	-48.90
102	103	5.24	-1160.36	-107.47	71.59	-815.02	-453.01	-55.72	-83.78

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.T0.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1501.69	-107.74	-241.62	-1317.16	-288.11	-55.53	-83.51
103	104	7.86	-1501.69	-60.78	-20.87	-1150.73	-462.21	-69.69	-104.79
104	104	7.86	-1843.02	-62.37	-317.52	-1638.17	-317.73	-69.53	-104.55
104	105	10.48	-1843.02	-9.85	-222.75	-1563.47	-403.27	-74.69	-111.40
105	105	10.48	-1843.02	-11.77	-222.90	-1563.56	-403.25	-74.66	-111.37
105	106	13.10	-1843.02	38.00	-257.25	-1582.40	-399.69	-68.55	-103.08
106	106	13.10	-1843.02	35.95	-257.22	-1582.38	-399.69	-68.55	-103.09
106	107	15.72	-1843.02	85.71	-416.58	-1692.41	-307.71	-53.59	-80.59
107	107	15.72	-1843.02	83.72	-416.34	-1692.27	-307.76	-53.63	-80.64
107	108	18.34	-1843.02	133.48	-700.84	-1893.57	-127.37	-29.20	-43.90
108	108	18.34	-1843.02	131.79	-700.34	-1893.28	-127.46	-29.27	-44.02
108	109	20.96	-1843.02	182.14	-1111.14	-2186.50	141.55	4.80	7.22
109	109	20.96	-1843.02	180.90	-1110.36	-2186.06	141.42	4.69	7.05
109	110	23.58	-1843.02	230.70	-1649.58	-2572.41	499.42	48.73	73.27
110	110	23.58	-2407.19	229.68	-645.13	-1812.18	-504.76	-227.13	-223.31
110	111	26.20	-2410.45	353.81	-1391.04	-2269.50	-270.69	-130.44	-77.50
111	111	26.20	-2891.74	351.84	-411.83	-1633.71	-796.64	-444.20	-441.90
111	112	29.55	-2899.48	488.24	-1820.71	-2507.80	-322.26	-266.60	-173.82
112	112	29.55	-2390.70	489.87	-1342.14	-1755.30	-585.63	-263.16	-170.71
112	10113	32.90	-2344.80	643.41	-3282.27	-2948.57	105.98	-6.95	208.56
113	113	32.90	-2293.36	-675.14	-3242.35	-2884.65	86.90	-3.69	211.70
113	114	36.03	-2364.35	-499.14	-1385.35	-1740.90	-615.44	-251.39	-151.50
114	114	36.03	-2816.43	-495.62	-1787.15	-2382.28	-399.57	-260.37	-160.44
114	115	39.16	-2809.22	-372.57	-417.23	-1521.06	-898.86	-427.80	-413.16
115	115	39.16	-2295.69	-363.93	-1594.51	-2333.98	-258.14	-62.02	10.41
115	116	42.29	-2292.29	-206.02	-695.77	-1770.72	-581.62	-172.84	-156.68
116	116	42.29	-1919.07	-200.51	-1676.85	-2672.92	571.55	36.34	54.65
116	117	45.42	-1919.07	-138.46	-1148.19	-2287.67	199.04	-3.81	-5.72
117	117	45.42	-1919.07	-133.90	-1148.72	-2287.97	199.13	-3.73	-5.60
117	118	48.55	-1919.07	-73.93	-823.66	-2047.22	-42.86	-26.59	-39.99
118	118	48.55	-1919.07	-70.46	-824.35	-2047.60	-42.74	-26.49	-39.83
118	119	51.68	-1919.07	-3.77	-701.01	-1950.25	-154.54	-32.35	-48.65
119	119	51.68	-1919.07	-1.59	-701.48	-1950.52	-154.46	-32.28	-48.54
119	120	54.81	-1915.05	58.11	-789.67	-1999.57	-131.62	-19.68	-29.60
120	120	54.81	-1915.05	59.59	-789.91	-1999.70	-131.58	-19.65	-29.55
120	121	57.94	-1915.05	119.71	-1069.71	-2189.24	17.71	8.34	12.54
121	121	57.94	-1915.05	120.81	-1069.59	-2189.17	17.69	8.32	12.51
121	122	61.07	-1915.05	190.54	-1544.95	-2518.61	296.12	52.37	78.76
122	122	61.07	-2414.39	198.97	-475.71	-1680.85	-659.65	-237.17	-237.47
122	123	64.20	-2418.28	338.43	-1328.69	-2217.87	-345.40	-133.20	-80.63
123	123	64.20	-2779.18	342.44	-248.54	-1414.70	-923.73	-444.79	-442.63
123	124	67.55	-2786.90	468.74	-1611.04	-2278.11	-404.98	-281.55	-196.15
124	124	67.55	-2352.88	472.79	-1208.23	-1641.55	-626.42	-277.41	-192.12
124	10125	70.90	-2309.68	628.89	-3096.57	-2821.87	107.83	-37.08	163.63
125	125	70.90	-2369.14	-677.63	-3173.77	-2935.23	158.49	-32.74	168.01
125	126	74.23	-2436.84	-514.51	-1190.33	-1703.25	-615.67	-291.48	-212.23
126	126	74.23	-2969.10	-514.83	-1667.62	-2462.03	-359.52	-301.20	-221.72
126	127	77.56	-2961.43	-360.83	-228.52	-1549.79	-908.98	-473.55	-481.89

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.T0.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2524.87	-353.72	-1474.58	-2474.16	-232.09	-108.14	-58.73
127	128	80.89	-2521.25	-198.19	-586.03	-1908.90	-579.49	-213.75	-218.01
128	128	80.89	-2260.40	-194.33	-1666.83	-2907.43	401.85	27.91	40.62
128	129	84.22	-2260.40	-129.50	-1128.78	-2523.61	50.24	-17.72	-26.64
129	129	84.22	-2260.40	-127.03	-1129.72	-2524.14	50.40	-17.58	-26.43
129	130	87.55	-2260.40	-63.34	-812.22	-2298.21	-155.19	-44.24	-66.53
130	130	87.55	-2260.40	-63.00	-813.32	-2298.84	-155.00	-44.08	-66.28
130	131	90.88	-2260.40	0.83	-710.65	-2227.56	-215.53	-53.54	-80.50
131	131	90.88	-2260.40	-0.22	-711.66	-2228.14	-215.36	-53.38	-80.27
131	132	94.21	-2260.40	68.85	-832.33	-2316.35	-129.40	-44.35	-66.69
132	132	94.21	-2260.40	66.16	-832.91	-2316.69	-129.30	-44.26	-66.56
132	133	97.54	-2260.40	130.20	-1159.20	-2554.30	100.10	-19.41	-29.18
133	133	97.54	-2260.40	126.41	-1159.29	-2554.36	100.11	-19.39	-29.16
133	134	100.87	-2260.40	209.13	-1701.17	-2947.05	474.68	22.78	34.26
134	134	100.87	-2669.04	209.26	-529.89	-1913.54	-658.36	-256.99	-263.74
134	135	104.20	-2649.29	362.94	-1463.69	-2495.08	-304.47	-137.33	-86.39
135	135	104.20	-2937.04	360.02	-310.30	-1579.06	-920.89	-450.21	-449.97
135	136	107.55	-2944.78	500.08	-1720.04	-2472.72	-382.81	-281.42	-195.15
136	136	107.55	-2440.76	500.40	-1241.22	-1721.49	-647.64	-279.25	-193.33
136	10137	110.90	-2387.64	661.12	-3215.44	-2951.09	115.60	-24.98	182.09
137	137	110.90	-2342.38	-634.22	-3173.31	-2887.76	94.30	-23.65	183.13
137	138	113.77	-2391.21	-496.15	-1509.47	-1875.12	-475.45	-249.52	-150.13
138	138	113.77	-2923.37	-488.96	-1981.57	-2630.91	-220.18	-259.99	-160.77
138	139	116.64	-2916.75	-357.49	-760.25	-1877.67	-616.58	-416.06	-396.32
139	139	116.64	-2175.90	-350.62	-1727.10	-2354.98	-86.12	-50.71	26.63
139	140	119.51	-2172.78	-234.69	-885.53	-1843.00	-337.62	-161.74	-140.73
140	140	119.51	-1387.91	-229.10	-1501.25	-2114.10	519.16	61.92	93.10
140	141	122.38	-1387.91	-174.46	-922.20	-1705.76	156.57	11.55	17.36
141	141	122.38	-1387.91	-169.24	-922.41	-1705.88	156.60	11.58	17.41
141	142	125.25	-1387.91	-114.63	-515.03	-1419.32	-96.14	-24.19	-36.37
142	142	125.25	-1387.91	-110.27	-515.65	-1419.67	-96.03	-24.09	-36.23
142	143	128.12	-1387.91	-55.68	-277.49	-1253.46	-239.38	-45.63	-68.61
143	143	128.12	-1387.91	-52.49	-278.40	-1253.97	-239.22	-45.49	-68.40
143	144	130.99	-1387.91	2.12	-206.20	-1206.28	-273.72	-53.27	-80.11
144	144	130.99	-1387.91	3.98	-207.31	-1206.91	-273.53	-53.11	-79.86
144	145	133.86	-1387.91	58.62	-297.24	-1275.54	-199.85	-47.73	-71.77
145	145	133.86	-1160.36	58.78	-90.53	-941.97	-309.43	-47.54	-71.48
145	146	136.73	-1160.36	113.32	-337.52	-1124.04	-128.45	-29.75	-44.74
146	146	136.73	-667.32	111.82	135.41	-379.45	-395.53	-29.55	-44.43
146	147	139.60	-667.32	320.20	-265.04	-672.92	-107.87	0.09	0.14

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES2.T0.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B ISO To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-569.45	-218.37	-202.06	-553.74	-118.78	-0.38	-0.57
1	2	2.62	-569.45	-236.49	530.62	-82.46	-426.35	-85.39	-128.40
2	2	2.62	-775.33	-243.51	333.00	-393.46	-314.80	-85.46	-123.50
2	3	5.24	-775.33	-155.59	856.10	-61.51	-519.30	-148.27	-222.96
2	3	5.24	-981.22	-162.25	658.63	-372.44	-407.77	-148.36	-223.09
3	4	7.86	-981.22	-74.16	968.34	-182.00	-508.54	-188.41	-283.31
4	4	7.86	-981.22	-80.07	969.09	-181.58	-508.67	-188.52	-283.48
4	5	10.48	-981.22	7.77	1063.92	-133.50	-505.44	-205.58	-309.13
5	5	10.48	-981.22	2.73	1064.87	-132.95	-505.60	-205.73	-309.35
5	6	13.10	-981.22	90.74	942.48	-228.56	-397.99	-199.44	-299.89
6	6	13.10	-981.22	86.86	943.54	-227.95	-398.18	-199.60	-300.13
6	7	15.72	-981.22	174.79	600.85	-469.00	-185.62	-169.50	-254.88
7	7	15.72	-981.22	172.15	601.85	-468.43	-185.79	-169.65	-255.11
7	8	18.34	-981.22	260.11	35.61	-856.77	132.25	-115.26	-173.31
8	8	18.34	-1864.29	258.65	1089.30	-253.29	-886.23	-465.46	-557.74
8	9	20.96	-1868.27	299.29	372.19	-689.60	-673.48	-371.03	-415.23
9	9	20.96	-2904.85	297.39	1186.51	-535.35	-1124.10	-762.41	-868.41
9	10	23.58	-2912.24	293.93	423.22	-1019.00	-837.64	-671.30	-730.44
10	10	23.58	-2703.14	294.82	621.11	-706.88	-948.28	-670.44	-729.57
10	10011	26.20	-2648.50	305.22	-211.09	-1231.26	-564.65	-562.25	-574.02
11	11	26.20	-2672.88	-311.55	-211.74	-1238.91	-571.81	-568.47	-580.19
11	12	29.55	-2758.03	-273.70	855.13	-541.91	-1165.61	-697.37	-762.90
12	12	29.55	-3185.54	-274.82	456.76	-1170.40	-946.65	-701.11	-766.47
12	13	32.90	-3176.09	-257.24	1360.21	-570.93	-1374.79	-796.21	-910.71
13	13	32.90	-2381.65	-263.66	82.49	-1306.70	-681.13	-351.91	-395.62
13	14	36.03	-2355.46	-236.98	900.65	-785.79	-972.92	-446.22	-540.85
14	14	36.03	-1735.96	-249.77	-188.04	-1582.73	24.40	-130.47	-196.19
14	15	39.16	-1735.96	-165.37	483.98	-1129.67	-326.98	-198.70	-298.78
15	15	39.16	-1735.96	-185.23	483.88	-1129.73	-326.97	-198.68	-298.76
15	16	42.29	-1735.96	-81.61	901.24	-850.23	-538.95	-241.93	-363.79
16	16	42.29	-1735.96	-100.70	902.72	-849.39	-539.21	-242.15	-364.13
16	17	45.42	-1735.96	4.39	1053.42	-750.28	-609.70	-258.62	-388.89
17	17	45.42	-1735.96	-12.18	1056.07	-748.77	-610.16	-259.02	-389.49
17	18	48.55	-1735.96	92.46	930.24	-835.67	-537.48	-247.22	-371.74
18	18	48.55	-1735.96	79.61	933.66	-833.73	-538.07	-247.73	-372.51
18	19	51.68	-1735.96	183.95	521.99	-1111.93	-320.61	-206.25	-310.14
19	19	51.68	-1735.96	175.29	525.75	-1109.79	-321.26	-206.82	-310.99
19	20	54.81	-1735.96	278.79	-186.07	-1587.44	43.49	-133.50	-200.75
20	20	54.81	-2462.56	274.50	1011.10	-773.48	-962.02	-499.35	-606.75
20	21	57.94	-2467.31	296.57	126.55	-1332.01	-631.63	-392.39	-445.30
21	21	57.94	-3124.83	294.46	1285.76	-622.85	-1263.87	-783.34	-898.05
21	22	61.07	-3133.66	313.44	363.75	-1232.49	-833.00	-685.19	-749.30
22	22	61.07	-2714.87	305.03	761.74	-606.81	-1054.49	-683.65	-747.91
22	10023	64.20	-2664.39	318.59	-245.88	-1276.07	-495.85	-570.63	-584.54
23	23	64.20	-2763.38	-322.39	-313.39	-1390.79	-463.91	-578.77	-592.82
23	24	67.55	-2828.85	-284.23	777.34	-666.04	-1083.59	-702.27	-769.99
24	24	67.55	-3291.77	-288.99	348.50	-1345.29	-846.79	-706.68	-774.42
24	25	70.90	-3282.33	-273.90	1308.19	-705.52	-1312.32	-806.37	-925.55

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES2.T0.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B ISO.To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2596.00	-281.28	-59.75	-1591.85	-571.21	-364.00	-412.68
25	26	74.23	-2591.58	-252.22	833.97	-1024.12	-916.90	-470.51	-573.42
26	26	74.23	-2048.57	-264.49	-344.13	-1925.49	10.59	-130.01	-195.49
26	27	77.56	-2048.57	-169.56	391.66	-1439.06	-342.12	-209.21	-314.59
27	27	77.56	-2048.57	-190.98	391.80	-1438.98	-342.14	-209.23	-314.62
27	28	80.89	-2044.80	-81.07	843.69	-1143.95	-535.68	-260.77	-392.12
28	28	80.89	-2044.80	-101.36	845.58	-1142.87	-536.01	-261.06	-392.55
28	29	84.22	-2044.80	10.53	996.83	-1053.69	-572.51	-282.40	-424.65
29	29	84.22	-2044.80	-6.67	1000.04	-1051.86	-573.06	-282.89	-425.38
29	30	87.55	-2044.80	103.71	836.52	-1174.22	-447.17	-271.97	-408.96
30	30	87.55	-2044.80	91.11	840.52	-1171.95	-447.87	-272.57	-409.87
30	31	90.88	-2044.80	202.93	350.76	-1512.38	-157.64	-227.66	-342.33
31	31	90.88	-2044.80	195.45	355.16	-1509.87	-158.40	-228.32	-343.32
31	32	94.21	-2044.80	304.88	-479.11	-2078.78	299.39	-146.66	-220.53
32	32	94.21	-2670.43	302.83	809.30	-1058.44	-947.00	-485.70	-585.97
32	33	97.54	-2675.49	322.67	-233.49	-1710.14	-579.28	-356.38	-390.85
33	33	97.54	-3230.15	322.79	1019.88	-849.73	-1261.22	-747.37	-843.64
33	34	100.87	-3239.53	345.32	-73.86	-1564.08	-778.17	-626.65	-660.90
34	34	100.87	-2767.24	342.86	354.99	-882.02	-1012.18	-619.82	-654.04
34	10035	104.20	-2731.01	344.85	-812.29	-1656.97	-394.98	-491.37	-465.62
35	35	104.20	-2760.13	-344.89	-812.59	-1665.83	-403.62	-498.87	-473.10
35	36	107.55	-2821.82	-335.06	348.12	-914.06	-987.84	-638.48	-674.97
36	36	107.55	-3278.88	-341.21	-83.74	-1593.28	-748.77	-640.91	-677.20
36	37	110.90	-3269.45	-316.55	995.13	-899.61	-1188.51	-765.10	-865.17
37	37	110.90	-2540.64	-327.23	-343.79	-1734.43	-461.12	-320.25	-349.65
37	38	113.77	-2536.82	-315.65	559.90	-1179.19	-748.79	-436.85	-525.48
38	38	113.77	-1976.32	-333.40	-589.68	-2079.47	305.38	-121.83	-183.20
38	39	116.64	-1976.32	-236.95	228.75	-1520.95	-145.06	-201.75	-303.38
39	39	116.64	-1976.32	-254.80	226.78	-1522.08	-144.72	-201.46	-302.93
39	40	119.51	-1976.32	-159.07	821.47	-1114.96	-476.31	-258.93	-389.35
40	40	119.51	-1976.32	-177.65	820.89	-1115.29	-476.21	-258.84	-389.22
40	41	122.38	-1976.32	-81.78	1193.62	-858.56	-689.23	-294.13	-442.28
41	41	122.38	-1976.32	-100.05	1194.28	-858.19	-689.35	-294.23	-442.43
41	42	125.25	-1976.32	-3.57	1342.98	-753.03	-783.44	-307.02	-461.67
42	42	125.25	-1976.32	-20.11	1344.75	-752.03	-783.74	-307.29	-462.07
42	43	128.12	-1976.32	76.00	1264.70	-801.13	-758.10	-296.88	-446.42
43	43	128.12	-1976.32	62.48	1267.43	-799.58	-758.57	-297.29	-447.04
43	44	130.99	-1976.32	155.07	955.11	-1004.93	-612.57	-263.15	-395.70
44	44	130.99	-1530.24	145.22	1344.98	-366.66	-801.77	-263.69	-396.51
44	45	133.86	-1530.24	241.72	789.75	-734.35	-533.57	-204.21	-307.07
45	45	133.86	-1084.16	236.49	1201.73	-76.61	-749.52	-204.85	-308.04
45	46	136.73	-1084.16	332.99	384.52	-617.46	-355.82	-117.16	-176.18
46	46	136.73	-638.08	333.21	818.41	59.63	-598.52	-117.88	-177.26
46	47	139.60	-638.08	249.53	-273.25	-661.49	-77.15	-0.10	-0.15
101	101	0.00	-603.76	-247.77	-239.14	-608.46	-97.71	-0.02	-0.03
101	102	2.62	-603.76	-339.65	769.44	48.92	-549.85	-112.99	-169.91
102	102	2.62	-1049.85	-337.96	335.57	-628.16	-307.16	-112.28	-168.83
102	103	5.24	-1049.85	-245.47	1099.76	-129.94	-650.21	-197.81	-297.45

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES2.T0.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
103	103	5.24	-1358.67	-248.77	813.26	-586.03	-500.47	-197.17	-296.49
103	104	7.86	-1358.67	-156.34	1344.07	-240.70	-736.28	-256.93	-386.35
104	104	7.86	-1667.50	-164.02	1073.14	-683.16	-605.12	-256.41	-385.56
104	105	10.48	-1667.50	-71.48	1381.62	-484.43	-735.67	-292.05	-439.16
105	105	10.48	-1667.50	-82.55	1379.03	-485.90	-735.22	-291.66	-438.57
105	106	13.10	-1667.50	10.06	1474.01	-428.73	-762.02	-304.52	-457.91
106	106	13.10	-1667.50	-3.40	1472.46	-429.61	-761.75	-304.29	-457.56
106	107	15.72	-1667.50	89.18	1360.09	-510.51	-685.85	-295.29	-444.03
107	107	15.72	-1667.50	74.41	1359.67	-510.75	-685.78	-295.23	-443.94
107	108	18.34	-1667.50	167.00	1043.44	-727.73	-507.82	-264.90	-398.33
108	108	18.34	-1667.50	152.04	1044.22	-727.29	-507.95	-265.02	-398.51
108	109	20.96	-1667.50	243.73	525.46	-1079.59	-228.13	-213.56	-321.13
109	109	20.96	-1667.50	229.90	527.48	-1078.44	-228.48	-213.86	-321.59
109	110	23.58	-1667.50	322.47	-196.10	-1567.37	153.58	-140.93	-211.91
110	110	23.58	-2491.45	309.26	940.36	-851.56	-861.15	-509.86	-618.78
110	111	26.20	-2495.43	327.47	93.39	-1366.63	-609.76	-398.13	-450.26
111	111	26.20	-3220.56	317.66	1191.64	-756.97	-1208.90	-789.08	-903.14
111	112	29.55	-3230.01	336.52	114.16	-1442.91	-792.53	-661.86	-710.60
112	112	29.55	-2773.14	330.77	546.01	-763.76	-1031.65	-659.47	-708.42
112	10113	32.90	-2717.04	343.53	-618.17	-1512.24	-471.61	-517.54	-502.32
113	113	32.90	-2652.14	-334.85	-583.51	-1449.76	-483.14	-509.61	-494.39
113	114	36.03	-2703.97	-332.94	503.79	-738.49	-1046.23	-636.37	-678.23
114	114	36.03	-3109.97	-334.80	140.72	-1317.62	-850.10	-643.77	-685.64
114	115	39.16	-3101.16	-316.12	1131.90	-671.53	-1283.21	-753.73	-852.13
115	115	39.16	-2329.03	-316.21	-175.62	-1453.24	-569.68	-306.55	-334.28
115	116	42.29	-2324.88	-304.71	784.33	-854.90	-903.57	-426.40	-515.03
116	116	42.29	-1736.29	-306.63	-304.20	-1700.81	216.72	-137.22	-206.34
116	117	45.42	-1736.29	-198.80	488.75	-1166.90	-195.67	-218.04	-327.86
117	117	45.42	-1736.29	-205.67	484.66	-1169.23	-194.96	-217.42	-326.94
117	118	48.55	-1736.29	-96.40	956.88	-846.48	-456.49	-263.30	-395.93
118	118	48.55	-1736.29	-107.93	953.36	-848.49	-455.88	-262.77	-395.13
118	119	51.68	-1736.29	2.56	1118.27	-729.26	-568.92	-275.74	-414.64
119	119	51.68	-1736.29	-12.48	1115.78	-730.68	-568.49	-275.37	-414.07
119	120	54.81	-1740.31	97.90	981.81	-812.81	-537.14	-256.69	-385.99
120	120	54.81	-1740.31	80.69	980.69	-813.44	-536.94	-256.52	-385.74
120	121	57.94	-1740.31	189.72	557.47	-1085.99	-358.22	-207.57	-312.12
121	121	57.94	-1740.31	172.26	558.04	-1085.66	-358.31	-207.66	-312.25
121	122	61.07	-1740.31	272.33	-149.89	-1548.88	-34.97	-129.20	-194.28
122	122	61.07	-2512.45	263.97	1045.84	-760.98	-1008.32	-513.95	-622.19
122	123	64.20	-2517.21	294.57	190.41	-1299.64	-693.90	-409.84	-465.02
123	123	64.20	-3128.56	289.68	1379.45	-537.41	-1338.89	-797.49	-914.35
123	124	67.55	-3138.00	319.86	377.23	-1196.24	-883.16	-688.97	-749.94
124	124	67.55	-2744.30	317.28	740.32	-620.76	-1082.97	-684.76	-745.73
124	10125	70.90	-2691.50	336.04	-386.45	-1364.66	-477.98	-556.69	-560.05
125	125	70.90	-2726.11	-349.03	-457.51	-1462.19	-426.21	-547.61	-550.83
125	126	74.23	-2770.24	-314.62	715.75	-684.41	-1052.78	-678.17	-741.40
126	126	74.23	-3248.42	-319.01	284.61	-1369.52	-820.14	-686.19	-749.26
126	127	77.56	-3239.05	-319.07	1346.33	-671.61	-1303.62	-801.24	-923.48

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES2.T0.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
127	127	77.56	-2536.91	-319.81	-23.63	-1554.38	-557.44	-354.46	-406.05
127	128	80.89	-2532.49	-294.89	1024.11	-898.25	-932.22	-483.85	-601.19
128	128	80.89	-2045.10	-298.50	-155.51	-1831.77	33.19	-165.89	-249.45
128	129	84.22	-2045.10	-182.90	647.44	-1296.98	-364.89	-250.47	-376.63
129	129	84.22	-2045.10	-192.33	642.64	-1299.71	-364.06	-249.75	-375.54
129	130	87.55	-2045.10	-75.11	1087.43	-1001.17	-592.24	-295.52	-444.37
130	130	87.55	-2045.10	-89.48	1083.37	-1003.48	-591.54	-294.91	-443.45
130	131	90.88	-2045.10	26.52	1190.61	-929.45	-653.37	-304.98	-458.60
131	131	90.88	-2045.10	7.48	1187.71	-931.10	-652.87	-304.55	-457.95
131	132	94.21	-2045.10	125.02	967.22	-1075.99	-550.10	-280.40	-421.64
132	132	94.21	-2045.10	103.36	965.92	-1076.73	-549.87	-280.20	-421.35
132	133	97.54	-2045.10	219.14	429.59	-1433.77	-284.54	-223.63	-336.27
133	133	97.54	-2045.10	197.13	430.29	-1433.37	-284.66	-223.74	-336.43
133	134	100.87	-2045.10	294.78	-405.66	-1993.34	140.41	-137.18	-206.28
134	134	100.87	-2700.18	281.01	882.57	-1021.36	-982.74	-502.46	-607.29
134	135	104.20	-2729.13	307.76	-109.53	-1650.63	-633.28	-386.65	-429.35
135	135	104.20	-3269.70	302.20	1145.78	-784.92	-1311.35	-774.27	-878.93
135	136	107.55	-3279.16	316.95	98.17	-1472.93	-836.60	-660.49	-706.60
136	136	107.55	-2818.56	317.04	529.64	-792.88	-1074.55	-657.08	-703.37
136	10137	110.90	-2753.64	356.24	-669.19	-1577.53	-442.30	-516.58	-500.58
137	137	110.90	-2692.12	-353.00	-633.29	-1515.36	-455.05	-509.72	-493.81
137	138	113.77	-2751.81	-341.29	406.40	-861.28	-919.76	-644.35	-688.46
138	138	113.77	-3204.64	-338.66	-22.51	-1537.56	-679.94	-646.13	-690.26
138	139	116.64	-3196.55	-338.87	933.73	-934.78	-1029.92	-761.88	-865.37
139	139	116.64	-2218.82	-339.23	-184.83	-1413.67	-415.94	-314.90	-347.77
139	140	119.51	-2215.02	-299.24	724.26	-863.05	-678.95	-435.92	-530.25
140	140	119.51	-1255.73	-299.79	-30.36	-1137.74	175.92	-135.15	-203.22
140	141	122.38	-1255.73	-198.49	684.68	-655.33	-199.12	-207.58	-312.13
141	141	122.38	-1255.73	-201.08	683.08	-656.25	-198.84	-207.33	-311.77
141	142	125.25	-1255.73	-99.75	1114.63	-359.26	-444.62	-248.31	-373.39
142	142	125.25	-1255.73	-104.12	1113.30	-360.02	-444.39	-248.11	-373.09
142	143	128.12	-1255.73	-2.77	1266.64	-245.45	-561.87	-258.43	-388.60
143	143	128.12	-1255.73	-8.44	1265.75	-245.96	-561.72	-258.30	-388.40
143	144	130.99	-1255.73	92.86	1144.66	-311.64	-551.53	-238.53	-358.68
144	144	130.99	-1255.73	86.47	1144.33	-311.83	-551.47	-238.48	-358.60
144	145	133.86	-1255.73	187.78	750.78	-556.66	-413.97	-188.92	-284.08
145	145	133.86	-1049.85	181.59	939.22	-254.05	-513.35	-188.96	-284.14
145	146	136.73	-1049.85	283.02	272.49	-678.43	-248.40	-109.50	-164.66
146	146	136.73	-603.76	277.45	702.25	-3.69	-490.37	-109.60	-164.80
146	147	139.60	-603.76	261.96	-236.74	-607.09	-98.12	-0.38	-0.57

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.T0.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-569.45	-211.75	-201.27	-553.28	-118.92	-0.50	-0.75
1	2	2.62	-569.45	-293.22	693.53	10.29	-454.61	-109.94	-165.32
2	2	2.62	-775.33	-299.63	499.31	-298.78	-343.65	-110.52	-166.19
2	3	5.24	-775.33	-202.23	1157.08	109.83	-571.52	-193.62	-291.15
3	3	5.24	-981.22	-204.75	962.65	-199.36	-460.51	-194.17	-291.98
3	4	7.86	-981.22	-107.34	1371.69	47.62	-578.51	-249.19	-374.70
4	4	7.86	-981.22	-106.19	1374.98	49.50	-579.08	-249.68	-375.45
4	5	10.48	-981.22	-9.09	1526.21	129.68	-585.64	-275.24	-413.88
5	5	10.48	-981.22	-4.73	1529.14	131.35	-586.15	-275.68	-414.54
5	6	13.10	-981.22	92.75	1413.92	39.83	-479.78	-270.47	-406.71
6	6	13.10	-981.22	100.01	1416.25	41.16	-480.19	-270.82	-407.24
6	7	15.72	-981.22	197.30	1026.92	-226.44	-259.54	-233.70	-351.42
7	7	15.72	-981.22	206.77	1028.43	-225.58	-259.80	-233.93	-351.76
7	8	18.34	-981.22	304.12	359.13	-672.59	76.12	-164.01	-246.62
8	8	18.34	-1864.29	315.05	1412.53	-69.27	-942.31	-514.16	-630.97
8	9	20.96	-1868.27	363.20	535.74	-596.49	-701.86	-395.68	-452.29
9	9	20.96	-2904.85	372.70	1348.96	-442.87	-1152.28	-786.89	-905.22
9	10	23.58	-2912.24	343.25	417.37	-1022.33	-836.62	-670.42	-729.12
10	10	23.58	-2703.14	352.45	613.63	-711.14	-946.98	-669.31	-727.88
10	10011	26.20	-2648.50	317.18	-302.30	-1283.19	-548.83	-548.51	-553.35
11	11	26.20	-2672.88	-305.44	-303.23	-1290.99	-555.94	-554.69	-559.46
11	12	29.55	-2758.03	-274.02	758.03	-597.18	-1148.76	-682.74	-740.90
12	12	29.55	-3185.54	-273.73	359.16	-1225.96	-929.72	-686.40	-744.36
12	13	32.90	-3176.09	-285.85	1296.91	-606.97	-1363.80	-786.67	-896.36
13	13	32.90	-2381.65	-290.47	19.31	-1342.67	-670.17	-342.40	-381.30
13	14	36.03	-2355.46	-294.60	987.64	-736.26	-988.02	-459.33	-560.56
14	14	36.03	-1735.96	-307.09	-98.46	-1531.73	8.86	-143.97	-216.49
14	15	39.16	-1735.96	-217.93	751.85	-977.18	-373.45	-239.06	-359.47
15	15	39.16	-1735.96	-235.07	754.91	-975.43	-373.99	-239.52	-360.17
15	16	42.29	-1735.96	-120.95	1312.11	-616.33	-610.23	-303.84	-456.89
16	16	42.29	-1735.96	-133.95	1316.91	-613.60	-611.06	-304.56	-457.97
16	17	45.42	-1735.96	-17.62	1554.12	-465.24	-696.57	-334.07	-502.34
17	17	45.42	-1735.96	-24.76	1559.80	-462.00	-697.55	-334.92	-503.62
17	18	48.55	-1735.96	90.77	1456.54	-536.06	-628.79	-326.52	-490.99
18	18	48.55	-1735.96	90.24	1462.40	-532.72	-629.80	-327.40	-492.31
18	19	51.68	-1735.96	205.60	1000.39	-839.58	-403.60	-278.33	-418.53
19	19	51.68	-1735.96	211.42	1005.80	-836.50	-404.54	-279.15	-419.76
19	20	54.81	-1735.96	325.55	164.24	-1388.01	-17.28	-186.29	-280.12
20	20	54.81	-2462.56	336.88	1362.09	-573.66	-1022.91	-552.24	-686.28
20	21	57.94	-2467.31	359.59	281.39	-1243.85	-658.49	-415.72	-480.38
21	21	57.94	-3124.83	373.00	1439.92	-535.09	-1290.61	-806.57	-932.98
21	22	61.07	-3133.66	334.08	354.94	-1237.50	-831.47	-683.86	-747.31
22	22	61.07	-2714.87	332.16	752.25	-612.22	-1052.85	-682.22	-745.76
22	10023	64.20	-2664.39	301.54	-231.99	-1288.16	-498.26	-572.72	-587.69
23	23	64.20	-2763.38	-316.17	-299.29	-1382.77	-466.36	-580.89	-596.01
23	24	67.55	-2828.85	-284.45	786.67	-660.73	-1085.21	-703.68	-772.10
24	24	67.55	-3291.77	-289.58	357.99	-1339.89	-848.44	-708.11	-776.57
24	25	70.90	-3282.33	-304.23	1362.90	-674.37	-1321.81	-814.61	-937.95

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.T0.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2596.00	-312.01	-4.15	-1560.20	-580.86	-372.37	-425.28
25	26	74.23	-2591.58	-304.40	1040.68	-906.44	-952.76	-501.65	-620.25
26	26	74.23	-2048.57	-313.44	-134.27	-1806.02	-25.81	-161.63	-243.04
26	27	77.56	-2048.57	-217.56	775.71	-1220.42	-408.74	-267.08	-401.61
27	27	77.56	-2048.57	-236.77	779.70	-1218.15	-409.44	-267.68	-402.51
27	28	80.89	-2044.80	-115.79	1365.61	-846.82	-626.22	-339.41	-510.38
28	28	80.89	-2044.80	-129.58	1371.41	-843.52	-627.23	-340.29	-511.69
28	29	84.22	-2044.80	-5.65	1596.62	-712.23	-676.56	-372.78	-560.55
29	29	84.22	-2044.80	-12.35	1603.29	-708.43	-677.72	-373.79	-562.06
29	30	87.55	-2044.80	109.34	1439.32	-831.05	-551.75	-362.80	-545.54
30	30	87.55	-2044.80	110.55	1446.04	-827.22	-552.92	-363.81	-547.07
30	31	90.88	-2044.80	234.19	871.54	-1215.90	-247.98	-306.13	-460.33
31	31	90.88	-2044.80	242.87	877.68	-1212.40	-249.05	-307.05	-461.72
31	32	94.21	-2044.80	363.46	-133.22	-1881.87	239.38	-198.78	-298.90
32	32	94.21	-2670.43	378.68	1155.78	-861.20	-1007.11	-537.91	-664.47
32	33	97.54	-2675.49	390.39	-132.92	-1652.88	-596.73	-371.54	-413.64
33	33	97.54	-3230.15	406.51	1119.33	-793.12	-1278.48	-762.35	-866.17
33	34	100.87	-3239.53	364.56	-163.80	-1615.28	-762.57	-613.10	-640.52
34	34	100.87	-2767.24	366.66	263.99	-933.83	-996.39	-606.11	-633.42
34	10035	104.20	-2731.01	341.13	-914.94	-1715.41	-377.17	-475.90	-442.36
35	35	104.20	-2760.13	-356.65	-915.79	-1724.58	-385.71	-483.32	-449.72
35	36	107.55	-2821.82	-349.50	306.05	-938.01	-980.54	-632.14	-665.44
36	36	107.55	-3278.88	-357.46	-125.95	-1617.31	-741.45	-634.55	-667.64
36	37	110.90	-3269.45	-369.39	1054.86	-865.61	-1198.87	-774.10	-878.71
37	37	110.90	-2540.64	-380.88	-283.14	-1699.90	-471.64	-329.39	-363.39
37	38	113.77	-2536.82	-376.65	790.37	-1047.98	-788.77	-471.58	-577.70
38	38	113.77	-1976.32	-393.82	-357.80	-1947.46	265.15	-156.77	-235.74
38	39	116.64	-1976.32	-286.97	619.10	-1298.73	-212.78	-260.57	-391.82
39	39	116.64	-1976.32	-302.29	618.81	-1298.89	-212.73	-260.53	-391.76
39	40	119.51	-1976.32	-196.36	1335.44	-822.35	-565.48	-336.37	-505.80
40	40	119.51	-1976.32	-210.38	1336.50	-821.75	-565.66	-336.53	-506.04
40	41	122.38	-1976.32	-104.23	1788.55	-519.87	-792.45	-383.77	-577.08
41	41	122.38	-1976.32	-116.31	1790.59	-518.71	-792.80	-384.08	-577.54
41	42	125.25	-1976.32	-9.38	1971.00	-395.50	-892.39	-401.65	-603.97
42	42	125.25	-1976.32	-18.47	1973.71	-393.96	-892.86	-402.06	-604.58
42	43	128.12	-1976.32	87.94	1874.20	-454.14	-863.84	-388.72	-584.52
43	43	128.12	-1976.32	82.65	1877.37	-452.33	-864.39	-389.20	-585.24
43	44	130.99	-1976.32	185.59	1492.28	-699.13	-705.77	-344.09	-517.41
44	44	130.99	-1530.24	184.09	1882.09	-60.89	-894.95	-344.62	-518.21
44	45	133.86	-1530.24	291.03	1200.31	-500.61	-604.80	-266.07	-400.10
45	45	133.86	-1084.16	293.74	1611.79	156.84	-820.67	-266.64	-400.95
45	46	136.73	-1084.16	400.68	615.31	-486.07	-395.86	-151.94	-228.47
46	46	136.73	-638.08	407.97	1048.41	190.57	-638.42	-152.54	-229.37
46	47	139.60	-638.08	240.50	-272.58	-661.10	-77.27	-0.20	-0.30
101	101	0.00	-603.76	-238.50	-238.59	-608.15	-97.80	-0.10	-0.15
101	102	2.62	-603.76	-414.01	977.28	167.24	-585.91	-144.31	-217.00
102	102	2.62	-1049.85	-404.44	543.58	-509.75	-343.25	-143.62	-215.96
102	103	5.24	-1049.85	-302.10	1469.02	80.28	-714.27	-253.45	-381.12

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.T0.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
103	103	5.24	-1358.67	-297.39	1182.54	-375.80	-564.53	-252.82	-380.16
103	104	7.86	-1358.67	-195.13	1827.89	34.73	-820.22	-329.84	-495.98
104	104	7.86	-1667.50	-194.88	1556.74	-407.85	-689.02	-329.24	-496.14
104	105	10.48	-1667.50	-92.51	1933.20	-170.41	-831.36	-375.16	-564.14
105	105	10.48	-1667.50	-96.05	1930.12	-172.17	-830.83	-374.79	-563.44
105	106	13.10	-1667.50	6.43	2047.54	-102.22	-861.52	-390.94	-587.86
106	106	13.10	-1667.50	-0.18	2045.22	-103.54	-861.12	-390.59	-587.33
106	107	15.72	-1667.50	102.27	1911.49	-196.60	-781.51	-378.38	-568.97
107	107	15.72	-1667.50	93.36	1910.09	-197.40	-781.27	-378.17	-568.65
107	108	18.34	-1667.50	195.83	1531.27	-450.01	-592.45	-338.41	-508.86
108	108	18.34	-1667.50	185.53	1530.93	-450.20	-592.39	-338.35	-508.79
108	109	20.96	-1667.50	286.82	911.72	-859.69	-295.15	-271.76	-408.65
109	109	20.96	-1667.50	276.33	912.65	-859.17	-295.31	-271.90	-408.86
109	110	23.58	-1667.50	378.75	54.55	-1424.68	110.09	-178.70	-268.71
110	110	23.58	-2491.45	367.56	1190.15	-709.35	-904.49	-547.50	-675.38
110	111	26.20	-2495.43	383.17	191.33	-1310.87	-626.76	-412.89	-472.45
111	111	26.20	-3220.56	374.03	1289.11	-701.49	-1225.81	-803.77	-925.23
111	112	29.55	-3230.01	353.12	96.20	-1453.14	-789.41	-659.15	-706.53
112	112	29.55	-2773.14	345.27	528.12	-773.95	-1028.54	-656.78	-704.37
112	10113	32.90	-2717.04	355.15	-680.61	-1547.78	-460.78	-508.13	-488.17
113	113	32.90	-2652.14	-326.84	-645.40	-1485.00	-472.40	-500.29	-480.37
113	114	36.03	-2703.97	-332.88	416.05	-788.43	-1031.01	-623.15	-658.35
114	114	36.03	-3109.97	-340.23	53.47	-1367.29	-834.96	-630.63	-665.87
114	115	39.16	-3101.16	-390.39	1179.71	-644.32	-1291.50	-760.93	-862.96
115	115	39.16	-2329.03	-376.99	-126.98	-1425.55	-578.12	-313.88	-345.30
115	116	42.29	-2324.88	-380.70	1054.79	-700.93	-950.49	-467.15	-576.32
116	116	42.29	-1736.29	-367.06	-34.40	-1547.21	169.91	-177.88	-267.47
116	117	45.42	-1736.29	-249.08	932.73	-914.14	-272.69	-284.94	-428.46
117	117	45.42	-1736.29	-241.34	927.01	-917.40	-271.70	-284.07	-427.16
117	118	48.55	-1736.29	-120.72	1493.06	-541.24	-549.51	-344.09	-517.42
118	118	48.55	-1736.29	-119.71	1487.17	-544.59	-548.49	-343.21	-516.08
118	119	51.68	-1736.29	2.25	1671.04	-414.57	-664.82	-359.03	-539.88
119	119	51.68	-1736.29	-2.89	1665.64	-417.64	-663.88	-358.22	-538.66
119	120	54.81	-1740.31	119.05	1483.50	-527.20	-624.17	-332.29	-499.66
120	120	54.81	-1740.31	108.59	1479.20	-529.64	-623.43	-331.64	-498.69
120	121	57.94	-1740.31	228.73	951.07	-861.91	-426.50	-266.88	-401.30
121	121	57.94	-1740.31	214.67	948.52	-863.36	-426.06	-266.49	-400.73
121	122	61.07	-1740.31	322.85	91.82	-1411.27	-76.90	-165.62	-249.04
122	122	61.07	-2512.45	315.03	1285.02	-624.81	-1049.81	-549.99	-676.38
122	123	64.20	-2517.21	338.68	280.43	-1248.40	-709.52	-423.40	-485.42
123	123	64.20	-3128.56	331.83	1468.25	-486.86	-1354.30	-810.87	-934.47
123	124	67.55	-3138.00	327.04	400.38	-1183.06	-887.18	-692.46	-755.19
124	124	67.55	-2744.30	324.03	763.38	-607.64	-1086.97	-688.23	-750.95
124	10125	70.90	-2691.50	330.04	-360.62	-1349.96	-482.46	-560.59	-565.90
125	125	70.90	-2726.11	-331.15	-431.81	-1447.56	-430.67	-551.49	-556.66
125	126	74.23	-2770.24	-324.35	703.53	-691.36	-1050.66	-676.33	-738.63
126	126	74.23	-3248.42	-324.29	272.83	-1376.22	-818.10	-684.41	-746.59
126	127	77.56	-3239.05	-407.80	1507.37	-579.94	-1331.56	-825.50	-959.97

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.T0.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
127	127	77.56	-2536.91	-389.78	138.06	-1462.33	-585.50	-378.82	-442.69
127	128	80.89	-2532.49	-367.06	1425.27	-669.87	-1001.82	-544.29	-692.08
128	128	80.89	-2045.10	-352.58	244.77	-1603.89	-36.26	-226.21	-340.15
128	129	84.22	-2045.10	-225.35	1209.13	-977.21	-462.33	-335.10	-503.90
129	129	84.22	-2045.10	-218.07	1202.45	-981.01	-461.18	-334.10	-502.39
129	130	87.55	-2045.10	-88.53	1712.27	-645.45	-700.64	-389.67	-585.95
130	130	87.55	-2045.10	-88.54	1705.54	-649.28	-699.47	-388.66	-584.42
130	131	90.88	-2045.10	39.07	1791.42	-587.41	-757.60	-395.51	-594.74
131	131	90.88	-2045.10	31.04	1785.28	-590.90	-756.54	-394.59	-593.34
131	132	94.21	-2045.10	160.74	1465.82	-792.14	-636.60	-355.53	-534.61
132	132	94.21	-2045.10	146.40	1461.04	-794.86	-635.77	-354.81	-533.53
132	133	97.54	-2045.10	274.03	761.68	-1244.72	-342.16	-273.67	-411.52
133	133	97.54	-2045.10	255.51	759.02	-1246.23	-341.69	-273.27	-410.92
133	134	100.87	-2045.10	358.31	-285.71	-1925.05	119.60	-155.25	-233.46
134	134	100.87	-2700.18	345.65	999.99	-954.52	-1003.11	-520.15	-633.89
134	135	104.20	-2729.13	339.17	-178.81	-1690.07	-621.26	-376.21	-413.66
135	135	104.20	-3269.70	336.05	1076.66	-824.26	-1299.36	-763.85	-863.27
135	136	107.55	-3279.16	320.90	-24.71	-1542.89	-815.28	-641.97	-678.76
136	136	107.55	-2818.56	322.16	407.24	-862.56	-1053.32	-638.64	-675.64
136	10137	110.90	-2753.64	354.37	-801.08	-1652.61	-419.42	-496.71	-470.69
137	137	110.90	-2692.12	-367.50	-764.86	-1590.26	-432.23	-489.89	-464.00
137	138	113.77	-2751.81	-412.74	367.55	-883.40	-913.02	-638.49	-679.66
138	138	113.77	-3204.64	-399.86	-59.42	-1558.57	-673.54	-640.57	-681.89
138	139	116.64	-3196.55	-429.53	1123.00	-827.03	-1062.75	-790.40	-908.25
139	139	116.64	-2218.82	-415.58	5.66	-1305.23	-448.99	-343.60	-390.94
139	140	119.51	-2215.02	-368.11	1126.71	-633.94	-748.77	-496.56	-621.44
140	140	119.51	-1255.73	-353.26	372.38	-908.46	106.05	-195.83	-294.47
140	141	122.38	-1255.73	-241.27	1225.55	-347.42	-292.95	-289.07	-434.68
141	141	122.38	-1255.73	-228.77	1223.39	-348.65	-292.58	-288.75	-434.19
141	142	125.25	-1255.73	-116.86	1719.10	-15.14	-549.49	-339.39	-510.35
142	142	125.25	-1255.73	-107.34	1716.39	-16.68	-549.02	-338.99	-509.74
142	143	128.12	-1255.73	4.75	1863.55	94.37	-665.43	-348.37	-523.85
143	143	128.12	-1255.73	10.97	1860.51	92.64	-664.90	-347.91	-523.16
143	144	130.99	-1255.73	122.96	1668.44	-13.46	-642.40	-317.45	-477.35
144	144	130.99	-1255.73	125.58	1665.30	-15.24	-641.85	-316.98	-476.64
144	145	133.86	-1255.73	237.38	1144.58	-332.47	-482.28	-248.26	-373.31
145	145	133.86	-1049.85	237.01	1329.74	-31.73	-581.10	-247.80	-372.62
145	146	136.73	-1049.85	349.25	488.46	-555.48	-285.87	-142.04	-213.59
146	146	136.73	-603.76	345.33	914.52	117.16	-527.20	-141.58	-212.90
146	147	139.60	-603.76	262.10	-235.89	-606.61	-98.27	-0.51	-0.76

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.T0.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-629.39	-302.33	-226.78	-613.99	-130.69	0.10	0.15
1	2	2.62	-629.39	-70.60	22.69	-421.21	-343.08	-13.70	-20.60
2	2	2.62	-856.95	-72.13	-194.91	-764.47	-219.93	-13.89	-20.89
2	3	5.24	-856.95	-23.69	-69.70	-662.45	-344.07	-18.35	-27.59
3	3	5.24	-1084.50	-23.53	-287.50	-1005.84	-220.88	-18.52	-27.85
3	4	7.86	-1084.50	24.88	-289.47	-996.25	-256.24	-13.20	-19.85
4	4	7.86	-1084.50	26.31	-288.67	-995.79	-256.37	-13.32	-20.03
4	5	10.48	-1084.50	75.03	-421.63	-1080.80	-202.29	2.35	3.54
5	5	10.48	-1084.50	77.42	-421.32	-1080.62	-202.34	2.31	3.47
5	6	13.10	-1084.50	125.71	-687.48	-1261.47	-58.45	28.66	43.10
6	6	13.10	-1084.50	128.47	-687.61	-1261.55	-58.43	28.68	43.13
6	7	15.72	-1084.50	176.99	-1087.85	-1538.76	175.45	65.85	99.02
7	7	15.72	-1084.50	179.62	-1088.46	-1539.11	175.55	65.94	99.16
7	8	18.34	-1084.50	228.12	-1622.53	-1912.53	499.35	113.90	171.27
8	8	18.34	-1747.91	230.14	-705.42	-1283.01	-523.84	-150.10	-109.37
8	9	20.96	-1751.17	327.81	-1442.37	-1730.39	-307.44	-52.49	37.81
9	9	20.96	-2599.28	330.36	-778.75	-1605.70	-675.67	-372.32	-332.38
9	10	23.58	-2605.32	470.82	-1827.79	-2251.62	-339.23	-237.80	-129.31
10	10	23.58	-2347.78	472.08	-1611.26	-1900.00	-453.25	-229.67	-121.00
10	10011	26.20	-2303.08	646.37	-3116.29	-2810.39	44.14	-22.67	184.42
11	11	26.20	-2304.36	-679.01	-3121.80	-2813.91	44.72	-22.18	185.34
11	12	29.55	-2374.03	-500.55	-1096.70	-1566.77	-710.70	-291.44	-210.47
12	12	29.55	-2839.92	-503.68	-1541.22	-2261.84	-465.99	-293.23	-211.74
12	13	32.90	-2832.19	-331.21	-172.89	-1398.24	-975.28	-458.82	-461.75
13	13	32.90	-2310.09	-339.10	-1319.37	-2166.40	-360.94	-100.06	-44.92
13	14	36.03	-2328.72	-168.98	-574.15	-1700.38	-653.46	-195.00	-185.24
14	14	36.03	-1918.68	-171.70	-1559.10	-2549.38	364.00	44.97	67.62
14	15	39.16	-1918.68	-86.97	-1182.55	-2264.19	62.71	21.43	32.22
15	15	39.16	-1918.68	-93.09	-1183.48	-2264.72	62.87	21.57	32.43
15	16	42.29	-1918.68	-34.02	-985.18	-2109.58	-112.28	11.49	17.28
16	16	42.29	-1918.68	-39.33	-985.53	-2109.78	-112.22	11.55	17.36
16	17	45.42	-1918.68	25.72	-964.78	-2084.31	-161.34	14.82	22.29
17	17	45.42	-1918.68	21.84	-964.73	-2084.28	-161.35	14.82	22.28
17	18	48.55	-1918.68	83.18	-1127.89	-2192.08	-83.36	32.41	48.73
18	18	48.55	-1918.68	80.63	-1127.97	-2192.12	-83.34	32.42	48.75
18	19	51.68	-1918.68	138.52	-1470.92	-2430.85	121.03	63.71	95.81
19	19	51.68	-1918.68	136.61	-1471.32	-2431.08	121.10	63.77	95.90
19	20	54.81	-1918.68	196.48	-1991.57	-2799.32	451.45	108.38	162.97
20	20	54.81	-2404.80	194.55	-922.08	-1939.78	-553.78	-171.02	-139.25
20	21	57.94	-2408.69	346.05	-1770.66	-2477.57	-229.37	-69.26	14.27
21	21	57.94	-2838.31	345.07	-724.79	-1739.09	-798.65	-388.88	-355.79
21	22	61.07	-2845.52	517.02	-2079.59	-2594.63	-292.22	-225.10	-108.57
22	22	61.07	-2343.57	514.77	-1641.26	-1892.32	-525.10	-213.04	-96.54
22	10023	64.20	-2302.27	720.65	-3634.46	-3125.41	201.79	46.12	287.76
23	23	64.20	-2389.46	-715.89	-3714.51	-3248.67	244.66	43.70	285.60
23	24	67.55	-2443.03	-543.12	-1624.75	-1951.62	-544.79	-227.26	-114.84
24	24	67.55	-2952.31	-542.67	-2103.71	-2704.50	-281.49	-230.77	-118.00
24	25	70.90	-2944.59	-373.65	-598.35	-1754.59	-842.20	-413.12	-393.22

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.T0.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2541.56	-375.62	-1845.18	-2689.41	-175.17	-56.29	21.42
25	26	74.23	-2537.95	-204.72	-905.55	-2095.78	-529.07	-169.92	-149.93
26	26	74.23	-2256.25	-198.53	-1988.08	-3066.82	391.65	85.17	128.06
26	27	77.56	-2256.25	-114.70	-1483.76	-2713.67	83.52	40.13	60.35
27	27	77.56	-2256.25	-116.24	-1484.70	-2714.20	83.68	40.27	60.56
27	28	80.89	-2260.02	-53.25	-1202.93	-2522.65	-79.65	13.57	20.41
28	28	80.89	-2260.02	-54.22	-1203.20	-2522.81	-79.60	13.61	20.47
28	29	84.22	-2260.02	7.23	-1124.91	-2477.10	-96.97	2.35	3.53
29	29	84.22	-2260.02	7.27	-1124.79	-2477.03	-96.99	2.33	3.51
29	30	87.55	-2260.02	77.35	-1277.75	-2595.32	33.53	10.75	16.16
30	30	87.55	-2260.02	78.96	-1277.34	-2595.09	33.46	10.69	16.07
30	31	90.88	-2260.02	143.91	-1644.33	-2867.56	308.85	36.19	54.43
31	31	90.88	-2260.02	147.24	-1644.33	-2867.56	308.85	36.19	54.43
31	32	94.21	-2260.02	211.42	-2240.17	-3302.68	731.74	81.02	121.83
32	32	94.21	-2633.99	215.44	-1070.50	-2215.09	-539.96	-168.44	-135.15
32	33	97.54	-2638.13	388.50	-2061.19	-2836.85	-181.01	-46.73	48.40
33	33	97.54	-2954.03	396.04	-910.62	-1930.83	-805.33	-366.48	-321.84
33	34	100.87	-2961.71	576.44	-2533.91	-2946.13	-229.90	-165.53	-18.68
34	34	100.87	-2436.64	585.36	-2060.54	-2191.73	-487.51	-157.09	-10.16
34	10035	104.20	-2374.20	799.82	-4437.64	-3647.60	347.39	160.45	459.17
35	35	104.20	-2389.49	-759.50	-4443.47	-3655.48	343.84	157.37	456.53
35	36	107.55	-2439.96	-563.47	-2218.03	-2294.22	-421.75	-139.77	16.31
36	36	107.55	-2947.50	-558.09	-2699.48	-3047.99	-157.51	-142.45	14.17
36	37	110.90	-2939.79	-392.78	-1092.49	-2054.18	-689.38	-346.66	-293.90
37	37	110.90	-2492.74	-396.11	-2308.04	-2933.38	-38.25	12.27	123.08
37	38	113.77	-2489.62	-246.42	-1379.62	-2364.27	-330.42	-108.24	-58.54
38	38	113.77	-2184.36	-249.37	-2430.23	-3335.21	727.28	121.90	183.30
38	39	116.64	-2184.36	-196.52	-1790.36	-2876.02	300.04	69.98	105.22
39	39	116.64	-2184.36	-200.51	-1791.97	-2876.94	300.31	70.22	105.59
39	40	119.51	-2184.36	-147.59	-1292.61	-2521.75	-22.53	28.21	42.42
40	40	119.51	-2184.36	-152.66	-1293.46	-2522.24	-22.38	28.34	42.61
40	41	122.38	-2184.36	-98.98	-932.82	-2270.06	-241.09	-4.03	-6.07
41	41	122.38	-2184.36	-104.02	-933.19	-2270.27	-241.02	-3.98	-5.98
41	42	125.25	-2184.36	-51.25	-710.37	-2120.59	-355.75	-26.85	-40.37
42	42	125.25	-2184.36	-56.10	-710.43	-2120.62	-355.74	-26.84	-40.36
42	43	128.12	-2184.36	-2.79	-626.10	-2073.81	-366.40	-40.10	-60.30
43	43	128.12	-2184.36	-7.56	-625.99	-2073.74	-366.42	-40.12	-60.33
43	44	130.99	-2184.36	42.83	-676.57	-2127.76	-273.62	-44.32	-66.65
44	44	130.99	-1691.32	38.46	-249.46	-1424.46	-482.07	-44.34	-66.68
44	45	133.86	-1691.32	91.24	-435.55	-1579.65	-285.70	-39.39	-59.23
45	45	133.86	-1198.28	87.17	15.20	-855.30	-523.59	-39.41	-59.26
45	46	136.73	-1198.28	139.95	-310.75	-1114.14	-222.90	-24.65	-37.06
46	46	136.73	-705.24	136.10	163.60	-368.74	-490.24	-24.65	-37.07
46	47	139.60	-705.24	461.02	-306.09	-733.44	-84.56	0.51	0.76
101	101	0.00	-667.32	-469.11	-267.75	-674.46	-107.40	0.50	0.75
101	102	2.62	-667.32	-138.52	164.41	-347.62	-451.61	-26.74	-40.20
102	102	2.62	-1160.36	-140.21	-310.47	-1093.32	-184.19	-26.65	-40.07
102	103	5.24	-1160.36	-89.72	-9.22	-861.03	-438.99	-43.54	-65.47

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.T0.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1501.69	-92.07	-321.74	-1362.77	-274.21	-43.46	-65.35
103	104	7.86	-1501.69	-41.35	-147.18	-1222.63	-440.29	-50.66	-76.17
104	104	7.86	-1843.02	-44.13	-443.14	-1709.68	-295.93	-50.60	-76.09
104	105	10.48	-1843.02	6.41	-393.71	-1660.80	-373.61	-48.33	-72.67
105	105	10.48	-1843.02	3.26	-393.89	-1660.90	-373.58	-48.36	-72.63
105	106	13.10	-1843.02	53.77	-468.56	-1702.69	-363.03	-36.71	-55.20
106	106	13.10	-1843.02	50.40	-468.44	-1702.62	-363.05	-36.73	-55.23
106	107	15.72	-1843.02	100.90	-666.63	-1834.76	-264.34	-15.92	-23.93
107	107	15.72	-1843.02	97.67	-666.10	-1834.46	-264.43	-16.00	-24.05
107	108	18.34	-1843.02	148.16	-988.13	-2057.12	-77.53	14.09	21.19
108	108	18.34	-1843.02	145.54	-987.09	-2056.53	-77.71	13.93	20.95
108	109	20.96	-1843.02	196.83	-1434.99	-2370.87	197.74	53.60	80.60
109	109	20.96	-1843.02	195.30	-1433.29	-2369.90	197.44	53.35	80.22
109	110	23.58	-1843.02	245.87	-2011.24	-2778.30	562.16	103.22	155.22
110	110	23.58	-2407.19	245.68	-1005.43	-2017.30	-442.25	-172.84	-141.67
110	111	26.20	-2410.45	377.44	-1798.05	-2501.21	-200.08	-69.11	14.72
111	111	26.20	-2891.74	378.34	-816.49	-1864.08	-726.44	-383.23	-350.21
111	112	29.55	-2899.48	561.12	-2397.84	-2836.36	-222.14	-179.63	-43.06
112	112	29.55	-2390.70	572.54	-1916.18	-2082.10	-486.04	-176.66	-40.65
112	10113	32.90	-2344.80	749.18	-4174.42	-3456.46	260.76	127.48	410.70
113	113	32.90	-2293.36	-828.75	-4131.88	-3391.06	241.22	130.34	413.25
113	114	36.03	-2364.35	-606.13	-1866.31	-2014.71	-532.00	-178.92	-42.53
114	114	36.03	-2816.43	-585.96	-2267.14	-2655.54	-316.30	-188.04	-51.69
114	115	39.16	-2809.22	-401.55	-717.80	-1692.18	-846.72	-382.51	-345.06
115	115	39.16	-2295.69	-391.73	-1895.21	-2505.17	-205.97	-16.71	78.54
115	116	42.29	-2292.29	-206.09	-960.38	-1921.35	-535.72	-132.97	-96.72
116	116	42.29	-1919.07	-201.42	-1941.02	-2823.31	617.38	76.15	114.51
116	117	45.42	-1919.07	-132.99	-1417.88	-2441.21	245.82	36.83	55.38
117	117	45.42	-1919.07	-129.72	-1417.89	-2441.21	245.83	36.83	55.39
117	118	48.55	-1919.07	-68.65	-1107.79	-2208.97	6.44	16.22	24.39
118	118	48.55	-1919.07	-66.29	-1107.84	-2209.00	6.44	16.23	24.40
118	119	51.68	-1919.07	3.27	-1000.16	-2120.56	-102.64	12.72	19.13
119	119	51.68	-1919.07	4.52	-999.75	-2120.32	-102.72	12.66	19.04
119	120	54.81	-1915.05	65.33	-1108.72	-2181.20	-76.27	28.39	42.69
120	120	54.81	-1915.05	66.38	-1107.82	-2180.69	-76.42	28.25	42.49
120	121	57.94	-1915.05	127.84	-1410.53	-2383.26	76.84	59.69	89.76
121	121	57.94	-1915.05	129.42	-1408.91	-2382.34	76.55	59.45	89.39
121	122	61.07	-1915.05	203.61	-1914.87	-2729.20	360.30	108.11	162.57
122	122	61.07	-2414.39	213.82	-843.67	-1890.33	-595.81	-181.72	-154.09
122	123	64.20	-2418.28	367.01	-1762.83	-2465.02	-270.08	-67.79	17.74
123	123	64.20	-2779.18	375.62	-679.97	-1660.31	-848.88	-379.78	-344.88
123	124	67.55	-2786.90	543.76	-2240.26	-2636.33	-295.82	-186.74	-53.58
124	124	67.55	-2352.88	554.25	-1834.53	-1998.10	-517.76	-183.04	-50.21
124	10125	70.90	-2309.68	734.92	-4040.77	-3359.40	271.64	105.20	377.56
125	125	70.90	-2369.14	-829.64	-4115.23	-3471.20	321.82	109.12	381.33
125	126	74.23	-2436.84	-607.23	-1707.46	-1997.65	-525.95	-213.56	-95.06
126	126	74.23	-2969.10	-602.28	-2183.66	-2755.81	-270.00	-223.44	-104.79
126	127	77.56	-2961.43	-372.18	-589.64	-1755.38	-846.34	-419.14	-400.06

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.T0.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2524.87	-369.69	-1835.51	-2679.64	-169.47	-53.75	23.05
127	128	80.89	-2521.25	-198.63	-922.39	-2100.39	-521.13	-163.06	-141.79
128	128	80.89	-2260.40	-198.37	-2002.47	-3098.52	460.08	77.59	116.67
128	128	84.22	-2260.40	-131.75	-1454.47	-2709.02	106.74	31.36	47.15
129	129	84.22	-2260.40	-132.41	-1454.59	-2709.09	106.76	31.37	47.18
129	130	87.55	-2260.40	-64.31	-1125.38	-2476.49	-100.86	2.94	4.43
130	130	87.55	-2260.40	-67.10	-1125.76	-2476.71	-100.79	3.00	4.52
130	131	90.88	-2260.40	-1.99	-1011.96	-2399.10	-163.26	-8.13	-12.23
131	131	90.88	-2260.40	-5.73	-1012.08	-2399.17	-163.24	-8.12	-12.20
131	132	94.21	-2260.40	66.17	-1120.49	-2480.40	-79.41	-0.93	-1.40
132	132	94.21	-2260.40	61.17	-1119.93	-2480.09	-79.50	-1.01	-1.52
132	133	97.54	-2260.40	126.54	-1431.52	-2709.33	147.34	21.62	32.52
133	133	97.54	-2260.40	121.24	-1430.07	-2708.51	147.09	21.41	32.19
133	134	100.87	-2260.40	211.91	-1962.15	-3095.63	519.95	62.11	93.39
134	134	100.87	-2669.04	211.11	-788.82	-2060.94	-613.44	-217.98	-205.07
134	135	104.20	-2649.29	403.82	-1776.40	-2673.10	-250.23	-90.22	-15.54
135	135	104.20	-2937.04	399.32	-621.10	-1755.99	-866.97	-403.38	-379.55
135	136	107.55	-2944.78	575.64	-2230.87	-2763.54	-294.18	-204.45	-79.41
136	136	107.55	-2440.76	579.10	-1749.31	-2010.75	-559.50	-202.70	-78.21
136	10137	110.90	-2387.64	770.81	-4043.43	-3422.46	259.25	99.78	369.70
137	137	110.90	-2342.38	-750.29	-3998.86	-3357.75	237.52	100.74	370.18
137	138	113.77	-2391.21	-545.08	-2067.66	-2192.90	-378.61	-165.41	-23.66
138	138	113.77	-2923.37	-539.28	-2539.49	-2948.53	-123.39	-175.92	-34.36
138	139	116.64	-2916.75	-381.99	-1208.36	-2132.78	-538.84	-348.54	-294.79
139	139	116.64	-2175.90	-376.67	-2174.63	-2609.76	-8.48	16.73	128.03
139	140	119.51	-2172.78	-256.60	-1267.79	-2060.62	-271.31	-104.14	-54.12
140	140	119.51	-1387.91	-252.36	-1882.83	-2331.33	585.36	119.41	179.56
140	141	122.38	-1387.91	-196.80	-1238.40	-1885.77	211.42	59.19	89.01
141	141	122.38	-1387.91	-192.19	-1237.90	-1885.49	211.33	59.12	88.89
141	142	125.25	-1387.91	-136.67	-765.89	-1562.13	-52.62	13.61	20.47
142	142	125.25	-1387.91	-132.24	-765.81	-1562.09	-52.63	13.60	20.45
142	143	128.12	-1387.91	-76.73	-465.90	-1360.72	-206.70	-17.24	-25.92
143	143	128.12	-1387.91	-72.84	-466.15	-1360.86	-206.65	-17.20	-25.86
143	144	130.99	-1387.91	-17.31	-336.93	-1280.70	-251.04	-33.58	-50.49
144	144	130.99	-1387.91	-14.13	-337.47	-1281.01	-250.95	-33.50	-50.37
144	145	133.86	-1387.91	41.66	-377.17	-1321.04	-185.98	-35.68	-53.66
145	145	133.86	-1160.36	43.28	-170.04	-987.24	-295.63	-35.56	-53.46
145	146	136.73	-1160.36	98.64	-373.69	-1144.64	-122.17	-24.30	-36.55
146	146	136.73	-667.32	99.01	99.61	-399.83	-389.32	-24.15	-36.32
146	147	139.60	-667.32	353.18	-265.76	-673.33	-107.74	0.20	0.30

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES2.T0.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-569.45	-211.75	-201.27	-553.28	-118.92	-0.50	-0.75
1	2	2.62	-569.45	-301.65	715.58	22.84	-458.43	-113.26	-170.31
2	2	2.62	-775.33	-307.87	521.28	-286.27	-347.46	-113.83	-171.16
2	3	5.24	-775.33	-210.47	1200.63	134.63	-579.08	-200.19	-301.02
3	3	5.24	-981.22	-212.89	1006.12	-174.61	-468.05	-200.72	-301.83
3	4	7.86	-981.22	-115.48	1436.48	84.51	-589.75	-258.95	-389.38
4	4	7.86	-981.22	-114.31	1439.70	86.34	-590.31	-259.44	-390.11
4	5	10.48	-981.22	-17.21	1612.21	178.64	-600.56	-288.20	-433.36
5	5	10.48	-981.22	-12.91	1615.07	180.27	-601.06	-288.63	-434.01
5	6	13.10	-981.22	84.57	1521.27	100.95	-498.41	-286.65	-431.03
6	6	13.10	-981.22	91.71	1523.54	102.24	-498.80	-286.99	-431.55
6	7	15.72	-981.22	189.01	1155.95	-152.99	-281.92	-253.14	-380.65
7	7	15.72	-981.22	198.31	1157.40	-152.16	-282.17	-253.36	-380.98
7	8	18.34	-981.22	295.65	510.30	-586.53	49.89	-186.78	-280.87
8	8	18.34	-1864.29	306.37	1563.66	16.77	-968.53	-536.93	-665.22
8	9	20.96	-1868.27	354.52	709.62	-497.50	-732.02	-421.88	-491.68
9	9	20.96	-2904.85	363.78	1522.84	-343.88	-1182.45	-813.09	-944.62
9	10	23.58	-2912.24	334.33	614.62	-910.03	-870.84	-700.14	-773.81
10	10	23.58	-2703.14	343.28	810.90	-598.83	-981.20	-699.04	-772.57
10	10011	26.20	-2648.50	308.01	-81.01	-1157.21	-587.22	-581.85	-603.49
11	11	26.20	-2672.88	-303.68	-81.88	-1164.98	-594.34	-588.04	-609.62
11	12	29.55	-2758.03	-272.27	973.50	-474.52	-1186.14	-715.21	-789.72
12	12	29.55	-3185.54	-272.18	574.72	-1103.24	-967.11	-718.89	-793.20
12	13	32.90	-3176.09	-284.30	1507.26	-487.22	-1400.30	-818.37	-944.02
13	13	32.90	-2381.65	-289.00	229.75	-1222.87	-706.68	-374.10	-428.98
13	14	36.03	-2355.46	-293.13	1193.49	-619.07	-1023.73	-490.35	-607.20
14	14	36.03	-1735.96	-305.64	107.45	-1414.50	-26.87	-175.00	-263.14
14	15	39.16	-1735.96	-216.48	953.21	-862.54	-408.39	-269.40	-405.10
15	15	39.16	-1735.96	-233.58	956.34	-860.76	-408.93	-269.87	-405.81
15	16	42.29	-1735.96	-119.46	1508.88	-504.31	-644.37	-333.49	-501.47
16	16	42.29	-1735.96	-132.40	1513.72	-501.55	-645.21	-334.22	-502.57
16	17	45.42	-1735.96	-16.06	1746.08	-355.96	-729.87	-362.99	-545.83
17	17	45.42	-1735.96	-23.12	1751.79	-352.71	-730.86	-363.85	-547.12
17	18	48.55	-1735.96	92.41	1643.40	-429.68	-661.20	-354.67	-533.32
18	18	48.55	-1735.96	91.97	1649.28	-426.33	-662.22	-355.56	-534.66
18	19	51.68	-1735.96	207.34	1181.85	-736.27	-435.08	-305.68	-459.65
19	19	51.68	-1735.96	213.25	1187.28	-733.18	-436.02	-306.49	-460.88
19	20	54.81	-1735.96	327.38	340.00	-1287.95	-47.77	-212.77	-319.95
20	20	54.81	-2462.56	338.80	1537.85	-473.60	-1053.40	-578.72	-726.10
20	21	57.94	-2467.31	361.51	451.13	-1147.22	-687.94	-441.30	-518.84
21	21	57.94	-3124.83	375.01	1609.66	-438.45	-1320.06	-832.15	-971.44
21	22	61.07	-3133.66	336.09	518.38	-1144.45	-859.82	-708.49	-784.34
22	22	61.07	-2714.87	334.24	915.69	-519.17	-1081.20	-706.85	-782.79
22	10023	64.20	-2664.39	303.62	-75.06	-1178.83	-525.48	-596.37	-623.24
23	23	64.20	-2763.38	-317.49	-142.38	-1293.44	-493.58	-604.54	-631.57
23	24	67.55	-2828.85	-285.77	948.01	-568.88	-1113.20	-727.99	-808.66
24	24	67.55	-3291.77	-290.91	519.31	-1248.05	-876.43	-732.42	-813.12
24	25	70.90	-3282.33	-305.56	1528.66	-580.01	-1350.57	-839.59	-975.51

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES2.T0.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2596.00	-313.39	161.60	-1465.84	-609.61	-397.35	-462.83
25	26	74.23	-2591.59	-305.78	1210.99	-809.48	-982.31	-527.32	-658.84
26	26	74.23	-2048.57	-319.89	36.05	-1709.06	-55.36	-187.29	-281.63
26	27	77.56	-2048.57	-219.01	950.86	-1120.71	-439.13	-293.47	-441.29
27	27	77.56	-2048.57	-238.31	954.85	-1118.44	-439.82	-294.07	-442.19
27	28	80.89	-2044.80	-117.33	1545.90	-744.18	-657.50	-366.58	-551.23
28	28	80.89	-2044.80	-131.23	1551.72	-740.87	-658.51	-367.46	-552.55
28	29	84.22	-2044.80	-7.30	1782.41	-606.46	-708.79	-400.77	-602.65
29	29	84.22	-2044.80	-14.10	1789.11	-602.65	-709.95	-401.78	-604.17
29	30	87.55	-2044.80	107.59	1630.94	-721.96	-585.00	-391.67	-588.96
30	30	87.55	-2044.80	108.72	1637.70	-718.12	-586.17	-392.69	-590.49
30	31	90.88	-2044.80	232.35	1069.32	-1103.30	-282.30	-335.93	-505.14
31	31	90.88	-2044.80	240.95	1075.49	-1099.79	-283.37	-336.86	-506.54
31	32	94.21	-2044.80	361.54	70.99	-1765.61	203.95	-229.55	-345.17
32	32	94.21	-2670.43	376.70	1360.04	-744.91	-1042.55	-568.69	-710.75
32	33	97.54	-2675.49	388.41	77.94	-1532.84	-633.31	-403.31	-461.41
33	33	97.54	-3230.15	404.50	1330.24	-673.05	-1315.07	-794.13	-913.96
33	34	100.87	-3239.53	362.55	53.80	-1491.40	-800.32	-645.89	-689.82
34	34	100.87	-2767.24	364.68	481.66	-809.91	-1034.15	-638.90	-682.74
34	10035	104.20	-2731.01	339.15	-690.67	-1587.73	-416.08	-509.69	-493.17
35	35	104.20	-2760.13	-351.31	-691.43	-1596.85	-424.64	-517.13	-500.55
35	36	107.55	-2821.82	-344.15	512.51	-820.47	-1016.36	-663.25	-712.22
36	36	107.55	-3278.88	-351.94	80.59	-1499.72	-777.28	-665.67	-714.43
36	37	110.90	-3269.45	-363.87	1242.90	-758.55	-1231.50	-802.43	-921.31
37	37	110.90	-2540.64	-375.11	-95.06	-1592.82	-504.27	-357.73	-406.01
37	38	113.77	-2536.82	-370.88	961.89	-950.33	-818.53	-497.43	-616.56
38	38	113.77	-1976.32	-387.78	-186.26	-1849.80	235.39	-182.62	-274.61
38	39	116.64	-1976.32	-280.93	773.29	-1210.94	-239.53	-283.81	-426.76
39	39	116.64	-1976.32	-295.97	773.00	-1211.11	-239.48	-283.76	-426.69
39	40	119.51	-1976.32	-190.05	1471.51	-744.89	-589.08	-356.87	-536.63
40	40	119.51	-1976.32	-203.84	1472.55	-744.30	-589.26	-357.03	-536.87
40	41	122.38	-1976.32	-97.69	1905.82	-453.11	-812.79	-401.44	-603.65
41	41	122.38	-1976.32	-109.58	1907.81	-451.98	-813.14	-401.74	-604.10
41	42	125.25	-1976.32	-2.65	2068.91	-339.76	-909.37	-416.41	-626.15
42	42	125.25	-1976.32	-11.62	2071.56	-338.25	-909.83	-416.81	-626.75
42	43	128.12	-1976.32	94.79	1952.38	-409.64	-877.40	-400.50	-602.24
43	43	128.12	-1976.32	89.56	1955.48	-407.87	-877.94	-400.97	-602.94
43	44	130.99	-1976.32	192.51	1550.55	-665.95	-715.87	-352.87	-530.62
44	44	130.99	-1530.24	190.97	1940.29	-27.76	-905.05	-353.39	-531.39
44	45	133.86	-1530.24	297.91	1238.75	-478.73	-611.46	-271.86	-408.80
45	45	133.86	-1084.16	300.51	1650.15	178.68	-827.32	-272.42	-409.64
45	46	136.73	-1084.16	407.45	634.24	-475.30	-399.14	-154.79	-232.76
46	46	136.73	-638.08	414.52	1067.25	201.30	-641.69	-155.37	-233.64
46	47	139.60	-638.08	247.04	-272.53	-661.08	-77.27	-0.21	-0.31
101	101	0.00	-603.76	-245.57	-238.55	-608.12	-97.81	-0.10	-0.16
101	102	2.62	-603.76	-421.07	995.82	177.80	-589.12	-147.10	-221.20
102	102	2.62	-1049.85	-411.69	562.21	-499.14	-346.48	-146.43	-220.18
102	103	5.24	-1049.85	-309.35	1506.65	101.70	-720.80	-259.12	-389.64

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES2.T0.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
103	103	5.24	-1358.67	-304.74	1220.25	-354.33	-571.07	-258.50	-388.71
103	104	7.86	-1358.67	-202.48	1884.87	67.17	-830.10	-338.42	-508.89
104	104	7.86	-1667.50	-202.26	1613.79	-375.37	-698.92	-337.87	-508.06
104	105	10.48	-1667.50	-99.88	2009.57	-126.93	-844.61	-386.67	-581.44
105	105	10.48	-1667.50	-103.37	2006.55	-128.65	-844.09	-386.22	-580.76
105	106	13.10	-1667.50	-0.89	2143.15	-47.79	-878.11	-405.35	-609.52
106	106	13.10	-1667.50	-7.38	2140.89	-49.08	-877.72	-405.01	-609.01
106	107	15.72	-1667.50	95.07	2026.02	-131.40	-801.38	-395.63	-594.92
107	107	15.72	-1667.50	86.33	2024.67	-132.17	-801.15	-395.43	-594.61
107	108	18.34	-1667.50	188.80	1664.25	-374.31	-615.52	-358.44	-538.99
108	108	18.34	-1667.50	178.72	1663.94	-374.48	-615.47	-358.40	-538.92
108	109	20.96	-1667.50	280.01	1062.58	-773.81	-321.32	-294.49	-442.83
109	109	20.96	-1667.50	269.76	1063.51	-773.28	-321.48	-294.63	-443.04
109	110	23.58	-1667.50	372.18	222.63	-1328.99	80.93	-204.02	-306.79
110	110	23.58	-2491.45	361.23	1358.21	-613.68	-933.64	-572.82	-713.46
110	111	26.20	-2495.43	376.85	375.96	-1205.77	-658.79	-440.71	-514.28
111	111	26.20	-3220.56	367.97	1473.69	-596.41	-1257.83	-831.58	-967.05
111	112	29.55	-3230.01	347.05	301.10	-1336.49	-824.96	-690.03	-752.95
112	112	29.55	-2773.14	339.40	732.93	-657.35	-1064.07	-687.64	-750.77
112	10113	32.90	-2717.04	349.28	-456.15	-1420.00	-499.72	-541.95	-539.03
113	113	32.90	-2652.14	-324.73	-421.03	-1357.27	-511.32	-534.09	-531.20
113	114	36.03	-2703.97	-330.77	633.82	-664.46	-1068.79	-655.96	-707.69
114	114	36.03	-3109.97	-338.11	271.16	-1243.36	-872.73	-663.43	-715.19
114	115	39.16	-3101.16	-388.27	1390.75	-524.17	-1328.11	-792.73	-910.77
115	115	39.16	-2329.03	-374.90	84.00	-1305.43	-614.73	-345.67	-393.10
115	116	42.29	-2324.88	-378.61	1259.23	-584.54	-985.96	-497.96	-622.64
116	116	42.29	-1736.29	-365.03	169.99	-1430.85	134.45	-208.67	-313.79
116	117	45.42	-1736.29	-247.05	1130.79	-801.39	-307.05	-314.78	-473.34
117	117	45.42	-1736.29	-239.40	1125.03	-804.66	-306.05	-313.91	-472.03
117	118	48.55	-1736.29	-118.78	1685.00	-431.96	-582.81	-373.02	-560.91
118	118	48.55	-1736.29	-117.86	1679.09	-435.33	-581.79	-372.13	-559.57
118	119	51.68	-1736.29	4.10	1857.19	-308.60	-697.11	-387.08	-582.06
119	119	51.68	-1736.29	-1.15	1851.77	-311.68	-696.17	-386.27	-580.83
119	120	54.81	-1740.31	120.79	1664.15	-424.35	-655.51	-359.51	-540.59
120	120	54.81	-1740.31	110.24	1659.84	-426.80	-654.77	-358.86	-539.62
120	121	57.94	-1740.31	230.38	1126.53	-762.02	-456.94	-293.32	-441.06
121	121	57.94	-1740.31	216.23	1123.98	-763.47	-456.50	-292.93	-440.48
121	122	61.07	-1740.31	324.41	262.38	-1314.17	-106.49	-191.32	-287.69
122	122	61.07	-2512.45	316.52	1455.58	-527.71	-1079.41	-575.69	-715.03
122	123	64.20	-2517.21	340.17	446.30	-1153.97	-738.30	-448.40	-523.00
123	123	64.20	-3128.56	333.28	1634.14	-392.42	-1383.08	-835.86	-972.06
123	124	67.55	-3138.00	328.49	561.40	-1091.39	-915.11	-716.72	-791.67
124	124	67.55	-2744.30	325.49	924.43	-515.95	-1114.91	-712.50	-787.44
124	10125	70.90	-2691.50	331.49	-204.45	-1261.05	-509.55	-584.12	-601.29
125	125	70.90	-2726.11	-333.21	-275.63	-1358.64	-457.77	-575.02	-592.05
125	126	74.23	-2770.24	-326.41	866.55	-598.55	-1078.95	-700.90	-775.57
126	126	74.23	-3248.42	-326.27	435.85	-1283.41	-846.38	-708.98	-783.53
126	127	77.56	-3239.05	-409.78	1676.98	-483.37	-1360.99	-851.06	-998.40

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES2.T0.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + Coef. exc

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
127	127	77.56	-2536.91	-391.67	307.67	-1365.77	-614.92	-404.38	-481.12
127	128	80.89	-2532.49	-368.94	1601.15	-569.74	-1032.33	-570.79	-731.93
128	128	80.89	-2045.10	-354.36	420.64	-1503.77	-66.77	-252.70	-379.99
128	129	84.22	-2045.10	-227.13	1390.93	-873.71	-493.88	-362.50	-545.09
129	129	84.22	-2045.10	-219.75	1384.23	-877.52	-492.71	-361.49	-543.57
129	130	87.55	-2045.10	-90.22	1899.66	-538.76	-733.15	-417.91	-628.41
130	130	87.55	-2045.10	-90.13	1892.90	-542.61	-731.98	-416.82	-626.87
130	131	90.88	-2045.10	37.48	1984.08	-477.73	-791.03	-424.54	-638.39
131	131	90.88	-2045.10	29.53	1977.90	-481.25	-789.95	-423.61	-636.99
131	132	94.21	-2045.10	159.24	1663.45	-679.62	-670.89	-385.31	-579.39
132	132	94.21	-2045.10	144.95	1658.63	-682.37	-670.05	-384.58	-578.30
132	133	97.54	-2045.10	272.59	964.08	-1129.49	-377.27	-304.17	-457.38
133	133	97.54	-2045.10	254.08	961.37	-1131.03	-376.80	-303.76	-456.76
133	134	100.87	-2045.10	356.89	-78.63	-1807.16	83.68	-186.46	-280.38
134	134	100.87	-2700.18	344.21	1206.99	-836.67	-1039.02	-551.35	-680.79
134	135	104.20	-2729.13	337.72	33.01	-1569.48	-658.01	-408.12	-461.65
135	135	104.20	-3269.70	334.51	1288.40	-703.72	-1336.09	-795.76	-911.24
135	136	107.55	-3279.16	319.36	192.20	-1419.40	-852.92	-674.66	-727.91
136	136	107.55	-2818.56	320.44	624.07	-739.12	-1090.93	-671.31	-724.76
136	10137	110.90	-2753.64	352.65	-578.48	-1525.89	-458.04	-530.25	-521.13
137	137	110.90	-2692.12	-358.96	-542.31	-1463.57	-470.83	-523.42	-514.42
137	138	113.77	-2751.81	-404.20	565.60	-770.65	-947.37	-668.34	-724.53
138	138	113.77	-3204.64	-391.60	138.61	-1445.83	-707.90	-670.41	-726.76
138	139	116.64	-3196.55	-421.27	1297.32	-727.79	-1092.99	-816.66	-947.75
139	139	116.64	-2218.82	-407.58	179.99	-1205.98	-479.23	-369.87	-430.43
139	140	119.51	-2215.02	-360.12	1278.08	-547.76	-775.03	-519.37	-655.73
140	140	119.51	-1255.73	-345.50	523.78	-822.27	79.78	-218.64	-328.78
140	141	122.38	-1255.73	-233.50	1354.67	-273.91	-315.35	-308.53	-463.94
141	141	122.38	-1255.73	-221.20	1352.56	-275.11	-314.99	-308.21	-463.46
141	142	125.25	-1255.73	-109.28	1826.52	46.01	-568.12	-355.58	-534.69
142	142	125.25	-1255.73	-99.89	1823.86	44.50	-567.66	-355.18	-534.09
142	143	128.12	-1255.73	12.21	1949.63	143.38	-680.36	-361.34	-543.35
143	143	128.12	-1255.73	18.37	1946.65	141.68	-679.85	-360.89	-542.68
143	144	130.99	-1255.73	130.36	1733.36	23.50	-653.66	-327.23	-492.06
144	144	130.99	-1255.73	133.01	1730.30	21.76	-653.13	-326.77	-491.37
144	145	133.86	-1255.73	244.80	1188.27	-307.59	-489.86	-254.84	-383.21
145	145	133.86	-1049.85	244.55	1373.51	-6.81	-588.70	-254.40	-382.54
145	146	136.73	-1049.85	356.79	510.59	-542.88	-289.71	-145.38	-218.60
146	146	136.73	-603.76	353.09	936.74	129.81	-531.05	-144.93	-217.93
146	147	139.60	-603.76	262.10	-235.89	-606.61	-98.27	-0.51	-0.76

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES3.T0.MZ+

GRADIENTE DOMINATE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-569.45	-207.43	-201.78	-553.57	-118.83	-0.42	-0.64
1	2	2.62	-569.45	-274.77	633.21	-24.05	-444.14	-100.85	-151.65
2	2	2.62	-775.33	-280.00	438.40	-333.46	-333.08	-101.34	-152.38
2	3	5.24	-775.33	-191.45	1056.27	52.44	-554.03	-178.43	-268.31
3	3	5.24	-981.22	-193.39	861.26	-257.08	-442.92	-178.89	-269.00
3	4	7.86	-981.22	-104.84	1252.10	-20.46	-557.77	-231.17	-347.61
4	4	7.86	-981.22	-103.66	1254.86	-18.88	-558.24	-231.58	-348.23
4	5	10.48	-981.22	-15.36	1410.97	64.08	-565.65	-257.87	-387.77
5	5	10.48	-981.22	-11.50	1413.39	65.46	-566.07	-258.24	-388.32
5	6	13.10	-981.22	77.10	1327.52	-9.36	-464.79	-257.45	-387.13
6	6	13.10	-981.22	83.39	1329.42	-8.27	-465.12	-257.74	-387.57
6	7	15.72	-981.22	171.84	995.20	-244.50	-254.03	-228.92	-344.23
7	7	15.72	-981.22	179.93	996.37	-243.84	-254.24	-229.10	-344.50
7	8	18.34	-981.22	268.42	409.03	-644.18	67.46	-171.52	-257.92
8	8	18.34	-1864.29	277.64	1462.23	-40.98	-950.93	-521.65	-642.23
8	9	20.96	-1868.27	317.50	694.91	-505.87	-729.47	-419.66	-488.35
9	9	20.96	-2904.85	325.21	1508.10	-352.27	-1179.89	-810.87	-941.28
9	10	23.58	-2912.24	311.14	680.69	-872.42	-882.31	-710.10	-788.78
10	10	23.58	-2703.14	318.61	877.25	-561.06	-992.71	-709.04	-787.61
10	10011	26.20	-2648.50	299.94	27.33	-1095.53	-606.01	-598.18	-628.04
11	11	26.20	-2672.88	-304.88	26.52	-1103.27	-613.15	-604.37	-634.18
11	12	29.55	-2758.03	-268.13	1072.00	-418.44	-1203.23	-730.05	-812.04
12	12	29.55	-3185.54	-268.00	673.40	-1047.06	-984.23	-733.75	-815.55
12	13	32.90	-3176.09	-265.78	1566.25	-453.64	-1410.53	-827.26	-957.39
13	13	32.90	-2381.65	-269.72	289.00	-1189.14	-716.95	-383.03	-442.41
13	14	36.03	-2355.46	-267.93	1175.97	-629.04	-1020.69	-487.71	-603.23
14	14	36.03	-1735.96	-278.58	89.73	-1424.59	-23.79	-172.33	-259.13
14	15	39.16	-1735.96	-194.36	852.58	-919.83	-390.93	-254.24	-382.30
15	15	39.16	-1735.96	-209.34	855.25	-918.31	-391.39	-254.64	-382.90
15	16	42.29	-1735.96	-105.34	1347.75	-596.04	-616.41	-309.21	-464.96
16	16	42.29	-1735.96	-116.66	1351.92	-593.66	-617.14	-309.84	-465.91
16	17	45.42	-1735.96	-10.90	1551.57	-466.69	-696.12	-333.68	-501.76
17	17	45.42	-1735.96	-17.09	1556.49	-463.89	-696.98	-334.42	-502.87
17	18	48.55	-1735.96	88.03	1445.50	-542.34	-626.87	-324.85	-488.48
18	18	48.55	-1735.96	87.60	1450.57	-539.45	-627.75	-325.62	-489.63
18	19	51.68	-1735.96	192.58	1012.87	-832.47	-405.77	-280.21	-421.36
19	19	51.68	-1735.96	197.65	1017.52	-829.82	-406.57	-280.91	-422.41
19	20	54.81	-1735.96	301.65	235.15	-1347.64	-29.58	-196.97	-296.19
20	20	54.81	-2462.56	311.46	1432.35	-533.67	-1035.10	-562.82	-702.20
20	21	57.94	-2467.31	333.07	432.45	-1157.86	-684.70	-438.49	-514.61
21	21	57.94	-3124.83	344.42	1590.80	-449.19	-1316.79	-829.31	-967.16
21	22	61.07	-3133.66	324.64	562.27	-1119.47	-867.44	-715.10	-794.28
22	22	61.07	-2714.87	322.09	959.64	-494.15	-1088.83	-713.47	-792.75
22	10023	64.20	-2664.39	308.91	-30.17	-1153.27	-533.27	-603.13	-633.42
23	23	64.20	-2763.38	-320.45	-97.54	-1267.91	-501.36	-611.29	-641.72
23	24	67.55	-2828.85	-283.46	988.00	-546.12	-1120.14	-734.02	-817.72
24	24	67.55	-3291.77	-287.87	559.29	-1225.29	-883.36	-738.44	-822.18
24	25	70.90	-3282.33	-287.66	1529.90	-579.30	-1350.79	-839.78	-975.79

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES3.T0.MZ+

GRADIENTE DOMINATE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2596.00	-293.99	162.90	-1465.10	-609.84	-397.54	-463.12
25	26	74.23	-2591.58	-283.25	1137.22	-851.49	-969.51	-516.20	-642.12
26	26	74.23	-2048.57	-294.63	-38.07	-1751.25	-42.50	-176.12	-264.84
26	27	77.56	-2048.57	-200.26	799.81	-1206.70	-412.92	-270.71	-407.06
27	27	77.56	-2048.57	-216.91	803.19	-1204.78	-413.51	-271.22	-407.83
27	28	80.89	-2044.80	-106.65	1341.05	-860.80	-621.97	-335.71	-504.82
28	28	80.89	-2044.80	-118.63	1346.06	-857.95	-622.83	-336.47	-505.95
28	29	84.22	-2044.80	-5.99	1553.60	-736.72	-669.10	-366.30	-550.80
29	29	84.22	-2044.80	-11.80	1559.38	-733.43	-670.10	-367.17	-552.11
29	30	87.55	-2044.80	99.06	1412.11	-846.54	-547.03	-358.70	-539.38
30	30	87.55	-2044.80	100.14	1417.95	-843.22	-548.04	-359.58	-540.70
30	31	90.88	-2044.80	212.55	896.93	-1201.44	-252.39	-309.95	-466.08
31	31	90.88	-2044.80	220.14	902.26	-1198.41	-253.31	-310.76	-467.29
31	32	94.21	-2044.80	330.13	-15.03	-1814.58	218.88	-216.59	-325.68
32	32	94.21	-2670.43	343.42	1273.34	-794.27	-1027.51	-555.62	-691.11
32	33	97.54	-2675.49	356.41	99.37	-1520.64	-637.03	-406.54	-466.27
33	33	97.54	-3230.15	370.24	1351.63	-660.87	-1318.78	-797.35	-918.80
33	34	100.87	-3239.53	348.77	156.58	-1432.89	-818.15	-661.38	-713.11
34	34	100.87	-2767.24	350.72	584.69	-751.26	-1052.03	-654.43	-706.08
34	10035	104.20	-2731.01	341.85	-577.67	-1523.40	-435.68	-526.72	-518.78
35	35	104.20	-2760.13	-346.98	-578.28	-1532.44	-444.27	-534.18	-526.19
35	36	107.55	-2821.82	-329.45	595.72	-773.10	-1030.80	-675.78	-731.07
36	36	107.55	-3278.88	-335.95	164.02	-1452.23	-791.75	-678.24	-733.34
36	37	110.90	-3269.45	-333.58	1254.88	-751.74	-1233.57	-804.24	-924.03
37	37	110.90	-2540.64	-343.18	-82.90	-1585.90	-506.38	-359.56	-408.76
37	38	113.77	-2536.82	-338.00	876.59	-998.90	-803.73	-484.57	-597.23
38	38	113.77	-1976.32	-352.68	-271.43	-1898.29	250.17	-169.79	-255.31
38	39	116.64	-1976.32	-255.57	601.36	-1308.83	-209.70	-257.90	-387.80
39	39	116.64	-1976.32	-268.48	600.99	-1309.04	-209.64	-257.84	-387.72
39	40	119.51	-1976.32	-172.09	1234.08	-880.06	-547.89	-321.10	-482.84
40	40	119.51	-1976.32	-184.03	1234.89	-879.60	-548.03	-321.22	-483.02
40	41	122.38	-1976.32	-87.47	1624.94	-613.01	-764.06	-359.12	-540.01
41	41	122.38	-1976.32	-97.80	1626.60	-612.07	-764.35	-359.37	-540.38
41	42	125.25	-1976.32	-0.62	1767.86	-511.15	-857.15	-371.04	-557.94
42	42	125.25	-1976.32	-8.47	1770.08	-509.89	-857.53	-371.38	-558.44
42	43	128.12	-1976.32	88.30	1655.65	-578.56	-825.92	-355.79	-535.00
43	43	128.12	-1976.32	83.61	1658.27	-577.07	-826.38	-356.19	-535.60
43	44	130.99	-1976.32	176.90	1284.32	-817.52	-669.69	-312.76	-470.29
44	44	130.99	-1530.24	175.34	1673.52	-179.63	-858.77	-313.19	-470.95
44	45	133.86	-1530.24	272.52	1030.83	-597.10	-575.39	-240.54	-361.70
45	45	133.86	-1084.16	274.46	1441.65	59.98	-791.15	-241.00	-362.40
45	46	136.73	-1084.16	371.65	514.49	-543.47	-378.37	-136.75	-205.63
46	46	136.73	-638.08	377.34	946.87	132.77	-620.81	-137.24	-206.36
46	47	139.60	-638.08	247.21	-272.86	-661.26	-77.22	-0.16	-0.24
101	101	0.00	-603.76	-245.84	-238.78	-608.25	-97.77	-0.07	-0.11
101	102	2.62	-603.76	-383.43	885.44	114.96	-569.97	-130.47	-196.19
102	102	2.62	-1049.85	-375.68	452.49	-561.60	-327.45	-129.89	-195.32
102	103	5.24	-1049.85	-282.56	1314.69	-7.58	-687.50	-230.20	-346.15

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES3.T0.MZ+

GRADIENTE DOMINATE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1358.67	-278.89	1028.90	-463.27	-537.88	-229.67	-345.35
103	104	7.86	-1358.67	-185.83	1637.79	-73.49	-787.24	-301.19	-452.90
104	104	7.86	-1667.50	-185.89	1367.25	-515.72	-656.15	-300.73	-452.20
104	105	10.48	-1667.50	-92.74	1732.25	-284.81	-796.50	-344.88	-518.61
105	105	10.48	-1667.50	-95.97	1729.70	-286.27	-796.06	-344.50	-518.03
105	106	13.10	-1667.50	-2.74	1859.00	-209.56	-828.81	-362.53	-545.14
106	106	13.10	-1667.50	-8.49	1857.11	-210.63	-828.49	-362.25	-544.71
106	107	15.72	-1667.50	84.71	1757.26	-284.40	-754.76	-355.14	-534.02
107	107	15.72	-1667.50	77.07	1756.17	-285.02	-754.57	-354.97	-533.78
107	108	18.34	-1667.50	170.30	1432.11	-506.46	-575.25	-323.46	-486.40
108	108	18.34	-1667.50	161.58	1431.94	-506.56	-575.22	-323.44	-486.36
108	109	20.96	-1667.50	253.86	887.37	-873.56	-290.92	-268.09	-403.13
109	109	20.96	-1667.50	245.10	888.30	-873.03	-291.08	-268.23	-403.34
109	110	23.58	-1667.50	338.28	124.12	-1385.07	98.02	-189.18	-284.47
110	110	23.58	-2491.45	328.84	1259.51	-669.87	-916.52	-557.95	-691.10
110	111	26.20	-2495.43	342.33	368.64	-1209.93	-657.52	-439.61	-512.63
111	111	26.20	-3220.56	334.87	1466.05	-600.76	-1256.51	-830.43	-965.32
111	112	29.55	-3230.01	330.68	372.68	-1295.74	-837.38	-700.81	-769.17
112	112	29.55	-2773.14	324.48	804.27	-616.74	-1076.45	-698.39	-766.94
112	10113	32.90	-2717.04	344.75	-353.96	-1361.82	-517.45	-557.35	-562.18
113	113	32.90	-2652.14	-328.72	-318.99	-1299.17	-529.03	-549.47	-554.32
113	114	36.03	-2703.97	-322.25	733.81	-607.54	-1086.14	-671.03	-730.35
114	114	36.03	-3109.97	-327.82	371.01	-1186.51	-890.05	-678.47	-737.82
114	115	39.16	-3101.16	-355.96	1426.07	-504.07	-1334.24	-798.05	-918.78
115	115	39.16	-2329.03	-344.41	119.39	-1285.29	-620.87	-351.01	-401.12
115	116	42.29	-2324.88	-343.98	1194.18	-621.57	-974.67	-488.16	-607.90
116	116	42.29	-1736.29	-332.16	105.60	-1467.51	145.62	-198.97	-299.20
116	117	45.42	-1736.29	-224.32	978.78	-887.93	-280.68	-291.87	-438.89
117	117	45.42	-1736.29	-217.67	973.81	-890.75	-279.82	-291.13	-437.77
117	118	48.55	-1736.29	-107.72	1482.57	-547.21	-547.69	-342.51	-515.04
118	118	48.55	-1736.29	-106.90	1477.48	-550.10	-546.81	-341.75	-513.89
118	119	51.68	-1736.29	4.10	1638.42	-433.14	-659.16	-354.12	-532.49
119	119	51.68	-1736.29	-0.44	1633.78	-435.78	-658.36	-353.42	-531.44
119	120	54.81	-1740.31	110.51	1461.16	-539.91	-620.30	-328.92	-494.60
120	120	54.81	-1740.31	101.40	1457.51	-541.99	-619.66	-328.37	-493.77
120	121	57.94	-1740.31	210.96	968.47	-852.01	-429.52	-269.50	-405.25
121	121	57.94	-1740.31	198.82	966.38	-853.20	-429.16	-269.18	-404.77
121	122	61.07	-1740.31	298.90	175.18	-1363.81	-91.36	-178.18	-267.93
122	122	61.07	-2512.45	293.03	1368.59	-577.23	-1064.31	-562.58	-695.32
122	123	64.20	-2517.21	315.65	434.82	-1160.50	-736.31	-446.67	-520.40
123	123	64.20	-3128.56	310.61	1622.61	-398.98	-1381.08	-834.13	-969.44
123	124	67.55	-3138.00	319.23	597.46	-1070.86	-921.37	-722.16	-799.84
124	124	67.55	-2744.30	317.10	960.42	-495.46	-1121.15	-717.92	-795.60
124	10125	70.90	-2691.50	334.30	-161.80	-1236.77	-516.95	-590.55	-610.95
125	125	70.90	-2726.11	-338.71	-232.96	-1334.35	-465.17	-581.45	-601.71
125	126	74.23	-2770.24	-321.36	910.32	-573.64	-1086.54	-707.49	-785.48
126	126	74.23	-3248.42	-321.57	479.57	-1258.53	-853.96	-715.57	-793.43
126	127	77.56	-3239.05	-375.40	1650.82	-498.27	-1356.45	-847.12	-992.47

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES3.T0.MZ+

GRADIENTE DOMINATE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2536.91	-360.09	281.77	-1380.52	-610.43	-400.48	-475.25
127	128	80.89	-2532.49	-337.93	1472.25	-643.13	-1009.97	-551.37	-702.73
128	128	80.89	-2045.10	-325.40	292.54	-1576.69	-44.55	-233.41	-350.97
128	129	84.22	-2045.10	-209.31	1184.51	-991.23	-458.06	-331.49	-498.32
129	129	84.22	-2045.10	-203.04	1178.72	-994.52	-457.06	-330.52	-497.01
129	130	87.55	-2045.10	-85.12	1657.97	-676.36	-691.22	-381.49	-573.64
130	130	87.55	-2045.10	-85.23	1652.11	-679.69	-690.21	-380.61	-572.32
130	131	90.88	-2045.10	31.17	1744.92	-613.88	-749.54	-388.51	-584.20
131	131	90.88	-2045.10	24.09	1739.59	-616.91	-748.61	-387.70	-582.99
131	132	94.21	-2045.10	142.15	1462.69	-793.92	-636.06	-355.06	-533.90
132	132	94.21	-2045.10	129.55	1458.55	-796.28	-635.34	-354.43	-532.96
132	133	97.54	-2045.10	245.97	833.81	-1203.65	-354.67	-284.54	-427.86
133	133	97.54	-2045.10	229.72	831.55	-1204.94	-354.28	-284.20	-427.35
133	134	100.87	-2045.10	326.46	-112.48	-1826.43	89.55	-181.36	-272.71
134	134	100.87	-2700.18	315.64	1173.26	-855.87	-1033.17	-546.26	-673.15
134	135	104.20	-2729.13	315.16	92.63	-1535.54	-668.35	-417.11	-475.16
135	135	104.20	-3269.70	312.51	1347.67	-669.98	-1346.37	-804.69	-924.67
135	136	107.55	-3279.16	312.91	300.87	-1357.54	-871.77	-691.03	-752.53
136	136	107.55	-2818.56	314.02	732.56	-677.36	-1109.75	-687.65	-749.34
136	10137	110.90	-2753.64	351.97	-453.11	-1454.51	-479.79	-549.14	-549.54
137	137	110.90	-2692.12	-349.90	-417.02	-1392.24	-492.57	-542.30	-542.81
137	138	113.77	-2751.81	-375.09	643.18	-726.49	-960.83	-680.03	-742.11
138	138	113.77	-3204.64	-364.40	215.87	-1401.85	-721.30	-682.05	-744.27
138	139	116.64	-3196.55	-377.28	1272.70	-741.81	-1088.72	-812.95	-942.17
139	139	116.64	-2218.82	-365.83	155.47	-1219.94	-474.98	-366.18	-424.88
139	140	119.51	-2215.02	-326.71	1143.69	-624.27	-751.71	-499.12	-625.28
140	140	119.51	-1255.73	-314.13	389.65	-898.62	103.05	-198.43	-298.39
140	141	122.38	-1255.73	-212.21	1144.97	-393.29	-278.97	-276.93	-416.42
141	141	122.38	-1255.73	-201.56	1143.22	-394.29	-278.67	-276.67	-416.03
141	142	125.25	-1255.73	-99.71	1575.30	-97.01	-524.54	-317.73	-477.77
142	142	125.25	-1255.73	-91.52	1573.07	-98.28	-524.15	-317.39	-477.26
142	143	128.12	-1255.73	10.48	1689.32	-4.82	-635.20	-322.12	-484.37
143	143	128.12	-1255.73	15.91	1686.80	-6.25	-634.77	-321.74	-483.80
143	144	130.99	-1255.73	117.82	1495.00	-112.20	-612.31	-291.32	-438.06
144	144	130.99	-1255.73	120.26	1492.40	-113.68	-611.86	-290.93	-437.47
144	145	133.86	-1255.73	222.02	1001.32	-414.03	-457.43	-226.67	-340.85
145	145	133.86	-1049.85	221.95	1187.00	-112.99	-556.34	-226.29	-340.28
145	146	136.73	-1049.85	324.07	403.45	-603.87	-271.12	-129.23	-194.33
146	146	136.73	-603.76	321.05	830.05	69.07	-512.54	-128.85	-193.76
146	147	139.60	-603.76	255.25	-236.46	-606.93	-98.17	-0.42	-0.63

GRÁFICO DE TENSIONES

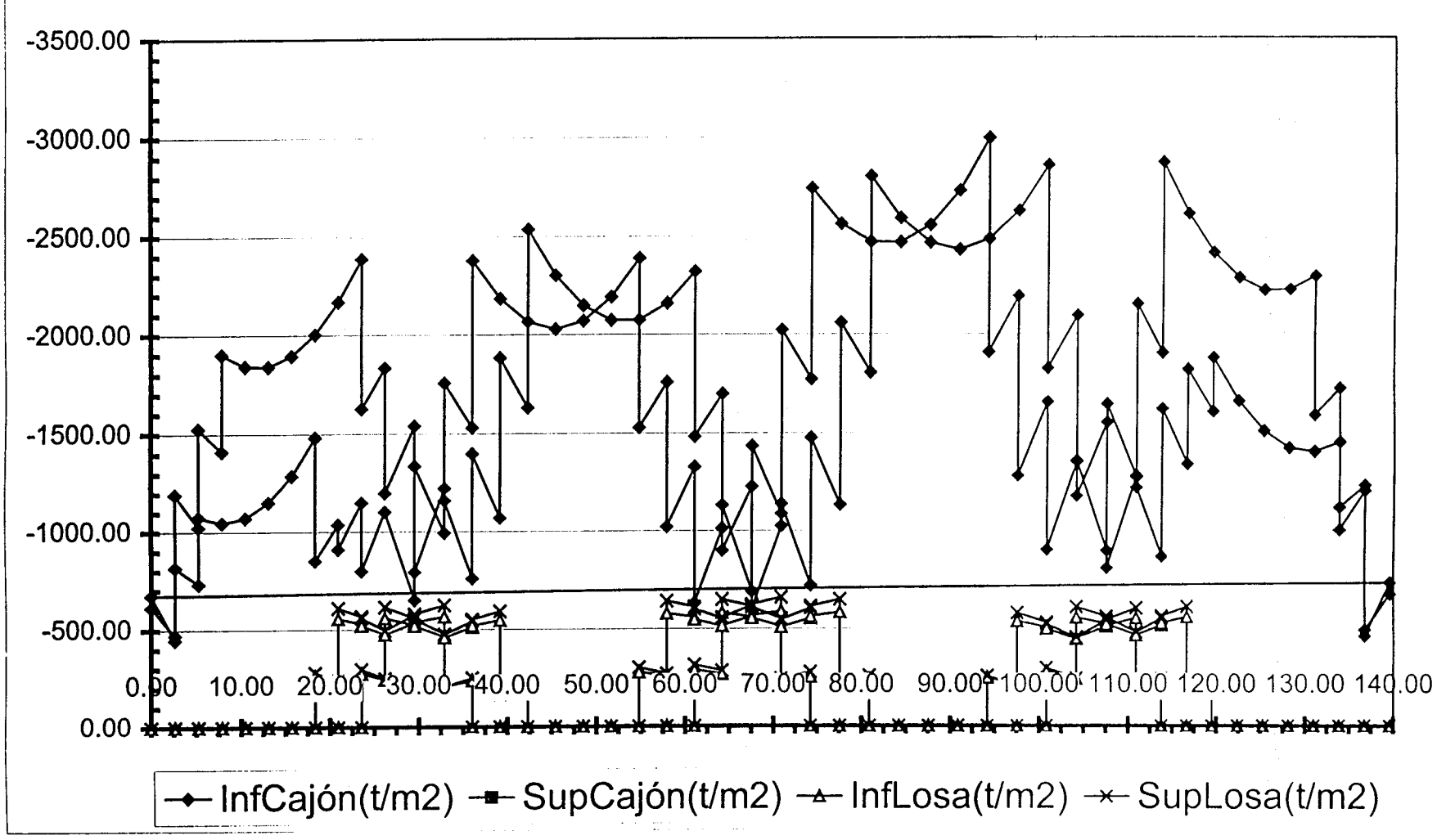


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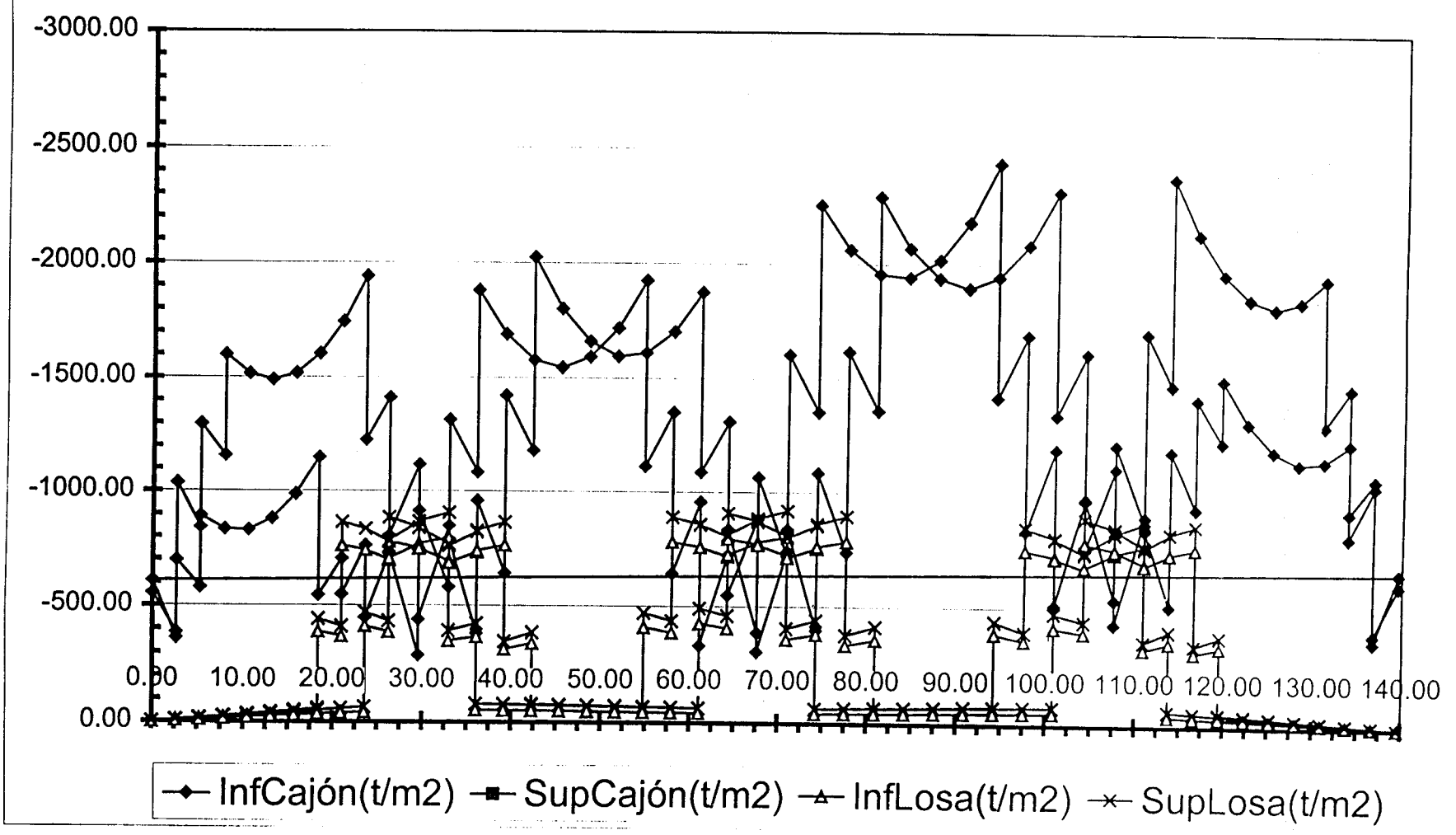


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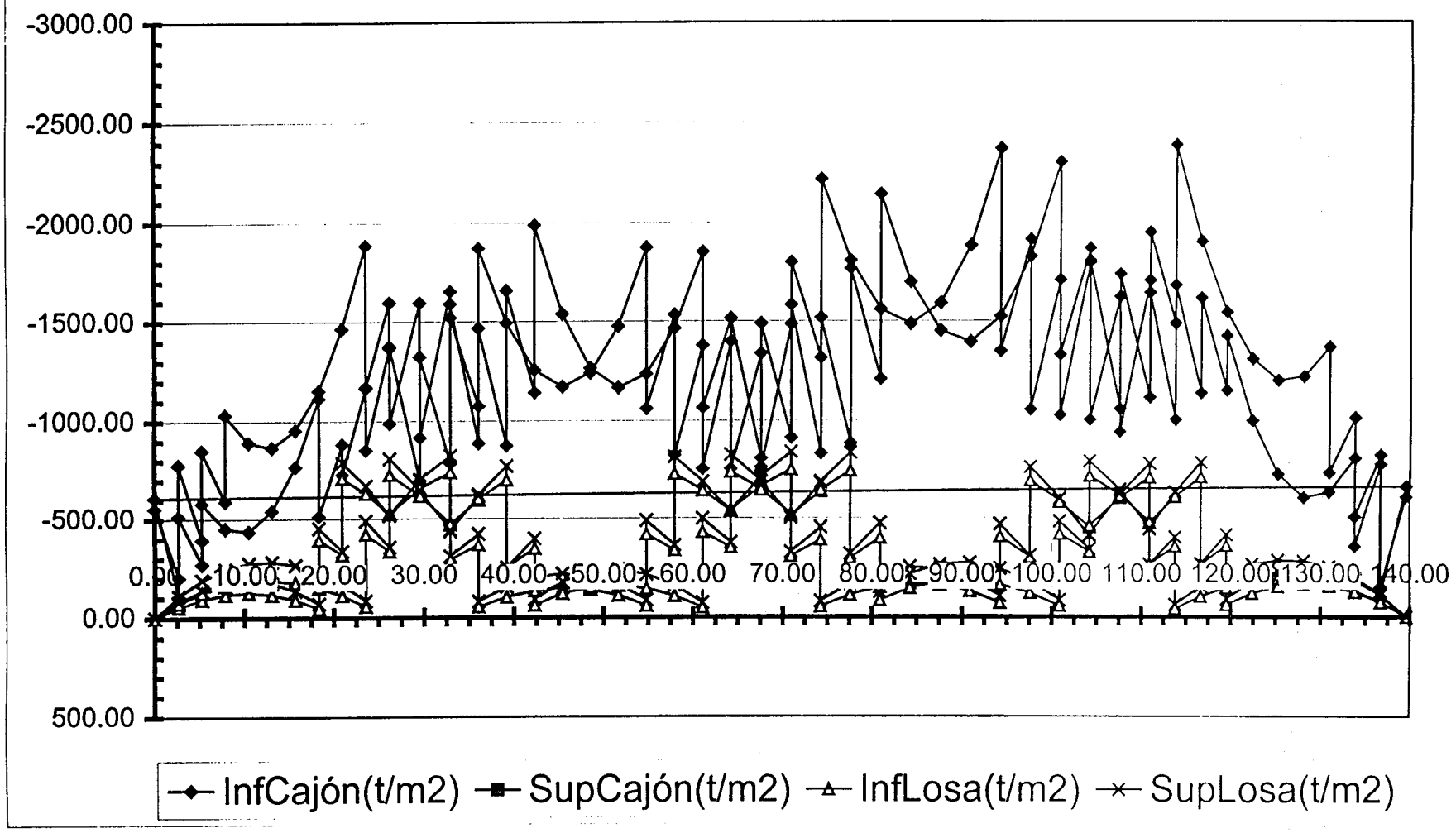


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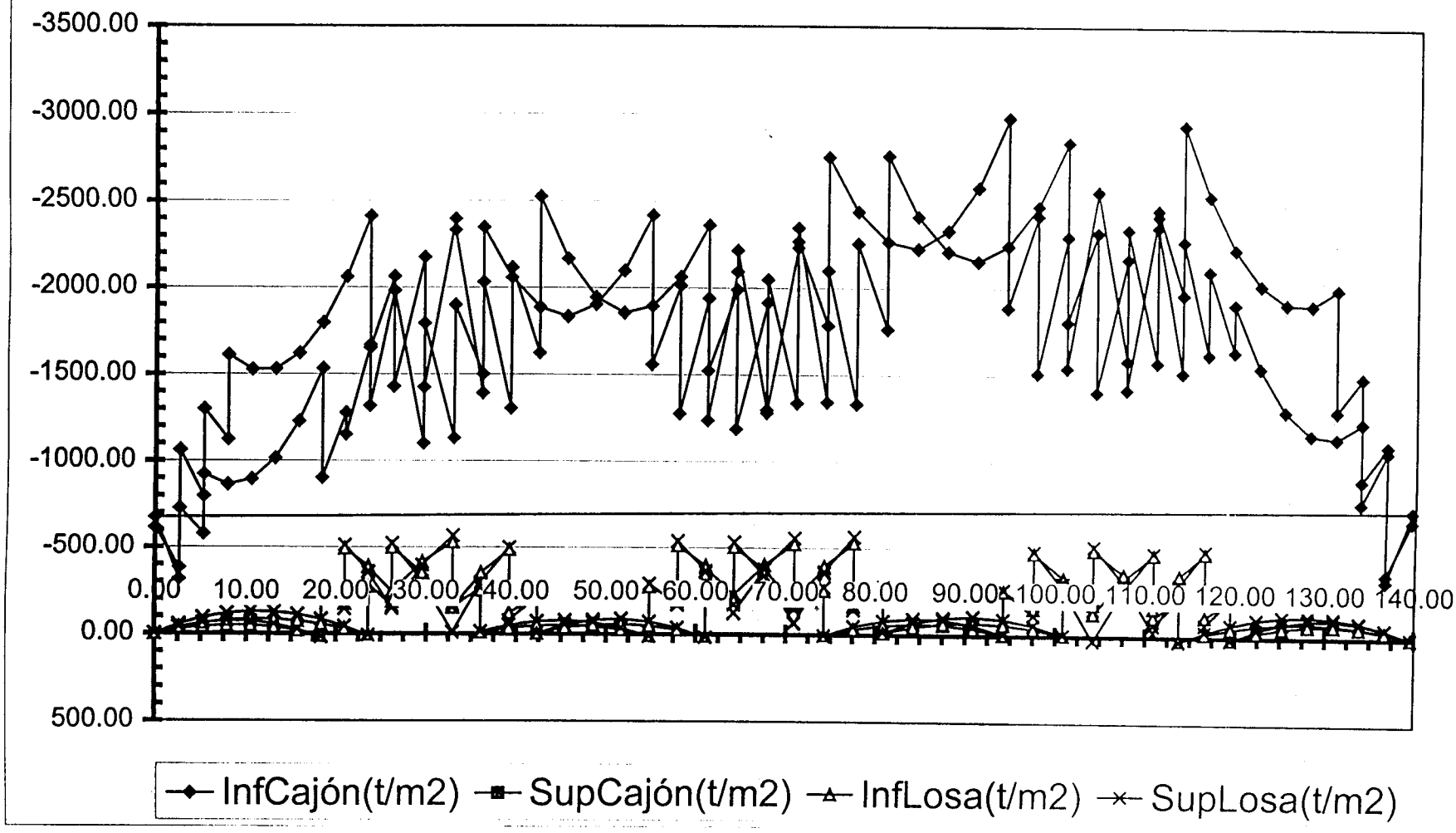


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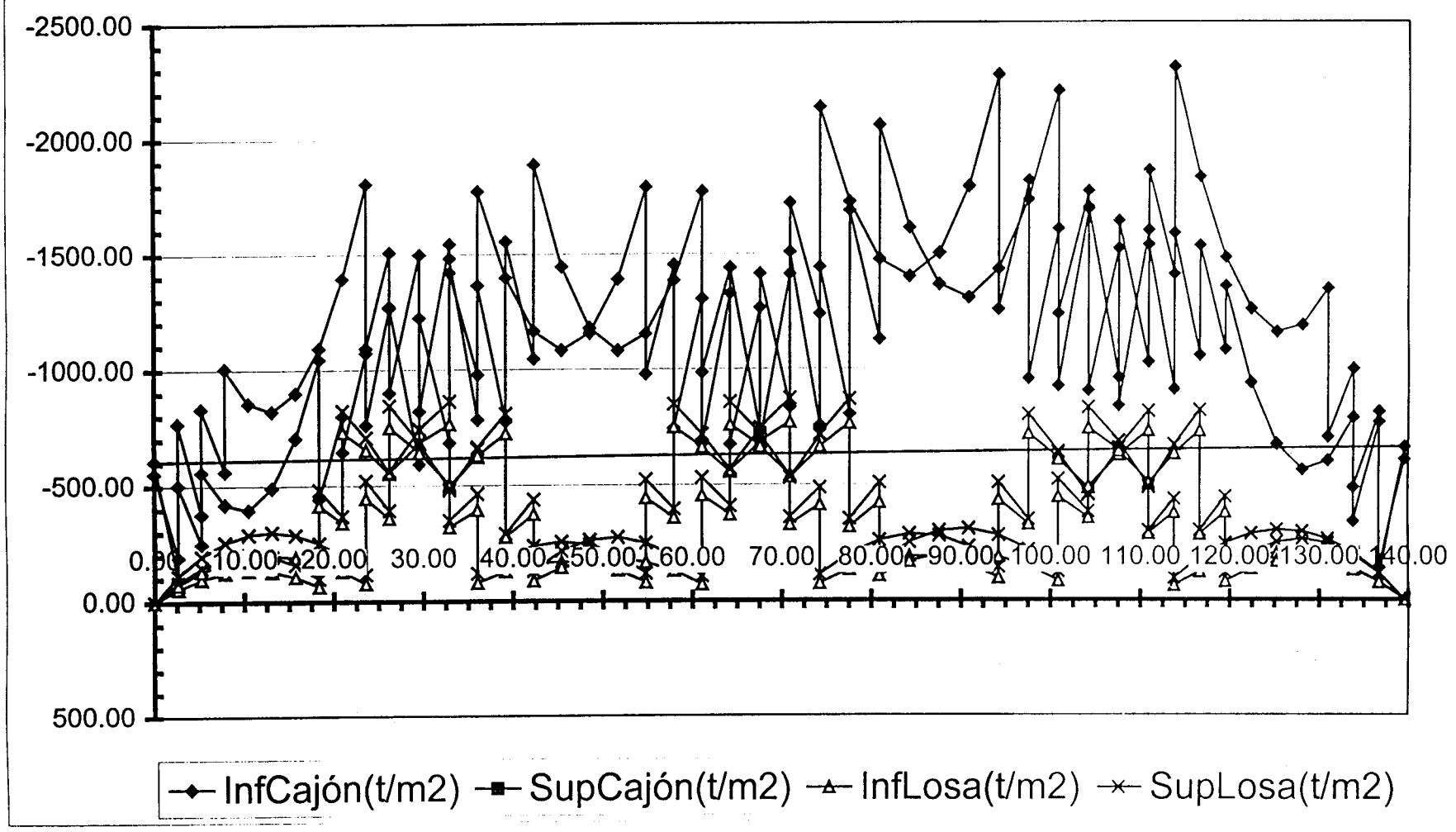


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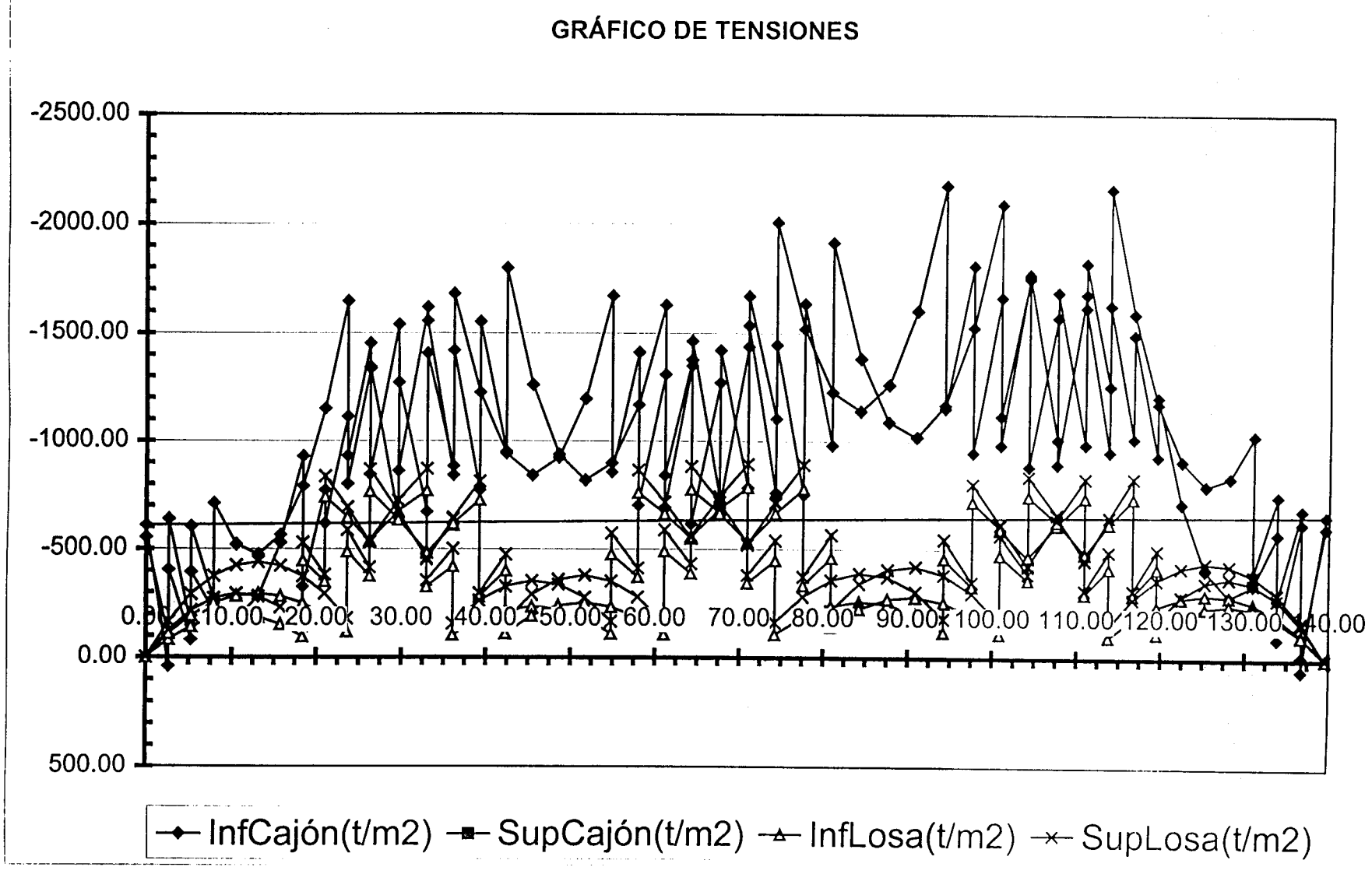


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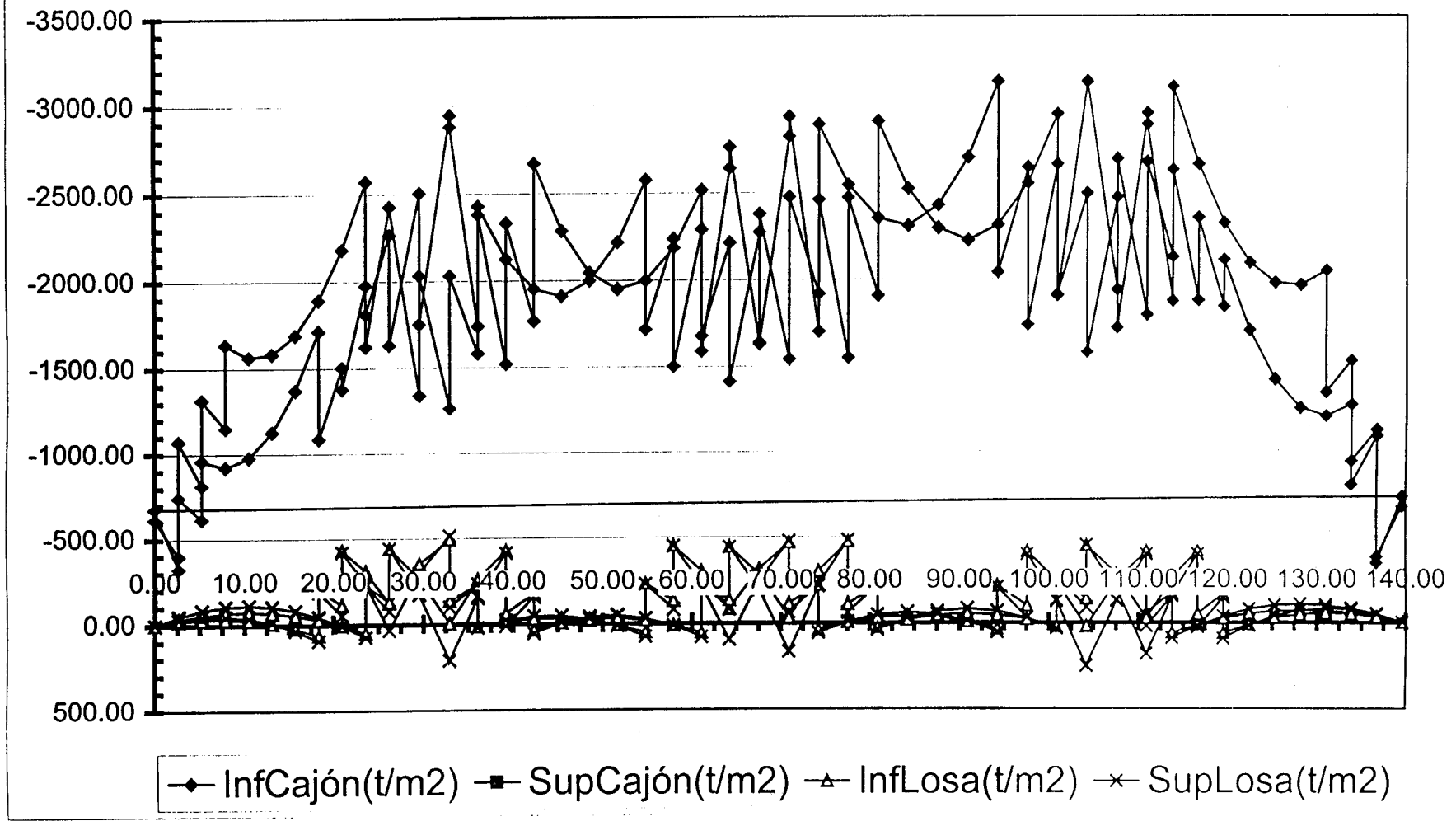
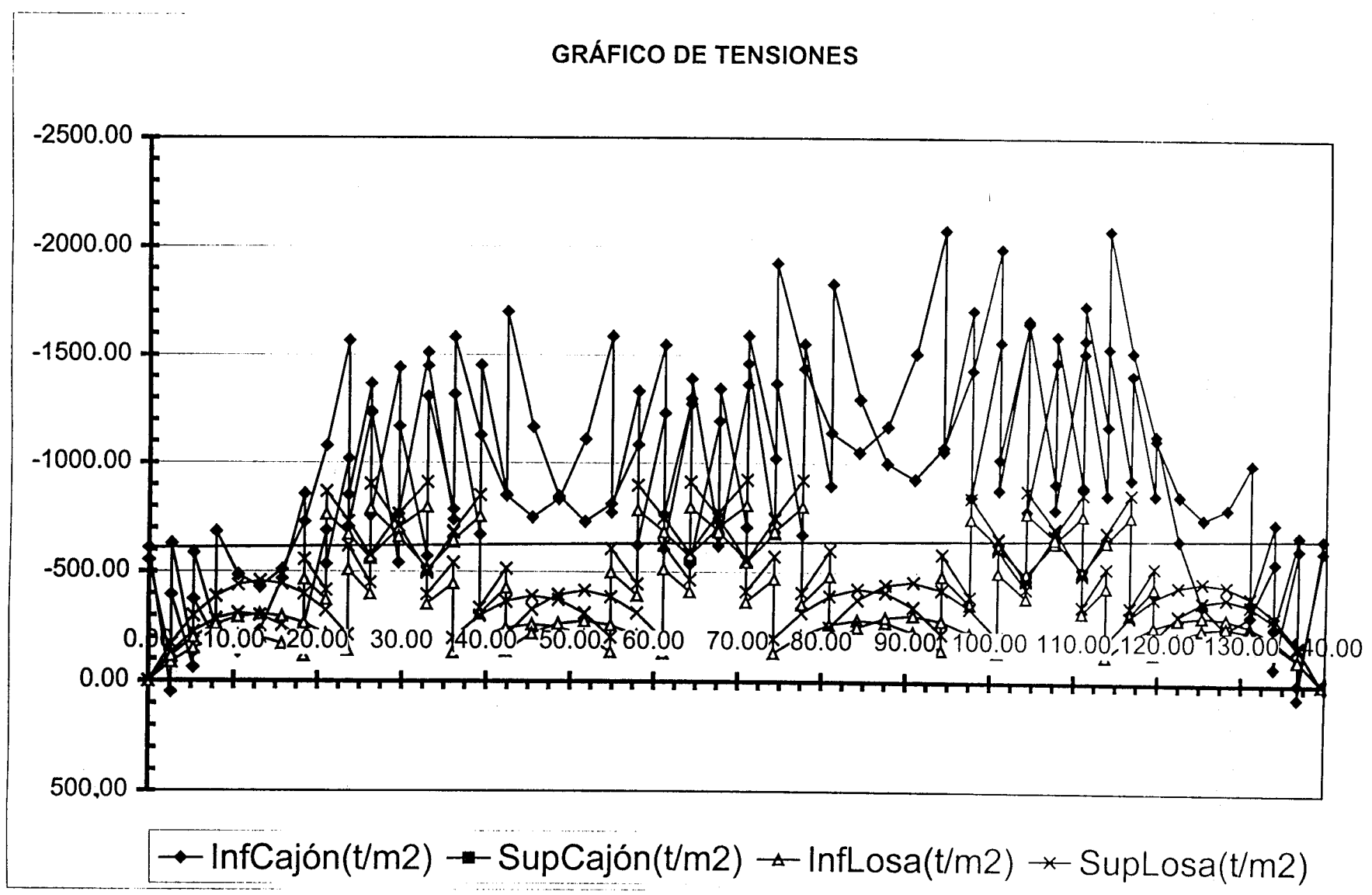


GRÁFICO DE TENSIONES



TCIERRE.esv

Programa DINTEL IDEAM S.A.
INFRECUENTES1.T0.MZ+

20/10/02

GRÁFICO DE TENSIONES

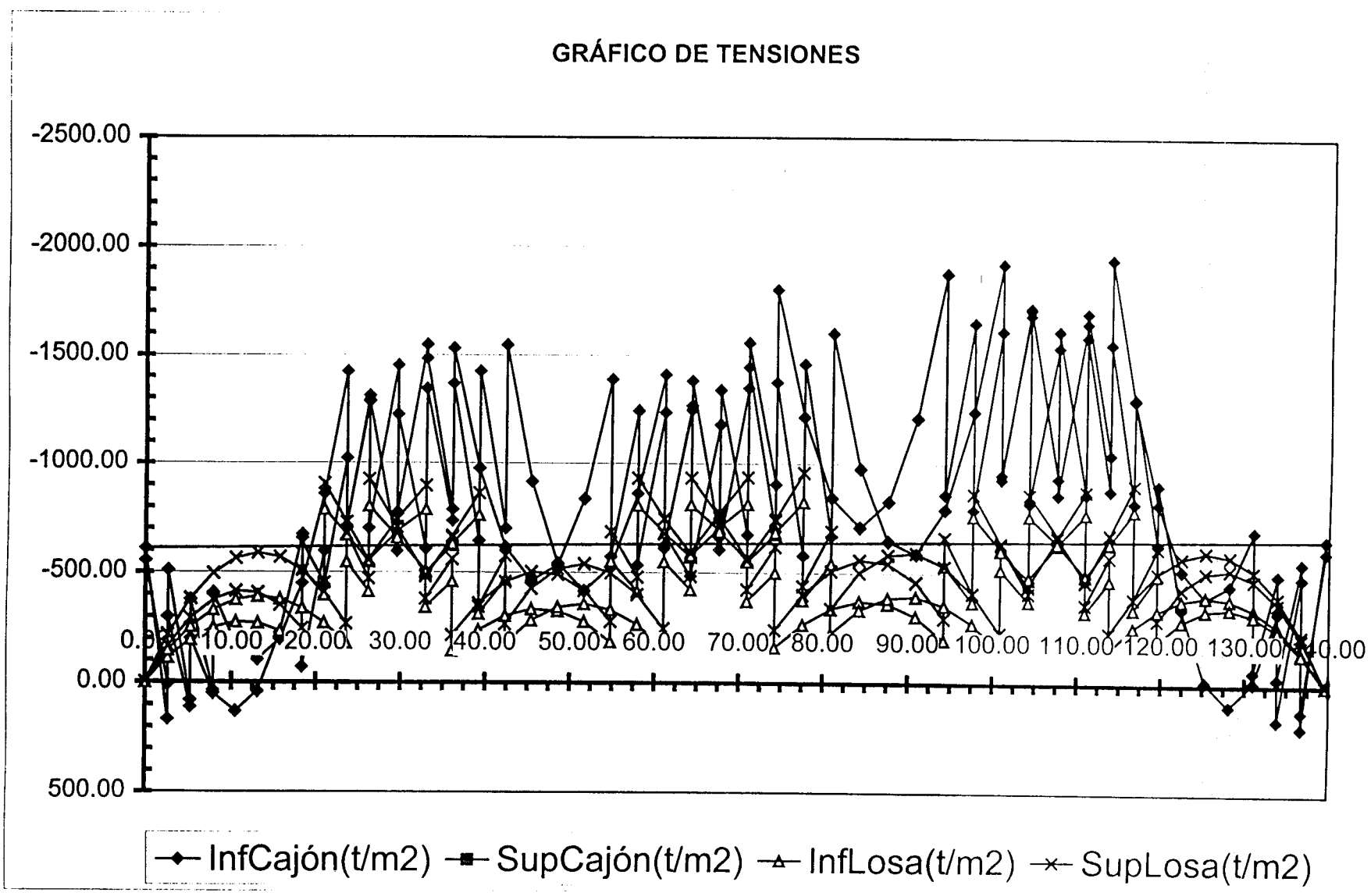


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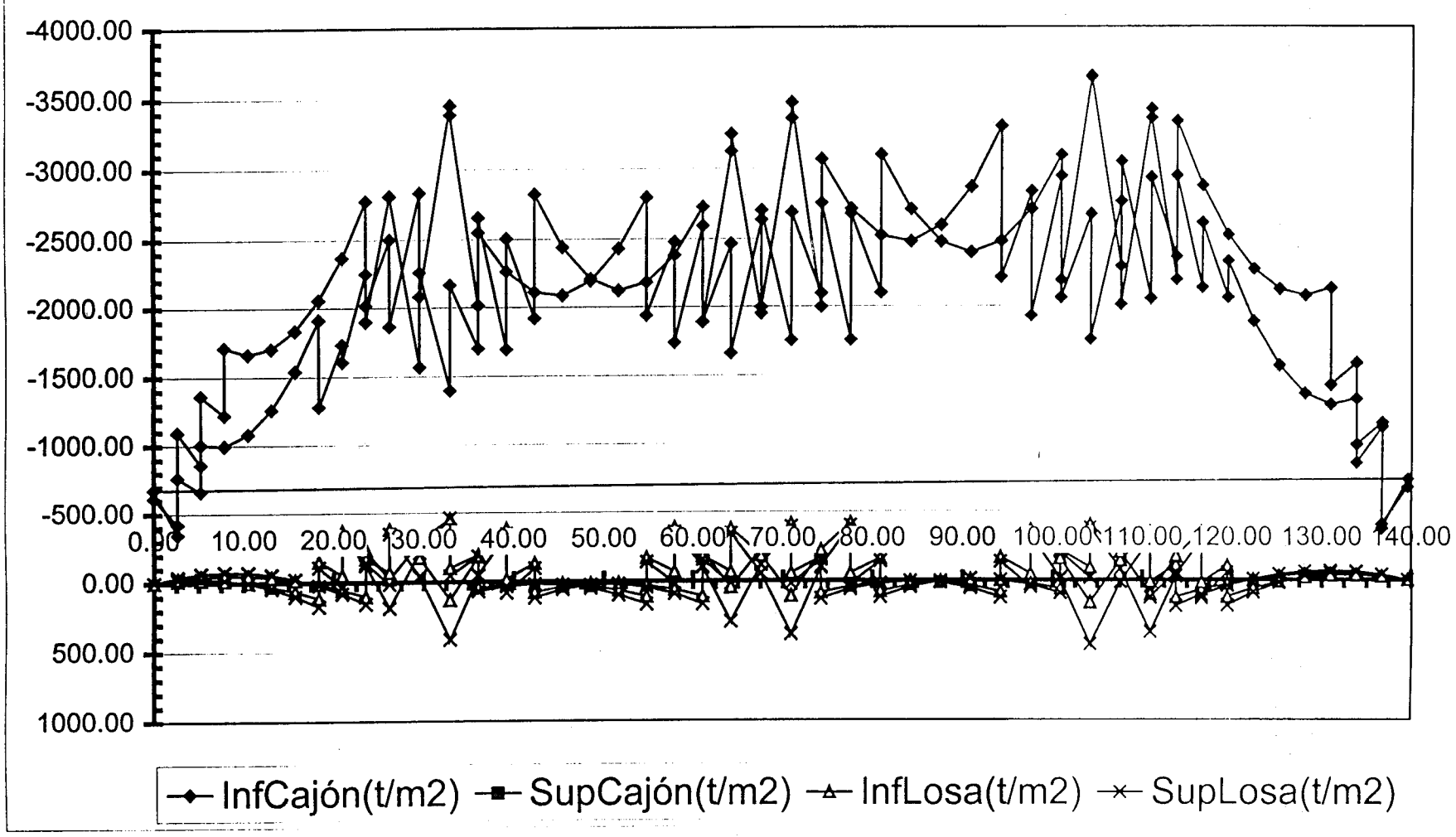
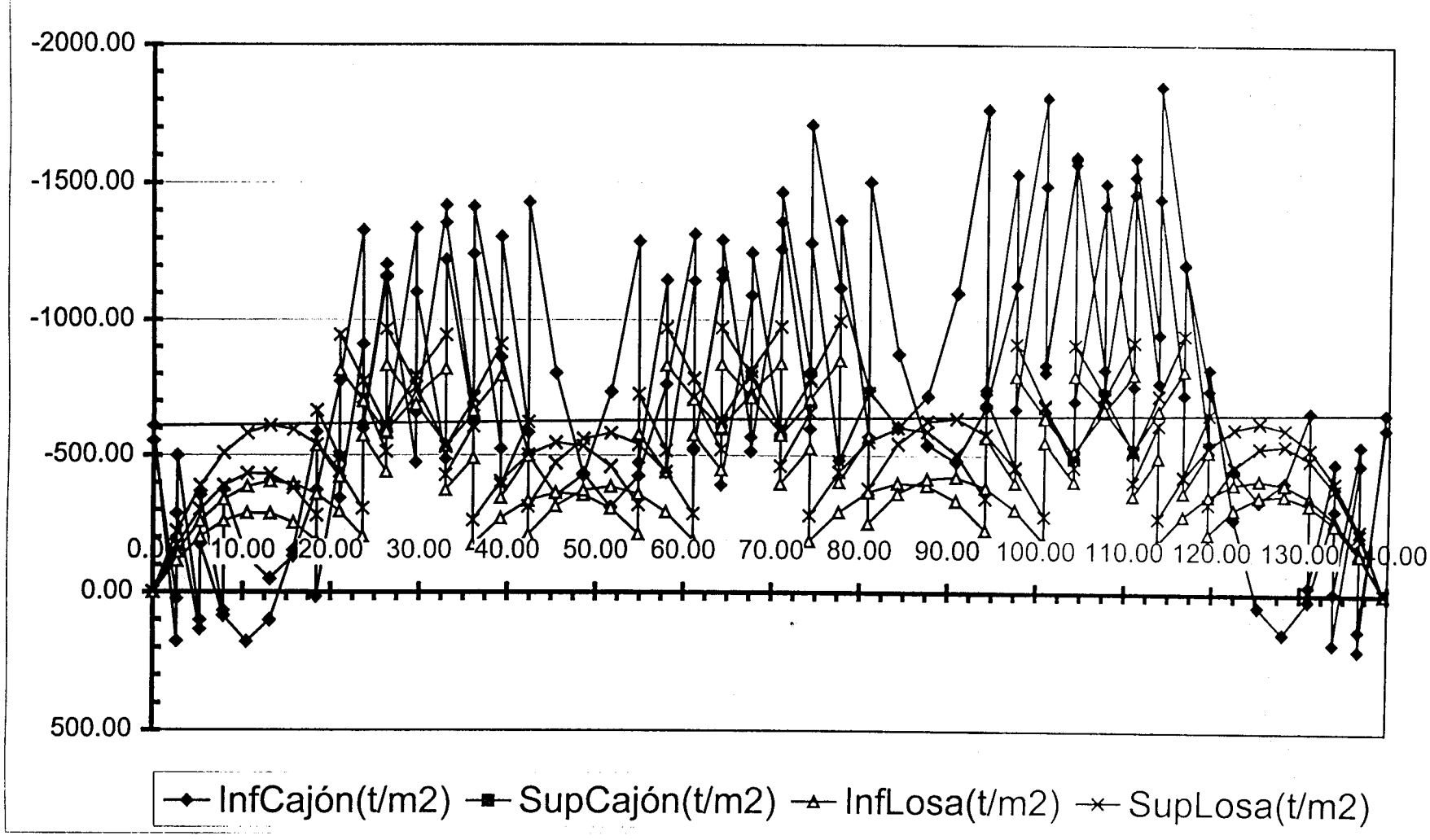
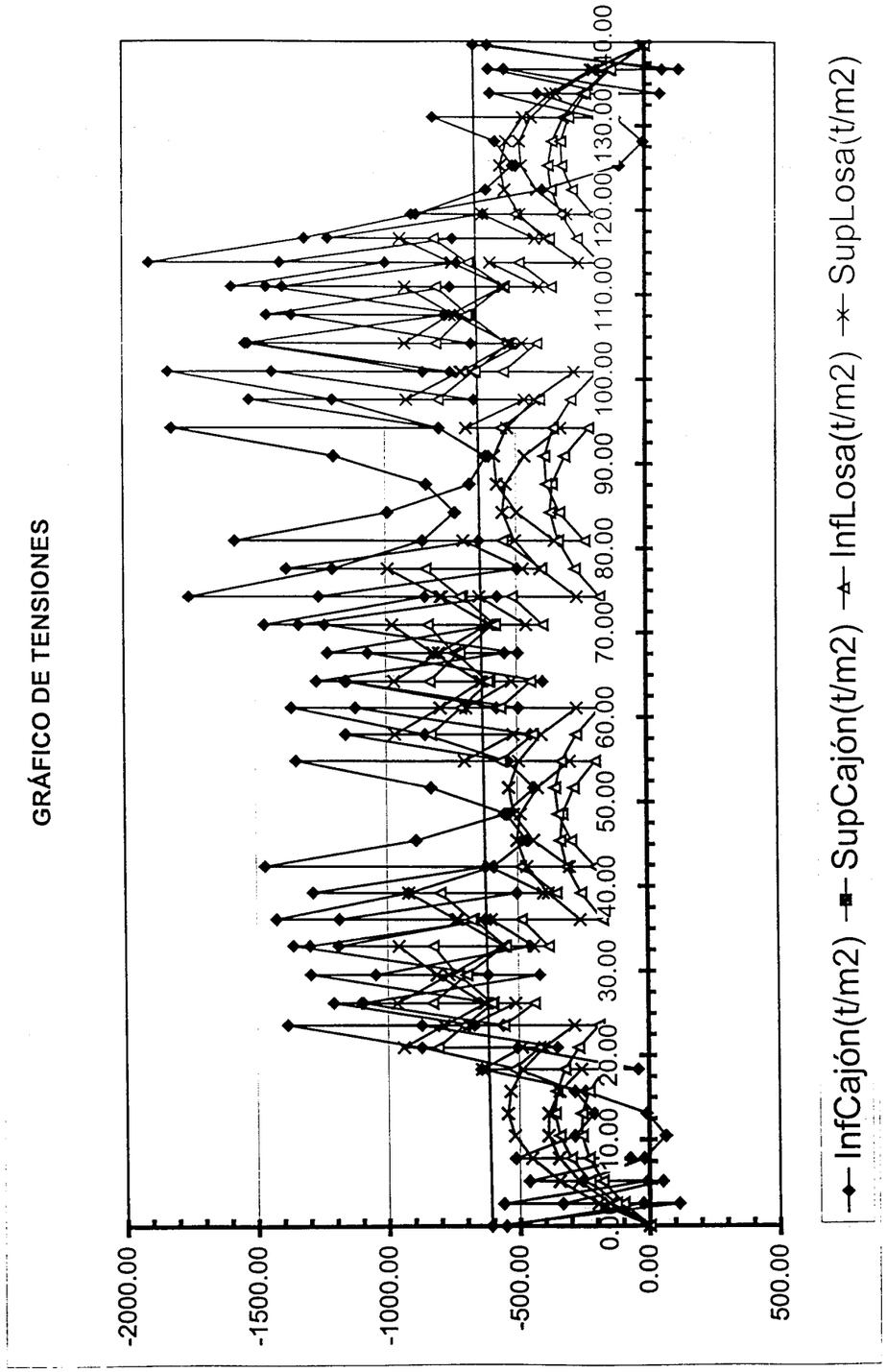


GRÁFICO DE TENSIONES



Programa DINTEL IDEAM S.A.
INFRECUENTES3.T0.MZ+

GRÁFICO DE TENSIONES



TCIER ..esv

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONSTA.F1.T0.MZ+

Construcción sin gradiente en fase constructiva 1 HIPOTESIS A

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-569.45	-50.11	-204.59	-555.18	-118.34	0.00	0.00
1	2	2.62	-569.45	-40.09	-86.44	-449.94	-265.37	0.00	0.00
2	2	2.62	-775.33	-40.09	-284.50	-761.19	-153.74	0.00	0.00
2	3	5.24	-775.33	-30.06	-192.60	-679.33	-268.10	0.00	0.00
3	3	5.24	-981.22	-30.06	-390.66	-990.59	-156.47	0.00	0.00
3	4	7.86	-981.22	-20.04	-325.02	-932.12	-238.15	0.00	0.00
4	4	7.86	-981.22	-20.04	-325.02	-932.12	-238.15	0.00	0.00
4	5	10.48	-981.22	-10.02	-285.63	-897.03	-287.17	0.00	0.00
5	5	10.48	-981.22	-10.02	-285.63	-897.03	-287.17	0.00	0.00
5	6	13.10	-981.22	0.00	-272.50	-885.34	-303.50	0.00	0.00
6	6	13.10	-981.22	0.00	-272.50	-885.34	-303.50	0.00	0.00
6	7	15.72	-981.22	10.02	-285.63	-897.03	-287.17	0.00	0.00
7	7	15.72	-981.22	10.02	-285.63	-897.03	-287.17	0.00	0.00
7	8	18.34	-981.22	20.04	-325.02	-932.12	-238.15	0.00	0.00
8	8	18.34	-775.33	20.04	-126.96	-620.86	-349.79	0.00	0.00
8	9	20.96	-775.33	30.06	-192.60	-679.33	-268.10	0.00	0.00
9	9	20.96	-775.33	30.06	-192.60	-679.33	-268.10	0.00	0.00
9	10	23.58	-775.33	40.09	-284.50	-761.19	-153.74	0.00	0.00
10	10	23.58	-569.45	40.09	-86.44	-449.94	-265.37	0.00	0.00
10	10011	26.20	-569.45	50.11	-204.59	-555.18	-118.34	0.00	0.00
11	11	26.20	-569.45	-72.67	-204.59	-555.18	-118.34	0.00	0.00
11	12	29.55	-569.45	-59.86	17.41	-357.43	-394.60	0.00	0.00
12	12	29.55	-981.22	-59.86	-378.71	-979.94	-171.34	0.00	0.00
12	13	32.90	-981.22	-47.05	-199.64	-820.44	-394.17	0.00	0.00
13	13	32.90	-1358.67	-47.05	-544.64	-1374.94	-212.06	0.00	0.00
13	14	36.03	-1358.67	-35.07	-416.11	-1260.45	-372.00	0.00	0.00
14	14	36.03	-1736.13	-35.08	-742.98	-1798.81	-212.44	0.00	0.00
14	15	39.16	-1736.13	-23.10	-651.93	-1717.71	-325.74	0.00	0.00
15	15	39.16	-1736.13	-23.10	-651.93	-1717.71	-325.74	0.00	0.00
15	16	42.29	-1736.13	-11.13	-598.36	-1669.99	-392.40	0.00	0.00
16	16	42.29	-1736.13	-11.13	-598.36	-1669.99	-392.40	0.00	0.00
16	17	45.42	-1736.13	0.84	-582.26	-1655.65	-412.44	0.00	0.00
17	17	45.42	-1736.13	0.84	-582.26	-1655.65	-412.44	0.00	0.00
17	18	48.55	-1736.13	12.81	-603.63	-1674.68	-385.84	0.00	0.00
18	18	48.55	-1736.13	12.81	-603.63	-1674.68	-385.84	0.00	0.00
18	19	51.68	-1736.13	24.79	-662.47	-1727.10	-312.62	0.00	0.00
19	19	51.68	-1736.13	24.79	-662.47	-1727.10	-312.62	0.00	0.00
19	20	54.81	-1736.13	36.76	-758.78	-1812.88	-192.77	0.00	0.00
20	20	54.81	-1358.67	36.76	-431.91	-1274.52	-352.34	0.00	0.00
20	21	57.94	-1358.67	48.73	-565.71	-1393.70	-185.84	0.00	0.00
21	21	57.94	-981.22	48.73	-220.71	-839.21	-367.95	0.00	0.00
21	22	61.07	-981.22	60.70	-391.97	-991.76	-154.84	0.00	0.00
22	22	61.07	-569.45	60.70	4.15	-369.24	-378.10	0.00	0.00
22	10023	64.20	-569.45	72.67	-204.59	-555.18	-118.34	0.00	0.00
23	23	64.20	-638.08	-76.49	-273.90	-661.86	-77.04	0.00	0.00
23	24	67.55	-638.08	-63.68	-39.10	-452.71	-369.22	0.00	0.00
24	24	67.55	-1084.16	-63.69	-468.24	-1127.10	-127.35	0.00	0.00
24	25	70.90	-1084.16	-50.87	-276.37	-956.20	-366.12	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONSTA.F1.T0.MZ+

Construcción sin gradiente en fase constructiva 1 HIPOTESIS A

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-1564.56	-50.87	-715.45	-1661.92	-134.34	0.00	0.00
25	26	74.23	-1564.56	-38.14	-567.25	-1529.91	-318.76	0.00	0.00
26	26	74.23	-2044.95	-38.14	-983.27	-2215.10	-115.67	0.00	0.00
26	27	77.56	-2044.95	-25.40	-877.50	-2120.88	-247.29	0.00	0.00
27	27	77.56	-2044.95	-25.40	-877.50	-2120.88	-247.29	0.00	0.00
27	28	80.89	-2044.95	-12.66	-814.13	-2064.44	-326.15	0.00	0.00
28	28	80.89	-2044.95	-12.66	-814.13	-2064.44	-326.15	0.00	0.00
28	29	84.22	-2044.95	0.08	-793.19	-2045.78	-352.21	0.00	0.00
29	29	84.22	-2044.95	0.08	-793.19	-2045.78	-352.21	0.00	0.00
29	30	87.55	-2044.95	12.81	-814.65	-2064.90	-325.51	0.00	0.00
30	30	87.55	-2044.95	12.81	-814.65	-2064.90	-325.51	0.00	0.00
30	31	90.88	-2044.95	25.55	-878.52	-2121.79	-246.03	0.00	0.00
31	31	90.88	-2044.95	25.55	-878.52	-2121.79	-246.03	0.00	0.00
31	32	94.21	-2044.95	38.29	-984.81	-2216.47	-113.76	0.00	0.00
32	32	94.21	-1564.56	38.28	-568.79	-1531.28	-316.84	0.00	0.00
32	33	97.54	-1564.56	51.02	-717.48	-1663.73	-131.81	0.00	0.00
33	33	97.54	-1084.16	51.02	-278.40	-958.01	-363.59	0.00	0.00
33	34	100.87	-1084.16	63.76	-469.51	-1128.24	-125.77	0.00	0.00
34	34	100.87	-638.08	63.76	-40.37	-453.85	-367.64	0.00	0.00
34	10035	104.20	-638.08	76.49	-273.90	-661.86	-77.04	0.00	0.00
35	35	104.20	-638.08	-67.71	-273.90	-661.86	-77.04	0.00	0.00
35	36	107.55	-638.08	-54.90	-68.54	-478.94	-332.59	0.00	0.00
36	36	107.55	-1084.16	-54.89	-497.68	-1153.33	-90.72	0.00	0.00
36	37	110.90	-1084.16	-42.08	-335.23	-1008.63	-292.86	0.00	0.00
37	37	110.90	-1530.24	-42.08	-742.95	-1663.94	-77.64	0.00	0.00
37	38	113.77	-1530.24	-31.10	-637.92	-1570.39	-208.33	0.00	0.00
38	38	113.77	-1976.32	-31.11	-1024.23	-2206.64	-19.75	0.00	0.00
38	39	116.64	-1976.32	-20.13	-950.73	-2141.17	-111.22	0.00	0.00
39	39	116.64	-1976.32	-20.12	-950.73	-2141.17	-111.22	0.00	0.00
39	40	119.51	-1976.32	-9.14	-908.73	-2103.76	-163.48	0.00	0.00
40	40	119.51	-1976.32	-9.14	-908.73	-2103.76	-163.48	0.00	0.00
40	41	122.38	-1976.32	1.84	-898.24	-2094.41	-176.54	0.00	0.00
41	41	122.38	-1976.32	1.84	-898.24	-2094.41	-176.54	0.00	0.00
41	42	125.25	-1976.32	12.81	-919.27	-2113.15	-150.37	0.00	0.00
42	42	125.25	-1976.32	12.81	-919.27	-2113.15	-150.37	0.00	0.00
42	43	128.12	-1976.32	23.79	-971.80	-2159.94	-85.00	0.00	0.00
43	43	128.12	-1976.32	23.80	-971.80	-2159.94	-85.00	0.00	0.00
43	44	130.99	-1976.32	34.78	-1055.85	-2234.80	19.60	0.00	0.00
44	44	130.99	-1530.24	34.78	-669.54	-1598.56	-168.99	0.00	0.00
44	45	133.86	-1530.24	45.75	-785.11	-1701.50	-25.18	0.00	0.00
45	45	133.86	-1084.16	45.75	-377.40	-1046.19	-240.39	0.00	0.00
45	46	136.73	-1084.16	56.73	-524.47	-1177.19	-57.38	0.00	0.00
46	46	136.73	-638.08	56.73	-95.33	-502.80	-299.25	0.00	0.00
46	47	139.60	-638.08	67.71	-273.90	-661.86	-77.04	0.00	0.00
101	101	0.00	-603.76	-62.92	-239.25	-608.52	-97.69	0.00	0.00
101	102	2.62	-603.76	-52.90	-87.52	-473.37	-286.50	0.00	0.00
102	102	2.62	-1049.85	-52.90	-516.64	-1147.75	-44.64	0.00	0.00
102	103	5.24	-1049.85	-42.88	-391.17	-1035.99	-200.78	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONSTA.F1.T0.MZ+

Construcción sin gradiente en fase constructiva 1 HIPOTESIS A

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To

Coef. exc.

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1358.67	-42.88	-673.45	-1489.67	-51.77	0.00	0.00
103	104	7.86	-1358.67	-32.86	-574.25	-1401.31	-175.21	0.00	0.00
104	104	7.86	-1667.50	-32.86	-841.69	-1841.79	-44.66	0.00	0.00
104	105	10.48	-1667.50	-22.84	-768.73	-1776.80	-135.45	0.00	0.00
105	105	10.48	-1667.50	-22.84	-768.73	-1776.80	-135.45	0.00	0.00
105	106	13.10	-1667.50	-12.81	-722.03	-1735.20	-193.56	0.00	0.00
106	106	13.10	-1667.50	-12.81	-722.03	-1735.20	-193.56	0.00	0.00
106	107	15.72	-1667.50	-2.79	-701.59	-1716.99	-219.00	0.00	0.00
107	107	15.72	-1667.50	-2.79	-701.59	-1716.99	-219.00	0.00	0.00
107	108	18.34	-1667.50	7.23	-707.40	-1722.17	-211.77	0.00	0.00
108	108	18.34	-1667.50	7.23	-707.40	-1722.17	-211.77	0.00	0.00
108	109	20.96	-1667.50	17.25	-739.47	-1750.74	-171.86	0.00	0.00
109	109	20.96	-1667.50	17.25	-739.47	-1750.74	-171.86	0.00	0.00
109	110	23.58	-1667.50	27.27	-797.80	-1802.69	-99.27	0.00	0.00
110	110	23.58	-1358.67	27.27	-530.36	-1362.22	-229.83	0.00	0.00
110	111	26.20	-1358.67	37.29	-614.93	-1437.55	-124.59	0.00	0.00
111	111	26.20	-1049.85	37.29	-332.65	-983.86	-273.60	0.00	0.00
111	112	29.55	-1049.85	50.11	-479.05	-1114.27	-91.42	0.00	0.00
112	112	29.55	-603.76	50.11	-49.93	-439.88	-333.28	0.00	0.00
112	10113	32.90	-603.76	62.92	-239.25	-608.52	-97.69	0.00	0.00
113	113	32.90	-569.45	-72.67	-204.59	-555.18	-118.34	0.00	0.00
113	114	36.03	-569.45	-60.70	4.15	-369.24	-378.10	0.00	0.00
114	114	36.03	-946.90	-60.70	-358.96	-939.88	-173.44	0.00	0.00
114	115	39.16	-946.90	-48.73	-187.70	-787.33	-386.56	0.00	0.00
115	115	39.16	-1358.67	-48.73	-564.05	-1392.23	-187.90	0.00	0.00
115	116	42.29	-1358.67	-36.76	-430.25	-1273.05	-354.40	0.00	0.00
116	116	42.29	-1736.13	-36.76	-756.38	-1810.74	-195.77	0.00	0.00
116	117	45.42	-1736.13	-24.79	-660.07	-1724.95	-315.61	0.00	0.00
117	117	45.42	-1736.13	-24.79	-660.07	-1724.95	-315.61	0.00	0.00
117	118	48.55	-1736.13	-12.81	-601.23	-1672.54	-388.84	0.00	0.00
118	118	48.55	-1736.13	-12.81	-601.23	-1672.54	-388.84	0.00	0.00
118	119	51.68	-1736.13	-0.84	-579.85	-1653.50	-415.44	0.00	0.00
119	119	51.68	-1736.13	-0.84	-579.85	-1653.50	-415.44	0.00	0.00
119	120	54.81	-1736.13	11.13	-595.96	-1667.85	-395.39	0.00	0.00
120	120	54.81	-1736.13	11.13	-595.96	-1667.85	-395.39	0.00	0.00
120	121	57.94	-1736.13	23.10	-649.53	-1715.57	-328.73	0.00	0.00
121	121	57.94	-1736.13	23.10	-649.53	-1715.57	-328.73	0.00	0.00
121	122	61.07	-1736.13	35.07	-740.59	-1796.68	-215.41	0.00	0.00
122	122	61.07	-1358.67	35.07	-414.46	-1258.99	-374.05	0.00	0.00
122	123	64.20	-1358.67	47.05	-542.98	-1373.46	-214.12	0.00	0.00
123	123	64.20	-946.90	47.05	-166.63	-768.56	-412.78	0.00	0.00
123	124	67.55	-946.90	59.86	-345.70	-928.07	-189.94	0.00	0.00
124	124	67.55	-569.45	59.86	17.41	-357.43	-394.60	0.00	0.00
124	10125	70.90	-569.45	72.68	-204.59	-555.18	-118.34	0.00	0.00
125	125	70.90	-638.08	-76.50	-273.90	-661.86	-77.04	0.00	0.00
125	126	74.23	-638.08	-63.76	-40.38	-453.85	-367.63	0.00	0.00
126	126	74.23	-1084.16	-63.76	-469.52	-1128.24	-125.76	0.00	0.00
126	127	77.56	-1084.16	-51.03	-278.40	-958.01	-363.59	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONSTA.F1.T0.MZ+

Construcción sin gradiente en fase constructiva 1 HIPOTESIS A

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-1564.56	-51.03	-717.48	-1663.73	-131.81	0.00	0.00
127	128	80.89	-1564.56	-38.29	-568.77	-1531.27	-316.87	0.00	0.00
128	128	80.89	-2044.95	-38.29	-983.82	-2215.59	-114.99	0.00	0.00
128	129	84.22	-2044.95	-25.55	-877.54	-2120.92	-247.24	0.00	0.00
129	129	84.22	-2044.95	-25.55	-877.54	-2120.92	-247.24	0.00	0.00
129	130	87.55	-2044.95	-12.82	-813.67	-2064.03	-326.72	0.00	0.00
130	130	87.55	-2044.95	-12.81	-813.67	-2064.03	-326.72	0.00	0.00
130	131	90.88	-2044.95	-0.08	-792.21	-2044.91	-353.43	0.00	0.00
131	131	90.88	-2044.95	-0.08	-792.21	-2044.91	-353.43	0.00	0.00
131	132	94.21	-2044.95	12.66	-813.16	-2063.57	-327.36	0.00	0.00
132	132	94.21	-2044.95	12.66	-813.16	-2063.57	-327.36	0.00	0.00
132	133	97.54	-2044.95	25.40	-876.53	-2120.02	-248.50	0.00	0.00
133	133	97.54	-2044.95	25.40	-876.53	-2120.02	-248.50	0.00	0.00
133	134	100.87	-2044.95	38.14	-982.30	-2214.23	-116.88	0.00	0.00
134	134	100.87	-1564.56	38.14	-567.25	-1529.91	-318.76	0.00	0.00
134	135	104.20	-1564.56	50.87	-715.45	-1661.92	-134.34	0.00	0.00
135	135	104.20	-1084.16	50.86	-276.37	-956.20	-366.12	0.00	0.00
135	136	107.55	-1084.16	63.68	-468.24	-1127.10	-127.35	0.00	0.00
136	136	107.55	-638.08	63.68	-39.10	-452.71	-369.22	0.00	0.00
136	10137	110.90	-638.08	76.49	-273.90	-661.86	-77.04	0.00	0.00
137	137	110.90	-603.76	-54.89	-239.25	-608.52	-97.69	0.00	0.00
137	138	113.77	-603.76	-43.91	-97.47	-482.23	-274.12	0.00	0.00
138	138	113.77	-1049.85	-43.91	-526.59	-1156.61	-32.26	0.00	0.00
138	139	116.64	-1049.85	-32.93	-416.30	-1058.37	-169.51	0.00	0.00
139	139	116.64	-1255.73	-32.93	-604.49	-1360.83	-70.16	0.00	0.00
139	140	119.51	-1255.73	-21.95	-525.72	-1290.67	-168.19	0.00	0.00
140	140	119.51	-1255.73	-21.95	-525.72	-1290.67	-168.19	0.00	0.00
140	141	122.38	-1255.73	-10.98	-478.46	-1248.57	-227.00	0.00	0.00
141	141	122.38	-1255.73	-10.98	-478.46	-1248.57	-227.00	0.00	0.00
141	142	125.25	-1255.73	0.00	-462.71	-1234.54	-246.60	0.00	0.00
142	142	125.25	-1255.73	0.00	-462.71	-1234.54	-246.60	0.00	0.00
142	143	128.12	-1255.73	10.98	-478.46	-1248.57	-227.00	0.00	0.00
143	143	128.12	-1255.73	10.98	-478.46	-1248.57	-227.00	0.00	0.00
143	144	130.99	-1255.73	21.95	-525.73	-1290.68	-168.17	0.00	0.00
144	144	130.99	-1255.73	21.95	-525.73	-1290.68	-168.17	0.00	0.00
144	145	133.86	-1255.73	32.93	-604.50	-1360.84	-70.15	0.00	0.00
145	145	133.86	-1049.85	32.93	-416.31	-1058.38	-169.49	0.00	0.00
145	146	136.73	-1049.85	43.91	-526.59	-1156.61	-32.26	0.00	0.00
146	146	136.73	-603.76	43.91	-97.47	-482.23	-274.12	0.00	0.00
146	147	139.60	-603.76	54.89	-239.25	-608.52	-97.69	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1A.F1.T0.MZ-

Construcción sin gradiente en fase constructiva 1 HIPOTESIS A

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
1	1	0.00	-629.39	-50.11	-226.13	0	-613.62	2.55	-130.80	2.55	0.00	2.85	0.00
1	2	2.62	-629.39	-40.09	-107.98	0	-508.38	2.55	-277.83	2.55	0.00	2.85	0.00
2	2	2.62	-856.95	-40.09	-326.88	0	-852.39	2.55	-154.45	2.55	0.00	2.85	0.00
2	3	5.24	-856.95	-30.06	-234.98	0	-770.53	2.55	-268.81	2.55	0.00	2.85	0.00
3	3	5.24	-1084.50	-30.06	-453.90	0	-1114.56	2.55	-145.42	2.55	0.00	2.85	0.00
3	4	7.86	-1084.50	-20.04	-368.26	0	-1056.09	2.55	-227.10	2.55	0.00	2.85	0.00
4	4	7.86	-1084.50	-20.04	-368.26	0	-1056.09	2.55	-227.10	2.55	0.00	2.85	0.00
4	5	10.48	-1084.50	-10.02	-348.87	0	-1021.00	2.55	-276.12	2.55	0.00	2.85	0.00
5	5	10.48	-1084.50	-10.02	-348.87	0	-1021.00	2.55	-276.12	2.55	0.00	2.85	0.00
5	6	13.10	-1084.50	0.00	-335.74	0	-1009.31	2.55	-292.46	2.55	0.00	2.85	0.00
6	6	13.10	-1084.50	0.00	-335.74	0	-1009.31	2.55	-292.46	2.55	0.00	2.85	0.00
6	7	15.72	-1084.50	10.02	-348.87	0	-1021.00	2.55	-276.12	2.55	0.00	2.85	0.00
7	7	15.72	-1084.50	10.02	-348.87	0	-1021.00	2.55	-276.12	2.55	0.00	2.85	0.00
7	8	18.34	-1084.50	20.04	-368.26	0	-1056.09	2.55	-227.10	2.55	0.00	2.85	0.00
8	8	18.34	-856.95	20.04	-189.34	0	-712.06	2.55	-350.49	2.55	0.00	2.85	0.00
8	9	20.96	-856.95	30.06	-234.98	0	-770.53	2.55	-268.81	2.55	0.00	2.85	0.00
9	9	20.96	-856.95	30.06	-234.98	0	-770.53	2.55	-268.81	2.55	0.00	2.85	0.00
9	10	23.58	-856.95	40.09	-326.88	0	-852.39	2.55	-154.45	2.55	0.00	2.85	0.00
10	10	23.58	-629.39	40.09	-107.98	0	-508.38	2.55	-277.83	2.55	0.00	2.85	0.00
10	10011	26.20	-629.39	50.11	-226.13	0	-613.62	2.55	-130.80	2.55	0.00	2.85	0.00
11	11	26.20	-629.39	-72.67	-226.13	0	-613.62	2.55	-130.80	2.55	0.00	2.85	0.00
11	12	29.55	-629.39	-59.86	-4.13	0	-415.87	2.55	-407.06	2.55	0.00	2.85	0.00
12	12	29.55	-1084.50	-59.86	-441.95	0	-1103.91	2.55	-160.29	2.55	0.00	2.85	0.00
12	13	32.90	-1084.50	-47.05	-262.88	0	-944.41	2.55	-383.13	2.55	0.00	2.85	0.00
13	13	32.90	-1501.69	-47.05	-644.18	0	-1557.27	2.55	-181.85	2.55	0.00	2.85	0.00
13	14	36.03	-1501.69	-35.07	-515.65	0	-1442.79	2.55	-341.79	2.55	0.00	2.85	0.00
14	14	36.03	-1918.88	-35.08	-876.94	0	-2037.81	2.55	-165.42	2.55	0.00	2.85	0.00
14	15	39.16	-1918.88	-23.10	-785.89	0	-1956.71	2.55	-278.73	2.55	0.00	2.85	0.00
15	15	39.16	-1918.88	-23.10	-785.89	0	-1956.71	2.55	-278.73	2.55	0.00	2.85	0.00
15	16	42.29	-1918.88	-11.13	-732.32	0	-1909.00	2.55	-345.39	2.55	0.00	2.85	0.00
16	16	42.29	-1918.88	-11.13	-732.32	0	-1909.00	2.55	-345.39	2.55	0.00	2.85	0.00
16	17	45.42	-1918.88	0.84	-716.22	0	-1894.65	2.55	-365.42	2.55	0.00	2.85	0.00
17	17	45.42	-1918.88	0.84	-716.22	0	-1894.65	2.55	-365.42	2.55	0.00	2.85	0.00
17	18	48.55	-1918.88	12.81	-737.59	0	-1913.69	2.55	-338.83	2.55	0.00	2.85	0.00
18	18	48.55	-1918.88	12.81	-737.59	0	-1913.69	2.55	-338.83	2.55	0.00	2.85	0.00
18	19	51.68	-1918.88	24.79	-796.43	0	-1966.10	2.55	-265.61	2.55	0.00	2.85	0.00
19	19	51.68	-1918.88	24.79	-796.43	0	-1966.10	2.55	-265.61	2.55	0.00	2.85	0.00
19	20	54.81	-1918.88	36.76	-892.74	0	-2051.89	2.55	-145.76	2.55	0.00	2.85	0.00
20	20	54.81	-1501.69	36.76	-531.45	0	-1456.86	2.55	-322.13	2.55	0.00	2.85	0.00
20	21	57.94	-1501.69	48.73	-665.25	0	-1576.04	2.55	-155.63	2.55	0.00	2.85	0.00
21	21	57.94	-1084.50	48.73	-283.95	0	-963.17	2.55	-356.91	2.55	0.00	2.85	0.00
21	22	61.07	-1084.50	60.70	-455.21	0	-1115.72	2.55	-143.79	2.55	0.00	2.85	0.00
22	22	61.07	-629.39	60.70	-17.39	0	-427.68	2.55	-390.56	2.55	0.00	2.85	0.00
22	10023	64.20	-629.39	72.67	-226.13	0	-613.62	2.55	-130.80	2.55	0.00	2.85	0.00
23	23	64.20	-705.24	-76.49	-302.74	0	-731.53	2.55	-85.14	2.55	0.00	2.85	0.00
23	24	67.55	-705.24	-63.68	-67.94	0	-522.39	2.55	-377.33	2.55	0.00	2.85	0.00
24	24	67.55	-1198.28	-63.69	-542.24	0	-1267.76	2.55	-110.00	2.55	0.00	2.85	0.00
24	25	70.90	-1198.28	-50.87	-350.37	0	-1096.86	2.55	-348.76	2.55	0.00	2.85	0.00
25	25	70.90	-1729.25	-50.87	-835.67	0	-1876.87	2.55	-92.58	2.55	0.00	2.85	0.00
25	26	74.23	-1729.25	-38.14	-687.47	0	-1744.86	2.55	-277.00	2.55	0.00	2.85	0.00
26	26	74.23	-2260.21	-38.14	-1147.29	0	-2502.17	2.55	-52.54	2.55	0.00	2.85	0.00
26	27	77.56	-2260.21	-25.40	-1041.52	0	-2407.96	2.55	-184.16	2.55	0.00	2.85	0.00
27	27	77.56	-2260.21	-25.40	-1041.52	0	-2407.96	2.55	-184.16	2.55	0.00	2.85	0.00
27	28	80.89	-2260.21	-12.66	-978.15	0	-2351.51	2.55	-263.02	2.55	0.00	2.85	0.00
28	28	80.89	-2260.21	-12.66	-978.15	0	-2351.51	2.55	-263.02	2.55	0.00	2.85	0.00
28	29	84.22	-2260.21	0.08	-957.21	0	-2332.86	2.55	-289.07	2.55	0.00	2.85	0.00
29	29	84.22	-2260.21	0.08	-957.21	0	-2332.86	2.55	-289.07	2.55	0.00	2.85	0.00
29	30	87.55	-2260.21	12.81	-978.67	0	-2351.97	2.55	-262.37	2.55	0.00	2.85	0.00
30	30	87.55	-2260.21	12.81	-978.67	0	-2351.97	2.55	-262.37	2.55	0.00	2.85	0.00
30	31	90.88	-2260.21	25.55	-1042.54	0	-2408.87	2.55	-182.89	2.55	0.00	2.85	0.00
31	31	90.88	-2260.21	25.55	-1042.54	0	-2408.87	2.55	-182.89	2.55	0.00	2.85	0.00
31	32	94.21	-2260.21	38.29	-1148.83	0	-2503.54	2.55	-50.62	2.55	0.00	2.85	0.00
32	32	94.21	-1729.25	38.28	-689.01	0	-1746.23	2.55	-275.09	2.55	0.00	2.85	0.00
32	33	97.54	-1729.25	51.02	-837.70	0	-1878.68	2.55	-90.06	2.55	0.00	2.85	0.00
33	33	97.54	-1198.28	51.02	-352.40	0	-1098.67	2.55	-346.23	2.55	0.00	2.85	0.00
33	34	100.87	-1198.28	63.76	-543.51	0	-1268.89	2.55	-108.42	2.55	0.00	2.85	0.00
34	34	100.87	-705.24	63.76	-69.21	0	-523.52	2.55	-375.75	2.55	0.00	2.85	0.00
34	10035	104.20	-705.24	76.49	-302.74	0	-731.53	2.55	-85.14	2.55	0.00	2.85	0.00
35	35	104.20	-705.24	-67.71	-302.74	0	-731.53	2.55	-85.14	2.55	0.00	2.85	0.00
35	36	107.55	-705.24	-54.90	-97.38	0	-548.61	2.55	-340.69	2.55	0.00	2.85	0.00
36	36	107.55	-1198.28	-54.89	-571.68	0	-1293.99	2.55	-73.36	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1A.F1.T0.MZ-

Construcción sin gradiente en fase constructiva 1 HIPOTESIS A

[1.1]PPCF1 + [95. 1.05]PRETF1A ISO.To + [95. 1.05]PRETF1A.HIP.To + [95. 1.05]PRETF1B.ISO.To + [95. 1.05]PRETF1B.HIP.To

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
36	37	110.90	-1198.28	-42.08	-409.25	0	-1149.30	2.55	-275.50	2.55	0.00	2.85	0.00
37	37	110.90	-1691.32	-42.08	-859.87	0	-1873.59	2.55	-37.63	2.55	0.00	2.85	0.00
37	38	113.77	-1691.32	-31.10	-754.86	0	-1780.04	2.55	-168.32	2.55	0.00	2.85	0.00
38	38	113.77	-2184.36	-31.11	-1181.83	0	-2483.26	2.55	40.12	2.55	0.00	2.85	0.00
38	39	116.64	-2184.36	-20.13	-1108.33	0	-2417.79	2.55	-51.35	2.55	0.00	2.85	0.00
39	39	116.64	-2184.36	-20.12	-1108.33	0	-2417.79	2.55	-51.35	2.55	0.00	2.85	0.00
39	40	119.51	-2184.36	-9.14	-1066.33	0	-2380.38	2.55	-103.61	2.55	0.00	2.85	0.00
40	40	119.51	-2184.36	-9.14	-1066.33	0	-2380.38	2.55	-103.61	2.55	0.00	2.85	0.00
40	41	122.38	-2184.36	1.84	-1055.84	0	-2371.03	2.55	-116.67	2.55	0.00	2.85	0.00
41	41	122.38	-2184.36	1.84	-1055.84	0	-2371.03	2.55	-116.67	2.55	0.00	2.85	0.00
41	42	125.25	-2184.36	12.81	-1076.87	0	-2389.77	2.55	-90.50	2.55	0.00	2.85	0.00
42	42	125.25	-2184.36	12.81	-1076.87	0	-2389.77	2.55	-90.50	2.55	0.00	2.85	0.00
42	43	128.12	-2184.36	23.79	-1129.40	0	-2436.56	2.55	-25.13	2.55	0.00	2.85	0.00
43	43	128.12	-2184.36	23.80	-1129.40	0	-2436.56	2.55	-25.13	2.55	0.00	2.85	0.00
43	44	130.99	-2184.36	34.78	-1213.45	0	-2511.42	2.55	79.46	2.55	0.00	2.85	0.00
44	44	130.99	-1691.32	34.78	-786.48	0	-1808.21	2.55	-128.97	2.55	0.00	2.85	0.00
44	45	133.86	-1691.32	45.75	-902.03	0	-1911.14	2.55	14.83	2.55	0.00	2.85	0.00
45	45	133.86	-1198.28	45.75	-451.40	0	-1186.85	2.55	-223.04	2.55	0.00	2.85	0.00
45	46	136.73	-1198.28	56.73	-598.47	0	-1317.85	2.55	-40.02	2.55	0.00	2.85	0.00
46	46	136.73	-705.24	56.73	-124.17	0	-572.47	2.55	-307.36	2.55	0.00	2.85	0.00
46	47	139.60	-705.24	67.71	-302.74	0	-731.53	2.55	-85.14	2.55	0.00	2.85	0.00
101	101	0.00	-667.32	-62.92	-264.43	0	-672.57	2.55	-107.97	2.55	0.00	2.85	0.00
101	102	2.62	-667.32	-52.90	-112.70	0	-537.42	2.55	-296.79	2.55	0.00	2.85	0.00
102	102	2.62	-1160.36	-52.90	-587.00	0	-1282.79	2.55	-29.47	2.55	0.00	2.85	0.00
102	103	5.24	-1160.36	-42.88	-461.53	0	-1171.03	2.55	-185.60	2.55	0.00	2.85	0.00
103	103	5.24	-1501.69	-42.88	-773.51	0	-1672.47	2.55	-20.91	2.55	0.00	2.85	0.00
103	104	7.86	-1501.69	-32.86	-674.31	0	-1584.11	2.55	-144.35	2.55	0.00	2.85	0.00
104	104	7.86	-1843.02	-32.86	-969.91	0	-2070.95	2.55	-0.05	2.55	0.00	2.85	0.00
104	105	10.48	-1843.02	-22.84	-896.95	0	-2005.96	2.55	-90.84	2.55	0.00	2.85	0.00
105	105	10.48	-1843.02	-22.84	-896.95	0	-2005.96	2.55	-90.84	2.55	0.00	2.85	0.00
105	106	13.10	-1843.02	-12.81	-850.25	0	-1964.37	2.55	-148.96	2.55	0.00	2.85	0.00
106	106	13.10	-1843.02	-12.81	-850.25	0	-1964.37	2.55	-148.96	2.55	0.00	2.85	0.00
106	107	15.72	-1843.02	-2.79	-829.81	0	-1946.16	2.55	-174.39	2.55	0.00	2.85	0.00
107	107	15.72	-1843.02	-2.79	-829.81	0	-1946.16	2.55	-174.39	2.55	0.00	2.85	0.00
107	108	18.34	-1843.02	7.23	-835.62	0	-1951.33	2.55	-167.16	2.55	0.00	2.85	0.00
108	108	18.34	-1843.02	7.23	-835.62	0	-1951.33	2.55	-167.16	2.55	0.00	2.85	0.00
108	109	20.96	-1843.02	17.25	-867.69	0	-1979.90	2.55	-127.26	2.55	0.00	2.85	0.00
109	109	20.96	-1843.02	17.25	-867.69	0	-1979.90	2.55	-127.26	2.55	0.00	2.85	0.00
109	110	23.58	-1843.02	27.27	-926.02	0	-2031.86	2.55	-54.67	2.55	0.00	2.85	0.00
110	110	23.58	-1501.69	27.27	-630.42	0	-1545.02	2.55	-198.97	2.55	0.00	2.85	0.00
110	111	26.20	-1501.69	37.29	-714.99	0	-1620.34	2.55	-93.73	2.55	0.00	2.85	0.00
111	111	26.20	-1160.36	37.29	-403.01	0	-1118.90	2.55	-258.42	2.55	0.00	2.85	0.00
111	112	29.55	-1160.36	50.11	-549.41	0	-1249.31	2.55	-76.24	2.55	0.00	2.85	0.00
112	112	29.55	-667.32	50.11	-75.11	0	-503.94	2.55	-343.56	2.55	0.00	2.85	0.00
112	10113	32.90	-667.32	62.92	-264.43	0	-672.57	2.55	-107.97	2.55	0.00	2.85	0.00
113	113	32.90	-629.39	-72.67	-226.13	0	-613.62	2.55	-130.80	2.55	0.00	2.85	0.00
113	114	36.03	-629.39	-60.70	-17.39	0	-427.68	2.55	-390.56	2.55	0.00	2.85	0.00
114	114	36.03	-1046.58	-60.70	-418.72	0	-1058.38	2.55	-164.36	2.55	0.00	2.85	0.00
114	115	39.16	-1046.58	-48.73	-247.46	0	-905.84	2.55	-377.48	2.55	0.00	2.85	0.00
115	115	39.16	-1501.69	-48.73	-663.43	0	-1574.41	2.55	-157.90	2.55	0.00	2.85	0.00
115	116	42.29	-1501.69	-36.76	-529.63	0	-1455.23	2.55	-324.40	2.55	0.00	2.85	0.00
116	116	42.29	-1918.88	-36.76	-890.08	0	-2049.52	2.55	-149.07	2.55	0.00	2.85	0.00
116	117	45.42	-1918.88	-24.79	-793.77	0	-1963.73	2.55	-268.92	2.55	0.00	2.85	0.00
117	117	45.42	-1918.88	-24.79	-793.77	0	-1963.73	2.55	-268.92	2.55	0.00	2.85	0.00
117	118	48.55	-1918.88	-12.81	-734.93	0	-1911.32	2.55	-342.14	2.55	0.00	2.85	0.00
118	118	48.55	-1918.88	-12.81	-734.93	0	-1911.32	2.55	-342.14	2.55	0.00	2.85	0.00
118	119	51.68	-1918.88	-0.84	-713.55	0	-1892.28	2.55	-368.74	2.55	0.00	2.85	0.00
119	119	51.68	-1918.88	-0.84	-713.55	0	-1892.28	2.55	-368.74	2.55	0.00	2.85	0.00
119	120	54.81	-1918.88	11.13	-729.66	0	-1906.63	2.55	-348.70	2.55	0.00	2.85	0.00
120	120	54.81	-1918.88	11.13	-729.66	0	-1906.63	2.55	-348.70	2.55	0.00	2.85	0.00
120	121	57.94	-1918.88	23.10	-783.23	0	-1954.35	2.55	-282.03	2.55	0.00	2.85	0.00
121	121	57.94	-1918.88	23.10	-783.23	0	-1954.35	2.55	-282.03	2.55	0.00	2.85	0.00
121	122	61.07	-1918.88	35.07	-874.29	0	-2035.46	2.55	-168.72	2.55	0.00	2.85	0.00
122	122	61.07	-1501.69	35.07	-513.84	0	-1441.17	2.55	-344.05	2.55	0.00	2.85	0.00
122	123	64.20	-1501.69	47.05	-642.36	0	-1555.64	2.55	-184.12	2.55	0.00	2.85	0.00
123	123	64.20	-1046.58	47.05	-226.39	0	-887.07	2.55	-403.69	2.55	0.00	2.85	0.00
123	124	67.55	-1046.58	59.86	-405.46	0	-1046.57	2.55	-180.86	2.55	0.00	2.85	0.00
124	124	67.55	-629.39	59.86	-4.13	0	-415.87	2.55	-407.06	2.55	0.00	2.85	0.00
124	10125	70.90	-629.39	72.68	-226.13	0	-613.62	2.55	-130.80	2.55	0.00	2.85	0.00
125	125	70.90	-705.24	-76.50	-302.74	0	-731.53	2.55	-85.14	2.55	0.00	2.85	0.00
125	126	74.23	-705.24	-63.76	-69.22	0	-523.53	2.55	-375.74	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1A.F1.T0.MZ-

Construcción sin gradiente en fase constructiva 1 HIPOTESIS A

[1.1]PPCF1 + [95. 1.05]PRETF1A.ISO.To + [95. 1.05]PRETF1A.HIP.To + [95. 1.05]PRETF1B.ISO.To + [95. 1.05]PRETF1B.HIP.To

Coef. exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
126	126	74.23	-1198.28	-63.76	-543.52	0	-1268.90	2.55	-108.40	2.55	0.00	2.85	0.00
126	127	77.56	-1198.28	-51.03	-352.40	0	-1098.67	2.55	-346.23	2.55	0.00	2.85	0.00
127	127	77.56	-1729.25	-51.03	-837.70	0	-1878.66	2.55	-90.06	2.55	0.00	2.85	0.00
127	128	80.89	-1729.25	-38.29	-688.99	0	-1746.21	2.55	-275.11	2.55	0.00	2.85	0.00
128	128	80.89	-2260.21	-38.29	-1147.74	0	-2502.57	2.55	-51.98	2.55	0.00	2.85	0.00
128	129	84.22	-2260.21	-25.55	-1041.46	0	-2407.90	2.55	-184.24	2.55	0.00	2.85	0.00
129	129	84.22	-2260.21	-25.55	-1041.46	0	-2407.90	2.55	-184.24	2.55	0.00	2.85	0.00
129	130	87.55	-2260.21	-12.82	-977.59	0	-2351.01	2.55	-263.72	2.55	0.00	2.85	0.00
130	130	87.55	-2260.21	-12.81	-977.59	0	-2351.01	2.55	-263.72	2.55	0.00	2.85	0.00
130	131	90.88	-2260.21	-0.08	-956.13	0	-2331.90	2.55	-290.42	2.55	0.00	2.85	0.00
131	131	90.88	-2260.21	-0.08	-956.13	0	-2331.90	2.55	-290.42	2.55	0.00	2.85	0.00
131	132	94.21	-2260.21	12.66	-977.08	0	-2350.56	2.55	-264.35	2.55	0.00	2.85	0.00
132	132	94.21	-2260.21	12.66	-977.08	0	-2350.56	2.55	-264.35	2.55	0.00	2.85	0.00
132	133	97.54	-2260.21	25.40	-1040.45	0	-2407.00	2.55	-185.49	2.55	0.00	2.85	0.00
133	133	97.54	-2260.21	25.40	-1040.45	0	-2407.00	2.55	-185.49	2.55	0.00	2.85	0.00
133	134	100.87	-2260.21	38.14	-1146.22	0	-2501.22	2.55	-53.87	2.55	0.00	2.85	0.00
134	134	100.87	-1729.25	38.14	-687.47	0	-1744.86	2.55	-277.00	2.55	0.00	2.85	0.00
134	135	104.20	-1729.25	50.87	-835.67	0	-1876.87	2.55	-92.58	2.55	0.00	2.85	0.00
135	135	104.20	-1198.28	50.86	-350.37	0	-1096.86	2.55	-348.76	2.55	0.00	2.85	0.00
135	136	107.55	-1198.28	63.68	-542.24	0	-1267.76	2.55	-110.00	2.55	0.00	2.85	0.00
136	136	107.55	-705.24	63.68	-67.94	0	-522.39	2.55	-377.33	2.55	0.00	2.85	0.00
136	10137	110.90	-705.24	76.49	-302.74	0	-731.53	2.55	-85.14	2.55	0.00	2.85	0.00
137	137	110.90	-667.32	-54.89	-264.43	0	-672.57	2.55	-107.97	2.55	0.00	2.85	0.00
137	138	113.77	-667.32	-43.91	-122.65	0	-546.28	2.55	-284.40	2.55	0.00	2.85	0.00
138	138	113.77	-1160.36	-43.91	-596.95	0	-1291.65	2.55	-17.08	2.55	0.00	2.85	0.00
138	139	116.64	-1160.36	-32.93	-486.66	0	-1193.41	2.55	-154.33	2.55	0.00	2.85	0.00
139	139	116.64	-1387.91	-32.93	-694.65	0	-1527.71	2.55	-44.53	2.55	0.00	2.85	0.00
139	140	119.51	-1387.91	-21.95	-615.88	0	-1457.55	2.55	-142.55	2.55	0.00	2.85	0.00
140	140	119.51	-1387.91	-21.95	-615.88	0	-1457.55	2.55	-142.55	2.55	0.00	2.85	0.00
140	141	122.38	-1387.91	-10.98	-568.62	0	-1415.45	2.55	-201.36	2.55	0.00	2.85	0.00
141	141	122.38	-1387.91	-10.98	-568.62	0	-1415.45	2.55	-201.36	2.55	0.00	2.85	0.00
141	142	125.25	-1387.91	0.00	-552.87	0	-1401.42	2.55	-220.96	2.55	0.00	2.85	0.00
142	142	125.25	-1387.91	0.00	-552.87	0	-1401.42	2.55	-220.96	2.55	0.00	2.85	0.00
142	143	128.12	-1387.91	10.98	-568.62	0	-1415.45	2.55	-201.36	2.55	0.00	2.85	0.00
143	143	128.12	-1387.91	10.98	-568.62	0	-1415.45	2.55	-201.36	2.55	0.00	2.85	0.00
143	144	130.99	-1387.91	21.95	-615.89	0	-1457.56	2.55	-142.54	2.55	0.00	2.85	0.00
144	144	130.99	-1387.91	21.95	-615.89	0	-1457.56	2.55	-142.54	2.55	0.00	2.85	0.00
144	145	133.86	-1387.91	32.93	-694.66	0	-1527.72	2.55	-44.51	2.55	0.00	2.85	0.00
145	145	133.86	-1160.36	32.93	-486.67	0	-1193.42	2.55	-154.32	2.55	0.00	2.85	0.00
145	146	136.73	-1160.36	43.91	-596.95	0	-1291.65	2.55	-17.08	2.55	0.00	2.85	0.00
146	146	136.73	-667.32	43.91	-122.65	0	-546.28	2.55	-284.40	2.55	0.00	2.85	0.00
146	147	139.60	-667.32	54.89	-264.43	0	-672.57	2.55	-107.97	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1B.F2.T0.MZ+

Construcción sin gradiente en fase constructiva 2 HIPOTESIS B

[1. 1]PPCF1 + [95. 1.05]PRETF1A ISO.To + [95. 1.05]PRETF1A HIP.To + [95. 1.05]PRETF1B.ISO.To + [95. 1.05]PRETF1B HIP.To + [1. 1]PPLF2

Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
1	1	0.00	-569.45	-50.13	-204.59	0	-555.18	2.55	-118.34	2.55	0.00	2.85	0.00
1	2	2.62	-569.45	-40.11	-86.38	0	-449.88	2.55	-265.44	2.55	0.00	2.85	0.00
2	2	2.62	-775.33	-40.11	-284.44	0	-761.13	2.55	-153.82	2.55	0.00	2.85	0.00
2	3	5.24	-775.33	-30.08	-192.48	0	-679.22	2.55	-268.25	2.55	0.00	2.85	0.00
3	3	5.24	-981.22	-30.08	-390.54	0	-990.48	2.55	-156.61	2.55	0.00	2.85	0.00
3	4	7.86	-981.22	-20.06	-324.84	0	-931.96	2.55	-238.37	2.55	0.00	2.85	0.00
4	4	7.86	-981.22	-20.06	-324.84	0	-931.96	2.55	-238.37	2.55	0.00	2.85	0.00
4	5	10.48	-981.22	-10.04	-285.39	0	-896.82	2.55	-287.46	2.55	0.00	2.85	0.00
5	5	10.48	-981.22	-10.04	-285.39	0	-896.82	2.55	-287.46	2.55	0.00	2.85	0.00
5	6	13.10	-981.22	-0.02	-272.20	0	-885.07	2.55	-303.88	2.55	0.00	2.85	0.00
6	6	13.10	-981.22	-0.02	-272.20	0	-885.07	2.55	-303.88	2.55	0.00	2.85	0.00
6	7	15.72	-981.22	10.00	-285.27	0	-896.71	2.55	-287.61	2.55	0.00	2.85	0.00
7	7	15.72	-981.22	10.00	-285.27	0	-896.71	2.55	-287.61	2.55	0.00	2.85	0.00
7	8	18.34	-981.22	20.02	-324.59	0	-931.74	2.55	-238.68	2.55	0.00	2.85	0.00
8	8	18.34	-775.33	20.02	-126.53	0	-620.48	2.55	-350.32	2.55	0.00	2.85	0.00
8	9	20.96	-775.33	43.79	-210.13	0	-694.94	2.55	-246.29	2.55	0.00	2.85	0.00
9	9	20.96	-775.33	43.79	-210.13	0	-694.94	2.55	-246.29	2.55	0.00	2.85	0.00
9	10	23.58	-775.33	67.58	-356.03	0	-824.90	2.55	-64.73	2.55	0.00	2.85	0.00
10	10	23.58	-569.45	67.58	-157.97	0	-513.65	2.55	-176.36	2.55	0.00	2.85	0.00
10	10011	26.20	-569.45	91.35	-366.15	0	-699.08	2.55	82.70	2.55	0.00	2.85	0.00
11	11	26.20	-569.45	-122.03	-366.15	0	-699.08	2.55	82.70	2.55	0.00	2.85	0.00
11	12	29.55	-569.45	-91.64	-8.24	0	-380.28	2.55	-362.68	2.55	0.00	2.85	0.00
12	12	29.55	-981.22	-91.64	-404.36	0	-1002.79	2.55	-139.42	2.55	0.00	2.85	0.00
12	13	32.90	-981.22	-61.24	-148.30	0	-774.71	2.55	-458.06	2.55	0.00	2.85	0.00
13	13	32.90	-1358.67	-61.24	-493.30	0	-1329.21	2.55	-275.95	2.55	0.00	2.85	0.00
13	14	36.03	-1358.67	-32.83	-346.07	0	-1198.06	2.55	-459.16	2.55	0.00	2.85	0.00
14	14	36.03	-1736.13	-32.84	-672.94	0	-1736.42	2.55	-299.59	2.55	0.00	2.85	0.00
14	15	39.16	-1736.13	-20.86	-588.91	0	-1661.57	2.55	-404.16	2.55	0.00	2.85	0.00
15	15	39.16	-1736.13	-20.86	-588.91	0	-1661.57	2.55	-404.16	2.55	0.00	2.85	0.00
15	16	42.29	-1736.13	-8.89	-542.36	0	-1620.11	2.55	-462.09	2.55	0.00	2.85	0.00
16	16	42.29	-1736.13	-8.89	-542.36	0	-1620.11	2.55	-462.09	2.55	0.00	2.85	0.00
16	17	45.42	-1736.13	3.08	-533.28	0	-1612.02	2.55	-473.39	2.55	0.00	2.85	0.00
17	17	45.42	-1736.13	3.08	-533.28	0	-1612.02	2.55	-473.39	2.55	0.00	2.85	0.00
17	18	48.55	-1736.13	15.05	-561.67	0	-1637.31	2.55	-438.06	2.55	0.00	2.85	0.00
18	18	48.55	-1736.13	15.05	-561.67	0	-1637.31	2.55	-438.06	2.55	0.00	2.85	0.00
18	19	51.68	-1736.13	27.03	-627.53	0	-1695.97	2.55	-356.10	2.55	0.00	2.85	0.00
19	19	51.68	-1736.13	27.03	-627.53	0	-1695.97	2.55	-356.10	2.55	0.00	2.85	0.00
19	20	54.81	-1736.13	39.00	-730.86	0	-1788.01	2.55	-227.52	2.55	0.00	2.85	0.00
20	20	54.81	-1358.67	39.00	-403.99	0	-1249.65	2.55	-387.09	2.55	0.00	2.85	0.00
20	21	57.94	-1358.67	67.41	-570.53	0	-1398.00	2.55	-179.84	2.55	0.00	2.85	0.00
21	21	57.94	-981.22	67.41	-225.53	0	-843.50	2.55	-361.95	2.55	0.00	2.85	0.00
21	22	61.07	-981.22	95.81	-480.96	0	-1071.02	2.55	-44.10	2.55	0.00	2.85	0.00
22	22	61.07	-569.45	95.81	-84.84	0	-448.51	2.55	-267.36	2.55	0.00	2.85	0.00
22	10023	64.20	-569.45	124.21	-429.19	0	-755.24	2.55	161.15	2.55	0.00	2.85	0.00
23	23	64.20	-638.08	-129.73	-498.50	0	-861.92	2.55	202.46	2.55	0.00	2.85	0.00
23	24	67.55	-638.08	-99.33	-114.80	0	-520.14	2.55	-275.02	2.55	0.00	2.85	0.00
24	24	67.55	-1084.16	-99.34	-543.94	0	-1194.53	2.55	-33.15	2.55	0.00	2.85	0.00
24	25	70.90	-1084.16	-68.94	-262.08	0	-943.47	2.55	-383.90	2.55	0.00	2.85	0.00
25	25	70.90	-1564.56	-68.94	-701.16	0	-1649.19	2.55	-152.12	2.55	0.00	2.85	0.00
25	26	74.23	-1564.56	-38.72	-521.91	0	-1489.53	2.55	-375.18	2.55	0.00	2.85	0.00
26	26	74.23	-2044.95	-38.72	-937.93	0	-2174.71	2.55	-172.09	2.55	0.00	2.85	0.00
26	27	77.56	-2044.95	-25.98	-830.21	0	-2078.76	2.55	-306.14	2.55	0.00	2.85	0.00
27	27	77.56	-2044.95	-25.98	-830.21	0	-2078.76	2.55	-306.14	2.55	0.00	2.85	0.00
27	28	80.89	-2044.95	-13.24	-764.90	0	-2020.59	2.55	-387.42	2.55	0.00	2.85	0.00
28	28	80.89	-2044.95	-13.24	-764.90	0	-2020.59	2.55	-387.42	2.55	0.00	2.85	0.00
28	29	84.22	-2044.95	-0.50	-742.01	0	-2000.20	2.55	-415.90	2.55	0.00	2.85	0.00
29	29	84.22	-2044.95	-0.50	-742.01	0	-2000.20	2.55	-415.90	2.55	0.00	2.85	0.00
29	30	87.55	-2044.95	12.23	-761.53	0	-2017.58	2.55	-391.61	2.55	0.00	2.85	0.00
30	30	87.55	-2044.95	12.23	-761.53	0	-2017.58	2.55	-391.61	2.55	0.00	2.85	0.00
30	31	90.88	-2044.95	24.97	-823.45	0	-2072.74	2.55	-314.56	2.55	0.00	2.85	0.00
31	31	90.88	-2044.95	24.97	-823.45	0	-2072.74	2.55	-314.56	2.55	0.00	2.85	0.00
31	32	94.21	-2044.95	37.71	-927.80	0	-2165.69	2.55	-184.70	2.55	0.00	2.85	0.00
32	32	94.21	-1564.56	37.70	-511.78	0	-1480.50	2.55	-387.79	2.55	0.00	2.85	0.00
32	33	97.54	-1564.56	67.92	-687.63	0	-1637.14	2.55	-168.96	2.55	0.00	2.85	0.00
33	33	97.54	-1084.16	67.92	-248.55	0	-931.42	2.55	-400.74	2.55	0.00	2.85	0.00
33	34	100.87	-1084.16	98.14	-525.04	0	-1177.70	2.55	-56.67	2.55	0.00	2.85	0.00
34	34	100.87	-638.08	98.14	-95.90	0	-503.31	2.55	-298.54	2.55	0.00	2.85	0.00
34	10035	104.20	-638.08	128.35	-473.03	0	-839.23	2.55	170.76	2.55	0.00	2.85	0.00
35	35	104.20	-638.08	-116.79	-473.03	0	-839.23	2.55	170.76	2.55	0.00	2.85	0.00
35	36	107.55	-638.08	-86.39	-132.72	0	-536.10	2.55	-252.72	2.55	0.00	2.85	0.00
36	36	107.55	-1084.16	-86.38	-561.86	0	-1210.49	2.55	-10.85	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1B.F2.T0.MZ+

Construcción sin gradiente en fase constructiva 2 HIPOTESIS B

[1. 1]PPCF1 + [95. 1.05]PRETF1A ISO.To + [95. 1.05]PRETF1A HIP.To + [95. 1.05]PRETF1B.ISO.To + [95. 1.05]PRETF1B HIP.To + [1. 1]PPLF2

Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
36	37	110.90	-1084.16	-55.98	-323.38	0	-998.08	2.55	-307.61	2.55	0.00	2.85	0.00
37	37	110.90	-1530.24	-55.98	-731.10	0	-1653.39	2.55	-92.39	2.55	0.00	2.85	0.00
37	38	113.77	-1530.24	-29.93	-607.80	0	-1543.57	2.55	-245.82	2.55	0.00	2.85	0.00
38	38	113.77	-1976.32	-29.94	-994.11	0	-2179.81	2.55	-57.23	2.55	0.00	2.85	0.00
38	39	116.64	-1976.32	-18.96	-923.96	0	-2117.32	2.55	-144.53	2.55	0.00	2.85	0.00
39	39	116.64	-1976.32	-18.95	-923.96	0	-2117.32	2.55	-144.53	2.55	0.00	2.85	0.00
39	40	119.51	-1976.32	-7.97	-885.30	0	-2082.89	2.55	-192.64	2.55	0.00	2.85	0.00
40	40	119.51	-1976.32	-7.97	-885.30	0	-2082.89	2.55	-192.64	2.55	0.00	2.85	0.00
40	41	122.38	-1976.32	3.01	-878.16	0	-2076.53	2.55	-201.53	2.55	0.00	2.85	0.00
41	41	122.38	-1976.32	3.01	-878.16	0	-2076.53	2.55	-201.53	2.55	0.00	2.85	0.00
41	42	125.25	-1976.32	13.98	-902.54	0	-2098.24	2.55	-171.19	2.55	0.00	2.85	0.00
42	42	125.25	-1976.32	13.98	-902.54	0	-2098.24	2.55	-171.19	2.55	0.00	2.85	0.00
42	43	128.12	-1976.32	24.96	-958.41	0	-2148.01	2.55	-101.66	2.55	0.00	2.85	0.00
43	43	128.12	-1976.32	24.97	-958.41	0	-2148.01	2.55	-101.66	2.55	0.00	2.85	0.00
43	44	130.99	-1976.32	35.95	-1045.81	0	-2225.86	2.55	7.10	2.55	0.00	2.85	0.00
44	44	130.99	-1530.24	35.95	-659.50	0	-1589.52	2.55	-181.48	2.55	0.00	2.85	0.00
44	45	133.86	-1530.24	46.92	-778.42	0	-1695.54	2.55	-33.50	2.55	0.00	2.85	0.00
45	45	133.86	-1084.16	46.92	-370.71	0	-1040.23	2.55	-248.72	2.55	0.00	2.85	0.00
45	46	136.73	-1084.16	57.90	-521.12	0	-1174.21	2.55	-61.55	2.55	0.00	2.85	0.00
46	46	136.73	-638.08	57.90	-91.98	0	-499.82	2.55	-303.42	2.55	0.00	2.85	0.00
46	47	139.60	-638.08	68.88	-273.90	0	-661.86	2.55	-77.04	2.55	0.00	2.85	0.00
101	101	0.00	-603.76	-64.43	-239.25	0	-608.52	2.55	-97.69	2.55	0.00	2.85	0.00
101	102	2.62	-603.76	-54.41	-83.57	0	-469.85	2.55	-291.42	2.55	0.00	2.85	0.00
102	102	2.62	-1049.85	-54.41	-512.69	0	-1144.23	2.55	-49.56	2.55	0.00	2.85	0.00
102	103	5.24	-1049.85	-44.39	-383.26	0	-1028.94	2.55	-210.62	2.55	0.00	2.85	0.00
103	103	5.24	-1358.67	-44.39	-665.54	0	-1482.63	2.55	-61.61	2.55	0.00	2.85	0.00
103	104	7.86	-1358.67	-34.37	-562.39	0	-1390.75	2.55	-189.97	2.55	0.00	2.85	0.00
104	104	7.86	-1667.50	-34.37	-829.83	0	-1831.22	2.55	-59.42	2.55	0.00	2.85	0.00
104	105	10.48	-1667.50	-24.35	-752.91	0	-1762.71	2.55	-155.14	2.55	0.00	2.85	0.00
105	105	10.48	-1667.50	-24.35	-752.91	0	-1762.71	2.55	-155.14	2.55	0.00	2.85	0.00
105	106	13.10	-1667.50	-14.32	-702.26	0	-1717.59	2.55	-218.17	2.55	0.00	2.85	0.00
106	106	13.10	-1667.50	-14.32	-702.26	0	-1717.59	2.55	-218.17	2.55	0.00	2.85	0.00
106	107	15.72	-1667.50	-4.30	-677.87	0	-1695.87	2.55	-248.52	2.55	0.00	2.85	0.00
107	107	15.72	-1667.50	-4.30	-677.87	0	-1695.87	2.55	-248.52	2.55	0.00	2.85	0.00
107	108	18.34	-1667.50	5.72	-679.72	0	-1697.51	2.55	-246.21	2.55	0.00	2.85	0.00
108	108	18.34	-1667.50	5.72	-679.72	0	-1697.51	2.55	-246.21	2.55	0.00	2.85	0.00
108	109	20.96	-1667.50	15.74	-707.84	0	-1722.56	2.55	-211.22	2.55	0.00	2.85	0.00
109	109	20.96	-1667.50	15.74	-707.84	0	-1722.56	2.55	-211.22	2.55	0.00	2.85	0.00
109	110	23.58	-1667.50	25.76	-762.21	0	-1770.99	2.55	-143.56	2.55	0.00	2.85	0.00
110	110	23.58	-1358.67	25.76	-494.77	0	-1330.52	2.55	-274.12	2.55	0.00	2.85	0.00
110	111	26.20	-1358.67	49.54	-593.41	0	-1418.38	2.55	-151.37	2.55	0.00	2.85	0.00
111	111	26.20	-1049.85	49.54	-311.13	0	-964.69	2.55	-300.38	2.55	0.00	2.85	0.00
111	112	29.55	-1049.85	79.94	-528.01	0	-1157.88	2.55	-30.49	2.55	0.00	2.85	0.00
112	112	29.55	-603.76	79.94	-98.89	0	-483.49	2.55	-272.35	2.55	0.00	2.85	0.00
112	10113	32.90	-603.76	110.34	-417.61	0	-767.39	2.55	124.26	2.55	0.00	2.85	0.00
113	113	32.90	-569.45	-121.30	-382.95	0	-714.05	2.55	103.61	2.55	0.00	2.85	0.00
113	114	36.03	-569.45	-92.89	-47.73	0	-415.46	2.55	-313.54	2.55	0.00	2.85	0.00
114	114	36.03	-946.90	-92.89	-410.84	0	-986.09	2.55	-108.88	2.55	0.00	2.85	0.00
114	115	39.16	-946.90	-64.49	-164.53	0	-766.69	2.55	-415.39	2.55	0.00	2.85	0.00
115	115	39.16	-1358.67	-64.49	-540.88	0	-1371.59	2.55	-216.73	2.55	0.00	2.85	0.00
115	116	42.29	-1358.67	-36.09	-383.46	0	-1231.37	2.55	-412.63	2.55	0.00	2.85	0.00
116	116	42.29	-1736.13	-36.09	-709.59	0	-1769.06	2.55	-253.99	2.55	0.00	2.85	0.00
116	117	45.42	-1736.13	-24.12	-615.39	0	-1685.16	2.55	-371.21	2.55	0.00	2.85	0.00
117	117	45.42	-1736.13	-24.12	-615.39	0	-1685.16	2.55	-371.21	2.55	0.00	2.85	0.00
117	118	48.55	-1736.13	-12.14	-558.65	0	-1634.62	2.55	-441.82	2.55	0.00	2.85	0.00
118	118	48.55	-1736.13	-12.14	-558.65	0	-1634.62	2.55	-441.82	2.55	0.00	2.85	0.00
118	119	51.68	-1736.13	-0.17	-539.37	0	-1617.44	2.55	-465.81	2.55	0.00	2.85	0.00
119	119	51.68	-1736.13	-0.17	-539.37	0	-1617.44	2.55	-465.81	2.55	0.00	2.85	0.00
119	120	54.81	-1736.13	11.80	-557.58	0	-1633.66	2.55	-443.15	2.55	0.00	2.85	0.00
120	120	54.81	-1736.13	11.80	-557.58	0	-1633.66	2.55	-443.15	2.55	0.00	2.85	0.00
120	121	57.94	-1736.13	23.77	-613.25	0	-1683.25	2.55	-373.88	2.55	0.00	2.85	0.00
121	121	57.94	-1736.13	23.77	-613.25	0	-1683.25	2.55	-373.88	2.55	0.00	2.85	0.00
121	122	61.07	-1736.13	35.74	-706.41	0	-1766.23	2.55	-257.95	2.55	0.00	2.85	0.00
122	122	61.07	-1358.67	35.74	-380.28	0	-1228.54	2.55	-416.58	2.55	0.00	2.85	0.00
122	123	64.20	-1358.67	64.15	-536.62	0	-1367.80	2.55	-222.03	2.55	0.00	2.85	0.00
123	123	64.20	-946.90	64.15	-160.27	0	-762.90	2.55	-420.69	2.55	0.00	2.85	0.00
123	124	67.55	-946.90	94.55	-426.09	0	-999.67	2.55	-89.91	2.55	0.00	2.85	0.00
124	124	67.55	-569.45	94.55	-62.98	0	-429.04	2.55	-294.56	2.55	0.00	2.85	0.00
124	10125	70.90	-569.45	124.96	-430.66	0	-756.54	2.55	162.98	2.55	0.00	2.85	0.00
125	125	70.90	-638.08	-130.04	-499.97	0	-863.23	2.55	204.29	2.55	0.00	2.85	0.00
125	126	74.23	-638.08	-99.82	-117.26	0	-522.33	2.55	-271.96	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1B.F2.T0.MZ+

Construcción sin gradiente en fase constructiva 2 HIPOTESIS B

[1. 1]PPCF1 + [95. 1.05]PRETF1A ISO To + [95. 1.05]PRETF1A HIP.To + [95. 1.05]PRETF1B ISO To + [95. 1.05]PRETF1B HIP.To + [1. 1]PPLF2

Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
126	126	74.23	-1084.16	-99.82	-546.40	0	-1196.72	2.55	-30.09	2.55	0.00	2.85	0.00
126	127	77.56	-1084.16	-69.61	-264.32	0	-945.46	2.55	-381.11	2.55	0.00	2.85	0.00
127	127	77.56	-1564.56	-69.61	-703.40	0	-1651.19	2.55	-149.33	2.55	0.00	2.85	0.00
127	128	80.89	-1564.56	-39.38	-521.94	0	-1485.55	2.55	-375.14	2.55	0.00	2.85	0.00
128	128	80.89	-2044.95	-39.38	-936.99	0	-2173.87	2.55	-173.26	2.55	0.00	2.85	0.00
128	129	84.22	-2044.95	-26.64	-827.07	0	-2075.96	2.55	-310.05	2.55	0.00	2.85	0.00
129	129	84.22	-2044.95	-26.64	-827.07	0	-2075.96	2.55	-310.05	2.55	0.00	2.85	0.00
129	130	87.55	-2044.95	-13.91	-759.55	0	-2015.82	2.55	-394.07	2.55	0.00	2.85	0.00
130	130	87.55	-2044.95	-13.90	-759.55	0	-2015.82	2.55	-394.07	2.55	0.00	2.85	0.00
130	131	90.88	-2044.95	-1.17	-734.45	0	-1993.46	2.55	-425.31	2.55	0.00	2.85	0.00
131	131	90.88	-2044.95	-1.17	-734.45	0	-1993.46	2.55	-425.31	2.55	0.00	2.85	0.00
131	132	94.21	-2044.95	11.57	-751.76	0	-2008.88	2.55	-403.77	2.55	0.00	2.85	0.00
132	132	94.21	-2044.95	11.57	-751.76	0	-2008.88	2.55	-403.77	2.55	0.00	2.85	0.00
132	133	97.54	-2044.95	24.31	-811.49	0	-2062.09	2.55	-329.44	2.55	0.00	2.85	0.00
133	133	97.54	-2044.95	24.31	-811.49	0	-2062.09	2.55	-329.44	2.55	0.00	2.85	0.00
133	134	100.87	-2044.95	37.05	-913.62	0	-2153.06	2.55	-202.34	2.55	0.00	2.85	0.00
134	134	100.87	-1564.56	37.05	-498.57	0	-1468.74	2.55	-404.23	2.55	0.00	2.85	0.00
134	135	104.20	-1564.56	67.26	-672.24	0	-1623.43	2.55	-188.11	2.55	0.00	2.85	0.00
135	135	104.20	-1084.16	67.25	-233.16	0	-917.71	2.55	-419.89	2.55	0.00	2.85	0.00
135	136	107.55	-1084.16	97.66	-509.39	0	-1163.76	2.55	-76.14	2.55	0.00	2.85	0.00
136	136	107.55	-638.08	97.66	-80.25	0	-489.37	2.55	-318.02	2.55	0.00	2.85	0.00
136	10137	110.90	-638.08	128.05	-458.33	0	-826.14	2.55	152.47	2.55	0.00	2.85	0.00
137	137	110.90	-603.76	-99.74	-423.68	0	-772.80	2.55	131.82	2.55	0.00	2.85	0.00
137	138	113.77	-603.76	-73.69	-174.81	0	-551.12	2.55	-177.88	2.55	0.00	2.85	0.00
138	138	113.77	-1049.85	-73.69	-603.93	0	-1225.50	2.55	63.98	2.55	0.00	2.85	0.00
138	139	116.64	-1049.85	-47.64	-429.79	0	-1070.39	2.55	-152.72	2.55	0.00	2.85	0.00
139	139	116.64	-1255.73	-47.64	-617.98	0	-1372.85	2.55	-53.38	2.55	0.00	2.85	0.00
139	140	119.51	-1255.73	-21.60	-518.60	0	-1284.32	2.55	-177.05	2.55	0.00	2.85	0.00
140	140	119.51	-1255.73	-21.60	-518.60	0	-1284.32	2.55	-177.05	2.55	0.00	2.85	0.00
140	141	122.38	-1255.73	-10.63	-472.36	0	-1243.14	2.55	-234.59	2.55	0.00	2.85	0.00
141	141	122.38	-1255.73	-10.63	-472.36	0	-1243.14	2.55	-234.59	2.55	0.00	2.85	0.00
141	142	125.25	-1255.73	0.35	-457.63	0	-1230.02	2.55	-252.92	2.55	0.00	2.85	0.00
142	142	125.25	-1255.73	0.35	-457.63	0	-1230.02	2.55	-252.92	2.55	0.00	2.85	0.00
142	143	128.12	-1255.73	11.33	-474.39	0	-1244.94	2.55	-232.06	2.55	0.00	2.85	0.00
143	143	128.12	-1255.73	11.33	-474.39	0	-1244.94	2.55	-232.06	2.55	0.00	2.85	0.00
143	144	130.99	-1255.73	22.30	-522.68	0	-1287.96	2.55	-171.97	2.55	0.00	2.85	0.00
144	144	130.99	-1255.73	22.30	-522.68	0	-1287.96	2.55	-171.97	2.55	0.00	2.85	0.00
144	145	133.86	-1255.73	33.28	-602.47	0	-1359.03	2.55	-72.68	2.55	0.00	2.85	0.00
145	145	133.86	-1049.85	33.28	-414.28	0	-1056.57	2.55	-172.02	2.55	0.00	2.85	0.00
145	146	136.73	-1049.85	44.26	-525.57	0	-1155.70	2.55	-33.53	2.55	0.00	2.85	0.00
146	146	136.73	-603.76	44.26	-96.45	0	-481.32	2.55	-275.39	2.55	0.00	2.85	0.00
146	147	139.60	-603.76	55.24	-239.25	0	-608.52	2.55	-97.69	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1B.F1.T0.MZ-

Construcción sin gradiente en fase constructiva 2 HIPOTESIS B

[1. 1]PPCF1 + [95. 1.05]PRETF1A ISO To + [95. 1.05]PRETF1A HIP.To + [95. 1.05]PRETF1B ISO To + [95. 1.05]PRETF1B HIP.To + [1. 1]PPLF2

Coef exc

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
1	1	0.00	-629.39	-50.13	-226.13	0	-613.62	2.55	-130.80	2.55	0.00	2.85	0.00
1	2	2.62	-629.39	-40.11	-107.92	0	-508.32	2.55	-277.90	2.55	0.00	2.85	0.00
2	2	2.62	-856.95	-40.11	-326.82	0	-852.34	2.55	-154.52	2.55	0.00	2.85	0.00
2	3	5.24	-856.95	-30.08	-234.86	0	-770.42	2.55	-268.96	2.55	0.00	2.85	0.00
3	3	5.24	-1084.50	-30.08	-453.78	0	-1114.45	2.55	-145.57	2.55	0.00	2.85	0.00
3	4	7.86	-1084.50	-20.06	-388.08	0	-1055.93	2.55	-227.33	2.55	0.00	2.85	0.00
4	4	7.86	-1084.50	-20.06	-388.08	0	-1055.93	2.55	-227.33	2.55	0.00	2.85	0.00
4	5	10.48	-1084.50	-10.04	-348.63	0	-1020.79	2.55	-276.42	2.55	0.00	2.85	0.00
5	5	10.48	-1084.50	-10.04	-348.63	0	-1020.79	2.55	-276.42	2.55	0.00	2.85	0.00
5	6	13.10	-1084.50	-0.02	-335.44	0	-1009.04	2.55	-292.83	2.55	0.00	2.85	0.00
6	6	13.10	-1084.50	-0.02	-335.44	0	-1009.04	2.55	-292.83	2.55	0.00	2.85	0.00
6	7	15.72	-1084.50	10.00	-348.51	0	-1020.68	2.55	-276.57	2.55	0.00	2.85	0.00
7	7	15.72	-1084.50	10.00	-348.51	0	-1020.68	2.55	-276.57	2.55	0.00	2.85	0.00
7	8	18.34	-1084.50	20.02	-387.83	0	-1055.70	2.55	-227.64	2.55	0.00	2.85	0.00
8	8	18.34	-856.95	20.02	-168.91	0	-711.68	2.55	-351.03	2.55	0.00	2.85	0.00
8	9	20.96	-856.95	43.79	-252.51	0	-786.15	2.55	-247.00	2.55	0.00	2.85	0.00
9	9	20.96	-856.95	43.79	-252.51	0	-786.15	2.55	-247.00	2.55	0.00	2.85	0.00
9	10	23.58	-856.95	67.58	-398.41	0	-916.10	2.55	-65.44	2.55	0.00	2.85	0.00
10	10	23.58	-629.39	67.58	-179.51	0	-572.09	2.55	-188.81	2.55	0.00	2.85	0.00
10	10011	26.20	-629.39	91.35	-387.69	0	-757.52	2.55	70.25	2.55	0.00	2.85	0.00
11	11	26.20	-629.39	-122.03	-387.69	0	-757.52	2.55	70.25	2.55	0.00	2.85	0.00
11	12	29.55	-629.39	-91.64	-29.78	0	-438.72	2.55	-375.14	2.55	0.00	2.85	0.00
12	12	29.55	-1084.50	-91.64	-467.60	0	-1126.76	2.55	-128.37	2.55	0.00	2.85	0.00
12	13	32.90	-1084.50	-61.24	-211.54	0	-898.68	2.55	-447.02	2.55	0.00	2.85	0.00
13	13	32.90	-1501.69	-61.24	-592.84	0	-1511.54	2.55	-245.73	2.55	0.00	2.85	0.00
13	14	36.03	-1501.69	-32.83	-445.61	0	-1380.40	2.55	-428.95	2.55	0.00	2.85	0.00
14	14	36.03	-1918.88	-32.84	-806.90	0	-1975.43	2.55	-252.58	2.55	0.00	2.85	0.00
14	15	39.16	-1918.88	-20.86	-722.87	0	-1900.58	2.55	-357.15	2.55	0.00	2.85	0.00
15	15	39.16	-1918.88	-20.86	-722.87	0	-1900.58	2.55	-357.15	2.55	0.00	2.85	0.00
15	16	42.29	-1918.88	-8.89	-676.32	0	-1859.11	2.55	-415.08	2.55	0.00	2.85	0.00
16	16	42.29	-1918.88	-8.89	-676.32	0	-1859.11	2.55	-415.08	2.55	0.00	2.85	0.00
16	17	45.42	-1918.88	3.08	-667.24	0	-1851.03	2.55	-426.38	2.55	0.00	2.85	0.00
17	17	45.42	-1918.88	3.08	-667.24	0	-1851.03	2.55	-426.38	2.55	0.00	2.85	0.00
17	18	48.55	-1918.88	15.05	-695.63	0	-1876.31	2.55	-391.05	2.55	0.00	2.85	0.00
18	18	48.55	-1918.88	15.05	-695.63	0	-1876.31	2.55	-391.05	2.55	0.00	2.85	0.00
18	19	51.68	-1918.88	27.03	-761.49	0	-1934.98	2.55	-309.09	2.55	0.00	2.85	0.00
19	19	51.68	-1918.88	27.03	-761.49	0	-1934.98	2.55	-309.09	2.55	0.00	2.85	0.00
19	20	54.81	-1918.88	39.00	-864.82	0	-2027.02	2.55	-180.51	2.55	0.00	2.85	0.00
20	20	54.81	-1501.69	39.00	-503.53	0	-1431.99	2.55	-356.87	2.55	0.00	2.85	0.00
20	21	57.94	-1501.69	67.41	-670.07	0	-1580.33	2.55	-149.63	2.55	0.00	2.85	0.00
21	21	57.94	-1084.50	67.41	-288.77	0	-967.47	2.55	-350.91	2.55	0.00	2.85	0.00
21	22	61.07	-1084.50	95.81	-544.20	0	-1194.99	2.55	-33.05	2.55	0.00	2.85	0.00
22	22	61.07	-629.39	95.81	-106.38	0	-506.95	2.55	-279.82	2.55	0.00	2.85	0.00
22	10023	64.20	-629.39	124.21	-450.73	0	-813.68	2.55	148.69	2.55	0.00	2.85	0.00
23	23	64.20	-705.24	-129.73	-527.34	0	-931.59	2.55	194.35	2.55	0.00	2.85	0.00
23	24	67.55	-705.24	-99.33	-143.64	0	-589.81	2.55	-283.13	2.55	0.00	2.85	0.00
24	24	67.55	-1198.28	-99.34	-617.94	0	-1335.19	2.55	-15.79	2.55	0.00	2.85	0.00
24	25	70.90	-1198.28	-68.94	-336.08	0	-1084.13	2.55	-366.54	2.55	0.00	2.85	0.00
25	25	70.90	-1729.25	-68.94	-821.38	0	-1864.14	2.55	-110.37	2.55	0.00	2.85	0.00
25	26	74.23	-1729.25	-38.72	-642.13	0	-1704.47	2.55	-333.43	2.55	0.00	2.85	0.00
26	26	74.23	-2260.21	-38.72	-1101.95	0	-2461.78	2.55	-108.96	2.55	0.00	2.85	0.00
26	27	77.56	-2260.21	-25.98	-994.23	0	-2365.83	2.55	-243.01	2.55	0.00	2.85	0.00
27	27	77.56	-2260.21	-25.98	-994.23	0	-2365.83	2.55	-243.01	2.55	0.00	2.85	0.00
27	28	80.89	-2260.21	-13.24	-928.92	0	-2307.66	2.55	-324.28	2.55	0.00	2.85	0.00
28	28	80.89	-2260.21	-13.24	-928.92	0	-2307.66	2.55	-324.28	2.55	0.00	2.85	0.00
28	29	84.22	-2260.21	-0.50	-906.03	0	-2287.27	2.55	-352.76	2.55	0.00	2.85	0.00
29	29	84.22	-2260.21	-0.50	-906.03	0	-2287.27	2.55	-352.76	2.55	0.00	2.85	0.00
29	30	87.55	-2260.21	12.23	-925.55	0	-2304.66	2.55	-328.47	2.55	0.00	2.85	0.00
30	30	87.55	-2260.21	12.23	-925.55	0	-2304.66	2.55	-328.47	2.55	0.00	2.85	0.00
30	31	90.88	-2260.21	24.97	-987.47	0	-2359.81	2.55	-251.42	2.55	0.00	2.85	0.00
31	31	90.88	-2260.21	24.97	-987.47	0	-2359.81	2.55	-251.42	2.55	0.00	2.85	0.00
31	32	94.21	-2260.21	37.71	-1091.82	0	-2452.76	2.55	-121.57	2.55	0.00	2.85	0.00
32	32	94.21	-1729.25	37.70	-632.00	0	-1695.45	2.55	-346.03	2.55	0.00	2.85	0.00
32	33	97.54	-1729.25	67.92	-807.85	0	-1852.09	2.55	-127.20	2.55	0.00	2.85	0.00
33	33	97.54	-1198.28	67.92	-322.55	0	-1072.08	2.55	-383.38	2.55	0.00	2.85	0.00
33	34	100.87	-1198.28	98.14	-599.04	0	-1318.36	2.55	-39.31	2.55	0.00	2.85	0.00
34	34	100.87	-705.24	98.14	-124.74	0	-572.98	2.55	-306.65	2.55	0.00	2.85	0.00
34	10035	104.20	-705.24	128.35	-501.87	0	-908.90	2.55	162.65	2.55	0.00	2.85	0.00
35	35	104.20	-705.24	-116.79	-501.87	0	-908.90	2.55	162.65	2.55	0.00	2.85	0.00
35	36	107.55	-705.24	-86.39	-161.56	0	-605.78	2.55	-260.83	2.55	0.00	2.85	0.00
36	36	107.55	-1198.28	-86.38	-635.86	0	-1351.15	2.55	6.51	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1B.F1.T0.MZ-

Construcción sin gradiente en fase constructiva 2 HIPOTESIS B

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
36	37	110.90	-1198.28	-55.98	-397.40	0	-1138.74	2.55	-290.25	2.55	0.00	2.85	0.00
37	37	110.90	-1691.32	-55.98	-848.02	0	-1863.03	2.55	-52.38	2.55	0.00	2.85	0.00
37	38	113.77	-1691.32	-29.93	-724.74	0	-1753.21	2.55	-205.80	2.55	0.00	2.85	0.00
38	38	113.77	-2184.35	-29.94	-1151.71	0	-2456.43	2.55	2.63	2.55	0.00	2.85	0.00
38	39	116.64	-2184.36	-18.96	-1081.56	0	-2393.94	2.55	-84.66	2.55	0.00	2.85	0.00
39	39	116.64	-2184.36	-18.95	-1081.56	0	-2393.94	2.55	-84.66	2.55	0.00	2.85	0.00
39	40	119.51	-2184.36	-7.97	-1042.90	0	-2359.51	2.55	-132.77	2.55	0.00	2.85	0.00
40	40	119.51	-2184.36	-7.97	-1042.90	0	-2359.51	2.55	-132.77	2.55	0.00	2.85	0.00
40	41	122.38	-2184.36	3.01	-1035.76	0	-2353.15	2.55	-141.65	2.55	0.00	2.85	0.00
41	41	122.38	-2184.36	3.01	-1035.76	0	-2353.15	2.55	-141.65	2.55	0.00	2.85	0.00
41	42	125.25	-2184.36	13.98	-1060.14	0	-2374.86	2.55	-111.32	2.55	0.00	2.85	0.00
42	42	125.25	-2184.36	13.98	-1060.14	0	-2374.86	2.55	-111.32	2.55	0.00	2.85	0.00
42	43	128.12	-2184.36	24.96	-1116.01	0	-2424.63	2.55	-41.79	2.55	0.00	2.85	0.00
43	43	128.12	-2184.36	24.97	-1116.01	0	-2424.63	2.55	-41.79	2.55	0.00	2.85	0.00
43	44	130.99	-2184.36	35.95	-1203.41	0	-2502.48	2.55	66.97	2.55	0.00	2.85	0.00
44	44	130.99	-1691.32	35.95	-776.44	0	-1799.26	2.55	-141.46	2.55	0.00	2.85	0.00
44	45	133.86	-1691.32	46.92	-895.34	0	-1905.18	2.55	6.51	2.55	0.00	2.85	0.00
45	45	133.86	-1198.28	46.92	-444.71	0	-1180.89	2.55	-231.36	2.55	0.00	2.85	0.00
45	46	136.73	-1198.28	57.90	-595.12	0	-1314.87	2.55	-44.19	2.55	0.00	2.85	0.00
46	46	136.73	-705.24	57.90	-120.82	0	-569.49	2.55	-311.53	2.55	0.00	2.85	0.00
46	47	139.60	-705.24	68.88	-302.74	0	-731.53	2.55	-85.14	2.55	0.00	2.85	0.00
101	101	0.00	-667.32	-64.43	-264.43	0	-672.57	2.55	-107.97	2.55	0.00	2.85	0.00
101	102	2.62	-667.32	-54.41	-108.75	0	-533.90	2.55	-301.70	2.55	0.00	2.85	0.00
102	102	2.62	-1160.36	-54.41	-583.05	0	-1279.27	2.55	-34.38	2.55	0.00	2.85	0.00
102	103	5.24	-1160.36	-44.39	-453.62	0	-1163.98	2.55	-195.44	2.55	0.00	2.85	0.00
103	103	5.24	-1501.69	-44.39	-765.60	0	-1665.42	2.55	-30.75	2.55	0.00	2.85	0.00
103	104	7.86	-1501.69	-34.37	-662.45	0	-1573.55	2.55	-159.11	2.55	0.00	2.85	0.00
104	104	7.86	-1843.02	-34.37	-958.05	0	-2060.39	2.55	-14.81	2.55	0.00	2.85	0.00
104	105	10.48	-1843.02	-24.35	-881.13	0	-1991.87	2.55	-110.53	2.55	0.00	2.85	0.00
105	105	10.48	-1843.02	-24.35	-881.13	0	-1991.87	2.55	-110.53	2.55	0.00	2.85	0.00
105	106	13.10	-1843.02	-14.32	-830.48	0	-1946.76	2.55	-173.56	2.55	0.00	2.85	0.00
106	106	13.10	-1843.02	-14.32	-830.48	0	-1946.76	2.55	-173.56	2.55	0.00	2.85	0.00
106	107	15.72	-1843.02	-4.30	-806.09	0	-1925.03	2.55	-203.91	2.55	0.00	2.85	0.00
107	107	15.72	-1843.02	-4.30	-806.09	0	-1925.03	2.55	-203.91	2.55	0.00	2.85	0.00
107	108	18.34	-1843.02	5.72	-807.94	0	-1926.68	2.55	-201.61	2.55	0.00	2.85	0.00
108	108	18.34	-1843.02	5.72	-807.94	0	-1926.68	2.55	-201.61	2.55	0.00	2.85	0.00
108	109	20.96	-1843.02	15.74	-836.06	0	-1951.73	2.55	-166.62	2.55	0.00	2.85	0.00
109	109	20.96	-1843.02	15.74	-836.06	0	-1951.73	2.55	-166.62	2.55	0.00	2.85	0.00
109	110	23.58	-1843.02	25.76	-890.43	0	-2000.16	2.55	-98.96	2.55	0.00	2.85	0.00
110	110	23.58	-1501.69	25.76	-594.83	0	-1513.31	2.55	-243.26	2.55	0.00	2.85	0.00
110	111	26.20	-1501.69	49.54	-693.47	0	-1601.18	2.55	-120.51	2.55	0.00	2.85	0.00
111	111	26.20	-1160.36	49.54	-381.49	0	-1099.73	2.55	-285.20	2.55	0.00	2.85	0.00
111	112	29.55	-1160.36	79.94	-598.37	0	-1292.92	2.55	-15.32	2.55	0.00	2.85	0.00
112	112	29.55	-667.32	79.94	-124.07	0	-547.55	2.55	-282.64	2.55	0.00	2.85	0.00
112	10113	32.90	-667.32	110.34	-442.79	0	-831.44	2.55	113.98	2.55	0.00	2.85	0.00
113	113	32.90	-629.39	-121.30	-404.49	0	-772.49	2.55	91.15	2.55	0.00	2.85	0.00
113	114	36.03	-629.39	-92.89	-69.27	0	-473.89	2.55	-326.00	2.55	0.00	2.85	0.00
114	114	36.03	-1046.58	-92.89	-470.60	0	-1104.59	2.55	-99.80	2.55	0.00	2.85	0.00
114	115	39.16	-1046.58	-64.49	-224.29	0	-885.20	2.55	-406.31	2.55	0.00	2.85	0.00
115	115	39.16	-1501.69	-64.49	-640.26	0	-1553.77	2.55	-186.73	2.55	0.00	2.85	0.00
115	116	42.29	-1501.69	-36.09	-482.84	0	-1413.55	2.55	-382.63	2.55	0.00	2.85	0.00
116	116	42.29	-1918.88	-36.09	-843.29	0	-2007.84	2.55	-207.29	2.55	0.00	2.85	0.00
116	117	45.42	-1918.88	-24.12	-749.09	0	-1923.94	2.55	-324.52	2.55	0.00	2.85	0.00
117	117	45.42	-1918.88	-24.12	-749.09	0	-1923.94	2.55	-324.52	2.55	0.00	2.85	0.00
117	118	48.55	-1918.88	-12.14	-692.35	0	-1873.40	2.55	-395.12	2.55	0.00	2.85	0.00
118	118	48.55	-1918.88	-12.14	-692.35	0	-1873.40	2.55	-395.12	2.55	0.00	2.85	0.00
118	119	51.68	-1918.88	-0.17	-673.07	0	-1856.22	2.55	-419.12	2.55	0.00	2.85	0.00
119	119	51.68	-1918.88	-0.17	-673.07	0	-1856.22	2.55	-419.12	2.55	0.00	2.85	0.00
119	120	54.81	-1918.88	11.80	-691.28	0	-1872.44	2.55	-396.46	2.55	0.00	2.85	0.00
120	120	54.81	-1918.88	11.80	-691.28	0	-1872.44	2.55	-396.46	2.55	0.00	2.85	0.00
120	121	57.94	-1918.88	23.77	-746.95	0	-1922.03	2.55	-327.18	2.55	0.00	2.85	0.00
121	121	57.94	-1918.88	23.77	-746.95	0	-1922.03	2.55	-327.18	2.55	0.00	2.85	0.00
121	122	61.07	-1918.88	35.74	-840.11	0	-2005.01	2.55	-211.25	2.55	0.00	2.85	0.00
122	122	61.07	-1501.69	35.74	-479.66	0	-1410.72	2.55	-386.58	2.55	0.00	2.85	0.00
122	123	64.20	-1501.69	64.15	-636.00	0	-1549.98	2.55	-192.03	2.55	0.00	2.85	0.00
123	123	64.20	-1046.58	64.15	-220.03	0	-881.40	2.55	-411.61	2.55	0.00	2.85	0.00
123	124	67.55	-1046.58	94.55	-485.85	0	-1118.18	2.55	-80.82	2.55	0.00	2.85	0.00
124	124	67.55	-629.39	94.55	-84.52	0	-487.48	2.55	-307.02	2.55	0.00	2.85	0.00
124	10125	70.90	-629.39	124.96	-452.20	0	-814.98	2.55	150.52	2.55	0.00	2.85	0.00
125	125	70.90	-705.24	-130.04	-528.81	0	-932.90	2.55	196.18	2.55	0.00	2.85	0.00
125	126	74.23	-705.24	-99.82	-146.10	0	-592.01	2.55	-280.07	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1B.F1.T0.MZ-

Construcción sin gradiente en fase constructiva 2 HIPOTESIS B

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
126	126	74.23	-1198.28	-99.82	-620.40	0	-1337.38	2.55	-12.73	2.55	0.00	2.85	0.00
126	127	77.56	-1198.28	-69.61	-338.32	0	-1086.12	2.55	-363.76	2.55	0.00	2.85	0.00
127	127	77.56	-1729.25	-69.61	-823.62	0	-1866.13	2.55	-107.58	2.55	0.00	2.85	0.00
127	128	80.89	-1729.25	-39.38	-642.16	0	-1704.50	2.55	-333.39	2.55	0.00	2.85	0.00
128	128	80.89	-2260.21	-39.38	-1100.91	0	-2460.86	2.55	-110.26	2.55	0.00	2.85	0.00
128	129	84.22	-2260.21	-26.64	-990.99	0	-2362.95	2.55	-247.04	2.55	0.00	2.85	0.00
129	129	84.22	-2260.21	-26.64	-990.99	0	-2362.95	2.55	-247.04	2.55	0.00	2.85	0.00
129	130	87.55	-2260.21	-13.91	-923.47	0	-2302.80	2.55	-331.06	2.55	0.00	2.85	0.00
130	130	87.55	-2260.21	-13.90	-923.47	0	-2302.80	2.55	-331.06	2.55	0.00	2.85	0.00
130	131	90.88	-2260.21	-1.17	-898.37	0	-2280.45	2.55	-362.30	2.55	0.00	2.85	0.00
131	131	90.88	-2260.21	-1.17	-898.37	0	-2280.45	2.55	-362.30	2.55	0.00	2.85	0.00
131	132	94.21	-2260.21	11.57	-915.68	0	-2295.87	2.55	-340.76	2.55	0.00	2.85	0.00
132	132	94.21	-2260.21	11.57	-915.68	0	-2295.87	2.55	-340.76	2.55	0.00	2.85	0.00
132	133	97.54	-2260.21	24.31	-975.41	0	-2349.07	2.55	-266.43	2.55	0.00	2.85	0.00
133	133	97.54	-2260.21	24.31	-975.41	0	-2349.07	2.55	-266.43	2.55	0.00	2.85	0.00
133	134	100.87	-2260.21	37.05	-1077.54	0	-2440.04	2.55	-139.34	2.55	0.00	2.85	0.00
134	134	100.87	-1729.25	37.05	-618.79	0	-1683.68	2.55	-362.47	2.55	0.00	2.85	0.00
134	135	104.20	-1729.25	67.26	-792.46	0	-1838.38	2.55	-146.35	2.55	0.00	2.85	0.00
135	135	104.20	-1198.28	67.25	-307.16	0	-1058.37	2.55	-402.53	2.55	0.00	2.85	0.00
135	136	107.55	-1198.28	97.66	-583.39	0	-1304.42	2.55	-58.79	2.55	0.00	2.85	0.00
136	136	107.55	-705.24	97.66	-109.09	0	-559.04	2.55	-326.12	2.55	0.00	2.85	0.00
136	10137	110.90	-705.24	128.05	-487.17	0	-895.81	2.55	144.36	2.55	0.00	2.85	0.00
137	137	110.90	-667.32	-99.74	-448.86	0	-836.85	2.55	121.53	2.55	0.00	2.85	0.00
137	138	113.77	-667.32	-73.69	-199.99	0	-615.17	2.55	-188.16	2.55	0.00	2.85	0.00
138	138	113.77	-1160.36	-73.69	-674.29	0	-1360.54	2.55	79.16	2.55	0.00	2.85	0.00
138	139	116.64	-1160.36	-47.64	-500.15	0	-1205.43	2.55	-137.54	2.55	0.00	2.85	0.00
139	139	116.64	-1387.91	-47.64	-708.14	0	-1539.73	2.55	-27.74	2.55	0.00	2.85	0.00
139	140	119.51	-1387.91	-21.60	-608.76	0	-1451.21	2.55	-151.41	2.55	0.00	2.85	0.00
140	140	119.51	-1387.91	-21.60	-608.76	0	-1451.21	2.55	-151.41	2.55	0.00	2.85	0.00
140	141	122.38	-1387.91	-10.63	-562.52	0	-1410.02	2.55	-208.95	2.55	0.00	2.85	0.00
141	141	122.38	-1387.91	-10.63	-562.52	0	-1410.02	2.55	-208.95	2.55	0.00	2.85	0.00
141	142	125.25	-1387.91	0.35	-547.79	0	-1396.90	2.55	-227.28	2.55	0.00	2.85	0.00
142	142	125.25	-1387.91	0.35	-547.79	0	-1396.90	2.55	-227.28	2.55	0.00	2.85	0.00
142	143	128.12	-1387.91	11.33	-564.55	0	-1411.83	2.55	-206.42	2.55	0.00	2.85	0.00
143	143	128.12	-1387.91	11.33	-564.55	0	-1411.83	2.55	-206.42	2.55	0.00	2.85	0.00
143	144	130.99	-1387.91	22.30	-612.84	0	-1454.84	2.55	-146.33	2.55	0.00	2.85	0.00
144	144	130.99	-1387.91	22.30	-612.84	0	-1454.84	2.55	-146.33	2.55	0.00	2.85	0.00
144	145	133.86	-1387.91	33.28	-692.63	0	-1525.91	2.55	-47.04	2.55	0.00	2.85	0.00
145	145	133.86	-1160.36	33.28	-484.64	0	-1191.62	2.55	-156.84	2.55	0.00	2.85	0.00
145	146	136.73	-1160.36	44.26	-595.93	0	-1290.74	2.55	-18.35	2.55	0.00	2.85	0.00
146	146	136.73	-667.32	44.26	-121.63	0	-545.38	2.55	-285.67	2.55	0.00	2.85	0.00
146	147	139.60	-667.32	55.24	-264.43	0	-672.57	2.55	-107.97	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1C.F1.T0.MZ+

Construcción CON gradiente en fase constructiva 2 HIPOTESIS C

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [0; 1]GRADF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
1	1	0.00	-569.45	-50.13	-204.59	0	-555.18	2.55	-118.34	2.55	0.00	2.85	0.00
1	2	2.62	-569.45	-45.59	-72.03	0	-437.10	2.55	-283.30	2.55	0.00	2.85	0.00
2	2	2.62	-775.33	-45.59	-270.09	0	-748.35	2.55	-171.67	2.55	0.00	2.85	0.00
2	3	5.24	-775.33	-35.56	-163.77	0	-653.65	2.55	-303.98	2.55	0.00	2.85	0.00
3	3	5.24	-981.22	-35.56	-361.83	0	-964.91	2.55	-192.34	2.55	0.00	2.85	0.00
3	4	7.86	-981.22	-25.54	-281.78	0	-893.60	2.55	-291.96	2.55	0.00	2.85	0.00
4	4	7.86	-981.22	-25.54	-281.78	0	-893.60	2.55	-291.96	2.55	0.00	2.85	0.00
4	5	10.48	-981.22	-15.52	-227.98	0	-845.68	2.55	-358.91	2.55	0.00	2.85	0.00
5	5	10.48	-981.22	-15.52	-227.98	0	-845.68	2.55	-358.91	2.55	0.00	2.85	0.00
5	6	13.10	-981.22	-5.50	-200.44	0	-821.15	2.55	-393.18	2.55	0.00	2.85	0.00
6	6	13.10	-981.22	-5.50	-200.44	0	-821.15	2.55	-393.18	2.55	0.00	2.85	0.00
6	7	15.72	-981.22	4.52	-199.15	0	-820.00	2.55	-394.78	2.55	0.00	2.85	0.00
7	7	15.72	-981.22	4.52	-199.15	0	-820.00	2.55	-394.78	2.55	0.00	2.85	0.00
7	8	18.34	-981.22	14.54	-224.12	0	-842.24	2.55	-363.71	2.55	0.00	2.85	0.00
8	8	18.34	-775.33	14.54	-26.06	0	-530.99	2.55	-475.35	2.55	0.00	2.85	0.00
8	9	20.96	-775.33	38.31	-95.31	0	-592.67	2.55	-389.17	2.55	0.00	2.85	0.00
9	9	20.96	-775.33	38.31	-95.31	0	-592.67	2.55	-389.17	2.55	0.00	2.85	0.00
9	10	23.58	-775.33	62.10	-226.85	0	-709.84	2.55	-225.48	2.55	0.00	2.85	0.00
10	10	23.58	-569.45	62.10	-28.79	0	-398.58	2.55	-337.11	2.55	0.00	2.85	0.00
10	10011	26.20	-569.45	85.87	-222.62	0	-571.24	2.55	-95.91	2.55	0.00	2.85	0.00
11	11	26.20	-569.45	-120.91	-222.62	0	-571.24	2.55	-95.91	2.55	0.00	2.85	0.00
11	12	29.55	-569.45	-90.52	131.52	0	-255.79	2.55	-536.60	2.55	0.00	2.85	0.00
12	12	29.55	-981.22	-90.52	-264.60	0	-878.30	2.55	-313.34	2.55	0.00	2.85	0.00
12	13	32.90	-981.22	-60.12	-12.30	0	-653.57	2.55	-627.30	2.55	0.00	2.85	0.00
13	13	32.90	-1358.67	-60.12	-357.30	0	-1208.07	2.55	-445.19	2.55	0.00	2.85	0.00
13	14	36.03	-1358.67	-31.71	-213.59	0	-1080.06	2.55	-624.02	2.55	0.00	2.85	0.00
14	14	36.03	-1736.13	-31.72	-540.46	0	-1618.42	2.55	-464.45	2.55	0.00	2.85	0.00
14	15	39.16	-1736.13	-19.74	-459.95	0	-1546.70	2.55	-564.64	2.55	0.00	2.85	0.00
15	15	39.16	-1736.13	-19.74	-459.95	0	-1546.70	2.55	-564.64	2.55	0.00	2.85	0.00
15	16	42.29	-1736.13	-7.77	-416.92	0	-1508.38	2.55	-618.19	2.55	0.00	2.85	0.00
16	16	42.29	-1736.13	-7.77	-416.92	0	-1508.38	2.55	-618.19	2.55	0.00	2.85	0.00
16	17	45.42	-1736.13	4.20	-411.36	0	-1503.42	2.55	-625.11	2.55	0.00	2.85	0.00
17	17	45.42	-1736.13	4.20	-411.36	0	-1503.42	2.55	-625.11	2.55	0.00	2.85	0.00
17	18	48.55	-1736.13	16.17	-443.27	0	-1531.85	2.55	-585.40	2.55	0.00	2.85	0.00
18	18	48.55	-1736.13	16.17	-443.27	0	-1531.85	2.55	-585.40	2.55	0.00	2.85	0.00
18	19	51.68	-1736.13	28.15	-512.65	0	-1593.65	2.55	-499.06	2.55	0.00	2.85	0.00
19	19	51.68	-1736.13	28.15	-512.65	0	-1593.65	2.55	-499.06	2.55	0.00	2.85	0.00
19	20	54.81	-1736.13	40.12	-619.50	0	-1688.82	2.55	-366.10	2.55	0.00	2.85	0.00
20	20	54.81	-1358.67	40.12	-292.63	0	-1150.46	2.55	-525.66	2.55	0.00	2.85	0.00
20	21	57.94	-1358.67	68.53	-462.69	0	-1301.94	2.55	-314.04	2.55	0.00	2.85	0.00
21	21	57.94	-981.22	68.53	-117.69	0	-747.44	2.55	-496.15	2.55	0.00	2.85	0.00
21	22	61.07	-981.22	96.93	-376.64	0	-978.10	2.55	-173.91	2.55	0.00	2.85	0.00
22	22	61.07	-569.45	96.93	19.48	0	-355.59	2.55	-397.18	2.55	0.00	2.85	0.00
22	10023	64.20	-569.45	125.33	-328.39	0	-665.45	2.55	35.71	2.55	0.00	2.85	0.00
23	23	64.20	-638.08	-130.88	-397.70	0	-772.13	2.55	77.02	2.55	0.00	2.85	0.00
23	24	67.55	-638.08	-100.48	-10.16	0	-426.94	2.55	-405.24	2.55	0.00	2.85	0.00
24	24	67.55	-1084.16	-100.49	-439.30	0	-1101.33	2.55	-163.36	2.55	0.00	2.85	0.00
24	25	70.90	-1084.16	-70.09	-153.60	0	-846.84	2.55	-518.89	2.55	0.00	2.85	0.00
25	25	70.90	-1564.56	-70.09	-592.68	0	-1552.56	2.55	-287.11	2.55	0.00	2.85	0.00
25	26	74.23	-1564.56	-39.87	-409.62	0	-1389.50	2.55	-514.92	2.55	0.00	2.85	0.00
26	26	74.23	-2044.95	-39.87	-825.64	0	-2074.69	2.55	-311.83	2.55	0.00	2.85	0.00
26	27	77.56	-2044.95	-27.13	-714.10	0	-1975.34	2.55	-450.63	2.55	0.00	2.85	0.00
27	27	77.56	-2044.95	-27.13	-714.10	0	-1975.34	2.55	-450.63	2.55	0.00	2.85	0.00
27	28	80.89	-2044.95	-14.39	-644.98	0	-1913.77	2.55	-536.64	2.55	0.00	2.85	0.00
28	28	80.89	-2044.95	-14.39	-644.98	0	-1913.77	2.55	-536.64	2.55	0.00	2.85	0.00
28	29	84.22	-2044.95	-1.65	-618.27	0	-1889.98	2.55	-569.88	2.55	0.00	2.85	0.00
29	29	84.22	-2044.95	-1.65	-618.27	0	-1889.98	2.55	-569.88	2.55	0.00	2.85	0.00
29	30	87.55	-2044.95	11.08	-633.98	0	-1903.97	2.55	-550.33	2.55	0.00	2.85	0.00
30	30	87.55	-2044.95	11.08	-633.98	0	-1903.97	2.55	-550.33	2.55	0.00	2.85	0.00
30	31	90.88	-2044.95	23.82	-692.09	0	-1955.73	2.55	-478.02	2.55	0.00	2.85	0.00
31	31	90.88	-2044.95	23.82	-692.09	0	-1955.73	2.55	-478.02	2.55	0.00	2.85	0.00
31	32	94.21	-2044.95	36.56	-792.62	0	-2045.28	2.55	-352.92	2.55	0.00	2.85	0.00
32	32	94.21	-1564.56	36.55	-376.60	0	-1360.09	2.55	-556.01	2.55	0.00	2.85	0.00
32	33	97.54	-1564.56	66.77	-548.64	0	-1513.34	2.55	-341.92	2.55	0.00	2.85	0.00
33	33	97.54	-1084.16	66.77	-109.56	0	-807.61	2.55	-573.70	2.55	0.00	2.85	0.00
33	34	100.87	-1084.16	96.99	-382.23	0	-1050.49	2.55	-234.38	2.55	0.00	2.85	0.00
34	34	100.87	-638.08	96.99	46.91	0	-376.10	2.55	-476.26	2.55	0.00	2.85	0.00
34	10035	104.20	-638.08	127.20	-326.41	0	-708.63	2.55	-11.69	2.55	0.00	2.85	0.00
35	35	104.20	-638.08	-112.65	-326.41	0	-708.63	2.55	-11.69	2.55	0.00	2.85	0.00
35	36	107.55	-638.08	-82.25	0.03	0	-417.86	2.55	-417.92	2.55	0.00	2.85	0.00
36	36	107.55	-1084.16	-82.24	-429.11	0	-1092.25	2.55	-176.04	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1C.F1.T0.MZ+

Construcción CON gradiente en fase constructiva 2 HIPOTESIS C

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [0; 1]GRADF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
36	37	110.90	-1084.16	-51.84	-204.51	0	-892.20	2.55	-455.53	2.55	0.00	2.85	0.00
37	37	110.90	-1530.24	-51.84	-612.23	0	-1547.50	2.55	-240.31	2.55	0.00	2.85	0.00
37	38	113.77	-1530.24	-25.79	-500.81	0	-1448.27	2.55	-378.95	2.55	0.00	2.85	0.00
38	38	113.77	-1976.32	-25.80	-887.12	0	-2084.51	2.55	-190.37	2.55	0.00	2.85	0.00
38	39	116.64	-1976.32	-14.82	-828.86	0	-2032.61	2.55	-262.87	2.55	0.00	2.85	0.00
39	39	116.64	-1976.32	-14.81	-828.86	0	-2032.61	2.55	-262.87	2.55	0.00	2.85	0.00
39	40	119.51	-1976.32	-3.83	-802.09	0	-2008.77	2.55	-296.19	2.55	0.00	2.85	0.00
40	40	119.51	-1976.32	-3.83	-802.09	0	-2008.77	2.55	-296.19	2.55	0.00	2.85	0.00
40	41	122.38	-1976.32	7.15	-806.83	0	-2012.99	2.55	-290.29	2.55	0.00	2.85	0.00
41	41	122.38	-1976.32	7.15	-806.83	0	-2012.99	2.55	-290.29	2.55	0.00	2.85	0.00
41	42	125.25	-1976.32	18.12	-843.10	0	-2045.30	2.55	-245.15	2.55	0.00	2.85	0.00
42	42	125.25	-1976.32	18.12	-843.10	0	-2045.30	2.55	-245.15	2.55	0.00	2.85	0.00
42	43	128.12	-1976.32	29.10	-910.86	0	-2105.65	2.55	-160.83	2.55	0.00	2.85	0.00
43	43	128.12	-1976.32	29.11	-910.86	0	-2105.65	2.55	-160.83	2.55	0.00	2.85	0.00
43	44	130.99	-1976.32	40.09	-1010.15	0	-2194.10	2.55	-37.27	2.55	0.00	2.85	0.00
44	44	130.99	-1530.24	40.09	-623.85	0	-1557.85	2.55	-225.85	2.55	0.00	2.85	0.00
44	45	133.86	-1530.24	51.06	-754.64	0	-1674.35	2.55	-63.10	2.55	0.00	2.85	0.00
45	45	133.86	-1084.16	51.06	-346.93	0	-1019.05	2.55	-278.31	2.55	0.00	2.85	0.00
45	46	136.73	-1084.16	62.04	-509.23	0	-1163.61	2.55	-76.34	2.55	0.00	2.85	0.00
46	46	136.73	-638.08	62.04	-80.09	0	-489.23	2.55	-318.22	2.55	0.00	2.85	0.00
46	47	139.60	-638.08	68.88	-273.90	0	-661.86	2.55	-77.04	2.55	0.00	2.85	0.00
101	101	0.00	-603.76	-64.43	-239.25	0	-608.52	2.55	-97.69	2.55	0.00	2.85	0.00
101	102	2.62	-603.76	-58.86	-71.92	0	-459.47	2.55	-305.92	2.55	0.00	2.85	0.00
102	102	2.62	-1049.85	-58.86	-501.04	0	-1133.85	2.55	-64.05	2.55	0.00	2.85	0.00
102	103	5.24	-1049.85	-48.84	-359.95	0	-1008.18	2.55	-239.63	2.55	0.00	2.85	0.00
103	103	5.24	-1358.67	-48.84	-642.23	0	-1461.86	2.55	-90.62	2.55	0.00	2.85	0.00
103	104	7.86	-1358.67	-38.82	-527.43	0	-1359.61	2.55	-233.48	2.55	0.00	2.85	0.00
104	104	7.86	-1667.50	-38.82	-794.87	0	-1800.08	2.55	-102.92	2.55	0.00	2.85	0.00
104	105	10.48	-1667.50	-28.80	-706.29	0	-1721.18	2.55	-213.15	2.55	0.00	2.85	0.00
105	105	10.48	-1667.50	-28.80	-706.29	0	-1721.18	2.55	-213.15	2.55	0.00	2.85	0.00
105	106	13.10	-1667.50	-18.77	-643.99	0	-1665.69	2.55	-290.68	2.55	0.00	2.85	0.00
106	106	13.10	-1667.50	-18.77	-643.99	0	-1665.69	2.55	-290.68	2.55	0.00	2.85	0.00
106	107	15.72	-1667.50	-8.75	-607.94	0	-1633.58	2.55	-335.54	2.55	0.00	2.85	0.00
107	107	15.72	-1667.50	-8.75	-607.94	0	-1633.58	2.55	-335.54	2.55	0.00	2.85	0.00
107	108	18.34	-1667.50	1.27	-598.14	0	-1624.85	2.55	-347.73	2.55	0.00	2.85	0.00
108	108	18.34	-1667.50	1.27	-598.14	0	-1624.85	2.55	-347.73	2.55	0.00	2.85	0.00
108	109	20.96	-1667.50	11.29	-614.60	0	-1639.51	2.55	-327.25	2.55	0.00	2.85	0.00
109	109	20.96	-1667.50	11.29	-614.60	0	-1639.51	2.55	-327.25	2.55	0.00	2.85	0.00
109	110	23.58	-1667.50	21.31	-657.32	0	-1677.56	2.55	-274.09	2.55	0.00	2.85	0.00
110	110	23.58	-1358.67	21.31	-389.88	0	-1237.09	2.55	-404.64	2.55	0.00	2.85	0.00
110	111	26.20	-1358.67	45.09	-476.86	0	-1314.56	2.55	-296.41	2.55	0.00	2.85	0.00
111	111	26.20	-1049.85	45.09	-194.58	0	-860.88	2.55	-445.42	2.55	0.00	2.85	0.00
111	112	29.55	-1049.85	75.49	-396.56	0	-1040.79	2.55	-194.07	2.55	0.00	2.85	0.00
112	112	29.55	-603.76	75.49	32.56	0	-366.41	2.55	-435.93	2.55	0.00	2.85	0.00
112	10113	32.90	-603.76	105.89	-271.26	0	-637.03	2.55	-57.86	2.55	0.00	2.85	0.00
113	113	32.90	-569.45	-120.10	-236.60	0	-583.69	2.55	-78.51	2.55	0.00	2.85	0.00
113	114	36.03	-569.45	-91.69	94.87	0	-288.44	2.55	-490.99	2.55	0.00	2.85	0.00
114	114	36.03	-946.90	-91.69	-268.24	0	-859.07	2.55	-286.34	2.55	0.00	2.85	0.00
114	115	39.16	-946.90	-63.29	-25.68	0	-643.01	2.55	-588.18	2.55	0.00	2.85	0.00
115	115	39.16	-1358.67	-63.29	-402.03	0	-1247.91	2.55	-389.52	2.55	0.00	2.85	0.00
115	116	42.29	-1358.67	-34.89	-248.37	0	-1111.04	2.55	-580.73	2.55	0.00	2.85	0.00
116	116	42.29	-1736.13	-34.89	-574.50	0	-1648.73	2.55	-422.10	2.55	0.00	2.85	0.00
116	117	45.42	-1736.13	-22.92	-484.05	0	-1568.17	2.55	-534.65	2.55	0.00	2.85	0.00
117	117	45.42	-1736.13	-22.92	-484.05	0	-1568.17	2.55	-534.65	2.55	0.00	2.85	0.00
117	118	48.55	-1736.13	-10.94	-431.06	0	-1520.97	2.55	-600.60	2.55	0.00	2.85	0.00
118	118	48.55	-1736.13	-10.94	-431.06	0	-1520.97	2.55	-600.60	2.55	0.00	2.85	0.00
118	119	51.68	-1736.13	1.03	-415.54	0	-1507.14	2.55	-619.91	2.55	0.00	2.85	0.00
119	119	51.68	-1736.13	1.03	-415.54	0	-1507.14	2.55	-619.91	2.55	0.00	2.85	0.00
119	120	54.81	-1736.13	13.00	-437.50	0	-1526.70	2.55	-592.58	2.55	0.00	2.85	0.00
120	120	54.81	-1736.13	13.00	-437.50	0	-1526.70	2.55	-592.58	2.55	0.00	2.85	0.00
120	121	57.94	-1736.13	24.97	-496.93	0	-1579.64	2.55	-518.63	2.55	0.00	2.85	0.00
121	121	57.94	-1736.13	24.97	-496.93	0	-1579.64	2.55	-518.63	2.55	0.00	2.85	0.00
121	122	61.07	-1736.13	36.94	-593.84	0	-1665.96	2.55	-398.03	2.55	0.00	2.85	0.00
122	122	61.07	-1358.67	36.94	-267.71	0	-1128.27	2.55	-556.66	2.55	0.00	2.85	0.00
122	123	64.20	-1358.67	65.35	-427.80	0	-1270.87	2.55	-357.45	2.55	0.00	2.85	0.00
123	123	64.20	-946.90	65.35	-51.45	0	-695.97	2.55	-556.11	2.55	0.00	2.85	0.00
123	124	67.55	-946.90	95.75	-321.29	0	-906.32	2.55	-220.32	2.55	0.00	2.85	0.00
124	124	67.55	-569.45	95.75	41.82	0	-335.69	2.55	-424.98	2.55	0.00	2.85	0.00
124	10125	70.90	-569.45	126.16	-329.88	0	-666.78	2.55	37.57	2.55	0.00	2.85	0.00
125	125	70.90	-638.08	-131.12	-399.19	0	-773.46	2.55	78.88	2.55	0.00	2.85	0.00
125	126	74.23	-638.08	-100.90	-12.88	0	-429.36	2.55	-401.85	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1C.F1.T0.MZ+

Construcción CON gradiente en fase constructiva 2 HIPOTESIS C

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [0; 1]GRADF2

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
126	126	74.23	-1084.16	-100.90	-442.02	0	-1103.75	2.55	-159.98	2.55	0.00	2.85	0.00
126	127	77.56	-1084.16	-70.69	-156.34	0	-849.28	2.55	-515.48	2.55	0.00	2.85	0.00
127	127	77.56	-1564.56	-70.69	-595.42	0	-1555.00	2.55	-283.70	2.55	0.00	2.85	0.00
127	128	80.89	-1564.56	-40.46	-410.36	0	-1390.16	2.55	-513.99	2.55	0.00	2.85	0.00
128	128	80.89	-2044.95	-40.46	-825.41	0	-2074.49	2.55	-312.11	2.55	0.00	2.85	0.00
128	129	84.22	-2044.95	-27.72	-711.89	0	-1973.37	2.55	-453.38	2.55	0.00	2.85	0.00
129	129	84.22	-2044.95	-27.72	-711.89	0	-1973.37	2.55	-453.38	2.55	0.00	2.85	0.00
129	130	87.55	-2044.95	-14.99	-640.77	0	-1910.02	2.55	-541.88	2.55	0.00	2.85	0.00
130	130	87.55	-2044.95	-14.98	-640.77	0	-1910.02	2.55	-541.88	2.55	0.00	2.85	0.00
130	131	90.88	-2044.95	-2.25	-612.07	0	-1884.45	2.55	-577.60	2.55	0.00	2.85	0.00
131	131	90.88	-2044.95	-2.25	-612.07	0	-1884.45	2.55	-577.60	2.55	0.00	2.85	0.00
131	132	94.21	-2044.95	10.49	-625.78	0	-1896.67	2.55	-560.54	2.55	0.00	2.85	0.00
132	132	94.21	-2044.95	10.49	-625.78	0	-1896.67	2.55	-560.54	2.55	0.00	2.85	0.00
132	133	97.54	-2044.95	23.23	-681.91	0	-1946.66	2.55	-490.69	2.55	0.00	2.85	0.00
133	133	97.54	-2044.95	23.23	-681.91	0	-1946.66	2.55	-490.69	2.55	0.00	2.85	0.00
133	134	100.87	-2044.95	35.97	-780.44	0	-2034.43	2.55	-368.07	2.55	0.00	2.85	0.00
134	134	100.87	-1564.56	35.97	-365.39	0	-1350.11	2.55	-569.96	2.55	0.00	2.85	0.00
134	135	104.20	-1564.56	66.18	-535.46	0	-1501.60	2.55	-358.32	2.55	0.00	2.85	0.00
135	135	104.20	-1084.16	66.17	-96.38	0	-795.87	2.55	-590.10	2.55	0.00	2.85	0.00
135	136	107.55	-1084.16	96.58	-368.99	0	-1038.70	2.55	-250.86	2.55	0.00	2.85	0.00
136	136	107.55	-638.08	96.58	60.15	0	-364.31	2.55	-492.73	2.55	0.00	2.85	0.00
136	10137	110.90	-638.08	126.97	-314.31	0	-697.85	2.55	-26.75	2.55	0.00	2.85	0.00
137	137	110.90	-603.76	-94.72	-279.66	0	-644.51	2.55	-47.40	2.55	0.00	2.85	0.00
137	138	113.77	-603.76	-68.67	-45.19	0	-435.66	2.55	-339.18	2.55	0.00	2.85	0.00
138	138	113.77	-1049.85	-68.67	-474.31	0	-1110.04	2.55	-97.32	2.55	0.00	2.85	0.00
138	139	116.64	-1049.85	-42.62	-314.57	0	-967.75	2.55	-296.10	2.55	0.00	2.85	0.00
139	139	116.64	-1255.73	-42.62	-502.76	0	-1270.21	2.55	-196.76	2.55	0.00	2.85	0.00
139	140	119.51	-1255.73	-16.58	-417.78	0	-1194.52	2.55	-302.51	2.55	0.00	2.85	0.00
140	140	119.51	-1255.73	-16.58	-417.78	0	-1194.52	2.55	-302.51	2.55	0.00	2.85	0.00
140	141	122.38	-1255.73	-5.61	-385.95	0	-1166.17	2.55	-342.12	2.55	0.00	2.85	0.00
141	141	122.38	-1255.73	-5.61	-385.95	0	-1166.17	2.55	-342.12	2.55	0.00	2.85	0.00
141	142	125.25	-1255.73	5.37	-385.62	0	-1165.87	2.55	-342.53	2.55	0.00	2.85	0.00
142	142	125.25	-1255.73	5.37	-385.62	0	-1165.87	2.55	-342.53	2.55	0.00	2.85	0.00
142	143	128.12	-1255.73	16.35	-416.78	0	-1193.63	2.55	-303.75	2.55	0.00	2.85	0.00
143	143	128.12	-1255.73	16.35	-416.78	0	-1193.63	2.55	-303.75	2.55	0.00	2.85	0.00
143	144	130.99	-1255.73	27.32	-479.47	0	-1249.47	2.55	-225.74	2.55	0.00	2.85	0.00
144	144	130.99	-1255.73	27.32	-479.47	0	-1249.47	2.55	-225.74	2.55	0.00	2.85	0.00
144	145	133.86	-1255.73	38.30	-573.66	0	-1333.37	2.55	-108.53	2.55	0.00	2.85	0.00
145	145	133.86	-1049.85	38.30	-385.47	0	-1030.91	2.55	-207.87	2.55	0.00	2.85	0.00
145	146	136.73	-1049.85	49.28	-511.17	0	-1142.88	2.55	-51.45	2.55	0.00	2.85	0.00
146	146	136.73	-603.76	49.28	-82.05	0	-468.49	2.55	-293.31	2.55	0.00	2.85	0.00
146	147	139.60	-603.76	55.24	-239.25	0	-608.52	2.55	-97.69	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1D.F3.T0.MZ+

Construcción CON gradiente en fase constructiva 3 HIPOTESIS D

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [0; 1]GRADF3 + [.9; 1.1]PRETF3C.ISO.To + [.9; 1.1]PRETF3C.HIP.To + [.9; 1.1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
1	1	0.00	-569.45	-32.00	-204.59	0	-555.18	2.55	-118.34	2.55	0.00	2.85	0.00
1	2	2.62	-569.45	-31.04	-110.15	0	-471.05	2.55	-235.87	2.55	0.00	2.85	0.00
2	2	2.62	-775.33	-31.04	-308.21	0	-782.30	2.55	-124.24	2.55	0.00	2.85	0.00
2	3	5.24	-775.33	-21.01	-239.99	0	-721.54	2.55	-209.13	2.55	0.00	2.85	0.00
3	3	5.24	-981.22	-21.01	-438.06	0	-1032.80	2.55	-97.49	2.55	0.00	2.85	0.00
3	4	7.86	-981.22	-10.99	-396.12	0	-995.45	2.55	-149.67	2.55	0.00	2.85	0.00
4	4	7.86	-981.22	-10.99	-396.12	0	-995.45	2.55	-149.67	2.55	0.00	2.85	0.00
4	5	10.48	-981.22	-0.97	-380.43	0	-981.47	2.55	-169.20	2.55	0.00	2.85	0.00
5	5	10.48	-981.22	-0.97	-380.43	0	-981.47	2.55	-169.20	2.55	0.00	2.85	0.00
5	6	13.10	-981.22	9.05	-391.00	0	-990.88	2.55	-156.05	2.55	0.00	2.85	0.00
6	6	13.10	-981.22	9.05	-391.00	0	-990.88	2.55	-156.05	2.55	0.00	2.85	0.00
6	7	15.72	-981.22	19.07	-427.83	0	-1023.70	2.55	-110.21	2.55	0.00	2.85	0.00
7	7	15.72	-981.22	19.07	-427.83	0	-1023.70	2.55	-110.21	2.55	0.00	2.85	0.00
7	8	18.34	-981.22	29.09	-490.90	0	-1079.87	2.55	-31.73	2.55	0.00	2.85	0.00
8	8	18.34	-1864.29	29.09	562.00	0	-553.48	2.55	-794.75	2.55	-386.00	2.85	-438.26
8	9	20.96	-1868.27	52.86	457.76	0	-640.88	2.55	-688.33	2.55	-383.93	2.85	-434.62
9	9	20.96	-2904.85	52.86	1271.47	0	-486.99	2.55	-1138.84	2.55	-775.21	2.85	-887.66
9	10	23.58	-2912.24	76.65	1107.62	0	-629.37	2.55	-956.37	2.55	-774.42	2.85	-885.51
10	10	23.58	-2703.14	72.37	1307.44	0	-316.15	2.55	-1067.35	2.55	-773.86	2.85	-885.08
10	10011	26.20	-2648.50	96.14	1043.82	0	-516.84	2.55	-782.36	2.55	-751.34	2.85	-858.36
11	11	26.20	-2672.88	-132.13	1046.36	0	-522.67	2.55	-790.08	2.55	-758.04	2.85	-865.25
11	12	29.55	-2758.03	-101.74	1504.98	0	-171.95	2.55	-1278.35	2.55	-795.29	2.85	-910.14
12	12	29.55	-3185.54	-100.76	1111.26	0	-797.79	2.55	-1060.20	2.55	-799.73	2.85	-914.76
12	13	32.90	-3176.09	-70.36	1390.43	0	-553.73	2.55	-1380.03	2.55	-800.76	2.85	-917.55
13	13	32.90	-2381.65	-66.38	116.99	0	-1287.06	2.55	-687.11	2.55	-357.11	2.85	-403.43
13	14	36.03	-2355.46	-38.36	277.35	0	-1140.63	2.55	-864.79	2.55	-352.30	2.85	-399.62
14	14	36.03	-1735.96	-32.34	-808.44	0	-1857.01	2.55	-130.87	2.55	0.00	2.85	0.00
14	15	39.16	-1735.96	-20.36	-726.01	0	-1783.58	2.55	-233.45	2.55	0.00	2.85	0.00
15	15	39.16	-1735.96	-20.36	-726.01	0	-1783.58	2.55	-233.45	2.55	0.00	2.85	0.00
15	16	42.29	-1735.96	-8.39	-681.05	0	-1743.54	2.55	-289.39	2.55	0.00	2.85	0.00
16	16	42.29	-1735.96	-8.39	-681.05	0	-1743.54	2.55	-289.39	2.55	0.00	2.85	0.00
16	17	45.42	-1735.96	3.59	-673.57	0	-1736.87	2.55	-298.71	2.55	0.00	2.85	0.00
17	17	45.42	-1735.96	3.59	-673.57	0	-1736.87	2.55	-298.71	2.55	0.00	2.85	0.00
17	18	48.55	-1735.96	15.56	-703.55	0	-1763.58	2.55	-261.40	2.55	0.00	2.85	0.00
18	18	48.55	-1735.96	15.56	-703.55	0	-1763.58	2.55	-261.40	2.55	0.00	2.85	0.00
18	19	51.68	-1735.96	27.54	-771.01	0	-1823.67	2.55	-177.45	2.55	0.00	2.85	0.00
19	19	51.68	-1735.96	27.54	-771.01	0	-1823.67	2.55	-177.45	2.55	0.00	2.85	0.00
19	20	54.81	-1735.96	39.51	-875.93	0	-1917.13	2.55	-46.88	2.55	0.00	2.85	0.00
20	20	54.81	-2462.56	39.51	317.62	0	-1168.28	2.55	-841.71	2.55	-394.86	2.85	-449.63
20	21	57.94	-2467.31	67.92	153.21	0	-1316.83	2.55	-636.25	2.55	-396.41	2.85	-451.34
21	21	57.94	-3124.83	67.92	1310.67	0	-608.67	2.55	-1268.19	2.55	-787.10	2.85	-903.69
21	22	61.07	-3133.66	96.32	1060.57	0	-835.78	2.55	-953.89	2.55	-790.19	2.85	-907.19
22	22	61.07	-2714.87	88.62	1458.44	0	-210.18	2.55	-1175.36	2.55	-788.63	2.85	-905.77
22	10023	64.20	-2664.39	117.02	1096.97	0	-511.59	2.55	-728.81	2.55	-772.97	2.85	-888.80
23	23	64.20	-2763.38	-134.11	1030.90	0	-625.49	2.55	-697.13	2.55	-781.33	2.85	-897.40
23	24	67.55	-2828.85	-103.71	1480.70	0	-265.62	2.55	-1205.62	2.55	-808.26	2.85	-929.35
24	24	67.55	-3291.77	-103.80	1054.50	0	-943.36	2.55	-969.28	2.55	-813.06	2.85	-934.38
24	25	70.90	-3282.33	-73.40	1343.93	0	-685.18	2.55	-1318.52	2.55	-811.76	2.85	-933.65
25	25	70.90	-2596.00	-69.85	-21.35	0	-1569.99	2.55	-577.87	2.55	-369.78	2.85	-421.38
25	26	74.23	-2591.58	-39.63	157.44	0	-1409.27	2.55	-799.53	2.55	-368.57	2.85	-420.13
26	26	74.23	-2048.57	-33.34	-1019.31	0	-2249.56	2.55	-73.20	2.55	0.00	2.85	0.00
26	27	77.56	-2048.57	-20.60	-929.50	0	-2169.57	2.55	-184.95	2.55	0.00	2.85	0.00
27	27	77.56	-2048.57	-20.60	-929.50	0	-2169.57	2.55	-184.95	2.55	0.00	2.85	0.00
27	28	80.89	-2044.80	-8.07	-881.83	0	-2124.64	2.55	-241.81	2.55	0.00	2.85	0.00
28	28	80.89	-2044.80	-8.07	-881.83	0	-2124.64	2.55	-241.81	2.55	0.00	2.85	0.00
28	29	84.22	-2044.80	4.67	-876.17	0	-2119.60	2.55	-248.85	2.55	0.00	2.85	0.00
29	29	84.22	-2044.80	4.67	-876.17	0	-2119.60	2.55	-248.85	2.55	0.00	2.85	0.00
29	30	87.55	-2044.80	17.40	-912.94	0	-2152.35	2.55	-203.09	2.55	0.00	2.85	0.00
30	30	87.55	-2044.80	17.40	-912.94	0	-2152.35	2.55	-203.09	2.55	0.00	2.85	0.00
30	31	90.88	-2044.80	30.14	-992.11	0	-2222.87	2.55	-104.57	2.55	0.00	2.85	0.00
31	31	90.88	-2044.80	30.14	-992.11	0	-2222.87	2.55	-104.57	2.55	0.00	2.85	0.00
31	32	94.21	-2044.80	42.88	-1113.70	0	-2331.18	2.55	46.74	2.55	0.00	2.85	0.00
32	32	94.21	-2670.43	42.87	170.55	0	-1422.08	2.55	-836.19	2.55	-389.45	2.85	-441.24
32	33	97.54	-2675.49	73.09	-18.58	0	-1587.79	2.55	-616.57	2.55	-388.76	2.85	-439.51
33	33	97.54	-3230.15	73.09	1233.02	0	-728.40	2.55	-1298.20	2.55	-779.48	2.85	-891.93
33	34	100.87	-3239.53	103.31	946.65	0	-983.10	2.55	-955.22	2.55	-780.42	2.85	-892.12
34	34	100.87	-2767.24	96.40	1377.43	0	-299.96	2.55	-1189.55	2.55	-773.88	2.85	-885.70
34	10035	104.20	-2731.01	124.53	966.97	0	-644.04	2.55	-703.65	2.55	-759.46	2.85	-868.76
35	35	104.20	-2760.13	-126.74	970.01	0	-651.00	2.55	-712.87	2.55	-767.47	2.85	-877.00
35	36	107.55	-2821.82	-96.34	1392.09	0	-319.73	2.55	-1168.96	2.55	-795.78	2.85	-911.51
36	36	107.55	-3278.88	-97.23	965.41	0	-996.00	2.55	-930.78	2.55	-799.00	2.85	-914.92

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1D.F3.T0.MZ+

Construcción CON gradiente en fase constructiva 3 HIPOTESIS D

[1: 1]PPCF1 + [.95: 1.05]PRETF1A.ISO.To + [.95: 1.05]PRETF1A.HIP.To + [.95: 1.05]PRETF1B.ISO.To + [.95: 1.05]PRETF1B.HIP.To + [1: 1]PPLF2 + [0: 1]GRADF3 + [.9: 1.1]PRETF3C.ISO.To + [.9: 1.1]PRETF3C.HIP.To + [.9: 1.1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
36	37	110.90	-3269.45	-66.83	1232.81	0	-764.30	2.55	-1229.75	2.55	-800.91	2.85	-919.02
37	37	110.90	-2540.64	-64.54	-100.67	0	-1596.02	2.55	-503.29	2.55	-356.89	2.85	-404.73
37	38	113.77	-2536.82	-38.49	44.20	0	-1472.78	2.55	-659.32	2.55	-359.15	2.85	-408.63
38	38	113.77	-1976.32	-34.05	-1100.26	0	-2274.36	2.55	74.86	2.55	0.00	2.85	0.00
38	39	116.64	-1976.32	-23.07	-1018.32	0	-2201.37	2.55	-27.12	2.55	0.00	2.85	0.00
39	39	116.64	-1976.32	-23.06	-1018.32	0	-2201.37	2.55	-27.12	2.55	0.00	2.85	0.00
39	40	119.51	-1976.32	-12.08	-967.85	0	-2156.42	2.55	-89.92	2.55	0.00	2.85	0.00
40	40	119.51	-1976.32	-12.08	-967.85	0	-2156.42	2.55	-89.92	2.55	0.00	2.85	0.00
40	41	122.38	-1976.32	-1.10	-948.91	0	-2139.55	2.55	-113.48	2.55	0.00	2.85	0.00
41	41	122.38	-1976.32	-1.10	-948.91	0	-2139.55	2.55	-113.48	2.55	0.00	2.85	0.00
41	42	125.25	-1976.32	9.87	-961.50	0	-2150.76	2.55	-97.82	2.55	0.00	2.85	0.00
42	42	125.25	-1976.32	9.87	-961.50	0	-2150.76	2.55	-97.82	2.55	0.00	2.85	0.00
42	43	128.12	-1976.32	20.85	-1005.58	0	-2190.02	2.55	-42.97	2.55	0.00	2.85	0.00
43	43	128.12	-1976.32	20.86	-1005.58	0	-2190.02	2.55	-42.97	2.55	0.00	2.85	0.00
43	44	130.99	-1976.32	31.84	-1081.19	0	-2257.37	2.55	51.12	2.55	0.00	2.85	0.00
44	44	130.99	-1530.24	31.84	-694.88	0	-1621.13	2.55	-137.46	2.55	0.00	2.85	0.00
44	45	133.86	-1530.24	42.81	-802.00	0	-1716.54	2.55	-4.16	2.55	0.00	2.85	0.00
45	45	133.86	-1084.16	42.81	-394.29	0	-1061.23	2.55	-219.38	2.55	0.00	2.85	0.00
45	46	136.73	-1084.16	53.79	-532.91	0	-1184.71	2.55	-46.87	2.55	0.00	2.85	0.00
46	46	136.73	-638.08	53.79	-103.78	0	-510.32	2.55	-288.74	2.55	0.00	2.85	0.00
46	47	139.60	-638.08	58.08	-273.90	0	-661.86	2.55	-77.04	2.55	0.00	2.85	0.00
101	101	0.00	-603.76	-52.24	-239.25	0	-608.52	2.55	-97.69	2.55	0.00	2.85	0.00
101	102	2.62	-603.76	-49.45	-96.55	0	-481.41	2.55	-275.27	2.55	0.00	2.85	0.00
102	102	2.62	-1049.85	-49.45	-525.67	0	-1155.79	2.55	-33.40	2.55	0.00	2.85	0.00
102	103	5.24	-1049.85	-39.43	-409.22	0	-1052.07	2.55	-178.32	2.55	0.00	2.85	0.00
103	103	5.24	-1358.67	-39.43	-691.50	0	-1505.75	2.55	-29.31	2.55	0.00	2.85	0.00
103	104	7.86	-1358.67	-29.41	-601.33	0	-1425.43	2.55	-141.51	2.55	0.00	2.85	0.00
104	104	7.86	-1667.50	-29.41	-868.77	0	-1865.91	2.55	-10.96	2.55	0.00	2.85	0.00
104	105	10.48	-1667.50	-19.39	-804.84	0	-1808.96	2.55	-90.51	2.55	0.00	2.85	0.00
105	105	10.48	-1667.50	-19.39	-804.84	0	-1808.96	2.55	-90.51	2.55	0.00	2.85	0.00
105	106	13.10	-1667.50	-9.36	-767.17	0	-1775.41	2.55	-137.39	2.55	0.00	2.85	0.00
106	106	13.10	-1667.50	-9.36	-767.17	0	-1775.41	2.55	-137.39	2.55	0.00	2.85	0.00
106	107	15.72	-1667.50	0.66	-755.76	0	-1765.25	2.55	-151.59	2.55	0.00	2.85	0.00
107	107	15.72	-1667.50	0.66	-755.76	0	-1765.25	2.55	-151.59	2.55	0.00	2.85	0.00
107	108	18.34	-1667.50	10.68	-770.59	0	-1778.45	2.55	-133.14	2.55	0.00	2.85	0.00
108	108	18.34	-1667.50	10.68	-770.59	0	-1778.45	2.55	-133.14	2.55	0.00	2.85	0.00
108	109	20.96	-1667.50	20.70	-811.69	0	-1815.06	2.55	-81.99	2.55	0.00	2.85	0.00
109	109	20.96	-1667.50	20.70	-811.69	0	-1815.06	2.55	-81.99	2.55	0.00	2.85	0.00
109	110	23.58	-1667.50	30.72	-879.04	0	-1875.06	2.55	1.82	2.55	0.00	2.85	0.00
110	110	23.58	-2491.45	34.17	252.91	0	-1242.92	2.55	-741.89	2.55	-406.27	2.85	-463.02
110	111	26.20	-2495.43	57.95	135.33	0	-1342.75	2.55	-617.04	2.55	-404.45	2.85	-459.76
111	111	26.20	-3220.56	59.91	1228.09	0	-736.22	2.55	-1215.22	2.55	-794.58	2.85	-911.40
111	112	29.55	-3230.01	90.31	983.85	0	-947.81	2.55	-943.41	2.55	-792.90	2.85	-907.65
112	112	29.55	-2773.14	89.08	1410.31	0	-271.72	2.55	-1181.59	2.55	-789.71	2.85	-904.25
112	10113	32.90	-2717.04	119.48	1016.95	0	-581.37	2.55	-755.28	2.55	-763.92	2.85	-872.80
113	113	32.90	-2652.14	-118.39	1048.61	0	-520.60	2.55	-766.29	2.55	-755.54	2.85	-864.19
113	114	36.03	-2703.97	-91.80	1430.84	0	-210.71	2.55	-1207.06	2.55	-776.06	2.85	-888.28
114	114	36.03	-3109.97	-97.84	1066.45	0	-790.60	2.55	-1010.70	2.55	-783.26	2.85	-895.39
114	115	39.16	-3101.16	-69.44	1321.32	0	-563.70	2.55	-1316.07	2.55	-782.27	2.85	-895.04
115	115	39.16	-2329.03	-69.44	15.61	0	-1344.37	2.55	-602.86	2.55	-335.37	2.85	-377.61
115	116	42.29	-2324.88	-41.04	185.24	0	-1195.96	2.55	-799.63	2.55	-336.13	2.85	-379.29
116	116	42.29	-1736.29	-41.04	-899.22	0	-1938.09	2.55	-18.11	2.55	0.00	2.85	0.00
116	117	45.42	-1736.29	-29.07	-789.55	0	-1840.39	2.55	-154.60	2.55	0.00	2.85	0.00
117	117	45.42	-1736.29	-29.07	-789.55	0	-1840.39	2.55	-154.60	2.55	0.00	2.85	0.00
117	118	48.55	-1736.29	-17.09	-717.33	0	-1776.07	2.55	-244.46	2.55	0.00	2.85	0.00
118	118	48.55	-1736.29	-17.09	-717.33	0	-1776.07	2.55	-244.46	2.55	0.00	2.85	0.00
118	119	51.68	-1736.29	-5.12	-682.56	0	-1745.10	2.55	-287.73	2.55	0.00	2.85	0.00
119	119	51.68	-1736.29	-5.12	-682.56	0	-1745.10	2.55	-287.73	2.55	0.00	2.85	0.00
119	120	54.81	-1740.31	6.64	-685.23	0	-1750.11	2.55	-287.04	2.55	0.00	2.85	0.00
120	120	54.81	-1740.31	6.64	-685.23	0	-1750.11	2.55	-287.04	2.55	0.00	2.85	0.00
120	121	57.94	-1740.31	18.61	-724.76	0	-1785.32	2.55	-237.84	2.55	0.00	2.85	0.00
121	121	57.94	-1740.31	18.61	-724.76	0	-1785.32	2.55	-237.84	2.55	0.00	2.85	0.00
121	122	61.07	-1740.31	30.58	-801.78	0	-1853.93	2.55	-142.00	2.55	0.00	2.85	0.00
122	122	61.07	-2512.45	36.22	391.87	0	-1133.28	2.55	-894.86	2.55	-415.41	2.85	-474.01
122	123	64.20	-2517.21	64.63	237.77	0	-1272.68	2.55	-702.12	2.55	-416.98	2.85	-475.75
123	123	64.20	-3128.56	67.97	1423.67	0	-512.24	2.55	-1346.56	2.55	-804.15	2.85	-924.37
123	124	67.55	-3138.00	98.37	1152.45	0	-754.90	2.55	-1017.65	2.55	-805.78	2.85	-925.59
124	124	67.55	-2744.30	98.11	1512.62	0	-181.10	2.55	-1216.95	2.55	-801.13	2.85	-920.71
124	10125	70.90	-2691.50	128.52	1091.55	0	-523.24	2.55	-734.39	2.55	-779.40	2.85	-894.93
125	125	70.90	-2726.11	-122.71	1018.93	0	-621.65	2.55	-682.36	2.55	-770.08	2.85	-885.37
125	126	74.23	-2770.24	-94.47	1426.25	0	-279.92	2.55	-1176.05	2.55	-785.23	2.85	-902.38

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1D.F3.T0.MZ+

Construcción CON gradiente en fase constructiva 3 HIPOTESIS D

[1: 1]PPCF1 + [.95: 1.05]PRETF1A.ISO.To + [.95: 1.05]PRETF1A.HIP.To + [.95: 1.05]PRETF1B.ISO.To + [.95: 1.05]PRETF1B.HIP.To + [1: 1]PPLF2 + [0: 1]GRADF3 + [.9: 1.1]PRETF3C.ISO.To + [.9: 1.1]PRETF3C.HIP.To + [.9: 1.1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
126	126	74.23	-3248.42	-101.05	995.52	0	-964.80	2.55	-943.47	2.55	-793.31	2.85	-910.34
126	127	77.56	-3239.05	-70.84	1274.31	0	-712.61	2.55	-1291.13	2.55	-790.38	2.85	-907.16
127	127	77.56	-2536.91	-70.84	-93.05	0	-1593.90	2.55	-545.40	2.55	-344.00	2.85	-390.32
127	128	80.89	-2532.49	-40.61	89.03	0	-1430.59	2.55	-770.00	2.55	-342.95	2.85	-389.32
128	128	80.89	-2045.10	-40.61	-1085.73	0	-2306.46	2.55	11.73	2.55	0.00	2.85	0.00
128	129	84.22	-2045.10	-27.87	-971.71	0	-2204.90	2.55	-130.15	2.55	0.00	2.85	0.00
129	129	84.22	-2045.10	-27.87	-971.71	0	-2204.90	2.55	-130.15	2.55	0.00	2.85	0.00
129	130	87.55	-2045.10	-15.14	-900.09	0	-2141.11	2.55	-219.28	2.55	0.00	2.85	0.00
130	130	87.55	-2045.10	-15.13	-900.09	0	-2141.11	2.55	-219.28	2.55	0.00	2.85	0.00
130	131	90.88	-2045.10	-2.40	-870.91	0	-2115.11	2.55	-255.60	2.55	0.00	2.85	0.00
131	131	90.88	-2045.10	-2.40	-870.91	0	-2115.11	2.55	-255.60	2.55	0.00	2.85	0.00
131	132	94.21	-2045.10	10.34	-884.12	0	-2126.88	2.55	-239.15	2.55	0.00	2.85	0.00
132	132	94.21	-2045.10	10.34	-884.12	0	-2126.88	2.55	-239.15	2.55	0.00	2.85	0.00
132	133	97.54	-2045.10	23.08	-939.75	0	-2176.43	2.55	-169.93	2.55	0.00	2.85	0.00
133	133	97.54	-2045.10	23.08	-939.75	0	-2176.43	2.55	-169.93	2.55	0.00	2.85	0.00
133	134	100.87	-2045.10	35.82	-1037.78	0	-2263.75	2.55	-47.94	2.55	0.00	2.85	0.00
134	134	100.87	-2700.18	42.75	246.40	0	-1383.54	2.55	-872.37	2.55	-406.60	2.85	-463.14
134	135	104.20	-2729.13	72.53	59.14	0	-1554.60	2.55	-662.54	2.55	-412.06	2.85	-467.57
135	135	104.20	-3269.70	76.35	1309.47	0	-691.73	2.55	-1339.75	2.55	-798.93	2.85	-916.01
135	136	107.55	-3279.16	106.76	1010.15	0	-953.74	2.55	-994.82	2.55	-797.90	2.85	-913.23
136	136	107.55	-2818.56	107.38	1437.01	0	-276.32	2.55	-1231.97	2.55	-793.80	2.85	-908.96
136	10137	110.90	-2753.64	137.77	975.43	0	-641.25	2.55	-727.62	2.55	-764.39	2.85	-873.21
137	137	110.90	-2692.12	-102.24	1007.42	0	-581.31	2.55	-739.69	2.55	-756.94	2.85	-865.56
137	138	113.77	-2751.81	-76.19	1310.32	0	-346.68	2.55	-1076.57	2.55	-780.55	2.85	-893.27
138	138	113.77	-3204.64	-81.76	879.21	0	-1024.21	2.55	-836.38	2.55	-782.00	2.85	-894.57
138	139	116.64	-3196.55	-55.71	1070.16	0	-857.11	2.55	-1053.59	2.55	-782.44	2.85	-896.28
139	139	116.64	-2218.82	-55.71	-47.16	0	-1335.30	2.55	-439.82	2.55	-335.64	2.85	-378.97
139	140	119.51	-2215.02	-29.67	72.38	0	-1234.16	2.55	-565.85	2.55	-337.69	2.85	-382.55
140	140	119.51	-1255.73	-29.67	-680.66	0	-1428.68	2.55	24.62	2.55	0.00	2.85	0.00
140	141	122.38	-1255.73	-18.70	-611.25	0	-1366.86	2.55	-61.74	2.55	0.00	2.85	0.00
141	141	122.38	-1255.73	-18.70	-611.25	0	-1366.86	2.55	-61.74	2.55	0.00	2.85	0.00
141	142	125.25	-1255.73	-7.72	-573.38	0	-1333.12	2.55	-108.87	2.55	0.00	2.85	0.00
142	142	125.25	-1255.73	-7.72	-573.38	0	-1333.12	2.55	-108.87	2.55	0.00	2.85	0.00
142	143	128.12	-1255.73	3.26	-567.00	0	-1327.44	2.55	-116.81	2.55	0.00	2.85	0.00
143	143	128.12	-1255.73	3.26	-567.00	0	-1327.44	2.55	-116.81	2.55	0.00	2.85	0.00
143	144	130.99	-1255.73	14.23	-592.13	0	-1349.82	2.55	-85.54	2.55	0.00	2.85	0.00
144	144	130.99	-1255.73	14.23	-592.13	0	-1349.82	2.55	-85.54	2.55	0.00	2.85	0.00
144	145	133.86	-1255.73	25.21	-648.76	0	-1400.27	2.55	-15.07	2.55	0.00	2.85	0.00
145	145	133.86	-1049.85	25.21	-460.58	0	-1097.81	2.55	-114.41	2.55	0.00	2.85	0.00
145	146	136.73	-1049.85	36.19	-548.72	0	-1176.32	2.55	-4.73	2.55	0.00	2.85	0.00
146	146	136.73	-603.76	36.19	-119.59	0	-501.93	2.55	-246.59	2.55	0.00	2.85	0.00
146	147	139.60	-603.76	38.91	-239.25	0	-608.52	2.55	-97.69	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1D.F3.T0.MZ-

Construcción CON gradiente en fase constructiva 3 HIPOTESIS D

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [0; 1]GRADF3 + [.9; 1.1]PRETF3C.ISO.To + [.9; 1.1]PRETF3C.HIP.To + [.9; 1.1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
1	1	0.00	-629.39	-32.00	-226.13	0	-613.62	2.55	-130.80	2.55	0.00	2.85	0.00
1	2	2.62	-629.39	-17.95	-165.98	0	-560.04	2.55	-205.65	2.55	0.00	2.85	0.00
2	2	2.62	-856.95	-17.95	-384.89	0	-904.06	2.55	-82.27	2.55	0.00	2.85	0.00
2	3	5.24	-856.95	-7.92	-350.98	0	-873.85	2.55	-124.46	2.55	0.00	2.85	0.00
3	3	5.24	-1084.50	-7.92	-569.89	0	-1217.88	2.55	-1.07	2.55	0.00	2.85	0.00
3	4	7.86	-1084.50	2.10	-562.26	0	-1211.08	2.55	-10.58	2.55	0.00	2.85	0.00
4	4	7.86	-1084.50	2.10	-562.26	0	-1211.08	2.55	-10.58	2.55	0.00	2.85	0.00
4	5	10.48	-1084.50	12.12	-580.87	0	-1227.66	2.55	12.59	2.55	0.00	2.85	0.00
5	5	10.48	-1084.50	12.12	-580.87	0	-1227.66	2.55	12.59	2.55	0.00	2.85	0.00
5	6	13.10	-1084.50	22.14	-625.73	0	-1267.62	2.55	68.41	2.55	0.00	2.85	0.00
6	6	13.10	-1084.50	22.14	-625.73	0	-1267.62	2.55	68.41	2.55	0.00	2.85	0.00
6	7	15.72	-1084.50	32.16	-696.87	0	-1330.98	2.55	156.93	2.55	0.00	2.85	0.00
7	7	15.72	-1084.50	32.16	-696.87	0	-1330.98	2.55	156.93	2.55	0.00	2.85	0.00
7	8	18.34	-1084.50	42.18	-794.24	0	-1417.71	2.55	278.11	2.55	0.00	2.85	0.00
8	8	18.34	-1747.91	42.18	124.08	0	-810.77	2.55	-667.75	2.55	-275.09	2.85	-297.32
8	9	20.96	-1751.17	65.95	-15.01	0	-917.80	2.55	-555.06	2.55	-267.57	2.85	-285.59
9	9	20.96	-2599.28	65.95	650.74	0	-791.89	2.55	-923.66	2.55	-587.71	2.85	-656.27
9	10	23.58	-2605.32	89.74	451.53	0	-954.00	2.55	-734.66	2.55	-581.25	2.85	-645.76
10	10	23.58	-2347.78	86.60	671.85	0	-600.24	2.55	-849.33	2.55	-573.69	2.85	-638.30
10	10011	26.20	-2303.08	110.37	378.75	0	-820.68	2.55	-562.20	2.55	-549.30	2.85	-607.48
11	11	26.20	-2304.36	-141.82	381.13	0	-819.70	2.55	-563.00	2.55	-550.00	2.85	-608.35
11	12	29.55	-2374.03	-111.43	860.04	0	-452.81	2.55	-1050.17	2.55	-586.29	2.85	-653.82
12	12	29.55	-2839.92	-109.22	425.07	0	-1142.44	2.55	-807.11	2.55	-589.51	2.85	-657.26
12	13	32.90	-2832.19	-78.82	733.95	0	-881.98	2.55	-1132.61	2.55	-595.46	2.85	-667.23
13	13	32.90	-2310.09	-72.60	-405.53	0	-1646.15	2.55	-519.48	2.55	-237.76	2.85	-251.98
13	14	36.03	-2328.72	-43.80	-225.75	0	-1502.04	2.55	-713.90	2.55	-247.49	2.85	-264.18
14	14	36.03	-1918.68	-34.77	-1207.19	0	-2331.85	2.55	245.67	2.55	0.00	2.85	0.00
14	15	39.16	-1918.68	-22.79	-1117.16	0	-2251.66	2.55	133.64	2.55	0.00	2.85	0.00
15	15	39.16	-1918.68	-22.79	-1117.16	0	-2251.66	2.55	133.64	2.55	0.00	2.85	0.00
15	16	42.29	-1918.68	-10.82	-1064.61	0	-2204.85	2.55	68.24	2.55	0.00	2.85	0.00
16	16	42.29	-1918.68	-10.82	-1064.61	0	-2204.85	2.55	68.24	2.55	0.00	2.85	0.00
16	17	45.42	-1918.68	1.16	-1049.53	0	-2191.42	2.55	49.48	2.55	0.00	2.85	0.00
17	17	45.42	-1918.68	1.16	-1049.53	0	-2191.42	2.55	49.48	2.55	0.00	2.85	0.00
17	18	48.55	-1918.68	13.13	-1071.93	0	-2211.37	2.55	77.35	2.55	0.00	2.85	0.00
18	18	48.55	-1918.68	13.13	-1071.93	0	-2211.37	2.55	77.35	2.55	0.00	2.85	0.00
18	19	51.68	-1918.68	25.11	-1131.78	0	-2264.68	2.55	151.83	2.55	0.00	2.85	0.00
19	19	51.68	-1918.68	25.11	-1131.78	0	-2264.68	2.55	151.83	2.55	0.00	2.85	0.00
19	20	54.81	-1918.68	37.08	-1229.12	0	-2351.38	2.55	272.96	2.55	0.00	2.85	0.00
20	20	54.81	-2404.80	37.08	-158.73	0	-1505.21	2.55	-686.21	2.55	-286.04	2.85	-312.21
20	21	57.94	-2408.69	65.49	-316.21	0	-1649.56	2.55	-481.70	2.55	-288.41	2.85	-315.27
21	21	57.94	-2838.31	65.49	729.83	0	-910.97	2.55	-1051.01	2.55	-608.07	2.85	-685.38
21	22	61.07	-2845.52	93.88	486.07	0	-1134.01	2.55	-737.33	2.55	-611.69	2.85	-689.89
22	22	61.07	-2343.57	87.16	926.24	0	-430.65	2.55	-970.53	2.55	-599.91	2.85	-678.28
22	10023	64.20	-2302.27	115.56	576.52	0	-728.10	2.55	-528.76	2.55	-588.39	2.85	-666.36
23	23	64.20	-2389.46	-135.05	502.86	0	-847.72	2.55	-487.00	2.55	-591.78	2.85	-669.97
23	24	67.55	-2443.03	-104.65	946.43	0	-487.85	2.55	-990.85	2.55	-614.68	2.85	-697.42
24	24	67.55	-2952.31	-104.40	475.52	0	-1236.15	2.55	-728.95	2.55	-619.41	2.85	-702.40
24	25	70.90	-2944.59	-74.00	768.29	0	-976.56	2.55	-1079.29	2.55	-619.05	2.85	-702.87
25	25	70.90	-2541.56	-68.98	-473.17	0	-1908.32	2.55	-413.20	2.55	-263.02	2.85	-289.45
25	26	74.23	-2537.95	-38.76	-296.63	0	-1749.12	2.55	-634.71	2.55	-261.67	2.85	-287.90
26	26	74.23	-2256.25	-28.96	-1376.95	0	-2704.14	2.55	235.83	2.55	0.00	2.85	0.00
26	27	77.56	-2256.25	-16.22	-1301.76	0	-2637.17	2.55	142.27	2.55	0.00	2.85	0.00
27	27	77.56	-2256.25	-16.22	-1301.76	0	-2637.17	2.55	142.27	2.55	0.00	2.85	0.00
27	28	80.89	-2260.02	-3.27	-1269.27	0	-2610.70	2.55	99.38	2.55	0.00	2.85	0.00
28	28	80.89	-2260.02	-3.27	-1269.27	0	-2610.70	2.55	99.38	2.55	0.00	2.85	0.00
28	29	84.22	-2260.02	9.47	-1279.58	0	-2619.88	2.55	112.21	2.55	0.00	2.85	0.00
29	29	84.22	-2260.02	9.47	-1279.58	0	-2619.88	2.55	112.21	2.55	0.00	2.85	0.00
29	30	87.55	-2260.02	22.20	-1332.31	0	-2666.85	2.55	177.82	2.55	0.00	2.85	0.00
30	30	87.55	-2260.02	22.20	-1332.31	0	-2666.85	2.55	177.82	2.55	0.00	2.85	0.00
30	31	90.88	-2260.02	34.94	-1427.44	0	-2751.59	2.55	296.20	2.55	0.00	2.85	0.00
31	31	90.88	-2260.02	34.94	-1427.44	0	-2751.59	2.55	296.20	2.55	0.00	2.85	0.00
31	32	94.21	-2260.02	47.68	-1565.00	0	-2874.11	2.55	467.38	2.55	0.00	2.85	0.00
32	32	94.21	-2633.99	47.67	-394.81	0	-1830.42	2.55	-657.19	2.55	-270.25	2.85	-288.25
32	33	97.54	-2638.13	77.89	-600.62	0	-2005.35	2.55	-434.40	2.55	-266.81	2.85	-282.54
33	33	97.54	-2954.03	77.89	549.47	0	-1099.61	2.55	-1058.63	2.55	-586.48	2.85	-652.67
33	34	100.87	-2961.71	108.11	245.80	0	-1363.65	2.55	-712.14	2.55	-584.38	2.85	-648.50
34	34	100.87	-2436.64	97.70	722.42	0	-607.39	2.55	-970.32	2.55	-576.43	2.85	-640.72
34	10035	104.20	-2374.20	129.99	308.45	0	-945.66	2.55	-475.99	2.55	-554.69	2.85	-616.19
35	35	104.20	-2389.49	-135.95	310.87	0	-948.85	2.55	-480.98	2.55	-559.02	2.85	-620.70
35	36	107.55	-2439.96	-105.55	755.02	0	-601.67	2.55	-937.54	2.55	-587.75	2.85	-657.31
36	36	107.55	-2947.50	-107.03	283.16	0	-1349.98	2.55	-674.95	2.55	-591.87	2.85	-661.63

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1D.F3.T0.MZ-

Construcción CON gradiente en fase constructiva 3 HIPOTESIS D

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [0; 1]GRADF3 + [.9; 1.1]PRETF3C.ISO.To + [.9; 1.1]PRETF3C.HIP.To + [.9; 1.1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
36	37	110.90	-2939.79	-76.63	584.75	0	-1099.33	2.55	-980.36	2.55	-599.39	2.85	-673.93
37	37	110.90	-2492.74	-74.51	-622.31	0	-1973.70	2.55	-330.71	2.55	-241.74	2.85	-258.87
37	38	113.77	-2489.62	-48.46	-448.29	0	-1834.07	2.55	-492.00	2.55	-248.57	2.85	-269.56
38	38	113.77	-2184.36	-43.21	-1494.38	0	-2761.66	2.55	429.06	2.55	0.00	2.85	0.00
38	39	116.64	-2184.36	-32.23	-1386.15	0	-2665.26	2.55	294.38	2.55	0.00	2.85	0.00
39	39	116.64	-2184.36	-32.22	-1386.15	0	-2665.26	2.55	294.38	2.55	0.00	2.85	0.00
39	40	119.51	-2184.36	-21.24	-1309.41	0	-2596.90	2.55	198.88	2.55	0.00	2.85	0.00
40	40	119.51	-2184.36	-21.24	-1309.41	0	-2596.90	2.55	198.88	2.55	0.00	2.85	0.00
40	41	122.38	-2184.36	-10.26	-1264.20	0	-2556.63	2.55	142.62	2.55	0.00	2.85	0.00
41	41	122.38	-2184.36	-10.26	-1264.20	0	-2556.63	2.55	142.62	2.55	0.00	2.85	0.00
41	42	125.25	-2184.36	0.71	-1250.50	0	-2544.43	2.55	125.57	2.55	0.00	2.85	0.00
42	42	125.25	-2184.36	0.71	-1250.50	0	-2544.43	2.55	125.57	2.55	0.00	2.85	0.00
42	43	128.12	-2184.36	11.69	-1268.30	0	-2560.28	2.55	147.72	2.55	0.00	2.85	0.00
43	43	128.12	-2184.36	11.70	-1268.30	0	-2560.28	2.55	147.72	2.55	0.00	2.85	0.00
43	44	130.99	-2184.36	22.68	-1317.62	0	-2604.21	2.55	209.10	2.55	0.00	2.85	0.00
44	44	130.99	-1691.32	22.68	-890.65	0	-1901.00	2.55	0.67	2.55	0.00	2.85	0.00
44	45	133.86	-1691.32	33.65	-971.48	0	-1973.00	2.55	101.26	2.55	0.00	2.85	0.00
45	45	133.86	-1198.28	33.65	-520.85	0	-1248.71	2.55	-136.61	2.55	0.00	2.85	0.00
45	46	136.73	-1198.28	44.63	-633.20	0	-1348.78	2.55	3.19	2.55	0.00	2.85	0.00
46	46	136.73	-705.24	44.63	-158.89	0	-603.40	2.55	-264.15	2.55	0.00	2.85	0.00
46	47	139.60	-705.24	58.08	-302.74	0	-731.53	2.55	-85.14	2.55	0.00	2.85	0.00
101	101	0.00	-667.32	-52.24	-264.43	0	-672.57	2.55	-107.97	2.55	0.00	2.85	0.00
101	102	2.62	-667.32	-39.45	-147.95	0	-568.82	2.55	-252.92	2.55	0.00	2.85	0.00
102	102	2.62	-1160.36	-39.45	-622.25	0	-1314.19	2.55	14.40	2.55	0.00	2.85	0.00
102	103	5.24	-1160.36	-29.43	-532.02	0	-1233.82	2.55	-97.88	2.55	0.00	2.85	0.00
103	103	5.24	-1501.69	-29.43	-844.00	0	-1735.26	2.55	66.81	2.55	0.00	2.85	0.00
103	104	7.86	-1501.69	-19.41	-780.05	0	-1678.30	2.55	-12.77	2.55	0.00	2.85	0.00
104	104	7.86	-1843.02	-19.41	-1075.65	0	-2165.14	2.55	131.53	2.55	0.00	2.85	0.00
104	105	10.48	-1843.02	-9.39	-1037.93	0	-2131.54	2.55	84.59	2.55	0.00	2.85	0.00
105	105	10.48	-1843.02	-9.39	-1037.93	0	-2131.54	2.55	84.59	2.55	0.00	2.85	0.00
105	106	13.10	-1843.02	0.64	-1026.48	0	-2121.34	2.55	70.34	2.55	0.00	2.85	0.00
106	106	13.10	-1843.02	0.64	-1026.48	0	-2121.34	2.55	70.34	2.55	0.00	2.85	0.00
106	107	15.72	-1843.02	10.66	-1041.29	0	-2134.53	2.55	88.77	2.55	0.00	2.85	0.00
107	107	15.72	-1843.02	10.66	-1041.29	0	-2134.53	2.55	88.77	2.55	0.00	2.85	0.00
107	108	18.34	-1843.02	20.68	-1082.34	0	-2171.10	2.55	139.86	2.55	0.00	2.85	0.00
108	108	18.34	-1843.02	20.68	-1082.34	0	-2171.10	2.55	139.86	2.55	0.00	2.85	0.00
108	109	20.96	-1843.02	30.70	-1149.66	0	-2231.06	2.55	223.63	2.55	0.00	2.85	0.00
109	109	20.96	-1843.02	30.70	-1149.66	0	-2231.06	2.55	223.63	2.55	0.00	2.85	0.00
109	110	23.58	-1843.02	40.72	-1243.23	0	-2314.41	2.55	340.07	2.55	0.00	2.85	0.00
110	110	23.58	-2407.19	44.67	-241.32	0	-1582.29	2.55	-574.82	2.55	-287.97	2.85	-314.80
110	111	26.20	-2410.45	68.45	-386.97	0	-1697.89	2.55	-444.89	2.55	-281.73	2.85	-305.00
111	111	26.20	-2891.74	70.13	587.19	0	-1064.97	2.55	-969.96	2.55	-594.73	2.85	-668.26
111	112	29.55	-2899.48	100.53	307.39	0	-1296.28	2.55	-691.46	2.55	-587.26	2.85	-656.00
112	112	29.55	-2390.70	98.57	779.11	0	-547.68	2.55	-953.64	2.55	-582.79	2.85	-651.34
112	10113	32.90	-2344.80	128.97	361.93	0	-873.93	2.55	-526.24	2.55	-556.06	2.85	-617.13
113	113	32.90	-2293.36	-123.89	397.97	0	-812.23	2.55	-544.64	2.55	-552.21	2.85	-613.12
113	114	36.03	-2364.35	-93.66	781.56	0	-507.29	2.55	-991.37	2.55	-577.90	2.85	-642.48
114	114	36.03	-2816.43	-102.70	378.40	0	-1149.44	2.55	-775.27	2.55	-586.67	2.85	-651.11
114	115	39.16	-2809.22	-74.30	649.76	0	-913.63	2.55	-1083.97	2.55	-588.58	2.85	-654.92
115	115	39.16	-2295.69	-74.30	-526.59	0	-1726.02	2.55	-443.41	2.55	-222.93	2.85	-231.56
115	116	42.29	-2292.29	-45.90	-341.13	0	-1568.82	2.55	-643.15	2.55	-226.27	2.85	-237.03
116	116	42.29	-1919.07	-45.90	-1322.05	0	-2434.42	2.55	388.34	2.55	0.00	2.85	0.00
116	117	45.42	-1919.07	-33.93	-1197.13	0	-2323.15	2.55	232.90	2.55	0.00	2.85	0.00
117	117	45.42	-1919.07	-33.93	-1197.13	0	-2323.15	2.55	232.90	2.55	0.00	2.85	0.00
117	118	48.55	-1919.07	-21.95	-1109.68	0	-2245.26	2.55	124.07	2.55	0.00	2.85	0.00
118	118	48.55	-1919.07	-21.95	-1109.68	0	-2245.26	2.55	124.07	2.55	0.00	2.85	0.00
118	119	51.68	-1919.07	-9.98	-1059.69	0	-2200.73	2.55	61.86	2.55	0.00	2.85	0.00
119	119	51.68	-1919.07	-9.98	-1059.69	0	-2200.73	2.55	61.86	2.55	0.00	2.85	0.00
119	120	54.81	-1915.05	2.20	-1047.27	0	-2187.03	2.55	49.04	2.55	0.00	2.85	0.00
120	120	54.81	-1915.05	2.20	-1047.27	0	-2187.03	2.55	49.04	2.55	0.00	2.85	0.00
120	121	57.94	-1915.05	14.17	-1072.89	0	-2209.85	2.55	80.92	2.55	0.00	2.85	0.00
121	121	57.94	-1915.05	14.17	-1072.89	0	-2209.85	2.55	80.92	2.55	0.00	2.85	0.00
121	122	61.07	-1915.05	26.14	-1136.00	0	-2266.06	2.55	159.45	2.55	0.00	2.85	0.00
122	122	61.07	-2414.39	34.94	-67.53	0	-1448.48	2.55	-730.46	2.55	-298.67	2.85	-329.95
122	123	64.20	-2418.28	63.35	-218.31	0	-1585.73	2.55	-538.03	2.55	-300.52	2.85	-332.22
123	123	64.20	-2779.18	68.15	858.41	0	-784.52	2.55	-1115.77	2.55	-611.59	2.85	-693.44
123	124	67.55	-2786.90	98.55	585.25	0	-1027.77	2.55	-786.01	2.55	-612.48	2.85	-693.78
124	124	67.55	-2352.88	98.62	983.19	0	-393.98	2.55	-1006.60	2.55	-607.61	2.85	-688.65
124	10125	70.90	-2309.68	129.03	567.96	0	-735.66	2.55	-527.91	2.55	-589.25	2.85	-666.67
125	125	70.90	-2369.14	-121.71	488.35	0	-850.39	2.55	-476.84	2.55	-584.54	2.85	-661.74
125	126	74.23	-2436.84	-89.51	882.15	0	-523.39	2.55	-975.22	2.55	-603.76	2.85	-681.81

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1D.F3.T0.MZ-

Construcción CON gradiente en fase constructiva 3 HIPOTESIS D

[1: 1]PPCF1 + [.95: 1.05]PRETF1A.ISO.To + [.95: 1.05]PRETF1A.HIP.To + [.95: 1.05]PRETF1B.ISO.To + [.95: 1.05]PRETF1B.HIP.To + [1: 1]PPLF2 + [0: 1]GRADF3 + [.9: 1.1]PRETF3C.ISO.To + [.9: 1.1]PRETF3C.HIP.To + [.9: 1.1

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
126	126	74.23	-2969.10	-99.04	405.36	0	-1281.89	2.55	-719.16	2.55	-613.56	2.85	-691.41
126	127	77.56	-2961.43	-68.83	678.79	0	-1033.26	2.55	-1066.39	2.55	-610.27	2.85	-697.46
127	127	77.56	-2524.87	-68.83	-566.01	0	-1956.91	2.55	-389.71	2.55	-245.04	2.85	-264.59
127	128	80.89	-2521.25	-38.60	-389.99	0	-1797.30	2.55	-613.50	2.55	-243.28	2.85	-262.42
128	128	80.89	-2260.40	-38.60	-1470.31	0	-2790.02	2.55	349.31	2.55	0.00	2.85	0.00
128	129	84.22	-2260.40	-25.86	-1362.99	0	-2694.42	2.55	215.75	2.55	0.00	2.85	0.00
129	129	84.22	-2260.40	-25.86	-1362.99	0	-2694.42	2.55	215.75	2.55	0.00	2.85	0.00
129	130	87.55	-2260.40	-13.13	-1298.08	0	-2636.60	2.55	134.98	2.55	0.00	2.85	0.00
130	130	87.55	-2260.40	-13.12	-1298.08	0	-2636.60	2.55	134.98	2.55	0.00	2.85	0.00
130	131	90.88	-2260.40	-0.39	-1275.58	0	-2616.57	2.55	106.99	2.55	0.00	2.85	0.00
131	131	90.88	-2260.40	-0.39	-1275.58	0	-2616.57	2.55	106.99	2.55	0.00	2.85	0.00
131	132	94.21	-2260.40	12.35	-1295.49	0	-2634.30	2.55	131.76	2.55	0.00	2.85	0.00
132	132	94.21	-2260.40	12.35	-1295.49	0	-2634.30	2.55	131.76	2.55	0.00	2.85	0.00
132	133	97.54	-2260.40	25.09	-1357.81	0	-2689.81	2.55	209.31	2.55	0.00	2.85	0.00
133	133	97.54	-2260.40	25.09	-1357.81	0	-2689.81	2.55	209.31	2.55	0.00	2.85	0.00
133	134	100.87	-2260.40	37.83	-1462.54	0	-2783.10	2.55	339.64	2.55	0.00	2.85	0.00
134	134	100.87	-2669.04	48.26	-293.68	0	-1779.06	2.55	-699.34	2.55	-292.58	2.85	-317.26
134	135	104.20	-2649.29	78.90	-502.79	0	-1948.04	2.55	-471.18	2.55	-282.12	2.85	-304.11
135	135	104.20	-2937.04	84.97	644.82	0	-1035.31	2.55	-1086.59	2.55	-594.13	2.85	-666.38
135	136	107.55	-2944.78	115.38	315.27	0	-1314.02	2.55	-735.91	2.55	-588.10	2.85	-656.31
136	136	107.55	-2440.76	117.15	786.93	0	-566.87	2.55	-999.50	2.55	-584.85	2.85	-652.86
136	10137	110.90	-2387.64	147.54	301.84	0	-948.71	2.55	-494.60	2.55	-554.96	2.85	-614.85
137	137	110.90	-2342.38	-115.54	337.65	0	-888.98	2.55	-514.81	2.55	-552.68	2.85	-612.38
137	138	113.77	-2391.21	-89.49	670.19	0	-634.25	2.55	-853.59	2.55	-577.95	2.85	-643.99
138	138	113.77	-2923.37	-93.64	194.31	0	-1392.19	2.55	-597.67	2.55	-587.85	2.85	-653.78
138	139	116.64	-2916.75	-67.59	420.53	0	-1205.45	2.55	-821.43	2.55	-593.98	2.85	-663.86
139	139	116.64	-2175.90	-67.59	-547.67	0	-1683.53	2.55	-290.74	2.55	-228.43	2.85	-240.60
139	140	119.51	-2172.78	-41.55	-393.47	0	-1562.87	2.55	-422.99	2.55	-235.88	2.85	-252.22
140	140	119.51	-1387.91	-41.55	-1009.59	0	-1808.24	2.55	347.39	2.55	0.00	2.85	0.00
140	141	122.38	-1387.91	-30.58	-906.09	0	-1716.04	2.55	218.58	2.55	0.00	2.85	0.00
141	141	122.38	-1387.91	-30.58	-906.09	0	-1716.04	2.55	218.58	2.55	0.00	2.85	0.00
141	142	125.25	-1387.91	-19.60	-834.10	0	-1651.92	2.55	129.00	2.55	0.00	2.85	0.00
142	142	125.25	-1387.91	-19.60	-834.10	0	-1651.92	2.55	129.00	2.55	0.00	2.85	0.00
142	143	128.12	-1387.91	-8.62	-793.60	0	-1615.85	2.55	78.61	2.55	0.00	2.85	0.00
143	143	128.12	-1387.91	-8.62	-793.60	0	-1615.85	2.55	78.61	2.55	0.00	2.85	0.00
143	144	130.99	-1387.91	2.35	-784.62	0	-1607.85	2.55	67.43	2.55	0.00	2.85	0.00
144	144	130.99	-1387.91	2.35	-784.62	0	-1607.85	2.55	67.43	2.55	0.00	2.85	0.00
144	145	133.86	-1387.91	13.33	-807.15	0	-1627.91	2.55	95.46	2.55	0.00	2.85	0.00
145	145	133.86	-1160.36	13.33	-599.15	0	-1293.62	2.55	-14.34	2.55	0.00	2.85	0.00
145	146	136.73	-1160.36	24.31	-653.18	0	-1341.75	2.55	52.90	2.55	0.00	2.85	0.00
146	146	136.73	-667.32	24.31	-178.89	0	-596.38	2.55	-214.42	2.55	0.00	2.85	0.00
146	147	139.60	-667.32	38.91	-264.43	0	-672.57	2.55	-107.97	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1E.F3.T0.MZ+

Construcción SIN gradiente en fase constructiva 3 HIPOTESIS E

[1: 1]PPCF1 + [.95: 1.05]PRETF1A.ISO.To + [.95: 1.05]PRETF1A.HIP.To + [.95: 1.05]PRETF1B.ISO.To + [.95: 1.05]PRETF1B.HIP.To + [1: 1]PPLF2 + [1: 1]PPLF3 + [.9: 1.1]PRETF3C.ISO.To + [.9: 1.1]PRETF3C.HIP.To + [.9: 1.1]P

Coef exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
1	1	0.00	-569.45	-76.19	-204.59	0	-555.18	2.55	-118.34	2.55	0.00	2.85	0.00
1	2	2.62	-569.45	-52.43	-36.09	0	-405.08	2.55	-328.03	2.55	0.00	2.85	0.00
2	2	2.62	-775.33	-52.43	-234.15	0	-716.34	2.55	-216.40	2.55	0.00	2.85	0.00
2	3	5.24	-775.33	-28.64	-127.92	0	-621.72	2.55	-348.59	2.55	0.00	2.85	0.00
3	3	5.24	-981.22	-28.64	-325.99	0	-932.98	2.55	-236.95	2.55	0.00	2.85	0.00
3	4	7.86	-981.22	-4.87	-282.06	0	-893.85	2.55	-291.61	2.55	0.00	2.85	0.00
4	4	7.86	-981.22	-4.87	-282.06	0	-893.85	2.55	-291.61	2.55	0.00	2.85	0.00
4	5	10.48	-981.22	18.91	-300.44	0	-910.22	2.55	-268.74	2.55	0.00	2.85	0.00
5	5	10.48	-981.22	18.91	-300.44	0	-910.22	2.55	-268.74	2.55	0.00	2.85	0.00
5	6	13.10	-981.22	42.68	-381.10	0	-982.07	2.55	-168.37	2.55	0.00	2.85	0.00
6	6	13.10	-981.22	42.68	-381.10	0	-982.07	2.55	-168.37	2.55	0.00	2.85	0.00
6	7	15.72	-981.22	66.46	-524.06	0	-1109.41	2.55	9.54	2.55	0.00	2.85	0.00
7	7	15.72	-981.22	66.46	-524.06	0	-1109.41	2.55	9.54	2.55	0.00	2.85	0.00
7	8	18.34	-981.22	90.23	-729.31	0	-1292.23	2.55	264.95	2.55	0.00	2.85	0.00
8	8	18.34	-1864.29	90.23	323.59	0	-689.21	2.55	-753.39	2.55	-350.08	2.85	-384.24
8	9	20.96	-1868.27	114.00	59.17	0	-867.80	2.55	-619.18	2.55	-323.87	2.85	-344.31
9	9	20.96	-2904.85	114.00	872.88	0	-713.90	2.55	-1069.69	2.55	-715.15	2.85	-797.35
9	10	23.58	-2912.24	137.79	548.83	0	-947.49	2.55	-859.43	2.55	-690.23	2.85	-758.90
10	10	23.58	-2703.14	138.55	747.44	0	-634.96	2.55	-970.19	2.55	-689.48	2.85	-758.20
10	10011	26.20	-2648.50	162.32	310.42	0	-934.36	2.55	-655.13	2.55	-640.83	2.85	-692.18
11	11	26.20	-2672.88	-183.64	311.24	0	-941.18	2.55	-662.54	2.55	-647.28	2.85	-698.69
11	12	29.55	-2758.03	-153.25	942.39	0	-492.23	2.55	-1180.75	2.55	-710.52	2.85	-782.67
12	12	29.55	-3185.54	-150.26	546.57	0	-1119.27	2.55	-962.23	2.55	-714.64	2.85	-786.82
12	13	32.90	-3176.09	-119.86	991.58	0	-780.80	2.55	-1310.83	2.55	-740.67	2.85	-827.18
13	13	32.90	-2381.65	-116.23	-283.51	0	-1515.07	2.55	-617.63	2.55	-296.77	2.85	-312.69
13	14	36.03	-2355.46	-88.20	32.88	0	-1279.80	2.55	-822.38	2.55	-315.47	2.85	-344.23
14	14	36.03	-1735.96	-84.27	-1053.93	0	-2075.68	2.55	174.62	2.55	0.00	2.85	0.00
14	15	39.16	-1735.96	-55.85	-834.69	0	-1880.39	2.55	-98.21	2.55	0.00	2.85	0.00
15	15	39.16	-1735.96	-55.85	-834.69	0	-1880.39	2.55	-98.21	2.55	0.00	2.85	0.00
15	16	42.29	-1735.96	-27.45	-704.35	0	-1764.29	2.55	-260.40	2.55	0.00	2.85	0.00
16	16	42.29	-1735.96	-27.45	-704.35	0	-1764.29	2.55	-260.40	2.55	0.00	2.85	0.00
16	17	45.42	-1735.96	0.96	-662.94	0	-1727.40	2.55	-311.94	2.55	0.00	2.85	0.00
17	17	45.42	-1735.96	0.96	-662.94	0	-1727.40	2.55	-311.94	2.55	0.00	2.85	0.00
17	18	48.55	-1735.96	29.36	-710.42	0	-1769.70	2.55	-252.85	2.55	0.00	2.85	0.00
18	18	48.55	-1735.96	29.36	-710.42	0	-1769.70	2.55	-252.85	2.55	0.00	2.85	0.00
18	19	51.68	-1735.96	57.78	-846.80	0	-1891.18	2.55	-83.14	2.55	0.00	2.85	0.00
19	19	51.68	-1735.96	57.78	-846.80	0	-1891.18	2.55	-83.14	2.55	0.00	2.85	0.00
19	20	54.81	-1735.96	86.18	-1072.08	0	-2091.85	2.55	197.21	2.55	0.00	2.85	0.00
20	20	54.81	-2462.56	86.18	121.47	0	-1279.95	2.55	-807.68	2.55	-365.30	2.85	-405.18
20	21	57.94	-2467.31	114.59	-189.01	0	-1511.65	2.55	-576.88	2.55	-344.85	2.85	-373.80
21	21	57.94	-3124.83	114.59	968.45	0	-803.49	2.55	-1208.82	2.55	-735.53	2.85	-826.15
21	22	61.07	-3133.66	142.99	572.26	0	-1113.78	2.55	-869.17	2.55	-716.61	2.85	-796.55
22	22	61.07	-2714.87	134.79	970.45	0	-487.99	2.55	-1090.70	2.55	-715.10	2.85	-795.20
22	10023	64.20	-2664.39	163.19	464.47	0	-871.67	2.55	-619.08	2.55	-677.66	2.85	-745.49
23	23	64.20	-2763.38	-178.08	398.33	0	-985.61	2.55	-587.39	2.55	-686.01	2.85	-754.08
23	24	67.55	-2828.85	-147.68	995.40	0	-541.90	2.55	-1121.42	2.55	-735.13	2.85	-819.39
24	24	67.55	-3291.77	-148.15	568.91	0	-1219.81	2.55	-885.03	2.55	-739.89	2.85	-824.36
24	25	70.90	-3282.33	-117.75	1006.91	0	-877.04	2.55	-1260.05	2.55	-760.97	2.85	-857.29
25	25	70.90	-2596.00	-114.60	-358.41	0	-1761.88	2.55	-519.40	2.55	-318.99	2.85	-345.01
25	26	74.23	-2591.58	-84.38	-30.60	0	-1516.32	2.55	-766.91	2.55	-340.23	2.85	-377.52
26	26	74.23	-2048.57	-78.23	-1206.93	0	-2416.68	2.55	160.28	2.55	0.00	2.85	0.00
26	27	77.56	-2048.57	-48.00	-996.77	0	-2229.49	2.55	-101.24	2.55	0.00	2.85	0.00
27	27	77.56	-2048.57	-48.00	-996.77	0	-2229.49	2.55	-101.24	2.55	0.00	2.85	0.00
27	28	80.89	-2044.80	-17.99	-886.95	0	-2129.20	2.55	-235.44	2.55	0.00	2.85	0.00
28	28	80.89	-2044.80	-17.99	-886.95	0	-2129.20	2.55	-235.44	2.55	0.00	2.85	0.00
28	29	84.22	-2044.80	12.23	-877.37	0	-2120.67	2.55	-247.36	2.55	0.00	2.85	0.00
29	29	84.22	-2044.80	12.23	-877.37	0	-2120.67	2.55	-247.36	2.55	0.00	2.85	0.00
29	30	87.55	-2044.80	42.44	-968.43	0	-2201.78	2.55	-134.04	2.55	0.00	2.85	0.00
30	30	87.55	-2044.80	42.44	-968.43	0	-2201.78	2.55	-134.04	2.55	0.00	2.85	0.00
30	31	90.88	-2044.80	72.67	-1160.10	0	-2372.51	2.55	104.48	2.55	0.00	2.85	0.00
31	31	90.88	-2044.80	72.67	-1160.10	0	-2372.51	2.55	104.48	2.55	0.00	2.85	0.00
31	32	94.21	-2044.80	102.89	-1452.42	0	-2632.89	2.55	468.25	2.55	0.00	2.85	0.00
32	32	94.21	-2670.43	102.88	-168.17	0	-1614.92	2.55	-777.43	2.55	-338.42	2.85	-364.50
32	33	97.54	-2675.49	133.10	-557.13	0	-1894.39	2.55	-523.13	2.55	-307.62	2.85	-317.52
33	33	97.54	-3230.15	133.10	694.47	0	-1034.99	2.55	-1204.77	2.55	-698.33	2.85	-769.90
33	34	100.87	-3239.53	163.32	208.26	0	-1403.46	2.55	-827.12	2.55	-669.16	2.85	-724.82
34	34	100.87	-2767.24	159.19	637.77	0	-721.04	2.55	-1061.23	2.55	-662.43	2.85	-718.11
34	10035	104.20	-2731.01	187.32	18.23	0	-1184.15	2.55	-539.06	2.55	-616.51	2.85	-653.79
35	35	104.20	-2760.13	-192.86	19.40	0	-1192.18	2.55	-547.96	2.55	-624.23	2.85	-661.61
35	36	107.55	-2821.82	-162.46	662.99	0	-734.80	2.55	-1042.47	2.55	-685.92	2.85	-746.32
36	36	107.55	-3278.88	-165.33	234.20	0	-1412.27	2.55	-803.93	2.55	-688.82	2.85	-749.24

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1E.F3.T0.MZ+

Construcción SIN gradiente en fase constructiva 3 HIPOTESIS E

[1: 1]PPCF1 + [.95: 1.05]PRETF1A.ISO.To + [.95: 1.05]PRETF1A.HIP.To + [.95: 1.05]PRETF1B.ISO.To + [.95: 1.05]PRETF1B.HIP.To + [1: 1]PPLF2 + [1: 1]PPLF3 + [.9: 1.1]PRETF3C.ISO.To + [.9: 1.1]PRETF3C.HIP.To + [.9: 1.1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
36	37	110.90	-3269.45	-134.93	729.75	0	-1050.69	2.55	-1142.47	2.55	-725.11	2.85	-805.04
37	37	110.90	-2540.64	-137.24	-605.69	0	-1883.53	2.55	-415.68	2.55	-280.79	2.85	-290.31
37	38	113.77	-2536.82	-111.19	-252.19	0	-1641.51	2.55	-607.90	2.55	-314.49	2.85	-341.48
38	38	113.77	-1976.32	-113.38	-1398.23	0	-2539.77	2.55	445.65	2.55	0.00	2.85	0.00
38	39	116.64	-1976.32	-87.34	-1110.21	0	-2283.22	2.55	87.23	2.55	0.00	2.85	0.00
39	39	116.64	-1976.32	-87.33	-1110.21	0	-2283.22	2.55	87.23	2.55	0.00	2.85	0.00
39	40	119.51	-1976.32	-61.28	-896.91	0	-2093.23	2.55	-178.19	2.55	0.00	2.85	0.00
40	40	119.51	-1976.32	-61.28	-896.91	0	-2093.23	2.55	-178.19	2.55	0.00	2.85	0.00
40	41	122.38	-1976.32	-35.23	-758.37	0	-1969.83	2.55	-350.59	2.55	0.00	2.85	0.00
41	41	122.38	-1976.32	-35.23	-758.37	0	-1969.83	2.55	-350.59	2.55	0.00	2.85	0.00
41	42	125.25	-1976.32	-9.20	-694.61	0	-1913.03	2.55	-429.94	2.55	0.00	2.85	0.00
42	42	125.25	-1976.32	-9.20	-694.61	0	-1913.03	2.55	-429.94	2.55	0.00	2.85	0.00
42	43	128.12	-1976.32	16.85	-705.59	0	-1922.81	2.55	-416.28	2.55	0.00	2.85	0.00
43	43	128.12	-1976.32	16.86	-705.59	0	-1922.81	2.55	-416.28	2.55	0.00	2.85	0.00
43	44	130.99	-1976.32	42.91	-791.32	0	-1999.17	2.55	-309.59	2.55	0.00	2.85	0.00
44	44	130.99	-1530.24	42.91	-405.01	0	-1362.93	2.55	-498.17	2.55	0.00	2.85	0.00
44	45	133.86	-1530.24	68.95	-565.51	0	-1505.89	2.55	-298.45	2.55	0.00	2.85	0.00
45	45	133.86	-1084.16	68.95	-157.80	0	-850.58	2.55	-513.67	2.55	0.00	2.85	0.00
45	46	136.73	-1084.16	94.99	-393.04	0	-1060.13	2.55	-220.92	2.55	0.00	2.85	0.00
46	46	136.73	-638.08	94.99	36.09	0	-385.74	2.55	-462.80	2.55	0.00	2.85	0.00
46	47	139.60	-638.08	120.97	-273.90	0	-661.86	2.55	-77.04	2.55	0.00	2.85	0.00
101	101	0.00	-603.76	-110.62	-239.25	0	-608.52	2.55	-97.69	2.55	0.00	2.85	0.00
101	102	2.62	-603.76	-86.89	19.56	0	-377.99	2.55	-419.75	2.55	0.00	2.85	0.00
102	102	2.62	-1049.85	-86.89	-409.56	0	-1052.37	2.55	-177.89	2.55	0.00	2.85	0.00
102	103	5.24	-1049.85	-63.12	-213.03	0	-877.31	2.55	-422.46	2.55	0.00	2.85	0.00
103	103	5.24	-1358.67	-63.12	-495.31	0	-1331.00	2.55	-273.45	2.55	0.00	2.85	0.00
103	104	7.86	-1358.67	-39.34	-361.10	0	-1211.45	2.55	-440.46	2.55	0.00	2.85	0.00
104	104	7.86	-1667.50	-39.34	-628.54	0	-1651.93	2.55	-309.90	2.55	0.00	2.85	0.00
104	105	10.48	-1667.50	-15.57	-556.61	0	-1587.86	2.55	-399.41	2.55	0.00	2.85	0.00
105	105	10.48	-1667.50	-15.57	-556.61	0	-1587.86	2.55	-399.41	2.55	0.00	2.85	0.00
105	106	13.10	-1667.50	8.22	-546.97	0	-1579.27	2.55	-411.41	2.55	0.00	2.85	0.00
106	106	13.10	-1667.50	8.22	-546.97	0	-1579.27	2.55	-411.41	2.55	0.00	2.85	0.00
106	107	15.72	-1667.50	31.99	-599.64	0	-1626.18	2.55	-345.87	2.55	0.00	2.85	0.00
107	107	15.72	-1667.50	31.99	-599.64	0	-1626.18	2.55	-345.87	2.55	0.00	2.85	0.00
107	108	18.34	-1667.50	55.77	-714.59	0	-1728.57	2.55	-202.82	2.55	0.00	2.85	0.00
108	108	18.34	-1667.50	55.77	-714.59	0	-1728.57	2.55	-202.82	2.55	0.00	2.85	0.00
108	109	20.96	-1667.50	79.54	-891.84	0	-1886.46	2.55	17.75	2.55	0.00	2.85	0.00
109	109	20.96	-1667.50	79.54	-891.84	0	-1886.46	2.55	17.75	2.55	0.00	2.85	0.00
109	110	23.58	-1667.50	103.32	-1131.38	0	-2099.82	2.55	315.83	2.55	0.00	2.85	0.00
110	110	23.58	-2491.45	101.73	1.78	0	-1385.89	2.55	-698.32	2.55	-368.43	2.85	-406.12
110	111	26.20	-2495.43	125.51	-292.80	0	-1586.49	2.55	-542.77	2.55	-339.94	2.85	-362.76
111	111	26.20	-3220.56	123.38	801.68	0	-978.98	2.55	-1141.25	2.55	-730.32	2.85	-814.78
111	112	29.55	-3230.01	153.78	344.84	0	-1311.59	2.55	-832.55	2.55	-696.62	2.85	-762.86
112	112	29.55	-2773.14	150.54	773.41	0	-634.31	2.55	-1071.10	2.55	-693.74	2.85	-759.94
112	10113	32.90	-2717.04	180.94	174.13	0	-1061.19	2.55	-609.06	2.55	-636.92	2.85	-681.83
113	113	32.90	-2652.14	-175.63	207.44	0	-999.48	2.55	-620.36	2.55	-628.79	2.85	-673.60
113	114	36.03	-2703.97	-149.04	768.84	0	-587.59	2.55	-1092.21	2.55	-676.31	2.85	-738.28
114	114	36.03	-3109.97	-153.00	405.46	0	-1166.90	2.55	-896.03	2.55	-683.67	2.85	-745.62
114	115	39.16	-3101.16	-124.60	832.99	0	-841.70	2.55	-1231.35	2.55	-708.69	2.85	-784.40
115	115	39.16	-2329.03	-124.60	-472.72	0	-1622.38	2.55	-518.14	2.55	-261.79	2.85	-266.96
115	116	42.29	-2324.88	-96.20	-130.43	0	-1375.67	2.55	-744.87	2.55	-288.57	2.85	-307.77
116	116	42.29	-1736.29	-96.20	-1214.90	0	-2219.27	2.55	374.71	2.55	0.00	2.85	0.00
116	117	45.42	-1736.29	-67.80	-958.28	0	-1990.69	2.55	55.37	2.55	0.00	2.85	0.00
117	117	45.42	-1736.29	-67.80	-958.28	0	-1990.69	2.55	55.37	2.55	0.00	2.85	0.00
117	118	48.55	-1736.29	-39.38	-790.56	0	-1841.29	2.55	-153.34	2.55	0.00	2.85	0.00
118	118	48.55	-1736.29	-39.38	-790.56	0	-1841.29	2.55	-153.34	2.55	0.00	2.85	0.00
118	119	51.68	-1736.29	-10.98	-711.72	0	-1771.07	2.55	-251.44	2.55	0.00	2.85	0.00
119	119	51.68	-1736.29	-10.98	-711.72	0	-1771.07	2.55	-251.44	2.55	0.00	2.85	0.00
119	120	54.81	-1740.31	17.21	-721.75	0	-1782.64	2.55	-241.59	2.55	0.00	2.85	0.00
120	120	54.81	-1740.31	17.21	-721.75	0	-1782.64	2.55	-241.59	2.55	0.00	2.85	0.00
120	121	57.94	-1740.31	45.61	-820.08	0	-1870.23	2.55	-119.23	2.55	0.00	2.85	0.00
121	121	57.94	-1740.31	45.61	-820.08	0	-1870.23	2.55	-119.23	2.55	0.00	2.85	0.00
121	122	61.07	-1740.31	74.02	-1007.33	0	-2037.02	2.55	113.79	2.55	0.00	2.85	0.00
122	122	61.07	-2512.45	80.15	186.00	0	-1250.48	2.55	-859.15	2.55	-384.39	2.85	-427.37
122	123	64.20	-2517.21	108.56	-105.61	0	-1468.17	2.55	-642.55	2.55	-365.24	2.85	-397.95
123	123	64.20	-3128.56	112.25	1080.36	0	-707.69	2.55	-1287.00	2.55	-752.42	2.85	-846.58
123	124	67.55	-3138.00	142.65	660.80	0	-1034.80	2.55	-932.36	2.55	-731.70	2.85	-814.20
124	124	67.55	-2744.30	142.78	1021.26	0	-460.83	2.55	-1131.71	2.55	-727.09	2.85	-809.38
124	10125	70.90	-2691.50	173.19	450.56	0	-888.15	2.55	-623.19	2.55	-682.82	2.85	-749.70
125	125	70.90	-2726.11	-169.91	377.99	0	-986.54	2.55	-571.16	2.55	-673.51	2.85	-740.14
125	126	74.23	-2770.24	-141.67	942.48	0	-555.33	2.55	-1092.12	2.55	-712.34	2.85	-792.77

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1E.F3.T0.MZ+

Construcción SIN gradiente en fase constructiva 3 HIPOTESIS E

[1: 1]PPCF1 + [.95: 1.05]PRETF1A.ISO.To + [.95: 1.05]PRETF1A.HIP.To + [.95: 1.05]PRETF1B.ISO.To + [.95: 1.05]PRETF1B.HIP.To + [1: 1]PPLF2 + [1: 1]PPLF3 + [.9: 1.1]PRETF3C.ISO.To + [.9: 1.1]PRETF3C.HIP.To + [.9: 1.1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
126	126	74.23	-3248.42	-148.11	511.34	0	-1240.44	2.55	-859.47	2.55	-720.35	2.85	-800.63
126	127	77.56	-3239.05	-117.90	946.85	0	-899.04	2.55	-1234.32	2.55	-741.04	2.85	-832.97
127	127	77.56	-2536.91	-117.90	-420.51	0	-1780.32	2.55	-488.59	2.55	-294.66	2.85	-316.13
127	128	80.89	-2532.49	-87.67	-81.70	0	-1527.79	2.55	-740.38	2.55	-317.22	2.85	-350.64
128	128	80.89	-2045.10	-87.67	-1256.46	0	-2458.54	2.55	224.19	2.55	0.00	2.85	0.00
128	129	84.22	-2045.10	-57.45	-1014.82	0	-2243.30	2.55	-76.51	2.55	0.00	2.85	0.00
129	129	84.22	-2045.10	-57.45	-1014.82	0	-2243.30	2.55	-76.51	2.55	0.00	2.85	0.00
129	130	87.55	-2045.10	-27.24	-873.80	0	-2117.69	2.55	-251.99	2.55	0.00	2.85	0.00
130	130	87.55	-2045.10	-27.23	-873.80	0	-2117.69	2.55	-251.99	2.55	0.00	2.85	0.00
130	131	90.88	-2045.10	2.98	-833.44	0	-2081.74	2.55	-302.23	2.55	0.00	2.85	0.00
131	131	90.88	-2045.10	2.98	-833.44	0	-2081.74	2.55	-302.23	2.55	0.00	2.85	0.00
131	132	94.21	-2045.10	33.21	-893.68	0	-2135.40	2.55	-227.26	2.55	0.00	2.85	0.00
132	132	94.21	-2045.10	33.21	-893.68	0	-2135.40	2.55	-227.26	2.55	0.00	2.85	0.00
132	133	97.54	-2045.10	63.43	-1054.56	0	-2278.69	2.55	-27.06	2.55	0.00	2.85	0.00
133	133	97.54	-2045.10	63.43	-1054.56	0	-2278.69	2.55	-27.06	2.55	0.00	2.85	0.00
133	134	100.87	-2045.10	93.65	-1316.06	0	-2511.63	2.55	298.35	2.55	0.00	2.85	0.00
134	134	100.87	-2700.18	97.80	-30.61	0	-1541.24	2.55	-824.31	2.55	-364.86	2.85	-400.38
134	135	104.20	-2729.13	127.58	-401.19	0	-1816.67	2.55	-582.68	2.55	-342.70	2.85	-363.27
135	135	104.20	-3269.70	130.97	851.01	0	-952.73	2.55	-1260.21	2.55	-729.85	2.85	-812.14
135	136	107.55	-3279.16	161.38	368.69	0	-1318.93	2.55	-883.53	2.55	-701.25	2.85	-767.89
136	136	107.55	-2818.56	163.98	797.66	0	-640.30	2.55	-1121.05	2.55	-697.46	2.85	-764.10
136	10137	110.90	-2753.64	194.37	146.45	0	-1113.19	2.55	-583.80	2.55	-639.48	2.85	-685.38
137	137	110.90	-2692.12	-173.90	180.40	0	-1052.13	2.55	-596.22	2.55	-632.32	2.85	-678.17
137	138	113.77	-2751.81	-147.85	688.95	0	-700.43	2.55	-968.78	2.55	-686.92	2.85	-752.48
138	138	113.77	-3204.64	-146.78	259.43	0	-1377.05	2.55	-728.86	2.55	-688.61	2.85	-754.14
138	139	116.64	-3196.55	-120.73	636.96	0	-1103.73	2.55	-978.43	2.55	-717.16	2.85	-798.13
139	139	116.64	-2218.82	-120.73	-480.36	0	-1581.92	2.55	-364.67	2.55	-270.37	2.85	-280.81
139	140	119.51	-2215.02	-94.69	-174.24	0	-1374.56	2.55	-523.07	2.55	-300.53	2.85	-326.67
140	140	119.51	-1255.73	-94.69	-927.28	0	-1648.35	2.55	331.52	2.55	0.00	2.85	0.00
140	141	122.38	-1255.73	-68.65	-692.91	0	-1439.60	2.55	39.88	2.55	0.00	2.85	0.00
141	141	122.38	-1255.73	-68.65	-692.91	0	-1439.60	2.55	39.88	2.55	0.00	2.85	0.00
141	142	125.25	-1255.73	-42.60	-533.32	0	-1297.44	2.55	-158.72	2.55	0.00	2.85	0.00
142	142	125.25	-1255.73	-42.60	-533.32	0	-1297.44	2.55	-158.72	2.55	0.00	2.85	0.00
142	143	128.12	-1255.73	-16.55	-448.46	0	-1221.85	2.55	-264.33	2.55	0.00	2.85	0.00
143	143	128.12	-1255.73	-16.55	-448.46	0	-1221.85	2.55	-264.33	2.55	0.00	2.85	0.00
143	144	130.99	-1255.73	9.48	-438.36	0	-1212.85	2.55	-276.90	2.55	0.00	2.85	0.00
144	144	130.99	-1255.73	9.48	-438.36	0	-1212.85	2.55	-276.90	2.55	0.00	2.85	0.00
144	145	133.86	-1255.73	35.53	-503.00	0	-1270.43	2.55	-196.45	2.55	0.00	2.85	0.00
145	145	133.86	-1049.85	35.53	-314.82	0	-967.97	2.55	-295.79	2.55	0.00	2.85	0.00
145	146	136.73	-1049.85	61.58	-454.22	0	-1092.14	2.55	-122.33	2.55	0.00	2.85	0.00
146	146	136.73	-603.76	61.58	-25.09	0	-417.76	2.55	-364.19	2.55	0.00	2.85	0.00
146	147	139.60	-603.76	87.63	-239.25	0	-608.52	2.55	-97.69	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1E.F3.T0.MZ-

Construcción SIN gradiente en fase constructiva 3 HIPOTESIS E

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [1; 1]PPLF3 + [.9; 1.1]PRETF3C.ISO.To + [.9; 1.1]PRETF3C.HIP.To + [.9; 1.1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
1	1	0.00	-629.39	-76.19	-226.13	0	-613.62	2.55	-130.80	2.55	0.00	2.85	0.00
1	2	2.62	-629.39	-48.39	-68.21	0	-472.95	2.55	-327.31	2.55	0.00	2.85	0.00
2	2	2.62	-856.95	-48.39	-287.12	0	-816.97	2.55	-203.94	2.55	0.00	2.85	0.00
2	3	5.24	-856.95	-24.60	-191.48	0	-731.78	2.55	-322.95	2.55	0.00	2.85	0.00
3	3	5.24	-1084.50	-24.60	-410.39	0	-1075.81	2.55	-199.56	2.55	0.00	2.85	0.00
3	4	7.86	-1084.50	-0.83	-377.06	0	-1046.11	2.55	-241.04	2.55	0.00	2.85	0.00
4	4	7.86	-1084.50	-0.83	-377.06	0	-1046.11	2.55	-241.04	2.55	0.00	2.85	0.00
4	5	10.48	-1084.50	22.95	-406.02	0	-1071.91	2.55	-205.00	2.55	0.00	2.85	0.00
5	5	10.48	-1084.50	22.95	-406.02	0	-1071.91	2.55	-205.00	2.55	0.00	2.85	0.00
5	6	13.10	-1084.50	46.72	-497.26	0	-1153.18	2.55	-91.45	2.55	0.00	2.85	0.00
6	6	13.10	-1084.50	46.72	-497.26	0	-1153.18	2.55	-91.45	2.55	0.00	2.85	0.00
6	7	15.72	-1084.50	70.50	-650.82	0	-1289.96	2.55	99.63	2.55	0.00	2.85	0.00
7	7	15.72	-1084.50	70.50	-650.82	0	-1289.96	2.55	99.63	2.55	0.00	2.85	0.00
7	8	18.34	-1084.50	94.27	-866.65	0	-1482.21	2.55	368.21	2.55	0.00	2.85	0.00
8	8	18.34	-1747.91	94.27	51.67	0	-851.99	2.55	-655.19	2.55	-264.17	2.85	-280.92
8	9	20.96	-1751.17	118.04	-223.89	0	-1036.72	2.55	-518.83	2.55	-236.09	2.85	-238.27
9	9	20.96	-2599.28	118.04	441.86	0	-910.81	2.55	-887.43	2.55	-556.24	2.85	-608.94
9	10	23.58	-2605.32	141.83	106.17	0	-1150.62	2.55	-674.75	2.55	-529.21	2.85	-567.50
10	10	23.58	-2347.78	143.41	325.06	0	-797.66	2.55	-789.17	2.55	-521.43	2.85	-559.73
10	10011	26.20	-2303.08	167.18	-116.88	0	-1102.84	2.55	-476.22	2.55	-474.62	2.85	-495.18
11	11	26.20	-2304.36	-187.74	-116.42	0	-1102.95	2.55	-476.68	2.55	-475.02	2.85	-495.61
11	12	29.55	-2374.03	-157.35	516.30	0	-648.50	2.55	-990.53	2.55	-534.49	2.85	-575.94
12	12	29.55	-2839.92	-154.10	79.05	0	-1339.43	2.55	-747.08	2.55	-537.37	2.85	-578.86
12	13	32.90	-2832.19	-123.70	538.28	0	-993.37	2.55	-1098.66	2.55	-565.98	2.85	-622.89
13	13	32.90	-2310.09	-119.00	-603.03	0	-1758.59	2.55	-485.22	2.55	-208.00	2.85	-207.23
13	14	36.03	-2328.72	-90.20	-278.00	0	-1531.79	2.55	-704.84	2.55	-239.62	2.85	-252.34
14	14	36.03	-1918.68	-84.62	-1260.67	0	-2379.49	2.55	312.22	2.55	0.00	2.85	0.00
14	15	39.16	-1918.68	-56.20	-1040.33	0	-2183.23	2.55	38.04	2.55	0.00	2.85	0.00
15	15	39.16	-1918.68	-56.20	-1040.33	0	-2183.23	2.55	38.04	2.55	0.00	2.85	0.00
15	16	42.29	-1918.68	-27.80	-908.91	0	-2066.16	2.55	-125.51	2.55	0.00	2.85	0.00
16	16	42.29	-1918.68	-27.80	-908.91	0	-2066.16	2.55	-125.51	2.55	0.00	2.85	0.00
16	17	45.42	-1918.68	0.60	-866.40	0	-2028.30	2.55	-178.41	2.55	0.00	2.85	0.00
17	17	45.42	-1918.68	0.60	-866.40	0	-2028.30	2.55	-178.41	2.55	0.00	2.85	0.00
17	18	48.55	-1918.68	29.01	-912.80	0	-2069.63	2.55	-120.67	2.55	0.00	2.85	0.00
18	18	48.55	-1918.68	29.01	-912.80	0	-2069.63	2.55	-120.67	2.55	0.00	2.85	0.00
18	19	51.68	-1918.68	57.43	-1048.08	0	-2190.13	2.55	47.68	2.55	0.00	2.85	0.00
19	19	51.68	-1918.68	57.43	-1048.08	0	-2190.13	2.55	47.68	2.55	0.00	2.85	0.00
19	20	54.81	-1918.68	85.83	-1272.28	0	-2389.83	2.55	326.67	2.55	0.00	2.85	0.00
20	20	54.81	-2404.80	85.83	-201.89	0	-1529.78	2.55	-678.72	2.55	-279.54	2.85	-302.43
20	21	57.94	-2408.69	114.24	-511.95	0	-1760.99	2.55	-447.74	2.55	-258.92	2.85	-270.92
21	21	57.94	-2838.31	114.24	534.09	0	-1022.41	2.55	-1017.06	2.55	-578.57	2.85	-641.03
21	22	61.07	-2845.52	142.64	137.74	0	-1332.31	2.55	-676.90	2.55	-559.21	2.85	-610.97
22	22	61.07	-2343.57	136.51	577.83	0	-629.00	2.55	-910.08	2.55	-547.41	2.85	-599.34
22	10023	64.20	-2302.27	164.91	73.65	0	-1014.39	2.55	-441.52	2.55	-512.62	2.85	-552.42
23	23	64.20	-2389.46	-180.20	-0.51	0	-1134.29	2.55	-399.67	2.55	-515.93	2.85	-555.92
23	24	67.55	-2443.03	-149.80	594.30	0	-688.32	2.55	-929.76	2.55	-561.62	2.85	-617.63
24	24	67.55	-2952.31	-149.93	122.65	0	-1437.04	2.55	-667.74	2.55	-566.23	2.85	-622.44
24	25	70.90	-2944.59	-119.53	567.95	0	-1090.62	2.55	-1044.53	2.55	-588.86	2.85	-657.48
25	25	70.90	-2541.56	-115.50	-673.99	0	-2022.65	2.55	-378.36	2.55	-232.76	2.85	-243.95
25	26	74.23	-2537.95	-85.28	-342.54	0	-1775.26	2.55	-626.74	2.55	-254.76	2.85	-277.50
26	26	74.23	-2256.25	-76.83	-1422.88	0	-2745.05	2.55	292.99	2.55	0.00	2.85	0.00
26	27	77.56	-2256.25	-46.60	-1217.41	0	-2562.04	2.55	37.31	2.55	0.00	2.85	0.00
27	27	77.56	-2256.25	-46.60	-1217.41	0	-2562.04	2.55	37.31	2.55	0.00	2.85	0.00
27	28	80.89	-2260.02	-16.17	-1112.85	0	-2471.37	2.55	-95.27	2.55	0.00	2.85	0.00
28	28	80.89	-2260.02	-16.17	-1112.85	0	-2471.37	2.55	-95.27	2.55	0.00	2.85	0.00
28	29	84.22	-2260.02	14.05	-1109.31	0	-2468.22	2.55	-99.68	2.55	0.00	2.85	0.00
29	29	84.22	-2260.02	14.05	-1109.31	0	-2468.22	2.55	-99.68	2.55	0.00	2.85	0.00
29	30	87.55	-2260.02	44.26	-1206.41	0	-2554.71	2.55	21.15	2.55	0.00	2.85	0.00
30	30	87.55	-2260.02	44.26	-1206.41	0	-2554.71	2.55	21.15	2.55	0.00	2.85	0.00
30	31	90.88	-2260.02	74.49	-1404.12	0	-2730.81	2.55	267.18	2.55	0.00	2.85	0.00
31	31	90.88	-2260.02	74.49	-1404.12	0	-2730.81	2.55	267.18	2.55	0.00	2.85	0.00
31	32	94.21	-2260.02	104.71	-1702.48	0	-2996.57	2.55	638.46	2.55	0.00	2.85	0.00
32	32	94.21	-2633.99	104.70	-532.29	0	-1908.69	2.55	-633.33	2.55	-249.53	2.85	-257.10
32	33	97.54	-2638.13	134.92	-928.01	0	-2191.73	2.55	-377.60	2.55	-217.48	2.85	-208.36
33	33	97.54	-2954.03	134.92	222.08	0	-1285.99	2.55	-1001.84	2.55	-537.15	2.85	-578.49
33	34	100.87	-2961.71	165.14	-271.50	0	-1658.15	2.55	-622.40	2.55	-506.43	2.85	-531.29
34	34	100.87	-2436.64	159.11	203.59	0	-902.76	2.55	-880.31	2.55	-498.25	2.85	-523.17
34	10035	104.20	-2374.20	191.40	-414.87	0	-1357.44	2.55	-350.51	2.55	-445.70	2.85	-452.30
35	35	104.20	-2389.49	-197.24	-414.52	0	-1361.81	2.55	-355.13	2.55	-449.72	2.85	-456.34
35	36	107.55	-2439.96	-166.84	234.95	0	-897.74	2.55	-847.31	2.55	-509.38	2.85	-539.48
36	36	107.55	-2947.50	-169.43	-239.20	0	-1647.36	2.55	-584.33	2.55	-513.16	2.85	-543.27

CÁLCULO TENSIONAL

Hipótesis de cálculo:
CONST1E.F3.T0.MZ-

Construcción SIN gradiente en fase constructiva 3 HIPOTESIS E

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [1; 1]PPLF3 + [.9; 1.1]PRETF3C.ISO.To + [.9; 1.1]PRETF3C.HIP.To + [.9; 1.1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
36	37	110.90	-2939.79	-139.03	271.43	0	-1277.70	2.55	-926.00	2.55	-552.18	2.85	-602.94
37	37	110.90	-2492.74	-140.88	-937.81	0	-2153.31	2.55	-275.97	2.55	-194.20	2.85	-187.39
37	38	113.77	-2489.62	-114.83	-573.31	0	-1905.25	2.55	-470.31	2.55	-229.74	2.85	-241.23
38	38	113.77	-2184.36	-115.92	-1621.25	0	-2874.67	2.55	586.94	2.55	0.00	2.85	0.00
38	39	116.64	-2184.36	-89.88	-1325.95	0	-2611.64	2.55	219.47	2.55	0.00	2.85	0.00
39	39	116.64	-2184.36	-89.87	-1325.95	0	-2611.64	2.55	219.47	2.55	0.00	2.85	0.00
39	40	119.51	-2184.36	-63.82	-1105.39	0	-2415.17	2.55	-55.00	2.55	0.00	2.85	0.00
40	40	119.51	-2184.36	-63.82	-1105.39	0	-2415.17	2.55	-55.00	2.55	0.00	2.85	0.00
40	41	122.38	-2184.36	-37.77	-959.59	0	-2285.30	2.55	-236.44	2.55	0.00	2.85	0.00
41	41	122.38	-2184.36	-37.77	-959.59	0	-2285.30	2.55	-236.44	2.55	0.00	2.85	0.00
41	42	125.25	-2184.36	-11.74	-888.55	0	-2222.02	2.55	-324.84	2.55	0.00	2.85	0.00
42	42	125.25	-2184.36	-11.74	-888.55	0	-2222.02	2.55	-324.84	2.55	0.00	2.85	0.00
42	43	128.12	-2184.36	14.31	-892.25	0	-2225.32	2.55	-320.23	2.55	0.00	2.85	0.00
43	43	128.12	-2184.36	14.32	-892.25	0	-2225.32	2.55	-320.23	2.55	0.00	2.85	0.00
43	44	130.99	-2184.36	40.37	-970.72	0	-2295.22	2.55	-222.59	2.55	0.00	2.85	0.00
44	44	130.99	-1691.32	40.37	-543.75	0	-1592.00	2.55	-431.02	2.55	0.00	2.85	0.00
44	45	133.86	-1691.32	66.41	-696.97	0	-1728.48	2.55	-240.35	2.55	0.00	2.85	0.00
45	45	133.86	-1198.28	66.41	-246.34	0	-1004.20	2.55	-478.22	2.55	0.00	2.85	0.00
45	46	136.73	-1198.28	92.45	-474.32	0	-1207.26	2.55	-194.52	2.55	0.00	2.85	0.00
46	46	136.73	-705.24	92.45	-0.01	0	-461.88	2.55	-461.86	2.55	0.00	2.85	0.00
46	47	139.60	-705.24	120.97	-302.74	0	-731.53	2.55	-85.14	2.55	0.00	2.85	0.00
101	101	0.00	-667.32	-110.62	-264.43	0	-672.57	2.55	-107.97	2.55	0.00	2.85	0.00
101	102	2.62	-667.32	-84.07	-13.02	0	-448.63	2.55	-420.83	2.55	0.00	2.85	0.00
102	102	2.62	-1160.36	-84.07	-487.32	0	-1194.00	2.55	-153.51	2.55	0.00	2.85	0.00
102	103	5.24	-1160.36	-60.30	-298.19	0	-1025.54	2.55	-388.86	2.55	0.00	2.85	0.00
103	103	5.24	-1501.69	-60.30	-610.17	0	-1526.98	2.55	-224.17	2.55	0.00	2.85	0.00
103	104	7.86	-1501.69	-36.52	-483.36	0	-1414.02	2.55	-381.97	2.55	0.00	2.85	0.00
104	104	7.86	-1843.02	-36.52	-778.96	0	-1900.87	2.55	-237.67	2.55	0.00	2.85	0.00
104	105	10.48	-1843.02	-12.75	-714.43	0	-1843.39	2.55	-317.97	2.55	0.00	2.85	0.00
105	105	10.48	-1843.02	-12.75	-714.43	0	-1843.39	2.55	-317.97	2.55	0.00	2.85	0.00
105	106	13.10	-1843.02	11.04	-712.19	0	-1841.39	2.55	-320.76	2.55	0.00	2.85	0.00
106	106	13.10	-1843.02	11.04	-712.19	0	-1841.39	2.55	-320.76	2.55	0.00	2.85	0.00
106	107	15.72	-1843.02	34.81	-772.26	0	-1894.90	2.55	-246.01	2.55	0.00	2.85	0.00
107	107	15.72	-1843.02	34.81	-772.26	0	-1894.90	2.55	-246.01	2.55	0.00	2.85	0.00
107	108	18.34	-1843.02	58.59	-894.61	0	-2003.88	2.55	-93.76	2.55	0.00	2.85	0.00
108	108	18.34	-1843.02	58.59	-894.61	0	-2003.88	2.55	-93.76	2.55	0.00	2.85	0.00
108	109	20.96	-1843.02	82.36	-1079.26	0	-2168.35	2.55	136.02	2.55	0.00	2.85	0.00
109	109	20.96	-1843.02	82.36	-1079.26	0	-2168.35	2.55	136.02	2.55	0.00	2.85	0.00
109	110	23.58	-1843.02	106.14	-1326.20	0	-2388.31	2.55	443.32	2.55	0.00	2.85	0.00
110	110	23.58	-2407.19	105.37	-322.86	0	-1628.71	2.55	-560.67	2.55	-275.69	2.85	-296.33
110	111	26.20	-2410.45	129.15	-627.54	0	-1834.84	2.55	-403.15	2.55	-245.48	2.85	-250.49
111	111	26.20	-2891.74	127.38	348.54	0	-1200.83	2.55	-928.55	2.55	-558.77	2.85	-614.18
111	112	29.55	-2899.48	157.78	-123.04	0	-1541.32	2.55	-616.79	2.55	-522.40	2.85	-558.48
112	112	29.55	-2390.70	154.78	350.97	0	-791.42	2.55	-879.36	2.55	-518.28	2.85	-554.33
112	10113	32.90	-2344.80	185.18	-254.53	0	-1224.88	2.55	-419.29	2.55	-463.17	2.85	-477.46
113	113	32.90	-2293.36	-179.41	-216.66	0	-1162.14	2.55	-438.01	2.55	-459.60	2.85	-473.86
113	114	36.03	-2364.35	-149.18	340.72	0	-758.26	2.55	-914.89	2.55	-511.48	2.85	-542.59
114	114	36.03	-2816.43	-154.78	-61.22	0	-1399.71	2.55	-699.00	2.55	-520.43	2.85	-551.50
114	115	39.16	-2809.22	-126.38	373.15	0	-1071.10	2.55	-1035.98	2.55	-546.90	2.85	-592.24
115	115	39.16	-2295.69	-126.38	-803.20	0	-1883.49	2.55	-395.42	2.55	-181.25	2.85	-168.88
115	116	42.29	-2292.29	-97.98	-454.73	0	-1633.49	2.55	-623.44	2.55	-209.16	2.85	-211.29
116	116	42.29	-1919.07	-97.98	-1435.65	0	-2535.60	2.55	529.71	2.55	0.00	2.85	0.00
116	117	45.42	-1919.07	-69.58	-1173.44	0	-2302.05	2.55	203.42	2.55	0.00	2.85	0.00
117	117	45.42	-1919.07	-69.58	-1173.44	0	-2302.05	2.55	203.42	2.55	0.00	2.85	0.00
117	118	48.55	-1919.07	-41.16	-1000.14	0	-2147.68	2.55	-12.24	2.55	0.00	2.85	0.00
118	118	48.55	-1919.07	-41.16	-1000.14	0	-2147.68	2.55	-12.24	2.55	0.00	2.85	0.00
118	119	51.68	-1919.07	-12.76	-915.72	0	-2072.49	2.55	-117.29	2.55	0.00	2.85	0.00
119	119	51.68	-1919.07	-12.76	-915.72	0	-2072.49	2.55	-117.29	2.55	0.00	2.85	0.00
119	120	54.81	-1915.05	15.85	-920.31	0	-2073.94	2.55	-108.95	2.55	0.00	2.85	0.00
120	120	54.81	-1915.05	15.85	-920.31	0	-2073.94	2.55	-108.95	2.55	0.00	2.85	0.00
120	121	57.94	-1915.05	44.25	-1014.38	0	-2157.73	2.55	8.11	2.55	0.00	2.85	0.00
121	121	57.94	-1915.05	44.25	-1014.38	0	-2157.73	2.55	8.11	2.55	0.00	2.85	0.00
121	122	61.07	-1915.05	72.66	-1197.37	0	-2320.73	2.55	235.82	2.55	0.00	2.85	0.00
122	122	61.07	-2414.39	80.85	-128.82	0	-1483.37	2.55	-719.83	2.55	-289.43	2.85	-316.06
122	123	64.20	-2418.28	109.26	-423.31	0	-1702.44	2.55	-502.47	2.55	-269.63	2.85	-285.77
123	123	64.20	-2779.18	113.82	653.91	0	-900.94	2.55	-1080.29	2.55	-580.77	2.85	-647.10
123	124	67.55	-2786.90	144.22	227.74	0	-1231.30	2.55	-723.99	2.55	-558.61	2.85	-612.77
124	124	67.55	-2352.88	144.68	626.42	0	-597.08	2.55	-944.70	2.55	-553.85	2.85	-607.81
124	10125	70.90	-2309.68	175.09	56.90	0	-1026.61	2.55	-439.25	2.55	-512.24	2.85	-550.88
125	125	70.90	-2369.14	-171.99	-22.23	0	-1141.06	2.55	-388.26	2.55	-507.61	2.85	-546.06
125	126	74.23	-2436.84	-139.79	539.00	0	-718.74	2.55	-915.68	2.55	-552.06	2.85	-604.06

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1E.F3.T0.MZ-

Construcción SIN gradiente en fase constructiva 3 HIPOTESIS E

[1; 1]PPCF1 + [.95; 1.05]PRETF1A ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [1; 1]PPLF3 + [.9; 1.1]PRETF3C.ISO.To + [.9; 1.1]PRETF3C.HIP.To + [.9; 1.1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
126	126	74.23	-2969.10	-147.97	62.24	0	-1477.22	2.55	-659.63	2.55	-561.85	2.85	-613.67
126	127	77.56	-2961.43	-117.76	498.61	0	-1135.84	2.55	-1035.13	2.55	583.12	2.85	-646.64
127	127	77.56	-2524.87	-117.76	-746.19	0	-2059.49	2.55	-358.45	2.55	-217.89	2.85	-223.77
127	128	80.89	-2521.25	-87.53	-407.22	0	-1807.11	2.55	-610.51	2.55	-240.69	2.85	-258.52
128	128	80.89	-2260.40	-87.53	-1487.54	0	-2805.37	2.55	370.75	2.55	0.00	2.85	0.00
128	129	84.22	-2260.40	-57.31	-1246.38	0	-2590.55	2.55	70.64	2.55	0.00	2.85	0.00
129	129	84.22	-2260.40	-57.31	-1246.38	0	-2590.55	2.55	70.64	2.55	0.00	2.85	0.00
129	130	87.55	-2260.40	-27.10	-1105.84	0	-2465.37	2.55	-104.25	2.55	0.00	2.85	0.00
130	130	87.55	-2260.40	-27.09	-1105.84	0	-2465.37	2.55	-104.25	2.55	0.00	2.85	0.00
130	131	90.88	-2260.40	3.12	-1065.94	0	-2429.83	2.55	-153.89	2.55	0.00	2.85	0.00
131	131	90.88	-2260.40	3.12	-1065.94	0	-2429.83	2.55	-153.89	2.55	0.00	2.85	0.00
131	132	94.21	-2260.40	33.35	-1126.66	0	-2483.91	2.55	-78.34	2.55	0.00	2.85	0.00
132	132	94.21	-2260.40	33.35	-1126.66	0	-2483.91	2.55	-78.34	2.55	0.00	2.85	0.00
132	133	97.54	-2260.40	63.57	-1288.00	0	-2627.63	2.55	122.44	2.55	0.00	2.85	0.00
133	133	97.54	-2260.40	63.57	-1288.00	0	-2627.63	2.55	122.44	2.55	0.00	2.85	0.00
133	134	100.87	-2260.40	93.79	-1549.98	0	-2860.98	2.55	448.45	2.55	0.00	2.85	0.00
134	134	100.87	-2669.04	99.84	-379.59	0	-1827.97	2.55	-684.43	2.55	-279.64	2.85	-297.79
134	135	104.20	-2649.29	130.48	-760.47	0	-2094.74	2.55	-426.47	2.55	-243.29	2.85	-245.72
135	135	104.20	-2937.04	134.91	389.21	0	-1180.82	2.55	-1042.24	2.55	-555.61	2.85	-608.47
135	136	107.55	-2944.78	165.32	-107.65	0	-1554.79	2.55	-662.54	2.55	-524.38	2.85	-560.48
136	136	107.55	-2440.76	168.20	366.30	0	-806.34	2.55	-926.53	2.55	-521.47	2.85	-557.55
136	10137	110.90	-2387.64	198.59	-289.81	0	-1285.53	2.55	-391.96	2.55	-465.81	2.85	-480.79
137	137	110.90	-2342.38	-178.64	-251.82	0	-1224.57	2.55	-412.54	2.55	-463.86	2.85	-478.82
137	138	113.77	-2391.21	-152.59	261.81	0	-866.74	2.55	-782.74	2.55	-516.41	2.85	-551.46
138	138	113.77	-2923.37	-150.40	-212.21	0	-1623.62	2.55	-527.14	2.55	-526.60	2.85	-561.67
138	139	116.64	-2916.75	-124.35	176.90	0	-1344.15	2.55	-779.16	2.55	-557.27	2.85	-608.66
139	139	116.64	-2175.90	-124.35	-791.30	0	-1822.23	2.55	-248.47	2.55	-191.72	2.85	-185.40
139	140	119.51	-2172.78	-98.31	-474.22	0	-1608.84	2.55	-408.98	2.55	-223.71	2.85	-233.92
140	140	119.51	-1387.91	-98.31	-1090.34	0	-1880.17	2.55	447.87	2.55	0.00	2.85	0.00
140	141	122.38	-1387.91	-72.27	-845.57	0	-1662.14	2.55	143.27	2.55	0.00	2.85	0.00
141	141	122.38	-1387.91	-72.27	-845.57	0	-1662.14	2.55	143.27	2.55	0.00	2.85	0.00
141	142	125.25	-1387.91	-46.22	-675.56	0	-1510.70	2.55	-68.29	2.55	0.00	2.85	0.00
142	142	125.25	-1387.91	-46.22	-675.56	0	-1510.70	2.55	-68.29	2.55	0.00	2.85	0.00
142	143	128.12	-1387.91	-20.17	-580.28	0	-1425.84	2.55	-186.85	2.55	0.00	2.85	0.00
143	143	128.12	-1387.91	-20.17	-580.28	0	-1425.84	2.55	-186.85	2.55	0.00	2.85	0.00
143	144	130.99	-1387.91	5.86	-559.76	0	-1407.56	2.55	-212.38	2.55	0.00	2.85	0.00
144	144	130.99	-1387.91	5.86	-559.76	0	-1407.56	2.55	-212.38	2.55	0.00	2.85	0.00
144	145	133.86	-1387.91	31.91	-614.00	0	-1455.87	2.55	-144.90	2.55	0.00	2.85	0.00
145	145	133.86	-1160.36	31.91	-406.00	0	-1121.57	2.55	-254.70	2.55	0.00	2.85	0.00
145	146	136.73	-1160.36	57.96	-534.98	0	-1236.46	2.55	-94.19	2.55	0.00	2.85	0.00
146	146	136.73	-667.32	57.96	-60.69	0	-491.09	2.55	-361.51	2.55	0.00	2.85	0.00
146	147	139.60	-667.32	87.63	-264.43	0	-672.57	2.55	-107.97	2.55	0.00	2.85	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1E.F3.T0.MZ+

Construcción CON gradiente en fase constructiva 3 HIPOTESIS E

[1; 1]PPCF1 + [.95; 1.05]PRETF1A ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [1; 1]PPLF3 + [.9; 1.1]PRETF3C.ISO.To + [.9; 1.1]PRETF3C.HIP.To + [.9; 1.1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
1	1	0.00	-569.45	-76.19	-204.59	0	-555.18	2.55	-118.34	2.55	0.00	2.85	0.00
1	2	2.62	-569.45	-61.48	-12.38	0	-383.96	2.55	-357.53	2.55	0.00	2.85	0.00
2	2	2.62	-775.33	-61.48	-210.44	0	-695.22	2.55	-245.91	2.55	0.00	2.85	0.00
2	3	5.24	-775.33	-37.69	-80.49	0	-579.47	2.55	-407.61	2.55	0.00	2.85	0.00
3	3	5.24	-981.22	-37.69	-278.56	0	-890.73	2.55	-295.97	2.55	0.00	2.85	0.00
3	4	7.86	-981.22	-13.92	-210.92	0	-830.49	2.55	-380.14	2.55	0.00	2.85	0.00
4	4	7.86	-981.22	-13.92	-210.92	0	-830.49	2.55	-380.14	2.55	0.00	2.85	0.00
4	5	10.48	-981.22	9.86	-205.58	0	-825.73	2.55	-386.78	2.55	0.00	2.85	0.00
5	5	10.48	-981.22	9.86	-205.58	0	-825.73	2.55	-386.78	2.55	0.00	2.85	0.00
5	6	13.10	-981.22	33.63	-262.53	0	-876.45	2.55	-315.92	2.55	0.00	2.85	0.00
6	6	13.10	-981.22	33.63	-262.53	0	-876.45	2.55	-315.92	2.55	0.00	2.85	0.00
6	7	15.72	-981.22	57.41	-381.78	0	-982.68	2.55	-167.52	2.55	0.00	2.85	0.00
7	7	15.72	-981.22	57.41	-381.78	0	-982.68	2.55	-167.52	2.55	0.00	2.85	0.00
7	8	18.34	-981.22	81.18	-563.31	0	-1144.37	2.55	58.38	2.55	0.00	2.85	0.00
8	8	18.34	-1864.29	81.18	489.59	0	-594.70	2.55	-782.19	2.55	-375.09	2.85	-421.85
8	9	20.96	-1868.27	104.95	248.88	0	-759.80	2.55	-652.09	2.55	-352.45	2.85	-387.29
9	9	20.96	-2904.85	104.95	1062.59	0	-605.90	2.55	-1102.60	2.55	-743.74	2.85	-840.34
9	10	23.58	-2912.24	128.74	762.26	0	-825.98	2.55	-896.46	2.55	-722.39	2.85	-807.26
10	10	23.58	-2703.14	129.18	960.65	0	-513.58	2.55	-1007.18	2.55	-721.60	2.85	-806.51
10	10011	26.20	-2648.50	152.95	548.19	0	-799.00	2.55	-696.38	2.55	-676.66	2.85	-746.06
11	11	26.20	-2672.88	-178.05	548.81	0	-805.93	2.55	-703.76	2.55	-683.07	2.85	-752.52
11	12	29.55	-2758.03	-147.66	1161.24	0	-367.64	2.55	-1218.71	2.55	-743.49	2.85	-832.26
12	12	29.55	-3185.54	-145.64	765.24	0	-994.78	2.55	-1000.17	2.55	-747.59	2.85	-836.36
12	13	32.90	-3176.09	-115.24	1194.76	0	-665.13	2.55	-1346.08	2.55	-771.28	2.85	-873.22
13	13	32.90	-2381.65	-112.79	-80.51	0	-1399.50	2.55	-652.85	2.55	-327.35	2.85	-358.68
13	14	36.03	-2355.46	-84.76	225.10	0	-1170.37	2.55	-855.73	2.55	-344.43	2.85	-387.78
14	14	36.03	-1735.96	-82.19	-861.92	0	-1904.65	2.55	-64.32	2.55	0.00	2.85	0.00
14	15	39.16	-1735.96	-53.77	-649.18	0	-1715.15	2.55	-329.06	2.55	0.00	2.85	0.00
15	15	39.16	-1735.96	-53.77	-649.18	0	-1715.15	2.55	-329.06	2.55	0.00	2.85	0.00
15	16	42.29	-1735.96	-25.37	-525.35	0	-1604.85	2.55	-483.15	2.55	0.00	2.85	0.00
16	16	42.29	-1735.96	-25.37	-525.35	0	-1604.85	2.55	-483.15	2.55	0.00	2.85	0.00
16	17	45.42	-1735.96	3.04	-490.44	0	-1573.75	2.55	-526.60	2.55	0.00	2.85	0.00
17	17	45.42	-1735.96	3.04	-490.44	0	-1573.75	2.55	-526.60	2.55	0.00	2.85	0.00
17	18	48.55	-1735.96	31.44	-544.42	0	-1621.84	2.55	-459.42	2.55	0.00	2.85	0.00
18	18	48.55	-1735.96	31.44	-544.42	0	-1621.84	2.55	-459.42	2.55	0.00	2.85	0.00
18	19	51.68	-1735.96	59.86	-687.31	0	-1749.11	2.55	-281.61	2.55	0.00	2.85	0.00
19	19	51.68	-1735.96	59.86	-687.31	0	-1749.11	2.55	-281.61	2.55	0.00	2.85	0.00
19	20	54.81	-1735.96	88.26	-919.09	0	-1955.57	2.55	6.83	2.55	0.00	2.85	0.00
20	20	54.81	-2462.56	88.26	274.46	0	-1192.85	2.55	-834.22	2.55	-388.35	2.85	-439.85
20	21	57.94	-2467.31	116.67	-42.53	0	-1428.26	2.55	-602.30	2.55	-366.92	2.85	-406.99
21	21	57.94	-3124.83	116.67	1114.93	0	-720.10	2.55	-1234.23	2.55	-757.60	2.85	-859.34
21	22	61.07	-3133.66	145.07	712.24	0	-1034.09	2.55	-893.46	2.55	-737.70	2.85	-828.26
22	22	61.07	-2714.87	137.97	1110.03	0	-408.53	2.55	-1114.92	2.55	-736.13	2.85	-826.82
22	10023	64.20	-2664.39	166.37	594.10	0	-797.88	2.55	-641.57	2.55	-697.20	2.85	-774.86
23	23	64.20	-2763.38	-179.26	527.53	0	-912.06	2.55	-609.80	2.55	-705.48	2.85	-783.35
23	24	67.55	-2828.85	-148.86	1128.57	0	-466.09	2.55	-1144.53	2.55	-755.20	2.85	-849.57
24	24	67.55	-3291.77	-149.33	701.63	0	-1144.25	2.55	-908.06	2.55	-759.89	2.85	-854.43
24	25	70.90	-3282.33	-118.93	1143.59	0	-799.23	2.55	-1283.77	2.55	-781.57	2.85	-888.26
25	25	70.90	-2596.00	-116.37	-222.17	0	-1684.32	2.55	-543.03	2.55	-339.52	2.85	-375.88
25	26	74.23	-2591.58	-86.15	111.53	0	-1435.41	2.55	-791.57	2.55	-361.65	2.85	-409.73
26	26	74.23	-2048.57	-81.21	-1065.24	0	-2290.47	2.55	-16.04	2.55	0.00	2.85	0.00
26	27	77.56	-2048.57	-50.98	-845.15	0	-2094.43	2.55	-289.92	2.55	0.00	2.85	0.00
27	27	77.56	-2048.57	-50.98	-845.15	0	-2094.43	2.55	-289.92	2.55	0.00	2.85	0.00
27	28	80.89	-2044.80	-20.97	-725.41	0	-1985.31	2.55	-436.46	2.55	0.00	2.85	0.00
28	28	80.89	-2044.80	-20.97	-725.41	0	-1985.31	2.55	-436.46	2.55	0.00	2.85	0.00
28	29	84.22	-2044.80	9.25	-705.90	0	-1967.93	2.55	-460.73	2.55	0.00	2.85	0.00
29	29	84.22	-2044.80	9.25	-705.90	0	-1967.93	2.55	-460.73	2.55	0.00	2.85	0.00
29	30	87.55	-2044.80	39.46	-787.04	0	-2040.21	2.55	-359.76	2.55	0.00	2.85	0.00
30	30	87.55	-2044.80	39.46	-787.04	0	-2040.21	2.55	-359.76	2.55	0.00	2.85	0.00
30	31	90.88	-2044.80	69.69	-968.79	0	-2202.10	2.55	-133.59	2.55	0.00	2.85	0.00
31	31	90.88	-2044.80	69.69	-968.79	0	-2202.10	2.55	-133.59	2.55	0.00	2.85	0.00
31	32	94.21	-2044.80	99.91	-1251.18	0	-2453.64	2.55	217.82	2.55	0.00	2.85	0.00
32	32	94.21	-2670.43	99.90	33.07	0	-1500.35	2.55	-812.34	2.55	-368.74	2.85	-410.09
32	33	97.54	-2675.49	130.12	-345.97	0	-1774.17	2.55	-559.77	2.55	-339.43	2.85	-365.36
33	33	97.54	-3230.15	130.12	905.63	0	-914.78	2.55	-1241.40	2.55	-730.15	2.85	-817.75
33	34	100.87	-3239.53	160.34	429.35	0	-1277.60	2.55	-865.47	2.55	-702.48	2.85	-774.91
34	34	100.87	-2767.24	157.81	858.60	0	-595.32	2.55	-1099.54	2.55	-695.70	2.85	-768.15
34	10035	104.20	-2731.01	185.94	243.65	0	-1055.82	2.55	-578.17	2.55	-650.47	2.85	-704.87
35	35	104.20	-2760.13	-188.03	244.62	0	-1063.96	2.55	-587.03	2.55	-658.17	2.85	-712.64
35	36	107.55	-2821.82	-157.63	872.02	0	-615.80	2.55	-1078.73	2.55	-717.42	2.85	-793.68
36	36	107.55	-3278.88	-159.63	443.05	0	-1293.38	2.55	-840.16	2.55	-720.29	2.85	-796.56

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1E.F3.T0.MZ+

Construcción CON gradiente en fase constructiva 3 HIPOTESIS E

[1. 1]PPCF1 + [.95. 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [1; 1]PPLF3 + [.9; 1.1]PRETF3C.ISO.To + [.9; 1.1]PRETF3C.HIP.To + [.9; 1.1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
36	37	110.90	-3269.45	-129.23	919.49	0	-942.67	2.55	-1175.39	2.55	-753.70	2.85	-848.03
37	37	110.90	-2540.64	-130.91	-416.17	0	-1775.63	2.55	-448.56	2.55	-309.35	2.85	-333.25
37	38	113.77	-2536.82	-104.86	-80.82	0	-1543.95	2.55	-637.64	2.55	-340.31	2.85	-380.31
38	38	113.77	-1976.32	-106.76	-1227.13	0	-2387.37	2.55	232.73	2.55	0.00	2.85	0.00
38	39	116.64	-1976.32	-80.72	-958.12	0	-2147.75	2.55	-102.03	2.55	0.00	2.85	0.00
39	39	116.64	-1976.32	-80.71	-958.12	0	-2147.75	2.55	-102.03	2.55	0.00	2.85	0.00
39	40	119.51	-1976.32	-54.66	-763.83	0	-1974.69	2.55	-343.80	2.55	0.00	2.85	0.00
40	40	119.51	-1976.32	-54.66	-763.83	0	-1974.69	2.55	-343.80	2.55	0.00	2.85	0.00
40	41	122.38	-1976.32	-28.61	-644.30	0	-1868.22	2.55	-492.54	2.55	0.00	2.85	0.00
41	41	122.38	-1976.32	-28.61	-644.30	0	-1868.22	2.55	-492.54	2.55	0.00	2.85	0.00
41	42	125.25	-1976.32	-2.58	-599.55	0	-1828.36	2.55	-548.23	2.55	0.00	2.85	0.00
42	42	125.25	-1976.32	-2.58	-599.55	0	-1828.36	2.55	-548.23	2.55	0.00	2.85	0.00
42	43	128.12	-1976.32	23.47	-629.54	0	-1855.07	2.55	-510.92	2.55	0.00	2.85	0.00
43	43	128.12	-1976.32	23.48	-629.54	0	-1855.07	2.55	-510.92	2.55	0.00	2.85	0.00
43	44	130.99	-1976.32	49.53	-734.29	0	-1948.38	2.55	-380.56	2.55	0.00	2.85	0.00
44	44	130.99	-1530.24	49.53	-347.98	0	-1312.13	2.55	-569.14	2.55	0.00	2.85	0.00
44	45	133.86	-1530.24	75.57	-527.49	0	-1472.02	2.55	-345.76	2.55	0.00	2.85	0.00
45	45	133.86	-1084.16	75.57	-119.78	0	-816.72	2.55	-560.98	2.55	0.00	2.85	0.00
45	46	136.73	-1084.16	101.61	-374.03	0	-1043.19	2.55	-244.58	2.55	0.00	2.85	0.00
46	46	136.73	-638.08	101.61	55.10	0	-368.80	2.55	-486.45	2.55	0.00	2.85	0.00
46	47	139.60	-638.08	120.97	-273.90	0	-661.86	2.55	-77.04	2.55	0.00	2.85	0.00
101	101	0.00	-603.76	-110.62	-239.25	0	-608.52	2.55	-97.69	2.55	0.00	2.85	0.00
101	102	2.62	-603.76	-94.07	38.38	0	-361.22	2.55	-443.17	2.55	0.00	2.85	0.00
102	102	2.62	-1049.85	-94.07	-390.74	0	-1035.60	2.55	-201.31	2.55	0.00	2.85	0.00
102	103	5.24	-1049.85	-70.30	-175.39	0	-843.78	2.55	-469.30	2.55	0.00	2.85	0.00
103	103	5.24	-1358.67	-70.30	-457.67	0	-1297.47	2.55	-320.29	2.55	0.00	2.85	0.00
103	104	7.86	-1358.67	-46.52	-304.64	0	-1161.16	2.55	-510.72	2.55	0.00	2.85	0.00
104	104	7.86	-1667.50	-46.52	-572.08	0	-1601.64	2.55	-380.16	2.55	0.00	2.85	0.00
104	105	10.48	-1667.50	-22.75	-481.34	0	-1520.81	2.55	-493.08	2.55	0.00	2.85	0.00
105	105	10.48	-1667.50	-22.75	-481.34	0	-1520.81	2.55	-493.08	2.55	0.00	2.85	0.00
105	106	13.10	-1667.50	1.04	-452.88	0	-1495.46	2.55	-528.50	2.55	0.00	2.85	0.00
106	106	13.10	-1667.50	1.04	-452.88	0	-1495.46	2.55	-528.50	2.55	0.00	2.85	0.00
106	107	15.72	-1667.50	24.81	-486.73	0	-1525.61	2.55	-486.37	2.55	0.00	2.85	0.00
107	107	15.72	-1667.50	24.81	-486.73	0	-1525.61	2.55	-486.37	2.55	0.00	2.85	0.00
107	108	18.34	-1667.50	48.59	-582.86	0	-1611.24	2.55	-366.75	2.55	0.00	2.85	0.00
108	108	18.34	-1667.50	48.59	-582.86	0	-1611.24	2.55	-366.75	2.55	0.00	2.85	0.00
108	109	20.96	-1667.50	72.36	-741.29	0	-1752.36	2.55	-169.60	2.55	0.00	2.85	0.00
109	109	20.96	-1667.50	72.36	-741.29	0	-1752.36	2.55	-169.60	2.55	0.00	2.85	0.00
109	110	23.58	-1667.50	96.14	-962.01	0	-1948.96	2.55	105.07	2.55	0.00	2.85	0.00
110	110	23.58	-2491.45	94.87	171.37	0	-1289.34	2.55	-727.74	2.55	-393.99	2.85	-444.55
110	111	26.20	-2495.43	118.65	-105.24	0	-1479.71	2.55	-575.31	2.55	-368.20	2.85	-405.26
111	111	26.20	-3220.56	117.16	989.44	0	-872.09	2.55	-1173.82	2.55	-758.62	2.85	-857.33
111	112	29.55	-3230.01	147.56	553.42	0	-1192.85	2.55	-868.73	2.55	-728.04	2.85	-810.12
112	112	29.55	-2773.14	145.29	982.17	0	-515.46	2.55	-1107.31	2.55	-725.19	2.85	-807.24
112	10113	32.90	-2717.04	175.69	400.49	0	-932.32	2.55	-648.33	2.55	-671.03	2.85	-733.12
113	113	32.90	-2652.14	-173.91	433.98	0	-870.51	2.55	-659.66	2.55	-662.93	2.85	-724.93
113	114	36.03	-2703.97	-147.32	990.00	0	-461.68	2.55	-1130.58	2.55	-709.63	2.85	-788.39
114	114	36.03	-3109.97	-149.92	626.83	0	-1040.87	2.55	-934.43	2.55	-717.02	2.85	-795.78
114	115	39.16	-3101.16	-121.52	1044.71	0	-721.17	2.55	-1268.08	2.55	-740.59	2.85	-832.37
115	115	39.16	-2329.03	-121.52	-261.00	0	-1501.84	2.55	-554.87	2.55	-293.69	2.85	-314.93
115	116	42.29	-2324.88	-93.12	71.64	0	-1260.63	2.55	-779.93	2.55	-319.01	2.85	-353.56
116	116	42.29	-1736.29	-93.12	-1012.83	0	-2039.27	2.55	123.25	2.55	0.00	2.85	0.00
116	117	45.42	-1736.29	-64.72	-765.86	0	-1819.29	2.55	-184.08	2.55	0.00	2.85	0.00
117	117	45.42	-1736.29	-64.72	-765.86	0	-1819.29	2.55	-184.08	2.55	0.00	2.85	0.00
117	118	48.55	-1736.29	-36.30	-607.79	0	-1678.49	2.55	-380.78	2.55	0.00	2.85	0.00
118	118	48.55	-1736.29	-36.30	-607.79	0	-1678.49	2.55	-380.78	2.55	0.00	2.85	0.00
118	119	51.68	-1736.29	-7.90	-538.59	0	-1616.86	2.55	-466.89	2.55	0.00	2.85	0.00
119	119	51.68	-1736.29	-7.90	-538.59	0	-1616.86	2.55	-466.89	2.55	0.00	2.85	0.00
119	120	54.81	-1740.31	20.29	-558.27	0	-1637.02	2.55	-445.03	2.55	0.00	2.85	0.00
120	120	54.81	-1740.31	20.29	-558.27	0	-1637.02	2.55	-445.03	2.55	0.00	2.85	0.00
120	121	57.94	-1740.31	48.69	-666.25	0	-1733.20	2.55	-310.66	2.55	0.00	2.85	0.00
121	121	57.94	-1740.31	48.69	-666.25	0	-1733.20	2.55	-310.66	2.55	0.00	2.85	0.00
121	122	61.07	-1740.31	77.10	-863.15	0	-1908.59	2.55	-65.63	2.55	0.00	2.85	0.00
122	122	61.07	-2512.45	82.13	330.58	0	-1168.17	2.55	-884.23	2.55	-406.17	2.85	-460.13
122	123	64.20	-2517.21	110.54	32.77	0	-1389.39	2.55	-666.56	2.55	-386.09	2.85	-429.30
123	123	64.20	-3128.56	113.64	1219.17	0	-628.66	2.55	-1311.08	2.55	-773.34	2.85	-878.03
123	124	67.55	-3138.00	144.04	794.94	0	-958.43	2.55	-955.63	2.55	-751.91	2.85	-844.59
124	124	67.55	-2744.30	144.17	1155.85	0	-384.21	2.55	-1155.06	2.55	-747.37	2.85	-839.88
124	10125	70.90	-2691.50	174.58	580.49	0	-814.18	2.55	-645.73	2.55	-702.39	2.85	-779.14
125	125	70.90	-2726.11	-172.99	508.35	0	-912.32	2.55	-593.78	2.55	-693.15	2.85	-769.68
125	126	74.23	-2770.24	-144.75	1083.10	0	-475.28	2.55	-1116.51	2.55	-733.53	2.85	-824.63

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CONST1E.F3.T0.MZ+

Construcción CON gradiente en fase constructiva 3 HIPOTESIS E

[1; 1]PPCF1 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]PRETF1B.HIP.To + [1; 1]PPLF2 + [1; 1]PPLF3 + [.9; 1.1]PRETF3C.ISO.To + [.9; 1.1]PRETF3C.HIP.To + [.9; 1.1]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	Fibra y fibra	InfCajón sig (t/m2)	Fibra y fibra	SupCajón sig (t/m2)	Fibra y fibra	InfLosa sig (t/m2)	Fibra y fibra	SupLosa sig (t/m2)
126	126	74.23	-3248.42	-149.98	652.40	0	-1160.13	2.55	-883.95	2.55	-741.61	2.85	-832.59
126	127	77.56	-3239.05	-119.77	1094.13	0	-815.19	2.55	-1259.87	2.55	-763.23	2.85	-866.34
127	127	77.56	-2536.91	-119.77	-273.23	0	-1696.47	2.55	-514.14	2.55	-316.65	2.85	-349.50
127	128	80.89	-2532.49	-89.54	71.80	0	-1440.40	2.55	-767.01	2.55	-340.35	2.85	-385.41
128	128	80.89	-2045.10	-89.54	-1102.96	0	-2321.81	2.55	33.17	2.55	0.00	2.85	0.00
128	129	84.22	-2045.10	-59.32	-855.10	0	-2101.03	2.55	-275.27	2.55	0.00	2.85	0.00
129	129	84.22	-2045.10	-59.32	-855.10	0	-2101.03	2.55	-275.27	2.55	0.00	2.85	0.00
129	130	87.55	-2045.10	-29.11	-707.85	0	-1969.87	2.55	-458.50	2.55	0.00	2.85	0.00
130	130	87.55	-2045.10	-29.10	-707.85	0	-1969.87	2.55	-458.50	2.55	0.00	2.85	0.00
130	131	90.88	-2045.10	1.11	-661.27	0	-1928.38	2.55	-516.47	2.55	0.00	2.85	0.00
131	131	90.88	-2045.10	1.11	-661.27	0	-1928.38	2.55	-516.47	2.55	0.00	2.85	0.00
131	132	94.21	-2045.10	31.34	-715.29	0	-1976.50	2.55	-449.25	2.55	0.00	2.85	0.00
132	132	94.21	-2045.10	31.34	-715.29	0	-1976.50	2.55	-449.25	2.55	0.00	2.85	0.00
132	133	97.54	-2045.10	61.56	-869.94	0	-2114.25	2.55	-256.81	2.55	0.00	2.85	0.00
133	133	97.54	-2045.10	61.56	-869.94	0	-2114.25	2.55	-256.81	2.55	0.00	2.85	0.00
133	134	100.87	-2045.10	91.78	-1125.22	0	-2341.64	2.55	60.87	2.55	0.00	2.85	0.00
134	134	100.87	-2700.18	94.33	160.49	0	-1432.44	2.55	-857.47	2.55	-393.66	2.85	-443.68
134	135	104.20	-2729.13	124.11	-198.54	0	-1701.30	2.55	-617.84	2.55	-373.23	2.85	-409.19
135	135	104.20	-3269.70	126.29	1053.86	0	-837.25	2.55	-1295.40	2.55	-760.42	2.85	-858.10
135	136	107.55	-3279.16	156.70	587.23	0	-1194.51	2.55	-921.45	2.55	-734.18	2.85	-817.41
136	136	107.55	-2818.56	158.43	1016.38	0	-515.78	2.55	-1158.99	2.55	-730.42	2.85	-813.65
136	10137	110.90	-2753.64	188.82	383.78	0	-978.08	2.55	-624.98	2.55	-675.24	2.85	-739.16
137	137	110.90	-2692.12	-165.34	417.95	0	-916.89	2.55	-637.43	2.55	-668.12	2.85	-732.00
137	138	113.77	-2751.81	-139.29	901.94	0	-579.17	2.55	-1005.73	2.55	-719.02	2.85	-800.74
138	138	113.77	-3204.64	-138.52	472.69	0	-1255.64	2.55	-765.85	2.55	-720.74	2.85	-802.46
138	139	116.64	-3196.55	-112.47	826.53	0	-995.81	2.55	-1011.32	2.55	-745.73	2.85	-841.08
139	139	116.64	-2218.82	-112.47	-290.79	0	-1474.00	2.55	-397.56	2.55	-298.93	2.85	-323.77
139	140	119.51	-2215.02	-86.43	-8.37	0	-1280.13	2.55	-551.85	2.55	-325.53	2.85	-364.25
140	140	119.51	-1255.73	-86.43	-761.41	0	-1500.60	2.55	125.11	2.55	0.00	2.85	0.00
140	141	122.38	-1255.73	-60.39	-550.73	0	-1312.95	2.55	-137.05	2.55	0.00	2.85	0.00
141	141	122.38	-1255.73	-60.39	-550.73	0	-1312.95	2.55	-137.05	2.55	0.00	2.85	0.00
141	142	125.25	-1255.73	-34.34	-414.84	0	-1191.91	2.55	-306.16	2.55	0.00	2.85	0.00
142	142	125.25	-1255.73	-34.34	-414.84	0	-1191.91	2.55	-306.16	2.55	0.00	2.85	0.00
142	143	128.12	-1255.73	-8.29	-353.68	0	-1137.43	2.55	-382.27	2.55	0.00	2.85	0.00
143	143	128.12	-1255.73	-8.29	-353.68	0	-1137.43	2.55	-382.27	2.55	0.00	2.85	0.00
143	144	130.99	-1255.73	17.74	-367.27	0	-1149.53	2.55	-365.36	2.55	0.00	2.85	0.00
144	144	130.99	-1255.73	17.74	-367.27	0	-1149.53	2.55	-365.36	2.55	0.00	2.85	0.00
144	145	133.86	-1255.73	43.79	-455.61	0	-1228.22	2.55	-255.42	2.55	0.00	2.85	0.00
145	145	133.86	-1049.85	43.79	-267.43	0	-925.76	2.55	-354.77	2.55	0.00	2.85	0.00
145	146	136.73	-1049.85	69.84	-430.52	0	-1071.03	2.55	-151.82	2.55	0.00	2.85	0.00
146	146	136.73	-603.76	69.84	-1.39	0	-396.65	2.55	-393.68	2.55	0.00	2.85	0.00
146	147	139.60	-603.76	87.63	-239.25	0	-608.52	2.55	-97.69	2.55	0.00	2.85	0.00

GRÁFICO DE TENSIONES

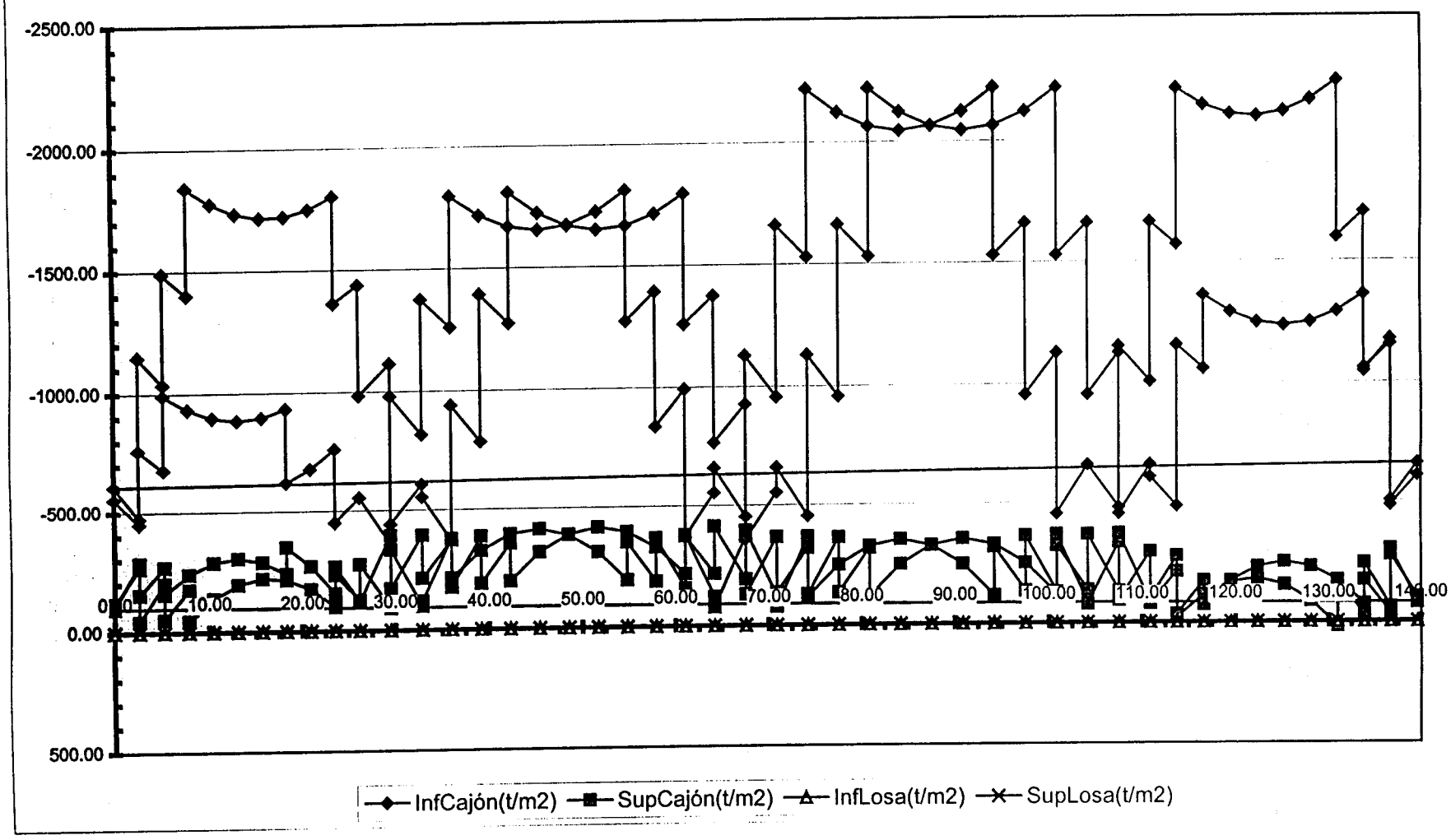


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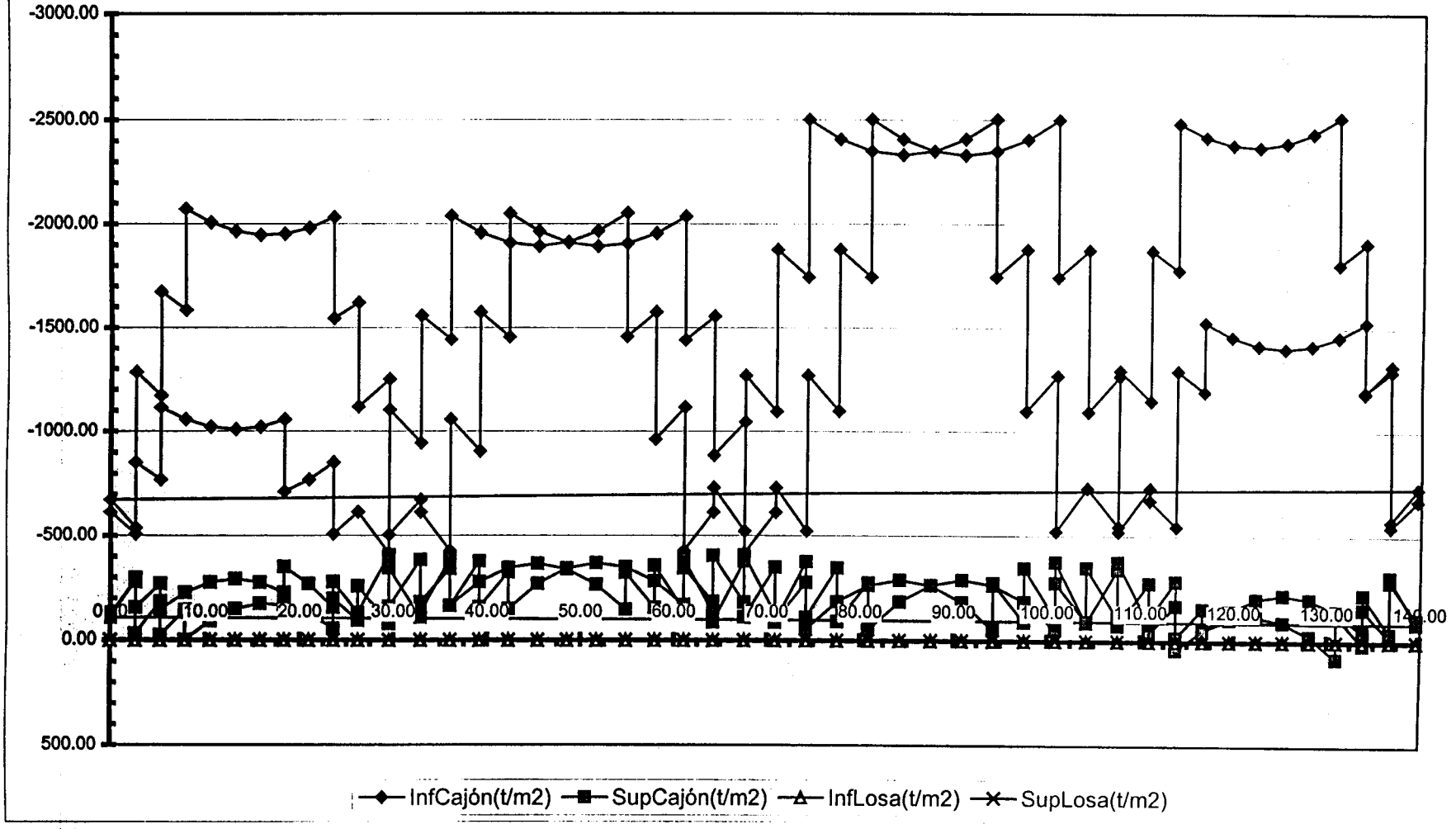
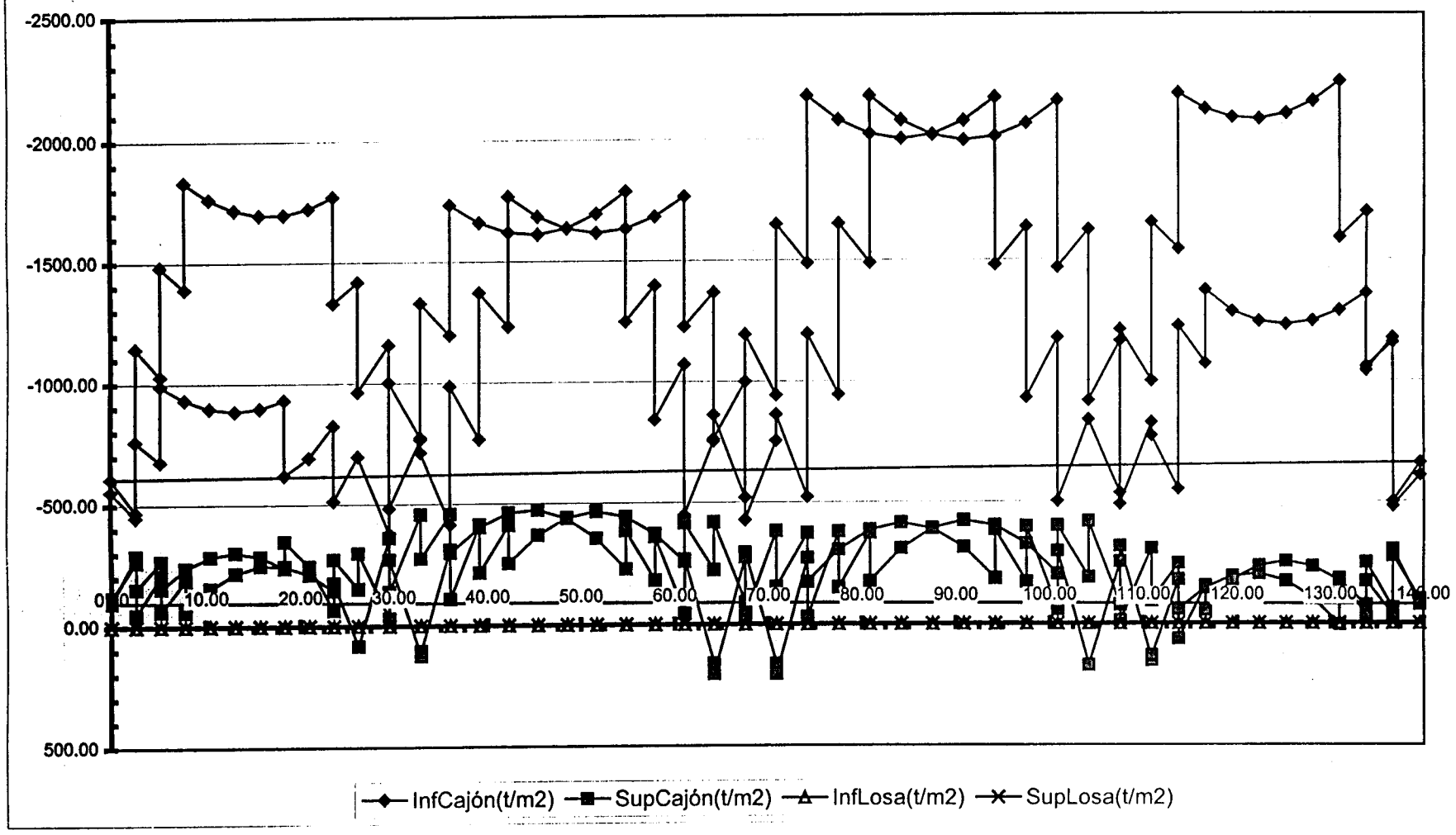


GRÁFICO DE TENSIONES



InfCajón(t/m2) SupCajón(t/m2) InfLosa(t/m2) SupLosa(t/m2)

GRÁFICO DE TENSIONES

Programa DINTEL IDEAM S.A.
CONST1B.F1.T0.MZ-

TCONST.xls

20/10/02

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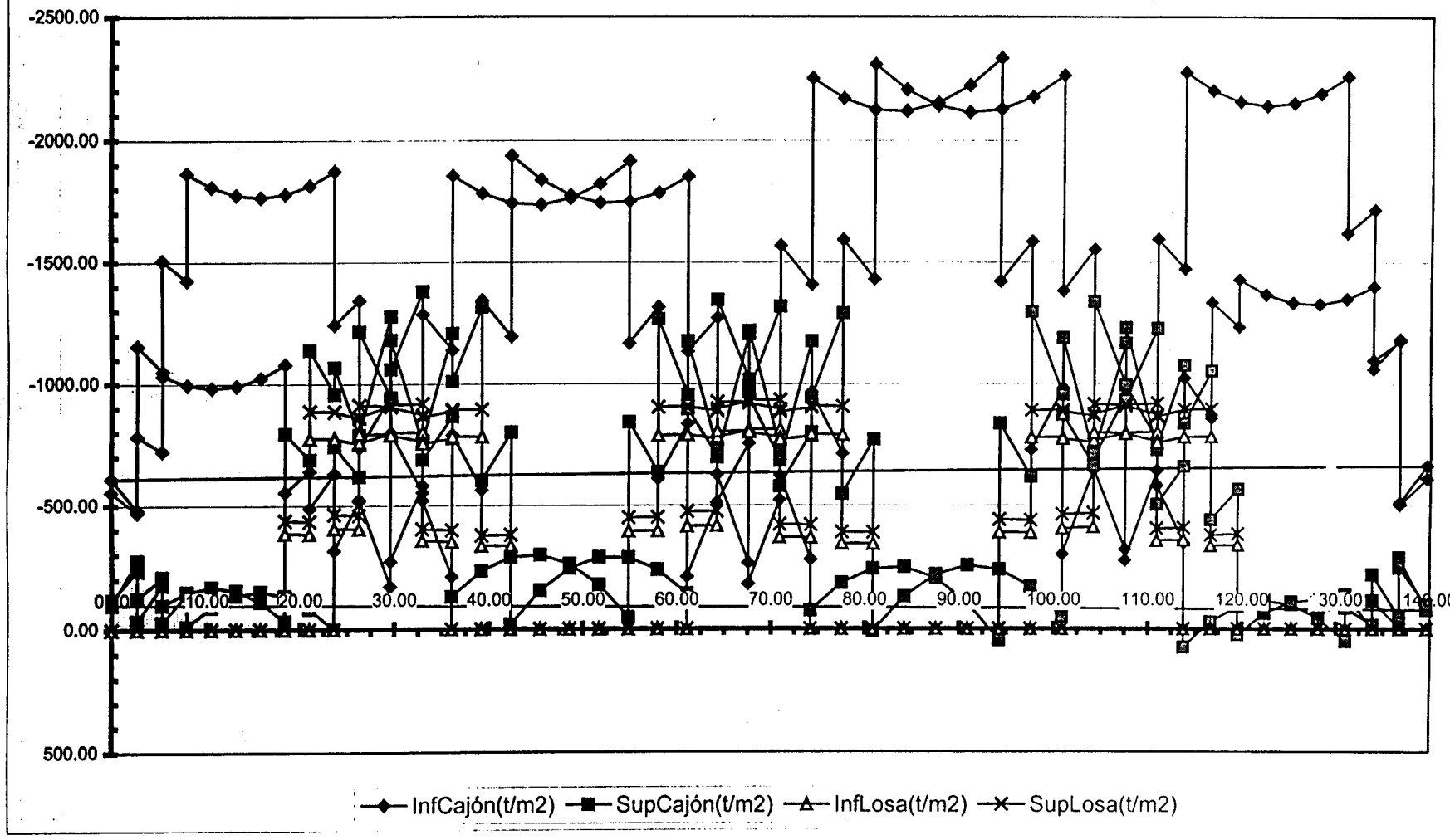


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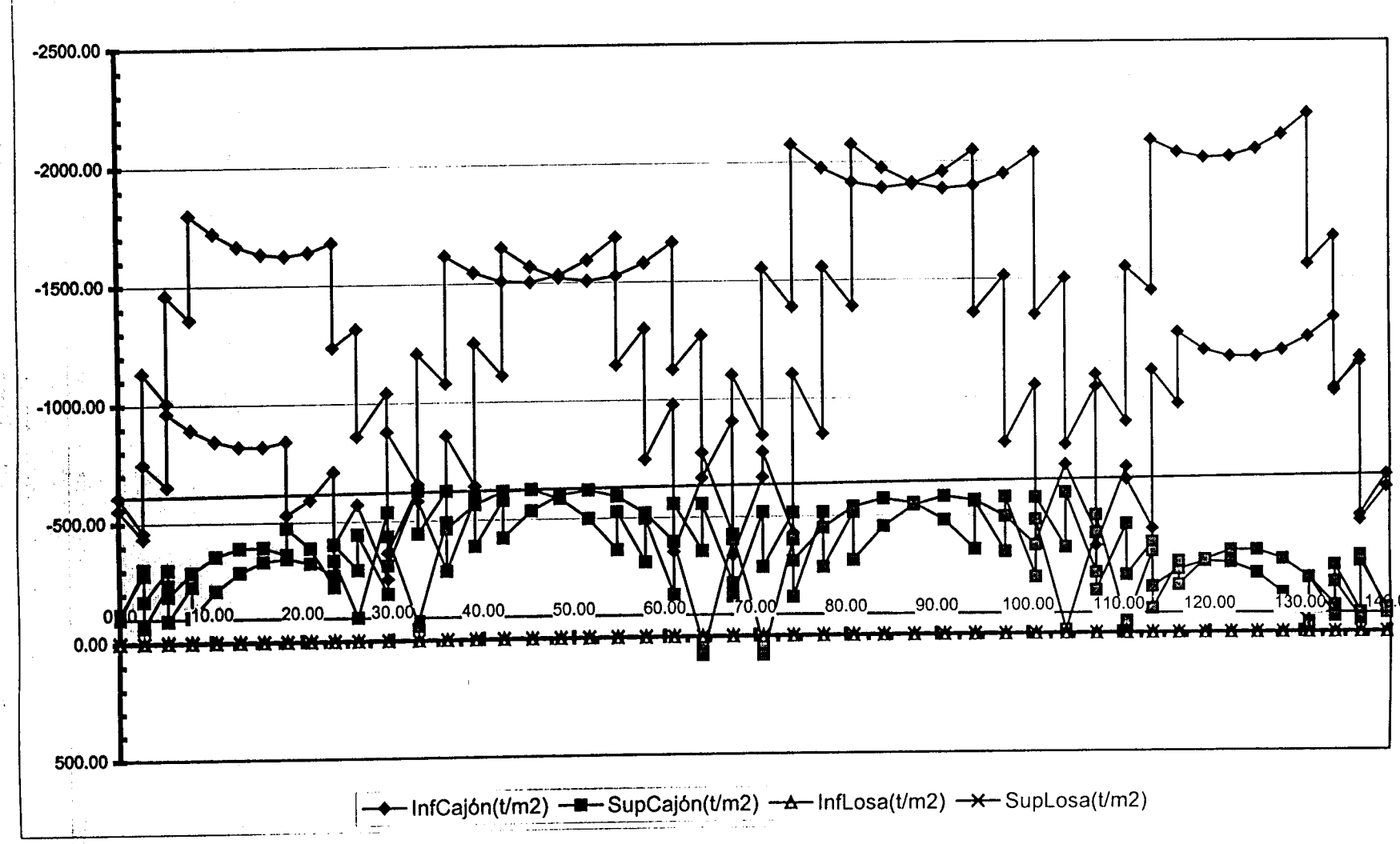


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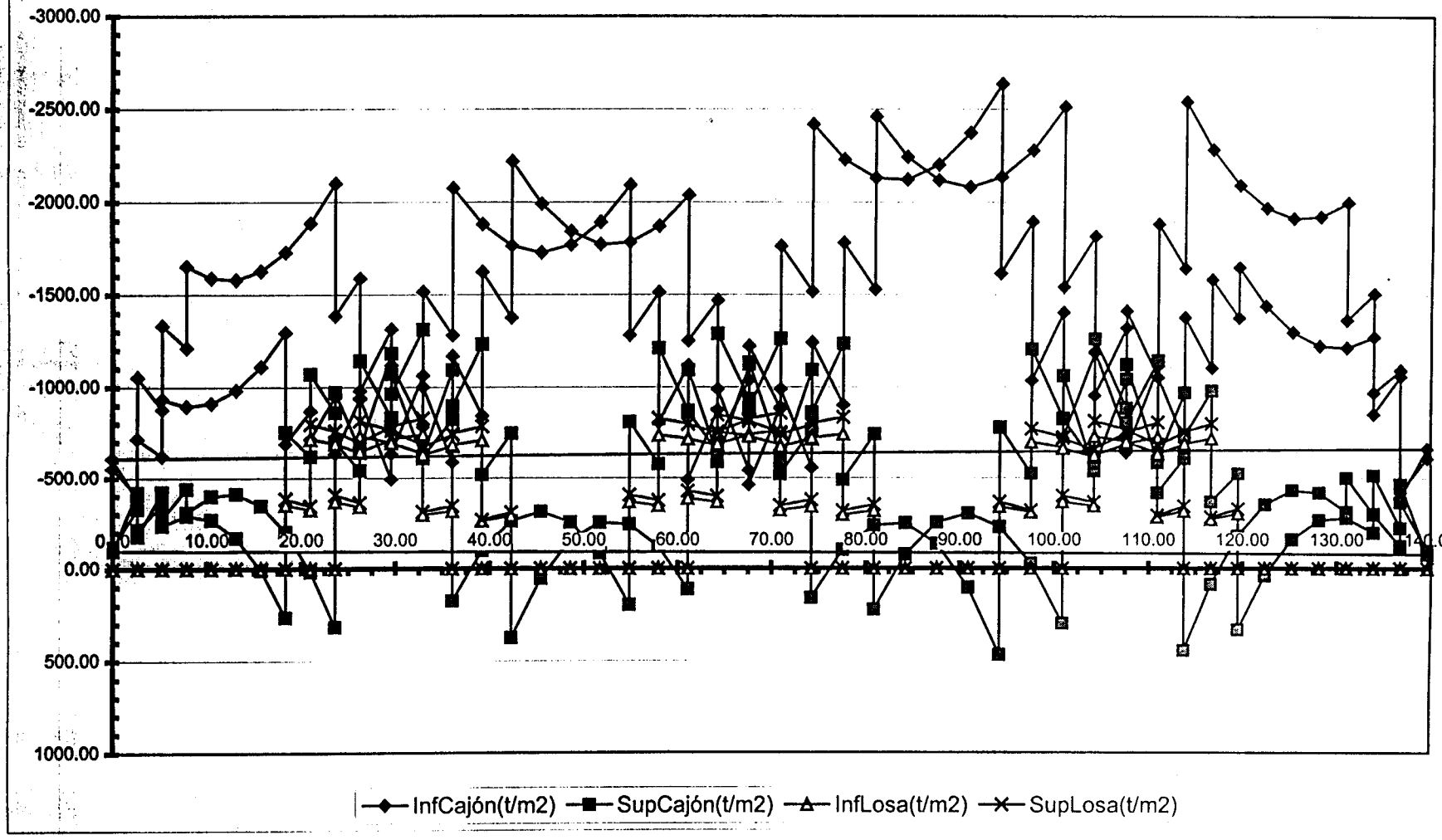


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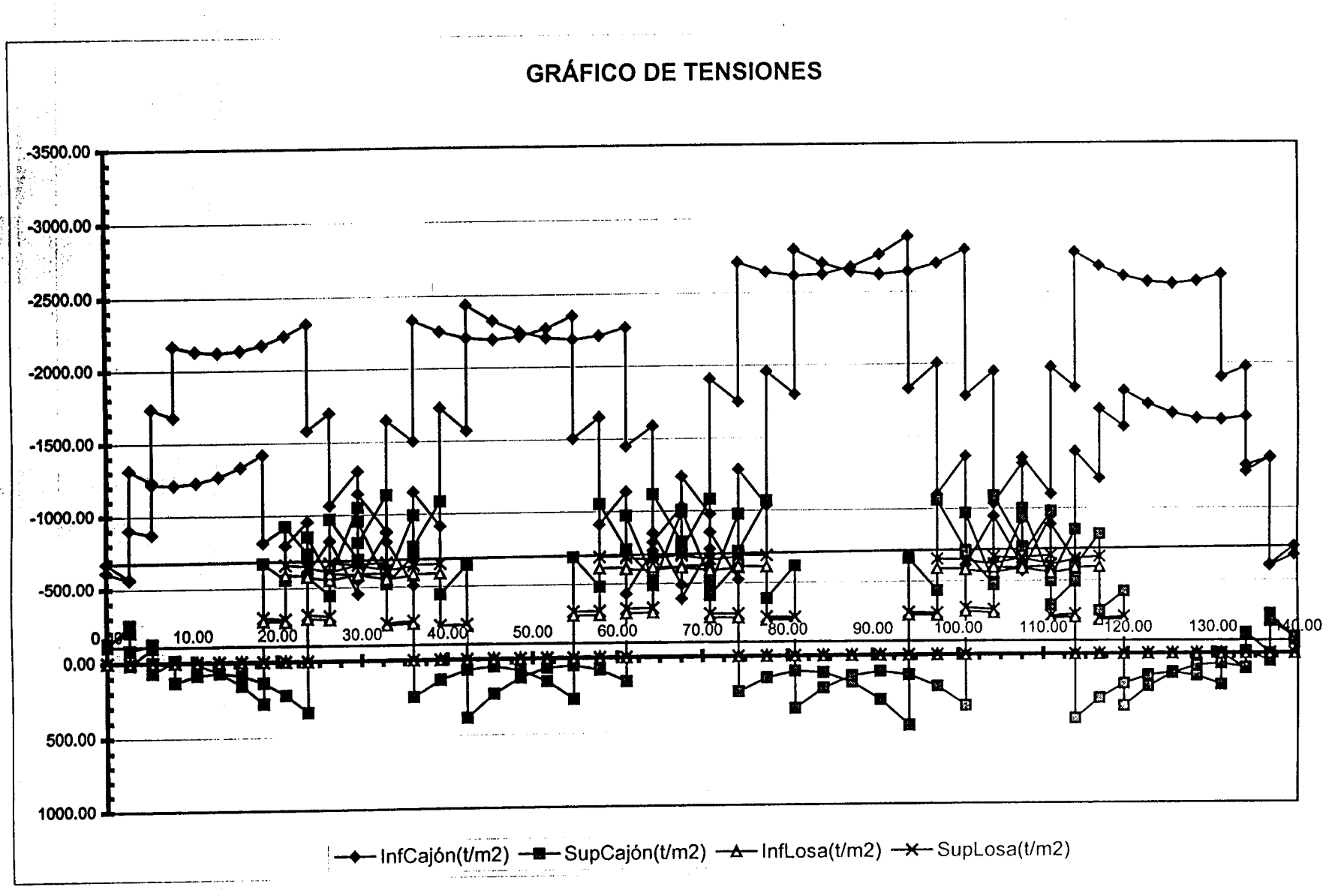


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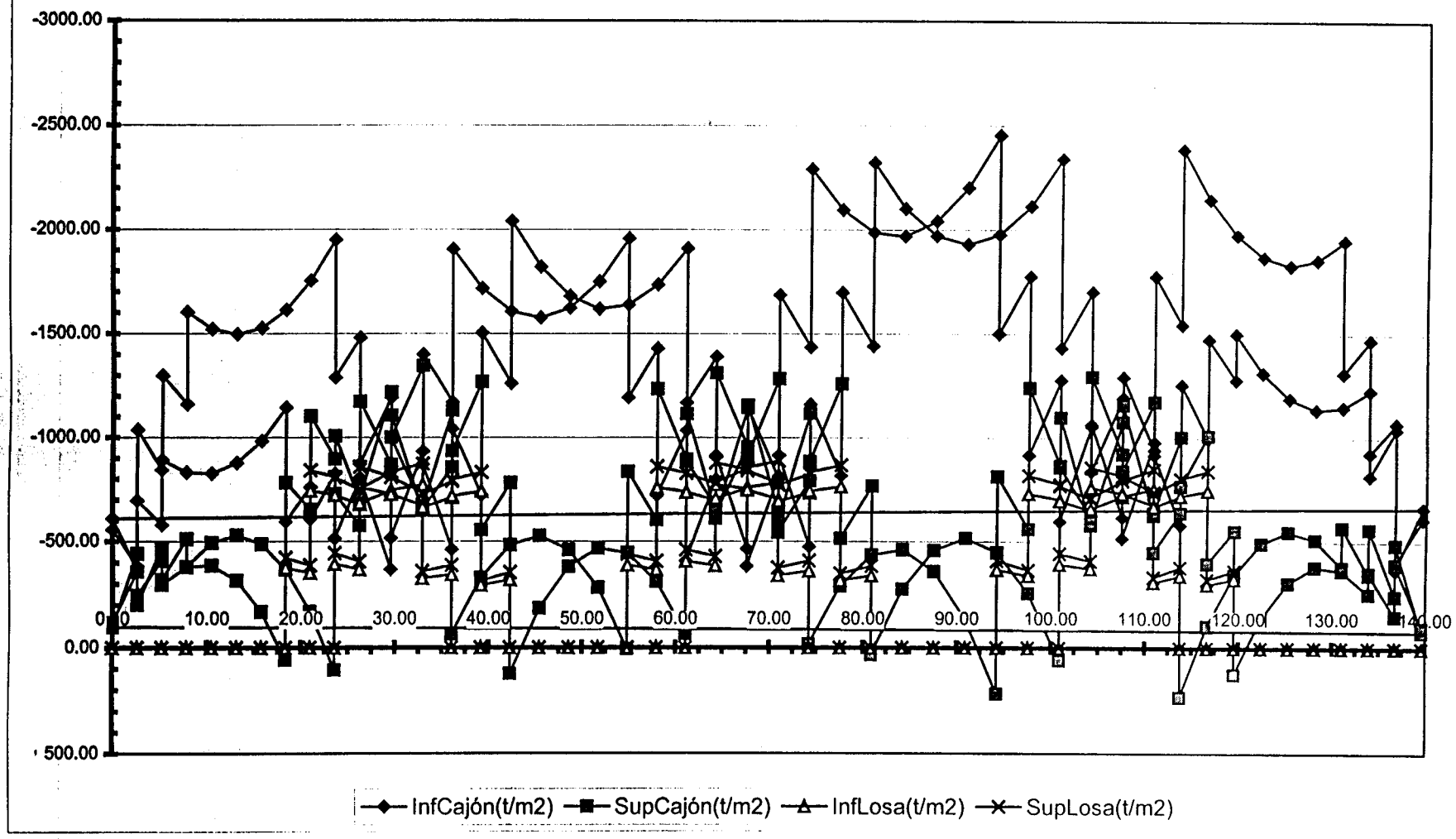


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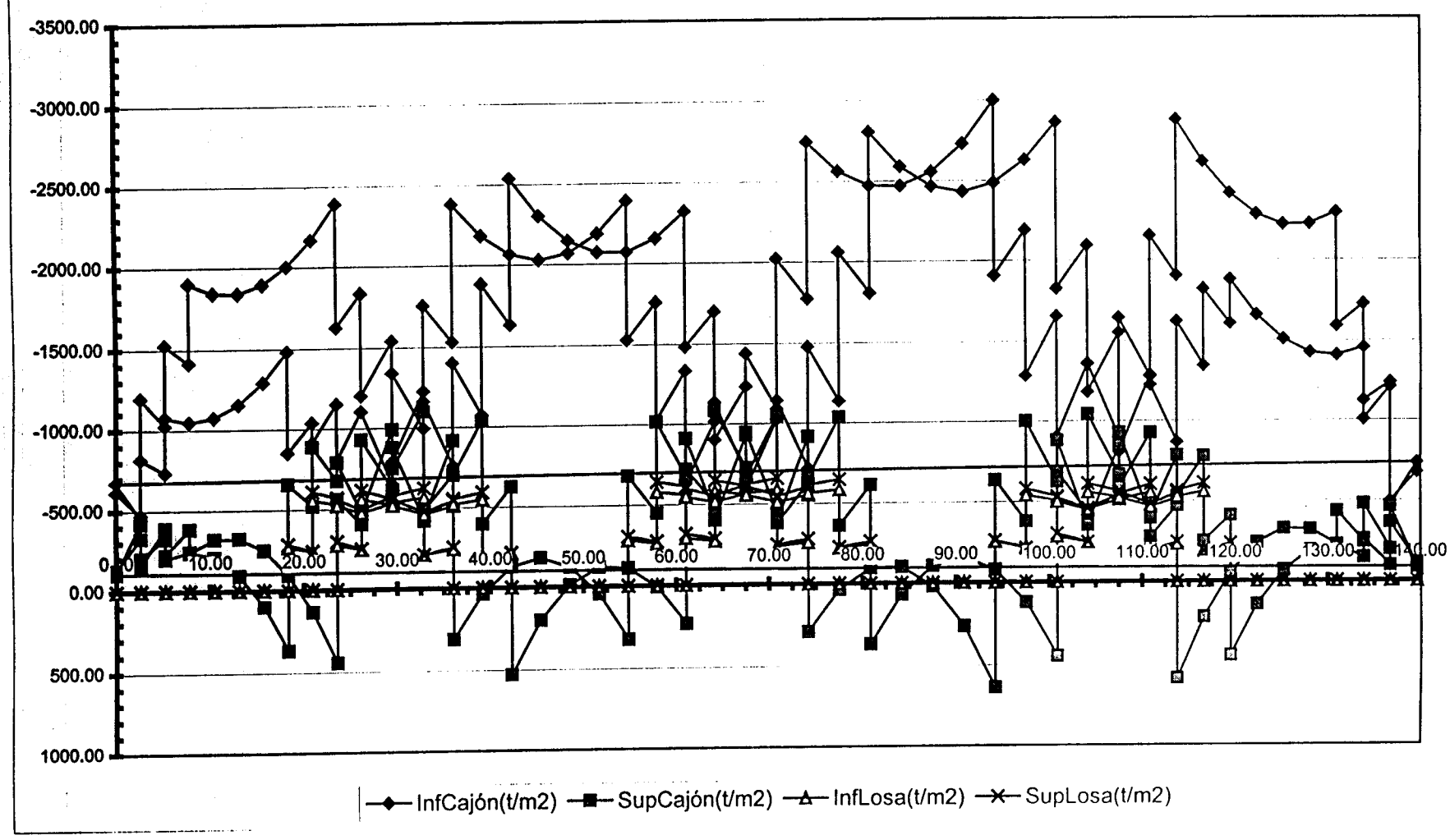


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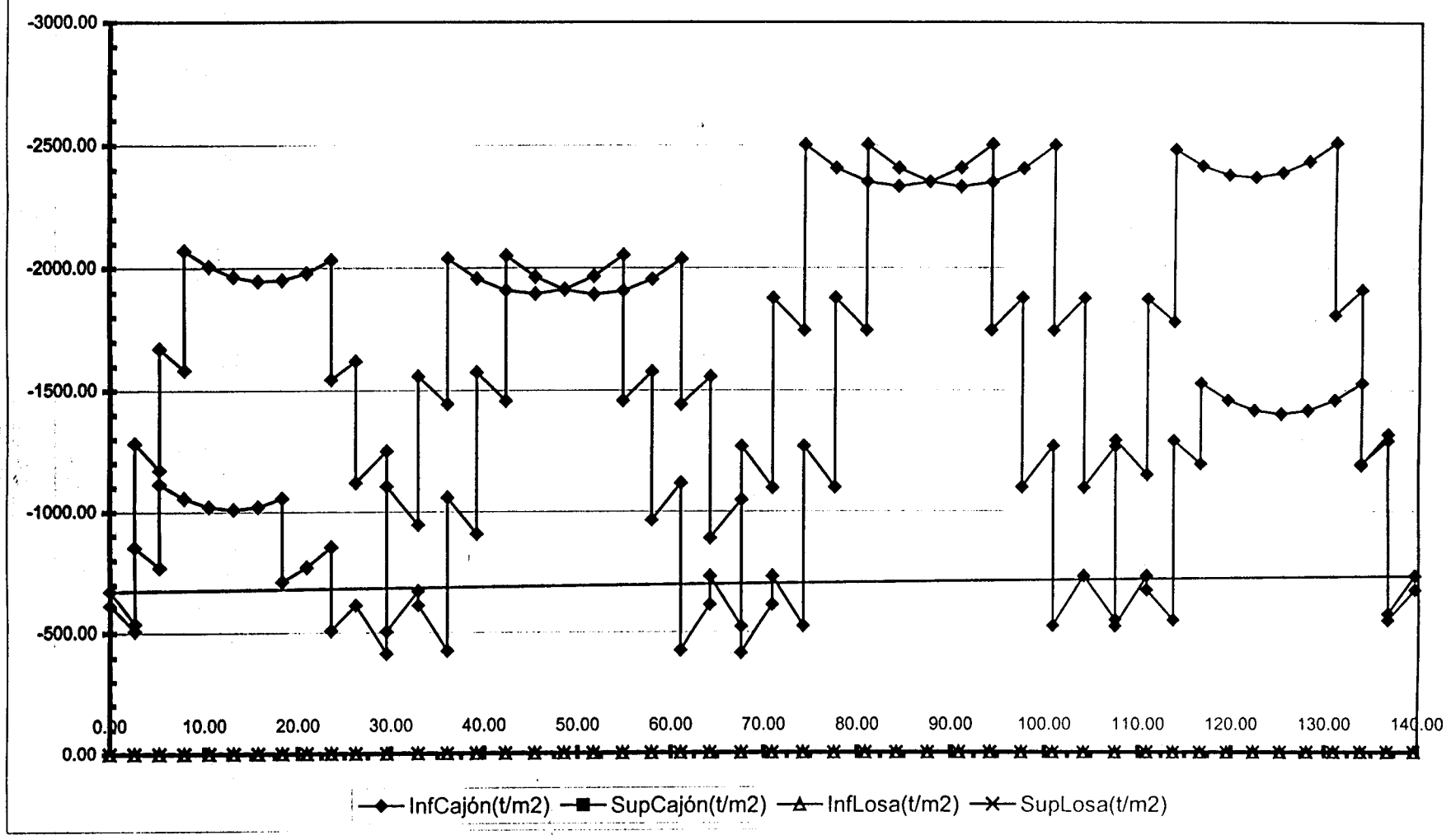


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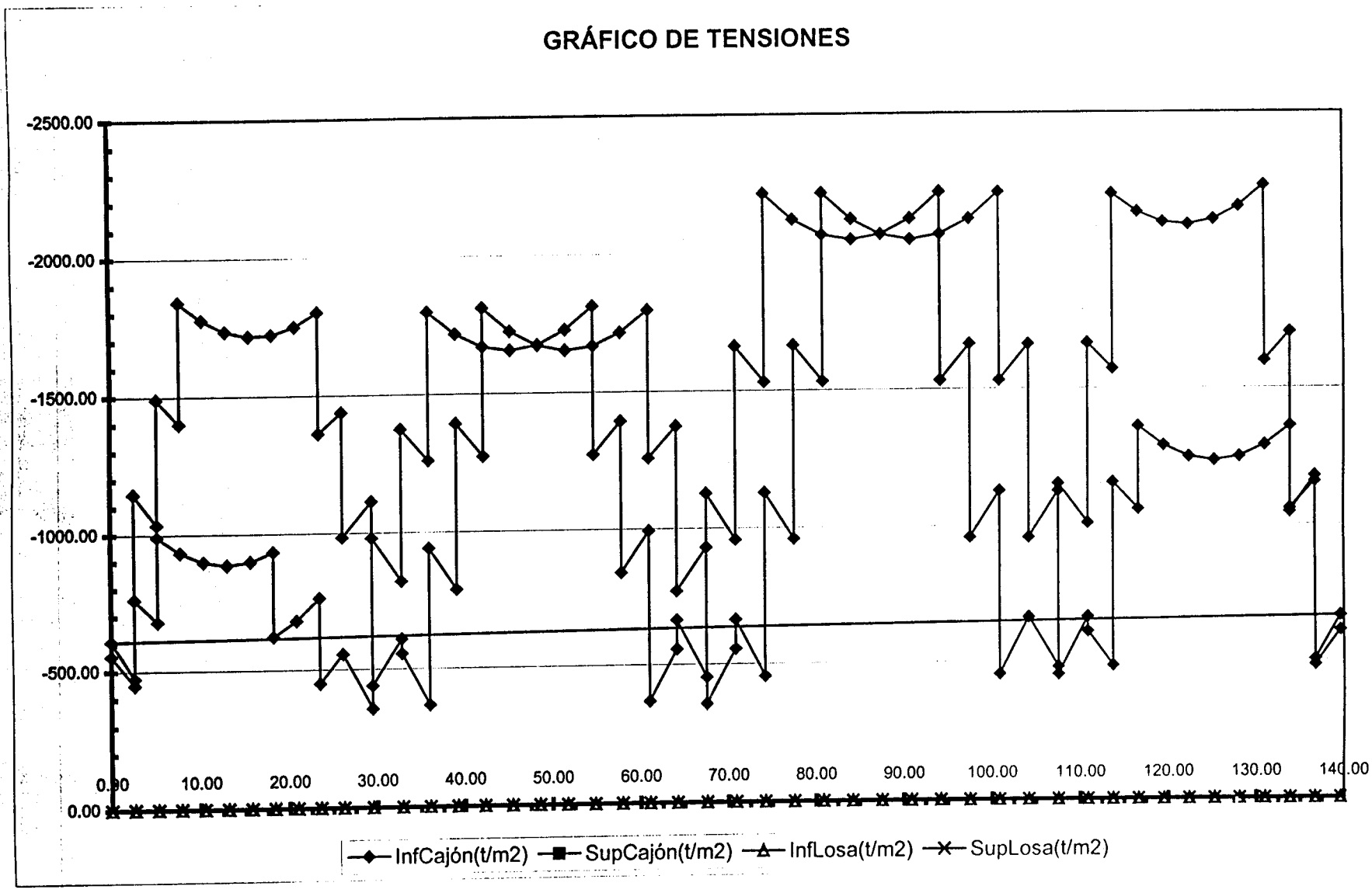


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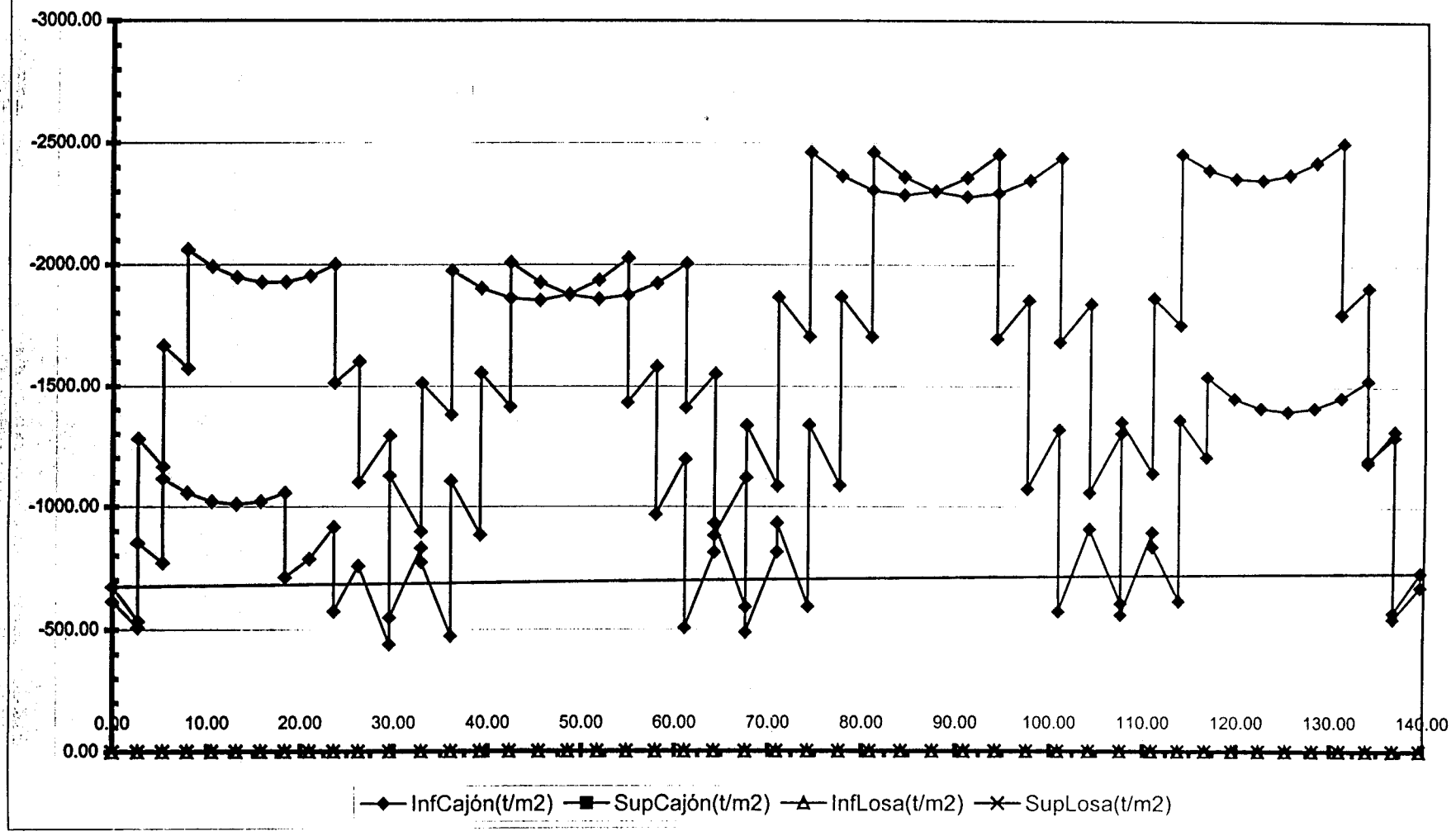


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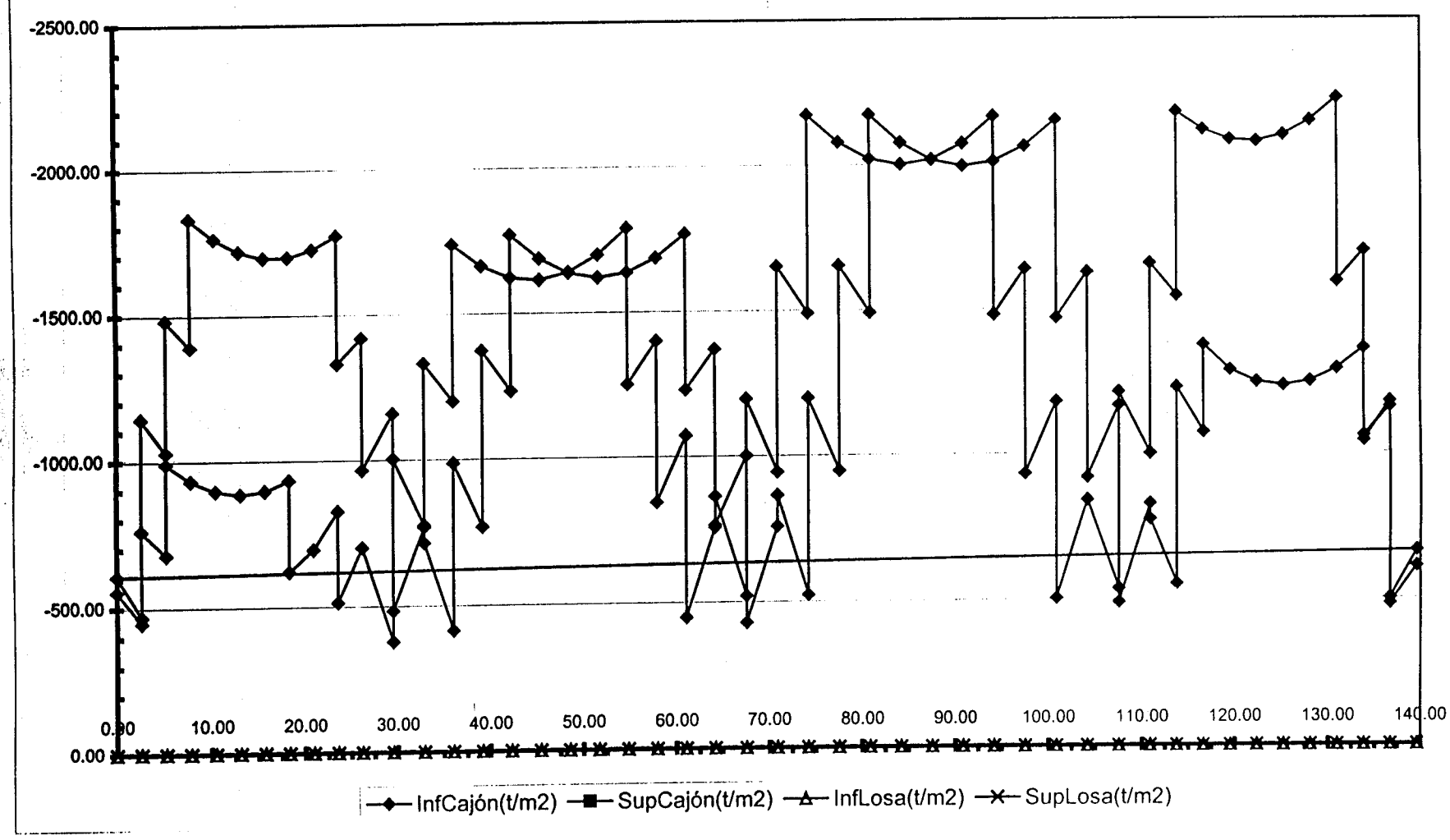


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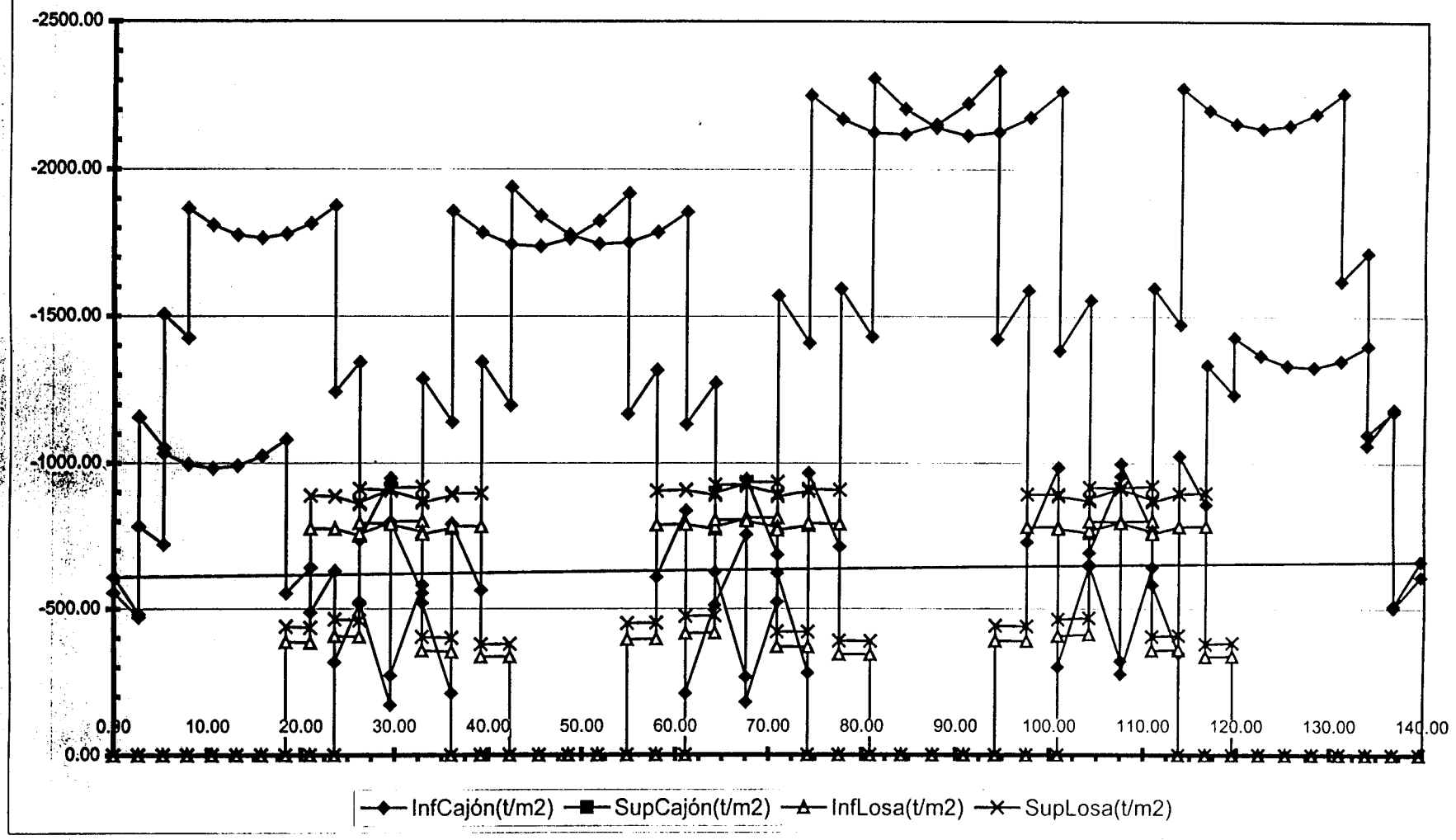


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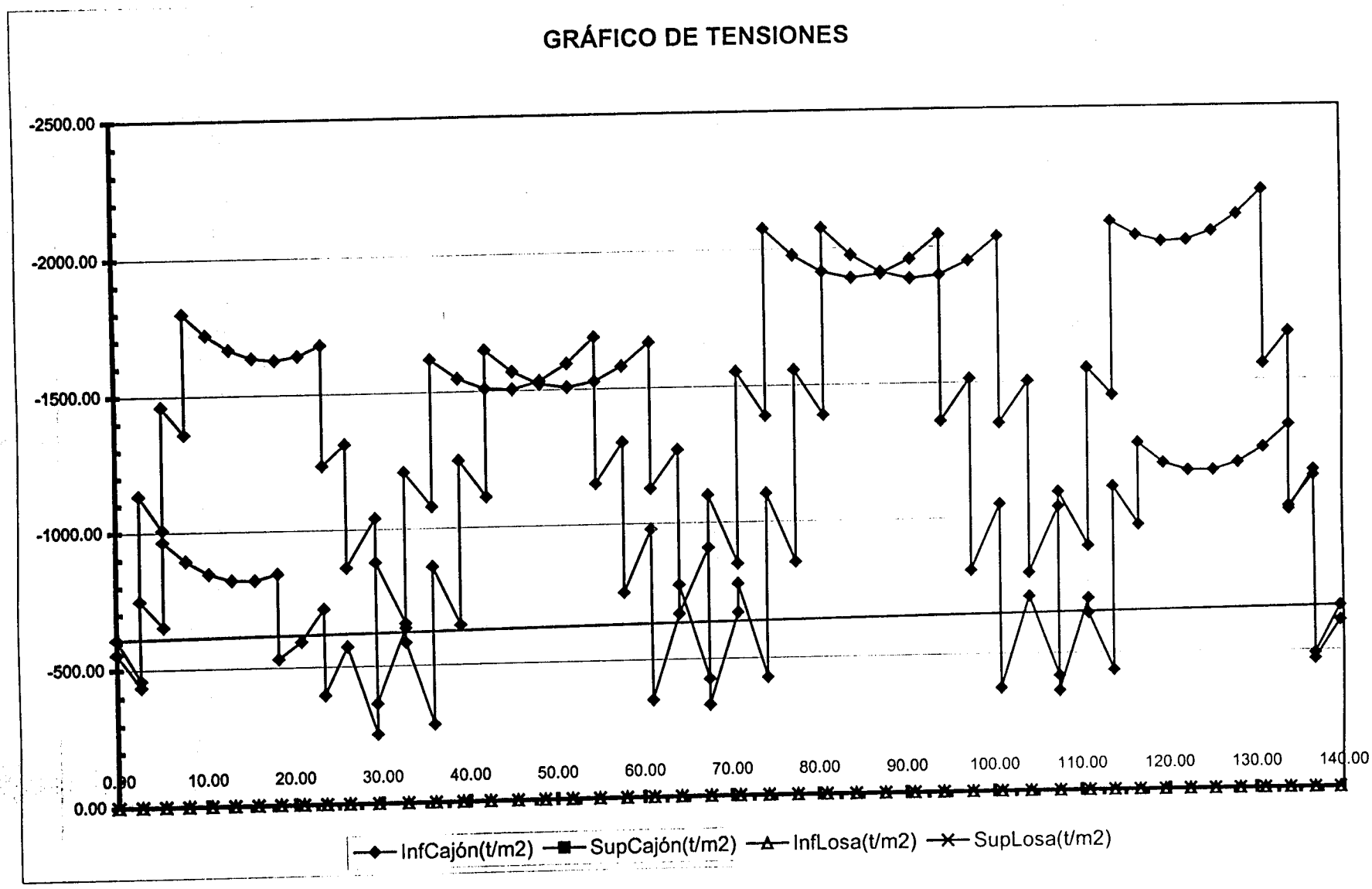


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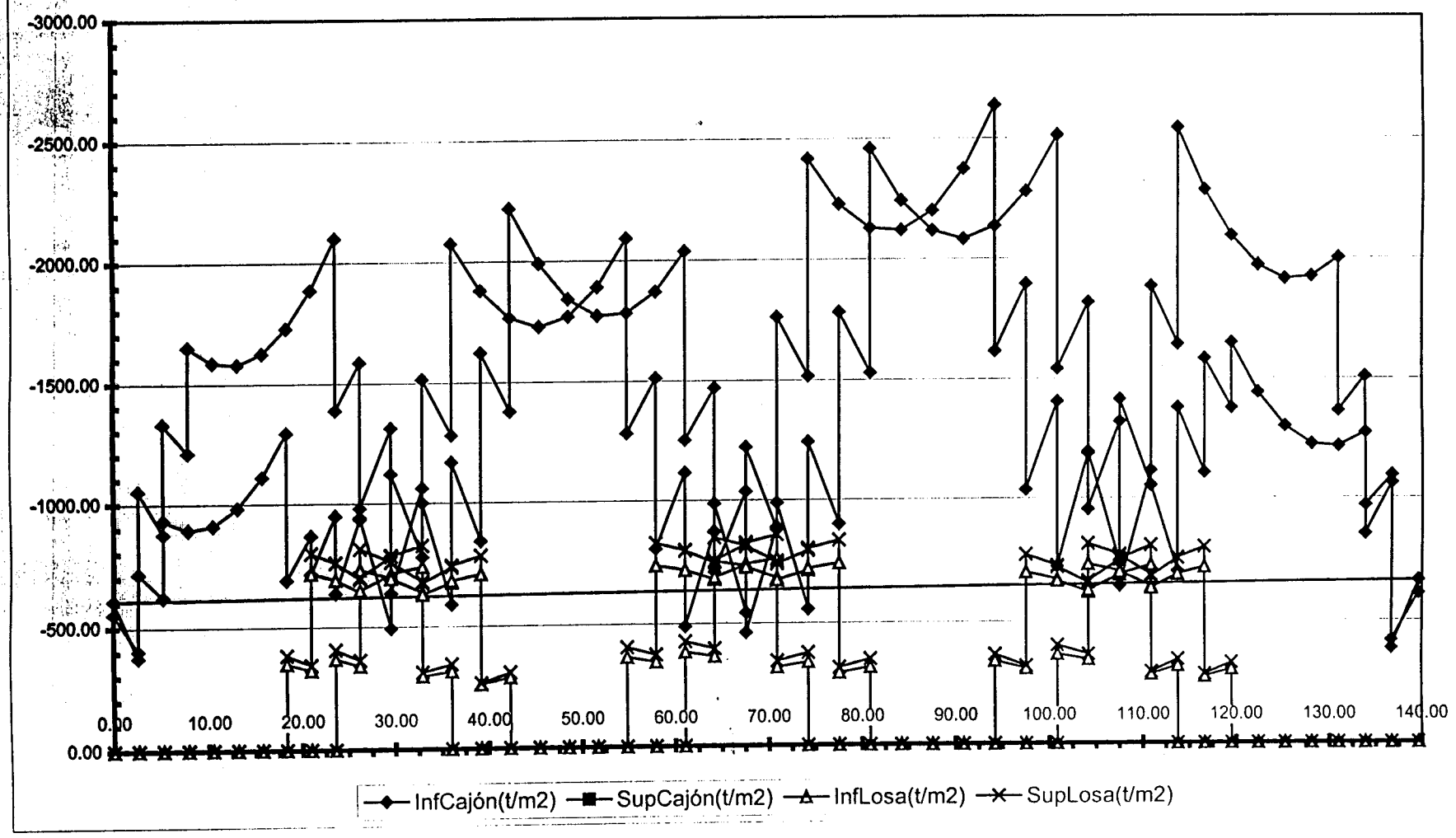


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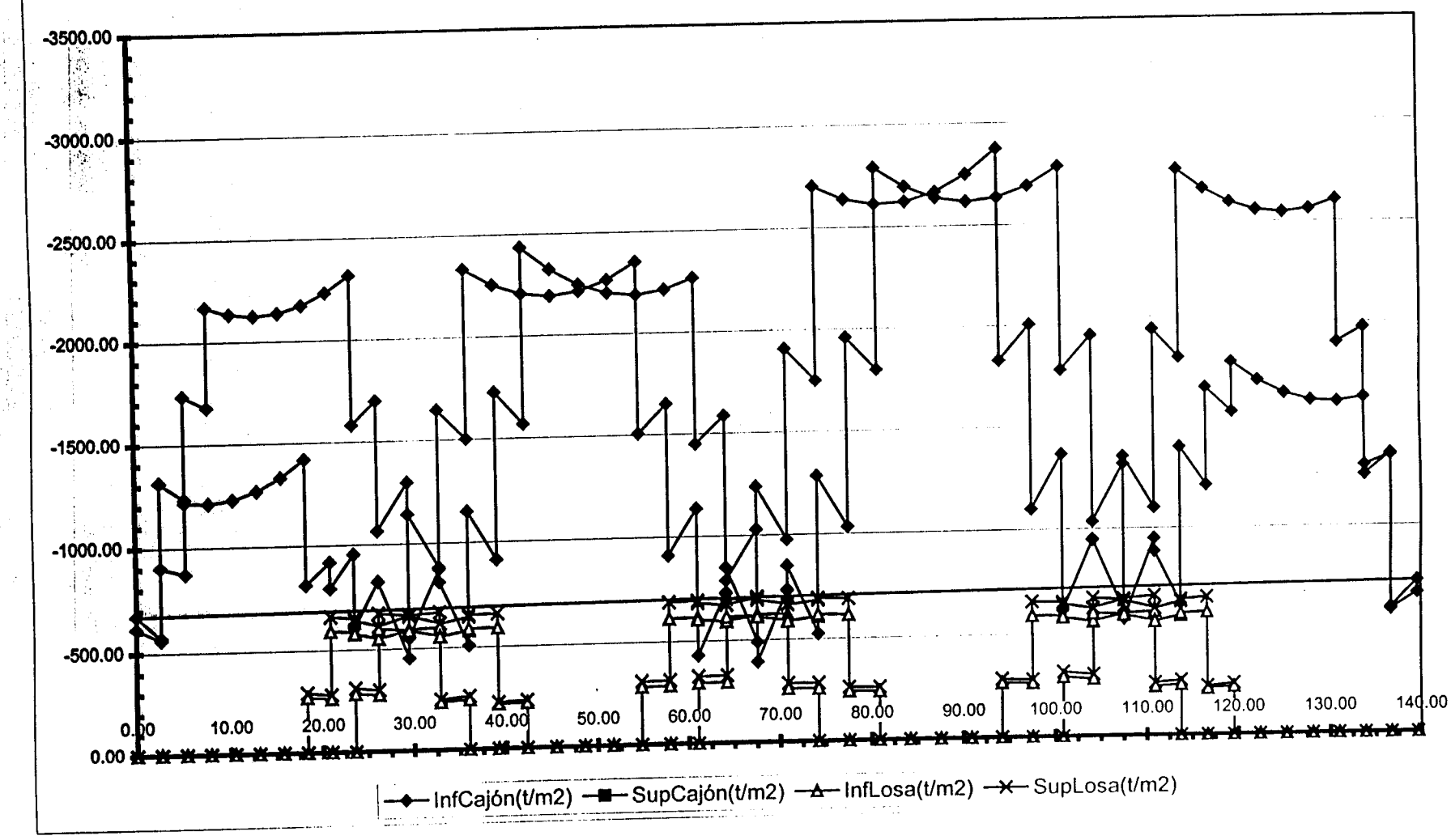


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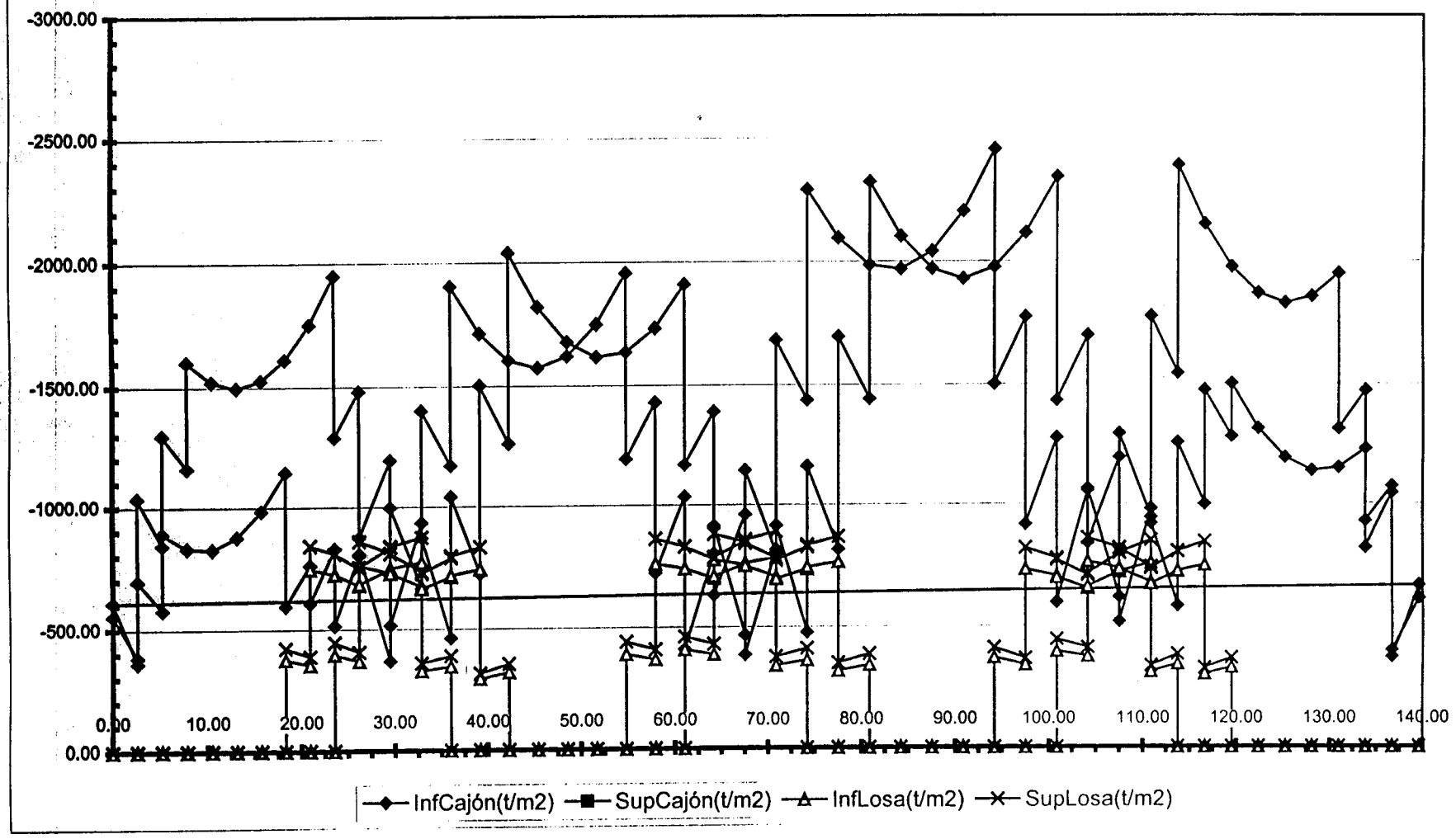
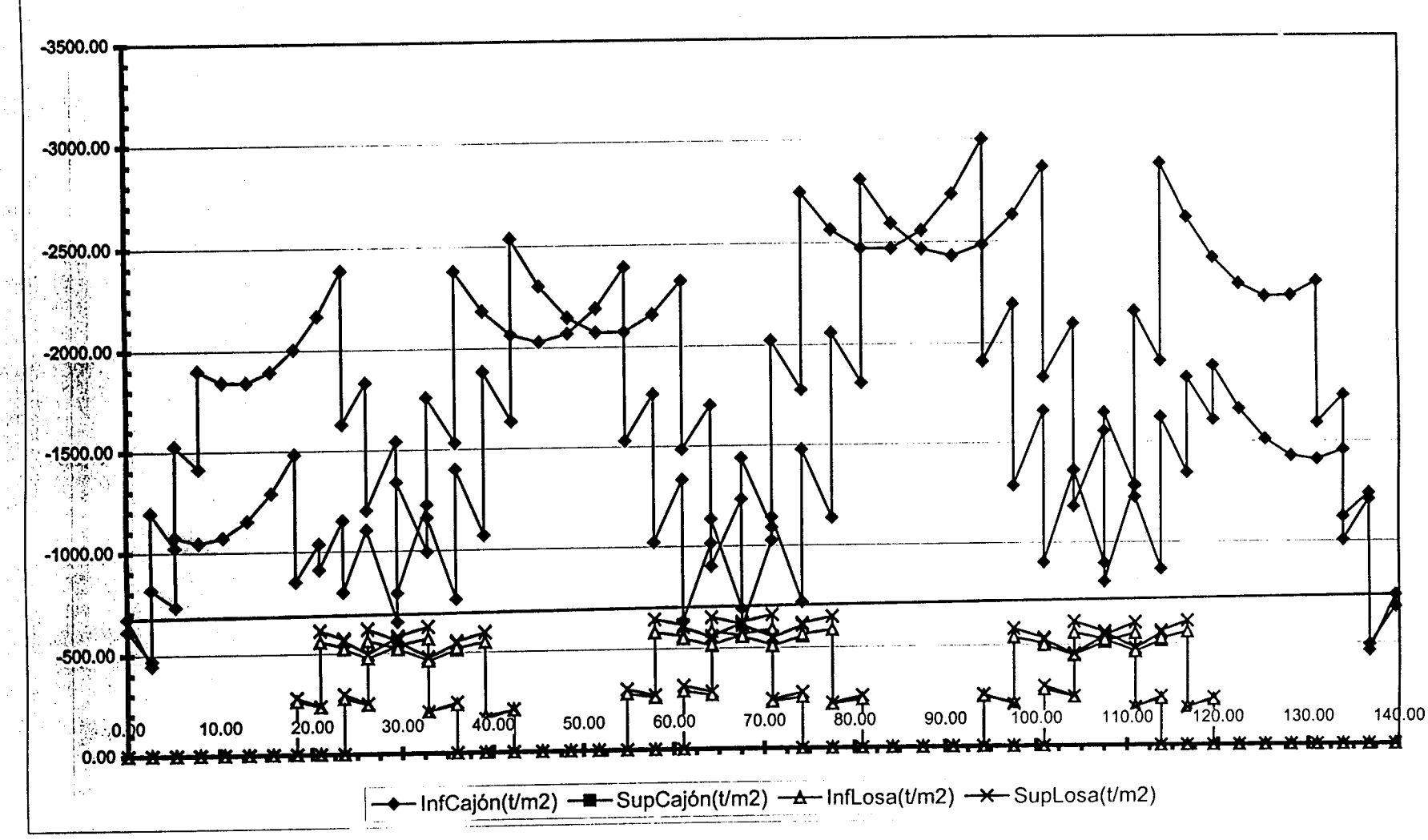


GRÁFICO DE TENSIONES



CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.Tinf.MZ+

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2103.74	-249.51	1128.81	-795.42	-771.44	-434.88	-474.43
25	26	74.23	-2099.86	-229.82	1925.51	-277.47	-1024.49	-541.92	-627.14
26	26	74.23	-1624.02	-233.91	1023.10	-1028.67	-336.50	-254.45	-276.88
26	27	77.56	-1624.02	-158.16	1679.44	-597.06	-565.46	-340.39	-399.56
27	27	77.56	-1611.97	-161.79	1679.75	-593.28	-560.82	-337.59	-396.70
27	28	80.89	-1608.20	-82.17	2085.64	-325.89	-693.94	-391.50	-473.94
28	28	80.89	-1591.44	-85.44	2086.20	-320.54	-687.53	-387.63	-469.99
28	29	84.22	-1591.44	-5.08	2236.96	-226.04	-726.54	-409.32	-501.02
29	29	84.22	-1582.51	-7.15	2238.61	-222.37	-723.43	-407.46	-499.20
29	30	87.55	-1582.51	72.77	2128.82	-300.90	-665.81	-395.89	-482.72
30	30	87.55	-1575.48	72.92	2130.70	-297.66	-663.50	-394.51	-481.41
30	31	90.88	-1575.48	153.22	1754.08	-553.04	-507.77	-348.75	-416.10
31	31	90.88	-1565.95	155.37	1755.45	-549.36	-504.36	-346.70	-414.08
31	32	94.21	-1565.95	235.07	1105.08	-985.72	-248.94	-265.74	-298.45
32	32	94.21	-2140.87	238.06	2101.58	-179.08	-1084.62	-576.93	-673.75
32	33	97.54	-2145.31	254.79	1270.22	-716.95	-824.78	-464.79	-513.62
33	33	97.54	-2667.85	254.90	2235.19	31.20	-1465.95	-783.83	-904.04
33	34	100.87	-2676.08	292.04	1329.68	-566.91	-1153.32	-666.83	-737.00
34	34	100.87	-2349.15	290.37	1581.69	-35.91	-1259.38	-679.39	-771.28
34	10035	104.20	-2319.57	329.14	521.00	-735.64	-853.06	-536.21	-571.53
35	35	104.20	-2344.29	-327.29	522.57	-741.94	-863.52	-542.19	-577.78
35	36	107.55	-2398.41	-280.04	1580.48	-55.92	-1265.99	-692.54	-785.60
36	36	107.55	-2744.46	-282.12	1329.23	-592.24	-1167.31	-684.65	-756.17
36	37	110.90	-2736.19	-238.69	2189.26	-25.86	-1457.38	-796.78	-916.03
37	37	110.90	-2054.75	-240.64	1140.87	-758.50	-743.29	-432.63	-475.14
37	38	113.77	-2051.40	-232.64	1789.49	-340.82	-941.62	-520.81	-601.01
38	38	113.77	-1545.01	-236.23	905.01	-1063.43	-214.36	-240.13	-261.87
38	39	116.64	-1545.01	-166.96	1483.55	-672.46	-451.52	-310.72	-362.63
39	39	116.64	-1529.73	-169.64	1483.24	-668.06	-445.49	-307.07	-358.85
39	40	119.51	-1529.73	-100.54	1871.16	-404.01	-611.52	-353.37	-424.95
40	40	119.51	-1508.64	-103.28	1871.09	-397.72	-603.29	-348.38	-419.82
40	41	122.38	-1508.64	-34.15	2068.41	-260.51	-698.24	-370.41	-451.24
41	41	122.38	-1500.47	-36.64	2068.83	-257.81	-695.15	-368.54	-449.35
41	42	125.25	-1500.47	32.65	2074.52	-248.04	-718.80	-366.13	-445.88
42	42	125.25	-1500.34	30.88	2075.13	-247.64	-718.89	-366.19	-445.98
42	43	128.12	-1500.34	100.06	1887.25	-366.46	-670.83	-339.06	-407.20
43	43	128.12	-1507.02	99.07	1887.77	-368.17	-673.54	-340.71	-408.93
43	44	130.99	-1507.02	164.73	1509.18	-613.68	-554.57	-289.28	-335.41
44	44	130.99	-1172.36	164.18	1727.36	-106.19	-635.22	-297.10	-363.71
44	45	133.86	-1172.36	233.47	1156.71	-479.15	-445.07	-221.16	-255.13
45	45	133.86	-837.19	233.23	1391.78	41.43	-536.91	-230.28	-285.32
45	46	136.73	-837.19	302.53	622.95	-462.71	-274.11	-128.93	-140.42
46	46	136.73	-498.97	302.81	675.03	71.81	-376.18	-138.76	-171.91
46	47	139.60	-498.97	279.69	-92.62	-563.84	-40.61	-11.92	9.46
101	101	0.00	-471.32	-269.74	-72.18	-521.38	-46.64	-12.36	7.34
101	102	2.62	-471.32	-298.75	797.15	47.33	-343.57	-127.28	-156.96
102	102	2.62	-803.54	-296.50	544.72	-485.60	-239.09	-115.98	-123.95
102	103	5.24	-803.54	-229.74	1234.06	-35.40	-469.90	-207.55	-254.86

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.Tinf.MZ+

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-449.04	-224.70	-51.20	-480.23	-58.90	-14.15	3.79
1	2	2.62	-449.04	-197.25	548.24	-89.89	-258.16	-93.92	-110.39
2	2	2.62	-628.27	-198.87	432.89	-342.96	-220.27	-94.99	-101.69
2	3	5.24	-628.27	-135.65	871.18	-59.67	-359.77	-154.19	-186.48
3	3	5.24	-805.02	-136.49	755.80	-312.02	-320.91	-154.67	-177.18
3	4	7.86	-805.02	-73.27	1030.61	-137.14	-400.11	-192.96	-232.09
4	4	7.86	-818.59	-73.36	1031.23	-140.87	-405.53	-196.25	-235.52
4	5	10.48	-818.59	-10.20	1140.72	-75.51	-424.00	-213.35	-260.16
5	5	10.48	-826.00	-9.59	1141.40	-77.34	-427.03	-215.20	-262.10
5	6	13.10	-826.00	53.64	1083.69	-122.61	-384.36	-210.84	-256.07
6	6	13.10	-827.96	54.96	1084.21	-122.89	-385.24	-211.38	-256.66
6	7	15.72	-827.96	118.15	857.45	-279.91	-280.99	-185.28	-219.56
7	7	15.72	-823.48	119.88	857.60	-278.48	-279.28	-184.25	-218.51
7	8	18.34	-823.48	183.08	460.74	-547.84	-113.25	-136.26	-150.12
8	8	18.34	-1603.37	184.74	1326.36	-61.88	-866.62	-447.88	-515.34
8	9	20.96	-1606.86	200.95	834.80	-377.21	-719.93	-380.81	-419.51
9	9	20.96	-2505.35	200.83	1548.50	-193.04	-1268.50	-693.84	-781.46
9	10	23.58	-2511.84	230.78	988.28	-559.60	-1084.46	-620.53	-676.59
10	10	23.58	-2370.51	230.51	1105.00	-317.09	-1137.38	-628.62	-694.79
10	10011	26.20	-2322.58	259.28	426.38	-751.16	-877.35	-528.61	-557.57
11	11	26.20	-2349.64	-322.62	427.42	-758.53	-888.51	-535.08	-564.29
11	12	29.55	-2424.34	-270.53	1484.35	-76.37	-1304.48	-689.27	-775.75
12	12	29.55	-2743.05	-271.16	1252.24	-571.30	-1213.15	-681.78	-748.35
12	13	32.90	-2734.76	-227.79	2083.09	-19.82	-1501.85	-788.80	-900.93
13	13	32.90	-2000.98	-228.87	1068.50	-673.60	-801.05	-425.52	-463.99
13	14	36.03	-1975.31	-210.12	1781.01	-205.49	-1013.99	-516.72	-596.15
14	14	36.03	-1434.32	-213.70	930.46	-852.27	-313.55	-240.15	-263.97
14	15	39.16	-1434.32	-143.64	1495.46	-477.27	-522.71	-312.28	-367.11
15	15	39.16	-1417.68	-146.97	1495.75	-472.11	-516.29	-308.39	-363.13
15	16	42.29	-1417.68	-71.89	1838.30	-245.55	-641.69	-352.28	-425.98
16	16	42.29	-1395.39	-74.93	1838.88	-238.53	-633.13	-347.11	-420.69
16	17	45.42	-1395.39	0.60	1955.19	-162.51	-674.10	-362.19	-442.40
17	17	45.42	-1380.90	-1.33	1956.60	-157.31	-668.77	-358.98	-439.18
17	18	48.55	-1380.90	74.03	1842.83	-234.10	-624.48	-344.67	-418.91
18	18	48.55	-1368.39	73.92	1844.46	-229.36	-619.97	-341.96	-416.22
18	19	51.68	-1368.39	149.23	1495.39	-462.08	-489.22	-297.51	-352.88
19	19	51.68	-1353.27	150.81	1496.61	-456.80	-483.60	-294.13	-349.47
19	20	54.81	-1353.27	225.89	906.86	-848.68	-265.18	-218.74	-241.89
20	20	54.81	-2001.82	228.19	1851.78	-178.67	-1020.16	-536.09	-622.01
20	21	57.94	-2005.99	246.71	1115.54	-656.41	-787.19	-437.31	-480.85
21	21	57.94	-2603.56	247.52	2026.48	-27.57	-1406.30	-753.74	-863.79
21	22	61.07	-2611.30	282.54	1205.96	-570.44	-1122.12	-647.96	-712.67
22	22	61.07	-2321.15	279.79	1438.86	-83.55	-1224.89	-662.29	-747.15
22	10023	64.20	-2276.86	316.47	480.21	-711.30	-850.40	-528.88	-562.39
23	23	64.20	-2356.65	-341.39	440.56	-802.64	-844.66	-533.86	-564.25
23	24	67.55	-2414.09	-289.24	1547.63	-81.05	-1274.29	-690.14	-780.27
24	24	67.55	-2759.79	-290.70	1296.60	-617.11	-1175.64	-682.18	-750.78
24	25	70.90	-2751.51	-247.83	2195.65	-20.16	-1489.47	-797.95	-915.83

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.Tinf.MZ+

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
127	127	77.56	-2076.25	-278.64	1077.22	-822.09	-744.60	-421.21	-457.80
127	128	80.89	-2072.37	-258.04	2002.89	-224.34	-1028.89	-547.10	-637.51
128	128	80.89	-1616.98	-254.60	1101.90	-984.03	-334.14	-267.48	-296.39
128	129	84.22	-1616.98	-170.32	1809.83	-516.63	-586.33	-359.43	-427.61
129	129	84.22	-1625.91	-168.15	1808.19	-520.29	-589.45	-361.29	-429.43
129	130	87.55	-1625.91	-83.39	2226.89	-243.49	-738.33	-415.76	-507.08
130	130	87.55	-1632.94	-83.30	2225.02	-246.73	-740.65	-417.14	-508.38
130	131	90.88	-1632.94	1.06	2362.67	-155.65	-788.04	-435.32	-534.21
131	131	90.88	-1642.47	-0.98	2361.30	-159.32	-791.45	-437.37	-536.23
131	132	94.21	-1642.47	83.81	2223.33	-250.64	-738.65	-420.08	-511.38
132	132	94.21	-1660.98	80.99	2223.21	-256.25	-745.85	-424.43	-515.84
132	133	97.54	-1660.98	165.37	1813.17	-527.98	-593.55	-372.17	-441.09
133	133	97.54	-1669.61	162.76	1813.31	-530.46	-596.97	-374.23	-443.21
133	134	100.87	-1669.61	242.16	1134.52	-980.89	-345.64	-287.53	-319.34
134	134	100.87	-2242.87	239.75	2131.93	-186.11	-1140.94	-604.46	-702.75
134	135	104.20	-2271.20	256.50	1298.39	-733.11	-890.60	-497.46	-547.85
135	135	104.20	-2792.54	256.80	2264.59	16.09	-1531.39	-816.44	-938.28
135	136	107.55	-2800.83	301.80	1333.78	-599.93	-1211.10	-695.79	-766.37
136	136	107.55	-2451.26	302.30	1585.18	-62.47	-1308.39	-702.88	-794.98
136	10137	110.90	-2394.30	356.77	431.52	-812.53	-868.72	-539.68	-569.15
137	137	110.90	-2341.75	-290.24	451.37	-763.10	-866.50	-534.24	-565.18
137	138	113.77	-2394.11	-258.15	1272.60	-236.52	-1178.15	-654.07	-730.03
138	138	113.77	-2719.27	-257.64	1020.35	-767.24	-1071.04	-641.11	-695.33
138	139	116.64	-2712.18	-222.43	1703.39	-321.39	-1294.27	-730.87	-823.69
139	139	116.64	-1850.62	-221.53	780.03	-774.83	-629.28	-371.53	-398.84
139	140	119.51	-1847.28	-206.23	1382.82	-389.20	-808.22	-454.16	-516.88
140	140	119.51	-1026.82	-203.33	722.22	-607.15	-170.37	-187.08	-212.36
140	141	122.38	-1026.82	-130.22	1200.87	-284.13	-366.02	-245.61	-295.81
141	141	122.38	-1034.99	-127.65	1200.43	-286.84	-369.11	-247.47	-297.70
141	142	125.25	-1034.99	-54.56	1461.84	-106.77	-487.43	-277.81	-340.86
142	142	125.25	-1035.12	-52.69	1461.24	-107.17	-487.35	-277.76	-340.76
142	143	128.12	-1035.12	20.44	1507.52	-68.81	-528.82	-280.21	-344.07
143	143	128.12	-1028.44	21.62	1507.00	-67.10	-526.11	-278.56	-342.34
143	144	130.99	-1028.44	94.73	1340.07	-169.31	-491.15	-253.42	-306.21
144	144	130.99	-1013.16	95.51	1339.93	-164.78	-485.19	-249.79	-302.47
144	145	133.86	-1013.16	168.58	961.01	-406.88	-374.05	-197.23	-227.19
145	145	133.86	-836.88	169.29	1069.22	-160.25	-407.99	-196.31	-235.81
145	146	136.73	-836.88	242.45	478.40	-542.25	-220.69	-116.34	-121.38
146	146	136.73	-475.22	242.84	729.60	-1.18	-313.45	-120.51	-146.97
146	147	139.60	-475.22	276.90	-71.96	-522.44	-50.21	-13.31	6.34

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.Tinf.MZ+

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
103	103	5.24	-1030.56	-228.47	1070.68	-394.68	-404.22	-199.96	-232.61
103	104	7.86	-1030.56	-161.74	1581.90	-61.87	-571.33	-268.47	-330.55
104	104	7.86	-1259.26	-161.38	1430.31	-412.64	-514.20	-262.26	-310.11
104	105	10.48	-1259.26	-94.62	1765.63	-195.92	-618.12	-308.02	-375.55
105	105	10.48	-1251.85	-95.07	1764.91	-194.12	-615.07	-306.16	-373.59
105	106	13.10	-1251.85	-28.28	1926.49	-92.22	-656.27	-329.49	-406.99
106	106	13.10	-1249.89	-29.46	1925.97	-91.94	-655.39	-328.95	-406.40
106	107	15.72	-1249.89	37.33	1915.68	-103.74	-634.27	-330.13	-408.15
107	107	15.72	-1254.37	35.71	1915.52	-105.17	-635.99	-331.17	-409.21
107	108	18.34	-1254.37	102.49	1734.49	-230.01	-552.80	-310.37	-379.57
108	108	18.34	-1268.28	100.96	1734.93	-233.91	-558.33	-313.71	-383.04
108	109	20.96	-1268.28	167.51	1383.13	-471.87	-413.02	-270.93	-322.01
109	109	20.96	-1279.15	166.38	1383.59	-474.86	-417.37	-273.56	-324.74
109	110	23.58	-1279.15	233.15	860.21	-826.47	-209.69	-208.67	-232.17
110	110	23.58	-2010.91	231.56	1770.94	-241.20	-974.14	-530.78	-613.55
110	111	26.20	-2014.40	239.00	1153.20	-637.21	-791.60	-445.95	-492.46
111	111	26.20	-2676.36	238.23	2028.49	-92.02	-1401.69	-764.07	-873.98
111	112	29.55	-2684.65	282.08	1167.02	-656.62	-1119.05	-650.64	-712.18
112	112	29.55	-2343.97	281.01	1418.24	-121.94	-1219.81	-659.79	-742.91
112	10113	32.90	-2294.76	331.03	356.19	-809.74	-825.56	-508.90	-533.90
113	113	32.90	-2240.73	-330.52	375.37	-760.30	-822.54	-503.03	-529.45
113	114	36.03	-2284.27	-288.32	1385.80	-100.35	-1208.16	-644.17	-724.99
114	114	36.03	-2567.90	-290.62	1172.33	-551.87	-1121.20	-635.14	-697.62
114	115	39.16	-2560.17	-255.77	2019.31	7.01	-1410.13	-745.16	-854.54
115	115	39.16	-1861.23	-254.99	987.60	-689.02	-705.85	-383.49	-417.72
115	116	42.29	-1857.59	-242.66	1768.30	-184.78	-947.36	-489.31	-568.78
116	116	42.29	-1328.50	-239.52	918.63	-847.89	-211.66	-221.58	-247.90
116	117	45.42	-1328.50	-160.62	1545.42	-430.22	-449.04	-300.88	-361.17
117	117	45.42	-1342.99	-158.58	1544.00	-435.43	-454.36	-304.09	-364.39
117	118	48.55	-1342.99	-79.15	1915.94	-185.77	-600.50	-350.38	-430.50
118	118	48.55	-1355.50	-78.94	1914.32	-190.51	-605.00	-353.09	-433.19
118	119	51.68	-1355.50	0.74	2036.73	-105.67	-661.12	-367.15	-453.28
119	119	51.68	-1370.62	-0.68	2035.50	-110.95	-666.74	-370.53	-456.69
119	120	54.81	-1374.64	78.84	1912.93	-191.46	-635.23	-353.31	-431.87
120	120	54.81	-1398.54	76.71	1912.74	-198.72	-644.51	-358.93	-437.63
120	121	57.94	-1398.54	156.03	1548.48	-436.07	-523.58	-310.33	-368.27
121	121	57.94	-1412.83	154.02	1548.54	-440.31	-529.18	-313.71	-371.75
121	122	61.07	-1412.83	230.95	942.97	-837.79	-319.88	-234.10	-258.17
122	122	61.07	-2090.61	229.08	1888.78	-177.93	-1074.05	-561.06	-649.10
122	123	64.20	-2094.78	248.78	1160.51	-650.30	-845.76	-462.98	-509.06
123	123	64.20	-2672.33	247.79	2088.97	16.44	-1473.85	-781.43	-895.64
123	124	67.55	-2680.61	294.87	1192.18	-576.77	-1166.22	-665.19	-729.88
124	124	67.55	-2389.33	294.44	1404.57	-123.58	-1250.13	-672.22	-755.14
124	10125	70.90	-2343.01	343.68	301.91	-843.75	-831.18	-518.42	-541.66
125	125	70.90	-2365.93	-358.35	259.14	-920.26	-801.49	-509.71	-529.24
125	126	74.23	-2402.52	-310.83	1412.72	-163.09	-1234.72	-667.93	-749.78
126	126	74.23	-2732.97	-311.50	1160.31	-695.36	-1130.02	-656.13	-716.26
126	127	77.56	-2724.75	-280.46	2144.04	-46.99	-1463.16	-784.39	-899.33

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.Tinf.MZ-

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
25	25	70.90	-2054.91	-300.37	370.22	-1339.48	-531.12	-290.39	-275.20
25	26	74.23	-2051.96	-183.24	1171.11	-817.51	-787.80	-398.13	-428.44
26	26	74.23	-1873.79	-179.69	367.51	-1627.23	-210.19	-192.23	-167.90
26	27	77.56	-1873.79	-117.40	858.77	-1296.48	-400.51	-254.02	-255.65
27	27	77.56	-1861.74	-115.92	857.83	-1293.43	-395.63	-251.04	-252.52
27	28	80.89	-1865.50	-57.63	1146.70	-1103.60	-503.55	-288.43	-305.34
28	28	80.89	-1848.74	-57.25	1145.59	-1099.24	-496.80	-284.31	-301.02
28	29	84.22	-1848.74	0.57	1240.01	-1039.51	-521.34	-297.96	-320.39
29	29	84.22	-1839.81	0.25	1239.79	-1036.95	-517.85	-295.82	-318.16
29	30	87.55	-1839.81	59.79	1137.36	-1111.56	-460.04	-285.62	-303.62
30	30	87.55	-1832.78	59.69	1137.41	-1109.40	-457.35	-283.97	-301.92
30	31	90.88	-1832.78	118.21	842.03	-1316.16	-317.73	-250.52	-254.40
31	31	90.88	-1823.25	118.24	841.67	-1313.50	-313.97	-248.21	-252.00
31	32	94.21	-1823.25	176.61	351.02	-1653.78	-92.00	-191.16	-171.00
32	32	94.21	-2106.46	175.71	1225.68	-797.19	-825.88	-418.34	-452.41
32	33	97.54	-2109.84	297.06	455.29	-1299.94	-576.33	-315.13	-305.80
33	33	97.54	-2355.50	297.46	1314.42	-505.24	-1098.15	-560.07	-614.92
33	34	100.87	-2361.77	389.11	174.21	-1249.03	-727.25	-408.21	-398.51
34	34	100.87	-1972.89	389.27	488.50	-631.27	-842.35	-420.86	-437.19
34	10035	104.20	-1918.59	489.42	-1010.56	-1588.35	-329.90	-207.04	-137.30
35	35	104.20	-1929.47	-471.77	-1011.23	-1591.92	-334.25	-209.46	-139.75
35	36	107.55	-1970.69	-376.63	436.19	-665.98	-818.14	-414.39	-427.86
36	36	107.55	-2376.41	-375.59	120.90	-1289.46	-709.08	-405.62	-393.11
36	37	110.90	-2370.11	-286.60	1229.22	-569.95	-1059.42	-554.66	-605.51
37	37	110.90	-2011.86	-287.35	314.36	-1343.15	-491.78	-279.90	-263.27
37	38	113.77	-2009.31	-177.42	1006.93	-895.14	-705.39	-374.46	-397.41
38	38	113.77	-1793.72	-175.96	225.47	-1674.77	-83.04	-174.23	-147.12
38	39	116.64	-1793.72	-126.14	658.96	-1371.49	-289.61	-223.06	-216.53
39	39	116.64	-1778.44	-125.05	658.53	-1367.14	-283.58	-219.39	-212.72
39	40	119.51	-1778.44	-75.21	945.88	-1163.89	-428.80	-250.52	-257.01
40	40	119.51	-1757.35	-74.68	945.40	-1157.84	-420.50	-245.47	-251.78
40	41	122.38	-1757.35	-24.71	1087.91	-1053.82	-504.65	-259.09	-271.23
41	41	122.38	-1749.18	-24.47	1087.70	-1051.49	-501.44	-257.13	-269.20
41	42	125.25	-1749.18	25.33	1086.44	-1046.07	-524.73	-253.41	-264.06
42	42	125.25	-1749.05	25.45	1086.27	-1046.13	-524.65	-253.35	-263.99
42	43	128.12	-1749.05	75.35	941.57	-1139.09	-487.12	-232.33	-234.33
43	43	128.12	-1755.73	75.20	941.22	-1141.32	-489.65	-233.86	-235.87
43	44	130.99	-1755.73	122.60	657.38	-1329.98	-392.32	-196.18	-182.60
44	44	130.99	-1364.93	121.86	931.33	-742.01	-481.30	-204.72	-215.65
44	45	133.86	-1364.93	171.66	510.11	-1025.30	-324.53	-150.64	-139.14
45	45	133.86	-973.63	170.10	803.57	-422.33	-426.11	-160.74	-174.46
45	46	136.73	-973.63	219.90	243.90	-800.92	-209.54	-90.11	-74.53
46	46	136.73	-579.27	217.61	557.01	-182.10	-322.76	-101.20	-111.54
46	47	139.60	-579.27	361.25	-139.81	-655.15	-48.69	-14.22	11.55
101	101	0.00	-547.29	-356.02	-114.31	-605.97	-55.72	-14.80	8.93
101	102	2.62	-547.29	-209.97	499.04	-191.33	-293.81	-92.10	-100.42
102	102	2.62	-935.65	-210.56	185.71	-808.47	-178.21	-79.56	-61.91
102	103	5.24	-935.65	-162.90	674.92	-478.70	-364.29	-141.78	-149.92

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.Tinf.MZ-

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
1	1	0.00	-520.70	-213.43	-88.33	-558.13	-66.96	-16.73	4.91
1	2	2.62	-520.70	-128.02	306.92	-290.87	-219.75	-66.69	-65.66
2	2	2.62	-725.84	-128.06	161.96	-583.72	-176.41	-66.97	-54.10
2	3	5.24	-725.84	-82.54	437.78	-398.31	-278.61	-102.53	-104.24
3	3	5.24	-928.50	-82.71	292.83	-690.41	-234.30	-102.22	-92.08
3	4	7.86	-928.50	-37.20	449.87	-586.42	-286.01	-123.49	-121.94
4	4	7.86	-942.07	-37.51	449.65	-590.65	-291.24	-126.66	-125.19
4	5	10.48	-942.07	8.06	488.17	-567.91	-292.50	-133.67	-134.83
5	5	10.48	-949.48	7.66	488.06	-570.21	-295.37	-135.40	-136.61
5	6	13.10	-949.48	53.14	408.39	-628.51	-246.23	-128.20	-126.11
6	6	13.10	-951.44	52.67	408.24	-629.18	-246.97	-128.64	-126.55
6	7	15.72	-951.44	98.19	210.57	-768.41	-147.44	-107.26	-95.96
7	7	15.72	-946.96	97.49	210.23	-767.26	-145.63	-106.15	-94.80
7	8	18.34	-946.96	143.01	-104.79	-987.02	4.16	-70.69	-44.26
8	8	18.34	-1473.25	141.75	610.47	-499.11	-641.93	-300.03	-315.41
8	9	20.96	-1475.91	234.25	109.01	-822.71	-489.38	-231.50	-218.11
9	9	20.96	-2157.66	233.79	652.03	-681.80	-907.55	-469.00	-492.72
9	10	23.58	-2162.60	305.63	-51.60	-1138.64	-685.95	-374.43	-358.07
10	10	23.58	-1968.60	305.23	92.82	-849.62	-733.02	-376.79	-372.31
10	10011	26.20	-1932.09	383.82	-839.76	-1442.01	-419.80	-241.98	-183.80
11	11	26.20	-1936.05	-450.86	-840.54	-1443.64	-421.20	-242.80	-184.59
11	12	29.55	-1992.94	-359.25	559.99	-549.12	-904.84	-443.72	-465.73
12	12	29.55	-2358.51	-361.05	269.02	-1121.92	-800.67	-433.54	-431.50
12	13	32.90	-2352.20	-270.65	1317.39	-437.21	-1141.12	-573.03	-630.45
13	13	32.90	-1930.86	-273.17	446.87	-1117.29	-587.78	-299.02	-292.77
13	14	36.03	-1950.11	-163.68	1101.77	-696.25	-807.60	-392.07	-422.99
14	14	36.03	-1652.76	-162.08	362.03	-1377.53	-195.16	-187.34	-171.50
14	15	39.16	-1652.76	-102.34	770.22	-1096.39	-371.23	-236.15	-240.62
15	15	39.16	-1636.12	-101.68	769.53	-1091.80	-364.62	-232.12	-236.43
15	16	42.29	-1636.12	-47.06	1002.21	-930.56	-467.49	-259.62	-275.29
16	16	42.29	-1613.83	-47.17	1001.39	-924.36	-458.65	-254.24	-269.69
16	17	45.42	-1613.83	8.65	1061.55	-881.17	-488.94	-260.88	-278.94
17	17	45.42	-1599.34	8.19	1061.38	-876.91	-483.29	-257.43	-275.37
17	18	48.55	-1599.34	63.27	949.77	-951.27	-441.15	-243.32	-255.16
18	18	48.55	-1586.83	62.97	949.74	-947.51	-436.31	-240.36	-252.10
18	19	51.68	-1586.83	117.34	667.54	-1138.78	-321.85	-205.68	-202.73
19	19	51.68	-1571.71	117.01	667.19	-1134.43	-315.92	-202.06	-198.97
19	20	54.81	-1571.71	171.79	215.46	-1442.02	-129.23	-146.99	-120.70
20	20	54.81	-1941.92	170.62	1025.86	-742.78	-774.20	-381.25	-407.31
20	21	57.94	-1945.09	281.99	316.37	-1206.48	-543.50	-286.39	-272.48
21	21	57.94	-2278.75	280.99	1107.55	-550.38	-1040.93	-528.42	-572.83
21	22	61.07	-2284.65	367.63	94.84	-1212.60	-706.76	-394.06	-381.28
22	22	61.07	-1902.86	367.48	384.90	-635.62	-805.86	-400.39	-411.47
22	10023	64.20	-1869.13	460.91	-943.72	-1489.90	-354.48	-214.69	-149.76
23	23	64.20	-1938.53	-478.90	-995.53	-1590.31	-338.58	-214.66	-145.63
23	24	67.55	-1982.28	-388.42	479.31	-642.60	-843.35	-422.17	-437.39
24	24	67.55	-2383.53	-388.93	164.32	-1264.54	-732.69	-412.38	-401.60
24	25	70.90	-2377.22	-299.20	1307.28	-518.40	-1104.09	-564.52	-618.69

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.Tinf.MZ-

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2069.89	-317.28	306.96	-1384.24	-520.94	-284.76	-265.75
127	128	80.89	-2066.94	-192.56	1118.46	-854.75	-781.84	-393.90	-420.82
128	128	80.89	-1874.36	-193.05	316.99	-1667.85	-177.83	-187.34	-160.74
128	129	84.22	-1874.36	-131.99	857.86	-1301.97	-392.45	-254.63	-256.29
129	129	84.22	-1883.29	-131.81	858.09	-1304.53	-395.94	-256.78	-258.52
129	130	87.55	-1883.29	-70.43	1195.18	-1077.70	-525.93	-299.23	-318.87
130	130	87.55	-1890.32	-70.56	1195.14	-1079.84	-528.63	-300.89	-320.58
130	131	90.88	-1890.32	-9.79	1328.69	-991.88	-574.17	-318.54	-345.76
131	131	90.88	-1899.85	-9.92	1329.03	-994.55	-577.93	-320.84	-348.15
131	132	94.21	-1899.85	52.21	1257.03	-1046.56	-538.81	-313.37	-337.67
132	132	94.21	-1918.36	52.91	1258.32	-1051.34	-546.29	-317.93	-342.44
132	133	97.54	-1918.36	113.74	981.06	-1243.34	-422.43	-285.38	-296.39
133	133	97.54	-1926.99	115.77	982.11	-1245.29	-426.02	-287.58	-298.71
133	134	100.87	-1926.99	181.65	491.37	-1582.23	-215.76	-228.73	-215.28
134	134	100.87	-2213.68	185.11	1367.54	-740.47	-906.07	-463.74	-507.31
134	135	104.20	-2193.16	312.19	551.07	-1264.89	-636.79	-348.06	-345.10
135	135	104.20	-2423.54	311.73	1411.52	-464.94	-1152.52	-589.67	-650.86
135	136	107.55	-2429.86	406.17	217.45	-1242.51	-769.50	-429.84	-422.98
136	136	107.55	-2027.67	407.12	532.60	-620.17	-879.95	-439.41	-458.55
136	10137	110.90	-1984.29	504.65	-1027.17	-1619.80	-356.23	-219.29	-148.84
137	137	110.90	-1947.29	-437.44	-1000.32	-1568.34	-363.50	-218.90	-150.54
137	138	113.77	-1987.17	-345.70	161.61	-830.36	-747.49	-386.10	-384.92
138	138	113.77	-2400.84	-344.40	-151.78	-1454.97	-642.38	-379.41	-352.42
138	139	116.64	-2395.44	-262.24	717.36	-891.81	-914.31	-496.69	-519.34
139	139	116.64	-1807.27	-261.56	-38.62	-1334.22	-393.58	-223.05	-191.73
139	140	119.51	-1804.73	-151.49	560.46	-947.97	-576.14	-305.08	-308.10
140	140	119.51	-1184.84	-152.19	57.82	-1133.77	-34.96	-111.47	-89.37
140	141	122.38	-1184.84	-99.92	419.59	-881.86	-206.20	-152.32	-147.57
141	141	122.38	-1193.01	-100.25	419.83	-884.18	-209.41	-154.28	-149.60
141	142	125.25	-1193.01	-48.00	632.59	-734.02	-318.30	-177.04	-182.16
142	142	125.25	-1193.14	-48.19	632.76	-733.95	-318.38	-177.10	-182.23
142	143	128.12	-1193.14	4.06	696.13	-685.76	-364.89	-181.70	-189.05
143	143	128.12	-1186.46	4.03	696.43	-683.56	-362.35	-180.17	-187.49
143	144	130.99	-1186.46	56.29	609.84	-737.70	-346.37	-166.53	-168.46
144	144	130.99	-1171.18	56.79	610.51	-732.67	-340.58	-163.02	-164.89
144	145	133.86	-1171.18	109.10	372.44	-890.08	-261.79	-130.91	-119.66
145	145	133.86	-968.99	110.18	508.82	-604.70	-300.49	-130.62	-130.92
145	146	136.73	-968.99	162.40	117.71	-866.40	-158.52	-79.82	-59.17
146	146	136.73	-551.19	163.99	431.76	-239.95	-262.81	-85.51	-90.68
146	147	139.60	-551.19	258.88	-114.16	-607.07	-57.27	-15.75	7.95

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM1.Tinf.MZ-

SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1201.54	-163.17	471.53	-894.78	-291.95	-133.57	-124.21
103	104	7.86	-1201.54	-115.47	836.52	-649.97	-426.02	-180.71	-190.86
104	104	7.86	-1469.10	-115.44	646.65	-1056.26	-363.20	-174.06	-167.21
104	105	10.48	-1469.10	-67.77	886.62	-896.89	-445.12	-205.99	-212.31
105	105	10.48	-1461.69	-67.51	886.75	-894.59	-442.26	-204.26	-210.54
105	106	13.10	-1461.69	-19.85	1001.20	-820.98	-471.96	-220.90	-233.98
106	106	13.10	-1459.73	-19.49	1001.34	-820.31	-471.22	-220.46	-233.54
106	107	15.72	-1459.73	28.18	989.97	-832.62	-448.66	-221.77	-235.25
107	107	15.72	-1464.21	28.77	990.28	-833.79	-450.47	-222.88	-236.41
107	108	18.34	-1464.21	76.43	852.47	-932.40	-375.56	-208.76	-216.25
108	108	18.34	-1478.12	77.56	853.13	-936.18	-381.12	-212.14	-219.77
108	109	20.96	-1478.12	125.40	587.36	-1122.04	-253.50	-182.38	-177.40
109	109	20.96	-1488.99	127.11	587.76	-1125.07	-257.82	-185.00	-180.13
109	110	23.58	-1488.99	174.79	192.27	-1399.22	-77.13	-139.33	-115.19
110	110	23.58	-1924.53	176.85	960.30	-789.02	-719.70	-372.12	-396.06
110	111	26.20	-1927.19	282.73	364.89	-1173.50	-538.79	-290.57	-280.31
111	111	26.20	-2310.74	283.87	1112.20	-606.42	-1016.49	-528.87	-573.06
111	112	29.55	-2317.05	379.61	3.09	-1324.30	-673.00	-378.65	-359.05
112	112	29.55	-1915.28	383.29	318.50	-701.95	-783.60	-388.37	-394.79
112	10113	32.90	-1877.79	477.81	-1154.85	-1642.67	-302.41	-179.43	-100.60
113	113	32.90	-1836.52	-500.73	-1128.67	-1590.36	-307.77	-177.96	-101.14
113	114	36.03	-1897.38	-399.46	310.69	-677.05	-793.82	-386.66	-393.18
114	114	36.03	-2234.85	-395.65	44.51	-1202.41	-699.77	-377.88	-362.42
114	115	39.16	-2228.97	-303.46	1135.92	-492.81	-1047.93	-524.22	-571.06
115	115	39.16	-1829.39	-301.60	243.48	-1216.53	-483.20	-247.65	-228.86
115	116	42.29	-1826.61	-177.35	986.23	-733.28	-719.63	-347.89	-371.24
116	116	42.29	-1547.01	-177.39	248.57	-1433.52	-69.80	-154.23	-133.68
116	117	45.42	-1547.01	-118.83	712.10	-1113.84	-273.20	-209.08	-211.49
117	117	45.42	-1561.50	-118.50	712.27	-1118.10	-278.84	-212.53	-215.06
117	118	48.55	-1561.50	-61.40	993.76	-922.32	-407.17	-245.14	-261.31
118	118	48.55	-1574.01	-61.14	993.77	-926.09	-412.01	-248.10	-264.36
118	119	51.68	-1574.01	-2.35	1094.96	-853.19	-465.68	-258.72	-279.41
119	119	51.68	-1589.13	-2.14	1095.30	-857.54	-471.61	-262.34	-283.17
119	120	54.81	-1585.11	55.07	1012.77	-906.21	-448.74	-250.18	-266.09
120	120	54.81	-1609.01	56.05	1013.89	-912.71	-458.28	-255.99	-272.14
120	121	57.94	-1609.01	113.22	749.25	-1088.75	-361.53	-221.87	-223.66
121	121	57.94	-1623.30	115.40	750.21	-1092.47	-367.29	-225.39	-227.34
121	122	61.07	-1623.30	175.10	298.63	-1395.46	-194.54	-168.29	-146.21
122	122	61.07	-1990.32	179.50	1109.89	-702.08	-821.55	-403.80	-434.94
122	123	64.20	-1993.49	295.33	353.27	-1193.75	-583.38	-301.48	-289.41
123	123	64.20	-2283.91	297.55	1167.43	-487.25	-1083.05	-541.35	-589.48
123	124	67.55	-2290.22	390.38	14.82	-1237.44	-714.42	-387.02	-369.33
124	124	67.55	-1950.85	393.33	281.51	-711.15	-808.10	-395.38	-399.69
124	10125	70.90	-1915.57	488.66	-1228.19	-1679.51	-304.31	-184.22	-101.94
125	125	70.90	-1964.74	-527.99	-1277.00	-1773.42	-280.24	-179.65	-93.22
125	126	74.23	-2023.22	-423.09	336.02	-745.60	-822.73	-410.99	-417.82
126	126	74.23	-2416.94	-422.42	21.12	-1365.15	-709.45	-399.37	-380.17
126	127	77.56	-2410.68	-317.57	1243.77	-568.67	-1101.64	-563.11	-613.56

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM2.Tinf.MZ+

CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
1	1	0.00	-449.04	-224.70	-51.20	-480.23	-58.90	-14.15	3.79
1	2	2.62	-449.04	-200.07	555.59	-85.70	-259.44	-95.03	-112.05
2	2	2.62	-628.27	-201.62	440.21	-338.80	-221.54	-96.09	-103.35
2	3	5.24	-628.27	-138.39	885.69	-51.40	-362.29	-156.38	-189.77
3	3	5.24	-805.02	-139.20	770.29	-303.77	-323.42	-156.85	-180.46
3	4	7.86	-805.02	-75.98	1052.21	-124.85	-403.86	-196.21	-236.98
4	4	7.86	-818.59	-76.06	1052.80	-128.58	-409.27	-199.50	-240.40
4	5	10.48	-818.59	-12.91	1169.39	-59.19	-428.97	-217.67	-266.65
5	5	10.48	-826.00	-12.31	1170.04	-61.03	-432.00	-219.52	-268.59
5	6	13.10	-826.00	50.91	1119.47	-102.24	-390.57	-216.23	-264.18
6	6	13.10	-827.96	52.20	1119.98	-102.53	-391.44	-216.77	-264.76
6	7	15.72	-827.96	115.38	900.46	-255.43	-288.46	-191.76	-229.31
7	7	15.72	-823.48	117.05	900.60	-254.00	-286.73	-190.72	-228.25
7	8	18.34	-823.48	180.26	511.13	-519.15	-122.00	-143.85	-161.53
8	8	18.34	-1603.37	181.84	1376.74	-33.20	-875.36	-455.47	-526.75
8	9	20.96	-1606.86	198.06	892.77	-344.21	-729.98	-389.54	-432.64
9	9	20.96	-2505.35	197.86	1606.46	-160.05	-1278.55	-702.57	-794.59
9	10	23.58	-2511.84	227.80	1054.03	-522.17	-1095.87	-630.44	-691.49
10	10	23.58	-2370.51	227.45	1170.76	-279.66	-1148.78	-638.53	-709.69
10	10011	26.20	-2322.58	256.23	500.14	-709.17	-890.15	-539.73	-574.28
11	11	26.20	-2349.64	-322.03	501.20	-716.52	-901.31	-546.20	-581.01
11	12	29.55	-2424.34	-269.94	1556.17	-35.48	-1316.94	-700.10	-792.02
12	12	29.55	-2743.05	-270.64	1324.10	-530.40	-1225.61	-692.60	-764.64
12	13	32.90	-2734.76	-227.27	2153.21	20.10	-1514.01	-799.37	-916.81
13	13	32.90	-2000.98	-228.38	1138.65	-633.67	-813.22	-436.09	-479.89
13	14	36.03	-1975.31	-209.63	1849.63	-166.42	-1025.89	-527.06	-611.69
14	14	36.03	-1434.32	-213.22	999.10	-813.19	-325.46	-250.49	-279.52
14	15	39.16	-1434.32	-143.15	1562.58	-439.06	-534.36	-322.39	-382.31
15	15	39.16	-1417.68	-146.48	1562.89	-433.89	-527.93	-318.51	-378.34
15	16	42.29	-1417.68	-71.39	1903.89	-208.21	-653.07	-362.17	-440.84
16	16	42.29	-1395.39	-74.41	1904.48	-201.18	-644.51	-356.99	-435.55
16	17	45.42	-1395.39	1.12	2019.17	-126.09	-685.20	-371.83	-456.89
17	17	45.42	-1380.90	-0.78	2020.59	-120.88	-679.87	-368.62	-453.68
17	18	48.55	-1380.90	74.57	1905.12	-198.64	-635.28	-354.06	-433.03
18	18	48.55	-1368.39	74.50	1906.75	-193.89	-630.78	-351.35	-430.34
18	19	51.68	-1368.39	149.81	1555.88	-427.64	-499.71	-306.63	-366.58
19	19	51.68	-1353.27	151.42	1557.11	-422.36	-494.10	-303.24	-363.18
19	20	54.81	-1353.27	226.50	965.44	-815.33	-275.35	-227.57	-255.17
20	20	54.81	-2001.82	228.83	1910.36	-145.31	-1030.32	-544.92	-635.28
20	21	57.94	-2005.99	247.35	1172.12	-624.20	-797.00	-445.84	-493.67
21	21	57.94	-2603.56	248.19	2083.06	4.64	-1416.12	-762.26	-876.61
21	22	61.07	-2611.30	283.21	1260.44	-539.43	-1131.57	-656.17	-725.02
22	22	61.07	-2321.15	280.48	1493.34	-52.53	-1234.34	-670.50	-759.49
22	10023	64.20	-2276.86	317.16	532.52	-681.52	-859.48	-536.76	-574.24
23	23	64.20	-2356.65	-341.83	492.86	-772.87	-853.74	-541.74	-576.10
23	24	67.55	-2414.09	-289.68	1601.41	-50.43	-1283.62	-698.24	-792.46
24	24	67.55	-2759.79	-291.14	1350.38	-586.50	-1184.97	-690.28	-762.97
24	25	70.90	-2751.51	-248.27	2250.91	11.30	-1499.05	-806.27	-928.35

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM2.Tinf.MZ+

CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
25	25	70.90	-2103.74	-249.97	1184.06	-763.97	-781.03	-443.21	-486.94
25	26	74.23	-2099.86	-230.28	1982.28	-245.15	-1034.34	-550.48	-640.00
26	26	74.23	-1624.02	-234.39	1079.88	-996.35	-346.35	-263.00	-289.75
26	27	77.56	-1624.02	-158.64	1737.82	-563.82	-575.59	-349.19	-412.78
27	27	77.56	-1611.97	-162.30	1738.13	-560.04	-570.95	-346.39	-409.93
27	28	80.89	-1608.20	-82.68	2145.74	-291.67	-704.37	-400.56	-487.56
28	28	80.89	-1591.44	-85.99	2146.30	-286.33	-697.95	-396.69	-483.61
28	29	84.22	-1591.44	-5.63	2298.89	-190.78	-737.29	-418.66	-515.05
29	29	84.22	-1582.51	-7.73	2300.55	-187.11	-734.18	-416.79	-513.23
29	30	87.55	-1582.51	72.18	2192.69	-264.54	-676.89	-405.51	-497.19
30	30	87.55	-1575.48	72.30	2194.59	-261.29	-674.58	-404.13	-495.89
30	31	90.88	-1575.48	152.61	1820.01	-515.50	-519.20	-358.68	-431.03
31	31	90.88	-1565.95	154.73	1821.39	-511.82	-515.79	-356.64	-429.02
31	32	94.21	-1565.95	234.43	1173.15	-946.97	-260.75	-275.99	-313.87
32	32	94.21	-2140.87	237.40	2169.66	-140.32	-1096.44	-587.19	-689.18
32	33	97.54	-2145.31	254.13	1340.51	-676.93	-836.97	-475.38	-529.55
33	33	97.54	-2667.85	254.23	2305.50	71.22	-1478.14	-794.43	-919.97
33	34	100.87	-2676.08	291.37	1402.21	-525.62	-1165.91	-677.76	-753.44
34	34	100.87	-2349.15	289.71	1654.25	5.39	-1271.97	-690.32	-787.72
34	10035	104.20	-2319.57	328.48	595.76	-693.08	-866.03	-547.47	-588.47
35	35	104.20	-2344.29	-325.50	597.36	-699.36	-876.49	-553.45	-594.72
35	36	107.55	-2398.41	-278.26	1649.30	-16.74	-1277.93	-702.91	-801.19
36	36	107.55	-2744.46	-280.28	1398.08	-553.04	-1179.26	-695.02	-771.77
36	37	110.90	-2736.19	-236.85	2251.94	9.82	-1468.26	-806.22	-930.23
37	37	110.90	-2054.75	-238.71	1203.56	-722.81	-754.17	-442.08	-489.34
37	38	113.77	-2051.40	-230.72	1846.66	-308.27	-951.54	-529.42	-613.97
38	38	113.77	-1545.01	-234.22	962.19	-1030.88	-224.28	-248.75	-274.82
38	39	116.64	-1545.01	-164.94	1534.95	-643.20	-460.44	-318.46	-374.27
39	39	116.64	-1529.73	-167.53	1534.63	-638.80	-454.41	-314.81	-370.50
39	40	119.51	-1529.73	-98.44	1916.52	-378.19	-619.39	-360.20	-435.23
40	40	119.51	-1508.64	-101.10	1916.44	-371.90	-611.16	-355.22	-430.09
40	41	122.38	-1508.64	-31.97	2107.50	-238.26	-705.02	-376.30	-460.10
41	41	122.38	-1500.47	-34.40	2107.90	-235.57	-701.93	-374.43	-458.20
41	42	125.25	-1500.47	34.90	2107.15	-229.46	-724.47	-371.05	-453.28
42	42	125.25	-1500.34	33.16	2107.74	-229.07	-724.54	-371.10	-453.37
42	43	128.12	-1500.34	102.35	1913.30	-351.63	-675.35	-342.98	-413.10
43	43	128.12	-1507.02	101.37	1913.81	-353.35	-678.06	-344.64	-414.83
43	44	130.99	-1507.02	167.04	1528.61	-602.62	-557.94	-292.20	-339.81
44	44	130.99	-1172.36	166.47	1746.75	-95.15	-638.59	-300.03	-368.10
44	45	133.86	-1172.36	235.77	1169.52	-471.86	-447.30	-223.09	-258.04
45	45	133.86	-837.19	235.49	1404.57	48.71	-539.12	-232.21	-288.22
45	46	136.73	-837.19	304.78	629.26	-459.12	-275.20	-129.88	-141.85
46	46	136.73	-498.97	304.99	881.31	75.39	-377.27	-139.71	-173.33
46	47	139.60	-498.97	281.88	-92.61	-563.83	-40.61	-11.92	9.46
101	101	0.00	-471.32	-272.10	-72.17	-521.38	-48.65	-12.36	7.33
101	102	2.62	-471.32	-301.11	803.33	50.84	-344.64	-128.21	-158.36
102	102	2.62	-803.54	-298.92	550.93	-482.07	-240.16	-116.92	-125.35
102	103	5.24	-803.54	-232.16	1246.60	-28.25	-472.07	-209.44	-257.70

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM2.Tinf.MZ+

CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1030.56	-230.93	1083.25	-387.52	-406.40	-201.86	-235.46
103	104	7.86	-1030.56	-164.19	1600.89	-51.06	-574.62	-271.33	-334.85
104	104	7.86	-1259.26	-163.84	1449.32	-401.82	-517.50	-265.13	-314.42
104	105	10.48	-1259.26	-97.08	1791.09	-181.43	-622.53	-311.85	-381.32
105	105	10.48	-1251.85	-97.51	1790.39	-179.62	-619.50	-310.00	-379.37
105	106	13.10	-1251.85	-30.72	1958.36	-74.07	-661.80	-334.30	-414.21
106	106	13.10	-1249.89	-31.86	1957.85	-73.78	-660.93	-333.76	-413.62
106	107	15.72	-1249.89	34.93	1953.85	-82.00	-640.90	-335.89	-416.80
107	107	15.72	-1254.37	33.37	1953.72	-83.42	-642.62	-336.92	-417.86
107	108	18.34	-1254.37	100.15	1778.81	-204.78	-560.49	-317.05	-389.61
108	108	18.34	-1268.28	98.69	1779.27	-208.67	-566.02	-320.39	-393.08
108	109	20.96	-1268.28	165.24	1433.41	-443.25	-421.74	-278.50	-333.40
109	109	20.96	-1279.15	164.19	1433.88	-446.23	-426.09	-281.14	-336.14
109	110	23.58	-1279.15	230.96	916.24	-794.57	-219.41	-217.11	-244.86
110	110	23.58	-2010.91	229.45	1826.96	-209.31	-983.86	-539.22	-626.24
110	111	26.20	-2014.40	236.89	1214.75	-602.17	-802.27	-455.22	-506.40
111	111	26.20	-2676.36	236.21	2090.02	-57.00	-1412.36	-773.35	-887.92
111	112	29.55	-2684.65	280.06	1235.32	-617.74	-1130.90	-660.93	-727.66
112	112	29.55	-2343.97	279.06	1486.50	-83.08	-1231.66	-670.08	-758.38
112	10113	32.90	-2294.76	329.07	431.01	-767.14	-838.54	-520.18	-550.85
113	113	32.90	-2240.73	-329.82	450.16	-717.73	-835.51	-514.30	-546.39
113	114	36.03	-2284.27	-287.61	1458.38	-59.03	-1220.75	-655.11	-741.44
114	114	36.03	-2567.90	-289.91	1244.89	-510.56	-1133.78	-646.07	-714.06
114	115	39.16	-2560.17	-255.06	2089.66	47.06	-1422.34	-755.76	-870.48
115	115	39.16	-1861.23	-254.29	1057.93	-648.98	-718.05	-394.09	-433.66
115	116	42.29	-1857.59	-241.96	1836.45	-145.98	-959.18	-499.58	-584.22
116	116	42.29	-1328.50	-238.84	986.76	-809.10	-223.48	-231.85	-263.34
116	117	45.42	-1328.50	-159.95	1611.44	-392.63	-460.49	-310.83	-376.13
117	117	45.42	-1342.99	-157.93	1610.00	-397.85	-465.81	-314.03	-379.34
117	118	48.55	-1342.99	-78.51	1979.92	-149.35	-611.60	-360.02	-445.00
118	118	48.55	-1355.50	-78.33	1978.29	-154.09	-616.10	-362.73	-447.69
118	119	51.68	-1355.50	1.36	2098.78	-70.35	-671.89	-376.50	-467.34
119	119	51.68	-1370.62	-0.10	2097.54	-75.63	-677.50	-379.88	-470.75
119	120	54.81	-1374.64	79.42	1973.14	-157.17	-645.67	-362.39	-445.51
120	120	54.81	-1398.54	77.26	1972.95	-164.45	-654.96	-368.00	-451.27
120	121	57.94	-1398.54	156.58	1606.97	-402.78	-533.73	-319.14	-381.52
121	121	57.94	-1412.83	154.54	1607.02	-407.02	-539.33	-322.52	-385.00
121	122	61.07	-1412.83	231.47	999.82	-805.43	-329.75	-242.67	-271.06
122	122	61.07	-2090.61	229.58	1945.63	-145.56	-1083.91	-569.63	-661.98
122	123	64.20	-2094.78	249.28	1215.80	-618.82	-855.35	-471.32	-521.59
123	123	64.20	-2672.33	248.27	2144.27	47.92	-1483.44	-789.76	-908.17
123	124	67.55	-2680.61	295.36	1245.85	-546.21	-1175.53	-673.28	-742.04
124	124	67.55	-2389.33	294.92	1456.25	-93.02	-1259.45	-680.31	-767.30
124	10125	70.90	-2343.01	344.16	353.96	-814.11	-840.21	-526.26	-553.45
125	125	70.90	-2365.93	-359.04	311.20	-890.62	-810.52	-517.56	-541.04
125	126	74.23	-2402.52	-311.52	1467.07	-132.16	-1244.15	-676.12	-762.09
126	126	74.23	-2732.97	-312.16	1214.66	-664.42	-1139.45	-664.32	-728.57
126	127	77.56	-2724.75	-281.12	2200.58	-14.80	-1472.96	-792.91	-912.14

CÁLCULO TENSIONAL

Hipótesis de cálculo:

CUASIPERM2.Tinf.MZ+

CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2076.25	-279.27	1133.75	-789.90	-754.41	-429.72	-470.61
127	128	80.89	-2072.37	-258.67	2061.52	-190.97	-1039.06	-555.93	-650.79
128	128	80.89	-1616.98	-255.19	1160.52	-950.65	-344.31	-276.31	-309.68
128	129	84.22	-1616.98	-170.92	1870.43	-482.13	-596.85	-368.56	-441.34
129	129	84.22	-1625.91	-168.71	1868.79	-485.79	-599.96	-370.42	-443.16
129	130	87.55	-1625.91	-83.95	2289.36	-207.93	-749.17	-425.17	-521.23
130	130	87.55	-1632.94	-83.83	2287.47	-211.17	-751.49	-426.55	-522.53
130	131	90.88	-1632.94	0.53	2426.88	-119.09	-799.18	-445.00	-548.76
131	131	90.88	-1642.47	-1.48	2425.51	-122.77	-802.59	-447.05	-550.78
131	132	94.21	-1642.47	83.31	2289.21	-213.14	-750.07	-430.00	-526.30
132	132	94.21	-1660.98	80.51	2289.08	-218.75	-757.27	-434.35	-530.76
132	133	97.54	-1660.98	164.89	1880.64	-489.57	-605.26	-382.34	-456.37
133	133	97.54	-1669.61	162.29	1880.76	-492.06	-608.68	-384.39	-458.49
133	134	100.87	-1669.61	241.68	1203.55	-941.59	-357.62	-297.93	-334.98
134	134	100.87	-2242.87	239.26	2200.93	-146.83	-1152.91	-614.85	-718.39
134	135	104.20	-2271.20	256.02	1369.00	-692.91	-902.85	-508.10	-563.85
135	135	104.20	-2792.54	256.29	2335.17	56.27	-1543.63	-827.08	-954.27
135	136	107.55	-2800.83	301.28	1406.09	-558.76	-1223.64	-706.69	-782.75
136	136	107.55	-2451.26	301.73	1657.45	-21.33	-1320.93	-713.77	-811.36
136	10137	110.90	-2394.30	356.20	505.72	-770.29	-881.59	-550.86	-585.97
137	137	110.90	-2341.75	-287.40	525.55	-720.87	-879.37	-545.41	-581.99
137	138	113.77	-2394.11	-255.30	1338.62	-198.94	-1189.61	-664.02	-744.99
138	138	113.77	-2719.27	-254.88	1086.36	-729.66	-1082.49	-651.06	-710.28
138	139	116.64	-2712.18	-219.68	1761.49	-288.31	-1304.35	-739.63	-836.86
139	139	116.64	-1850.62	-218.87	838.14	-741.75	-639.36	-380.28	-412.01
139	140	119.51	-1847.28	-203.56	1433.28	-360.47	-816.98	-461.76	-528.31
140	140	119.51	-1026.82	-200.74	772.69	-578.42	-179.12	-194.68	-223.80
140	141	122.38	-1026.82	-127.63	1243.91	-259.62	-373.49	-252.09	-305.56
141	141	122.38	-1034.99	-125.13	1243.48	-262.33	-376.57	-253.96	-307.46
141	142	125.25	-1034.99	-52.03	1497.65	-86.39	-493.64	-283.21	-348.97
142	142	125.25	-1035.12	-50.20	1497.07	-86.77	-493.56	-283.15	-348.88
142	143	128.12	-1035.12	22.93	1536.22	-52.47	-533.80	-284.54	-350.57
143	143	128.12	-1028.44	24.09	1535.72	-50.75	-531.10	-282.89	-348.84
143	144	130.99	-1028.44	97.19	1361.71	-157.00	-494.91	-256.68	-311.12
144	144	130.99	-1013.16	97.99	1361.59	-152.44	-488.95	-253.06	-307.38
144	145	133.86	-1013.16	171.06	975.57	-398.59	-376.57	-199.43	-230.49
145	145	133.86	-836.88	171.81	1083.81	-151.94	-410.52	-198.51	-239.11
145	146	136.73	-836.88	244.97	485.78	-538.05	-221.97	-117.45	-123.05
146	146	136.73	-475.22	245.42	737.01	3.04	-314.74	-121.63	-148.65
146	147	139.60	-475.22	276.90	-71.96	-522.44	-50.21	-13.31	6.34

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.Tinf.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
1	1	0.00	-449.04	-247.92	-50.03	-479.56	-59.10	-14.33	3.52
1	2	2.62	-449.04	-258.99	741.68	20.24	-291.72	-123.07	-154.22
2	2	2.62	-628.27	-264.65	624.73	-233.75	-253.56	-123.90	-145.16
2	3	5.24	-628.27	-176.74	1203.21	129.36	-417.38	-204.22	-261.71
3	3	5.24	-805.02	-183.41	1086.53	-123.73	-378.29	-204.51	-252.11
3	4	7.86	-805.02	-95.31	1451.63	102.54	-473.15	-256.40	-327.48
4	4	7.86	-818.59	-102.42	1451.34	98.30	-478.41	-259.55	-330.70
4	5	10.48	-818.59	-14.59	1604.70	188.63	-504.50	-283.26	-365.29
5	5	10.48	-826.00	-21.77	1604.97	186.57	-507.46	-285.05	-367.14
5	6	13.10	-826.00	66.24	1546.75	141.01	-464.70	-280.61	-360.99
6	6	13.10	-827.96	59.53	1547.35	140.77	-465.59	-281.16	-361.60
6	7	15.72	-827.96	147.45	1276.24	-41.50	-353.65	-248.38	-314.45
7	7	15.72	-823.48	141.45	1276.91	-39.77	-352.02	-247.43	-313.52
7	8	18.34	-823.48	229.42	791.06	-359.79	-170.56	-186.03	-224.96
8	8	18.34	-1603.37	224.08	1657.58	126.69	-924.08	-497.79	-590.39
8	9	20.96	-1606.86	264.71	1030.67	-265.70	-753.91	-410.32	-463.89
9	9	20.96	-2505.35	258.75	1745.54	-80.87	-1302.68	-723.53	-826.10
9	10	23.58	-2511.84	255.28	1082.79	-505.79	-1100.86	-634.77	-698.01
10	10	23.58	-2370.51	251.94	1200.09	-262.96	-1153.87	-642.95	-716.34
10	10011	26.20	-2322.58	262.35	485.47	-717.52	-887.60	-537.52	-570.96
11	11	26.20	-2349.64	-320.85	486.65	-724.80	-898.79	-544.01	-577.71
11	12	29.55	-2424.34	-282.99	1576.47	-23.93	-1320.46	-703.15	-796.62
12	12	29.55	-2743.05	-285.56	1344.34	-518.87	-1229.12	-695.65	-769.22
12	13	32.90	-2734.76	-267.99	2284.79	95.01	-1536.84	-819.19	-946.63
13	13	32.90	-2000.98	-273.93	1269.24	-559.33	-835.87	-455.77	-509.48
13	14	36.03	-1975.31	-247.24	2119.92	-12.55	-1072.78	-567.78	-672.94
14	14	36.03	-1434.32	-258.27	1267.69	-660.28	-372.06	-290.96	-340.38
14	15	39.16	-1434.32	-173.89	1966.40	-209.17	-604.42	-383.24	-473.81
15	15	39.16	-1417.68	-188.08	1965.38	-204.75	-597.76	-379.16	-469.54
15	16	42.29	-1417.68	-84.45	2391.68	69.49	-737.70	-435.67	-551.36
16	16	42.29	-1395.39	-99.70	2391.61	76.14	-729.02	-430.39	-545.93
16	17	45.42	-1395.39	5.41	2539.18	169.95	-775.41	-450.18	-574.72
17	17	45.42	-1380.90	-9.18	2540.66	175.19	-770.09	-446.98	-571.51
17	18	48.55	-1380.90	95.47	2405.42	86.19	-722.08	-429.45	-546.39
18	18	48.55	-1368.39	83.21	2407.81	91.36	-717.70	-426.85	-543.87
18	19	51.68	-1368.39	187.53	1984.90	-183.40	-574.14	-371.27	-463.79
19	19	51.68	-1353.27	178.06	1987.52	-177.33	-568.77	-368.10	-460.70
19	20	54.81	-1353.27	281.58	1267.03	-643.64	-327.67	-273.01	-323.50
20	20	54.81	-2001.82	274.70	2213.83	27.45	-1082.97	-590.64	-704.04
20	21	57.94	-2005.99	296.76	1328.27	-535.30	-824.09	-469.37	-529.05
21	21	57.94	-2603.56	290.46	2240.60	94.33	-1443.45	-786.00	-912.30
21	22	61.07	-2611.30	309.45	1330.30	-499.66	-1143.69	-666.70	-740.85
22	22	61.07	-2321.15	303.01	1563.62	-12.52	-1246.54	-681.09	-775.41
22	10023	64.20	-2276.86	316.58	567.18	-661.78	-865.49	-541.99	-582.09
23	23	64.20	-2356.65	-338.26	527.50	-753.15	-859.75	-546.96	-583.94
23	24	67.55	-2414.09	-300.10	1665.03	-14.22	-1294.66	-707.83	-806.87
24	24	67.55	-2759.79	-304.01	1413.84	-550.37	-1195.98	-699.84	-777.35
24	25	70.90	-2751.51	-288.93	2424.74	110.27	-1529.21	-832.47	-967.74

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.Tinf.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
25	25	70.90	-2103.74	-296.05	1356.72	-665.67	-810.98	-469.22	-526.07
25	26	74.23	-2099.86	-266.99	2300.08	-64.23	-1089.47	-598.36	-712.01
26	26	74.23	-1624.02	-279.95	1395.81	-816.49	-401.16	-310.61	-361.33
26	27	77.56	-1624.02	-185.04	2183.19	-310.28	-652.85	-416.30	-513.69
27	27	77.56	-1611.97	-201.25	2182.00	-307.35	-647.95	-413.27	-510.50
27	28	80.89	-1608.20	-91.33	2668.03	5.67	-794.98	-479.26	-605.90
28	28	80.89	-1591.44	-108.66	2667.87	10.60	-788.44	-475.28	-601.79
28	29	84.22	-1591.44	3.22	2843.48	119.25	-831.77	-500.71	-638.44
29	29	84.22	-1582.51	-13.34	2845.23	122.98	-828.68	-498.87	-636.65
29	30	87.55	-1582.51	97.03	2703.92	26.50	-765.58	-482.54	-613.02
30	30	87.55	-1575.48	83.37	2706.66	30.23	-763.42	-481.29	-611.91
30	31	90.88	-1575.48	195.18	2242.68	-274.88	-592.53	-422.37	-526.80
31	31	90.88	-1565.95	184.90	2245.64	-270.30	-589.40	-420.56	-525.14
31	32	94.21	-1565.95	294.33	1446.49	-791.36	-308.17	-317.18	-375.81
32	32	94.21	-2140.87	287.16	2445.09	16.48	-1144.22	-628.69	-751.58
32	33	97.54	-2145.31	307.00	1453.99	-612.33	-856.66	-492.48	-555.26
33	33	97.54	-2667.85	299.80	2420.38	136.62	-1498.08	-811.74	-946.00
33	34	100.87	-2676.08	322.31	1402.34	-525.54	-1165.93	-677.78	-753.46
34	34	100.87	-2349.15	316.84	1654.56	5.57	-1272.02	-690.37	-787.79
34	10035	104.20	-2319.57	318.84	579.12	-702.56	-863.14	-544.97	-584.70
35	35	104.20	-2344.29	-322.67	580.78	-708.80	-873.62	-550.96	-590.97
35	36	107.55	-2398.41	-312.83	1661.09	-10.03	-1279.97	-704.68	-803.86
36	36	107.55	-2744.46	-317.80	1409.25	-546.68	-1181.20	-696.71	-774.30
36	37	110.90	-2736.19	-293.13	2410.59	100.14	-1495.78	-830.13	-966.18
37	37	110.90	-2054.75	-300.11	1360.67	-633.37	-781.43	-465.75	-524.94
37	38	113.77	-2051.40	-288.54	2186.93	-114.55	-1010.57	-580.70	-691.06
38	38	113.77	-1545.01	-300.80	1300.52	-838.26	-282.97	-299.73	-351.48
38	39	116.64	-1545.01	-204.34	2025.36	-364.01	-545.52	-392.36	-485.39
39	39	116.64	-1529.73	-217.31	2023.59	-360.44	-539.23	-388.49	-481.29
39	40	119.51	-1529.73	-121.58	2510.66	-39.94	-722.47	-449.73	-569.85
40	40	119.51	-1508.64	-135.64	2509.75	-34.13	-714.09	-444.62	-564.52
40	41	122.38	-1508.64	-39.78	2761.88	134.28	-818.55	-474.90	-608.37
41	41	122.38	-1500.47	-54.17	2762.14	136.89	-815.43	-473.01	-606.44
41	42	125.25	-1500.47	42.33	2779.12	153.08	-841.04	-472.30	-605.53
42	42	125.25	-1500.34	29.00	2780.31	153.82	-841.23	-472.45	-605.76
42	43	128.12	-1500.34	125.11	2559.31	16.14	-787.42	-440.32	-559.47
43	43	128.12	-1507.02	113.90	2561.15	15.18	-790.36	-442.18	-561.51
43	44	130.99	-1507.02	206.48	2101.26	-276.61	-657.29	-378.49	-469.56
44	44	130.99	-1172.36	197.63	2321.44	232.01	-738.29	-386.62	-498.31
44	45	133.86	-1172.36	294.13	1615.75	-217.82	-524.71	-290.33	-359.14
45	45	133.86	-837.19	288.33	1853.43	304.25	-617.00	-299.84	-389.92
45	46	136.73	-837.19	384.83	887.43	-312.14	-319.99	-168.79	-200.35
46	46	136.73	-498.97	382.98	1142.57	224.12	-422.59	-179.08	-232.53
46	47	139.60	-498.97	299.30	-91.94	-563.45	-40.73	-12.02	9.30
101	101	0.00	-471.32	-290.10	-71.77	-521.15	-48.72	-12.42	7.24
101	102	2.62	-471.32	-381.99	1047.68	189.95	-387.03	-165.03	-213.72
102	102	2.62	-803.54	-381.64	792.69	-344.44	-282.10	-153.35	-180.13
102	103	5.24	-803.54	-289.15	1671.31	213.53	-545.76	-273.44	-353.93

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.Tinf.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1030.56	-292.45	1505.71	-147.02	-479.69	-265.51	-331.18
103	104	7.86	-1030.56	-200.03	2151.01	262.12	-670.06	-354.22	-459.50
104	104	7.86	-1259.26	-206.51	1997.67	-89.65	-612.63	-347.75	-438.67
104	105	10.48	-1259.26	-113.97	2417.46	175.16	-731.20	-406.24	-523.24
105	105	10.48	-1251.85	-122.88	2415.55	176.29	-727.95	-404.20	-521.02
105	106	13.10	-1251.85	-30.28	2616.20	300.43	-775.92	-433.42	-563.26
106	106	13.10	-1249.89	-40.91	2615.11	300.39	-774.95	-432.79	-562.54
106	107	15.72	-1249.89	51.68	2601.02	286.43	-753.17	-433.40	-563.44
107	107	15.72	-1254.37	40.26	2600.92	285.03	-754.90	-434.44	-564.50
107	108	18.34	-1254.37	132.85	2374.15	134.14	-663.78	-406.75	-524.50
108	108	18.34	-1268.28	121.77	2375.23	130.61	-669.42	-410.19	-528.11
108	109	20.96	-1268.28	213.48	1935.71	-157.29	-508.88	-354.19	-447.21
109	109	20.96	-1279.15	203.73	1937.33	-159.61	-513.43	-357.00	-450.21
109	110	23.58	-1279.15	296.28	1282.34	-586.15	-282.93	-272.28	-327.82
110	110	23.58	-2010.91	287.31	2194.64	0.01	-1047.65	-594.63	-709.55
110	111	26.20	-2014.40	305.52	1404.81	-493.97	-835.25	-483.86	-549.47
111	111	26.20	-2676.36	299.09	2281.75	52.15	-1445.62	-802.24	-931.36
111	112	29.55	-2684.65	317.95	1265.60	-600.50	-1136.16	-665.49	-734.52
112	112	29.55	-2343.97	313.67	1517.50	-65.44	-1237.03	-674.75	-765.40
112	10113	32.90	-2294.76	326.44	416.02	-775.68	-835.94	-517.92	-547.46
113	113	32.90	-2240.73	-319.31	435.05	-726.33	-832.89	-512.02	-542.97
113	114	36.03	-2284.27	-317.41	1467.22	-54.00	-1222.29	-656.44	-743.44
114	114	36.03	-2567.90	-321.02	1253.70	-505.55	-1135.31	-647.40	-716.06
114	115	39.16	-2560.17	-302.33	2202.60	111.35	-1441.93	-772.77	-896.07
115	115	39.16	-1861.23	-308.11	1169.68	-585.36	-737.44	-410.93	-458.98
115	116	42.29	-1857.59	-296.59	2104.59	6.67	-1005.70	-539.98	-644.98
116	116	42.29	-1328.50	-302.37	1252.97	-657.55	-269.66	-271.96	-323.66
116	117	45.42	-1328.50	-194.54	2032.60	-152.87	-533.56	-374.29	-471.56
117	117	45.42	-1342.99	-203.40	2029.69	-158.92	-538.62	-377.27	-474.43
117	118	48.55	-1342.99	-94.14	2494.86	143.80	-700.93	-437.61	-561.67
118	118	48.55	-1355.50	-106.25	2492.38	138.58	-705.29	-440.19	-564.17
118	119	51.68	-1355.50	4.24	2652.02	244.61	-767.86	-459.86	-592.69
119	119	51.68	-1370.62	-9.97	2650.66	239.26	-773.46	-463.23	-596.08
119	120	54.81	-1374.64	100.40	2508.90	147.83	-738.62	-443.12	-566.90
120	120	54.81	-1398.54	85.77	2509.33	140.91	-748.01	-448.82	-572.80
120	121	57.94	-1398.54	194.81	2070.22	-139.05	-614.10	-388.94	-486.49
121	121	57.94	-1412.83	181.54	2071.57	-142.55	-619.92	-392.52	-490.26
121	122	61.07	-1412.83	281.60	1334.65	-614.81	-387.83	-293.12	-346.92
122	122	61.07	-2090.61	271.26	2282.22	46.06	-1142.30	-620.35	-738.24
122	123	64.20	-2094.78	301.85	1403.57	-511.93	-887.93	-499.61	-564.13
123	123	64.20	-2672.33	295.64	2333.46	155.63	-1516.26	-818.27	-951.04
123	124	67.55	-2680.61	325.83	1310.37	-509.48	-1186.73	-683.00	-756.66
124	124	67.55	-2389.33	322.40	1523.13	-56.08	-1270.70	-690.09	-782.00
124	10125	70.90	-2343.01	341.16	384.26	-796.87	-845.46	-530.82	-560.31
125	125	70.90	-2365.93	-358.43	341.58	-873.32	-815.79	-522.14	-547.92
125	126	74.23	-2402.52	-324.03	1540.22	-90.51	-1256.84	-687.14	-778.66
126	126	74.23	-2732.97	-327.70	1287.59	-622.90	-1152.10	-675.31	-745.09
126	127	77.56	-2724.75	-327.76	2379.17	86.87	-1503.95	-819.82	-952.61

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.Tinf.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2076.25	-333.72	1310.70	-689.17	-785.10	-456.39	-510.70
127	128	80.89	-2072.37	-308.81	2405.23	4.71	-1098.69	-607.72	-728.67
128	128	80.89	-1616.98	-315.35	1501.96	-756.27	-403.55	-327.76	-387.04
128	129	84.22	-1616.98	-199.75	2361.05	-202.82	-681.96	-442.48	-552.51
129	129	84.22	-1625.91	-209.83	2357.72	-207.44	-684.78	-444.10	-553.94
129	130	87.55	-1625.91	-92.59	2860.76	117.37	-848.30	-511.27	-650.70
130	130	87.55	-1632.94	-105.90	2857.99	113.62	-850.46	-512.51	-651.80
130	131	90.88	-1632.94	10.10	3019.92	218.53	-902.06	-534.36	-683.13
131	131	90.88	-1642.47	-6.16	3018.46	214.80	-905.46	-536.39	-685.13
131	132	94.21	-1642.47	111.39	2843.35	102.33	-846.21	-513.50	-651.86
132	132	94.21	-1660.98	94.86	2843.98	97.16	-853.54	-517.96	-656.49
132	133	97.54	-1660.98	210.64	2335.95	-230.37	-684.25	-450.95	-559.54
133	133	97.54	-1669.61	195.95	2337.64	-231.96	-687.94	-453.24	-562.01
133	134	100.87	-1669.61	293.60	1505.54	-769.67	-410.01	-343.43	-403.40
134	134	100.87	-2242.87	282.84	2504.91	26.22	-1205.64	-660.66	-787.26
134	135	104.20	-2271.20	309.61	1506.17	-614.82	-926.65	-528.77	-594.93
135	135	104.20	-2792.54	305.17	2473.42	134.97	-1567.61	-847.91	-985.59
135	136	107.55	-2800.83	319.91	1415.02	-553.68	-1225.19	-708.03	-784.78
136	136	107.55	-2451.26	318.80	1666.48	-16.19	-1322.50	-715.13	-813.40
136	10137	110.90	-2394.30	358.01	467.98	-791.77	-875.04	-545.17	-577.42
137	137	110.90	-2341.75	-295.67	487.72	-742.40	-872.80	-539.71	-573.42
137	138	113.77	-2394.11	-283.97	1357.17	-188.37	-1192.83	-666.81	-749.19
138	138	113.77	-2719.27	-286.84	1104.21	-719.49	-1085.59	-653.75	-714.33
138	139	116.64	-2712.18	-287.07	1912.52	-202.33	-1330.56	-762.39	-871.08
139	139	116.64	-1850.62	-292.31	987.61	-656.66	-665.29	-402.80	-445.88
139	140	119.51	-1847.28	-252.31	1762.38	-173.12	-874.07	-511.35	-602.88
140	140	119.51	-1026.82	-257.38	1100.51	-391.79	-236.00	-244.08	-298.07
140	141	122.38	-1026.82	-156.07	1693.84	-3.48	-451.54	-319.89	-407.51
141	141	122.38	-1034.99	-162.54	1692.64	-6.63	-454.50	-321.64	-409.22
141	142	125.25	-1034.99	-61.21	2013.64	207.36	-583.16	-360.96	-465.88
142	142	125.25	-1035.12	-68.80	2012.89	206.88	-583.05	-360.88	-465.75
142	143	128.12	-1035.12	32.55	2064.89	248.50	-625.52	-364.20	-470.36
143	143	128.12	-1028.44	24.56	2064.87	250.49	-622.90	-362.62	-468.73
143	144	130.99	-1028.44	125.86	1849.08	120.46	-579.46	-330.12	-421.55
144	144	130.99	-1013.16	118.48	1850.09	125.66	-573.69	-326.66	-418.06
144	145	133.86	-1013.16	219.80	1364.72	-177.05	-444.09	-258.07	-318.66
145	145	133.86	-836.88	214.18	1474.68	70.58	-478.33	-257.40	-327.68
145	146	136.73	-836.88	315.61	714.47	-407.86	-261.64	-151.91	-174.87
146	146	136.73	-475.22	312.10	967.81	134.44	-354.78	-156.40	-200.95
146	147	139.60	-475.22	303.08	-70.62	-521.68	-50.44	-13.51	6.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.Tinf.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
1	1	0.00	-520.70	-304.42	-88.75	-558.37	-66.88	-16.66	5.00
1	2	2.62	-520.70	-114.85	275.36	-308.84	-214.28	-61.94	-58.50
2	2	2.62	-725.84	-116.10	130.91	-601.40	-171.02	-62.29	-47.06
2	3	5.24	-725.84	-68.42	372.38	-435.54	-267.26	-92.68	-89.42
3	3	5.24	-928.50	-69.08	227.90	-727.37	-223.04	-92.44	-77.37
3	4	7.86	-928.50	-21.60	346.67	-645.17	-268.10	-107.94	-98.56
4	4	7.86	-942.07	-21.92	346.86	-649.17	-273.41	-111.17	-101.90
4	5	10.48	-942.07	25.83	341.61	-651.35	-267.07	-111.58	-101.63
5	5	10.48	-949.48	25.89	341.77	-653.49	-269.99	-113.36	-103.46
5	6	13.10	-949.48	73.42	211.62	-740.53	-212.10	-98.55	-81.52
6	6	13.10	-951.44	73.72	211.62	-741.12	-212.86	-99.01	-82.00
6	7	15.72	-951.44	121.36	-44.01	-913.34	-103.28	-68.90	-38.28
7	7	15.72	-946.96	121.60	-44.36	-912.20	-101.46	-67.79	-37.11
7	8	18.34	-946.96	169.21	-425.27	-1169.47	59.76	-22.40	28.36
8	8	18.34	-1473.25	168.88	289.76	-681.69	-586.29	-251.71	-242.74
8	9	20.96	-1475.91	263.81	-285.67	-1047.40	-420.90	-172.03	-128.68
9	9	20.96	-2157.66	263.98	256.84	-906.78	-838.99	-409.46	-403.18
9	10	23.58	-2162.60	381.30	-589.07	-1444.62	-592.71	-293.44	-236.29
10	10	23.58	-1968.60	380.10	-445.00	-1155.81	-639.71	-295.75	-250.45
10	10011	26.20	-1932.09	499.88	-1623.80	-1888.36	-283.78	-123.84	-6.16
11	11	26.20	-1936.05	-591.85	-1625.06	-1890.26	-285.09	-124.59	-6.84
11	12	29.55	-1992.94	-438.10	139.25	-788.64	-831.85	-380.33	-370.40
12	12	29.55	-2358.51	-443.16	-152.47	-1361.87	-727.54	-370.03	-336.00
12	13	32.90	-2352.20	-312.99	1083.14	-570.57	-1100.48	-537.73	-577.38
13	13	32.90	-1930.86	-318.15	212.32	-1250.82	-547.08	-263.67	-239.63
13	14	36.03	-1950.11	-183.40	957.61	-778.33	-782.59	-370.35	-390.33
14	14	36.03	-1652.76	-183.06	218.23	-1459.39	-170.21	-165.67	-138.91
14	15	39.16	-1652.76	-105.77	648.26	-1165.82	-350.08	-217.77	-212.99
15	15	39.16	-1636.12	-104.32	647.88	-1161.06	-343.51	-213.79	-208.87
15	16	42.29	-1636.12	-46.72	883.99	-997.87	-446.98	-241.81	-248.50
16	16	42.29	-1613.83	-45.59	883.27	-991.60	-438.16	-236.44	-242.93
16	17	45.42	-1613.83	16.99	927.60	-957.43	-465.70	-240.70	-248.58
17	17	45.42	-1599.34	18.18	927.42	-953.17	-460.05	-237.25	-245.02
17	18	48.55	-1599.34	75.52	780.92	-1047.40	-411.86	-217.88	-216.90
18	18	48.55	-1586.83	76.77	780.78	-1043.70	-407.00	-214.90	-213.82
18	19	51.68	-1586.83	133.62	451.47	-1261.78	-284.37	-173.13	-153.77
19	19	51.68	-1571.71	134.87	450.86	-1257.59	-278.39	-169.47	-149.96
19	20	54.81	-1571.71	193.18	-61.46	-1599.67	-81.19	-105.26	-57.96
20	20	54.81	-1941.92	193.34	748.48	-900.69	-726.08	-339.46	-344.46
20	21	57.94	-1945.09	333.25	-78.59	-1431.34	-474.97	-226.88	-182.99
21	21	57.94	-2278.75	333.36	712.62	-775.22	-972.41	-468.91	-483.34
21	22	61.07	-2284.65	451.02	-524.47	-1565.18	-601.32	-300.74	-240.96
22	22	61.07	-1902.86	450.79	-234.16	-988.05	-698.47	-307.11	-271.21
22	10023	64.20	-1869.13	592.75	-1902.24	-2035.59	-188.19	-70.26	67.42
23	23	64.20	-1938.53	-631.81	-1954.13	-2136.04	-172.28	-70.21	71.56
23	24	67.55	-1982.28	-482.41	-102.55	-973.85	-742.40	-334.50	-305.56
24	24	67.55	-2383.53	-484.22	-418.00	-1596.05	-631.66	-324.64	-269.66
24	25	70.90	-2377.22	-351.37	947.83	-723.03	-1041.73	-510.36	-537.25

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.Tinf.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
25	25	70.90	-2054.91	-353.20	10.51	-1544.27	-468.72	-236.19	-193.70
25	26	74.23	-2051.96	-210.43	937.72	-950.37	-747.31	-362.96	-375.56
26	26	74.23	-1873.79	-206.26	134.36	-1759.96	-169.74	-157.10	-115.08
26	27	77.56	-1873.79	-129.38	680.43	-1398.00	-369.57	-227.15	-215.24
27	27	77.56	-1861.74	-125.46	679.61	-1394.89	-364.71	-224.18	-212.14
27	28	80.89	-1865.50	-64.13	995.10	-1189.90	-477.25	-265.59	-270.99
28	28	80.89	-1848.74	-61.21	993.89	-1185.61	-470.48	-261.45	-266.65
28	29	84.22	-1848.74	-0.76	1097.14	-1120.85	-496.56	-276.44	-288.01
29	29	84.22	-1839.81	1.31	1096.66	-1118.43	-493.02	-274.25	-285.73
29	30	87.55	-1839.81	68.58	970.70	-1206.44	-431.13	-260.51	-265.86
30	30	87.55	-1832.78	70.73	970.50	-1204.42	-428.39	-258.82	-264.10
30	31	90.88	-1832.78	131.24	634.41	-1434.36	-281.71	-219.23	-207.35
31	31	90.88	-1823.25	133.30	633.67	-1431.92	-277.88	-216.87	-204.87
31	32	94.21	-1823.25	195.73	87.00	-1804.08	-46.19	-151.38	-111.18
32	32	94.21	-2106.46	196.50	961.14	-947.79	-779.99	-378.48	-392.47
32	33	97.54	-2109.84	348.48	61.31	-1524.23	-507.98	-255.77	-216.54
33	33	97.54	-2355.50	349.87	920.62	-729.44	-1029.83	-500.73	-525.69
33	34	100.87	-2361.77	472.85	-459.85	-1609.99	-617.25	-312.68	-254.85
34	34	100.87	-1972.89	473.09	-145.14	-992.00	-732.42	-325.39	-293.62
34	10035	104.20	-1918.59	625.07	-2007.97	-2156.18	-156.86	-56.75	88.69
35	35	104.20	-1929.47	-629.47	-2008.62	-2159.73	-161.21	-59.18	86.23
35	36	107.55	-1970.69	-461.57	-173.79	-1013.24	-712.31	-322.48	-289.65
36	36	107.55	-2376.41	-460.89	-489.22	-1636.80	-603.23	-313.68	-254.87
36	37	110.90	-2370.11	-338.39	853.03	-784.11	-994.15	-497.98	-520.28
37	37	110.90	-2011.86	-339.46	-61.82	-1557.31	-426.52	-223.22	-178.03
37	38	113.77	-2009.31	-202.58	729.88	-1052.86	-657.33	-332.71	-334.64
38	38	113.77	-1793.72	-199.61	-51.29	-1832.33	-35.02	-132.53	-84.42
38	39	116.64	-1793.72	-147.56	446.87	-1492.23	-252.82	-191.10	-168.47
39	39	116.64	-1778.44	-144.98	446.46	-1487.87	-246.79	-187.44	-164.67
39	40	119.51	-1778.44	-92.90	787.75	-1253.92	-401.37	-226.69	-221.18
40	40	119.51	-1757.35	-91.18	787.09	-1247.96	-393.03	-221.62	-215.91
40	41	122.38	-1757.35	-38.47	972.72	-1119.40	-484.67	-241.74	-245.13
41	41	122.38	-1749.18	-37.26	972.18	-1117.25	-481.40	-239.73	-243.03
41	42	125.25	-1749.18	23.32	989.66	-1101.16	-507.94	-238.82	-242.13
42	42	125.25	-1749.05	22.06	989.65	-1101.13	-507.89	-238.79	-242.10
42	43	128.12	-1749.05	71.16	855.91	-1187.86	-472.26	-219.43	-214.92
43	43	128.12	-1755.73	70.00	855.77	-1189.96	-474.83	-220.98	-216.51
43	44	130.99	-1755.73	116.65	587.94	-1369.52	-380.27	-185.71	-166.87
44	44	130.99	-1364.93	115.26	862.12	-781.42	-469.30	-194.29	-199.96
44	45	133.86	-1364.93	164.31	460.95	-1053.29	-316.00	-143.23	-128.01
45	45	133.86	-973.63	162.40	754.64	-450.19	-417.62	-153.37	-163.38
45	46	136.73	-973.63	211.45	218.13	-815.59	-205.07	-86.23	-68.69
46	46	136.73	-579.27	209.12	531.47	-196.65	-318.33	-97.35	-105.75
46	47	139.60	-579.27	475.11	-141.15	-655.92	-46.46	-14.02	11.85
101	101	0.00	-547.29	-472.93	-115.48	-606.64	-55.51	-14.63	9.19
101	102	2.62	-547.29	-203.81	481.86	-201.11	-290.83	-89.51	-96.53
102	102	2.62	-935.65	-204.16	168.25	-818.41	-175.18	-76.93	-57.96
102	103	5.24	-935.65	-157.20	641.63	-497.66	-358.51	-136.76	-142.38

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.Tinf.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1201.54	-157.55	437.96	-913.89	-286.13	-128.51	-116.60
103	104	7.86	-1201.54	-110.60	789.25	-676.88	-417.82	-173.58	-180.15
104	104	7.86	-1469.10	-111.01	599.11	-1083.32	-354.95	-166.90	-156.44
104	105	10.48	-1469.10	-58.49	821.30	-934.08	-433.79	-196.14	-197.51
105	105	10.48	-1461.69	-58.20	821.88	-931.52	-431.00	-194.48	-195.85
105	106	13.10	-1461.69	-8.44	909.18	-873.37	-456.00	-207.04	-213.14
106	106	13.10	-1459.73	-7.56	909.71	-872.47	-455.32	-206.65	-212.78
106	107	15.72	-1459.73	42.21	864.35	-904.14	-426.87	-202.84	-206.79
107	107	15.72	-1464.21	43.72	864.96	-905.13	-428.73	-203.99	-208.01
107	108	18.34	-1464.21	93.48	685.24	-1027.61	-346.54	-183.56	-178.36
108	108	18.34	-1478.12	95.85	686.07	-1031.29	-352.13	-186.97	-181.91
108	109	20.96	-1478.12	146.22	369.39	-1246.13	-215.69	-149.54	-128.02
109	109	20.96	-1488.99	149.25	369.78	-1249.17	-220.00	-152.16	-130.74
109	110	23.58	-1488.99	199.04	-86.50	-1557.93	-28.77	-97.32	-52.02
110	110	23.58	-1924.53	202.46	681.28	-947.86	-671.29	-330.08	-332.84
110	111	26.20	-1927.19	326.59	6.24	-1377.69	-476.57	-236.52	-199.05
111	111	26.20	-2310.74	328.21	753.35	-810.71	-954.24	-474.80	-491.76
111	112	29.55	-2317.05	464.61	-577.46	-1654.81	-572.29	-291.17	-227.51
112	112	29.55	-1915.28	467.88	-261.96	-1032.40	-682.90	-300.91	-263.27
112	10113	32.90	-1877.79	621.43	-2121.81	-2193.16	-134.66	-33.72	118.49
113	113	32.90	-1836.52	-657.84	-2096.25	-2141.21	-139.90	-32.16	118.09
113	114	36.03	-1897.38	-481.85	-301.33	-1025.47	-687.65	-294.44	-254.50
114	114	36.03	-2234.85	-480.07	-567.99	-1551.10	-593.51	-285.59	-223.64
114	115	39.16	-2228.97	-357.01	754.29	-710.07	-981.72	-466.72	-484.59
115	115	39.16	-1829.39	-354.08	-138.33	-1433.89	-416.96	-190.12	-142.35
115	116	42.29	-1826.61	-196.16	730.00	-879.16	-675.17	-309.28	-313.19
116	116	42.29	-1547.01	-194.56	-7.11	-1579.08	-25.44	-115.70	-75.75
116	117	45.42	-1547.01	-132.51	502.95	-1232.90	-236.91	-177.57	-164.10
117	117	45.42	-1561.50	-130.02	503.57	-1236.91	-242.64	-181.08	-167.77
117	118	48.55	-1561.50	-70.06	816.52	-1023.23	-376.42	-218.44	-221.15
118	118	48.55	-1574.01	-67.24	816.85	-1026.81	-381.32	-221.44	-224.27
118	119	51.68	-1574.01	-0.55	930.10	-947.05	-437.08	-233.88	-242.06
119	119	51.68	-1589.13	2.37	930.75	-951.22	-443.06	-237.55	-245.88
119	120	54.81	-1585.11	62.07	830.21	-1010.14	-417.07	-222.67	-224.72
120	120	54.81	-1609.01	66.05	831.50	-1016.54	-426.64	-228.50	-230.81
120	121	57.94	-1609.01	126.17	531.50	-1212.72	-323.75	-189.06	-174.32
121	121	57.94	-1623.30	131.39	532.40	-1216.47	-329.50	-192.57	-177.98
121	122	61.07	-1623.30	201.11	23.96	-1551.83	-146.89	-126.90	-83.97
122	122	61.07	-1990.32	207.50	834.94	-858.61	-773.85	-362.37	-372.64
122	123	64.20	-1993.49	346.95	-45.27	-1420.63	-514.24	-241.43	-199.11
123	123	64.20	-2283.91	349.61	768.84	-714.16	-1013.90	-481.29	-499.17
123	124	67.55	-2290.22	475.92	-618.79	-1598.15	-604.50	-291.55	-225.76
124	124	67.55	-1950.85	479.13	-351.94	-1071.78	-698.21	-299.93	-256.16
124	10125	70.90	-1915.57	635.23	-2255.31	-2265.39	-125.77	-29.15	131.23
125	125	70.90	-1964.74	-688.75	-2306.80	-2359.68	-101.58	-24.48	140.11
125	126	74.23	-2023.22	-525.63	-293.61	-1104.04	-713.50	-316.12	-275.16
126	126	74.23	-2416.94	-525.17	-609.33	-1724.06	-600.08	-304.38	-237.33
126	127	77.56	-2410.68	-371.17	865.33	-784.12	-1035.98	-506.09	-527.81

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES1.Tinf.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2069.89	-369.20	-71.72	-1599.82	-455.25	-227.71	-179.95
127	128	80.89	-2066.94	-213.68	868.94	-996.81	-738.55	-356.30	-364.28
128	128	80.89	-1874.36	-212.67	67.91	-1809.65	-134.62	-149.81	-104.30
128	129	84.22	-1874.36	-147.84	667.05	-1410.60	-359.34	-225.88	-213.06
129	129	84.22	-1883.29	-145.93	667.56	-1412.99	-362.89	-228.07	-215.35
129	130	87.55	-1883.29	-82.22	1048.00	-1161.49	-500.40	-277.06	-285.53
130	130	87.55	-1890.32	-80.75	1048.14	-1163.53	-503.12	-278.74	-287.27
130	131	90.88	-1890.32	-16.91	1209.92	-1059.49	-553.57	-300.64	-318.85
131	131	90.88	-1899.85	-15.11	1210.32	-1062.13	-557.33	-302.95	-321.26
131	132	94.21	-1899.85	53.96	1139.20	-1113.64	-518.36	-295.61	-310.97
132	132	94.21	-1918.36	56.45	1140.52	-1118.40	-525.85	-300.18	-315.75
132	133	97.54	-1918.36	120.50	846.54	-1319.92	-399.10	-265.11	-265.91
133	133	97.54	-1926.99	124.05	847.40	-1321.99	-402.65	-267.28	-268.19
133	134	100.87	-1926.99	206.77	313.31	-1683.60	-184.87	-201.90	-174.94
134	134	100.87	-2213.68	209.89	1189.21	-841.99	-875.14	-436.87	-466.90
134	135	104.20	-2193.16	363.58	252.67	-1434.77	-585.02	-303.10	-277.49
135	135	104.20	-2423.54	361.70	1113.53	-634.59	-1100.82	-544.77	-583.34
135	136	107.55	-2429.86	501.75	-302.89	-1538.73	-679.23	-351.43	-305.08
136	136	107.55	-2027.67	500.73	12.81	-916.08	-789.78	-361.09	-340.78
136	10137	110.90	-1984.29	661.46	-1954.87	-2147.94	-195.29	-79.50	61.36
137	137	110.90	-1947.29	-569.78	-1927.61	-2096.25	-202.63	-79.18	59.56
137	138	113.77	-1987.17	-431.72	-455.71	-1181.79	-640.39	-293.08	-245.04
138	138	113.77	-2400.84	-430.26	-768.82	-1806.25	-535.33	-286.43	-212.61
138	139	116.64	-2395.44	-298.80	284.98	-1137.97	-839.30	-431.54	-421.37
139	139	116.64	-1807.27	-297.04	-470.50	-1580.09	-318.66	-157.97	-93.87
139	140	119.51	-1804.73	-181.10	217.70	-1143.10	-516.67	-253.43	-230.44
140	140	119.51	-1184.84	-180.22	-284.71	-1328.77	24.47	-59.85	-11.76
140	141	122.38	-1184.84	-125.57	154.06	-1033.02	-160.13	-112.31	-87.40
141	141	122.38	-1193.01	-124.39	154.30	-1035.34	-163.35	-114.27	-89.44
141	142	125.25	-1193.01	-69.78	432.99	-847.65	-283.68	-146.96	-136.93
142	142	125.25	-1193.14	-68.74	433.00	-847.68	-283.72	-147.00	-136.97
142	143	128.12	-1193.14	-14.15	552.00	-767.82	-339.88	-159.98	-156.39
143	143	128.12	-1186.46	-13.33	552.02	-765.78	-337.29	-158.41	-154.77
143	144	130.99	-1186.46	41.29	511.82	-793.50	-329.37	-151.76	-146.25
144	144	130.99	-1171.18	42.18	512.12	-788.69	-323.51	-148.19	-142.59
144	145	133.86	-1171.18	96.82	312.61	-924.14	-251.41	-121.90	-106.10
145	145	133.86	-968.99	97.66	448.54	-639.02	-290.03	-121.54	-117.26
145	146	136.73	-968.99	152.20	90.03	-882.16	-153.72	-75.64	-52.90
146	146	136.73	-551.19	152.94	403.58	-255.99	-257.92	-81.27	-84.30
146	147	139.60	-551.19	361.32	-114.85	-607.46	-57.15	-15.64	8.11

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES2.Tinf.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-449.04	-247.92	-50.03	-479.56	-59.10	-14.33	3.52
1	2	2.62	-449.04	-266.02	760.05	30.70	-294.91	-125.84	-158.38
2	2	2.62	-628.27	-271.52	643.03	-223.33	-256.73	-126.66	-149.30
2	3	5.24	-628.27	-183.60	1239.51	150.02	-423.67	-209.69	-269.94
3	3	5.24	-805.02	-190.19	1122.76	-103.11	-384.57	-209.96	-260.32
3	4	7.86	-805.02	-102.09	1505.63	133.28	-482.52	-264.53	-339.72
4	4	7.86	-818.59	-109.19	1505.28	129.01	-487.77	-267.68	-342.92
4	5	10.48	-818.59	-21.35	1676.37	229.43	-516.93	-294.06	-381.52
5	5	10.48	-826.00	-28.59	1676.57	227.33	-519.88	-295.84	-383.36
5	6	13.10	-826.00	59.42	1636.21	191.93	-480.22	-294.09	-381.26
6	6	13.10	-827.96	52.62	1636.76	191.67	-481.10	-294.64	-381.86
6	7	15.72	-827.96	140.54	1383.76	19.71	-372.30	-264.58	-338.81
7	7	15.72	-823.48	134.40	1384.39	21.42	-370.67	-263.62	-337.87
7	8	18.34	-823.48	222.37	917.03	-288.07	-192.41	-205.01	-253.50
8	8	18.34	-1603.37	216.84	1783.53	198.39	-945.93	-516.76	-618.92
8	9	20.96	-1606.86	257.48	1175.57	-183.21	-779.05	-432.15	-496.72
9	9	20.96	-2505.35	251.31	1890.43	1.62	-1327.82	-745.36	-858.93
9	10	23.58	-2511.84	247.85	1247.17	-412.22	-1129.37	-659.54	-735.25
10	10	23.58	-2370.51	244.30	1364.48	-169.37	-1182.39	-667.72	-753.59
10	10011	26.20	-2322.58	254.71	669.88	-612.54	-919.59	-565.31	-612.74
11	11	26.20	-2349.64	-319.39	671.11	-619.79	-930.79	-571.80	-619.51
11	12	29.55	-2424.34	-281.53	1756.02	78.29	-1351.61	-730.21	-837.30
12	12	29.55	-2743.05	-284.27	1523.98	-416.61	-1260.29	-722.72	-809.92
12	13	32.90	-2734.76	-266.70	2460.08	194.80	-1567.25	-845.61	-986.34
13	13	32.90	-2000.98	-272.70	1444.60	-459.49	-866.30	-482.19	-549.21
13	14	36.03	-1975.31	-246.02	2291.46	85.11	-1102.54	-593.63	-711.80
14	14	36.03	-1434.32	-257.06	1439.29	-562.59	-401.83	-316.82	-379.26
14	15	39.16	-1434.32	-172.68	2134.21	-113.63	-633.53	-408.52	-511.83
15	15	39.16	-1417.68	-186.84	2133.24	-109.19	-626.88	-404.45	-507.57
15	16	42.29	-1417.68	-83.21	2555.66	162.84	-766.14	-460.37	-588.52
16	16	42.29	-1395.39	-98.41	2555.62	169.51	-757.47	-455.11	-583.09
16	17	45.42	-1395.39	6.70	2699.14	261.01	-803.16	-474.28	-610.96
17	17	45.42	-1380.90	-7.81	2700.64	266.27	-797.85	-471.09	-607.76
17	18	48.55	-1380.90	96.84	2561.14	174.84	-749.09	-452.91	-581.67
18	18	48.55	-1368.39	84.65	2563.54	180.02	-744.72	-450.31	-579.15
18	19	51.68	-1368.39	188.97	2136.12	-97.31	-600.38	-394.06	-498.06
19	19	51.68	-1353.27	179.59	2138.75	-91.23	-595.00	-390.88	-494.96
19	20	54.81	-1353.27	283.10	1413.49	-560.26	-353.08	-295.08	-356.69
20	20	54.81	-2001.82	276.30	2360.30	110.84	-1108.38	-612.71	-737.23
20	21	57.94	-2005.99	298.37	1469.72	-454.77	-848.63	-490.68	-561.10
21	21	57.94	-2603.56	292.13	2382.06	174.86	-1467.99	-807.31	-944.35
21	22	61.07	-2611.30	311.12	1466.50	-422.12	-1167.32	-687.22	-771.71
22	22	61.07	-2321.15	304.74	1699.82	65.02	-1270.17	-701.61	-808.27
22	10023	64.20	-2276.86	318.31	697.95	-587.34	-868.18	-561.69	-611.72
23	23	64.20	-2356.65	-339.36	658.26	-678.71	-882.43	-566.67	-613.57
23	24	67.55	-2414.09	-301.20	1799.48	62.33	-1317.98	-728.09	-837.34
24	24	67.55	-2759.79	-305.12	1548.28	-473.84	-1219.30	-720.10	-807.81
24	25	70.90	-2751.51	-290.03	2562.88	188.91	-1553.18	-853.28	-999.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES2.Tinf.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2103.74	-297.20	1494.84	-587.04	-834.95	-490.04	-557.36
25	26	74.23	-2099.86	-268.14	2442.01	16.58	-1114.09	-619.75	-744.17
26	26	74.23	-1624.02	-281.16	1537.74	-735.69	-425.78	-331.99	-393.49
26	27	77.56	-1624.02	-186.25	2329.14	-227.19	-678.17	-438.29	-546.76
27	27	77.56	-1611.97	-202.53	2327.96	-224.25	-673.28	-435.27	-543.57
27	28	80.89	-1608.20	-92.62	2818.28	91.20	-821.05	-501.90	-639.94
28	28	80.89	-1591.44	-110.03	2818.13	96.14	-814.51	-497.92	-635.83
28	29	84.22	-1591.44	1.85	2998.30	207.39	-858.63	-524.04	-673.52
29	29	84.22	-1582.51	-14.80	3000.08	211.13	-855.54	-522.20	-671.73
29	30	87.55	-1582.51	95.58	2863.61	117.41	-793.29	-506.61	-649.21
30	30	87.55	-1575.48	81.84	2866.37	121.15	-791.12	-505.36	-648.10
30	31	90.88	-1575.48	193.65	2407.50	-181.05	-621.12	-447.20	-564.15
31	31	90.88	-1565.95	183.30	2410.48	-176.45	-617.99	-445.40	-562.49
31	32	94.21	-1565.95	292.73	1616.66	-694.48	-337.70	-342.82	-414.37
32	32	94.21	-2140.87	285.51	2615.31	113.39	-1173.75	-654.34	-790.15
32	33	97.54	-2145.31	305.35	1629.71	-512.30	-887.15	-518.96	-595.07
33	33	97.54	-2667.85	298.12	2596.14	236.68	-1528.57	-838.22	-985.83
33	34	100.87	-2676.08	320.64	1583.68	-422.31	-1197.39	-705.10	-794.55
34	34	100.87	-2349.15	315.19	1835.96	108.84	-1303.49	-717.70	-828.89
34	10035	104.20	-2319.57	317.19	766.02	-596.16	-895.56	-573.13	-627.05
35	35	104.20	-2344.29	-318.21	767.74	-602.37	-906.05	-579.13	-633.33
35	36	107.55	-2398.41	-308.37	1833.14	87.92	-1309.82	-730.61	-842.84
36	36	107.55	-2744.46	-313.20	1581.36	-448.70	-1211.06	-722.64	-813.30
36	37	110.90	-2736.19	-288.53	2567.29	189.35	-1522.96	-853.74	-1001.69
37	37	110.90	-2054.75	-295.30	1517.41	-544.14	-808.62	-489.37	-560.46
37	38	113.77	-2051.40	-283.73	2329.87	-33.18	-1035.37	-602.23	-723.45
38	38	113.77	-1545.01	-295.76	1443.47	-756.88	-307.77	-321.27	-383.87
38	39	116.64	-1545.01	-199.30	2153.85	-290.86	-567.81	-411.72	-514.50
39	39	116.64	-1529.73	-212.05	2152.08	-287.29	-561.53	-407.85	-510.40
39	40	119.51	-1529.73	-116.32	2624.05	24.61	-742.14	-466.82	-595.54
40	40	119.51	-1508.64	-130.19	2623.12	30.41	-733.76	-461.70	-590.21
40	41	122.38	-1508.64	-34.33	2859.60	189.91	-835.50	-489.62	-630.51
41	41	122.38	-1500.47	-48.57	2859.82	192.50	-832.37	-487.73	-628.57
41	42	125.25	-1500.47	47.93	2860.71	199.53	-855.20	-484.59	-624.01
42	42	125.25	-1500.34	34.71	2861.85	200.24	-855.37	-484.73	-624.24
42	43	128.12	-1500.34	130.82	2624.45	53.23	-798.72	-450.14	-574.23
43	43	128.12	-1507.02	119.66	2626.24	52.24	-801.65	-451.98	-576.26
43	44	130.99	-1507.02	212.24	2149.82	-248.97	-665.71	-385.81	-480.56
44	44	130.99	-1172.36	203.37	2369.93	259.62	-746.70	-393.93	-509.30
44	45	133.86	-1172.36	299.87	1647.78	-199.59	-530.27	-295.15	-366.40
45	45	133.86	-837.19	293.97	1885.39	322.44	-622.54	-304.66	-397.16
45	46	136.73	-837.19	390.47	903.21	-303.16	-322.73	-171.16	-203.93
46	46	136.73	-498.97	388.44	1158.27	233.06	-425.32	-181.44	-236.08
46	47	139.60	-498.97	304.75	-91.90	-563.43	-40.73	-12.03	9.30
101	101	0.00	-471.32	-295.99	-71.73	-521.13	-48.72	-12.43	7.23
101	102	2.62	-471.32	-387.87	1063.13	198.75	-389.71	-167.36	-217.22
102	102	2.62	-803.54	-387.69	808.21	-335.60	-284.80	-155.69	-183.65
102	103	5.24	-803.54	-295.20	1702.67	231.38	-551.20	-278.16	-361.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES2.Tinf.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
103	103	5.24	-1030.56	-298.58	1537.14	-129.12	-485.14	-270.25	-338.30
103	104	7.86	-1030.56	-206.16	2198.50	289.16	-678.30	-361.37	-470.26
104	104	7.86	-1259.26	-212.66	2045.21	-62.58	-620.88	-354.91	-449.44
104	105	10.48	-1259.26	-120.12	2481.11	211.40	-742.24	-415.83	-537.66
105	105	10.48	-1251.85	-128.98	2479.25	212.55	-739.00	-413.80	-535.45
105	106	13.10	-1251.85	-36.38	2695.88	345.79	-789.75	-445.42	-581.31
106	106	13.10	-1249.89	-46.91	2694.83	345.78	-788.78	-444.81	-580.61
106	107	15.72	-1249.89	45.68	2696.46	340.76	-769.73	-447.78	-585.06
107	107	15.72	-1254.37	34.41	2696.40	339.38	-771.46	-448.83	-586.14
107	108	18.34	-1254.37	127.00	2484.96	197.23	-683.00	-423.45	-549.61
108	108	18.34	-1268.28	116.10	2486.07	193.71	-688.64	-426.90	-553.23
108	109	20.96	-1268.28	207.81	2061.42	-85.72	-530.69	-373.13	-475.70
109	109	20.96	-1279.15	198.25	2063.05	-88.04	-535.24	-375.94	-478.70
109	110	23.58	-1279.15	290.81	1422.41	-506.41	-307.23	-293.38	-359.55
110	110	23.58	-2010.91	282.04	2334.69	79.74	-1071.94	-615.73	-741.28
110	111	26.20	-2014.40	300.25	1558.67	-406.38	-861.94	-507.04	-584.33
111	111	26.20	-2676.36	294.03	2435.56	139.72	-1472.31	-825.41	-966.21
111	112	29.55	-2684.65	312.89	1436.35	-503.29	-1165.78	-691.22	-773.21
112	112	29.55	-2343.97	308.78	1688.17	31.73	-1266.64	-700.46	-804.07
112	10113	32.90	-2294.76	321.55	603.07	-669.19	-868.39	-546.10	-589.84
113	113	32.90	-2240.73	-317.55	622.03	-619.88	-865.33	-540.19	-585.33
113	114	36.03	-2284.27	-315.65	1648.69	49.31	-1253.77	-683.78	-784.56
114	114	36.03	-2567.90	-319.25	1435.11	-402.27	-1166.78	-674.74	-757.16
114	115	39.16	-2560.17	-300.56	2378.47	211.47	-1472.44	-799.27	-935.92
115	115	39.16	-1861.23	-306.36	1345.50	-485.26	-767.94	-437.42	-498.81
115	116	42.29	-1857.59	-294.85	2274.95	103.66	-1035.26	-565.66	-683.58
116	116	42.29	-1328.50	-300.68	1423.30	-560.58	-299.21	-297.63	-362.25
116	117	45.42	-1328.50	-192.85	2197.65	-58.91	-562.19	-399.16	-508.95
117	117	45.42	-1342.99	-201.79	2194.71	-64.98	-567.25	-402.14	-511.82
117	118	48.55	-1342.99	-92.53	2654.81	234.87	-728.68	-461.71	-597.91
118	118	48.55	-1355.50	-104.71	2652.31	229.63	-733.04	-464.29	-600.41
118	119	51.68	-1355.50	5.78	2807.14	332.92	-794.78	-483.23	-627.84
119	119	51.68	-1370.62	-8.52	2805.77	327.56	-800.37	-486.60	-631.22
119	120	54.81	-1374.64	101.86	2659.44	233.54	-764.74	-465.80	-601.01
120	120	54.81	-1398.54	87.15	2659.85	226.61	-774.12	-471.50	-606.91
120	121	57.94	-1398.54	196.18	2216.44	-55.81	-639.47	-410.97	-519.62
121	121	57.94	-1412.83	182.84	2217.79	-59.31	-645.29	-414.55	-523.39
121	122	61.07	-1412.83	282.90	1476.78	-533.90	-412.49	-314.54	-379.12
122	122	61.07	-2090.61	272.50	2424.35	126.98	-1166.96	-641.76	-770.45
122	123	64.20	-2094.78	303.09	1541.80	-433.23	-911.91	-520.44	-595.45
123	123	64.20	-2672.33	296.85	2471.70	234.33	-1540.25	-839.10	-982.36
123	124	67.55	-2680.61	327.04	1444.55	-433.09	-1210.01	-703.22	-787.06
124	124	67.55	-2389.33	323.62	1657.33	20.32	-1293.98	-710.31	-812.41
124	10125	70.90	-2343.01	342.38	514.40	-722.78	-868.04	-550.43	-589.80
125	125	70.90	-2365.93	-360.15	471.73	-799.23	-838.37	-541.75	-577.41
125	126	74.23	-2402.52	-325.74	1676.07	-13.17	-1280.41	-707.62	-809.45
126	126	74.23	-2732.97	-329.35	1423.44	-545.56	-1175.67	-695.78	-775.87
126	127	77.56	-2724.75	-329.41	2520.52	167.34	-1528.47	-841.12	-984.63

CÁLCULO TENSIONAL

Hipótesis de cálculo:

FRECUENTES2.Tinf.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
127	127	77.56	-2076.25	-335.29	1452.04	-608.70	-809.63	-477.68	-542.73
127	128	80.89	-2072.37	-310.38	2551.80	88.15	-1124.12	-629.81	-761.88
128	128	80.89	-1616.98	-316.84	1648.52	-672.84	-428.98	-349.84	-420.25
128	129	84.22	-1616.98	-201.24	2512.56	-116.57	-708.25	-465.31	-586.84
129	129	84.22	-1625.91	-211.23	2509.21	-121.20	-711.06	-466.92	-588.27
129	130	87.55	-1625.91	-93.99	3016.93	206.27	-875.40	-534.80	-686.08
130	130	87.55	-1632.94	-107.23	3014.12	202.50	-877.55	-536.04	-687.18
130	131	90.88	-1632.94	8.78	3180.47	309.93	-929.91	-558.55	-719.51
131	131	90.88	-1642.47	-7.41	3178.98	306.18	-933.30	-560.58	-721.50
131	132	94.21	-1642.47	110.13	3008.04	196.09	-874.78	-538.32	-689.17
132	132	94.21	-1660.98	93.65	3008.64	190.90	-882.11	-542.77	-693.80
132	133	97.54	-1660.98	209.44	2504.62	-134.34	-713.51	-476.36	-597.75
133	133	97.54	-1669.61	194.77	2506.27	-135.96	-717.19	-478.64	-600.21
133	134	100.87	-1669.61	292.42	1678.11	-671.43	-439.95	-369.44	-442.50
134	134	100.87	-2242.87	281.64	2677.41	124.43	-1235.57	-686.65	-826.35
134	135	104.20	-2271.20	308.40	1682.69	-514.33	-957.27	-555.37	-634.93
135	135	104.20	-2792.54	303.88	2649.87	235.43	-1598.23	-874.49	-1025.57
135	136	107.55	-2800.83	318.62	1595.78	-450.77	-1256.55	-735.27	-825.73
136	136	107.55	-2451.26	317.37	1847.17	86.68	-1353.84	-742.36	-854.34
136	10137	110.90	-2394.30	356.58	653.48	-686.16	-907.22	-573.12	-619.45
137	137	110.90	-2341.75	-288.56	673.18	-636.82	-904.98	-567.66	-615.44
137	138	113.77	-2394.11	-276.86	1522.21	-94.41	-1221.46	-691.68	-786.58
138	138	113.77	-2719.27	-279.96	1269.24	-625.54	-1114.22	-678.62	-751.72
138	139	116.64	-2712.18	-280.18	2057.79	-119.63	-1355.76	-784.28	-903.99
139	139	116.64	-1850.62	-285.65	1132.88	-573.95	-690.49	-424.69	-478.79
139	140	119.51	-1847.28	-245.65	1888.52	-101.30	-895.95	-530.36	-631.46
140	140	119.51	-1026.82	-250.91	1226.68	-319.96	-257.89	-263.09	-326.66
140	141	122.38	-1026.82	-149.60	1801.44	57.78	-470.21	-336.10	-431.89
141	141	122.38	-1034.99	-156.23	1800.28	54.65	-473.17	-337.86	-433.61
141	142	125.25	-1034.99	-54.90	2103.15	258.32	-598.69	-374.45	-486.16
142	142	125.25	-1035.12	-62.59	2102.45	257.87	-598.59	-374.37	-486.04
142	143	128.12	-1035.12	38.76	2136.62	289.34	-637.96	-375.01	-486.61
143	143	128.12	-1028.44	30.72	2136.66	291.36	-635.35	-373.44	-485.00
143	144	130.99	-1028.44	132.03	1903.18	151.26	-588.84	-338.27	-433.80
144	144	130.99	-1013.16	124.67	1904.26	156.50	-583.09	-334.83	-430.33
144	145	133.86	-1013.16	225.98	1401.13	-156.32	-450.40	-263.55	-326.91
145	145	133.86	-836.88	220.47	1511.16	91.35	-484.66	-262.90	-335.94
145	146	136.73	-836.88	321.90	732.92	-397.36	-264.84	-154.69	-179.05
146	146	136.73	-475.22	318.57	986.33	144.98	-357.99	-159.19	-205.15
146	147	139.60	-475.22	303.08	-70.62	-521.68	-50.44	-13.51	6.04

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.Tinf.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
1	1	0.00	-449.04	-241.30	-49.24	-479.11	-59.24	-14.44	3.34
1	2	2.62	-449.04	-322.75	922.96	123.45	-323.17	-150.39	-195.29
2	2	2.62	-628.27	-327.64	809.34	-128.65	-285.58	-151.72	-186.99
2	3	5.24	-628.27	-230.24	1540.48	321.36	-475.89	-255.04	-338.13
3	3	5.24	-805.02	-232.69	1426.77	69.96	-437.31	-255.77	-329.20
3	4	7.86	-805.02	-135.27	1908.98	362.91	-552.49	-325.31	-431.11
4	4	7.86	-818.59	-135.31	1911.17	360.08	-558.18	-328.84	-434.89
4	5	10.48	-818.59	-38.21	2138.66	492.61	-597.13	-363.72	-486.27
5	5	10.48	-826.00	-36.05	2140.84	491.64	-600.42	-365.80	-488.55
5	6	13.10	-826.00	61.43	2107.65	460.33	-562.01	-365.13	-488.08
6	6	13.10	-827.96	65.77	2109.47	460.78	-563.11	-365.86	-488.96
6	7	15.72	-827.96	163.05	1809.83	262.28	-446.22	-328.78	-435.35
7	7	15.72	-823.48	169.02	1810.96	264.27	-444.67	-327.90	-434.52
7	8	18.34	-823.48	266.38	1240.56	-103.89	-248.54	-253.76	-326.81
8	8	18.34	-1603.37	273.24	2106.76	382.40	-1002.01	-565.47	-692.16
8	9	20.96	-1606.86	321.39	1339.12	-90.11	-807.42	-456.80	-533.78
9	9	20.96	-2505.35	326.62	2052.88	94.10	-1356.00	-769.84	-895.74
9	10	23.58	-2511.84	297.17	1241.32	-415.55	-1128.36	-658.66	-733.92
10	10	23.58	-2370.51	301.93	1357.00	-173.63	-1181.09	-666.59	-751.89
10	10011	26.20	-2322.58	266.67	578.66	-664.47	-903.77	-551.56	-592.08
11	11	26.20	-2349.64	-313.28	579.62	-671.88	-914.91	-558.01	-598.78
11	12	29.55	-2424.34	-281.85	1658.93	23.02	-1334.76	-715.58	-815.30
12	12	29.55	-2743.05	-283.18	1426.38	-472.17	-1243.36	-708.02	-787.81
12	13	32.90	-2734.76	-295.31	2396.78	158.76	-1556.27	-836.07	-972.00
13	13	32.90	-2000.98	-299.51	1381.43	-495.46	-855.34	-472.68	-534.90
13	14	36.03	-1975.31	-303.64	2378.46	134.64	-1117.64	-606.74	-731.52
14	14	36.03	-1434.32	-314.38	1528.87	-511.60	-417.37	-330.31	-399.56
14	15	39.16	-1434.32	-225.24	2402.07	38.86	-680.00	-448.89	-572.52
15	15	39.16	-1417.68	-236.68	2404.27	45.11	-673.90	-445.29	-568.98
15	16	42.29	-1417.68	-122.55	2966.52	396.74	-837.42	-522.28	-681.61
16	16	42.29	-1395.39	-131.66	2969.80	405.31	-829.33	-517.52	-676.93
16	17	45.42	-1395.39	-15.31	3199.84	546.06	-890.03	-549.73	-724.41
17	17	45.42	-1380.90	-20.39	3204.37	553.04	-885.24	-546.99	-721.90
17	18	48.55	-1380.90	95.15	3087.43	474.45	-840.40	-532.21	-700.91
18	18	48.55	-1368.39	95.28	3092.29	481.03	-836.45	-529.98	-698.95
18	19	51.68	-1368.39	210.62	2614.52	175.04	-683.37	-466.15	-606.45
19	19	51.68	-1353.27	215.72	2618.80	182.06	-678.29	-463.22	-603.73
19	20	54.81	-1353.27	329.86	1763.80	-360.83	-413.85	-347.86	-436.06
20	20	54.81	-2001.82	338.68	2711.29	310.66	-1169.27	-665.60	-816.76
20	21	57.94	-2005.99	361.39	1624.56	-366.62	-875.49	-514.01	-596.18
21	21	57.94	-2603.56	370.67	2536.21	262.62	-1494.73	-830.54	-979.28
21	22	61.07	-2611.30	331.76	1457.69	-427.13	-1165.79	-685.89	-769.71
22	22	61.07	-2321.15	331.87	1690.33	59.61	-1268.52	-700.18	-804.12
22	10023	64.20	-2276.86	301.26	711.85	-579.43	-890.59	-563.78	-614.87
23	23	64.20	-2356.65	-333.14	672.36	-670.68	-884.88	-568.79	-616.77
23	24	67.55	-2414.09	-301.42	1808.82	67.64	-1319.60	-729.49	-839.45
24	24	67.55	-2759.79	-305.71	1557.77	-468.43	-1220.95	-721.53	-809.96
24	25	70.90	-2751.51	-320.36	2617.59	220.05	-1562.67	-861.52	-1011.43

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.Tinf.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
25	25	70.90	-2103.74	-327.93	1550.44	-555.39	-844.59	-498.41	-569.96
25	26	74.23	-2099.86	-320.32	2648.71	134.25	-1149.96	-650.89	-791.00
26	26	74.23	-1624.02	-335.11	1747.60	-616.22	-462.19	-363.61	-441.04
26	27	77.56	-1624.02	-234.25	2713.19	-8.55	-744.80	-496.16	-633.78
27	27	77.56	-1611.97	-248.32	2715.86	-3.42	-740.57	-493.72	-631.46
27	28	80.89	-1608.20	-127.34	3340.19	388.33	-911.59	-580.54	-758.19
28	28	80.89	-1591.44	-138.25	3343.96	395.50	-905.73	-577.15	-754.97
28	29	84.22	-1591.44	-14.33	3598.08	548.84	-962.68	-614.42	-809.42
29	29	84.22	-1582.51	-20.48	3603.33	554.56	-960.20	-613.10	-808.42
29	30	87.55	-1582.51	101.21	3466.40	460.58	-897.86	-597.43	-785.79
30	30	87.55	-1575.48	101.28	3471.89	465.87	-896.17	-596.60	-785.30
30	31	90.88	-1575.48	224.91	2928.28	115.43	-711.47	-525.67	-682.14
31	31	90.88	-1565.95	230.72	2933.01	121.02	-708.65	-524.13	-680.88
31	32	94.21	-1565.95	351.31	1962.56	-497.56	-397.71	-394.94	-492.74
32	32	94.21	-2140.87	361.36	2961.78	310.63	-1233.86	-706.55	-868.65
32	33	97.54	-2145.31	373.07	1730.28	-455.04	-904.59	-534.11	-617.86
33	33	97.54	-2667.85	381.84	2695.59	293.30	-1545.82	-853.21	-1008.36
33	34	100.87	-2676.08	339.88	1493.74	-473.51	-1181.79	-691.55	-774.17
34	34	100.87	-2349.15	338.99	1744.95	57.03	-1287.70	-703.99	-808.27
34	10035	104.20	-2319.57	313.47	663.36	-654.60	-877.75	-557.66	-603.79
35	35	104.20	-2344.29	-329.97	664.54	-661.11	-888.15	-563.58	-609.95
35	36	107.55	-2398.41	-322.81	1791.07	63.97	-1302.52	-724.27	-833.31
36	36	107.55	-2744.46	-329.45	1539.16	-472.72	-1203.73	-716.28	-803.74
36	37	110.90	-2736.19	-341.37	2627.02	223.35	-1533.33	-862.74	-1015.22
37	37	110.90	-2054.75	-348.95	1578.06	-509.61	-819.14	-498.51	-574.20
37	38	113.77	-2051.40	-344.73	2560.34	98.03	-1075.35	-636.96	-775.67
38	38	113.77	-1545.01	-356.18	1675.35	-624.87	-348.00	-356.21	-436.41
38	39	116.64	-1545.01	-249.32	2544.20	-68.63	-635.53	-470.54	-602.95
39	39	116.64	-1529.73	-259.54	2544.12	-64.11	-629.54	-466.92	-599.23
39	40	119.51	-1529.73	-153.61	3138.02	317.22	-831.31	-544.26	-712.00
40	40	119.51	-1508.64	-162.92	3138.72	323.95	-823.21	-539.39	-707.03
40	41	122.38	-1508.64	-56.78	3454.54	528.61	-938.71	-579.27	-765.31
41	41	122.38	-1500.47	-64.83	3456.14	531.98	-935.83	-577.58	-763.68
41	42	125.25	-1500.47	42.12	3488.73	557.06	-964.15	-579.22	-766.31
42	42	125.25	-1500.34	36.35	3490.82	558.31	-964.49	-579.50	-766.75
42	43	128.12	-1500.34	142.76	3233.95	400.22	-904.47	-541.98	-712.33
43	43	128.12	-1507.02	139.83	3236.19	399.48	-907.47	-543.89	-714.46
43	44	130.99	-1507.02	242.76	2686.98	56.84	-758.91	-466.75	-602.27
44	44	130.99	-1172.36	242.24	2907.04	565.40	-839.88	-474.86	-631.00
44	45	133.86	-1172.36	349.18	2058.34	34.14	-601.49	-357.02	-459.42
45	45	133.86	-837.19	351.22	2295.46	555.90	-693.68	-366.45	-490.08
45	46	136.73	-837.19	458.16	1133.99	-171.77	-362.77	-205.94	-256.22
46	46	136.73	-498.97	463.20	1388.27	363.99	-465.22	-216.10	-288.19
46	47	139.60	-498.97	295.72	-91.22	-563.05	-40.85	-12.13	9.14
101	101	0.00	-471.32	-286.72	-71.19	-520.82	-48.82	-12.51	7.11
101	102	2.62	-471.32	-462.23	1270.97	317.07	-425.77	-198.67	-264.32
102	102	2.62	-803.54	-454.17	1016.22	-217.18	-320.88	-187.03	-230.78
102	103	5.24	-803.54	-351.83	2071.93	441.60	-615.26	-333.80	-444.71

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.Tinf.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
103	103	5.24	-1030.56	-347.20	1906.42	81.11	-549.21	-325.89	-421.97
103	104	7.86	-1030.56	-244.95	2682.31	564.59	-762.23	-434.28	-579.88
104	104	7.86	-1259.26	-243.52	2528.81	212.73	-704.78	-427.78	-559.01
104	105	10.48	-1259.26	-141.15	3032.69	525.41	-837.94	-498.94	-662.64
105	105	10.48	-1251.85	-142.48	3030.33	526.28	-834.61	-496.84	-660.31
105	106	13.10	-1251.85	-40.01	3269.41	672.31	-889.25	-531.84	-711.26
106	106	13.10	-1249.89	-43.69	3267.59	671.84	-888.15	-531.11	-710.38
106	107	15.72	-1249.89	58.77	3247.86	654.67	-865.39	-530.87	-710.00
107	107	15.72	-1254.37	53.36	3246.82	652.74	-866.95	-531.77	-710.85
107	108	18.34	-1254.37	155.83	2972.79	474.95	-767.63	-496.95	-660.14
108	108	18.34	-1268.28	149.59	2972.78	470.79	-773.08	-500.23	-663.51
108	109	20.96	-1268.28	250.90	2447.69	134.18	-597.71	-431.34	-563.22
109	109	20.96	-1279.15	244.68	2448.22	131.23	-602.07	-433.98	-565.97
109	110	23.58	-1279.15	347.09	1673.06	-363.72	-350.71	-331.15	-416.34
110	110	23.58	-2010.91	340.34	2584.48	221.94	-1115.28	-653.37	-797.88
110	111	26.20	-2014.40	355.95	1656.61	-350.62	-878.93	-521.80	-606.52
111	111	26.20	-2676.36	350.40	2533.03	195.21	-1489.22	-840.10	-988.30
111	112	29.55	-2684.65	329.49	1418.39	-513.52	-1162.66	-688.51	-769.14
112	112	29.55	-2343.97	323.28	1670.28	21.54	-1263.54	-697.77	-800.02
112	10113	32.90	-2294.76	333.17	540.63	-704.73	-857.56	-536.69	-575.69
113	113	32.90	-2240.73	-309.54	560.14	-655.12	-854.59	-530.87	-571.31
113	114	36.03	-2284.27	-315.59	1560.96	-0.63	-1238.55	-670.56	-764.68
114	114	36.03	-2567.90	-324.68	1347.86	-451.94	-1151.65	-661.59	-737.39
114	115	39.16	-2560.17	-374.83	2426.27	238.69	-1480.74	-806.48	-946.75
115	115	39.16	-1861.23	-367.14	1394.14	-457.57	-776.38	-444.75	-509.83
115	116	42.29	-1857.59	-370.84	2545.41	257.63	-1082.18	-606.41	-744.86
116	116	42.29	-1328.50	-361.11	1693.10	-406.99	-346.02	-338.28	-423.38
116	117	45.42	-1328.50	-243.13	2641.63	193.85	-639.21	-466.06	-609.55
117	117	45.42	-1342.99	-237.46	2637.05	186.85	-643.99	-468.79	-612.05
117	118	48.55	-1342.99	-116.85	3190.99	540.11	-821.70	-542.50	-719.40
118	118	48.55	-1355.50	-116.49	3186.12	533.53	-825.65	-544.72	-721.36
118	119	51.68	-1355.50	5.47	3359.91	647.61	-890.67	-566.52	-753.09
119	119	51.68	-1370.62	1.07	3355.63	640.59	-895.76	-569.45	-755.81
119	120	54.81	-1374.64	123.01	3161.13	519.15	-851.77	-541.39	-714.69
120	120	54.81	-1398.54	115.05	3158.37	510.41	-860.61	-546.62	-719.86
120	121	57.94	-1398.54	235.19	2610.04	168.27	-707.75	-470.28	-608.80
121	121	57.94	-1412.83	225.25	2608.27	162.99	-713.03	-473.39	-611.86
121	122	61.07	-1412.83	333.42	1718.49	-396.29	-454.43	-350.96	-433.89
122	122	61.07	-2090.61	323.56	2663.53	263.14	-1208.45	-677.80	-824.64
122	123	64.20	-2094.78	347.20	1631.82	-381.99	-927.53	-534.00	-615.85
123	123	64.20	-2672.33	339.00	2560.50	284.88	-1555.65	-852.48	-1002.48
123	124	67.55	-2680.61	334.22	1467.70	-419.91	-1214.02	-706.71	-792.31
124	124	67.55	-2389.33	330.37	1680.39	33.45	-1297.99	-713.78	-817.64
124	10125	70.90	-2343.01	336.38	540.23	-708.07	-872.52	-554.33	-595.65
125	125	70.90	-2365.93	-342.27	497.44	-784.60	-842.83	-545.62	-583.24
125	126	74.23	-2402.52	-335.47	1663.85	-20.13	-1278.29	-705.77	-806.68
126	126	74.23	-2732.97	-334.63	1411.66	-552.26	-1173.62	-694.00	-773.21
126	127	77.56	-2724.75	-418.14	2681.55	259.02	-1556.41	-865.38	-1021.12

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.Tinf.MZ+

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2076.25	-405.26	1613.73	-516.65	-837.68	-502.05	-579.37
127	128	80.89	-2072.37	-382.55	2952.95	316.53	-1193.72	-690.25	-852.77
128	128	80.89	-1616.98	-370.92	2048.80	-444.95	-498.42	-410.16	-510.94
128	129	84.22	-1616.98	-243.69	3074.25	203.20	-805.69	-549.95	-714.10
129	129	84.22	-1625.91	-236.97	3069.02	197.50	-808.18	-551.27	-715.11
129	130	87.55	-1625.91	-107.41	3641.77	562.00	-983.80	-628.95	-827.66
130	130	87.55	-1632.94	-106.29	3636.29	556.70	-985.49	-629.79	-828.15
130	131	90.88	-1632.94	21.33	3781.28	651.97	-1034.15	-649.08	-855.64
131	131	90.88	-1642.47	16.15	3776.55	646.38	-1036.98	-650.62	-856.90
131	132	94.21	-1642.47	145.85	3506.64	479.94	-961.28	-613.44	-802.15
132	132	94.21	-1660.98	136.69	3503.75	472.76	-968.01	-617.38	-805.98
132	133	97.54	-1660.98	264.33	2836.71	54.71	-771.12	-526.40	-673.00
133	133	97.54	-1669.61	253.15	2835.00	51.18	-774.22	-528.18	-674.70
133	134	100.87	-1669.61	355.95	1798.06	-603.14	-460.76	-387.51	-469.68
134	134	100.87	-2242.87	346.28	2794.83	191.28	-1255.94	-704.34	-852.95
134	135	104.20	-2271.20	339.81	1613.41	-553.77	-945.25	-544.93	-619.23
135	135	104.20	-2792.54	337.73	2580.75	196.08	-1586.24	-864.08	-1009.91
135	136	107.55	-2800.83	322.57	1472.90	-520.73	-1235.23	-716.75	-797.89
136	136	107.55	-2451.26	322.49	1724.78	17.00	-1332.61	-723.92	-826.61
136	10137	110.90	-2394.30	354.71	521.60	-761.25	-884.34	-553.25	-589.56
137	137	110.90	-2341.75	-303.06	541.61	-711.72	-882.15	-547.83	-585.63
137	138	113.77	-2394.11	-348.31	1483.36	-116.53	-1214.72	-685.83	-777.78
138	138	113.77	-2719.27	-341.16	1232.33	-646.56	-1107.82	-673.06	-743.36
138	139	116.64	-2712.18	-370.84	2247.05	-11.88	-1388.59	-812.79	-946.88
139	139	116.64	-1850.62	-362.00	1323.37	-465.51	-723.54	-453.40	-521.95
139	140	119.51	-1847.28	-314.52	2290.97	127.81	-965.77	-591.00	-722.64
140	140	119.51	-1026.82	-304.38	1629.42	-90.68	-327.76	-323.77	-417.91
140	141	122.38	-1026.82	-192.38	2342.31	365.69	-564.04	-417.60	-554.44
141	141	122.38	-1034.99	-183.92	2340.59	362.25	-566.91	-419.27	-556.04
141	142	125.25	-1034.99	-72.01	2707.62	602.45	-703.56	-465.53	-623.12
142	142	125.25	-1035.12	-65.81	2705.54	601.21	-703.22	-465.25	-622.69
142	143	128.12	-1035.12	46.28	2733.53	629.16	-741.52	-464.95	-621.86
143	143	128.12	-1028.44	50.13	2731.42	629.96	-738.53	-463.05	-619.76
143	144	130.99	-1028.44	162.13	2426.96	449.45	-679.71	-417.19	-552.48
144	144	130.99	-1013.16	163.78	2425.23	453.08	-673.47	-413.33	-548.37
144	145	133.86	-1013.16	275.58	1794.93	67.87	-518.72	-322.89	-416.13
145	145	133.86	-836.88	275.89	1901.68	313.67	-552.41	-321.74	-424.43
145	146	136.73	-836.88	388.13	948.88	-274.41	-302.31	-187.23	-227.98
146	146	136.73	-475.22	386.45	1198.61	265.83	-394.82	-191.18	-253.24
146	147	139.60	-475.22	303.22	-69.78	-521.19	-50.59	-13.64	5.84

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.Tinf.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-520.70	-331.88	-89.33	-558.70	-66.78	-16.58	5.13
1	2	2.62	-520.70	-100.13	237.54	-330.37	-207.72	-56.24	-49.94
2	2	2.62	-725.84	-100.14	92.72	-623.15	-164.40	-56.53	-38.41
2	3	5.24	-725.84	-51.70	291.29	-481.71	-253.19	-80.46	-71.05
3	3	5.24	-928.50	-51.47	146.40	-773.77	-208.90	-80.16	-58.90
3	4	7.86	-928.50	-3.05	217.59	-718.66	-245.71	-88.49	-69.31
4	4	7.86	-942.07	-2.81	217.28	-722.93	-250.93	-91.65	-72.54
4	5	10.48	-942.07	45.91	160.59	-754.40	-235.67	-84.31	-60.61
5	5	10.48	-949.48	46.10	160.14	-756.89	-238.48	-85.99	-62.31
5	6	13.10	-949.48	94.39	-23.98	-874.65	-171.22	-63.05	-28.14
6	6	13.10	-951.44	94.23	-24.62	-875.61	-171.88	-63.41	-28.47
6	7	15.72	-951.44	142.74	-335.17	-1079.10	-52.76	-25.03	27.69
7	7	15.72	-946.96	141.87	-336.16	-1078.32	-50.84	-23.82	29.00
7	8	18.34	-946.96	190.38	-771.33	-1366.48	119.80	29.74	106.77
8	8	18.34	-1473.25	188.33	-56.92	-879.06	-526.15	-199.47	-164.19
8	9	20.96	-1475.91	286.00	-684.80	-1274.63	-351.66	-111.89	-38.25
9	9	20.96	-2157.66	284.28	-142.82	-1134.31	-769.66	-349.23	-312.62
9	10	23.58	-2162.60	424.74	-1072.00	-1719.55	-508.92	-220.67	-126.87
10	10	23.58	-1968.60	421.56	-928.22	-1430.90	-555.88	-222.94	-140.97
10	10011	26.20	-1932.09	595.86	-2294.48	-2270.18	-167.42	-22.79	145.80
11	11	26.20	-1936.05	-686.85	-2298.11	-2273.43	-168.33	-23.17	145.66
11	12	29.55	-1992.94	-508.38	-256.79	-1014.11	-763.14	-320.65	-280.66
12	12	29.55	-2358.51	-513.13	-550.64	-1588.55	-658.47	-310.03	-245.78
12	13	32.90	-2352.20	-340.67	850.54	-702.99	-1060.13	-502.69	-524.68
13	13	32.90	-1930.86	-348.14	-22.29	-1384.38	-506.38	-228.32	-186.47
13	14	36.03	-1950.11	-178.02	751.73	-895.54	-746.87	-339.33	-343.68
14	14	36.03	-1652.76	-178.99	10.42	-1577.70	-134.16	-134.36	-91.83
14	15	39.16	-1652.76	-94.28	409.87	-1301.54	-308.72	-181.85	-158.98
15	15	39.16	-1636.12	-94.70	408.06	-1297.58	-301.91	-177.66	-154.53
15	16	42.29	-1636.12	-35.62	611.43	-1153.03	-399.69	-200.74	-186.75
16	16	42.29	-1613.83	-37.04	609.55	-1147.43	-390.67	-195.20	-180.91
16	17	45.42	-1613.83	28.03	623.13	-1130.77	-412.88	-194.82	-179.60
17	17	45.42	-1599.34	26.21	622.03	-1127.03	-407.07	-191.23	-175.82
17	18	48.55	-1599.34	87.56	445.20	-1238.52	-353.62	-167.29	-140.83
18	18	48.55	-1586.83	85.67	444.11	-1235.37	-348.59	-164.17	-137.54
18	19	51.68	-1586.83	143.54	85.41	-1470.18	-220.86	-117.97	-70.83
19	19	51.68	-1571.71	140.91	83.87	-1466.51	-214.72	-114.17	-66.81
19	20	54.81	-1571.71	200.79	-449.82	-1820.76	-13.82	-46.74	30.04
20	20	54.81	-1941.92	196.35	359.28	-1122.26	-658.56	-280.81	-256.28
20	21	57.94	-1945.09	347.85	-495.43	-1668.64	-402.66	-164.07	-88.54
21	21	57.94	-2278.75	342.74	295.37	-1012.75	-900.03	-406.04	-388.80
21	22	61.07	-2284.65	514.70	-1053.15	-1866.16	-509.60	-221.08	-121.17
22	22	61.07	-1902.86	514.48	-763.85	-1289.60	-606.57	-227.30	-151.19
22	10023	64.20	-1869.13	720.37	-2750.21	-2518.33	-41.08	57.51	259.55
23	23	64.20	-1938.53	-732.86	-2805.12	-2620.51	-24.64	58.01	264.38
23	24	67.55	-1982.28	-560.09	-666.27	-1294.78	-644.60	-249.55	-177.83
24	24	67.55	-2383.53	-558.80	-984.55	-1918.59	-533.37	-239.27	-141.30
24	25	70.90	-2377.22	-389.78	575.92	-934.76	-977.21	-454.32	-452.98

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.Tinf.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
25	25	70.90	-2054.91	-391.54	-363.47	-1757.17	-403.84	-179.84	-108.96
25	26	74.23	-2051.96	-220.64	629.71	-1125.72	-693.87	-316.55	-305.77
26	26	74.23	-1873.79	-215.20	-175.52	-1936.38	-115.98	-110.41	-44.86
26	27	77.56	-1873.79	-131.39	384.41	-1566.53	-318.22	-182.55	-148.17
27	27	77.56	-1861.74	-127.79	382.16	-1564.22	-313.11	-179.36	-144.74
27	28	80.89	-1865.50	-64.80	702.35	-1356.57	-426.47	-221.47	-204.66
28	28	80.89	-1848.74	-62.89	700.04	-1352.89	-419.50	-217.17	-200.07
28	29	84.22	-1848.74	-1.45	807.25	-1285.88	-446.27	-232.75	-222.33
29	29	84.22	-1839.81	-0.86	805.93	-1283.94	-442.59	-230.45	-219.86
29	30	87.55	-1839.81	69.22	680.03	-1371.91	-380.70	-216.71	-200.00
30	30	87.55	-1832.78	69.69	679.20	-1370.26	-377.86	-214.93	-198.10
30	31	90.88	-1832.78	134.63	343.10	-1600.20	-231.17	-175.34	-141.35
31	31	90.88	-1823.25	135.09	341.69	-1598.14	-227.23	-172.87	-138.71
31	32	94.21	-1823.25	199.27	-213.70	-1975.27	5.97	-106.07	-43.05
32	32	94.21	-2106.46	198.12	659.83	-1119.33	-727.71	-333.08	-324.20
32	33	97.54	-2109.84	371.18	-273.78	-1715.00	-449.85	-205.28	-140.61
33	33	97.54	-2355.50	371.37	585.47	-920.23	-971.68	-450.23	-449.75
33	34	100.87	-2361.77	551.76	-956.73	-1892.87	-531.05	-237.81	-142.26
34	34	100.87	-1972.89	557.69	-642.98	-1275.42	-646.05	-250.37	-180.82
34	10035	104.20	-1918.59	772.16	-2921.58	-2676.29	1.64	80.91	295.69
35	35	104.20	-1929.47	-732.82	-2925.38	-2681.64	-2.17	78.96	293.95
35	36	107.55	-1970.69	-536.78	-796.57	-1367.79	-604.27	-228.63	-148.54
36	36	107.55	-2376.41	-530.08	-1114.89	-1992.99	-494.69	-219.41	-113.11
36	37	110.90	-2370.11	-364.76	399.35	-1042.39	-915.45	-429.62	-417.48
37	37	110.90	-2011.86	-364.18	-518.35	-1817.21	-347.31	-154.43	-74.59
37	38	113.77	-2009.31	-214.50	318.91	-1286.83	-586.03	-270.79	-241.52
38	38	113.77	-1793.72	-211.73	-463.87	-2067.21	36.56	-70.36	9.07
38	39	116.64	-1793.72	-158.87	67.94	-1707.96	-187.08	-134.01	-82.61
39	39	116.64	-1778.44	-157.76	66.53	-1704.17	-180.87	-130.19	-78.59
39	40	119.51	-1778.44	-104.84	443.17	-1450.08	-341.59	-174.77	-143.10
40	40	119.51	-1757.35	-105.20	441.96	-1444.44	-333.16	-169.61	-137.71
40	41	122.38	-1757.35	-51.53	666.36	-1293.81	-431.52	-195.57	-175.72
41	41	122.38	-1749.18	-52.54	665.55	-1291.82	-428.20	-193.52	-173.55
41	42	125.25	-1749.18	0.25	740.55	-1242.98	-464.72	-201.29	-185.69
42	42	125.25	-1749.05	-1.28	739.87	-1243.33	-464.55	-201.16	-185.50
42	43	128.12	-1749.05	52.03	666.85	-1295.49	-439.46	-190.94	-172.08
43	43	128.12	-1755.73	49.62	666.02	-1297.99	-441.91	-192.39	-173.52
43	44	130.99	-1755.73	100.00	451.33	-1447.29	-356.57	-165.13	-135.91
44	44	130.99	-1364.93	96.61	724.76	-859.61	-445.47	-173.59	-168.84
44	45	133.86	-1364.93	149.39	371.75	-1104.07	-300.53	-129.79	-107.80
45	45	133.86	-973.63	144.65	664.65	-501.42	-402.00	-139.81	-142.99
45	46	136.73	-973.63	197.43	173.72	-840.87	-197.37	-79.54	-58.63
46	46	136.73	-579.27	191.33	486.20	-222.42	-310.47	-90.53	-95.49
46	47	139.60	-579.27	516.24	-142.00	-656.40	-46.31	-13.89	12.04
101	101	0.00	-547.29	-517.33	-116.27	-607.09	-55.38	-14.51	9.37
101	102	2.62	-547.29	-186.74	442.18	-223.70	-283.94	-83.53	-87.54
102	102	2.62	-935.65	-189.94	129.30	-840.58	-168.42	-71.06	-49.13
102	103	5.24	-935.65	-139.45	560.81	-543.67	-344.49	-124.59	-124.07

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.Tinf.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
103	103	5.24	-1201.54	-141.88	357.84	-959.50	-272.23	-116.44	-98.45
103	104	7.86	-1201.54	-91.17	662.94	-748.79	-395.91	-154.55	-151.53
104	104	7.86	-1469.10	-92.77	473.50	-1154.84	-333.16	-147.97	-127.98
104	105	10.48	-1469.10	-42.23	650.34	-1031.41	-404.13	-170.38	-158.78
105	105	10.48	-1461.69	-43.17	650.90	-1028.86	-401.34	-168.72	-157.10
105	106	13.10	-1461.69	7.33	697.87	-993.66	-419.34	-175.20	-165.26
106	106	13.10	-1459.73	6.89	698.50	-992.71	-418.68	-174.83	-164.92
106	107	15.72	-1459.73	57.40	614.30	-1046.49	-383.49	-165.17	-150.13
107	107	15.72	-1464.21	57.67	615.19	-1047.32	-385.40	-166.36	-151.42
107	108	18.34	-1464.21	108.16	397.96	-1191.16	-296.70	-140.28	-113.26
108	108	18.34	-1478.12	109.60	399.33	-1194.53	-302.39	-143.76	-116.94
108	109	20.96	-1478.12	160.91	45.55	-1430.49	-159.50	-100.74	-54.64
109	109	20.96	-1488.99	163.65	46.84	-1433.02	-163.98	-103.50	-57.57
109	110	23.58	-1488.99	214.21	-448.17	-1763.83	33.98	-42.83	29.92
110	110	23.58	-1924.53	218.46	320.98	-1152.98	-608.79	-275.79	-251.20
110	111	26.20	-1927.19	350.22	-400.78	-1609.40	-405.96	-175.20	-106.83
111	111	26.20	-2310.74	354.71	348.70	-1041.08	-884.04	-413.82	-400.07
111	112	29.55	-2317.05	537.49	-1154.59	-1983.36	-472.16	-204.21	-96.75
112	112	29.55	-1915.28	550.55	-836.01	-1359.20	-583.31	-214.41	-133.20
112	10113	32.90	-1877.79	727.20	-3013.96	-2701.06	20.12	100.70	320.63
113	113	32.90	-1836.52	-811.46	-2985.78	-2647.61	14.42	101.87	319.64
113	114	36.03	-1897.38	-588.84	-782.29	-1299.28	-604.21	-221.97	-145.53
114	114	36.03	-2234.85	-570.41	-1047.98	-1824.36	-510.23	-213.27	-114.88
114	115	39.16	-2228.97	-385.99	453.72	-881.18	-929.58	-421.43	-416.49
115	115	39.16	-1829.39	-381.88	-439.03	-1605.07	-364.79	-144.81	-74.22
115	116	42.29	-1826.61	-196.23	465.40	-1029.80	-629.27	-269.41	-253.23
116	116	42.29	-1547.01	-195.47	-271.28	-1729.47	20.39	-75.90	-15.89
116	117	45.42	-1547.01	-127.04	233.26	-1386.44	-190.12	-136.93	-103.00
117	117	45.42	-1561.50	-125.84	234.40	-1390.15	-195.94	-140.53	-106.78
117	118	48.55	-1561.50	-64.78	532.39	-1184.98	-327.13	-175.63	-156.77
118	118	48.55	-1574.01	-63.07	533.36	-1188.20	-332.13	-178.73	-160.04
118	119	51.68	-1574.01	6.49	630.95	-1117.36	-385.18	-188.81	-174.28
119	119	51.68	-1589.13	8.48	632.48	-1121.03	-391.32	-192.61	-178.30
119	120	54.81	-1585.11	69.29	511.16	-1191.77	-361.72	-174.60	-152.43
120	120	54.81	-1609.01	72.84	513.59	-1197.53	-371.48	-180.60	-158.78
120	121	57.94	-1609.01	134.30	190.68	-1406.74	-264.62	-137.70	-97.10
121	121	57.94	-1623.30	140.00	193.08	-1409.64	-270.64	-141.44	-101.10
121	122	61.07	-1623.30	214.18	-345.96	-1762.43	-82.71	-71.16	-0.16
122	122	61.07	-1990.32	222.35	466.97	-1068.09	-710.02	-306.93	-289.27
122	123	64.20	-1993.49	375.53	-479.41	-1667.79	-438.92	-176.02	-100.74
123	123	64.20	-2283.91	382.79	337.41	-959.77	-939.05	-416.28	-401.42
123	124	67.55	-2290.22	550.94	-1248.01	-1956.37	-495.34	-196.74	-83.20
124	124	67.55	-1950.85	560.59	-978.25	-1428.33	-589.55	-205.56	-114.25
124	10125	70.90	-1915.57	741.26	-3199.52	-2802.92	38.04	113.12	345.17
125	125	70.90	-1964.74	-840.76	-3248.26	-2895.65	61.75	117.38	353.42
125	126	74.23	-2023.22	-618.35	-810.73	-1398.44	-623.79	-238.19	-157.99
126	126	74.23	-2416.94	-612.62	-1125.37	-2017.84	-510.55	-226.62	-120.40
126	127	77.56	-2410.68	-382.52	504.20	-989.71	-973.33	-451.68	-445.99

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES1.Tinf.MZ-

TREN DOMINANTE SIN GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
127	127	77.56	-2069.89	-385.17	-432.65	-1805.30	-392.63	-173.32	-98.17
127	128	80.89	-2066.94	-214.12	532.58	-1188.30	-680.19	-305.62	-288.07
128	128	80.89	-1874.36	-216.71	-267.73	-2000.73	-76.39	-99.24	-28.25
128	129	84.22	-1874.36	-150.09	341.36	-1596.01	-302.84	-176.81	-139.26
129	129	84.22	-1883.29	-151.31	342.69	-1597.95	-306.52	-179.12	-141.74
129	130	87.55	-1883.29	-83.19	734.84	-1339.77	-446.07	-229.87	-214.57
130	130	87.55	-1890.32	-84.85	735.70	-1341.41	-448.92	-231.66	-216.48
130	131	90.88	-1890.32	-19.73	908.61	-1231.03	-501.29	-255.24	-250.58
131	131	90.88	-1899.85	-20.63	909.90	-1233.16	-505.21	-257.68	-253.19
131	132	94.21	-1899.85	51.28	851.04	-1277.69	-468.37	-252.19	-245.68
132	132	94.21	-1918.36	51.46	853.50	-1281.80	-476.06	-256.93	-250.72
132	133	97.54	-1918.36	116.84	574.23	-1474.95	-351.85	-224.08	-204.21
133	133	97.54	-1926.99	118.88	576.62	-1476.14	-355.67	-226.48	-206.84
133	134	100.87	-1926.99	209.55	52.33	-1832.17	-139.60	-162.58	-115.81
134	134	100.87	-2213.68	211.74	930.28	-989.40	-830.22	-397.86	-408.23
134	135	104.20	-2193.16	404.46	-60.03	-1612.79	-530.77	-255.98	-206.63
135	135	104.20	-2423.54	401.00	802.73	-811.52	-1046.90	-497.94	-512.92
135	136	107.55	-2429.86	577.31	-813.72	-1829.55	-590.61	-274.46	-189.34
136	136	107.55	-2027.67	579.43	-495.28	-1205.34	-701.63	-284.53	-225.66
136	10137	110.90	-1984.29	771.15	-2782.86	-2619.32	-51.64	45.26	248.96
137	137	110.90	-1947.29	-685.85	-2753.17	-2566.24	-59.41	45.22	246.61
137	138	113.77	-1987.17	-480.65	-1013.90	-1499.57	-543.55	-208.97	-118.57
138	138	113.77	-2400.84	-480.58	-1326.74	-2123.87	-438.54	-202.37	-86.20
138	139	116.64	-2395.44	-323.30	-163.14	-1393.08	-761.55	-364.02	-319.84
139	139	116.64	-1807.27	-323.09	-918.03	-1834.87	-241.02	-90.54	7.53
139	140	119.51	-1804.73	-203.01	-164.57	-1360.72	-450.36	-195.83	-143.83
140	140	119.51	-1184.84	-203.48	-666.29	-1546.00	90.67	-2.36	74.69
140	141	122.38	-1184.84	-147.91	-162.13	-1213.03	-105.27	-64.66	-15.76
141	141	122.38	-1193.01	-147.34	-161.19	-1214.95	-108.61	-66.73	-17.96
141	142	125.25	-1193.01	-91.82	182.13	-990.46	-240.15	-109.16	-80.09
142	142	125.25	-1193.14	-90.71	182.84	-990.09	-240.32	-109.30	-80.29
142	143	128.12	-1193.14	-35.20	363.59	-875.08	-307.20	-131.59	-113.70
143	143	128.12	-1186.46	-33.68	364.26	-872.67	-304.72	-130.11	-112.23
143	144	130.99	-1186.46	21.86	381.09	-867.92	-306.69	-132.06	-116.63
144	144	130.99	-1171.18	24.07	381.97	-862.78	-300.93	-128.58	-113.10
144	145	133.86	-1171.18	79.86	232.68	-969.65	-237.55	-109.85	-87.99
145	145	133.86	-968.99	82.16	369.03	-684.28	-276.24	-109.56	-99.24
145	146	136.73	-968.99	137.52	53.86	-902.76	-147.44	-70.19	-44.71
146	146	136.73	-551.19	140.13	367.77	-276.37	-251.71	-75.87	-76.19
146	147	139.60	-551.19	394.30	-115.56	-607.87	-57.03	-15.53	8.27

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES2.Tinf.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
1	1	0.00	-449.04	-241.30	-49.24	-479.11	-59.24	-14.44	3.34
1	2	2.62	-449.04	-331.18	945.01	136.00	-327.00	-153.71	-200.29
2	2	2.62	-628.27	-335.88	831.31	-116.14	-289.39	-155.03	-191.96
2	3	5.24	-628.27	-238.48	1584.03	346.16	-483.44	-261.61	-348.00
3	3	5.24	-805.02	-240.83	1470.24	94.71	-444.86	-262.32	-339.05
3	4	7.86	-805.02	-143.41	1973.77	399.79	-563.74	-335.07	-445.79
4	4	7.86	-818.59	-143.43	1975.89	396.93	-569.41	-338.59	-449.56
4	5	10.48	-818.59	-46.33	2224.66	541.57	-612.05	-376.68	-505.75
5	5	10.48	-826.00	-44.23	2226.77	540.56	-615.33	-378.74	-508.02
5	6	13.10	-826.00	53.25	2215.00	521.44	-580.63	-381.30	-512.40
6	6	13.10	-827.96	57.47	2216.76	521.86	-581.72	-382.03	-513.27
6	7	15.72	-827.96	154.76	1938.85	335.73	-468.60	-348.23	-464.59
7	7	15.72	-823.48	160.56	1939.94	337.69	-467.05	-347.33	-463.74
7	8	18.34	-823.48	257.91	1391.72	-17.83	-274.77	-276.54	-361.06
8	8	18.34	-1603.37	264.56	2257.89	468.44	-1028.23	-588.24	-726.41
8	9	20.96	-1606.86	312.71	1513.00	8.88	-837.59	-483.00	-573.17
9	9	20.96	-2505.35	317.70	2226.76	193.09	-1386.17	-796.04	-935.13
9	10	23.58	-2511.84	288.25	1438.57	-303.25	-1162.58	-688.38	-778.62
10	10	23.58	-2370.51	292.76	1554.27	-61.32	-1215.32	-696.32	-796.59
10	10011	26.20	-2322.58	257.50	799.95	-538.49	-942.16	-584.90	-642.22
11	11	26.20	-2349.64	-311.52	800.96	-545.87	-953.31	-591.37	-648.93
11	12	29.55	-2424.34	-280.10	1874.39	145.68	-1372.14	-748.04	-864.12
12	12	29.55	-2743.05	-281.63	1641.94	-349.45	-1280.75	-740.50	-836.65
12	13	32.90	-2734.76	-293.76	2607.12	278.51	-1592.76	-867.76	-1019.66
13	13	32.90	-2000.98	-298.04	1591.86	-375.66	-891.85	-504.38	-582.58
13	14	36.03	-1975.31	-302.17	2584.30	251.83	-1153.35	-637.76	-778.16
14	14	36.03	-1434.32	-312.93	1734.78	-394.37	-453.09	-361.34	-446.21
14	15	39.16	-1434.32	-223.79	2603.44	153.50	-714.93	-479.23	-618.15
15	15	39.16	-1417.68	-235.19	2605.69	159.78	-708.85	-475.64	-614.62
15	16	42.29	-1417.68	-121.06	3163.29	508.76	-871.56	-551.93	-726.19
16	16	42.29	-1395.39	-130.11	3166.62	517.35	-863.48	-547.17	-721.53
16	17	45.42	-1395.39	-13.75	3391.79	655.34	-923.33	-578.65	-767.90
17	17	45.42	-1380.90	-18.75	3396.35	662.33	-918.55	-575.92	-765.40
17	18	48.55	-1380.90	96.79	3274.29	580.83	-872.82	-560.37	-743.25
18	18	48.55	-1368.39	97.01	3279.17	587.42	-868.87	-558.14	-741.30
18	19	51.68	-1368.39	212.36	2795.99	278.35	-714.86	-493.49	-647.57
19	19	51.68	-1353.27	217.55	2800.28	285.37	-709.77	-490.56	-644.85
19	20	54.81	-1353.27	331.69	1939.55	-260.77	-444.34	-374.34	-475.88
20	20	54.81	-2001.82	340.60	2887.06	410.72	-1199.77	-692.08	-856.58
20	21	57.94	-2005.99	363.31	1794.30	-269.99	-904.94	-539.59	-634.64
21	21	57.94	-2603.56	372.68	2705.96	359.25	-1524.18	-856.12	-1017.74
21	22	61.07	-2611.30	333.77	1621.13	-334.09	-1194.15	-710.52	-806.74
22	22	61.07	-2321.15	333.95	1853.77	152.66	-1296.87	-724.81	-841.16
22	10023	64.20	-2276.86	303.34	868.77	-490.09	-917.81	-587.43	-650.43
23	23	64.20	-2356.65	-334.46	829.27	-581.35	-912.10	-592.43	-652.32
23	24	67.55	-2414.09	-302.74	1970.16	159.49	-1347.59	-753.80	-876.01
24	24	67.55	-2759.79	-307.04	1719.09	-376.59	-1248.94	-745.84	-846.51
24	25	70.90	-2751.51	-321.69	2783.35	314.42	-1591.42	-886.50	-1048.99

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES2.Tinf.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
25	25	70.90	-2103.74	-329.31	1716.18	-461.03	-873.35	-523.39	-607.51
25	26	74.23	-2099.86	-321.70	2819.03	231.21	-1179.50	-676.56	-829.59
26	26	74.23	-1624.02	-336.56	1917.91	-519.26	-491.74	-389.28	-479.63
26	27	77.56	-1624.02	-235.70	2888.33	91.16	-775.19	-522.55	-673.46
27	27	77.56	-1611.97	-249.86	2891.02	96.29	-770.96	-520.11	-671.15
27	28	80.89	-1608.20	-128.88	3520.49	490.97	-942.87	-607.71	-799.05
28	28	80.89	-1591.44	-139.90	3524.27	498.15	-937.01	-604.32	-795.83
28	29	84.22	-1591.44	-15.98	3783.87	654.61	-994.91	-642.41	-851.51
29	29	84.22	-1582.51	-22.23	3789.14	660.35	-992.43	-641.09	-850.52
29	30	87.55	-1582.51	99.46	3658.02	569.67	-931.11	-626.31	-829.20
30	30	87.55	-1575.48	99.45	3663.54	574.98	-929.42	-625.47	-828.72
30	31	90.88	-1575.48	223.07	3126.06	228.03	-745.78	-555.48	-726.96
31	31	90.88	-1565.95	228.80	3130.82	233.64	-742.96	-553.94	-725.70
31	32	94.21	-1565.95	349.39	2166.77	-381.31	-433.13	-425.71	-539.01
32	32	94.21	-2140.87	359.38	3166.04	426.92	-1269.29	-737.32	-914.93
32	33	97.54	-2145.31	371.09	1941.14	-335.00	-941.17	-565.88	-665.64
33	33	97.54	-2667.85	379.83	2906.50	413.37	-1582.41	-884.99	-1056.15
33	34	100.87	-2676.08	337.87	1711.34	-349.63	-1219.54	-724.34	-823.48
34	34	100.87	-2349.15	337.01	1962.63	180.95	-1325.47	-736.79	-857.59
34	10035	104.20	-2319.57	311.49	887.64	-526.92	-916.66	-591.45	-654.60
35	35	104.20	-2344.29	-324.63	888.90	-533.39	-927.07	-597.38	-660.78
35	36	107.55	-2398.41	-317.46	1997.53	181.51	-1338.34	-755.38	-880.09
36	36	107.55	-2744.46	-323.93	1745.70	-355.14	-1239.57	-747.40	-850.53
36	37	110.90	-2736.19	-335.85	2815.06	330.40	-1565.95	-891.07	-1057.83
37	37	110.90	-2054.75	-343.18	1766.15	-402.53	-851.77	-526.85	-616.81
37	38	113.77	-2051.40	-338.96	2731.87	195.68	-1105.11	-662.81	-814.53
38	38	113.77	-1545.01	-350.14	1846.89	-527.22	-377.76	-382.05	-475.28
38	39	116.64	-1545.01	-243.28	2698.40	19.15	-662.28	-493.77	-637.89
39	39	116.64	-1529.73	-253.22	2698.30	23.67	-656.29	-490.15	-634.16
39	40	119.51	-1529.73	-147.30	3274.10	394.68	-854.91	-564.76	-742.83
40	40	119.51	-1508.64	-156.38	3274.77	401.40	-846.81	-559.89	-737.86
40	41	122.38	-1508.64	-50.24	3571.80	595.36	-959.06	-596.94	-791.88
41	41	122.38	-1500.47	-58.10	3573.35	598.71	-956.16	-595.24	-790.24
41	42	125.25	-1500.47	48.85	3586.64	612.80	-981.14	-593.98	-788.49
42	42	125.25	-1500.34	43.20	3588.66	614.01	-981.46	-594.25	-788.92
42	43	128.12	-1500.34	149.61	3312.13	444.72	-918.03	-553.76	-730.04
43	43	128.12	-1507.02	146.74	3314.29	443.95	-921.02	-555.66	-732.15
43	44	130.99	-1507.02	249.68	2745.25	90.01	-769.02	-475.53	-615.47
44	44	130.99	-1172.36	249.12	2965.24	598.53	-849.98	-483.63	-644.18
44	45	133.86	-1172.36	356.06	2096.77	56.03	-608.16	-362.81	-468.13
45	45	133.86	-837.19	357.99	2333.81	577.73	-700.34	-372.23	-498.77
45	46	136.73	-837.19	464.93	1152.92	-161.00	-366.05	-208.79	-260.51
46	46	136.73	-498.97	469.75	1407.11	374.72	-468.49	-218.94	-292.46
46	47	139.60	-498.97	302.26	-91.18	-563.02	-40.86	-12.14	9.13
101	101	0.00	-471.32	-293.79	-71.15	-520.79	-48.82	-12.52	7.10
101	102	2.62	-471.32	-469.29	1289.51	327.62	-428.99	-201.47	-268.52
102	102	2.62	-803.54	-461.42	1034.85	-206.57	-324.12	-189.83	-235.00
102	103	5.24	-803.54	-359.08	2109.56	463.03	-621.79	-339.47	-453.23

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES2.Tinf.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	InfCajón sig (t/m2)	SupCajón sig (t/m2)	InfLosa sig (t/m2)	SupLosa sig (t/m2)
103	103	5.24	-1030.56	-354.55	1944.14	102.58	-555.75	-331.58	-430.52
103	104	7.86	-1030.56	-252.30	2739.29	597.03	-772.12	-442.86	-592.79
104	104	7.86	-1259.26	-250.90	2585.86	245.21	-714.67	-436.38	-571.94
104	105	10.48	-1259.26	-148.52	3109.06	568.89	-851.18	-510.45	-679.94
105	105	10.48	-1251.85	-149.80	3106.77	569.80	-847.87	-508.35	-677.63
105	106	13.10	-1251.85	-47.33	3365.02	726.74	-905.83	-546.25	-732.93
106	106	13.10	-1249.89	-50.89	3363.26	726.31	-904.74	-545.52	-732.06
106	107	15.72	-1249.89	51.57	3362.39	719.87	-885.26	-548.13	-735.95
107	107	15.72	-1254.37	46.33	3361.40	717.97	-886.83	-549.03	-736.81
107	108	18.34	-1254.37	148.80	3105.77	550.65	-790.70	-516.99	-690.27
108	108	18.34	-1268.28	142.78	3105.79	546.51	-796.16	-520.27	-693.64
108	109	20.96	-1268.28	244.09	2598.54	220.06	-623.88	-454.07	-597.40
109	109	20.96	-1279.15	238.11	2599.08	217.12	-628.24	-456.71	-600.15
109	110	23.58	-1279.15	340.52	1841.14	-268.03	-379.87	-356.48	-454.43
110	110	23.58	-2010.91	334.01	2752.54	317.62	-1144.43	-678.69	-835.96
110	111	26.20	-2014.40	349.63	1841.23	-245.52	-910.96	-549.62	-648.35
111	111	26.20	-2676.36	344.34	2717.60	300.29	-1521.24	-867.91	-1030.12
111	112	29.55	-2684.65	323.42	1623.29	-396.87	-1198.21	-719.39	-815.56
112	112	29.55	-2343.97	317.41	1875.08	138.14	-1299.07	-728.63	-846.42
112	10113	32.90	-2294.76	327.30	765.09	-576.95	-896.50	-570.52	-626.55
113	113	32.90	-2240.73	-307.43	784.51	-527.38	-893.52	-564.67	-622.15
113	114	36.03	-2284.27	-313.48	1778.72	123.34	-1276.33	-703.38	-814.02
114	114	36.03	-2567.90	-322.56	1565.55	-328.01	-1189.41	-694.39	-786.71
114	115	39.16	-2560.17	-372.71	2637.31	358.83	-1517.35	-838.28	-994.57
115	115	39.16	-1861.23	-365.05	1605.13	-337.46	-812.98	-476.54	-557.64
115	116	42.29	-1857.59	-368.75	2749.85	374.02	-1117.65	-637.21	-791.18
116	116	42.29	-1328.50	-359.08	1897.49	-290.63	-381.48	-369.08	-469.69
116	117	45.42	-1328.50	-241.10	2839.69	306.61	-673.57	-495.90	-654.42
117	117	45.42	-1342.99	-235.52	2835.08	299.58	-678.35	-498.63	-656.92
117	118	48.55	-1342.99	-114.91	3382.94	649.39	-855.00	-571.42	-762.89
118	118	48.55	-1355.50	-114.64	3378.05	642.79	-858.94	-573.64	-764.84
118	119	51.68	-1355.50	7.32	3546.05	753.58	-922.97	-594.57	-795.26
119	119	51.68	-1370.62	2.81	3541.76	746.56	-928.05	-597.50	-797.98
119	120	54.81	-1374.64	124.75	3341.79	621.99	-883.11	-568.61	-755.62
120	120	54.81	-1398.54	116.70	3339.00	613.24	-891.95	-573.84	-760.79
120	121	57.94	-1398.54	236.84	2785.50	268.16	-738.19	-496.72	-648.55
121	121	57.94	-1412.83	226.81	2783.73	262.88	-743.47	-499.82	-651.62
121	122	61.07	-1412.83	334.98	1889.04	-299.20	-484.01	-376.66	-472.53
122	122	61.07	-2090.61	325.05	2834.09	360.24	-1238.04	-703.50	-863.28
122	123	64.20	-2094.78	348.69	1797.69	-287.55	-956.30	-558.99	-653.43
123	123	64.20	-2672.33	340.45	2726.40	379.33	-1584.43	-877.47	-1040.07
123	124	67.55	-2680.61	335.67	1628.73	-328.24	-1241.96	-730.97	-828.79
124	124	67.55	-2389.33	331.83	1841.44	125.13	-1325.92	-738.05	-854.12
124	10125	70.90	-2343.01	337.83	696.40	-619.17	-899.61	-577.86	-631.04
125	125	70.90	-2365.93	-344.33	653.62	-695.68	-869.93	-569.15	-618.62
125	126	74.23	-2402.52	-337.53	1826.87	72.68	-1306.57	-730.34	-843.61
126	126	74.23	-2732.97	-336.61	1574.69	-459.45	-1201.91	-718.57	-810.14
126	127	77.56	-2724.75	-420.12	2851.17	355.58	-1585.83	-890.94	-1059.55

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES2.Tinf.MZ+

TREN DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
127	127	77.56	-2076.25	-407.15	1783.34	-420.09	-867.10	-527.60	-617.79
127	128	80.89	-2072.37	-384.43	3128.84	416.66	-1224.23	-716.75	-892.62
128	128	80.89	-1616.98	-372.70	2224.67	-344.83	-528.93	-436.65	-550.79
128	129	84.22	-1616.98	-245.47	3256.05	306.70	-837.23	-577.34	-755.30
129	129	84.22	-1625.91	-238.65	3250.80	300.98	-839.72	-578.66	-756.30
129	130	87.55	-1625.91	-109.10	3829.16	668.68	-1016.31	-657.19	-870.12
130	130	87.55	-1632.94	-107.88	3823.65	663.37	-1017.99	-658.02	-870.60
130	131	90.88	-1632.94	19.74	3973.94	761.65	-1067.57	-678.11	-899.29
131	131	90.88	-1642.47	14.64	3969.17	756.04	-1070.39	-679.64	-900.54
131	132	94.21	-1642.47	144.35	3704.27	592.45	-995.57	-643.22	-846.92
132	132	94.21	-1660.98	135.24	3701.35	585.25	-1002.29	-647.15	-850.75
132	133	97.54	-1660.98	262.89	3039.11	169.94	-806.24	-556.90	-718.86
133	133	97.54	-1669.61	251.72	3037.35	166.38	-809.33	-558.67	-720.55
133	134	100.87	-1669.61	354.53	2005.14	-485.25	-496.68	-418.71	-516.60
134	134	100.87	-2242.87	344.84	3001.84	309.12	-1291.86	-735.53	-899.85
134	135	104.20	-2271.20	338.36	1825.23	-433.18	-982.00	-576.84	-667.22
135	135	104.20	-2792.54	336.19	2792.49	316.62	-1622.97	-895.99	-1057.89
135	136	107.55	-2800.83	321.03	1689.81	-397.24	-1272.86	-749.44	-847.04
136	136	107.55	-2451.26	320.77	1941.60	140.44	-1370.23	-756.59	-875.74
136	10137	110.90	-2394.30	352.99	744.20	-634.52	-922.96	-586.79	-640.00
137	137	110.90	-2341.75	-294.52	764.16	-585.03	-920.76	-581.37	-636.06
137	138	113.77	-2394.11	-339.77	1681.41	-3.78	-1249.08	-715.67	-822.66
138	138	113.77	-2719.27	-332.90	1430.37	-533.81	-1142.17	-702.90	-788.23
138	139	116.64	-2712.18	-362.58	2421.37	87.36	-1418.83	-839.06	-986.37
139	139	116.64	-1850.62	-354.00	1497.70	-366.26	-753.78	-479.66	-561.45
139	140	119.51	-1847.28	-306.53	2442.34	213.99	-992.04	-613.81	-756.94
140	140	119.51	-1026.82	-296.62	1780.82	-4.49	-354.02	-346.59	-452.22
140	141	122.38	-1026.82	-184.61	2471.43	439.20	-586.44	-437.06	-583.69
141	141	122.38	-1034.99	-176.35	2469.76	435.78	-589.32	-438.73	-585.30
141	142	125.25	-1034.99	-64.43	2815.04	663.60	-722.19	-481.71	-647.46
142	142	125.25	-1035.12	-58.36	2813.01	662.39	-721.86	-481.44	-647.04
142	143	128.12	-1035.12	53.74	2819.61	678.16	-756.45	-477.92	-641.36
143	143	128.12	-1028.44	57.53	2817.56	679.00	-753.48	-476.04	-639.28
143	144	130.99	-1028.44	169.53	2491.88	486.41	-690.98	-426.97	-567.19
144	144	130.99	-1013.16	171.21	2490.23	490.09	-684.75	-423.12	-563.10
144	145	133.86	-1013.16	283.00	1838.62	92.74	-526.30	-329.47	-426.03
145	145	133.86	-836.88	283.43	1945.46	338.59	-560.01	-328.34	-434.34
145	146	136.73	-836.88	395.67	971.01	-261.81	-306.15	-190.57	-233.00
146	146	136.73	-475.22	394.21	1220.83	278.48	-398.67	-194.53	-258.28
146	147	139.60	-475.22	303.22	-69.78	-521.19	-50.59	-13.64	5.84

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES3.Tinf.MZ+

DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
1	1	0.00	-449.04	-237.15	-49.73	-479.39	-59.15	-14.37	3.46
1	2	2.62	-449.04	-305.43	866.03	91.03	-313.29	-141.81	-182.39
2	2	2.62	-628.27	-309.18	751.84	-161.39	-275.61	-143.05	-173.96
2	3	5.24	-628.27	-220.32	1445.74	267.43	-459.45	-240.77	-316.66
3	3	5.24	-805.02	-222.21	1331.48	15.71	-420.78	-241.41	-307.61
3	4	7.86	-805.02	-133.34	1797.38	299.37	-533.13	-308.49	-405.82
4	4	7.86	-818.59	-133.36	1799.05	296.25	-538.73	-311.95	-409.49
4	5	10.48	-818.59	-44.74	2032.50	432.18	-578.71	-347.73	-462.22
5	5	10.48	-826.00	-43.06	2034.19	430.93	-581.92	-349.73	-464.39
5	6	13.10	-826.00	45.85	2030.57	416.44	-548.63	-353.51	-470.61
6	6	13.10	-827.96	49.24	2031.97	416.66	-549.66	-354.19	-471.40
6	7	15.72	-827.96	138.00	1786.78	249.15	-442.22	-325.31	-430.13
7	7	15.72	-823.48	142.63	1787.58	250.96	-440.62	-324.38	-429.22
7	8	18.34	-823.48	231.45	1297.55	-71.45	-258.43	-262.35	-339.72
8	8	18.34	-1603.37	236.64	2163.55	414.73	-1011.86	-574.03	-705.03
8	9	20.96	-1606.86	276.81	1502.84	3.10	-835.82	-481.47	-570.87
9	9	20.96	-2505.35	280.30	2216.58	187.29	-1384.40	-794.51	-932.83
9	10	23.58	-2511.84	265.70	1506.81	-264.40	-1174.42	-698.66	-794.08
10	10	23.58	-2370.51	268.79	1622.78	-22.32	-1227.20	-706.64	-812.11
10	10011	26.20	-2322.58	249.54	909.41	-476.17	-961.15	-601.40	-667.02
11	11	26.20	-2349.64	-312.69	910.48	-483.52	-972.31	-607.87	-673.74
11	12	29.55	-2424.34	-276.10	1974.39	202.61	-1389.49	-763.11	-886.78
12	12	29.55	-2743.05	-277.59	1742.11	-292.42	-1298.13	-755.59	-859.35
12	13	32.90	-2734.76	-275.84	2668.93	313.70	-1603.49	-877.08	-1033.67
13	13	32.90	-2000.98	-279.40	1653.93	-340.33	-902.61	-513.74	-596.64
13	14	36.03	-1975.31	-277.81	2572.17	244.92	-1151.24	-635.93	-775.41
14	14	36.03	-1434.32	-286.79	1722.45	-401.39	-450.95	-359.48	-443.42
14	15	39.16	-1434.32	-202.42	2511.03	100.89	-698.90	-465.30	-597.21
15	15	39.16	-1417.68	-211.77	2512.85	106.92	-692.74	-461.65	-593.58
15	16	42.29	-1417.68	-107.41	3012.42	422.87	-845.38	-529.20	-692.01
16	16	42.29	-1395.39	-114.89	3015.09	431.09	-837.19	-524.34	-687.19
16	17	45.42	-1395.39	-8.74	3208.60	551.05	-891.55	-551.05	-726.39
17	17	45.42	-1380.90	-12.90	3212.40	557.61	-886.63	-548.20	-723.72
17	18	48.55	-1380.90	92.60	3087.71	474.61	-840.45	-532.25	-700.98
18	18	48.55	-1368.39	92.83	3091.80	480.75	-836.37	-529.91	-698.84
18	19	51.68	-1368.39	198.16	2637.18	187.94	-687.30	-469.56	-611.58
19	19	51.68	-1353.27	202.54	2640.72	194.54	-682.09	-466.52	-608.70
19	20	54.81	-1353.27	306.91	1842.48	-316.03	-427.50	-359.72	-453.89
20	20	54.81	-2001.82	314.26	2789.35	355.09	-1182.82	-677.36	-834.44
20	21	57.94	-2005.99	335.93	1780.20	-278.01	-902.50	-537.46	-631.45
21	21	57.94	-2603.56	343.23	2691.69	351.13	-1521.70	-853.97	-1014.51
21	22	61.07	-2611.30	322.81	1667.17	-307.88	-1202.13	-717.46	-817.17
22	22	61.07	-2321.15	322.32	1899.86	178.90	-1304.87	-731.75	-851.60
22	10023	64.20	-2276.86	308.53	915.48	-463.50	-925.91	-594.47	-661.01
23	23	64.20	-2356.65	-337.40	875.93	-554.79	-920.19	-599.47	-662.89
23	24	67.55	-2414.09	-300.58	2012.42	183.55	-1354.93	-760.17	-885.58
24	24	67.55	-2759.79	-304.17	1761.34	-352.54	-1256.27	-752.21	-856.08
24	25	70.90	-2751.51	-304.44	2788.38	317.28	-1592.30	-887.26	-1050.13

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES3.Tinf.MZ+

DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
25	25	70.90	-2103.74	-310.62	1721.27	-458.13	-874.23	-524.16	-608.67
25	26	74.23	-2099.86	-299.99	2751.77	192.92	-1167.83	-666.42	-814.35
26	26	74.23	-1624.02	-312.23	1850.33	-557.73	-480.01	-379.09	-464.31
26	27	77.56	-1624.02	-217.65	2746.66	10.50	-750.61	-501.20	-641.36
27	27	77.56	-1611.97	-229.26	2748.75	15.30	-746.28	-498.67	-638.91
27	28	80.89	-1608.20	-118.61	3327.04	380.84	-909.31	-578.56	-755.22
28	28	80.89	-1591.44	-127.79	3330.04	387.57	-903.32	-575.05	-751.82
28	29	84.22	-1591.44	-14.76	3567.45	531.41	-957.37	-609.80	-802.48
29	29	84.22	-1582.51	-20.06	3571.84	536.63	-954.73	-608.35	-801.28
29	30	87.55	-1582.51	91.19	3451.38	452.02	-895.26	-595.17	-782.38
30	30	87.55	-1575.48	91.13	3456.01	456.84	-893.42	-594.20	-781.70
30	31	90.88	-1575.48	203.93	2964.36	135.97	-717.73	-531.11	-690.32
31	31	90.88	-1565.95	208.68	2968.31	141.12	-714.77	-529.45	-688.88
31	32	94.21	-1565.95	319.05	2088.54	-425.84	-419.56	-413.92	-521.28
32	32	94.21	-2140.87	327.23	3087.16	382.01	-1255.61	-725.44	-897.06
32	33	97.54	-2145.31	340.20	1966.69	-320.45	-945.61	-569.74	-671.43
33	33	97.54	-2667.85	346.76	2932.01	427.89	-1586.84	-888.83	-1061.93
33	34	100.87	-2676.08	324.57	1815.40	-290.39	-1237.59	-740.01	-847.05
34	34	100.87	-2349.15	323.54	2066.93	240.33	-1343.56	-752.50	-881.23
34	10035	104.20	-2319.57	314.09	1001.56	-462.06	-936.43	-608.62	-680.42
35	35	104.20	-2344.29	-320.39	1002.98	-468.44	-946.86	-614.57	-686.63
35	36	107.55	-2398.41	-303.20	2082.52	229.89	-1353.09	-768.18	-899.35
36	36	107.55	-2744.46	-308.42	1830.91	-306.63	-1254.35	-760.24	-869.84
36	37	110.90	-2736.19	-306.50	2830.98	339.47	-1568.71	-893.47	-1061.43
37	37	110.90	-2054.75	-312.25	1782.24	-393.37	-854.56	-529.27	-620.46
37	38	113.77	-2051.40	-307.09	2653.51	151.07	-1091.52	-651.00	-796.78
38	38	113.77	-1545.01	-316.13	1768.66	-571.75	-364.19	-370.27	-457.55
38	39	116.64	-1545.01	-218.66	2536.03	-73.29	-634.11	-469.31	-601.10
39	39	116.64	-1529.73	-226.54	2535.87	-68.80	-628.11	-465.68	-597.36
39	40	119.51	-1529.73	-129.82	3048.10	266.02	-815.71	-530.71	-691.62
40	40	119.51	-1508.64	-137.11	3048.56	272.61	-807.57	-525.80	-686.60
40	41	122.38	-1508.64	-40.22	3303.44	442.59	-912.50	-556.50	-731.08
41	41	122.38	-1500.47	-46.57	3304.67	445.75	-909.55	-554.76	-729.36
41	42	125.25	-1500.47	50.96	3298.35	448.69	-931.12	-550.54	-723.18
42	42	125.25	-1500.34	46.40	3299.97	449.66	-931.38	-550.75	-723.50
42	43	128.12	-1500.34	143.51	3027.57	282.72	-868.66	-510.88	-665.57
43	43	128.12	-1507.02	141.16	3029.26	281.68	-871.57	-512.71	-667.57
43	44	130.99	-1507.02	234.78	2489.65	-55.50	-724.67	-437.01	-557.56
44	44	130.99	-1172.36	234.19	2709.11	452.72	-805.54	-445.03	-586.15
44	45	133.86	-1172.36	331.72	1896.99	-57.71	-573.50	-332.71	-422.87
45	45	133.86	-837.19	333.00	2133.46	483.67	-665.58	-342.04	-453.37
45	46	136.73	-837.19	430.53	1037.78	-226.55	-346.08	-191.44	-234.42
46	46	136.73	-498.97	434.01	1291.36	308.82	-448.40	-201.50	-266.24
46	47	139.60	-498.97	302.62	-91.49	-563.20	-40.81	-12.09	9.20
101	101	0.00	-471.32	-294.25	-71.37	-520.92	-48.79	-12.48	7.15
101	102	2.62	-471.32	-433.13	1183.41	267.22	-410.58	-185.48	-244.48
102	102	2.62	-803.54	-426.84	929.40	-266.61	-305.82	-173.94	-211.11
102	103	5.24	-803.54	-333.40	1925.18	358.06	-589.80	-311.69	-411.46

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES3.Tinf.MZ+

DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
103	103	5.24	-1030.56	-329.78	1760.35	-2.05	-523.86	-303.88	-388.87
103	104	7.86	-1030.56	-236.40	2502.18	462.04	-730.98	-407.13	-539.06
104	104	7.86	-1259.26	-235.28	2349.27	110.52	-673.63	-400.73	-518.33
104	105	10.48	-1259.26	-141.80	2843.22	417.54	-805.06	-470.39	-619.71
105	105	10.48	-1251.85	-142.83	2841.38	418.71	-801.83	-468.36	-617.50
105	106	13.10	-1251.85	-49.28	3093.03	571.89	-858.65	-505.27	-671.30
106	106	13.10	-1249.89	-52.13	3091.63	571.67	-857.62	-504.60	-670.51
106	107	15.72	-1249.89	41.41	3105.70	573.74	-840.73	-509.45	-677.79
107	107	15.72	-1254.37	37.23	3104.96	571.98	-842.34	-510.39	-678.71
107	108	18.34	-1254.37	130.78	2884.84	424.88	-752.37	-483.70	-640.21
108	108	18.34	-1268.28	126.08	2885.00	420.82	-757.85	-487.01	-643.62
108	109	20.96	-1268.28	218.70	2432.97	125.80	-595.15	-429.12	-559.88
109	109	20.96	-1279.15	214.16	2433.50	122.85	-599.51	-431.76	-562.63
109	110	23.58	-1279.15	307.65	1749.98	-319.93	-364.06	-342.74	-433.77
110	110	23.58	-2010.91	302.60	2661.19	265.62	-1128.59	-664.93	-815.26
110	111	26.20	-2014.40	316.17	1838.47	-247.09	-910.48	-549.20	-647.72
111	111	26.20	-2676.36	312.25	2714.52	298.53	-1520.71	-867.45	-1029.42
111	112	29.55	-2684.65	307.53	1697.05	-354.88	-1211.01	-730.50	-832.27
112	112	29.55	-2343.97	302.93	1948.61	179.99	-1311.83	-739.71	-863.08
112	10113	32.90	-2294.76	322.85	868.62	-518.01	-914.46	-586.12	-650.01
113	113	32.90	-2240.73	-311.27	887.89	-468.52	-911.45	-580.25	-645.57
113	114	36.03	-2284.27	-305.25	1880.11	181.06	-1293.92	-718.65	-836.99
114	114	36.03	-2567.90	-312.62	1666.80	-270.37	-1206.98	-709.65	-809.65
114	115	39.16	-2560.17	-341.53	2676.26	381.01	-1524.11	-844.15	-1003.40
115	115	39.16	-1861.23	-335.61	1644.15	-315.25	-819.75	-482.42	-566.48
115	116	42.29	-1857.59	-335.31	2691.87	341.00	-1107.59	-628.48	-778.04
116	116	42.29	-1328.50	-327.33	1840.14	-323.28	-371.53	-360.44	-456.70
116	117	45.42	-1328.50	-219.12	2697.67	225.76	-648.94	-474.50	-622.25
117	117	45.42	-1342.99	-214.51	2693.83	219.17	-653.84	-477.35	-624.91
117	118	48.55	-1342.99	-104.19	3192.14	540.76	-821.90	-542.67	-719.66
118	118	48.55	-1355.50	-104.02	3188.04	534.62	-825.98	-545.01	-721.79
118	119	51.68	-1355.50	7.37	3339.35	635.91	-887.11	-563.43	-748.43
119	119	51.68	-1370.62	3.54	3335.81	629.31	-892.32	-566.46	-751.31
119	120	54.81	-1374.64	114.87	3150.17	512.91	-849.87	-539.74	-712.20
120	120	54.81	-1398.54	108.21	3148.02	504.52	-858.81	-545.06	-717.52
120	121	57.94	-1398.54	218.15	2637.09	183.67	-712.44	-474.36	-614.93
121	121	57.94	-1412.83	210.05	2635.77	178.65	-717.80	-477.53	-618.09
121	122	61.07	-1412.83	310.41	1808.87	-344.84	-470.11	-364.58	-454.37
122	122	61.07	-2090.61	302.43	2754.11	314.71	-1224.17	-691.45	-845.16
122	123	64.20	-2094.78	325.08	1790.45	-291.67	-955.05	-557.90	-651.79
123	123	64.20	-2672.33	318.61	2719.11	375.18	-1583.17	-876.38	-1038.42
123	124	67.55	-2680.61	326.80	1667.19	-306.34	-1248.63	-736.77	-837.51
124	124	67.55	-2389.33	323.82	1879.84	146.99	-1332.59	-743.84	-862.83
124	10125	70.90	-2343.01	340.63	740.93	-593.82	-907.34	-584.57	-641.13
125	125	70.90	-2365.93	-349.72	698.16	-670.32	-877.65	-575.87	-628.72
125	126	74.23	-2402.52	-332.74	1872.78	98.81	-1314.53	-737.25	-854.01
126	126	74.23	-2732.97	-332.15	1620.54	-433.35	-1209.86	-725.48	-820.53
126	127	77.56	-2724.75	-387.02	2829.87	343.45	-1582.14	-887.73	-1054.72

CÁLCULO TENSIONAL

Hipótesis de cálculo:

INFRECUENTES3.Tinf.MZ+

DOMINANTE CON GRADIENTE

[1; 1]PPCF1 + [1; 1]PPLF3 + [1; 1]PPLF2 + [.95; 1.05]PRETF1A.ISO.To + [.95; 1.05]PRETF1A.HIP.To + [.95; 1.05]PRETF1B.ISO.To + [.95; 1.05]P

Coef. exc:

						InfCajón	SupCajón	InfLosa	SupLosa
Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)	sig (t/m2)	sig (t/m2)	sig (t/m2)	sig (t/m2)
127	127	77.56	-2076.25	-376.75	1762.28	-432.08	-863.45	-524.43	-613.02
127	128	80.89	-2072.37	-354.56	3008.58	348.19	-1203.37	-698.63	-865.37
128	128	80.89	-1616.98	-344.81	2105.18	-412.86	-508.20	-418.65	-523.72
128	129	84.22	-1616.98	-228.32	3061.15	195.75	-803.42	-547.98	-711.14
129	129	84.22	-1625.91	-222.57	3056.78	190.53	-806.06	-549.43	-712.34
129	130	87.55	-1625.91	-104.22	3600.37	538.43	-976.62	-622.71	-818.28
130	130	87.55	-1632.94	-103.19	3595.73	533.62	-978.45	-623.68	-818.96
130	131	90.88	-1632.94	13.62	3747.72	632.86	-1028.33	-644.02	-848.03
131	131	90.88	-1642.47	9.36	3743.77	627.72	-1031.29	-645.68	-849.47
131	132	94.21	-1642.47	127.83	3515.20	484.81	-962.77	-614.73	-804.09
132	132	94.21	-1660.98	120.35	3512.94	477.99	-969.60	-618.76	-808.06
132	133	97.54	-1660.98	237.18	2918.16	101.09	-785.26	-538.67	-691.45
133	133	97.54	-1669.61	228.18	2916.83	97.77	-788.42	-540.51	-693.24
133	134	100.87	-1669.61	325.13	1977.31	-501.09	-491.85	-414.52	-510.30
134	134	100.87	-2242.87	317.24	2974.12	293.34	-1287.05	-731.36	-893.57
134	135	104.20	-2271.20	316.57	1887.69	-397.62	-992.84	-586.25	-681.38
135	135	104.20	-2792.54	314.93	2854.61	351.99	-1633.75	-905.35	-1071.96
135	136	107.55	-2800.83	314.81	1799.64	-334.71	-1291.92	-765.99	-871.92
136	136	107.55	-2451.26	314.57	2051.26	202.87	-1389.25	-773.11	-900.59
136	10137	110.90	-2394.30	352.35	870.08	-562.86	-944.80	-605.76	-668.52
137	137	110.90	-2341.75	-285.63	889.96	-513.41	-942.59	-600.32	-664.56
137	138	113.77	-2394.11	-311.54	1760.75	41.39	-1262.84	-727.62	-840.63
138	138	113.77	-2719.27	-306.51	1509.40	-488.82	-1155.88	-714.80	-806.13
138	139	116.64	-2712.18	-319.97	2401.67	76.14	-1415.42	-836.09	-981.91
139	139	116.64	-1850.62	-313.55	1478.09	-377.43	-750.38	-476.71	-557.01
139	140	119.51	-1847.28	-274.12	2316.22	142.19	-970.15	-594.80	-728.37
140	140	119.51	-1026.82	-266.18	1654.96	-76.14	-332.19	-327.62	-423.70
140	141	122.38	-1026.82	-163.90	2272.15	325.75	-551.87	-407.03	-538.54
141	141	122.38	-1034.99	-157.23	2270.83	322.53	-554.81	-408.76	-540.23
141	142	125.25	-1034.99	-55.02	2575.20	527.06	-680.58	-445.57	-593.12
142	142	125.25	-1035.12	-50.11	2573.58	526.09	-680.33	-445.36	-592.79
142	143	128.12	-1035.12	52.24	2570.50	536.34	-713.24	-440.38	-584.92
143	143	128.12	-1028.44	55.33	2568.89	537.43	-710.34	-438.57	-582.94
143	144	130.99	-1028.44	157.61	2263.44	356.36	-651.34	-392.55	-515.43
144	144	130.99	-1013.16	159.09	2262.23	360.29	-645.20	-388.77	-511.44
144	145	133.86	-1013.16	261.20	1659.27	-9.36	-495.19	-302.45	-385.40
145	145	133.86	-836.88	261.81	1766.52	236.72	-528.96	-301.38	-393.80
145	146	136.73	-836.88	364.28	868.15	-320.37	-288.30	-175.07	-209.69
146	146	136.73	-475.22	363.48	1118.39	220.17	-380.90	-179.09	-235.07
146	147	139.60	-475.22	296.64	-70.32	-521.51	-50.49	-13.56	5.97

GRÁFICO DE TENSIONES

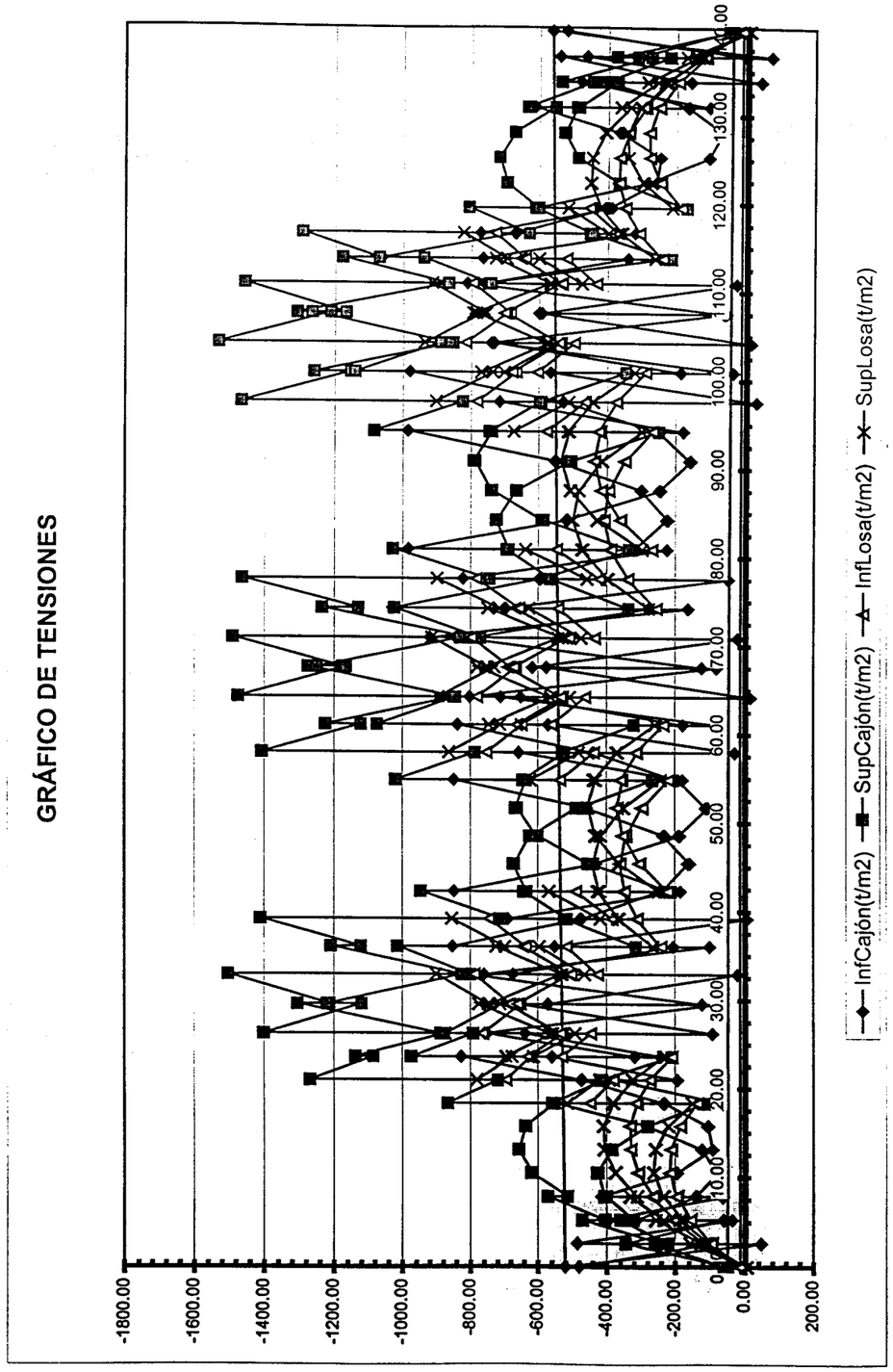


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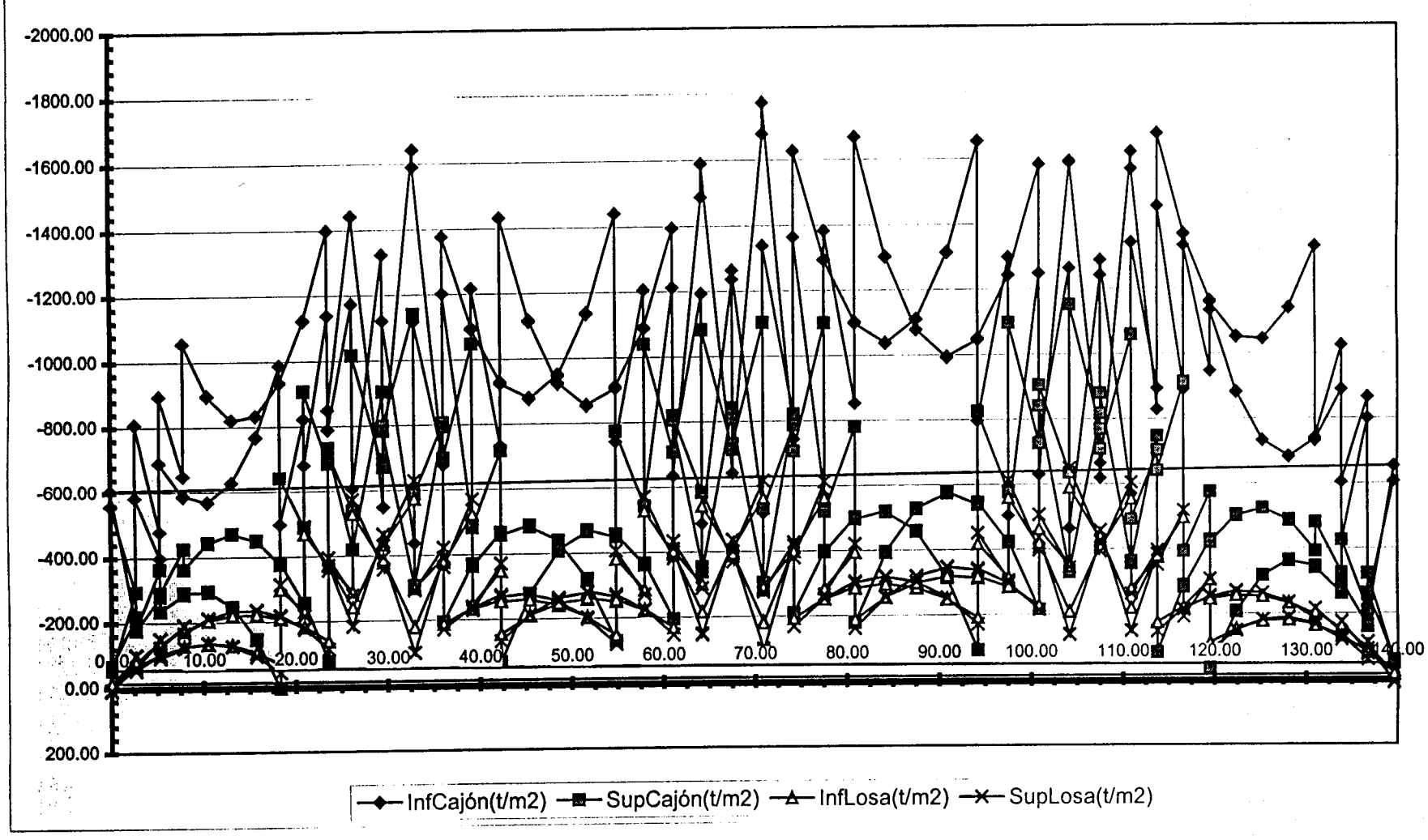


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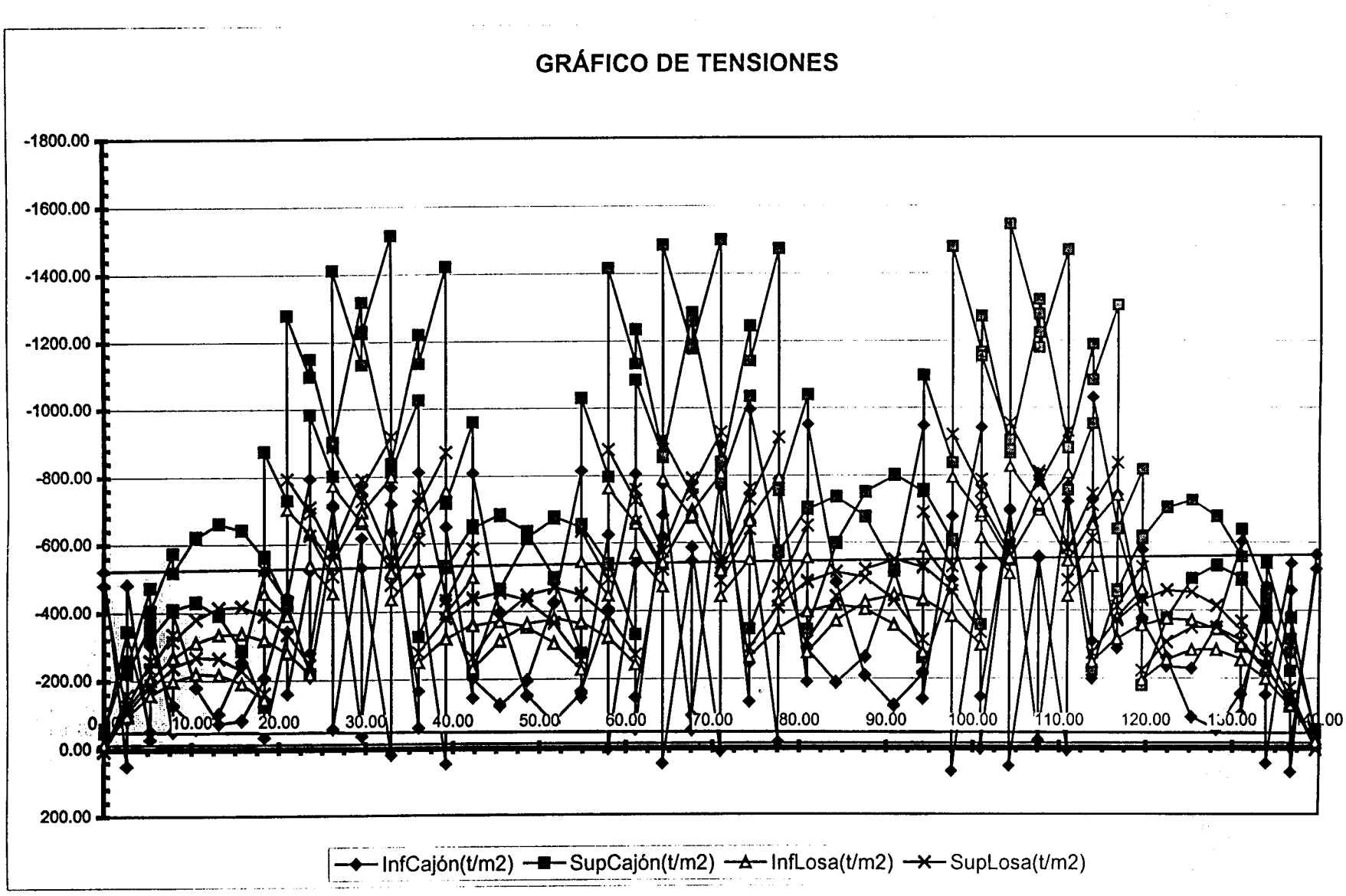


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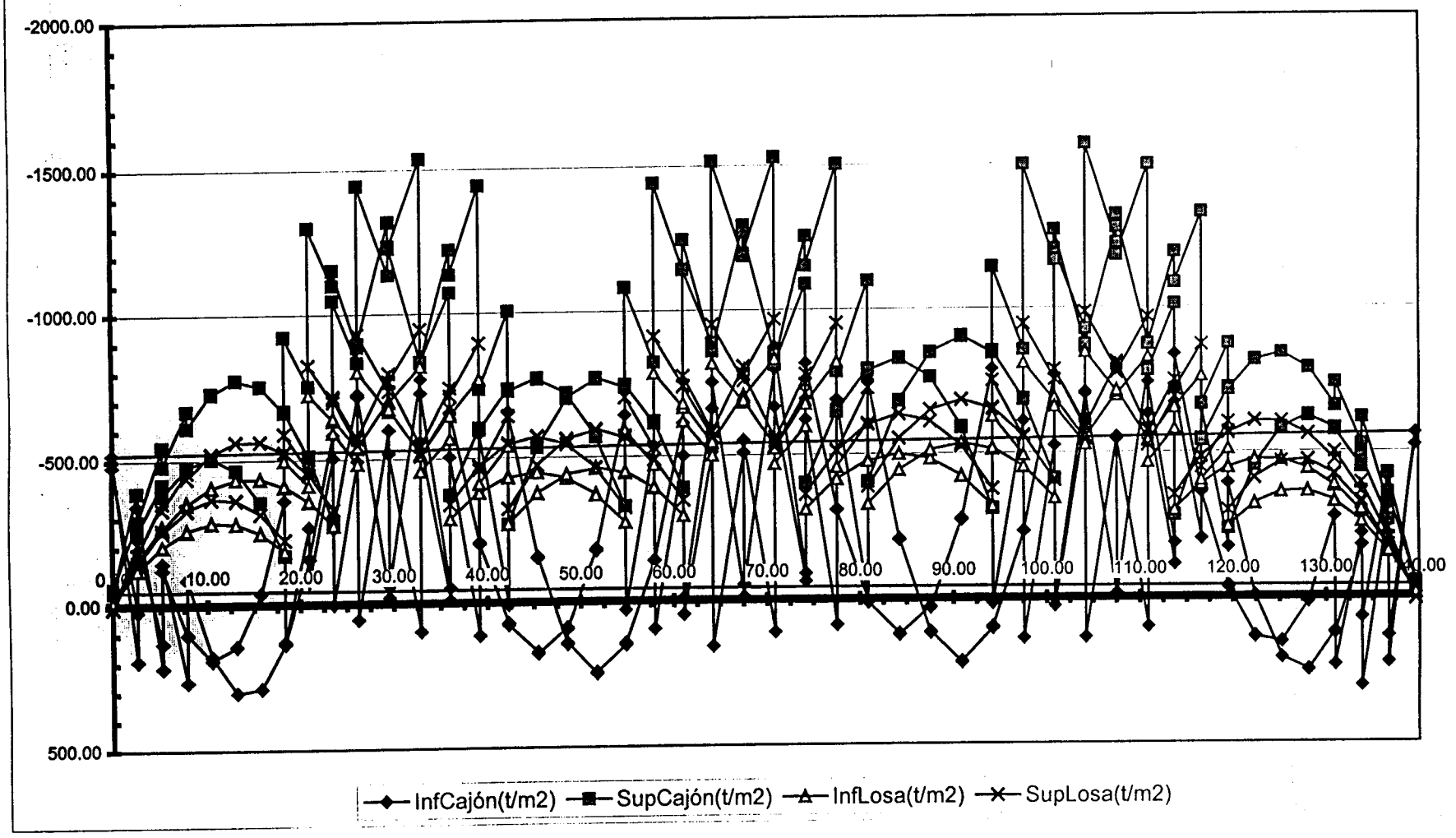


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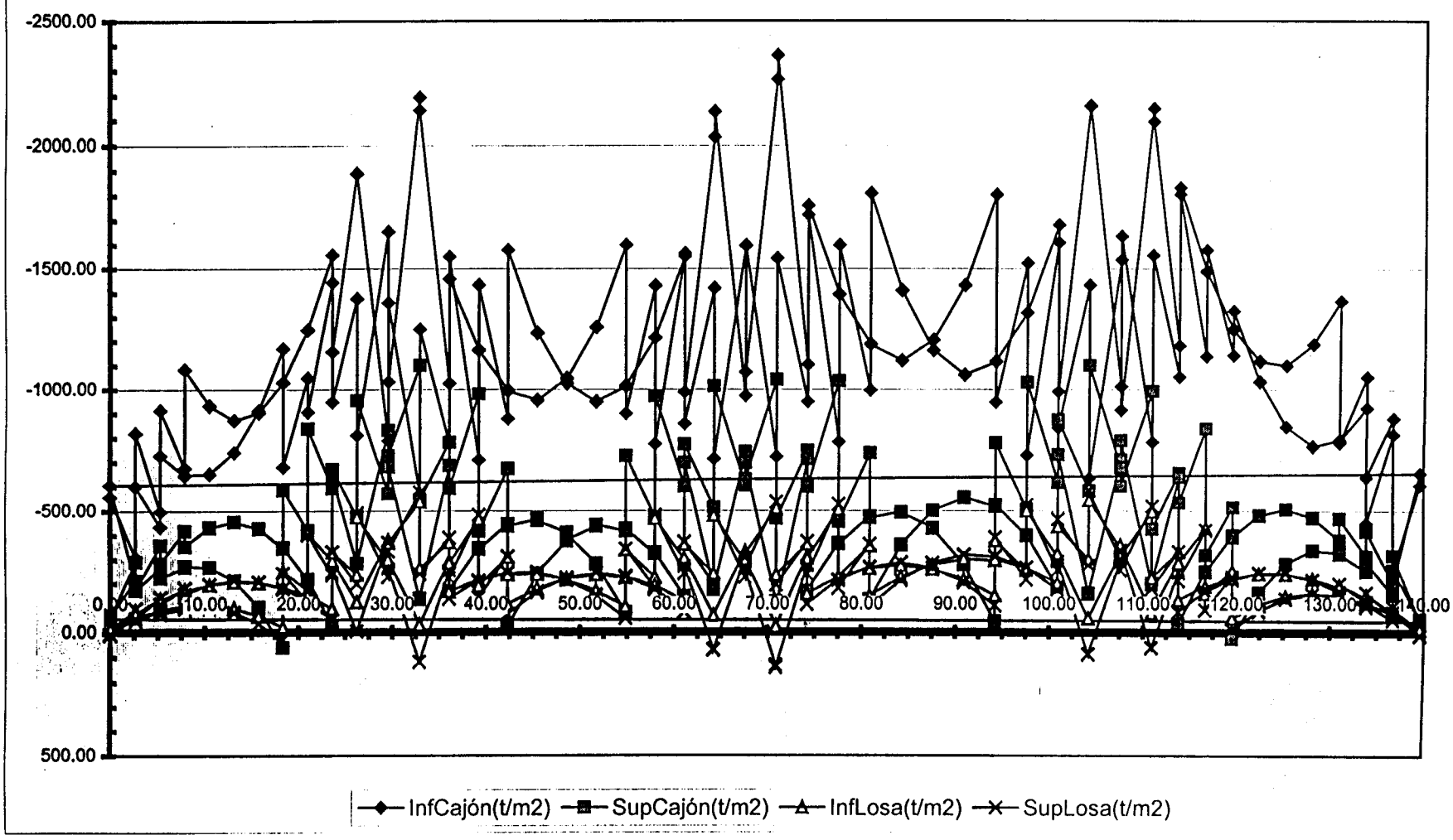


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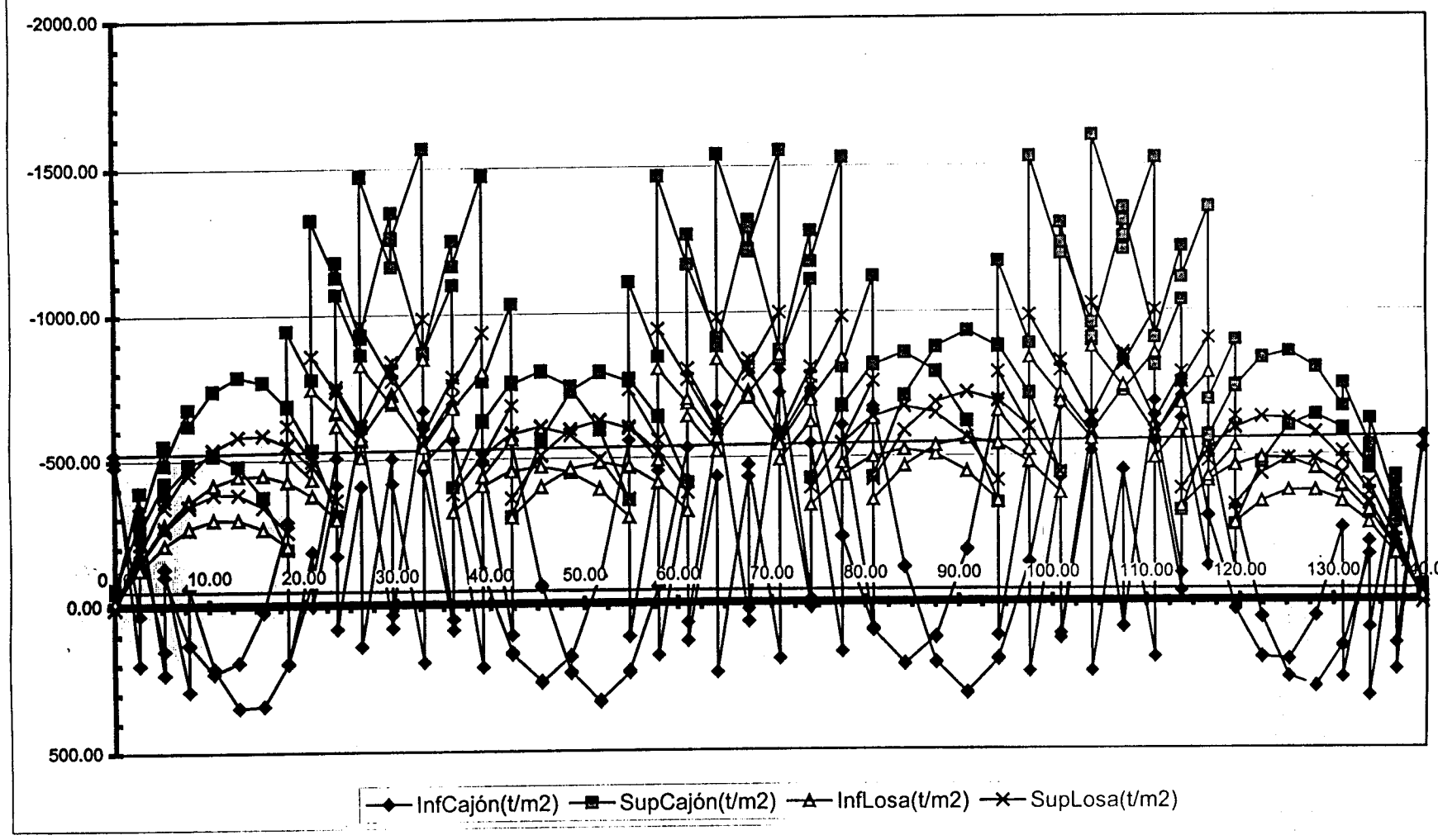


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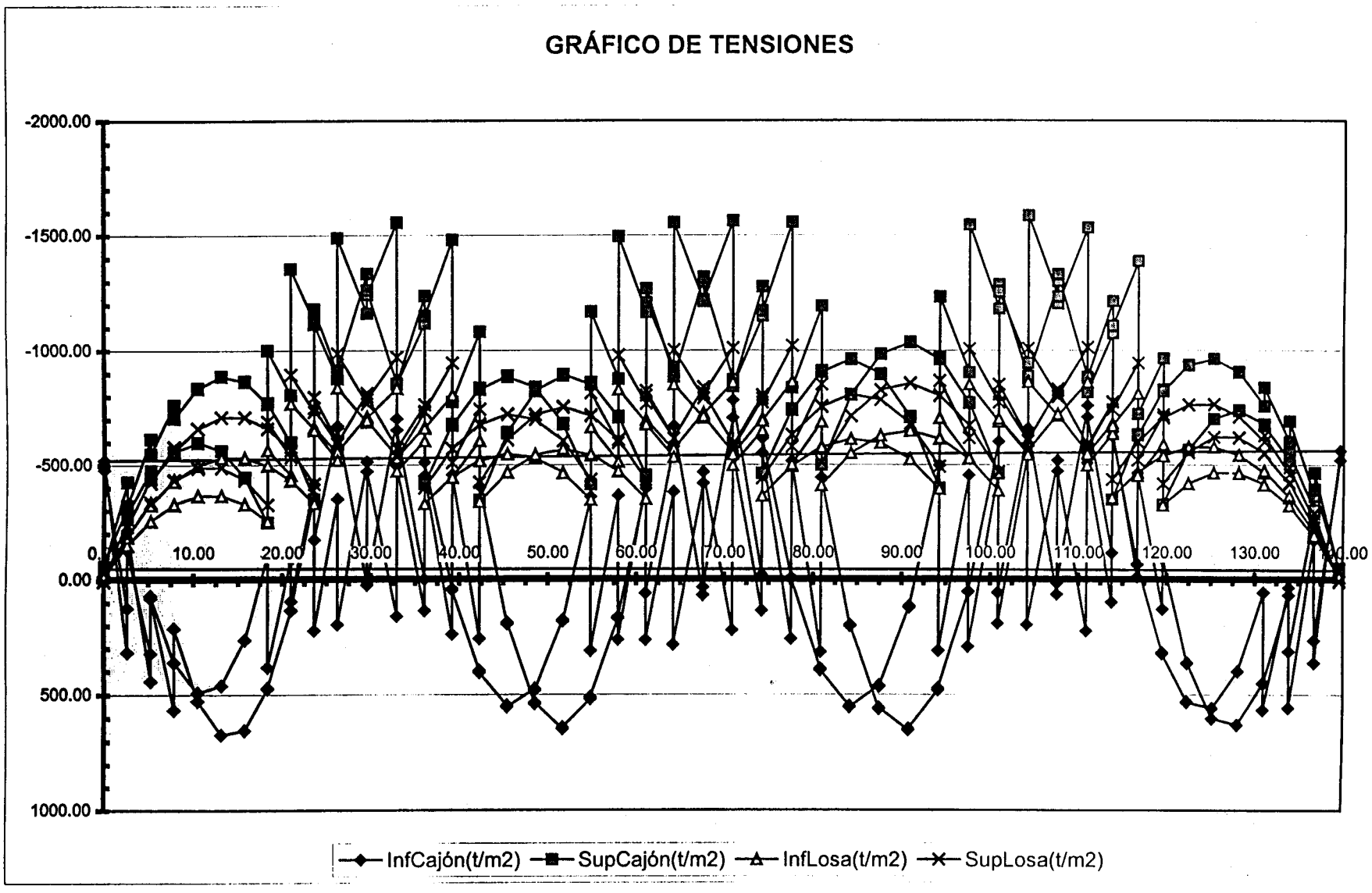


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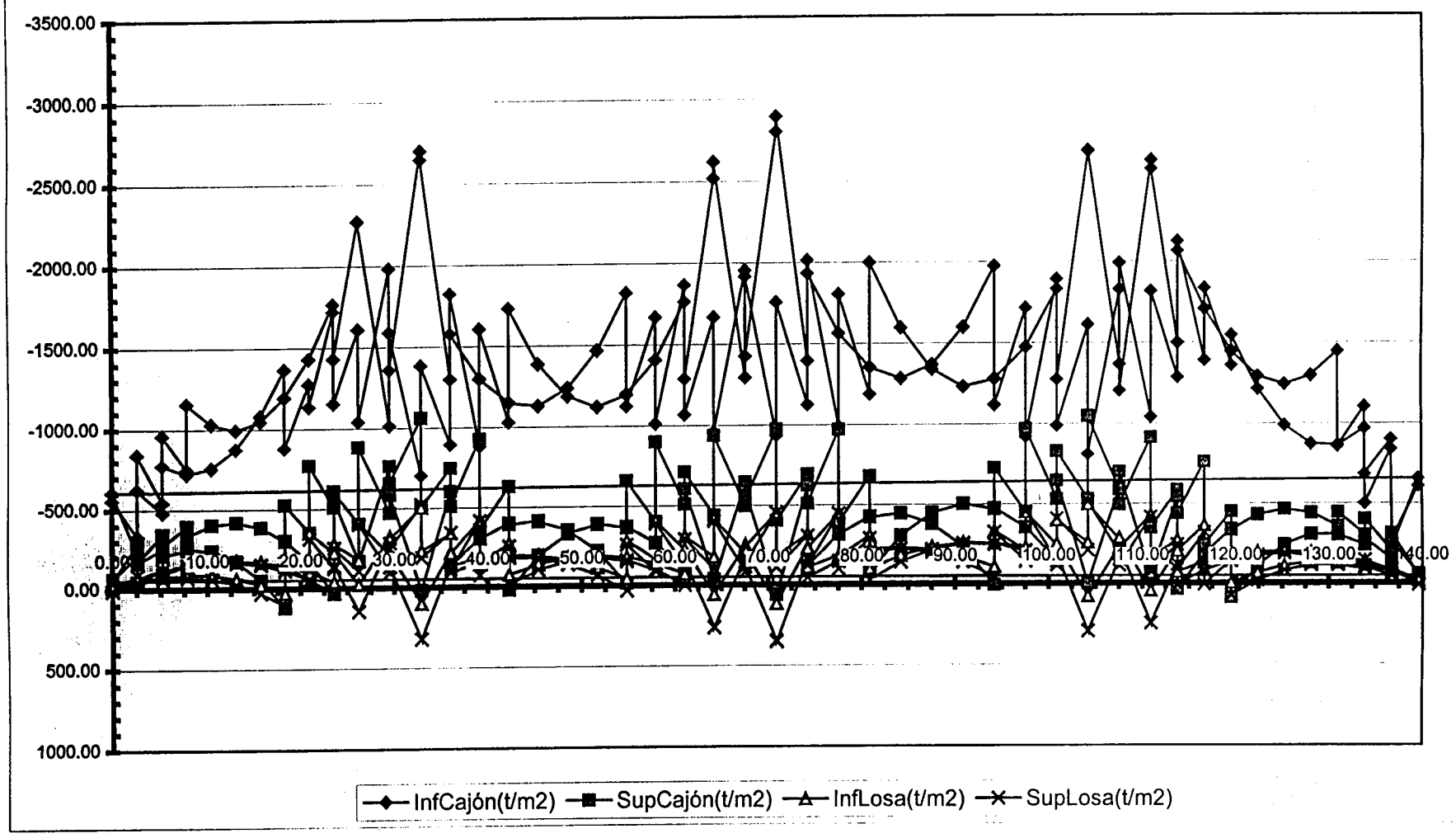


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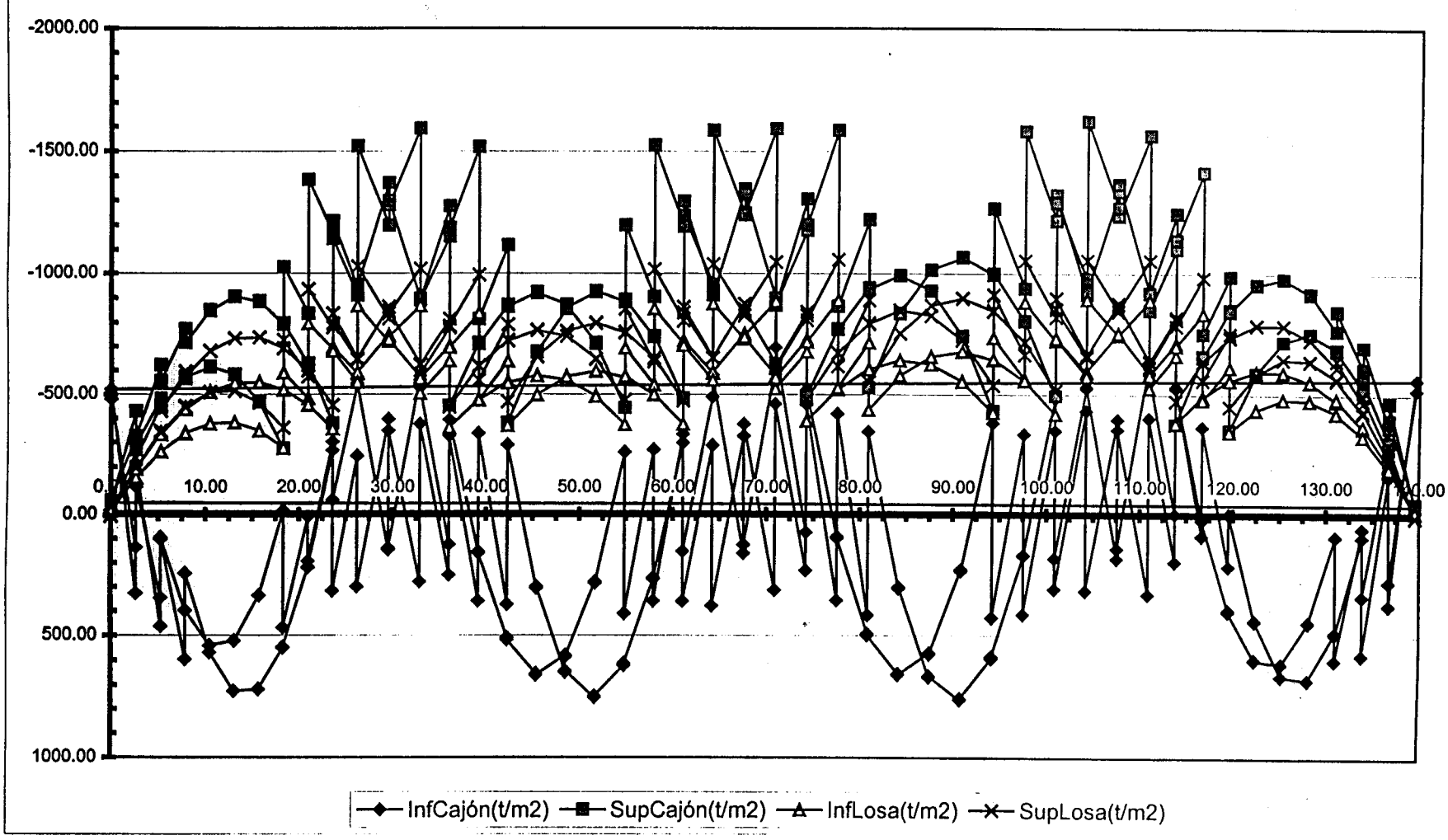


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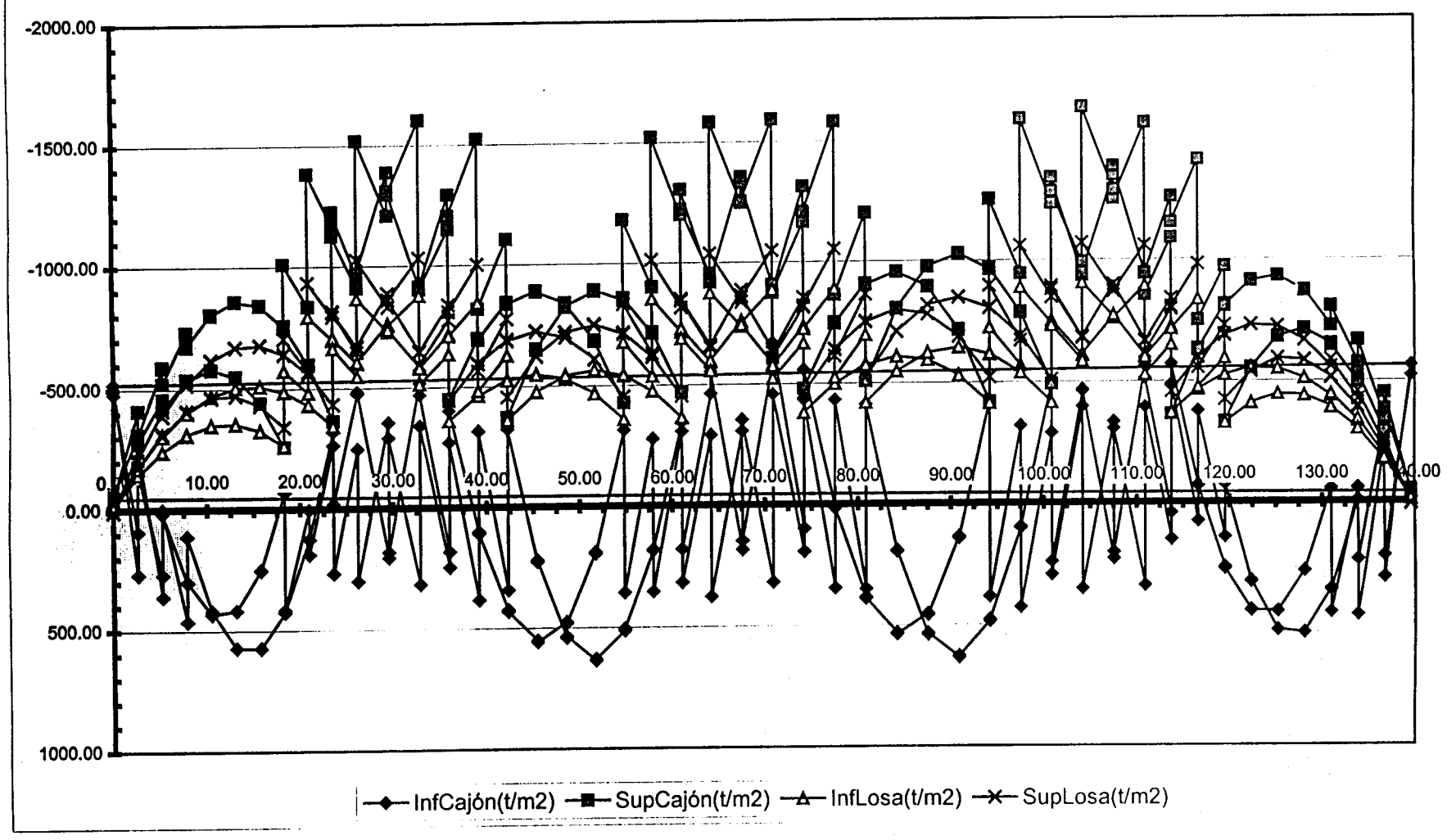


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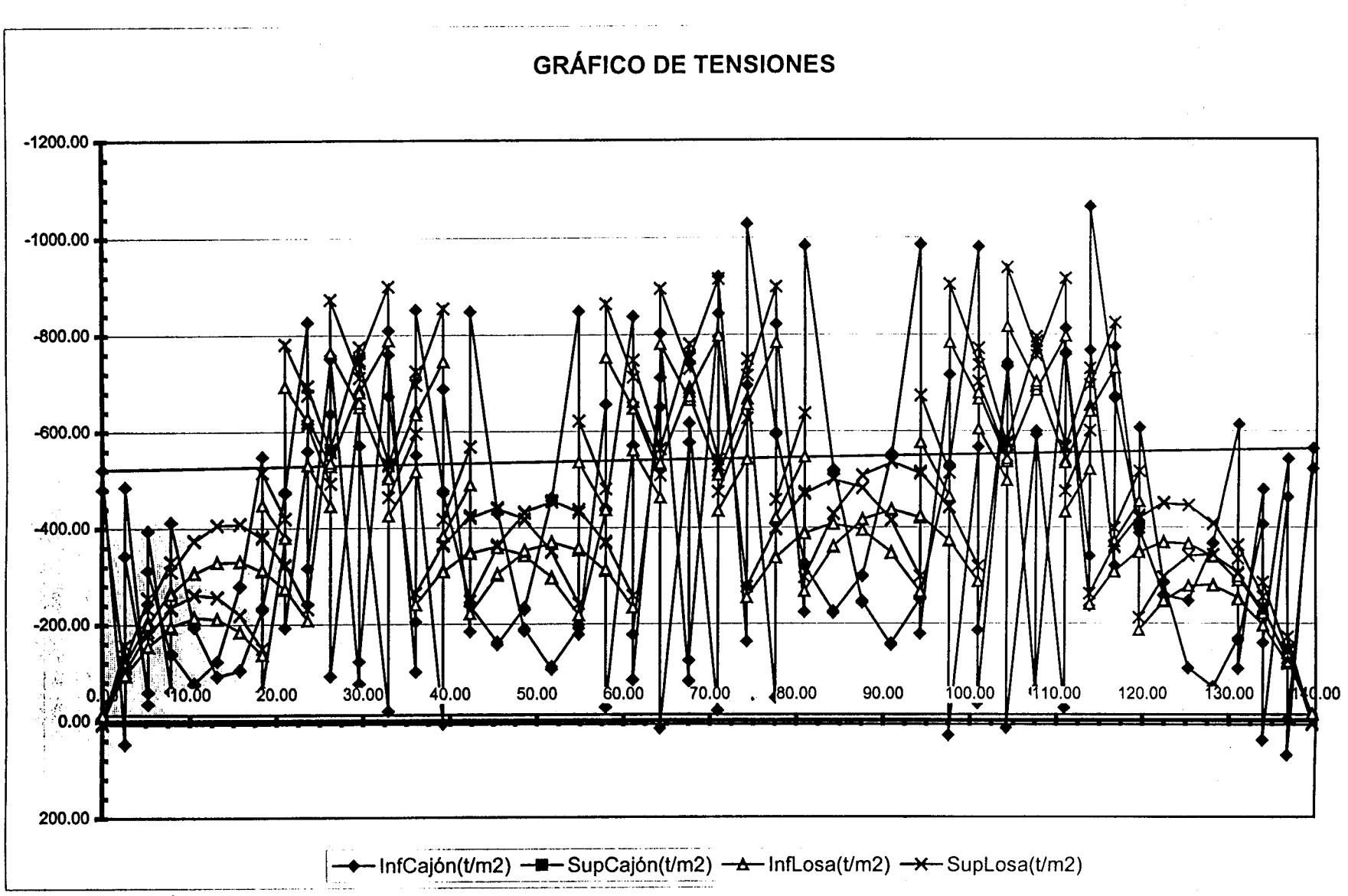


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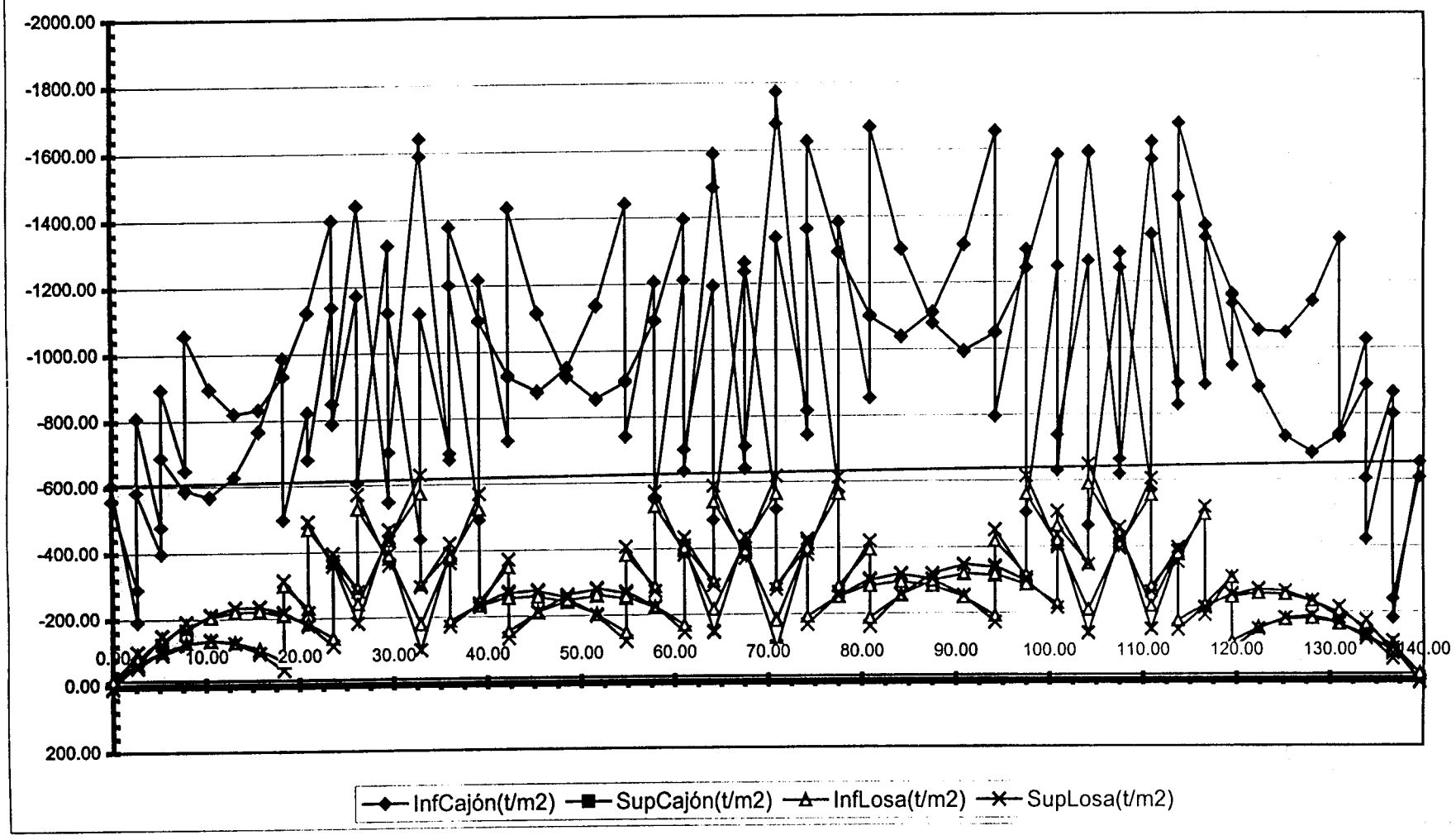


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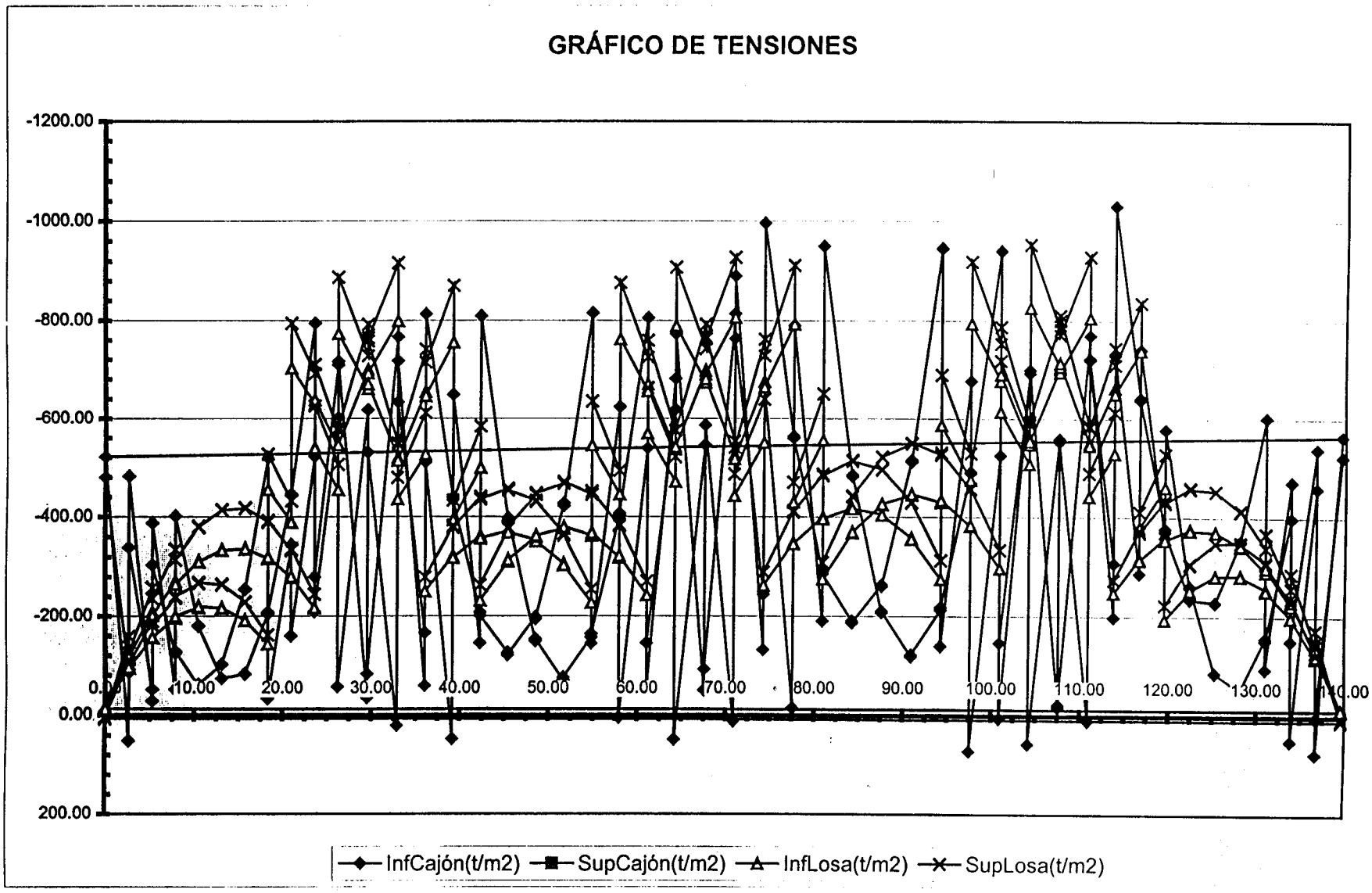


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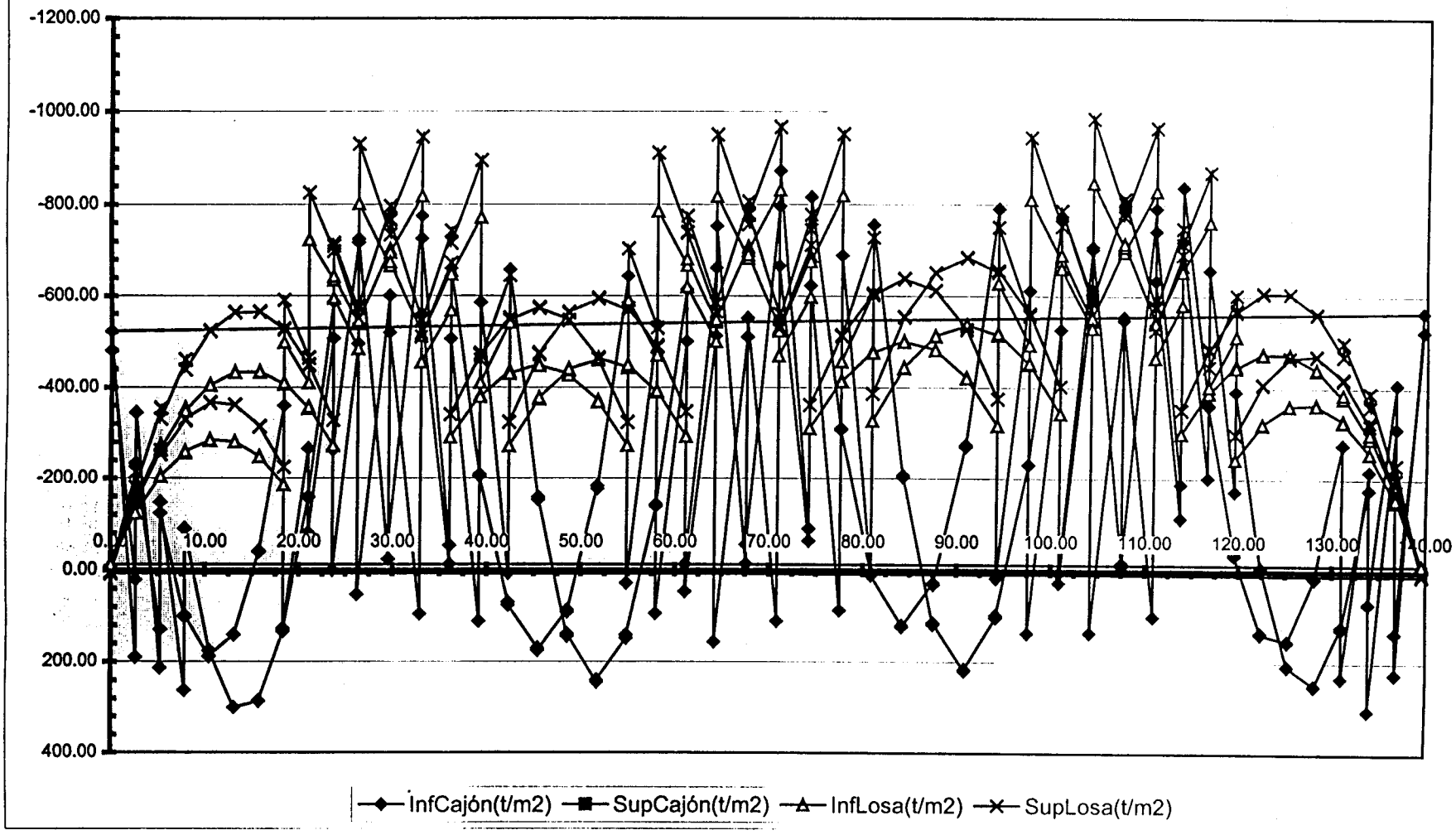


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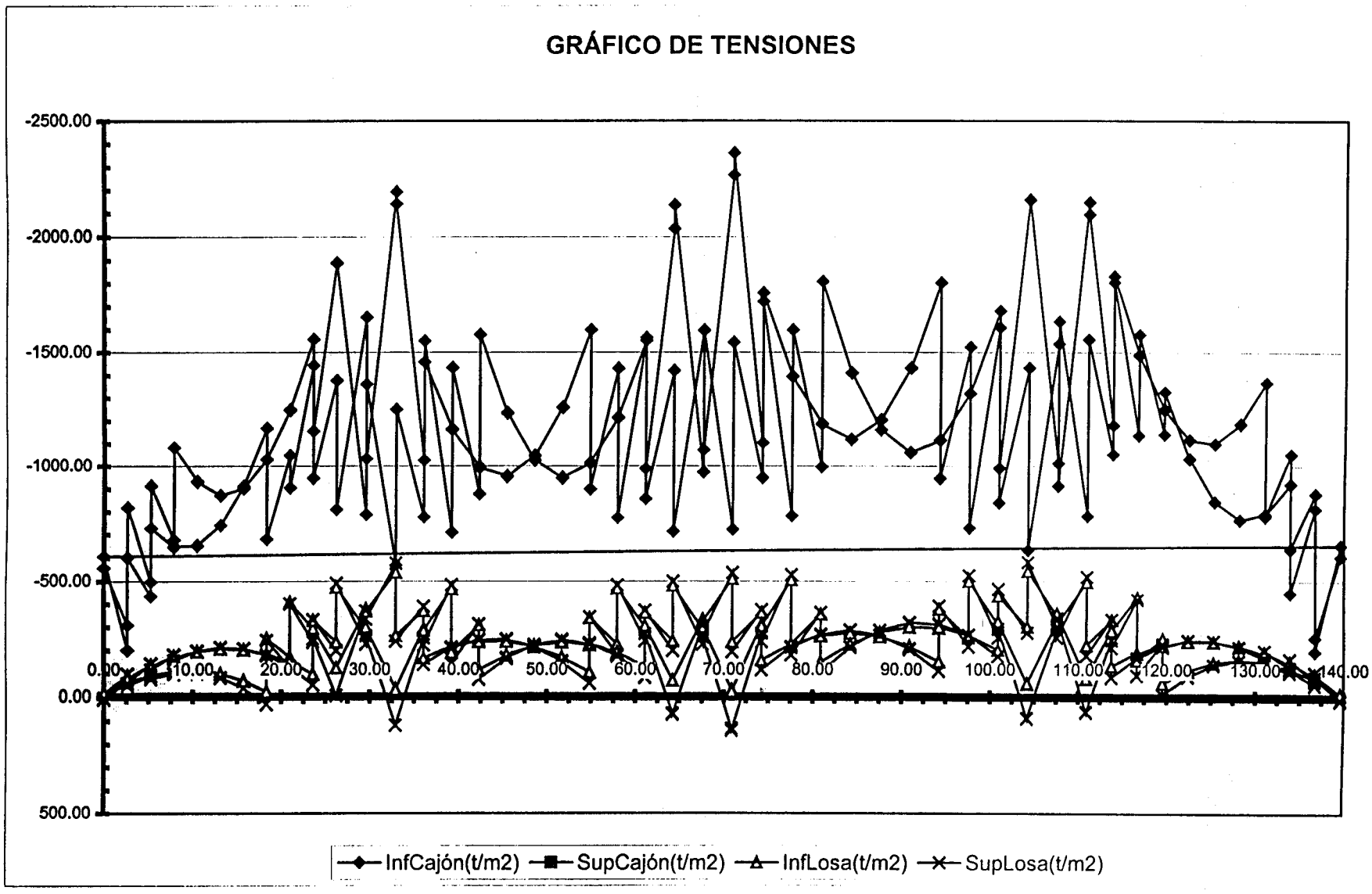


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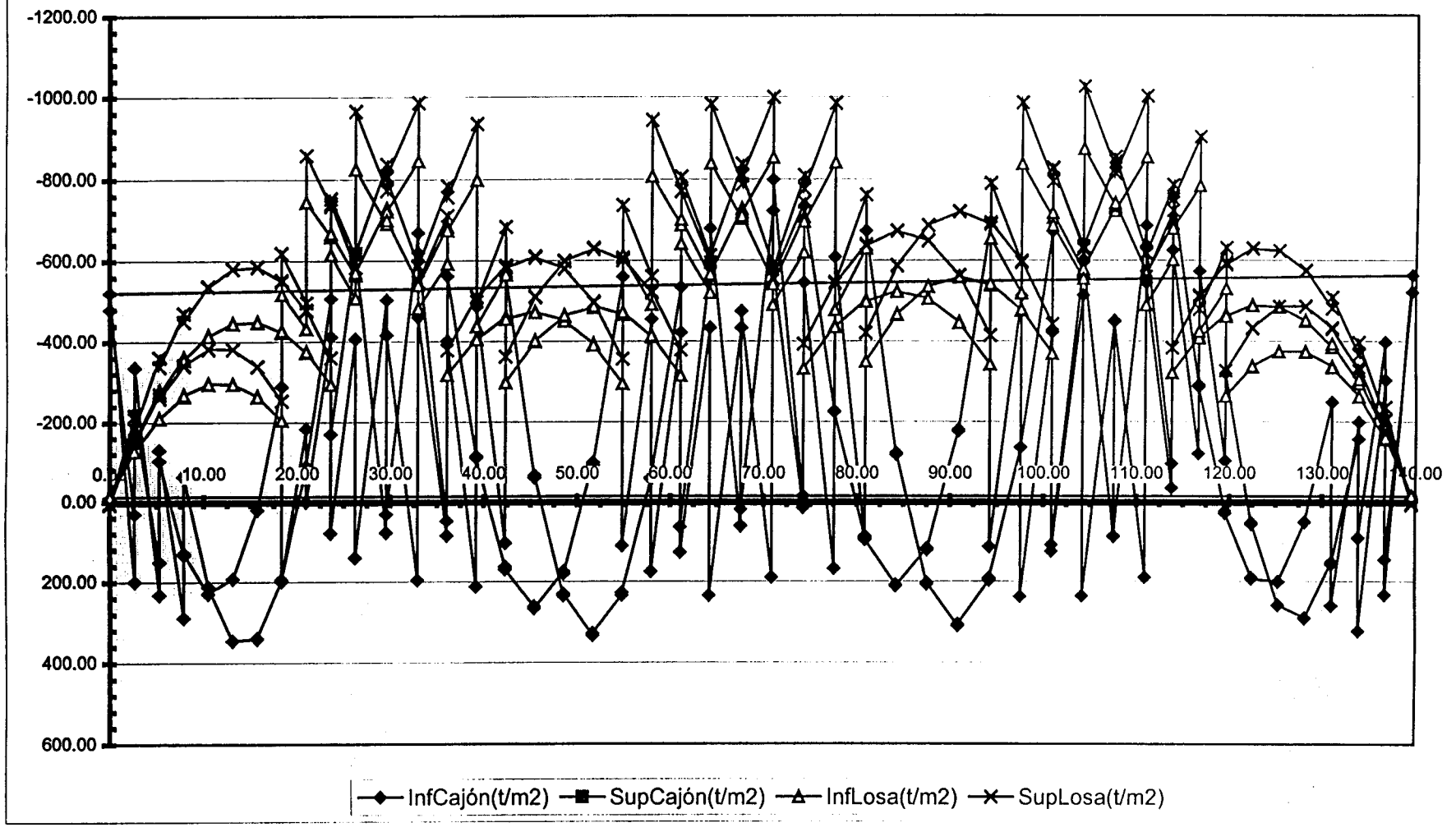


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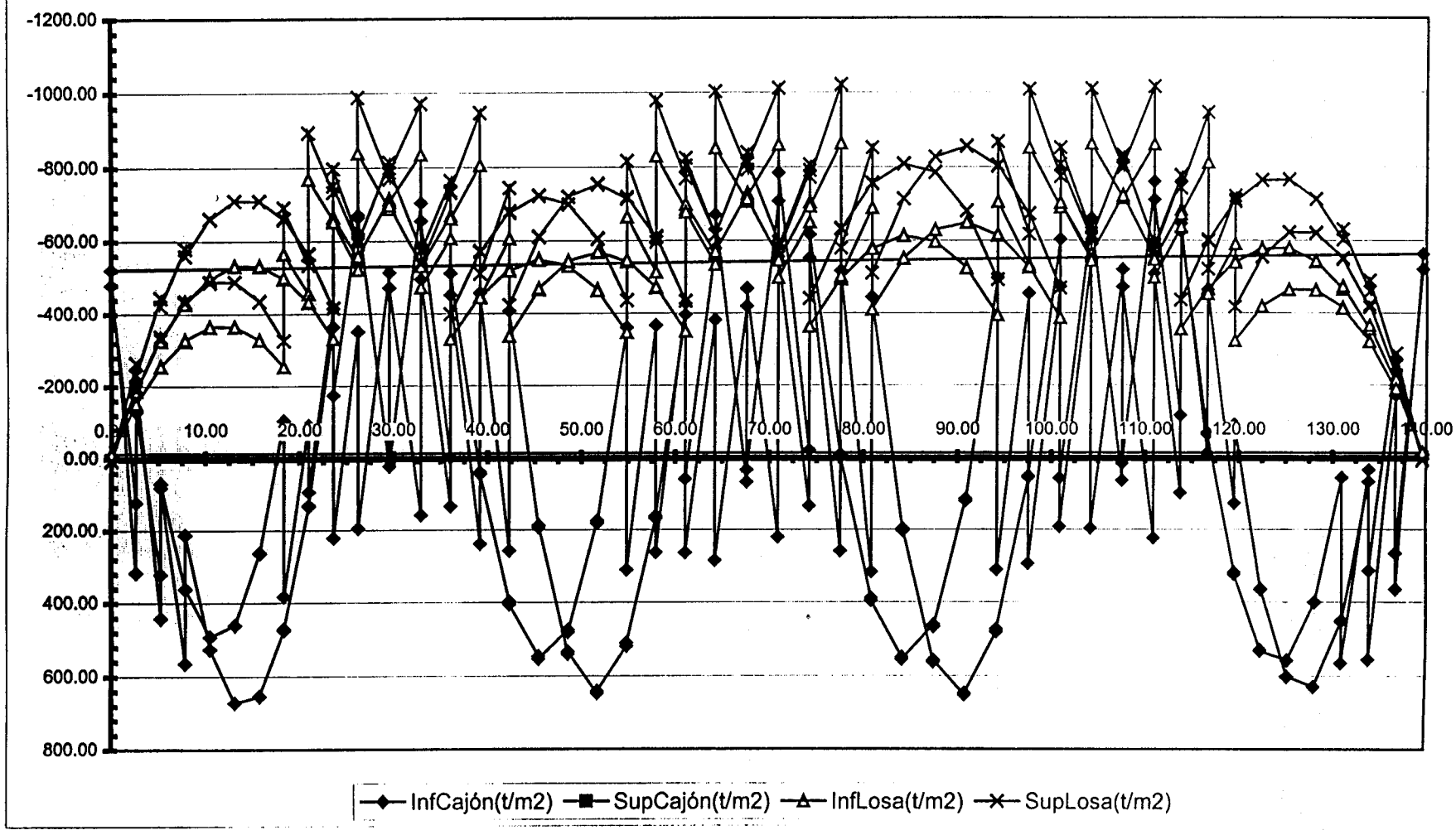


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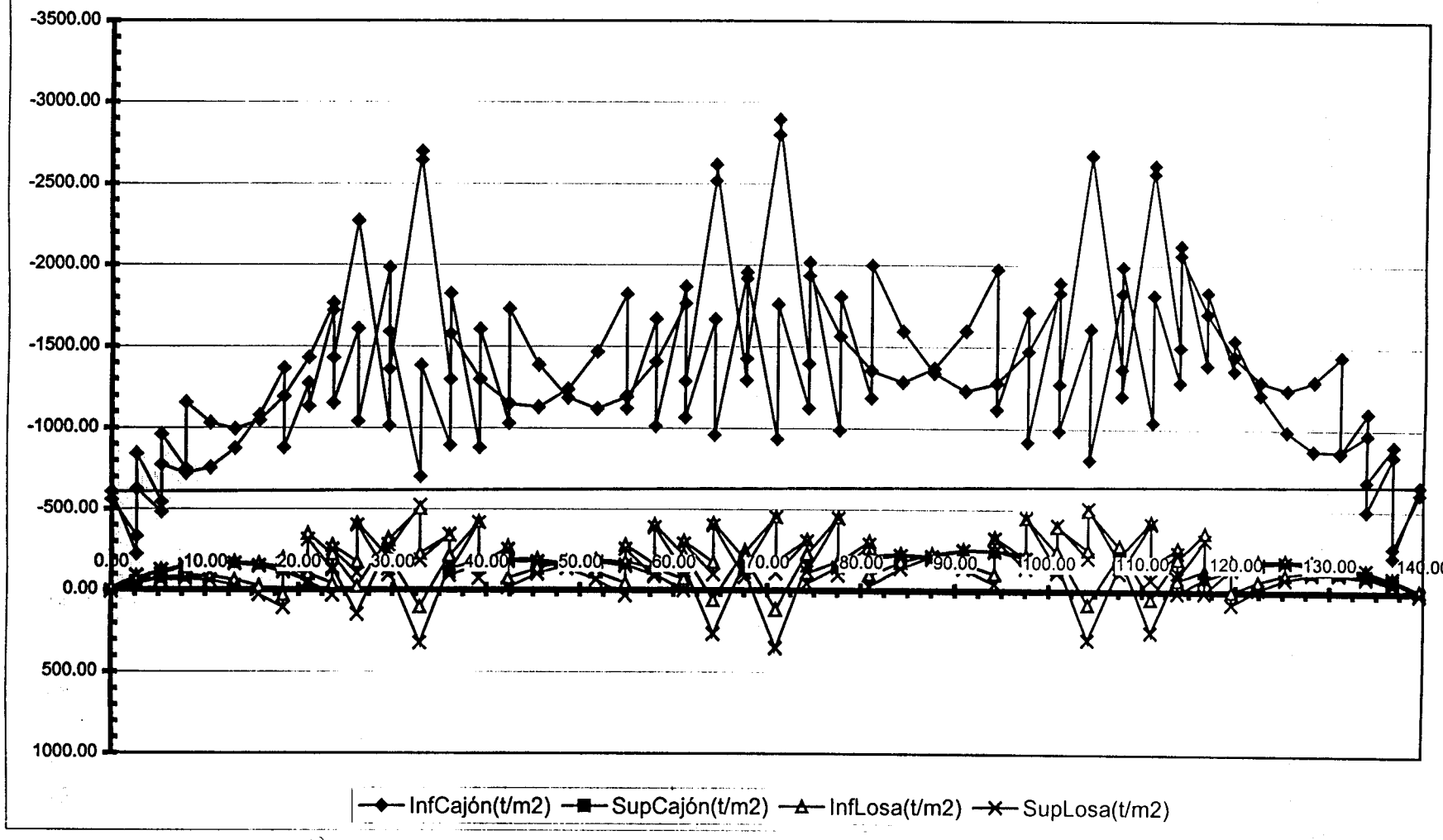


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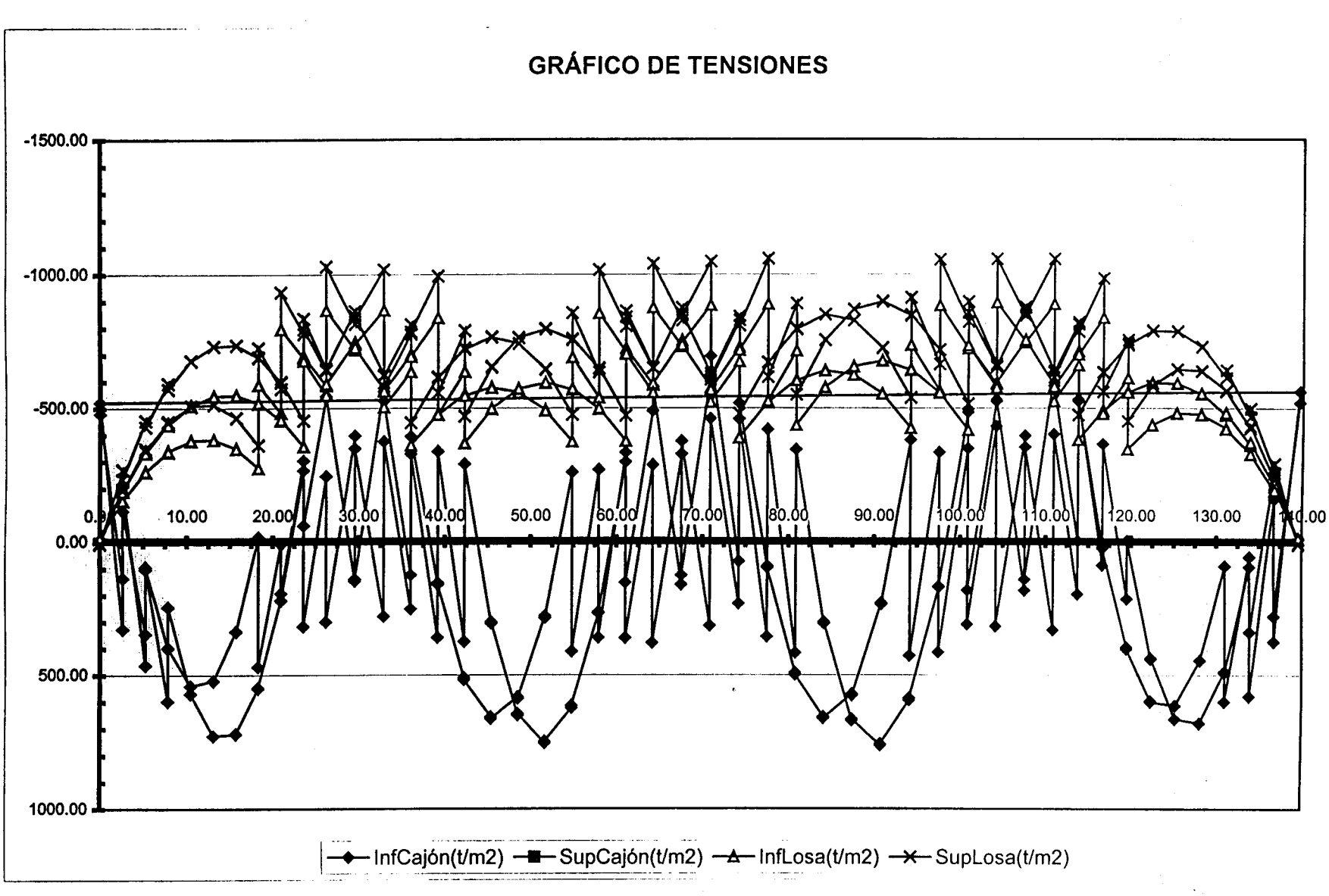
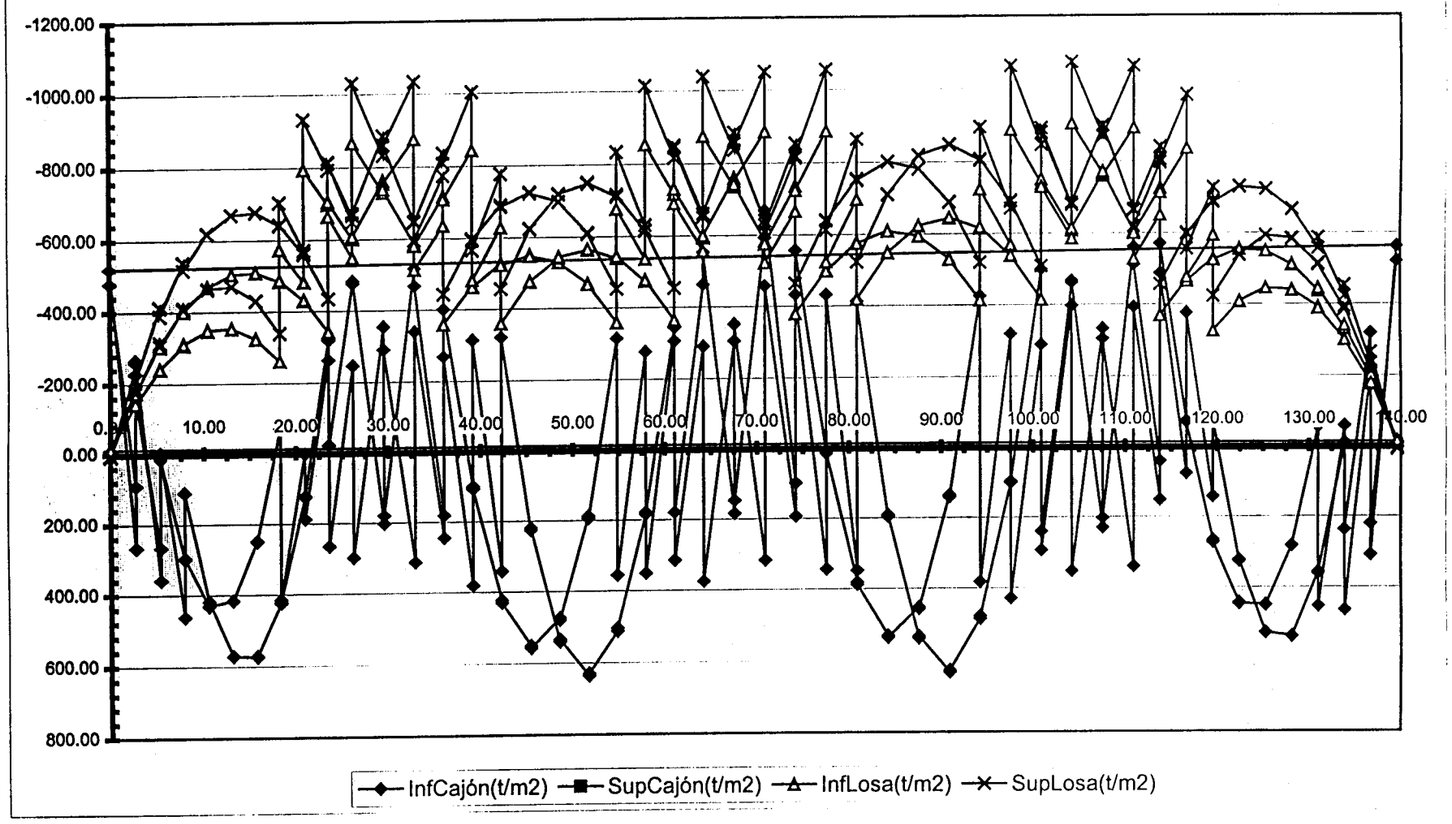


GRÁFICO DE TENSIONES



En el presente apartado se estudia la sección de centro de vano combinada con una precompresión [illegible] con [illegible] y comprobada según [illegible]

Tensión en inferiores = 52'5 Kg/cm² + 10'9 (pérdidas pretensado) + $\frac{228}{3'93}$ x 1'18 € (fondo) = 69'2 Kg/cm². (TRACCIÓN)

- Estudio de sección de centro de vano (NUDO 131)

A continuación se refleja el cálculo de [illegible] en [illegible] con [illegible] y [illegible] [illegible]

□ ANÁLISIS SIN FISURACIÓN:

Sobre sección abierta	M_{pp} = 1036 mts	·	C+P
Retracción fase	41'08	LOS	TOT
Retracción cgm	29'11	CAT	TOT
Pretensado inf	166	PS	C+P 5'16%
Pretensado sup:	2285'5	PI	C+P 5'16%

Sobre sección cerrada	M_{CM} = 85 L	TOT	CARGA PERMANENTE
	M_{SCM} = (1378) 612·1'8	TOT	SC TO y TINF
	M_{PERM} (321)·66	TOT	SC TO y TINF
Redistribución	M_{RED} = 1339	TOT	CTE (2)

Tensión en inferiores = 52'5 + 10'9 (pérdida pretens.) + 5'8 Kg/cm² (fondo)

Fondo = $\frac{228\ \text{Tn}}{3'93}$ x 1'18 = 5'8 Kg/cm² = **69'2 Kg/cm²**

Proyecto:

Seccion:CDV131

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	28.0	13.4	270.4	*T	0
8	4	28.0	13.4	265.4	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	2.0	25.0	280.0	CT	0
11	3	2.0	25.0	270.0	CT	0
12	3	2.0	25.0	260.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9 10 11 12
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2916.9	28.83	10392775.8
	(1)	1073.4	56.95	9024167.6
	(2)	1431.0	45.81	9539730.3
F.pura -	(0)	522.8	272.79	518686.7
	(1)	311.6	267.44	497554.9
	(2)	359.0	269.02	503431.4
C.Simple	(0)	5390.0	92.91	57491833.0
	(1)	1620.7	105.67	19506722.0
	(2)	2301.2	100.27	26455632.5
T.Simple	(0)	171.0	260.23	474206.0
	(1)	171.0	260.23	474206.0
	(2)	171.0	260.23	474206.0

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Tπtulo Secciπn: CDV131

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION

Pretensado: 2259.54Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[J_{π}*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 6849.6 Xu(cm.): 40.3

Nu(Tn.): -.1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00169 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -342.3 Xu(cm.): 244.4

Nu(Tn.): -1.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00244 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8270.0 aplicado en Yo(cm)= 107.5

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2586.6 aplicado en Yo(cm)= 258.6

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

** CALCULO ELASTICO **

Tπtulo Secciπn: CDV131

Analisis SIN FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Flector : 1036.00m.T PP
Tipo de Solicitacion: CP
Seccion Afectada: LOS

** CALCULO ELASTICO **

Tπtulo Secciπn: CDV131

Analisis SIN FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Flector : 1036.00m.T CP
Tipo de Solicitacion: CP

Seccion Afectada: C+P

Incremento de Carga 2 :
Retraccion(Eso/Γi;Tinf.): 41.08(*1.E-05)
Actua sobre la Sintermedia LOS
Seccion Afectada: TOTAL

Incremento de Carga 3 :
Retraccion(Eso/Γi;Tinf.): 29.11(*1.E-05)
Actua sobre la Sintermedia CAJ
Seccion Afectada: TOTAL

Incremento de Carga 4 :
Pretensado: 166.00Tn.
P.relajacion: 5.00(%)
Alfa: 0.00(gsex.)
Actua sobre la Sintermedia PS
Seccion Afectada: C+P

Incremento de Carga 5 :

Pretensado: 2285.50Tn.
P.relajacion: 5.00(%)
Alfa: 0.00(gsex.)
Actua sobre la Sintermedia PI
Seccion Afectada: C+P

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)					ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	$$$$$$	0.0	0.0	0.0	0.0	1	-11.8	-3.0	-10.8	0.0	0.0
2	-49.8	-53.9	-74.2	0.0	0.0	2	-65.5	-40.9	-53.8	0.0	0.0
3	-49.8	-74.2	-208.1	0.0	0.0	3	-65.5	-53.8	-138.6	0.0	0.0
4	-49.8	-208.1	-226.3	0.0	0.0	4	-65.5	-138.6	-150.1	0.0	0.0
5	$$$$$$	13656.9	13652.1	0.013656.9		5	$$$$$$	10547.1	10534.9	0.010547.1	
6	$$$$$$	13674.1	13669.3	0.013674.1		6	$$$$$$	10591.1	10578.9	0.010591.1	
7	$$$$$$	13691.4	13686.6	0.013691.4		7	$$$$$$	10635.1	10622.9	0.010635.1	
8	$$$$$$	13709.4	13704.6	0.013709.4		8	$$$$$$	10680.9	10668.7	0.010680.9	
9	$$$$$$	14483.0	14478.2	0.014483.0		9	$$$$$$	12681.9	12669.6	0.012681.9	
10	-49.8	-1384.4	-1394.9	0.0	1394.9	10	-107.9	-4146.6	-4173.3	0.0	4173.3
11	-49.8	-1342.4	-1352.9	0.0	1352.9	11	-107.9	-4039.7	-4066.4	0.0	4066.4
12	-49.8	-1300.4	-1310.9	0.0	1310.9	12	-107.9	-3932.8	-3959.5	0.0	3959.5

Incrementos de Carga:
1 2 3 4 5

Incremento de Carga 6 :

Flector : 851.00m.T CM
Tipo de Solicitacion: CP
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)					ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	92.9	-18.7	-12.7	0.0	0.0	1	-220.6	-20.5	-23.2	0.0	0.0
2	-127.5	-68.9	-82.1	0.0	0.0	2	-208.8	-55.7	-62.7	0.0	0.0
3	-127.5	-82.1	-168.7	0.0	0.0	3	-208.8	-62.7	-108.8	0.0	0.0
4	-127.5	-168.7	-180.6	0.0	0.0	4	-208.8	-108.8	-115.1	0.0	0.0
5	$$$$$$	13894.2	13891.1	0.013894.2		5	$$$$$$	11199.0	11191.8	0.011199.0	
6	$$$$$$	13905.4	13902.3	0.013905.4		6	$$$$$$	11225.1	11217.8	0.011225.1	
7	$$$$$$	13916.6	13913.5	0.013916.6		7	$$$$$$	11251.1	11243.8	0.011251.1	
8	$$$$$$	13928.3	13925.1	0.013928.3		8	$$$$$$	11278.2	11271.0	0.011278.2	
9	$$$$$$	14422.2	14419.1	0.014422.2		9	$$$$$$	12455.0	12447.8	0.012455.0	
10	-127.5	-1107.5	-1114.3	0.0	1114.3	10	-255.1	-3386.0	-3401.8	0.0	3401.8
11	-127.5	-1080.3	-1087.1	0.0	1087.1	11	-255.1	-3322.7	-3338.6	0.0	3338.6
12	-127.5	-1053.1	-1059.9	0.0	1059.9	12	-255.1	-3259.5	-3275.3	0.0	3275.3

Incrementos de Carga:
1 2 3 4 5 6

Incremento de Carga 7 :

Flector : 1333.00m.T RED
Tipo de Solicitacion: CP:tf[2]
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)					ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	92.9	-18.7	-12.7	0.0	0.0	1	259.3	-48.5	-42.9	0.0	0.0
2	-127.5	-68.9	-82.1	0.0	0.0	2	835.4	-79.0	-76.0	0.0	0.0
3	-127.5	-82.1	-168.7	0.0	0.0	3	835.4	-76.0	-56.6	0.0	0.0
4	-127.5	-168.7	-180.6	0.0	0.0	4	835.4	-56.6	-54.0	0.0	0.0
5	$$$$$$	13894.2	13891.1	0.013894.2		5	$$$$$$	11975.2	11973.8	0.011975.2	
6	$$$$$$	13905.4	13902.3	0.013905.4		6	$$$$$$	11980.5	11979.1	0.011980.5	
7	$$$$$$	13916.6	13913.5	0.013916.6		7	$$$$$$	11985.8	11984.4	0.011985.8	
8	$$$$$$	13928.3	13925.1	0.013928.3		8	$$$$$$	11991.4	11989.9	0.011991.4	
9	$$$$$$	14422.2	14419.1	0.014422.2		9	$$$$$$	12216.3	12214.8	0.012216.3	
10	-127.5	-1107.5	-1114.3	0.0	1114.3	10	$$$$$$	-2480.4	-2483.7	0.0	2483.7
11	-127.5	-1080.3	-1087.1	0.0	1087.1	11	$$$$$$	-2467.6	-2470.8	0.0	2470.8
12	-127.5	-1053.1	-1059.9	0.0	1059.9	12	$$$$$$	-2454.7	-2457.9	0.0	2457.9

Incrementos de Carga:
1 2 3 4 5 6 7

Incremento de Carga 8 :

Flector : 1978.49m.T SCU INFRE
Tipo de Solicitacion: SC
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)					ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	92.9	-62.2	-42.1	0.0	0.0	1	140.4	-92.0	-72.4	0.0	0.0
2	921.0	-103.8	-100.3	0.0	0.0	2	204.5	-113.8	-94.3	0.0	0.0
3	921.0	-100.3	-77.2	0.0	0.0	3	204.5	-94.3	34.9	0.0	0.0
4	921.0	-77.2	-74.1	0.0	0.0	4	204.5	34.9	52.5	0.0	0.0
5	$$$$$$	14446.1	14446.9	0.014446.9		5	$$$$$$	12527.1	12529.5	0.012529.5	
6	$$$$$$	14443.1	14443.9	0.014443.9		6	$$$$$$	12518.2	12520.7	0.012520.7	
7	$$$$$$	14440.1	14441.0	0.014441.0		7	$$$$$$	12509.4	12511.8	0.012511.8	
8	$$$$$$	14437.0	14437.9	0.014437.9		8	$$$$$$	12500.1	12502.6	0.012502.6	
9	$$$$$$	14280.9	14281.7	0.014281.7		9	$$$$$$	12075.0	12077.4	0.012077.4	
10	921.0	-463.6	-461.8	0.0	463.6	10	$$$$$$	-1836.6	-1831.2	0.0	1836.6
11	921.0	-470.9	-469.1	0.0	470.9	11	$$$$$$	-1858.1	-1852.8	0.0	1858.1
12	921.0	-478.1	-476.3	0.0	478.1	12	$$$$$$	-1879.7	-1874.3	0.0	1879.7

Incrementos de Carga:
1 2 3 4 5 6 7 8

** CALCULO ELASTICO **

Título Sección: CDV131

Analisis SIN FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Flector : 1036.00m.T PP
Tipo de Solicitacion: CP
Seccion Afectada: C+P

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)					
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	$$$$$$	0.0	0.0	0.0	0.0	1	117.2	-20.9	-15.6	0.0	0.0
2	180.8	-123.7	-99.1	0.0	0.0	2	101.8	-15.7	-9.2	0.0	0.0
3	180.8	-99.1	63.3	0.0	0.0	3	101.8	-9.2	34.2	0.0	0.0
4	180.8	63.3	85.4	0.0	0.0	4	101.8	34.2	40.1	0.0	0.0
5	180.8	432.6	438.5	0.0	438.5	5	156.2	881.0	890.5	0.0	890.5
6	180.8	411.7	417.5	0.0	417.5	6	156.2	846.9	856.4	0.0	856.4
7	180.8	390.8	396.6	0.0	396.6	7	156.2	812.7	822.2	0.0	822.2
8	180.8	368.9	374.8	0.0	374.8	8	156.2	777.1	786.6	0.0	786.6
9	180.8	-592.7	-586.9	0.0	592.7	9	156.2	-791.6	-782.1	0.0	791.6
10	180.8	504.8	517.5	0.0	517.5	10	156.2	1027.9	1048.6	0.0	1048.6
11	180.8	453.9	466.6	0.0	466.6	11	156.2	944.8	965.6	0.0	965.6
12	180.8	403.0	415.7	0.0	415.7	12	156.2	861.8	882.6	0.0	882.6

Incrementos de Carga:
1

Incremento de Carga 2 :
Retraccion(Eso/ri;Tinf.): 41.08(*1.E-05)
Actua sobre la Sintermedia LOS
Seccion Afectada: TOTAL

Incremento de Carga 3 :
Retraccion(Eso/ri;Tinf.): 29.11(*1.E-05)
Actua sobre la Sintermedia CAJ
Seccion Afectada: TOTAL

Incremento de Carga 4 :
Pretensado: 166.00Tn.
P.relajacion: 5.00(%)
Alfa: 0.00(gsex.)
Actua sobre la Sintermedia PS
Seccion Afectada: C+P

Incremento de Carga 5 :
Pretensado: 2285.50Tn.
P.relajacion: 5.00(%)
Alfa: 0.00(gsex.)
Actua sobre la Sintermedia PI
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

5% pretensado = 100 Kg/cm²

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)					
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	33.8	33.0	3.7	0.0	0.0	1	-0.0	-0.0	-10.2	0.0	0.0
2	-961.3	-156.6	-161.4	0.0	0.0	2	-94.9	-49.2	-61.0	0.0	0.0
3	-961.3	-161.4	-192.6	0.0	0.0	3	-94.9	-61.0	-138.9	0.0	0.0
4	-961.3	-192.6	-196.9	0.0	0.0	4	-94.9	-138.9	-149.5	0.0	0.0
5	$$$$$$	13799.8	13798.7	0.0	13799.8	5	$$$$$$	10642.7	10633.9	0.0	10642.7
6	$$$$$$	13803.9	13802.7	0.0	13803.9	6	$$$$$$	10674.5	10665.7	0.0	10674.5
7	$$$$$$	13807.9	13806.8	0.0	13807.9	7	$$$$$$	10706.3	10697.4	0.0	10706.3
8	$$$$$$	13812.1	13811.0	0.0	13812.1	8	$$$$$$	10739.3	10730.5	0.0	10739.3
9	$$$$$$	13977.9	13976.8	0.0	13977.9	9	$$$$$$	12179.3	12170.5	0.0	12179.3
10	-961.3	-1217.6	-1220.1	0.0	1220.1	10	-242.7	-4035.0	-4054.3	0.0	4054.3
11	-961.3	-1207.8	-1210.3	0.0	1210.3	11	-242.7	-3957.8	-3977.1	0.0	3977.1
12	-961.3	-1198.0	-1200.5	0.0	1200.5	12	-242.7	-3880.6	-3899.9	0.0	3899.9

Incrementos de Carga:
1 2 3 4 5

4) Estudio de redistribuciones a nivel de sección de las tensiones.

La sección longitudinal es variable con el tiempo de manera que las esfuerzos sufren redistribuciones con el tiempo.

De esta manera, es [illegible] mediante el empleo del programa CYPE que utiliza los procesos descritos [illegible] en puentes mixtos (Libro "CONSTRUCCIÓN MIXTA" de D. Julio Martínez Calzón).

- Para las acciones que actúan en el cajón y son constantes se obtiene en Fibra INF (Constante 1)

	Fibra inf caja	Fibra sup cajón	Fibra Losa SUP	Fibra Losa INF
M = 1000 mt	73'8	-58'3	-13'8	-9'7
N = -1000 tn en c.d.g del cajón sin losa	-81'2	-53	-3'8	-7,5

Estas acciones son PPCF1, PPLF1 y parte de PPLF2, junto con el pretensado.

- Las acciones que actúan en la sección cajón+losa tienen dos variables:

  - Las que son constante con el tiempo (C. Muerta)
    (Constante 1)

DEAM

Así en este caso se obtienen:

	Flexión compuesta	Flexión simple	Flexión Losa SUP	Flexión Losa INF	
M=1000 mt, N=1000 t, en cond. de Losa + Cajón	64	-24'2	-20'5	-14'70	Kg/cm²
M=1150 mt, N=1000 t, en cond. de Losa + Cajón	63'60	-24'2	-20'9	-14'70	Kg/cm²
N=1000 t, en cond. de Losa + Cajón	-38'4	-38'2	-24'3	-23'6	Kg/cm²

- Las acciones variables en el tiempo (punta de pretensado y diferencial) [constante 2]

	Flexión compuesta	Flexión simple	Flexión Losa SUP	Flexión Losa INF	
M=1150 mt, N=1000 t, en cond. de Losa + Cajón	63'60	-24'2	-20'9	-14'70	Kg/cm²
N=1000 t, en cond. de Losa + Cajón	-38'4	-38'2	-24'3	-23'6	Kg/cm²

A continuación se incluyen los listados del CSEC con dichos cálculos.

Los coeficientes que se han calculado son:

LOSA: J_{H1} = FLUENCIA de 3 a 36000 días → $J_{H2} = 0'7 \cdot J_{H1}$

CAJON 3: J_{H1} = FLUENCIA de 28 a ∞ días → $J_{H2} = 0'7 \cdot J_{H1}$

LOSA 2: $J_{H1} = 2'28$ → $J_{H2} = 1'59$

CAJON 3: $J_{H1} = 1'23$ → $J_{H2} = 0'860$

CAJÓN

RETRACCIÓN DEL HORMIGÓN

(Según la instrucción EHE)

Área de la sección de hormigón en m²	1.529
Perímetro de la sección en contacto con la atmósfera (m)	12.148
Resistencia característica del hormigón (en N/mm²)	55

$$e = \frac{2 \cdot A_c}{u}$$

Espesor medio en mm de la sección (mm):	251.729
Valor de la humedad relativa (%) (para estructuras al aire se introducira un valor menor que cien para estructuras sumergidas se introducirá un valor 100)	70

Formulación

La retracción entre los instantes t_0 y t_i se obtiene siguiendo la siguiente formulación: (siendo t_0 la edad del hormigón al comienzo de la retracción)

$$\varepsilon_{cs} = \varepsilon_{cs0} \cdot \beta_s(t_i - t_o)$$

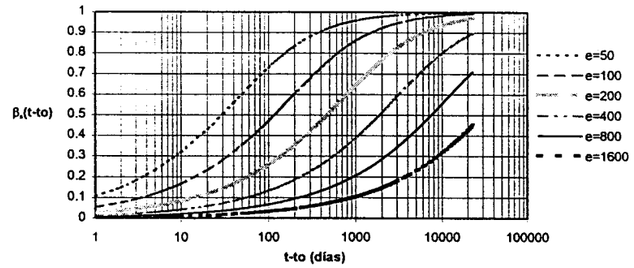
$$\varepsilon_{cs0} = \varepsilon_s \cdot \beta_{HR}$$

$$\varepsilon_s = (570 - 5 \cdot f_{ck}) \cdot 10^{-6}$$

$$\beta_{HR} = -1.55 \cdot \left(1 - \left(\frac{HR}{100}\right)^3\right) \quad \text{para estructuras al aire}$$

$$\beta_{HR} = 0.2 \quad \text{para estructuras sumergidas}$$

$$\beta_s(t_i - t_o) = \sqrt{\frac{t_i - t_o}{0.035\,e^2 + (t_i - t_o)}}$$



Caso	1	2	3	4	5
t_0 (días)	3	28			
t_1 (días)	36000	36000			
$\beta_s(t_1-t_0)$	0.971	0.971			
β_{HR}	-1.018	-1.018			
ε_s	0.000295	0.000295			
ε_{cs0}	-0.000300	-0.000300			
$\varepsilon_{cs}(t_1,t_0)$*	-29.16	-29.16			
t_2 (días)					
$\beta_s(t_1-t_0)$					
β_{HR}					
ε_s					
ε_{cs0}					
$\varepsilon_{cs}(t_2,t_0)$*					
$\varepsilon_{cs}(t_2,t_1)$*					

CAJÓN

FLUENCIA DEL HORMIGÓN

(Según la instrucción EHE)

Área de la sección de hormigón en m^2	1.529
Perímetro de la sección en contacto con la atmósfera (m)	12.148
Resistencia característica del hormigón (en N/mm^2)	55

$$e = \frac{2 \cdot A_c}{u}$$

Espesor medio en mm de la sección:	251.729
Valor de la humedad relativa (%) (para estructuras al aire se introducira un valor menor que cien para estructuras sumergidas se introducirá un valor 100)	70

Tipo de cemento

- ○ Cemento normal
- ◉ Cemento rápido

Formulación

La fluencia entre los instantes t_0 y t, se obtiene siguiendo la siguiente formulación:
(siendo t_0 el instante de aplicación de la carga)

$$\varphi(t,t_0) = \varphi_0 \cdot \beta_c(t - t_0)$$

$$\varphi_0 = \varphi_{HR} \cdot \beta(f_{cm}) \cdot \beta(t_0)$$ Coeficiente básico de fluencia

$$\varphi_{HR} = 1 + \frac{100 - HR}{9.9 \cdot e^{1/3}}$$

$$\beta(f_{cm}) = \frac{16.8}{\sqrt{f_{ck} + 8}}$$

$$\beta(t_0) = \frac{1}{0.1 + t_0^{0.2}}$$

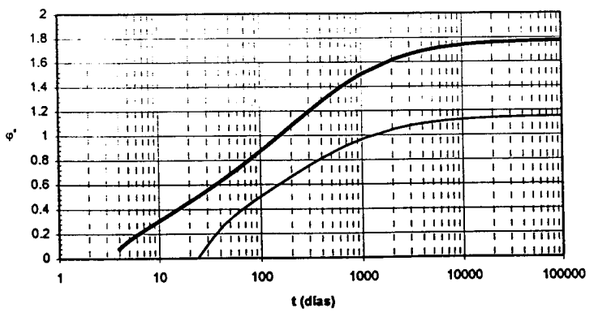
$$\beta_c(t - t_0) = \left[\frac{(t - t_0)}{\beta_H + (t - t_0)}\right]^{0.3}$$ Función que describe el desarrollo de la fluencia con el tiempo

$$\beta_H = 1.5 \cdot e \cdot \left(1 + (0.012 \cdot HR)^{18}\right) + 250 \le 150$$

Esta formulación es válida para tensiones en el instante t_0 menores que $0.45 \cdot f_{cm}$, para tensiones mayores la no linealidad de la fluencia se ha de evaluar multiplicando el coeficiente básico de fluencia por una expresión que depende de la relación tensión aplicada/resistencia.

La deformación dependiente de la tensión, en el instante t_i puede evaluarse con el criterio siguiente:

$$\varepsilon_{cc}(t, t_0) = \sigma(t_0) \cdot \left(\frac{1}{E_{0,t_0}} + \frac{\varphi(t,t_0)}{E_{0,28}}\right)$$



El modelo de obtención del coeficiente de fluencia está referido al módulo de deformación longitudinal tangente, por lo que para obtener el coeficiente fluencia referido al secante se igualan las deformaciones totales y se obtiene:

$$\varphi'(t,t_0) = \left(\frac{1}{E_{0,t_0}} - \frac{1}{E_{t_0}} + \frac{\varphi(t,t_0)}{E_{0,28}}\right) \cdot E_{28}$$

CAJÓN

Caso	1	2	3	4	5
t_0 (días)	3	28	3		
t_1 (días)	36000	36000	28		
φ_{HR}	1.479927	1.479927	1.479927		
$\beta(f_{cm})$	2.116601	2.116601	2.116601		
$\beta(t_0)$	0.743091	0.488450	0.743091		
β_H	643.963111	643.963111	643.963111		
$\beta_c(t_1-t_0)$	0.994695	0.994691	0.373045		
φ_0	2.327668	1.530027	2.327668		
$\varphi(t_1,t_0)$	2.315	1.522	0.868		
$\varphi'(t_1,t_0)$	1.765	1.144	0.535		
t_2 (días)					
φ_{HR}					
$\beta(f_{cm})$					
$\beta(t_0)$					
β_H					
$\beta_c(t_1-t_0)$					
φ_0					
$\varphi(t_2,t_0)$					
$\varphi'(t_2,t_0)$					
$\varphi(t_2,t_1)$					
$\varphi'(t_2,t_1)$					

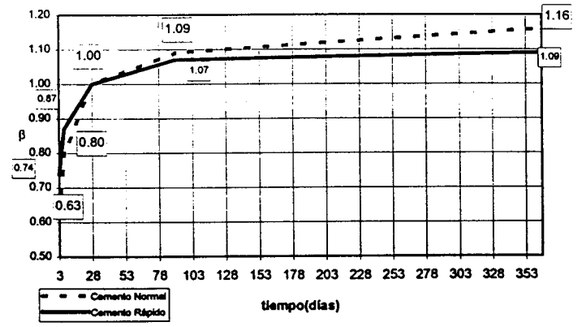
MÓDULO DE DEFORMACIÓN LONGITUDINAL

β	0.74	1.0000	0.7400
Módulo tangente			
$E_{0,28}$ (N/mm^2)	39791	39791	39791
E_{t_0} (N/mm^2)	29445	39791	29445
Módulo secante			
E_{28} (N/mm^2)	33822	33822	33822
E_{t_0} (N/mm^2)	25028	33822	25028

$$E_{0,28} = 10000 \cdot \sqrt[3]{f_{ck} + 8} \qquad E_{28} = 8500 \cdot \sqrt[3]{f_{ck} + 8}$$

$F_{ct,k}$ (N/mm^2)	3.037
$F_{ct,m}$ (N/mm^2)	4.339
$F_{ct,k\ 0,95}$ (N/mm^2)	5.640

EVOLUCION DEL MODULO DE DEFORMACION LONGITUDINAL



RETRACCIÓN DEL HORMIGÓN

(Según la instrucción EHE)

Área de la sección de hormigón en m^2	4.2
Perímetro de la sección en contacto con la atmósfera (m)	28.6
Resistencia característica del hormigón (en N/mm^2)	30

$$e = \frac{2 \cdot A_c}{u}$$

Espesor medio en mm de la sección (mm):	293.706

Valor de la humedad relativa (%) 70
(para estructuras al aire se introducira un valor menor que cien
para estructuras sumergidas se introducirá un valor 100)

Formulación

La retracción entre los instantes t_0 y t_t se obtiene siguiendo la siguiente formulación:
(siendo t_0 la edad del hormigón al comienzo de la retracción)

$$\varepsilon_{cs} = \varepsilon_{cs0} \cdot \beta_s(t_t - t_o)$$

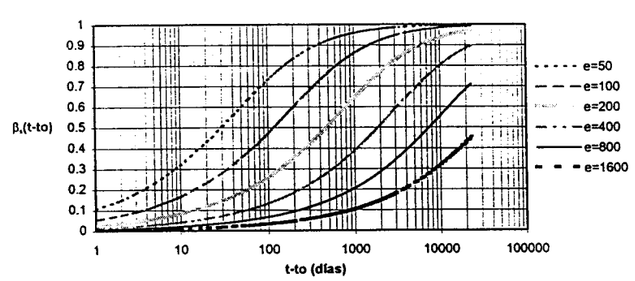
$$\varepsilon_{cs0} = \varepsilon_s \cdot \beta_{HR}$$

$$\varepsilon_s = (570 - 5 \cdot f_{ck}) \cdot 10^{-6}$$

$$\beta_{HR} = -1.55 \cdot \left(1 - \left(\frac{HR}{100}\right)^3\right) \quad \text{para estructuras al aire}$$

$$\beta_{HR} = 0.2 \quad \text{para estructuras sumergidas}$$

$$\beta_s(t_t - t_o) = \sqrt{\frac{t_t - t_o}{0.035 e^2 + (t_t - t_o)}}$$



Caso	1	2	3	4	5
t_0 (días)	3	28			
t_1 (días)	36000	36000			
$\beta_s(t_1-t_0)$	0.961	0.961			
β_{HR}	-1.018	-1.018			
ε_s	0.000420	0.000420			
ε_{cs0}	-0.000428	-0.000428			
$\varepsilon_{cs}(t_1,t_0)$*	**-41.08**	**-41.08**			
t_2 (días)					
$\beta_s(t_1-t_0)$					
β_{HR}					
ε_s					
ε_{cs0}					
$\varepsilon_{cs}(t_2,t_0)$*					
$\varepsilon_{cs}(t_2,t_1)$*					

FLUENCIA DEL HORMIGÓN

(Según la instrucción EHE)

Área de la sección de hormigón en m^2	4.2
Perímetro de la sección en contacto con la atmósfera (m)	28.6
Resistencia característica del hormigón (en N/mm^2)	30

$$e = \frac{2 \cdot A_c}{u}$$

Espesor medio en mm de la sección:	293.706

Valor de la humedad relativa (%) 70
(para estructuras al aire se introducira un valor menor que cien
para estructuras sumergidas se introducirá un valor 100)

Tipo de cemento
- ○ Cemento normal
- ◉ Cemento rápido

Formulación

La fluencia entre los instantes t_0 y t_t se obtiene siguiendo la siguiente formulación:
(siendo t_0 el instante de aplicación de la carga)

$$\varphi(t_t, t_0) = \varphi_0 \cdot \beta_c(t_t - t_0)$$

$$\varphi_0 = \varphi_{HR} \cdot \beta(f_{cm}) \cdot \beta(t_0) \quad \text{Coeficiente básico de fluencia}$$

$$\varphi_{HR} = 1 + \frac{100 - HR}{9.9 \cdot e^{1/3}}$$

$$\beta(f_{cm}) = \frac{16.8}{\sqrt{f_{ck} + 8}}$$

$$\beta(t_0) = \frac{1}{0.1 + t_0^{0.2}}$$

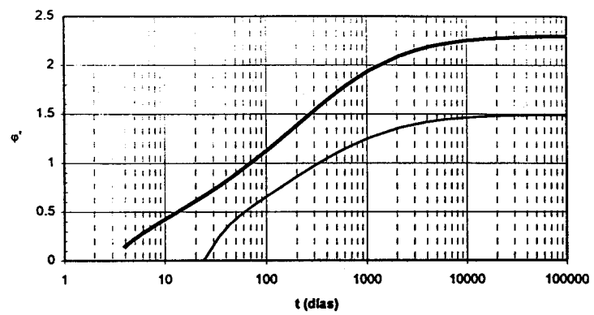
$$\beta_c(t_t - t_0) = \left[\frac{(t_t - t_0)}{\beta_H + (t - t_0)}\right]^{0.3} \quad \text{Función que describe el desarrollo de la fluencia con el tiempo}$$

$$\beta_H = 1.5 \cdot e \cdot \left(1 + (0.012 \cdot HR)^{18}\right) + 250 \leq 150$$

Esta formulación es válida para tensiones en el instante t_0 menores que $0.45 \cdot f_{cm}$,
para tensiones mayores la no linealidad de la fluencia se ha de evaluar multiplicando
el coeficiente básico de fluencia por una expresión que depende de la relación
tensión aplicada/resistencia.

La deformación dependiente de la tensión, en el instante t_t puede evaluarse con el criterio siguiente:

$$\varepsilon_{c\sigma}(t_t, t_0) = \sigma(t_0) \cdot \left(\frac{1}{E_{0,t_0}} + \frac{\varphi(t, t_0)}{E_{0,28}}\right)$$



El modelo de obtención del coeficiente de fluencia está referido al módulo de deformación longitudinal tangente, por lo que para obtener el coeficiente fluencia referido al secante se igualan las deformaciones totales y se obtiene:

$$\varphi'(t, t_0) = \left(\frac{1}{E_{0,t_0}} - \frac{1}{E_{t_t}} + \frac{\varphi(t, t_0)}{E_{0,28}}\right) \cdot E_{28}$$

LOSA

Caso	1	2	3	4	5
t_0 (dias)	3	28	3		
t_1 (dias)	36000	36000	28		
φ_{HR}	1.455878	1.455878	1.455878		
$\beta(f_{cm})$	2.725320	2.725320	2.725320		
$\beta(t_0)$	0.743091	0.488450	0.743091		
β_H	709.659366	709.659366	709.659366		
$\beta_c(t_1-t_0)$	0.994160	0.994156	0.362707		
φ_0	2.948385	1.938037	2.948385		
$\varphi(t_1,t_0)$	2.931	1.927	1.069		
$\varphi'(t_1,t_0)$	2.289	1.488	0.706		
t_2 (dias)					
φ_{HR}					
$\beta(f_{cm})$					
$\beta(t_0)$					
β_H					
$\beta_c(t_1-t_0)$					
φ_0					
$\varphi(t_2,t_0)$					
$\varphi'(t_2,t_0)$					
$\varphi(t_2,t_1)$					
$\varphi'(t_2,t_1)$					

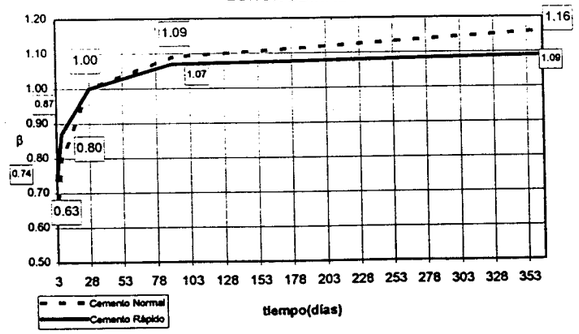
MÓDULO DE DEFORMACIÓN LONGITUDINAL

β	0.74	1.0000	0.7400
Módulo tangente			
$E_{0.28}$ (N/mm²)	33620	33620	33620
$E_{0.to}$ (N/mm²)	24879	33620	24879
Módulo secante			
E_{28} (N/mm²)	28577	28577	28577
E_{to} (N/mm²)	21147	28577	21147

$$E_{0,28} = 10000 \cdot \sqrt[3]{f_{ck} + 8} \qquad E_{28} = 8500 \cdot \sqrt[3]{f_{ck} + 8}$$

$F_{ct,k}$ (N/mm²)	2.028
$F_{ct,m}$ (N/mm²)	2.896
$F_{ct,k\ 0.95}$ (N/mm²)	3.765

EVOLUCION DEL MODULO DE DEFORMACION LONGITUDINAL



Proyecto:

Seccion:CONS

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	300.0	1.50	285770	2.28	1.59
2(HO)	550.0	1.50	338219	1.23	.86
3(RD)	5100.0	1.15	2100000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm)	Yo(cm)	Mc	Nsr $_{\pi}$(mm)
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0

SECCIONES INTERMEDIAS

Num. Codigo Componentes
1 CAJ 2 3 4

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	0.0	0.00	0.0
	(1)	0.0	0.00	0.0
	(2)	0.0	0.00	0.0
F.pura -	(0)	0.0	0.00	0.0
	(1)	0.0	0.00	0.0
	(2)	0.0	0.00	0.0
C.Simple	(0)	5219.0	87.43	52072987.5
	(1)	1930.1	102.83	20710730.3
	(2)	2372.8	100.65	25277296.1
T.Simple	(0)	0.0	0.00	0.0
	(1)	0.0	0.00	0.0
	(2)	0.0	0.00	0.0

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

* CONSTANTES ESTATICAS *

Título Sección: CONS

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	0.0	0.00	0.0
	(1)	0.0	0.00	0.0
	(2)	0.0	0.00	0.0
F.pura -	(0)	0.0	0.00	0.0
	(1)	0.0	0.00	0.0
	(2)	0.0	0.00	0.0
C.Simple	(0)	5219.0	87.43	52072987.5
	(1)	1930.1	102.83	20710730.3

	(2)	2372.8	100.65	25277296.1
T.Simple	(0)	0.0	0.00	0.0
	(1)	0.0	0.00	0.0
	(2)	0.0	0.00	0.0

S.Intermedia CAJ

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	0.0	0.00	0.0
	(1)	0.0	0.00	0.0
	(2)	0.0	0.00	0.0
F.pura -	(0)	0.0	0.00	0.0
	(1)	0.0	0.00	0.0
	(2)	0.0	0.00	0.0
C.Simple	(0)	2361.3	175.09	18721876.2
	(1)	1058.9	175.09	8395460.2
	(2)	1269.5	175.09	10065524.8
T.Simple	(0)	0.0	0.00	0.0
	(1)	0.0	0.00	0.0
	(2)	0.0	0.00	0.0

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

** CALCULO ELASTICO **

Título Sección: CONS

Analisis SIN FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Flector : 1000.00m.T C1 CAJON
Tipo de Solicitacion: CP
Seccion Afectada: CAJ

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)					
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	$$$$$$	0.0	0.0	0.0	0.0	1	100.6	-13.8	-9.7	0.0	0.0
2	175.1	-124.8	-99.0	0.0	0.0	2	142.5	-58.3	-42.7	0.0	0.0
3	175.1	-99.0	71.3	0.0	0.0	3	142.5	-42.7	59.8	0.0	0.0
4	175.1	71.3	94.6	0.0	0.0	4	142.5	59.8	73.8	0.0	0.0

Incrementos de Carga:
1

** CALCULO ELASTICO **

Título Sección: CONS

Analisis SIN FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -1000.00Tn. C1 CAJON
Excentricidad: 179.00cm.(respecto a la directriz)
Tipo de Solicitacion: CP
Seccion Afectada: CAJ

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)					
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	$$$$$$	0.0	0.0	0.0	0.0	1	-35.3	-3.8	-7.0	0.0	0.0
2	$$$$$$	-63.3	-64.3	0.0	0.0	2	-144.9	-33.0	-38.7	0.0	0.0
3	$$$$$$	-64.3	-71.0	0.0	0.0	3	-144.9	-38.7	-76.1	0.0	0.0
4	$$$$$$	-71.0	-71.9	0.0	0.0	4	-144.9	-76.1	-81.2	0.0	0.0

Incrementos de Carga:
1

** CALCULO ELASTICO **

Título Sección: CONS

Analisis SIN FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Flector : 1000.00m.T C1 C+LOS
Tipo de Solicitacion: CP
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)					
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	87.4	-22.8	-15.0	0.0	0.0	1	102.8	-20.6	-14.6	0.0	0.0
2	87.4	-17.8	-8.5	0.0	0.0	2	102.8	-25.4	-14.9	0.0	0.0
3	87.4	-8.5	52.8	0.0	0.0	3	102.8	-14.9	54.1	0.0	0.0
4	87.4	52.8	61.1	0.0	0.0	4	102.8	54.1	63.5	0.0	0.0

Incrementos de Carga:
1

** CALCULO ELASTICO **

Título Sección: CONS

Analisis SIN FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -1000.00Tn. C1 C+LOS
Excentricidad: 90.50cm.(respecto a la directriz)
Tipo de Solicitacion: CP
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)					
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	$$$$$$	-25.4	-25.6	0.0	0.0	1	973.4	-24.0	-23.3	0.0	0.0
2	$$$$$$	-30.3	-30.6	0.0	0.0	2	973.4	-40.5	-39.3	0.0	0.0
3	$$$$$$	-30.6	-32.5	0.0	0.0	3	973.4	-39.3	-30.7	0.0	0.0
4	$$$$$$	-32.5	-32.7	0.0	0.0	4	973.4	-30.7	-29.6	0.0	0.0

Incrementos de Carga:
1

** CALCULO ELASTICO **

Título Sección: CONS

Analisis SIN FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Flector : 1000.00m.T C2 C+LOS
Tipo de Solicitacion: CP:tf[2]
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)					ESTADO FINAL (Tinf)					
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	$$$$$$	0.0	0.0	0.0	0.0	1	100.6	-20.9	-14.7	0.0	0.0
2	$$$$$$	0.0	0.0	0.0	0.0	2	100.6	-24.2	-13.9	0.0	0.0
3	$$$$$$	0.0	0.0	0.0	0.0	3	100.6	-13.9	53.9	0.0	0.0
4	$$$$$$	0.0	0.0	0.0	0.0	4	100.6	53.9	63.2	0.0	0.0

Incrementos de Carga:
1

** CALCULO ELASTICO **

Título Sección: CONS

Analisis SIN FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -1000.00Tn. C2 C+LOS
Excentricidad: 90.50cm.(respecto a la directriz)
Tipo de Solicitacion: CP:tf[2]
Seccion Afectada: TOTAL

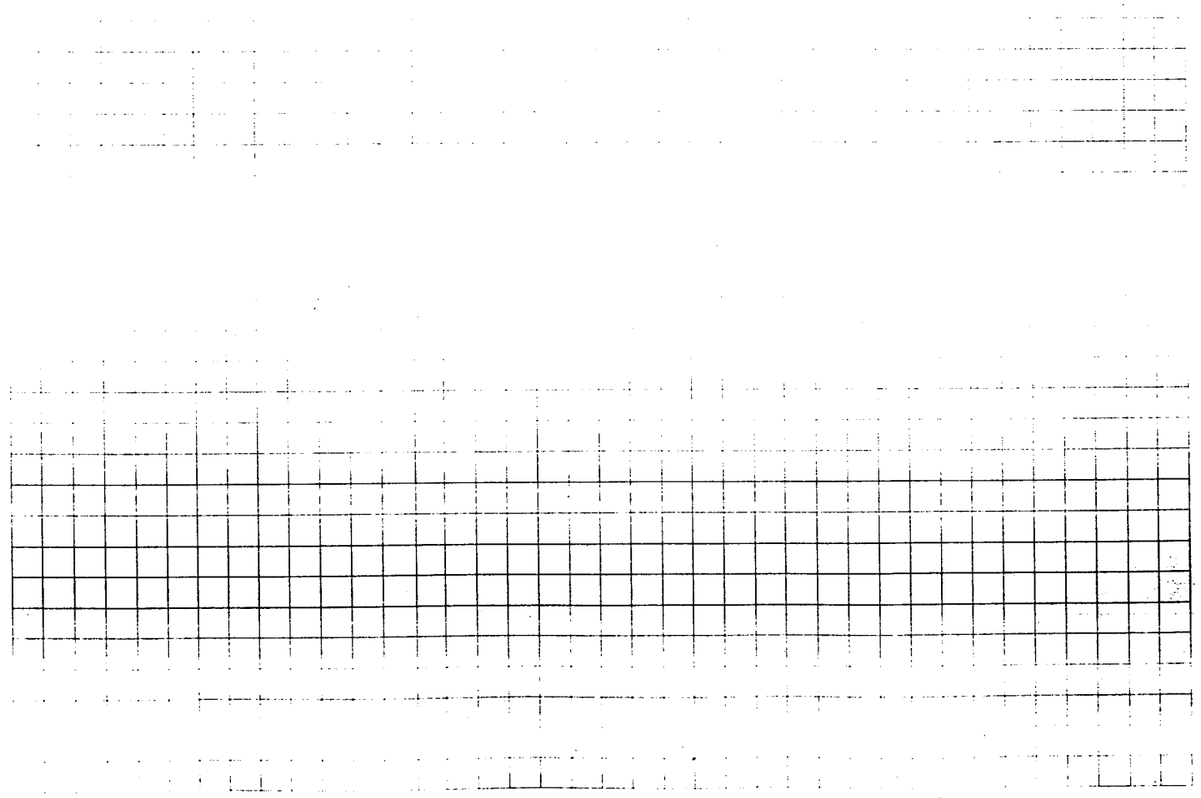
TENSIONES (Kg/cm2):

ESTADO INICIAL (To)					ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	$$$$$$	0.0	0.0	0.0	0.0	1	$$$$$$	-24.3	-23.6	0.0	0.0
2	$$$$$$	0.0	0.0	0.0	0.0	2	$$$$$$	-38.9	-37.9	0.0	0.0
3	$$$$$$	0.0	0.0	0.0	0.0	3	$$$$$$	-37.9	-31.0	0.0	0.0
4	$$$$$$	0.0	0.0	0.0	0.0	4	$$$$$$	-31.0	-30.1	0.0	0.0

Incrementos de Carga:
1

IDEAM

b) Comprobación de flexión



A continuación se comprueba la fisuración, para ello se analizan las secciones:

- Fibra superior del cajón: En zonas centradas se producen tracciones en esta fibra que a $t = \infty$ desaparecen en completo. Así en el puente objeto se comprueba la apertura de fisura

- Fibra inferior de cajón a $t = \infty$. Este acero en frecuentes tiene tracciones menor que $f_{ct,m}$

$$f_{ct,m} \approx 41 \text{ Kg/cm}^2$$

No obstante se comprueba la sección a infrecuentes para saber a que cuantía se llega.

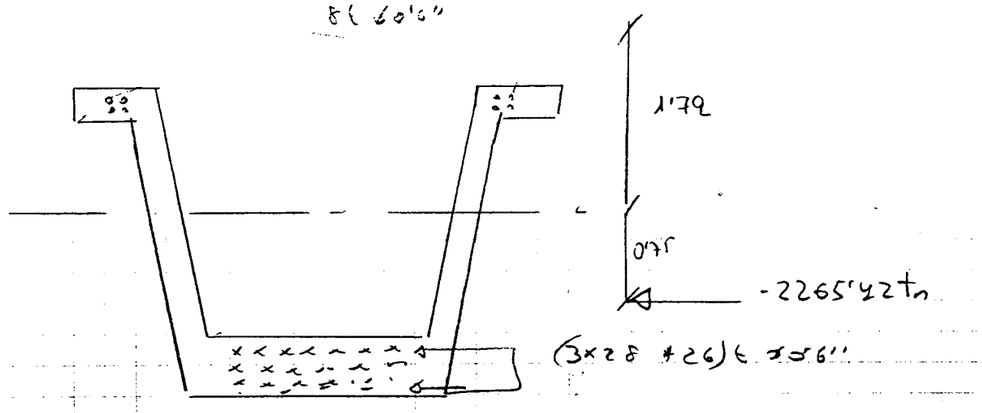
- Fibra superior de losa ⇒ En frecuente las tracciones son menores de $f_{ct,m} = 32{,}1 \text{ Kg/cm}^2$

- Fibra superior de cajón (INF1)

Se comprueba la sección cajón con:

$$\begin{cases} N = -2265{,}42 \text{ tn} \\ M_z = -170{,}48 \text{ mt} \end{cases}$$ Nudo 32

81 60'6"



Con 46Ø16 en cabeza: (en cada cabeza)

$$S_{su} = 2c + 0{,}2 \cdot s + 0{,}4 \cdot K_1 \cdot \frac{\phi \cdot A_{cgficas}}{A_s} =$$

$$= 2 \times 35\text{mm} + 0{,}2 \cdot 300\text{mm} + 0{,}4 \cdot 0{,}125 \times \frac{16 \times 171 \times 46{,}5}{3 \times 201}$$

$$= 70\text{mm} + 40\text{mm} + 105{,}49 = 215{,}49\text{mm}.$$

$$\varepsilon_{sm} = \frac{\sigma_s}{E_s} = \frac{1039}{2{,}1 \cdot 10^6} = 4{,}947 \cdot 10^{-4}$$

$$W_k = 1{,}7 \cdot S_{sm} \times \varepsilon_{sm}$$

Con Φ20 en cada cabeza:

$$sm = 70mm + 40mm + 0'4 \cdot 0'125 \cdot \frac{20 \cdot 17 \cdot 1 \cdot 46 \cdot 3}{1 * 2 \cdot 0 \cdot 1 + 3 \cdot \dots} = 205\ mm$$

$$\varepsilon sm = \frac{\sigma s}{E_s} = \frac{715}{2'1 \cdot 10^6} = 3'41 \cdot 10^{-4}$$

$$Wk = 1'7 \cdot sm \cdot \varepsilon sm = 0'118\ mm \quad (ok)$$

Proyecto:

Seccion:INF1

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_\pi 1$	$J_\pi 2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	28.0	13.4	270.4	*T	0
8	4	28.0	13.4	265.4	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	6.0	25.0	265.0	CT	0
13	3	2.0	16.0	35.0	CT	0
14	3	4.0	20.0	35.0	CT	0
15	3	4.0	20.0	55.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7
		8 9 13 14 15
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2994.4	28.50	10354698.6
	(1)	1167.9	53.53	9113071.7
	(2)	1528.4	43.97	9561068.5
F.pura -	(0)	1136.5	244.41	6556204.6
	(1)	564.0	215.53	5648689.0
	(2)	675.6	224.80	5933404.2
C.Simple	(0)	5498.3	91.47	58012199.0
	(1)	1729.1	100.29	20207956.4
	(2)	2409.5	96.66	27078251.5
T.Simple	(0)	279.3	167.02	4259678.7
	(1)	279.3	167.02	4259678.7
	(2)	279.3	167.02	4259678.7

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

** CALCULO ELASTICO **

Titulo Seccion: INF1

Analisis CON FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -2265.42Tn.
Excentricidad: 254.00cm.(respecto a la directriz)
Tipo de Solicitacion: SO
Seccion Afectada: C+P

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	$$$$$$	0.0	0.0	0.0	0.0	1	$$$$$$	0.0	0.0	0.0	0.0
2	104.1	0.0	0.0	0.0	0.0	2	$$$$$$	0.0	0.0	0.0	0.0
3	104.1	0.0	-256.4	0.0	0.0	3	$$$$$$	0.0	0.0	0.0	0.0
4	104.1	-256.4	-301.4	0.0	0.0	4	$$$$$$	0.0	0.0	0.0	0.0
5	104.1	-1559.6	-1571.4	0.0	1571.4	5	$$$$$$	0.0	0.0	0.0	0.0
6	104.1	-1517.0	-1528.9	0.0	1528.9	6	$$$$$$	0.0	0.0	0.0	0.0
7	104.1	-1474.5	-1486.3	0.0	1486.3	7	$$$$$$	0.0	0.0	0.0	0.0
8	104.1	-1430.1	-1442.0	0.0	1442.0	8	$$$$$$	0.0	0.0	0.0	0.0
9	104.1	524.1	512.3	0.0	524.1	9	$$$$$$	0.0	0.0	0.0	0.0
10	$$$$$$	0.0	0.0	0.0	0.0	10	$$$$$$	0.0	0.0	0.0	0.0
11	$$$$$$	0.0	0.0	0.0	0.0	11	$$$$$$	0.0	0.0	0.0	0.0
12	$$$$$$	0.0	0.0	0.0	0.0	12	$$$$$$	0.0	0.0	0.0	0.0
13	104.1	714.9	698.3	0.0	714.9	13	$$$$$$	0.0	0.0	0.0	0.0
14	104.1	714.9	694.2	0.0	714.9	14	$$$$$$	0.0	0.0	0.0	0.0
15	104.1	508.0	487.3	0.0	508.0	15	$$$$$$	0.0	0.0	0.0	0.0

Incrementos de Carga:
1

DEAM

○ Fisura Inferior en Cara (P/L)

Nudo 64 → N = -2367'77 Tn

EN INFRACUENTA a T=0 N = -4437'02 Tn

42 kg/cm² Tn

fctm = 32'2 kg/cm²

Con ϕ20 a 0'10 y 105 Tn/m.

σs = 596'2 Kg/cm²

$s_m = 2 \cdot 55 + 0'2 \cdot 100mm + 0'4 \cdot 0'25 \frac{7'5 \phi 10}{\pi/4} \cdot \phi 20 =$

$= 110 + 20 + 48 = 171 mm$

$\varepsilon_s = \frac{\sigma_s}{2'1 \cdot 10^6} = 2'84 \cdot 10^{-4}$

$W_k = 1'7 \cdot 2'84 \cdot 10^{-4} \cdot 1'71 = 0'086 mm < 0'2 mm$

EN INFRACUENTA VALIDO

Proyecto:

Seccion:PIL

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	350.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	70.0	20.0	5.0	CT	0
11	3	70.0	20.0	19.0	CT	0
12	4	105.0	13.4	18.0	*T	0
13	1	130.0	25.0	233.0	C*	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1946.2	14.04	2510590.3
	(1)	1148.9	20.41	2402833.1
	(2)	1328.7	18.51	2433160.0
F.pura -	(0)	2214.5	191.63	25179764.2
	(1)	1158.7	127.19	15539101.4
	(2)	1369.3	147.24	18476183.7
C.Simple	(0)	6270.2	92.95	67280546.5
	(1)	2181.6	80.15	21750086.1
	(2)	2919.7	85.11	30083460.2
T.Simple	(0)	609.0	29.45	2278045.8
	(1)	609.0	29.45	2278045.8
	(2)	609.0	29.45	2278045.8

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

** CALCULO ELASTICO **

Titulo Seccion: PIL

Analisis CON FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -2367.77Tn.
Excentricidad: 277.50cm.(respecto a la directriz)
Tipo de Solicitacion: SO
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	81.8	0.0	0.0	0.0	0.0	1	$$$$$$	0.0	0.0	0.0	0.0
2	81.8	0.0	0.0	0.0	0.0	2	$$$$$$	0.0	0.0	0.0	0.0
3	81.8	0.0	-241.5	0.0	0.0	3	$$$$$$	0.0	0.0	0.0	0.0
4	81.8	-241.5	-278.5	0.0	0.0	4	$$$$$$	0.0	0.0	0.0	0.0
5	81.8	-1445.7	-1455.4	0.0	1455.4	5	$$$$$$	0.0	0.0	0.0	0.0
6	81.8	596.2	596.2	0.0	596.2	6	$$$$$$	0.0	0.0	0.0	0.0
7	81.8	596.2	596.2	0.0	596.2	7	$$$$$$	0.0	0.0	0.0	0.0
8	81.8	596.2	596.2	0.0	596.2	8	$$$$$$	0.0	0.0	0.0	0.0
9	81.8	268.1	258.3	0.0	268.1	9	$$$$$$	0.0	0.0	0.0	0.0
10	81.8	653.0	636.0	0.0	653.0	10	$$$$$$	0.0	0.0	0.0	0.0
11	81.8	533.9	516.9	0.0	533.9	11	$$$$$$	0.0	0.0	0.0	0.0
12	81.8	464.9	455.2	0.0	464.9	12	$$$$$$	0.0	0.0	0.0	0.0
13	81.8	-175.1	-204.0	0.0	0.0	13	$$$$$$	0.0	0.0	0.0	0.0

Incrementos de Carga:
1

- Fibra inferior de cajón (Nudo 131)

Nd = -1632'91 tn Tracción

Md = [illegible]

Se estudia con la sección correspondiente a Nd = -1632'91 tn excentricidad que produce en fibra inferior una flexión

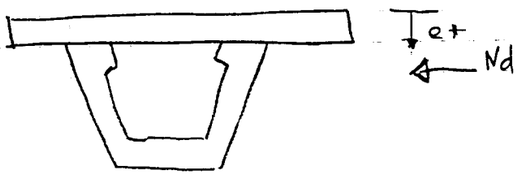
sección 3

TRACCIÓN Fct,m = 45'97 Kg/cm² Nd = -1632'91 tn

e = -0'15 m.

TRACCIÓN DE 69 Kg/cm² Nd = -1632'91 tn

e = -0'45 m



Entramos en sección finurada ⇒

Nd = -1632'91 tn, e = -0'15 m → σm = 1015 Kg/cm²

Nd = -1632'91 tn, e = -0'45 m → σs = 1852 Kg/cm²

$Sm = 2c + 0'2 \cdot s + 0'4 \cdot K_1 \cdot \frac{\phi \, Ac.ef.}{A_s}$ =

$= 2 * 35 + 0'2 \cdot 25 + 0'4 \cdot 0'25 \cdot 1385 \cdot \frac{0'75 * 45}{1420}$ =

= 113'19 mm

$\varepsilon sm = \frac{\sigma s}{Es} \left(1 - 0' \left(\frac{\sigma so}{\sigma s} \right) \right)$ = [illegible]

$W_k = 1'7 \cdot Sm \cdot \varepsilon sm$ = 0'1[illegible] mm [illegible] en inferiores.

Proyecto:

Seccion:SEC1

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	28.0	13.4	270.4	*T	0
8	4	28.0	13.4	265.4	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	6.0	25.0	265.0	CT	0
13	3	14.0	16.0	260.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	3142.9	30.47	11851171.7
	(1)	1187.7	58.71	10285479.4
	(2)	1550.8	47.93	10857433.0
F.pura -	(0)	1102.9	250.03	5361693.2
	(1)	544.8	226.83	4781263.6
	(2)	652.3	234.25	4961378.1
C.Simple	(0)	5497.3	92.59	58745452.5
	(1)	1728.1	103.84	20818022.1
	(2)	2408.5	99.21	27739096.3
T.Simple	(0)	278.3	189.33	3928906.3
	(1)	278.3	189.33	3928906.3
	(2)	278.3	189.33	3928906.3

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

** CALCULO ELASTICO **

Titulo Seccion: SEC1

Analisis SIN FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -1632.91Tn.
Excentricidad: -15.00cm.(respecto a la directriz)
Tipo de Solicitacion: SO
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	191.9	-78.1	-65.9	0.0	0.0	1	$$$$$$	0.0	0.0	0.0	0.0
2	191.9	-78.0	-63.5	0.0	0.0	2	$$$$$$	0.0	0.0	0.0	0.0
3	191.9	-63.5	31.8	0.0	0.0	3	$$$$$$	0.0	0.0	0.0	0.0
4	191.9	31.8	44.8	0.0	0.0	4	$$$$$$	0.0	0.0	0.0	0.0
5	191.9	225.8	229.2	0.0	229.2	5	$$$$$$	0.0	0.0	0.0	0.0
6	191.9	213.5	216.9	0.0	216.9	6	$$$$$$	0.0	0.0	0.0	0.0
7	191.9	201.2	204.6	0.0	204.6	7	$$$$$$	0.0	0.0	0.0	0.0
8	191.9	188.4	191.8	0.0	191.8	8	$$$$$$	0.0	0.0	0.0	0.0
9	191.9	-376.6	-373.2	0.0	376.6	9	$$$$$$	0.0	0.0	0.0	0.0
10	191.9	-559.0	-555.4	0.0	559.0	10	$$$$$$	0.0	0.0	0.0	0.0
11	191.9	-517.1	-513.5	0.0	517.1	11	$$$$$$	0.0	0.0	0.0	0.0
12	191.9	218.6	226.0	0.0	226.0	12	$$$$$$	0.0	0.0	0.0	0.0
13	191.9	203.6	208.4	0.0	208.4	13	$$$$$$	0.0	0.0	0.0	0.0

Incrementos de Carga:
1

** CALCULO ELASTICO **

Titulo Seccion: SEC1

Analisis SIN FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -1632.91Tn.
Excentricidad: -45.00cm.(respecto a la directriz)
Tipo de Solicitacion: SO
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	170.3	-88.6	-73.0	0.0	0.0	1	$$$$$$	0.0	0.0	0.0	0.0
2	170.3	-86.4	-67.9	0.0	0.0	2	$$$$$$	0.0	0.0	0.0	0.0
3	170.3	-67.9	54.0	0.0	0.0	3	$$$$$$	0.0	0.0	0.0	0.0
4	170.3	54.0	70.7	0.0	0.0	4	$$$$$$	0.0	0.0	0.0	0.0
5	170.3	359.8	364.1	0.0	364.1	5	$$$$$$	0.0	0.0	0.0	0.0
6	170.3	344.0	348.4	0.0	348.4	6	$$$$$$	0.0	0.0	0.0	0.0
7	170.3	328.3	332.7	0.0	332.7	7	$$$$$$	0.0	0.0	0.0	0.0
8	170.3	311.9	316.3	0.0	316.3	8	$$$$$$	0.0	0.0	0.0	0.0
9	170.3	-410.6	-406.2	0.0	410.6	9	$$$$$$	0.0	0.0	0.0	0.0
10	170.3	-632.0	-627.4	0.0	632.0	10	$$$$$$	0.0	0.0	0.0	0.0
11	170.3	-578.5	-573.9	0.0	578.5	11	$$$$$$	0.0	0.0	0.0	0.0
12	170.3	362.3	371.9	0.0	371.9	12	$$$$$$	0.0	0.0	0.0	0.0
13	170.3	343.2	349.3	0.0	349.3	13	$$$$$$	0.0	0.0	0.0	0.0

Incrementos de Carga:
1

** CALCULO ELASTICO **

Título Sección: SEC1

Analisis CON FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -1632.91Tn.
Excentricidad: -45.00cm.(respecto a la directriz)
Tipo de Solicitacion: SO
Seccion Afectada: TOTAL

** CALCULO ELASTICO **

Título Sección: SEC1

Analisis CON FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil :

** CALCULO ELASTICO **

Título Sección: SEC1

Analisis CON FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -1632.91Tn.
Excentricidad: -15.00cm.(respecto a la directriz)
Tipo de Solicitacion: SO
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	100.7	-89.8	-63.0	0.0	0.0	1	$$$$$$	0.0	0.0	0.0	0.0
2	100.7	-74.6	-42.9	0.0	0.0	2	$$$$$$	0.0	0.0	0.0	0.0
3	100.7	-42.9	0.0	0.0	0.0	3	$$$$$$	0.0	0.0	0.0	0.0
4	100.7	0.0	0.0	0.0	0.0	4	$$$$$$	0.0	0.0	0.0	0.0
5	100.7	1007.8	1015.3	0.0	1015.3	5	$$$$$$	0.0	0.0	0.0	0.0
6	100.7	980.9	988.4	0.0	988.4	6	$$$$$$	0.0	0.0	0.0	0.0
7	100.7	953.9	961.4	0.0	961.4	7	$$$$$$	0.0	0.0	0.0	0.0
8	100.7	925.8	933.3	0.0	933.3	8	$$$$$$	0.0	0.0	0.0	0.0
9	100.7	-312.7	-305.2	0.0	312.7	9	$$$$$$	0.0	0.0	0.0	0.0
10	100.7	-627.1	-619.2	0.0	627.1	10	$$$$$$	0.0	0.0	0.0	0.0
11	100.7	-535.3	-527.4	0.0	535.3	11	$$$$$$	0.0	0.0	0.0	0.0
12	100.7	1077.5	1093.9	0.0	1093.9	12	$$$$$$	0.0	0.0	0.0	0.0
13	100.7	1044.7	1055.2	0.0	1055.2	13	$$$$$$	0.0	0.0	0.0	0.0

Incrementos de Carga:
1

** CALCULO ELASTICO **

Título Sección: SEC1

Analisis CON FISURACION

Secuencia Incrementos de Carga:

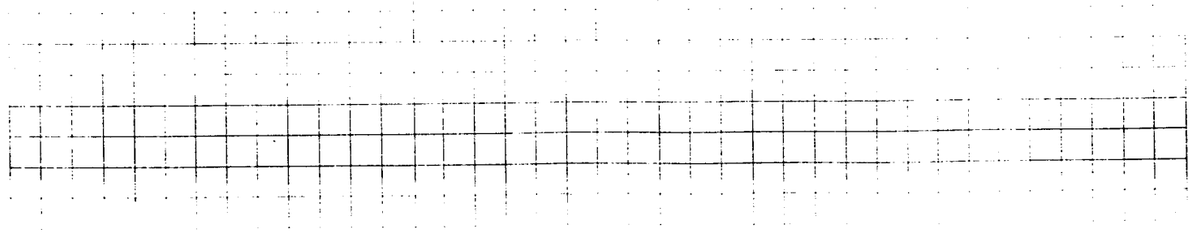
Incremento de Carga 1 :
Axil : -1632.91Tn.
Excentricidad: -45.00cm.(respecto a la directriz)
Tipo de Solicitacion: SO
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	75.3	-108.3	-65.2	0.0	0.0	1	$$$$$$	0.0	0.0	0.0	0.0
2	75.3	-77.1	-26.1	0.0	0.0	2	$$$$$$	0.0	0.0	0.0	0.0
3	75.3	-26.1	0.0	0.0	0.0	3	$$$$$$	0.0	0.0	0.0	0.0
4	75.3	0.0	0.0	0.0	0.0	4	$$$$$$	0.0	0.0	0.0	0.0
5	75.3	1852.7	1864.8	0.0	1864.8	5	$$$$$$	0.0	0.0	0.0	0.0
6	75.3	1809.3	1821.4	0.0	1821.4	6	$$$$$$	0.0	0.0	0.0	0.0
7	75.3	1765.8	1777.9	0.0	1777.9	7	$$$$$$	0.0	0.0	0.0	0.0
8	75.3	1720.6	1732.6	0.0	1732.6	8	$$$$$$	0.0	0.0	0.0	0.0
9	75.3	-274.7	-262.6	0.0	274.7	9	$$$$$$	0.0	0.0	0.0	0.0
10	75.3	-743.0	-730.3	0.0	743.0	10	$$$$$$	0.0	0.0	0.0	0.0
11	75.3	-595.1	-582.4	0.0	595.1	11	$$$$$$	0.0	0.0	0.0	0.0
12	75.3	2003.1	2029.5	0.0	2029.5	12	$$$$$$	0.0	0.0	0.0	0.0
13	75.3	1950.3	1967.2	0.0	1967.2	13	$$$$$$	0.0	0.0	0.0	0.0

Incrementos de Carga:
1

c) CONTROL DE DEFORMACIONES



DESPLAZAMIENTO VERTICAL

A continuación se comprueba que el desplazamiento vertical en cada vano cumple la condición de: (EC-1)

$L/2100$ $\quad 30 \le L \le 50$ m $\quad 250$ km/h $< V <$ 300 km/h

- Centro del vano de 20'00 m.

→ DERINT2 → $U_y = -1'13$ cm.

→ IZQINT2 → $U_y = -0'42$ cm.

Han $\quad U = (-1'13) \times 1'08 \times 1'20 = 1'46$ cm $\le \frac{4000}{2100} =$

(1'08: Para condiciones excepcionales de explotación; 1'20: coeficiente dinámico)

$= 1'90$ cm $\times 1'10$

OK

- Centro de vano de 35'60 m.

DERINT2 = $U_y = -0'30$

IZQINT2 = $U_y = -1'07$ cm

Han $\quad U = (-1'07) \times 1'08 \times 1'20 = 1'384 \le \frac{3560}{2100} = 1'69$ cm $\times 1'10$

OK

GIRO EN VERTICAL ENTRE ESTRIBO Y PILAS

Nudo 47	G_{z-}	G_{z+}	(RADIANES)
DERINT2	-0'00017	0'0003	$< 3'5 \cdot 10^{-3}$ RADIANES
IZQINT2	-0'00021	0'001	$< 3'5 \cdot 10^{-3}$ radianes

OK

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
DERINT2.ENV_TREN_GENERICO.UY-
Envolvente de tren de cargas plano gen'rico. UY-

Coef. exc:

Nudo	X	Uy (cm)	Gx (Rad)	Gz (Rad)
101	0	0	-0.00019	-0.00006
102	2.62	-0.2394	-0.00136	-0.0009
103	5.24	-0.459	-0.00134	-7.90E-04
104	7.86	-0.6421999	-0.00133	-0.00059
105	10.48	-0.7786	-0.0013	-0.00039
106	13.1	-0.8604999	-0.00127	-0.0002
107	15.72	-0.8854001	-0.00124	0.00005
108	18.34	-0.853	-0.00124	0.00022
109	20.96	-0.7673999	-0.00123	0.00041
110	23.58	-0.6358001	-0.00125	0.00055
111	26.2	-0.4698	-0.00128	6.80E-04
112	29.55	-0.231	-0.00129	7.10E-04
10113	32.9	0	-0.0002	0
113	32.9	0	-0.0002	0
114	36.03	-0.208	-0.00119	-0.00071
115	39.16	-0.4394	-0.00117	-7.10E-04
116	42.29	-0.6574999	-0.00114	-0.00061
117	45.42	-0.835	-0.0011	-0.00046
118	48.55	-0.9515	-0.00109	-0.00024
119	51.68	-0.9965	-0.00105	-3.64E-12
120	54.81	-0.9657	-0.00111	0.00024
121	57.94	-0.8622	-0.00108	0.00042
122	61.07	-0.6961	-0.00107	0.00059
123	64.2	-0.4844	-0.00108	0.0007
124	67.55	-0.2347	-0.00114	7.60E-04
10125	70.9	0	-0.00021	-0.00001
125	70.9	0	-0.00021	-0.00001
126	74.23	-0.2635	-0.00135	-0.00085
127	77.56	-0.547	-0.00127	-7.80E-04
128	80.89	-0.806	-0.00125	-0.00069
129	84.22	-1.0096	-0.00117	-0.00049
130	87.55	-1.1355	-0.00107	-0.00026
131	90.88	-1.1721	-0.00105	0
132	94.21	-1.1172	-0.00102	0.00029
133	97.54	-0.9769	-0.00101	0.00053
134	100.87	-0.7664	-1.00E-03	0.00069
135	104.2	-0.5103	-0.00103	0.00079
136	107.55	-0.2396	-0.00104	0.00077
10137	110.9	0	-0.00021	0.00001
137	110.9	0	-0.00021	0.00001
138	113.77	-0.1541	-0.00161	-0.00057
139	116.64	-0.3102	-0.00165	-0.00047
140	119.51	-0.4439	-0.00163	-0.00038
141	122.38	-0.5376	-0.00165	-0.00025
142	125.25	-0.5788	-0.00168	-0.00005

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
DERINT2.ENV_TREN_GENERICO.UY-
Envolvente de tren de cargas plano gen'rico. UY-

Coef. exc:

Nudo	X	Uy (cm)	Gx (Rad)	Gz (Rad)
143	128.12	-0.5622001	-0.00169	0.00015
144	130.99	-0.4875	-0.00169	0.00033
145	133.86	-0.3601	-0.00168	0.00049
146	136.73	-0.1919	-0.0017	0.00062
147	139.6	0	-0.00021	0.00003
1	0	0	0.00019	-0.00001
2	2.62	-0.0491	0.00176	-0.00015
3	5.24	-9.36E-02	0.00179	-0.00013
4	7.86	-0.1296	0.00179	-0.0001
5	10.48	-0.1533	0.00178	-0.00003
6	13.1	-0.1621	0.00178	0
7	15.72	-0.1545	0.00175	0.00002
8	18.34	-0.132	0.00172	0.00012
9	20.96	-9.55E-02	0.00169	0.00013
10	23.58	-0.0499	0.00163	0.00015
10011	26.2	0	0.00019	0
11	26.2	0	0.00019	0
12	29.55	-6.25E-02	8.90E-04	-0.0002
13	32.9	-0.1353	9.80E-04	-0.00021
14	36.03	-0.2043	0.00106	-0.00021
15	39.16	-0.2654	0.00113	-0.00016
16	42.29	-0.312	0.00121	-0.0001
17	45.42	-0.3366	0.00127	-0.00001
18	48.55	-0.3352	0.00137	0.00004
19	51.68	-0.3063	0.00144	0.00011
20	54.81	-0.2514	0.00145	0.00021
21	57.94	-0.1756	0.00144	0.00026
22	61.07	-0.0879	0.00137	0.00027
10023	64.2	0	0.00018	0
23	64.2	0	0.00018	0
24	67.55	-0.0947	9.70E-04	-0.0003
25	70.9	-0.1941	0.00111	-0.00027
26	74.23	-0.2886	0.0012	-0.00025
27	77.56	-0.3692999	0.00131	-0.00019
28	80.89	-0.4275	0.00133	-0.00011
29	84.22	-0.4555001	0.00138	-0.00005
30	87.55	-0.4481	0.00149	0.00006
31	90.88	-0.4046	0.00153	0.00017
32	94.21	-0.3274	0.0015	0.00025
33	97.54	-0.2256	0.00151	0.0003
34	100.87	-0.1103	0.00148	0.0003
10035	104.2	0	0.00018	0.00001
35	104.2	0	0.00018	0.00001
36	107.55	-7.76E-02	0.00101	-0.00025
37	110.9	-0.1553	0.00102	-0.00022
38	113.77	-0.2155	0.00108	-0.00018

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
DERINT2.ENV_TREN_GENERICO.UY-
Envolvente de tren de cargas plano gen'rico. UY-

Coef. exc:

Nudo	X	Uy (cm)	Gx (Rad)	Gz (Rad)
39	116.64	-0.265	0.00113	-0.00012
40	119.51	-0.299	0.00118	-0.00009
41	122.38	-0.314	0.00124	0
42	125.25	-0.3081	0.00128	0.00001
43	128.12	-0.28	0.00131	0.0001
44	130.99	-0.2314	0.00132	0.00018
45	133.86	-0.1654	0.00134	0.00025
46	136.73	-8.64E-02	0.00134	0.00029
47	139.6	0	0.00017	0.00001

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
DERINT2.ENV_TREN_GENERICO.GZ-
Envolvente de tren de cargas plano gen'rico. GZ-

Coef. exc:

Nudo	X	Uy (cm)	Gx (Rad)	Gz (Rad)
101	0	0	-0.00127	-0.00094
102	2.62	-0.2349	-0.00127	-0.0009
103	5.24	-0.4478	-0.00124	-7.90E-04
104	7.86	-0.6148	-0.00108	-0.00059
105	10.48	-0.6967	-0.00092	-0.00039
106	13.1	-0.642	-0.00069	-0.0002
107	15.72	-0.333	-0.00055	-0.00004
108	18.34	-0.0432	-0.00019	0.00002
109	20.96	0.0214	-0.00033	0.00002
110	23.58	0.2612	-0.00094	-7E-05
111	26.2	0.2435	-0.00105	-2.00E-04
112	29.55	0.1525	-0.00106	-3.60E-04
10113	32.9	0	-0.00105	-0.00055
113	32.9	0	-0.00105	-0.00055
114	36.03	-0.2015	-0.00105	-0.00071
115	39.16	-0.4249	-0.00102	-7.10E-04
116	42.29	-0.6260999	-0.00089	-0.00061
117	45.42	-0.7607	-0.00077	-0.00046
118	48.55	-0.6505	-0.0007	-0.00029
119	51.68	-0.1781	-0.00087	-1.80E-04
120	54.81	0.07979999	-0.00076	-0.00012
121	57.94	0.1495	-0.00068	-0.00012
122	61.07	0.3693	-0.00118	-0.00022
123	64.2	0.3318	-0.00126	-0.00033
124	67.55	0.1994	-0.00129	-4.90E-04
10125	70.9	0	-0.00123	-0.00072
125	70.9	0	-0.00123	-0.00072
126	74.23	-0.2567	-0.0012	-0.00085
127	77.56	-0.5044	-0.00097	-7.80E-04
128	80.89	-0.7442	-0.00084	-0.0007
129	84.22	-0.9007	-0.00073	-0.00049
130	87.55	-0.6833	-0.00081	-0.00034
131	90.88	-0.2219	-0.00082	-0.00019
132	94.21	0.0828	-0.00072	-0.00015
133	97.54	0.151	-0.00063	-0.00015
134	100.87	0.2823	-1.10E-03	-0.00021
135	104.2	0.2287	-0.00126	-0.00028
136	107.55	0.143	-0.00143	-0.00037
10137	110.9	0	-0.00148	-0.00049
137	110.9	0	-0.00148	-0.00049
138	113.77	-0.1499	-0.0015	-0.00057
139	116.64	-0.2751	-0.00135	-0.00047
140	119.51	-0.3938	-0.00126	-0.00038
141	122.38	-0.4526	-0.00109	-0.00025
142	125.25	0.0083	-0.00106	-0.00015

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
DERINT2.ENV_TREN_GENERICO.GZ-
Envolvente de tren de cargas plano gen'rico. GZ-

Coef. exc:

Nudo	X	Uy (cm)	Gx (Rad)	Gz (Rad)
143	128.12	0.2238	-0.00073	-0.00015
144	130.99	0.1864	-0.00082	-0.0002
145	133.86	0.1289	-0.00082	-0.00023
146	136.73	0.0675	-0.00085	-0.00025
147	139.6	0	-0.00085	-0.00025
1	0	0	0.0015	-0.00017
2	2.62	-0.0422	0.00151	-0.00015
3	5.24	-7.73E-02	0.00145	-0.00013
4	7.86	-0.096	0.00129	-0.0001
5	10.48	-0.0535	0.00067	-0.00003
6	13.1	-0.0065	0.00019	0
7	15.72	-0.0057	0.00019	0
8	18.34	0.009	0.00025	0
9	20.96	4.84E-02	0.00047	-7E-05
10	23.58	0.0323	0.00054	-0.0001
10011	26.2	0	0.00061	-0.00016
11	26.2	0	0.00061	-0.00016
12	29.55	-5.82E-02	7.00E-04	-0.0002
13	32.9	-0.1258	8.00E-04	-0.00021
14	36.03	-0.1897	0.00088	-0.00021
15	39.16	-0.2384	0.0009	-0.00016
16	42.29	-0.2541	0.00089	-0.0001
17	45.42	-0.0586	0.00033	-0.00001
18	48.55	0.0169	0.00026	-0.00001
19	51.68	0.068	0.00041	-7E-05
20	54.81	0.1489	0.0006	-0.00015
21	57.94	0.1249	0.0007	-0.00018
22	61.07	0.0735	0.0007	-0.00025
10023	64.2	0	0.00077	-0.00027
23	64.2	0	0.00077	-0.00027
24	67.55	-0.08619999	7.90E-04	-0.0003
25	70.9	-0.1583	0.00079	-0.00027
26	74.23	-0.2416	0.00088	-0.00025
27	77.56	-0.3063	0.00095	-0.00019
28	80.89	-0.3297	0.00096	-0.00011
29	84.22	-0.1276	0.00063	-0.00005
30	87.55	0.1255	0.00043	-7E-05
31	90.88	0.126	0.00045	-9E-05
32	94.21	0.118	0.00046	-0.00011
33	97.54	0.1131	0.00059	-0.00016
34	100.87	0.0641	0.00069	-0.00018
10035	104.2	0	0.00085	-0.00024
35	104.2	0	0.00085	-0.00024
36	107.55	-7.26E-02	0.00087	-0.00025
37	110.9	-0.1329	0.00084	-0.00022
38	113.77	-0.1596	0.00086	-0.00018

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
DERINT2.ENV_TREN_GENERICO.GZ-
Envolvente de tren de cargas plano gen'rico. GZ-

Coef. exc:

Nudo	X	Uy (cm)	Gx (Rad)	Gz (Rad)
39	116.64	-0.1936	0.00087	-0.00012
40	119.51	-0.168	0.0008	-0.00009
41	122.38	0.0308	0.00029	-0.00001
42	125.25	0.1558	0.00061	-7E-05
43	128.12	0.158	0.00067	-0.0001
44	130.99	0.1314	0.00069	-0.00014
45	133.86	0.0913	0.00068	-0.00015
46	136.73	4.70E-02	0.00068	-0.00017
47	139.6	0	0.00067	-0.00017

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
IZQINT2.ENV_TREN_GENERICO.GZ+
Envolvente de tren de cargas plano gen,rico. GZ+

Coef. exc:

Nudo	X	Uy (cm)	Gx (Rad)	Gz (Rad)
101	0	0	-0.0008	0.00012
102	2.62	0.0287	-0.00076	0.00011
103	5.24	0.0562	-0.00076	9.00E-05
104	7.86	0.0809	-0.00076	9E-05
105	10.48	0.0953	-0.00072	0.00008
106	13.1	0.0892	-0.00062	0.00006
107	15.72	-0.0076	-0.0002	0
108	18.34	-0.1069	-0.00066	0.00006
109	20.96	-0.1464	-0.00095	0.00012
110	23.58	-0.1238	-0.00093	0.00013
111	26.2	-0.1108	-0.00098	1.70E-04
112	29.55	-0.0622	-0.00098	1.90E-04
10113	32.9	0	-0.00088	0.00018
113	32.9	0	-0.00088	0.00018
114	36.03	0.0511	-0.00076	0.00016
115	39.16	0.0918	-0.00071	1.50E-04
116	42.29	0.09810001	-0.00051	9E-05
117	45.42	0.1283	-0.00055	9E-05
118	48.55	0.1406	-0.00056	0.00008
119	51.68	0.0214	-0.0003	1.00E-05
120	54.81	-0.2545	-0.00095	0.00011
121	57.94	-0.2385	-0.00093	0.00016
122	61.07	-0.1953	-0.00095	0.00021
123	64.2	-0.1339	-0.00088	0.00022
124	67.55	-0.08179999	-0.00092	2.80E-04
10125	70.9	0	-0.00088	0.00026
125	70.9	0	-0.00088	0.00026
126	74.23	0.0731	-0.00081	0.0002
127	77.56	0.1287	-0.00076	1.70E-04
128	80.89	0.142	-0.00068	0.00013
129	84.22	0.1206	-0.00061	9E-05
130	87.55	0.1044	-0.00054	0.00006
131	90.88	-0.2155	-0.00077	0.00005
132	94.21	-0.3435	-0.00109	0.00012
133	97.54	-0.3106	-0.00113	0.00021
134	100.87	-0.2364	-1.02E-03	0.00025
135	104.2	-0.1535	-0.00094	0.00027
136	107.55	-0.07169999	-0.00084	0.00025
10137	110.9	0	-0.00076	0.0002
137	110.9	0	-0.00076	0.0002
138	113.77	0.0446	-0.00067	0.00014
139	116.64	0.0705	-0.00058	9E-05
140	119.51	0.0543	-0.00041	0.00004
141	122.38	-0.0093	-0.00023	-0.00001
142	125.25	-0.0105	-0.00023	0

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
IZQINT2.ENV_TREN_GENERICO.GZ+
Envolvente de tren de cargas plano gen,rico. GZ+

Coef. exc:

143	128.12	-0.1509	-0.00135	7E-05
144	130.99	-0.1665	-0.00177	0.00013
145	133.86	-0.1254	-0.00185	0.0002
146	136.73	-0.0658	-0.00184	0.00022
147	139.6	0	-0.00184	0.00023
1	0	0	0.00102	0.00021
2	2.62	0.0528	0.00102	0.00019
3	5.24	1.03E-01	0.00104	0.00019
4	7.86	0.1489	0.00104	0.00017
5	10.48	0.1704	0.00089	0.0001
6	13.1	-0.0618	0.00127	0.00012
7	15.72	-0.2759	0.00124	0.00016
8	18.34	-0.2634	0.00143	0.0003
9	20.96	-1.94E-01	0.00149	0.00038
10	23.58	-0.1068	0.00166	0.00046
10011	26.2	0	0.00164	0.00039
11	26.2	0	0.00164	0.00039
12	29.55	1.18E-01	1.69E-03	0.00034
13	32.9	0.2125	1.60E-03	0.00028
14	36.03	0.2559	0.00132	0.00022
15	39.16	0.1691	0.0008	0.00016
16	42.29	0.117	0.00093	0.00017
17	45.42	-0.1147	0.00109	0.00018
18	48.55	-0.5028	0.00114	0.0003
19	51.68	-0.703	0.00102	0.00041
20	54.81	-0.5825	0.00112	0.00058
21	57.94	-0.3956	0.00123	0.00068
22	61.07	-0.2085	0.00144	0.00071
10023	64.2	0	0.00145	0.00061
23	64.2	0	0.00145	0.00061
24	67.55	0.1758	1.51E-03	0.00044
25	70.9	0.3015	0.00146	0.00033
26	74.23	0.351	0.00138	0.00024
27	77.56	0.1637	0.00082	0.00016
28	80.89	0.09819998	0.00092	0.00014
29	84.22	-0.321	0.00115	0.00019
30	87.55	-0.6101	0.00111	0.00033
31	90.88	-0.8389	0.00101	0.00048
32	94.21	-0.6995	0.00112	0.00064
33	97.54	-0.4832	0.00129	0.00077
34	100.87	-0.229	0.00131	0.00074
10035	104.2	0	0.00132	0.00061
35	104.2	0	0.00132	0.00061
36	107.55	1.65E-01	0.00127	0.00039
37	110.9	0.2691	0.00127	0.00023
38	113.77	0.3081	0.00117	0.00013
39	116.64	0.2038	0.00081	0.00002

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
IZQINT2.ENV_TREN_GENERICO.GZ+
Envolvente de tren de cargas plano gen,rico. GZ+

Coef. exc:

40	119.51	-0.0508	0.00023	-0.00003
41	122.38	-0.3804	0.00069	0.00004
42	125.25	-0.7676	0.00086	0.00019
43	128.12	-0.8357999	0.00103	0.0004
44	130.99	-0.7246	0.00119	0.00064
45	133.86	-0.5245	0.00123	0.0008
46	136.73	-2.79E-01	0.00146	0.00095
47	139.6	0	0.00148	0.00102

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
IZQINT2.ENV_TREN_GENERICO.GZ-
Envolvente de tren de cargas plano gen,rico. GZ-

Coef. exc:

Nudo	X	Uy (cm)	Gx (Rad)	Gz (Rad)
101	0	0	-0.00127	-0.00027
102	2.62	-0.0598	-0.00126	-0.00025
103	5.24	-0.112	-0.00124	-2.20E-04
104	7.86	-0.1478	-0.00119	-0.00015
105	10.48	-0.1512	-0.00101	-0.0001
106	13.1	-0.0404	-0.00038	-0.00001
107	15.72	-0.0076	-0.0002	0
108	18.34	-0.0066	-0.0002	0
109	20.96	0.0354	-0.00041	-0.00001
110	23.58	0.09979999	-0.0008	-0.00006
111	26.2	0.09549999	-0.00096	-9.00E-05
112	29.55	0.0587	-0.00107	-1.60E-04
10113	32.9	0	-0.00121	-0.00021
113	32.9	0	-0.00121	-0.00021
114	36.03	-0.0741	-0.00129	-0.00026
115	39.16	-0.1522	-0.00131	-2.50E-04
116	42.29	-0.2222	-0.00132	-0.00021
117	45.42	-0.2662	-0.00121	-0.00013
118	48.55	-0.1916	-0.00078	-0.00006
119	51.68	-0.0101	-0.00021	0.00E+00
120	54.81	0.0003	-0.00029	0
121	57.94	0.08459999	-0.00052	-0.00004
122	61.07	0.1529	-0.00084	-9E-05
123	64.2	0.1293	-0.00095	-0.00015
124	67.55	0.0773	-0.00111	-2.00E-04
10125	70.9	0	-0.00124	-0.00028
125	70.9	0	-0.00124	-0.00028
126	74.23	-0.0975	-0.0013	-0.00031
127	77.56	-0.2015	-0.00136	-3.10E-04
128	80.89	-0.2906	-0.00139	-0.00025
129	84.22	-0.353	-0.00131	-0.00017
130	87.55	-0.2457	-0.00084	-0.00006
131	90.88	0.0075	-0.00027	-0.00001
132	94.21	0.0516	-0.00035	-0.00004
133	97.54	0.1459	-0.00073	-0.00011
134	100.87	0.1656	-1.10E-03	-0.00015
135	104.2	0.1201	-0.0012	-0.00015
136	107.55	0.06940001	-0.00144	-0.00023
10137	110.9	0	-0.00152	-0.00023
137	110.9	0	-0.00152	-0.00023
138	113.77	-0.0601	-0.00161	-0.00022
139	116.64	-0.1179	-0.00169	-0.0002
140	119.51	-0.1668	-0.00175	-0.00014
141	122.38	-0.1603	-0.00141	-0.00009
142	125.25	-0.0105	-0.00023	0

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
IZQINT2.ENV_TREN_GENERICO.GZ-
Envolvente de tren de cargas plano gen,rico. GZ-

Coef. exc:

Nudo	X	Uy (cm)	Gx (Rad)	Gz (Rad)
143	128.12	0.049	-0.00041	-0.00005
144	130.99	0.0592	-0.0005	-7E-05
145	133.86	0.0459	-0.00054	-9E-05
146	136.73	0.0228	-0.00054	-9E-05
147	139.6	0	-0.00054	-9E-05
1	0	0	0.00182	-0.00049
2	2.62	-0.1246	0.00177	-0.00048
3	5.24	-2.21E-01	0.00153	-0.00036
4	7.86	-0.298	0.00153	-0.00023
5	10.48	-0.2867	0.00125	-0.00012
6	13.1	-0.0999	0.00059	-0.00002
7	15.72	-0.0113	0.00026	0.00001
8	18.34	0.1943	0.0009	-0.00008
9	20.96	1.74E-01	0.00109	-0.0002
10	23.58	0.1081	0.00115	-0.00034
10011	26.2	0	0.00116	-0.0005
11	26.2	0	0.00116	-0.0005
12	29.55	-1.94E-01	1.19E-03	-0.00064
13	32.9	-0.404	1.07E-03	-0.00065
14	36.03	-0.5952	0.00107	-0.00057
15	39.16	-0.7135	0.00098	-0.00041
16	42.29	-0.6838	0.00084	-0.00025
17	45.42	-0.251	0.00105	-0.00015
18	48.55	0.0184	0.00092	-0.0001
19	51.68	0.0841	0.00074	-7E-05
20	54.81	0.308	0.0013	-0.00017
21	57.94	0.2875	0.00135	-0.00031
22	61.07	0.1668	0.00126	-0.00044
10023	64.2	0	0.00128	-0.00063
23	64.2	0	0.00128	-0.00063
24	67.55	-0.2301	1.20E-03	-0.00076
25	70.9	-0.4677	0.00109	-0.00074
26	74.23	-0.6941	0.00097	-0.00065
27	77.56	-0.85	0.00098	-0.00049
28	80.89	-0.7115	0.00105	-0.00032
29	84.22	-0.2032	0.0011	-0.00019
30	87.55	0.0969	0.00096	-0.00015
31	90.88	0.1684	0.00078	-0.00014
32	94.21	0.3742	0.00131	-0.00025
33	97.54	0.3251	0.00144	-0.00033
34	100.87	0.1897	0.00144	-0.00049
10035	104.2	0	0.0014	-0.00065
35	104.2	0	0.0014	-0.00065
36	107.55	-2.42E-01	0.00138	-0.00078
37	110.9	-0.4631	0.00111	-0.00073
38	113.77	-0.6548	0.00109	-0.00063

CÁLCULO DE DESPLAZAMIENTOS
Hipótesis de cálculo:
IZQINT2.ENV_TREN_GENERICO.GZ-
Envolvente de tren de cargas plano gen,rico. GZ-

Coef. exc:

Nudo	X	Uy (cm)	Gx (Rad)	Gz (Rad)
39	116.64	-0.7752	0.00101	-0.0005
40	119.51	-0.7549	0.00088	-0.0003
41	122.38	-0.1149	0.00135	-0.00019
42	125.25	0.1665	0.00131	-0.00019
43	128.12	0.2143	0.00106	-0.00017
44	130.99	0.1725	0.00104	-0.00019
45	133.86	0.1142	0.00102	-0.0002
46	136.73	6.14E-02	0.00107	-0.00021
47	139.6	0	0.00105	-0.00021

2.2.3.6. Comprobación en estado límite último de agotamiento

"ROTURA.cmb"

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8
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"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp1.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp2.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret3.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp3.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~csimp4.coe"
"C:\PDANIEL\sanoliva\dapoy1\hip_simp","~cpret4.coe"
"C:\PDANIEL\sanoliva\dapoy1","spret.esf"
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"ESFUERZOS"
"ELU.T0.MZ+"," SIN GRADIENTE DOMINANTE"
"MZ"
"+"
0
13
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gen,rico.MZ+)",0,1.5,"P",0,"",""
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
gen,rico.MZ+)",0,1.5,"P",0,"",""
"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.994,"P",0,"",""
"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.994,"P",0,"",""
"GRAD","(GRADIENTE)",0,0.9,"P",0,"",""
"ESFUERZOS"
"ELU.T0.MZ+"," CON GRADIENTE DOMINANTE"
"MZ"
"+"
0
13
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"PPLF3","(PESOPROPIODELAFASE3)",0.9,1.35,"P",0,"",""
"PPLF2","(PESOPROPIODELAFASE2)",0.9,1.35,"P",0,"",""
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0))",.95,1.05,"P",0,"",""
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
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gen,rico.MZ+)",0,1.2,"P",0,"",""
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"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.5952,"P",0,"",""
"GRAD","(GRADIENTE)",0,1.5,"P",0,"",""
"ESFUERZOS"
"ELU.T0.MZ-"," SIN GRADIENTE DOMINANTE"
"MZ"
"-"
0
13
"PPCF1","(PESODELCAJàNENFASE1)",0.9,1.35,"P",0,"",""
"PPLF3","(PESOPROPIODELAFASE3)",0.9,1.35,"P",0,"",""
"PPLF2","(PESOPROPIODELAFASE2)",0.9,1.35,"P",0,"",""
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"PRETF3D.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
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gen,rico.MZ-)",0,1.5,"P",0,"",""
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplano
gen,rico.MZ-)",0,1.5,"P",0,"",""
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co.MZ-)",0,1.994,"P",0,"",""
"DERINT2.ENV_TREN_GENERICO.MZ-","(Envolventedetrendecargasplanogen'ri
co.MZ-)",0,1.994,"P",0,"",""
"GRAD","(GRADIENTE)",0,0.9,"P",0,"",""
"ESFUERZOS"
"ELU.TINF.MZ+"," SIN GRADIENTE DOMINANTE"
"MZ"
"+"
0
15
"PPCF1","(PESODELCAJàNENFASE1)",0.9,1.35,"P",0,"",""
"PPLF3","(PESOPROPIODELAFASE3)",0.9,1.35,"P",0,"",""
"PPLF2","(PESOPROPIODELAFASE2)",0.9,1.35,"P",0,"",""
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0))",.95,1.05,"P",0,"",""
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
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"DERINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
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"REDPP","(REDISTRIBUCIàN PESO PROPIO)",0.9,1.35,"P",0,"",""
"REDPRE","(REDISTRIBUCIàN HIP PRET)",0.9,1.35,"P",0,"",""
"ESFUERZOS"
"ELU.TINF.MZ+"," CON GRADIENTE DOMINANTE"
"MZ"
"+"
0
15
"PPCF1","(PESODELCAJàNENFASE1)",0.9,1.35,"P",0,"",""
"PPLF3","(PESOPROPIODELAFASE3)",0.9,1.35,"P",0,"",""
"PPLF2","(PESOPROPIODELAFASE2)",0.9,1.35,"P",0,"",""
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"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
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"PRETF3D.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
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gen,rico.MZ+)",0,1.2,"P",0,"",""
"SCUPASEOSDERE.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplano
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"IZQINT2.ENV_TREN_GENERICO.MZ+","(Envolventedetrendecargasplanogen'ri
co.MZ+)",0,1.5952,"P",0,"",""
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co.MZ+)",0,1.5952,"P",0,"",""
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"REDPP","(REDISTRIBUCIàN PESO PROPIO)",0.9,1.35,"P",0,"",""
"REDPRE","(REDISTRIBUCIàN HIP PRET)",0.9,1.35,"P",0,"",""
"ESFUERZOS"
"ELU.TINF.MZ-"," SIN GRADIENTE DOMINANTE"
"MZ"
"-"
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gen,rico.MZ-)",0,1.5,"P",0,"",""
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"REDPRE","(REDISTRIBUCIàN HIP PRET)",0.9,1.35,"P",0,"",""
"ESFUERZOS"
"ELU.T0.VY+"," CON GRADIENTE"
"VY"
"+"
0
17
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"PPLF2","(PESOPROPIODELAFASE2)",0.9,1.35,"P",0,"",""
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"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
"PRETF1B.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"",""
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
"PRETF3C.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
"CMmax","(CARGAMUERTAMAXIMA)",.612,1.35,"P",0,"",""
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co.VY+)",0,1.944,"P",0,"",""
"GRAD","(GRADIENTE)",0,0.9,"P",0,"",""
"ESFUERZOS"
"ELU.T0.VY-"," CON GRADIENTE"
"VY"
"-"
0
17
"PPCF1","(PESODELCAJàNENFASE1)",0.9,1.35,"P",0,"",""
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"PPLF2","(PESOPROPIODELAFASE2)",0.9,1.35,"P",0,"",""
"PRETF1A.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"",""
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
"PRETF1B.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"",""
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
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"PRETF3C.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
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"SCUPASEOSDERE.ENV_TREN_GENERICO.VY+","(Envolventedetrendecargasplano
gen,rico.VY+)",0,1.5,"P",0,"",""
"IZQINT2.ENV_TREN_GENERICO.VY+","(Envolventedetrendecargasplanogen'ri
co.VY+)",0,1.944,"P",0,"",""
"DERINT2.ENV_TREN_GENERICO.VY+","(Envolventedetrendecargasplanogen'ri
co.VY+)",0,1.944,"P",0,"",""
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"REDPP","(REDISTRIBUCIàN PESO PROPIO)",0.9,1.35,"P",0,"",""
"REDPRE","(REDISTRIBUCIàN HIP PRET)",0.9,1.35,"P",0,"",""
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"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-
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"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-
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"ESFUERZOS"
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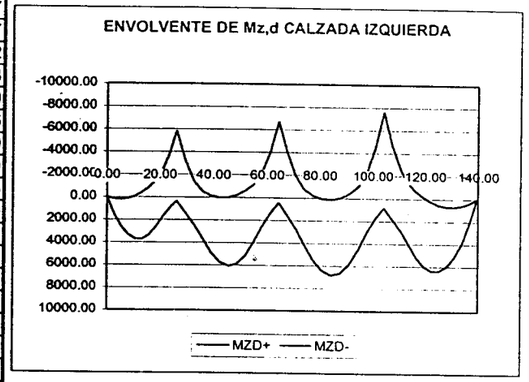
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"VY"
"-"
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23
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"PPLF2","(PESOPROPIODELAFASE2)",0.9,1.35,"P",0,"",""
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"PRETF1B.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"",""
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
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"PRETF3C.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"",""
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gen,rico.VY-)",0,1.5,"P",0,"",""
"SCUPASEOSDERE.ENV_TREN_GENERICO.VY-","(Envolventedetrendecargasplano
gen,rico.VY-)",0,1.5,"P",0,"",""
"IZQINT2.ENV_TREN_GENERICO.VY-","(Envolventedetrendecargasplanogen'ri
co.VY-)",0,1.944,"P",0,"",""
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co.VY-)",0,1.944,"P",0,"",""
"GRAD","(GRADIENTE)",0,0.9,"P",0,"",""
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",0.9,1.35,"P",0,"",""
"REDPRE","(REDISTRIBUCIàN HIP PRET)",0.9,1.35,"P",0,"",""
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"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-
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"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-
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"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-
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"ESFUERZOS"
"ELU.TO.MX+"," CON GRADIENTE"
"MX"
"+"
0
18
"PPCF1","(PESODELCAJàNENFASE1)",0.9,1.35,"P",0,"",""
"PPLF3","(PESOPROPIODELAFASE3)",0.9,1.35,"P",0,"",""
"PPLF2","(PESOPROPIODELAFASE2)",0.9,1.35,"P",0,"",""
"PRETF1A.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"",""
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
"PRETF1B.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"",""
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
"PRETF3C.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
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gen,rico.MX+)",0,1.5,"P",0,"",""
"SCUPASEOSDERE.ENV_TREN_GENERICO.MX+","(Envolventedetrendecargasplano
gen,rico.MX+)",0,1.5,"P",0,"",""
"IZQINT2.ENV_TREN_GENERICO.MX+","(Envolventedetrendecargasplanogen'ri
co.MX+)",0,1.944,"P",0,"",""
"DERINT2.ENV_TREN_GENERICO.MX+","(Envolventedetrendecargasplanogen'ri
co.MX+)",0,1.944,"P",0,"",""
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"GRAD","(GRADIENTE)",0,0.9,"P",0,"",""
"LTORSION","",0,1.35,"P",0,"",""
"ESFUERZOS"
"ELU.TO.MX-"," CON GRADIENTE"
"MX"
"-"
0
18
"PPCF1","(PESODELCAJàNENFASE1)",0.9,1.35,"P",0,"",""
"PPLF3","(PESOPROPIODELAFASE3)",0.9,1.35,"P",0,"",""
"PPLF2","(PESOPROPIODELAFASE2)",0.9,1.35,"P",0,"",""
"PRETF1A.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"",""
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
"PRETF1B.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"",""
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
"PRETF3C.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
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gen,rico.MX-)",0,1.5,"P",0,"",""
"SCUPASEOSDERE.ENV_TREN_GENERICO.MX-","(Envolventedetrendecargasplano
gen,rico.MX-)",0,1.5,"P",0,"",""
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co.MX-)",0,1.944,"P",0,"",""
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"LTORSION","",0,1.35,"P",0,"",""
"ESFUERZOS"
"ELU.TINF.MX+"," CON GRADIENTE"
"MX"
"+"
0
24
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"PPLF3","(PESOPROPIODELAFASE3)",0.9,1.35,"P",0,"",""
"PPLF2","(PESOPROPIODELAFASE2)",0.9,1.35,"P",0,"",""
"PRETF1A.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"",""
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
"PRETF1B.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"",""
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"",""
"PRETF3C.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"",""
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"",""
"CMmax","(CARGAMUERTAMAXIMA)",.612,1.35,"P",0,"",""
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MX+","(Envolventedetrendecargasplano
gen,rico.MX+)",0,1.5,"P",0,"",""
"SCUPASEOSDERE.ENV_TREN_GENERICO.MX+","(Envolventedetrendecargasplano
gen,rico.MX+)",0,1.5,"P",0,"",""
"IZQINT2.ENV_TREN_GENERICO.MX+","(Envolventedetrendecargasplanogen'ri
co.MX+)",0,1.944,"P",0,"",""
"DERINT2.ENV_TREN_GENERICO.MX+","(Envolventedetrendecargasplanogen'ri
co.MX+)",0,1.944,"P",0,"",""
"GRAD","(GRADIENTE)",0,0.9,"P",0,"",""
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",0.9,1.35,"P",0,"",""
"REDPRE","(REDISTRIBUCIàN HIP PRET)",0.9,1.35,"P",0,"",""
"PRETFA.ISO.To","(PretensadoIsost tico(t=0))",-
0.1852,-.20475,"P",0,"",""
"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-
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0.1852,-.20475,"P",0,"","",
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-
0.1852,-.165,"P",0,"","",
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-
0.1852,-.165,"P",0,"","",
"LTORSION","",0,1.35,"P",0,"","",
"ESFUERZOS"
"ELU.TINF.MX-"," CON GRADIENTE"
"MX"
"-"
0
24
"PPCF1","(PESODELCAJàNENFASE1)",0.9,1.35,"P",0,"","",
"PPLF3","(PESOPROPIODELAFASE3)",0.9,1.35,"P",0,"","",
"PPLF2","(PESOPROPIODELAFASE2)",0.9,1.35,"P",0,"","",
"PRETF1A.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"","",
"PRETF1A.HIP.To","(PretensadoHiperest tico(t=
0,))",.95,1.05,"P",0,"","",
"PRETF1B.ISO.To","(PretensadoIsost tico(t=0))",.95,1.05,"P",0,"","",
"PRETF1B.HIP.To","(PretensadoHiperest tico(t=
0))",.95,1.05,"P",0,"","",
"PRETF3C.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"","",
"PRETF3C.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"","",
"PRETF3D.ISO.To","(PretensadoIsost tico(t=0))",.9,1.1,"P",0,"","",
"PRETF3D.HIP.To","(PretensadoHiperest tico(t=0))",.9,1.1,"P",0,"","",
"CMmax","(CARGAMUERTAMAXIMA)",.612,1.35,"P",0,"","",
"SCUPASEOSIZQU.ENV_TREN_GENERICO.MX-","(Envolventedetrendecargasplano
gen,rico.MX-)",0,1.5,"P",0,"","",
"SCUPASEOSDERE.ENV_TREN_GENERICO.MX-","(Envolventedetrendecargasplano
gen,rico.MX-)",0,1.5,"P",0,"","",
"IZQINT2.ENV_TREN_GENERICO.MX-","(Envolventedetrendecargasplanogen'ri
co.MX-)",0,1.944,"P",0,"","",
"DERINT2.ENV_TREN_GENERICO.MX-","(Envolventedetrendecargasplanogen'ri
co.MX-)",0,1.944,"P",0,"","",
"GRAD","(GRADIENTE)",0,0.9,"P",0,"","",
"REDPP","(REDISTRIBUCIàN PESO PROPIO)",0.9,1.35,"P",0,"","",
"REDPRE","(REDISTRIBUCIàN HIP PRET)",0.9,1.35,"P",0,"","",
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"PRETFB.ISO.To","(PretensadoIsost tico(t=0))",-
0.1852,-.20475,"P",0,"","",
"PRETFC.ISO.To","(PretensadoIsost tico(t=0))",-
0.1852,-.165,"P",0,"","",
"PRETFD.ISO.To","(PretensadoIsost tico(t=0))",-
0.1852,-.165,"P",0,"","",
"LTORSION","",0,1.35,"P",0,"","",
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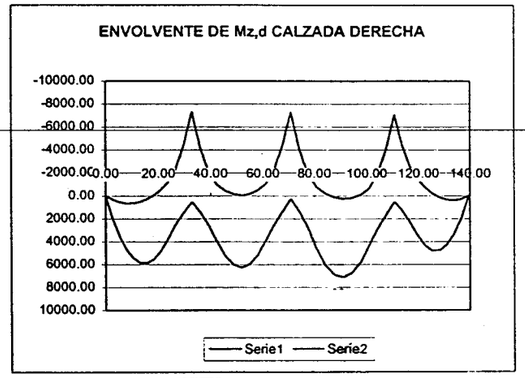
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Barra	Nudo	X	Mz+ (Tm)	Mz- (Tm)
1	1	0.00	4.93	-2.56
1	2	2.62	1456.13	163.49
2	2	2.62	1459.36	164.76
2	3	5.24	2566.27	210.69
3	3	5.24	2569.40	211.73
3	4	7.86	3320.42	136.32
4	4	7.86	3323.31	136.97
4	5	10.48	3711.02	-63.77
5	5	10.48	3713.94	-63.76
5	6	13.10	3730.53	-391.67
6	6	13.10	3732.99	-392.17
6	7	15.72	3370.78	-847.42
7	7	15.72	3372.37	-848.48
7	8	18.34	2658.09	-1462.49
8	8	18.34	2658.44	-1464.26
8	9	20.96	1760.99	-2406.59
9	9	20.96	1761.35	-2409.70
9	10	23.58	990.70	-3821.65
10	10	23.58	990.62	-3825.49
10	10011	26.20	363.23	-5837.38
11	11	26.20	365.33	-5846.31
11	12	29.55	1413.90	-3164.25
12	12	29.55	1415.16	-3174.96
12	13	32.90	2475.93	-1363.75
13	13	32.90	2476.48	-1370.54
13	14	36.03	3689.94	-475.80
14	14	36.03	3692.37	-478.93
14	15	39.16	4918.02	-122.25
15	15	39.16	4921.38	-123.98
15	16	42.29	5725.19	32.00
16	16	42.29	5729.94	30.84
16	17	45.42	6056.27	13.31
17	17	45.42	6062.66	12.62
17	18	48.55	5890.81	-185.19
18	18	48.55	5897.62	-186.10
18	19	51.68	5208.92	-554.64
19	19	51.68	5214.93	-555.95
19	20	54.81	4006.16	-1107.81
20	20	54.81	4010.13	-1109.65
20	21	57.94	2593.29	-2170.94
21	21	57.94	2593.60	-2171.27
21	22	61.07	1401.51	-4008.98
22	22	61.07	1401.79	-4009.29
22	10023	64.20	444.73	-6720.90
23	23	64.20	447.07	-6727.30
23	24	67.55	1590.69	-3924.51
24	24	67.55	1592.08	-3932.74
24	25	70.90	2752.13	-1896.18
25	25	70.90	2752.91	-1900.24
25	26	74.23	4167.20	-715.85
26	26	74.23	4169.81	-716.26
26	27	77.56	5539.16	-190.69
27	27	77.56	5543.12	-192.58
27	28	80.89	6446.80	82.52
28	28	80.89	6452.20	81.32
28	29	84.22	6826.50	158.58



Barra	Nudo	X	Mz+ (Tm)	Mz- (Tm)
29	29	84.22	6833.86	157.82
29	30	87.55	6649.51	-1.75
30	30	87.55	6657.16	-2.08
30	31	90.88	5893.54	-367.91
31	31	90.88	5900.17	-368.74
31	32	94.21	4591.49	-1021.36
32	32	94.21	4595.56	-1022.73
32	33	97.54	3044.06	-2234.79
33	33	97.54	3043.47	-2234.12
33	34	100.87	1793.71	-4413.57
34	34	100.87	1793.54	-4415.78
34	10035	104.20	807.78	-7648.74
35	35	104.20	810.08	-7658.17
35	36	107.55	1817.43	-4668.18
36	36	107.55	1818.55	-4679.38
36	37	110.90	2885.82	-2512.38
37	37	110.90	2886.87	-2521.61
37	38	113.77	4042.56	-1330.02
38	38	113.77	4041.49	-1333.72
38	39	116.64	5187.11	-619.08
39	39	116.64	5187.26	621.30
39	40	119.51	5994.04	-97.38
40	40	119.51	5995.16	-98.73
40	41	122.38	6401.06	294.44
41	41	122.38	6403.30	293.62
41	42	125.25	6401.08	558.26
42	42	125.25	6403.91	557.80
42	43	128.12	5985.17	694.13
43	43	128.12	5988.15	693.86
43	44	130.99	5149.01	706.71
44	44	130.99	5151.77	706.44
44	45	133.86	3882.88	596.54
45	45	133.86	3885.99	596.20
45	46	136.73	2169.64	360.74
46	46	136.73	2173.20	360.29
46	47	139.60	3.43	-5.03

Barra	Nudo	X	Mz+ (Tm)	Mz- (Tm)
101	101	0.00	2.56	-4.93
101	102	2.62	1975.44	337.44
102	102	2.62	1971.13	337.26
102	103	5.24	3535.34	559.09
103	103	5.24	3531.33	558.94
103	104	7.86	4695.12	664.94
104	104	7.86	4691.60	664.95
104	105	10.48	5465.44	655.70
105	105	10.48	5462.26	655.88
105	106	13.10	5855.78	531.46
106	106	13.10	5853.31	531.95
106	107	15.72	5874.58	292.10
107	107	15.72	5873.15	293.03
107	108	18.34	5528.26	-63.55
108	108	18.34	5528.16	-62.05
108	109	20.96	4821.83	-538.76
109	109	20.96	4822.38	-536.52
109	110	23.58	3793.67	-1176.75
110	110	23.58	3795.24	-1173.68
110	111	26.20	2646.88	-2162.01
111	111	26.20	2647.47	-2154.25
111	112	29.55	1537.50	-4287.09
112	112	29.55	1536.30	-4275.53
112	10113	32.90	527.00	-7327.99
113	113	32.90	524.83	-7321.01
113	114	36.03	1428.26	-4243.33
114	114	36.03	1427.78	-4241.89
114	115	39.16	2546.79	-2147.90
115	115	39.16	2546.88	-2149.39
115	116	42.29	3971.76	-993.99
116	116	42.29	3967.13	-992.96
116	117	45.42	5258.73	-435.49
117	117	45.42	5252.27	-434.74
117	118	48.55	6033.53	-139.48
118	118	48.55	6026.70	-138.77
118	119	51.68	6266.14	-41.59
119	119	51.68	6260.13	-40.27
119	120	54.81	5973.39	-165.93
120	120	54.81	5969.40	-164.09
120	121	57.94	5176.65	-479.62
121	121	57.94	5173.97	-477.01
121	122	61.07	3921.31	-1026.13
122	122	61.07	3920.23	-1025.12
122	123	64.20	2599.94	-2204.08
123	123	64.20	2599.17	-2198.82
123	124	67.55	1403.62	-4323.73
124	124	67.55	1402.67	-4315.90
124	10125	70.90	266.53	-7305.58
125	125	70.90	264.55	-7301.15
125	126	74.23	1411.92	-4011.94
126	126	74.23	1411.54	-4013.55
126	127	77.56	2835.86	-1852.60
127	127	77.56	2835.26	-1854.05
127	128	80.89	4631.65	-760.87
128	128	80.89	4626.33	-759.73
128	129	84.22	6092.35	-205.02



Barra	Nudo	X	Mz+ (Tm)	Mz- (Tm)
129	129	84.22	6085.02	-204.27
129	130	87.55	6911.45	135.34
130	130	87.55	6903.79	135.70
130	131	90.88	7117.70	269.00
131	131	90.88	7111.05	269.64
131	132	94.21	6728.86	182.18
132	132	94.21	6724.70	183.60
132	133	97.54	5771.41	-98.75
133	133	97.54	5768.77	-96.38
133	134	100.87	4324.53	-641.45
134	134	100.87	4323.10	-637.64
134	135	104.20	2894.95	-1861.57
135	135	104.20	2894.92	-1853.91
135	136	107.55	1703.46	-4004.65
136	136	107.55	1702.25	-3993.17
136	10137	110.90	522.46	-7070.42
137	137	110.90	520.57	-7060.43
137	138	113.77	1282.47	-4453.90
138	138	113.77	1282.67	-4449.89
138	139	116.64	2265.27	-2648.82
139	139	116.64	2264.53	-2645.97
139	140	119.51	3420.71	-1492.68
140	140	119.51	3419.25	-1490.98
140	141	122.38	4333.75	-756.37
141	141	122.38	4331.34	-755.36
141	142	125.25	4790.92	-221.61
142	142	125.25	4788.10	-221.13
142	143	128.12	4765.69	147.32
143	143	128.12	4762.89	147.38
143	144	130.99	4267.12	351.16
144	144	130.99	4264.92	350.84
144	145	133.86	3304.34	391.00
145	145	133.86	3302.38	390.21
145	146	136.73	1880.52	272.56
146	146	136.73	1878.32	271.58
146	147	139.60	5.03	-3.43

ENVOLVENTE MX,d

Barra	Nudo	X	Mx (Tm)	Vy (T)
1	1	0.00	64.9	-481.5
1	2	2.62	-101.4	-154.5
2	2	2.62	172.9	-368.8
2	3	5.24	164.4	-257.4
3	3	5.24	217.9	-255.1
3	4	7.86	203.5	-149.0
4	4	7.86	239.8	-112.6
4	5	10.48	-240.9	14.2
5	5	10.48	258.1	3.7
5	6	13.10	-288.8	142.7
6	6	13.10	-315.5	160.4
6	7	15.72	-361.0	264.9
7	7	15.72	-397.5	281.8
7	8	18.34	-438.0	388.8
8	8	18.34	-476.1	425.5
8	9	20.96	-514.1	536.5
9	9	20.96	-548.9	553.2
9	10	23.58	-589.2	668.0
10	10	23.58	-611.4	673.0
10	10011	26.20	-656.2	794.1
11	11	26.20	-739.6	-547.7
11	12	29.55	-736.9	-444.5
12	12	29.55	-714.6	-436.6
12	13	32.90	-767.6	-323.7
13	13	32.90	-705.7	-331.1
13	14	36.03	-756.8	-220.5
14	14	36.03	-671.5	-235.5
14	15	39.16	-716.8	-121.6
15	15	39.16	624.7	-256.6
15	16	42.29	-651.8	-26.9
16	16	42.29	619.6	-185.2
16	17	45.42	-584.3	72.5
17	17	45.42	606.2	-59.7
17	18	48.55	559.2	63.9
18	18	48.55	573.8	71.2
18	19	51.68	521.9	191.2
19	19	51.68	527.1	189.9
19	20	54.81	-485.1	302.8
20	20	54.81	495.9	298.4
20	21	57.94	-490.0	520.5
21	21	57.94	-510.6	567.5
21	22	61.07	-541.1	694.4
22	22	61.07	-569.9	690.0
22	10023	64.20	-605.1	820.9
23	23	64.20	-682.5	-616.7
23	24	67.55	-641.4	-522.3
24	24	67.55	-618.7	-499.3
24	25	70.90	-669.6	-389.9

ENVOLVENTE MX,d

Barra	Nudo	X	Mx (Tm)	Vy (T)
25	25	70.90	639.5	-481.8
25	26	74.23	-672.7	-272.1
26	26	74.23	669.4	-472.3
26	27	77.56	-652.1	-154.8
27	27	77.56	691.4	-337.8
27	28	80.89	648.9	-207.2
28	28	80.89	692.3	-199.7
28	29	84.22	642.3	-70.5
29	29	84.22	668.3	-65.0
29	30	87.55	614.1	67.7
30	30	87.55	610.0	82.5
30	31	90.88	550.2	211.3
31	31	90.88	527.1	221.0
31	32	94.21	464.2	345.2
32	32	94.21	458.3	319.4
32	33	97.54	-453.3	470.6
33	33	97.54	-491.7	500.1
33	34	100.87	-519.1	634.6
34	34	100.87	-559.5	666.4
34	10035	104.20	-592.0	805.3
35	35	104.20	-752.9	-628.4
35	36	107.55	-697.1	-520.9
36	36	107.55	-662.2	-505.6
36	37	110.90	-712.6	-405.3
37	37	110.90	-638.7	-425.4
37	38	113.77	-685.4	-325.2
38	38	113.77	-587.6	-355.1
38	39	116.64	-631.7	-251.0
39	39	116.64	-532.6	-267.4
39	40	119.51	-572.9	-160.2
40	40	119.51	-463.1	-170.3
40	41	122.38	-496.8	-61.0
41	41	122.38	396.1	-105.2
41	42	125.25	-407.7	29.0
42	42	125.25	353.5	-103.9
42	43	128.12	-326.8	195.9
43	43	128.12	318.0	12.6
43	44	130.99	-268.1	249.1
44	44	130.99	268.3	130.8
44	45	133.86	-206.8	299.2
45	45	133.86	210.2	282.2
45	46	136.73	-150.9	349.3
46	46	136.73	140.3	410.0
46	47	139.60	70.8	490.7
101	101	0.00	69.2	-540.4
101	102	2.62	118.5	-460.4
102	102	2.62	129.8	-416.2
102	103	5.24	180.3	-313.2

ENVOLVENTE MX,d

Barra	Nudo	X	Mx (Tm)	Vy (T)
103	103	5.24	182.2	-248.1
103	104	7.86	229.4	-141.0
104	104	7.86	222.7	-133.4
104	105	10.48	266.3	-22.6
105	105	10.48	-270.2	-165.3
105	106	13.10	289.5	80.7
106	106	13.10	-346.9	-33.6
106	107	15.72	332.4	103.1
107	107	15.72	-423.8	57.7
107	108	18.34	-403.8	161.9
108	108	18.34	-491.4	158.3
108	109	20.96	-465.8	260.1
109	109	20.96	-544.5	236.1
109	110	23.58	-514.3	336.6
110	110	23.58	-590.0	313.8
110	111	26.20	-557.2	410.2
111	111	26.20	-620.7	401.5
111	112	29.55	-587.5	505.1
112	112	29.55	-622.8	559.2
112	10113	32.90	-599.0	670.5
113	113	32.90	-458.2	-760.4
113	114	36.03	-505.4	-623.0
114	114	36.03	-467.3	-626.1
114	115	39.16	-451.9	-491.7
115	115	39.16	-420.8	-475.9
115	116	42.29	418.9	-325.1
116	116	42.29	418.1	-383.7
116	117	45.42	464.9	-261.6
117	117	45.42	485.0	-210.4
117	118	48.55	528.9	-84.3
118	118	48.55	534.7	-70.5
118	119	51.68	573.2	59.4
119	119	51.68	556.8	73.7
119	120	54.81	592.3	201.3
120	120	54.81	-584.2	59.0
120	121	57.94	594.9	330.5
121	121	57.94	-633.2	172.9
121	122	61.07	-599.3	294.5
122	122	61.07	-641.5	298.1
122	123	64.20	-603.2	416.4
123	123	64.20	-629.7	401.6
123	124	67.55	-589.1	505.7
124	124	67.55	-601.1	578.8
124	10125	70.90	-573.2	690.0
125	125	70.90	557.5	-536.0
125	126	74.23	-544.6	-704.5
126	126	74.23	-496.5	-681.6
126	127	77.56	496.3	-542.3

ENVOLVENTE MX,d

Barra	Nudo	X	Mx (Tm)	Vy (T)
127	127	77.56	466.2	-499.2
127	128	80.89	513.1	-389.6
128	128	80.89	488.7	-343.6
128	129	84.22	536.2	-213.5
129	129	84.22	532.4	-182.1
129	130	87.55	577.4	-46.9
130	130	87.55	560.9	-49.8
130	131	90.88	600.3	89.8
131	131	90.88	-564.3	-80.3
131	132	94.21	597.7	216.5
132	132	94.21	-633.3	59.4
132	133	97.54	-602.5	191.2
133	133	97.54	-710.1	169.7
133	134	100.87	-672.8	297.4
134	134	100.87	-755.2	284.4
134	135	104.20	-714.0	407.0
135	135	104.20	-764.5	459.8
135	136	107.55	-723.4	578.7
136	136	107.55	-736.1	625.9
136	10137	110.90	-698.6	737.6
137	137	110.90	-604.9	-950.4
137	138	113.77	-618.3	-811.1
138	138	113.77	-579.2	-787.3
138	139	116.64	-549.2	-653.6
139	139	116.64	-496.1	-629.8
139	140	119.51	-469.5	-500.4
140	140	119.51	-416.0	-462.8
140	141	122.38	-387.4	-338.2
141	141	122.38	-338.8	-310.6
141	142	125.25	-307.3	-190.5
142	142	125.25	-275.1	-156.1
142	143	128.12	255.7	20.5
143	143	128.12	-237.7	-25.3
143	144	130.99	237.7	155.8
144	144	130.99	203.0	199.4
144	145	133.86	212.2	321.2
145	145	133.86	165.8	322.5
145	146	136.73	168.8	450.4
146	146	136.73	-100.9	179.6
146	147	139.60	63.2	595.4

ENVOLVENTE VY,d

Barra	Nudo	X	VY(tn)	MX(MTN)
1	1	0.00	-617.7	21.1
1	2	2.62	-485.7	10.7
2	2	2.62	-491.3	70.6
2	3	5.24	-364.9	62.7
3	3	5.24	-366.9	89.5
3	4	7.86	-247.7	93.9
4	4	7.86	-245.1	116.5
4	5	10.48	158.3	-86.2
5	5	10.48	159.6	-71.5
5	6	13.10	263.6	-143.2
6	6	13.10	268.6	-140.5
6	7	15.72	385.0	-178.6
7	7	15.72	401.5	-205.6
7	8	18.34	521.4	-237.0
8	8	18.34	538.5	-236.8
8	9	20.96	663.7	-271.9
9	9	20.96	679.9	-314.8
9	10	23.58	810.0	-335.3
10	10	23.58	829.8	-394.7
10	10011	26.20	963.6	-434.2
11	11	26.20	-978.6	53.3
11	12	29.55	-809.2	20.4
12	12	29.55	-820.0	133.7
12	13	32.90	-657.0	113.2
13	13	32.90	-672.3	219.3
13	14	36.03	-526.9	202.4
14	14	36.03	-540.4	267.7
14	15	39.16	-398.6	245.3
15	15	39.16	-405.1	271.2
15	16	42.29	-267.9	237.0
16	16	42.29	-274.5	211.2
16	17	45.42	156.2	-145.7
17	17	45.42	148.9	-45.1
17	18	48.55	279.4	-57.9
18	18	48.55	277.1	37.5
18	19	51.68	413.5	14.4
19	19	51.68	426.1	75.4
19	20	54.81	568.2	59.3
20	20	54.81	582.5	68.6
20	21	57.94	729.6	47.4
21	21	57.94	751.1	-35.8
21	22	61.07	904.6	-66.7
22	22	61.07	927.9	-115.5
22	10023	64.20	1087.4	-154.3
23	23	64.20	-1049.9	33.0
23	24	67.55	-880.8	-3.3
24	24	67.55	-884.8	156.6
24	25	70.90	-722.2	124.8

ENVOLVENTE VY,d

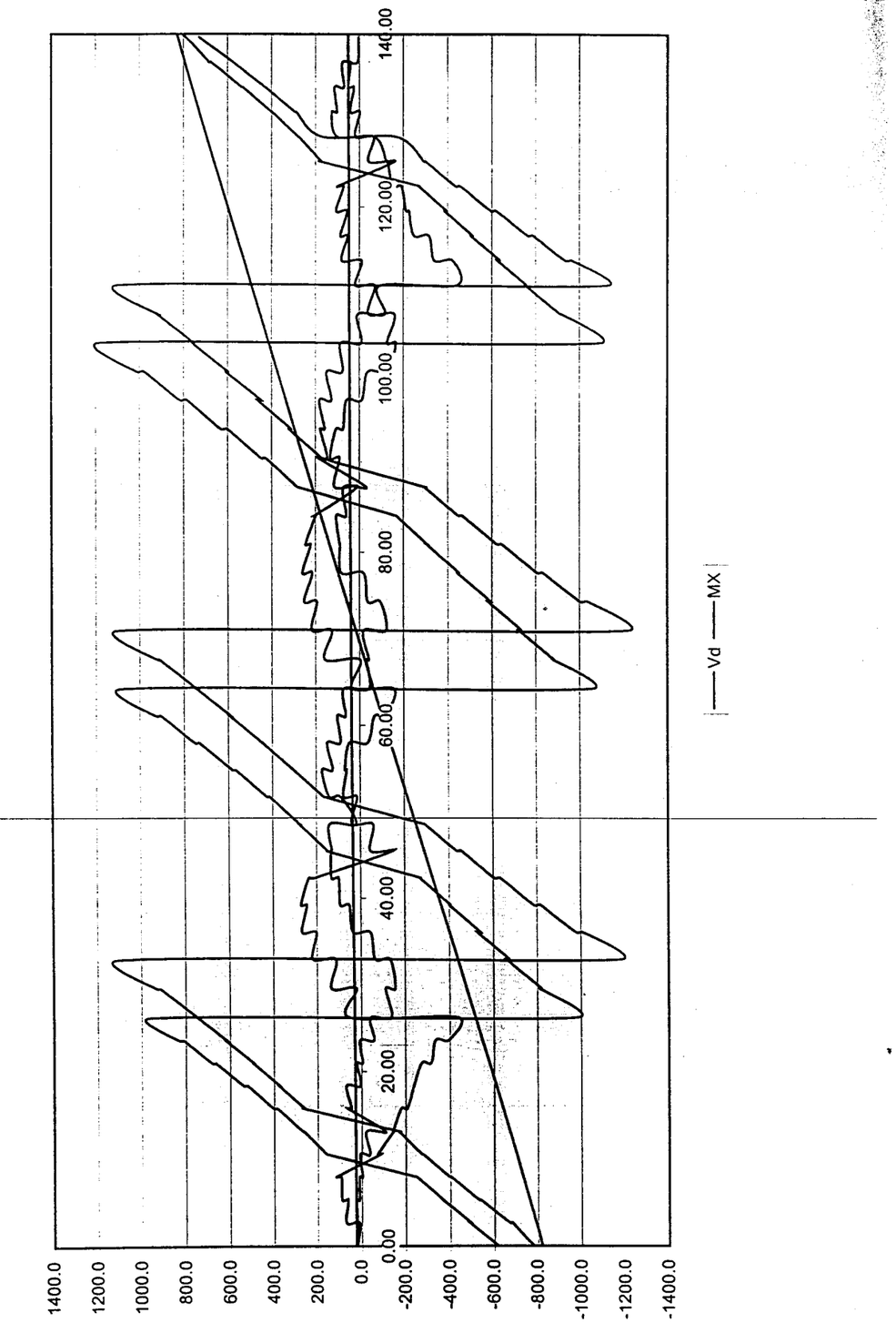
Barra	Nudo	X	VY(tn)	MX(MTN)
25	25	70.90	-734.6	217.0
25	26	74.23	-580.6	194.6
26	26	74.23	-593.8	252.5
26	27	77.56	-441.3	215.1
27	27	77.56	-449.7	259.6
27	28	80.89	-303.2	221.5
28	28	80.89	-307.2	246.0
28	29	84.22	-166.9	199.5
29	29	84.22	-167.1	204.3
29	30	87.55	281.1	8.0
30	30	87.55	282.7	111.6
30	31	90.88	428.1	89.3
31	31	90.88	449.2	131.3
31	32	94.21	601.5	104.7
32	32	94.21	630.5	72.3
32	33	97.54	784.7	57.3
33	33	97.54	818.4	-10.3
33	34	100.87	980.6	-38.4
34	34	100.87	1014.2	-129.8
34	10035	104.20	1182.7	-164.3
35	35	104.20	-1085.6	-125.4
35	36	107.55	-917.4	-159.2
36	36	107.55	-914.7	-41.5
36	37	110.90	-750.8	-69.2
37	37	110.90	-758.8	17.7
37	38	113.77	-623.7	-10.2
38	38	113.77	-635.9	79.4
38	39	116.64	-503.9	52.3
39	39	116.64	-513.5	85.6
39	40	119.51	-384.8	55.2
40	40	119.51	-393.8	106.0
40	41	122.38	-269.1	70.5
41	41	122.38	-276.6	99.1
41	42	125.25	176.3	-157.9
42	42	125.25	172.6	-42.3
42	43	128.12	275.4	-66.5
43	43	128.12	277.4	17.8
43	44	130.99	397.5	-1.6
44	44	130.99	401.2	41.2
44	45	133.86	531.9	25.0
45	45	133.86	537.6	50.1
45	46	136.73	674.0	39.5
46	46	136.73	682.4	52.1
46	47	139.60	825.3	50.6
101	101	0.00	-819.0	24.4
101	102	2.62	-680.4	17.4
102	102	2.62	-668.1	20.4
102	103	5.24	-535.4	25.1

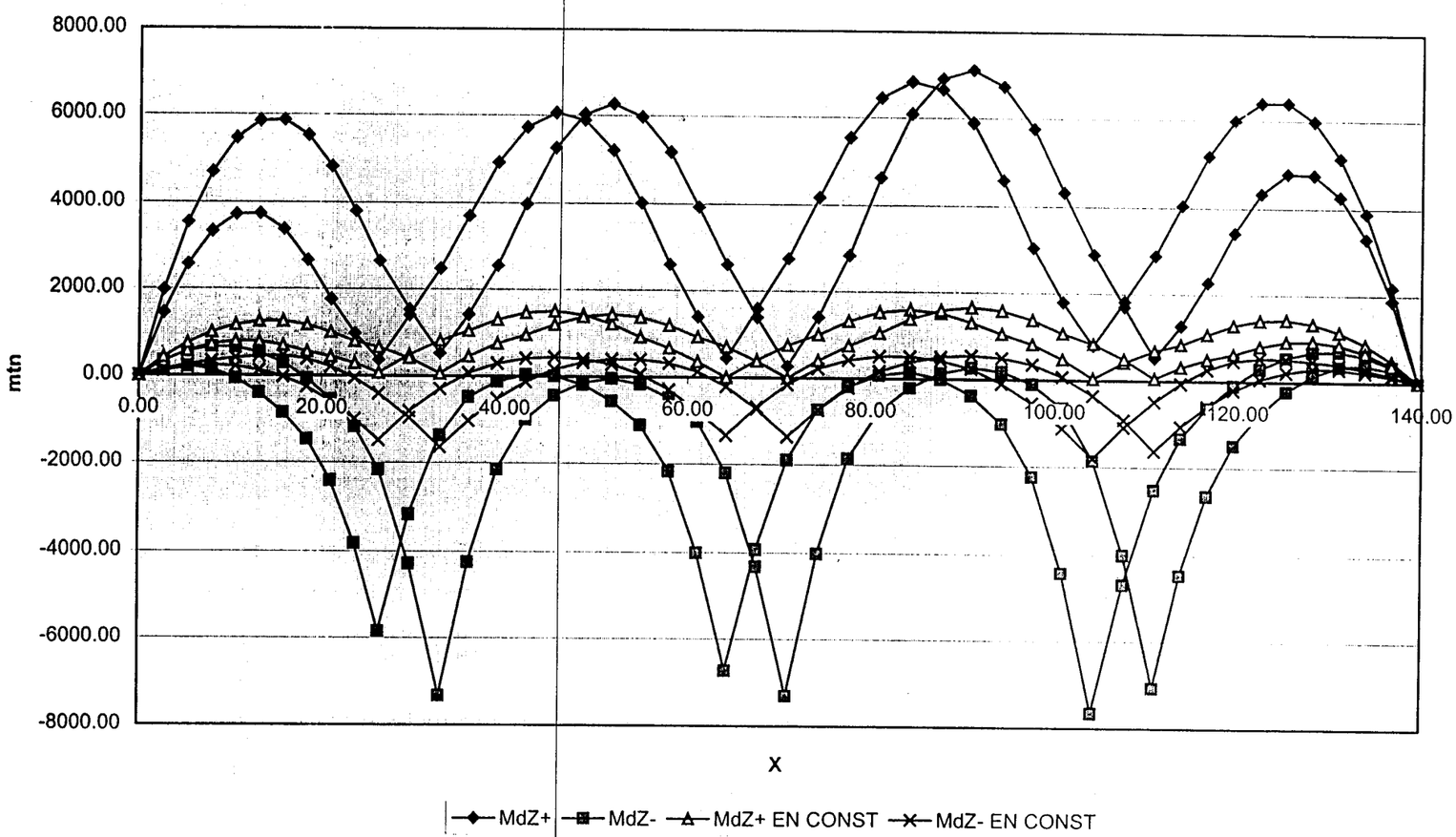
ENVOLVENTE VY,d

Barra	Nudo	X	VY(tn)	MX(MTN)
103	103	5.24	-527.0	10.8
103	104	7.86	-400.7	11.0
104	104	7.86	-394.9	-2.7
104	105	10.48	-274.6	7.2
105	105	10.48	-270.8	-38.2
105	106	13.10	-167.7	-21.7
106	106	13.10	-169.4	-107.8
106	107	15.72	262.5	63.6
107	107	15.72	258.7	46.7
107	108	18.34	377.2	68.2
108	108	18.34	373.2	5.1
108	109	20.96	496.3	22.4
109	109	20.96	492.1	-5.0
109	110	23.58	619.0	6.6
110	110	23.58	613.8	-57.4
110	111	26.20	744.0	-40.7
111	111	26.20	742.9	-136.3
111	112	29.55	916.1	-111.5
112	112	29.55	929.1	-153.5
112	10113	32.90	1107.3	-132.0
113	113	32.90	-1177.5	-65.2
113	114	36.03	-1009.8	-43.1
114	114	36.03	-978.8	35.6
114	115	39.16	-817.4	51.5
115	115	39.16	-785.6	92.7
115	116	42.29	-631.2	99.0
116	116	42.29	-604.2	131.6
116	117	45.42	-454.4	133.5
117	117	45.42	-433.4	129.5
117	118	48.55	-289.5	138.2
118	118	48.55	-284.5	18.5
118	119	51.68	165.7	89.1
119	119	51.68	165.4	140.9
119	120	54.81	303.1	172.5
120	120	54.81	302.2	124.4
120	121	57.94	445.9	148.3
121	121	57.94	444.0	88.0
121	122	61.07	592.4	100.7
122	122	61.07	587.9	63.5
122	123	64.20	741.4	71.2
123	123	64.20	740.3	-43.1
123	124	67.55	911.6	-31.3
124	124	67.55	919.8	-43.0
124	10125	70.90	1098.4	-18.5
125	125	70.90	-1214.0	-119.9
125	126	74.23	-1036.2	-95.1
126	126	74.23	-1003.4	-37.8
126	127	77.56	-832.1	-18.9

ENVOLVENTE VY,d

Barra	Nudo	X	VY(tn)	MX(MTN)
127	127	77.56	-806.8	80.9
127	128	80.89	-643.7	86.9
128	128	80.89	-623.2	88.2
128	129	84.22	-462.5	103.4
129	129	84.22	-446.4	59.4
129	130	87.55	-293.0	70.6
130	130	87.55	-293.3	-31.4
130	131	90.88	177.0	186.3
131	131	90.88	171.5	145.3
131	132	94.21	321.2	177.9
132	132	94.21	310.2	156.4
132	133	97.54	464.4	180.5
133	133	97.54	448.1	126.2
133	134	100.87	608.8	148.4
134	134	100.87	598.7	76.1
134	135	104.20	760.6	84.3
135	135	104.20	751.4	-9.5
135	136	107.55	922.8	6.6
136	136	107.55	920.3	-115.4
136	10137	110.90	1098.5	-95.8
137	137	110.90	-1120.2	-438.6
137	138	113.77	-966.5	-421.2
138	138	113.77	-936.3	-338.1
138	139	116.64	-787.4	-314.8
139	139	116.64	-762.8	-247.3
139	140	119.51	-619.4	-225.1
140	140	119.51	-594.9	-211.6
140	141	122.38	-456.7	-190.9
141	141	122.38	-433.6	-151.7
141	142	125.25	-300.6	-128.2
142	142	125.25	-292.0	-123.5
142	143	128.12	-168.2	-70.0
143	143	128.12	168.3	100.1
143	144	130.99	286.8	124.8
144	144	130.99	292.7	100.8
144	145	133.86	428.9	112.5
145	145	133.86	431.0	70.7
145	146	136.73	574.7	77.4
146	146	136.73	574.3	9.2
146	147	139.60	726.0	4.2





a) Flexocompresión

A la armadura necesaria para flexión hay que sumar la armadura necesaria por el tren cortante. La armadura necesaria por el tren cortante es:

CoDoV	Vd (mkN)	Md (mkN)	As Cog por tensión (cm²)
26'20	3730	-101	2'23 cm²/m
38'00	6057	244	5'53 cm²/m
40'00	6833	281	6'36 cm²/m
35'41	6201	111'68	2'51 cm²/m
32'89	5853	95	2'15 cm²/m
38'00	6266	241	5'46 cm²/m
40'00	7111	261	5'91 cm²/m
28'68	4790	74	1'67 cm²/m

Como puede verse el tren cortante es pequeño y la armadura de tensión queda cubierta con la dispuesta.

Los recuadros estudiados son sometidos a momento flector por lo que a punta resulta

A continuación, para cada uno de los tipos se estudia las disposiciones posibles, para ello se indaga para cada uno de ellos:

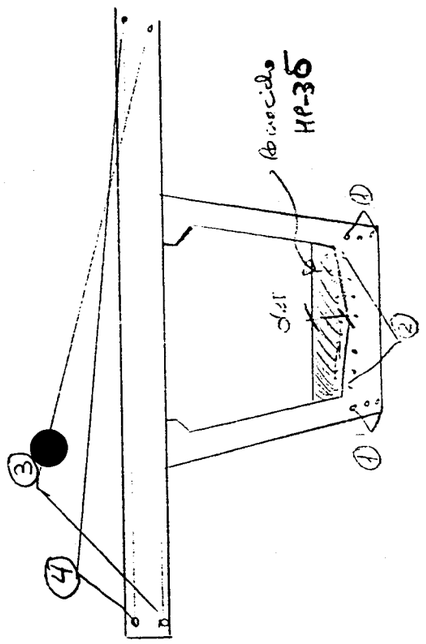
- un croquis con la armadura resultante
- un haya con los momentos de cálculo
- otro haya con los momentos últimos y despues la tipología de sección

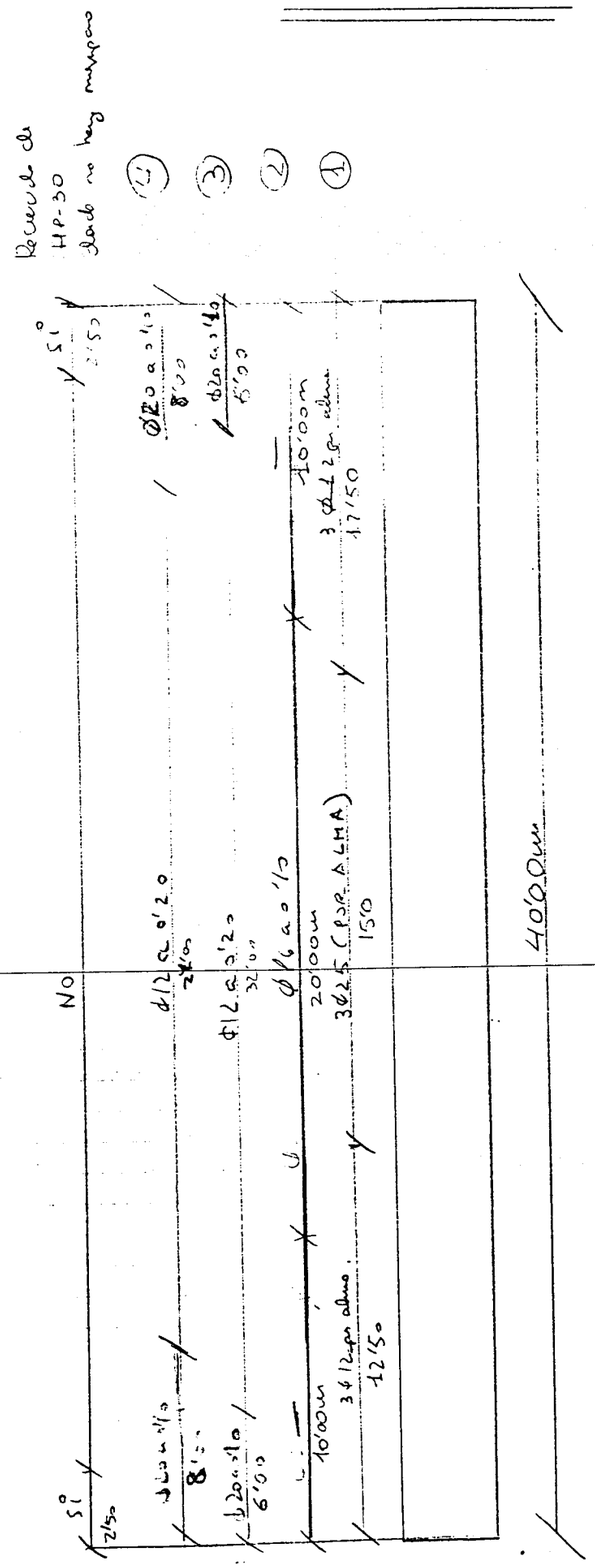
Hay casos en que las secciones son las mismas para las distintas vanos, por lo que no se repite la tipología de sección.

Las armaduras finalmente dispuestas coinciden en cuantía con la de los croquis.

IDEAM

VIGAS EN
VANOS DE 40'00 m





VIGAS EN
VANOS DE
40'00 m.

CÁLCULO MZ EN ROTURA
Hipótesis de cálculo:
ELU MZ+

			NUMERO DE TORONES DE 0,6 PULGADAS													
			PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN		PRETENSADO INF DE CAJÓN				PRET SUP CAJÓN	PRET LOSA SUP	PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN	
Barra	Nudo	X	Mdz+ (Tm)	Mdz- (Tm)	Mdz+ (Tm)	Mdz- (Tm)	PRET	PRET	PRET	PRET	PRET	PRET	MU+ (Tm)	MU- (Tm)	MU+ (Tm)	MU- (Tm)
							2.8	2.752	2.704	2.656	0.45	0.12				
23	23	64.20	447.07	-6727.30	0.0		28				8	105				
23	24	67.55	1590.69	-3924.51	405.8		28				8	105				
24	24	67.55	1592.08	-3932.74	405.8		28				8	105				
24	25	70.90	2752.13	-1896.18	760.5		28	26			8	105				
25	25	70.90	2752.91	-1900.24	760.5		28	26			8	49				
25	26	74.23	4167.20	-715.85	1016.9		28	26	28		8	49				
26	26	74.23	4169.81	-716.26	1016.2	214.54	28	26	28		8					
26	27	77.56	5539.16	-190.69	1346.3	423.97	28	26	28	28	8					
27	27	77.56	5543.12	-192.58	1346.3	423.97	28	26	28	28	8					
27	28	80.89	6446.80	82.52	1559.1	514.41	28	26	28	28	8					
28	28	80.89	6452.20	81.32	1559.1	514.41	28	26	28	28	8					
28	29	84.22	6826.50	158.58	1626.3	514.28	28	26	28	28	8					
29	29	84.22	6833.86	157.82	1626.3	514.28	28	26	28	28	8					
29	30	87.55	6649.51	-1.75	1547.8	423.57	28	26	28	28	8					
30	30	87.55	6657.16	-2.08	1547.8	423.57	28	26	28	28	8					
30	31	90.88	5893.54	-367.91	1323.6	242.30	28	26	28	28	8					
31	31	90.88	5900.17	-368.74	1323.6	242.30	28	26	28	28	8					
31	32	94.21	4591.49	-1021.36	1063.4	-114.62	28	26	28		8					
32	32	94.21	4595.56	-1022.73	1063.4		28	26	28		8	56				
32	33	97.54	3044.06	-2234.79	827.1		28	26			8	56				
33	33	97.54	3043.47	-2234.12	827.1		28	26			8	105				
33	34	100.87	1793.71	-4413.57	479.5		28				8	105				
34	34	100.87	1793.34	-4415.78	479.5		28				8	105				
34	####	104.20	807.78	-7648.74	40.7		28				8	105				

CÁLCULO MZ EN ROTURA

Hipotesis de cálculo:

ELU_MZ+

			PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN		NUMERO DE TORONES DE 0.6 PULGADAS						PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN	
							PRETENSADO INF DE CAJÓN				PRET SUP CAJÓN	PRET LOSA SUP				
Barra	Nudo	X	Mdz+ (Tm)	Mdz- (Tm)	Mdz+ (Tm)	Mdz- (Tm)	PRET	PRET	PRET	PRET	PRET	PRET	MU+ (Tm)	MU- (Tm)	MU+ (Tm)	MU- (Tm)
							2.8	2.752	2.704	2.656	0.45	0.12				
125	125	70.90	264.55	-7301.15	0.0		28				8	105				
125	126	74.23	1411.92	-4011.94	402.7		28				8	105				
126	126	74.23	1411.54	-4013.55	402.7		28				8	105				
126	127	77.56	2835.86	-1852.60	756.7		28	26			8	105				
127	127	77.56	2835.26	-1854.05	756.7		28	26			8	49				
127	128	80.89	4631.65	-760.87	1059.9		28	26	28		8	49				
128	128	80.89	4626.33	-759.73	1059.9	162.63	28	26	28		8					
128	129	84.22	6092.35	-205.02	1410.9	390.09	28	26	28	28	8					
129	129	84.22	6085.02	-204.27	1410.9	390.09	28	26	28	28	8					
129	130	87.55	6911.45	135.34	1626.9	516.32	28	26	28	28	8					
130	130	87.55	6903.79	135.70	1626.9	516.32	28	26	28	28	8					
130	131	90.88	7117.70	269.00	1697.2	551.98	28	26	28	28	8					
131	131	90.88	7111.05	269.64	1697.2	551.98	28	26	28	28	8					
131	132	94.21	6728.86	182.18	1621.8	497.07	28	26	28	28	8					
132	132	94.21	6724.70	183.60	1621.8	497.07	28	26	28	28	8					
132	133	97.54	5771.41	-98.75	1400.7	351.59	28	26	28	28	8					
133	133	97.54	5768.77	-96.38	1400.7	351.59	28	26	28	28	8					
133	134	100.87	4324.53	-641.45	1088.0	61.44	28	26	28		8					
134	134	100.87	4323.10	-637.64	1089.8		28	26	28		8	56				
134	135	104.20	2894.95	-1861.57	846.9		28	26			8	56				
135	135	104.20	2894.92	-1853.91	846.9		28	26			8	105				
135	136	107.55	1703.46	-4004.65	490.6		28				8	105				
136	136	107.55	1702.25	-3993.17	490.6		28				8	105				
136	####	110.90	522.46	-7070.42	50.0		28				8	105				

IDEAM

Secciones del CSEC

- **SEC 1**

8 torones ϕ 0'6" a 0'45

28 torones ϕ 0'6" a 2'8

26 torones ϕ 0'6" a 2'752

28 torones ϕ 0'6" a 2'704

28 torones ϕ 0'6" a 2'656

Losa - (ϕ12 c 0'20) * 2

COMPLETA || Mu+ = 6537 mtn] El V PASIVO SOLO EN NEGATIVO (ϕ12 a 0'20) * 2
Mu- = -1185'5 mtn]

COMPLETA CON ϕ16 c/10 + 6ϕ25 || Mu+ = 7161 mtn] Nsc (ϕ12 c 0'20) * 2 Pos. 6ϕ25 + ϕ16 a r10
Mu- = -1203 mtn]

EN CONSTRUCCIÓN || Mu+ = 3718 mtn
Mu- = -3435 mtn

- **SEC 2**

8 torones ϕ 0'6" a 0'45

28 torones ϕ 0'6" a 2'80

26 torones ϕ 0'6" a 2'752

28 torones ϕ 0'6" a 2'704

Completa = Mu+ = 4970 mtn] Barra solo en negativo (ϕ12 a 0'20) * 2
Mu- = -1222'1 mtn]

En construcción = Mu+ = 3357'6 mtn
Mu- = -3515'8 mtn

IDEAM

- SEC 3 — 8 tensores ϕ0'6" a 0'25
  28 tensores ϕ0'6" a 2'80
  26 tensores ϕ0'6" a 2'52
  48 tensores ϕ0'6" a 0'12
  (ϕ12 c/20) x 2 en negativos.

Completa — Mu+ = 3374'2 mtn
Mu- = -3593'7 mtn

En construcción — Mu+ = 2602 mtn

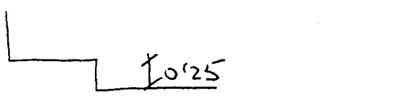
- SEC 4 — 8 tensores ϕ0'6" a 0'25
  28 tensores ϕ0'6" a 2'80
  10E tensores ϕ0'6" a 0'12
  (ϕ12 a 0'20) x 2 en negativos.

Completa — Mu+ = 1861 mtn
Mu- = -5347 mtn

En construcción = Mu+ = 1501 mtn

- SEC 4 con HP-35 — Con un remedio de cabeza de compresión de 0'25 y (ϕ20 c/10) x 2

Md = -7372 mtn



IDEAM

SEC 4B — Sección de empalme % (con ϕ20 a 0'20) y 9 negativos.

Md = - 9635'9 mtn

Proyecto:

Seccion: ~~CDV131~~ SEC 1

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_\pi 1$	$J_\pi 2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	28.0	13.4	270.4	*T	0
8	4	28.0	13.4	265.4	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	6.0	25.0	265.0	CT	0
13	3	14.0	16.0	260.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	3142.9	30.47	11851171.7
	(1)	1187.7	58.71	10285479.4
	(2)	1550.8	47.93	10857433.0
F.pura -	(0)	1102.9	250.03	5361693.2
	(1)	544.8	226.83	4781263.6
	(2)	652.3	234.25	4961378.1
C.Simple	(0)	5497.3	92.59	58745452.5
	(1)	1728.1	103.84	20818022.1
	(2)	2408.5	99.21	27739096.3
T.Simple	(0)	278.3	189.33	3928906.3
	(1)	278.3	189.33	3928906.3
	(2)	278.3	189.33	3928906.3

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: ~~CDV131~~ SEC 1

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 2259.54Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 7161.5 Xu(cm.): 39.6

Nu(Tn.): -.1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00165 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1203.7 Xu(cm.): 235.5

Nu(Tn.): -.7 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00286 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8745.9 aplicado en Yo(cm)= 105.8

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 3062.6 aplicado en Yo(cm)= 230.3

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: ~~CDV131~~ SEC 1

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 2259.54Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 3718.7 Xu(cm.): 186.1

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00144
Rompe la fibra superior de la S.parcial 2

FLEXION PURA NEGATIVA:

Mu(m.T): -343.5 Xu(cm.): 242.3

Nu(Tn.): -.9 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00279 Etmx= .01000
Rompe la fibra superior de la S.parcial 2

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -4569.3 aplicado en Yo(cm)= 175.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2456.0 aplicado en Yo(cm)= 257.9

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:SEC2

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	28.0	13.4	270.4	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	0.0	0.0	0.0	CT	0
13	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2340.7	22.61	6695710.9
	(1)	1025.3	41.02	6094518.5
	(2)	1377.2	34.00	6307082.1
F.pura -	(0)	1019.3	248.73	5340294.0
	(1)	465.6	219.36	4625500.2
	(2)	572.6	229.38	4863845.5
C.Simple	(0)	5406.1	89.69	56004305.7
	(1)	1636.9	94.89	18332495.3
	(2)	2317.3	92.70	25148818.8
T.Simple	(0)	187.1	152.69	3161814.8
	(1)	187.1	152.69	3161814.8
	(2)	187.1	152.69	3161814.8

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: SEC2

*** PRESOLICITACIONES ELASTICAS**

Analisis SIN FISURACION

Pretensado: 1723.38Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS

Def. Ultima Acero Estructural(COMPRESION)(%): 2.50

Def. Ultima Acero Estructural(TRACCION)(%): 2.50

Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon

Deformacion Ultima Hormigon(TRACCION)(%): 1.00

Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 4970.1 Xu(cm.): 31.5

Nu(Tn.): -.1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00126 Etmx= .01000

Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1222.1 Xu(cm.): 239.2

Nu(Tn.): -.4 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00253 Etmx= .01000

Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8490.4 aplicado en Yo(cm)= 101.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2224.3 aplicado en Yo(cm)= 217.1

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0

S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: SEC2

*** PRESOLICITACIONES ELASTICAS**

Analisis SIN FISURACION

Pretensado: 1723.38Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS

Def. Ultima Acero Estructural(COMPRESION)(%): 2.50

Def. Ultima Acero Estructural(TRACCION)(%): 2.50

Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon

Deformacion Ultima Hormigon(TRACCION)(%): 1.00

Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 3357.6 Xu(cm.): 158.0

Nu(Tn.): .1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00253 Etmx= .00284

Rompe la fibra superior de la S.parcial 2

FLEXION PURA NEGATIVA:

Mu(m.T): -355.8 Xu(cm.): 253.0

Nu(Tn.): -.4 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00206 Etmx= .00284

Rompe la fibra superior de la S.parcial 2

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -4569.3 aplicado en Yo(cm)= 175.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1873.2 aplicado en Yo(cm)= 255.4

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0

S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:SEC3

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	4	48.0	13.4	18.0	*T	0
13	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1989.6	18.67	4589988.4
	(1)	1014.1	32.28	4267104.5
	(2)	1281.4	27.53	4376130.7
F.pura -	(0)	1118.4	235.78	8188261.7
	(1)	531.5	193.32	6504295.1
	(2)	648.1	207.63	7063966.9
C.Simple	(0)	5430.1	87.82	55170544.8
	(1)	1660.9	88.69	17560460.0
	(2)	2341.3	88.32	24350782.3
T.Simple	(0)	211.1	97.30	3077777.4
	(1)	211.1	97.30	3077777.4
	(2)	211.1	97.30	3077777.4

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: SEC3

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 2106.35Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 3374.2 Xu(cm.): 30.1

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00132 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -3593.7 Xu(cm.): 190.3

Nu(Tn.): .3 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00614
Rompe la fibra inferior de la S.parcial 4

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8490.4 aplicado en Yo(cm)= 101.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2640.6 aplicado en Yo(cm)= 130.1

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: SEC3

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 2106.35Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 2602.8 Xu(cm.): 109.9

Nu(Tn.): -.3 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00700
Rompe la fibra superior de la S.parcial 2

FLEXION PURA NEGATIVA:

Mu(m.T): -372.2 Xu(cm.): 259.9

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00151 Etmx= .00700
Rompe la fibra superior de la S.parcial 2

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -4569.3 aplicado en Yo(cm)= 175.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1290.5 aplicado en Yo(cm)= 248.3

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:SEC4

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) $_{\pi}$(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	4	105.0	13.4	18.0	*T	0
13	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1605.9	14.25	2492396.5
	(1)	872.4	23.58	2357191.0
	(2)	1043.6	20.46	2400899.8
F.pura -	(0)	1233.7	222.30	11142414.4
	(1)	608.5	168.65	8015609.4
	(2)	735.4	186.44	9037930.2
C.Simple	(0)	5467.3	85.88	54373855.0
	(1)	1698.0	82.43	16736278.3
	(2)	2378.5	83.86	23538002.3
T.Simple	(0)	248.3	53.22	2023394.5
	(1)	248.3	53.22	2023394.5
	(2)	248.3	53.22	2023394.5

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: SEC4

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 2699.96Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 1861.1 Xu(cm.): 29.9

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00146 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -5347.3 Xu(cm.): 119.3

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00213
Rompe la fibra inferior de la S.parcial 4

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8490.4 aplicado en Yo(cm)= 101.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 3285.8 aplicado en Yo(cm)= 65.9

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

* CONSTANTES ESTATICAS *

Título Sección: SEC4

S.COMPLETA

Tipo Acciones Area(cm2) Xcg(cm) Inercia(cm4)

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: SEC4

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 2699.96Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 1501.6 Xu(cm.): 68.3

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -396.5 Xu(cm.): 264.0

Nu(Tn.): .6 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00109 Etmx= .01000
Rompe la fibra superior de la S.parcial 2

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -4569.3 aplicado en Yo(cm)= 175.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 749.3 aplicado en Yo(cm)= 228.4

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:SEC4A

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	350.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	70.0	20.0	5.0	CT	0
11	3	70.0	20.0	19.0	CT	0
12	4	105.0	13.4	18.0	*T	0
13	1	130.0	25.0	233.0	C*	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1946.2	14.04	2510590.3
	(1)	1148.9	20.41	2402833.1
	(2)	1328.7	18.51	2433160.0
F.pura -	(0)	2214.5	191.63	25179764.2
	(1)	1158.7	127.19	15539101.4
	(2)	1369.3	147.24	18476183.7
C.Simple	(0)	6270.2	92.95	67280546.5
	(1)	2181.6	80.15	21750086.1
	(2)	2919.7	85.11	30083460.2
T.Simple	(0)	609.0	29.45	2278045.8
	(1)	609.0	29.45	2278045.8
	(2)	609.0	29.45	2278045.8

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Titulo Seccion: SEC4A

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 2699.96Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 1915.5 Xu(cm.): 23.6

Nu(Tn.): .9 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00116 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -7072.2 Xu(cm.): 99.2

Nu(Tn.): -.2 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00156
Rompe la fibra inferior de la S.parcial 4

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -11329.4 aplicado en Yo(cm)= 92.3

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 4885.3 aplicado en Yo(cm)= 48.6

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:SEC4B

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_\pi 1$	$J_\pi 2$
1(HO)	350.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	70.0	20.0	5.0	CT	0
11	3	70.0	20.0	19.0	CT	0
12	4	105.0	13.4	18.0	*T	0
13	2	130.0	64.8	193.2	C*	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1946.2	14.04	2510590.3
	(1)	1148.9	20.41	2402833.1
	(2)	1328.7	18.51	2433160.0
F.pura -	(0)	2967.4	198.90	25753297.3
	(1)	1386.8	143.30	17232734.3
	(2)	1707.4	162.11	19937693.4
C.Simple	(0)	7184.7	108.61	79551811.3
	(1)	2435.6	94.31	26001123.2
	(2)	3292.9	99.94	35829465.4
T.Simple	(0)	609.0	29.45	2278045.8
	(1)	609.0	29.45	2278045.8
	(2)	609.0	29.45	2278045.8

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Titulo Seccion: SEC4B

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 2699.96Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 1915.5 Xu(cm.): 23.7

Nu(Tn.): .9 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00116 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -9635.9 Xu(cm.): 173.5

Nu(Tn.): -.5 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00509
Rompe la fibra inferior de la S.parcial 4

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -13310.3 aplicado en Yo(cm)= 111.2

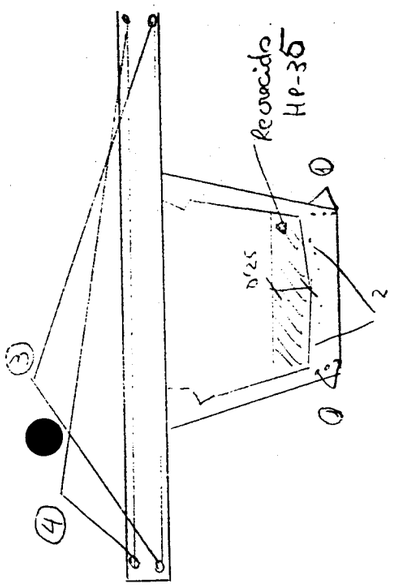
TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 4885.3 aplicado en Yo(cm)= 48.6

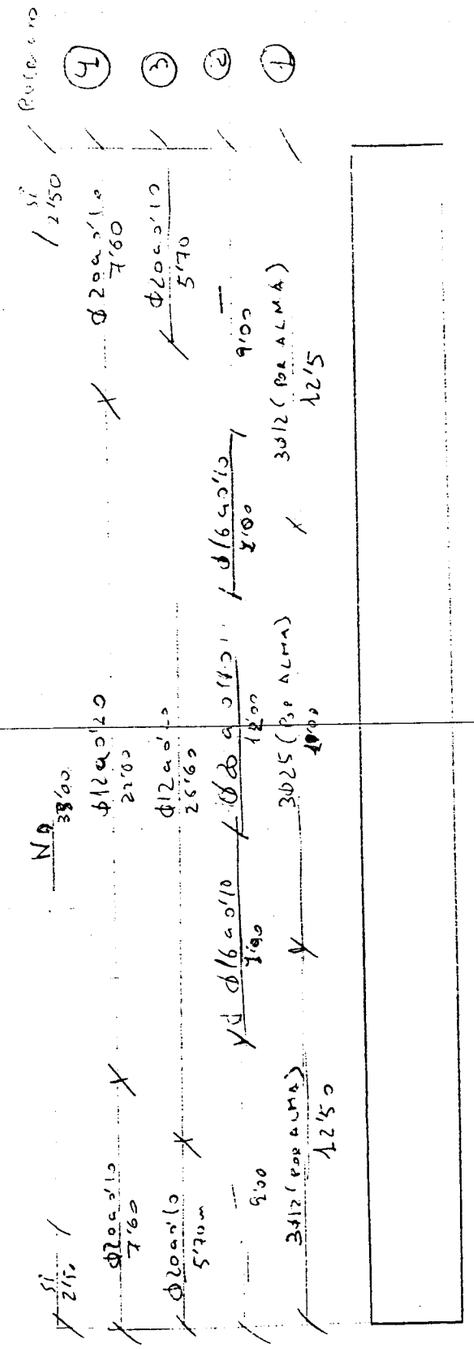
CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):



VIGAS EN VANOS DE 38'00 m



Vigas en vanos de 38'00 m

CÁLCULO MZ EN ROTURA

Hipótesis de cálculo:
ELU_MZ-

Barra	Nudo	X	PUENTE CONSTRUIDO Mdz+ (Tm)	PUENTE CONSTRUIDO Mdz- (Tm)	PUENTE EN CONSTRUCCIÓN Mdz+ (Tm)	PUENTE EN CONSTRUCCIÓN Mdz- (Tm)	NUMERO DE TORONES DE 0.6 PULGADAS: PRETENSADO INF DE CAJÓN PRET	PRET	PRET	PRET	PRET SUP CAJÓN PRET	PRET LOSA SUP PRET	PUENTE CONSTRUIDO MU+ (Tm)	PUENTE CONSTRUIDO MU- (Tm)	PUENTE EN CONSTRUCCIÓN MU+ (Tm)	PUENTE EN CONSTRUCCIÓN MU- (Tm)
							2.8	2.752	2.704	2.656	0.45	0.12				
11	11	26.20	365.33	-5946.31	69.9		24				8	105				
11	12	29.55	1413.90	-3164.25	486.3		24				8	105				
12	12	29.55	1415.16	-3174.96	486.3		24				8	105				
12	13	32.90	2475.93	-1363.75	823.4		24	24			8	105				
13	13	32.90	2476.48	-1370.54	823.4		24	24			8	49				
13	14	36.03	3689.94	-475.80	1062.6		24	24	22		8	49				
14	14	36.03	3692.37	-478.93	1061.2	58.16	24	24	22		8					
14	15	39.16	4918.02	-122.25	1328.5	290.14	24	24	22	22	8					
15	15	39.16	4921.38	-123.98	1328.5	290.14	24	24	22	22	8					
15	16	42.29	5725.19	32.00	1500.2	409.02	24	24	22	22	8					
16	16	42.29	5729.94	30.84	1500.2	409.02	24	24	22	22	8					
16	17	45.42	6056.27	13.31	1543.2	447.89	24	24	22	22	8					
17	17	45.42	6062.66	12.62	1543.2	447.89	24	24	22	22	8					
17	18	48.55	5890.81	-185.19	1457.5	406.74	24	24	22	22	8					
18	18	48.55	5897.62	-186.10	1457.5	406.74	24	24	22	22	8					
18	19	51.68	5208.92	-554.64	1243.1	285.57	24	24	22	22	8					
19	19	51.68	5214.93	-555.95	1243.1	285.57	24	24	22	22	8					
19	20	54.81	4006.16	-1107.81	926.6	57.69	24	24	22		8					
20	20	54.81	4010.13	-1109.65	926.6		24	24	22		8	56				
20	21	57.94	2593.29	-2170.94	670.4		24	24			8	56				
21	21	57.94	2593.60	-2171.27	670.4		24	24			8	105				
21	22	61.07	1401.51	-4008.98	358.2		24				8	105				
22	22	61.07	1401.79	-4009.29	358.2		24				8	105				
22	####	64.20	444.73	-6720.90	0.0		24				8	105				

CÁLCULO MZ EN ROTURA

Hipótesis de cálculo:
ELU_MZ+

Barra	Nudo	X	PUENTE CONSTRUIDO	PUENTE EN CONSTRUCCIÓN		NUMERO DE TORONES DE 0,6 PULGADAS						PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN	
						PRETENSADO INF DE CAJÓN				PRET SUP CAJÓN	PRET LOSA SUP				
			Mdz+ (Tm)	Mdz- (Tm)	Mdz+ (Tm)	Mdz- (Tm)	PRET	PRET	PRET	PRET	PRET	PRET	MU+ (Tm)	MU- (Tm)	MU+ (Tm)	MU- (Tm)
							2.8	2.752	2.704	2.656	0.45	0.12				
113	113	32.90	524.83	-7321.01	590		24				8	105				
113	114	36.03	1428.26	-4243.33	449.0		24				8	105				
114	114	36.03	1427.78	-4241.89	449.0		24				8	105				
114	115	39.16	2546.79	-2147.90	756.5		24	24			8	105				
115	115	39.16	2546.88	-2149.39	756.5		24	24			8	49				
115	116	42.29	3971.76	-993.99	967.3		24	24	22		8	49				
116	116	42.29	3967.13	-992.96	967.3	-146.77	24	24	22		8					
116	117	45.42	5258.73	-435.49	1216.1	162.59	24	24	22	22	8					
117	117	45.42	5252.27	-434.74	1216.1	162.59	24	24	22	22	8					
117	118	48.55	6033.53	-139.48	1408.3	321.64	24	24	22	22	8					
118	118	48.55	6026.70	-138.77	1408.3	321.64	24	24	22	22	8					
118	119	51.68	6266.14	-41.59	1471.7	400.67	24	24	22	22	8					
119	119	51.68	6260.13	-40.27	1471.7	400.67	24	24	22	22	8					
119	120	54.81	5973.39	-165.93	1406.5	399.69	24	24	22	22	8					
120	120	54.81	5969.40	-164.09	1406.5	399.69	24	24	22	22	8					
120	121	57.94	5176.65	-479.62	1212.6	318.69	24	24	22	22	8					
121	121	57.94	5173.97	-477.01	1212.6	318.69	24	24	22	22	8					
121	122	61.07	3921.31	-1026.13	935.7	119.71	24	24	22		8					
122	122	61.07	3920.23	-1025.12	935.7		24	24	22		8	56				
122	123	64.20	2599.94	-2204.08	714.3		24	24			8	56				
123	123	64.20	2599.17	-2198.82	714.3		24	24			8	105				
123	124	67.55	1403.62	-4323.73	384.5		24				8	105				
124	124	67.55	1402.67	-4315.90	384.5		24				8	105				
124	####	70.90	266.53	-7305.58	0.0		24				8	105				

IDEAM

VIGAS EN VANO
DE 38'00 m

ASEC 1

2φ 0'6" a 2'80
2φ 0'6" a 2'75
2φ 0'6" a 2'70
2φ 0'6" a 2'65
8 0'6" a 0'25
φ12 a 0'20 arriba

Sin pasivo abajo | Md+ = 5473'4 mts

Con 6φ25 abajo.
y 6 16 a 0'20 | Md+ = 6109 mts

Con 6φ25 abajo
y 6 16 a 0'20 +
φ12 a 0'10 | Md+ = 8295 mts
Md- = -1260'2 mts

En construcción | Md+ = 3435'6 mts

ASEC 2

2φ 0'6" a 2'80
2φ 0'6" a 2'75
2φ 0'6" a 2'70
8φ 0'6" a 0'45
φ12 a 0'20 arriba.

Sin pasivo abajo | Md+ = 4282'2 mts
Md- = -1246'5 mts

En construcción | Md+ = 3057 mts

IDEAM

ASEC 3

24 ϕ 0'6" a 2'0?

24 ϕ 0'6" a 2'15 2

Mu + = 331 m-

Mu - = -3192'6 m-.

La SEC 4, SEC, 2- y SEC 45 son viables ya que lo importante es la flecha en resultados

Proyecto:

Seccion:ASEC1

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	350.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	24.0	13.4	280.0	*T	0
6	4	24.0	13.4	275.2	*T	0
7	4	22.0	13.4	270.4	*T	0
8	4	22.0	13.4	256.5	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	6.0	25.0	265.0	CT	0
13	3	14.0	16.0	260.0	CT	0
14	3	14.0	13.0	250.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	3133.6	30.04	11381636.2
	(1)	1180.4	57.63	9889618.6
	(2)	1542.8	47.08	10433976.0
F.pura -	(0)	1103.6	249.39	5344666.3
	(1)	544.0	225.42	4729524.8
	(2)	652.0	233.10	4921111.5
C.Simple	(0)	5494.3	92.38	58433715.5
	(1)	1725.0	103.18	20531819.3
	(2)	2405.5	98.73	27442457.1
T.Simple	(0)	275.3	186.12	3813486.9
	(1)	275.3	186.12	3813486.9
	(2)	275.3	186.12	3813486.9

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Proyecto:

Seccion:ASEC1

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	350.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	24.0	13.4	280.0	*T	0
6	4	24.0	13.4	275.2	*T	0
7	4	22.0	13.4	270.4	*T	0
8	4	22.0	13.4	256.5	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	6.0	25.0	265.0	CT	0
13	3	14.0	16.0	260.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2990.2	28.70	10471765.1
	(1)	1149.3	54.53	9186183.1
	(2)	1509.5	44.59	9654485.6
F.pura -	(0)	1085.2	249.37	5344633.9
	(1)	526.9	224.52	4717271.7
	(2)	634.6	232.58	4915216.4
C.Simple	(0)	5475.7	91.84	57966633.9
	(1)	1706.5	101.58	20123311.1
	(2)	2386.9	97.54	27010220.7
T.Simple	(0)	256.7	181.45	3730506.3
	(1)	256.7	181.45	3730506.3
	(2)	256.7	181.45	3730506.3

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Titulo Seccion: ASEC1

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION

Pretensado: 1914.87Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS

Def. Ultima Acero Estructural(COMPRESION)(%): 2.50

Def. Ultima Acero Estructural(TRACCION)(%): 2.50

Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon

Deformacion Ultima Hormigon(TRACCION)(%): 1.00

Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 6102.9 Xu(cm.): 32.7

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00132 Etmx= .01000

Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1263.6 Xu(cm.): 240.6

Nu(Tn.): -.8 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00249 Etmx= .01000

Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -9340.9 aplicado en Yo(cm)= 100.0

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2687.9 aplicado en Yo(cm)= 222.9

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0

S.parciales resistentes: Rcu(Kg/cm):

Título Sección: ASEC1

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 1914.87Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 6295.1 Xu(cm.): 33.4

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00135 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1260.2 Xu(cm.): 241.6

Nu(Tn.): -.6 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00244 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -9423.3 aplicado en Yo(cm)= 101.3

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2770.3 aplicado en Yo(cm)= 223.8

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: ASEC1

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 1914.87Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 3435.6 Xu(cm.): 168.8

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00227
Rompe la fibra superior de la S.parcial 2

FLEXION PURA NEGATIVA:

Mu(m.T): -398.8 Xu(cm.): 248.1

Nu(Tn.): -1.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00234 Etmx= .01000
Rompe la fibra superior de la S.parcial 2

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -4569.3 aplicado en Yo(cm)= 175.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2081.4 aplicado en Yo(cm)= 253.4

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:ASEC2

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_\pi 1$	$J_\pi 2$
1(HO)	350.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	24.0	13.4	280.0	*T	0
6	4	24.0	13.4	275.2	*T	0
7	4	22.0	13.4	270.4	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	0.0	0.0	0.0	CT	0
13	3	0.0	0.0	0.0	CT	0
14	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2172.4	20.99	5772004.3
	(1)	997.4	37.66	5294299.7
	(2)	1347.7	31.44	5461273.6
F.pura -	(0)	1007.1	248.35	5329894.5
	(1)	454.1	217.59	4579125.8
	(2)	561.0	228.20	4832748.1
C.Simple	(0)	5391.7	89.20	55507951.0
	(1)	1622.5	93.29	17860695.0
	(2)	2302.9	91.56	24666735.7
T.Simple	(0)	172.8	142.49	2927968.0
	(1)	172.8	142.49	2927968.0
	(2)	172.8	142.49	2927968.0

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: ASEC2

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 1493.60Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 4282.2 Xu(cm.): 27.1

Nu(Tn.): .1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00105 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1246.5 Xu(cm.): 243.8

Nu(Tn.): -.9 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00222 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -9085.4 aplicado en Yo(cm)= 95.4

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1974.6 aplicado en Yo(cm)= 209.7

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: ASEC2

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 1493.60Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 3057.4 Xu(cm.): 139.3

Nu(Tn.): -.3 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00222 Etmx= .00411
Rompe la fibra superior de la S.parcial 2

FLEXION PURA NEGATIVA:

Mu(m.T): -371.9 Xu(cm.): 256.4

Nu(Tn.): -.3 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00181 Etmx= .00411
Rompe la fibra superior de la S.parcial 2

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -4569.3 aplicado en Yo(cm)= 175.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1623.5 aplicado en Yo(cm)= 252.4

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:ASEC3

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	350.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	24.0	13.4	280.0	*T	0
6	4	24.0	13.4	275.2	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	4	49.0	13.4	18.0	*T	0
13	3	0.0	0.0	0.0	CT	0
14	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1891.3	17.70	4100029.8
	(1)	1001.0	30.50	3825667.4
	(2)	1218.7	26.07	3918071.0
F.pura -	(0)	1115.4	235.26	8230993.2
	(1)	528.1	191.75	6486625.3
	(2)	644.8	206.48	7069177.1
C.Simple	(0)	5424.1	87.55	54912539.2
	(1)	1654.9	87.81	17304107.8
	(2)	2335.3	87.70	24093737.8
I.Simple	(0)	205.1	90.47	2837734.1
	(1)	205.1	90.47	2837734.1
	(2)	205.1	90.47	2837734.1

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: ASEC3

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 2010.61Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 3035.4 Xu(cm.): 26.6

Nu(Tn.): .4 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00116 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -3692.6 Xu(cm.): 193.3

Nu(Tn.): .2 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00653
Rompe la fibra inferior de la S.parcial 4

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -9085.4 aplicado en Yo(cm)= 95.4

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2536.5 aplicado en Yo(cm)= 121.8

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: ASEC3

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 2010.61Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 2399.6 Xu(cm.): 99.3

Nu(Tn.): -.5 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00870
Rompe la fibra superior de la S.parcial 2

FLEXION PURA NEGATIVA:

Mu(m.T): -381.3 Xu(cm.): 261.0

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00141 Etmx= .00870
Rompe la fibra superior de la S.parcial 2

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -4569.3 aplicado en Yo(cm)= 175.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1165.6 aplicado en Yo(cm)= 245.0

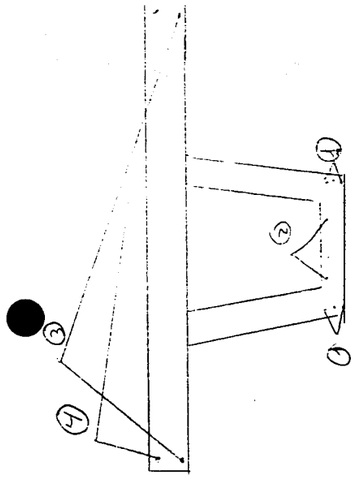
CORTANTE ULTIMO(Rigido/Plastico):

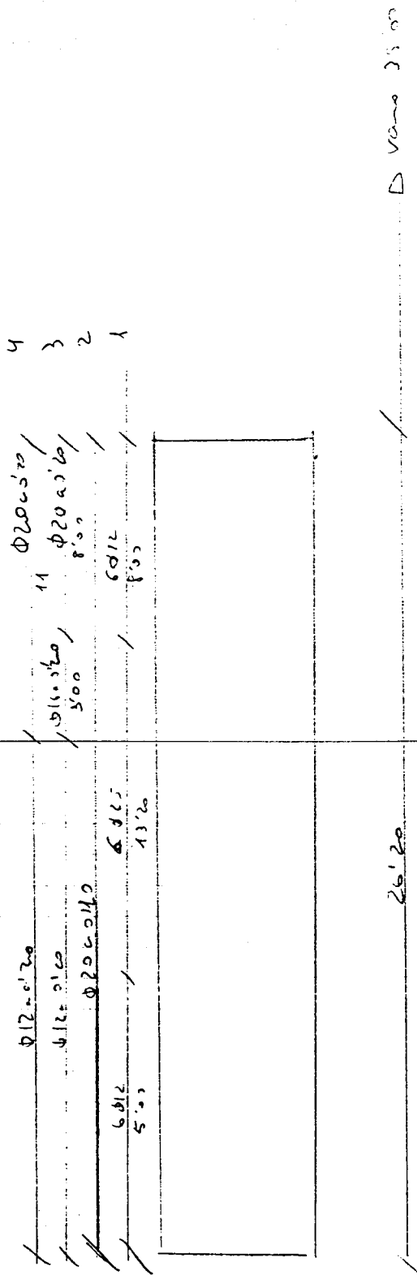
Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

IDEAM

VIGAS EN
VANOS DE 26'80





CÁLCULO MZ EN ROTURA

Hipotesis de calculo:
ELU_MZ+

							NUMERO DE TORONES DE 0,6 PULGADAS									
			PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN		PRETENSADO INF DE CAJÓN				PRET SUP CAJÓN	PRET LOSA SUP	PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN	
Barra	Nudo	X	Mdz+ (Tm)	Mdz- (Tm)	Mdz+ (Tm)	Mdz- (Tm)	PRET	PRET	PRET	PRET	PRET	PRET	MU+ (Tm)	MU- (Tm)	MU+ (Tm)	MU- (Tm)
							2.8	2.752	2.704	2.656	0.45	0.12				
1	1	0.00	4.93	-2.56	0.0	0.00	24				8					
1	2	2.62	1456.13	163.49	343.7	106.34	24				8					
2	2	2.62	1459.36	164.76	343.7	106.34	24				8					
2	3	5.24	2566.27	210.69	597.1	189.05	24	12			8					
3	3	5.24	2569.40	211.73	597.1	189.05	24	12			8					
3	4	7.86	3320.42	136.32	760.4	240.84	24	24			8					
4	4	7.86	3323.31	136.97	760.4	240.84	24	24			8					
4	5	10.48	3711.02	-63.77	833.6	208.99	24	24			8					
5	5	10.48	3713.94	-63.76	833.6	208.99	24	24			8					
5	6	13.10	3730.53	-391.67	816.5	121.07	24	24			8					
6	6	13.10	3732.99	-392.17	816.5	121.07	24	24			8					
6	7	15.72	3370.78	-847.42	709.3	-22.91	24	24			8					
7	7	15.72	3372.37	-848.48	709.3	-22.91	24	24			8					
7	8	18.34	2658.09	-1462.49	556.7	-267.76	24	12			8					
8	8	18.34	2658.44	-1464.26	556.7		24	12			8	56				
8	9	20.96	1760.99	-2406.59	440.0		24	12			8	56				
9	9	20.96	1761.35	-2409.70	440.0		24	12			8	105				
9	10	23.58	990.70	-3821.65	288.9		24				8	105				
10	10	23.58	990.62	-3825.49	288.9		24				8	105				
10	####	26.20	363.23	-5837.38	69.9		24				8	105				

CSEC 1

24 Ø 5/8 a 2.50m

24 Ø 5/8 a 2.752m

8 Ø 5/8 a 0.41

Mu 38113mts con 6 Ø25 c Ø20 c/10

Mu = -12566 mts con (Ø12 c/25 cm) x 2

CSEC 2

24 Ø 6" a 2.80m

12 Ø 6" a 2.752m.

8 Ø 6" c 0.25.

Mu = 2768 con 6 Ø20 c/10

Mu = -20974 mts con (Ø20 c/10 / Ø12 c/20) cm

CSec 3

24 Ø 6" c 2.80m

8 Ø 6 a 2.752m.

Mu = 1558 mts sin pasivo

Mu = -5637 con (Ø20 c/20) x 2

En mampara (CSEC 2)

Mu > 7000 mts

Proyecto:

Seccion:CSEC2

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	24.0	13.4	280.0	*T	0
6	4	12.0	13.4	275.2	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	20.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	14.0	20.0	260.0	CT	0
13	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2213.8	20.65	5734684.5
	(1)	1063.5	35.81	5299137.3
	(2)	1414.9	30.37	5446355.5
F.pura -	(0)	1170.7	232.83	9163033.4
	(1)	572.2	189.92	7254742.5
	(2)	691.6	204.08	7874970.3
C.Simple	(0)	5465.3	88.14	55909758.0
	(1)	1696.0	89.71	18295394.5
	(2)	2376.5	89.06	25087486.8
T.Simple	(0)	246.3	103.15	3778663.1
	(1)	246.3	103.15	3778663.1
	(2)	246.3	103.15	3778663.1

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: CSEC2

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 842.54Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 2767.9 Xu(cm.): 22.6

Nu(Tn.): .1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00087 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -2094.6 Xu(cm.): 247.4

Nu(Tn.): -.9 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00180 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8997.6 aplicado en Yo(cm)= 101.2

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1774.0 aplicado en Yo(cm)= 154.4

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: CSEC2

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 842.54Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 2767.9 Xu(cm.): 22.6

Nu(Tn.): .1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00087 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -2094.6 Xu(cm.): 247.4

Nu(Tn.): -.9 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00180 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8997.6 aplicado en Yo(cm)= 101.2

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1774.0 aplicado en Yo(cm)= 154.4

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: CSEC2

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 842.54Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 1888.6 Xu(cm.): 81.8

Nu(Tn.): -.2 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00180 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -392.8 Xu(cm.): 263.3

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00122 Etmx= .01000
Rompe la fibra superior de la S.parcial 2

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -4569.3 aplicado en Yo(cm)= 175.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 915.8 aplicado en Yo(cm)= 236.6

CORTANTE ULTIMO(Rigido/Plastico):

Proyecto:

Seccion:CSEC1

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	Jπ1	Jπ2
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	24.0	13.4	280.0	*T	0
6	4	24.0	13.4	275.2	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	14.0	20.0	260.0	CT	0
13	3	6.0	25.0	265.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2656.3	25.58	8373671.1
	(1)	1083.8	47.43	7486933.3
	(2)	1439.4	38.98	7806220.3
F.pura -	(0)	1051.4	248.81	5332548.3
	(1)	494.9	221.46	4648824.5
	(2)	602.4	230.57	4870838.0
C.Simple	(0)	5438.7	90.66	56844703.1
	(1)	1669.5	97.95	19108348.5
	(2)	2350.0	94.91	25951427.8
T.Simple	(0)	219.8	167.35	3424594.2
	(1)	219.8	167.35	3424594.2
	(2)	219.8	167.35	3424594.2

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: CSEC1

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 1072.33Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 3803.3 Xu(cm.): 27.6

Nu(Tn.): .1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00108 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1265.6 Xu(cm.): 253.8

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00159 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8816.1 aplicado en Yo(cm)= 107.0

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1842.3 aplicado en Yo(cm)= 203.9

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: CSEC1

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 1072.33Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 2399.5 Xu(cm.): 101.0

Nu(Tn.): -1.0 Qu(Tn.): 0.0

Proyecto:

Seccion:CSEC3

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	Jπ1	Jπ2
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	24.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	20.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	0.0	0.0	0.0	CT	0
13	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1389.7	12.62	2150000.6
	(1)	749.7	21.23	2053912.4
	(2)	899.6	18.31	2085515.8
F.pura -	(0)	1121.9	231.16	9098332.6
	(1)	527.3	181.53	6889396.5
	(2)	646.3	198.55	7638632.9
C.Simple	(0)	5406.9	86.23	54068484.7
	(1)	1637.6	83.48	16442366.1
	(2)	2318.1	84.64	23239444.3
T.Simple	(0)	187.9	52.97	1780129.5
	(1)	187.9	52.97	1780129.5
	(2)	187.9	52.97	1780129.5

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: CSEC3

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION

Pretensado: 612.76Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS

Def. Ultima Acero Estructural(COMPRESION)(%): 2.50

Def. Ultima Acero Estructural(TRACCION)(%): 2.50

Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon

Deformacion Ultima Hormigon(TRACCION)(%): 1.00

Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 1558.4 Xu(cm.): 17.3

Nu(Tn.): .1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00065 Etmx= .01000

Rompe la fibra inferior de la S.parcial 4 -

FLEXION PURA NEGATIVA:

Mu(m.T): -2116.1 Xu(cm.): 248.8

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00165 Etmx= .01000

Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8802.5 aplicado en Yo(cm)= 97.7

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1329.2 aplicado en Yo(cm)= 116.0

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0

S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: CSEC3

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION

Pretensado: 612.76Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS

Def. Ultima Acero Estructural(COMPRESION)(%): 2.50

Def. Ultima Acero Estructural(TRACCION)(%): 2.50

Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon

Deformacion Ultima Hormigon(TRACCION)(%): 1.00

Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 1294.9 Xu(cm.): 68.5

Nu(Tn.): -.1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00165 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -402.2 Xu(cm.): 265.6

Nu(Tn.): .1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00103 Etmx= .01000
Rompe la fibra superior de la S.parcial 2

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -4569.3 aplicado en Yo(cm)= 175.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 666.0 aplicado en Yo(cm)= 221.9

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

** CONSTANTES [J] (FLUENCIA VARIABLE) **

Título Sección: CSEC3

Analisis SIN FISURACION

COEFICIENTES DE FLUENCIA HORMIGONES

Material	φf	Psi1	Psi2
1	2.25	.60	.45
2	2.25	.60	.45

Proyecto:

Seccion:CSEC3

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	Jπ1	Jπ2
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	24.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	20.0	5.0	CT	0
11	3	35.0	20.0	19.0	CT	0
12	4	105.0	13.4	18.0	*T	0
13	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1662.2	13.42	2157677.4
	(1)	935.0	20.81	2054689.5
	(2)	1102.4	18.47	2085802.1
F.pura -	(0)	1490.1	201.53	16659502.9
	(1)	791.4	139.46	10701494.6
	(2)	936.4	158.97	12534676.9
C.Simple	(0)	5603.2	83.89	54919364.5
	(1)	1834.0	76.60	17166314.8
	(2)	2514.5	79.53	24014122.2
T.Simple	(0)	384.3	35.73	1889652.3
	(1)	384.3	35.73	1889652.3
	(2)	384.3	35.73	1889652.3

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: CSEC3

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION

Pretensado: 2623.37Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS

Def. Ultima Acero Estructural(COMPRESION)(%): 2.50

Def. Ultima Acero Estructural(TRACCION)(%): 2.50

Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon

Deformacion Ultima Hormigon(TRACCION)(%): 1.00

Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 1638.7 Xu(cm.): 27.1

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00132 Etmx= .01000

Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -5677.6 Xu(cm.): 100.3

Nu(Tn.): -.8 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00157

Rompe la fibra inferior de la S.parcial 4

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -9114.6 aplicado en Yo(cm)= 95.0

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 3826.7 aplicado en Yo(cm)= 52.6

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0

S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:CSEC3A

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	Jπ1	Jπ2
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	24.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	20.0	5.0	CT	0
11	3	35.0	20.0	19.0	CT	0
12	4	105.0	13.4	18.0	*T	0
13	2	122.0	64.5	193.0	C*	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

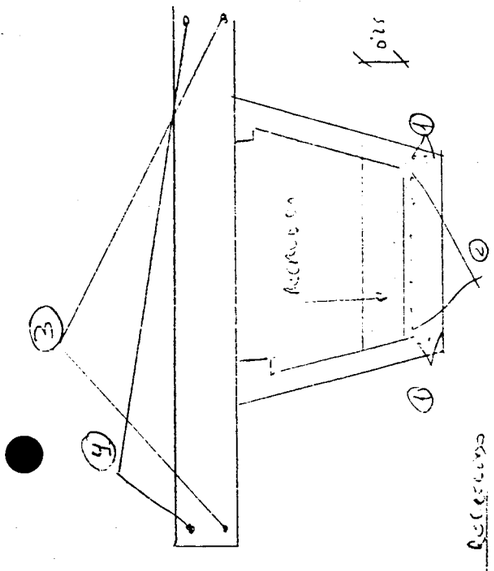
* CONSTANTES ESTATICAS *

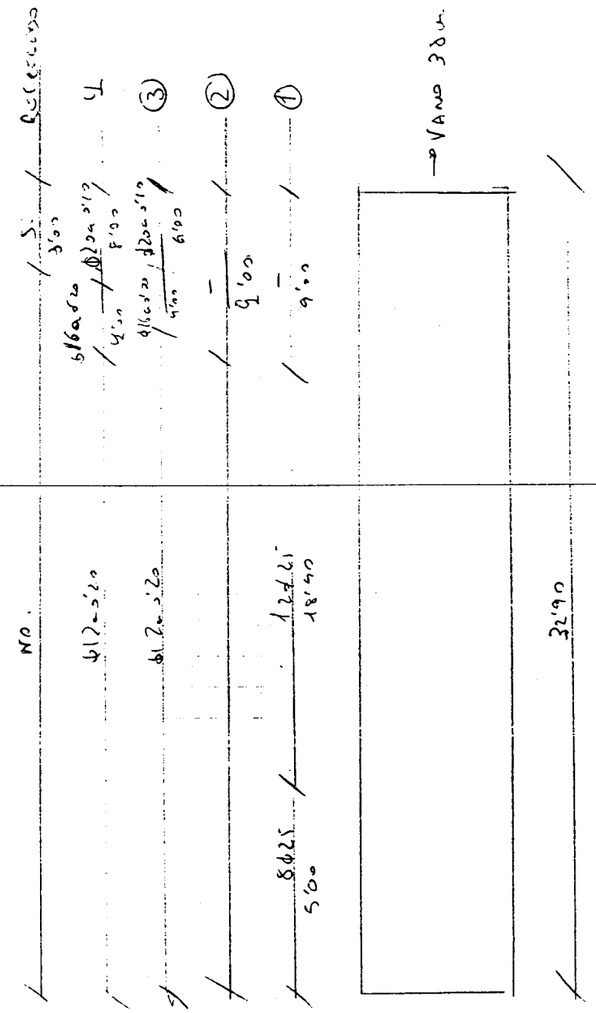
S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1662.2	13.42	2157677.4
	(1)	935.0	20.81	2054689.5
	(2)	1102.4	18.47	2085802.1
F.pura -	(0)	2267.4	214.20	17426631.4
	(1)	1100.1	166.39	12606466.6
	(2)	1396.7	183.03	14167274.0
C.Simple	(0)	6870.6	109.96	76013653.9
	(1)	2186.0	100.54	23814796.0
	(2)	3031.8	104.39	33303546.6
T.Simple	(0)	384.3	35.73	1889652.3
	(1)	384.3	35.73	1889652.3
	(2)	384.3	35.73	1889652.3

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)





CÁLCULO MZ EN ROTURA

Hipotesis de calculo:
ELU. MZ+

							NUMERO DE TORONES DE 0.6 PULGADAS									
			PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN		PRETENSADO INF DE CAJÓN				PRET SUP CAJÓN	PRET LOSA SUP	PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN	
Barra	Nudo	X	Mdz+ (Tm)	Mdz- (Tm)	Mdz+ (Tm)	Mdz- (Tm)	PRET	PRET	PRET	PRET	PRET	PRET	MU+ (Tm)	MU- (Tm)	MU+ (Tm)	MU- (Tm)
							2.8	2.752	2.704	2.656	0.45	0.12				
101	101	0.00	2.56	-4.93	0.0	0.00	26				8					
101	102	2.62	1975.44	337.44	444.0	136.55	26				8					
102	102	2.62	1971.13	337.26	444.0	136.55	26				8					
102	103	5.24	3535.34	559.09	797.8	249.48	26	26			8					
103	103	5.24	3531.33	558.94	797.8	249.48	26	26			8					
103	104	7.86	4695.12	664.94	1061.4	338.77	26	26	18		8					
104	104	7.86	4691.60	664.95	1061.4	338.77	26	26	18		8					
104	105	10.48	5465.44	655.70	1234.9	404.43	26	26	18	18	8					
105	105	10.48	5462.26	655.88	1234.9	404.43	26	26	18	18	8					
105	106	13.10	5855.78	531.46	1318.2	446.46	26	26	18	18	8					
106	106	13.10	5853.31	531.95	1318.2	446.46	26	26	18	18	8					
106	107	15.72	5874.58	292.10	1311.3	464.86	26	26	18	18	8					
107	107	15.72	5873.15	293.03	1311.3	464.86	26	26	18	18	8					
107	108	18.34	5528.26	-63.55	1214.2	380.15	26	26	18	18	8					
108	108	18.34	5528.16	-62.05	1214.2	380.15	26	26	18	18	8					
108	109	20.96	4821.83	-538.76	1026.9	210.20	26	26	18	18	8					
109	109	20.96	4822.38	-536.52	1026.9	210.20	26	26	18	18	8					
109	110	23.58	3793.67	-1176.75	800.8	-67.16	26	26	18		8					
110	110	23.58	3795.24	-1173.68	802.4		26	26	18		8	56				
110	111	26.20	2646.88	-2162.01	660.7		26	26			8	56				
111	111	26.20	2647.47	-2154.25	660.7		26	26			8	105				
111	112	29.55	1537.50	-4287.09	408.7		26				8	105				
112	112	29.55	1536.30	-4275.53	408.7		26				8	105				
112	####	32.90	527.00	-7327.99	59.0		26				8	105				

IDEAM

VER SECCIONES DEL VANO DE 28'50m.

ESEC1

26 ϕ 0'6" a 2'80

26 ϕ 0'6" a 2'75

18 ϕ 0'6" a 2'00

8 ϕ 0'6" a 0'25

Sin prisma Mu+ = 4275'2 mts

Con 8 ϕ 25 Mu+ = 4700 mts
a 2'65 m

ESEC2

26 ϕ 0'6" a 2'80

26 ϕ 0'6" a 2'75

18 ϕ 0'6" a 2'00

[illegible] a [illegible]

8 ϕ 0'6" a 0'25

Con 18 ϕ 25 Mu = 5936 mts
a 2'2[illegible]

Título Sección: CSEC3A

*** PRESOLICITACIONES ELASTICAS**

Analisis SIN FISURACION
Pretensado: 2623.37Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 1638.8 Xu(cm.): 27.2

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00132 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -7882.6 Xu(cm.): 198.8

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00769
Rompe la fibra inferior de la S.parcial 4

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -11567.1 aplicado en Yo(cm)= 122.7

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 3826.7 aplicado en Yo(cm)= 52.6

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:ESEC1

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	26.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	18.0	13.4	270.4	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	0.0	0.0	0.0	CT	0
13	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2173.9	21.01	5789562.3
	(1)	997.6	37.70	5310704.9
	(2)	1347.8	31.47	5478109.2
F.pura -	(0)	1006.9	248.39	5331739.5
	(1)	453.9	217.66	4583095.5
	(2)	560.8	228.26	4835984.6
C.Simple	(0)	5391.7	89.20	55520796.1
	(1)	1622.5	93.32	17873256.2
	(2)	2302.9	91.58	24679416.8
T.Simple	(0)	172.8	142.69	2937123.0
	(1)	172.8	142.69	2937123.0
	(2)	172.8	142.69	2937123.0

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Titulo Seccion: ESEC1

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 1493.60Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 4275.2 Xu(cm.): 29.2

Nu(Tn.): 0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00115 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1242.6 Xu(cm.): 243.9

Nu(Tn.): -.9 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00222 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8490.4 aplicado en Yo(cm)= 101.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1974.6 aplicado en Yo(cm)= 210.0

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:ESEC1

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_\pi 1$	$J_\pi 2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	26.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	18.0	13.4	270.4	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	8.0	25.0	265.0	CT	0
13	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2594.8	25.01	8111803.8
	(1)	1071.1	46.21	7285163.3
	(2)	1425.9	38.02	7582075.5
F.pura -	(0)	1042.2	249.06	5343819.2
	(1)	486.9	221.56	4668408.5
	(2)	594.2	230.76	4888946.4
C.Simple	(0)	5431.0	90.48	56742870.6
	(1)	1661.7	97.40	19019942.3
	(2)	2342.2	94.51	25857502.0
T.Simple	(0)	212.0	165.58	3425599.5
	(1)	212.0	165.58	3425599.5
	(2)	212.0	165.58	3425599.5

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Titulo Seccion: ESEC1

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 1493.60Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 4710.0 Xu(cm.): 30.7

Nu(Tn.): -.4 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00122 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1246.1 Xu(cm.): 247.2

Nu(Tn.): -.3 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00205 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8664.6 aplicado en Yo(cm)= 104.4

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2148.7 aplicado en Yo(cm)= 214.6

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:ESEC2

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	26.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	18.0	13.4	270.4	*T	0
8	4	18.0	13.4	265.6	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	12.0	25.0	265.0	CT	0
13	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2973.9	28.56	10475446.4
	(1)	1144.7	54.25	9208283.4
	(2)	1504.6	44.36	9670043.5
F.pura -	(0)	1079.7	249.71	5355566.0
	(1)	522.5	225.06	4744361.7
	(2)	629.9	233.08	4937529.9
C.Simple	(0)	5472.2	91.81	58007228.5
	(1)	1703.0	101.49	20167103.3
	(2)	2383.4	97.48	27052768.0
T.Simple	(0)	253.3	181.97	3775508.7
	(1)	253.3	181.97	3775508.7
	(2)	253.3	181.97	3775508.7

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Titulo Seccion: ESEC2

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION

Pretensado: 1838.27Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 5936.9 Xu(cm.): 35.0

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00142 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1238.6 Xu(cm.): 243.0

Nu(Tn.): -.6 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00235 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8751.7 aplicado en Yo(cm)= 106.0

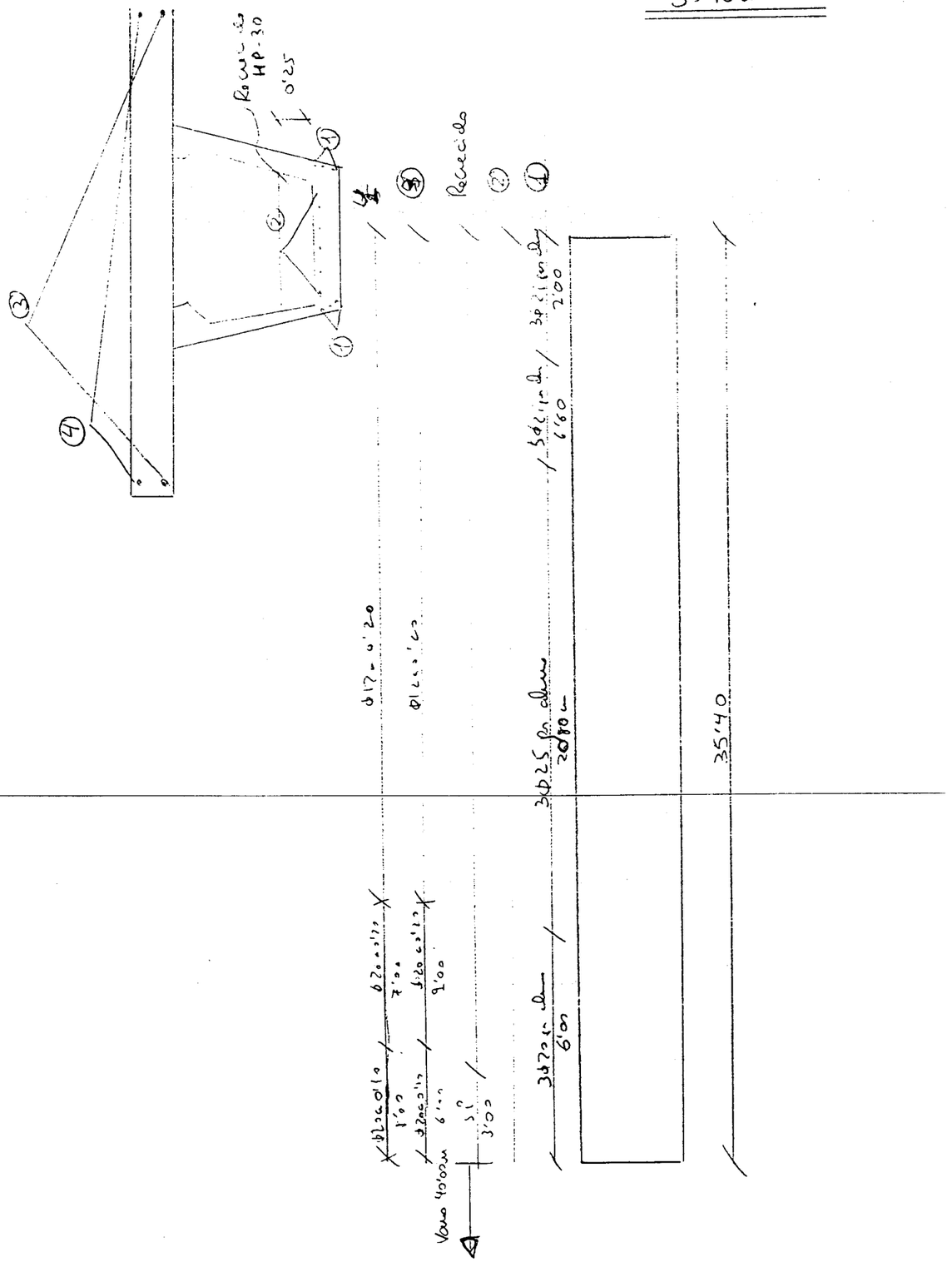
TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2610.4 aplicado en Yo(cm)= 223.7

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):



CÁLCULO MZ EN ROTURA

Hipotesis de calculo:
ELU_MZ+

							NUMERO DE TORONES DE 0,6 PULGADAS									
			PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN		PRETENSADO INF DE CAJÓN				PRET SUP CAJÓN	PRET LOSA SUP	PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN	
Barra	Nudo	X	Mdz+ (Tm)	Mdz- (Tm)	Mdz+ (Tm)	Mdz- (Tm)	PRET	PRET	PRET	PRET	PRET	PRET	MU+ (Tm)	MU- (Tm)	MU+ (Tm)	MU- (Tm)
							2.8	2.752	2.704	2.656	0.45	0.12				
35	35	104.20	810.08	-7658.17	40.7		28				8	105				
35	36	107.55	1817.43	-4668.18	418.6		28				8	105				
36	36	107.55	1818.55	-4679.38	418.6		28				8	105				
36	37	110.90	2885.82	-2512.38	692.7		28	26			8	105				
37	37	110.90	2886.87	-2521.61	692.7		28	26			8	49				
37	38	113.77	4042.56	-1330.02	844.4		28	26	26		8	49				
38	38	113.77	4041.49	-1333.72	844.4	-81.08	28	26	26		8					
38	39	116.64	5187.11	-619.08	1097.6	266.80	28	26	26	26	8					
39	39	116.64	5187.26	-621.30	1097.6	266.80	28	26	26	26	8					
39	40	119.51	5994.04	-97.38	1339.1	468.91	28	26	26	26	8					
40	40	119.51	5995.16	-98.73	1339.1	468.91	28	26	26	26	8					
40	41	122.38	6401.06	294.44	1472.4	538.81	28	26	26	26	8					
41	41	122.38	6403.30	293.62	1472.4	538.81	28	26	26	26	8					
41	42	125.25	6401.08	558.26	1497.5	519.90	28	26	26	26	8					
42	42	125.25	6403.91	557.80	1497.5	519.90	28	26	26	26	8					
42	43	128.12	5985.17	694.13	1414.5	472.62	28	26	26	26	8					
43	43	128.12	5988.15	693.86	1414.5	472.62	28	26	26	26	8					
43	44	130.99	5149.01	706.71	1223.2	397.00	28	26	26		8					
44	44	130.99	5151.77	706.44	1223.2	397.00	28	26	26		8					
44	45	133.86	3882.88	596.54	923.6	293.02	28	26			8					
45	45	133.86	3885.99	596.20	923.6	293.02	28	26			8					
45	46	136.73	2169.64	360.74	515.9	160.69	28				8					
46	46	136.73	2173.20	360.29	515.9	160.69	28				8					
46	47	139.60	3.43	-5.03	0.0	0.00	28				8					

- Viga de 35'40m.

• BSEC 1

8 torones Ø 0'6" a 0'45
28 torones Ø 0'6" a 2'80
26 torones Ø 0'6" a 2'752
26 torones Ø 0'6" a 2'704
26 torones Ø 0'6" a 2'656
Losa (Ø12 a 0'2) x 2

Con 6Ø25 abajo => Mu = 6634'9 mtn

• BSEC 2

8 torones Ø 0'6" a 0'45
28 torones Ø 0'6" a 2'80
26 torones Ø 0'6" a 2'752
26 torones Ø 0'6" a 2'656
Losa - (Ø12 a 0'20) x 2

Con 6Ø25 abajo => Mu = 5180'7 mtn

• BSEC 3

8 torones Ø 0'6" a 0'45
28 torones Ø 0'6" a 2'80
26 torones Ø 0'6" a 2'752

Con 6Ø25 abajo => Mu = 3935 mtn

• BSEC 4

8 torones Ø 0'6" a 0'45
28 torones Ø 0'6" a 2'80

Con 6Ø25 abajo => Mu = 2203'6 mtn.

Cualquier acero negativo = Ø20 c/0'20 en cualquier caso => Mu = -1370.

Proyecto:

Seccion: SEC1

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	J╥1	J╥2
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) ╥(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	26.0	13.4	270.4	*T	0
8	4	26.0	13.4	265.4	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	6.0	25.0	265.0	CT	0
13	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7
		8 9
4	PS	9
5	PI	6 7 8 5

*** CONSTANTES ESTATICAS ***

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2907.8	27.95	10066763.5
	(1)	1131.2	52.85	8885389.4
	(2)	1490.1	43.24	9315257.4
F.pura -	(0)	1072.1	249.66	5356598.2
	(1)	515.4	224.58	4737784.5
	(2)	622.8	232.78	4934499.6
C.Simple	(0)	5464.3	91.57	57794648.3
	(1)	1695.1	100.77	19978311.0
	(2)	2375.6	96.95	26854276.8
T.Simple	(0)	245.4	179.58	3731612.8
	(1)	245.4	179.58	3731612.8
	(2)	245.4	179.58	3731612.8

***** Nota: Homogeneizadas a E=2100000 Kp/cm2 *****

ANALISIS EN ROTURA(ELASTOPLASTICO)

T╒tulo Secci╞n: ß SEC1

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 2182.95Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[╥*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 6634.9 Xu(cm.): 37.5

Nu(Tn.): -.1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00155 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1206.5 Xu(cm.): 233.5

Nu(Tn.): -.5 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00296 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8621.1 aplicado en Yo(cm)= 103.6

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2854.5 aplicado en Yo(cm)= 227.8

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

T╒tulo Secci╞n: ß SEC1

*** PRESOLICITACIONES ELASTICAS**

Analisis SIN FISURACION

Pretensado: 2182.95Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS

Def. Ultima Acero Estructural(COMPRESION)(%): 2.50

Def. Ultima Acero Estructural(TRACCION)(%): 2.50

Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon

Deformacion Ultima Hormigon(TRACCION)(%): 1.00

Coeficiente Ideal Fluencia[π*'Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 3672.7 Xu(cm.): 182.1

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00160

Rompe la fibra superior de la S.parcial 2

FLEXION PURA NEGATIVA:

Mu(m.T): -347.6 Xu(cm.): 244.1

Nu(Tn.): -.9 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00268 Etmx= .01000

Rompe la fibra superior de la S.parcial 2

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -4569.3 aplicado en Yo(cm)= 175.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2372.8 aplicado en Yo(cm)= 257.6

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0

S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:BSEC2

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_\pi 1$	$J_\pi 2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	339219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	26.0	13.4	270.4	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	6.0	25.0	265.0	CT	0
13	3	0.0	0.0	0.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

*** CONSTANTES ESTATICAS ***

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2619.1	25.25	8278270.7
	(1)	1075.4	46.74	7426729.1
	(2)	1430.5	38.43	7733030.9
F.pura -	(0)	1043.8	249.17	5347947.7
	(1)	488.5	221.92	4680643.0
	(2)	595.7	231.03	4898105.8
C.Simple	(0)	5433.2	90.57	56839328.9
	(1)	1663.9	97.67	19110000.5
	(2)	2344.4	94.70	25950212.5
T.Simple	(0)	214.2	166.98	3464270.1
	(1)	214.2	166.98	3464270.1
	(2)	214.2	166.98	3464270.1

***** Nota: Homogeneizadas a E=2100000 Kp/cm2 *****

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: BSEC2

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION

Pretensado: 1685.08Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS

Def. Ultima Acero Estructural(COMPRESION)(%): 2.50

Def. Ultima Acero Estructural(TRACCION)(%): 2.50

Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon

Deformacion Ultima Hormigon(TRACCION)(%): 1.00

Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 5180.7 Xu(cm.): 32.3

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00129 Etmx= .01000

Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1230.5 Xu(cm.): 243.2

Nu(Tn.): -.8 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00231 Etmx= .01000

Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8621.1 aplicado en Yo(cm)= 103.6

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2313.3 aplicado en Yo(cm)= 218.9

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0

S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:BSEC3

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	Jπ1	Jπ2
1(HO)	350.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	4	48.0	13.4	18.0	*T	0
13	3	10.0	25.0	265.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2543.9	23.97	7532023.3
	(1)	1105.9	42.87	6831806.0
	(2)	1460.7	35.76	7075901.4
F.pura -	(0)	1160.0	237.06	8231949.1
	(1)	570.6	199.54	6743211.2
	(2)	687.3	211.79	7220743.6
C.Simple	(0)	5479.2	89.41	56719460.7
	(1)	1709.9	93.78	19063723.9
	(2)	2390.4	91.98	25872928.5
T.Simple	(0)	260.2	129.17	4214606.3
	(1)	260.2	129.17	4214606.3
	(2)	260.2	129.17	4214606.3

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: BSEC3

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 2106.35Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 3935.1 Xu(cm.): 29.2

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00128 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -3775.1 Xu(cm.): 208.6

Nu(Tn.): .1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00841
Rompe la fibra inferior de la S.parcial 4

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -9303.1 aplicado en Yo(cm)= 99.4

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2858.3 aplicado en Yo(cm)= 140.5

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: BSEC3

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 2106.35Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION C+P

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 2602.8 Xu(cm.): 110.1

Nu(Tn.): -.3 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00700
Rompe la fibra superior de la S.parcial 2

FLEXION PURA NEGATIVA:

Mu(m.T): -372.2 Xu(cm.): 259.6

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00151 Etmx= .00700
Rompe la fibra superior de la S.parcial 2

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -4569.3 aplicado en Yo(cm)= 175.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1290.5 aplicado en Yo(cm)= 248.3

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:SEC4

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	Jπ1	Jπ2
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	20.0	5.0	CT	0
11	3	35.0	20.0	19.0	CT	0
12	4	105.0	13.4	18.0	*T	0
13	3	6.0	25.0	265.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2131.0	17.98	4341867.0
	(1)	1178.2	28.71	4083857.3
	(2)	1399.1	25.22	4164231.0
F.pura -	(0)	1515.6	203.03	16809523.6
	(1)	817.0	144.84	11246974.6
	(2)	961.4	162.84	12930273.2
C.Simple	(0)	5637.5	85.01	56077637.5
	(1)	1868.2	80.11	18402456.8
	(2)	2548.7	82.07	25218738.0
T.Simple	(0)	418.5	54.76	3591093.2
	(1)	418.5	54.76	3591093.2
	(2)	418.5	54.76	3591093.2

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

ANALISIS EN ROTURA(ELASTOPLASTICO)

Tπtulo Seccißn: SEC4

* PRESOLICITACIONES ELASTICAS
Analisis SIN FISURACION
Pretensado: 2699.96Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 2203.6 Xu(cm.): 29.0

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00140 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -5858.6 Xu(cm.): 104.1

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00350 Etmx= .00166
Rompe la fibra inferior de la S.parcial 4

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -9245.2 aplicado en Yo(cm)= 97.5

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 4040.6 aplicado en Yo(cm)= 64.2

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:SEC4

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_\pi 1$	$J_\pi 2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	20.0	5.0	CT	0
11	3	35.0	20.0	19.0	CT	0
12	4	0.0	0.0	0.0	*T	0
13	3	6.0	25.0	265.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2000.9	17.94	4341784.8
	(1)	1083.5	29.89	4069631.7
	(2)	1298.0	25.86	4158272.8
F.pura -	(0)	1289.1	220.37	12129850.3
	(1)	652.9	168.49	8869168.7
	(2)	782.3	185.30	9908249.7
C.Simple	(0)	5511.5	86.52	55510545.7
	(1)	1742.3	84.56	17892420.9
	(2)	2422.7	85.36	24686030.6
T.Simple	(0)	292.6	70.30	3356287.0
	(1)	292.6	70.30	3356287.0
	(2)	292.6	70.30	3356287.0

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Titulo Seccion: SEC4

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 689.35Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 2139.2 Xu(cm.): 20.0

Nu(Tn.): 0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00076 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -2870.4 Xu(cm.): 240.2

Nu(Tn.): -.2 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00209 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -9245.2 aplicado en Yo(cm)= 97.5

TRACCION SIMPLE(Rigido/Plastico):

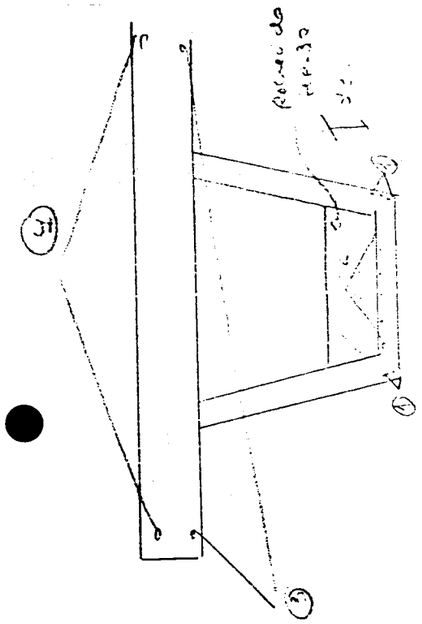
Nu(Tn.): 1855.2 aplicado en Yo(cm)= 117.8

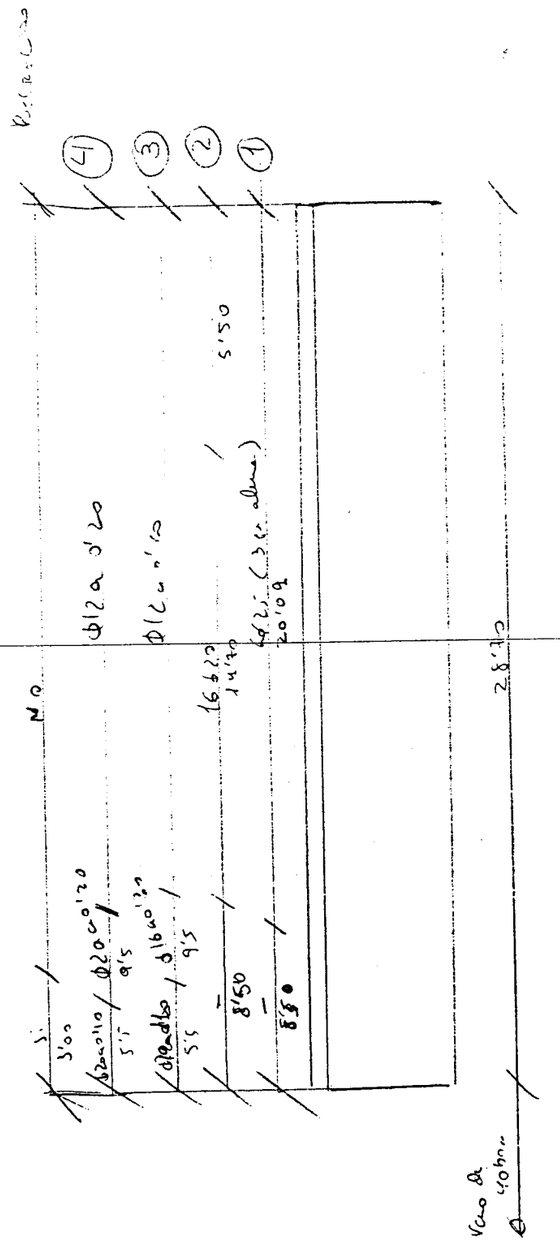
CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

VANO DE 28'70m





CÁLCULO MZ EN ROTURA

Hipótesis de cálculo:

ELU: MZ+

							NUMERO DE TORONES DE 0.6 PULGADAS									
			PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN		PRETENSADO INF DE CAJÓN				PRET SUP CAJON	PRET LOSA SUP	PUENTE CONSTRUIDO		PUENTE EN CONSTRUCCIÓN	
Barra	Nudo	X	Mdz+ (Tm)	Mdz- (Tm)	Mdz+ (Tm)	Mdz- (Tm)	PRET	PRET	PRET	PRET	PRET	PRET	MU+ (Tm)	MU- (Tm)	MU+ (Tm)	MU- (Tm)
							2.8	2.752	2.704	2.656	0.45	0.12				
137	137	110.90	520.57	-7060.43	50.0		26				8	105				
137	138	113.77	1282.47	-4453.90	316.2		26				8	105				
138	138	113.77	1282.67	-4449.89	316.2		26				8	105				
138	139	116.64	2265.27	-2648.82	500.9		26	26			8	105				
139	139	116.64	2264.53	-2645.97	500.9		26	26			8	49				
139	140	119.51	3420.71	-1492.68	633.5		26	26	12		8	49				
140	140	119.51	3419.25	-1490.98	633.5	-219.33	26	26	12		8					
140	141	122.38	4333.75	-756.37	824.8	56.65	26	26	12		8					
141	141	122.38	4331.34	-755.36	824.8	56.65	26	26	12		8					
141	142	125.25	4790.92	-221.61	957.9	215.40	26	26	12		8					
142	142	125.25	4788.10	-221.13	957.9	215.40	26	26	12		8					
142	143	128.12	4765.69	147.32	982.7	306.87	26	26	12		8					
143	143	128.12	4762.89	147.38	982.7	306.87	26	26	12		8					
143	144	130.99	4267.12	351.16	899.3	297.72	26	26	12		8					
144	144	130.99	4264.92	350.84	899.3	297.72	26	26	12		8					
144	145	133.86	3304.34	391.00	707.8	226.84	26	26			8					
145	145	133.86	3302.38	390.21	707.8	226.84	26	26			8					
145	146	136.73	1880.52	272.56	408.0	127.60	26				8					
146	146	136.73	1878.32	271.58	408.0	127.60	26				8					
146	147	139.60	5.03	-3.43	0.0	0.00	26				8					

IDEAM

Vano de 28'70m

El nudo 140 = nudo de la celosía en el vano 26'20m Necesita Ø20 c 0'20 + Ø16 c 0'20 en losa.

DSEC3 =>

26 Ø 16 c/ 18m

8 Ø 8 c/ 0'21m

Anclan a nudo 5m => (Ø12 c/c.)

Sin sobrecarga => Md+ = 1679'2 mtn

Con Ø Ø12 c 2'45 => Md+ = 2012'8 mtn

DSEC2=>

26 Ø 16 c 2'8m

26 Ø 16 c 2'752m

8 Ø 16 c 0'25m

Sin sobrecarga => Md+ = 3233'4 mtn

Con Ø Ø12 c 2'45 => Md+ = 3562'34 mtn

DSEC1=>

26 Ø 16 c 2'80m

26 Ø 16 c 2'752m

8 Ø 16 c 0'25m

12 Ø 16 c 2'704m.

Sin sobrecarga => Md = 3929'0 mtn.

Con Ø Ø25 c 2'45m => Md = 4800 mtn

+ Ø16 c 2'60

Proyecto:

Seccion:CSEC3A

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi 1}$	$J_{\pi 2}$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	26.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	4	0.0	0.0	0.0	*T	0
13	2	0.0	0.0	0.0	C*	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1398.4	13.42	2318625.4
	(1)	744.0	23.59	2195533.8
	(2)	898.2	20.02	2237828.4
F.pura -	(0)	962.2	246.98	5295169.1
	(1)	412.9	210.37	4394051.3
	(2)	519.1	223.57	4714380.6
C.Simple	(0)	5338.9	87.38	53701739.2
	(1)	1569.7	87.24	16093430.8
	(2)	2250.1	87.30	22883009.7
T.Simple	(0)	120.0	84.95	1628032.0
	(1)	120.0	84.95	1628032.0
	(2)	120.0	84.95	1628032.0

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: CSEC3A

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION

Pretensado: 651.05Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS

Def. Ultima Acero Estructural(COMPRESION)(%): 2.50

Def. Ultima Acero Estructural(TRACCION)(%): 2.50

Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon

Deformacion Ultima Hormigon(TRACCION)(%): 1.00

Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 1679.1 Xu(cm.): 18.7

Nu(Tn.): 0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00071 Etmx= .01000

Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1295.2 Xu(cm.): 256.4

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00133 Etmx= .01000

Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8490.4 aplicado en Yo(cm)= 101.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1058.8 aplicado en Yo(cm)= 154.8

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0

S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:DSEC3

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	Jπ1	Jπ2
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	26.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	4	0.0	0.0	0.0	*T	0
13	2	0.0	0.0	0.0	C*	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1398.4	13.42	2318625.4
	(1)	744.0	23.59	2195533.8
	(2)	898.2	20.02	2237828.4
F.pura -	(0)	962.2	246.98	5295169.1
	(1)	412.9	210.37	4394051.3
	(2)	519.1	223.57	4714380.6
C.Simple	(0)	5338.9	87.38	53701739.2
	(1)	1569.7	87.24	16093430.8
	(2)	2250.1	87.30	22883009.7
T.Simple	(0)	120.0	84.95	1628032.0
	(1)	120.0	84.95	1628032.0
	(2)	120.0	84.95	1628032.0

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Proyecto:

Seccion:DSEC3

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_\pi 1$	$J_\pi 2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	26.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	6.0	25.0	265.0	CT	0
13	2	0.0	0.0	0.0	C*	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1859.3	17.95	4166081.9
	(1)	950.2	31.74	3869466.1
	(2)	1193.5	26.86	3971896.5
F.pura -	(0)	988.4	247.55	5305794.4
	(1)	436.3	214.11	4479888.2
	(2)	543.1	225.88	4765147.3
C.Simple	(0)	5368.4	88.36	54638945.5
	(1)	1599.1	90.54	17019833.8
	(2)	2279.6	89.61	23814005.6
T.Simple	(0)	149.4	120.69	2405276.0
	(1)	149.4	120.69	2405276.0
	(2)	149.4	120.69	2405276.0

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Titulo Secci|n: DSEC3

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION

Pretensado: 651.05Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 1679.1 Xu(cm.): 18.7

Nu(Tn.): 0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00071 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1295.2 Xu(cm.): 256.4

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00133 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8490.4 aplicado en Xo(cm)= 101.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1058.8 aplicado en Xo(cm)= 154.8

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

XV1(cm): 0.0 XV2(cm): 0.0

S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:DSEC2

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	Jπ1	Jπ2
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	26.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	0.0	0.0	0.0	CT	0
13	2	0.0	0.0	0.0	C*	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1898.2	18.34	4425060.8
	(1)	954.9	32.48	4108340.9
	(2)	1218.4	27.45	4217828.7
F.pura -	(0)	988.2	247.89	5320384.0
	(1)	436.6	215.01	4518431.8
	(2)	543.3	226.56	4794835.0
C.Simple	(0)	5370.1	88.47	54803623.1
	(1)	1600.9	90.92	17181697.9
	(2)	2281.3	89.88	23977063.3
T.Simple	(0)	151.2	124.35	2530373.9
	(1)	151.2	124.35	2530373.9
	(2)	151.2	124.35	2530373.9

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Título Sección: DSEC3

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 651.05Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 2012.8 Xu(cm.): 20.3

Nu(Tn.): 0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00077 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1294.2 Xu(cm.): 257.1

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00130 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8621.1 aplicado en Yo(cm)= 103.6

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1189.4 aplicado en Yo(cm)= 167.1

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:DSEC2

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_\pi 1$	$J_\pi 2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	26.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	6.0	25.0	265.0	CT	0
13	2	0.0	0.0	0.0	C*	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2259.9	21.83	6209036.3
	(1)	1012.2	39.38	5670191.3
	(2)	1363.3	32.75	5859590.6
F.pura -	(0)	1014.5	248.42	5330039.0
	(1)	460.8	218.26	4590875.6
	(2)	567.9	228.61	4838860.6
C.Simple	(0)	5399.6	89.44	55729420.4
	(1)	1630.3	94.09	18070767.6
	(2)	2310.8	92.13	24881583.8
T.Simple	(0)	180.6	147.49	3026698.1
	(1)	180.6	147.49	3026698.1
	(2)	180.6	147.49	3026698.1

***** Nota: Homogeneizadas a E=2100000 Kp/cm2 *****

ANALISIS EN ROTURA(ELASTOPLASTICO)

Titulo Seccion: DSEC2

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 1148.92Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 3233.4 Xu(cm.): 25.4

Nu(Tn.): .1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00098 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1262.2 Xu(cm.): 250.1

Nu(Tn.): -.4 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00180 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8490.4 aplicado en Yo(cm)= 101.1

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1599.9 aplicado en Yo(cm)= 195.8

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Proyecto:

Seccion:DSEC1

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	26.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	12.0	13.4	270.4	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	6.0	25.0	265.0	CT	0
13	3	16.0	20.0	260.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	2894.5	27.81	9881959.0
	(1)	1129.7	52.50	8720525.3
	(2)	1488.4	42.97	9142714.7
F.pura -	(0)	1074.0	249.31	5344539.5
	(1)	516.5	223.85	4706648.3
	(2)	624.1	232.17	4909616.1
C.Simple	(0)	5464.2	91.50	57660725.8
	(1)	1695.0	100.54	19851596.5
	(2)	2375.5	96.78	26724571.5
T.Simple	(0)	245.3	178.01	3665787.9
	(1)	245.3	178.01	3665787.9
	(2)	245.3	178.01	3665787.9

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

ANALISIS EN ROTURA(ELASTOPLASTICO)

Titulo Seccion: DSEC2

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION
Pretensado: 1148.92Tn.
(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS
Def. Ultima Acero Estructural(COMPRESION)(%): 2.50
Def. Ultima Acero Estructural(TRACCION)(%): 2.50
Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon
Deformacion Ultima Hormigon(TRACCION)(%): 1.00
Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 3562.5 Xu(cm.): 26.6

Nu(Tn.): .1 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00104 Etmx= .01000
Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1262.2 Xu(cm.): 251.7

Nu(Tn.): -0.0 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00172 Etmx= .01000
Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8621.1 aplicado en Yo(cm)= 103.6

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 1730.5 aplicado en Yo(cm)= 201.1

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0
S.parciales resistentes: Rcu(Kg/cm):

Título Sección: DSEC1

* PRESOLICITACIONES ELASTICAS

Analisis SIN FISURACION

Pretensado: 1378.70Tn.

(Todas las Armaduras activas a .80*Fyk)

ESTUDIO SECCION COMPLETA

Analisis con Resistencia de materiales MINORADAS

Def. Ultima Acero Estructural(COMPRESION)(%): 2.50

Def. Ultima Acero Estructural(TRACCION)(%): 2.50

Deformacion Ultima Hormigon(COMPRESION) : Pivote en Bloque de Hormigon

Deformacion Ultima Hormigon(TRACCION)(%): 1.00

Coeficiente Ideal Fluencia[π*(Cperm./Ctot.)]: 0.00

FLEXION PURA POSITIVA:

Mu(m.T): 4800.7 Xu(cm.): 31.1

Nu(Tn.): -.2 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00124 Etmx= .01000

Rompe la fibra inferior de la S.parcial 4

FLEXION PURA NEGATIVA:

Mu(m.T): -1248.5 Xu(cm.): 250.5

Nu(Tn.): -.3 Qu(Tn.): 0.0

Deformaciones Ultimas: Ecmx= -.00184 Etmx= .01000

Rompe la fibra superior de la S.parcial 1

COMPRESION SIMPLE(Rigido/Plastico):

Nu(Tn.): -8844.0 aplicado en Yo(cm)= 107.5

TRACCION SIMPLE(Rigido/Plastico):

Nu(Tn.): 2203.2 aplicado en Yo(cm)= 215.1

CORTANTE ULTIMO(Rigido/Plastico):

Vu(Tn.): 0.0 Ru(Kg/cm): 0.0

Xv1(cm): 0.0 Xv2(cm): 0.0

S.parciales resistentes: Rcu(Kg/cm):

b) Cortante y torsión

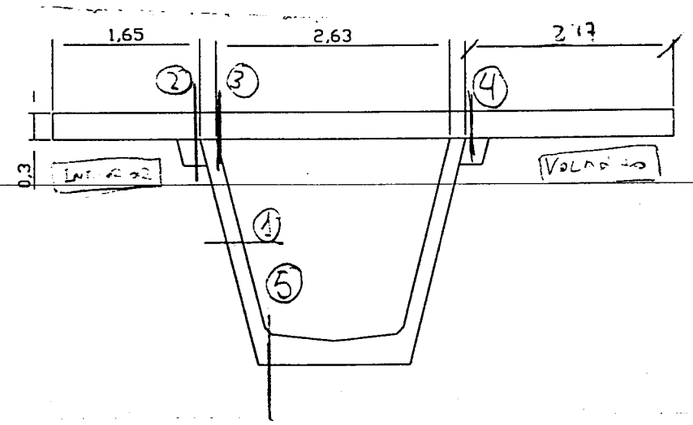
IDEAM

- Cálculo de Cortante - TORRE 3

o Interacción cortante - torsión

o CORTANTES

De primero que se recibe es asignar el coeficiente a (% de cortante que recibe cada fibra):



Fibras:		Hormigón fck (kg/cm²)
1	$\alpha_1 = 0'50$	600
2	$\alpha_2 = 1'65/7 = 0'236$	350
3	$\alpha_3 = 2'63/2/7 = 0'187$	350
4	$\alpha_4 = 2'37/7 = 0'34$	350
5	$\alpha_5 = 0'50$	600

De este manera el cortante de cada fibra es:

$$V_d = \alpha_i \cdot V_d(\text{CADA VIGA})$$

La resistencia a compresión es:

$$V_{u1} = K \cdot f_{1cd} \cdot b_o \cdot d \cdot \frac{\cot\theta + \cot\alpha}{1+\cot^2\theta}$$

$K = 1$

$\cot\theta = \sqrt{1 + \frac{1596'47/3'52}{40\,2}} = 1'40$ (del lado de la seguridad) EN ESTRIBOS SE HASTA 1.

$f_{1cd} = 0'4\, f_{cd}$ F. bien tracción.

$0'6\, f_{cd}$ F. mal a flexo compresión

$b_o =$

$b_o = 0'24 / 0'18$ fibra 1 vga tensa.

$b_o = 0'30$ losa superior (fib 2, 3, 4)

$b_o = 0'345$ fibra 5

$d = 2'70$ m

$\cot\theta = 1$ en fibras 2, 3, 4, 5.

IDEAM

OTORSIÓN:

$$T_{uL} = \alpha \cdot f_{lcd} \cdot A_e \cdot h_e \cdot \frac{\cot g\,\theta}{1 + \cot g^2 \theta}$$

$\alpha = 1/5$ acero en cubeta cerrada.

$A_e = (1'52 + 2'81)/2 \cdot 2'55 = 5'52\ m^2$

$h_e = b_o$

OINTERACCIÓN CORTANTE - TORSOR:

$$\left(\frac{V_d \cdot \alpha}{V_{u1}}\right) + \left(\frac{T_d}{T_{u1}}\right) \leq 1'00$$

IDEAM

ARMADO A CORTANTE

- Calculo de armado en las fases 1, 3 y 5 de obra para cada una de las hipótesis de agotamiento así hemos (Vcu) por tanto el armado es:

Para cada fase 3 ⟹

$$A_\alpha = \frac{\alpha_i - V_{cl}\,(\text{cada uso})}{0'9 \cdot d \cdot \cot g\,\theta - f_{yd} \cdot d}$$

f_{yd} - resistencia

Mínimos =

LOSA SUPERIOR: $A_\alpha = \frac{0'02 \cdot f_{cd} \cdot b_o}{f_{yd}} = 3\ cm^2/m$

LOSA INFERIOR: $A_\alpha = \frac{0'02 \cdot f_{cd} \cdot b_o}{f_{yd}} = 5'5\ cm^2/m.$

IDEAM

o Armado a torsión: (Solo lineal 1,3x5)

Armadura transversal (a lo largo de la viga de sección constante)

$$\frac{A_t}{s_t} = \frac{V_d}{\cot g\,\theta \; f_{yd} \cdot 2A_e}$$

Armadura longitudinal por torsión

$$\frac{A_e}{u_e} = \frac{V_d}{2A_e \; f_{yd} \; tg\,\theta}$$

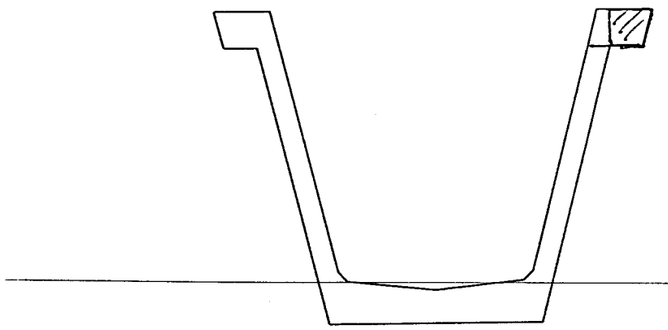
A continuación se completa el cálculo de la armadura de cortante en cabeza de viga.

IDEAM

ARMADURA DE CORTANTE EN CABEZA DE VIGA

En cabeza de la viga tenemos un tramo de unos 4 m en el cual ahora comprobamos:

o ENV con [illegible] (CM + 0.7 SOBRECARGA + 1.4 INFLUENCIA + 1.4 EMPUJE HIDRAULICO)



$$\alpha = 0'5 \; \frac{0'30 + 0'30}{0'455} = 0'33$$

$$A_{cortante} = \frac{V_d \cdot \alpha}{0'9 \cdot 2'43 \cdot 4'35} = \frac{185 \cdot 0'33}{0'9 \cdot 2'43 \cdot 4'35} = 7'61 \text{ cm}^2/\text{m}$$

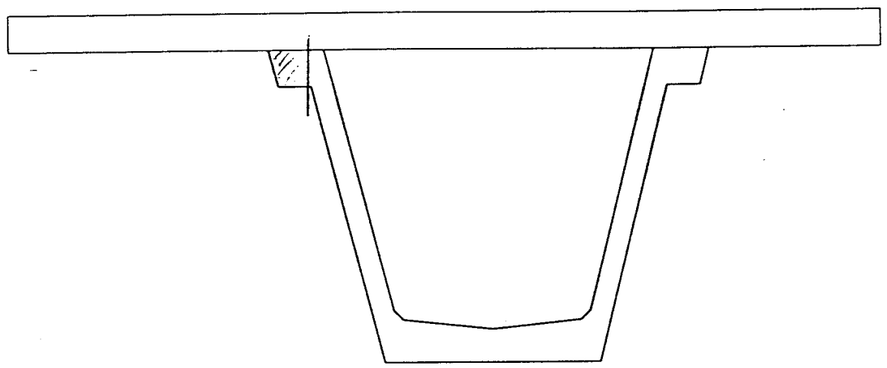
$\downarrow$

cd10 a 0'25

Valor a cortante = 185 tn

IDEAM

En tablero (puente terminado)



$\alpha = \frac{0.0905}{(7 \times 0.30 + 0.1355 \cdot 2)} = 0.0382$

$A_{cortante} = \frac{V_d \cdot \alpha}{0.9 \cdot 2.73 \cdot 4.20} = \frac{1182 \cdot 0.0382}{0.9 \cdot 2.73 \cdot 4} = 4.59 \text{ cm}^2/\text{m}$

↓

C610 a 0.20

$V_{d\,max} = 1182.7 \text{ tn}$

ENVOLVENTE A CORTANTE EN FASES CONSTRUCTIVAS

Barra	Nudo	X	PPCF1 Vy (T)	PPLF2 Vy (T)	PPLF3 Vy (T)		Vd(tn) ppcf1+pplf2	Vd(tn) ppcf1+pplf2+pplf3
1	1	0.00	-50.11	-0.02	-44.2		67.68	134.50
1	2	2.62	-40.09	-0.02	-30.4		54.15	100.18
2	2	2.62	-40.09	-0.02	-30.4		54.15	100.18
2	3	5.24	-30.06	-0.02	-16.7		40.62	65.85
3	3	5.24	-30.06	-0.02	-16.7		40.62	65.85
3	4	7.86	-20.04	-0.02	-2.9		27.09	31.52
4	4	7.86	-20.04	-0.02	-2.9		27.09	31.52
4	5	10.48	-10.02	-0.02	10.8		13.56	13.56
5	5	10.48	-10.02	-0.02	10.8		13.56	13.56
5	6	13.10	0.00	-0.02	24.6		0.04	37.13
6	6	13.10	0.00	-0.02	24.6		0.04	37.13
6	7	15.72	10.02	-0.02	38.3		13.53	71.46
7	7	15.72	10.02	-0.02	38.3		13.53	71.46
7	8	18.34	20.04	-0.02	52.1		27.06	105.78
8	8	18.34	20.04	-0.02	52.1		27.06	
8	9	20.96	30.06	13.73	52.1		61.35	
9	9	20.96	30.06	13.73	52.1		61.35	
9	10	23.58	40.09	27.49	52.1		95.68	
10	10	23.58	40.09	27.49	56.8		95.68	
10	10011	26.20	50.11	41.24	56.8		130.00	
11	11	26.20	-72.67	-49.36	-45.9		172.75	
11	12	29.55	-59.86	-31.78	-45.9		128.86	
12	12	29.55	-59.86	-31.78	-44.9		128.86	
12	13	32.90	-47.05	-14.19	-44.9		84.97	
13	13	32.90	-47.05	-14.19	-46.4		84.97	
13	14	36.03	-35.07	2.24	-46.4		47.35	
14	14	36.03	-35.08	2.24	-49.8		47.35	119.33
14	15	39.16	-23.10	2.24	-33.4		31.19	78.32
15	15	39.16	-23.10	2.24	-33.4		31.19	78.32
15	16	42.29	-11.13	2.24	-17.0		15.03	37.31
16	16	42.29	-11.13	2.24	-17.0		15.03	37.31
16	17	45.42	0.84	2.24	-0.5		4.53	4.53
17	17	45.42	0.84	2.24	-0.5		4.53	4.53
17	18	48.55	12.81	2.24	15.9		20.69	44.71
18	18	48.55	12.81	2.24	15.9		20.69	44.71
18	19	51.68	24.79	2.24	32.3		36.85	85.71
19	19	51.68	24.79	2.24	32.3		36.85	85.71
19	20	54.81	36.76	2.24	48.7		53.01	126.72
20	20	54.81	36.76	2.24	48.7		53.01	
20	21	57.94	48.73	18.68	48.7		94.02	
21	21	57.94	48.73	18.68	48.7		94.02	
21	22	61.07	60.70	35.11	48.7		135.03	
22	22	61.07	60.70	35.11	49.4		135.03	
22	10023	64.20	72.67	51.54	49.4		176.04	

ENVOLVENTE A CORTANTE EN FASES CONSTRUCTIVAS

Barra	Nudo	X	PPCF1 Vy (T)	PPLF2 Vy (T)	PPLF3 Vy (T)	Vd(tn) ppcf1+pplf2	Vd(tn) ppcf1+pplf2+pplf3
23	23	64.20	-76.50	-53.24	-45.1	183.78	
23	24	67.55	-63.69	-35.65	-45.1	139.89	
24	24	67.55	-63.69	-35.65	-45.5	139.89	
24	25	70.90	-50.87	-18.07	-45.5	96.00	
25	25	70.90	-50.87	-18.07	-46.5	96.00	
25	26	74.23	-38.14	-0.58	-46.5	52.37	
26	26	74.23	-38.14	-0.58	-47.9	52.37	124.74
26	27	77.56	-25.40	-0.58	-30.4	35.17	81.11
27	27	77.56	-25.40	-0.58	-30.4	35.17	81.11
27	28	80.89	-12.66	-0.58	-12.9	17.98	37.48
28	28	80.89	-12.66	-0.58	-12.9	17.98	37.48
28	29	84.22	0.08	-0.58	4.6	0.78	6.15
29	29	84.22	0.08	-0.58	4.6	0.78	6.15
29	30	87.55	12.81	-0.58	22.1	17.30	49.78
30	30	87.55	12.81	-0.58	22.1	17.30	49.78
30	31	90.88	25.55	-0.58	39.5	34.49	93.41
31	31	90.88	25.55	-0.58	39.5	34.50	93.41
31	32	94.21	38.29	-0.58	57.0	51.69	137.04
32	32	94.21	38.29	-0.58	57.0	51.69	
32	33	97.54	51.03	16.90	57.0	94.44	
33	33	97.54	51.03	16.90	57.0	94.44	
33	34	100.87	63.77	34.38	57.0	138.07	
34	34	100.87	63.77	34.38	61.4	138.07	
34	10035	104.20	76.50	51.86	61.4	181.70	
35	35	104.20	-67.70	-49.08	-61.3	165.60	
35	36	107.55	-54.89	-31.49	-61.3	121.71	
36	36	107.55	-54.88	-31.49	-62.4	121.71	
36	37	110.90	-42.07	-13.90	-62.4	77.81	
37	37	110.90	-42.07	-13.90	-66.4	77.82	
37	38	113.77	-31.09	1.17	-66.4	41.98	
38	38	113.77	-31.10	1.17	-72.7	41.98	150.16
38	39	116.64	-20.12	1.17	-57.6	27.16	112.56
39	39	116.64	-20.12	1.17	-57.6	27.16	112.56
39	40	119.51	-9.14	1.17	-42.6	12.34	74.96
40	40	119.51	-9.14	1.17	-42.6	12.34	74.96
40	41	122.38	1.84	1.17	-27.5	4.24	37.36
41	41	122.38	1.84	1.17	-27.5	4.24	37.36
41	42	125.25	12.81	1.17	-12.4	19.06	19.06
42	42	125.25	12.81	1.17	-12.4	19.06	19.06
42	43	128.12	23.79	1.17	2.6	33.88	37.84
43	43	128.12	23.79	1.17	2.6	33.88	37.84
43	44	130.99	34.77	1.17	17.7	48.70	75.44
44	44	130.99	34.77	1.17	17.7	48.70	75.44
44	45	133.86	45.74	1.17	32.8	63.52	113.05
45	45	133.86	45.74	1.17	32.8	63.52	113.04
45	46	136.73	56.72	1.17	47.8	78.34	150.65
46	46	136.73	56.72	1.17	47.8	78.34	150.65
46	47	139.60	67.70	1.17	62.9	93.16	188.25

ENVOLVENTE A CORTANTE EN FASES CONSTRUCTIVAS

Barra	Nudo	X	PPCF1 Vy (T)	PPLF2 Vy (T)	PPLF3 Vy (T)	Vd(tn) ppcf1+pplf2	Vd(tn) ppcf1+pplf2+pplf3
101	101	0.00	-62.92	-1.51	-58.4	87.23	175.49
101	102	2.62	-52.90	-1.51	-44.6	73.70	141.17
102	102	2.62	-52.90	-1.51	-44.6	73.70	141.17
102	103	5.24	-42.88	-1.51	-30.9	60.17	106.84
103	103	5.24	-42.88	-1.51	-30.9	60.17	106.84
103	104	7.86	-32.86	-1.51	-17.1	46.64	72.51
104	104	7.86	-32.86	-1.51	-17.1	46.64	72.51
104	105	10.48	-22.84	-1.51	-3.4	33.11	38.19
105	105	10.48	-22.84	-1.51	-3.4	33.11	38.19
105	106	13.10	-12.81	-1.51	10.4	19.58	19.58
106	106	13.10	-12.81	-1.51	10.4	19.58	19.58
106	107	15.72	-2.79	-1.51	24.2	6.05	30.47
107	107	15.72	-2.79	-1.51	24.2	6.05	30.47
107	108	18.34	7.23	-1.51	37.9	9.76	64.79
108	108	18.34	7.23	-1.51	37.9	9.76	64.79
108	109	20.96	17.25	-1.51	51.7	23.29	99.12
109	109	20.96	17.25	-1.51	51.7	23.29	99.12
109	110	23.58	27.27	-1.51	65.4	36.82	133.45
110	110	23.58	27.27	-1.51	60.7	36.82	
110	111	26.20	37.29	12.25	60.7	68.86	
111	111	26.20	37.29	12.25	57.2	68.86	
111	112	29.55	50.11	29.83	57.2	112.75	
112	112	29.55	50.11	29.83	56.2	112.75	
112	10113	32.90	62.92	47.42	56.2	156.64	
113	113	32.90	-72.67	-48.63	-55.5	171.63	
113	114	36.03	-60.70	-32.19	-55.5	130.63	
114	114	36.03	-60.70	-32.19	-52.1	130.63	
114	115	39.16	-48.73	-15.76	-52.1	89.62	
115	115	39.16	-48.73	-15.76	-52.1	89.62	
115	116	42.29	-36.76	0.67	-52.1	49.62	
116	116	42.29	-36.76	0.67	-52.1	49.62	127.35
116	117	45.42	-24.79	0.67	-35.6	33.46	86.34
117	117	45.42	-24.79	0.67	-35.6	33.46	86.34
117	118	48.55	-12.81	0.67	-19.2	17.30	45.34
118	118	48.55	-12.81	0.67	-19.2	17.30	45.34
118	119	51.68	-0.84	0.67	-2.8	1.14	4.33
119	119	51.68	-0.84	0.67	-2.8	1.14	4.33
119	120	54.81	11.13	0.67	13.7	16.04	36.68
120	120	54.81	11.13	0.67	13.7	16.04	36.68
120	121	57.94	23.10	0.67	30.1	32.20	77.69
121	121	57.94	23.10	0.67	30.1	32.20	77.69
121	122	61.07	35.07	0.67	46.5	48.37	118.70
122	122	61.07	35.07	0.67	45.9	48.37	
122	123	64.20	47.05	17.10	45.9	89.37	
123	123	64.20	47.05	17.10	45.7	89.38	
123	124	67.55	59.86	34.69	45.7	133.27	
124	124	67.55	59.86	34.69	46.1	133.27	

ENVOLVENTE A CORTANTE EN FASES CONSTRUCTIVAS								
			PPCF1	PPLF2	PPLF3			
Barra	Nudo	X	Vy (T)	Vy (T)	Vy (T)		Vd(tn)	Vd(tn)
							ppcf1+pplf2	ppcf1+pplf2+pplf3
124	10125	70.90	72.68	52.28	46.1		177.16	
125	125	70.90	-76.50	-53.54	-50.3		184.23	
125	126	74.23	-63.76	-36.06	-50.3		140.60	
126	126	74.23	-63.76	-36.06	-48.9		140.60	
126	127	77.56	-51.03	-18.58	-48.9		96.97	
127	127	77.56	-51.03	-18.58	-48.9		96.97	
127	128	80.89	-38.29	-1.09	-48.9		53.34	
128	128	80.89	-38.29	-1.09	-48.9		53.35	127.33
128	129	84.22	-25.55	-1.09	-31.5		36.15	83.70
129	129	84.22	-25.55	-1.09	-31.5		36.15	83.70
129	130	87.55	-12.82	-1.09	-14.0		18.95	40.07
130	130	87.55	-12.81	-1.09	-14.0		18.95	40.07
130	131	90.88	-0.08	-1.09	3.5		1.76	3.56
131	131	90.88	-0.08	-1.09	3.5		1.76	3.56
131	132	94.21	12.66	-1.09	21.0		17.09	47.19
132	132	94.21	12.66	-1.09	21.0		17.09	47.19
132	133	97.54	25.40	-1.09	38.5		34.29	90.82
133	133	97.54	25.40	-1.09	38.5		34.29	90.82
133	134	100.87	38.14	-1.09	56.0		51.48	134.45
134	134	100.87	38.14	-1.09	51.6		51.49	
134	135	104.20	50.87	16.39	51.6		93.46	
135	135	104.20	50.87	16.39	49.9		93.46	
135	136	107.55	63.69	33.98	49.9		137.35	
136	136	107.55	63.69	33.98	51.1		137.35	
136	10137	110.90	76.50	51.56	51.1		181.24	
137	137	110.90	-54.89	-44.85	-63.1		141.91	
137	138	113.77	-43.91	-29.78	-63.1		104.31	
138	138	113.77	-43.91	-29.78	-56.8		104.31	
138	139	116.64	-32.93	-14.71	-56.8		66.70	
139	139	116.64	-32.93	-14.71	-56.8		66.70	
139	140	119.51	-21.95	0.35	-56.8		29.64	
140	140	119.51	-21.95	0.35	-56.8		29.64	114.92
140	141	122.38	-10.98	0.35	-41.7		14.82	77.32
141	141	122.38	-10.98	0.35	-41.7		14.82	77.32
141	142	125.25	0.00	0.35	-26.6		0.54	39.71
142	142	125.25	0.00	0.35	-26.6		0.54	39.72
142	143	128.12	10.98	0.35	-11.6		15.36	15.36
143	143	128.12	10.98	0.35	-11.6		15.35	15.35
143	144	130.99	21.95	0.35	3.5		30.17	35.49
144	144	130.99	21.95	0.35	3.5		30.17	35.49
144	145	133.86	32.93	0.35	18.6		44.99	73.09
145	145	133.86	32.93	0.35	18.6		44.99	73.09
145	146	136.73	43.91	0.35	33.6		59.81	110.69
146	146	136.73	43.91	0.35	33.6		59.81	110.69
146	147	139.60	54.89	0.35	48.7		74.63	148.29

IDEAM

Fibra 1 - ALMA DE CAJÓN

Se consideran almas de 0'15 m de ancho, en el caso de 6 que se pide obtenerlas a un mínimo de 2'5 m a cada lado que se considera alma de cajón.

ESTADO LÍMITE DE AGOTAMIENTO FRENTE A CORTANTE (según EHE)

Se deberá cumplir que : $V_{rd} \le V_{u1}$ y $V_{rd} \le V_{u2}$

V_{rd} cortante efectivo

V_{u1} esfuerzo cortante que agota por compresión las bielas de hormigón, $V_{u1} = K \cdot f_{1cd} \cdot b_0 \cdot d \cdot \frac{\cot g\vartheta + \cot g\alpha}{1 + \cot g^2\theta}$

V_{u2} cortante que agota el alma por tracción. $V_{u2} = V_{cu} + V_{su}$

$$V_{cu} = \left(0.10 \cdot \xi \cdot (100 \cdot \rho_l \cdot f_{ck})^{\frac{1}{3}} - 0.15 \cdot \sigma'_{cd}\right) \cdot b_0 \cdot d$$

$$V_{su} = z \cdot \operatorname{sen}\alpha \cdot (\cot g\alpha + \cot g\theta) \cdot A_{s,\alpha} \cdot f_{y\alpha,d}$$

ESTADO LÍMITE DE AGOTAMIENTO POR TORSIÓN (según EHE)

Se deberá cumplir que :

$T_d \le T_{u1}$ Comprobación de bielas comprimidas de hormigón.
$T_d \le T_{u2}$ Comprobación de armaduras transversales.
$T_d \le T_{u3}$ Comprobación de armaduras longitudinales.

Donde **Td** es el momento Torsor de cálculo,

T_{u1} esfuerzo torsor que agota por compresión las bielas de hormigón,

T_{u2} máximo torsor resitido por las armaduras transversales,

T_{u3} máximo torsor que resiten las armaduras longitudinales.

$$T_{u1} = \alpha \cdot f_{1cd} \cdot A_e \cdot h_e \cdot \frac{\cot g\vartheta}{1 + \cot g^2\theta} \qquad T_{u2} = 2 \cdot A_e \cdot \frac{A_t}{s_t} \cdot f_{yt,d} \cdot \cot g\,\vartheta \qquad T_{u3} = 2 \cdot A_e \cdot \frac{A_l}{u_e} \cdot f_{yl,d} \cdot tg\,\vartheta$$

Donde:

f_{1cd} $0.6 \cdot f_{cd}$ Con f_{cd} la resistencia característica del hormigón a compresión simple.

b_0 anchura neta del alma.

K coeficiente de reducción por efecto del esfuerzo axil. $K = \frac{5}{3} \cdot \left(1 + \frac{\sigma'_{cd}}{f_{cd}}\right) \le$

Donde $\sigma'_{cd} = \frac{N_d}{A_c}$ con el axil positivo de tracción.

z brazo mecánico, se tomará igual a 0.9· d

θ ángulo de inclinación de las bielas de hormigón. El valor de cotg(θ) debe estar entre 0.5 y 2

α ángulo que forman las armaduras con el eje de la pieza.

ξ $\zeta = 1 + \sqrt{\frac{200}{d}}$ Con d en mm.

r_l cuantía geométrica de la armadura longitudinal traccionada. $\rho_l = \frac{A_s + A_p \cdot \frac{f_{pd}}{f_{yd}}}{b_0 \cdot d} \le 0.02$

β ~~(2·cotg(θ)-1)/(2·cotg(θe)-1)~~ ~~si 0.5<=cotg(θ)<cotg(θe)~~
(cotg(θ)-2)/(cotg(θe)-2) si cotg(θe)<=cotg(θ)<=2

θ_e valor de referencia de inclinación de las fisuras.

A_e área encerrada por la línea media de la sección hueca eficaz de cálculo.

h_e espesor eficaz de la pared de la sección de cálculo. $h_e \le \frac{A}{u}$

Con la limitación de no mayor de $\mathbf{h_o}$ y no menor de **2c**
Con *A* Área de la sección de cálculo, *u* su perímetro exterior, h_o el espesor real de la pared hueca,
y c el recubrimiento de las armaduras longitudinales.

a 1.20 si los estribos se colocan únicamente en el perímetro extrerior de la pieza
1.50 si se colocan estribos cerrados en ambas caras de la pared de la sección hueca equivalente o la real.

A_t/s_t área de la armadura transversal a colocar en la sección.

A_l/u_l área de la armadura longitudinal a colocar en el perímetro de la sección.

INTERACCIÓN CORTANTE-TORSOR

Se debe cumplir respecto de las bielas comprimidas de hormigón que: $\left(\frac{V_{rd}}{V_{u1}}\right)^{\beta} + \left(\frac{T_d}{T_{u1}}\right)^{\beta} \le 1$

Con $\beta = 2 \cdot (1 - h_e/b)$ con b es espesor bruto de la sección de cálculo (total en sec. maciza y suma de almas en hueca)

CUANTÍAS MÍNIMAS DE ARMADURAS TRANSVERSALES

$$\sum \frac{A_\alpha \cdot f_{y\alpha,d}}{sen\alpha} \ge 0.02 \cdot f_{cd} \cdot b_0$$

IDEAM

ARMADO LONGITUDINAL POR TORSIÓN

26'20

Φ12c/15 — 8'20

Φ12c/15 — 18'20

Φ16c/15 — 4'50

Φ16c/15 — 3'50

Φ12c/20 — 4'20

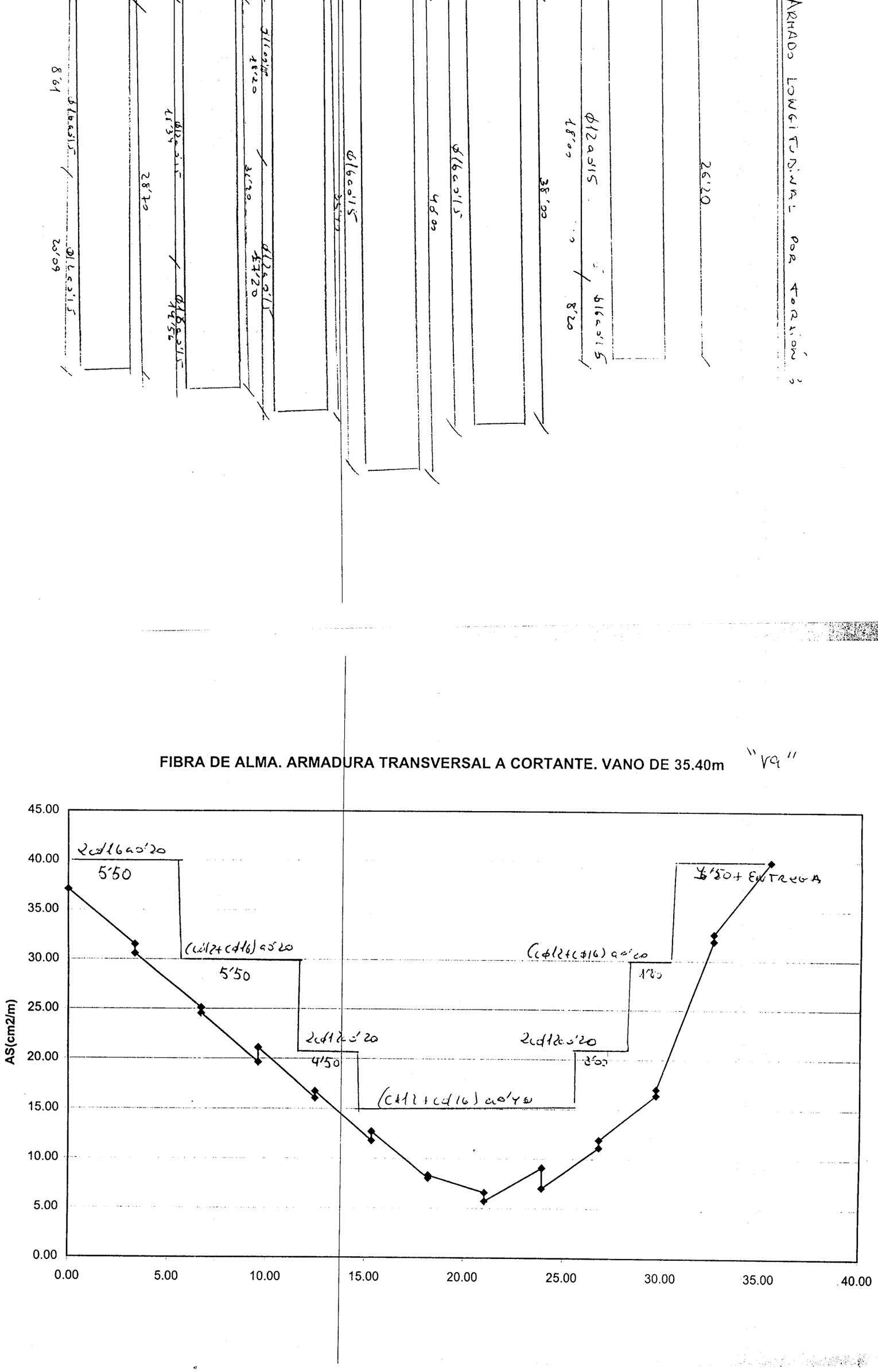
Φ12c/20 — 3'20

Φ16c/15 — 2'80

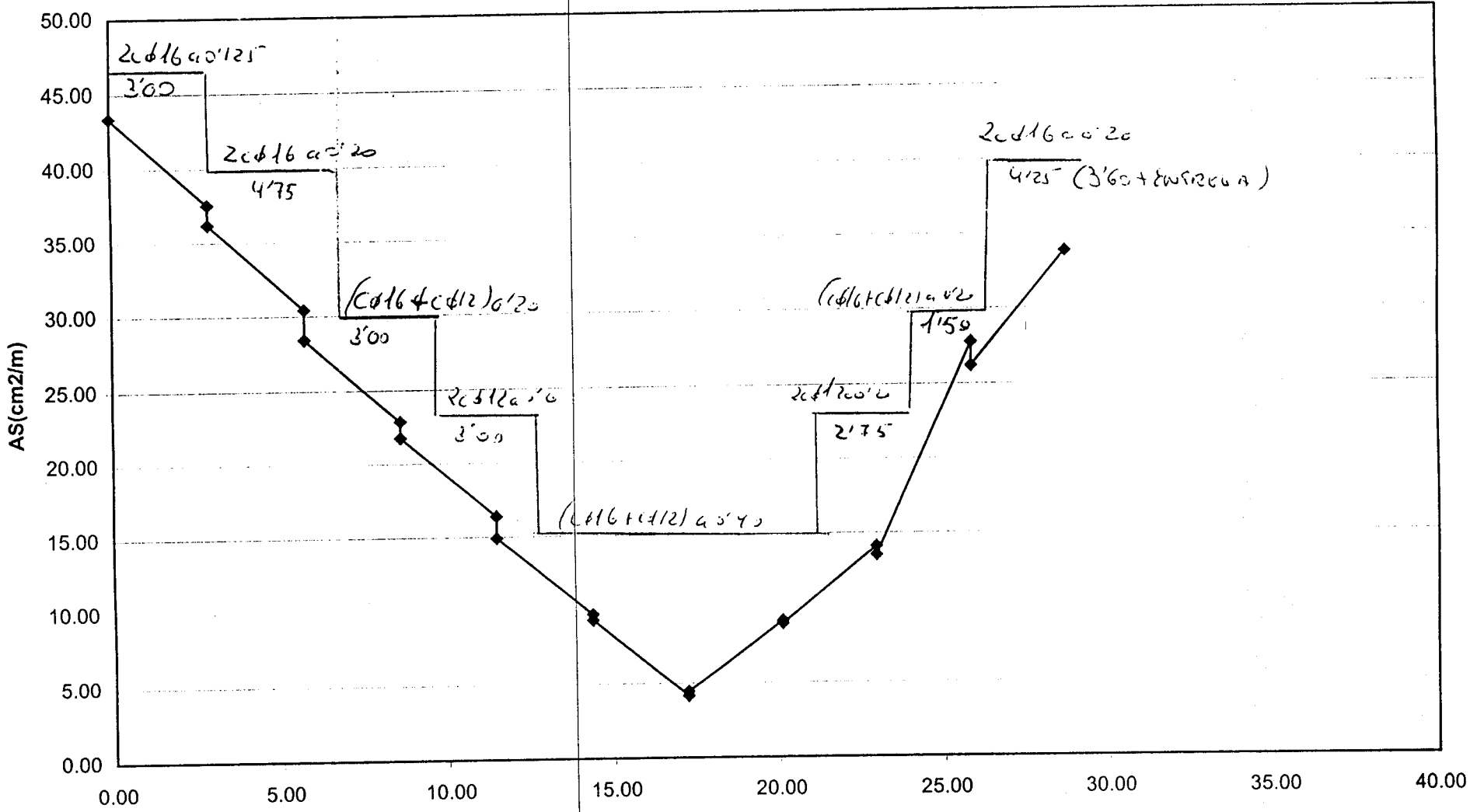
Φ16c/15 — 2'50

Φ12c/20 — 2'00

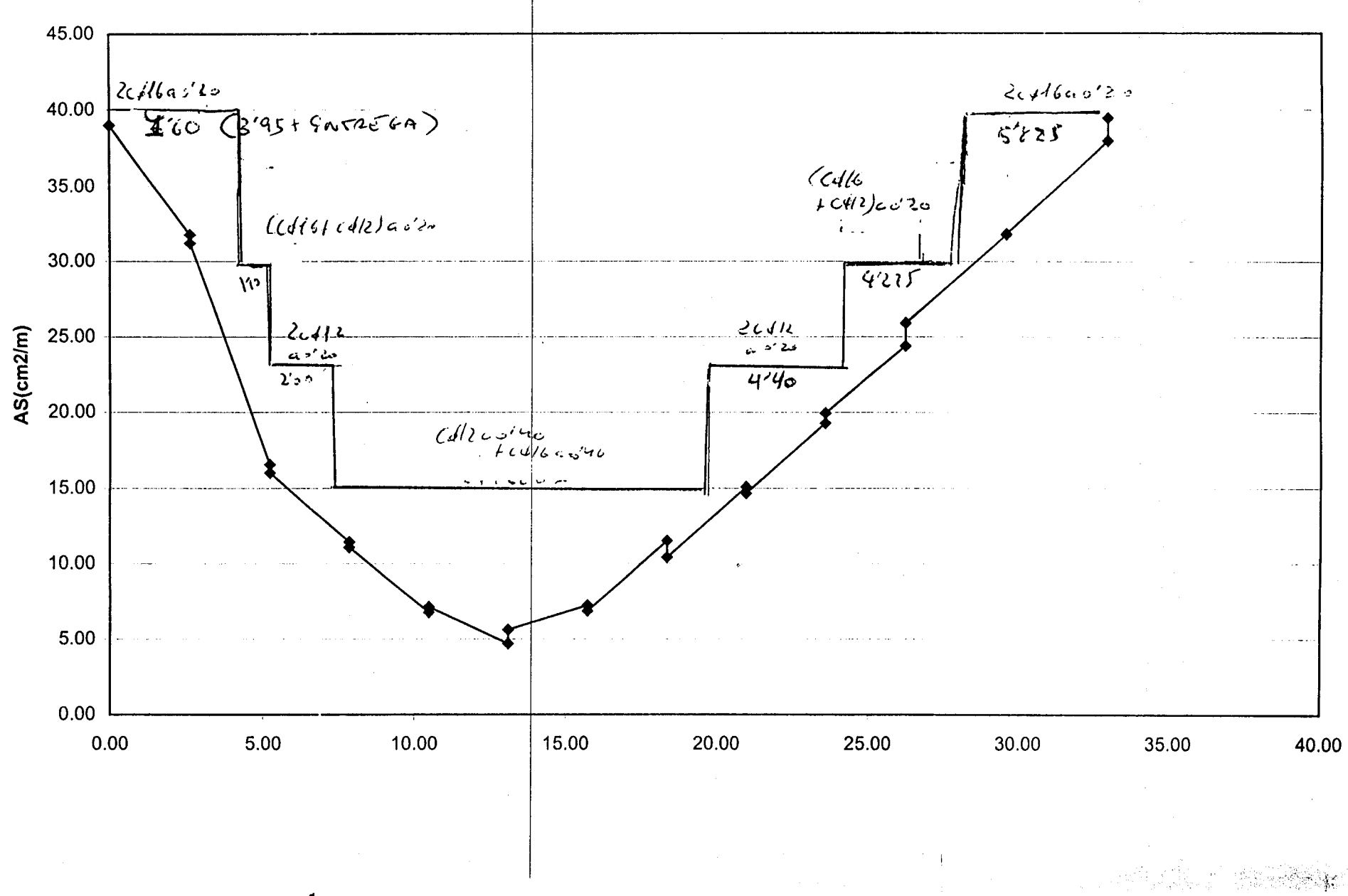
8'61



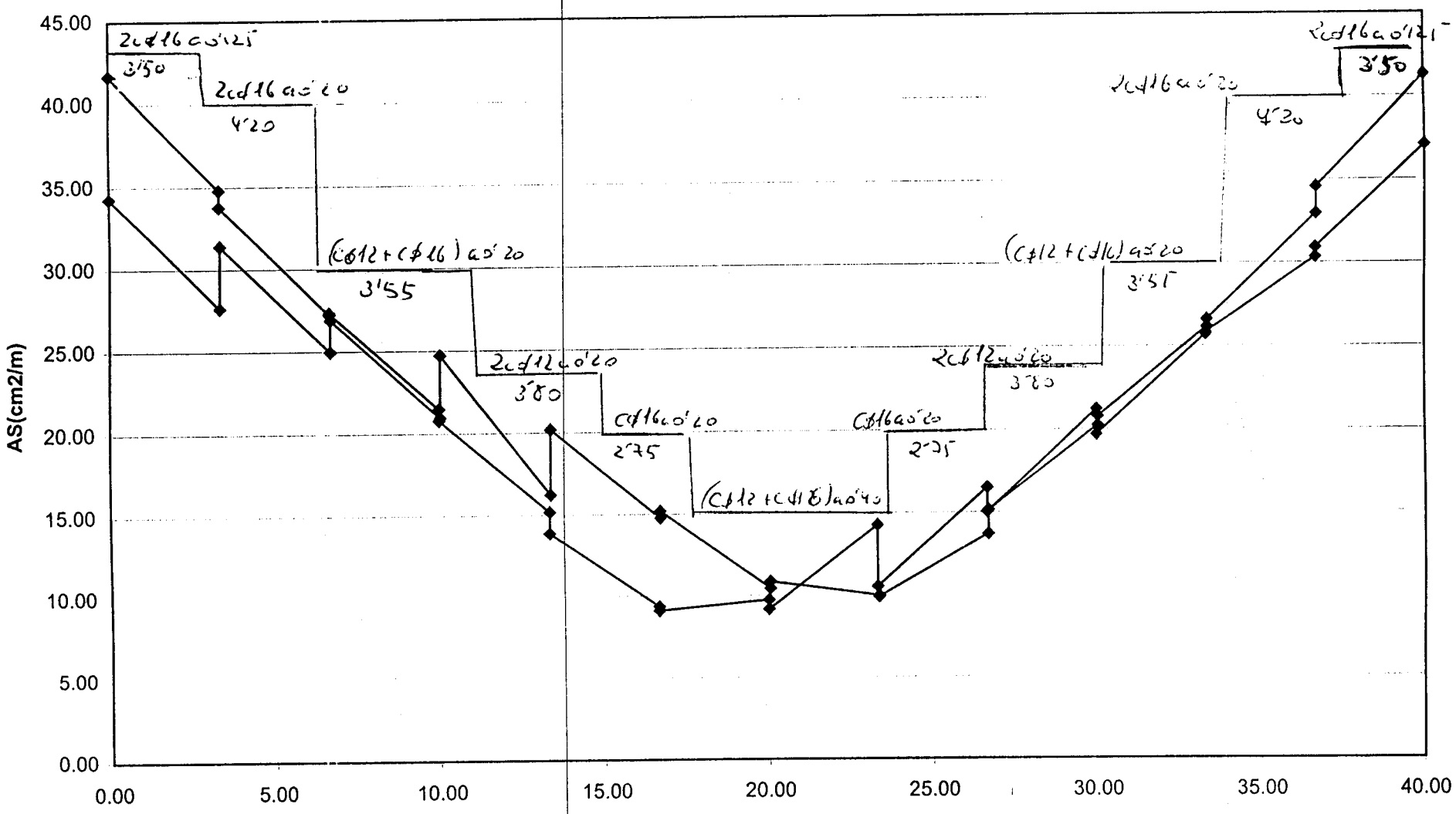
FIBRA DE ALMA. ARMADURA TRANSVERSAL A CORTANTE. VANO DE 28.7 m "V6"



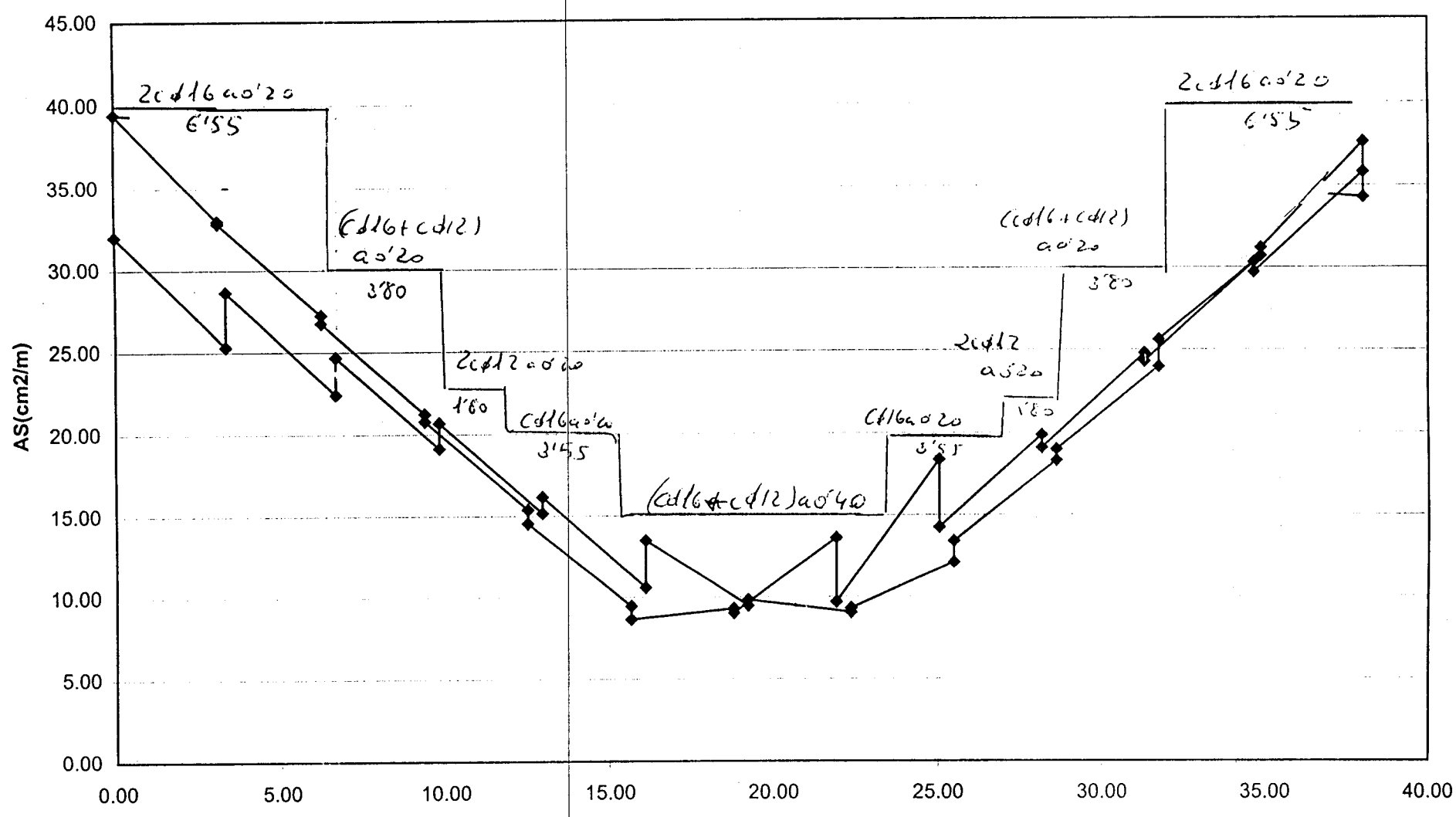
FIBRA DE ALMA. ARMADURA TRANSVERSAL A CORTANTE. VANO DE 32.90 m "V7"



FIBRA DE ALMA. ARMADURA TRANSVERSAL A CORTANTE. VANO DE 40.00m "V3"



FIBRA DE ALMA. ARMADURA TRANSVERSAL A CORTANTE. VANO DE 38.00m "V8"



CALCULO DE CORTANTE-TORSOR SEGÚN EHE

Fibra. 1

Fibra lateral del alma

Características generales de la sección.

Coeficiente de minoración γ_c 1.5

Comprobación de bielas a compresión

$V_{u1}=K\cdot f_{cd}\cdot b_w\cdot d\cdot 1/(ctg\theta+tg\theta)$ $\quad T_{u1}=\alpha\cdot f_{cd}\cdot A_e\cdot h_e\cdot 1/(ctg\theta+tg\theta)$

	Hipótesis 1		Hipótesis 2																				Hipótesis 1		Hipótesis 2	
x(m)	Vmax	Tcons	Vcon	Tmax	Seccion	C/T	coef. Fred	Fcomp.	Fbiela	cotgθ	cotgθ	$A_{s,eq}+A_p$ (cm2)	f_y (N/mm²)	f_{cd} (N/mm²)	f_{cd} (N/mm²)	b_w(m)	b_w(m)	d (m)	d,(m)	K	Vu1 (tn)	h,(m)	A_s (m2)	α	Tu1 (tn (n)	Tmax,tn 1	Tmax 1	Vmax 2	Tmax 2	Tmax,tn 2	PV-t
0.00	617.21	31.09	361.46	64.68	ESTRIBO	C	0.5	0.5	1	1.11	33.6	60	4.00	4.00	589.68	0.18	5.5	1.5	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.52	0.01	0.54	0.41	0.04	0.44	1.00
2.62	489.27	39.73	194.53	101.38	ESTRIBO	C	0.5	0.5	1	1.11	33.6	60	4.00	4.00	589.68	0.18	5.5	1.5	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.41	0.01	0.42	0.13	0.06	0.19	1.00
5.24	364.95	52.27	82.71	164.44	CDV	C	0.8	0.5	1.4	1.29	96	60	4.00	4.00	557.81	0.18	5.5	1.5	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.33	0.04	0.36	0.23	0.10	0.33	1.00
7.86	245.05	116.15	112.39	239.64	CDV	C	0.8	0.5	1.4	1.29	96	60	4.00	4.00	557.81	0.18	5.5	1.5	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.22	0.07	0.29	0.10	0.14	0.24	1.00
10.48	126.25	86.21	14.33	240.89	CDV	C	0.8	0.5	1.4	1.29	96	60	4.00	4.00	557.81	0.18	5.5	1.5	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.14	0.05	0.19	0.01	0.14	0.16	1.00
13.10	263.62	142.24	142.71	238.85	CDV	C	0.8	0.5	1.4	1.29	96	60	4.00	4.00	557.81	0.18	5.5	1.5	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.24	0.08	0.32	0.13	0.17	0.30	1.00
15.72	364.97	176.39	261.95	361.02	CDV	C	0.8	0.5	1.4	1.29	96	60	4.00	4.00	557.81	0.18	5.5	1.5	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.24	0.08	0.32	0.14	0.19	0.33	1.00
13.10	263.62	142.24	142.71	238.85	CDV	C	0.8	0.5	1.4	1.29	96	60	4.00	4.00	557.81	0.18	5.5	1.5	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.24	0.08	0.32	0.14	0.19	0.33	1.00
10.48	126.25	86.21	14.33	240.89	CDV	C	0.8	0.5	1.4	1.29	96	60	4.00	4.00	557.81	0.18	5.5	1.5	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.14	0.05	0.19	0.01	0.14	0.16	1.00
7.86	245.05	116.15	112.39	239.64	CDV	C	0.8	0.5	1.4	1.29	96	60	4.00	4.00	557.81	0.18	5.5	1.5	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.22	0.07	0.29	0.10	0.14	0.24	1.00
5.24	364.95	52.27	82.71	164.44	CDV	C	0.8	0.5	1.4	1.29	96	60	4.00	4.00	557.81	0.18	5.5	1.5	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.33	0.04	0.36	0.23	0.10	0.33	1.00
2.62	489.27	39.73	194.53	101.38	ESTRIBO	C	0.8	0.5	1	1.11	33.6	60	4.00	4.00	589.68	0.18	5.5	1.5	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.41	0.01	0.42	0.13	0.06	0.19	1.00
0.00	617.21	31.09	361.46	64.68	ESTRIBO	C	0.8	0.5	1	1.11	33.6	60	4.00	4.00	589.68	0.18	5.5	1.5	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.52	0.01	0.54	0.41	0.04	0.44	1.00
23.58	629.80	394.71	673.04	611.45	PILA	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	1	743.74	0.24	5.5	1.5	2242.57	0.85	0.12	0.97	0.53	0.29	0.83	1.00
25.58	610.05	335.32	668.04	589.18	CDV	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.73	0.09	0.82	0.60	0.50	0.33	0.82	1.00
23.98	629.80	394.71	673.04	611.45	PILA	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	1	743.74	0.24	5.5	1.5	2242.57	0.85	0.12	0.97	0.53	0.29	0.83	1.00
20.98	678.89	314.82	353.16	548.66	CDV	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.61	0.19	0.80	0.93	0.60	0.35	0.95	1.00
18.34	539.54	236.75	425.54	476.06	CDV	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.47	0.14	0.61	0.93	0.48	0.31	0.79	1.00
16.34	539.54	236.75	425.54	476.06	CDV	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.46	0.14	0.62	0.76	0.48	0.31	0.79	1.00
20.98	683.67	271.89	536.54	514.14	CDV	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.59	0.16	0.75	0.76	0.48	0.31	0.79	1.00
18.34	621.37	227.00	366.83	437.96	CDV	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.47	0.14	0.61	0.93	0.48	0.31	0.79	1.00
15.72	401.48	205.29	261.27	397.31	CDV	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.35	0.11	0.45	0.24	0.27	0.45	1.00
13.10	263.62	142.24	142.71	238.85	CDV	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.24	0.08	0.32	0.13	0.17	0.30	1.00
10.48	126.25	86.21	14.33	240.89	CDV	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.14	0.05	0.19	0.01	0.14	0.16	1.00
7.86	245.05	116.15	112.39	239.64	CDV	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.22	0.07	0.29	0.10	0.14	0.24	1.00
5.24	364.95	52.27	82.71	164.44	CDV	C	0.8	0.5	1.4	1.29	96	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.33	0.04	0.36	0.23	0.10	0.33	1.00
2.62	489.27	39.73	194.53	101.38	ESTRIBO	C	0.8	0.5	1	1.11	33.6	60	4.00	4.00	589.68	0.18	5.5	1.5	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.41	0.01	0.42	0.13	0.06	0.19	1.00
0.00	617.21	31.09	361.46	64.68	ESTRIBO	C	0.8	0.5	1	1.11	33.6	60	4.00	4.00	589.68	0.18	5.5	1.5	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.52	0.01	0.54	0.41	0.04	0.44	1.00

CALCULO DE CORTANTE-TORSOR SEGÚN EHE

Fibra : 1

Fibra lateral del alma

Caracteristicas generales de la sección:

Coeficiente de minoración γ_c 1.5

Comprobación de bielas a compresión

$V_{u1}=K\cdot f_{1cd}\cdot b_0\cdot d\cdot 1/(ctg\theta+tg\theta)$ $T_{u1}=\alpha\cdot f_{1cd}\cdot A_e\cdot h_e\ 1/(ctg\theta+tg\theta)$

	Hipótesis 1		Hipótesis 2																				Hipótesis 1			Hipótesis 2			
x(m)	Vmax	Tconc	Vcon	Tmax	Sección	C/T	coef. F1cd	$\beta_{compr.}$	$\beta_{tracción}$	cotgθ	cotgθ$_e$	$A_{s,eq}+A_p$ (cm2)	f_{ck} (N/mm^2)	f_{cd} (N/mm^2)	f_{1cd} (N/mm^2)	σ'_{cd} (N/mm^2)	b_w(m)	b (m)	d_v(m)	K	Vu1 (tn)	h_e(m)	A_e (m2)	α	Tu1 (m tn)	Tv,hip 1	Tt,hip 1	Tinter.hip 1	Tv,hip 2	Tt,hip 2	Tinter.hip 2	βv-t
64.20	1049.89	33.01	816.73	582.55	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.71	0.01	0.72	0.41	0.30	0.72	1.00
67.55	890.84	3.28	522.33	641.36	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.59	0.00	0.59	0.35	0.29	0.64	1.00
67.55	864.82	156.64	499.34	618.73	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.79	0.09	0.89	0.45	0.37	0.81	1.00
70.90	722.22	124.82	399.67	559.55	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.65	0.07	0.72	0.35	0.40	0.75	1.00
70.90	734.65	217.95	481.81	538.46	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.66	0.13	0.79	0.43	0.38	0.81	1.00
74.23	560.65	194.58	372.14	572.75	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.52	0.12	0.64	0.24	0.40	0.64	1.00
74.23	593.85	252.51	472.33	669.39	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.53	0.15	0.68	0.42	0.40	0.82	1.00
77.56	441.30	215.11	154.80	652.11	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.40	0.13	0.52	0.14	0.39	0.53	1.00
77.56	449.67	259.64	337.78	691.41	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.40	0.15	0.56	0.30	0.41	0.71	1.00
80.89	303.16	221.48	207.18	648.93	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.27	0.13	0.40	0.19	0.38	0.57	1.00
80.89	307.17	245.98	199.70	692.33	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.28	0.15	0.42	0.18	0.41	0.59	1.00
84.22	186.90	199.47	70.55	642.34	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.15	0.12	0.27	0.06	0.38	0.44	1.00
84.22	187.12	204.34	86.05	688.30	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.15	0.12	0.27	0.06	0.40	0.45	1.00
87.55	261.06	8.03	67.67	614.13	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.25	0.00	0.26	0.06	0.36	0.42	1.00
87.55	282.88	111.81	82.50	610.04	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.25	0.07	0.32	0.07	0.36	0.44	1.00
90.88	428.14	89.35	241.27	550.16	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.38	0.05	0.44	0.19	0.33	0.52	1.00
90.88	449.21	131.35	220.99	527.06	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.40	0.08	0.48	0.20	0.31	0.51	1.00
94.21	601.46	104.70	245.13	464.25	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.54	0.06	0.60	0.31	0.28	0.58	1.00
94.21	630.50	77.29	319.42	458.31	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.57	0.04	0.61	0.29	0.27	0.56	1.00
97.54	784.88	97.28	479.58	453.26	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.70	0.03	0.74	0.42	0.27	0.69	1.00
97.54	818.39	10.28	500.11	491.75	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.73	0.01	0.74	0.45	0.29	0.74	1.00
100.87	980.82	36.37	634.59	519.14	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.88	0.02	0.90	0.57	0.31	0.88	1.00
100.87	1014.21	129.80	666.38	559.51	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.68	0.06	0.74	0.45	0.25	0.70	1.00
104.20	1162.75	164.31	805.25	591.98	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.80	0.07	0.87	0.54	0.26	0.80	1.00

CALCULO DE CORTANTE-TORSOR SEGÚN EHE

Fibra : 1

Fibra lateral del alma

Caracteristicas generales de la sección:

Coeficiente de minoración γ_c 1.5

Comprobación de bielas a compresión

$V_{u1}=K\cdot f_{1cd}\cdot b_0\cdot d\cdot 1/(ctg\theta+tg\theta)$ $T_{u1}=\alpha\cdot f_{1cd}\cdot A_e\cdot h_e\ 1/(ctg\theta+tg\theta)$

	Hipótesis 1		Hipótesis 2																				Hipótesis 1			Hipótesis 2			
x(m)	Vmax	Tconc	Vcon	Tmax	Sección	C/T	coef. F1cd	$\beta_{compr.}$	$\beta_{tracción}$	cotgθ	cotgθ$_e$	$A_{s,eq}+A_p$ (cm2)	f_{ck} (N/mm^2)	f_{cd} (N/mm^2)	f_{1cd} (N/mm^2)	σ'_{cd} (N/mm^2)	b_w(m)	b (m)	d_v(m)	K	Vu1 (tn)	h_e(m)	A_e (m2)	α	Tu1 (m tn)	Tv,hip 1	Tt,hip 1	Tinter.hip 1	Tv,hip 2	Tt,hip 2	Tinter.hip 2	βv-t
26.20	978.64	53.35	547.87	739.63	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.66	0.02	0.68	0.37	0.33	0.70	1.00
29.55	809.16	20.42	444.46	736.95	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.54	0.01	0.55	0.30	0.33	0.63	1.00
29.55	819.98	133.67	436.57	714.55	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.74	0.08	0.81	0.39	0.42	0.82	1.00
32.90	656.95	113.21	323.70	787.61	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.59	0.07	0.66	0.29	0.46	0.75	1.00
32.90	672.34	219.33	331.08	705.66	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.60	0.13	0.73	0.30	0.42	0.72	1.00
36.03	526.89	202.42	220.54	758.63	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.47	0.12	0.59	0.20	0.45	0.65	1.00
36.03	540.37	267.73	235.49	671.49	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.48	0.16	0.64	0.21	0.40	0.61	1.00
39.16	398.62	245.25	121.83	718.76	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.36	0.15	0.50	0.11	0.43	0.53	1.00
39.16	405.15	271.24	256.61	624.73	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.36	0.16	0.52	0.23	0.37	0.60	1.00
42.29	287.65	226.97	26.89	651.82	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.24	0.14	0.38	0.02	0.39	0.41	1.00
42.29	274.49	211.21	165.16	519.64	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.25	0.13	0.37	0.17	0.37	0.53	1.00
45.42	156.25	145.73	72.52	384.34	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.14	0.09	0.23	0.07	0.35	0.41	1.00
45.42	148.91	45.07	59.74	606.17	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.13	0.03	0.16	0.05	0.36	0.41	1.00
48.55	279.40	57.91	63.66	559.21	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.25	0.03	0.28	0.06	0.33	0.39	1.00
48.55	277.06	37.54	71.25	573.78	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.25	0.02	0.27	0.06	0.34	0.40	1.00
51.88	413.49	14.39	191.20	521.68	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.37	0.01	0.38	0.17	0.31	0.48	1.00
51.88	426.06	75.36	189.92	527.12	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.38	0.04	0.43	0.17	0.31	0.48	1.00
54.81	566.37	69.26	302.60	485.14	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.51	0.04	0.54	0.27	0.29	0.56	1.00
54.81	582.49	58.56	298.37	495.91	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.52	0.04	0.56	0.27	0.29	0.56	1.00
57.94	729.59	47.39	520.53	489.98	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.65	0.03	0.68	0.47	0.29	0.76	1.00
57.94	751.10	35.63	567.49	510.61	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.67	0.02	0.69	0.51	0.30	0.81	1.00
61.07	904.57	86.74	694.39	541.12	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.81	0.04	0.85	0.62	0.32	0.94	1.00
61.07	927.90	115.48	690.01	569.91	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.62	0.05	0.68	0.46	0.25	0.72	1.00
64.20	1087.37	154.32	820.68	605.11	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.73	0.07	0.80	0.55	0.27	0.82	1.00

CALCULO DE CORTANTE-TORSOR SEGÚN EHE

Fibra : 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1.5

Comprobación de bielas a compresión

$V_{u1}=K\cdot f_{1cd}\cdot b_0\cdot d\cdot 1/(ctg\theta+tg\theta)$ $\quad T_{u1}=\alpha\cdot f_{1cd}\cdot A_e\cdot h_e\cdot 1/(ctg\theta+tg\theta)$

	Hipótesis 1		Hipótesis 2																							Hipótesis 1			Hipótesis 2			
x(m)	Vmax	Tconc	Vcon	Tmax	Sección	C/T	coef. F1cd	$\beta_{compr.}$	$\beta_{tracción}$	cotgθ	cotgθ$_e$	$A_{s,eq}+A_p$ (cm2)	f_{ck} (N/mm^2)	f_{cd} (N/mm^2)	f_{1cd} (N/mm^2)	σ'_{cd} (N/mm^2)	b_w(m)	b (m)	d_v(m)	K	Vu1 (tn)	h_e(m)	A_e (m2)	α	Tu1 (m tn)	TV.hip 1	TT.hip 1	Tinter.hip 1	TV.hip 2	TT.hip 2	Tinter.hip 2	βV-t
0.00	819.04	24.41	540.42	69.16	ESTRIBO	c	0.6	0.5	0.5	1	1.11	33.6	60	40.00	24.00	-1.05	0.18	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.69	0.01	0.71	0.46	0.04	0.50	1.00
2.62	680.42	17.44	460.40	116.51	ESTRIBO	c	0.6	0.5	0.5	1	1.11	33.6	60	40.00	24.00	-1.05	0.18	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.58	0.01	0.59	0.39	0.07	0.46	1.00
2.62	666.09	20.44	416.23	129.80	ESTRIBO	c	0.6	0.5	0.5	1	1.11	33.6	60	40.00	24.00	-1.05	0.18	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.57	0.01	0.58	0.35	0.07	0.43	1.00
5.24	535.37	25.06	313.23	180.35	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.48	0.01	0.49	0.28	0.11	0.39	1.00
5.24	527.01	10.61	248.13	182.16	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.47	0.01	0.48	0.22	0.11	0.33	1.00
7.86	400.69	11.00	141.00	229.40	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.36	0.01	0.37	0.13	0.14	0.26	1.00
7.86	394.90	2.98	133.45	232.88	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.35	0.00	0.36	0.12	0.13	0.25	1.00
10.48	274.56	7.19	22.65	266.28	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.25	0.00	0.25	0.02	0.16	0.18	1.00
10.48	270.85	36.20	165.34	270.22	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.24	0.02	0.27	0.15	0.16	0.31	1.00
13.10	187.72	21.70	90.71	289.45	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.15	0.01	0.16	0.07	0.17	0.24	1.00
13.10	169.42	107.76	33.62	346.89	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.15	0.06	0.22	0.03	0.21	0.24	1.00
15.72	262.52	83.57	103.06	332.41	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.24	0.04	0.27	0.09	0.20	0.29	1.00
15.72	258.66	46.68	57.71	423.83	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.23	0.03	0.26	0.05	0.25	0.30	1.00
18.34	377.22	58.23	161.86	403.77	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.34	0.04	0.38	0.15	0.24	0.38	1.00
18.34	373.23	5.09	158.32	491.38	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.33	0.00	0.34	0.14	0.29	0.43	1.00
20.96	496.29	22.25	260.07	466.78	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.44	0.01	0.46	0.23	0.28	0.51	1.00
20.96	492.14	5.05	236.11	544.51	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.44	0.00	0.44	0.21	0.32	0.53	1.00
23.58	618.95	6.63	336.57	614.31	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.55	0.00	0.56	0.30	0.31	0.61	1.00
23.58	613.83	57.40	313.81	688.96	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.55	0.03	0.58	0.28	0.35	0.63	1.00
26.20	743.98	40.70	410.25	557.21	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.67	0.02	0.69	0.37	0.33	0.70	1.00
26.20	742.65	136.28	401.48	620.66	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.67	0.08	0.75	0.36	0.37	0.73	1.00
29.55	916.13	111.47	505.11	587.53	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.82	0.07	0.89	0.45	0.35	0.80	1.00
29.55	929.06	153.48	559.23	622.62	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.62	0.07	0.69	0.38	0.28	0.65	1.00
32.90	1107.31	132.02	670.46	599.00	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.74	0.06	0.80	0.45	0.27	0.72	1.00

CALCULO DE CORTANTE-TORSOR SEGÚN EHE

Fibra : 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1.5

Comprobación de bielas a compresión

	Hipótesis 1		Hipótesis 2																							Hipótesis 1			Hipótesis 2			
x(m)	Vmax	Tconc	Vcon	Tmax	Sección	C/T	coef. F1cd	$\beta_{compr.}$	$\beta_{tracción}$	cotgθ	cotgθ$_e$	$A_{s,eq}+A_p$ (cm2)	f_{ck} (N/mm^2)	f_{cd} (N/mm^2)	f_{1cd} (N/mm^2)	σ'_{cd} (N/mm^2)	b_w(m)	b (m)	d_v(m)	K	Vu1 (tn)	h_e(m)	A_e (m2)	α	Tu1 (m tn)	TV.hip 1	TT.hip 1	Tinter.hip 1	TV.hip 2	TT.hip 2	Tinter.hip 2	βV-t
104.20	1089.57	125.41	628.43	752.86	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.73	0.06	0.79	0.42	0.33	0.76	1.00
107.55	917.36	159.19	520.67	697.06	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.62	0.07	0.69	0.35	0.31	0.66	1.00
107.55	914.68	41.48	505.81	662.18	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.67	0.04	0.71	0.36	0.42	0.79	1.00
110.90	750.76	69.21	405.31	712.57	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.68	0.01	0.69	0.38	0.38	0.76	1.00
110.90	736.76	17.73	425.29	638.67	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.56	0.01	0.57	0.29	0.41	0.70	1.00
113.77	623.65	10.24	325.20	665.39	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.57	0.05	0.62	0.32	0.35	0.67	1.00
113.77	635.87	78.42	355.15	587.62	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.45	0.03	0.48	0.22	0.37	0.60	1.00
116.64	503.87	52.26	250.98	631.67	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.46	0.05	0.51	0.24	0.32	0.56	1.00
116.64	513.53	85.63	287.37	532.59	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.34	0.03	0.38	0.14	0.34	0.48	1.00
119.51	384.80	65.21	160.24	672.92	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.35	0.06	0.42	0.15	0.27	0.43	1.00
119.51	393.84	106.01	170.33	463.09	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.24	0.04	0.28	0.05	0.29	0.35	1.00
122.38	289.14	70.47	80.96	496.84	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.25	0.06	0.31	0.09	0.23	0.33	1.00
122.38	276.59	99.06	105.24	396.13	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.16	0.09	0.25	0.03	0.24	0.27	1.00
125.25	178.52	157.85	29.03	407.68	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.15	0.03	0.18	0.09	0.21	0.30	1.00
125.25	172.56	42.32	103.91	353.54	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.25	0.04	0.29	0.18	0.19	0.37	1.00
128.12	275.44	86.52	195.92	326.81	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.25	0.01	0.26	0.01	0.19	0.20	1.00
128.12	277.41	17.81	12.57	318.03	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.36	0.00	0.36	0.22	0.16	0.38	1.00
130.99	397.62	1.68	249.08	268.09	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.36	0.02	0.38	0.12	0.16	0.28	1.00
130.99	401.23	41.24	130.82	268.26	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.48	0.01	0.49	0.27	0.12	0.39	1.00
133.86	531.86	25.01	299.15	206.80	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.48	0.03	0.51	0.25	0.12	0.38	1.00
133.86	537.59	50.10	282.15	210.15	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.57	0.02	0.59	0.30	0.08	0.38	1.00
136.73	874.00	39.54	349.30	150.65	ESTRIBO	c	0.6	0.5	0.5	1	1.11	33.6	60	40.00	24.00	-1.05	0.18	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.58	0.03	0.61	0.35	0.08	0.43	1.00
136.73	682.38	52.06	409.96	140.31	ESTRIBO	c	0.6	0.5	0.5	1	1.11	33.6	60	40.00	24.00	-1.05	0.18	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.70	0.03	0.73	0.42	0.04	0.46	1.00
139.60	625.33	50.64	490.75	70.82	ESTRIBO	c	0.6	0.5	0.5	1	1.11	33.6	60	40.00	24.00	-1.05	0.18	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.57	0.02	0.59	0.30	0.08	0.38	1.00

CALCULO DE CORTANTE-TORSOR SEGÚN EHE

Fibra : 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1.5

Comprobación de bielas a compresión

$V_{u1}=K\cdot f_{1cd}\cdot b_0\cdot d\cdot 1/(ctg\theta+tg\theta)$ $T_{u1}=\alpha\cdot f_{1cd}\cdot A_e\cdot h_e\ 1/(ctg\theta+tg\theta)$

	Hipótesis 1		Hipótesis 2																						Hipótesis 1			Hipótesis 2			
x(m)	Vmax	Tconc	Vcon	Tmax	Sección	C/T	coef. F1cd	$\beta_{compr.}$	$\beta_{tracción}$	cotgθ	$cotg\theta_e$	$A_{s,eq}+A_p$ (cm2)	f_{ck} (N/mm²)	f_{cd} (N/mm²)	f_{1cd} (N/mm²)	σ'_{cd} (N/mm²)	b_w(m)	b (m)	d_v(m)	K	Vu1 (tn)	h_e(m)	A_e (m2)	α	Tu1 (m tn)	TV.hip 1	TT.hip 1	Tinter hip 1	TV.hip 2	TT.hip 2	Tinter hip 2	βv-t
70.90	1213.96	119.92	835.95	557.53	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.82	0.05	0.87	0.36	0.25	0.61	1.00
74.23	1036.18	95.10	704.48	544.63	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.70	0.04	0.74	0.47	0.24	0.72	1.00
74.23	1003.42	37.62	681.57	496.55	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.90	0.02	0.92	0.61	0.29	0.91	1.00
77.56	832.14	16.93	542.95	498.34	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.75	0.01	0.76	0.49	0.29	0.78	1.00
77.56	806.81	80.93	499.20	466.21	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.72	0.05	0.77	0.45	0.28	0.72	1.00
80.89	643.67	86.86	389.80	513.06	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.58	0.05	0.63	0.35	0.30	0.65	1.00
80.89	623.17	68.23	343.64	488.66	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.56	0.05	0.61	0.31	0.29	0.60	1.00
84.22	462.53	103.35	213.64	536.16	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.41	0.08	0.48	0.19	0.32	0.51	1.00
84.22	448.40	59.43	182.14	532.45	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.40	0.04	0.44	0.16	0.32	0.48	1.00
87.55	293.09	70.56	46.93	577.39	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.26	0.04	0.30	0.04	0.34	0.38	1.00
87.55	293.33	31.44	49.76	580.89	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.26	0.02	0.28	0.04	0.33	0.38	1.00
90.88	178.98	186.33	89.85	600.30	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.16	0.11	0.27	0.08	0.36	0.44	1.00
90.88	171.51	145.29	80.34	584.33	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.15	0.09	0.24	0.07	0.33	0.41	1.00
94.21	321.17	177.94	216.51	597.71	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.29	0.11	0.39	0.19	0.35	0.55	1.00
94.21	310.22	156.40	59.38	633.31	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.28	0.09	0.37	0.05	0.38	0.43	1.00
97.54	464.44	160.50	191.18	602.52	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.42	0.11	0.52	0.17	0.36	0.53	1.00
97.54	448.13	126.17	169.72	710.14	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.40	0.09	0.48	0.15	0.42	0.57	1.00
100.87	608.77	148.40	297.42	672.83	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.55	0.09	0.63	0.27	0.40	0.67	1.00
100.87	598.57	76.10	284.41	755.19	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.54	0.05	0.58	0.25	0.45	0.70	1.00
104.20	760.60	84.26	407.01	714.02	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.68	0.05	0.73	0.36	0.42	0.79	1.00
104.20	751.43	9.54	459.78	764.47	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.67	0.01	0.68	0.41	0.45	0.87	1.00
107.55	922.81	8.59	578.89	723.38	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.83	0.00	0.83	0.52	0.43	0.95	1.00
107.55	920.28	115.40	625.94	738.14	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.62	0.05	0.67	0.42	0.33	0.75	1.00
110.90	1098.45	95.60	737.64	698.60	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.74	0.04	0.78	0.50	0.31	0.81	1.00

CALCULO DE CORTANTE-TORSOR SEGÚN EHE

Fibra : 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1.5

Comprobación de bielas a compresión

$V_{u1}=K\cdot f_{1cd}\cdot b_0\cdot d\cdot 1/(ctg\theta+tg\theta)$ $T_{u1}=\alpha\cdot f_{1cd}\cdot A_e\cdot h_e\ 1/(ctg\theta+tg\theta)$

	Hipótesis 1		Hipótesis 2																						Hipótesis 1			Hipótesis 2			
x(m)	Vmax	Tconc	Vcon	Tmax	Sección	C/T	coef. F1cd	$\beta_{compr.}$	$\beta_{tracción}$	cotgθ	$cotg\theta_e$	$A_{s,eq}+A_p$ (cm2)	f_{ck} (N/mm²)	f_{cd} (N/mm²)	f_{1cd} (N/mm²)	σ'_{cd} (N/mm²)	b_w(m)	b (m)	d_v(m)	K	Vu1 (tn)	h_e(m)	A_e (m2)	α	Tu1 (m tn)	TV.hip 1	TT.hip 1	Tinter hip 1	TV.hip 2	TT.hip 2	Tinter hip 2	βv-t
32.90	1177.46	85.23	760.32	498.17	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.79	0.03	0.82	0.51	0.20	0.72	1.00
36.03	1009.77	43.12	622.97	505.35	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.68	0.02	0.70	0.42	0.22	0.64	1.00
36.03	978.79	35.61	626.10	487.29	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.88	0.02	0.90	0.56	0.28	0.84	1.00
39.16	817.40	51.46	491.71	461.90	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.73	0.03	0.76	0.44	0.27	0.71	1.00
39.16	785.56	92.70	475.90	420.85	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.70	0.05	0.76	0.43	0.25	0.68	1.00
42.29	631.49	88.99	325.09	418.89	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.57	0.06	0.62	0.29	0.25	0.54	1.00
42.29	604.16	131.69	363.70	418.06	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.54	0.09	0.62	0.34	0.25	0.59	1.00
45.42	454.42	123.47	261.62	464.95	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.41	0.05	0.49	0.23	0.28	0.51	1.00
45.42	433.43	129.49	210.42	485.04	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.39	0.08	0.47	0.19	0.29	0.48	1.00
48.55	289.52	139.22	84.32	528.92	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.25	0.01	0.27	0.06	0.32	0.38	1.00
48.55	284.46	18.55	70.45	534.66	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.15	0.05	0.20	0.05	0.34	0.39	1.00
51.68	165.74	89.11	59.45	575.16	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.15	0.08	0.23	0.07	0.33	0.40	1.00
51.68	165.37	140.87	73.68	556.75	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.27	0.10	0.37	0.18	0.35	0.53	1.00
54.81	303.09	172.47	201.26	592.25	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.27	0.07	0.34	0.05	0.35	0.40	1.00
54.81	302.18	124.37	58.98	584.16	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.40	0.09	0.49	0.30	0.35	0.65	1.00
57.94	446.89	149.33	330.64	594.90	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.40	0.05	0.45	0.15	0.38	0.53	1.00
57.94	444.03	88.04	172.86	633.24	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.53	0.06	0.59	0.26	0.36	0.62	1.00
61.07	592.43	100.58	294.54	599.26	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.53	0.04	0.56	0.27	0.38	0.65	1.00
61.07	587.85	63.52	286.12	641.50	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.66	0.04	0.71	0.37	0.36	0.73	1.00
64.20	741.36	71.21	416.40	603.17	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.66	0.03	0.69	0.36	0.37	0.73	1.00
64.20	740.32	43.07	401.60	629.69	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.82	0.02	0.84	0.45	0.35	0.80	1.00
67.55	911.53	31.33	505.66	589.07	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.82	0.02	0.84	0.45	0.35	0.80	1.00
67.55	919.81	42.99	578.76	601.12	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.62	0.02	0.64	0.39	0.27	0.66	1.00
70.90	1096.44	16.54	689.96	673.19	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.74	0.01	0.75	0.46	0.26	0.72	1.00

CALCULO DE CORTANTE-TORSOR SEG

Fibra : 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1.5

Dimensionamiento $A_{trans.}$

Dimensionamiento A_{long}

$Vu2=Vcu+Vsu$ | $V_{cu}=[0.1\cdot\xi\cdot(100\cdot\rho l\cdot f_{ck})^{1/3}-0.15\cdot\sigma'_{cd}]b_0\cdot d\cdot\beta$ | $V_{su}=z\cdot ctg\theta\cdot A_{sw}\cdot f_{yd}$ | $Tu2=2\cdot Ae\cdot A_y s\cdot f_{yd}\cdot ctg\theta$ | $Tu3=2\cdot Ae\cdot A_l/u\cdot f_{yd}\cdot tg\theta$

	Hipótesis 1		Hipótesis 2								Hipótesis 1						Hipótesis 2							Hipótesis 1	Hipótesis 2
x(m)	Vmax	Tconc	Vcon	Tmax	ξ	ρl	β	Vu2 sin	Vcu (si,no)	Vcu (tn)	Vrd	Vu2-Vcu hip1	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	Vrd	Vu2-Vcu hip2	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	St máx (cm) hip.1	St máx (cm) hip.2	A_{slong} (cm2/m)	$A_s$long (cm2/m)
0.00	617.71	21.09	481.46	64.89	1.27	0.020	0.821939	44.7	SI	31.7	308.9	277.2	28.20	0.48	3.60	28.68	240.73	209.1	21.27	1.47	3.60	22.75	30.0	30.00	0.48	1.47
2.62	485.71	10.73	154.53	101.39	1.27	0.020	0.821939	44.7	SI	31.7	242.9	211.2	21.49	0.24	3.60	21.73	77.26	45.6	4.64	2.30	3.60	6.94	30.0	30.00	0.24	2.30
2.62	491.33	70.62	366.76	172.86	1.27	0.020	0.821939	44.7	SI	31.7	245.7	214.0	21.77	1.60	3.60	23.38	184.38	152.7	15.54	3.93	3.60	19.47	30.0	30.00	1.60	3.93
5.24	364.95	82.71	257.41	164.44	1.27	0.020	0.848751	59.7	SI	45.5	182.5	137.0	9.96	1.02	3.60	10.98	128.70	83.2	6.05	2.67	3.60	8.72	30.0	30.00	2.00	5.23
5.24	366.89	89.45	295.08	217.91	1.27	0.020	0.848751	59.7	SI	45.5	183.4	138.0	10.03	1.45	3.60	11.48	127.54	82.1	5.96	3.54	3.60	9.50	30.0	30.00	2.85	6.93
7.86	247.71	93.66	148.99	203.52	1.27	0.020	0.848751	59.7	SI	45.5	123.9	78.4	5.70	1.52	3.60	7.22	74.50	29.0	2.11	3.30	3.60	5.41	30.0	30.00	2.99	6.48
7.86	245.05	116.45	112.59	239.64	1.27	0.020	0.848751	59.7	SI	45.5	122.5	77.1	5.60	1.89	3.60	7.49	56.30	-3.4	0.00	3.89	3.60	3.89	30.0	30.00	3.71	7.63
10.48	156.25	86.21	14.23	240.89	1.27	0.020	0.848751	59.7	SI	45.5	78.1	32.7	2.45	1.40	3.60	3.85	7.12	-52.6	0.00	3.91	3.60	3.91	30.0	30.00	2.74	7.66
10.48	159.62	71.48	3.67	258.10	1.27	0.020	0.848751	59.7	SI	45.5	79.8	34.1	2.50	1.16	3.60	3.66	1.83	-57.9	0.00	4.19	3.60	4.19	30.0	30.00	2.27	8.21
13.10	263.62	143.24	142.71	288.85	1.27	0.020	0.848751	59.7	SI	45.5	131.8	86.3	6.27	2.33	3.60	8.60	71.35	25.9	1.88	4.69	3.60	6.57	30.0	30.00	4.56	9.19
13.10	268.62	140.46	160.44	316.51	1.27	0.020	0.848751	59.7	SI	45.5	134.3	88.8	6.46	2.28	3.60	8.74	80.22	34.7	2.53	5.12	3.60	7.65	30.0	30.00	4.47	10.04
15.72	384.97	176.59	264.95	361.02	1.27	0.020	0.848751	59.7	SI	45.5	192.5	147.0	10.68	2.90	3.60	13.58	132.47	87.0	6.32	5.86	3.60	12.18	30.0	30.00	5.68	11.49
15.72	401.48	205.59	281.77	397.51	1.27	0.020	0.848751	59.7	SI	45.5	200.7	155.0	11.29	3.34	3.60	14.62	140.89	95.4	6.93	6.45	3.60	13.39	30.0	30.00	6.54	12.65
18.34	523.37	237.00	388.63	437.96	1.27	0.020	0.848751	59.7	SI	45.5	260.7	215.2	15.64	3.85	3.60	19.49	194.42	148.9	10.83	7.11	3.60	17.94	30.0	30.00	7.54	13.94
18.34	538.54	236.75	425.54	476.06	1.27	0.020	0.848751	59.7	SI	45.5	269.3	223.8	16.27	3.84	3.60	20.11	212.77	167.3	12.16	7.73	3.60	19.89	30.0	30.00	7.53	15.15
20.96	663.67	271.89	536.54	514.14	1.27	0.020	0.848751	59.7	SI	45.5	331.8	286.4	20.81	4.41	3.60	25.23	268.27	222.8	16.19	8.35	3.60	24.54	30.0	30.00	8.65	16.36
20.96	679.89	314.62	553.16	548.66	1.27	0.020	0.848751	59.7	SI	45.5	339.9	294.5	21.40	5.11	3.60	26.51	276.58	231.1	16.80	8.91	3.60	25.71	30.0	30.00	10.02	17.46
23.58	810.03	335.32	668.04	589.18	1.27	0.020	0.848751	59.7	SI	45.5	405.0	359.5	26.13	5.44	3.60	31.57	334.02	288.6	20.97	9.56	3.60	30.54	20.0	30.00	10.67	18.75
23.58	829.80	394.71	673.04	611.45	1.27	0.020	0.848751	79.6	SI	60.6	414.9	354.3	25.75	6.41	4.80	32.16	336.52	275.9	20.05	9.93	4.80	29.98	30.0	30.00	12.56	19.46
26.20	983.64	454.16	794.13	656.23	1.27	0.020	0.848751	79.6	SI	60.6	491.8	421.2	30.61	7.05	4.80	37.66	397.06	336.4	24.45	10.65	4.80	35.10	30.0	30.00	13.81	20.88

CALCULO DE CORTANTE-TORSOR SEGÚN EHE

Fibra : 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1.5

Comprobación de bielas a compresión

$V_{u1}=K\cdot f_{1cd}\cdot b_0\cdot d\cdot 1/(ctg\theta+tg\theta)$ | $T_{u1}=\alpha\cdot f_{1cd}\cdot A_e\cdot h_e\cdot 1/(ctg\theta+tg\theta)$

	Hipótesis 1		Hipótesis 2																					Hipótesis 1			Hipótesis 2			
x(m)	Vmax	Tconc	Vcon	Tmax	Sección	C/T	coef. F1cd	$\beta_{compr.}$	$\beta_{sección}$	cotgθ	$cotg\theta_e$	$A_{s,eq}+A_p$ (cm2)	f_{yd} (N/mm²)	f_{cd} (N/mm²)	f_{1cd} (N/mm²)	σ'_{cd} (N/mm²)	b_w(m)	b (m)	d_v(m)	K	Vu1 (tn)	h_e(m)	A_e (m2)	α	Tu1 (m tn)	Tv hip 1	Tt hip 1	Tinter hip 1	Tv hip 2	Tt hip 2	Tinter hip 2	βv-t
110.90	1120.16	436.58	950.37	604.91	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.75	0.20	0.95	0.64	0.27	0.91	1.00
113.77	966.54	421.17	811.07	618.32	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.65	0.19	0.84	0.55	0.28	0.82	1.00
113.77	936.29	338.06	787.31	679.19	PILA	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.24	0.48	2.73	1	743.74	0.24	5.5	1.5	2247.57	0.63	0.15	0.78	0.53	0.26	0.79	1.00
116.64	787.42	314.78	653.56	549.23	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.68	0.15	0.83	0.56	0.29	0.86	1.00
116.64	762.82	347.31	629.78	496.10	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.56	0.13	0.69	0.45	0.28	0.73	1.00
119.51	619.44	225.14	500.42	469.53	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.53	0.13	0.66	0.41	0.25	0.66	1.00
119.51	594.94	211.85	462.83	415.98	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.41	0.11	0.52	0.30	0.23	0.53	1.00
122.38	456.66	190.89	336.19	387.39	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.39	0.09	0.48	0.28	0.20	0.48	1.00
122.38	433.63	151.73	310.63	338.61	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.27	0.08	0.35	0.17	0.18	0.35	1.00
125.25	300.59	128.20	190.51	307.29	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.26	0.07	0.33	0.14	0.16	0.30	1.00
125.25	291.95	123.54	156.14	275.06	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.15	0.04	0.19	0.02	0.15	0.17	1.00
128.12	168.16	89.97	20.46	255.72	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.15	0.05	0.21	0.02	0.14	0.16	1.00
128.12	168.33	100.09	25.30	237.74	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.26	0.07	0.33	0.14	0.14	0.28	1.00
130.99	266.83	124.80	155.82	237.74	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.26	0.06	0.32	0.18	0.12	0.30	1.00
130.99	292.68	100.80	199.42	202.97	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.38	0.07	0.45	0.29	0.13	0.41	1.00
133.86	426.90	112.52	321.16	212.21	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.39	0.04	0.43	0.29	0.10	0.39	1.00
133.86	431.00	70.71	322.45	165.77	CDV	c	0.6	0.5	0.5	1.4	1.29	98	60	40.00	24.00	-3.09	0.18	0.36	2.73	1	557.81	0.18	5.5	1.5	1685.68	0.39	0.04	0.43	0.29	0.10	0.39	1.00
136.73	574.71	77.44	450.40	168.78	ESTRIBO	c	0.6	0.5	0.5	1	1.11	33.6	60	40.00	24.00	-1.05	0.18	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.49	0.04	0.53	0.38	0.09	0.48	1.00
136.73	575.29	9.18	179.59	100.85	ESTRIBO	c	0.6	0.5	0.5	1	1.11	33.6	60	40.00	24.00	-1.05	0.18	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.49	0.01	0.49	0.15	0.06	0.21	1.00
139.60	725.98	4.16	595.43	63.19	ESTRIBO	c	0.6	0.5	0.5	1	1.11	33.6	60	40.00	24.00	-1.05	0.18	0.36	2.73	1	589.68	0.18	5.5	1.5	1782.00	0.62	0.00	0.62	0.50	0.04	0.54	1.00

CALCULO DE CORTANTE-TORSOR SEG

Fibra : 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1.5

Dimensionamiento $A_{trans.}$

Dimensionamiento A_{long}

Vu2=Vcu+Vsu

$V_{cu}=[0.1\cdot\xi\cdot(100\cdot\rho l\cdot f_{ck})^{1/3}-0.15\cdot\sigma'_{cd}]b_0\cdot d\cdot\beta$

$V_{su}=z\cdot ctg\theta\cdot A_{\alpha}\cdot f_{yd}$

$Tu2=2\cdot Ae\cdot A_t/s\cdot f_{ytd}\cdot ctg\theta$

$Tu3=2\cdot Ae\cdot A_l/u\cdot f_{ytd}\cdot tg\theta$

	Hipótesis 1		Hipótesis 2								Hipótesis 1						Hipótesis 2							Hipótesis 1	Hipótesis 2
x(m)	Vmax	Tconc	Vcon	Tmax	ξ	ρl	β	Vu2 sin	Vcu (sl,no)	Vcu (tn)	Vrd	Vu2-Vcu hip1	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	Vrd	Vu2-Vcu hip2	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	St máx (cm) hip.1	St máx (cm) hip.2	A_{slong} (cm2/m)	A_{slong} (cm2/m)
64.20	1049.89	33.01	616.73	882.55	1.27	0.020	0.848751	79.6	SI	60.6	524.9	464.3	33.75	0.54	4.80	34.28	308.37	247.7	18.01	11.08	4.80	29.09	20.0	30.00	1.05	21.72
67.56	880.84	3.28	522.33	641.36	1.27	0.020	0.848751	79.6	SI	60.6	440.4	379.8	27.60	0.05	4.80	27.66	261.16	200.5	14.57	10.41	4.80	24.99	30.0	30.00	0.10	20.41
67.55	864.82	156.64	499.34	618.72	1.27	0.020	0.848751	59.7	SI	45.5	442.4	396.9	28.85	2.54	3.60	31.39	249.67	204.2	14.84	10.04	3.60	24.89	20.0	30.00	4.98	19.69
70.90	722.22	124.82	389.67	669.55	1.27	0.020	0.848751	59.7	SI	45.5	361.1	315.6	22.94	2.03	3.60	24.97	194.93	149.5	10.86	10.87	3.60	21.73	30.0	30.00	3.97	21.30
70.90	734.65	217.05	481.61	639.46	1.27	0.020	0.848751	59.7	SI	45.5	367.3	321.9	23.39	3.52	3.60	26.92	240.91	195.4	14.20	10.38	3.60	24.58	30.0	30.00	6.91	20.35
74.23	580.65	194.58	272.14	872.75	1.27	0.020	0.848751	59.7	SI	45.5	290.3	244.9	17.80	3.16	3.60	20.95	136.07	90.6	6.58	10.92	3.60	17.51	30.0	30.00	6.19	21.41
74.23	593.85	352.51	472.33	669.39	1.27	0.020	0.848751	59.7	SI	45.5	296.9	251.5	18.28	4.10	3.60	22.37	236.17	190.7	13.86	10.87	3.60	24.73	30.0	30.00	8.03	21.30
77.56	441.30	215.11	154.80	852.11	1.27	0.020	0.848751	59.7	SI	45.5	220.6	175.2	12.73	3.49	3.60	16.22	77.40	31.9	2.32	10.59	3.60	12.91	30.0	30.00	6.84	20.75
77.56	449.67	259.64	327.76	691.41	1.27	0.020	0.848751	59.7	SI	45.5	224.8	179.4	13.04	4.21	3.60	17.25	168.89	123.4	8.97	11.22	3.60	20.19	30.0	30.00	8.26	22.00
80.89	303.18	221.48	207.18	648.93	1.27	0.020	0.848751	59.7	SI	45.5	151.6	106.9	7.71	3.60	3.60	11.31	103.59	58.1	4.22	10.53	3.60	14.76	30.0	30.00	7.05	20.65
80.89	307.17	245.96	199.70	692.33	1.27	0.020	0.848751	59.7	SI	45.5	153.6	108.9	7.86	3.99	3.60	11.85	99.85	54.4	3.95	11.24	3.60	15.19	30.0	30.00	7.83	22.03
84.22	166.90	199.47	70.55	642.34	1.27	0.020	0.848751	59.7	SI	45.5	83.5	38.0	2.76	3.24	3.60	6.00	35.27	-24.5	0.00	10.43	3.60	10.43	30.0	30.00	6.35	20.44
84.22	167.12	204.34	65.05	698.30	1.27	0.020	0.848751	59.7	SI	45.5	83.6	38.1	2.77	3.32	3.60	6.09	32.52	-27.2	0.00	10.85	3.60	10.85	30.0	30.00	6.50	21.26
87.55	281.08	8.03	67.67	614.13	1.27	0.020	0.848751	59.7	SI	45.5	140.5	95.1	6.91	0.13	3.60	7.04	33.83	-25.9	0.00	9.97	3.60	9.97	30.0	30.00	0.26	19.54
87.55	282.68	111.61	82.50	610.04	1.27	0.020	0.848751	59.7	SI	45.5	141.3	95.9	6.97	1.81	3.60	8.78	41.25	-18.5	0.00	9.90	3.60	9.90	30.0	30.00	3.55	19.41
90.88	428.14	89.35	211.27	550.16	1.27	0.020	0.848751	59.7	SI	45.5	214.1	168.5	12.25	1.45	3.60	13.70	105.63	60.2	4.37	8.93	3.60	13.30	30.0	30.00	2.84	17.51
90.88	449.21	131.35	220.99	527.06	1.27	0.020	0.848751	59.7	SI	45.5	224.6	179.1	13.02	2.13	3.60	15.15	110.49	65.0	4.73	8.56	3.60	13.28	30.0	30.00	4.18	16.77
94.21	601.46	104.70	345.15	464.25	1.27	0.020	0.848751	59.7	SI	45.5	300.7	255.0	18.55	1.70	3.60	20.25	172.58	127.1	9.24	7.54	3.60	16.77	30.0	30.00	3.33	14.77
94.21	630.50	72.29	319.42	458.31	1.27	0.020	0.848751	59.7	SI	45.5	315.3	269.6	19.61	1.17	3.60	20.78	159.71	114.2	8.30	7.44	3.60	15.74	30.0	30.00	2.30	14.56
97.54	784.66	57.28	470.58	453.26	1.27	0.020	0.848751	59.7	SI	45.5	392.3	346.9	25.21	0.93	3.60	26.14	235.29	189.8	13.80	7.36	3.60	21.15	20.0	30.00	1.82	14.42
97.54	818.39	10.28	500.11	491.75	1.27	0.020	0.848751	59.7	SI	45.5	409.2	363.7	26.44	0.17	3.60	26.60	250.06	204.6	14.87	7.98	3.60	22.85	20.0	30.00	0.33	15.65
100.87	960.62	36.37	634.59	519.14	1.27	0.020	0.848751	59.7	SI	45.5	490.3	444.8	32.33	0.62	3.60	32.95	317.29	271.8	19.76	8.43	3.60	28.18	20.0	30.00	1.22	16.52
100.87	1014.21	129.80	666.38	559.51	1.27	0.020	0.848751	79.6	SI	60.6	507.1	446.5	32.45	2.11	4.80	34.56	333.19	272.6	19.81	9.08	4.80	28.89	20.0	30.00	4.13	17.80
104.20	1162.75	164.31	805.25	591.98	1.27	0.020	0.848751	79.6	SI	60.6	581.4	530.7	36.57	2.67	4.80	41.24	407.63	342.0	24.86	9.61	4.80	34.47	20.0	30.00	5.23	18.84

CALCULO DE CORTANTE-TORSOR SEG

Fibra : 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1.5

Dimensionamiento $A_{trans.}$

Dimensionamiento A_{long}

Vu2=Vcu+Vsu

$V_{cu}=[0.1\cdot\xi\cdot(100\cdot\rho l\cdot f_{ck})^{1/3}-0.15\cdot\sigma'_{cd}]b_0\cdot d\cdot\beta$

$V_{su}=z\cdot ctg\theta\cdot A_{\alpha}\cdot f_{yd}$

$Tu2=2\cdot Ae\cdot A_t/s\cdot f_{ytd}\cdot ctg\theta$

$Tu3=2\cdot Ae\cdot A_l/u\cdot f_{ytd}\cdot tg\theta$

	Hipótesis 1		Hipótesis 2								Hipótesis 1						Hipótesis 2							Hipótesis 1	Hipótesis 2
x(m)	Vmax	Tconc	Vcon	Tmax	ξ	ρl	β	Vu2 sin	Vcu (sl,no)	Vcu (tn)	Vrd	Vu2-Vcu hip1	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	Vrd	Vu2-Vcu hip2	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	St máx (cm) hip.1	St máx (cm) hip.2	A_{slong} (cm2/m)	A_{slong} (cm2/m)
26.20	978.64	53.35	547.67	739.63	1.27	0.020	0.848751	79.6	SI	60.6	489.3	428.7	31.16	0.87	4.80	32.02	273.83	213.2	15.50	12.01	4.80	27.50	30.0	30.00	1.70	23.53
29.55	809.16	20.42	444.46	736.95	1.27	0.020	0.848751	79.6	SI	60.6	404.6	344.0	25.00	0.33	4.80	25.33	222.23	161.6	11.74	11.96	4.80	23.71	30.0	30.00	0.65	23.45
29.55	819.98	193.67	436.57	714.55	1.27	0.020	0.848751	59.7	SI	45.5	410.0	364.5	26.49	2.17	3.60	28.66	218.28	172.8	12.56	11.60	3.60	24.16	20.0	30.00	4.25	22.74
32.90	656.95	113.21	323.70	787.81	1.27	0.020	0.848751	59.7	SI	45.5	328.5	283.0	20.57	1.84	3.60	22.41	161.85	116.4	8.46	12.46	3.60	20.92	30.0	30.00	3.60	24.42
32.90	672.34	219.33	331.08	705.66	1.27	0.020	0.848751	59.7	SI	45.5	336.2	290.7	21.13	3.56	3.60	24.69	165.54	120.1	8.73	11.46	3.60	20.18	30.0	30.00	6.98	22.45
36.03	526.69	202.42	220.54	756.83	1.27	0.020	0.848751	59.7	SI	45.5	263.4	218.0	15.84	3.29	3.60	19.13	110.27	64.8	4.71	12.29	3.60	17.00	30.0	30.00	6.44	24.08
36.03	540.37	267.73	235.49	671.49	1.27	0.020	0.848751	59.7	SI	45.5	270.2	224.7	16.33	4.35	3.60	20.68	117.74	72.3	5.25	10.90	3.60	16.15	30.0	30.00	8.52	21.37
39.16	396.62	245.25	121.63	715.76	1.27	0.020	0.848751	59.7	SI	45.5	199.3	153.8	11.18	3.98	3.60	15.16	60.81	15.3	1.12	11.64	3.60	12.75	30.0	30.00	7.80	22.81
39.16	405.15	271.24	256.61	624.73	1.27	0.020	0.848751	59.7	SI	45.5	202.6	157.1	11.42	4.40	3.60	15.82	128.30	82.8	6.02	10.14	3.60	16.16	30.0	30.00	8.63	19.88
42.29	287.95	236.97	26.89	651.82	1.27	0.020	0.848751	59.7	SI	45.5	134.0	88.5	6.43	3.85	3.60	10.28	13.45	-46.3	0.00	10.58	3.60	10.58	30.0	30.00	7.54	20.74
42.29	274.49	211.21	165.16	619.64	1.27	0.020	0.848751	59.7	SI	45.5	137.2	91.8	6.67	3.43	3.60	10.10	92.58	47.1	3.42	10.06	3.60	13.48	30.0	30.00	6.72	19.72
45.42	156.25	145.73	72.92	984.34	1.27	0.020	0.848751	59.7	SI	45.5	78.1	32.7	2.37	2.37	3.60	4.74	36.26	-23.5	0.00	9.49	3.60	9.49	30.0	30.00	4.64	18.59
45.42	148.91	45.07	59.74	606.17	1.27	0.020	0.848751	59.7	SI	45.5	74.5	29.0	2.11	0.73	3.60	3.60	29.87	-29.9	0.00	9.84	3.60	9.84	30.0	30.00	1.43	19.29
48.55	279.40	57.81	63.86	559.21	1.27	0.020	0.848751	59.7	SI	45.5	139.7	94.2	6.85	0.94	3.60	7.79	31.93	-27.8	0.00	9.08	3.60	9.08	30.0	30.00	1.84	17.79
48.55	277.06	37.64	71.25	573.76	1.27	0.020	0.848751	59.7	SI	45.5	138.5	93.1	6.76	0.61	3.60	7.37	35.62	-24.1	0.00	9.31	3.60	9.31	30.0	30.00	1.19	18.26
51.68	413.49	14.39	191.20	521.66	1.27	0.020	0.848751	59.7	SI	45.5	206.7	161.3	11.72	0.23	3.60	11.95	95.60	50.1	3.64	8.47	3.60	12.11	30.0	30.00	0.46	16.60
51.68	426.06	76.39	169.92	527.12	1.27	0.020	0.848751	59.7	SI	45.5	213.0	167.6	12.18	1.22	3.60	13.40	94.96	49.5	3.60	8.56	3.60	12.15	30.0	30.00	2.40	16.77
54.81	668.17	69.26	302.80	485.14	1.27	0.020	0.848751	59.7	SI	45.5	284.1	238.5	17.34	0.96	3.60	18.30	151.40	105.9	7.70	7.88	3.60	15.57	30.0	30.00	1.89	15.44
54.81	562.49	58.56	298.37	495.91	1.27	0.020	0.848751	59.7	SI	45.5	291.2	245.8	17.86	1.11	3.60	18.98	149.18	103.7	7.54	8.05	3.60	15.59	30.0	30.00	2.18	15.76
57.94	729.92	57.39	520.53	489.96	1.27	0.020	0.848751	59.7	SI	45.5	364.8	319.3	23.21	0.77	3.60	23.98	260.26	214.8	15.61	7.95	3.60	23.56	30.0	30.00	1.51	15.59
57.94	751.10	35.63	567.49	510.61	1.27	0.020	0.848751	59.7	SI	45.5	375.6	330.1	23.99	0.58	3.60	24.57	283.75	238.3	17.32	8.29	3.60	25.61	20.0	30.00	1.14	16.25
61.07	904.57	66.74	694.39	541.12	1.27	0.020	0.848751	59.7	SI	45.5	452.3	406.8	29.57	1.08	3.60	30.65	347.20	301.7	21.93	8.78	3.60	30.71	20.0	30.00	2.12	17.22
61.07	927.90	115.48	690.01	569.91	1.27	0.020	0.848751	79.6	SI	60.6	463.9	403.3	29.31	1.87	4.80	31.19	345.01	284.4	20.67	9.25	4.80	29.92	30.0	30.00	3.67	18.13
64.20	1067.37	154.32	820.86	605.11	1.27	0.020	0.848751	79.6	SI	60.6	543.7	483.1	35.11	2.51	4.80	37.61	410.44	349.8	25.42	9.82	4.80	35.25	20.0	30.00	4.91	19.25

CALCULO DE CORTANTE-TORSOR SEG

Fibra: 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1.5

Dimensionamiento $A_{trans.}$ — **Dimensionamiento A_{long}**

Vu2=Vcu+Vsu | $V_{cu}=[0.1\cdot\xi\cdot(100\cdot\rho l\cdot f_{ck})^{1/3}-0.15\cdot\sigma'_{cd}]b_0\cdot d\cdot\beta$ | $V_{su}=z\cdot ctg\theta\cdot A_{\alpha}\cdot f_{yd}$ | $Tu2=2\cdot Ae\cdot A_{\alpha}s\cdot f_{yd}\cdot ctg\theta$ | $Tu3=2\cdot Ae\cdot A_l/u\cdot f_{yd}\cdot tg\theta$

	Hipótesis 1		Hipótesis 2								Hipótesis 1						Hipótesis 2							Hipótesis 1	Hipótesis 2
x(m)	Vmax	Tconc	Vcon	Tmax	ξ	ρl	β	Vu2 sin	Vcu (si,no)	Vcu (tn)	Vrd	Vu2-Vcu hip1	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	Vrd	Vu2-Vcu hip2	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	St máx (cm) hip.1	St máx (cm) hip.2	A_{slong} (cm2/m)	A_slong (cm2/m)
0.00	819.04	21.41	940.42	69.16	1.27	0.020	0.821939	44.7	SI	31.7	409.5	377.8	38.45	0.55	3.60	39.00	270.21	238.5	24.27	1.57	3.60	25.84	20.0	30.00	0.55	1.57
2.62	650.42	17.44	480.40	116.51	1.27	0.020	0.821939	44.7	SI	31.7	340.2	308.5	31.39	0.40	3.60	31.79	230.20	198.5	20.20	2.69	3.60	22.89	30.0	30.00	0.40	2.69
2.62	666.09	20.44	416.23	129.80	1.27	0.020	0.821939	44.7	SI	31.7	334.0	302.4	30.77	0.46	3.60	31.23	208.11	176.4	17.95	2.95	3.60	20.90	30.0	30.00	0.46	2.95
5.24	535.37	25.06	313.23	180.35	1.27	0.020	0.848751	59.7	SI	45.5	267.7	222.2	16.15	0.41	3.60	16.56	156.61	111.1	8.08	2.93	3.60	11.01	30.0	30.00	0.80	5.74
5.24	527.01	10.61	246.13	182.16	1.27	0.020	0.848751	59.7	SI	45.5	263.5	218.0	15.85	0.18	3.60	16.02	124.06	78.6	5.71	2.96	3.60	8.67	30.0	30.00	0.34	5.80
7.86	400.69	11.00	141.00	229.40	1.27	0.020	0.848751	59.7	SI	45.5	200.3	154.9	11.26	0.18	3.60	11.43	70.50	25.0	1.82	3.72	3.60	5.54	30.0	30.00	0.35	7.30
7.86	394.90	2.86	133.45	222.68	1.27	0.020	0.848751	59.7	SI	45.5	197.5	152.0	11.05	0.04	3.60	11.09	66.72	21.3	1.54	3.61	3.60	5.16	30.0	30.00	0.08	7.09
10.48	274.56	7.19	22.65	266.26	1.27	0.020	0.848751	59.7	SI	45.5	137.3	91.8	6.67	0.12	3.60	6.79	11.32	-48.4	0.00	4.32	3.60	4.32	30.0	30.00	0.23	8.47
10.48	270.85	30.20	165.34	270.22	1.27	0.020	0.848751	59.7	SI	45.5	135.4	90.0	6.54	0.62	3.60	7.16	82.67	37.2	2.70	4.39	3.60	7.09	30.0	30.00	1.22	8.60
13.10	167.72	21.70	50.71	289.35	1.27	0.020	0.848751	59.7	SI	45.5	83.9	38.4	2.79	0.35	3.60	3.60	40.36	-19.4	0.00	4.70	3.60	4.70	30.0	30.00	0.69	9.21
13.10	169.42	107.76	33.62	346.89	1.27	0.020	0.848751	59.7	SI	45.5	84.7	39.2	2.85	1.75	3.60	4.60	16.81	-42.9	0.00	5.63	3.60	5.63	30.0	30.00	3.43	11.04
15.72	262.52	83.57	103.06	332.41	1.27	0.020	0.848751	59.7	SI	45.5	131.3	85.8	6.23	1.03	3.60	7.27	51.53	-8.2	0.00	5.40	3.60	5.40	30.0	30.00	2.02	10.58
15.72	258.68	46.68	57.71	423.83	1.27	0.020	0.848751	59.7	SI	45.5	129.3	83.9	6.10	0.76	3.60	6.85	28.86	-30.9	0.00	6.88	3.60	6.88	30.0	30.00	1.49	13.49
18.34	377.23	56.23	151.56	403.77	1.27	0.020	0.848751	59.7	SI	45.5	188.6	143.1	10.40	1.11	3.60	11.51	80.93	35.5	2.58	6.55	3.60	9.13	30.0	30.00	2.17	12.85
18.34	373.23	5.08	158.32	491.38	1.27	0.020	0.848751	59.7	SI	45.5	186.6	141.1	10.26	0.08	3.60	10.34	79.16	33.7	2.45	7.98	3.60	10.43	30.0	30.00	0.16	15.63
20.96	496.29	27.35	260.07	465.76	1.27	0.020	0.848751	59.7	SI	45.5	248.1	202.7	14.73	0.36	3.60	15.09	130.04	84.6	6.15	7.56	3.60	13.71	30.0	30.00	0.71	14.82
20.96	492.14	5.05	236.11	544.51	1.27	0.020	0.848751	59.7	SI	45.5	246.1	200.6	14.58	0.08	3.60	14.66	118.06	72.6	5.28	8.84	3.60	14.11	30.0	30.00	0.16	17.33
23.58	618.93	6.63	335.57	514.31	1.27	0.020	0.848751	59.7	SI	45.5	309.5	264.0	19.19	0.11	3.60	19.30	168.28	122.8	8.93	8.35	3.60	17.28	30.0	30.00	0.21	16.36
23.58	612.83	57.40	313.81	589.96	1.27	0.020	0.848751	59.7	SI	45.5	306.9	261.4	19.00	0.93	3.60	19.93	156.90	111.4	8.10	9.58	3.60	17.68	30.0	30.00	1.83	18.77
26.20	743.96	40.70	410.25	557.21	1.27	0.020	0.848751	59.7	SI	45.5	372.0	326.5	23.73	0.66	3.60	24.39	205.12	159.7	11.60	9.05	3.60	20.65	20.0	30.00	1.30	17.73
26.20	742.85	936.28	401.48	620.66	1.27	0.020	0.848751	59.7	SI	45.5	371.4	326.0	23.69	2.21	3.60	25.90	200.74	155.3	11.28	10.08	3.60	21.36	30.0	30.00	4.34	19.75
29.55	916.13	111.47	505.11	587.53	1.27	0.020	0.848751	59.7	SI	45.5	458.1	412.6	29.99	1.81	3.60	31.80	252.56	207.1	15.05	9.54	3.60	24.59	20.0	30.00	3.55	18.69
29.55	929.06	153.48	559.23	622.62	1.27	0.020	0.848751	79.6	SI	60.6	464.5	403.9	29.36	2.49	4.80	31.85	279.62	219.0	15.92	10.11	4.80	26.03	20.0	30.00	4.88	19.82
32.90	1107.31	132.92	670.46	699.00	1.27	0.020	0.848751	79.6	SI	60.6	553.7	493.0	35.83	2.14	4.80	37.98	335.23	274.6	19.96	9.72	4.80	29.68	20.0	30.00	4.20	19.06

CALCULO DE CORTANTE-TORSOR SEG

Fibra: 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1.5

Dimensionamiento $A_{trans.}$ — **Dimensionamiento A_{long}**

Vu2=Vcu+Vsu | $V_{cu}=[0.1\cdot\xi\cdot(100\cdot\rho l\cdot f_{ck})^{1/3}-0.15\cdot\sigma'_{cd}]b_0\cdot d\cdot\beta$ | $V_{su}=z\cdot ctg\theta\cdot A_{\alpha}\cdot f_{yd}$ | $Tu2=2\cdot Ae\cdot A_{\alpha}s\cdot f_{yd}\cdot ctg\theta$ | $Tu3=2\cdot Ae\cdot A_l/u\cdot f_{yd}\cdot tg\theta$

	Hipótesis 1		Hipótesis 2								Hipótesis 1						Hipótesis 2							Hipótesis 1	Hipótesis 2
x(m)	Vmax	Tconc	Vcon	Tmax	ξ	ρl	β	Vu2 sin	Vcu (si,no)	Vcu (tn)	Vrd	Vu2-Vcu hip1	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	Vrd	Vu2-Vcu hip2	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	St máx (cm) hip.1	St máx (cm) hip.2	A_{slong} (cm2/m)	A_slong (cm2/m)
104.20	1085.57	125.41	626.43	752.66	1.27	0.020	0.848751	79.6	SI	60.6	542.8	482.2	35.04	2.04	4.80	37.08	314.22	253.6	18.43	12.22	4.80	30.65	20.0	30.00	3.99	23.95
107.55	917.36	169.19	520.87	697.06	1.27	0.020	0.848751	79.6	SI	60.6	458.7	398.1	28.93	2.58	4.80	31.51	260.43	199.8	14.52	11.32	4.80	25.84	30.0	30.00	5.07	22.18
107.55	914.66	41.48	505.61	662.16	1.27	0.020	0.848751	59.7	SI	45.5	457.3	411.8	29.93	0.67	3.60	30.61	252.81	207.3	15.07	10.75	3.60	25.82	20.0	30.00	1.32	21.07
110.90	750.76	69.21	405.31	712.57	1.27	0.020	0.848751	59.7	SI	45.5	375.4	329.9	23.98	1.12	3.60	25.10	202.66	157.2	11.42	11.57	3.60	22.99	20.0	30.00	2.20	22.67
110.90	758.76	17.73	425.39	638.67	1.27	0.020	0.848751	59.7	SI	45.5	379.4	333.9	24.27	0.29	3.60	24.56	212.69	167.2	12.15	10.37	3.60	22.52	20.0	30.00	0.56	20.32
113.77	623.65	10.24	325.20	665.39	1.27	0.020	0.848751	59.7	SI	45.5	311.8	266.4	19.36	0.17	3.60	19.52	162.60	117.1	8.51	11.13	3.60	19.64	30.0	30.00	0.33	21.81
113.77	635.87	79.42	355.15	587.62	1.27	0.020	0.848751	59.7	SI	45.5	317.9	272.5	19.80	1.29	3.60	21.09	177.57	132.1	9.60	9.54	3.60	19.14	30.0	30.00	2.53	18.70
116.64	503.87	52.26	250.98	531.67	1.27	0.020	0.848751	59.7	SI	45.5	251.9	206.5	15.01	0.85	3.60	15.85	125.49	80.0	5.82	10.25	3.60	16.07	30.0	30.00	1.66	20.10
116.64	513.53	95.63	267.37	532.59	1.27	0.020	0.848751	59.7	SI	45.5	256.8	211.0	15.36	1.39	3.60	16.75	133.69	88.2	6.41	8.65	3.60	15.06	30.0	30.00	2.72	16.95
119.51	384.80	53.21	160.24	572.92	1.27	0.020	0.848751	59.7	SI	45.5	192.4	146.9	10.68	0.90	3.60	11.57	80.12	34.6	2.52	9.30	3.60	11.82	30.0	30.00	1.76	18.23
119.51	393.84	106.01	170.33	463.09	1.27	0.020	0.848751	59.7	SI	45.5	196.9	151.4	11.01	1.72	3.60	12.73	85.16	39.7	2.88	7.52	3.60	10.40	30.0	30.00	3.37	14.73
122.36	269.14	70.47	80.96	496.84	1.27	0.020	0.848751	59.7	SI	45.5	134.6	89.1	6.48	1.14	3.60	7.62	30.48	-29.3	0.00	8.07	3.60	8.07	30.0	30.00	2.24	15.81
122.36	276.59	89.05	105.24	396.13	1.27	0.020	0.848751	59.7	SI	45.5	138.3	92.8	6.75	1.61	3.60	8.35	52.62	-7.1	0.00	6.43	3.60	6.43	30.0	30.00	3.15	12.60
125.25	178.32	157.85	29.03	407.68	1.27	0.020	0.848751	59.7	SI	45.5	88.2	42.7	3.10	2.56	3.60	5.67	14.52	-45.2	0.00	6.62	3.60	6.62	30.0	30.00	5.02	12.97
125.25	172.58	42.32	103.91	353.54	1.27	0.020	0.848751	59.7	SI	45.5	86.3	40.8	2.97	0.69	3.60	3.65	51.95	-7.8	0.00	5.74	3.60	5.74	30.0	30.00	1.35	11.25
128.12	275.44	88.52	195.92	328.61	1.27	0.020	0.848751	59.7	SI	45.5	137.7	92.2	6.70	1.08	3.60	7.78	97.96	52.5	3.81	5.31	3.60	9.12	30.0	30.00	2.12	10.40
128.12	277.41	17.81	12.57	318.03	1.27	0.020	0.848751	59.7	SI	45.5	138.7	93.2	6.78	0.29	3.60	7.07	6.29	-53.4	0.00	5.16	3.60	5.16	30.0	30.00	0.57	10.12
130.99	397.52	1.68	249.08	268.09	1.27	0.020	0.848751	59.7	SI	45.5	198.8	153.3	11.14	0.03	3.60	11.17	124.54	79.1	5.75	4.35	3.60	5.80	30.0	30.00	1.31	8.54
130.99	401.23	41.24	130.82	268.26	1.27	0.020	0.848751	59.7	SI	45.5	200.6	155.1	11.28	0.67	3.60	11.95	65.41	19.9	1.45	4.35	3.60	10.92	30.0	30.00	0.80	6.58
133.86	531.85	25.01	299.15	206.80	1.27	0.020	0.848751	59.7	SI	45.5	265.9	220.5	16.02	0.41	3.60	16.43	149.58	104.1	7.57	3.36	3.60	10.36	30.0	30.00	1.59	6.69
133.86	537.59	50.10	282.15	210.15	1.27	0.020	0.848751	59.7	SI	45.5	268.8	223.0	16.23	0.81	3.60	17.04	141.08	95.6	6.95	3.41	3.60	10.36	30.0	30.00	0.90	3.43
136.73	674.00	38.54	349.30	150.65	1.27	0.020	0.821939	44.7	SI	31.7	337.0	305.3	31.07	0.90	3.60	31.97	174.65	143.0	14.55	3.43	3.60	17.98	30.0	30.00	1.18	3.19
136.73	682.36	52.08	409.96	140.31	1.27	0.020	0.821939	44.7	SI	31.7	341.2	309.5	31.49	1.18	3.60	32.68	204.98	173.3	17.63	3.19	3.60	20.82	30.0	30.00	1.18	3.19
139.60	525.33	50.64	490.75	70.82	1.27	0.020	0.821939	44.7	SI	31.7	412.7	381.0	38.77	1.15	3.60	39.92	245.37	213.7	21.74	1.61	3.60	23.35	20.0	30.00	1.15	1.61

CALCULO DE CORTANTE-TORSOR SEG

Fibra : 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1,5

Dimensionamiento $A_{trans.}$ **Dimensionamiento A_{long}**

					Vu2=Vcu+Vsu						$V_{su}=[0.1\cdot\xi\cdot(100\cdot\rho l\cdot f_{ck})^{1/3}-0.15\cdot\sigma'_{cd}]b_0\cdot d\cdot\beta$						$V_{su}=z\cdot ctg\theta\cdot A_{\alpha}\cdot f_{yd}$						$Tu2=2\cdot Ae\cdot A_{\alpha}s\cdot f_{ytd}\cdot ctg\theta$				$Tu3=2\cdot Ae\cdot A_l/u\cdot f_{ytd}\cdot tg\theta$	
	Hipótesis 1		Hipótesis 2										Hipótesis 1					Hipótesis 2						Hipótesis 1	Ipótesis 2
x(m)	Vmax	Tconc	Vcon	Tmax	ξ	ρl	β	Vu2 sin	Vcu (sl,no)	Vcu (tn)	Vrd	Vu2-Vcu hip1	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	Vrd	Vu2-Vcu hip2	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	St máx (cm) hip.1	St máx (cm) hip.2	A_{slong} (cm2/m)	$A_s$long (cm2/m)
70.90	1213.96	119.92	935.95	557.53	1.27	0.020	0.848751	79.6	SI	60.6	607.0	546.4	39.71	1.95	4.80	41.65	267.98	207.3	15.07	9.05	4.80	24.12	20.0	30.00	3.82	17.74
74.23	1036.18	95.10	704.48	544.63	1.27	0.020	0.848751	79.6	SI	60.6	518.1	457.5	33.25	1.54	4.80	34.79	352.24	291.6	21.19	8.64	4.80	30.04	20.0	30.00	3.03	17.33
74.23	1003.42	37.62	681.67	496.55	1.27	0.020	0.848751	59.7	SI	45.5	501.7	456.2	33.16	0.61	3.60	33.77	340.79	295.3	21.46	8.06	3.60	29.52	20.0	30.00	1.20	15.80
77.56	832.14	18.93	542.35	466.34	1.27	0.020	0.848751	59.7	SI	45.5	416.1	370.6	26.93	0.31	3.60	27.24	271.17	225.7	16.40	8.06	3.60	24.46	20.0	30.00	0.60	15.79
77.56	806.81	80.93	499.20	466.21	1.27	0.020	0.848751	59.7	SI	45.5	403.4	357.9	26.01	1.31	3.60	27.33	249.60	204.1	14.84	7.57	3.60	22.40	20.0	30.00	2.57	14.83
80.89	643.87	86.86	389.60	513.06	1.27	0.020	0.848751	59.7	SI	45.5	321.8	276.4	20.09	1.41	3.60	21.50	194.80	149.3	10.85	8.33	3.60	19.18	30.0	30.00	2.76	16.32
80.89	623.17	68.23	343.64	488.86	1.27	0.020	0.848751	59.7	SI	45.5	311.6	266.1	19.34	1.43	3.60	20.77	171.82	126.4	9.18	7.93	3.60	17.12	30.0	30.00	2.81	15.55
84.22	462.53	103.35	212.64	536.16	1.27	0.020	0.848751	59.7	SI	45.5	231.3	185.8	13.50	1.68	3.60	15.18	106.77	61.3	4.46	8.70	3.60	13.16	30.0	30.00	3.29	17.06
84.22	448.40	59.43	162.14	532.45	1.27	0.020	0.848751	59.7	SI	45.5	223.2	177.7	12.92	0.96	3.60	13.88	91.07	45.6	3.31	8.64	3.60	11.96	30.0	30.00	1.89	16.94
87.55	293.09	70.56	46.93	577.39	1.27	0.020	0.848751	59.7	SI	45.5	146.5	101.0	7.34	1.15	3.60	8.49	23.47	-36.3	0.00	9.37	3.60	9.37	30.0	30.00	2.25	18.37
87.55	293.33	31.44	49.76	580.89	1.27	0.020	0.848751	59.7	SI	45.5	146.7	101.2	7.35	0.51	3.60	7.87	24.88	-34.9	0.00	9.11	3.60	9.11	30.0	30.00	1.00	17.85
90.88	176.98	186.33	89.65	800.30	1.27	0.020	0.848751	59.7	SI	45.5	88.5	43.0	3.13	3.02	3.60	6.15	44.92	-14.8	0.00	9.75	3.60	9.75	30.0	30.00	5.93	19.10
90.88	171.51	145.29	80.34	564.33	1.27	0.020	0.848751	59.7	SI	45.5	85.8	40.3	2.93	2.36	3.60	5.29	40.17	-19.6	0.00	9.16	3.60	9.16	30.0	30.00	4.62	17.96
94.21	321.17	177.94	216.51	597.71	1.27	0.020	0.848751	59.7	SI	45.5	160.6	115.1	8.37	2.89	3.60	11.25	108.26	62.8	4.56	9.70	3.60	14.27	30.0	30.00	5.66	19.02
94.21	310.22	156.40	59.35	633.31	1.27	0.020	0.848751	59.7	SI	45.5	155.1	109.6	7.97	2.54	3.60	10.51	29.69	-30.0	0.00	10.28	3.60	10.28	30.0	30.00	4.98	20.15
97.54	464.44	160.50	181.16	602.62	1.27	0.020	0.848751	59.7	SI	45.5	232.2	186.7	13.57	2.93	3.60	16.50	95.58	50.1	3.64	9.78	3.60	13.42	30.0	30.00	5.74	19.17
97.54	448.13	126.17	159.72	710.14	1.27	0.020	0.848751	59.7	SI	45.5	224.1	178.6	12.98	2.05	3.60	15.03	84.86	39.4	2.86	11.53	3.60	14.39	30.0	30.00	4.01	22.60
100.87	606.77	148.40	297.42	672.83	1.27	0.020	0.848751	59.7	SI	45.5	304.4	258.9	18.82	2.41	3.60	21.23	148.71	103.2	7.50	10.92	3.60	18.43	30.0	30.00	4.72	21.41
100.87	598.67	78.10	284.41	755.19	1.27	0.020	0.848751	59.7	SI	45.5	299.3	253.9	18.45	1.24	3.60	19.69	142.21	96.7	7.03	12.26	3.60	19.29	30.0	30.00	2.42	24.03
104.20	780.60	84.28	407.01	714.02	1.27	0.020	0.848751	59.7	SI	45.5	380.3	334.8	24.33	1.37	3.60	25.70	203.50	158.0	11.49	11.59	3.60	23.08	20.0	30.00	2.68	22.72
104.20	751.43	9.54	459.78	764.47	1.27	0.020	0.848751	59.7	SI	45.5	375.7	330.2	24.00	0.15	3.60	24.16	229.89	184.4	13.40	12.41	3.60	25.81	20.0	30.00	0.30	24.32
107.55	922.81	8.59	576.69	723.39	1.27	0.020	0.848751	59.7	SI	45.5	461.4	415.9	30.23	0.11	3.60	30.34	289.34	243.9	17.72	11.74	3.60	29.47	20.0	30.00	0.21	23.02
107.55	920.28	115.40	625.94	736.14	1.27	0.020	0.848751	79.6	SI	60.6	460.1	399.5	29.04	1.87	4.80	30.91	312.97	252.3	18.34	11.95	4.80	30.29	30.0	30.00	3.67	23.42
110.90	1096.45	85.80	737.64	698.60	1.27	0.020	0.848751	79.6	SI	60.6	549.2	488.6	35.51	1.56	4.80	37.07	368.82	308.2	22.40	11.34	4.80	33.74	20.0	30.00	3.05	22.23

CALCULO DE CORTANTE-TORSOR SEG

Fibra : 1

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1,5

Dimensionamiento $A_{trans.}$ **Dimensionamiento A_{long}**

					Vu2=Vcu+Vsu						$V_{su}=[0.1\cdot\xi\cdot(100\cdot\rho l\cdot f_{ck})^{1/3}-0.15\cdot\sigma'_{cd}]b_0\cdot d\cdot\beta$						$V_{su}=z\cdot ctg\theta\cdot A_{\alpha}\cdot f_{yd}$						$Tu2=2\cdot Ae\cdot A_{\alpha}s\cdot f_{ytd}\cdot ctg\theta$				$Tu3=2\cdot Ae\cdot A_l/u\cdot f_{ytd}\cdot tg\theta$	
	Hipótesis 1		Hipótesis 2										Hipótesis 1					Hipótesis 2						Hipótesis 1	Ipótesis 2
x(m)	Vmax	Tconc	Vcon	Tmax	ξ	ρl	β	Vu2 sin	Vcu (sl,no)	Vcu (tn)	Vrd	Vu2-Vcu hip1	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	Vrd	Vu2-Vcu hip2	$A_s$cort (cm2/m)	$A_s$tor (cm2/m)	$A_s$min (cm2/m)	$A_s$total (cm2/m)	St máx (cm) hip.1	St máx (cm) hip.2	A_{slong} (cm2/m)	$A_s$long (cm2/m)
32.90	1177.46	55.23	760.37	458.17	1.27	0.020	0.848751	79.6	SI	60.6	588.7	528.1	38.38	1.06	4.80	39.44	380.19	319.6	23.23	7.44	4.80	30.56	20.0	30.00	2.08	14.58
36.03	1009.77	43.13	622.97	509.35	1.27	0.020	0.848751	79.6	SI	60.6	504.9	444.3	32.29	0.70	4.80	32.99	311.48	250.9	18.23	8.20	4.80	26.44	20.0	30.00	1.37	16.08
36.03	978.79	35.61	626.10	467.29	1.27	0.020	0.848751	59.7	SI	45.5	489.4	443.9	32.26	0.58	3.60	32.84	313.05	267.6	19.45	7.59	3.60	27.03	20.0	30.00	1.13	14.87
39.16	817.40	51.46	491.71	451.90	1.27	0.020	0.848751	59.7	SI	45.5	408.7	363.2	26.40	0.84	3.60	27.23	245.85	200.4	14.56	7.34	3.60	21.90	20.0	30.00	1.64	14.38
39.16	785.56	92.70	475.90	420.85	1.27	0.020	0.848751	59.7	SI	45.5	392.8	347.3	25.24	1.50	3.60	26.75	237.95	192.5	13.99	6.83	3.60	20.82	20.0	30.00	2.95	13.39
42.29	631.19	98.99	325.09	418.89	1.27	0.020	0.848751	59.7	SI	45.5	315.6	270.1	19.63	1.61	3.60	21.24	162.54	117.1	8.51	6.80	3.60	15.31	30.0	30.00	3.15	13.33
42.29	604.18	131.59	383.70	418.08	1.27	0.020	0.848751	59.7	SI	45.5	302.1	256.6	18.65	2.14	3.60	20.79	191.85	146.4	10.64	6.79	3.60	17.43	30.0	30.00	4.19	13.30
45.42	454.43	133.47	261.67	484.96	1.27	0.020	0.848751	59.7	SI	45.5	227.2	181.7	13.21	2.17	3.60	15.38	130.81	85.3	6.20	7.55	3.60	13.75	30.0	30.00	4.25	14.79
45.42	433.43	128.95	210.42	485.04	1.27	0.020	0.848751	59.7	SI	45.5	216.7	171.2	12.45	2.10	3.60	14.55	105.21	59.7	4.34	7.87	3.60	12.22	30.0	30.00	4.12	15.43
48.59	289.52	136.72	84.32	528.92	1.27	0.020	0.848751	59.7	SI	45.5	144.8	99.3	7.22	2.24	3.60	9.46	42.16	-17.6	0.00	8.59	3.60	8.59	30.0	30.00	4.40	16.83
48.59	284.46	18.55	70.45	534.66	1.27	0.020	0.848751	59.7	SI	45.5	142.2	96.8	7.03	0.30	3.60	7.33	35.23	-24.5	0.00	8.68	3.60	8.68	30.0	30.00	0.59	17.01
51.68	165.74	89.11	59.45	575.16	1.27	0.020	0.848751	59.7	SI	45.5	82.9	37.4	2.72	1.45	3.60	4.16	29.72	-30.0	0.00	9.30	3.60	9.30	30.0	30.00	2.84	18.24
51.68	165.37	140.87	73.66	556.75	1.27	0.020	0.848751	59.7	SI	45.5	82.7	37.2	2.70	2.29	3.60	4.99	36.84	-22.9	0.00	9.04	3.60	9.04	30.0	30.00	4.48	17.71
54.81	303.09	172.47	201.26	592.25	1.27	0.020	0.848751	59.7	SI	45.5	151.5	106.1	7.71	2.80	3.60	10.51	100.63	55.2	4.01	9.61	3.60	13.62	30.0	30.00	5.49	18.84
54.81	302.18	124.37	58.98	584.16	1.27	0.020	0.848751	59.7	SI	45.5	151.1	105.6	7.68	2.02	3.60	9.70	29.49	-30.2	0.00	9.48	3.60	9.48	30.0	30.00	3.96	18.59
57.94	445.89	148.33	330.64	694.90	1.27	0.020	0.848751	59.7	SI	45.5	222.9	177.5	12.90	2.41	3.60	15.31	165.27	119.8	8.71	9.66	3.60	18.36	30.0	30.00	4.72	18.93
57.94	444.03	88.04	172.86	633.24	1.27	0.020	0.848751	59.7	SI	45.5	222.0	176.5	12.83	1.43	3.60	14.26	86.44	41.0	2.98	10.28	3.60	13.26	30.0	30.00	2.80	20.15
61.07	592.43	100.88	294.34	589.28	1.27	0.020	0.848751	59.7	SI	45.5	296.2	250.7	18.22	1.63	3.60	19.86	147.27	101.8	7.40	9.73	3.60	17.13	30.0	30.00	3.20	19.07
61.07	587.85	63.52	296.12	641.50	1.27	0.020	0.848751	59.7	SI	45.5	293.9	248.5	18.06	1.03	3.60	19.09	149.06	103.6	7.53	10.41	3.60	17.94	30.0	30.00	2.02	20.41
64.20	741.36	71.21	416.40	603.17	1.27	0.020	0.848751	59.7	SI	45.5	370.7	325.2	23.64	1.16	3.60	24.79	208.20	162.7	11.83	9.79	3.60	21.62	30.0	30.00	2.27	19.19
64.20	740.32	43.07	401.60	629.69	1.27	0.020	0.848751	59.7	SI	45.5	370.2	324.7	23.60	0.70	3.60	24.30	200.80	155.3	11.29	10.22	3.60	21.51	30.0	30.00	1.37	20.04
67.55	911.53	31.33	505.66	589.07	1.27	0.020	0.848751	59.7	SI	45.5	455.8	410.3	29.82	0.51	3.60	30.33	252.83	207.4	15.07	9.56	3.60	24.63	20.0	30.00	1.00	18.74
67.55	919.61	42.99	578.76	601.12	1.27	0.020	0.848751	79.6	SI	60.6	459.9	399.3	29.02	0.70	4.80	29.72	289.38	228.8	16.63	9.76	4.80	26.38	30.0	30.00	1.37	19.13
70.90	1098.44	18.54	689.98	573.19	1.27	0.020	0.848751	79.6	SI	60.6	549.2	488.6	35.51	0.30	4.80	35.81	344.99	284.4	20.67	9.31	4.80	29.97	20.0	30.00	0.59	18.24

Fibra 2 - z = ...

A continuación se refleja el cálculo de una fibra, el armado resulta más que de 29cm²/m, no obstante continuamos el cálculo horizontal el cual es según

Si la fibra no tiene tracción en tramos y en que sea por lo que no se incluye

En todo caso el coef. de interacción a mano y el de tangente obtenido es de cotg θ = 1.

Dimensionamiento $A_{trans.}$

$V_{u2}=z\cdot d\cdot g\theta\cdot A_{sw}$ $\quad Tu2=2\cdot Ae\cdot A_t\cdot f_{yd}\cdot ctg\theta$

x(m)	Hipótesis 1 Vmax	Tconc	Hipótesis 2 Vcon	Tmax	ξ	pl	β	Vu2 sin	Vcu (sí,no)	Vcu (tn)	Vrd	Vu2-Vcu hip1	$A_{s,cort}$ (cm2/m)	$A_{s,ter}$ (cm2/m)	$A_{s,min}$ (cm2/m)	$A_{s,total}$ (cm2/m)	Hipótesis 1 St máx (cm) hip.1	St máx (cm) hip.2	Hipótesis 1 $A_{s,long}$ (cm2/m)	Hipótesis 2 $A_{s,long}$ (cm2/m)
110.90	1120.16	438.58	950.37	804.91	1.27	0.020	0.848751	79.6	SI	60.6	560.1	499.4	36.30	7.12	4.80	43.42	20.0	30.00	13.95	19.25
113.77	966.54	421.17	811.07	810.32	1.27	0.020	0.848751	79.6	SI	60.6	481.3	422.6	30.72	6.84	4.80	37.55	20.0	20.00	13.40	19.67
113.77	838.29	338.98	787.21	679.19	1.27	0.020	0.848751	59.7	SI	45.5	468.1	422.7	30.72	5.49	3.60	36.21	20.0	20.00	10.76	16.43
116.64	787.42	314.78	653.56	619.23	1.27	0.020	0.848751	59.7	SI	45.5	393.7	348.2	25.31	5.11	3.60	30.42	20.0	30.00	10.01	17.46
116.64	782.82	247.31	829.78	596.10	1.27	0.020	0.848751	59.7	SI	45.5	381.4	335.6	24.42	4.01	3.60	28.43	20.0	30.00	7.87	15.79
119.51	619.44	225.11	500.42	469.53	1.27	0.020	0.848751	59.7	SI	45.5	309.7	254.2	18.31	3.44	3.60	21.75	20.0	30.00	6.73	13.23
119.51	594.94	211.83	462.83	415.98	1.27	0.020	0.848751	59.7	SI	45.5	291.5	232.0	16.71	3.10	3.60	21.75	20.0	30.00	6.07	12.33
122.36	456.86	190.98	336.19	367.39	1.27	0.020	0.848751	59.7	SI	45.5	224.8	171.9	12.45	2.46	3.60	14.92	20.0	30.00	4.83	10.78
122.36	433.85	151.73	310.83	338.61	1.27	0.020	0.848751	59.7	SI	45.5	213.8	154.1	11.29	2.08	3.60	14.92	20.0	30.00	4.08	9.78
125.25	300.58	128.20	199.31	307.29	1.27	0.020	0.848751	59.7	SI	45.5	156.0	100.4	7.30	2.01	3.60	9.70	20.0	30.00	3.93	8.75
125.25	291.95	123.34	156.14	276.06	1.27	0.020	0.848751	59.7	SI	45.5	146.0	86.5	6.29	1.14	3.60	9.14	20.0	30.00	2.23	8.14
128.12	168.18	69.97	20.46	255.72	1.27	0.020	0.848751	59.7	SI	45.5	84.1	38.6	2.81	1.62	3.60	4.44	20.0	30.00	3.18	7.56
128.12	160.33	100.00	25.30	237.74	1.27	0.020	0.848751	59.7	SI	45.5	84.2	38.7	2.81	2.03	3.60	8.97	20.0	30.00	3.97	7.56
130.99	266.83	24.90	125.52	237.74	1.27	0.020	0.848751	59.7	SI	45.5	143.4	97.9	7.13	1.64	3.60	8.97	20.0	30.00	3.21	6.46
130.99	292.68	100.00	199.42	202.97	1.27	0.020	0.848751	59.7	SI	45.5	146.3	100.8	7.33	1.83	3.60	14.11	20.0	30.00	3.58	6.75
133.86	428.90	12.52	321.18	212.21	1.27	0.020	0.848751	59.7	SI	45.5	214.5	169.0	12.28	1.15	3.60	13.51	20.0	30.00	2.25	5.27
133.66	431.00	70.71	322.45	165.77	1.27	0.020	0.848751	59.7	SI	45.5	215.5	170.0	12.35	1.76	3.60	27.78	20.0	30.00	1.76	3.84
136.73	574.71	27.44	450.40	189.76	1.27	0.020	0.821939	44.7	SI	31.7	287.4	255.7	26.02	0.21	3.60	26.70	20.0	30.00	0.21	2.29
136.73	574.29	9.18	179.59	100.85	1.27	0.020	0.821939	44.7	SI	31.7	287.1	255.4	25.99	0.09	3.60	33.81	20.0	30.00	0.09	1.44
139.60	725.98	4.16	595.43	63.19	1.27	0.020	0.821939	44.7	SI	31.7	363.0	331.3	33.71	0.09	3.60	33.81	20.0	30.00	0.09	1.44

Dimensionamiento A_{long}

$V_{u2}=[0.1\cdot\xi\cdot(100\cdot\rho l\cdot f_{cd})^{1/3}-0.15\cdot\sigma'_{cd}]\cdot b_w\cdot d$ $\quad Tu2=2\cdot Ae\cdot A_t\cdot f_{yd}\cdot ctg\theta$

$Vu2=Vcu+Vsu$

CALCULO DE CORTANTE-TORSOR SEG

Fibra ...

Fibra lateral del alma

Características generales de la sección:

Coeficiente de minoración γ_c 1.5

FIBRA 2 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	Interacción hip 1	Interacción hip 2
"V3" V-19-2	23	23	64.20	1049.89	0.00	616.73	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.65**	**0.38**
	23	24	67.55	880.84	0.00	522.33	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.54**	**0.32**
	24	24	67.55	884.82	0.00	499.34	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.55**	**0.31**
	24	25	70.90	722.22	0.00	389.87	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.45**	**0.24**
	25	25	70.90	734.65	0.00	481.81	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.45**	**0.30**
	25	26	74.23	580.65	0.00	272.14	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.36**	**0.17**
	26	26	74.23	593.85	0.00	472.33	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.37**	**0.29**
	26	27	77.56	441.30	0.00	154.80	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.27**	**0.10**
	27	27	77.56	449.67	0.00	337.78	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.28**	**0.21**
	27	28	80.89	303.16	0.00	207.18	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.19**	**0.13**
	28	28	80.89	307.17	0.00	199.70	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.19**	**0.12**
	28	29	84.22	166.90	0.00	70.55	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.10**	**0.04**
	29	29	84.22	167.12	0.00	65.05	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.10**	**0.04**
	29	30	87.55	281.08	0.00	67.67	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.04**
	30	30	87.55	282.68	0.00	82.50	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.05**
	30	31	90.88	428.14	0.00	211.27	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.26**	**0.13**
	31	31	90.88	449.21	0.00	220.99	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.28**	**0.14**
	31	32	94.21	601.48	0.00	345.15	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.37**	**0.21**
	32	32	94.21	630.50	0.00	319.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.39**	**0.20**
	32	33	97.54	784.68	0.00	470.58	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.49**	**0.29**
	33	33	97.54	818.39	0.00	500.11	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.51**	**0.31**
	33	34	100.87	980.62	0.00	634.59	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.61**	**0.39**
	34	34	100.87	1014.21	0.00	666.38	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.63**	**0.41**
	34	10035	104.20	1182.75	0.00	805.25	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.73**	**0.50**

FIBRA 2 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	Interacción hip 1	Interacción hip 2
"V8" V-18-2	11	11	26.20	978.64	0.00	547.67	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.61**	**0.34**
	11	12	29.55	809.16	0.00	444.46	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.50**	**0.27**
	12	12	29.55	819.98	0.00	436.57	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.51**	**0.27**
	12	13	32.90	656.95	0.00	323.70	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.41**	**0.20**
	13	13	32.90	672.34	0.00	331.08	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.42**	**0.20**
	13	14	36.03	526.89	0.00	220.54	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.33**	**0.14**
	14	14	36.03	540.37	0.00	235.49	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.33**	**0.15**
	14	15	39.16	398.62	0.00	121.63	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.25**	**0.08**
	15	15	39.16	405.15	0.00	256.61	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.25**	**0.16**
	15	16	42.29	267.95	0.00	26.89	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.02**
	16	16	42.29	274.49	0.00	185.16	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.11**
	16	17	45.42	156.25	0.00	72.52	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.10**	**0.04**
	17	17	45.42	148.91	0.00	59.74	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.09**	**0.04**
	17	18	48.55	279.40	0.00	63.86	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.04**
	18	18	48.55	277.08	0.00	71.25	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.04**
	18	19	51.68	413.49	0.00	191.20	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.26**	**0.12**
	19	19	51.68	426.06	0.00	189.92	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.26**	**0.12**
	19	20	54.81	568.17	0.00	302.80	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.35**	**0.19**
	20	20	54.81	582.49	0.00	298.37	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.36**	**0.18**
	20	21	57.94	729.59	0.00	520.53	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.45**	**0.32**
	21	21	57.94	751.10	0.00	567.49	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.46**	**0.35**
	21	22	61.07	904.57	0.00	694.39	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.56**	**0.43**
	22	22	61.07	927.90	0.00	690.01	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.57**	**0.43**
	22	10023	64.20	1087.37	0.00	820.88	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.67**	**0.51**

FIBRA 2 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)						CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V6" V-17-1	101	101	0.00	819.04	0.00	540.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.51**	**0.33**
	101	102	2.62	680.42	0.00	460.40	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.42**	**0.28**
	102	102	2.62	668.09	0.00	416.23	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.41**	**0.26**
	102	103	5.24	535.37	0.00	313.23	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.33**	**0.19**
	103	103	5.24	527.01	0.00	248.13	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.33**	**0.15**
	103	104	7.86	400.69	0.00	141.00	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.25**	**0.09**
	104	104	7.86	394.90	0.00	133.45	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.24**	**0.08**
	104	105	10.48	274.58	0.00	22.65	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.01**
	105	105	10.48	270.85	0.00	165.34	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.10**
	105	106	13.10	167.72	0.00	80.71	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.10**	**0.05**
	106	106	13.10	169.42	0.00	33.62	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.10**	**0.02**
	106	107	15.72	262.52	0.00	103.06	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.16**	**0.06**
	107	107	15.72	258.68	0.00	57.71	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.16**	**0.04**
	107	108	18.34	377.22	0.00	161.86	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.23**	**0.10**
	108	108	18.34	373.23	0.00	158.32	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.23**	**0.10**
	108	109	20.96	496.29	0.00	260.07	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.31**	**0.16**
	109	109	20.96	492.14	0.00	236.11	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.30**	**0.15**
	109	110	23.58	618.95	0.00	336.57	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.38**	**0.21**
	110	110	23.58	613.83	0.00	313.81	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.38**	**0.19**
	110	111	26.20	743.98	0.00	410.25	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.46**	**0.25**
	111	111	26.20	742.85	0.00	401.48	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.46**	**0.25**
	111	112	29.55	916.13	0.00	505.11	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.57**	**0.31**
	112	112	29.55	929.06	0.00	559.23	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.57**	**0.35**
	112	10113	32.90	1107.31	0.00	670.46	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.68**	**0.41**

FIBRA 2 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)						CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V10" V-20-	35	35	104.20	1085.57	0.00	628.43	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.67**	**0.39**
	35	36	107.55	917.36	0.00	520.87	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.57**	**0.32**
	36	36	107.55	914.68	0.00	505.61	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.57**	**0.31**
	36	37	110.90	750.76	0.00	405.31	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.46**	**0.25**
	37	37	110.90	758.76	0.00	425.39	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.47**	**0.26**
	37	38	113.77	623.65	0.00	325.20	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.39**	**0.20**
	38	38	113.77	635.87	0.00	355.15	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.39**	**0.22**
	38	39	116.64	503.87	0.00	250.98	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.31**	**0.16**
	39	39	116.64	513.53	0.00	267.37	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.32**	**0.17**
	39	40	119.51	384.80	0.00	160.24	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.24**	**0.10**
	40	40	119.51	393.84	0.00	170.33	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.24**	**0.11**
	40	41	122.38	269.14	0.00	60.96	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.04**
	41	41	122.38	276.59	0.00	105.24	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.07**
	41	42	125.25	176.32	0.00	29.03	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.11**	**0.02**
	42	42	125.25	172.58	0.00	103.91	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.11**	**0.06**
	42	43	128.12	275.44	0.00	195.92	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.12**
	43	43	128.12	277.41	0.00	12.57	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.17**	**0.01**
	43	44	130.99	397.53	0.00	249.08	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.25**	**0.15**
	44	44	130.99	401.23	0.00	130.82	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.25**	**0.08**
	44	45	133.86	531.86	0.00	299.15	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.33**	**0.19**
	45	45	133.86	537.59	0.00	282.15	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.33**	**0.17**
	45	46	136.73	674.00	0.00	349.30	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.42**	**0.22**
	46	46	136.73	682.38	0.00	409.96	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.42**	**0.25**
	46	47	139.60	825.33	0.00	490.75	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.51**	**0.30**

FIBRA 2 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)						CÁLCULO Trd(tn)							
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V3" V-19-1	125	125	70.90	1213.96	0.00	535.95	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.75**	**0.33**
	125	126	74.23	1036.16	0.00	704.48	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.64**	**0.44**
	126	126	74.23	1003.42	0.00	681.57	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.62**	**0.42**
	126	127	77.56	832.14	0.00	542.35	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.51**	**0.34**
	127	127	77.56	806.81	0.00	499.20	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.50**	**0.31**
	127	128	80.89	643.67	0.00	389.60	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.40**	**0.24**
	128	128	80.89	623.17	0.00	343.64	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.39**	**0.21**
	128	129	84.22	462.53	0.00	213.54	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.29**	**0.13**
	129	129	84.22	446.40	0.00	182.14	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.28**	**0.11**
	129	130	87.55	293.00	0.00	46.93	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.18**	**0.03**
	130	130	87.55	293.33	0.00	49.76	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.18**	**0.03**
	130	131	90.88	176.98	0.00	89.85	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.11**	**0.06**
	131	131	90.88	171.51	0.00	80.34	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.11**	**0.05**
	131	132	94.21	321.17	0.00	216.51	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.20**	**0.13**
	132	132	94.21	310.22	0.00	59.38	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.19**	**0.04**
	132	133	97.54	464.44	0.00	191.16	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.29**	**0.12**
	133	133	97.54	448.13	0.00	169.72	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.28**	**0.10**
	133	134	100.87	608.77	0.00	297.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.38**	**0.18**
	134	134	100.87	598.67	0.00	284.41	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.37**	**0.18**
	134	135	104.20	760.60	0.00	407.01	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.47**	**0.25**
	135	135	104.20	751.43	0.00	459.78	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.46**	**0.28**
	135	136	107.55	922.81	0.00	578.69	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.57**	**0.36**
	136	136	107.55	920.28	0.00	625.94	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.57**	**0.39**
	136	10137	110.90	1098.45	0.00	737.64	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.68**	**0.46**

FIBRA 2 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)						CÁLCULO Trd(tn)							
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V8" V-18-1	113	113	32.90	1177.48	0.00	760.37	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.73**	**0.47**
	113	114	36.03	1009.77	0.00	622.97	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.62**	**0.39**
	114	114	36.03	978.79	0.00	626.10	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.61**	**0.39**
	114	115	39.16	817.40	0.00	491.71	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.51**	**0.30**
	115	115	39.16	785.58	0.00	475.90	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.49**	**0.29**
	115	116	42.29	631.19	0.00	325.09	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.39**	**0.20**
	116	116	42.29	604.18	0.00	383.70	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.37**	**0.24**
	116	117	45.42	454.43	0.00	261.62	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.28**	**0.16**
	117	117	45.42	433.43	0.00	210.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.27**	**0.13**
	117	118	48.55	289.52	0.00	84.32	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.18**	**0.05**
	118	118	48.55	284.46	0.00	70.45	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.18**	**0.04**
	118	119	51.68	165.74	0.00	59.45	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.10**	**0.04**
	119	119	51.68	165.37	0.00	73.68	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.10**	**0.05**
	119	120	54.81	303.09	0.00	201.26	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.19**	**0.12**
	120	120	54.81	302.18	0.00	58.98	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.19**	**0.04**
	120	121	57.94	445.89	0.00	330.54	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.28**	**0.20**
	121	121	57.94	444.03	0.00	172.88	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.27**	**0.11**
	121	122	61.07	592.43	0.00	294.54	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.37**	**0.18**
	122	122	61.07	587.85	0.00	298.12	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.36**	**0.18**
	122	123	64.20	741.36	0.00	416.40	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.46**	**0.26**
	123	123	64.20	740.32	0.00	401.60	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.46**	**0.25**
	123	124	67.55	911.63	0.00	505.66	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.56**	**0.31**
	124	124	67.55	919.81	0.00	578.76	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.57**	**0.36**
	124	10125	70.90	1098.44	0.00	689.98	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	**0.68**	**0.43**

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV.		ARMAD. TORSIÓN LONG	
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	HIP1 A (cm2/m)	HIP2 A (cm2/m)	HIP1 A (cm2/m)	HIP2 A (cm2/m)
"V7" V-17-2	1	1	0.00	617.7	0.0	481.5	0.0	2.7	1.0	0.24	14.9	11.6	5.5	1.0	0.0	0.0	14.9	11.6	0.0	0.0
	1	2	2.62	485.7	0.0	154.5	0.0	2.7	1.0	0.24	11.7	3.7	5.5	1.0	0.0	0.0	11.7	3.7	0.0	0.0
	2	2	2.62	491.3	0.0	368.8	0.0	2.7	1.0	0.24	11.8	8.9	5.5	1.0	0.0	0.0	11.8	8.9	0.0	0.0
	2	3	5.24	364.9	0.0	257.4	0.0	2.7	1.0	0.24	8.8	6.2	5.5	1.0	0.0	0.0	8.8	6.2	0.0	0.0
	3	3	5.24	366.9	0.0	255.1	0.0	2.7	1.0	0.24	8.8	6.1	5.5	1.0	0.0	0.0	8.8	6.1	0.0	0.0
	3	4	7.86	247.7	0.0	149.0	0.0	2.7	1.0	0.24	6.0	3.6	5.5	1.0	0.0	0.0	6.0	3.6	0.0	0.0
	4	4	7.86	245.1	0.0	112.6	0.0	2.7	1.0	0.24	5.9	2.7	5.5	1.0	0.0	0.0	5.9	2.7	0.0	0.0
	4	5	10.48	158.3	0.0	14.2	0.0	2.7	1.0	0.24	3.8	0.3	5.5	1.0	0.0	0.0	3.8	0.3	0.0	0.0
	5	5	10.48	159.6	0.0	3.7	0.0	2.7	1.0	0.24	3.8	0.1	5.5	1.0	0.0	0.0	3.8	0.1	0.0	0.0
	5	6	13.10	263.6	0.0	142.7	0.0	2.7	1.0	0.24	6.3	3.4	5.5	1.0	0.0	0.0	6.3	3.4	0.0	0.0
	6	6	13.10	268.6	0.0	160.4	0.0	2.7	1.0	0.24	6.5	3.9	5.5	1.0	0.0	0.0	6.5	3.9	0.0	0.0
	6	7	15.72	385.0	0.0	264.9	0.0	2.7	1.0	0.24	9.3	6.4	5.5	1.0	0.0	0.0	9.3	6.4	0.0	0.0
	7	7	15.72	401.5	0.0	281.8	0.0	2.7	1.0	0.24	9.7	6.8	5.5	1.0	0.0	0.0	9.7	6.8	0.0	0.0
	7	8	18.34	521.4	0.0	388.8	0.0	2.7	1.0	0.24	12.5	9.4	5.5	1.0	0.0	0.0	12.5	9.4	0.0	0.0
	8	8	18.34	538.5	0.0	425.5	0.0	2.7	1.0	0.24	13.0	10.2	5.5	1.0	0.0	0.0	13.0	10.2	0.0	0.0
	8	9	20.96	663.7	0.0	536.5	0.0	2.7	1.0	0.24	16.0	12.9	5.5	1.0	0.0	0.0	16.0	12.9	0.0	0.0
	9	9	20.96	679.9	0.0	553.2	0.0	2.7	1.0	0.24	16.4	13.3	5.5	1.0	0.0	0.0	16.4	13.3	0.0	0.0
	9	10	23.58	810.0	0.0	668.0	0.0	2.7	1.0	0.24	19.5	16.1	5.5	1.0	0.0	0.0	19.5	16.1	0.0	0.0
	10	10	23.58	829.8	0.0	673.0	0.0	2.7	1.0	0.24	20.0	16.2	5.5	1.0	0.0	0.0	20.0	16.2	0.0	0.0
	10	10011	26.20	963.6	0.0	794.1	0.0	2.7	1.0	0.24	23.2	19.1	5.5	1.0	0.0	0.0	23.2	19.1	0.0	0.0

FIBRA 2 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)						CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V9" V-20-1	137	137	110.90	1120.16	0.00	950.37	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.69	0.59
	137	138	113.77	966.54	0.00	811.07	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.60	0.50
	138	138	113.77	936.29	0.00	787.31	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.58	0.49
	138	139	116.64	787.42	0.00	653.56	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.49	0.40
	139	139	116.64	762.82	0.00	629.78	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.47	0.39
	139	140	119.51	619.44	0.00	500.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.38	0.31
	140	140	119.51	594.94	0.00	462.83	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.37	0.29
	140	141	122.38	456.66	0.00	338.19	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.28	0.21
	141	141	122.38	433.63	0.00	310.63	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.27	0.19
	141	142	125.25	300.59	0.00	190.51	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.19	0.12
	142	142	125.25	291.95	0.00	156.14	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.18	0.10
	142	143	128.12	168.16	0.00	20.48	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.10	0.01
	143	143	128.12	168.33	0.00	25.30	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.10	0.02
	143	144	130.99	286.83	0.00	155.82	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.18	0.10
	144	144	130.99	292.68	0.00	199.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.18	0.12
	144	145	133.86	428.90	0.00	321.16	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.27	0.20
	145	145	133.86	431.00	0.00	322.45	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.27	0.20
	145	146	136.73	574.71	0.00	450.40	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.36	0.28
	146	146	136.73	574.29	0.00	179.59	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.36	0.11
	146	147	139.60	725.98	0.00	595.43	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.24	0.45	0.37

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V3" V-19-2	23	23	64.20	1049.9	0.0	616.7	0.0	2.7	1.0	0.24	25.3	14.8	5.5	1.0	0.0	0.0	25.3	14.8	0.0	0.0
	23	24	67.55	880.8	0.0	522.3	0.0	2.7	1.0	0.24	21.2	12.6	5.5	1.0	0.0	0.0	21.2	12.6	0.0	0.0
	24	24	67.55	884.8	0.0	499.3	0.0	2.7	1.0	0.24	21.3	12.0	5.5	1.0	0.0	0.0	21.3	12.0	0.0	0.0
	24	25	70.90	722.2	0.0	389.9	0.0	2.7	1.0	0.24	17.4	9.4	5.5	1.0	0.0	0.0	17.4	9.4	0.0	0.0
	25	25	70.90	734.6	0.0	481.8	0.0	2.7	1.0	0.24	17.7	11.6	5.5	1.0	0.0	0.0	17.7	11.6	0.0	0.0
	25	26	74.23	580.6	0.0	272.1	0.0	2.7	1.0	0.24	14.0	6.5	5.5	1.0	0.0	0.0	14.0	6.5	0.0	0.0
	26	26	74.23	593.8	0.0	472.3	0.0	2.7	1.0	0.24	14.3	11.4	5.5	1.0	0.0	0.0	14.3	11.4	0.0	0.0
	26	27	77.56	441.3	0.0	154.8	0.0	2.7	1.0	0.24	10.6	3.7	5.5	1.0	0.0	0.0	10.6	3.7	0.0	0.0
	27	27	77.56	449.7	0.0	337.8	0.0	2.7	1.0	0.24	10.8	8.1	5.5	1.0	0.0	0.0	10.8	8.1	0.0	0.0
	27	28	80.89	303.2	0.0	207.2	0.0	2.7	1.0	0.24	7.3	5.0	5.5	1.0	0.0	0.0	7.3	5.0	0.0	0.0
	28	28	80.89	307.2	0.0	199.7	0.0	2.7	1.0	0.24	7.4	4.8	5.5	1.0	0.0	0.0	7.4	4.8	0.0	0.0
	28	29	84.22	166.9	0.0	70.5	0.0	2.7	1.0	0.24	4.0	1.7	5.5	1.0	0.0	0.0	4.0	1.7	0.0	0.0
	29	29	84.22	167.1	0.0	65.0	0.0	2.7	1.0	0.24	4.0	1.6	5.5	1.0	0.0	0.0	4.0	1.6	0.0	0.0
	29	30	87.55	281.1	0.0	67.7	0.0	2.7	1.0	0.24	6.8	1.6	5.5	1.0	0.0	0.0	6.8	1.6	0.0	0.0
	30	30	87.55	282.7	0.0	82.5	0.0	2.7	1.0	0.24	6.8	2.0	5.5	1.0	0.0	0.0	6.8	2.0	0.0	0.0
	30	31	90.88	428.1	0.0	211.3	0.0	2.7	1.0	0.24	10.3	5.1	5.5	1.0	0.0	0.0	10.3	5.1	0.0	0.0
	31	31	90.88	449.2	0.0	221.0	0.0	2.7	1.0	0.24	10.8	5.3	5.5	1.0	0.0	0.0	10.8	5.3	0.0	0.0
	31	32	94.21	601.5	0.0	345.2	0.0	2.7	1.0	0.24	14.5	8.3	5.5	1.0	0.0	0.0	14.5	8.3	0.0	0.0
	32	32	94.21	630.5	0.0	319.4	0.0	2.7	1.0	0.24	15.2	7.7	5.5	1.0	0.0	0.0	15.2	7.7	0.0	0.0
	32	33	97.54	784.7	0.0	470.6	0.0	2.7	1.0	0.24	18.9	11.3	5.5	1.0	0.0	0.0	18.9	11.3	0.0	0.0
	33	33	97.54	818.4	0.0	500.1	0.0	2.7	1.0	0.24	19.7	12.0	5.5	1.0	0.0	0.0	19.7	12.0	0.0	0.0
	33	34	100.87	980.6	0.0	634.6	0.0	2.7	1.0	0.24	23.6	15.3	5.5	1.0	0.0	0.0	23.6	15.3	0.0	0.0
	34	34	100.87	1014.2	0.0	666.4	0.0	2.7	1.0	0.24	24.4	16.0	5.5	1.0	0.0	0.0	24.4	16.0	0.0	0.0
	34	10035	104.20	1182.7	0.0	805.3	0.0	2.7	1.0	0.24	28.5	19.4	5.5	1.0	0.0	0.0	28.5	19.4	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V8" V-18-2	11	11	26.20	978.6	0.0	547.7	0.0	2.7	1.0	0.24	23.5	13.2	5.5	1.0	0.0	0.0	23.5	13.2	0.0	0.0
	11	12	29.55	809.2	0.0	444.5	0.0	2.7	1.0	0.24	19.5	10.7	5.5	1.0	0.0	0.0	19.5	10.7	0.0	0.0
	12	12	29.55	820.0	0.0	436.6	0.0	2.7	1.0	0.24	19.7	10.5	5.5	1.0	0.0	0.0	19.7	10.5	0.0	0.0
	12	13	32.90	657.0	0.0	323.7	0.0	2.7	1.0	0.24	15.8	7.8	5.5	1.0	0.0	0.0	15.8	7.8	0.0	0.0
	13	13	32.90	672.3	0.0	331.1	0.0	2.7	1.0	0.24	16.2	8.0	5.5	1.0	0.0	0.0	16.2	8.0	0.0	0.0
	13	14	36.03	526.9	0.0	220.5	0.0	2.7	1.0	0.24	12.7	5.3	5.5	1.0	0.0	0.0	12.7	5.3	0.0	0.0
	14	14	36.03	540.4	0.0	235.5	0.0	2.7	1.0	0.24	13.0	5.7	5.5	1.0	0.0	0.0	13.0	5.7	0.0	0.0
	14	15	39.16	398.6	0.0	121.6	0.0	2.7	1.0	0.24	9.6	2.9	5.5	1.0	0.0	0.0	9.6	2.9	0.0	0.0
	15	15	39.16	405.1	0.0	256.6	0.0	2.7	1.0	0.24	9.7	6.2	5.5	1.0	0.0	0.0	9.7	6.2	0.0	0.0
	15	16	42.29	267.9	0.0	26.9	0.0	2.7	1.0	0.24	6.4	0.6	5.5	1.0	0.0	0.0	6.4	0.6	0.0	0.0
	16	16	42.29	274.5	0.0	185.2	0.0	2.7	1.0	0.24	6.6	4.5	5.5	1.0	0.0	0.0	6.6	4.5	0.0	0.0
	16	17	45.42	156.2	0.0	72.5	0.0	2.7	1.0	0.24	3.8	1.7	5.5	1.0	0.0	0.0	3.8	1.7	0.0	0.0
	17	17	45.42	148.9	0.0	59.7	0.0	2.7	1.0	0.24	3.6	1.4	5.5	1.0	0.0	0.0	3.6	1.4	0.0	0.0
	17	18	48.55	279.4	0.0	63.9	0.0	2.7	1.0	0.24	6.7	1.5	5.5	1.0	0.0	0.0	6.7	1.5	0.0	0.0
	18	18	48.55	277.1	0.0	71.2	0.0	2.7	1.0	0.24	6.7	1.7	5.5	1.0	0.0	0.0	6.7	1.7	0.0	0.0
	18	19	51.68	413.5	0.0	191.2	0.0	2.7	1.0	0.24	9.9	4.6	5.5	1.0	0.0	0.0	9.9	4.6	0.0	0.0
	19	19	51.68	426.1	0.0	189.9	0.0	2.7	1.0	0.24	10.2	4.6	5.5	1.0	0.0	0.0	10.2	4.6	0.0	0.0
	19	20	54.81	568.2	0.0	302.8	0.0	2.7	1.0	0.24	13.7	7.3	5.5	1.0	0.0	0.0	13.7	7.3	0.0	0.0
	20	20	54.81	582.5	0.0	298.4	0.0	2.7	1.0	0.24	14.0	7.2	5.5	1.0	0.0	0.0	14.0	7.2	0.0	0.0
	20	21	57.94	729.6	0.0	520.5	0.0	2.7	1.0	0.24	17.6	12.5	5.5	1.0	0.0	0.0	17.6	12.5	0.0	0.0
	21	21	57.94	751.1	0.0	567.5	0.0	2.7	1.0	0.24	18.1	13.7	5.5	1.0	0.0	0.0	18.1	13.7	0.0	0.0
	21	22	61.07	904.6	0.0	694.4	0.0	2.7	1.0	0.24	21.8	16.7	5.5	1.0	0.0	0.0	21.8	16.7	0.0	0.0
	22	22	61.07	927.9	0.0	690.0	0.0	2.7	1.0	0.24	22.3	16.6	5.5	1.0	0.0	0.0	22.3	16.6	0.0	0.0
	22	10023	64.20	1087.4	0.0	820.9	0.0	2.7	1.0	0.24	26.2	19.7	5.5	1.0	0.0	0.0	26.2	19.7	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV.		ARMAD. TORSIÓN LONG	
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	HIP1 A (cm2/m)	HIP2 A (cm2/m)	HIP1 A (cm2/m)	HIP2 A (cm2/m)
"V6" V-17-1	101	101	0.00	819.0	0.0	540.4	0.0	2.7	1.0	0.24	19.7	13.0	5.5	1.0	0.0	0.0	19.7	13.0	0.0	0.0
	101	102	2.62	680.4	0.0	460.4	0.0	2.7	1.0	0.24	16.4	11.1	5.5	1.0	0.0	0.0	16.4	11.1	0.0	0.0
	102	102	2.62	668.1	0.0	416.2	0.0	2.7	1.0	0.24	16.1	10.0	5.5	1.0	0.0	0.0	16.1	10.0	0.0	0.0
	102	103	5.24	535.4	0.0	313.2	0.0	2.7	1.0	0.24	12.9	7.5	5.5	1.0	0.0	0.0	12.9	7.5	0.0	0.0
	103	103	5.24	527.0	0.0	248.1	0.0	2.7	1.0	0.24	12.7	6.0	5.5	1.0	0.0	0.0	12.7	6.0	0.0	0.0
	103	104	7.86	400.7	0.0	141.0	0.0	2.7	1.0	0.24	9.6	3.4	5.5	1.0	0.0	0.0	9.6	3.4	0.0	0.0
	104	104	7.86	394.9	0.0	133.4	0.0	2.7	1.0	0.24	9.5	3.2	5.5	1.0	0.0	0.0	9.5	3.2	0.0	0.0
	104	105	10.48	274.6	0.0	22.6	0.0	2.7	1.0	0.24	6.6	0.5	5.5	1.0	0.0	0.0	6.6	0.5	0.0	0.0
	105	105	10.48	270.8	0.0	165.3	0.0	2.7	1.0	0.24	6.5	4.0	5.5	1.0	0.0	0.0	6.5	4.0	0.0	0.0
	105	106	13.10	167.7	0.0	80.7	0.0	2.7	1.0	0.24	4.0	1.9	5.5	1.0	0.0	0.0	4.0	1.9	0.0	0.0
	106	106	13.10	169.4	0.0	33.6	0.0	2.7	1.0	0.24	4.1	0.8	5.5	1.0	0.0	0.0	4.1	0.8	0.0	0.0
	106	107	15.72	262.5	0.0	103.1	0.0	2.7	1.0	0.24	6.3	2.5	5.5	1.0	0.0	0.0	6.3	2.5	0.0	0.0
	107	107	15.72	258.7	0.0	57.7	0.0	2.7	1.0	0.24	6.2	1.4	5.5	1.0	0.0	0.0	6.2	1.4	0.0	0.0
	107	108	18.34	377.2	0.0	161.9	0.0	2.7	1.0	0.24	9.1	3.9	5.5	1.0	0.0	0.0	9.1	3.9	0.0	0.0
	108	108	18.34	373.2	0.0	158.3	0.0	2.7	1.0	0.24	9.0	3.8	5.5	1.0	0.0	0.0	9.0	3.8	0.0	0.0
	108	109	20.96	496.3	0.0	260.1	0.0	2.7	1.0	0.24	11.9	6.3	5.5	1.0	0.0	0.0	11.9	6.3	0.0	0.0
	109	109	20.96	492.1	0.0	236.1	0.0	2.7	1.0	0.24	11.8	5.7	5.5	1.0	0.0	0.0	11.8	5.7	0.0	0.0
	109	110	23.58	619.0	0.0	336.6	0.0	2.7	1.0	0.24	14.9	8.1	5.5	1.0	0.0	0.0	14.9	8.1	0.0	0.0
	110	110	23.58	613.8	0.0	313.8	0.0	2.7	1.0	0.24	14.8	7.5	5.5	1.0	0.0	0.0	14.8	7.5	0.0	0.0
	110	111	26.20	744.0	0.0	410.2	0.0	2.7	1.0	0.24	17.9	9.9	5.5	1.0	0.0	0.0	17.9	9.9	0.0	0.0
	111	111	26.20	742.9	0.0	401.5	0.0	2.7	1.0	0.24	17.9	9.7	5.5	1.0	0.0	0.0	17.9	9.7	0.0	0.0
	111	112	29.55	916.1	0.0	505.1	0.0	2.7	1.0	0.24	22.0	12.2	5.5	1.0	0.0	0.0	22.0	12.2	0.0	0.0
	112	112	29.55	929.1	0.0	559.2	0.0	2.7	1.0	0.24	22.4	13.5	5.5	1.0	0.0	0.0	22.4	13.5	0.0	0.0
	112	10113	32.90	1107.3	0.0	670.5	0.0	2.7	1.0	0.24	26.6	16.1	5.5	1.0	0.0	0.0	26.6	16.1	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV.		ARMAD. TORSIÓN LONG	
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	HIP1 A (cm2/m)	HIP2 A (cm2/m)	HIP1 A (cm2/m)	HIP2 A (cm2/m)
"V10" V 20-2	35	35	104.20	1085.6	0.0	628.4	0.0	2.7	1.0	0.24	26.1	15.1	5.5	1.0	0.0	0.0	26.1	15.1	0.0	0.0
	35	36	107.55	917.4	0.0	520.9	0.0	2.7	1.0	0.24	22.1	12.5	5.5	1.0	0.0	0.0	22.1	12.5	0.0	0.0
	36	36	107.55	914.7	0.0	505.6	0.0	2.7	1.0	0.24	22.0	12.2	5.5	1.0	0.0	0.0	22.0	12.2	0.0	0.0
	36	37	110.90	750.8	0.0	405.3	0.0	2.7	1.0	0.24	18.1	9.8	5.5	1.0	0.0	0.0	18.1	9.8	0.0	0.0
	37	37	110.90	758.8	0.0	425.4	0.0	2.7	1.0	0.24	18.3	10.2	5.5	1.0	0.0	0.0	18.3	10.2	0.0	0.0
	37	38	113.77	623.7	0.0	325.2	0.0	2.7	1.0	0.24	15.0	7.8	5.5	1.0	0.0	0.0	15.0	7.8	0.0	0.0
	38	38	113.77	635.9	0.0	355.1	0.0	2.7	1.0	0.24	15.3	8.5	5.5	1.0	0.0	0.0	15.3	8.5	0.0	0.0
	38	39	116.64	503.9	0.0	251.0	0.0	2.7	1.0	0.24	12.1	6.0	5.5	1.0	0.0	0.0	12.1	6.0	0.0	0.0
	39	39	116.64	513.5	0.0	267.4	0.0	2.7	1.0	0.24	12.4	6.4	5.5	1.0	0.0	0.0	12.4	6.4	0.0	0.0
	39	40	119.51	384.8	0.0	160.2	0.0	2.7	1.0	0.24	9.3	3.9	5.5	1.0	0.0	0.0	9.3	3.9	0.0	0.0
	40	40	119.51	393.8	0.0	170.3	0.0	2.7	1.0	0.24	9.5	4.1	5.5	1.0	0.0	0.0	9.5	4.1	0.0	0.0
	40	41	122.38	269.1	0.0	61.0	0.0	2.7	1.0	0.24	6.5	1.5	5.5	1.0	0.0	0.0	6.5	1.5	0.0	0.0
	41	41	122.38	276.6	0.0	105.2	0.0	2.7	1.0	0.24	6.7	2.5	5.5	1.0	0.0	0.0	6.7	2.5	0.0	0.0
	41	42	125.25	176.3	0.0	29.0	0.0	2.7	1.0	0.24	4.2	0.7	5.5	1.0	0.0	0.0	4.2	0.7	0.0	0.0
	42	42	125.25	172.6	0.0	103.9	0.0	2.7	1.0	0.24	4.2	2.5	5.5	1.0	0.0	0.0	4.2	2.5	0.0	0.0
	42	43	128.12	275.4	0.0	195.9	0.0	2.7	1.0	0.24	6.6	4.7	5.5	1.0	0.0	0.0	6.6	4.7	0.0	0.0
	43	43	128.12	277.4	0.0	12.6	0.0	2.7	1.0	0.24	6.7	0.3	5.5	1.0	0.0	0.0	6.7	0.3	0.0	0.0
	43	44	130.99	397.5	0.0	249.1	0.0	2.7	1.0	0.24	9.6	6.0	5.5	1.0	0.0	0.0	9.6	6.0	0.0	0.0
	44	44	130.99	401.2	0.0	130.8	0.0	2.7	1.0	0.24	9.7	3.1	5.5	1.0	0.0	0.0	9.7	3.1	0.0	0.0
	44	45	133.86	531.9	0.0	299.2	0.0	2.7	1.0	0.24	12.8	7.2	5.5	1.0	0.0	0.0	12.8	7.2	0.0	0.0
	45	45	133.86	537.6	0.0	282.2	0.0	2.7	1.0	0.24	12.9	6.8	5.5	1.0	0.0	0.0	12.9	6.8	0.0	0.0
	45	46	136.73	674.0	0.0	349.3	0.0	2.7	1.0	0.24	16.2	8.4	5.5	1.0	0.0	0.0	16.2	8.4	0.0	0.0
	46	46	136.73	682.4	0.0	410.0	0.0	2.7	1.0	0.24	16.4	9.9	5.5	1.0	0.0	0.0	16.4	9.9	0.0	0.0
	46	47	139.60	825.3	0.0	490.7	0.0	2.7	1.0	0.24	19.9	11.8	5.5	1.0	0.0	0.0	19.9	11.8	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V3" V-19-1	125	125	70.90	1214.0	0.0	536.0	0.0	2.7	1.0	0.24	29.2	12.9	5.5	1.0	0.0	0.0	29.2	12.9	0.0	0.0
	125	126	74.23	1036.2	0.0	704.5	0.0	2.7	1.0	0.24	24.9	16.9	5.5	1.0	0.0	0.0	24.9	16.9	0.0	0.0
	126	126	74.23	1003.4	0.0	681.6	0.0	2.7	1.0	0.24	24.1	16.4	5.5	1.0	0.0	0.0	24.1	16.4	0.0	0.0
	126	127	77.56	832.1	0.0	542.3	0.0	2.7	1.0	0.24	20.0	13.0	5.5	1.0	0.0	0.0	20.0	13.0	0.0	0.0
	127	127	77.56	806.8	0.0	499.2	0.0	2.7	1.0	0.24	19.4	12.0	5.5	1.0	0.0	0.0	19.4	12.0	0.0	0.0
	127	128	80.89	643.7	0.0	389.6	0.0	2.7	1.0	0.24	15.5	9.4	5.5	1.0	0.0	0.0	15.5	9.4	0.0	0.0
	128	128	80.89	623.2	0.0	343.6	0.0	2.7	1.0	0.24	15.0	8.3	5.5	1.0	0.0	0.0	15.0	8.3	0.0	0.0
	128	129	84.22	462.5	0.0	213.5	0.0	2.7	1.0	0.24	11.1	5.1	5.5	1.0	0.0	0.0	11.1	5.1	0.0	0.0
	129	129	84.22	446.4	0.0	182.1	0.0	2.7	1.0	0.24	10.7	4.4	5.5	1.0	0.0	0.0	10.7	4.4	0.0	0.0
	129	130	87.55	293.0	0.0	46.9	0.0	2.7	1.0	0.24	7.0	1.1	5.5	1.0	0.0	0.0	7.0	1.1	0.0	0.0
	130	130	87.55	293.3	0.0	49.8	0.0	2.7	1.0	0.24	7.1	1.2	5.5	1.0	0.0	0.0	7.1	1.2	0.0	0.0
	130	131	90.88	177.0	0.0	89.8	0.0	2.7	1.0	0.24	4.3	2.2	5.5	1.0	0.0	0.0	4.3	2.2	0.0	0.0
	131	131	90.88	171.5	0.0	80.3	0.0	2.7	1.0	0.24	4.1	1.9	5.5	1.0	0.0	0.0	4.1	1.9	0.0	0.0
	131	132	94.21	321.2	0.0	216.5	0.0	2.7	1.0	0.24	7.7	5.2	5.5	1.0	0.0	0.0	7.7	5.2	0.0	0.0
	132	132	94.21	310.2	0.0	59.4	0.0	2.7	1.0	0.24	7.5	1.4	5.5	1.0	0.0	0.0	7.5	1.4	0.0	0.0
	132	133	97.54	464.4	0.0	191.2	0.0	2.7	1.0	0.24	11.2	4.6	5.5	1.0	0.0	0.0	11.2	4.6	0.0	0.0
	133	133	97.54	448.1	0.0	169.7	0.0	2.7	1.0	0.24	10.8	4.1	5.5	1.0	0.0	0.0	10.8	4.1	0.0	0.0
	133	134	100.87	608.8	0.0	297.4	0.0	2.7	1.0	0.24	14.6	7.2	5.5	1.0	0.0	0.0	14.6	7.2	0.0	0.0
	134	134	100.87	598.7	0.0	284.4	0.0	2.7	1.0	0.24	14.4	6.8	5.5	1.0	0.0	0.0	14.4	6.8	0.0	0.0
	134	135	104.20	760.6	0.0	407.0	0.0	2.7	1.0	0.24	18.3	9.8	5.5	1.0	0.0	0.0	18.3	9.8	0.0	0.0
	135	135	104.20	751.4	0.0	459.8	0.0	2.7	1.0	0.24	18.1	11.1	5.5	1.0	0.0	0.0	18.1	11.1	0.0	0.0
	135	136	107.55	922.8	0.0	578.7	0.0	2.7	1.0	0.24	22.2	13.9	5.5	1.0	0.0	0.0	22.2	13.9	0.0	0.0
	136	136	107.55	920.3	0.0	625.9	0.0	2.7	1.0	0.24	22.1	15.1	5.5	1.0	0.0	0.0	22.1	15.1	0.0	0.0
	136	10137	110.90	1098.5	0.0	737.6	0.0	2.7	1.0	0.24	26.4	17.7	5.5	1.0	0.0	0.0	26.4	17.7	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V8" V-18-1	113	113	32.90	1177.5	0.0	760.4	0.0	2.7	1.0	0.24	28.3	18.3	5.5	1.0	0.0	0.0	28.3	18.3	0.0	0.0
	113	114	36.03	1009.8	0.0	623.0	0.0	2.7	1.0	0.24	24.3	15.0	5.5	1.0	0.0	0.0	24.3	15.0	0.0	0.0
	114	114	36.03	978.8	0.0	626.1	0.0	2.7	1.0	0.24	23.5	15.1	5.5	1.0	0.0	0.0	23.5	15.1	0.0	0.0
	114	115	39.16	817.4	0.0	491.7	0.0	2.7	1.0	0.24	19.7	11.8	5.5	1.0	0.0	0.0	19.7	11.8	0.0	0.0
	115	115	39.16	785.6	0.0	475.9	0.0	2.7	1.0	0.24	18.9	11.4	5.5	1.0	0.0	0.0	18.9	11.4	0.0	0.0
	115	116	42.29	631.2	0.0	325.1	0.0	2.7	1.0	0.24	15.2	7.8	5.5	1.0	0.0	0.0	15.2	7.8	0.0	0.0
	116	116	42.29	604.2	0.0	383.7	0.0	2.7	1.0	0.24	14.5	9.2	5.5	1.0	0.0	0.0	14.5	9.2	0.0	0.0
	116	117	45.42	454.4	0.0	261.6	0.0	2.7	1.0	0.24	10.9	6.3	5.5	1.0	0.0	0.0	10.9	6.3	0.0	0.0
	117	117	45.42	433.4	0.0	210.4	0.0	2.7	1.0	0.24	10.4	5.1	5.5	1.0	0.0	0.0	10.4	5.1	0.0	0.0
	117	118	48.55	289.5	0.0	84.3	0.0	2.7	1.0	0.24	7.0	2.0	5.5	1.0	0.0	0.0	7.0	2.0	0.0	0.0
	118	118	48.55	284.5	0.0	70.5	0.0	2.7	1.0	0.24	6.8	1.7	5.5	1.0	0.0	0.0	6.8	1.7	0.0	0.0
	118	119	51.68	165.7	0.0	59.4	0.0	2.7	1.0	0.24	4.0	1.4	5.5	1.0	0.0	0.0	4.0	1.4	0.0	0.0
	119	119	51.68	165.4	0.0	73.7	0.0	2.7	1.0	0.24	4.0	1.8	5.5	1.0	0.0	0.0	4.0	1.8	0.0	0.0
	119	120	54.81	303.1	0.0	201.3	0.0	2.7	1.0	0.24	7.3	4.8	5.5	1.0	0.0	0.0	7.3	4.8	0.0	0.0
	120	120	54.81	302.2	0.0	59.0	0.0	2.7	1.0	0.24	7.3	1.4	5.5	1.0	0.0	0.0	7.3	1.4	0.0	0.0
	120	121	57.94	445.9	0.0	330.5	0.0	2.7	1.0	0.24	10.7	8.0	5.5	1.0	0.0	0.0	10.7	8.0	0.0	0.0
	121	121	57.94	444.0	0.0	172.9	0.0	2.7	1.0	0.24	10.7	4.2	5.5	1.0	0.0	0.0	10.7	4.2	0.0	0.0
	121	122	61.07	592.4	0.0	294.5	0.0	2.7	1.0	0.24	14.3	7.1	5.5	1.0	0.0	0.0	14.3	7.1	0.0	0.0
	122	122	61.07	587.9	0.0	298.1	0.0	2.7	1.0	0.24	14.1	7.2	5.5	1.0	0.0	0.0	14.1	7.2	0.0	0.0
	122	123	64.20	741.4	0.0	416.4	0.0	2.7	1.0	0.24	17.8	10.0	5.5	1.0	0.0	0.0	17.8	10.0	0.0	0.0
	123	123	64.20	740.3	0.0	401.6	0.0	2.7	1.0	0.24	17.8	9.7	5.5	1.0	0.0	0.0	17.8	9.7	0.0	0.0
	123	124	67.55	911.6	0.0	505.7	0.0	2.7	1.0	0.24	21.9	12.2	5.5	1.0	0.0	0.0	21.9	12.2	0.0	0.0
	124	124	67.55	919.8	0.0	578.8	0.0	2.7	1.0	0.24	22.1	13.9	5.5	1.0	0.0	0.0	22.1	13.9	0.0	0.0
	124	10125	70.90	1098.4	0.0	690.0	0.0	2.7	1.0	0.24	26.4	16.6	5.5	1.0	0.0	0.0	26.4	16.6	0.0	0.0

Fibra 3 - [illegible]

La armadura [illegible]

[illegible]

El coeficiente de [illegible]

La [illegible]

Longitudinal de [illegible] cada Ø12 a Ø125 arriba y abajo. (VALE con Ø16 a Ø20)

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE				HIP1	HIP2	ARMAD. TOTAL TRANSV.		ARMAD. TORSIÓN LONG	
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	A (cm2/m)	HIP1 A (cm2/m)	HIP2 A (cm2/m)	HIP1 A (cm2/m)	HIP2 A (cm2/m)
"Vg" V-20-1	137	137	110.90	1120.2	0.0	950.4	0.0	2.7	1.0	0.24	26.9	0.0	0.0	26.9	22.9	0.0	0.0
	137	138	113.77	966.5	0.0	811.1	0.0	2.7	1.0	0.24	23.3	0.0	0.0	23.3	19.5	0.0	0.0
	138	138	113.77	936.3	0.0	787.3	0.0	2.7	1.0	0.24	22.5	0.0	0.0	22.5	18.9	0.0	0.0
	138	139	116.64	787.4	0.0	653.6	0.0	2.7	1.0	0.24	18.9	0.0	0.0	18.9	15.7	0.0	0.0
	139	139	116.64	762.8	0.0	629.8	0.0	2.7	1.0	0.24	18.4	0.0	0.0	18.4	15.2	0.0	0.0
	139	140	119.51	619.4	0.0	500.4	0.0	2.7	1.0	0.24	14.9	0.0	0.0	14.9	12.0	0.0	0.0
	140	140	119.51	594.9	0.0	462.8	0.0	2.7	1.0	0.24	14.3	0.0	0.0	14.3	11.1	0.0	0.0
	140	141	122.38	456.7	0.0	338.2	0.0	2.7	1.0	0.24	11.0	0.0	0.0	11.0	8.1	0.0	0.0
	141	141	122.38	433.6	0.0	310.6	0.0	2.7	1.0	0.24	10.4	0.0	0.0	10.4	7.5	0.0	0.0
	141	142	125.25	300.6	0.0	190.5	0.0	2.7	1.0	0.24	7.2	0.0	0.0	7.2	4.6	0.0	0.0
	142	142	125.25	292.0	0.0	156.1	0.0	2.7	1.0	0.24	7.0	0.0	0.0	7.0	3.8	0.0	0.0
	142	143	128.12	168.2	0.0	20.5	0.0	2.7	1.0	0.24	4.0	0.0	0.0	4.0	0.5	0.0	0.0
	143	143	128.12	168.3	0.0	25.3	0.0	2.7	1.0	0.24	4.0	0.0	0.0	4.0	0.6	0.0	0.0
	143	144	130.99	286.8	0.0	155.8	0.0	2.7	1.0	0.24	6.9	0.0	0.0	6.9	3.7	0.0	0.0
	144	144	130.99	292.7	0.0	199.4	0.0	2.7	1.0	0.24	7.0	0.0	0.0	7.0	4.8	0.0	0.0
	144	145	133.86	428.9	0.0	321.2	0.0	2.7	1.0	0.24	10.3	0.0	0.0	10.3	7.7	0.0	0.0
	145	145	133.86	431.0	0.0	322.5	0.0	2.7	1.0	0.24	10.4	0.0	0.0	10.4	7.8	0.0	0.0
	145	146	136.73	574.7	0.0	450.4	0.0	2.7	1.0	0.24	13.8	0.0	0.0	13.8	10.8	0.0	0.0
	146	146	136.73	574.3	0.0	179.6	0.0	2.7	1.0	0.24	13.8	0.0	0.0	13.8	4.3	0.0	0.0
	146	147	139.60	726.0	0.0	595.4	0.0	2.7	1.0	0.24	17.5	0.0	0.0	17.5	14.3	0.0	0.0

FIBRA 3 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V3" V-19-2	23	23	64.20	1049.89	33.01	616.73	682.55	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.54	0.89
	23	24	67.55	880.84	3.26	522.33	641.36	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.43	0.81
	24	24	67.55	884.82	156.64	499.34	618.72	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.57	0.78
	24	25	70.90	722.22	124.82	389.87	669.55	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.46	0.77
	25	25	70.90	734.65	217.05	481.81	639.46	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.55	0.79
	25	26	74.23	580.65	194.56	272.14	672.75	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.45	0.71
	26	26	74.23	593.85	252.51	472.33	669.39	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.51	0.81
	26	27	77.56	441.30	215.11	154.80	652.11	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.40	0.64
	27	27	77.56	449.67	259.64	337.78	691.41	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.44	0.76
	27	28	80.89	303.16	221.48	207.18	648.93	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.34	0.66
	28	28	80.89	307.17	245.98	199.70	692.33	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.36	0.70
	28	29	84.22	166.90	199.47	70.55	642.34	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.25	0.59
	29	29	84.22	167.12	204.34	65.05	668.30	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.26	0.61
	29	30	87.55	281.08	8.03	67.67	614.13	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.14	0.56
	30	30	87.55	282.68	111.61	82.50	610.04	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.23	0.57
	30	31	90.88	428.14	89.35	211.27	550.16	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.29	0.58
	31	31	90.88	449.21	131.35	220.99	527.06	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.33	0.56
	31	32	94.21	601.48	104.70	345.15	464.25	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.39	0.57
	32	32	94.21	630.50	72.29	319.42	458.31	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.37	0.55
	32	33	97.54	784.68	57.28	470.58	453.28	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.43	0.62
	33	33	97.54	818.39	10.28	500.11	491.75	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.41	0.67
	33	34	100.87	980.62	38.37	634.59	519.14	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.51	0.76
	34	34	100.87	1014.21	129.80	666.38	559.51	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.61	0.81
	34	10035	104.20	1182.75	164.31	805.25	591.98	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.72	0.91

FIBRA 3 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V7" V-17-2	1	1	0.00	617.71	21.09	481.46	64.89	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.32	0.29
	1	2	2.62	485.71	10.73	154.53	101.39	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.25	0.16
	2	2	2.62	491.33	70.62	368.76	172.86	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.30	0.33
	2	3	5.24	364.95	62.71	257.41	164.44	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.23	0.27
	3	3	5.24	366.89	89.45	255.08	217.91	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.26	0.31
	3	4	7.86	247.71	93.86	148.99	203.52	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.20	0.25
	4	4	7.86	245.05	116.45	112.59	239.84	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.22	0.26
	4	5	10.48	158.25	86.21	14.23	240.89	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.15	0.21
	5	5	10.48	159.62	71.48	3.67	258.10	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.14	0.22
	5	6	13.10	263.62	143.24	142.71	288.85	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.25	0.32
	6	6	13.10	268.62	140.46	160.44	315.51	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.25	0.35
	6	7	15.72	384.97	178.59	264.95	361.02	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.34	0.44
	7	7	15.72	401.49	205.59	281.77	397.51	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.37	0.48
	7	8	18.34	521.37	237.00	388.83	437.98	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.46	0.57
	8	8	18.34	538.54	236.75	425.54	476.06	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.47	0.62
	8	9	20.96	663.67	271.89	536.54	514.14	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.56	0.71
	9	9	20.96	679.89	314.82	553.16	548.86	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.60	0.74
	9	10	23.58	810.03	335.32	668.04	589.18	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.69	0.84
	10	10	23.58	829.80	394.71	673.04	611.45	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.75	0.86
	10	10011	26.20	963.64	434.16	794.13	656.23	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.85	0.96

FIBRA 3 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
	101	101	0.00	819.04	24.41	540.42	69.16	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.42**	0.32
	101	102	2.62	680.42	17.44	460.40	118.51	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.35**	0.33
	102	102	2.62	668.09	20.44	416.23	129.80	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.35**	0.32
	102	103	5.24	535.37	25.08	313.23	180.35	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.28**	0.31
	103	103	5.24	527.01	10.81	248.13	182.18	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.27**	0.28
	103	104	7.86	400.69	11.00	141.00	229.40	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.21**	0.27
	104	104	7.86	394.90	2.66	133.45	222.68	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.20**	0.26
	104	105	10.48	274.58	7.19	22.65	266.28	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.14**	0.24
	105	105	10.48	270.85	38.20	165.34	270.22	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.17**	0.31
	105	106	13.10	167.72	21.70	80.71	289.45	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.10**	0.29
	106	106	13.10	169.42	107.76	33.62	346.89	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.18**	0.32
	106	107	15.72	262.52	63.57	103.06	332.41	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.18**	0.34
"V6" V-17-1	107	107	15.72	258.68	46.68	57.71	423.83	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.17**	0.39
	107	108	18.34	377.22	68.23	161.86	403.77	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.24**	0.43
	108	108	18.34	373.23	5.09	158.32	491.38	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.19**	0.50
	108	109	20.96	496.29	22.35	260.07	465.78	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.26**	0.53
	109	109	20.96	492.14	5.05	236.11	544.51	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.25**	0.59
	109	110	23.58	618.95	6.63	336.57	514.31	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.31**	0.61
	110	110	23.58	613.83	57.40	313.81	589.98	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.35**	0.66
	110	111	26.20	743.98	40.70	410.25	557.21	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.40**	0.68
	111	111	26.20	742.85	136.28	401.48	620.66	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.48**	0.73
	111	112	29.55	916.13	111.47	505.11	587.53	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.55**	0.75
	112	112	29.55	929.06	153.48	559.23	622.82	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.59**	0.81
	112	10113	32.90	1107.31	132.02	670.46	599.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.66**	0.85

FIBRA 3 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
	35	35	104.20	1085.57	125.41	628.43	752.86	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.64**	0.96
	35	36	107.55	917.36	159.19	520.87	697.08	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.59**	0.86
	36	36	107.55	914.68	41.48	505.61	662.18	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.48**	0.82
	36	37	110.90	750.76	69.21	405.31	712.57	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.43**	0.81
	37	37	110.90	758.76	17.73	425.39	638.67	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.39**	0.76
	37	38	113.77	623.65	10.24	325.20	685.39	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.31**	0.75
	38	38	113.77	635.87	79.42	355.15	587.62	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.38**	0.68
	38	39	116.64	503.87	52.26	250.98	631.67	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.29**	0.67
	39	39	116.64	513.53	85.63	267.37	532.59	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.33**	0.59
	39	40	119.51	384.80	55.21	160.24	572.92	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.24**	0.57
	40	40	119.51	393.84	106.01	170.33	463.09	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.28**	0.48
	40	41	122.38	269.14	70.47	60.96	496.84	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.19**	0.46
"V10" V-20-	41	41	122.38	276.59	99.06	105.24	396.13	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.22**	0.39
	41	42	125.25	176.32	157.85	29.03	407.68	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.22**	0.37
	42	42	125.25	172.58	42.32	103.91	353.54	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.12**	0.36
	42	43	128.12	275.44	66.52	195.92	326.81	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.19**	0.38
	43	43	128.12	277.41	17.81	12.57	318.03	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.15**	0.28
	43	44	130.99	397.53	1.58	249.08	268.09	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.20**	0.35
	44	44	130.99	401.23	41.24	130.82	268.26	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.23**	0.30
	44	45	133.86	531.86	25.01	299.15	206.80	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.28**	0.33
	45	45	133.86	537.59	50.10	282.15	210.15	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.31**	0.32
	45	46	136.73	674.00	39.54	349.30	150.85	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.36**	0.30
	46	46	136.73	682.38	52.08	409.96	140.31	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.38**	0.32
	46	47	139.60	825.33	50.64	490.75	70.82	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	**0.45**	0.30

FIBRA 3 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V3" V-19-1	125	125	70.90	1213.96	119.92	535.95	557.53	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.70	0.74
	125	126	74.23	1036.16	95.10	704.48	544.63	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.59	0.82
	126	126	74.23	1003.42	37.82	681.57	496.55	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.52	0.76
	126	127	77.56	832.14	18.93	542.35	496.34	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.42	0.69
	127	127	77.56	806.81	80.93	499.20	466.21	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.47	0.65
	127	128	80.89	643.67	86.86	389.60	513.06	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.39	0.63
	128	128	80.89	623.17	88.23	343.64	488.66	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.38	0.59
	128	129	84.22	462.53	103.35	213.54	536.18	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.32	0.57
	129	129	84.22	446.40	59.43	182.14	532.45	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.27	0.55
	129	130	87.55	293.00	70.56	46.93	577.39	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.20	0.52
	130	130	87.55	293.33	31.44	49.76	560.89	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.17	0.51
	130	131	90.88	176.98	186.33	89.85	600.30	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.25	0.56
	131	131	90.88	171.51	145.29	80.34	564.33	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.21	0.53
	131	132	94.21	321.17	177.94	216.51	597.71	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.31	0.62
	132	132	94.21	310.22	156.40	59.38	633.31	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.29	0.58
	132	133	97.54	464.44	180.50	191.16	602.52	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.38	0.61
	133	133	97.54	448.13	126.17	169.72	710.14	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.33	0.70
	133	134	100.87	608.77	148.40	297.42	672.83	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.43	0.73
	134	134	100.87	598.67	76.10	284.41	755.19	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.36	0.79
	134	135	104.20	760.60	84.28	407.01	714.02	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.45	0.82
	135	135	104.20	751.43	9.54	459.78	764.47	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.38	0.88
	135	136	107.55	922.81	6.59	578.69	723.38	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.46	0.91
	136	136	107.55	920.28	115.40	625.94	736.14	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.55	0.94
	136	10137	110.90	1098.45	95.80	737.64	698.60	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.62	0.96

FIBRA 3 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V8" V-18-1	113	113	32.90	1177.48	65.23	760.37	458.17	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.63	0.77
	113	114	36.03	1009.77	43.12	622.97	505.35	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.53	0.74
	114	114	36.03	978.79	35.61	626.10	467.29	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.51	0.71
	114	115	39.16	817.40	51.48	491.71	451.90	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.45	0.63
	115	115	39.16	785.58	92.70	475.90	420.85	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.47	0.60
	115	116	42.29	631.19	98.99	325.09	418.89	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.39	0.52
	116	116	42.29	604.18	131.59	383.70	418.08	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.41	0.55
	116	117	45.42	454.43	133.47	261.62	464.95	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.34	0.53
	117	117	45.42	433.43	129.49	210.42	485.04	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.32	0.52
	117	118	48.55	289.52	138.22	84.32	528.92	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.26	0.50
	118	118	48.55	284.46	18.55	70.45	534.68	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.16	0.50
	118	119	51.68	165.74	89.11	59.45	573.16	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.16	0.52
	119	119	51.68	165.37	140.87	73.68	556.75	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.20	0.52
	119	120	54.81	303.09	172.47	201.26	592.25	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.30	0.61
	120	120	54.81	302.18	124.37	58.98	584.16	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.26	0.53
	120	121	57.94	445.89	148.33	330.54	594.90	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.35	0.68
	121	121	57.94	444.03	88.04	172.88	633.24	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.29	0.63
	121	122	61.07	592.43	100.68	294.54	599.28	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.38	0.66
	122	122	61.07	587.85	63.52	298.12	641.50	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.34	0.70
	122	123	64.20	741.36	71.21	416.40	603.17	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.42	0.72
	123	123	64.20	740.32	43.07	401.60	629.69	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.40	0.74
	123	124	67.55	911.63	31.33	505.66	589.07	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.47	0.76
	124	124	67.55	919.81	42.99	578.76	601.12	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.49	0.80
	124	10125	70.90	1098.44	18.54	689.98	573.19	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.55	0.83

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMADO TOTAL TRANSV.		ARMAD. TORSIÓN LONG	
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	HIP1 A (cm2/m)	HIP2 A (cm2/m)	HIP1 A (cm2/m)	HIP2 A (cm2/m)
"V7" V-17-2	1	1	0.00	617.7	21.1	481.5	64.9	2.7	1.0	0.19	11.8	9.2	5.5	1.0	0.5	1.5	12.3	10.6	0.5	1.5
	1	2	2.62	485.7	10.7	154.5	101.4	2.7	1.0	0.19	9.3	2.9	5.5	1.0	0.2	2.3	9.5	5.2	0.2	2.3
	2	2	2.62	491.3	70.6	368.8	172.9	2.7	1.0	0.19	9.4	7.0	5.5	1.0	1.6	3.9	11.0	10.9	1.6	3.9
	2	3	5.24	364.9	62.7	257.4	164.4	2.7	1.0	0.19	7.0	4.9	5.5	1.0	1.4	3.7	8.4	8.6	1.4	3.7
	3	3	5.24	366.9	89.5	255.1	217.9	2.7	1.0	0.19	7.0	4.9	5.5	1.0	2.0	4.9	9.0	9.8	2.0	4.9
	3	4	7.86	247.7	93.9	149.0	203.5	2.7	1.0	0.19	4.7	2.8	5.5	1.0	2.1	4.6	6.8	7.4	2.1	4.6
	4	4	7.86	245.1	116.5	112.6	239.8	2.7	1.0	0.19	4.7	2.1	5.5	1.0	2.6	5.4	7.3	7.6	2.6	5.4
	4	5	10.48	158.3	86.2	14.2	240.9	2.7	1.0	0.19	3.0	0.3	5.5	1.0	2.0	5.5	5.0	5.7	2.0	5.5
	5	5	10.48	159.6	71.5	3.7	258.1	2.7	1.0	0.19	3.0	0.1	5.5	1.0	1.6	5.8	4.7	5.9	1.6	5.8
	5	6	13.10	263.6	143.2	142.7	288.8	2.7	1.0	0.19	5.0	2.7	5.5	1.0	3.2	6.5	8.3	9.3	3.2	6.5
	6	6	13.10	268.6	140.5	160.4	315.5	2.7	1.0	0.19	5.1	3.1	5.5	1.0	3.2	7.1	8.3	10.2	3.2	7.1
	6	7	15.72	385.0	178.6	264.9	361.0	2.7	1.0	0.19	7.3	5.1	5.5	1.0	4.0	8.2	11.4	13.2	4.0	8.2
	7	7	15.72	401.5	205.6	281.8	397.5	2.7	1.0	0.19	7.7	5.4	5.5	1.0	4.7	9.0	12.3	14.4	4.7	9.0
	7	8	18.34	521.4	237.0	388.8	438.0	2.7	1.0	0.19	9.9	7.4	5.5	1.0	5.4	9.9	15.3	17.3	5.4	9.9
	8	8	18.34	538.5	236.8	425.5	476.1	2.7	1.0	0.19	10.3	8.1	5.5	1.0	5.4	10.8	15.6	18.9	5.4	10.8
	8	9	20.96	663.7	271.9	536.5	514.1	2.7	1.0	0.19	12.7	10.2	5.5	1.0	6.2	11.6	18.8	21.9	6.2	11.6
	9	9	20.96	679.9	314.8	553.2	548.9	2.7	1.0	0.19	13.0	10.5	5.5	1.0	7.1	12.4	20.1	23.0	7.1	12.4
	9	10	23.58	810.0	335.3	668.0	589.2	2.7	1.0	0.19	15.4	12.7	5.5	1.0	7.6	13.3	23.0	26.1	7.6	13.3
	10	10	23.58	829.8	394.7	673.0	611.4	2.7	1.0	0.19	15.8	12.8	5.5	1.0	8.9	13.8	24.8	26.7	8.9	13.8
	10	10011	26.20	963.6	434.2	794.1	656.2	2.7	1.0	0.19	18.4	15.1	5.5	1.0	9.8	14.9	28.2	30.0	9.8	14.9

FIBRA 3 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CALCULO Vrd(tn)							CALCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V9" V-20-1	137	137	110.90	1120.16	438.58	950.37	604.91	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.93	0.99
	137	138	113.77	966.54	421.17	811.07	618.32	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.84	0.93
	138	138	113.77	936.29	338.06	787.31	579.19	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.75	0.89
	138	139	116.64	787.42	314.76	653.56	549.23	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.66	0.79
	139	139	116.64	762.82	247.31	629.78	496.10	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.59	0.74
	139	140	119.51	619.44	225.14	500.42	469.53	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.50	0.65
	140	140	119.51	594.94	211.65	462.83	415.96	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.47	0.59
	140	141	122.38	456.66	190.89	338.19	387.39	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.39	0.50
	141	141	122.38	433.63	151.73	310.63	338.81	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.34	0.44
	141	142	125.25	300.59	128.20	190.51	307.29	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.26	0.36
	142	142	125.25	291.95	123.54	156.14	275.08	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.25	0.31
	142	143	128.12	168.16	69.97	20.48	255.72	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.14	0.23
	143	143	128.12	168.33	100.09	25.30	237.74	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.17	0.22
	143	144	130.99	286.83	124.80	155.82	237.74	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.25	0.28
	144	144	130.99	292.68	100.80	199.42	202.97	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.23	0.27
	144	145	133.86	428.90	112.52	321.16	212.21	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.31	0.34
	145	145	133.86	431.00	70.71	322.45	165.77	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.27	0.30
	145	146	136.73	574.71	77.44	450.40	168.78	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.35	0.37
	146	146	136.73	574.29	9.16	179.59	100.85	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.29	0.18
	146	147	139.60	725.98	4.16	595.43	63.19	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.19	0.36	0.35

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V10" V 20-2	35	35	104.20	1085.6	125.4	628.4	752.9	2.7	1.0	0.19	20.7	12.0	5.5	1.0	2.8	17.0	23.5	29.0	2.8	17.0
	35	36	107.55	917.4	159.2	520.9	697.1	2.7	1.0	0.19	17.5	9.9	5.5	1.0	3.6	15.8	21.1	25.7	3.6	15.8
	36	36	107.55	914.7	41.5	505.6	662.2	2.7	1.0	0.19	17.4	9.6	5.5	1.0	0.9	15.0	18.4	24.6	0.9	15.0
	36	37	110.90	750.8	69.2	405.3	712.6	2.7	1.0	0.19	14.3	7.7	5.5	1.0	1.6	16.1	15.9	23.9	1.6	16.1
	37	37	110.90	758.8	17.7	425.4	638.7	2.7	1.0	0.19	14.5	8.1	5.5	1.0	0.4	14.5	14.9	22.6	0.4	14.5
	37	38	113.77	623.7	10.2	325.2	685.4	2.7	1.0	0.19	11.9	6.2	5.5	1.0	0.2	15.5	12.1	21.7	0.2	15.5
	38	38	113.77	635.9	79.4	355.1	587.6	2.7	1.0	0.19	12.1	6.8	5.5	1.0	1.8	13.3	13.9	20.1	1.8	13.3
	38	39	116.64	503.9	52.3	251.0	631.7	2.7	1.0	0.19	9.6	4.8	5.5	1.0	1.2	14.3	10.8	19.1	1.2	14.3
	39	39	116.64	513.5	85.6	267.4	532.6	2.7	1.0	0.19	9.8	5.1	5.5	1.0	1.9	12.1	11.7	17.2	1.9	12.1
	39	40	119.51	384.8	55.2	160.2	572.9	2.7	1.0	0.19	7.3	3.1	5.5	1.0	1.3	13.0	8.6	16.0	1.3	13.0
	40	40	119.51	393.8	106.0	170.3	463.1	2.7	1.0	0.19	7.5	3.2	5.5	1.0	2.4	10.5	9.9	13.7	2.4	10.5
	40	41	122.38	269.1	70.5	61.0	496.8	2.7	1.0	0.19	5.1	1.2	5.5	1.0	1.6	11.3	6.7	12.4	1.6	11.3
	41	41	122.38	276.6	99.1	105.2	396.1	2.7	1.0	0.19	5.3	2.0	5.5	1.0	2.2	9.0	7.5	11.0	2.2	9.0
	41	42	125.25	176.3	157.9	29.0	407.7	2.7	1.0	0.19	3.4	0.6	5.5	1.0	3.6	9.2	6.9	9.8	3.6	9.2
	42	42	125.25	172.6	42.3	103.9	353.5	2.7	1.0	0.19	3.3	2.0	5.5	1.0	1.0	8.0	4.2	10.0	1.0	8.0
	42	43	128.12	275.4	66.5	195.9	326.8	2.7	1.0	0.19	5.3	3.7	5.5	1.0	1.5	7.4	6.8	11.1	1.5	7.4
	43	43	128.12	277.4	17.8	12.6	318.0	2.7	1.0	0.19	5.3	0.2	5.5	1.0	0.4	7.2	5.7	7.4	0.4	7.2
	43	44	130.99	397.5	1.6	249.1	268.1	2.7	1.0	0.19	7.6	4.7	5.5	1.0	0.0	6.1	7.6	10.8	0.0	6.1
	44	44	130.99	401.2	41.2	130.8	268.3	2.7	1.0	0.19	7.6	2.5	5.5	1.0	0.9	6.1	8.6	8.6	0.9	6.1
	44	45	133.86	531.9	25.0	299.2	206.8	2.7	1.0	0.19	10.1	5.7	5.5	1.0	0.6	4.7	10.7	10.4	0.6	4.7
	45	45	133.86	537.6	50.1	282.2	210.2	2.7	1.0	0.19	10.2	5.4	5.5	1.0	1.1	4.8	11.4	10.1	1.1	4.8
	45	46	136.73	674.0	39.5	349.3	150.9	2.7	1.0	0.19	12.8	6.7	5.5	1.0	0.9	3.4	13.7	10.1	0.9	3.4
	46	46	136.73	682.4	52.1	410.0	140.3	2.7	1.0	0.19	13.0	7.8	5.5	1.0	1.2	3.2	14.2	11.0	1.2	3.2
	46	47	139.60	825.3	50.6	490.7	70.8	2.7	1.0	0.19	15.7	9.4	5.5	1.0	1.1	1.6	16.9	11.0	1.1	1.6

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V3" V-19-2	23	23	64.20	1049.9	33.0	616.7	682.5	2.7	1.0	0.19	20.0	11.8	5.5	1.0	0.7	15.5	20.8	27.2	0.7	15.5
	23	24	67.55	880.8	3.3	522.3	641.4	2.7	1.0	0.19	16.8	10.0	5.5	1.0	0.1	14.5	16.9	24.5	0.1	14.5
	24	24	67.55	884.8	156.6	499.3	618.7	2.7	1.0	0.19	16.9	9.5	5.5	1.0	3.5	14.0	20.4	23.5	3.5	14.0
	24	25	70.90	722.2	124.8	389.9	669.6	2.7	1.0	0.19	13.8	7.4	5.5	1.0	2.8	15.2	16.6	22.6	2.8	15.2
	25	25	70.90	734.6	217.0	481.8	639.5	2.7	1.0	0.19	14.0	9.2	5.5	1.0	4.9	14.5	18.9	23.7	4.9	14.5
	25	26	74.23	580.6	194.6	272.1	672.7	2.7	1.0	0.19	11.1	5.2	5.5	1.0	4.4	15.2	15.5	20.4	4.4	15.2
	26	26	74.23	593.8	252.5	472.3	669.4	2.7	1.0	0.19	11.3	9.0	5.5	1.0	5.7	15.2	17.0	24.2	5.7	15.2
	26	27	77.56	441.3	215.1	154.8	652.1	2.7	1.0	0.19	8.4	3.0	5.5	1.0	4.9	14.8	13.3	17.7	4.9	14.8
	27	27	77.56	449.7	259.6	337.8	691.4	2.7	1.0	0.19	8.6	6.4	5.5	1.0	5.9	15.7	14.5	22.1	5.9	15.7
	27	28	80.89	303.2	221.5	207.2	648.9	2.7	1.0	0.19	5.8	3.9	5.5	1.0	5.0	14.7	10.8	18.6	5.0	14.7
	28	28	80.89	307.2	246.0	199.7	692.3	2.7	1.0	0.19	5.9	3.8	5.5	1.0	5.6	15.7	11.4	19.5	5.6	15.7
	28	29	84.22	166.9	199.5	70.5	642.3	2.7	1.0	0.19	3.2	1.3	5.5	1.0	4.5	14.5	7.7	15.9	4.5	14.5
	29	29	84.22	167.1	204.3	65.0	668.3	2.7	1.0	0.19	3.2	1.2	5.5	1.0	4.6	15.1	7.8	16.4	4.6	15.1
	29	30	87.55	281.1	8.0	67.7	614.1	2.7	1.0	0.19	5.4	1.3	5.5	1.0	0.2	13.9	5.5	15.2	0.2	13.9
	30	30	87.55	282.7	111.6	82.5	610.0	2.7	1.0	0.19	5.4	1.6	5.5	1.0	2.5	13.8	7.9	15.4	2.5	13.8
	30	31	90.88	428.1	89.3	211.3	550.2	2.7	1.0	0.19	8.2	4.0	5.5	1.0	2.0	12.5	10.2	16.5	2.0	12.5
	31	31	90.88	449.2	131.3	221.0	527.1	2.7	1.0	0.19	8.6	4.2	5.5	1.0	3.0	11.9	11.5	16.1	3.0	11.9
	31	32	94.21	601.5	104.7	345.2	464.2	2.7	1.0	0.19	11.5	6.6	5.5	1.0	2.4	10.5	13.8	17.1	2.4	10.5
	32	32	94.21	630.5	72.3	319.4	458.3	2.7	1.0	0.19	12.0	6.1	5.5	1.0	1.6	10.4	13.7	16.5	1.6	10.4
	32	33	97.54	784.7	57.3	470.6	453.3	2.7	1.0	0.19	15.0	9.0	5.5	1.0	1.3	10.3	16.3	19.2	1.3	10.3
	33	33	97.54	818.4	10.3	500.1	491.7	2.7	1.0	0.19	15.6	9.5	5.5	1.0	0.2	11.1	15.8	20.7	0.2	11.1
	33	34	100.87	980.6	38.4	634.6	519.1	2.7	1.0	0.19	18.7	12.1	5.5	1.0	0.9	11.8	19.6	23.9	0.9	11.8
	34	34	100.87	1014.2	129.8	666.4	559.5	2.7	1.0	0.19	19.3	12.7	5.5	1.0	2.9	12.7	22.3	25.4	2.9	12.7
	34	10035	104.20	1182.7	164.3	805.3	592.0	2.7	1.0	0.19	22.5	15.3	5.5	1.0	3.7	13.4	26.3	28.8	3.7	13.4

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V8" V-18-1	113	113	32.90	1177.5	65.2	760.4	458.2	2.7	1.0	0.19	22.4	14.5	5.5	1.0	1.5	10.4	23.9	24.9	1.5	10.4
	113	114	36.03	1009.8	43.1	623.0	505.4	2.7	1.0	0.19	19.2	11.9	5.5	1.0	1.0	11.4	20.2	23.3	1.0	11.4
	114	114	36.03	978.8	35.6	626.1	467.3	2.7	1.0	0.19	18.7	11.9	5.5	1.0	0.8	10.6	19.5	22.5	0.8	10.6
	114	115	39.16	817.4	51.5	491.7	451.9	2.7	1.0	0.19	15.6	9.4	5.5	1.0	1.2	10.2	16.7	19.6	1.2	10.2
	115	115	39.16	785.6	92.7	475.9	420.8	2.7	1.0	0.19	15.0	9.1	5.5	1.0	2.1	9.5	17.1	18.6	2.1	9.5
	115	116	42.29	631.2	99.0	325.1	418.9	2.7	1.0	0.19	12.0	6.2	5.5	1.0	2.2	9.5	14.3	15.7	2.2	9.5
	116	116	42.29	604.2	131.6	383.7	418.1	2.7	1.0	0.19	11.5	7.3	5.5	1.0	3.0	9.5	14.5	16.8	3.0	9.5
	116	117	45.42	454.4	133.5	261.6	464.9	2.7	1.0	0.19	8.7	5.0	5.5	1.0	3.0	10.5	11.7	15.5	3.0	10.5
	117	117	45.42	433.4	129.5	210.4	485.0	2.7	1.0	0.19	8.3	4.0	5.5	1.0	2.9	11.0	11.2	15.0	2.9	11.0
	117	118	48.55	289.5	138.2	84.3	528.9	2.7	1.0	0.19	5.5	1.6	5.5	1.0	3.1	12.0	8.6	13.6	3.1	12.0
	118	118	48.55	284.5	18.5	70.5	534.7	2.7	1.0	0.19	5.4	1.3	5.5	1.0	0.4	12.1	5.8	13.5	0.4	12.1
	118	119	51.68	165.7	89.1	59.4	573.2	2.7	1.0	0.19	3.2	1.1	5.5	1.0	2.0	13.0	5.2	14.1	2.0	13.0
	119	119	51.68	165.4	140.9	73.7	556.8	2.7	1.0	0.19	3.2	1.4	5.5	1.0	3.2	12.6	6.3	14.0	3.2	12.6
	119	120	54.81	303.1	172.5	201.3	592.3	2.7	1.0	0.19	5.8	3.8	5.5	1.0	3.9	13.4	9.7	17.2	3.9	13.4
	120	120	54.81	302.2	124.4	59.0	584.2	2.7	1.0	0.19	5.8	1.1	5.5	1.0	2.8	13.2	8.6	14.4	2.8	13.2
	120	121	57.94	445.9	148.3	330.5	594.9	2.7	1.0	0.19	8.5	6.3	5.5	1.0	3.4	13.5	11.9	19.8	3.4	13.5
	121	121	57.94	444.0	88.0	172.9	633.2	2.7	1.0	0.19	8.5	3.3	5.5	1.0	2.0	14.3	10.5	17.6	2.0	14.3
	121	122	61.07	592.4	100.7	294.5	599.3	2.7	1.0	0.19	11.3	5.6	5.5	1.0	2.3	13.6	13.6	19.2	2.3	13.6
	122	122	61.07	587.9	63.5	298.1	641.5	2.7	1.0	0.19	11.2	5.7	5.5	1.0	1.4	14.5	12.6	20.2	1.4	14.5
	122	123	64.20	741.4	71.2	416.4	603.2	2.7	1.0	0.19	14.1	7.9	5.5	1.0	1.6	13.7	15.7	21.6	1.6	13.7
	123	123	64.20	740.3	43.1	401.6	629.7	2.7	1.0	0.19	14.1	7.7	5.5	1.0	1.0	14.3	15.1	21.9	1.0	14.3
	123	124	67.55	911.6	31.3	505.7	589.1	2.7	1.0	0.19	17.4	9.6	5.5	1.0	0.7	13.3	18.1	23.0	0.7	13.3
	124	124	67.55	919.8	43.0	578.8	601.1	2.7	1.0	0.19	17.5	11.0	5.5	1.0	1.0	13.6	18.5	24.6	1.0	13.6
	124	10125	70.90	1098.4	18.5	690.0	573.2	2.7	1.0	0.19	20.9	13.2	5.5	1.0	0.4	13.0	21.4	26.1	0.4	13.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V6" V-17-1	101	101	0.00	819.0	24.4	540.4	69.2	2.7	1.0	0.19	15.6	10.3	5.5	1.0	0.6	1.6	16.2	11.9	0.6	1.6
	101	102	2.62	680.4	17.4	460.4	118.5	2.7	1.0	0.19	13.0	8.8	5.5	1.0	0.4	2.7	13.4	11.5	0.4	2.7
	102	102	2.62	668.1	20.4	416.2	129.8	2.7	1.0	0.19	12.7	7.9	5.5	1.0	0.5	2.9	13.2	10.9	0.5	2.9
	102	103	5.24	535.4	25.1	313.2	180.3	2.7	1.0	0.19	10.2	6.0	5.5	1.0	0.6	4.1	10.8	10.1	0.6	4.1
	103	103	5.24	527.0	10.8	248.1	182.2	2.7	1.0	0.19	10.0	4.7	5.5	1.0	0.2	4.1	10.3	8.9	0.2	4.1
	103	104	7.86	400.7	11.0	141.0	229.4	2.7	1.0	0.19	7.6	2.7	5.5	1.0	0.2	5.2	7.9	7.9	0.2	5.2
	104	104	7.86	394.9	2.7	133.4	222.7	2.7	1.0	0.19	7.5	2.5	5.5	1.0	0.1	5.0	7.6	7.6	0.1	5.0
	104	105	10.48	274.6	7.2	22.6	266.3	2.7	1.0	0.19	5.2	0.4	5.5	1.0	0.2	6.0	5.4	6.5	0.2	6.0
	105	105	10.48	270.8	38.2	165.3	270.2	2.7	1.0	0.19	5.2	3.2	5.5	1.0	0.9	6.1	6.0	9.3	0.9	6.1
	105	106	13.10	167.7	21.7	80.7	289.5	2.7	1.0	0.19	3.2	1.5	5.5	1.0	0.5	6.6	3.7	8.1	0.5	6.6
	106	106	13.10	169.4	107.8	33.6	346.9	2.7	1.0	0.19	3.2	0.6	5.5	1.0	2.4	7.9	5.7	8.5	2.4	7.9
	106	107	15.72	262.5	63.6	103.1	332.4	2.7	1.0	0.19	5.0	2.0	5.5	1.0	1.4	7.5	6.4	9.5	1.4	7.5
	107	107	15.72	258.7	46.7	57.7	423.8	2.7	1.0	0.19	4.9	1.1	5.5	1.0	1.1	9.6	6.0	10.7	1.1	9.6
	107	108	18.34	377.2	68.2	161.9	403.8	2.7	1.0	0.19	7.2	3.1	5.5	1.0	1.5	9.1	8.7	12.2	1.5	9.1
	108	108	18.34	373.2	5.1	158.3	491.4	2.7	1.0	0.19	7.1	3.0	5.5	1.0	0.1	11.1	7.2	14.1	0.1	11.1
	108	109	20.96	496.3	22.4	260.1	465.8	2.7	1.0	0.19	9.5	5.0	5.5	1.0	0.5	10.5	10.0	15.5	0.5	10.5
	109	109	20.96	492.1	5.0	236.1	544.5	2.7	1.0	0.19	9.4	4.5	5.5	1.0	0.1	12.3	9.5	16.8	0.1	12.3
	109	110	23.58	619.0	6.6	336.6	514.3	2.7	1.0	0.19	11.8	6.4	5.5	1.0	0.2	11.6	11.9	18.1	0.2	11.6
	110	110	23.58	613.8	57.4	313.8	590.0	2.7	1.0	0.19	11.7	6.0	5.5	1.0	1.3	13.4	13.0	19.3	1.3	13.4
	110	111	26.20	744.0	40.7	410.2	557.2	2.7	1.0	0.19	14.2	7.8	5.5	1.0	0.9	12.6	15.1	20.4	0.9	12.6
	111	111	26.20	742.9	136.3	401.5	620.7	2.7	1.0	0.19	14.2	7.7	5.5	1.0	3.1	14.1	17.2	21.7	3.1	14.1
	111	112	29.55	916.1	111.5	505.1	587.5	2.7	1.0	0.19	17.5	9.6	5.5	1.0	2.5	13.3	20.0	22.9	2.5	13.3
	112	112	29.55	929.1	153.5	559.2	622.8	2.7	1.0	0.19	17.7	10.7	5.5	1.0	3.5	14.1	21.2	24.8	3.5	14.1
	112	10113	32.90	1107.3	132.0	670.5	599.0	2.7	1.0	0.19	21.1	12.8	5.5	1.0	3.0	13.6	24.1	26.3	3.0	13.6

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V9" V-20-1	137	137	110.90	1120.2	438.6	950.4	604.9	2.7	1.0	0.19	21.4	18.1	5.5	1.0	9.9	13.7	31.3	31.8	9.9	13.7
	137	138	113.77	966.5	421.2	811.1	618.3	2.7	1.0	0.19	18.4	15.5	5.5	1.0	9.5	14.0	28.0	29.5	9.5	14.0
	138	138	113.77	936.3	338.1	787.3	579.2	2.7	1.0	0.19	17.8	15.0	5.5	1.0	7.7	13.1	25.5	28.1	7.7	13.1
	138	139	116.64	787.4	314.8	653.6	549.2	2.7	1.0	0.19	15.0	12.5	5.5	1.0	7.1	12.4	22.1	24.9	7.1	12.4
	139	139	116.64	762.8	247.3	629.8	496.1	2.7	1.0	0.19	14.5	12.0	5.5	1.0	5.6	11.2	20.1	23.2	5.6	11.2
	139	140	119.51	619.4	225.1	500.4	469.5	2.7	1.0	0.19	11.8	9.5	5.5	1.0	5.1	10.6	16.9	20.2	5.1	10.6
	140	140	119.51	594.9	211.6	462.8	416.0	2.7	1.0	0.19	11.3	8.8	5.5	1.0	4.8	9.4	16.1	18.2	4.8	9.4
	140	141	122.38	456.7	190.9	338.2	387.4	2.7	1.0	0.19	8.7	6.4	5.5	1.0	4.3	8.8	13.0	15.2	4.3	8.8
	141	141	122.38	433.6	151.7	310.6	338.8	2.7	1.0	0.19	8.3	5.9	5.5	1.0	3.4	7.7	11.7	13.6	3.4	7.7
	141	142	125.25	300.6	128.2	190.5	307.3	2.7	1.0	0.19	5.7	3.6	5.5	1.0	2.9	7.0	8.6	10.6	2.9	7.0
	142	142	125.25	292.0	123.5	156.1	275.1	2.7	1.0	0.19	5.6	3.0	5.5	1.0	2.8	6.2	8.4	9.2	2.8	6.2
	142	143	128.12	168.2	70.0	20.5	255.7	2.7	1.0	0.19	3.2	0.4	5.5	1.0	1.6	5.8	4.8	6.2	1.6	5.8
	143	143	128.12	168.3	100.1	25.3	237.7	2.7	1.0	0.19	3.2	0.5	5.5	1.0	2.3	5.4	5.5	5.9	2.3	5.4
	143	144	130.99	286.8	124.8	155.8	237.7	2.7	1.0	0.19	5.5	3.0	5.5	1.0	2.8	5.4	8.3	8.4	2.8	5.4
	144	144	130.99	292.7	100.8	199.4	203.0	2.7	1.0	0.19	5.6	3.8	5.5	1.0	2.3	4.6	7.9	8.4	2.3	4.6
	144	145	133.86	428.9	112.5	321.2	212.2	2.7	1.0	0.19	8.2	6.1	5.5	1.0	2.5	4.8	10.7	10.9	2.5	4.8
	145	145	133.86	431.0	70.7	322.5	165.8	2.7	1.0	0.19	8.2	6.1	5.5	1.0	1.6	3.8	9.8	9.9	1.6	3.8
	145	146	136.73	574.7	77.4	450.4	168.8	2.7	1.0	0.19	11.0	8.6	5.5	1.0	1.8	3.8	12.7	12.4	1.8	3.8
	146	146	136.73	574.3	9.2	179.6	100.9	2.7	1.0	0.19	10.9	3.4	5.5	1.0	0.2	2.3	11.2	5.7	0.2	2.3
	146	147	139.60	726.0	4.2	595.4	63.2	2.7	1.0	0.19	13.8	11.4	5.5	1.0	0.1	1.4	13.9	12.8	0.1	1.4

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V3" V-19-1	125	125	70.90	1214.0	119.9	536.0	557.5	2.7	1.0	0.19	23.1	10.2	5.5	1.0	2.7	12.6	25.9	22.8	2.7	12.6
	125	126	74.23	1036.2	95.1	704.5	544.6	2.7	1.0	0.19	19.8	13.4	5.5	1.0	2.2	12.3	21.9	25.8	2.2	12.3
	126	126	74.23	1003.4	37.8	681.6	496.5	2.7	1.0	0.19	19.1	13.0	5.5	1.0	0.9	11.2	20.0	24.2	0.9	11.2
	126	127	77.56	832.1	18.9	542.3	496.3	2.7	1.0	0.19	15.9	10.3	5.5	1.0	0.4	11.2	16.3	21.6	0.4	11.2
	127	127	77.56	806.8	80.9	499.2	466.2	2.7	1.0	0.19	15.4	9.5	5.5	1.0	1.8	10.6	17.2	20.1	1.8	10.6
	127	128	80.89	643.7	86.9	389.6	513.1	2.7	1.0	0.19	12.3	7.4	5.5	1.0	2.0	11.6	14.2	19.0	2.0	11.6
	128	128	80.89	623.2	88.2	343.6	488.7	2.7	1.0	0.19	11.9	6.6	5.5	1.0	2.0	11.1	13.9	17.6	2.0	11.1
	128	129	84.22	462.5	103.4	213.5	536.2	2.7	1.0	0.19	8.8	4.1	5.5	1.0	2.3	12.1	11.2	16.2	2.3	12.1
	129	129	84.22	446.4	59.4	182.1	532.4	2.7	1.0	0.19	8.5	3.5	5.5	1.0	1.3	12.1	9.9	15.5	1.3	12.1
	129	130	87.55	293.0	70.6	46.9	577.4	2.7	1.0	0.19	5.6	0.9	5.5	1.0	1.6	13.1	7.2	14.0	1.6	13.1
	130	130	87.55	293.3	31.4	49.8	560.9	2.7	1.0	0.19	5.6	0.9	5.5	1.0	0.7	12.7	6.3	13.6	0.7	12.7
	130	131	90.88	177.0	186.3	89.8	600.3	2.7	1.0	0.19	3.4	1.7	5.5	1.0	4.2	13.6	7.6	15.3	4.2	13.6
	131	131	90.88	171.5	145.3	80.3	564.3	2.7	1.0	0.19	3.3	1.5	5.5	1.0	3.3	12.8	6.6	14.3	3.3	12.8
	131	132	94.21	321.2	177.9	216.5	597.7	2.7	1.0	0.19	6.1	4.1	5.5	1.0	4.0	13.5	10.2	17.7	4.0	13.5
	132	132	94.21	310.2	156.4	59.4	633.3	2.7	1.0	0.19	5.9	1.1	5.5	1.0	3.5	14.3	9.5	15.5	3.5	14.3
	132	133	97.54	464.4	180.5	191.2	602.5	2.7	1.0	0.19	8.9	3.6	5.5	1.0	4.1	13.6	12.9	17.3	4.1	13.6
	133	133	97.54	448.1	126.2	169.7	710.1	2.7	1.0	0.19	8.5	3.2	5.5	1.0	2.9	16.1	11.4	19.3	2.9	16.1
	133	134	100.87	608.8	148.4	297.4	672.8	2.7	1.0	0.19	11.6	5.7	5.5	1.0	3.4	15.2	15.0	20.9	3.4	15.2
	134	134	100.87	598.7	76.1	284.4	755.2	2.7	1.0	0.19	11.4	5.4	5.5	1.0	1.7	17.1	13.1	22.5	1.7	17.1
	134	135	104.20	760.6	84.3	407.0	714.0	2.7	1.0	0.19	14.5	7.8	5.5	1.0	1.9	16.2	16.4	23.9	1.9	16.2
	135	135	104.20	751.4	9.5	459.8	764.5	2.7	1.0	0.19	14.3	8.8	5.5	1.0	0.2	17.3	14.5	26.1	0.2	17.3
	135	136	107.55	922.8	6.6	578.7	723.4	2.7	1.0	0.19	17.6	11.0	5.5	1.0	0.1	16.4	17.7	27.4	0.1	16.4
	136	136	107.55	920.3	115.4	625.9	736.1	2.7	1.0	0.19	17.5	11.9	5.5	1.0	2.6	16.7	20.2	28.6	2.6	16.7
	136	10137	110.90	1098.5	95.8	737.6	698.6	2.7	1.0	0.19	20.9	14.1	5.5	1.0	2.2	15.8	23.1	29.9	2.2	15.8

FIBRA 4 INTERACCIÓN CORTANTE TORSOR

| Barra | Nudo | X | Hipótesis 1 | | Hipótesis 2 | | |

FIBRA 4 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	Interacción hip 1	interacción hip 2
"V10" V-20-	35	35	104.20	1085.57	0.00	628.43	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.88**	**0.51**
	35	36	107.55	917.36	0.00	520.87	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.75**	**0.42**
	36	36	107.55	914.68	0.00	505.61	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.74**	**0.41**
	36	37	110.90	750.76	0.00	405.31	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.61**	**0.33**
	37	37	110.90	758.76	0.00	425.39	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.62**	**0.35**
	37	38	113.77	623.65	0.00	325.20	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.51**	**0.26**
	38	38	113.77	635.87	0.00	355.15	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.52**	**0.29**
	38	39	116.64	503.87	0.00	250.98	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.41**	**0.20**
	39	39	116.64	513.53	0.00	267.37	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.42**	**0.22**
	39	40	119.51	384.80	0.00	160.24	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.31**	**0.13**
	40	40	119.51	393.84	0.00	170.33	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.32**	**0.14**
	40	41	122.38	269.14	0.00	60.96	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.22**	**0.05**
	41	41	122.38	276.59	0.00	105.24	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.22**	**0.09**
	41	42	125.25	176.32	0.00	29.03	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.14**	**0.02**
	42	42	125.25	172.58	0.00	103.91	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.14**	**0.08**
	42	43	128.12	275.44	0.00	195.92	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.22**	**0.16**
	43	43	128.12	277.41	0.00	12.57	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.23**	**0.01**
	43	44	130.99	397.53	0.00	249.08	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.32**	**0.20**
	44	44	130.99	401.23	0.00	130.82	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.33**	**0.11**
	44	45	133.86	531.86	0.00	299.15	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.43**	**0.24**
	45	45	133.86	537.59	0.00	282.15	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.44**	**0.23**
	45	46	136.73	674.00	0.00	349.30	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.55**	**0.28**
	46	46	136.73	682.38	0.00	409.96	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.55**	**0.33**
	46	47	139.60	825.33	0.00	490.75	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.67**	**0.40**

FIBRA 4 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	Interacción hip 1	interacción hip 2
"V3" V-19-2	23	23	64.20	1049.89	0.00	616.73	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.85**	**0.50**
	23	24	67.55	880.84	0.00	522.33	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.72**	**0.42**
	24	24	67.55	884.82	0.00	499.34	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.72**	**0.41**
	24	25	70.90	722.22	0.00	389.87	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.59**	**0.32**
	25	25	70.90	734.65	0.00	481.81	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.60**	**0.39**
	25	26	74.23	580.65	0.00	272.14	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.47**	**0.22**
	26	26	74.23	593.85	0.00	472.33	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.48**	**0.38**
	26	27	77.56	441.30	0.00	154.80	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.36**	**0.13**
	27	27	77.56	449.67	0.00	337.78	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.37**	**0.27**
	27	28	80.89	303.16	0.00	207.18	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.25**	**0.17**
	28	28	80.89	307.17	0.00	199.70	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.25**	**0.16**
	28	29	84.22	166.90	0.00	70.55	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.14**	**0.06**
	29	29	84.22	167.12	0.00	65.05	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.14**	**0.05**
	29	30	87.55	281.08	0.00	67.67	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.23**	**0.05**
	30	30	87.55	282.68	0.00	82.50	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.23**	**0.07**
	30	31	90.88	428.14	0.00	211.27	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.35**	**0.17**
	31	31	90.88	449.21	0.00	220.99	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.37**	**0.18**
	31	32	94.21	601.48	0.00	345.15	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.49**	**0.28**
	32	32	94.21	630.50	0.00	319.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.51**	**0.26**
	32	33	97.54	784.68	0.00	470.58	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.64**	**0.38**
	33	33	97.54	818.39	0.00	500.11	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.67**	**0.41**
	33	34	100.87	980.62	0.00	634.59	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.80**	**0.52**
	34	34	100.87	1014.21	0.00	666.38	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.82**	**0.54**
	34	10035	104.20	1182.75	0.00	805.25	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.96**	**0.65**

FIBRA 4 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CALCULO Vrd(tn)						CALCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V8" V-18-1	113	113	32.90	1177.48	0.00	760.37	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.96**	**0.62**
	113	114	36.03	1009.77	0.00	622.97	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.82**	**0.51**
	114	114	36.03	978.79	0.00	626.10	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.80**	**0.51**
	114	115	39.16	817.40	0.00	491.71	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.66**	**0.40**
	115	115	39.16	785.58	0.00	475.90	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.64**	**0.39**
	115	116	42.29	631.19	0.00	325.09	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.51**	**0.26**
	116	116	42.29	604.18	0.00	383.70	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.49**	**0.31**
	116	117	45.42	454.43	0.00	261.62	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.37**	**0.21**
	117	117	45.42	433.43	0.00	210.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.35**	**0.17**
	117	118	48.55	289.52	0.00	84.32	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.24**	**0.07**
	118	118	48.55	284.46	0.00	70.45	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.23**	**0.06**
	118	119	51.68	165.74	0.00	59.45	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.13**	**0.05**
	119	119	51.68	165.37	0.00	73.68	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.13**	**0.06**
	119	120	54.81	303.09	0.00	201.26	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.25**	**0.16**
	120	120	54.81	302.18	0.00	58.98	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.25**	**0.05**
	120	121	57.94	445.89	0.00	330.54	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.36**	**0.27**
	121	121	57.94	444.03	0.00	172.88	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.36**	**0.14**
	121	122	61.07	592.43	0.00	294.54	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.48**	**0.24**
	122	122	61.07	587.85	0.00	298.12	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.48**	**0.24**
	122	123	64.20	741.36	0.00	416.40	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.60**	**0.34**
	123	123	64.20	740.32	0.00	401.60	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.60**	**0.33**
	123	124	67.55	911.63	0.00	505.66	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.74**	**0.41**
	124	124	67.55	919.81	0.00	578.76	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.75**	**0.47**
	124	10125	70.90	1098.44	0.00	689.98	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.89**	**0.56**

FIBRA 4 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CALCULO Vrd(tn)						CALCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V6" V-17-1	101	101	0.00	819.04	0.00	540.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.67**	**0.44**
	101	102	2.62	680.42	0.00	460.40	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.55**	**0.37**
	102	102	2.62	668.09	0.00	416.23	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.54**	**0.34**
	102	103	5.24	535.37	0.00	313.23	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.44**	**0.25**
	103	103	5.24	527.01	0.00	248.13	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.43**	**0.20**
	103	104	7.86	400.69	0.00	141.00	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.33**	**0.11**
	104	104	7.86	394.90	0.00	133.45	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.32**	**0.11**
	104	105	10.48	274.58	0.00	22.65	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.22**	**0.02**
	105	105	10.48	270.85	0.00	165.34	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.22**	**0.13**
	105	106	13.10	167.72	0.00	80.71	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.14**	**0.07**
	106	106	13.10	169.42	0.00	33.62	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.14**	**0.03**
	106	107	15.72	262.52	0.00	103.06	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.21**	**0.08**
	107	107	15.72	258.68	0.00	57.71	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.21**	**0.05**
	107	108	18.34	377.22	0.00	161.86	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.31**	**0.13**
	108	108	18.34	373.23	0.00	158.32	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.30**	**0.13**
	108	109	20.96	496.29	0.00	260.07	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.40**	**0.21**
	109	109	20.96	492.14	0.00	236.11	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.40**	**0.19**
	109	110	23.58	618.95	0.00	336.57	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.50**	**0.27**
	110	110	23.58	613.83	0.00	313.81	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.50**	**0.25**
	110	111	26.20	743.98	0.00	410.25	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.60**	**0.33**
	111	111	26.20	742.85	0.00	401.48	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.60**	**0.33**
	111	112	29.55	916.13	0.00	505.11	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.74**	**0.41**
	112	112	29.55	929.06	0.00	559.23	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.75**	**0.45**
	112	10113	32.90	1107.31	0.00	670.46	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.90**	**0.54**

FIBRA 4 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V9" V-20-1	137	137	110.90	1120.16	0.00	950.37	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.91**	**0.77**
	137	138	113.77	966.54	0.00	811.07	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.79**	**0.66**
	138	138	113.77	936.29	0.00	787.31	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.76**	**0.64**
	138	139	116.64	787.42	0.00	653.56	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.64**	**0.53**
	139	139	116.64	762.82	0.00	629.78	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.62**	**0.51**
	139	140	119.51	619.44	0.00	500.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.50**	**0.41**
	140	140	119.51	594.94	0.00	462.83	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.48**	**0.38**
	140	141	122.38	456.66	0.00	338.19	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.37**	**0.27**
	141	141	122.38	433.63	0.00	310.63	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.35**	**0.25**
	141	142	125.25	300.59	0.00	190.51	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.24**	**0.15**
	142	142	125.25	291.95	0.00	156.14	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.24**	**0.13**
	142	143	128.12	168.16	0.00	20.48	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.14**	**0.02**
	143	143	128.12	168.33	0.00	25.30	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.14**	**0.02**
	143	144	130.99	286.83	0.00	155.82	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.23**	**0.13**
	144	144	130.99	292.68	0.00	199.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.24**	**0.16**
	144	145	133.86	428.90	0.00	321.16	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.35**	**0.26**
	145	145	133.86	431.00	0.00	322.45	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.35**	**0.26**
	145	146	136.73	574.71	0.00	450.40	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.47**	**0.37**
	146	146	136.73	574.29	0.00	179.59	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.47**	**0.15**
	146	147	139.60	725.98	0.00	595.43	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.59**	**0.48**

FIBRA 4 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V3" V-19-1	125	125	70.90	1213.96	0.00	535.95	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.99**	**0.44**
	125	126	74.23	1036.16	0.00	704.48	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.84**	**0.57**
	126	126	74.23	1003.42	0.00	681.57	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.82**	**0.55**
	126	127	77.56	832.14	0.00	542.35	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.68**	**0.44**
	127	127	77.56	806.81	0.00	499.20	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.66**	**0.41**
	127	128	80.89	643.67	0.00	389.60	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.52**	**0.32**
	128	128	80.89	623.17	0.00	343.64	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.51**	**0.28**
	128	129	84.22	462.53	0.00	213.54	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.38**	**0.17**
	129	129	84.22	446.40	0.00	182.14	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.36**	**0.15**
	129	130	87.55	293.00	0.00	46.93	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.24**	**0.04**
	130	130	87.55	293.33	0.00	49.76	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.24**	**0.04**
	130	131	90.88	176.98	0.00	89.85	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.14**	**0.07**
	131	131	90.88	171.51	0.00	80.34	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.14**	**0.07**
	131	132	94.21	321.17	0.00	216.51	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.26**	**0.18**
	132	132	94.21	310.22	0.00	59.38	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.25**	**0.05**
	132	133	97.54	464.44	0.00	191.16	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.38**	**0.16**
	133	133	97.54	448.13	0.00	169.72	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.36**	**0.14**
	133	134	100.87	608.77	0.00	297.42	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.49**	**0.24**
	134	134	100.87	598.67	0.00	284.41	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.49**	**0.23**
	134	135	104.20	760.60	0.00	407.01	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.62**	**0.33**
	135	135	104.20	751.43	0.00	459.78	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.61**	**0.37**
	135	136	107.55	922.81	0.00	578.69	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.75**	**0.47**
	136	136	107.55	920.28	0.00	625.94	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.75**	**0.51**
	136	10137	110.90	1098.45	0.00	737.64	0.00	1.0	2333.3	0.4	0.30	2.73	1.0	381.5	1.5	5.5	0.30	1159.2	0.31	**0.89**	**0.60**

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V8" V-18-2	11	11	26.20	978.6	0.0	547.7	0.0	2.7	1.0	0.31	30.9	17.3	5.5	1.0	0.0	0.0	30.9	17.3	0.0	0.0
	11	12	29.55	809.2	0.0	444.5	0.0	2.7	1.0	0.31	25.6	14.0	5.5	1.0	0.0	0.0	25.6	14.0	0.0	0.0
	12	12	29.55	820.0	0.0	436.6	0.0	2.7	1.0	0.31	25.9	13.8	5.5	1.0	0.0	0.0	25.9	13.8	0.0	0.0
	12	13	32.90	657.0	0.0	323.7	0.0	2.7	1.0	0.31	20.8	10.2	5.5	1.0	0.0	0.0	20.8	10.2	0.0	0.0
	13	13	32.90	672.3	0.0	331.1	0.0	2.7	1.0	0.31	21.2	10.5	5.5	1.0	0.0	0.0	21.2	10.5	0.0	0.0
	13	14	36.03	526.9	0.0	220.5	0.0	2.7	1.0	0.31	16.6	7.0	5.5	1.0	0.0	0.0	16.6	7.0	0.0	0.0
	14	14	36.03	540.4	0.0	235.5	0.0	2.7	1.0	0.31	17.1	7.4	5.5	1.0	0.0	0.0	17.1	7.4	0.0	0.0
	14	15	39.16	398.6	0.0	121.6	0.0	2.7	1.0	0.31	12.6	3.8	5.5	1.0	0.0	0.0	12.6	3.8	0.0	0.0
	15	15	39.16	405.1	0.0	256.6	0.0	2.7	1.0	0.31	12.8	8.1	5.5	1.0	0.0	0.0	12.8	8.1	0.0	0.0
	15	16	42.29	267.9	0.0	26.9	0.0	2.7	1.0	0.31	8.5	0.8	5.5	1.0	0.0	0.0	8.5	0.8	0.0	0.0
	16	16	42.29	274.5	0.0	185.2	0.0	2.7	1.0	0.31	8.7	5.9	5.5	1.0	0.0	0.0	8.7	5.9	0.0	0.0
	16	17	45.42	156.2	0.0	72.5	0.0	2.7	1.0	0.31	4.9	2.3	5.5	1.0	0.0	0.0	4.9	2.3	0.0	0.0
	17	17	45.42	148.9	0.0	59.7	0.0	2.7	1.0	0.31	4.7	1.9	5.5	1.0	0.0	0.0	4.7	1.9	0.0	0.0
	17	18	48.55	279.4	0.0	63.9	0.0	2.7	1.0	0.31	8.8	2.0	5.5	1.0	0.0	0.0	8.8	2.0	0.0	0.0
	18	18	48.55	277.1	0.0	71.2	0.0	2.7	1.0	0.31	8.8	2.3	5.5	1.0	0.0	0.0	8.8	2.3	0.0	0.0
	18	19	51.68	413.5	0.0	191.2	0.0	2.7	1.0	0.31	13.1	6.0	5.5	1.0	0.0	0.0	13.1	6.0	0.0	0.0
	19	19	51.68	426.1	0.0	189.9	0.0	2.7	1.0	0.31	13.5	6.0	5.5	1.0	0.0	0.0	13.5	6.0	0.0	0.0
	19	20	54.81	568.2	0.0	302.8	0.0	2.7	1.0	0.31	18.0	9.6	5.5	1.0	0.0	0.0	18.0	9.6	0.0	0.0
	20	20	54.81	582.5	0.0	298.4	0.0	2.7	1.0	0.31	18.4	9.4	5.5	1.0	0.0	0.0	18.4	9.4	0.0	0.0
	20	21	57.94	729.6	0.0	520.5	0.0	2.7	1.0	0.31	23.1	16.4	5.5	1.0	0.0	0.0	23.1	16.4	0.0	0.0
	21	21	57.94	751.1	0.0	567.5	0.0	2.7	1.0	0.31	23.7	17.9	5.5	1.0	0.0	0.0	23.7	17.9	0.0	0.0
	21	22	61.07	904.6	0.0	694.4	0.0	2.7	1.0	0.31	28.6	21.9	5.5	1.0	0.0	0.0	28.6	21.9	0.0	0.0
	22	22	61.07	927.9	0.0	690.0	0.0	2.7	1.0	0.31	29.3	21.8	5.5	1.0	0.0	0.0	29.3	21.8	0.0	0.0
	22	10023	64.20	1087.4	0.0	820.9	0.0	2.7	1.0	0.31	34.4	25.9	5.5	1.0	0.0	0.0	34.4	25.9	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V7" V-17-2	1	1	0.00	617.7	0.0	481.5	0.0	2.7	1.0	0.31	19.5	15.2	5.5	1.0	0.0	0.0	19.5	15.2	0.0	0.0
	1	2	2.62	485.7	0.0	154.5	0.0	2.7	1.0	0.31	15.3	4.9	5.5	1.0	0.0	0.0	15.3	4.9	0.0	0.0
	2	2	2.62	491.3	0.0	368.8	0.0	2.7	1.0	0.31	15.5	11.7	5.5	1.0	0.0	0.0	15.5	11.7	0.0	0.0
	2	3	5.24	364.9	0.0	257.4	0.0	2.7	1.0	0.31	11.5	8.1	5.5	1.0	0.0	0.0	11.5	8.1	0.0	0.0
	3	3	5.24	366.9	0.0	255.1	0.0	2.7	1.0	0.31	11.6	8.1	5.5	1.0	0.0	0.0	11.6	8.1	0.0	0.0
	3	4	7.86	247.7	0.0	149.0	0.0	2.7	1.0	0.31	7.8	4.7	5.5	1.0	0.0	0.0	7.8	4.7	0.0	0.0
	4	4	7.86	245.1	0.0	112.6	0.0	2.7	1.0	0.31	7.7	3.6	5.5	1.0	0.0	0.0	7.7	3.6	0.0	0.0
	4	5	10.48	158.3	0.0	14.2	0.0	2.7	1.0	0.31	5.0	0.4	5.5	1.0	0.0	0.0	5.0	0.4	0.0	0.0
	5	5	10.48	159.6	0.0	3.7	0.0	2.7	1.0	0.31	5.0	0.1	5.5	1.0	0.0	0.0	5.0	0.1	0.0	0.0
	5	6	13.10	263.6	0.0	142.7	0.0	2.7	1.0	0.31	8.3	4.5	5.5	1.0	0.0	0.0	8.3	4.5	0.0	0.0
	6	6	13.10	268.6	0.0	160.4	0.0	2.7	1.0	0.31	8.5	5.1	5.5	1.0	0.0	0.0	8.5	5.1	0.0	0.0
	6	7	15.72	385.0	0.0	264.9	0.0	2.7	1.0	0.31	12.2	8.4	5.5	1.0	0.0	0.0	12.2	8.4	0.0	0.0
	7	7	15.72	401.5	0.0	281.8	0.0	2.7	1.0	0.31	12.7	8.9	5.5	1.0	0.0	0.0	12.7	8.9	0.0	0.0
	7	8	18.34	521.4	0.0	388.8	0.0	2.7	1.0	0.31	16.5	12.3	5.5	1.0	0.0	0.0	16.5	12.3	0.0	0.0
	8	8	18.34	538.5	0.0	425.5	0.0	2.7	1.0	0.31	17.0	13.4	5.5	1.0	0.0	0.0	17.0	13.4	0.0	0.0
	8	9	20.96	663.7	0.0	536.5	0.0	2.7	1.0	0.31	21.0	17.0	5.5	1.0	0.0	0.0	21.0	17.0	0.0	0.0
	9	9	20.96	679.9	0.0	553.2	0.0	2.7	1.0	0.31	21.5	17.5	5.5	1.0	0.0	0.0	21.5	17.5	0.0	0.0
	9	10	23.58	810.0	0.0	668.0	0.0	2.7	1.0	0.31	25.6	21.1	5.5	1.0	0.0	0.0	25.6	21.1	0.0	0.0
	10	10	23.58	829.8	0.0	673.0	0.0	2.7	1.0	0.31	26.2	21.3	5.5	1.0	0.0	0.0	26.2	21.3	0.0	0.0
	10	10011	26.20	963.6	0.0	794.1	0.0	2.7	1.0	0.31	30.5	25.1	5.5	1.0	0.0	0.0	30.5	25.1	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V10" V 20-2	35	35	104.20	1085.6	0.0	628.4	0.0	2.7	1.0	0.31	34.3	19.9	5.5	1.0	0.0	0.0	34.3	19.9	0.0	0.0
	35	36	107.55	917.4	0.0	520.9	0.0	2.7	1.0	0.31	29.0	16.5	5.5	1.0	0.0	0.0	29.0	16.5	0.0	0.0
	36	36	107.55	914.7	0.0	505.6	0.0	2.7	1.0	0.31	28.9	16.0	5.5	1.0	0.0	0.0	28.9	16.0	0.0	0.0
	36	37	110.90	750.8	0.0	405.3	0.0	2.7	1.0	0.31	23.7	12.8	5.5	1.0	0.0	0.0	23.7	12.8	0.0	0.0
	37	37	110.90	758.8	0.0	425.4	0.0	2.7	1.0	0.31	24.0	13.4	5.5	1.0	0.0	0.0	24.0	13.4	0.0	0.0
	37	38	113.77	623.7	0.0	325.2	0.0	2.7	1.0	0.31	19.7	10.3	5.5	1.0	0.0	0.0	19.7	10.3	0.0	0.0
	38	38	113.77	635.9	0.0	355.1	0.0	2.7	1.0	0.31	20.1	11.2	5.5	1.0	0.0	0.0	20.1	11.2	0.0	0.0
	38	39	116.64	503.9	0.0	251.0	0.0	2.7	1.0	0.31	15.9	7.9	5.5	1.0	0.0	0.0	15.9	7.9	0.0	0.0
	39	39	116.64	513.5	0.0	267.4	0.0	2.7	1.0	0.31	16.2	8.4	5.5	1.0	0.0	0.0	16.2	8.4	0.0	0.0
	39	40	119.51	384.8	0.0	160.2	0.0	2.7	1.0	0.31	12.2	5.1	5.5	1.0	0.0	0.0	12.2	5.1	0.0	0.0
	40	40	119.51	393.8	0.0	170.3	0.0	2.7	1.0	0.31	12.4	5.4	5.5	1.0	0.0	0.0	12.4	5.4	0.0	0.0
	40	41	122.38	269.1	0.0	61.0	0.0	2.7	1.0	0.31	8.5	1.9	5.5	1.0	0.0	0.0	8.5	1.9	0.0	0.0
	41	41	122.38	276.6	0.0	105.2	0.0	2.7	1.0	0.31	8.7	3.3	5.5	1.0	0.0	0.0	8.7	3.3	0.0	0.0
	41	42	125.25	176.3	0.0	29.0	0.0	2.7	1.0	0.31	5.6	0.9	5.5	1.0	0.0	0.0	5.6	0.9	0.0	0.0
	42	42	125.25	172.6	0.0	103.9	0.0	2.7	1.0	0.31	5.5	3.3	5.5	1.0	0.0	0.0	5.5	3.3	0.0	0.0
	42	43	128.12	275.4	0.0	195.9	0.0	2.7	1.0	0.31	8.7	6.2	5.5	1.0	0.0	0.0	8.7	6.2	0.0	0.0
	43	43	128.12	277.4	0.0	12.6	0.0	2.7	1.0	0.31	8.8	0.4	5.5	1.0	0.0	0.0	8.8	0.4	0.0	0.0
	43	44	130.99	397.5	0.0	249.1	0.0	2.7	1.0	0.31	12.6	7.9	5.5	1.0	0.0	0.0	12.6	7.9	0.0	0.0
	44	44	130.99	401.2	0.0	130.8	0.0	2.7	1.0	0.31	12.7	4.1	5.5	1.0	0.0	0.0	12.7	4.1	0.0	0.0
	44	45	133.86	531.9	0.0	299.2	0.0	2.7	1.0	0.31	16.8	9.5	5.5	1.0	0.0	0.0	16.8	9.5	0.0	0.0
	45	45	133.86	537.6	0.0	282.2	0.0	2.7	1.0	0.31	17.0	8.9	5.5	1.0	0.0	0.0	17.0	8.9	0.0	0.0
	45	46	136.73	674.0	0.0	349.3	0.0	2.7	1.0	0.31	21.3	11.0	5.5	1.0	0.0	0.0	21.3	11.0	0.0	0.0
	46	46	136.73	682.4	0.0	410.0	0.0	2.7	1.0	0.31	21.6	13.0	5.5	1.0	0.0	0.0	21.6	13.0	0.0	0.0
	46	47	139.60	825.3	0.0	490.7	0.0	2.7	1.0	0.31	26.1	15.5	5.5	1.0	0.0	0.0	26.1	15.5	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V3" V-19-2	23	23	64.20	1049.9	0.0	616.7	0.0	2.7	1.0	0.31	33.2	19.5	5.5	1.0	0.0	0.0	33.2	19.5	0.0	0.0
	23	24	67.55	880.8	0.0	522.3	0.0	2.7	1.0	0.31	27.8	16.5	5.5	1.0	0.0	0.0	27.8	16.5	0.0	0.0
	24	24	67.55	884.8	0.0	499.3	0.0	2.7	1.0	0.31	28.0	15.8	5.5	1.0	0.0	0.0	28.0	15.8	0.0	0.0
	24	25	70.90	722.2	0.0	389.9	0.0	2.7	1.0	0.31	22.8	12.3	5.5	1.0	0.0	0.0	22.8	12.3	0.0	0.0
	25	25	70.90	734.6	0.0	481.8	0.0	2.7	1.0	0.31	23.2	15.2	5.5	1.0	0.0	0.0	23.2	15.2	0.0	0.0
	25	26	74.23	580.6	0.0	272.1	0.0	2.7	1.0	0.31	18.3	8.6	5.5	1.0	0.0	0.0	18.3	8.6	0.0	0.0
	26	26	74.23	593.8	0.0	472.3	0.0	2.7	1.0	0.31	18.8	14.9	5.5	1.0	0.0	0.0	18.8	14.9	0.0	0.0
	26	27	77.56	441.3	0.0	154.8	0.0	2.7	1.0	0.31	13.9	4.9	5.5	1.0	0.0	0.0	13.9	4.9	0.0	0.0
	27	27	77.56	449.7	0.0	337.8	0.0	2.7	1.0	0.31	14.2	10.7	5.5	1.0	0.0	0.0	14.2	10.7	0.0	0.0
	27	28	80.89	303.2	0.0	207.2	0.0	2.7	1.0	0.31	9.6	6.5	5.5	1.0	0.0	0.0	9.6	6.5	0.0	0.0
	28	28	80.89	307.2	0.0	199.7	0.0	2.7	1.0	0.31	9.7	6.3	5.5	1.0	0.0	0.0	9.7	6.3	0.0	0.0
	28	29	84.22	166.9	0.0	70.5	0.0	2.7	1.0	0.31	5.3	2.2	5.5	1.0	0.0	0.0	5.3	2.2	0.0	0.0
	29	29	84.22	167.1	0.0	65.0	0.0	2.7	1.0	0.31	5.3	2.1	5.5	1.0	0.0	0.0	5.3	2.1	0.0	0.0
	29	30	87.55	281.1	0.0	67.7	0.0	2.7	1.0	0.31	8.9	2.1	5.5	1.0	0.0	0.0	8.9	2.1	0.0	0.0
	30	30	87.55	282.7	0.0	82.5	0.0	2.7	1.0	0.31	8.9	2.6	5.5	1.0	0.0	0.0	8.9	2.6	0.0	0.0
	30	31	90.88	428.1	0.0	211.3	0.0	2.7	1.0	0.31	13.5	6.7	5.5	1.0	0.0	0.0	13.5	6.7	0.0	0.0
	31	31	90.88	449.2	0.0	221.0	0.0	2.7	1.0	0.31	14.2	7.0	5.5	1.0	0.0	0.0	14.2	7.0	0.0	0.0
	31	32	94.21	601.5	0.0	345.2	0.0	2.7	1.0	0.31	19.0	10.9	5.5	1.0	0.0	0.0	19.0	10.9	0.0	0.0
	32	32	94.21	630.5	0.0	319.4	0.0	2.7	1.0	0.31	19.9	10.1	5.5	1.0	0.0	0.0	19.9	10.1	0.0	0.0
	32	33	97.54	784.7	0.0	470.6	0.0	2.7	1.0	0.31	24.8	14.9	5.5	1.0	0.0	0.0	24.8	14.9	0.0	0.0
	33	33	97.54	818.4	0.0	500.1	0.0	2.7	1.0	0.31	25.9	15.8	5.5	1.0	0.0	0.0	25.9	15.8	0.0	0.0
	33	34	100.87	980.6	0.0	634.6	0.0	2.7	1.0	0.31	31.0	20.1	5.5	1.0	0.0	0.0	31.0	20.1	0.0	0.0
	34	34	100.87	1014.2	0.0	666.4	0.0	2.7	1.0	0.31	32.0	21.1	5.5	1.0	0.0	0.0	32.0	21.1	0.0	0.0
	34	10035	104.20	1182.7	0.0	805.3	0.0	2.7	1.0	0.31	37.4	25.4	5.5	1.0	0.0	0.0	37.4	25.4	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V8" V-18-1	113	113	32.90	1177.5	0.0	760.4	0.0	2.7	1.0	0.31	37.2	24.0	5.5	1.0	0.0	0.0	37.2	24.0	0.0	0.0
	113	114	36.03	1009.8	0.0	623.0	0.0	2.7	1.0	0.31	31.9	19.7	5.5	1.0	0.0	0.0	31.9	19.7	0.0	0.0
	114	114	36.03	978.8	0.0	626.1	0.0	2.7	1.0	0.31	30.9	19.8	5.5	1.0	0.0	0.0	30.9	19.8	0.0	0.0
	114	115	39.16	817.4	0.0	491.7	0.0	2.7	1.0	0.31	25.8	15.5	5.5	1.0	0.0	0.0	25.8	15.5	0.0	0.0
	115	115	39.16	785.6	0.0	475.9	0.0	2.7	1.0	0.31	24.8	15.0	5.5	1.0	0.0	0.0	24.8	15.0	0.0	0.0
	115	116	42.29	631.2	0.0	325.1	0.0	2.7	1.0	0.31	19.9	10.3	5.5	1.0	0.0	0.0	19.9	10.3	0.0	0.0
	116	116	42.29	604.2	0.0	383.7	0.0	2.7	1.0	0.31	19.1	12.1	5.5	1.0	0.0	0.0	19.1	12.1	0.0	0.0
	116	117	45.42	454.4	0.0	261.6	0.0	2.7	1.0	0.31	14.4	8.3	5.5	1.0	0.0	0.0	14.4	8.3	0.0	0.0
	117	117	45.42	433.4	0.0	210.4	0.0	2.7	1.0	0.31	13.7	6.6	5.5	1.0	0.0	0.0	13.7	6.6	0.0	0.0
	117	118	48.55	289.5	0.0	84.3	0.0	2.7	1.0	0.31	9.1	2.7	5.5	1.0	0.0	0.0	9.1	2.7	0.0	0.0
	118	118	48.55	284.5	0.0	70.5	0.0	2.7	1.0	0.31	9.0	2.2	5.5	1.0	0.0	0.0	9.0	2.2	0.0	0.0
	118	119	51.68	165.7	0.0	59.4	0.0	2.7	1.0	0.31	5.2	1.9	5.5	1.0	0.0	0.0	5.2	1.9	0.0	0.0
	119	119	51.68	165.4	0.0	73.7	0.0	2.7	1.0	0.31	5.2	2.3	5.5	1.0	0.0	0.0	5.2	2.3	0.0	0.0
	119	120	54.81	303.1	0.0	201.3	0.0	2.7	1.0	0.31	9.6	6.4	5.5	1.0	0.0	0.0	9.6	6.4	0.0	0.0
	120	120	54.81	302.2	0.0	59.0	0.0	2.7	1.0	0.31	9.5	1.9	5.5	1.0	0.0	0.0	9.5	1.9	0.0	0.0
	120	121	57.94	445.9	0.0	330.5	0.0	2.7	1.0	0.31	14.1	10.4	5.5	1.0	0.0	0.0	14.1	10.4	0.0	0.0
	121	121	57.94	444.0	0.0	172.9	0.0	2.7	1.0	0.31	14.0	5.5	5.5	1.0	0.0	0.0	14.0	5.5	0.0	0.0
	121	122	61.07	592.4	0.0	294.5	0.0	2.7	1.0	0.31	18.7	9.3	5.5	1.0	0.0	0.0	18.7	9.3	0.0	0.0
	122	122	61.07	587.9	0.0	298.1	0.0	2.7	1.0	0.31	18.6	9.4	5.5	1.0	0.0	0.0	18.6	9.4	0.0	0.0
	122	123	64.20	741.4	0.0	416.4	0.0	2.7	1.0	0.31	23.4	13.2	5.5	1.0	0.0	0.0	23.4	13.2	0.0	0.0
	123	123	64.20	740.3	0.0	401.6	0.0	2.7	1.0	0.31	23.4	12.7	5.5	1.0	0.0	0.0	23.4	12.7	0.0	0.0
	123	124	67.55	911.6	0.0	505.7	0.0	2.7	1.0	0.31	28.8	16.0	5.5	1.0	0.0	0.0	28.8	16.0	0.0	0.0
	124	124	67.55	919.8	0.0	578.8	0.0	2.7	1.0	0.31	29.1	18.3	5.5	1.0	0.0	0.0	29.1	18.3	0.0	0.0
	124	10125	70.90	1098.4	0.0	690.0	0.0	2.7	1.0	0.31	34.7	21.8	5.5	1.0	0.0	0.0	34.7	21.8	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V6" V-17-1	101	101	0.00	819.0	0.0	540.4	0.0	2.7	1.0	0.31	25.9	17.1	5.5	1.0	0.0	0.0	25.9	17.1	0.0	0.0
	101	102	2.62	680.4	0.0	460.4	0.0	2.7	1.0	0.31	21.5	14.5	5.5	1.0	0.0	0.0	21.5	14.5	0.0	0.0
	102	102	2.62	668.1	0.0	416.2	0.0	2.7	1.0	0.31	21.1	13.2	5.5	1.0	0.0	0.0	21.1	13.2	0.0	0.0
	102	103	5.24	535.4	0.0	313.2	0.0	2.7	1.0	0.31	16.9	9.9	5.5	1.0	0.0	0.0	16.9	9.9	0.0	0.0
	103	103	5.24	527.0	0.0	248.1	0.0	2.7	1.0	0.31	16.7	7.8	5.5	1.0	0.0	0.0	16.7	7.8	0.0	0.0
	103	104	7.86	400.7	0.0	141.0	0.0	2.7	1.0	0.31	12.7	4.5	5.5	1.0	0.0	0.0	12.7	4.5	0.0	0.0
	104	104	7.86	394.9	0.0	133.4	0.0	2.7	1.0	0.31	12.5	4.2	5.5	1.0	0.0	0.0	12.5	4.2	0.0	0.0
	104	105	10.48	274.6	0.0	22.6	0.0	2.7	1.0	0.31	8.7	0.7	5.5	1.0	0.0	0.0	8.7	0.7	0.0	0.0
	105	105	10.48	270.8	0.0	165.3	0.0	2.7	1.0	0.31	8.6	5.2	5.5	1.0	0.0	0.0	8.6	5.2	0.0	0.0
	105	106	13.10	167.7	0.0	80.7	0.0	2.7	1.0	0.31	5.3	2.6	5.5	1.0	0.0	0.0	5.3	2.6	0.0	0.0
	106	106	13.10	169.4	0.0	33.6	0.0	2.7	1.0	0.31	5.4	1.1	5.5	1.0	0.0	0.0	5.4	1.1	0.0	0.0
	106	107	15.72	262.5	0.0	103.1	0.0	2.7	1.0	0.31	8.3	3.3	5.5	1.0	0.0	0.0	8.3	3.3	0.0	0.0
	107	107	15.72	258.7	0.0	57.7	0.0	2.7	1.0	0.31	8.2	1.8	5.5	1.0	0.0	0.0	8.2	1.8	0.0	0.0
	107	108	18.34	377.2	0.0	161.9	0.0	2.7	1.0	0.31	11.9	5.1	5.5	1.0	0.0	0.0	11.9	5.1	0.0	0.0
	108	108	18.34	373.2	0.0	158.3	0.0	2.7	1.0	0.31	11.8	5.0	5.5	1.0	0.0	0.0	11.8	5.0	0.0	0.0
	108	109	20.96	496.3	0.0	260.1	0.0	2.7	1.0	0.31	15.7	8.2	5.5	1.0	0.0	0.0	15.7	8.2	0.0	0.0
	109	109	20.96	492.1	0.0	236.1	0.0	2.7	1.0	0.31	15.6	7.5	5.5	1.0	0.0	0.0	15.6	7.5	0.0	0.0
	109	110	23.58	619.0	0.0	336.6	0.0	2.7	1.0	0.31	19.6	10.6	5.5	1.0	0.0	0.0	19.6	10.6	0.0	0.0
	110	110	23.58	613.8	0.0	313.8	0.0	2.7	1.0	0.31	19.4	9.9	5.5	1.0	0.0	0.0	19.4	9.9	0.0	0.0
	110	111	26.20	744.0	0.0	410.2	0.0	2.7	1.0	0.31	23.5	13.0	5.5	1.0	0.0	0.0	23.5	13.0	0.0	0.0
	111	111	26.20	742.9	0.0	401.5	0.0	2.7	1.0	0.31	23.5	12.7	5.5	1.0	0.0	0.0	23.5	12.7	0.0	0.0
	111	112	29.55	916.1	0.0	505.1	0.0	2.7	1.0	0.31	29.0	16.0	5.5	1.0	0.0	0.0	29.0	16.0	0.0	0.0
	112	112	29.55	929.1	0.0	559.2	0.0	2.7	1.0	0.31	29.4	17.7	5.5	1.0	0.0	0.0	29.4	17.7	0.0	0.0
	112	10113	32.90	1107.3	0.0	670.5	0.0	2.7	1.0	0.31	35.0	21.2	5.5	1.0	0.0	0.0	35.0	21.2	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V9" V-20-1	137	137	110.90	1120.2	0.0	950.4	0.0	2.7	1.0	0.31	35.4	30.0	5.5	1.0	0.0	0.0	35.4	30.0	0.0	0.0
	137	138	113.77	966.5	0.0	811.1	0.0	2.7	1.0	0.31	30.5	25.6	5.5	1.0	0.0	0.0	30.5	25.6	0.0	0.0
	138	138	113.77	936.3	0.0	787.3	0.0	2.7	1.0	0.31	29.6	24.9	5.5	1.0	0.0	0.0	29.6	24.9	0.0	0.0
	138	139	116.64	787.4	0.0	653.6	0.0	2.7	1.0	0.31	24.9	20.7	5.5	1.0	0.0	0.0	24.9	20.7	0.0	0.0
	139	139	116.64	762.8	0.0	629.8	0.0	2.7	1.0	0.31	24.1	19.9	5.5	1.0	0.0	0.0	24.1	19.9	0.0	0.0
	139	140	119.51	619.4	0.0	500.4	0.0	2.7	1.0	0.31	19.6	15.8	5.5	1.0	0.0	0.0	19.6	15.8	0.0	0.0
	140	140	119.51	594.9	0.0	462.8	0.0	2.7	1.0	0.31	18.8	14.6	5.5	1.0	0.0	0.0	18.8	14.6	0.0	0.0
	140	141	122.38	456.7	0.0	338.2	0.0	2.7	1.0	0.31	14.4	10.7	5.5	1.0	0.0	0.0	14.4	10.7	0.0	0.0
	141	141	122.38	433.6	0.0	310.6	0.0	2.7	1.0	0.31	13.7	9.8	5.5	1.0	0.0	0.0	13.7	9.8	0.0	0.0
	141	142	125.25	300.6	0.0	190.5	0.0	2.7	1.0	0.31	9.5	6.0	5.5	1.0	0.0	0.0	9.5	6.0	0.0	0.0
	142	142	125.25	292.0	0.0	156.1	0.0	2.7	1.0	0.31	9.2	4.9	5.5	1.0	0.0	0.0	9.2	4.9	0.0	0.0
	142	143	128.12	168.2	0.0	20.5	0.0	2.7	1.0	0.31	5.3	0.6	5.5	1.0	0.0	0.0	5.3	0.6	0.0	0.0
	143	143	128.12	168.3	0.0	25.3	0.0	2.7	1.0	0.31	5.3	0.8	5.5	1.0	0.0	0.0	5.3	0.8	0.0	0.0
	143	144	130.99	286.8	0.0	155.8	0.0	2.7	1.0	0.31	9.1	4.9	5.5	1.0	0.0	0.0	9.1	4.9	0.0	0.0
	144	144	130.99	292.7	0.0	199.4	0.0	2.7	1.0	0.31	9.2	6.3	5.5	1.0	0.0	0.0	9.2	6.3	0.0	0.0
	144	145	133.86	428.9	0.0	321.2	0.0	2.7	1.0	0.31	13.6	10.1	5.5	1.0	0.0	0.0	13.6	10.1	0.0	0.0
	145	145	133.86	431.0	0.0	322.5	0.0	2.7	1.0	0.31	13.6	10.2	5.5	1.0	0.0	0.0	13.6	10.2	0.0	0.0
	145	146	136.73	574.7	0.0	450.4	0.0	2.7	1.0	0.31	18.2	14.2	5.5	1.0	0.0	0.0	18.2	14.2	0.0	0.0
	146	146	136.73	574.3	0.0	179.6	0.0	2.7	1.0	0.31	18.1	5.7	5.5	1.0	0.0	0.0	18.1	5.7	0.0	0.0
	146	147	139.60	726.0	0.0	595.4	0.0	2.7	1.0	0.31	22.9	18.8	5.5	1.0	0.0	0.0	22.9	18.8	0.0	0.0

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V3" V-19-1	125	125	70.90	1214.0	0.0	536.0	0.0	2.7	1.0	0.31	38.4	16.9	5.5	1.0	0.0	0.0	38.4	16.9	0.0	0.0
	125	126	74.23	1036.2	0.0	704.5	0.0	2.7	1.0	0.31	32.7	22.3	5.5	1.0	0.0	0.0	32.7	22.3	0.0	0.0
	126	126	74.23	1003.4	0.0	681.6	0.0	2.7	1.0	0.31	31.7	21.5	5.5	1.0	0.0	0.0	31.7	21.5	0.0	0.0
	126	127	77.56	832.1	0.0	542.3	0.0	2.7	1.0	0.31	26.3	17.1	5.5	1.0	0.0	0.0	26.3	17.1	0.0	0.0
	127	127	77.56	806.8	0.0	499.2	0.0	2.7	1.0	0.31	25.5	15.8	5.5	1.0	0.0	0.0	25.5	15.8	0.0	0.0
	127	128	80.89	643.7	0.0	389.6	0.0	2.7	1.0	0.31	20.3	12.3	5.5	1.0	0.0	0.0	20.3	12.3	0.0	0.0
	128	128	80.89	623.2	0.0	343.6	0.0	2.7	1.0	0.31	19.7	10.9	5.5	1.0	0.0	0.0	19.7	10.9	0.0	0.0
	128	129	84.22	462.5	0.0	213.5	0.0	2.7	1.0	0.31	14.6	6.7	5.5	1.0	0.0	0.0	14.6	6.7	0.0	0.0
	129	129	84.22	446.4	0.0	182.1	0.0	2.7	1.0	0.31	14.1	5.8	5.5	1.0	0.0	0.0	14.1	5.8	0.0	0.0
	129	130	87.55	293.0	0.0	46.9	0.0	2.7	1.0	0.31	9.3	1.5	5.5	1.0	0.0	0.0	9.3	1.5	0.0	0.0
	130	130	87.55	293.3	0.0	49.8	0.0	2.7	1.0	0.31	9.3	1.6	5.5	1.0	0.0	0.0	9.3	1.6	0.0	0.0
	130	131	90.88	177.0	0.0	89.8	0.0	2.7	1.0	0.31	5.6	2.8	5.5	1.0	0.0	0.0	5.6	2.8	0.0	0.0
	131	131	90.88	171.5	0.0	80.3	0.0	2.7	1.0	0.31	5.4	2.5	5.5	1.0	0.0	0.0	5.4	2.5	0.0	0.0
	131	132	94.21	321.2	0.0	216.5	0.0	2.7	1.0	0.31	10.1	6.8	5.5	1.0	0.0	0.0	10.1	6.8	0.0	0.0
	132	132	94.21	310.2	0.0	59.4	0.0	2.7	1.0	0.31	9.8	1.9	5.5	1.0	0.0	0.0	9.8	1.9	0.0	0.0
	132	133	97.54	464.4	0.0	191.2	0.0	2.7	1.0	0.31	14.7	6.0	5.5	1.0	0.0	0.0	14.7	6.0	0.0	0.0
	133	133	97.54	448.1	0.0	169.7	0.0	2.7	1.0	0.31	14.2	5.4	5.5	1.0	0.0	0.0	14.2	5.4	0.0	0.0
	133	134	100.87	608.8	0.0	297.4	0.0	2.7	1.0	0.31	19.2	9.4	5.5	1.0	0.0	0.0	19.2	9.4	0.0	0.0
	134	134	100.87	598.7	0.0	284.4	0.0	2.7	1.0	0.31	18.9	9.0	5.5	1.0	0.0	0.0	18.9	9.0	0.0	0.0
	134	135	104.20	760.6	0.0	407.0	0.0	2.7	1.0	0.31	24.0	12.9	5.5	1.0	0.0	0.0	24.0	12.9	0.0	0.0
	135	135	104.20	751.4	0.0	459.8	0.0	2.7	1.0	0.31	23.7	14.5	5.5	1.0	0.0	0.0	23.7	14.5	0.0	0.0
	135	136	107.55	922.8	0.0	578.7	0.0	2.7	1.0	0.31	29.2	18.3	5.5	1.0	0.0	0.0	29.2	18.3	0.0	0.0
	136	136	107.55	920.3	0.0	625.9	0.0	2.7	1.0	0.31	29.1	19.8	5.5	1.0	0.0	0.0	29.1	19.8	0.0	0.0
	136	10137	110.90	1098.5	0.0	737.6	0.0	2.7	1.0	0.31	34.7	23.3	5.5	1.0	0.0	0.0	34.7	23.3	0.0	0.0

Ficha 5 - Fb... [illegible]

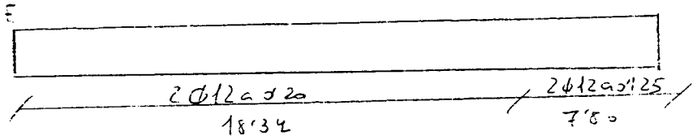
[illegible] en viga [illegible].

[illegible] armadura [illegible] [illegible] [illegible]

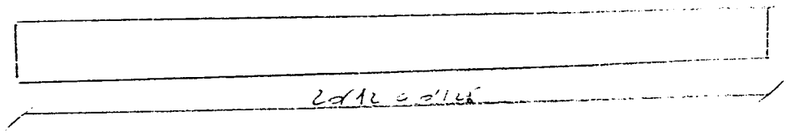
[illegible]

La armadura Longitudinal en [illegible] está especificamente descrita en el armado de [illegible]:

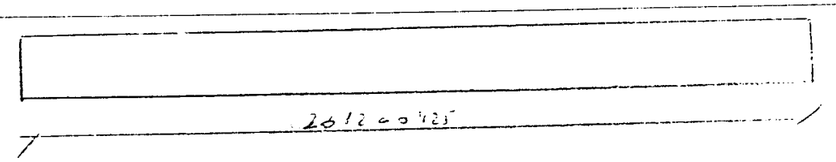
"V7"



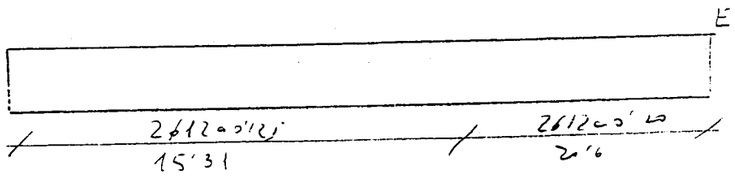
"V8"



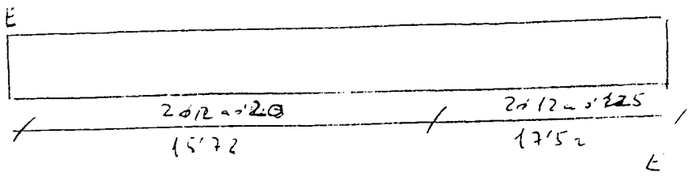
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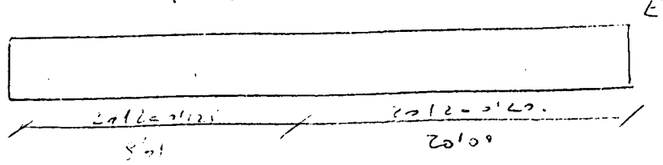
"V10"



"V6"



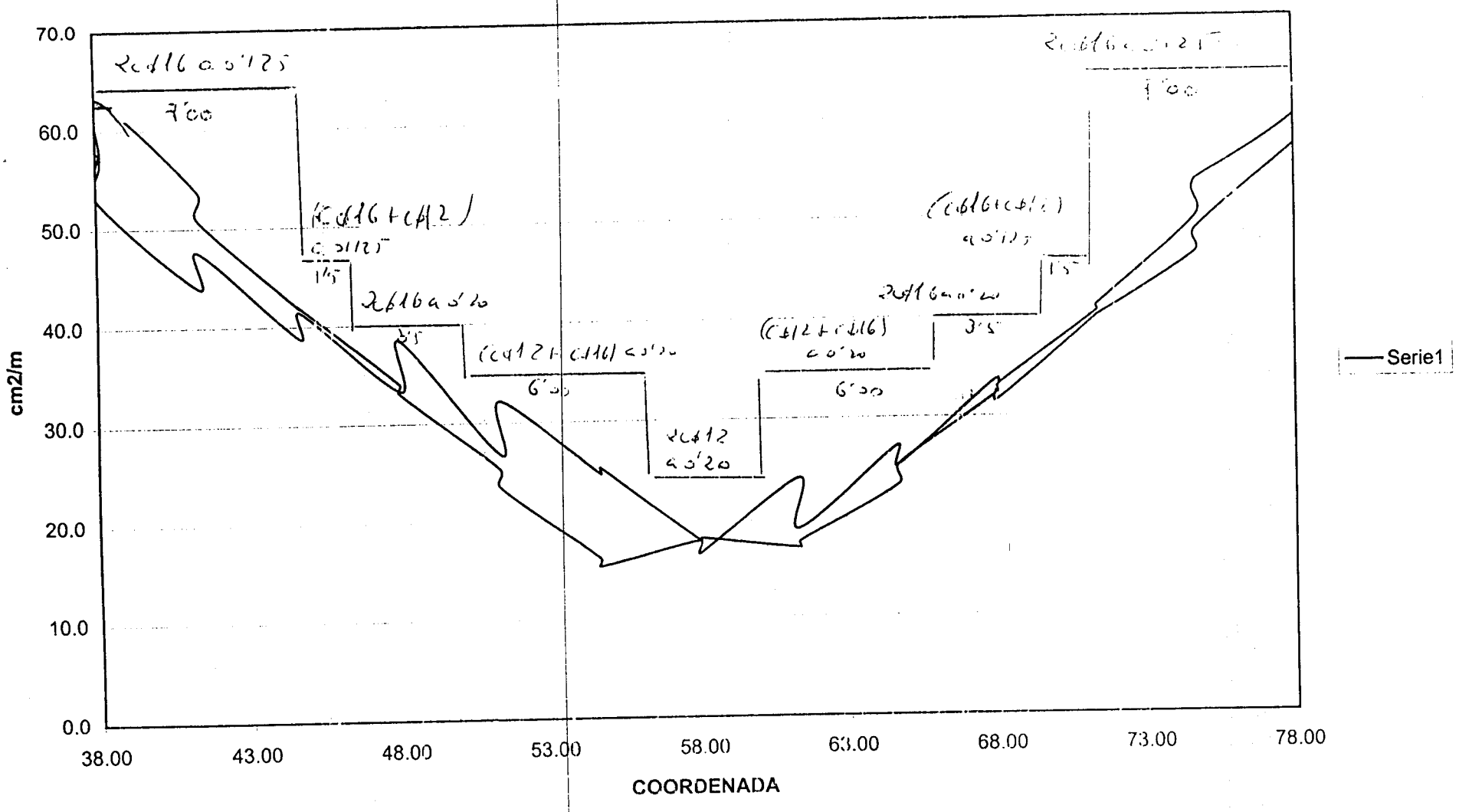
"V9"



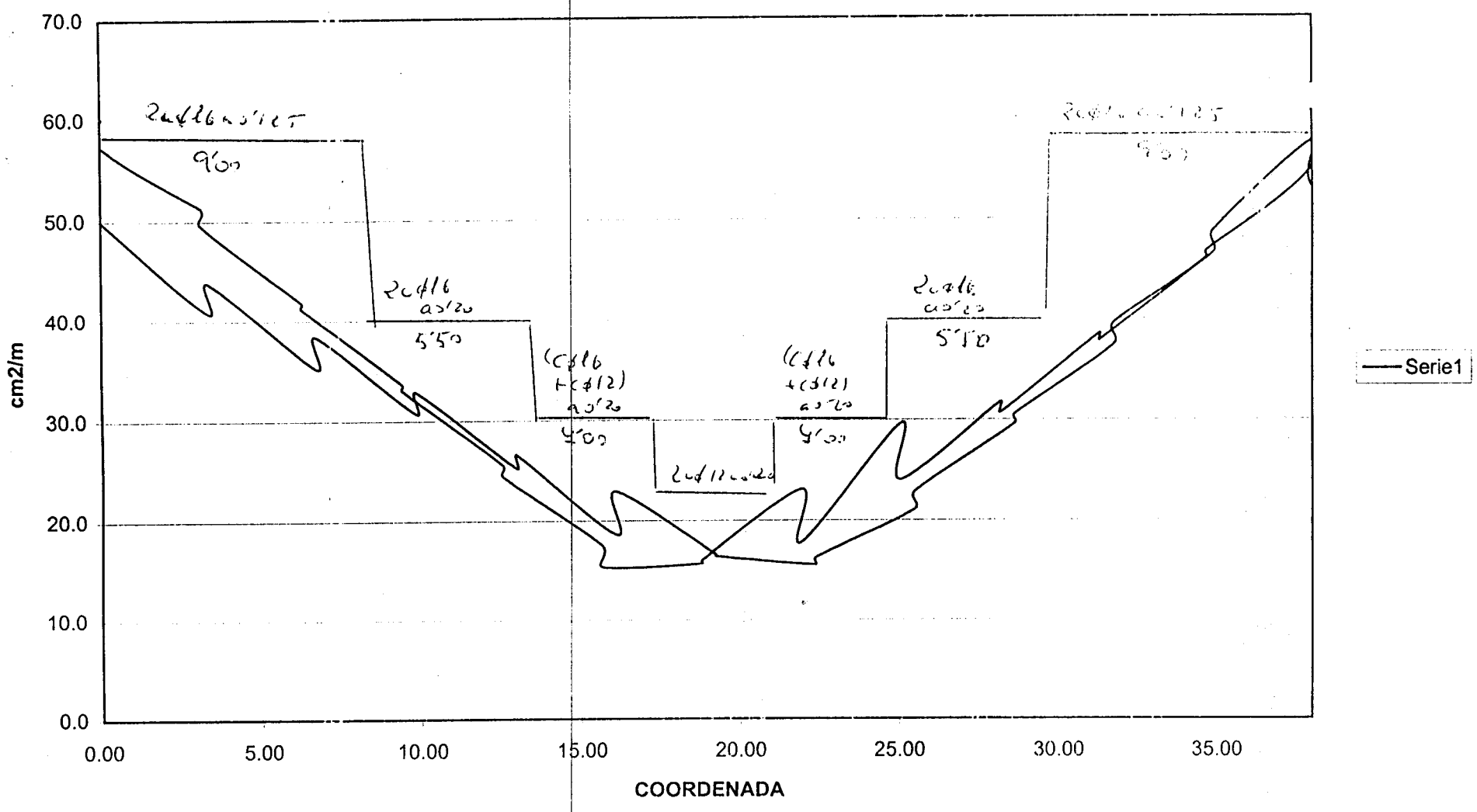
IDEAM

La armadura Longitudinal requerida en la Ficha 5 se describe a continuación, en los grupos siguientes:

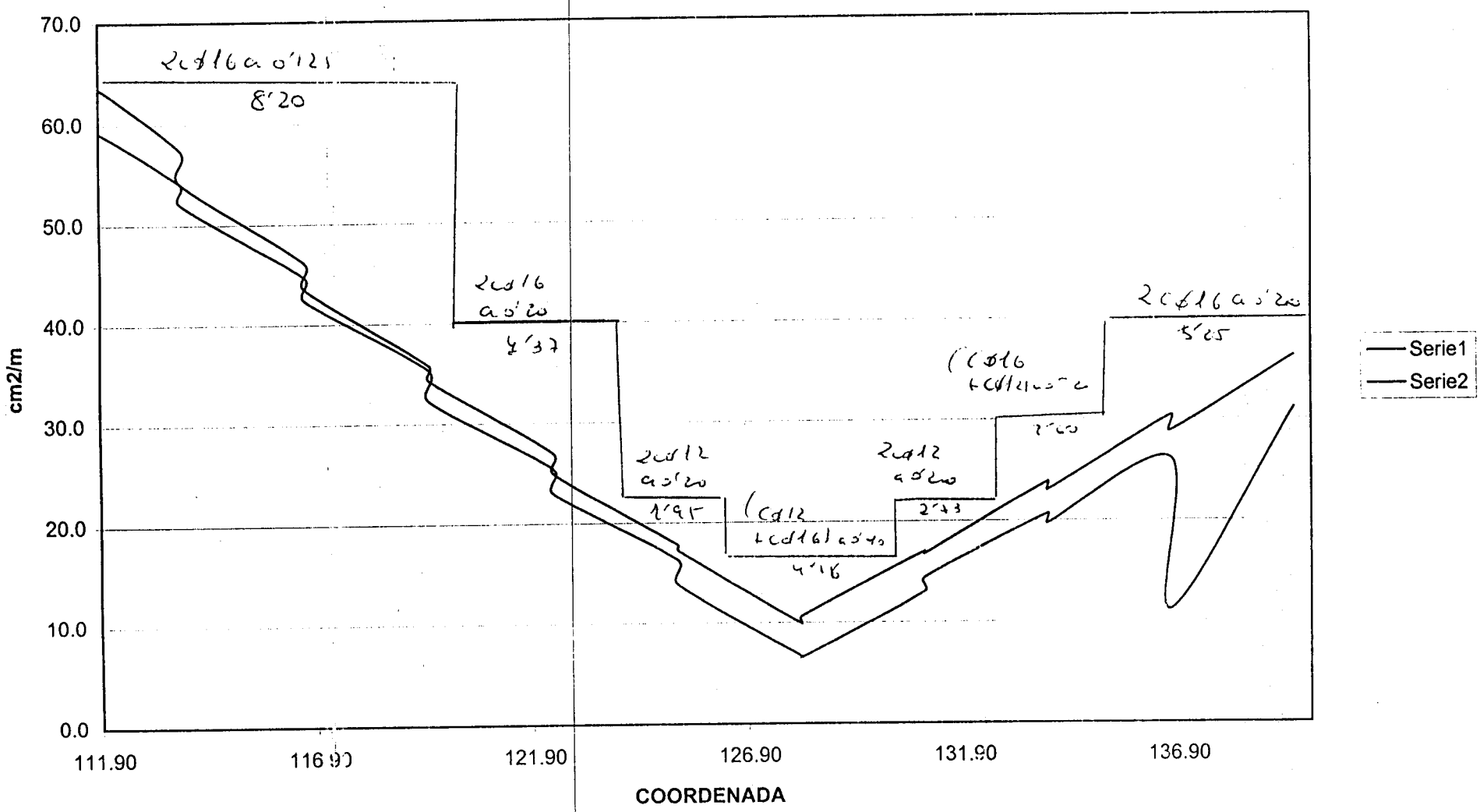
FIBRA 5. ARMADURA TRANSVERSAL POR CORTANTE Y TORSIÓN VIGA "V3" .



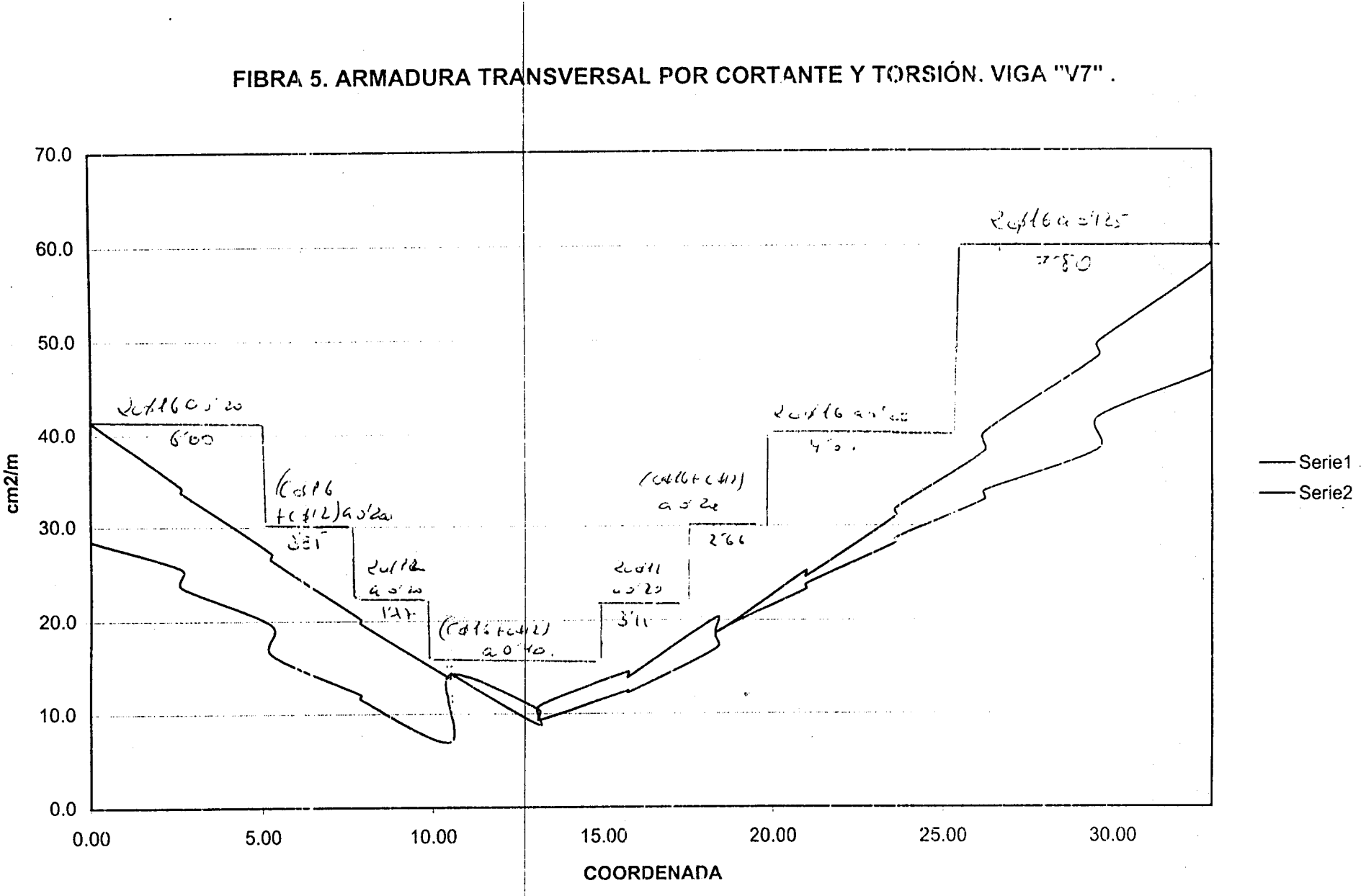
FIBRA 5. ARMADURA TRANSVERSAL POR CORTANTE Y TORSIÓN. VIGA "V8" .



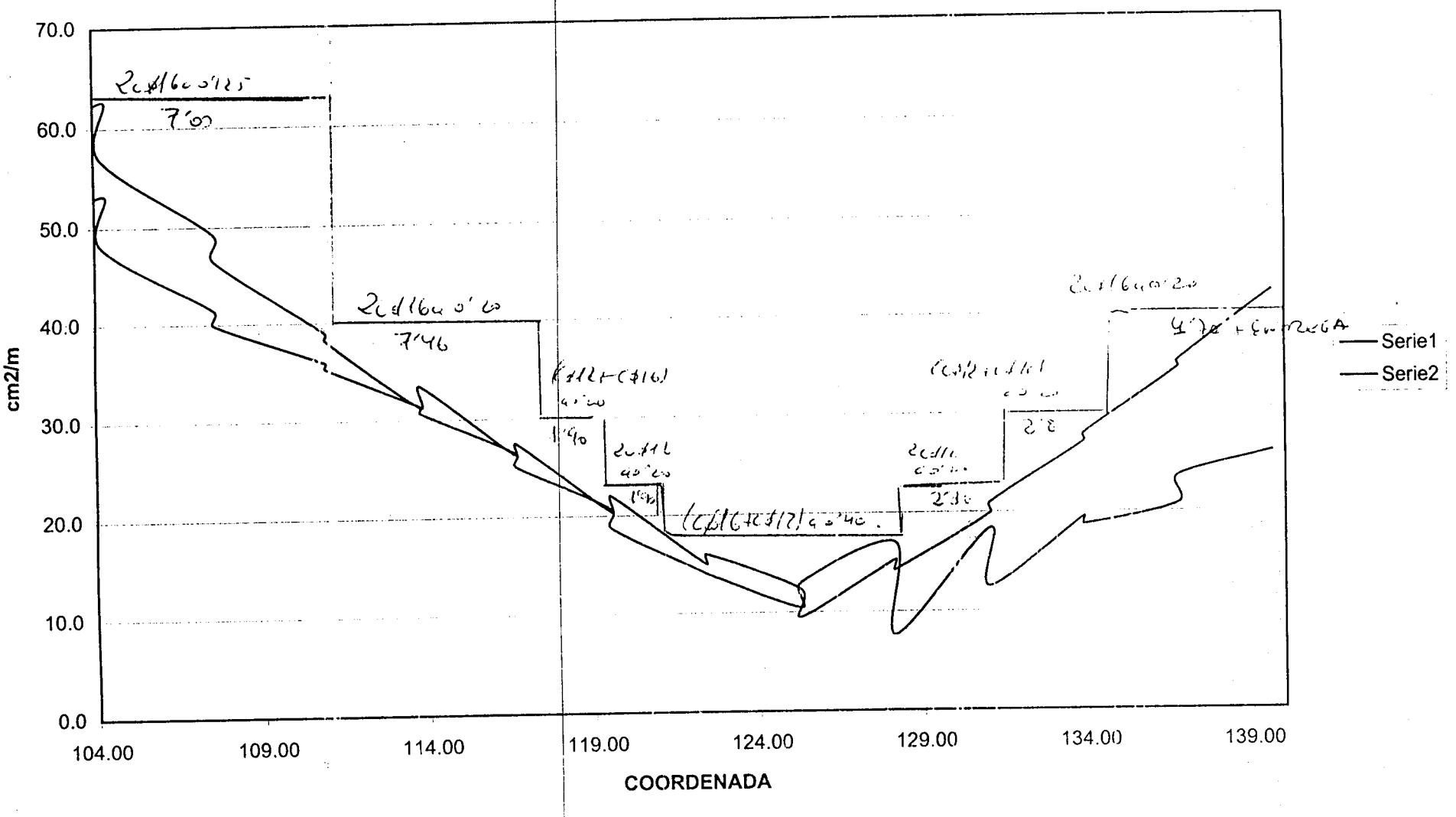
FIBRA 5. ARMADURAN TRANSVERSAL POR CORTANTE Y TORSIÓN. VIGA "V10".



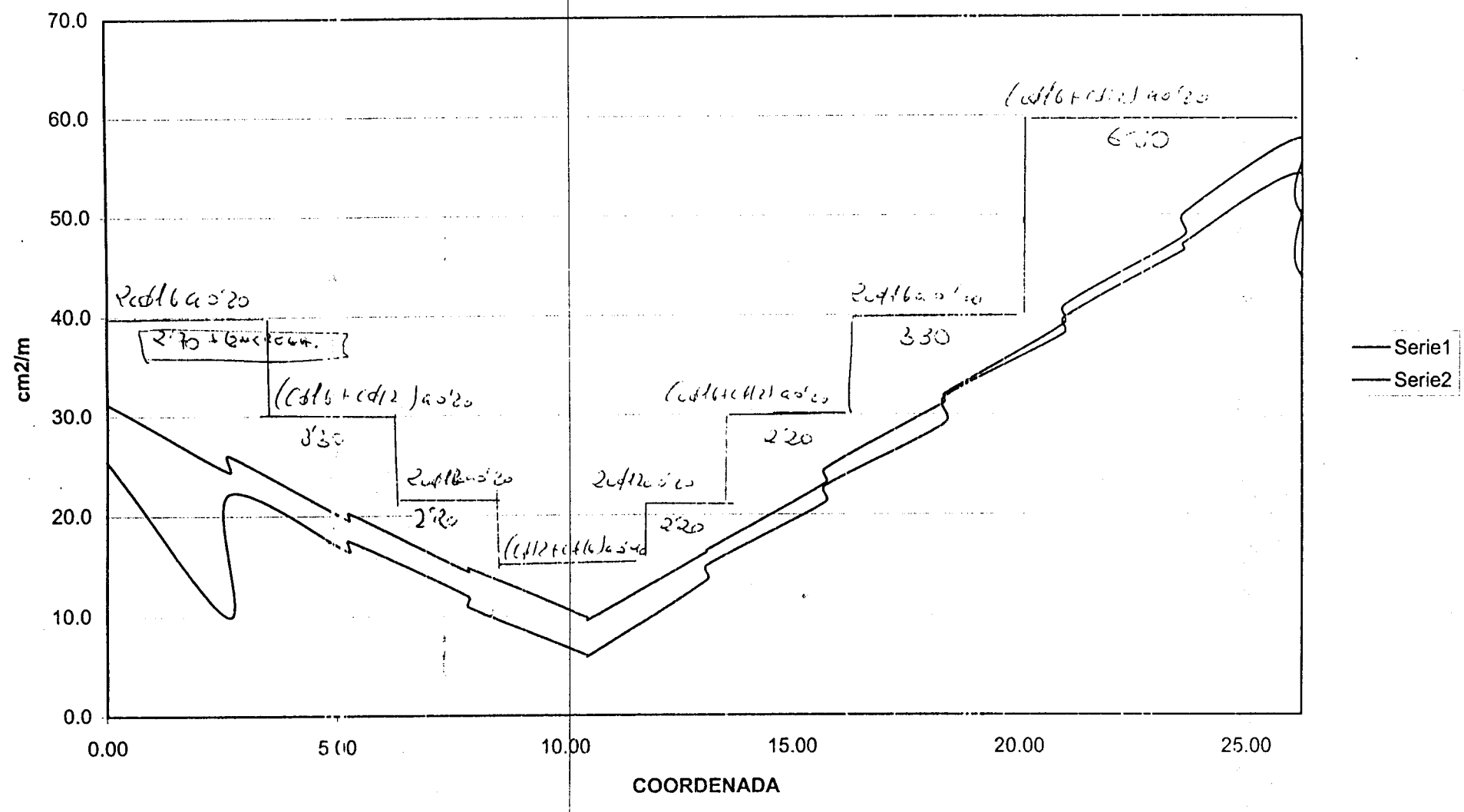
FIBRA 5. ARMADURA TRANSVERSAL POR CORTANTE Y TORSIÓN. VIGA "V7" .



FIBRA 5. ARMADURA TRANSVERSAL POR CORTANTE Y TORSIÓN. VIGA "V9" .



FIBRA 5. ARMADURA TRNASVERSAL POR CORTANTE Y TORSIÓN. VIGA V6.



FIBRA 5 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)						CÁLCULO Trd(tn)						
				Vmax	Tcon	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V7" V-17-2	1	1	0.00	617.71	21.09	481.46	64.89	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.42**	**0.35**
	1	2	2.62	485.71	10.73	154.53	101.39	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.33**	**0.15**
	2	2	2.62	491.33	70.62	368.76	172.86	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.36**	**0.32**
	2	3	5.24	364.95	62.71	257.41	164.44	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.27**	**0.24**
	3	3	5.24	366.89	89.45	255.08	217.91	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.28**	**0.26**
	3	4	7.86	247.71	93.86	148.99	203.52	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.21**	**0.19**
	4	4	7.86	245.05	116.45	112.59	239.84	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.21**	**0.18**
	4	5	10.48	158.25	86.21	14.23	240.89	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.14**	**0.11**
	5	5	10.48	159.62	71.48	3.67	258.10	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.14**	**0.12**
	5	6	13.10	263.62	143.24	142.71	288.85	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.24**	**0.22**
	6	6	13.10	268.62	140.46	160.44	315.51	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.24**	**0.24**
	6	7	15.72	384.97	178.59	264.95	361.02	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.33**	**0.33**
	7	7	15.72	401.49	205.59	281.77	397.51	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.36**	**0.36**
	7	8	18.34	521.37	237.00	388.83	437.98	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.45**	**0.45**
	8	8	18.34	538.54	236.75	425.54	476.06	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.46**	**0.49**
	8	9	20.96	663.67	271.89	536.54	514.14	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.56**	**0.58**
	9	9	20.96	679.89	314.82	553.16	548.86	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.59**	**0.61**
	9	10	23.58	810.03	335.32	668.04	589.18	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.69**	**0.70**
	10	10	23.58	829.80	394.71	673.04	611.45	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.72**	**0.71**
	10	10011	26.20	963.64	434.16	794.13	656.23	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.83**	**0.82**

FIBRA 5 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)						CÁLCULO Trd(tn)						
				Vmax	Tcon	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V8" V-18-2	11	11	26.20	978.64	53.35	547.67	739.63	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.67**	**0.69**
	11	12	29.55	809.16	20.42	444.46	736.95	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.55**	**0.62**
	12	12	29.55	819.98	133.67	436.57	714.55	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.60**	**0.60**
	12	13	32.90	656.95	113.21	323.70	767.61	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.49**	**0.55**
	13	13	32.90	672.34	219.33	331.08	705.68	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.54**	**0.53**
	13	14	36.03	526.89	202.42	220.54	756.83	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.44**	**0.48**
	14	14	36.03	540.37	267.73	235.49	671.49	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.48**	**0.45**
	14	15	39.16	398.62	245.25	121.63	716.76	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.37**	**0.39**
	15	15	39.16	405.15	271.24	256.61	624.73	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.39**	**0.44**
	15	16	42.29	267.95	236.97	26.89	651.82	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.28**	**0.30**
	16	16	42.29	274.49	211.21	185.16	619.64	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.27**	**0.39**
	16	17	45.42	156.25	145.75	72.52	584.34	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.17**	**0.30**
	17	17	45.42	148.91	45.07	59.74	606.17	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.12**	**0.30**
	17	18	48.55	279.40	57.91	63.86	559.21	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.21**	**0.29**
	18	18	48.55	277.08	37.54	71.25	573.78	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.20**	**0.30**
	18	19	51.68	413.49	14.39	191.20	521.86	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.28**	**0.36**
	19	19	51.68	426.06	75.30	189.92	527.12	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.32**	**0.36**
	19	20	54.81	568.17	59.26	302.80	485.14	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.40**	**0.41**
	20	20	54.81	582.49	68.58	298.37	495.91	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.42**	**0.42**
	20	21	57.94	729.59	47.39	520.53	489.98	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.51**	**0.56**
	21	21	57.94	751.10	35.83	567.49	510.61	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.52**	**0.60**
	21	22	61.07	904.57	66.74	694.39	541.12	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.63**	**0.70**
	22	22	61.07	927.90	115.48	690.01	569.91	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.67**	**0.71**
	22	10023	64.20	1087.37	154.32	820.88	605.11	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.79**	**0.81**

FIBRA 5 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tcon:	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V10" V-20-	35	35	104.20	1085.57	125.41	628.43	752.86	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.78**	**0.75**
	35	36	107.55	917.36	159.19	520.87	697.08	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.68**	**0.65**
	36	36	107.55	914.68	41.48	505.61	662.18	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.63**	**0.63**
	36	37	110.90	750.76	69.21	405.31	712.57	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.53**	**0.58**
	37	37	110.90	758.76	17.79	425.39	638.67	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.51**	**0.56**
	37	38	113.77	623.65	10.24	325.20	685.39	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.42**	**0.52**
	38	38	113.77	635.87	79.42	355.15	587.62	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.46**	**0.49**
	38	39	116.64	503.87	52.26	250.98	631.67	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.36**	**0.44**
	39	39	116.64	513.53	85.63	267.37	532.59	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.38**	**0.41**
	39	40	119.51	384.80	55.21	160.24	572.92	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.28**	**0.36**
	40	40	119.51	393.84	106.01	170.33	463.09	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.31**	**0.32**
	40	41	122.38	269.14	70.47	60.96	496.84	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.21**	**0.26**
	41	41	122.38	276.59	99.06	105.24	396.13	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.23**	**0.24**
	41	42	125.25	176.32	157.85	29.03	407.68	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.19**	**0.20**
	42	42	125.25	172.58	42.32	103.91	353.54	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.13**	**0.22**
	42	43	128.12	275.44	66.52	195.92	326.81	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.21**	**0.27**
	43	43	128.12	277.41	17.82	12.57	318.03	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.19**	**0.15**
	43	44	130.99	397.53	1.58	249.08	268.09	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.26**	**0.28**
	44	44	130.99	401.23	41.24	130.82	268.26	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.28**	**0.20**
	44	45	133.86	531.86	25.05	299.15	206.80	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.36**	**0.29**
	45	45	133.86	537.59	50.10	282.15	210.15	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.38**	**0.28**
	45	46	136.73	674.00	39.56	349.30	150.85	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.47**	**0.30**
	46	46	136.73	682.38	52.08	409.96	140.31	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.48**	**0.33**
	46	47	139.60	825.33	50.64	490.75	70.82	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.57**	**0.36**

FIBRA 5 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tcon:	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V6" V-17-1	101	101	0.00	819.04	24.41	540.42	69.16	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.56**	**0.39**
	101	102	2.62	680.42	17.44	460.40	118.51	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.46**	**0.36**
	102	102	2.62	668.09	20.44	416.23	129.80	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.45**	**0.33**
	102	103	5.24	535.37	25.98	313.23	180.35	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.37**	**0.29**
	103	103	5.24	527.01	10.81	248.13	182.18	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.36**	**0.24**
	103	104	7.86	400.69	11.00	141.00	229.40	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.27**	**0.19**
	104	104	7.86	394.90	2.66	133.45	222.68	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.26**	**0.19**
	104	105	10.48	274.58	7.19	22.65	266.28	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.19**	**0.13**
	105	105	10.48	270.85	38.20	165.34	270.22	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.20**	**0.23**
	105	106	13.10	167.72	21.70	80.71	289.45	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.12**	**0.18**
	106	106	13.10	169.42	107.78	33.62	346.89	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.16**	**0.17**
	106	107	15.72	262.52	63.57	103.06	332.41	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.20**	**0.21**
	107	107	15.72	258.68	46.68	57.71	423.83	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.19**	**0.22**
	107	108	18.34	377.22	68.23	161.86	403.77	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.28**	**0.28**
	108	108	18.34	373.23	5.09	158.32	491.38	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.25**	**0.32**
	108	109	20.96	496.29	22.36	260.07	465.78	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.34**	**0.38**
	109	109	20.96	492.14	5.05	236.11	544.51	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.33**	**0.40**
	109	110	23.58	618.95	6.63	336.57	514.31	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.41**	**0.45**
	110	110	23.58	613.83	57.40	313.81	589.98	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.43**	**0.47**
	110	111	26.20	743.98	40.70	410.25	557.21	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.51**	**0.52**
	111	111	26.20	742.85	136.29	401.48	620.66	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.55**	**0.54**
	111	112	29.55	916.13	111.47	505.11	587.53	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.66**	**0.59**
	112	112	29.55	929.06	153.48	559.23	622.82	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.68**	**0.64**
	112	10113	32.90	1107.31	132.02	670.46	599.00	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.79**	**0.71**

FIBRA 5 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CALCULO Vrd(tn)						CALCULO Trd(tn)						
				Vmax	Tcon	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V8" V-18-1	113	113	32.90	1177.48	65.25	760.37	458.17	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.81**	**0.71**
	113	114	36.03	1009.77	43.12	622.97	505.35	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.69**	**0.64**
	114	114	36.03	978.79	35.61	626.10	467.29	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.67**	**0.62**
	114	115	39.16	817.40	51.48	491.71	451.90	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.57**	**0.52**
	115	115	39.16	785.58	92.70	475.90	420.85	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.56**	**0.50**
	115	116	42.29	631.19	98.99	325.09	418.89	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.46**	**0.40**
	116	116	42.29	604.18	131.59	383.70	418.08	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.46**	**0.44**
	116	117	45.42	454.43	133.47	261.62	464.95	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.36**	**0.38**
	117	117	45.42	433.43	129.49	210.42	485.04	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.34**	**0.35**
	117	118	48.55	289.52	138.22	84.32	528.92	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.25**	**0.29**
	118	118	48.55	284.46	18.55	70.45	534.68	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.20**	**0.28**
	118	119	51.68	165.74	89.11	59.45	573.16	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.15**	**0.29**
	119	119	51.68	165.37	140.87	73.68	556.75	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.17**	**0.29**
	119	120	54.81	303.09	172.47	201.26	592.25	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.28**	**0.39**
	120	120	54.81	302.18	124.37	58.98	584.16	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.26**	**0.29**
	120	121	57.94	445.89	148.33	330.54	594.90	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.36**	**0.48**
	121	121	57.94	444.03	88.04	172.88	633.24	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.33**	**0.39**
	121	122	61.07	592.43	100.68	294.54	599.28	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.44**	**0.46**
	122	122	61.07	587.85	63.52	298.12	641.50	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.42**	**0.48**
	122	123	64.20	741.36	71.21	416.40	603.17	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.52**	**0.54**
	123	123	64.20	740.32	43.07	401.60	629.69	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.51**	**0.54**
	123	124	67.55	911.63	31.39	505.66	589.07	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.62**	**0.59**
	124	124	67.55	919.81	42.99	578.76	601.12	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.63**	**0.65**
	124	10125	70.90	1098.44	18.54	689.98	573.19	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.74**	**0.71**

FIBRA 5 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CALCULO Vrd(tn)						CALCULO Trd(tn)						
				Vmax	Tcon	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V3" V-19-1	125	125	70.90	1213.96	119.92	535.95	557.53	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.86**	**0.60**
	125	126	74.23	1036.16	95.10	704.48	544.63	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.73**	**0.71**
	126	126	74.23	1003.42	37.82	681.57	496.55	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.68**	**0.67**
	126	127	77.56	832.14	18.93	542.35	496.34	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.56**	**0.58**
	127	127	77.56	806.81	80.93	499.20	466.21	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.57**	**0.54**
	127	128	80.89	643.67	86.86	389.60	513.06	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.47**	**0.48**
	128	128	80.89	623.17	88.23	343.64	488.66	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.45**	**0.44**
	128	129	84.22	462.53	103.35	213.54	536.18	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.35**	**0.38**
	129	129	84.22	446.40	59.43	182.14	532.45	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.32**	**0.35**
	129	130	87.55	293.00	70.56	46.93	577.39	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.23**	**0.28**
	130	130	87.55	293.33	31.44	49.76	560.89	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.21**	**0.28**
	130	131	90.88	176.98	186.33	89.85	600.30	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.20**	**0.32**
	131	131	90.88	171.51	145.29	80.34	564.33	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.18**	**0.30**
	131	132	94.21	321.17	177.94	216.51	597.71	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.29**	**0.41**
	132	132	94.21	310.22	156.40	59.38	633.31	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.27**	**0.32**
	132	133	97.54	464.44	180.50	191.16	602.52	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.39**	**0.39**
	133	133	97.54	448.13	126.17	169.72	710.14	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.35**	**0.42**
	133	134	100.87	608.77	148.40	297.42	672.83	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.47**	**0.49**
	134	134	100.87	598.67	76.10	284.41	755.19	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.43**	**0.52**
	134	135	104.20	760.60	84.28	407.01	714.02	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.54**	**0.58**
	135	135	104.20	751.43	9.54	459.78	764.47	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.50**	**0.64**
	135	136	107.55	922.81	6.56	578.69	723.38	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.62**	**0.70**
	136	136	107.55	920.28	115.40	625.94	736.14	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.66**	**0.74**
	136	10137	110.90	1098.45	95.80	737.64	698.60	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.77**	**0.80**

FIBRA 5 INTERACCIÓN CORTANTE TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		CÁLCULO Vrd(tn)							CÁLCULO Trd(tn)						
				Vmax	Tconc	Vcon	Tmax	K	Fcd(TN/M2)	COEF F1cd	bo	d	Cotg θ	Vrd(tn)	α	Ae	he	Trd(tn)	factor colaboración de fibra	interacción hip 1	interacción hip 2
"V9" V-20-1	137	137	110.90	1120.16	438.58	950.37	604.91	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.94**	**0.90**
	137	138	113.77	966.54	421.17	811.07	618.32	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.83**	**0.81**
	138	138	113.77	936.29	338.06	787.31	579.19	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.77**	**0.78**
	138	139	116.64	787.42	314.76	653.56	549.23	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.66**	**0.67**
	139	139	116.64	762.82	247.31	629.78	496.10	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.62**	**0.64**
	139	140	119.51	619.44	225.14	500.42	469.53	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.51**	**0.54**
	140	140	119.51	594.94	211.65	462.83	415.96	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.49**	**0.49**
	140	141	122.38	456.66	190.89	338.19	387.39	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.39**	**0.39**
	141	141	122.38	433.63	151.73	310.63	338.81	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.35**	**0.35**
	141	142	125.25	300.59	128.20	190.51	307.29	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.26**	**0.26**
	142	142	125.25	291.95	123.54	156.14	275.08	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.25**	**0.22**
	142	143	128.12	168.16	69.97	20.48	255.72	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.14**	**0.13**
	143	143	128.12	168.33	100.09	25.30	237.74	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.16**	**0.12**
	143	144	130.99	286.83	124.60	155.82	237.74	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.25**	**0.21**
	144	144	130.99	292.68	100.80	199.42	202.97	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.24**	**0.22**
	144	145	133.86	428.90	112.62	321.16	212.21	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.33**	**0.31**
	145	145	133.86	431.00	70.71	322.45	165.77	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.32**	**0.29**
	145	146	136.73	574.71	77.44	450.40	168.78	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.42**	**0.37**
	146	146	136.73	574.29	9.16	179.59	100.85	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.39**	**0.16**
	146	147	139.60	725.98	4.16	595.43	63.19	1.0	4000.0	0.4	0.35	2.73	1.0	752.1	1.5	5.5	0.35	2285.3	0.50	**0.48**	**0.42**

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V7" V-17-2	1	1	0.00	617.7	21.1	481.5	64.9	2.7	1.0	0.50	31.5	24.5	5.5	1.0	0.5	1.5	32.0	26.0	0.5	1.5
	1	2	2.62	485.7	10.7	154.5	101.4	2.7	1.0	0.50	24.8	7.9	5.5	1.0	0.2	2.3	25.0	10.2	0.2	2.3
	2	2	2.62	491.3	70.6	368.8	172.9	2.7	1.0	0.50	25.0	18.8	5.5	1.0	1.6	3.9	26.6	22.7	1.6	3.9
	2	3	5.24	364.9	62.7	257.4	164.4	2.7	1.0	0.50	18.6	13.1	5.5	1.0	1.4	3.7	20.0	16.8	1.4	3.7
	3	3	5.24	366.9	89.5	255.1	217.9	2.7	1.0	0.50	18.7	13.0	5.5	1.0	2.0	4.9	20.7	17.9	2.0	4.9
	3	4	7.86	247.7	93.9	149.0	203.5	2.7	1.0	0.50	12.6	7.6	5.5	1.0	2.1	4.6	14.8	12.2	2.1	4.6
	4	4	7.86	245.1	116.5	112.6	239.8	2.7	1.0	0.50	12.5	5.7	5.5	1.0	2.6	5.4	15.1	11.2	2.6	5.4
	4	5	10.48	158.3	86.2	14.2	240.9	2.7	1.0	0.50	8.1	0.7	5.5	1.0	2.0	5.5	10.0	6.2	2.0	5.5
	5	5	10.48	159.6	71.5	3.7	258.1	2.7	1.0	0.50	8.1	0.2	5.5	1.0	1.6	5.8	9.8	6.0	1.6	5.8
	5	6	13.10	263.6	143.2	142.7	288.8	2.7	1.0	0.50	13.4	7.3	5.5	1.0	3.2	6.5	16.7	13.8	3.2	6.5
	6	6	13.10	268.6	140.5	160.4	315.5	2.7	1.0	0.50	13.7	8.2	5.5	1.0	3.2	7.1	16.9	15.3	3.2	7.1
	6	7	15.72	385.0	178.6	264.9	361.0	2.7	1.0	0.50	19.6	13.5	5.5	1.0	4.0	8.2	23.7	21.7	4.0	8.2
	7	7	15.72	401.5	205.6	281.8	397.5	2.7	1.0	0.50	20.5	14.4	5.5	1.0	4.7	9.0	25.1	23.4	4.7	9.0
	7	8	18.34	521.4	237.0	388.8	438.0	2.7	1.0	0.50	26.6	19.8	5.5	1.0	5.4	9.9	31.9	29.7	5.4	9.9
	8	8	18.34	538.5	236.8	425.5	476.1	2.7	1.0	0.50	27.4	21.7	5.5	1.0	5.4	10.8	32.8	32.5	5.4	10.8
	8	9	20.96	663.7	271.9	536.5	514.1	2.7	1.0	0.50	33.8	27.3	5.5	1.0	6.2	11.6	40.0	39.0	6.2	11.6
	9	9	20.96	679.9	314.8	553.2	548.9	2.7	1.0	0.50	34.7	28.2	5.5	1.0	7.1	12.4	41.8	40.6	7.1	12.4
	9	10	23.58	810.0	335.3	668.0	589.2	2.7	1.0	0.50	41.3	34.0	5.5	1.0	7.6	13.3	48.9	47.4	7.6	13.3
	10	10	23.58	829.8	394.7	673.0	611.4	2.7	1.0	0.50	42.3	34.3	5.5	1.0	8.9	13.8	51.2	48.1	8.9	13.8
	10	10011	26.20	963.6	434.2	794.1	656.2	2.7	1.0	0.50	49.1	40.5	5.5	1.0	9.8	14.9	58.9	55.3	9.8	14.9

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V8" V-18-2	11	11	26.20	978.6	53.3	547.7	739.6	2.7	1.0	0.50	49.9	27.9	5.5	1.0	1.2	16.7	51.1	44.7	1.2	16.7
	11	12	29.55	809.2	20.4	444.5	736.9	2.7	1.0	0.50	41.2	22.7	5.5	1.0	0.5	16.7	41.7	39.3	0.5	16.7
	12	12	29.55	820.0	133.7	436.6	714.6	2.7	1.0	0.50	41.8	22.3	5.5	1.0	3.0	16.2	44.8	38.4	3.0	16.2
	12	13	32.90	657.0	113.2	323.7	767.6	2.7	1.0	0.50	33.5	16.5	5.5	1.0	2.6	17.4	36.0	33.9	2.6	17.4
	13	13	32.90	672.3	219.3	331.1	705.7	2.7	1.0	0.50	34.3	16.9	5.5	1.0	5.0	16.0	39.2	32.9	5.0	16.0
	13	14	36.03	526.9	202.4	220.5	756.8	2.7	1.0	0.50	26.9	11.2	5.5	1.0	4.6	17.1	31.4	28.4	4.6	17.1
	14	14	36.03	540.4	267.7	235.5	671.5	2.7	1.0	0.50	27.5	12.0	5.5	1.0	6.1	15.2	33.6	27.2	6.1	15.2
	14	15	39.16	398.6	245.3	121.6	716.8	2.7	1.0	0.50	20.3	6.2	5.5	1.0	5.6	16.2	25.9	22.4	5.6	16.2
	15	15	39.16	405.1	271.2	256.6	624.7	2.7	1.0	0.50	20.6	13.1	5.5	1.0	6.1	14.1	26.8	27.2	6.1	14.1
	15	16	42.29	267.9	237.0	26.9	651.8	2.7	1.0	0.50	13.7	1.4	5.5	1.0	5.4	14.8	19.0	16.1	5.4	14.8
	16	16	42.29	274.5	211.2	185.2	619.6	2.7	1.0	0.50	14.0	9.4	5.5	1.0	4.8	14.0	18.8	23.5	4.8	14.0
	16	17	45.42	156.2	145.7	72.5	584.3	2.7	1.0	0.50	8.0	3.7	5.5	1.0	3.3	13.2	11.3	16.9	3.3	13.2
	17	17	45.42	148.9	45.1	59.7	606.2	2.7	1.0	0.50	7.6	3.0	5.5	1.0	1.0	13.7	8.6	16.8	1.0	13.7
	17	18	48.55	279.4	57.9	63.9	559.2	2.7	1.0	0.50	14.2	3.3	5.5	1.0	1.3	12.7	15.6	15.9	1.3	12.7
	18	18	48.55	277.1	37.5	71.2	573.8	2.7	1.0	0.50	14.1	3.6	5.5	1.0	0.8	13.0	15.0	16.3	0.8	13.0
	18	19	51.68	413.5	14.4	191.2	521.9	2.7	1.0	0.50	21.1	9.7	5.5	1.0	0.3	11.8	21.4	21.6	0.3	11.8
	19	19	51.68	426.1	75.4	189.9	527.1	2.7	1.0	0.50	21.7	9.7	5.5	1.0	1.7	11.9	23.4	21.6	1.7	11.9
	19	20	54.81	568.2	59.3	302.8	485.1	2.7	1.0	0.50	29.0	15.4	5.5	1.0	1.3	11.0	30.3	26.4	1.3	11.0
	20	20	54.81	582.5	68.6	298.4	495.9	2.7	1.0	0.50	29.7	15.2	5.5	1.0	1.6	11.2	31.2	26.4	1.6	11.2
	20	21	57.94	729.6	47.4	520.5	490.0	2.7	1.0	0.50	37.2	26.5	5.5	1.0	1.1	11.1	38.3	37.6	1.1	11.1
	21	21	57.94	751.1	35.8	567.5	510.6	2.7	1.0	0.50	38.3	28.9	5.5	1.0	0.8	11.6	39.1	40.5	0.8	11.6
	21	22	61.07	904.6	66.7	694.4	541.1	2.7	1.0	0.50	46.1	35.4	5.5	1.0	1.5	12.3	47.6	47.6	1.5	12.3
	22	22	61.07	927.9	115.5	690.0	569.9	2.7	1.0	0.50	47.3	35.2	5.5	1.0	2.6	12.9	49.9	48.1	2.6	12.9
	22	10023	64.20	1087.4	154.3	820.9	605.1	2.7	1.0	0.50	55.4	41.8	5.5	1.0	3.5	13.7	58.9	55.5	3.5	13.7

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V3" V-19-2	23	23	64.20	1049.9	33.0	616.7	682.5	2.7	1.0	0.50	53.5	31.4	5.5	1.0	0.7	15.5	54.3	46.9	0.7	15.5
	23	24	67.55	880.8	3.3	522.3	641.4	2.7	1.0	0.50	44.9	26.6	5.5	1.0	0.1	14.5	45.0	41.1	0.1	14.5
	24	24	67.55	884.8	156.6	499.3	618.7	2.7	1.0	0.50	45.1	25.5	5.5	1.0	3.5	14.0	48.6	39.5	3.5	14.0
	24	25	70.90	722.2	124.8	389.9	669.6	2.7	1.0	0.50	36.8	19.9	5.5	1.0	2.8	15.2	39.6	35.0	2.8	15.2
	25	25	70.90	734.6	217.0	481.8	639.5	2.7	1.0	0.50	37.4	24.6	5.5	1.0	4.9	14.5	42.4	39.0	4.9	14.5
	25	26	74.23	580.6	194.6	272.1	672.7	2.7	1.0	0.50	29.6	13.9	5.5	1.0	4.4	15.2	34.0	29.1	4.4	15.2
	26	26	74.23	593.8	252.5	472.3	669.4	2.7	1.0	0.50	30.3	24.1	5.5	1.0	5.7	15.2	36.0	39.2	5.7	15.2
	26	27	77.56	441.3	215.1	154.8	652.1	2.7	1.0	0.50	22.5	7.9	5.5	1.0	4.9	14.8	27.4	22.7	4.9	14.8
	27	27	77.56	449.7	259.6	337.8	691.4	2.7	1.0	0.50	22.9	17.2	5.5	1.0	5.9	15.7	28.8	32.9	5.9	15.7
	27	28	80.89	303.2	221.5	207.2	648.9	2.7	1.0	0.50	15.5	10.6	5.5	1.0	5.0	14.7	20.5	25.3	5.0	14.7
	28	28	80.89	307.2	246.0	199.7	692.3	2.7	1.0	0.50	15.7	10.2	5.5	1.0	5.6	15.7	21.2	25.9	5.6	15.7
	28	29	84.22	166.9	199.5	70.5	642.3	2.7	1.0	0.50	8.5	3.6	5.5	1.0	4.5	14.5	13.0	18.1	4.5	14.5
	29	29	84.22	167.1	204.3	65.0	668.3	2.7	1.0	0.50	8.5	3.3	5.5	1.0	4.6	15.1	13.1	18.4	4.6	15.1
	29	30	87.55	281.1	8.0	67.7	614.1	2.7	1.0	0.50	14.3	3.4	5.5	1.0	0.2	13.9	14.5	17.4	0.2	13.9
	30	30	87.55	282.7	111.6	82.5	610.0	2.7	1.0	0.50	14.4	4.2	5.5	1.0	2.5	13.8	16.9	18.0	2.5	13.8
	30	31	90.88	428.1	89.3	211.3	550.2	2.7	1.0	0.50	21.8	10.8	5.5	1.0	2.0	12.5	23.8	23.2	2.0	12.5
	31	31	90.88	449.2	131.3	221.0	527.1	2.7	1.0	0.50	22.9	11.3	5.5	1.0	3.0	11.9	25.9	23.2	3.0	11.9
	31	32	94.21	601.5	104.7	345.2	464.2	2.7	1.0	0.50	30.7	17.6	5.5	1.0	2.4	10.5	33.0	28.1	2.4	10.5
	32	32	94.21	630.5	72.3	319.4	458.3	2.7	1.0	0.50	32.1	16.3	5.5	1.0	1.6	10.4	33.8	26.7	1.6	10.4
	32	33	97.54	784.7	57.3	470.6	453.3	2.7	1.0	0.50	40.0	24.0	5.5	1.0	1.3	10.3	41.3	34.2	1.3	10.3
	33	33	97.54	818.4	10.3	500.1	491.7	2.7	1.0	0.50	41.7	25.5	5.5	1.0	0.2	11.1	41.9	36.6	0.2	11.1
	33	34	100.87	980.6	38.4	634.6	519.1	2.7	1.0	0.50	50.0	32.3	5.5	1.0	0.9	11.8	50.8	44.1	0.9	11.8
	34	34	100.87	1014.2	129.8	666.4	559.5	2.7	1.0	0.50	51.7	34.0	5.5	1.0	2.9	12.7	54.6	46.6	2.9	12.7
	34	10035	104.20	1182.7	164.3	805.3	592.0	2.7	1.0	0.50	60.3	41.0	5.5	1.0	3.7	13.4	64.0	54.4	3.7	13.4

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tcon:	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2,	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
	35	35	104.20	1085.6	125.4	628.4	752.9	2.7	1.0	0.50	55.3	32.0	5.5	1.0	2.8	17.0	58.2	49.1	2.8	17.0
	35	36	107.55	917.4	159.2	520.9	697.1	2.7	1.0	0.50	46.8	26.5	5.5	1.0	3.6	15.8	50.4	42.3	3.6	15.8
	36	36	107.55	914.7	41.5	505.6	662.2	2.7	1.0	0.50	46.6	25.8	5.5	1.0	0.9	15.0	47.6	40.8	0.9	15.0
	36	37	110.90	750.8	69.2	405.3	712.6	2.7	1.0	0.50	38.3	20.7	5.5	1.0	1.6	16.1	39.8	36.8	1.6	16.1
	37	37	110.90	758.8	17.7	425.4	638.7	2.7	1.0	0.50	38.7	21.7	5.5	1.0	0.4	14.5	39.1	36.1	0.4	14.5
	37	38	113.77	623.7	10.2	325.2	685.4	2.7	1.0	0.50	31.8	16.6	5.5	1.0	0.2	15.5	32.0	32.1	0.2	15.5
	38	38	113.77	635.9	79.4	355.1	587.6	2.7	1.0	0.50	32.4	18.1	5.5	1.0	1.8	13.3	34.2	31.4	1.8	13.3
	38	39	116.64	503.9	52.3	251.0	631.7	2.7	1.0	0.50	25.7	12.8	5.5	1.0	1.2	14.3	26.9	27.1	1.2	14.3
	39	39	116.64	513.5	85.6	267.4	532.6	2.7	1.0	0.50	26.2	13.6	5.5	1.0	1.9	12.1	28.1	25.7	1.9	12.1
	39	40	119.51	384.8	55.2	160.2	572.9	2.7	1.0	0.50	19.6	8.2	5.5	1.0	1.3	13.0	20.9	21.1	1.3	13.0
	40	40	119.51	393.8	106.0	170.3	463.1	2.7	1.0	0.50	20.1	8.7	5.5	1.0	2.4	10.5	22.5	19.2	2.4	10.5
"V10" V 20-2	40	41	122.38	269.1	70.5	61.0	496.8	2.7	1.0	0.50	13.7	3.1	5.5	1.0	1.6	11.3	15.3	14.4	1.6	11.3
	41	41	122.38	276.6	99.1	105.2	396.1	2.7	1.0	0.50	14.1	5.4	5.5	1.0	2.2	9.0	16.3	14.3	2.2	9.0
	41	42	125.25	176.3	157.9	29.0	407.7	2.7	1.0	0.50	9.0	1.5	5.5	1.0	3.6	9.2	12.6	10.7	3.6	9.2
	42	42	125.25	172.6	42.3	103.9	353.5	2.7	1.0	0.50	8.8	5.3	5.5	1.0	1.0	8.0	9.8	13.3	1.0	8.0
	42	43	128.12	275.4	66.5	195.9	326.8	2.7	1.0	0.50	14.0	10.0	5.5	1.0	1.5	7.4	15.5	17.4	1.5	7.4
	43	43	128.12	277.4	17.8	12.6	318.0	2.7	1.0	0.50	14.1	0.6	5.5	1.0	0.4	7.2	14.5	7.8	0.4	7.2
	43	44	130.99	397.5	1.6	249.1	268.1	2.7	1.0	0.50	20.3	12.7	5.5	1.0	0.0	6.1	20.3	18.8	0.0	6.1
	44	44	130.99	401.2	41.2	130.8	268.3	2.7	1.0	0.50	20.5	6.7	5.5	1.0	0.9	6.1	21.4	12.7	0.9	6.1
	44	45	133.86	531.9	25.0	299.2	206.8	2.7	1.0	0.50	27.1	15.2	5.5	1.0	0.6	4.7	27.7	19.9	0.6	4.7
	45	45	133.86	537.6	50.1	282.2	210.2	2.7	1.0	0.50	27.4	14.4	5.5	1.0	1.1	4.8	28.5	19.1	1.1	4.8
	45	46	136.73	674.0	39.5	349.3	150.9	2.7	1.0	0.50	34.4	17.8	5.5	1.0	0.9	3.4	35.2	21.2	0.9	3.4
	46	46	136.73	682.4	52.1	410.0	140.3	2.7	1.0	0.50	34.8	20.9	5.5	1.0	1.2	3.2	36.0	24.1	1.2	3.2
	46	47	139.60	825.3	50.6	490.7	70.8	2.7	1.0	0.50	42.1	25.0	5.5	1.0	1.1	1.6	43.2	26.6	1.1	1.6

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tcon:	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
	101	101	0.00	819.0	24.4	540.4	69.2	2.7	1.0	0.50	41.7	27.5	5.5	1.0	0.6	1.6	42.3	29.1	0.6	1.6
	101	102	2.62	680.4	17.4	460.4	118.5	2.7	1.0	0.50	34.7	23.5	5.5	1.0	0.4	2.7	35.1	26.1	0.4	2.7
	102	102	2.62	668.1	20.4	416.2	129.8	2.7	1.0	0.50	34.1	21.2	5.5	1.0	0.5	2.9	34.5	24.2	0.5	2.9
	102	103	5.24	535.4	25.1	313.2	180.3	2.7	1.0	0.50	27.3	16.0	5.5	1.0	0.6	4.1	27.9	20.0	0.6	4.1
	103	103	5.24	527.0	10.8	248.1	182.2	2.7	1.0	0.50	26.9	12.6	5.5	1.0	0.2	4.1	27.1	16.8	0.2	4.1
	103	104	7.86	400.7	11.0	141.0	229.4	2.7	1.0	0.50	20.4	7.2	5.5	1.0	0.2	5.2	20.7	12.4	0.2	5.2
	104	104	7.86	394.9	2.7	133.4	222.7	2.7	1.0	0.50	20.1	6.8	5.5	1.0	0.1	5.0	20.2	11.8	0.1	5.0
	104	105	10.48	274.6	7.2	22.6	266.3	2.7	1.0	0.50	14.0	1.2	5.5	1.0	0.2	6.0	14.2	7.2	0.2	6.0
	105	105	10.48	270.8	38.2	165.3	270.2	2.7	1.0	0.50	13.8	8.4	5.5	1.0	0.9	6.1	14.7	14.5	0.9	6.1
	105	106	13.10	167.7	21.7	80.7	289.5	2.7	1.0	0.50	8.5	4.1	5.5	1.0	0.5	6.6	9.0	10.7	0.5	6.6
	106	106	13.10	169.4	107.8	33.6	346.9	2.7	1.0	0.50	8.6	1.7	5.5	1.0	2.4	7.9	11.1	9.6	2.4	7.9
"V6" V-17-1	106	107	15.72	262.5	63.6	103.1	332.4	2.7	1.0	0.50	13.4	5.3	5.5	1.0	1.4	7.5	14.8	12.8	1.4	7.5
	107	107	15.72	258.7	46.7	57.7	423.8	2.7	1.0	0.50	13.2	2.9	5.5	1.0	1.1	9.6	14.2	12.5	1.1	9.6
	107	108	18.34	377.2	68.2	161.9	403.8	2.7	1.0	0.50	19.2	8.2	5.5	1.0	1.5	9.1	20.8	17.4	1.5	9.1
	108	108	18.34	373.2	5.1	158.3	491.4	2.7	1.0	0.50	19.0	8.1	5.5	1.0	0.1	11.1	19.1	19.2	0.1	11.1
	108	109	20.96	496.3	22.4	260.1	465.8	2.7	1.0	0.50	25.3	13.3	5.5	1.0	0.5	10.5	25.8	23.8	0.5	10.5
	109	109	20.96	492.1	5.0	236.1	544.5	2.7	1.0	0.50	25.1	12.0	5.5	1.0	0.1	12.3	25.2	24.4	0.1	12.3
	109	110	23.58	619.0	6.6	336.6	514.3	2.7	1.0	0.50	31.5	17.2	5.5	1.0	0.2	11.6	31.7	28.8	0.2	11.6
	110	110	23.58	613.8	57.4	313.8	590.0	2.7	1.0	0.50	31.3	16.0	5.5	1.0	1.3	13.4	32.6	29.4	1.3	13.4
	110	111	26.20	744.0	40.7	410.2	557.2	2.7	1.0	0.50	37.9	20.9	5.5	1.0	0.9	12.6	38.8	33.5	0.9	12.6
	111	111	26.20	742.9	136.3	401.5	620.7	2.7	1.0	0.50	37.9	20.5	5.5	1.0	3.1	14.1	40.9	34.5	3.1	14.1
	111	112	29.55	916.1	111.5	505.1	587.5	2.7	1.0	0.50	46.7	25.7	5.5	1.0	2.5	13.3	49.2	39.0	2.5	13.3
	112	112	29.55	929.1	153.5	559.2	622.8	2.7	1.0	0.50	47.4	28.5	5.5	1.0	3.5	14.1	50.8	42.6	3.5	14.1
	112	10113	32.90	1107.3	132.0	670.5	599.0	2.7	1.0	0.50	56.4	34.2	5.5	1.0	3.0	13.6	59.4	47.7	3.0	13.6

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tcon:	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V3" V-19-1	125	125	70.90	1214.0	119.9	536.0	557.5	2.7	1.0	0.50	61.9	27.3	5.5	1.0	2.7	12.6	64.6	39.9	2.7	12.6
	125	126	74.23	1036.2	95.1	704.5	544.6	2.7	1.0	0.50	52.8	35.9	5.5	1.0	2.2	12.3	55.0	48.2	2.2	12.3
	126	126	74.23	1003.4	37.8	681.6	496.5	2.7	1.0	0.50	51.1	34.7	5.5	1.0	0.9	11.2	52.0	46.0	0.9	11.2
	126	127	77.56	832.1	18.9	542.3	496.3	2.7	1.0	0.50	42.4	27.6	5.5	1.0	0.4	11.2	42.8	38.9	0.4	11.2
	127	127	77.56	806.8	80.9	499.2	466.2	2.7	1.0	0.50	41.1	25.4	5.5	1.0	1.8	10.6	43.0	36.0	1.8	10.6
	127	128	80.89	643.7	86.9	389.6	513.1	2.7	1.0	0.50	32.8	19.9	5.5	1.0	2.0	11.6	34.8	31.5	2.0	11.6
	128	128	80.89	623.2	88.2	343.6	488.7	2.7	1.0	0.50	31.8	17.5	5.5	1.0	2.0	11.1	33.8	28.6	2.0	11.1
	128	129	84.22	462.5	103.4	213.5	536.2	2.7	1.0	0.50	23.6	10.9	5.5	1.0	2.3	12.1	25.9	23.0	2.3	12.1
	129	129	84.22	446.4	59.4	182.1	532.4	2.7	1.0	0.50	22.8	9.3	5.5	1.0	1.3	12.1	24.1	21.3	1.3	12.1
	129	130	87.55	293.0	70.6	46.9	577.4	2.7	1.0	0.50	14.9	2.4	5.5	1.0	1.6	13.1	16.5	15.5	1.6	13.1
	130	130	87.55	293.3	31.4	49.8	560.9	2.7	1.0	0.50	15.0	2.5	5.5	1.0	0.7	12.7	15.7	15.2	0.7	12.7
	130	131	90.88	177.0	186.3	89.8	600.3	2.7	1.0	0.50	9.0	4.6	5.5	1.0	4.2	13.6	13.2	18.2	4.2	13.6
	131	131	90.88	171.5	145.3	80.3	564.3	2.7	1.0	0.50	8.7	4.1	5.5	1.0	3.3	12.8	12.0	16.9	3.3	12.8
	131	132	94.21	321.2	177.9	216.5	597.7	2.7	1.0	0.50	16.4	11.0	5.5	1.0	4.0	13.5	20.4	24.6	4.0	13.5
	132	132	94.21	310.2	156.4	59.4	633.3	2.7	1.0	0.50	15.8	3.0	5.5	1.0	3.5	14.3	19.4	17.4	3.5	14.3
	132	133	97.54	464.4	180.5	191.2	602.5	2.7	1.0	0.50	23.7	9.7	5.5	1.0	4.1	13.6	27.8	23.4	4.1	13.6
	133	133	97.54	448.1	126.2	169.7	710.1	2.7	1.0	0.50	22.8	8.7	5.5	1.0	2.9	16.1	25.7	24.7	2.9	16.1
	133	134	100.87	608.8	148.4	297.4	672.8	2.7	1.0	0.50	31.0	15.2	5.5	1.0	3.4	15.2	34.4	30.4	3.4	15.2
	134	134	100.87	598.7	76.1	284.4	755.2	2.7	1.0	0.50	30.5	14.5	5.5	1.0	1.7	17.1	32.2	31.6	1.7	17.1
	134	135	104.20	760.6	84.3	407.0	714.0	2.7	1.0	0.50	38.8	20.7	5.5	1.0	1.9	16.2	40.7	36.9	1.9	16.2
	135	135	104.20	751.4	9.5	459.8	764.5	2.7	1.0	0.50	38.3	23.4	5.5	1.0	0.2	17.3	38.5	40.7	0.2	17.3
	135	136	107.55	922.8	6.6	578.7	723.4	2.7	1.0	0.50	47.0	29.5	5.5	1.0	0.1	16.4	47.2	45.9	0.1	16.4
	136	136	107.55	920.3	115.4	625.9	736.1	2.7	1.0	0.50	46.9	31.9	5.5	1.0	2.6	16.7	49.5	48.6	2.6	16.7
	136	10137	110.90	1098.5	95.8	737.6	698.6	2.7	1.0	0.50	56.0	37.6	5.5	1.0	2.2	15.8	58.2	53.4	2.2	15.8

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1	HIP2	ARMADURA POR T		HIP1	HIP2	ARMAD. TOTAL TRANSV. HIP1	ARMAD. TOTAL TRANSV. HIP2	ARMAD. TORSIÓN LONG HIP1	ARMAD. TORSIÓN LONG HIP2
				Vmax	Tcon:	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)
"V8" V-18-1	113	113	32.90	1177.5	65.2	760.4	458.2	2.7	1.0	0.50	60.0	38.8	5.5	1.0	1.5	10.4	61.5	49.1	1.5	10.4
	113	114	36.03	1009.8	43.1	623.0	505.4	2.7	1.0	0.50	51.5	31.8	5.5	1.0	1.0	11.4	52.4	43.2	1.0	11.4
	114	114	36.03	978.8	35.6	626.1	467.3	2.7	1.0	0.50	49.9	31.9	5.5	1.0	0.8	10.6	50.7	42.5	0.8	10.6
	114	115	39.16	817.4	51.5	491.7	451.9	2.7	1.0	0.50	41.7	25.1	5.5	1.0	1.2	10.2	42.8	35.3	1.2	10.2
	115	115	39.16	785.6	92.7	475.9	420.8	2.7	1.0	0.50	40.0	24.3	5.5	1.0	2.1	9.5	42.1	33.8	2.1	9.5
	115	116	42.29	631.2	99.0	325.1	418.9	2.7	1.0	0.50	32.2	16.6	5.5	1.0	2.2	9.5	34.4	26.1	2.2	9.5
	116	116	42.29	604.2	131.6	383.7	418.1	2.7	1.0	0.50	30.8	19.6	5.5	1.0	3.0	9.5	33.8	29.0	3.0	9.5
	116	117	45.42	454.4	133.5	261.6	464.9	2.7	1.0	0.50	23.2	13.3	5.5	1.0	3.0	10.5	26.2	23.9	3.0	10.5
	117	117	45.42	433.4	129.5	210.4	485.0	2.7	1.0	0.50	22.1	10.7	5.5	1.0	2.9	11.0	25.0	21.7	2.9	11.0
	117	118	48.55	289.5	138.2	84.3	528.9	2.7	1.0	0.50	14.8	4.3	5.5	1.0	3.1	12.0	17.9	16.3	3.1	12.0
	118	118	48.55	284.5	18.5	70.5	534.7	2.7	1.0	0.50	14.5	3.6	5.5	1.0	0.4	12.1	14.9	15.7	0.4	12.1
	118	119	51.68	165.7	89.1	59.4	573.2	2.7	1.0	0.50	8.4	3.0	5.5	1.0	2.0	13.0	10.5	16.0	2.0	13.0
	119	119	51.68	165.4	140.9	73.7	556.8	2.7	1.0	0.50	8.4	3.8	5.5	1.0	3.2	12.6	11.6	16.4	3.2	12.6
	119	120	54.81	303.1	172.5	201.3	592.3	2.7	1.0	0.50	15.4	10.3	5.5	1.0	3.9	13.4	19.4	23.7	3.9	13.4
	120	120	54.81	302.2	124.4	59.0	584.2	2.7	1.0	0.50	15.4	3.0	5.5	1.0	2.8	13.2	18.2	16.2	2.8	13.2
	120	121	57.94	445.9	148.3	330.5	594.9	2.7	1.0	0.50	22.7	16.8	5.5	1.0	3.4	13.5	26.1	30.3	3.4	13.5
	121	121	57.94	444.0	88.0	172.9	633.2	2.7	1.0	0.50	22.6	8.8	5.5	1.0	2.0	14.3	24.6	23.2	2.0	14.3
	121	122	61.07	592.4	100.7	294.5	599.3	2.7	1.0	0.50	30.2	15.0	5.5	1.0	2.3	13.6	32.5	28.6	2.3	13.6
	122	122	61.07	587.9	63.5	298.1	641.5	2.7	1.0	0.50	30.0	15.2	5.5	1.0	1.4	14.5	31.4	29.7	1.4	14.5
	122	123	64.20	741.4	71.2	416.4	603.2	2.7	1.0	0.50	37.8	21.2	5.5	1.0	1.6	13.7	39.4	34.9	1.6	13.7
	123	123	64.20	740.3	45.1	401.6	629.7	2.7	1.0	0.50	37.7	20.5	5.5	1.0	1.0	14.3	38.7	34.7	1.0	14.3
	123	124	67.55	911.6	31.3	505.7	589.1	2.7	1.0	0.50	46.5	25.8	5.5	1.0	0.7	13.3	47.2	39.1	0.7	13.3
	124	124	67.55	919.8	43.0	578.8	601.1	2.7	1.0	0.50	46.9	29.5	5.5	1.0	1.0	13.6	47.9	43.1	1.0	13.6
	124	10125	70.90	1098.4	18.5	690.0	573.2	2.7	1.0	0.50	56.0	35.2	5.5	1.0	0.4	13.0	56.4	48.1	0.4	13.0

c) Fatiga

ARMADO CORTANTE - TORSOR

	Barra	Nudo	X	Hipótesis 1		Hipótesis 2		ARMADURA POR CORTANTE			HIP1		HIP2		ARMADURA POR T		HIP1		HIP2		ARMAD. TOTAL TRANSV.		ARMAD. TORSIÓN LONG	
				Vmax	Tconc	Vcon	Tmax	d	Cotg θ	factor colaboración de fibra	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	Ae(m2)	Cotg q	A (cm2/m)	A (cm2/m)	A (cm2/m)	A (cm2/m)	HIP1	HIP2	HIP1	HIP2
"Vg" V-20-1	137	137	110.90	1120.2	438.6	950.4	604.9	2.7	1.0	0.50	57.1	48.4	5.5	1.0	9.9	13.7	67.0	62.1	9.9	13.7				
	137	138	113.77	966.5	421.2	811.1	618.3	2.7	1.0	0.50	49.3	41.3	5.5	1.0	9.5	14.0	58.8	55.3	9.5	14.0				
	138	138	113.77	966.5	421.2	811.1	618.3	2.7	1.0	0.50	47.7	40.1	5.5	1.0	7.7	13.1	55.4	53.2	7.7	13.1				
	138	139	116.64	787.4	314.8	653.6	549.2	2.7	1.0	0.50	40.1	33.3	5.5	1.0	7.1	12.4	47.3	45.7	7.1	12.4				
	139	139	116.64	762.8	247.3	629.8	496.1	2.7	1.0	0.50	38.9	32.1	5.5	1.0	5.6	11.2	44.5	43.3	5.6	11.2				
	139	140	119.51	619.4	225.1	500.4	469.5	2.7	1.0	0.50	31.6	25.5	5.5	1.0	5.1	10.6	36.7	36.1	5.1	10.6				
	140	140	119.51	594.9	211.6	462.8	416.0	2.7	1.0	0.50	30.3	23.6	5.5	1.0	4.8	9.4	35.1	33.0	4.8	9.4				
	140	141	122.38	456.7	190.9	338.2	387.4	2.7	1.0	0.50	23.3	17.2	5.5	1.0	4.3	8.8	27.6	26.0	4.3	8.8				
	141	141	122.38	433.6	151.7	310.6	338.8	2.7	1.0	0.50	22.1	15.8	5.5	1.0	3.4	7.7	25.5	23.5	3.4	7.7				
	141	142	125.25	300.8	128.2	190.5	307.3	2.7	1.0	0.50	15.3	9.7	5.5	1.0	2.9	7.0	18.2	16.7	2.9	7.0				
	142	142	125.25	292.0	123.5	156.1	275.1	2.7	1.0	0.50	14.9	8.0	5.5	1.0	2.8	6.2	17.7	14.2	2.8	6.2				
	142	143	128.12	168.2	70.0	20.5	255.7	2.7	1.0	0.50	8.6	1.0	5.5	1.0	1.6	5.8	10.2	6.8	1.6	5.8				
	143	143	128.12	168.3	100.1	25.3	237.7	2.7	1.0	0.50	8.6	1.3	5.5	1.0	2.3	5.4	10.8	6.7	2.3	5.4				
	143	144	130.99	286.8	124.8	155.8	237.7	2.7	1.0	0.50	14.6	7.9	5.5	1.0	2.8	5.4	17.4	13.3	2.8	5.4				
	144	144	130.99	292.7	100.8	199.4	203.0	2.7	1.0	0.50	14.9	10.2	5.5	1.0	2.3	4.6	17.2	14.8	2.3	4.6				
	144	145	133.86	428.9	112.5	321.2	212.2	2.7	1.0	0.50	21.9	16.4	5.5	1.0	2.5	4.8	24.4	21.2	2.5	4.8				
	145	145	133.86	431.0	70.7	322.5	165.8	2.7	1.0	0.50	22.0	16.4	5.5	1.0	1.6	3.8	23.6	20.2	1.6	3.8				
	145	146	136.73	574.7	77.4	450.4	168.8	2.7	1.0	0.50	29.3	23.0	5.5	1.0	1.8	3.8	31.0	26.8	1.8	3.8				
	146	146	136.73	574.3	9.2	179.6	100.9	2.7	1.0	0.50	29.3	9.2	5.5	1.0	0.2	2.3	29.5	11.4	0.2	2.3				
	146	147	139.60	726.0	4.2	595.4	63.2	2.7	1.0	0.50	37.0	30.3	5.5	1.0	0.1	1.4	37.1	31.8	0.1	1.4				

IDEAM

d) Fatiga

Se utiliza el procedimiento de la carrera de tensión equivalente contemplado en la RIAPF, para una vida útil de la estructura de 100 años y una intensidad de tráfico de $25 \cdot 10^6$.

$$\gamma_F \cdot \gamma_{sd} \cdot \Delta\sigma_{s,equi} \leq \frac{\Delta\sigma_{Rsk}}{\gamma_{s,fat}}$$ EC-2 PARTE 2

$\gamma_F = 1'00$

$\gamma_{sd} = 1'00$

$\gamma_{s,fat} = 1'15$

$\Delta\sigma_{Rsk}$ (N/mm²) = 175 N/mm² Armadura Activa.

180 N/mm² Armadura Pasiva.

$\Delta\sigma_{s,equi}$ = (rango tensional de daño equivalente para acero de armar y pretensado) ☺ =D

$$\Delta\sigma_{s,equi} = \lambda_s \cdot \Delta\sigma_{s,71}$$

λ = coeficiente corrector para cálculo del incremento tensional de daño equivalente a partir del rango tensional del tren de cálculo.

$$\lambda_s = \lambda_{s,1} \cdot \lambda_{s,2} \cdot \lambda_{s,3} \cdot \lambda_{s,4}$$

$\lambda_{s,1}$ = tiene en cuenta la long. del elemento y la composición del tráfico.

$L_{inf} \geq 20$ m $\quad \lambda_{s,1} =$ GRÁFICA

(Si se conoce la composición del tráfico)

$\lambda_{s,2}$ = tiene en cuenta el volumen anual de tráfico

$$\lambda_{s,2} = \sqrt[k_2]{\frac{V_{ol}}{25 \cdot 10^6}} = 1 \qquad V_{ol} = 25 \cdot 10^6 \text{ t/año y vía}$$

$\lambda_{s,3}$ = tiene en cuenta la vida en servicio:

$$\lambda_{s,3} = \sqrt[k_2]{\frac{N}{100}} = 1 \qquad N = 100 \text{ años de vida útil.}$$

$\lambda_{s,4}$ = tiene en cuenta la influencia de vía múltiples

$$\lambda_{s,4} = \sqrt[k_2]{n + (1-n) \cdot s_1^{k_2} + (1-n) \cdot s_2^{k_2}}$$

$n = 0'12$ (EC-3, parte 2)

$s_1 = \frac{606}{718'25} = 0'8$ ⎫

$s_2 = \frac{112}{718'25} = 0'15$ ⎭ Se toma valor más desfavorable (Ver apartado de modelo de cálculo)

$k_2 = 9$

$\lambda_{s,4} = 0'8 \div 5$

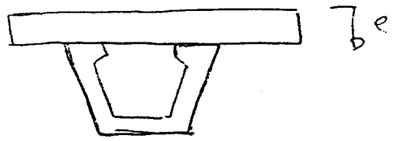
- Ai la Cinta de $\Delta\sigma_{s,71}$ pasa de Tracc.

$\Delta\sigma_{s,71} \leq$

353'01 N/mm²	C.D.V	ACTIVA	]
37'22 N/mm²	C.D.V	PASIVA	]
232'04 N/mm²	PILA	ACTIVA	]
274'28 N/mm²	PILA	PASIVA	]

→ $\Delta\sigma_{s,71}$ EN PILA: ESFUERZOS EN SERVICIO:

(Nudo 104) (PIL)



CON TRACC Y COEF IMPACTO

$Nd = -2367'77$ tn

$e = 277'5$cm

SIN TRACC: $Md_{tan} = 2229'12$

$e = +182'18$cm.

$Nd = -2367'77$ tn

$\Delta\sigma_{s,71} = 120 + 4'62 = 584$ Kg/cm² $\leq 2590'4$ Kg/cm²

OK

→ $\Delta\sigma_{s,71}$ EN C.D.V: ESFUERZOS EN SERVICIO:

(Nudo 131)

(SEC 1)

CON TRACC Y COEFICIENTE DE IMPACTO

$Nd = -1632'91$ tn

$e = -45$cm

SIN TRACC $Md_{tan} = 1378$ mtn

$\Delta\sigma_{s,71} = 185'5$ N/mm² < 353 N/mm²

OK

$Nd = -1632'9$ tn.

$e = 0'394$ m

Título Sección: PIL

Analisis CON FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -2367.70Tn.
Excentricidad: 277.50cm.(respecto a la directriz)
Tipo de Solicitacion: SO
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	81.8	0.0	0.0	0.0	0.0	1	$$$$$$	0.0	0.0	0.0	0.0
2	81.8	0.0	0.0	0.0	0.0	2	$$$$$$	0.0	0.0	0.0	0.0
3	81.8	0.0	-241.5	0.0	0.0	3	$$$$$$	0.0	0.0	0.0	0.0
4	81.8	-241.5	-278.5	0.0	0.0	4	$$$$$$	0.0	0.0	0.0	0.0
5	81.8	-1445.6	-1455.4	0.0	1455.4	5	$$$$$$	0.0	0.0	0.0	0.0
6	81.8	596.2	596.2	0.0	596.2	6	$$$$$$	0.0	0.0	0.0	0.0
7	81.8	596.2	596.2	0.0	596.2	7	$$$$$$	0.0	0.0	0.0	0.0
8	81.8	596.2	596.2	0.0	596.2	8	$$$$$$	0.0	0.0	0.0	0.0
9	81.8	268.0	258.3	0.0	268.0	9	$$$$$$	0.0	0.0	0.0	0.0
10	81.8	653.0	636.0	0.0	653.0	10	$$$$$$	0.0	0.0	0.0	0.0
11	81.8	-533.9	-516.9	0.0	533.9	11	$$$$$$	0.0	0.0	0.0	0.0
12	81.8	464.9	455.2	0.0	464.9	12	$$$$$$	0.0	0.0	0.0	0.0
13	81.8	-175.1	-204.0	0.0	0.0	13	$$$$$$	0.0	0.0	0.0	0.0

Incrementos de Carga:
1

** CALCULO ELASTICO **

Título Sección: PIL

Analisis CON FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -2367.70Tn.
Excentricidad: 182.80cm.(respecto a la directriz)
Tipo de Solicitacion: SO
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	-26.5	-11.4	-24.3	0.0	0.0	1	$$$$$$	0.0	0.0	0.0	0.0
2	-26.5	-28.8	-44.0	0.0	0.0	2	$$$$$$	0.0	0.0	0.0	0.0
3	-26.5	-44.0	-144.9	0.0	0.0	3	$$$$$$	0.0	0.0	0.0	0.0
4	-26.5	-144.9	-158.6	0.0	0.0	4	$$$$$$	0.0	0.0	0.0	0.0
5	-26.5	-830.6	-834.2	0.0	834.2	5	$$$$$$	0.0	0.0	0.0	0.0
6	-26.5	-71.7	-71.7	0.0	71.7	6	$$$$$$	0.0	0.0	0.0	0.0
7	-26.5	-71.7	-71.7	0.0	71.7	7	$$$$$$	0.0	0.0	0.0	0.0
8	-26.5	-71.7	-71.7	0.0	71.7	8	$$$$$$	0.0	0.0	0.0	0.0
9	-26.5	-193.7	-197.3	0.0	197.3	9	$$$$$$	0.0	0.0	0.0	0.0
10	-26.5	-99.5	-105.8	0.0	105.8	10	$$$$$$	0.0	0.0	0.0	0.0
11	-26.5	-143.8	-150.1	0.0	150.1	11	$$$$$$	0.0	0.0	0.0	0.0
12	-26.5	-120.5	-124.2	0.0	124.2	12	$$$$$$	0.0	0.0	0.0	0.0
13	-26.5	-111.6	-122.4	0.0	0.0	13	$$$$$$	0.0	0.0	0.0	0.0

Incrementos de Carga:
1

Proyecto:

Seccion:PIL

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	350.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	0.0	0.0	0.0	*T	0
7	4	0.0	0.0	0.0	*T	0
8	4	0.0	0.0	0.0	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	70.0	20.0	5.0	CT	0
11	3	70.0	20.0	19.0	CT	0
12	4	105.0	13.4	18.0	*T	0
13	1	130.0	25.0	233.0	C*	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	1946.2	14.04	2510590.3
	(1)	1148.9	20.41	2402833.1
	(2)	1328.7	18.51	2433160.0
F.pura -	(0)	2214.5	191.63	25179764.2
	(1)	1158.7	127.19	15539101.4
	(2)	1369.3	147.24	18476183.7
C.Simple	(0)	6270.2	92.95	67280546.5
	(1)	2181.6	80.15	21750086.1
	(2)	2919.7	85.11	30083460.2
T.Simple	(0)	609.0	29.45	2278045.8
	(1)	609.0	29.45	2278045.8
	(2)	609.0	29.45	2278045.8

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

** CALCULO ELASTICO **

Proyecto:

Seccion:SEC1

MATERIALES

Num.	Fck (Kg/cm2)	Gamma	M.El. (Kg/cm2)	$J_{\pi}1$	$J_{\pi}2$
1(HO)	300.0	1.50	285770	2.60	1.45
2(HO)	550.0	1.50	338219	2.60	1.45
3(RD)	5100.0	1.15	2100000		
4(PR)	17100.0	1.15	1800000		

SECCIONES PARCIALES

Num	Mat.	B(cm) Num	H(cm) π(mm)	Yo(cm)	Mc	Nsr
1	1	700.0	30.0	0.0	C*	0
2	2	90.0	30.0	30.0	C*	0
3	2	36.0	198.0	60.0	C*	0
4	2	179.0	27.0	258.0	C*	0
5	4	28.0	13.4	280.0	*T	0
6	4	26.0	13.4	275.2	*T	0
7	4	28.0	13.4	270.4	*T	0
8	4	28.0	13.4	265.4	*T	0
9	4	8.0	13.4	45.0	*T	0
10	3	35.0	12.0	5.0	CT	0
11	3	35.0	12.0	19.0	CT	0
12	3	6.0	25.0	265.0	CT	0
13	3	14.0	16.0	260.0	CT	0

SECCIONES INTERMEDIAS

Num.	Codigo	Componentes
1	CAJ	2 3 4
2	LOS	1
3	C+P	2 3 4 5 6 7 8 9
4	PS	9
5	PI	6 7 8 5

* CONSTANTES ESTATICAS *

S.COMPLETA

Tipo	Acciones	Area(cm2)	Xcg(cm)	Inercia(cm4)
F:pura +	(0)	3142.9	30.47	11851171.7
	(1)	1187.7	58.71	10285479.4
	(2)	1550.8	47.93	10857433.0
F.pura -	(0)	1102.9	250.03	5361693.2
	(1)	544.8	226.83	4781263.6
	(2)	652.3	234.25	4961378.1
C.Simple	(0)	5497.3	92.59	58745452.5
	(1)	1728.1	103.84	20818022.1
	(2)	2408.5	99.21	27739096.3
T.Simple	(0)	278.3	189.33	3928906.3
	(1)	278.3	189.33	3928906.3
	(2)	278.3	189.33	3928906.3

*** Nota: Homogeneizadas a E=2100000 Kp/cm2 ***

** CALCULO ELASTICO **

Título Sección: SEC1

Analisis CON FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -1632.91Tn.
Excentricidad: -45.00cm.(respecto a la directriz)
Tipo de Solicitacion: SO
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	75.3	-108.3	-65.2	0.0	0.0	1	$$$$$$	0.0	0.0	0.0	0.0
2	75.3	-77.1	-26.1	0.0	0.0	2	$$$$$$	0.0	0.0	0.0	0.0
3	75.3	-26.1	0.0	0.0	0.0	3	$$$$$$	0.0	0.0	0.0	0.0
4	75.3	0.0	0.0	0.0	0.0	4	$$$$$$	0.0	0.0	0.0	0.0
5	75.3	1852.7	1864.8	0.0	1864.8	5	$$$$$$	0.0	0.0	0.0	0.0
6	75.3	1809.3	1821.4	0.0	1821.4	6	$$$$$$	0.0	0.0	0.0	0.0
7	75.3	1765.8	1777.9	0.0	1777.9	7	$$$$$$	0.0	0.0	0.0	0.0
8	75.3	1720.6	1732.6	0.0	1732.6	8	$$$$$$	0.0	0.0	0.0	0.0
9	75.3	-274.7	-262.6	0.0	274.7	9	$$$$$$	0.0	0.0	0.0	0.0
10	75.3	-743.0	-730.3	0.0	743.0	10	$$$$$$	0.0	0.0	0.0	0.0
11	75.3	-595.1	-582.4	0.0	595.1	11	$$$$$$	0.0	0.0	0.0	0.0
12	75.3	2003.1	2029.5	0.0	2029.5	12	$$$$$$	0.0	0.0	0.0	0.0
13	75.3	1950.3	1967.2	0.0	1967.2	13	$$$$$$	0.0	0.0	0.0	0.0

Incrementos de Carga:
1

** CALCULO ELASTICO **

Título Sección: SEC1

Analisis CON FISURACION

Secuencia Incrementos de Carga:

Incremento de Carga 1 :
Axil : -1632.91Tn.
Excentricidad: 39.40cm.(respecto a la directriz)
Tipo de Solicitacion: SO
Seccion Afectada: TOTAL

TENSIONES (Kg/cm2):

ESTADO INICIAL (To)						ESTADO FINAL (Tinf)				
Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp	Nsp	Yn(cm)	Tsup.	Tinf.	Tao	Tcomp
1	293.5	-59.1	-53.0	0.0	0.0	1	$$$$$$	0.0	0.0	0.0	0.0
2	293.5	-62.7	-55.6	0.0	0.0	2	$$$$$$	0.0	0.0	0.0	0.0
3	293.5	-55.6	-8.5	0.0	0.0	3	$$$$$$	0.0	0.0	0.0	0.0
4	293.5	-8.5	-2.0	0.0	0.0	4	$$$$$$	0.0	0.0	0.0	0.0
5	293.5	-17.1	-15.4	0.0	17.1	5	$$$$$$	0.0	0.0	0.0	0.0
6	293.5	-23.2	-21.5	0.0	23.2	6	$$$$$$	0.0	0.0	0.0	0.0
7	293.5	-29.3	-27.6	0.0	29.3	7	$$$$$$	0.0	0.0	0.0	0.0
8	293.5	-35.6	-33.9	0.0	35.6	8	$$$$$$	0.0	0.0	0.0	0.0
9	293.5	-314.9	-313.2	0.0	314.9	9	$$$$$$	0.0	0.0	0.0	0.0
10	293.5	-426.5	-424.8	0.0	426.5	10	$$$$$$	0.0	0.0	0.0	0.0
11	293.5	-405.8	-404.1	0.0	405.8	11	$$$$$$	0.0	0.0	0.0	0.0
12	293.5	-42.1	-38.4	0.0	42.1	12	$$$$$$	0.0	0.0	0.0	0.0
13	293.5	-49.5	-47.2	0.0	49.5	13	$$$$$$	0.0	0.0	0.0	0.0

Incrementos de Carga:
1

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Telefax 95 457 08 45

Rogamos envíen correspondencia a Madrid

Referencia: 30.567 AP/MM
Estudio: 26.822

Madrid, 2 de diciembre de 2002

UTE. AVE VENDRELL
A/A.: D. Javier Sánz
Ctra. Santa Oliva, Km 1
T.P. 2125
43700 EL VENDRELL (Tarragona)

Asunto: **L.A.V. MADRID-BARCELONA. TR: LLEIDA-MARTORELL. SUBTR. IXa. VIADUCTO SANTA OLIVA**

Muy señores nuestros:

Adjunto les enviamos los últimos cálculos correspondientes a los detalles locales del tramo V-2 de la obra arriba referenciada.

Un saludo,

Fdo: Antonio Páez

R.M. de Madrid, T. 2518, L. 0, S. 8, H. 44015 - C.I.F. A-28032829