ANEJO Nº 6. ESTRUCTURAS

4. Cálculos

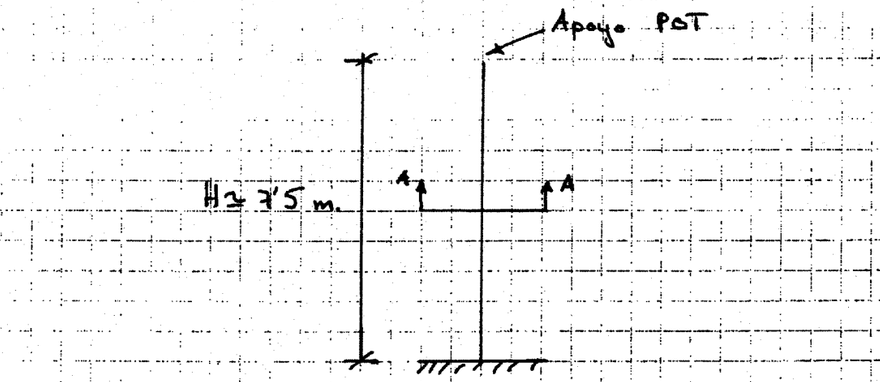
4.3. CÁLCULOS

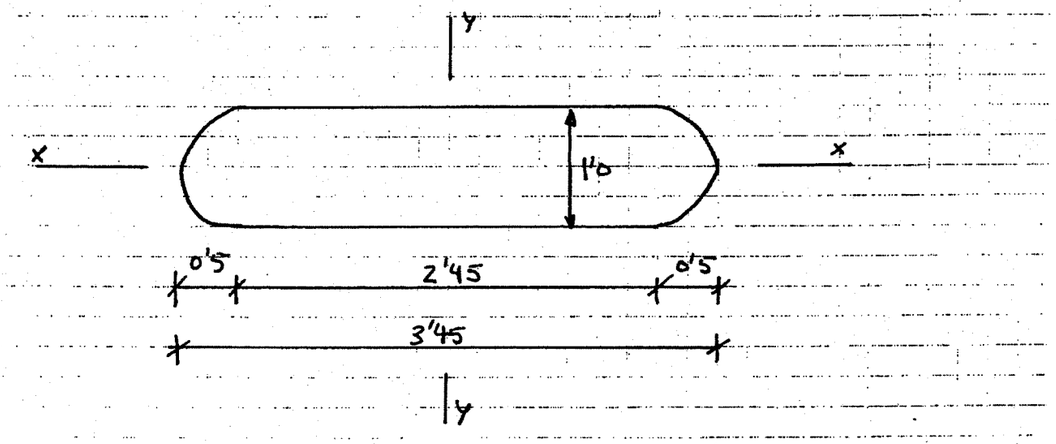
4.3.1. VIADUCTOS

CÁLCULO DE LA PILA 2

CÁLCULO DE LA PILA 2.

Fuste:





$A = 3'2354\ m$

$I_x = 0'2533\ m^4$

$I_y = 2'8615\ m^4$

Esbeltez mecánica y efectos de 2º orden:

Longitud de pandeo: $l_p = \beta \cdot H$

$l_p = 2 \cdot 7'5 = 15\ m.$

Radio de giro:

$$i_x = \sqrt{\frac{I_x}{A}} = 0'280\ m$$

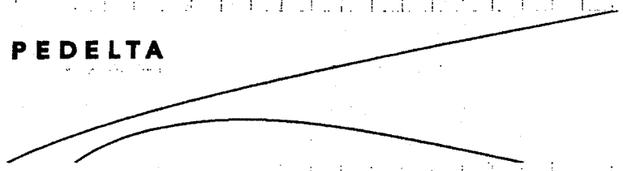
$$i_y = \sqrt{\frac{I_y}{A}} = 0'940\ m$$

Esbeltez mecánica:

$\lambda_x = \frac{l_p}{i_x} = 53'6 > 35 \rightarrow$ Hay que tener en cuenta los efectos de 2º orden.

$\lambda_y = \frac{l_p}{i_y} = 16'0$

PEDELTA



Reacciones verticales:

	44	45	
R_{perm}	278'3	257'6	
R_{max}	266'3	23'9	
Σ	544'6	281'5	= 826'1 T = N

Fuerzas debidas al rozamiento:

$$F_y = \mu \cdot R_{perm}$$

$$F_{y,max} = 0'05 \cdot (278'3 + 257'6) = 26'8 \text{ T}$$

Fuerza debida al efecto faro:

$$F_x = 5 \text{ T}$$

Fuerza centrífuga:

$$F_x = 5 \text{ T}$$

Viento transversal concomitante

$$F_x = 1 \text{ T}$$

Viento sobre fuste: $f_w = 0'15$ T/m

CÁLCULO DE ESFUERZOS Y DIMENSIONAMIENTO

El cálculo y dimensionamiento de las pilas se detalla en las páginas siguientes. Las hipótesis de cálculo se exponen a continuación:

1. El cálculo se ha realizado según especificaciones de la EHE a partir de las reacciones en coronación que se detallan.

2. Se ha comprobado que no se supera la carga admisible por pilote.

3. El dimensionamiento de las armaduras de flexión y cortante del muro y encepado se realiza con los criterios de la Normativa vigente para estructuras de hormigón (EHE). Los coeficientes de seguridad de las acciones corresponden con un **nivel de control intenso** γ_{fg} **=1,35 y** γ_{fq} **=1,50.**

Esfuerzos de 1er orden (en base de fuste)

ELS:

$F_z = N = 826'1 + 60'4 = 886'8$ T

$F_x = 12'1$ T

$F_y = 26'8$ T

$M_x = 26'8 \cdot 7'5 = 201$ mT

$M_y = 121 \cdot 2'5 + 289'4 = 380'2$ mT

ELU:

$F_z = 1159$ T

$F_x = 18'2$ T

$F_y = 36'2$ T

$M_x = 271'4$ mT

$M_y = 567'2$ mT

Esfuerzos de 2º orden:

$M_x = 201 + 130'7 = 332$ mT en ELS

$M_x = 271'4 + 175'8 = 447$ mT en ELU

Esfuerzos considerando los efectos de 2º orden

Calculados usando el método general definido en EHE, Art. 43.5.1

Esbeltez mecánica en cada una de las direcciones

λx	53.61

Datos de pandeo

Coef pandeo x	2.0	Altura pila	7.5
β	2	lo	15
ε_y	0.00207	iy	0.2798
ε	0.004	Ac	3.2354
Canto útil d	0.95	Fck	300
Recubrimiento d'	0.05	Fcd	200
φ	1.7	Ec	285767.91
N_{sg}	539.9	Iy	0.2533

Nota sobre direcciones:
x = sentido transversal
y = sentido longitudinal

Excentricidad de pandeo y momento en base de fuste para los diferentes estados de carga (ELU)

Caso de carga	Nus	Axil	Momento	υ	ee_x	α_x	$1/r_x$	υ_{gx}	$1/r_{tx}$	ψ_x	$e_{tot\,x}$	ΔMx	Momento
ELS		886.80	201.00	0.14	0.227	2.475	0.004	0.017	0.00024	1.1866	0.10508	130.69	331.69
ELU		1159.00	271.40	0.18	0.234	2.542	0.004	0.017	0.00024	1.17501	0.11074	175.84	447.24

PEDELTA
INGENIERIA CIVIL

FECHA HOJA

DIMENSIONAMIENTO DEL FUSTE EN PILA 7

1. A flexión

Esfuerzos en ELU en base de pila

$N_d = 1159$ T

$M_{d,long} = 447$ Tm

$M_{d,trans} = 567$ Tm

Según hojas adjuntas basta con $\phi 20$ a $0'15$.

2. A cortante

$F_{transv} = 18'2$ T
$F_{long} = 36'2$ T
} No necesita armadura de cortante. Se dispone para arriostramiento de arm. vertical la arm. mínima de cortante.

$A_{sc,min} = 25$ cm²/m $\Leftrightarrow$ 5cϕ10 a 0'25

$A_{sc,min} = 10$ cm²/m $\Leftrightarrow$ 1cϕ16 a 0'25 ó 1cϕ10 a 0'125

PRONTUARIO INFORMÁTICO DEL HORMIGÓN ESTRUCTURAL 3.0
Cátedra de Hormigón Estructural ETSICCPM - IECA

Obra: General
Fecha: 10/05/2004
Hora: 10:30:40

Cálculo de secciones a flexión compuesta esviada

1 Datos

- Materiales

Tipo de hormigón : HA-30
Tipo de acero : B-500-S
fck [MPa] = 30.00
fyk [MPa] = 500.00
γc = 1.50
γs = 1.15

- Sección

Sección : FUSTE2

Vértice	X [m]	Y [m]	Lado	nº barras
1	1.225	-0.500	1-2	2
2	1.475	-0.433	2-3	2
3	1.658	-0.250	3-4	2
4	1.725	0.000	4-5	2
5	1.658	0.250	5-6	2
6	1.475	0.433	6-7	2
7	1.225	0.500	7-8	20
8	-1.225	0.500	8-9	2
9	-1.475	0.433	9-10	2
10	-1.658	0.250	10-11	2
11	-1.725	0.000	11-12	2
12	-1.658	-0.250	12-13	2
13	-1.475	-0.433	13-14	2
14	-1.225	-0.500	14-1	20

Recubrimiento exterior [m] : 0.050

2 Comprobación

ϕ [mm] = 20

Nd [kN] = 11590

Mxd [kN·m] = 4470

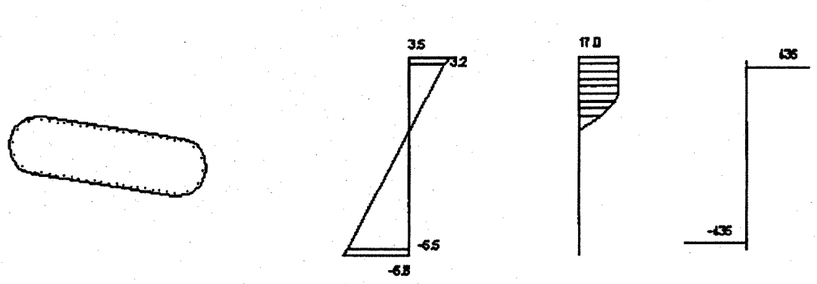
Myd [kN·m] = 5670

Nu [kN] = 11590

Mxu [kN·m] = 6491.5

Myu [kN·m] = 8234.2

γ = 1.45



Plano de deformación de agotamiento

x [m] = 0.51

ε [‰] = 8.4

1/r [1/m]·1.E-3 = 6.9

εs ·1.E-3 = 3.5

εi ·1.E-3 = -5.8

Deformación y tensión de armaduras superior e inferior

Profundidad [m]	Deformación ·1.E-3	Tensión [MPa]
0.05	3.2	435
1.30	-5.5	-435

CÁLCULO DE LA ARMADURA DE CORTANTE

Proyecto: LAV CASTELLBISBAL-PAPIOL.
Elemento: Viaducto Puerto Martorell. Fuste en pila 2.

FUSTE EN PILA 2

D(mm)	900
fck(N/mm2)	30
Sigma_s(N/mm2)	400
Bo(mm)	2500
As(cm2)	56.5
Vrd(Tn)	36.20
N(Tn)	0

Limitación de tensión en armadura de cortante (art. 40.2 EHE)
*N<0 para compresión.

VERIFICACIÓN DE LA NECESIDAD DE ARMADURA DE CORTANTE

PSI	1.471
Roele	0.0025
Sigmaprima (N/mm2)	0.00
Vu2 (N)	778798.2

[redacted]

OBTENCIÓN DE LA ARMADURA DE CORTANTE NECESARIA

Theta	
Vu2	648998.46
Vsu,p	324000.00

[redacted]

VERIFICACIÓN DE LA COMPRESIÓN OBLICUA DEL ALMA

Ac (cm2)	32354
Sigmacd (N/mm2)	0
K	1
f1cd (N/mm2)	12
Vu1 (N)	13500000

Verificada la resistencia del alma a la compresión

CÁLCULO DE LA ARMADURA MÍNIMA DE CORTANTE

α (en grados) = 90 As, c mín. (cm2/m) = [redacted]

CÁLCULO DE LA ARMADURA DE CORTANTE

Proyecto: LAV CASTELLBISBAL-PAPIOL.
Elemento: Viaducto Puerto Martorell. Fuste en pila 2.

FUSTE EN PILA 2. Hipótesis de Cortante Transversal

D(mm)	3000
fck(N/mm2)	30
Sigma_s(N/mm2)	400
Bo(mm)	1000
As(cm2)	25.12
Vrd(Tn)	18.20
N(Tn)	0

Limitación de tensión en armadura de cortante (art. 40.2 EHE)
*N<0 para compresión.

VERIFICACIÓN DE LA NECESIDAD DE ARMADURA DE CORTANTE

PSI	1.258
Roele	0.0008
Sigmaprima (N/mm2)	0.00
Vu2 (N)	615731.9

[redacted]

OBTENCIÓN DE LA ARMADURA DE CORTANTE NECESARIA

Theta	
Vu2	513109.94
Vsu,p	1080000.00

[redacted]

VERIFICACIÓN DE LA COMPRESIÓN OBLICUA DEL ALMA

Ac (cm2)	32354
Sigmacd (N/mm2)	0
K	1
f1cd (N/mm2)	12
Vu1 (N)	18000000

Verificada la resistencia del alma a la compresión

CÁLCULO DE LA ARMADURA MÍNIMA DE CORTANTE

α (en grados) = 90 As, c mín. (cm2/m) = [redacted]

PEDELTA
INGENIERIA CIVIL

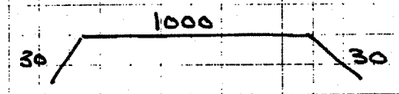
FECHA HOJA

ARMADURA EN APOYOS.

$R_{d,max} = 1'5 \cdot 544'6 = 817\ T$

$A_{s,ap} \geq 51'1\ cm^2/apoyo$

$2\ \#\ 9+9\phi 20$



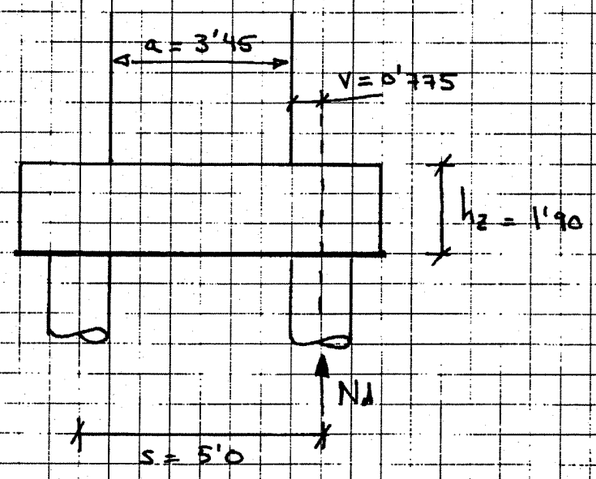
PEDELTA
INGENIERIA CIVIL

FECHA HOJA

DIMENSIONAMIENTO DEL ENCEPADO EN P-2

A flexión

$N_d = 1'5 \cdot P_{max} = 833\ T$



b_z = ancho encepado = 1'75 m

Se aplica el método de bielas y tirantes según formulación del art. 59.4.1.2.1 de la EHE.

$$T_d = A_s \cdot f_{yd} = \frac{N_d \cdot (v + 0'25 \cdot a)}{0'85 \cdot d}$$

$d = 1'8\ m \Rightarrow T_d = 892\ T \Rightarrow A_s \geq 223\ cm^2 =$

$= 128\ cm^2/m$

(1 capa $\phi 32$ a 0'10 + 1 capa $\phi 25$ a 0'10)

PEDELTA
INGENIERIA CIVIL

FECHA HOJA

Arm. secundaria

$A_{s,sup} \geq \frac{1}{10} A_{s,inf} = 23'2\ cm^2 \Leftrightarrow \phi 20$ a 0'15 (12ϕ20)

$A_{s,vert}$ → Por torsión

A torsión

$T_d = \frac{485}{2} = 243\ Tm$ (torsor solicitante)

Según hoja adjunta:

$\frac{A_s}{S_t} = 9'7\ cm^2/m \Leftrightarrow c\phi 16$ a 0'20

$A_l = 89'3\ cm^2$

$A_{s,sup} = 12\phi 20$
$A_{s,lat} = 2 \times 11\phi 16$
$\Big\} = 81'9\ cm^2$

$A_{s,inf} = 18\phi 32 + 18\phi 25 - 223 = 9'2\ cm^2$

$91'1\ cm^2$

DIMENSIONAMIENTO DE LA ARMADURA DEBIDA A TORSIÓN PURA.

Según el artículo 45.2 de la EHE.

Proyecto: VIADUCTO PUERTO-MARTORELL
Elemento: PILA 2 **Fecha:** 07/05/2004
Sección: ENCEPADO

DATOS:

Ae (cm2) =	26350.00	Td (kpcm) =	24,300,000
he (cm) =	20.00		
Ue (cm) =	650.00		
		fcd (kp/cm2) =	167
α =	1.2	fytd (kp/cm2) =	4000
Θ =	40.00	fyld (kp/cm2) =	4000

CÁLCULOS:

f1cd (kp/cm2) = 100 CotgΘ= 1.19

$$Tu1 = \alpha \cdot f_{1cd} \cdot A_e \cdot h_e \cdot \frac{\cot g\theta}{1+(\cot g\theta)^2}$$

Tu1 (kpcm) = 31,201,900

$$\frac{A_t}{S_t} \geq \frac{T_d}{f_{yt,d} \cdot \cot g\theta \cdot 2 \cdot A_e}$$

At/St (cm2/ml) = 9.67

$$A_l = \frac{T_d \cdot U_e}{2 \cdot A_e \cdot f_{yl,d}}$$

Al (cm2) = 89.30

DIMENSIONAMIENTO:

Arm. Transversal o estribos:

ϕ (mm) =	16	At (cm2) =	2.01
St (cm) =	20	At/St =	10.05

Armadura Longitudinal:

ϕ (mm) =	16	Al (cm2) =	90.43
N. Barras =	45		

Observaciones:

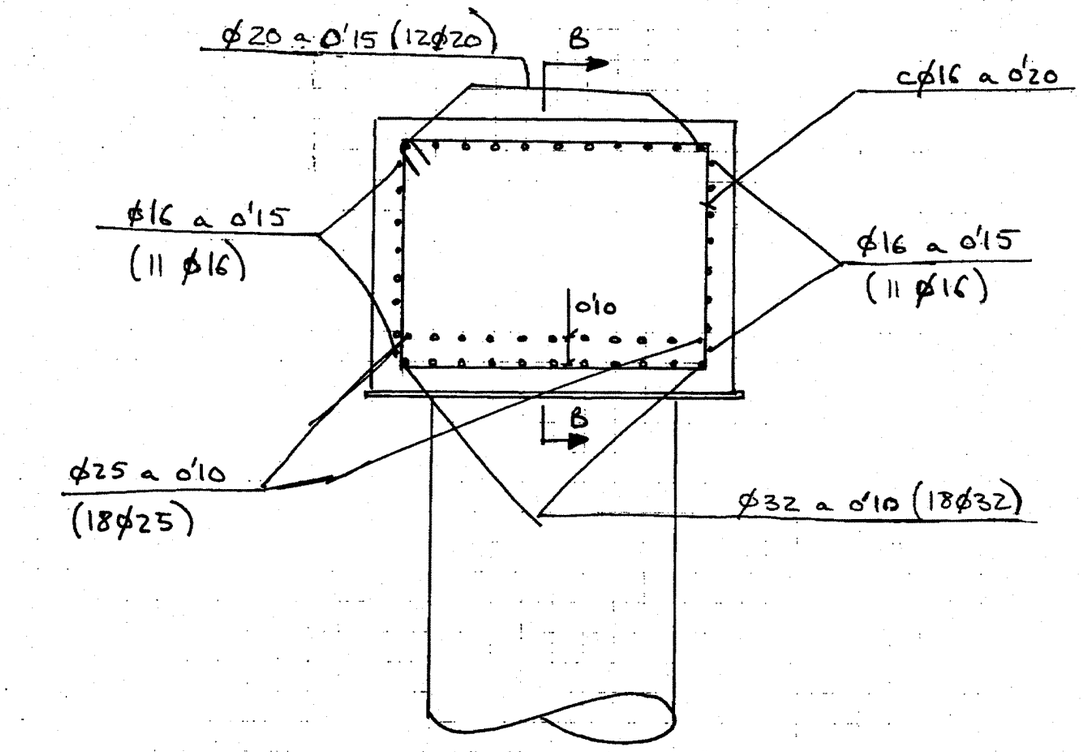
α es igual a 1,2 si hay estribos únicamente a lo largo del perímetro exterior de la pieza. Si se colocan estribos cerrados la cara interior y la exterior de la sección hueca equivalente, entonces a es igual a 1,5.

CotgΘ debe estar comprendida entre 0,4 y 2,5.

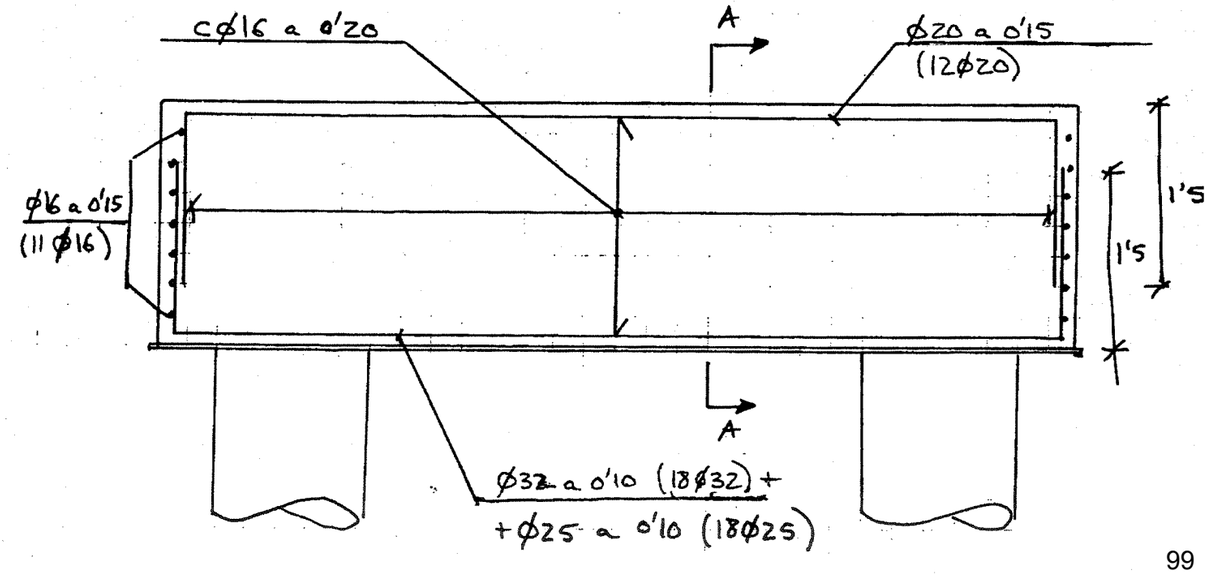
Al es la armadura longitudinal necesaria por torsión y debe estar repartida a lo largo del perímetro de la sección.

PEDELTA

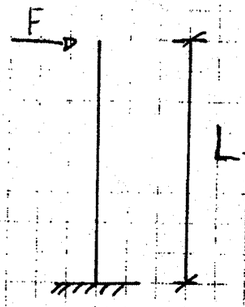
SECCIÓN ENCEPADO A-A



SECCIÓN ENCEPADO B-B



Modelización de la cimentación



$\phi_{pilote} = 1'25\ m \Rightarrow I_p = 0'120\ m^4$

$K_s = 5\ kp/cm^3 = 5000\ T/m^3$

$E_p = 285.000\ kp/cm^2 = 2.850.000\ T/m^2$

$E = 400\ T/m^2 \Rightarrow G \simeq \frac{E}{2(1+\nu)} = \frac{E}{3} =$

$L_e = 1'2 \cdot \sqrt[4]{\frac{E_p\ I_p}{G}} = 8'5\ m$

CÁLCULO DE LA CARGA POR PILOTE

$I_x \simeq 0$

$I_y = \sum x_i^2 = 2 \cdot (1'875)^2 = 7'03\ m^2$

$A = n = 2$ pilotes

Peso encepado:

$q_{penc} = 2'5 \cdot 1'9 \cdot 1'75 \cdot 6'25 = 52\ T$

h_{penc} b_{penc} l_{penc}

Esfuerzos en la base del encepado

$N = 886'8 + 52 = 938'8\ T$

$M = M_y + F_x \cdot h_{penc} = 380'2 + 12'1 \cdot 1'9 = 403'2\ mT$

$P_d = \frac{N}{n} \pm \frac{M_x}{I_y} = \begin{cases} P_{max} = 577\ T \\ P_{min} = 362\ T \end{cases}$

PEDELTA
INGENIERIA CIVIL

FECHA HOJA

Si $n = 2$ pilotes y $s = 5'0$ m $\Rightarrow$

$\Rightarrow I = 12'5 \ m^2$

$g_{zuc} = 2'5 \cdot 1'9 \cdot 1'75 \cdot 7'5 = 62'3$ T

$N = 886'8 + 62'3 = 949$ T
$H = 403$ mT
$\Rightarrow$

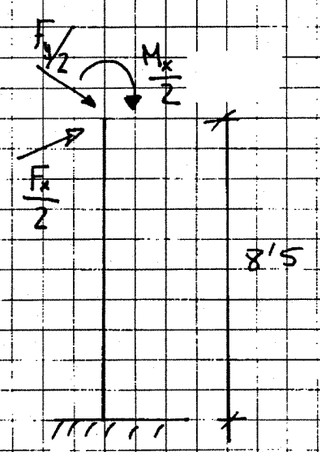
$P_{max} = 555$ T

$P_{min} = 394$ T

PEDELTA
INGENIERIA CIVIL

FECHA HOJA

Esfuerzos en el pilote:



$\frac{F_y}{2} = 6'05$ T
$\frac{F_x}{2} = 13'4$ T
$\Rightarrow F = \left[F_x^2 + F_y^2\right]^{1/2} = 14'7$ T

$\frac{M_x}{2} = \frac{332}{2} = 166$ mT

$M_{x,base} = 166 + 13'4 \cdot (8'5 + 1'9) = 305'4$ mT
$M_{y,base} = 6'05 \cdot 8'5 = 51'4$ mT
$\Rightarrow$

$\Rightarrow M_d = \left[M_x^2 + M_y^2\right]^{1/2} \cdot 1'5 = 465$ mT

PRONTUARIO INFORMÁTICO DEL HORMIGÓN ESTRUCTURAL 3.0
Cátedra de Hormigón Estructural ETSICCPM - IECA

Obra: General
Fecha: 21/04/2004
Hora: 15:47:28

Cálculo de secciones a flexión compuesta recta

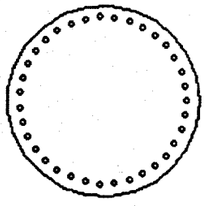
1 Datos

- Materiales

Tipo de hormigón : HA-25
Tipo de acero : B-500-S
fck [MPa] = 25.00
fyk [MPa] = 500.00
γc = 1.50
γs = 1.15

- Sección

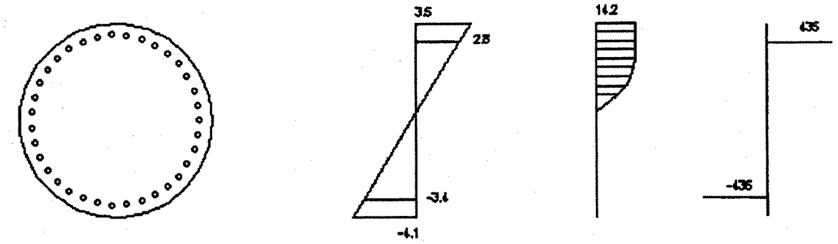
Sección : PIL125
ϕ [m] = 1.25
r [m] = 0.080
nº barras = 35 → ϕ32 a 0'10



2 Comprobación

ϕ [mm] = 32
Nd [kN] = 4000
Md [kN·m] = 4650

Nu [kN] = 5074.4
Mu [kN·m] = 5899.0
γ = 1.27



Plano de deformación de agotamiento

x [m] = 0.574
1/r [1/m]·1.E-3 = 6.1
εs ·1.E-3 = 3.5
εi ·1.E-3 = -4.1

Deformación y tensión de armaduras superior e inferior

Profundidad [m]	Deformación ·1.E-3	Tensión [MPa]
0.119	2.8	-434.8
1.131	-3.4	434.8

CÁLCULO DE LA ARMADURA DE CORTANTE

Proyecto: LAV CASTELLBISBAL-PAPIOL.
Elemento: Viaducto Puerto Martorell. Pilote en pila 2.

PILOTE EN PILA 2

D(mm)	1150
fck(N/mm2)	25
Sigma_s(N/mm2)	400
Bo(mm)	680
As(cm2)	88
Vrd(Tn)	22.05
N(Tn)	-400

Limitación de tensión en armadura de cortante (art. 40.2 EHE)
*N<0 para compresión.

VERIFICACIÓN DE LA NECESIDAD DE ARMADURA DE CORTANTE

PSI	1.417
Roele	0.0113
Sigmaprima (N/mm2)	-5.02
Vu2 (N)	993025.6

[redacted]

OBTENCIÓN DE LA ARMADURA DE CORTANTE NECESARIA

Theta	
Vu2	337021.35
Vsu,p	414000.00

[redacted]

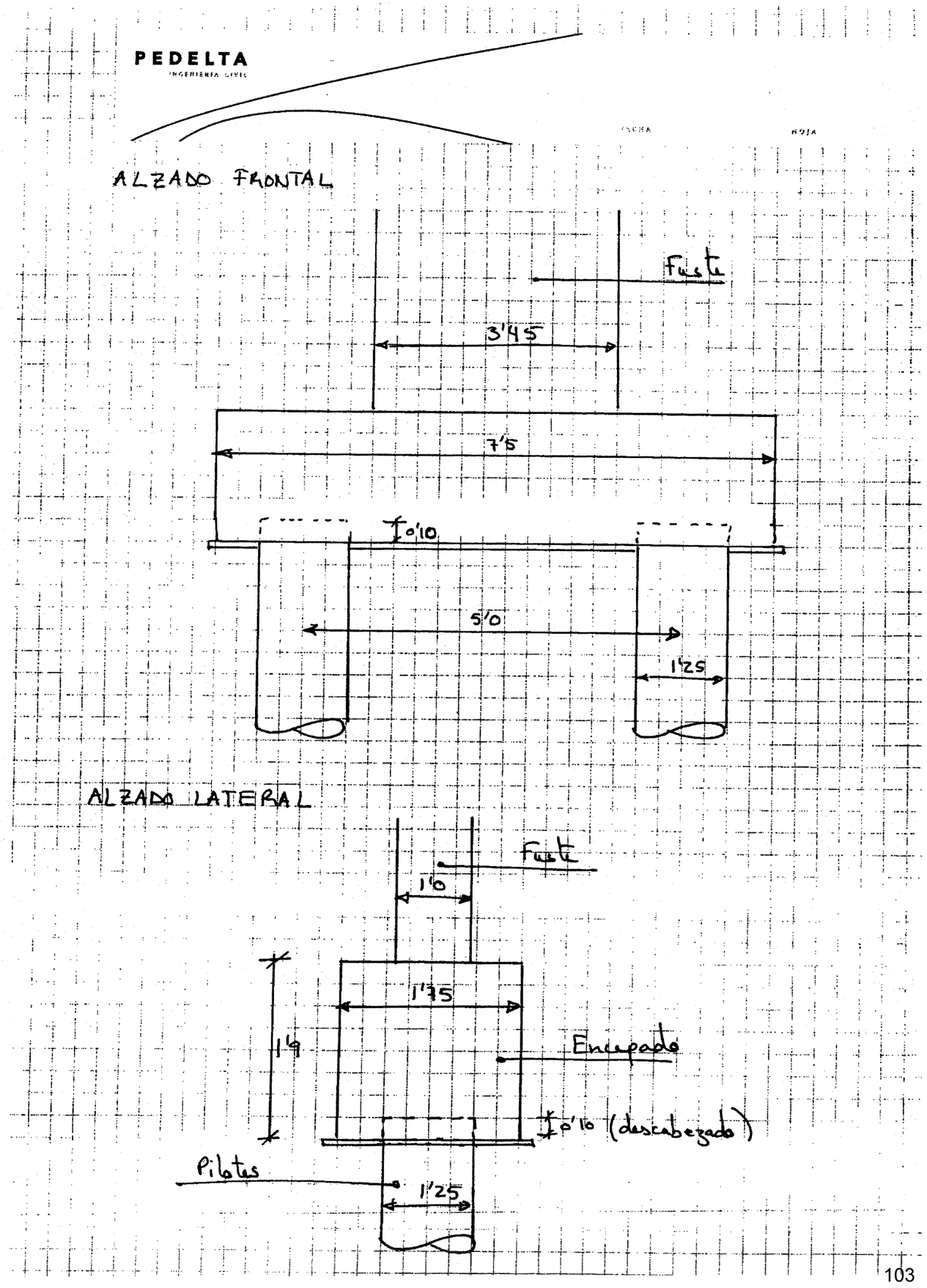
VERIFICACIÓN DE LA COMPRESIÓN OBLICUA DEL ALMA

Ac (cm2)	12272
Sigmacd (N/mm2)	3.25945241
K	1
f1cd (N/mm2)	10
Vu1 (N)	3910000

Verificada la resistencia del alma a la compresión

CÁLCULO DE LA ARMADURA MÍNIMA DE CORTANTE

α (en grados) = 90 As, c mín. (cm2/m) = [redacted]

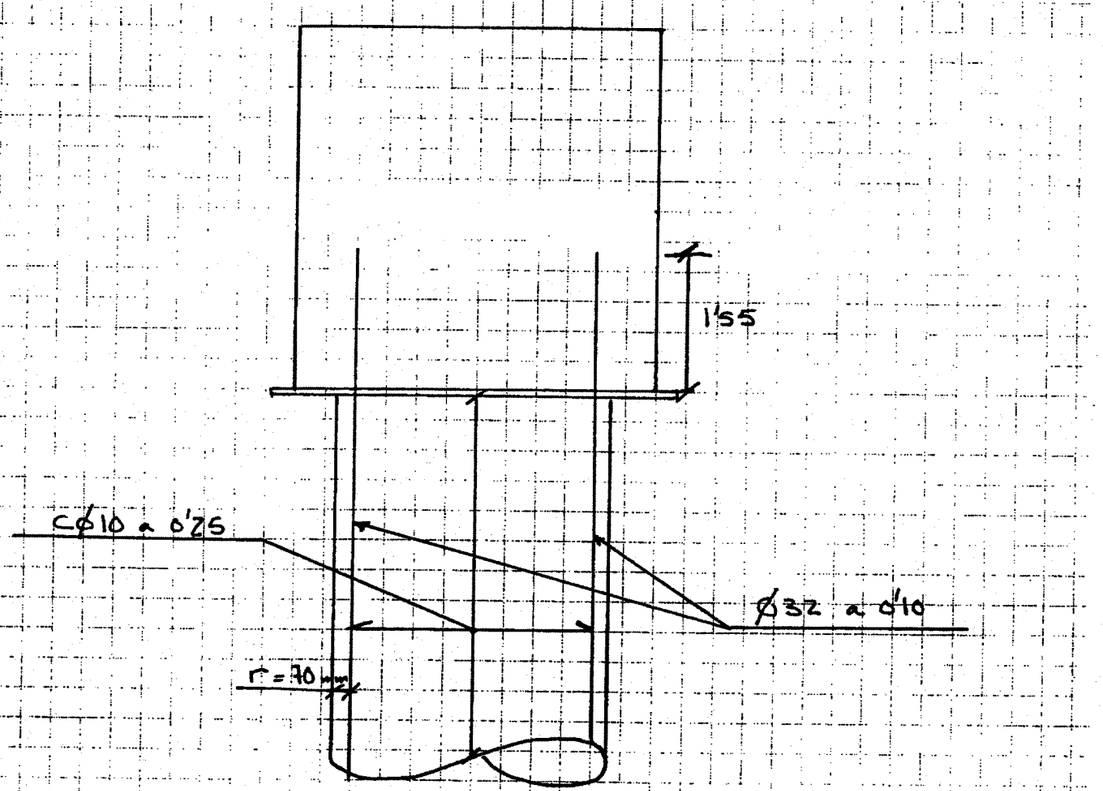


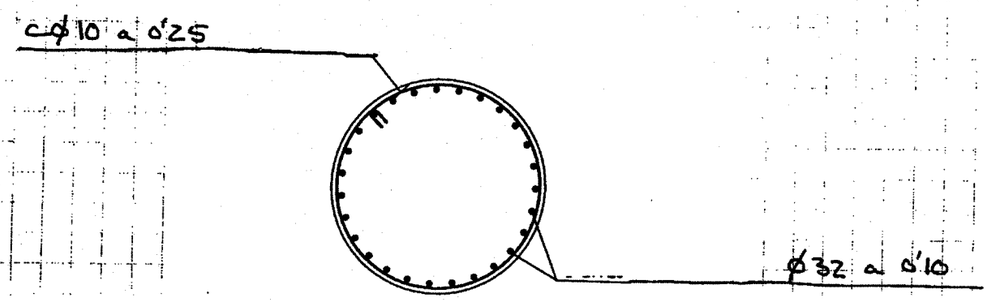
PEDELTA
INGENIERIA CIVIL

FECHA

HOJA

ESQUEMA DE ARMADO





r = recubrimiento nominal = 70 mm

ALVISA Prefabricados, S.A.

ACS. PROYECTOS, OBRAS Y CONSTRUCCIONES

LÍNEA ALTA VELOCIDAD. VIADUCTO SOBRE VÍAS DE ANCHO IBÉRICO (VIA P.M.) TRAMO CASTELLBISBAL-PAPIOL

ANEJO DE CÁLCULOS

JUNIO-2005

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1. Bases de cálculo y dimensionamiento

El dimensionamiento de la estructura se ha realizado según los principios de la mecánica racional y teoría de estructuras, adaptadas al diseño estructural. Se han seguido las prescripciones recogidas en la normativa vigente en el territorio español (detallada más adelante), así como las recomendaciones y la normativa internacional de aplicación, cuando proceda. De acuerdo con lo anterior, el cálculo se ha realizado siguiendo el principio de los Estados Límites, que establece que la seguridad de la estructura en su conjunto, o en cualquiera de sus partes, se garantiza comprobando que la solicitación no supera la respuesta última de las mismas. Este requisito para la seguridad se expresa sintéticamente mediante la siguiente desigualdad:

$$Sd \leq Rd$$

Siendo *Sd* la solicitación de cálculo aplicable en cada caso, y *Rd* la respuesta última de la sección o elemento.

Para la aplicación de este criterio de seguridad, se consideran tanto situaciones de servicio como de agotamiento, esto es, Estados Límites de Servicio (ELS) y Estados Límites Últimos (ELU), de acuerdo con las definiciones dadas para los mismos en las normativas de referencia. En principio, los Estados Límites Últimos están asociados a la rotura de secciones o elementos. Para ellos, se evalúan las solicitaciones mediante la mayoración de los valores representativos de las acciones (en general característicos), utilizando los oportunos coeficientes parciales que luego se detallan. Las resistencias de las secciones o elementos se estiman mediante las características geométricas, y las resistencias minoradas de los materiales.

Por el contrario, los Estados Límites de Servicio están asociados a la pérdida de funcionalidad de la estructura. Las solicitaciones se evalúan mediante sus valores representativos, en general sin mayorar, afectados de los oportunos coeficientes de combinación, para tener en cuenta la probabilidad de ocurrencia simultánea (concomitancia) de varias acciones. Las resistencias se estiman a partir de los valores nominales de las dimensiones y resistencias de los elementos o secciones de la estructura, sin minorar.

2. Normativas empleadas.

El dimensionamiento general de la estructura se ha realizado conforme a las instrucciones

- [1] IAPF 2003 Instrucción sobre las acciones a considerar en el proyecto de puentes de ferrocarril Febrero 2003. (Pendiente de Publicación)
- [2] Instrucción de Hormigón Estructural. Ministerio de Fomento. Secretaría General Técnica. 199
- [3] Eurocode 1
- [4] Instrucción relativa a las acciones a considerar en el proyecto de puentes de ferrocarril. (O.M de 1975)

3. PROGRAMAS INFORMÁTICOS EMPLEADOS EN LOS CÁLCULOS.

Los programas informáticos empleados son los que siguen:

- Programa "Cálculo Automático de Emparrillados", desarrollado por Manuel Marín para Alvisa, con wxWindows 2.2.9 y Gcc 2.95.2
- Diversas hojas de cálculo y programas desarrollados por el proyectista.

4. MATERIALES Y COEFICIENTES PARCIALES DE SEGURIDAD.

Las características de los materiales a emplear en la construcción de la estructura objeto del presente son, en consonancia con lo dispuesto en la Instrucción EHE, las siguientes:

MATERIAL	*CALIDAD*	*NIVEL DE CONTROL*	*COEFICIENTES*
HORMIGÓN EN LOSA DE TABLERO	HA-25/B/20/IIb	ESTADÍSTICO	γc =1.5
HORMIGÓN EN VIGAS	HP-50/F/12/IIb	ESTADÍSTICO	γc =1.5
ACERO PASIVO EN PREFABR.	B-500 S	NORMAL	γs =1.15
ACERO PASIVO IN SITU	B-500 S	NORMAL	γs =1.15
ACERO ACTIVO	Y 1860 S7	NORMAL	γs =1.15
EJECUCIÓN		INTENSO	γg =1.35 γq =1.5

5. ACCIONES CONSIDERADAS EN EL CÁLCULO.

La determinación de los valores característicos de las acciones, así como de sus valores representativos y de cálculo y las combinaciones a realizar con las mismas, a fin de verificar el cumplimiento de los estados límite, se lleva a cabo según lo prescrito en la Instrucción IAP.

5.1 VALORES CARACTERÍSTICOS DE LAS ACCIONES.

5.1.1 ACCIONES PERMANENTES.

Peso Propio: El valor característico del peso de los elementos estructurales de hormigón, se determina tomando como peso específico del mencionado material 2.5 t/m^3.

Cargas muertas

Los tipos de carga a considerar serán los siguientes:

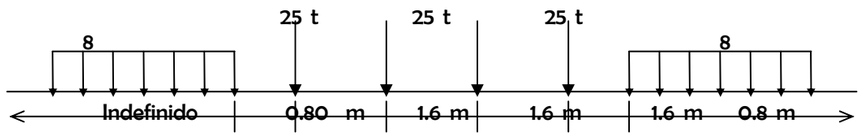
- *Balasto* (γ = 1.8 t/m^3); valor máximo $\Rightarrow p_{máx} = 1.3 \cdot p_o = 15.21$ T/m
  valor mínimo $\Rightarrow p_{mín} = 0.7 \cdot p_o = 8.19$ T/m
- *Carriles y traviesas* $\Rightarrow$ 2 x 0.64 T/m
- *Conductos + cables* $\Rightarrow$ 2 x 0.30 T/m
- *Murete guardabalasto* $\Rightarrow$ 2 x 0.25 T/m
- *Imposta* $\Rightarrow$ 2 x1 T/m

5.1.2 ACCIONES VARIABLES

a) Sobrecarga ferroviaria: Trenes de carga

Se han considerado los siguientes trenes de carga:

- **TREN UIC 71.** Especificado en la I.P.F2003 [1] y también figura en el Eurocódigo.[3]



Las cargas del modelo **71** serán afectadas por un coeficiente de clasificación, α , cuyo valor es de 1,21.Se considerarán además posibles *ripados de las vías de 30 cm + r/18* = ***0.396 m*** hacia cada lado del eje de las mismas, siendo r la distancia entre apoyos de las ruedas (1.668 + 0.065 = 1.733 m.). Para estos trenes se tendrá que, por efectos dinámicos, el valor de las cargas verticales se incrementará con el coeficiente de impacto.

El coeficiente de impacto para estos trenes de cargas resulta ser de:

$$\phi_3 = \frac{2.16}{\sqrt{L_\phi} - 0.2} + 0{,}73 \approx \mathbf{1.25}$$

b) Además de lo especificado se considerará una sobrecarga uniforme de 0.5 T/m^2 en aceras, paseos de servicio y zonas de tablero no afectadas directamente por el tráfico ferroviario, extendida en toda su superficie o parte de ella, según sea más desfavorable para el elemento de estudio.

c) Frenado y arranque

Se consideran los siguientes valores para las cargas longitudinales:

- *Frenado* = α:2 t/m × L (por vía cargada) Lmax= 300 m.
- *Arranque* = α:3,3 t/m × L' (por vía cargada) L'max= 30 m

Para el caso en que se considera sobrecarga en una de las vías se aplicará frenado o arranque según sea el valor más desfavorable, mientras que si están cargadas las dos vías en una de ellas se considerará frenado y en la otra arranque.

d) Efecto lazo

Se considerará además, independientemente del número de vías, la actuación de una *carga horizontal de 10 t en sentido transversal*, aplicada en el sitio más desfavorable a la altura superior del carril.

Reglas de aplicación de las sobrecargas de tráfico

Se realizarán dos cálculos paralelos, uno para velocidad de 120 km/h y otro para la velocidad de proyecto (350 km/h), escogiendo en cada caso la situación más desfavorable.

- **Cargas verticales**; Se emplearán las definidas por el tren de cargas anteriores, situadas en el sitio más desfavorable para el caso estudiado, en una o dos vías, afectadas por los coeficientes α y ϕ:

$$\alpha \cdot \phi \cdot P_{v,k}$$

- **Cargas horizontales**; Se estudiarán los siguientes casos:
  1) *Frenado y Arranque + Lazo*
  2) *Fuerza centrífuga + Lazo*
  3) *Frenado y Arranque + 50% Fuerza centrífuga + Lazo*
  4) *50% Frenado y Arranque + Fuerza centrífuga + Lazo*

e) Interacción longitudinal carril-tablero

Para la obtención del valor de esta acción se emplea la fórmula del EC-1 [3], en donde $F_{TK} = \pm(8L_T)$ en (KN) por vía de circulación cargada. El valor máximo de F_{TK} no puede ser mayor de 1100 KN por vía.

f) Viento

Dadas las características del puente se puede emplear el cálculo simplificado propuesto por la IAPF 2003 [1] con los siguientes valores:

ENTORNO TIPO II

VELOCIDAD DE REFERENCIA 28 m/s

ρ = 0.268 T/m^2

En cuanto a las *acciones accidentales derivadas del sismo* no corresponde estudiarlas dado que la aceleración de cálculo $a_c \leq 0{,}06g$

5.2 VALORES REPRESENTATIVOS DE LAS ACCIONES.

En general, para acciones permanentes, permanentes de valor no constante y accidentales, se considera un único valor representativo (que será el adoptado para la verificación de los estados límite), coincidente con el valor característico descrito en el anterior apartado.

Por el contrario, en el caso de las acciones variables, se tienen en consideración diferentes valores representativos, que se utilizarán en distintas combinaciones de acciones. Dichos valores resultan de afectar al valor característico de la acción de los siguientes coeficientes:

VALOR DE COMBINACIÓN (ψ_0)	VALOR FRECUENTE (ψ_1)	VALOR CASI-PERMANENTE (ψ_2)
0.6	0.5	0.2

5.3 VALORES DE CÁLCULO DE LAS ACCIONES.

5.3.1 ESTADOS LÍMITE ÚLTIMOS.

Para los coeficientes parciales de seguridad, γ_F, se adoptan los valores recogidos en la siguiente tabla:

TIPO DE ACCIÓN		SITUACIONES PERSISTENTES Y TRANSITORIAS		SITUACIONES ACCIDENTALES	
		Efecto favorable	Efecto desfavorable	Efecto favorable	Efecto desfavorable
PERMANENTE		1.0	1.35	1.0	1.0
PERMANENTE DE VALOR NO CONSTANTE	PRETENSADO	1.0	1.0	1.0	1.0
	REOLÓGICAS	1.0	1.35	1.0	1.0
	TERRENO	1.0	1.5	1.0	1.0
VARIABLE		0.0	1.50	0.0	1.0
ACCIDENTAL		_	_	1.0	1.0

5.3.2 ESTADOS LÍMITE DE SERVICIO.

Para los coeficientes parciales de seguridad, γ_F, se adoptan los valores recogidos en la siguiente tabla:

TIPO DE ACCIÓN		SITUACIONES PERSISTENTES Y TRANSITORIAS	
		Efecto favorable	Efecto desfavorable
PERMANENTE		1.0	1.0
PERMANENTE DE VALOR NO CONSTANTE	PRETENSADO	0.95	1.05
	REOLÓGICAS	1.0	1.0
	TERRENO	1.0	1.0
VARIABLE		0.0	1.0

5.4 COMBINACIÓN DE ACCIONES.

Las hipótesis de carga tomadas en consideración se forman combinando los valores de cálculo de las acciones cuya actuación pueda ser simultánea (acciones concomitantes), según los criterios generales prescritos en el Artículo 4 de la instrucción IAP, tanto para Estados Límite Últimos, en situaciones persistentes o transitorias y accidentales, como para Estados Límite de Servicio.

6. Cálculo del tablero. Dimensionamiento

Para realizar el cálculo del tablero se ha procedido a realizar un modelo de cálculo que permita la obtención de los esfuerzos existentes en la estructura de una forma que refleje lo más aproximadamente posible la realidad. Se ha desarrollado un ***modelo de emparrillado plano***, mediante el cual se ha podido obtener el reparto transversal de esfuerzos existente en el tablero para poder así proceder a un dimensionamiento del tablero. De esta forma, al utilizar el modelo del emparrillado plano, se ha podido considerar el efecto que sobre la flexión longitudinal produce el esfuerzo torsor, además del reparto que una sobrecarga centrada produce sobre las diferentes almas debido a la geometría de la viga.

Una vez obtenidos los esfuerzos se estudian las tensiones producidas por el pretensado tanto durante la fabricación (en el instante de la transferencia) como a largo plazo, considerando respectivamente unas pérdidas del 5% y 20%.

La adición de estas tensiones a las producidas por las cargas exteriores conduce a las tensiones reales (en fibra superior e inferior de la viga, y fibra superior de la losa) que aparecen en las distintas fases, fabricación, servicio bajo cargas permanentes, y servicio bajo máxima sobrecarga.

Se comprueba que las tracciones (si existen) son admisibles en función de la clase de comportamiento de la estructura y se obtiene la resistencia característica del hormigón en cada fase para soportar las compresiones existentes.

Los esfuerzos rasantes entre viga y losa se resisten exclusivamente con armadura pasiva, sin contar con la colaboración del hormigón.

El armado de las vigas se realiza aplicando la Instrucción de Hormigón Estructural EHE. Se comprueba la sección en los diversos Estados Límite Últimos y en Estado Límite de Servicio:

ESTADOS LÍMITE ÚLTIMOS ANALIZADOS:

a) ROTURA : Para cada sección se presenta el momento último, el momento de cálculo, y el cociente entre el momento último y el momento de cálculo sin mayorar.

Las hipótesis de cálculo adoptadas son las siguientes :

- Diagrama rectangular simplificado para el hormigón y bilineal para el acero.
- No se considera la contribución de las armaduras pasivas por defecto.
- Se supone que las armaduras activas alcanzan la plastificación.
- Las dimensiones de la cabeza de compresión son el espesor constante de la losa y el intereje.
- Se mayoran por 1.35 las cargas permanentes + peso propio de viga y losa, y por 1.5 la sobrecarga y el carro.
- Se minora la resistencia del hormigón y la del acero según los coeficientes descritos en la memoria.

b) CORTANTE. Para cada sección aparecen:

- Resistencias del hormigón a tracción media (EHE 98)
- Tensión en el centro de gravedad a tiempo infinito de la sección según los resultados obtenidos en la comprobación en servicio.
- Canto útil empleado en el cálculo.
- Cotangente de referencia de la EHE-98.
- Cortante de cálculo V_d.
- Cortante de agotamiento por compresión oblicua en el alma V_{u1}.
- Parámetro RHOL (cuantía geométrica de armadura longitudinal traccionada).
- Cortante V_{cu} de contribución del hormigón a la resistencia a esfuerzo cortante.
- Cortante V_{su} a resistir por los cercos.
- A90 área de armadura necesaria por metro lineal.
- Amin área de armadura mínima a disponer por metro lineal.

c) RASANTE JUNTA

- El rasante de cálculo se obtiene en función de los resultados de rotura de cada sección, afectando la tracción total producida por el pretensado en cada sección por la relación 1.5/Coef. Seg. A rotura
- Se realiza la redistribución plástica
- La armadura de cosido que se obtiene se compara con la existente de cortante y torsión.

d) RASANTE FONDO

- Se considera la redistribución plástica entre secciones
- Se considera que el pretensado inferior entre las almas es el que se debe resistir y se calcula aplicándole a la tracción total la proporción de fondos
- El rasante de cálculo se obtiene en función de los resultados de rotura de cada sección, afectando la tracción total producida por el pretensado en cada sección por la relación 1.5/Coef. Seg. A rotura

COMPROBACIÓN EN SERVICIO

Se comprueban las tensiones admisibles de acuerdo con la EHE .

Fibra extrema en mínima compresión o en tracción nominal:

En elementos de hormigón pretensado, en ausencia de requerimientos específicos, y bajo la combinación de acciones frecuentes las máximas aberturas de fisura para los distintos ambientes serán las definidas a continuación.

σ_c	Clase de exposición	Tensión límite	con $\gamma_p = 0{,}95$
	I	Wmáx ≤ 0,2 mm	
	IIa, IIb, H	Wmáx ≤ 0,2 mm[1]	
	IIIa, IIIb, N, F	≥ 0 descompresión	
	IIIc, Qa, Qb, Qc	≥ 0 descompresión	

1 Adicionalmente deberá comprobarse que las armaduras acivas se encuentrab en la zona comprimida de la sección, bajo la combinación de acciones cuasipermanentes.

Fibra extrema en máxima compresión

$\sigma_c \leq 0{,}6\ f_{ck,t}$ (con $\gamma_p = 1{,}05$)

6.1 Armado de vigas

6.1.1 Envolvente de esfuerzos

Flectores en viga TIPO

FLECTORES (T x m)

distancia al APOYO (m)	Mpp viga	M LOSA	M LOSA FII	M c.perma.	M sc	M TREN	SUMA
0.00	0	0		0	0	0	0
1.60	4.22	1.64		7.25	2.19	5.43	20.73
3.20	7.23	2.81		12.84	3.75	9.1	35.73
4.80	9.03	3.51		17.89	4.68	12.3	47.41
6.40	9.64	3.75		21.63	5.647	16.95	57.617

CORTANTE (T)

distancia al APOYO (m)	Vpp viga	V LOSA	V c.perma.	V sc	V CARRO	Vd
0.00	3.01	1.17	7.62	1.56	7.65	29.75
1.60	2.26	0.88	3.37	1.17	3.53	15.84
3.20	1.51	0.59	1.71	0.78	0.93	7.71
4.80	0.75	0.29	1.00	0.39	0.17	3.59
6.40	0.00	0.00	0.00	0.00	0.00	0.00

Cortantes en viga TIPO

6.1.2 Cálculo a flexión positiva

fyp (T/m2)	148695.652
fyd (T/m2)	43478.261
Ancho tablero (m)	0.61
Hormigón viga(T/m2)	5000
Hormigón losa(T/m2)	2500
A pasiva	

distancia al APOYO (m)	canto viga	canto losa	Md (T x m)	Np (T)	Ns (T)	h comp (m)	cota media (m)	e (m)	Mu (T x m)	Mu/Mk	
0.00	0.60	0.120	0.000	208.174	0.000	0.241	0.045	0.555	115.443		*cumple*
1.60	0.60	0.120	29.129	208.174	0.000	0.241	0.045	0.555	115.443	5.569	*cumple*
3.20	0.60	0.120	50.163	208.174	0.000	0.241	0.045	0.555	115.443	3.231	*cumple*
4.80	0.60	0.120	66.551	208.174	0.000	0.241	0.045	0.555	115.443	2.435	*cumple*
6.40	0.60	0.120	81.173	208.174	0.000	0.241	0.045	0.555	115.443	2.004	*cumple*

VIGA TIPO. CÁLCULO A ROTURA (E.L.U.) EN SECCIÓN FINAL

VIGA TIPO . CÁLCULO EN SERVICIO (E.L.S.)

TENSIONES DE FLEXION DEBIDO A LAS CARGAS EXTERIORES SIN PRETENSADO [Tn/m2]

	EN FABRICA		LOSA		EN SERVICIO			CON CARGAS MAXIMAS (comb rara)		
	σ_a	σ_b	σ_a	σ_b	σ_a	σ_b	σ_C	σ_a	σ_b	σ_C
distancia al APOYO (m)										
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.60	159.40	-163.98	61.95	-63.73	314.33	-405.74	147.20	412.07	-592.86	301.91
3.20	273.09	-280.94	106.14	-109.19	543.92	-705.43	260.70	708.75	-1020.98	521.60
4.80	341.08	-350.88	132.58	-136.39	703.12	-926.58	363.23	920.92	-1343.55	707.98
6.40	364.12	-374.58	141.64	-145.71	783.20	-1051.45	439.16	1073.05	-1606.35	897.96

CUADRO DE PRETENSADOS

	CABLES PRETENSADOS				TORONES
CABLE	1/2	0.6	0.6	1/2	0.6
COTA	4.5	9	14	55	10
AREA (mm2	98	140	140	98	140
distancia al estribo (m)					
0.00	10			2	
1.60	10			2	
3.20	10			2	
4.80	10			2	
6.40	10			2	

CABLES PRETESOS		TORONES POSTESADOS		INICIALES CABLES		INICI
N	Excent.	N	Excent.	σ_a	σ_b	σ_a
168	18	0	20	-205	1930	-205
168	18	0	20	-205	1930	-205
168	18	0	20	-205	1930	-205
168	18	0	20	-205	1930	-205
168	18	0	20	-205	1930	-205

TENSIONES EN DIFERENTES PUNTOS A LO LARGO DE LA VIGA [Tn/m2]

γ_p = 0.95

FABRICA ..... = Peso Propio + Pretensado con Pérdidas a Corto Plazo
SERVICIO ..... = Cargas Permanentes + Pretensado con Pérdidas Totales
CARGAS MAXIMAS = Servicio + Sobrecargas Máximas

Ψ_O	Ψ_1	Ψ_2
0.6	0.5	0.2

PRETENSADO MINORADO (γ_{g1} =0.95)

distancia al estribo (m)	AL DESTESAR σ_a	AL DESTESAR σ_b	EN FABRICA σ_a	EN FABRICA σ_b	EN SERVICIO σ_a	EN SERVICIO σ_b	EN SERVICIO σ_c	CON CARGAS MAXIMAS (combinación rara) σ_a	CON CARGAS MAXIMAS (combinación rara) σ_b	CON CARGAS MAXIMAS (combinación rara) σ_c	CON CARGAS MAXIMAS (combinación frecuente) σ_a	CON CARGAS MAXIMAS (combinación frecuente) σ_b	CON CARGAS MAXIMAS (combinación frecuente) σ_c
0.00	-195.1	1834.0	-195.1	1834.0	-164.3	1544.4	0.0	-164.3	1544.4	0.0	-164.3	1544.4	0.0
1.60	-35.8	1670.0	-35.8	1670.0	150.0	1138.6	147.2	247.7	951.5	301.9	198.9	1045.1	224.6
3.20	77.9	1553.0	77.9	1553.0	379.6	839.0	260.7	544.4	523.4	521.6	462.0	681.2	391.1
4.80	145.9	1483.1	145.9	1483.1	538.8	617.8	363.2	756.6	200.8	708.0	647.7	409.3	535.6
6.40	169.0	1459.4	169.0	1459.4	618.9	492.9	439.2	908.7	-62.0	898.0	763.8	215.5	668.6
MAX	168.97	1833.95	168.97	1833.95	618.87	1544.38	439.16	908.71	1544.38	897.96	763.79	1544.38	668.56
MIN	-195.15	0.00	-195.15	0.00	-164.34	0.00	0.00	-164.34	-61.97	0.00	-164.34	0.00	0.00

COMPROBACIÓN EN SERVICIO		
Resistencia al destesar	3056.6	T/m^2
En fabrica	3056.6	T/m^2
A los 28 días	2574.0	T/m^2
en losa	1496.6	T/m^2

TENSIONES EN DIFERENTES PUNTOS A LO LARGO DE LA VIGA [Tn/m2]

γ_p = 1.05

FABRICA ..... = Peso Propio + Pretensado con Pérdidas a Corto Plazo
SERVICIO ..... = Cargas Permanentes + Pretensado con Pérdidas Totales
CARGAS MAXIMAS = Servicio + Sobrecargas Máximas

Ψ_O	Ψ_1	Ψ_2
0.6	0.5	0.2

PRETENSADO MAYORADO (γ_{g1} =1.05)

distancia al estribo (m)	AL DESTESAR σ_a	AL DESTESAR σ_b	EN FABRICA σ_a	EN FABRICA σ_b	EN SERVICIO σ_a	EN SERVICIO σ_b	EN SERVICIO σ_c	CON CARGAS MAXIMAS (combinación rara) σ_a	CON CARGAS MAXIMAS (combinación rara) σ_b	CON CARGAS MAXIMAS (combinación rara) σ_c	CON CARGAS MAXIMAS (combinación frecuente) σ_a	CON CARGAS MAXIMAS (combinación frecuente) σ_b	CON CARGAS MAXIMAS (combinación frecuente) σ_c
0.00	-215.69	2027.00	-215.7	2027.0	-181.6	1706.9	0.0	-181.6	1706.9	0.0	-181.6	1706.9	0.0
1.60	-56.29	1863.02	-56.3	1863.0	132.7	1301.2	147.2	230.4	1114.1	301.9	181.6	1207.7	224.6
3.20	57.40	1746.07	57.4	1746.1	362.3	1001.5	260.7	527.1	686.0	521.6	444.7	843.7	391.1
4.80	125.39	1676.12	125.4	1676.1	521.5	780.4	363.2	739.3	363.4	708.0	630.4	571.9	535.6
6.40	148.43	1652.42	148.4	1652.4	601.6	655.5	439.2	891.4	100.6	898.0	746.5	378.0	668.6
MAX	148.43	2027.00	148.43	2027.00	601.57	1706.95	439.16	891.42	1706.95	897.96	746.49	1706.95	668.56
MIN	-215.69	0.00	-215.69	0.00	-181.63	0.00	0.00	-181.63	0.00	0.00	-181.63	0.00	0.00

COMPROBACIÓN EN SERVICIO		
Resistencia al destesar	3378.3	T/m^2
En fabrica	3378.3	T/m^2
A los 28 días	2844.9	T/m^2
en losa	1496.6	T/m^2

6.1.3 Cálculo a Cortante (E.L.U.)

VIGA TIPO

CÁLCULO A CORTANTE

fck:	5000	t/m2	γ_c: 1.5	espesor de la losa central:	0.12 m
fcd:	3333.3	t/m2		espesor de la losa de fondo:	0.16 m
f1cd:	2000.0	t/m2		espesor de las almas:	0.08 m
fyk:	50000	t/m2		Tensión de tesado inicial (t/m2):	
fpk:	171000	t/m2	γ_s: 1.15	*Tipo de cable: 0.6"*	
fyd:	40000	t/m2			

Cuant

distancia al APOYO (m)	Área(m2)	d	b_0	As,eqv. traccionada (cm2)	Nd (t)	ρ	cotgθ	z	σ'cd (t/m2)	ζ	Tan α	Md (m*t)	**Vu1** (t)
0.00	0.25	0.68	0.4	57.456	-134.683	0.020	1.45	0.61	-538.73	1.54			252.52
1.60	0.25	0.68	0.4	57.456	-134.683	0.020	1.52	0.61	-538.73	1.54			247.76
3.20	0.25	0.68	0.4	57.456	-134.683	0.020	1.57	0.61	-538.73	1.54			244.41
4.80	0.25	0.68	0.4	57.456	-134.683	0.020	1.60	0.61	-538.73	1.54			242.42
6.40	0.25	0.68	0.4	57.456	-134.683	0.020	1.61	0.61	-538.73	1.54			241.75

7. APARATOS DE APOYO

REACCIONES

VERTICALES (POR APOYO)

	APOYOS BAJO VIA	*RESTO DE APOYOS*
P P VIGA (T)	3.010	3.010
LOSA (T)	1.171	1.171
RESTO C PERMANENTES (T)	8.367	7.830
SOBRECARGA (T)	1.560	1.560
TREN INSTRUCCIÓN (T)	37.658	18.454
MAX (T)	51.766	32.025
MIN (T)	15.845	9.036
NEOPRENOS		
a(mm)	200	150
b(mm)	200	200
σ_{max} (kg/cm2)	129.4	106.8
$\sigma_{mín}$ (kg/cm2)	39.6	30.1

NEOPRENOS

RET, FLU Y TEMP	Apoyo 1	Apoyo 2	Apoyo 3	Apoyo 4	Apoyo 5	Apoyo 6	Apoyo 7	Apoyo 8	Apoyo 9	Apoyo 10	Apoyo 11	Apoyo 12
DIST CENTRO (m)	30.5	29.89	29.28	28.67	28.06	27.45	26.84	26.23	25.62	25.01	24.4	23.79
DESPLAZ EN X (m)	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008	0.008	0.007	0.007
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.366	0.359	0.351	0.344	0.337	0.329	0.322	0.315	0.307	0.300	0.293	0.285
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	1.171	1.148	1.124	1.101	1.078	1.054	1.031	1.007	0.984	0.960	0.937	0.914

RET, FLU Y TEMP	Apoyo 1	Apoyo 2	Apoyo 3	Apoyo 4	Apoyo 5	Apoyo 6	Apoyo 7	Apoyo 8	Apoyo 9	Apoyo 10	Apoyo 11	Apoyo 12
DIST CENTRO (m)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
DESPLAZ EN Y (m)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512

FRENADO	Apoyo 1	Apoyo 2	Apoyo 3	Apoyo 4	Apoyo 5	Apoyo 6	Apoyo 7	Apoyo 8	Apoyo 9	Apoyo 10	Apoyo 11	Apoyo 12
DESPLAZ EN X (m)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
DESPLAZ EN Y (m)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
DESPLAZ TOTAL (m)	0.013	0.012	0.012	0.012	0.012	0.012	0.012	0.011	0.011	0.011	0.011	0.011
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang & (TOTAL)	0.506	0.499	0.492	0.485	0.478	0.472	0.465	0.458	0.452	0.445	0.438	0.432
	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO

NEOPRENOS

RET, FLU Y TEMP	Apoyo 13	Apoyo 14	Apoyo 15	Apoyo 16	Apoyo 17	Apoyo 18	Apoyo 19	Apoyo 20	Apoyo 21	Apoyo 22	Apoyo 23	Apoyo 24
DIST CENTRO (m)	23.18	22.57	21.96	21.35	20.74	20.13	19.52	18.91	18.3	17.69	17.08	16.47
DESPLAZ EN X (m)	0.007	0.007	0.007	0.006	0.006	0.006	0.006	0.006	0.005	0.005	0.005	0.005
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.278	0.271	0.264	0.256	0.249	0.242	0.234	0.227	0.220	0.212	0.205	0.198
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.890	0.650	0.632	0.615	0.597	0.580	0.562	0.545	0.527	0.509	0.492	0.474

RET, FLU Y TEMP	Apoyo 13	Apoyo 14	Apoyo 15	Apoyo 16	Apoyo 17	Apoyo 18	Apoyo 19	Apoyo 20	Apoyo 21	Apoyo 22	Apoyo 23	Apoyo 24
DIST CENTRO (m)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
DESPLAZ EN Y (m)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.512	0.384	0.384	0.384	0.384	0.384	0.384	0.384	0.384	0.384	0.384	0.384

FRENADO	Apoyo 13	Apoyo 14	Apoyo 15	Apoyo 16	Apoyo 17	Apoyo 18	Apoyo 19	Apoyo 20	Apoyo 21	Apoyo 22	Apoyo 23	Apoyo 24
DESPLAZ EN X (m)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
DESPLAZ EN Y (m)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
DESPLAZ TOTAL (m)	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.010	0.010	0.010	0.010	0.010
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang & (TOTAL)	0.425	0.454	0.447	0.441	0.434	0.428	0.421	0.415	0.408	0.402	0.396	0.389
	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO

NEOPRENOS

RET, FLU Y TEMP	Apoyo 26	Apoyo 27	Apoyo 28	Apoyo 29	Apoyo 30	Apoyo 31	Apoyo 32	Apoyo 33	Apoyo 34	Apoyo 35	Apoyo 36	Apoyo 37
DIST CENTRO (m)	15.25	14.64	14.03	13.42	12.81	12.2	11.59	10.98	10.37	9.76	9.15	8.54
DESPLAZ EN X (m)	0.005	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.183	0.176	0.168	0.161	0.154	0.146	0.139	0.132	0.124	0.117	0.110	0.102
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.439	0.422	0.404	0.515	0.492	0.468	0.445	0.422	0.398	0.375	0.351	0.328

RET, FLU Y TEMP	Apoyo 26	Apoyo 27	Apoyo 28	Apoyo 29	Apoyo 30	Apoyo 31	Apoyo 32	Apoyo 33	Apoyo 34	Apoyo 35	Apoyo 36	Apoyo 37
DIST CENTRO (m)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
DESPLAZ EN Y (m)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.384	0.384	0.384	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512

FRENADO	Apoyo 26	Apoyo 27	Apoyo 28	Apoyo 29	Apoyo 30	Apoyo 31	Apoyo 32	Apoyo 33	Apoyo 34	Apoyo 35	Apoyo 36	Apoyo 37
DESPLAZ EN X (m)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
DESPLAZ EN Y (m)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
DESPLAZ TOTAL (m)	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.007
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang & (TOTAL)	0.377	0.371	0.364	0.325	0.319	0.313	0.307	0.301	0.296	0.290	0.285	0.279
	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO

NEOPRENOS

RET, FLU Y TEMP	Apoyo 39	Apoyo 40	Apoyo 41	Apoyo 42	Apoyo 43	Apoyo 44	Apoyo 45	Apoyo 46	Apoyo 47	Apoyo 48	Apoyo 49	Apoyo 50
DIST CENTRO (m)	7.32	6.71	6.1	5.49	4.88	4.27	3.66	3.05	2.44	1.83	1.22	0.61
DESPLAZ EN X (m)	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.088	0.081	0.073	0.066	0.059	0.051	0.044	0.037	0.029	0.022	0.015	0.007
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.281	0.258	0.234	0.211	0.187	0.164	0.141	0.117	0.094	0.070	0.047	0.023

RET, FLU Y TEMP	Apoyo 39	Apoyo 40	Apoyo 41	Apoyo 42	Apoyo 43	Apoyo 44	Apoyo 45	Apoyo 46	Apoyo 47	Apoyo 48	Apoyo 49	Apoyo 50
DIST CENTRO (m)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
DESPLAZ EN Y (m)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512

FRENADO	Apoyo 39	Apoyo 40	Apoyo 41	Apoyo 42	Apoyo 43	Apoyo 44	Apoyo 45	Apoyo 46	Apoyo 47	Apoyo 48	Apoyo 49	Apoyo 50
DESPLAZ EN X (m)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
DESPLAZ EN Y (m)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
DESPLAZ TOTAL (m)	0.007	0.007	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.005
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang & (TOTAL)	0.269	0.263	0.258	0.253	0.249	0.244	0.239	0.235	0.231	0.227	0.223	0.219
	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO

NEOPRENOS

RET, FLU Y TEMP	Apoyo 52	Apoyo 53	Apoyo 54	Apoyo 55	Apoyo 56	Apoyo 57	Apoyo 58	Apoyo 59	Apoyo 60	Apoyo 61	Apoyo 62	Apoyo 63
DIST CENTRO (m)	0.61	1.22	1.83	2.44	3.05	3.66	4.27	4.88	5.49	6.1	6.71	7.32
DESPLAZ EN X (m)	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.007	0.015	0.022	0.029	0.037	0.044	0.051	0.059	0.066	0.073	0.081	0.088
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.023	0.047	0.070	0.094	0.117	0.141	0.164	0.187	0.211	0.234	0.258	0.281

RET, FLU Y TEMP	Apoyo 52	Apoyo 53	Apoyo 54	Apoyo 55	Apoyo 56	Apoyo 57	Apoyo 58	Apoyo 59	Apoyo 60	Apoyo 61	Apoyo 62	Apoyo 63
DIST CENTRO (m)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
DESPLAZ EN Y (m)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512

FRENADO	Apoyo 52	Apoyo 53	Apoyo 54	Apoyo 55	Apoyo 56	Apoyo 57	Apoyo 58	Apoyo 59	Apoyo 60	Apoyo 61	Apoyo 62	Apoyo 63
DESPLAZ EN X (m)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
DESPLAZ EN Y (m)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
DESPLAZ TOTAL (m)	0.005	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.007	0.007
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang & (TOTAL)	0.219	0.223	0.227	0.231	0.235	0.239	0.244	0.249	0.253	0.258	0.263	0.269
	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO

NEOPRENOS

RET, FLU Y TEMP	Apoyo 65	Apoyo 66	Apoyo 67	Apoyo 68	Apoyo 69	Apoyo 70	Apoyo 71	Apoyo 72	Apoyo 73	Apoyo 74	Apoyo 75	Apoyo 76
DIST CENTRO (m)	8.54	9.15	9.76	10.37	10.98	11.59	12.2	12.81	13.42	14.03	14.64	15.25
DESPLAZ EN X (m)	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.005
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.102	0.110	0.117	0.124	0.132	0.139	0.146	0.154	0.161	0.168	0.176	0.183
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.328	0.351	0.375	0.398	0.422	0.445	0.468	0.492	0.515	0.539	0.562	0.586

RET, FLU Y TEMP	Apoyo 65	Apoyo 66	Apoyo 67	Apoyo 68	Apoyo 69	Apoyo 70	Apoyo 71	Apoyo 72	Apoyo 73	Apoyo 74	Apoyo 75	Apoyo 76
DIST CENTRO (m)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
DESPLAZ EN Y (m)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512

FRENADO	Apoyo 65	Apoyo 66	Apoyo 67	Apoyo 68	Apoyo 69	Apoyo 70	Apoyo 71	Apoyo 72	Apoyo 73	Apoyo 74	Apoyo 75	Apoyo 76
DESPLAZ EN X (m)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
DESPLAZ EN Y (m)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
DESPLAZ TOTAL (m)	0.007	0.007	0.007	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.009
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang & (TOTAL)	0.279	0.285	0.290	0.296	0.301	0.307	0.313	0.319	0.325	0.331	0.337	0.343
	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO

NEOPRENOS

RET, FLU Y TEMP	Apoyo 78	Apoyo 79	Apoyo 80	Apoyo 81	Apoyo 82	Apoyo 83	Apoyo 84	Apoyo 85	Apoyo 86	Apoyo 87	Apoyo 88	Apoyo 89
DIST CENTRO (m)	16.47	17.08	17.69	18.3	18.91	19.52	20.13	20.74	21.35	21.96	22.57	23.18
DESPLAZ EN X (m)	0.005	0.005	0.005	0.005	0.006	0.006	0.006	0.006	0.006	0.007	0.007	0.007
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.198	0.205	0.212	0.220	0.227	0.234	0.242	0.249	0.256	0.264	0.271	0.278
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.632	0.656	0.679	0.703	0.726	0.750	0.773	0.796	0.820	0.843	0.867	0.890

RET, FLU Y TEMP	Apoyo 78	Apoyo 79	Apoyo 80	Apoyo 81	Apoyo 82	Apoyo 83	Apoyo 84	Apoyo 85	Apoyo 86	Apoyo 87	Apoyo 88	Apoyo 89
DIST CENTRO (m)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
DESPLAZ EN Y (m)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
h total (mm)	34	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512

FRENADO	Apoyo 78	Apoyo 79	Apoyo 80	Apoyo 81	Apoyo 82	Apoyo 83	Apoyo 84	Apoyo 85	Apoyo 86	Apoyo 87	Apoyo 88	Apoyo 89
DESPLAZ EN X (m)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
DESPLAZ EN Y (m)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
DESPLAZ TOTAL (m)	0.009	0.009	0.009	0.009	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.011
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang & (TOTAL)	0.355	0.361	0.367	0.374	0.380	0.386	0.393	0.399	0.406	0.412	0.419	0.425
	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO

NEOPRENOS

RET, FLU Y TEMP	Apoyo 91	Apoyo 92	Apoyo 93	Apoyo 94	Apoyo 95	Apoyo 96	Apoyo 97	Apoyo 98	Apoyo 99	Apoyo 100	Apoyo 101
DIST CENTRO (m)	24.4	25.01	25.62	26.23	26.84	27.45	28.06	28.67	29.28	29.89	30.5
DESPLAZ EN X (m)	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.009	0.009	0.009	0.009
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.293	0.300	0.307	0.315	0.322	0.329	0.337	0.344	0.351	0.359	0.366
h total (mm)	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.937	0.960	0.984	1.007	1.031	1.054	1.078	1.101	1.124	1.148	1.171

RET, FLU Y TEMP	Apoyo 91	Apoyo 92	Apoyo 93	Apoyo 94	Apoyo 95	Apoyo 96	Apoyo 97	Apoyo 98	Apoyo 99	Apoyo 100	Apoyo 101
DIST CENTRO (m)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
DESPLAZ EN Y (m)	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang &	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
h total (mm)	34	34	34	34	34	34	34	34	34	34	34
FUERZA HORIZONTAL (T)	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512	0.512

FRENADO	Apoyo 91	Apoyo 92	Apoyo 93	Apoyo 94	Apoyo 95	Apoyo 96	Apoyo 97	Apoyo 98	Apoyo 99	Apoyo 100	Apoyo 101
DESPLAZ EN X (m)	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
DESPLAZ EN Y (m)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
DESPLAZ TOTAL (m)	0.011	0.011	0.011	0.011	0.012	0.012	0.012	0.012	0.012	0.012	0.013
h neopreno (m)	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
tang & (TOTAL)	0.438	0.445	0.452	0.458	0.465	0.472	0.478	0.485	0.492	0.499	0.506
	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO	<0.7 VALIDO

8. LISTADO DE RESULTADOS DE LOS MODELOS DE CÁLCULO

8.1 Datos de la estructura

Luz de cálculo (m)	:	12.800
Ancho (m)	:	59.240
Esviaje (g)	:	100.000
Dist. Eje Viga borde a ext. tablero (m)	:	0.340
Ancho de las aceras (m)	:	0.500
Dist. Eje Barrera a ext. tablero (m)	:	0.000
Espesor de la losa (m)	:	0.120
N° de vías	:	1.000
Ancho de la vía (m)	:	1.668
Ripado (m)	:	0.396

Datos de las vigas

Viga	Tipo	Canto (m)	Area (m²)	Peso (t/m)	Va (m)	Inercia (m4)	Intereje (m)
1	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
2	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
3	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
4	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
5	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
6	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
7	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
8	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
9	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
10	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
11	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
12	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
13	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
14	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
15	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
16	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
17	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
18	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
19	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
20	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
21	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
22	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
23	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
24	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
25	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610

26	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
27	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
28	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
29	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
30	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
31	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
32	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
33	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
34	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
35	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
36	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
37	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
38	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
39	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
40	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
41	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
42	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
43	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
44	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
45	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
46	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
47	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
48	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
49	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
50	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
51	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
52	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
53	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
54	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
55	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
56	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
57	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
58	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
59	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
60	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
61	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
62	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
63	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610

64	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
65	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
66	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
67	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
68	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
69	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
70	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
71	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
72	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
73	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
74	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
75	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
76	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
77	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
78	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
79	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
80	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
81	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
82	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
83	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
84	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
85	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
86	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
87	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
88	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
89	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
90	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
91	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
92	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
93	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
94	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
95	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
96	BL60	0.600	0.177560	0.4705	0.2906	0.007334	0.610
97	BL60	0.600	0.177560	0.4705	0.2906	0.007334	

Acciones sobre la estructura

Peso balasto (t/m²)	:	5.070
Carga uniforme (t/m²)	:	0.750
Peso de las aceras (t/m²)	:	0.000

Peso Barrera (t/m)	:	1.000
Peso total ejes tren (t)	:	100.000
Sobrecarga uniforme (t/m)	:	8.000
Sobrecarga en aceras (t/m²)	:	0.500
Coeficiente de clasificación	:	1.210
Coeficiente de impacto	:	1.250

8.2 Envolvente de esfuerzos

Envolvente de Esfuerzos (Estados límites últimos)

Esfuerzos Cortantes en t

Viga	Tramo	P.Propio Viga	P.Propio Losa	Carga Perman.	S.C. Máximo	S.C. Mínimo	Carro Máximo	Carro Mínimo
1	1	-3.01	-1.24	-3.84	0	0	0	-3.71
-	-	-2.26	-0.93	-3.84	0	0	0	-3.71
1	2	-2.26	-0.93	-3.66	0	0	0	-3.04
-	-	-1.51	-0.62	-3.66	0	0	0	-3.04
1	3	-1.51	-0.62	-1.56	0	0	0.24	-1.13
-	-	-0.75	-0.31	-1.56	0	0	0.24	-1.13
1	4	-0.75	-0.31	0.21	0	0	0.6	-0.11
-	-	0	0	0.21	0	0	0.6	-0.11
1	5	0	0	1.51	0	0	1.37	0
-	-	0.75	0.31	1.51	0	0	1.37	0
1	6	0.75	0.31	2.45	0	0	1.98	0
-	-	1.51	0.62	2.45	0	0	1.98	0
1	7	1.51	0.62	2.91	0	0	2.33	0
-	-	2.26	0.93	2.91	0	0	2.33	0
1	8	2.26	0.93	1.99	0	0	1.59	0
-	-	3.01	1.24	1.99	0	0	1.59	0
2	9	-3.01	-1.17	-3.43	0	0	0	-3.36
-	-	-2.26	-0.88	-3.43	0	0	0	-3.36
2	10	-2.26	-0.88	-3.15	0	0	0	-2.59
-	-	-1.51	-0.59	-3.15	0	0	0	-2.59
2	11	-1.51	-0.59	-1.36	0	0	0.21	-0.97
-	-	-0.75	-0.29	-1.36	0	0	0.21	-0.97
2	12	-0.75	-0.29	0.18	0	0	0.52	-0.09
-	-	0	0	0.18	0	0	0.52	-0.09
2	13	0	0	1.31	0	0	1.19	0
-	-	0.75	0.29	1.31	0	0	1.19	0
2	14	0.75	0.29	2.12	0	0	1.72	0
-	-	1.51	0.59	2.12	0	0	1.72	0
2	15	1.51	0.59	2.51	0	0	2	0

-	-	2.26	0.88	2.51	0	0	2	0
2	16	2.26	0.88	1.82	0	0	1.47	0
-	-	3.01	1.17	1.82	0	0	1.47	0
3	17	-3.01	-1.17	-3.48	0	0	0	-3.43
-	-	-2.26	-0.88	-3.48	0	0	0	-3.43
3	18	-2.26	-0.88	-3.13	0	0	0	-2.56
-	-	-1.51	-0.59	-3.13	0	0	0	-2.56
3	19	-1.51	-0.59	-1.34	0	0	0.22	-0.96
-	-	-0.75	-0.29	-1.34	0	0	0.22	-0.96
3	20	-0.75	-0.29	0.18	0	0	0.52	-0.09
-	-	0	0	0.18	0	0	0.52	-0.09
3	21	0	0	1.31	0	0	1.19	0
-	-	0.75	0.29	1.31	0	0	1.19	0
3	22	0.75	0.29	2.13	0	0	1.72	0
-	-	1.51	0.59	2.13	0	0	1.72	0
3	23	1.51	0.59	2.51	0	0	2	0
-	-	2.26	0.88	2.51	0	0	2	0
3	24	2.26	0.88	1.82	0	0	1.47	0
-	-	3.01	1.17	1.82	0	0	1.47	0
4	25	-3.01	-1.17	-3.54	0	0	0	-3.51
-	-	-2.26	-0.88	-3.54	0	0	0	-3.51
4	26	-2.26	-0.88	-3.1	0	0	0	-2.53
-	-	-1.51	-0.59	-3.1	0	0	0	-2.53
4	27	-1.51	-0.59	-1.32	0	0	0.23	-0.94
-	-	-0.75	-0.29	-1.32	0	0	0.23	-0.94
4	28	-0.75	-0.29	0.19	0	0	0.53	-0.1
-	-	0	0	0.19	0	0	0.53	-0.1
4	29	0	0	1.32	0	0	1.19	0
-	-	0.75	0.29	1.32	0	0	1.19	0
4	30	0.75	0.29	2.13	0	0	1.72	0
-	-	1.51	0.59	2.13	0	0	1.72	0
4	31	1.51	0.59	2.51	0	0	2	0
-	-	2.26	0.88	2.51	0	0	2	0
4	32	2.26	0.88	1.83	0	0	1.47	0
-	-	3.01	1.17	1.83	0	0	1.47	0
5	33	-3.01	-1.17	-3.64	0	0	0	-3.66
-	-	-2.26	-0.88	-3.64	0	0	0	-3.66
5	34	-2.26	-0.88	-3.06	0	0	0	-2.48
-	-	-1.51	-0.59	-3.06	0	0	0	-2.48
5	35	-1.51	-0.59	-1.29	0	0	0.25	-0.92
-	-	-0.75	-0.29	-1.29	0	0	0.25	-0.92
5	36	-0.75	-0.29	0.2	0	0	0.53	-0.1
-	-	0	0	0.2	0	0	0.53	-0.1
5	37	0	0	1.32	0	0	1.19	0
-	-	0.75	0.29	1.32	0	0	1.19	0
5	38	0.75	0.29	2.13	0	0	1.72	0

-	-	1.51	0.59	2.13	0	0	1.72	0
5	39	1.51	0.59	2.51	0	0	2	0
-	-	2.26	0.88	2.51	0	0	2	0
5	40	2.26	0.88	1.83	0	0	1.48	0
-	-	3.01	1.17	1.83	0	0	1.48	0
6	41	-3.01	-1.17	-3.76	0	-0.01	0	-3.86
-	-	-2.26	-0.88	-3.76	0	-0.01	0	-3.86
6	42	-2.26	-0.88	-3.01	0	-0.01	0	-2.4
-	-	-1.51	-0.59	-3.01	0	-0.01	0	-2.4
6	43	-1.51	-0.59	-1.26	0	-0.01	0.27	-0.89
-	-	-0.75	-0.29	-1.26	0	-0.01	0.27	-0.89
6	44	-0.75	-0.29	0.21	0	0	0.54	-0.1
-	-	0	0	0.21	0	0	0.54	-0.1
6	45	0	0	1.33	0	0	1.2	0
-	-	0.75	0.29	1.33	0	0	1.2	0
6	46	0.75	0.29	2.13	0	0	1.72	0
-	-	1.51	0.59	2.13	0	0	1.72	0
6	47	1.51	0.59	2.52	0.01	0	2	0
-	-	2.26	0.88	2.52	0.01	0	2	0
6	48	2.26	0.88	1.85	0.01	0	1.5	0
-	-	3.01	1.17	1.85	0.01	0	1.5	0
7	49	-3.01	-1.17	-3.93	0	-0.01	0	-4.13
-	-	-2.26	-0.88	-3.93	0	-0.01	0	-4.13
7	50	-2.26	-0.88	-2.93	0	-0.02	0.01	-2.28
-	-	-1.51	-0.59	-2.93	0	-0.02	0.01	-2.28
7	51	-1.51	-0.59	-1.22	0	-0.01	0.28	-0.88
-	-	-0.75	-0.29	-1.22	0	-0.01	0.28	-0.88
7	52	-0.75	-0.29	0.23	0	0	0.55	-0.1
-	-	0	0	0.23	0	0	0.55	-0.1
7	53	0	0	1.33	0.01	0	1.21	0
-	-	0.75	0.29	1.33	0.01	0	1.21	0
7	54	0.75	0.29	2.13	0.01	0	1.72	0
-	-	1.51	0.59	2.13	0.01	0	1.72	0
7	55	1.51	0.59	2.52	0.01	0	2	0
-	-	2.26	0.88	2.52	0.01	0	2	0
7	56	2.26	0.88	1.87	0.01	0	1.52	0
-	-	3.01	1.17	1.87	0.01	0	1.52	0
8	57	-3.01	-1.17	-4.14	0	-0.04	0	-4.48
-	-	-2.26	-0.88	-4.14	0	-0.04	0	-4.48
8	58	-2.26	-0.88	-2.82	0	-0.03	0.1	-2.12
-	-	-1.51	-0.59	-2.82	0	-0.03	0.1	-2.12
8	59	-1.51	-0.59	-1.19	0	-0.01	0.3	-0.87
-	-	-0.75	-0.29	-1.19	0	-0.01	0.3	-0.87
8	60	-0.75	-0.29	0.25	0.01	0	0.57	-0.1
-	-	0	0	0.25	0.01	0	0.57	-0.1
8	61	0	0	1.34	0.02	0	1.22	0

-	-	0.75	0.29	1.34	0.02	0	1.22	0
8	62	0.75	0.29	2.14	0.02	0	1.72	0
-	-	1.51	0.59	2.14	0.02	0	1.72	0
8	63	1.51	0.59	2.53	0.02	0	2	0
-	-	2.26	0.88	2.53	0.02	0	2	0
8	64	2.26	0.88	1.9	0.02	0	1.55	0
-	-	3.01	1.17	1.9	0.02	0	1.55	0
9	65	-3.01	-1.17	-4.43	0	-0.12	0	-4.97
-	-	-2.26	-0.88	-4.43	0	-0.12	0	-4.97
9	66	-2.26	-0.88	-2.64	0	-0.01	0.27	-1.89
-	-	-1.51	-0.59	-2.64	0	-0.01	0.27	-1.89
9	67	-1.51	-0.59	-1.16	0.02	0	0.31	-0.87
-	-	-0.75	-0.29	-1.16	0.02	0	0.31	-0.87
9	68	-0.75	-0.29	0.27	0.03	0	0.59	-0.1
-	-	0	0	0.27	0.03	0	0.59	-0.1
9	69	0	0	1.35	0.03	0	1.23	0
-	-	0.75	0.29	1.35	0.03	0	1.23	0
9	70	0.75	0.29	2.14	0.02	0	1.73	0
-	-	1.51	0.59	2.14	0.02	0	1.73	0
9	71	1.51	0.59	2.54	0.02	0	2	0
-	-	2.26	0.88	2.54	0.02	0	2	0
9	72	2.26	0.88	1.93	0.02	0	1.58	0
-	-	3.01	1.17	1.93	0.02	0	1.58	0
10	73	-3.01	-1.17	-4.67	0	-0.29	0	-5.67
-	-	-2.26	-0.88	-4.67	0	-0.29	0	-5.67
10	74	-2.26	-0.88	-2.53	0.1	0	0.52	-1.55
-	-	-1.51	-0.59	-2.53	0.1	0	0.52	-1.55
10	75	-1.51	-0.59	-1.11	0.06	0	0.31	-0.9
-	-	-0.75	-0.29	-1.11	0.06	0	0.31	-0.9
10	76	-0.75	-0.29	0.29	0.04	0	0.63	-0.1
-	-	0	0	0.29	0.04	0	0.63	-0.1
10	77	0	0	1.36	0.03	0	1.25	0
-	-	0.75	0.29	1.36	0.03	0	1.25	0
10	78	0.75	0.29	2.15	0.02	0	1.74	0
-	-	1.51	0.59	2.15	0.02	0	1.74	0
10	79	1.51	0.59	2.55	0.02	0	2.01	0
-	-	2.26	0.88	2.55	0.02	0	2.01	0
10	80	2.26	0.88	1.96	0.02	0	1.63	0
-	-	3.01	1.17	1.96	0.02	0	1.63	0
11	81	-3.01	-1.17	-4.87	0	-0.35	0	-6.2
-	-	-2.26	-0.88	-4.87	0	-0.35	0	-6.2
11	82	-2.26	-0.88	-2.47	0.13	0	0.43	-1.04
-	-	-1.51	-0.59	-2.47	0.13	0	0.43	-1.04
11	83	-1.51	-0.59	-1.06	0.08	0	0.37	-0.92
-	-	-0.75	-0.29	-1.06	0.08	0	0.37	-0.92
11	84	-0.75	-0.29	0.32	0.05	0	0.69	-0.1

-	-	0	0	0.32	0.05	0	0.69	-0.1
11	85	0	0	1.38	0.03	0	1.27	0
-	-	0.75	0.29	1.38	0.03	0	1.27	0
11	86	0.75	0.29	2.16	0.02	0	1.75	0
-	-	1.51	0.59	2.16	0.02	0	1.75	0
11	87	1.51	0.59	2.56	0.02	0	2.01	0
-	-	2.26	0.88	2.56	0.02	0	2.01	0
11	88	2.26	0.88	1.99	0.02	0	1.67	0
-	-	3.01	1.17	1.99	0.02	0	1.67	0
12	89	-3.01	-1.17	-5.16	0	-0.27	0	-6.54
-	-	-2.26	-0.88	-5.16	0	-0.27	0	-6.54
12	90	-2.26	-0.88	-2.34	0.09	0	0.58	-1.02
-	-	-1.51	-0.59	-2.34	0.09	0	0.58	-1.02
12	91	-1.51	-0.59	-1	0.06	0	0.42	-0.87
-	-	-0.75	-0.29	-1	0.06	0	0.42	-0.87
12	92	-0.75	-0.29	0.35	0.04	0	0.73	-0.11
-	-	0	0	0.35	0.04	0	0.73	-0.11
12	93	0	0	1.39	0.03	0	1.28	0
-	-	0.75	0.29	1.39	0.03	0	1.28	0
12	94	0.75	0.29	2.16	0.02	0	1.75	0
-	-	1.51	0.59	2.16	0.02	0	1.75	0
12	95	1.51	0.59	2.57	0.02	0	2.02	0
-	-	2.26	0.88	2.57	0.02	0	2.02	0
12	96	2.26	0.88	2.03	0.02	0	1.7	0
-	-	3.01	1.17	2.03	0.02	0	1.7	0
13	97	-3.01	-1.17	-5.52	0	-0.11	0	-6.17
-	-	-2.26	-0.88	-5.52	0	-0.11	0	-6.17
13	98	-2.26	-0.88	-2.14	0	-0.02	0.67	-1.58
-	-	-1.51	-0.59	-2.14	0	-0.02	0.67	-1.58
13	99	-1.51	-0.59	-0.95	0.01	0	0.49	-0.75
-	-	-0.75	-0.29	-0.95	0.01	0	0.49	-0.75
13	100	-0.75	-0.29	0.38	0.02	0	0.74	-0.11
-	-	0	0	0.38	0.02	0	0.74	-0.11
13	101	0	0	1.4	0.02	0	1.27	0
-	-	0.75	0.29	1.4	0.02	0	1.27	0
13	102	0.75	0.29	2.17	0.02	0	1.75	0
-	-	1.51	0.59	2.17	0.02	0	1.75	0
13	103	1.51	0.59	2.58	0.02	0	2.03	0
-	-	2.26	0.88	2.58	0.02	0	2.03	0
13	104	2.26	0.88	2.08	0.02	0	1.71	0
-	-	3.01	1.17	2.08	0.02	0	1.71	0
14	105	-3.01	-1.17	-5.83	0	-0.04	0	-6.02
-	-	-2.26	-0.88	-5.83	0	-0.04	0	-6.02
14	106	-2.26	-0.88	-2.02	0	-0.03	0.55	-1.97
-	-	-1.51	-0.59	-2.02	0	-0.03	0.55	-1.97
14	107	-1.51	-0.59	-0.89	0	-0.02	0.57	-0.62

-	-	-0.75	-0.29	-0.89	0	-0.02	0.57	-0.62
14	108	-0.75	-0.29	0.42	0	0	0.75	-0.11
-	-	0	0	0.42	0	0	0.75	-0.11
14	109	0	0	1.42	0.01	0	1.27	0
-	-	0.75	0.29	1.42	0.01	0	1.27	0
14	110	0.75	0.29	2.18	0.02	0	1.74	0
-	-	1.51	0.59	2.18	0.02	0	1.74	0
14	111	1.51	0.59	2.59	0.02	0	2.04	0
-	-	2.26	0.88	2.59	0.02	0	2.04	0
14	112	2.26	0.88	2.13	0.03	0	1.72	0
-	-	3.01	1.17	2.13	0.03	0	1.72	0
15	113	-3.01	-1.17	-6.09	0	-0.03	0	-5.9
-	-	-2.26	-0.88	-6.09	0	-0.03	0	-5.9
15	114	-2.26	-0.88	-1.97	0	-0.03	0.75	-2.24
-	-	-1.51	-0.59	-1.97	0	-0.03	0.75	-2.24
15	115	-1.51	-0.59	-0.8	0	-0.02	0.6	-0.5
-	-	-0.75	-0.29	-0.8	0	-0.02	0.6	-0.5
15	116	-0.75	-0.29	0.46	0	-0.01	0.78	-0.11
-	-	0	0	0.46	0	-0.01	0.78	-0.11
15	117	0	0	1.44	0.01	0	1.27	0
-	-	0.75	0.29	1.44	0.01	0	1.27	0
15	118	0.75	0.29	2.19	0.02	0	1.74	0
-	-	1.51	0.59	2.19	0.02	0	1.74	0
15	119	1.51	0.59	2.6	0.03	0	2.05	0
-	-	2.26	0.88	2.6	0.03	0	2.05	0
15	120	2.26	0.88	2.18	0.03	0	1.74	0
-	-	3.01	1.17	2.18	0.03	0	1.74	0
16	121	-3.01	-1.17	-6.31	0	-0.03	0	-5.99
-	-	-2.26	-0.88	-6.31	0	-0.03	0	-5.99
16	122	-2.26	-0.88	-1.98	0	-0.03	0.66	-2.44
-	-	-1.51	-0.59	-1.98	0	-0.03	0.66	-2.44
16	123	-1.51	-0.59	-0.7	0	-0.02	0.76	-0.38
-	-	-0.75	-0.29	-0.7	0	-0.02	0.76	-0.38
16	124	-0.75	-0.29	0.49	0	-0.01	0.8	-0.12
-	-	0	0	0.49	0	-0.01	0.8	-0.12
16	125	0	0	1.45	0.01	0	1.28	0
-	-	0.75	0.29	1.45	0.01	0	1.28	0
16	126	0.75	0.29	2.2	0.02	0	1.75	0
-	-	1.51	0.59	2.2	0.02	0	1.75	0
16	127	1.51	0.59	2.62	0.03	0	2.06	0
-	-	2.26	0.88	2.62	0.03	0	2.06	0
16	128	2.26	0.88	2.23	0.04	0	1.79	0
-	-	3.01	1.17	2.23	0.04	0	1.79	0
17	129	-3.01	-1.17	-6.52	0	-0.07	0	-6.22
-	-	-2.26	-0.88	-6.52	0	-0.07	0	-6.22
17	130	-2.26	-0.88	-2.06	0	-0.05	0.74	-2.59

-	-	-1.51	-0.59	-2.06	0	-0.05	0.74	-2.59
17	131	-1.51	-0.59	-0.55	0	-0.03	0.84	-0.33
-	-	-0.75	-0.29	-0.55	0	-0.03	0.84	-0.33
17	132	-0.75	-0.29	0.52	0	0	0.82	-0.12
-	-	0	0	0.52	0	0	0.82	-0.12
17	133	0	0	1.47	0.02	0	1.3	0
-	-	0.75	0.29	1.47	0.02	0	1.3	0
17	134	0.75	0.29	2.21	0.03	0	1.76	0
-	-	1.51	0.59	2.21	0.03	0	1.76	0
17	135	1.51	0.59	2.63	0.04	0	2.07	0
-	-	2.26	0.88	2.63	0.04	0	2.07	0
17	136	2.26	0.88	2.29	0.04	0	1.87	0
-	-	3.01	1.17	2.29	0.04	0	1.87	0
18	137	-3.01	-1.17	-6.71	0	-0.13	0	-6.28
-	-	-2.26	-0.88	-6.71	0	-0.13	0	-6.28
18	138	-2.26	-0.88	-2.2	0	-0.1	0.65	-2.71
-	-	-1.51	-0.59	-2.2	0	-0.1	0.65	-2.71
18	139	-1.51	-0.59	-0.36	0.01	0	1.07	-0.33
-	-	-0.75	-0.29	-0.36	0.01	0	1.07	-0.33
18	140	-0.75	-0.29	0.55	0.05	0	0.85	-0.12
-	-	0	0	0.55	0.05	0	0.85	-0.12
18	141	0	0	1.5	0.05	0	1.34	0
-	-	0.75	0.29	1.5	0.05	0	1.34	0
18	142	0.75	0.29	2.23	0.04	0	1.77	0
-	-	1.51	0.59	2.23	0.04	0	1.77	0
18	143	1.51	0.59	2.65	0.04	0	2.07	0
-	-	2.26	0.88	2.65	0.04	0	2.07	0
18	144	2.26	0.88	2.35	0.04	0	1.97	0
-	-	3.01	1.17	2.35	0.04	0	1.97	0
19	145	-3.01	-1.17	-6.87	0	-0.19	0	-6.62
-	-	-2.26	-0.88	-6.87	0	-0.19	0	-6.62
19	146	-2.26	-0.88	-2.32	0	-0.23	0.57	-2.83
-	-	-1.51	-0.59	-2.32	0	-0.23	0.57	-2.83
19	147	-1.51	-0.59	-0.23	0.14	0	1.46	-0.34
-	-	-0.75	-0.29	-0.23	0.14	0	1.46	-0.34
19	148	-0.75	-0.29	0.59	0.09	0	0.87	-0.13
-	-	0	0	0.59	0.09	0	0.87	-0.13
19	149	0	0	1.52	0.06	0	1.39	0
-	-	0.75	0.29	1.52	0.06	0	1.39	0
19	150	0.75	0.29	2.24	0.05	0	1.8	0
-	-	1.51	0.59	2.24	0.05	0	1.8	0
19	151	1.51	0.59	2.66	0.04	0	2.08	0
-	-	2.26	0.88	2.66	0.04	0	2.08	0
19	152	2.26	0.88	2.42	0.04	0	2.08	0
-	-	3.01	1.17	2.42	0.04	0	2.08	0
20	153	-3.01	-1.17	-7.02	0	-0.22	0	-7.06

-	-	-2.26	-0.88	-7.02	0	-0.22	0	-7.06
20	154	-2.26	-0.88	-2.4	0	-0.26	0.59	-2.97
-	-	-1.51	-0.59	-2.4	0	-0.26	0.59	-2.97
20	155	-1.51	-0.59	-0.16	0.18	0	1.85	-0.35
-	-	-0.75	-0.29	-0.16	0.18	0	1.85	-0.35
20	156	-0.75	-0.29	0.63	0.11	0	0.91	-0.13
-	-	0	0	0.63	0.11	0	0.91	-0.13
20	157	0	0	1.54	0.07	0	1.46	0
-	-	0.75	0.29	1.54	0.07	0	1.46	0
20	158	0.75	0.29	2.25	0.05	0	1.84	0
-	-	1.51	0.59	2.25	0.05	0	1.84	0
20	159	1.51	0.59	2.68	0.04	0	2.09	0
-	-	2.26	0.88	2.68	0.04	0	2.09	0
20	160	2.26	0.88	2.48	0.03	0	2.18	0
-	-	3.01	1.17	2.48	0.03	0	2.18	0
21	161	-3.01	-1.17	-7.16	0	-0.19	0	-7.85
-	-	-2.26	-0.88	-7.16	0	-0.19	0	-7.85
21	162	-2.26	-0.88	-2.56	0	-0.22	0.39	-2.57
-	-	-1.51	-0.59	-2.56	0	-0.22	0.39	-2.57
21	163	-1.51	-0.59	-0.02	0.13	0	1.32	-0.35
-	-	-0.75	-0.29	-0.02	0.13	0	1.32	-0.35
21	164	-0.75	-0.29	0.67	0.09	0	1.02	-0.14
-	-	0	0	0.67	0.09	0	1.02	-0.14
21	165	0	0	1.56	0.06	0	1.51	0
-	-	0.75	0.29	1.56	0.06	0	1.51	0
21	166	0.75	0.29	2.27	0.05	0	1.86	0
-	-	1.51	0.59	2.27	0.05	0	1.86	0
21	167	1.51	0.59	2.7	0.04	0	2.11	0
-	-	2.26	0.88	2.7	0.04	0	2.11	0
21	168	2.26	0.88	2.55	0.04	0	2.25	0
-	-	3.01	1.17	2.55	0.04	0	2.25	0
22	169	-3.01	-1.17	-7.29	0	-0.13	0	-7.37
-	-	-2.26	-0.88	-7.29	0	-0.13	0	-7.37
22	170	-2.26	-0.88	-2.8	0	-0.09	0.36	-2.48
-	-	-1.51	-0.59	-2.8	0	-0.09	0.36	-2.48
22	171	-1.51	-0.59	0.16	0.01	0	1.61	-0.36
-	-	-0.75	-0.29	0.16	0.01	0	1.61	-0.36
22	172	-0.75	-0.29	0.71	0.04	0	1.16	-0.15
-	-	0	0	0.71	0.04	0	1.16	-0.15
22	173	0	0	1.6	0.05	0	1.5	0
-	-	0.75	0.29	1.6	0.05	0	1.5	0
22	174	0.75	0.29	2.28	0.05	0	1.85	0
-	-	1.51	0.59	2.28	0.05	0	1.85	0
22	175	1.51	0.59	2.72	0.04	0	2.13	0
-	-	2.26	0.88	2.72	0.04	0	2.13	0
22	176	2.26	0.88	2.63	0.04	0	2.28	0

-	-	3.01	1.17	2.63	0.04	0	2.28	0
23	177	-3.01	-1.17	-7.4	0	-0.07	0	-7.34
-	-	-2.26	-0.88	-7.4	0	-0.07	0	-7.34
23	178	-2.26	-0.88	-2.99	0	-0.05	0.34	-2.79
-	-	-1.51	-0.59	-2.99	0	-0.05	0.34	-2.79
23	179	-1.51	-0.59	0.26	0	-0.03	2.21	-0.37
-	-	-0.75	-0.29	0.26	0	-0.03	2.21	-0.37
23	180	-0.75	-0.29	0.76	0	0	1.29	-0.15
-	-	0	0	0.76	0	0	1.29	-0.15
23	181	0	0	1.63	0.02	0	1.49	0
-	-	0.75	0.29	1.63	0.02	0	1.49	0
23	182	0.75	0.29	2.3	0.04	0	1.84	0
-	-	1.51	0.59	2.3	0.04	0	1.84	0
23	183	1.51	0.59	2.74	0.04	0	2.15	0
-	-	2.26	0.88	2.74	0.04	0	2.15	0
23	184	2.26	0.88	2.7	0.04	0	2.3	0
-	-	3.01	1.17	2.7	0.04	0	2.3	0
24	185	-3.01	-1.17	-7.49	0	-0.05	0	-7.62
-	-	-2.26	-0.88	-7.49	0	-0.05	0	-7.62
24	186	-2.26	-0.88	-3.14	0	-0.04	0.32	-3.06
-	-	-1.51	-0.59	-3.14	0	-0.04	0.32	-3.06
24	187	-1.51	-0.59	0.29	0	-0.03	1.58	-0.57
-	-	-0.75	-0.29	0.29	0	-0.03	1.58	-0.57
24	188	-0.75	-0.29	0.82	0	-0.01	1.51	-0.16
-	-	0	0	0.82	0	-0.01	1.51	-0.16
24	189	0	0	1.66	0.01	0	1.5	0
-	-	0.75	0.29	1.66	0.01	0	1.5	0
24	190	0.75	0.29	2.32	0.03	0	1.83	0
-	-	1.51	0.59	2.32	0.03	0	1.83	0
24	191	1.51	0.59	2.76	0.04	0	2.18	0
-	-	2.26	0.88	2.76	0.04	0	2.18	0
24	192	2.26	0.88	2.78	0.05	0	2.32	0
-	-	3.01	1.17	2.78	0.05	0	2.32	0
25	193	-3.01	-1.17	-7.57	0	-0.05	0	-7.16
-	-	-2.26	-0.88	-7.57	0	-0.05	0	-7.16
25	194	-2.26	-0.88	-3.26	0	-0.04	0.06	-3.3
-	-	-1.51	-0.59	-3.26	0	-0.04	0.06	-3.3
25	195	-1.51	-0.59	0.26	0	-0.03	2.07	-0.77
-	-	-0.75	-0.29	0.26	0	-0.03	2.07	-0.77
25	196	-0.75	-0.29	0.91	0	-0.01	1.62	-0.17
-	-	0	0	0.91	0	-0.01	1.62	-0.17
25	197	0	0	1.69	0.01	0	1.53	0
-	-	0.75	0.29	1.69	0.01	0	1.53	0
25	198	0.75	0.29	2.34	0.03	0	1.83	0
-	-	1.51	0.59	2.34	0.03	0	1.83	0
25	199	1.51	0.59	2.78	0.05	0	2.2	0

-	-	2.26	0.88	2.78	0.05	0	2.2	0
25	200	2.26	0.88	2.86	0.05	0	2.36	0
-	-	3.01	1.17	2.86	0.05	0	2.36	0
26	201	-3.01	-1.17	-7.62	0	-0.08	0	-7.65
-	-	-2.26	-0.88	-7.62	0	-0.08	0	-7.65
26	202	-2.26	-0.88	-3.37	0	-0.06	0	-3.53
-	-	-1.51	-0.59	-3.37	0	-0.06	0	-3.53
26	203	-1.51	-0.59	0.15	0	-0.04	1.51	-0.96
-	-	-0.75	-0.29	0.15	0	-0.04	1.51	-0.96
26	204	-0.75	-0.29	1.03	0	-0.01	1.83	-0.17
-	-	0	0	1.03	0	-0.01	1.83	-0.17
26	205	0	0	1.71	0.02	0	1.55	-0.01
-	-	0.75	0.29	1.71	0.02	0	1.55	-0.01
26	206	0.75	0.29	2.36	0.05	0	1.85	0
-	-	1.51	0.59	2.36	0.05	0	1.85	0
26	207	1.51	0.59	2.8	0.06	0	2.22	0
-	-	2.26	0.88	2.8	0.06	0	2.22	0
26	208	2.26	0.88	2.94	0.06	0	2.42	0
-	-	3.01	1.17	2.94	0.06	0	2.42	0
27	209	-3.01	-1.17	-7.66	0	-0.11	0	-6.95
-	-	-2.26	-0.88	-7.66	0	-0.11	0	-6.95
27	210	-2.26	-0.88	-3.48	0	-0.11	0.1	-3.61
-	-	-1.51	-0.59	-3.48	0	-0.11	0.1	-3.61
27	211	-1.51	-0.59	-0.03	0	-0.07	1.14	-1.17
-	-	-0.75	-0.29	-0.03	0	-0.07	1.14	-1.17
27	212	-0.75	-0.29	1.2	0.03	0	2.1	-0.18
-	-	0	0	1.2	0.03	0	2.1	-0.18
27	213	0	0	1.73	0.06	0	1.56	-0.01
-	-	0.75	0.29	1.73	0.06	0	1.56	-0.01
27	214	0.75	0.29	2.38	0.07	0	1.88	0
-	-	1.51	0.59	2.38	0.07	0	1.88	0
27	215	1.51	0.59	2.83	0.07	0	2.23	0
-	-	2.26	0.88	2.83	0.07	0	2.23	0
27	216	2.26	0.88	3.03	0.07	0	2.53	0
-	-	3.01	1.17	3.03	0.07	0	2.53	0
28	217	-3.01	-1.17	-7.65	0	-0.14	0	-6.57
-	-	-2.26	-0.88	-7.65	0	-0.14	0	-6.57
28	218	-2.26	-0.88	-3.6	0	-0.15	0	-3.83
-	-	-1.51	-0.59	-3.6	0	-0.15	0	-3.83
28	219	-1.51	-0.59	-0.19	0	-0.2	0.82	-1.42
-	-	-0.75	-0.29	-0.19	0	-0.2	0.82	-1.42
28	220	-0.75	-0.29	1.31	0.16	0	2.36	-0.19
-	-	0	0	1.31	0.16	0	2.36	-0.19
28	221	0	0	1.76	0.11	0	1.57	-0.01
-	-	0.75	0.29	1.76	0.11	0	1.57	-0.01
28	222	0.75	0.29	2.4	0.08	0	1.94	0

-	-	1.51	0.59	2.4	0.08	0	1.94	0
28	223	1.51	0.59	2.86	0.07	0	2.25	0
-	-	2.26	0.88	2.86	0.07	0	2.25	0
28	224	2.26	0.88	3.11	0.07	0	2.67	0
-	-	3.01	1.17	3.11	0.07	0	2.67	0
29	225	-3.01	-1.17	-7.59	0	-0.15	0	-6.05
-	-	-2.26	-0.88	-7.59	0	-0.15	0	-6.05
29	226	-2.26	-0.88	-3.75	0	-0.18	0	-4.28
-	-	-1.51	-0.59	-3.75	0	-0.18	0	-4.28
29	227	-1.51	-0.59	-0.31	0	-0.24	0.68	-1.71
-	-	-0.75	-0.29	-0.31	0	-0.24	0.68	-1.71
29	228	-0.75	-0.29	1.36	0.2	0	2.76	-0.2
-	-	0	0	1.36	0.2	0	2.76	-0.2
29	229	0	0	1.8	0.14	0	1.59	-0.02
-	-	0.75	0.29	1.8	0.14	0	1.59	-0.02
29	230	0.75	0.29	2.42	0.1	0	2.01	0
-	-	1.51	0.59	2.42	0.1	0	2.01	0
29	231	1.51	0.59	2.89	0.08	0	2.28	0
-	-	2.26	0.88	2.89	0.08	0	2.28	0
29	232	2.26	0.88	3.18	0.07	0	2.81	0
-	-	3.01	1.17	3.18	0.07	0	2.81	0
30	233	-3.01	-1.17	-7.5	0	-0.17	0	-5.83
-	-	-2.26	-0.88	-7.5	0	-0.17	0	-5.83
30	234	-2.26	-0.88	-3.92	0	-0.18	0	-4.75
-	-	-1.51	-0.59	-3.92	0	-0.18	0	-4.75
30	235	-1.51	-0.59	-0.51	0	-0.2	0.7	-1.47
-	-	-0.75	-0.29	-0.51	0	-0.2	0.7	-1.47
30	236	-0.75	-0.29	1.47	0.17	0	2.16	-0.21
-	-	0	0	1.47	0.17	0	2.16	-0.21
30	237	0	0	1.83	0.12	0	1.67	-0.03
-	-	0.75	0.29	1.83	0.12	0	1.67	-0.03
30	238	0.75	0.29	2.45	0.1	0	2.06	0
-	-	1.51	0.59	2.45	0.1	0	2.06	0
30	239	1.51	0.59	2.92	0.08	0	2.31	0
-	-	2.26	0.88	2.92	0.08	0	2.31	0
30	240	2.26	0.88	3.27	0.08	0	2.89	0
-	-	3.01	1.17	3.27	0.08	0	2.89	0
31	241	-3.01	-1.17	-7.35	0	-0.24	0	-5.62
-	-	-2.26	-0.88	-7.35	0	-0.24	0	-5.62
31	242	-2.26	-0.88	-4.12	0	-0.11	0	-4.64
-	-	-1.51	-0.59	-4.12	0	-0.11	0	-4.64
31	243	-1.51	-0.59	-0.8	0.02	-0.07	0.61	-1.35
-	-	-0.75	-0.29	-0.8	0.02	-0.07	0.61	-1.35
31	244	-0.75	-0.29	1.62	0.06	0	2.67	-0.23
-	-	0	0	1.62	0.06	0	2.67	-0.23
31	245	0	0	1.85	0.09	0	1.84	-0.03

-	-	0.75	0.29	1.85	0.09	0	1.84	-0.03
31	246	0.75	0.29	2.48	0.09	0	2.05	0
-	-	1.51	0.59	2.48	0.09	0	2.05	0
31	247	1.51	0.59	2.95	0.08	0	2.34	0
-	-	2.26	0.88	2.95	0.08	0	2.34	0
31	248	2.26	0.88	3.35	0.08	0	2.91	0
-	-	3.01	1.17	3.35	0.08	0	2.91	0
32	249	-3.01	-1.17	-7.13	0	-0.38	0	-5.56
-	-	-2.26	-0.88	-7.13	0	-0.38	0	-5.56
32	250	-2.26	-0.88	-4.37	0.11	-0.07	0	-4.28
-	-	-1.51	-0.59	-4.37	0.11	-0.07	0	-4.28
32	251	-1.51	-0.59	-1.03	0.06	-0.04	0.52	-1.65
-	-	-0.75	-0.29	-1.03	0.06	-0.04	0.52	-1.65
32	252	-0.75	-0.29	1.7	0.04	-0.01	2.93	-0.24
-	-	0	0	1.7	0.04	-0.01	2.93	-0.24
32	253	0	0	1.89	0.06	0	2.01	-0.04
-	-	0.75	0.29	1.89	0.06	0	2.01	-0.04
32	254	0.75	0.29	2.52	0.07	0	2.04	0
-	-	1.51	0.59	2.52	0.07	0	2.04	0
32	255	1.51	0.59	2.98	0.08	0	2.37	0
-	-	2.26	0.88	2.98	0.08	0	2.37	0
32	256	2.26	0.88	3.44	0.08	0	2.91	0
-	-	3.01	1.17	3.44	0.08	0	2.91	0
33	257	-3.01	-1.17	-6.97	0	-0.41	0	-5.44
-	-	-2.26	-0.88	-6.97	0	-0.41	0	-5.44
33	258	-2.26	-0.88	-4.54	0.13	-0.05	0	-4.88
-	-	-1.51	-0.59	-4.54	0.13	-0.05	0	-4.88
33	259	-1.51	-0.59	-1.24	0.08	-0.03	0.4	-1.95
-	-	-0.75	-0.29	-1.24	0.08	-0.03	0.4	-1.95
33	260	-0.75	-0.29	1.71	0.05	-0.01	2.45	-0.26
-	-	0	0	1.71	0.05	-0.01	2.45	-0.26
33	261	0	0	1.95	0.04	0	2.13	-0.05
-	-	0.75	0.29	1.95	0.04	0	2.13	-0.05
33	262	0.75	0.29	2.55	0.06	0	2.04	0
-	-	1.51	0.59	2.55	0.06	0	2.04	0
33	263	1.51	0.59	3.02	0.07	0	2.41	0
-	-	2.26	0.88	3.02	0.07	0	2.41	0
33	264	2.26	0.88	3.52	0.07	0	2.91	0
-	-	3.01	1.17	3.52	0.07	0	2.91	0
34	265	-3.01	-1.17	-6.88	0	-0.33	0	-5.37
-	-	-2.26	-0.88	-6.88	0	-0.33	0	-5.37
34	266	-2.26	-0.88	-4.62	0.09	-0.05	0	-4.33
-	-	-1.51	-0.59	-4.62	0.09	-0.05	0	-4.33
34	267	-1.51	-0.59	-1.42	0.05	-0.03	0.34	-2.21
-	-	-0.75	-0.29	-1.42	0.05	-0.03	0.34	-2.21
34	268	-0.75	-0.29	1.66	0.04	-0.01	2.83	-0.27

-	-	0	0	1.66	0.04	-0.01	2.83	-0.27
34	269	0	0	2.03	0.04	0	2.31	-0.06
-	-	0.75	0.29	2.03	0.04	0	2.31	-0.06
34	270	0.75	0.29	2.58	0.06	0	2.06	0
-	-	1.51	0.59	2.58	0.06	0	2.06	0
34	271	1.51	0.59	3.05	0.07	0	2.44	0
-	-	2.26	0.88	3.05	0.07	0	2.44	0
34	272	2.26	0.88	3.61	0.08	0	2.93	0
-	-	3.01	1.17	3.61	0.08	0	2.93	0
35	273	-3.01	-1.17	-6.69	0	-0.17	0	-5.21
-	-	-2.26	-0.88	-6.69	0	-0.17	0	-5.21
35	274	-2.26	-0.88	-4.78	0	-0.09	0	-4.88
-	-	-1.51	-0.59	-4.78	0	-0.09	0	-4.88
35	275	-1.51	-0.59	-1.59	0.01	-0.05	0.37	-2.35
-	-	-0.75	-0.29	-1.59	0.01	-0.05	0.37	-2.35
35	276	-0.75	-0.29	1.53	0.02	-0.02	2.53	-0.29
-	-	0	0	1.53	0.02	-0.02	2.53	-0.29
35	277	0	0	2.14	0.04	0	2.47	-0.07
-	-	0.75	0.29	2.14	0.04	0	2.47	-0.07
35	278	0.75	0.29	2.6	0.07	0	2.07	0
-	-	1.51	0.59	2.6	0.07	0	2.07	0
35	279	1.51	0.59	3.09	0.09	0	2.47	0
-	-	2.26	0.88	3.09	0.09	0	2.47	0
35	280	2.26	0.88	3.7	0.1	0	3.01	0
-	-	3.01	1.17	3.7	0.1	0	3.01	0
36	281	-3.01	-1.17	-6.47	0	-0.12	0	-4.95
-	-	-2.26	-0.88	-6.47	0	-0.12	0	-4.95
36	282	-2.26	-0.88	-4.95	0	-0.12	0	-4.48
-	-	-1.51	-0.59	-4.95	0	-0.12	0	-4.48
36	283	-1.51	-0.59	-1.75	0	-0.1	0.28	-2.71
-	-	-0.75	-0.29	-1.75	0	-0.1	0.28	-2.71
36	284	-0.75	-0.29	1.32	0	-0.05	1.89	-0.34
-	-	0	0	1.32	0	-0.05	1.89	-0.34
36	285	0	0	2.29	0.06	0	2.83	-0.08
-	-	0.75	0.29	2.29	0.06	0	2.83	-0.08
36	286	0.75	0.29	2.63	0.1	0	2.08	0
-	-	1.51	0.59	2.63	0.1	0	2.08	0
36	287	1.51	0.59	3.13	0.11	0	2.5	0
-	-	2.26	0.88	3.13	0.11	0	2.5	0
36	288	2.26	0.88	3.79	0.11	0	3.14	0
-	-	3.01	1.17	3.79	0.11	0	3.14	0
37	289	-3.01	-1.17	-6.3	0	-0.12	0	-4.7
-	-	-2.26	-0.88	-6.3	0	-0.12	0	-4.7
37	290	-2.26	-0.88	-5.03	0	-0.12	0	-4.15
-	-	-1.51	-0.59	-5.03	0	-0.12	0	-4.15
37	291	-1.51	-0.59	-1.92	0	-0.14	0.22	-3.06

-	-	-0.75	-0.29	-1.92	0	-0.14	0.22	-3.06
37	292	-0.75	-0.29	1.13	0	-0.18	1.53	-0.6
-	-	0	0	1.13	0	-0.18	1.53	-0.6
37	293	0	0	2.41	0.18	0	2.96	-0.09
-	-	0.75	0.29	2.41	0.18	0	2.96	-0.09
37	294	0.75	0.29	2.66	0.14	0	2.1	0
-	-	1.51	0.59	2.66	0.14	0	2.1	0
37	295	1.51	0.59	3.18	0.13	0	2.53	0
-	-	2.26	0.88	3.18	0.13	0	2.53	0
37	296	2.26	0.88	3.88	0.12	0	3.29	0
-	-	3.01	1.17	3.88	0.12	0	3.29	0
38	297	-3.01	-1.17	-6.15	0	-0.12	0	-4.49
-	-	-2.26	-0.88	-6.15	0	-0.12	0	-4.49
38	298	-2.26	-0.88	-5.05	0	-0.14	0	-3.9
-	-	-1.51	-0.59	-5.05	0	-0.14	0	-3.9
38	299	-1.51	-0.59	-2.11	0	-0.17	0.16	-3.43
-	-	-0.75	-0.29	-2.11	0	-0.17	0.16	-3.43
38	300	-0.75	-0.29	0.99	0	-0.22	1.33	-0.9
-	-	0	0	0.99	0	-0.22	1.33	-0.9
38	301	0	0	2.44	0.22	0	3.45	-0.1
-	-	0.75	0.29	2.44	0.22	0	3.45	-0.1
38	302	0.75	0.29	2.69	0.17	0	2.15	0
-	-	1.51	0.59	2.69	0.17	0	2.15	0
38	303	1.51	0.59	3.22	0.14	0	2.59	0
-	-	2.26	0.88	3.22	0.14	0	2.59	0
38	304	2.26	0.88	3.96	0.12	0	3.45	0
-	-	3.01	1.17	3.96	0.12	0	3.45	0
39	305	-3.01	-1.17	-6.02	0	-0.16	0	-4.39
-	-	-2.26	-0.88	-6.02	0	-0.16	0	-4.39
39	306	-2.26	-0.88	-5	0	-0.15	0	-3.7
-	-	-1.51	-0.59	-5	0	-0.15	0	-3.7
39	307	-1.51	-0.59	-2.32	0	-0.15	0.12	-4.06
-	-	-0.75	-0.29	-2.32	0	-0.15	0.12	-4.06
39	308	-0.75	-0.29	0.77	0.01	-0.18	0.99	-0.72
-	-	0	0	0.77	0.01	-0.18	0.99	-0.72
39	309	0	0	2.54	0.2	0	3.51	-0.12
-	-	0.75	0.29	2.54	0.2	0	3.51	-0.12
39	310	0.75	0.29	2.73	0.16	0	2.25	0
-	-	1.51	0.59	2.73	0.16	0	2.25	0
39	311	1.51	0.59	3.27	0.14	0	2.64	0
-	-	2.26	0.88	3.27	0.14	0	2.64	0
39	312	2.26	0.88	4.05	0.13	0	3.57	0
-	-	3.01	1.17	4.05	0.13	0	3.57	0
40	313	-3.01	-1.17	-5.91	0	-0.22	0	-4.32
-	-	-2.26	-0.88	-5.91	0	-0.22	0	-4.32
40	314	-2.26	-0.88	-4.89	0	-0.19	0	-3.55

-	-	-1.51	-0.59	-4.89	0	-0.19	0	-3.55
40	315	-1.51	-0.59	-2.57	0.02	-0.08	0.08	-3.94
-	-	-0.75	-0.29	-2.57	0.02	-0.08	0.08	-3.94
40	316	-0.75	-0.29	0.46	0.05	-0.05	0.74	-0.61
-	-	0	0	0.46	0.05	-0.05	0.74	-0.61
40	317	0	0	2.69	0.1	0	3.26	-0.14
-	-	0.75	0.29	2.69	0.1	0	3.26	-0.14
40	318	0.75	0.29	2.76	0.13	0	2.38	0
-	-	1.51	0.59	2.76	0.13	0	2.38	0
40	319	1.51	0.59	3.32	0.13	0	2.67	0
-	-	2.26	0.88	3.32	0.13	0	2.67	0
40	320	2.26	0.88	4.14	0.13	0	3.59	0
-	-	3.01	1.17	4.14	0.13	0	3.59	0
41	321	-3.01	-1.17	-5.8	0	-0.27	0	-4.31
-	-	-2.26	-0.88	-5.8	0	-0.27	0	-4.31
41	322	-2.26	-0.88	-4.71	0	-0.3	0	-3.29
-	-	-1.51	-0.59	-4.71	0	-0.3	0	-3.29
41	323	-1.51	-0.59	-2.86	0.15	-0.05	0.05	-3.86
-	-	-0.75	-0.29	-2.86	0.15	-0.05	0.05	-3.86
41	324	-0.75	-0.29	0.2	0.09	-0.01	0.52	-0.98
-	-	0	0	0.2	0.09	-0.01	0.52	-0.98
41	325	0	0	2.76	0.08	0	3.63	-0.16
-	-	0.75	0.29	2.76	0.08	0	3.63	-0.16
41	326	0.75	0.29	2.8	0.09	0	2.52	0
-	-	1.51	0.59	2.8	0.09	0	2.52	0
41	327	1.51	0.59	3.37	0.11	0	2.7	0
-	-	2.26	0.88	3.37	0.11	0	2.7	0
41	328	2.26	0.88	4.23	0.11	0	3.54	0
-	-	3.01	1.17	4.23	0.11	0	3.54	0
42	329	-3.01	-1.17	-5.7	0	-0.28	0	-4.33
-	-	-2.26	-0.88	-5.7	0	-0.28	0	-4.33
42	330	-2.26	-0.88	-4.58	0	-0.31	0	-3.13
-	-	-1.51	-0.59	-4.58	0	-0.31	0	-3.13
42	331	-1.51	-0.59	-3.07	0.18	-0.03	0.02	-3.24
-	-	-0.75	-0.29	-3.07	0.18	-0.03	0.02	-3.24
42	332	-0.75	-0.29	-0.02	0.11	-0.01	0.56	-1.19
-	-	0	0	-0.02	0.11	-0.01	0.56	-1.19
42	333	0	0	2.77	0.08	0	3.1	-0.18
-	-	0.75	0.29	2.77	0.08	0	3.1	-0.18
42	334	0.75	0.29	2.86	0.08	0	2.65	0
-	-	1.51	0.59	2.86	0.08	0	2.65	0
42	335	1.51	0.59	3.42	0.09	0	2.76	0
-	-	2.26	0.88	3.42	0.09	0	2.76	0
42	336	2.26	0.88	4.32	0.09	0	3.5	0
-	-	3.01	1.17	4.32	0.09	0	3.5	0
43	337	-3.01	-1.17	-5.6	0	-0.24	0	-4.41

-	-	-2.26	-0.88	-5.6	0	-0.24	0	-4.41
43	338	-2.26	-0.88	-4.51	0	-0.27	0	-2.97
-	-	-1.51	-0.59	-4.51	0	-0.27	0	-2.97
43	339	-1.51	-0.59	-3.2	0.13	-0.03	0	-3.63
-	-	-0.75	-0.29	-3.2	0.13	-0.03	0	-3.63
43	340	-0.75	-0.29	-0.23	0.08	-0.01	0.49	-1.38
-	-	0	0	-0.23	0.08	-0.01	0.49	-1.38
43	341	0	0	2.71	0.07	0	3.72	-0.2
-	-	0.75	0.29	2.71	0.07	0	3.72	-0.2
43	342	0.75	0.29	2.95	0.08	0	2.8	0
-	-	1.51	0.59	2.95	0.08	0	2.8	0
43	343	1.51	0.59	3.47	0.09	0	2.82	0
-	-	2.26	0.88	3.47	0.09	0	2.82	0
43	344	2.26	0.88	4.42	0.1	0	3.55	0
-	-	3.01	1.17	4.42	0.1	0	3.55	0
44	345	-3.01	-1.17	-5.51	0	-0.19	0	-4.38
-	-	-2.26	-0.88	-5.51	0	-0.19	0	-4.38
44	346	-2.26	-0.88	-4.35	0	-0.15	0	-2.8
-	-	-1.51	-0.59	-4.35	0	-0.15	0	-2.8
44	347	-1.51	-0.59	-3.4	0	-0.05	0	-4.22
-	-	-0.75	-0.29	-3.4	0	-0.05	0	-4.22
44	348	-0.75	-0.29	-0.42	0.04	-0.02	0.48	-1.77
-	-	0	0	-0.42	0.04	-0.02	0.48	-1.77
44	349	0	0	2.58	0.05	0	2.98	-0.23
-	-	0.75	0.29	2.58	0.05	0	2.98	-0.23
44	350	0.75	0.29	3.06	0.08	0	3.1	0
-	-	1.51	0.59	3.06	0.08	0	3.1	0
44	351	1.51	0.59	3.52	0.11	0	2.85	0
-	-	2.26	0.88	3.52	0.11	0	2.85	0
44	352	2.26	0.88	4.51	0.12	0	3.65	0
-	-	3.01	1.17	4.51	0.12	0	3.65	0
45	353	-3.01	-1.17	-5.41	0	-0.13	0	-4.14
-	-	-2.26	-0.88	-5.41	0	-0.13	0	-4.14
45	354	-2.26	-0.88	-4.17	0	-0.12	0	-2.8
-	-	-1.51	-0.59	-4.17	0	-0.12	0	-2.8
45	355	-1.51	-0.59	-3.59	0	-0.1	0	-3.84
-	-	-0.75	-0.29	-3.59	0	-0.1	0	-3.84
45	356	-0.75	-0.29	-0.6	0	-0.06	0.34	-2
-	-	0	0	-0.6	0	-0.06	0.34	-2
45	357	0	0	2.37	0.02	-0.03	2.57	-0.27
-	-	0.75	0.29	2.37	0.02	-0.03	2.57	-0.27
45	358	0.75	0.29	3.22	0.1	0	3.15	0
-	-	1.51	0.59	3.22	0.1	0	3.15	0
45	359	1.51	0.59	3.56	0.15	0	2.85	0
-	-	2.26	0.88	3.56	0.15	0	2.85	0
45	360	2.26	0.88	4.62	0.16	0	3.77	0

-	-	3.01	1.17	4.62	0.16	0	3.77	0
46	361	-3.01	-1.17	-5.31	0	-0.1	0	-3.88
-	-	-2.26	-0.88	-5.31	0	-0.1	0	-3.88
46	362	-2.26	-0.88	-4.04	0	-0.11	0	-2.83
-	-	-1.51	-0.59	-4.04	0	-0.11	0	-2.83
46	363	-1.51	-0.59	-3.71	0	-0.11	0	-3.36
-	-	-0.75	-0.29	-3.71	0	-0.11	0	-3.36
46	364	-0.75	-0.29	-0.79	0	-0.12	0.29	-2.41
-	-	0	0	-0.79	0	-0.12	0.29	-2.41
46	365	0	0	2.16	0.01	-0.15	2.24	-0.31
-	-	0.75	0.29	2.16	0.01	-0.15	2.24	-0.31
46	366	0.75	0.29	3.35	0.22	0	3.54	0
-	-	1.51	0.59	3.35	0.22	0	3.54	0
46	367	1.51	0.59	3.61	0.19	0	2.82	0
-	-	2.26	0.88	3.61	0.19	0	2.82	0
46	368	2.26	0.88	4.71	0.18	0	3.96	0
-	-	3.01	1.17	4.71	0.18	0	3.96	0
47	369	-3.01	-1.17	-5.2	0	-0.11	0	-3.71
-	-	-2.26	-0.88	-5.2	0	-0.11	0	-3.71
47	370	-2.26	-0.88	-3.93	0	-0.11	0	-2.85
-	-	-1.51	-0.59	-3.93	0	-0.11	0	-2.85
47	371	-1.51	-0.59	-3.75	0	-0.12	0	-3.1
-	-	-0.75	-0.29	-3.75	0	-0.12	0	-3.1
47	372	-0.75	-0.29	-1	0	-0.14	0.25	-2.73
-	-	0	0	-1	0	-0.14	0.25	-2.73
47	373	0	0	2.02	0.01	-0.2	1.89	-0.36
-	-	0.75	0.29	2.02	0.01	-0.2	1.89	-0.36
47	374	0.75	0.29	3.39	0.26	0	3.89	0
-	-	1.51	0.59	3.39	0.26	0	3.89	0
47	375	1.51	0.59	3.68	0.21	0	2.8	0
-	-	2.26	0.88	3.68	0.21	0	2.8	0
47	376	2.26	0.88	4.79	0.19	0	4.24	0
-	-	3.01	1.17	4.79	0.19	0	4.24	0
48	377	-3.01	-1.17	-5.1	0	-0.14	0	-3.59
-	-	-2.26	-0.88	-5.1	0	-0.14	0	-3.59
48	378	-2.26	-0.88	-3.85	0	-0.13	0	-2.83
-	-	-1.51	-0.59	-3.85	0	-0.13	0	-2.83
48	379	-1.51	-0.59	-3.74	0	-0.11	0	-2.97
-	-	-0.75	-0.29	-3.74	0	-0.11	0	-2.97
48	380	-0.75	-0.29	-1.23	0	-0.12	0.22	-3.34
-	-	0	0	-1.23	0	-0.12	0.22	-3.34
48	381	0	0	1.8	0.02	-0.16	1.61	-0.44
-	-	0.75	0.29	1.8	0.02	-0.16	1.61	-0.44
48	382	0.75	0.29	3.5	0.25	0	4.09	0
-	-	1.51	0.59	3.5	0.25	0	4.09	0
48	383	1.51	0.59	3.74	0.2	0	2.84	0

-	-	2.26	0.88	3.74	0.2	0	2.84	0
48	384	2.26	0.88	4.89	0.19	0	4.41	0
-	-	3.01	1.17	4.89	0.19	0	4.41	0
49	385	-3.01	-1.17	-5	0	-0.17	0	-3.51
-	-	-2.26	-0.88	-5	0	-0.17	0	-3.51
49	386	-2.26	-0.88	-3.79	0	-0.17	0	-2.79
-	-	-1.51	-0.59	-3.79	0	-0.17	0	-2.79
49	387	-1.51	-0.59	-3.65	0	-0.14	0	-2.72
-	-	-0.75	-0.29	-3.65	0	-0.14	0	-2.72
49	388	-0.75	-0.29	-1.49	0.04	-0.07	0.19	-3.47
-	-	0	0	-1.49	0.04	-0.07	0.19	-3.47
49	389	0	0	1.49	0.07	-0.04	1.26	-0.56
-	-	0.75	0.29	1.49	0.07	-0.04	1.26	-0.56
49	390	0.75	0.29	3.65	0.14	0	3.45	-0.01
-	-	1.51	0.59	3.65	0.14	0	3.45	-0.01
49	391	1.51	0.59	3.79	0.17	0	3	0
-	-	2.26	0.88	3.79	0.17	0	3	0
49	392	2.26	0.88	5	0.17	0	4.36	0
-	-	3.01	1.17	5	0.17	0	4.36	0
50	393	-3.01	-1.17	-4.89	0	-0.19	0	-3.49
-	-	-2.26	-0.88	-4.89	0	-0.19	0	-3.49
50	394	-2.26	-0.88	-3.74	0	-0.2	0	-2.72
-	-	-1.51	-0.59	-3.74	0	-0.2	0	-2.72
50	395	-1.51	-0.59	-3.5	0	-0.25	0	-2.6
-	-	-0.75	-0.29	-3.5	0	-0.25	0	-2.6
50	396	-0.75	-0.29	-1.8	0.16	-0.02	0.17	-3.08
-	-	0	0	-1.8	0.16	-0.02	0.17	-3.08
50	397	0	0	1.23	0.12	0	1.17	-0.47
-	-	0.75	0.29	1.23	0.12	0	1.17	-0.47
50	398	0.75	0.29	3.74	0.11	0	4.17	-0.03
-	-	1.51	0.59	3.74	0.11	0	4.17	-0.03
50	399	1.51	0.59	3.85	0.13	0	3.15	0
-	-	2.26	0.88	3.85	0.13	0	3.15	0
50	400	2.26	0.88	5.1	0.14	0	4.3	0
-	-	3.01	1.17	5.1	0.14	0	4.3	0
51	401	-3.01	-1.17	-4.79	0	-0.19	0	-3.53
-	-	-2.26	-0.88	-4.79	0	-0.19	0	-3.53
51	402	-2.26	-0.88	-3.68	0	-0.21	0	-2.66
-	-	-1.51	-0.59	-3.68	0	-0.21	0	-2.66
51	403	-1.51	-0.59	-3.39	0	-0.26	0	-2.44
-	-	-0.75	-0.29	-3.39	0	-0.26	0	-2.44
51	404	-0.75	-0.29	-2.02	0.2	-0.01	0.15	-2.74
-	-	0	0	-2.02	0.2	-0.01	0.15	-2.74
51	405	0	0	1	0.14	0	0.79	-0.54
-	-	0.75	0.29	1	0.14	0	0.79	-0.54
51	406	0.75	0.29	3.75	0.12	0	3.72	-0.07

-	-	1.51	0.59	3.75	0.12	0	3.72	-0.07
51	407	1.51	0.59	3.93	0.11	0	3.34	0
-	-	2.26	0.88	3.93	0.11	0	3.34	0
51	408	2.26	0.88	5.2	0.11	0	4.28	0
-	-	3.01	1.17	5.2	0.11	0	4.28	0
52	409	-3.01	-1.17	-4.71	0	-0.18	0	-3.56
-	-	-2.26	-0.88	-4.71	0	-0.18	0	-3.56
52	410	-2.26	-0.88	-3.61	0	-0.19	0	-2.63
-	-	-1.51	-0.59	-3.61	0	-0.19	0	-2.63
52	411	-1.51	-0.59	-3.35	0	-0.22	0	-2.3
-	-	-0.75	-0.29	-3.35	0	-0.22	0	-2.3
52	412	-0.75	-0.29	-2.16	0.15	-0.01	0.13	-3.06
-	-	0	0	-2.16	0.15	-0.01	0.13	-3.06
52	413	0	0	0.79	0.12	0	0.5	-0.87
-	-	0.75	0.29	0.79	0.12	0	0.5	-0.87
52	414	0.75	0.29	3.71	0.11	0	4.21	-0.1
-	-	1.51	0.59	3.71	0.11	0	4.21	-0.1
52	415	1.51	0.59	4.04	0.11	0	3.58	0
-	-	2.26	0.88	4.04	0.11	0	3.58	0
52	416	2.26	0.88	5.31	0.1	0	4.31	0
-	-	3.01	1.17	5.31	0.1	0	4.31	0
53	417	-3.01	-1.17	-4.62	0	-0.16	0	-3.51
-	-	-2.26	-0.88	-4.62	0	-0.16	0	-3.51
53	418	-2.26	-0.88	-3.56	0	-0.15	0	-2.59
-	-	-1.51	-0.59	-3.56	0	-0.15	0	-2.59
53	419	-1.51	-0.59	-3.22	0	-0.1	0	-2.14
-	-	-0.75	-0.29	-3.22	0	-0.1	0	-2.14
53	420	-0.75	-0.29	-2.37	0.03	-0.02	0.11	-3.81
-	-	0	0	-2.37	0.03	-0.02	0.11	-3.81
53	421	0	0	0.6	0.06	0	1.05	-1.15
-	-	0.75	0.29	0.6	0.06	0	1.05	-1.15
53	422	0.75	0.29	3.59	0.1	0	3.67	-0.14
-	-	1.51	0.59	3.59	0.1	0	3.67	-0.14
53	423	1.51	0.59	4.17	0.12	0	3.75	0
-	-	2.26	0.88	4.17	0.12	0	3.75	0
53	424	2.26	0.88	5.41	0.13	0	4.37	0
-	-	3.01	1.17	5.41	0.13	0	4.37	0
54	425	-3.01	-1.17	-4.51	0	-0.12	0	-3.37
-	-	-2.26	-0.88	-4.51	0	-0.12	0	-3.37
54	426	-2.26	-0.88	-3.52	0	-0.11	0	-2.53
-	-	-1.51	-0.59	-3.52	0	-0.11	0	-2.53
54	427	-1.51	-0.59	-3.06	0	-0.08	0	-2.08
-	-	-0.75	-0.29	-3.06	0	-0.08	0	-2.08
54	428	-0.75	-0.29	-2.58	0	-0.05	0.1	-3.18
-	-	0	0	-2.58	0	-0.05	0.1	-3.18
54	429	0	0	0.42	0.02	-0.04	0.81	-1.45

-	-	0.75	0.29	0.42	0.02	-0.04	0.81	-1.45
54	430	0.75	0.29	3.4	0.05	0	3.13	-0.19
-	-	1.51	0.59	3.4	0.05	0	3.13	-0.19
54	431	1.51	0.59	4.35	0.15	0	3.95	0
-	-	2.26	0.88	4.35	0.15	0	3.95	0
54	432	2.26	0.88	5.51	0.19	0	4.52	0
-	-	3.01	1.17	5.51	0.19	0	4.52	0
55	433	-3.01	-1.17	-4.42	0	-0.1	0	-3.19
-	-	-2.26	-0.88	-4.42	0	-0.1	0	-3.19
55	434	-2.26	-0.88	-3.47	0	-0.09	0	-2.47
-	-	-1.51	-0.59	-3.47	0	-0.09	0	-2.47
55	435	-1.51	-0.59	-2.95	0	-0.08	0	-2.05
-	-	-0.75	-0.29	-2.95	0	-0.08	0	-2.05
55	436	-0.75	-0.29	-2.71	0	-0.07	0.09	-2.86
-	-	0	0	-2.71	0	-0.07	0.09	-2.86
55	437	0	0	0.23	0.01	-0.08	0.51	-1.65
-	-	0.75	0.29	0.23	0.01	-0.08	0.51	-1.65
55	438	0.75	0.29	3.2	0.03	-0.13	2.88	-0.25
-	-	1.51	0.59	3.2	0.03	-0.13	2.88	-0.25
55	439	1.51	0.59	4.51	0.27	0	4.1	0
-	-	2.26	0.88	4.51	0.27	0	4.1	0
55	440	2.26	0.88	5.6	0.24	0	4.74	0
-	-	3.01	1.17	5.6	0.24	0	4.74	0
56	441	-3.01	-1.17	-4.32	0	-0.09	0	-3.04
-	-	-2.26	-0.88	-4.32	0	-0.09	0	-3.04
56	442	-2.26	-0.88	-3.42	0	-0.09	0	-2.43
-	-	-1.51	-0.59	-3.42	0	-0.09	0	-2.43
56	443	-1.51	-0.59	-2.86	0	-0.08	0	-2.03
-	-	-0.75	-0.29	-2.86	0	-0.08	0	-2.03
56	444	-0.75	-0.29	-2.77	0	-0.08	0.07	-2.65
-	-	0	0	-2.77	0	-0.08	0.07	-2.65
56	445	0	0	0.02	0.01	-0.11	0.31	-2.15
-	-	0.75	0.29	0.02	0.01	-0.11	0.31	-2.15
56	446	0.75	0.29	3.07	0.03	-0.18	2.49	-0.32
-	-	1.51	0.59	3.07	0.03	-0.18	2.49	-0.32
56	447	1.51	0.59	4.58	0.31	0	4.53	0
-	-	2.26	0.88	4.58	0.31	0	4.53	0
56	448	2.26	0.88	5.7	0.28	0	5	0
-	-	3.01	1.17	5.7	0.28	0	5	0
57	449	-3.01	-1.17	-4.23	0	-0.11	0	-2.93
-	-	-2.26	-0.88	-4.23	0	-0.11	0	-2.93
57	450	-2.26	-0.88	-3.37	0	-0.11	0	-2.39
-	-	-1.51	-0.59	-3.37	0	-0.11	0	-2.39
57	451	-1.51	-0.59	-2.8	0	-0.09	0	-2.01
-	-	-0.75	-0.29	-2.8	0	-0.09	0	-2.01
57	452	-0.75	-0.29	-2.76	0	-0.08	0.06	-2.42

-	-	0	0	-2.76	0	-0.08	0.06	-2.42
57	453	0	0	-0.2	0.01	-0.09	0.29	-2.74
-	-	0.75	0.29	-0.2	0.01	-0.09	0.29	-2.74
57	454	0.75	0.29	2.86	0.05	-0.15	2.2	-0.46
-	-	1.51	0.59	2.86	0.05	-0.15	2.2	-0.46
57	455	1.51	0.59	4.71	0.3	0	4.68	0
-	-	2.26	0.88	4.71	0.3	0	4.68	0
57	456	2.26	0.88	5.8	0.27	0	5.23	0
-	-	3.01	1.17	5.8	0.27	0	5.23	0
58	457	-3.01	-1.17	-4.14	0	-0.13	0	-2.86
-	-	-2.26	-0.88	-4.14	0	-0.13	0	-2.86
58	458	-2.26	-0.88	-3.32	0	-0.13	0	-2.36
-	-	-1.51	-0.59	-3.32	0	-0.13	0	-2.36
58	459	-1.51	-0.59	-2.76	0	-0.13	0	-1.99
-	-	-0.75	-0.29	-2.76	0	-0.13	0	-1.99
58	460	-0.75	-0.29	-2.69	0	-0.1	0.05	-2.25
-	-	0	0	-2.69	0	-0.1	0.05	-2.25
58	461	0	0	-0.46	0.05	-0.05	0.27	-2.75
-	-	0.75	0.29	-0.46	0.05	-0.05	0.27	-2.75
58	462	0.75	0.29	2.57	0.08	-0.02	2.1	-0.37
-	-	1.51	0.59	2.57	0.08	-0.02	2.1	-0.37
58	463	1.51	0.59	4.89	0.19	0	4.41	0
-	-	2.26	0.88	4.89	0.19	0	4.41	0
58	464	2.26	0.88	5.91	0.22	0	5.33	0
-	-	3.01	1.17	5.91	0.22	0	5.33	0
59	465	-3.01	-1.17	-4.05	0	-0.13	0	-2.84
-	-	-2.26	-0.88	-4.05	0	-0.13	0	-2.84
59	466	-2.26	-0.88	-3.27	0	-0.14	0	-2.32
-	-	-1.51	-0.59	-3.27	0	-0.14	0	-2.32
59	467	-1.51	-0.59	-2.73	0	-0.16	0	-1.97
-	-	-0.75	-0.29	-2.73	0	-0.16	0	-1.97
59	468	-0.75	-0.29	-2.54	0	-0.2	0.04	-2.02
-	-	0	0	-2.54	0	-0.2	0.04	-2.02
59	469	0	0	-0.77	0.18	-0.01	0.25	-2.38
-	-	0.75	0.29	-0.77	0.18	-0.01	0.25	-2.38
59	470	0.75	0.29	2.32	0.15	0	1.75	-0.44
-	-	1.51	0.59	2.32	0.15	0	1.75	-0.44
59	471	1.51	0.59	5	0.15	0	4.77	0
-	-	2.26	0.88	5	0.15	0	4.77	0
59	472	2.26	0.88	6.02	0.16	0	5.4	0
-	-	3.01	1.17	6.02	0.16	0	5.4	0
60	473	-3.01	-1.17	-3.96	0	-0.12	0	-2.85
-	-	-2.26	-0.88	-3.96	0	-0.12	0	-2.85
60	474	-2.26	-0.88	-3.22	0	-0.14	0	-2.28
-	-	-1.51	-0.59	-3.22	0	-0.14	0	-2.28
60	475	-1.51	-0.59	-2.69	0	-0.17	0	-1.97

-	-	-0.75	-0.29	-2.69	0	-0.17	0	-1.97
60	476	-0.75	-0.29	-2.44	0	-0.22	0.04	-1.9
-	-	0	0	-2.44	0	-0.22	0.04	-1.9
60	477	0	0	-0.99	0.22	0	0.23	-2.82
-	-	0.75	0.29	-0.99	0.22	0	0.23	-2.82
60	478	0.75	0.29	2.11	0.17	0	1.44	-0.54
-	-	1.51	0.59	2.11	0.17	0	1.44	-0.54
60	479	1.51	0.59	5.05	0.14	0	4.36	0
-	-	2.26	0.88	5.05	0.14	0	4.36	0
60	480	2.26	0.88	6.15	0.12	0	5.49	0
-	-	3.01	1.17	6.15	0.12	0	5.49	0
61	481	-3.01	-1.17	-3.88	0	-0.12	0	-2.85
-	-	-2.26	-0.88	-3.88	0	-0.12	0	-2.85
61	482	-2.26	-0.88	-3.18	0	-0.13	0	-2.25
-	-	-1.51	-0.59	-3.18	0	-0.13	0	-2.25
61	483	-1.51	-0.59	-2.66	0	-0.14	0	-1.98
-	-	-0.75	-0.29	-2.66	0	-0.14	0	-1.98
61	484	-0.75	-0.29	-2.41	0	-0.18	0.03	-1.73
-	-	0	0	-2.41	0	-0.18	0.03	-1.73
61	485	0	0	-1.13	0.18	0	0.22	-2.54
-	-	0.75	0.29	-1.13	0.18	0	0.22	-2.54
61	486	0.75	0.29	1.92	0.14	0	1.13	-0.69
-	-	1.51	0.59	1.92	0.14	0	1.13	-0.69
61	487	1.51	0.59	5.03	0.12	0	4.8	0
-	-	2.26	0.88	5.03	0.12	0	4.8	0
61	488	2.26	0.88	6.3	0.12	0	5.56	0
-	-	3.01	1.17	6.3	0.12	0	5.56	0
62	489	-3.01	-1.17	-3.79	0	-0.11	0	-2.8
-	-	-2.26	-0.88	-3.79	0	-0.11	0	-2.8
62	490	-2.26	-0.88	-3.13	0	-0.11	0	-2.21
-	-	-1.51	-0.59	-3.13	0	-0.11	0	-2.21
62	491	-1.51	-0.59	-2.63	0	-0.1	0	-1.97
-	-	-0.75	-0.29	-2.63	0	-0.1	0	-1.97
62	492	-0.75	-0.29	-2.29	0	-0.06	0.02	-1.54
-	-	0	0	-2.29	0	-0.06	0.02	-1.54
62	493	0	0	-1.32	0.05	0	0.21	-2.91
-	-	0.75	0.29	-1.32	0.05	0	0.21	-2.91
62	494	0.75	0.29	1.75	0.1	0	1.84	-0.69
-	-	1.51	0.59	1.75	0.1	0	1.84	-0.69
62	495	1.51	0.59	4.95	0.12	0	4.25	0
-	-	2.26	0.88	4.95	0.12	0	4.25	0
62	496	2.26	0.88	6.47	0.12	0	5.85	0
-	-	3.01	1.17	6.47	0.12	0	5.85	0
63	497	-3.01	-1.17	-3.7	0	-0.1	0	-2.69
-	-	-2.26	-0.88	-3.7	0	-0.1	0	-2.69
63	498	-2.26	-0.88	-3.09	0	-0.09	0	-2.18

-	-	-1.51	-0.59	-3.09	0	-0.09	0	-2.18
63	499	-1.51	-0.59	-2.6	0	-0.07	0	-1.89
-	-	-0.75	-0.29	-2.6	0	-0.07	0	-1.89
63	500	-0.75	-0.29	-2.14	0	-0.04	0.02	-1.52
-	-	0	0	-2.14	0	-0.04	0.02	-1.52
63	501	0	0	-1.53	0.02	-0.02	0.19	-2.52
-	-	0.75	0.29	-1.53	0.02	-0.02	0.19	-2.52
63	502	0.75	0.29	1.59	0.05	-0.01	1.54	-0.72
-	-	1.51	0.59	1.59	0.05	-0.01	1.54	-0.72
63	503	1.51	0.59	4.78	0.09	0	3.94	0
-	-	2.26	0.88	4.78	0.09	0	3.94	0
63	504	2.26	0.88	6.69	0.17	0	6.09	0
-	-	3.01	1.17	6.69	0.17	0	6.09	0
64	505	-3.01	-1.17	-3.61	0	-0.08	0	-2.55
-	-	-2.26	-0.88	-3.61	0	-0.08	0	-2.55
64	506	-2.26	-0.88	-3.05	0	-0.07	0	-2.14
-	-	-1.51	-0.59	-3.05	0	-0.07	0	-2.14
64	507	-1.51	-0.59	-2.58	0	-0.06	0	-1.82
-	-	-0.75	-0.29	-2.58	0	-0.06	0	-1.82
64	508	-0.75	-0.29	-2.03	0	-0.04	0.01	-1.5
-	-	0	0	-2.03	0	-0.04	0.01	-1.5
64	509	0	0	-1.66	0.01	-0.04	0.18	-2.17
-	-	0.75	0.29	-1.66	0.01	-0.04	0.18	-2.17
64	510	0.75	0.29	1.42	0.03	-0.05	1.25	-1.01
-	-	1.51	0.59	1.42	0.03	-0.05	1.25	-1.01
64	511	1.51	0.59	4.62	0.05	-0.09	3.55	-0.04
-	-	2.26	0.88	4.62	0.05	-0.09	3.55	-0.04
64	512	2.26	0.88	6.88	0.33	0	6.57	0
-	-	3.01	1.17	6.88	0.33	0	6.57	0
65	513	-3.01	-1.17	-3.52	0	-0.07	0	-2.41
-	-	-2.26	-0.88	-3.52	0	-0.07	0	-2.41
65	514	-2.26	-0.88	-3.02	0	-0.07	0	-2.12
-	-	-1.51	-0.59	-3.02	0	-0.07	0	-2.12
65	515	-1.51	-0.59	-2.55	0	-0.06	0	-1.77
-	-	-0.75	-0.29	-2.55	0	-0.06	0	-1.77
65	516	-0.75	-0.29	-1.95	0	-0.04	0.01	-1.49
-	-	0	0	-1.95	0	-0.04	0.01	-1.49
65	517	0	0	-1.71	0.01	-0.05	0.17	-2.04
-	-	0.75	0.29	-1.71	0.01	-0.05	0.17	-2.04
65	518	0.75	0.29	1.24	0.03	-0.08	1.02	-1.31
-	-	1.51	0.59	1.24	0.03	-0.08	1.02	-1.31
65	519	1.51	0.59	4.54	0.05	-0.13	3.42	-0.2
-	-	2.26	0.88	4.54	0.05	-0.13	3.42	-0.2
65	520	2.26	0.88	6.97	0.41	0	7.02	0
-	-	3.01	1.17	6.97	0.41	0	7.02	0
66	521	-3.01	-1.17	-3.44	0	-0.08	0	-2.31

-	-	-2.26	-0.88	-3.44	0	-0.08	0	-2.31
66	522	-2.26	-0.88	-2.98	0	-0.08	0	-2.1
-	-	-1.51	-0.59	-2.98	0	-0.08	0	-2.1
66	523	-1.51	-0.59	-2.52	0	-0.07	0	-1.74
-	-	-0.75	-0.29	-2.52	0	-0.07	0	-1.74
66	524	-0.75	-0.29	-1.89	0	-0.06	0.01	-1.47
-	-	0	0	-1.89	0	-0.06	0.01	-1.47
66	525	0	0	-1.7	0.01	-0.04	0.17	-1.74
-	-	0.75	0.29	-1.7	0.01	-0.04	0.17	-1.74
66	526	0.75	0.29	1.03	0.04	-0.06	0.81	-1.92
-	-	1.51	0.59	1.03	0.04	-0.06	0.81	-1.92
66	527	1.51	0.59	4.37	0.07	-0.11	3.3	-0.07
-	-	2.26	0.88	4.37	0.07	-0.11	3.3	-0.07
66	528	2.26	0.88	7.13	0.38	0	7.54	0
-	-	3.01	1.17	7.13	0.38	0	7.54	0
67	529	-3.01	-1.17	-3.35	0	-0.08	0	-2.25
-	-	-2.26	-0.88	-3.35	0	-0.08	0	-2.25
67	530	-2.26	-0.88	-2.95	0	-0.08	0	-2.07
-	-	-1.51	-0.59	-2.95	0	-0.08	0	-2.07
67	531	-1.51	-0.59	-2.48	0	-0.09	0	-1.72
-	-	-0.75	-0.29	-2.48	0	-0.09	0	-1.72
67	532	-0.75	-0.29	-1.85	0	-0.09	0	-1.44
-	-	0	0	-1.85	0	-0.09	0	-1.44
67	533	0	0	-1.62	0	-0.06	0.16	-1.58
-	-	0.75	0.29	-1.62	0	-0.06	0.16	-1.58
67	534	0.75	0.29	0.8	0.07	-0.02	0.62	-2.05
-	-	1.51	0.59	0.8	0.07	-0.02	0.62	-2.05
67	535	1.51	0.59	4.12	0.11	0	3.02	-0.2
-	-	2.26	0.88	4.12	0.11	0	3.02	-0.2
67	536	2.26	0.88	7.35	0.24	0	6.82	0
-	-	3.01	1.17	7.35	0.24	0	6.82	0
68	537	-3.01	-1.17	-3.27	0	-0.08	0	-2.22
-	-	-2.26	-0.88	-3.27	0	-0.08	0	-2.22
68	538	-2.26	-0.88	-2.92	0	-0.08	0	-2.04
-	-	-1.51	-0.59	-2.92	0	-0.08	0	-2.04
68	539	-1.51	-0.59	-2.45	0	-0.1	0	-1.71
-	-	-0.75	-0.29	-2.45	0	-0.1	0	-1.71
68	540	-0.75	-0.29	-1.83	0	-0.12	0	-1.42
-	-	0	0	-1.83	0	-0.12	0	-1.42
68	541	0	0	-1.47	0	-0.17	0.15	-1.42
-	-	0.75	0.29	-1.47	0	-0.17	0.15	-1.42
68	542	0.75	0.29	0.51	0.2	0	0.42	-1.62
-	-	1.51	0.59	0.51	0.2	0	0.42	-1.62
68	543	1.51	0.59	3.92	0.18	0	2.76	-0.25
-	-	2.26	0.88	3.92	0.18	0	2.76	-0.25
68	544	2.26	0.88	7.5	0.17	0	7.65	0

-	-	3.01	1.17	7.5	0.17	0	7.65	0
69	545	-3.01	-1.17	-3.18	0	-0.07	0	-2.2
-	-	-2.26	-0.88	-3.18	0	-0.07	0	-2.2
69	546	-2.26	-0.88	-2.89	0	-0.08	0	-2.01
-	-	-1.51	-0.59	-2.89	0	-0.08	0	-2.01
69	547	-1.51	-0.59	-2.42	0	-0.1	0	-1.72
-	-	-0.75	-0.29	-2.42	0	-0.1	0	-1.72
69	548	-0.75	-0.29	-1.8	0	-0.14	0	-1.41
-	-	0	0	-1.8	0	-0.14	0	-1.41
69	549	0	0	-1.36	0	-0.2	0.14	-1.23
-	-	0.75	0.29	-1.36	0	-0.2	0.14	-1.23
69	550	0.75	0.29	0.31	0.24	0	0.35	-2.2
-	-	1.51	0.59	0.31	0.24	0	0.35	-2.2
69	551	1.51	0.59	3.75	0.18	0	2.46	-0.45
-	-	2.26	0.88	3.75	0.18	0	2.46	-0.45
69	552	2.26	0.88	7.59	0.15	0	6.76	0
-	-	3.01	1.17	7.59	0.15	0	6.76	0
70	553	-3.01	-1.17	-3.11	0	-0.07	0	-2.18
-	-	-2.26	-0.88	-3.11	0	-0.07	0	-2.18
70	554	-2.26	-0.88	-2.86	0	-0.07	0	-1.98
-	-	-1.51	-0.59	-2.86	0	-0.07	0	-1.98
70	555	-1.51	-0.59	-2.4	0	-0.08	0	-1.73
-	-	-0.75	-0.29	-2.4	0	-0.08	0	-1.73
70	556	-0.75	-0.29	-1.76	0	-0.11	0	-1.42
-	-	0	0	-1.76	0	-0.11	0	-1.42
70	557	0	0	-1.31	0	-0.16	0.14	-1.1
-	-	0.75	0.29	-1.31	0	-0.16	0.14	-1.1
70	558	0.75	0.29	0.19	0.2	0	0.34	-1.43
-	-	1.51	0.59	0.19	0.2	0	0.34	-1.43
70	559	1.51	0.59	3.6	0.15	0	2.14	-0.36
-	-	2.26	0.88	3.6	0.15	0	2.14	-0.36
70	560	2.26	0.88	7.65	0.14	0	7.51	0
-	-	3.01	1.17	7.65	0.14	0	7.51	0
71	561	-3.01	-1.17	-3.03	0	-0.07	0	-2.14
-	-	-2.26	-0.88	-3.03	0	-0.07	0	-2.14
71	562	-2.26	-0.88	-2.83	0	-0.07	0	-1.96
-	-	-1.51	-0.59	-2.83	0	-0.07	0	-1.96
71	563	-1.51	-0.59	-2.38	0	-0.07	0	-1.72
-	-	-0.75	-0.29	-2.38	0	-0.07	0	-1.72
71	564	-0.75	-0.29	-1.73	0	-0.06	0	-1.4
-	-	0	0	-1.73	0	-0.06	0	-1.4
71	565	0	0	-1.2	0	-0.03	0.13	-0.92
-	-	0.75	0.29	-1.2	0	-0.03	0.13	-0.92
71	566	0.75	0.29	0.03	0.07	0	0.33	-2.14
-	-	1.51	0.59	0.03	0.07	0	0.33	-2.14
71	567	1.51	0.59	3.48	0.11	0	2.75	-0.47

-	-	2.26	0.88	3.48	0.11	0	2.75	-0.47
71	568	2.26	0.88	7.66	0.11	0	7.29	0
-	-	3.01	1.17	7.66	0.11	0	7.29	0
72	569	-3.01	-1.17	-2.94	0	-0.06	0	-2.05
-	-	-2.26	-0.88	-2.94	0	-0.06	0	-2.05
72	570	-2.26	-0.88	-2.8	0	-0.06	0	-1.93
-	-	-1.51	-0.59	-2.8	0	-0.06	0	-1.93
72	571	-1.51	-0.59	-2.36	0	-0.05	0	-1.68
-	-	-0.75	-0.29	-2.36	0	-0.05	0	-1.68
72	572	-0.75	-0.29	-1.71	0	-0.02	0	-1.34
-	-	0	0	-1.71	0	-0.02	0	-1.34
72	573	0	0	-1.03	0.01	0	0.13	-0.87
-	-	0.75	0.29	-1.03	0.01	0	0.13	-0.87
72	574	0.75	0.29	-0.15	0.04	0	0.32	-1.68
-	-	1.51	0.59	-0.15	0.04	0	0.32	-1.68
72	575	1.51	0.59	3.37	0.06	0	2.7	-0.62
-	-	2.26	0.88	3.37	0.06	0	2.7	-0.62
72	576	2.26	0.88	7.62	0.08	0	6.75	0
-	-	3.01	1.17	7.62	0.08	0	6.75	0
73	577	-3.01	-1.17	-2.86	0	-0.05	0	-1.93
-	-	-2.26	-0.88	-2.86	0	-0.05	0	-1.93
73	578	-2.26	-0.88	-2.78	0	-0.05	0	-1.91
-	-	-1.51	-0.59	-2.78	0	-0.05	0	-1.91
73	579	-1.51	-0.59	-2.34	0	-0.03	0	-1.64
-	-	-0.75	-0.29	-2.34	0	-0.03	0	-1.64
73	580	-0.75	-0.29	-1.69	0	-0.01	0	-1.26
-	-	0	0	-1.69	0	-0.01	0	-1.26
73	581	0	0	-0.91	0.01	0	0.12	-0.84
-	-	0.75	0.29	-0.91	0.01	0	0.12	-0.84
73	582	0.75	0.29	-0.26	0.03	0	0.31	-1.41
-	-	1.51	0.59	-0.26	0.03	0	0.31	-1.41
73	583	1.51	0.59	3.26	0.04	0	2.55	-0.57
-	-	2.26	0.88	3.26	0.04	0	2.55	-0.57
73	584	2.26	0.88	7.57	0.05	0	6.29	0
-	-	3.01	1.17	7.57	0.05	0	6.29	0
74	585	-3.01	-1.17	-2.78	0	-0.05	0	-1.82
-	-	-2.26	-0.88	-2.78	0	-0.05	0	-1.82
74	586	-2.26	-0.88	-2.76	0	-0.04	0	-1.9
-	-	-1.51	-0.59	-2.76	0	-0.04	0	-1.9
74	587	-1.51	-0.59	-2.32	0	-0.03	0	-1.61
-	-	-0.75	-0.29	-2.32	0	-0.03	0	-1.61
74	588	-0.75	-0.29	-1.66	0	-0.01	0	-1.21
-	-	0	0	-1.66	0	-0.01	0	-1.21
74	589	0	0	-0.82	0.01	0	0.12	-0.81
-	-	0.75	0.29	-0.82	0.01	0	0.12	-0.81
74	590	0.75	0.29	-0.29	0.03	0	0.3	-1.08

-	-	1.51	0.59	-0.29	0.03	0	0.3	-1.08
74	591	1.51	0.59	3.14	0.04	0	2.43	-0.67
-	-	2.26	0.88	3.14	0.04	0	2.43	-0.67
74	592	2.26	0.88	7.49	0.05	0	5.98	0
-	-	3.01	1.17	7.49	0.05	0	5.98	0
75	593	-3.01	-1.17	-2.7	0	-0.04	0	-1.72
-	-	-2.26	-0.88	-2.7	0	-0.04	0	-1.72
75	594	-2.26	-0.88	-2.74	0	-0.04	0	-1.89
-	-	-1.51	-0.59	-2.74	0	-0.04	0	-1.89
75	595	-1.51	-0.59	-2.3	0	-0.04	0	-1.59
-	-	-0.75	-0.29	-2.3	0	-0.04	0	-1.59
75	596	-0.75	-0.29	-1.63	0	-0.02	0	-1.18
-	-	0	0	-1.63	0	-0.02	0	-1.18
75	597	0	0	-0.76	0	0	0.11	-0.77
-	-	0.75	0.29	-0.76	0	0	0.11	-0.77
75	598	0.75	0.29	-0.26	0.03	0	0.3	-0.92
-	-	1.51	0.59	-0.26	0.03	0	0.3	-0.92
75	599	1.51	0.59	2.99	0.05	0	2.3	-0.79
-	-	2.26	0.88	2.99	0.05	0	2.3	-0.79
75	600	2.26	0.88	7.4	0.07	0	5.89	0
-	-	3.01	1.17	7.4	0.07	0	5.89	0
76	601	-3.01	-1.17	-2.63	0	-0.04	0	-1.66
-	-	-2.26	-0.88	-2.63	0	-0.04	0	-1.66
76	602	-2.26	-0.88	-2.72	0	-0.04	0	-1.88
-	-	-1.51	-0.59	-2.72	0	-0.04	0	-1.88
76	603	-1.51	-0.59	-2.28	0	-0.05	0	-1.58
-	-	-0.75	-0.29	-2.28	0	-0.05	0	-1.58
76	604	-0.75	-0.29	-1.6	0	-0.05	0	-1.15
-	-	0	0	-1.6	0	-0.05	0	-1.15
76	605	0	0	-0.71	0	-0.04	0.11	-0.74
-	-	0.75	0.29	-0.71	0	-0.04	0.11	-0.74
76	606	0.75	0.29	-0.16	0	-0.01	0.31	-0.7
-	-	1.51	0.59	-0.16	0	-0.01	0.31	-0.7
76	607	1.51	0.59	2.8	0.09	0	2.12	-0.78
-	-	2.26	0.88	2.8	0.09	0	2.12	-0.78
76	608	2.26	0.88	7.29	0.13	0	5.65	0
-	-	3.01	1.17	7.29	0.13	0	5.65	0
77	609	-3.01	-1.17	-2.55	0	-0.04	0	-1.61
-	-	-2.26	-0.88	-2.55	0	-0.04	0	-1.61
77	610	-2.26	-0.88	-2.7	0	-0.04	0	-1.86
-	-	-1.51	-0.59	-2.7	0	-0.04	0	-1.86
77	611	-1.51	-0.59	-2.27	0	-0.05	0	-1.57
-	-	-0.75	-0.29	-2.27	0	-0.05	0	-1.57
77	612	-0.75	-0.29	-1.56	0	-0.06	0	-1.14
-	-	0	0	-1.56	0	-0.06	0	-1.14
77	613	0	0	-0.67	0	-0.09	0.1	-0.71

-	-	0.75	0.29	-0.67	0	-0.09	0.1	-0.71
77	614	0.75	0.29	0.02	0	-0.13	0.43	-0.59
-	-	1.51	0.59	0.02	0	-0.13	0.43	-0.59
77	615	1.51	0.59	2.56	0.22	0	1.89	-0.69
-	-	2.26	0.88	2.56	0.22	0	1.89	-0.69
77	616	2.26	0.88	7.16	0.19	0	5.65	0
-	-	3.01	1.17	7.16	0.19	0	5.65	0
78	617	-3.01	-1.17	-2.48	0	-0.03	0	-1.58
-	-	-2.26	-0.88	-2.48	0	-0.03	0	-1.58
78	618	-2.26	-0.88	-2.68	0	-0.04	0	-1.84
-	-	-1.51	-0.59	-2.68	0	-0.04	0	-1.84
78	619	-1.51	-0.59	-2.25	0	-0.05	0	-1.56
-	-	-0.75	-0.29	-2.25	0	-0.05	0	-1.56
78	620	-0.75	-0.29	-1.54	0	-0.07	0	-1.13
-	-	0	0	-1.54	0	-0.07	0	-1.13
78	621	0	0	-0.63	0	-0.11	0.1	-0.68
-	-	0.75	0.29	-0.63	0	-0.11	0.1	-0.68
78	622	0.75	0.29	0.16	0	-0.18	0.56	-0.55
-	-	1.51	0.59	0.16	0	-0.18	0.56	-0.55
78	623	1.51	0.59	2.4	0.26	0	1.57	-0.6
-	-	2.26	0.88	2.4	0.26	0	1.57	-0.6
78	624	2.26	0.88	7.02	0.22	0	5.68	0
-	-	3.01	1.17	7.02	0.22	0	5.68	0
79	625	-3.01	-1.17	-2.42	0	-0.04	0	-1.56
-	-	-2.26	-0.88	-2.42	0	-0.04	0	-1.56
79	626	-2.26	-0.88	-2.66	0	-0.04	0	-1.83
-	-	-1.51	-0.59	-2.66	0	-0.04	0	-1.83
79	627	-1.51	-0.59	-2.24	0	-0.05	0	-1.56
-	-	-0.75	-0.29	-2.24	0	-0.05	0	-1.56
79	628	-0.75	-0.29	-1.52	0	-0.06	0	-1.12
-	-	0	0	-1.52	0	-0.06	0	-1.12
79	629	0	0	-0.59	0	-0.09	0.1	-0.67
-	-	0.75	0.29	-0.59	0	-0.09	0.1	-0.67
79	630	0.75	0.29	0.23	0	-0.14	0.68	-0.46
-	-	1.51	0.59	0.23	0	-0.14	0.68	-0.46
79	631	1.51	0.59	2.32	0.23	0	1.09	-0.79
-	-	2.26	0.88	2.32	0.23	0	1.09	-0.79
79	632	2.26	0.88	6.87	0.19	0	6.03	0
-	-	3.01	1.17	6.87	0.19	0	6.03	0
80	633	-3.01	-1.17	-2.35	0	-0.04	0	-1.54
-	-	-2.26	-0.88	-2.35	0	-0.04	0	-1.54
80	634	-2.26	-0.88	-2.65	0	-0.04	0	-1.81
-	-	-1.51	-0.59	-2.65	0	-0.04	0	-1.81
80	635	-1.51	-0.59	-2.23	0	-0.04	0	-1.56
-	-	-0.75	-0.29	-2.23	0	-0.04	0	-1.56
80	636	-0.75	-0.29	-1.5	0	-0.05	0	-1.12

-	-	0	0	-1.5	0	-0.05	0	-1.12
80	637	0	0	-0.55	0	-0.05	0.09	-0.65
-	-	0.75	0.29	-0.55	0	-0.05	0.09	-0.65
80	638	0.75	0.29	0.36	0	-0.01	0.81	-0.4
-	-	1.51	0.59	0.36	0	-0.01	0.81	-0.4
80	639	1.51	0.59	2.2	0.1	0	0.54	-0.58
-	-	2.26	0.88	2.2	0.1	0	0.54	-0.58
80	640	2.26	0.88	6.71	0.13	0	6.25	0
-	-	3.01	1.17	6.71	0.13	0	6.25	0
81	641	-3.01	-1.17	-2.29	0	-0.04	0	-1.5
-	-	-2.26	-0.88	-2.29	0	-0.04	0	-1.5
81	642	-2.26	-0.88	-2.63	0	-0.04	0	-1.79
-	-	-1.51	-0.59	-2.63	0	-0.04	0	-1.79
81	643	-1.51	-0.59	-2.21	0	-0.03	0	-1.54
-	-	-0.75	-0.29	-2.21	0	-0.03	0	-1.54
81	644	-0.75	-0.29	-1.47	0	-0.02	0	-1.1
-	-	0	0	-1.47	0	-0.02	0	-1.1
81	645	0	0	-0.52	0	0	0.09	-0.58
-	-	0.75	0.29	-0.52	0	0	0.09	-0.58
81	646	0.75	0.29	0.55	0.03	0	0.79	-0.34
-	-	1.51	0.59	0.55	0.03	0	0.79	-0.34
81	647	1.51	0.59	2.06	0.05	0	0.93	-0.48
-	-	2.26	0.88	2.06	0.05	0	0.93	-0.48
81	648	2.26	0.88	6.52	0.07	0	5.6	0
-	-	3.01	1.17	6.52	0.07	0	5.6	0
82	649	-3.01	-1.17	-2.23	0	-0.04	0	-1.45
-	-	-2.26	-0.88	-2.23	0	-0.04	0	-1.45
82	650	-2.26	-0.88	-2.62	0	-0.03	0	-1.78
-	-	-1.51	-0.59	-2.62	0	-0.03	0	-1.78
82	651	-1.51	-0.59	-2.2	0	-0.02	0	-1.52
-	-	-0.75	-0.29	-2.2	0	-0.02	0	-1.52
82	652	-0.75	-0.29	-1.45	0	-0.01	0	-1.07
-	-	0	0	-1.45	0	-0.01	0	-1.07
82	653	0	0	-0.49	0.01	0	0.09	-0.51
-	-	0.75	0.29	-0.49	0.01	0	0.09	-0.51
82	654	0.75	0.29	0.7	0.02	0	0.77	-0.29
-	-	1.51	0.59	0.7	0.02	0	0.77	-0.29
82	655	1.51	0.59	1.98	0.03	0	1.36	-0.49
-	-	2.26	0.88	1.98	0.03	0	1.36	-0.49
82	656	2.26	0.88	6.31	0.03	0	4.99	0
-	-	3.01	1.17	6.31	0.03	0	4.99	0
83	657	-3.01	-1.17	-2.18	0	-0.03	0	-1.41
-	-	-2.26	-0.88	-2.18	0	-0.03	0	-1.41
83	658	-2.26	-0.88	-2.6	0	-0.03	0	-1.77
-	-	-1.51	-0.59	-2.6	0	-0.03	0	-1.77
83	659	-1.51	-0.59	-2.19	0	-0.02	0	-1.51

-	-	-0.75	-0.29	-2.19	0	-0.02	0	-1.51
83	660	-0.75	-0.29	-1.44	0	-0.01	0	-1.04
-	-	0	0	-1.44	0	-0.01	0	-1.04
83	661	0	0	-0.46	0.01	0	0.09	-0.46
-	-	0.75	0.29	-0.46	0.01	0	0.09	-0.46
83	662	0.75	0.29	0.8	0.02	0	0.76	-0.27
-	-	1.51	0.59	0.8	0.02	0	0.76	-0.27
83	663	1.51	0.59	1.97	0.03	0	1.63	-0.25
-	-	2.26	0.88	1.97	0.03	0	1.63	-0.25
83	664	2.26	0.88	6.09	0.03	0	4.34	0
-	-	3.01	1.17	6.09	0.03	0	4.34	0
84	665	-3.01	-1.17	-2.13	0	-0.03	0	-1.37
-	-	-2.26	-0.88	-2.13	0	-0.03	0	-1.37
84	666	-2.26	-0.88	-2.59	0	-0.02	0	-1.76
-	-	-1.51	-0.59	-2.59	0	-0.02	0	-1.76
84	667	-1.51	-0.59	-2.18	0	-0.02	0	-1.5
-	-	-0.75	-0.29	-2.18	0	-0.02	0	-1.5
84	668	-0.75	-0.29	-1.42	0	-0.01	0	-1.03
-	-	0	0	-1.42	0	-0.01	0	-1.03
84	669	0	0	-0.42	0	0	0.09	-0.43
-	-	0.75	0.29	-0.42	0	0	0.09	-0.43
84	670	0.75	0.29	0.89	0.02	0	0.76	-0.26
-	-	1.51	0.59	0.89	0.02	0	0.76	-0.26
84	671	1.51	0.59	2.02	0.03	0	1.82	-0.1
-	-	2.26	0.88	2.02	0.03	0	1.82	-0.1
84	672	2.26	0.88	5.83	0.04	0	3.87	0
-	-	3.01	1.17	5.83	0.04	0	3.87	0
85	673	-3.01	-1.17	-2.08	0	-0.02	0	-1.33
-	-	-2.26	-0.88	-2.08	0	-0.02	0	-1.33
85	674	-2.26	-0.88	-2.58	0	-0.02	0	-1.75
-	-	-1.51	-0.59	-2.58	0	-0.02	0	-1.75
85	675	-1.51	-0.59	-2.17	0	-0.02	0	-1.49
-	-	-0.75	-0.29	-2.17	0	-0.02	0	-1.49
85	676	-0.75	-0.29	-1.4	0	-0.02	0	-1.01
-	-	0	0	-1.4	0	-0.02	0	-1.01
85	677	0	0	-0.38	0	-0.02	0.08	-0.41
-	-	0.75	0.29	-0.38	0	-0.02	0.08	-0.41
85	678	0.75	0.29	0.95	0	-0.01	0.78	-0.24
-	-	1.51	0.59	0.95	0	-0.01	0.78	-0.24
85	679	1.51	0.59	2.14	0.02	0	1.95	-0.02
-	-	2.26	0.88	2.14	0.02	0	1.95	-0.02
85	680	2.26	0.88	5.52	0.11	0	3.51	0
-	-	3.01	1.17	5.52	0.11	0	3.51	0
86	681	-3.01	-1.17	-2.03	0	-0.02	0	-1.31
-	-	-2.26	-0.88	-2.03	0	-0.02	0	-1.31
86	682	-2.26	-0.88	-2.57	0	-0.02	0	-1.74

-	-	-1.51	-0.59	-2.57	0	-0.02	0	-1.74
86	683	-1.51	-0.59	-2.16	0	-0.02	0	-1.48
-	-	-0.75	-0.29	-2.16	0	-0.02	0	-1.48
86	684	-0.75	-0.29	-1.39	0	-0.03	0	-1
-	-	0	0	-1.39	0	-0.03	0	-1
86	685	0	0	-0.35	0	-0.04	0.08	-0.38
-	-	0.75	0.29	-0.35	0	-0.04	0.08	-0.38
86	686	0.75	0.29	1	0	-0.06	0.81	-0.21
-	-	1.51	0.59	1	0	-0.06	0.81	-0.21
86	687	1.51	0.59	2.34	0	-0.09	2.04	0
-	-	2.26	0.88	2.34	0	-0.09	2.04	0
86	688	2.26	0.88	5.16	0.27	0	3.23	0
-	-	3.01	1.17	5.16	0.27	0	3.23	0
87	689	-3.01	-1.17	-1.99	0	-0.02	0	-1.28
-	-	-2.26	-0.88	-1.99	0	-0.02	0	-1.28
87	690	-2.26	-0.88	-2.56	0	-0.02	0	-1.73
-	-	-1.51	-0.59	-2.56	0	-0.02	0	-1.73
87	691	-1.51	-0.59	-2.16	0	-0.02	0	-1.48
-	-	-0.75	-0.29	-2.16	0	-0.02	0	-1.48
87	692	-0.75	-0.29	-1.38	0	-0.03	0	-0.98
-	-	0	0	-1.38	0	-0.03	0	-0.98
87	693	0	0	-0.32	0	-0.05	0.08	-0.36
-	-	0.75	0.29	-0.32	0	-0.05	0.08	-0.36
87	694	0.75	0.29	1.06	0	-0.08	0.84	-0.18
-	-	1.51	0.59	1.06	0	-0.08	0.84	-0.18
87	695	1.51	0.59	2.47	0	-0.13	2.09	0
-	-	2.26	0.88	2.47	0	-0.13	2.09	0
87	696	2.26	0.88	4.87	0.35	0	3	0
-	-	3.01	1.17	4.87	0.35	0	3	0
88	697	-3.01	-1.17	-1.96	0	-0.02	0	-1.26
-	-	-2.26	-0.88	-1.96	0	-0.02	0	-1.26
88	698	-2.26	-0.88	-2.55	0	-0.02	0	-1.73
-	-	-1.51	-0.59	-2.55	0	-0.02	0	-1.73
88	699	-1.51	-0.59	-2.15	0	-0.02	0	-1.47
-	-	-0.75	-0.29	-2.15	0	-0.02	0	-1.47
88	700	-0.75	-0.29	-1.36	0	-0.03	0	-0.97
-	-	0	0	-1.36	0	-0.03	0	-0.97
88	701	0	0	-0.29	0	-0.04	0.08	-0.33
-	-	0.75	0.29	-0.29	0	-0.04	0.08	-0.33
88	702	0.75	0.29	1.11	0	-0.06	0.88	-0.16
-	-	1.51	0.59	1.11	0	-0.06	0.88	-0.16
88	703	1.51	0.59	2.53	0	-0.1	2.13	0
-	-	2.26	0.88	2.53	0	-0.1	2.13	0
88	704	2.26	0.88	4.67	0.29	0	2.8	0
-	-	3.01	1.17	4.67	0.29	0	2.8	0
89	705	-3.01	-1.17	-1.93	0	-0.02	0	-1.25

-	-	-2.26	-0.88	-1.93	0	-0.02	0	-1.25
89	706	-2.26	-0.88	-2.54	0	-0.02	0	-1.72
-	-	-1.51	-0.59	-2.54	0	-0.02	0	-1.72
89	707	-1.51	-0.59	-2.14	0	-0.02	0	-1.47
-	-	-0.75	-0.29	-2.14	0	-0.02	0	-1.47
89	708	-0.75	-0.29	-1.35	0	-0.03	0	-0.96
-	-	0	0	-1.35	0	-0.03	0	-0.96
89	709	0	0	-0.27	0	-0.03	0.08	-0.31
-	-	0.75	0.29	-0.27	0	-0.03	0.08	-0.31
89	710	0.75	0.29	1.16	0	-0.02	0.91	-0.13
-	-	1.51	0.59	1.16	0	-0.02	0.91	-0.13
89	711	1.51	0.59	2.64	0.01	0	2.14	0
-	-	2.26	0.88	2.64	0.01	0	2.14	0
89	712	2.26	0.88	4.43	0.12	0	2.66	0
-	-	3.01	1.17	4.43	0.12	0	2.66	0
90	713	-3.01	-1.17	-1.9	0	-0.02	0	-1.24
-	-	-2.26	-0.88	-1.9	0	-0.02	0	-1.24
90	714	-2.26	-0.88	-2.53	0	-0.02	0	-1.71
-	-	-1.51	-0.59	-2.53	0	-0.02	0	-1.71
90	715	-1.51	-0.59	-2.14	0	-0.02	0	-1.46
-	-	-0.75	-0.29	-2.14	0	-0.02	0	-1.46
90	716	-0.75	-0.29	-1.34	0	-0.02	0	-0.96
-	-	0	0	-1.34	0	-0.02	0	-0.96
90	717	0	0	-0.25	0	-0.01	0.08	-0.29
-	-	0.75	0.29	-0.25	0	-0.01	0.08	-0.29
90	718	0.75	0.29	1.19	0.01	0	0.94	-0.11
-	-	1.51	0.59	1.19	0.01	0	0.94	-0.11
90	719	1.51	0.59	2.82	0.03	0	2.15	0
-	-	2.26	0.88	2.82	0.03	0	2.15	0
90	720	2.26	0.88	4.14	0.04	0	2.54	0
-	-	3.01	1.17	4.14	0.04	0	2.54	0
91	721	-3.01	-1.17	-1.87	0	-0.01	0	-1.23
-	-	-2.26	-0.88	-1.87	0	-0.01	0	-1.23
91	722	-2.26	-0.88	-2.52	0	-0.01	0	-1.7
-	-	-1.51	-0.59	-2.52	0	-0.01	0	-1.7
91	723	-1.51	-0.59	-2.13	0	-0.01	0	-1.46
-	-	-0.75	-0.29	-2.13	0	-0.01	0	-1.46
91	724	-0.75	-0.29	-1.33	0	-0.01	0	-0.95
-	-	0	0	-1.33	0	-0.01	0	-0.95
91	725	0	0	-0.23	0	0	0.08	-0.27
-	-	0.75	0.29	-0.23	0	0	0.08	-0.27
91	726	0.75	0.29	1.22	0.01	0	0.97	-0.09
-	-	1.51	0.59	1.22	0.01	0	0.97	-0.09
91	727	1.51	0.59	2.93	0.02	0	2.16	0
-	-	2.26	0.88	2.93	0.02	0	2.16	0
91	728	2.26	0.88	3.93	0.01	0	2.43	0

-	-	3.01	1.17	3.93	0.01	0	2.43	0
92	729	-3.01	-1.17	-1.85	0	-0.01	0	-1.22
-	-	-2.26	-0.88	-1.85	0	-0.01	0	-1.22
92	730	-2.26	-0.88	-2.52	0	-0.01	0	-1.69
-	-	-1.51	-0.59	-2.52	0	-0.01	0	-1.69
92	731	-1.51	-0.59	-2.13	0	0	0	-1.45
-	-	-0.75	-0.29	-2.13	0	0	0	-1.45
92	732	-0.75	-0.29	-1.33	0	0	0	-0.94
-	-	0	0	-1.33	0	0	0	-0.94
92	733	0	0	-0.21	0	0	0.08	-0.26
-	-	0.75	0.29	-0.21	0	0	0.08	-0.26
92	734	0.75	0.29	1.26	0.01	0	0.99	-0.07
-	-	1.51	0.59	1.26	0.01	0	0.99	-0.07
92	735	1.51	0.59	3.01	0.01	0	2.16	0
-	-	2.26	0.88	3.01	0.01	0	2.16	0
92	736	2.26	0.88	3.76	0.01	0	2.36	0
-	-	3.01	1.17	3.76	0.01	0	2.36	0
93	737	-3.01	-1.17	-1.83	0	0	0	-1.21
-	-	-2.26	-0.88	-1.83	0	0	0	-1.21
93	738	-2.26	-0.88	-2.51	0	0	0	-1.69
-	-	-1.51	-0.59	-2.51	0	0	0	-1.69
93	739	-1.51	-0.59	-2.13	0	0	0	-1.45
-	-	-0.75	-0.29	-2.13	0	0	0	-1.45
93	740	-0.75	-0.29	-1.32	0	0	0	-0.94
-	-	0	0	-1.32	0	0	0	-0.94
93	741	0	0	-0.2	0	0	0.08	-0.24
-	-	0.75	0.29	-0.2	0	0	0.08	-0.24
93	742	0.75	0.29	1.29	0	0	1.01	-0.06
-	-	1.51	0.59	1.29	0	0	1.01	-0.06
93	743	1.51	0.59	3.06	0	0	2.16	0
-	-	2.26	0.88	3.06	0	0	2.16	0
93	744	2.26	0.88	3.64	0	0	2.29	0
-	-	3.01	1.17	3.64	0	0	2.29	0
94	745	-3.01	-1.17	-1.83	0	0	0	-1.21
-	-	-2.26	-0.88	-1.83	0	0	0	-1.21
94	746	-2.26	-0.88	-2.51	0	0	0	-1.68
-	-	-1.51	-0.59	-2.51	0	0	0	-1.68
94	747	-1.51	-0.59	-2.13	0	0	0	-1.45
-	-	-0.75	-0.29	-2.13	0	0	0	-1.45
94	748	-0.75	-0.29	-1.32	0	0	0	-0.93
-	-	0	0	-1.32	0	0	0	-0.93
94	749	0	0	-0.19	0	0	0.08	-0.23
-	-	0.75	0.29	-0.19	0	0	0.08	-0.23
94	750	0.75	0.29	1.32	0	0	1.03	-0.05
-	-	1.51	0.59	1.32	0	0	1.03	-0.05
94	751	1.51	0.59	3.1	0	0	2.16	0

-	-	2.26	0.88	3.1	0	0	2.16	0
94	752	2.26	0.88	3.54	0	0	2.25	0
-	-	3.01	1.17	3.54	0	0	2.25	0
95	753	-3.01	-1.17	-1.82	0	0	0	-1.21
-	-	-2.26	-0.88	-1.82	0	0	0	-1.21
95	754	-2.26	-0.88	-2.51	0	0	0	-1.68
-	-	-1.51	-0.59	-2.51	0	0	0	-1.68
95	755	-1.51	-0.59	-2.13	0	0	0	-1.45
-	-	-0.75	-0.29	-2.13	0	0	0	-1.45
95	756	-0.75	-0.29	-1.31	0	0	0	-0.93
-	-	0	0	-1.31	0	0	0	-0.93
95	757	0	0	-0.18	0	0	0.07	-0.22
-	-	0.75	0.29	-0.18	0	0	0.07	-0.22
95	758	0.75	0.29	1.34	0	0	1.04	-0.04
-	-	1.51	0.59	1.34	0	0	1.04	-0.04
95	759	1.51	0.59	3.13	0	0	2.16	0
-	-	2.26	0.88	3.13	0	0	2.16	0
95	760	2.26	0.88	3.48	0	0	2.22	0
-	-	3.01	1.17	3.48	0	0	2.22	0
96	761	-3.01	-1.17	-1.82	0	0	0	-1.21
-	-	-2.26	-0.88	-1.82	0	0	0	-1.21
96	762	-2.26	-0.88	-2.51	0	0	0	-1.68
-	-	-1.51	-0.59	-2.51	0	0	0	-1.68
96	763	-1.51	-0.59	-2.12	0	0	0	-1.45
-	-	-0.75	-0.29	-2.12	0	0	0	-1.45
96	764	-0.75	-0.29	-1.31	0	0	0	-0.93
-	-	0	0	-1.31	0	0	0	-0.93
96	765	0	0	-0.18	0	0	0.07	-0.22
-	-	0.75	0.29	-0.18	0	0	0.07	-0.22
96	766	0.75	0.29	1.36	0	0	1.04	-0.03
-	-	1.51	0.59	1.36	0	0	1.04	-0.03
96	767	1.51	0.59	3.15	0	0	2.16	0
-	-	2.26	0.88	3.15	0	0	2.16	0
96	768	2.26	0.88	3.43	0	0	2.2	0
-	-	3.01	1.17	3.43	0	0	2.2	0
97	769	-3.01	-1.24	-1.99	0	0	0	-1.31
-	-	-2.26	-0.93	-1.99	0	0	0	-1.31
97	770	-2.26	-0.93	-2.91	0	0	0	-1.95
-	-	-1.51	-0.62	-2.91	0	0	0	-1.95
97	771	-1.51	-0.62	-2.45	0	0	0	-1.66
-	-	-0.75	-0.31	-2.45	0	0	0	-1.66
97	772	-0.75	-0.31	-1.51	0	0	0	-1.07
-	-	0	0	-1.51	0	0	0	-1.07
97	773	0	0	-0.21	0	0	0.09	-0.25
-	-	0.75	0.31	-0.21	0	0	0.09	-0.25
97	774	0.75	0.31	1.56	0	0	1.2	-0.03

-	-	1.51	0.62	1.56	0	0	1.2	-0.03
97	775	1.51	0.62	3.66	0	0	2.51	0
-	-	2.26	0.93	3.66	0	0	2.51	0
97	776	2.26	0.93	3.84	0	0	2.44	0
-	-	3.01	1.24	3.84	0	0	2.44	0

Momentos flectores en t.m

Viga	Tramo	P.Propio Viga	P.Propio Losa	Carga Perman.	S.C. Máximo	S.C. Mínimo	Carro Máximo	Carro Mínimo
1	1	0	0	0.18	0	0	0.19	0
-	-	4.22	1.73	6.32	0	0	6.13	0
1	2	4.22	1.73	6.57	0	0	6.35	0
-	-	7.23	2.97	12.42	0	0	11.03	0
1	3	7.23	2.97	12.51	0	0	11.08	0
-	-	9.03	3.72	15.01	0	-0.01	12.56	0
1	4	9.03	3.72	15.03	0	-0.01	12.55	0
-	-	9.64	3.96	14.7	0	-0.01	11.92	0
1	5	9.64	3.96	14.66	0	-0.01	11.88	0
-	-	9.03	3.72	12.24	0	-0.01	9.82	0
1	6	9.03	3.72	12.16	0	-0.01	9.75	0
-	-	7.23	2.97	8.25	0	-0.01	6.6	0
1	7	7.23	2.97	8.14	0	-0.01	6.51	0
-	-	4.22	1.73	3.47	0	0	2.79	0
1	8	4.22	1.73	3.3	0	0	2.64	0
-	-	0	0	0.12	0	0	0.1	0
2	9	0	0	0.09	0	0	0.09	0
-	-	4.22	1.64	5.59	0	0	5.47	0
2	10	4.22	1.64	5.73	0	0	5.59	0
-	-	7.23	2.81	10.76	0	0	9.55	0
2	11	7.23	2.81	10.82	0	0	9.59	0
-	-	9.03	3.51	12.99	0	-0.01	10.86	0
2	12	9.03	3.51	12.99	0	-0.01	10.85	0
-	-	9.64	3.75	12.71	0	-0.01	10.3	0
2	13	9.64	3.75	12.68	0	-0.01	10.27	0
-	-	9.03	3.51	10.58	0	-0.01	8.48	0
2	14	9.03	3.51	10.52	0	-0.01	8.43	0
-	-	7.23	2.81	7.12	0	0	5.7	0
2	15	7.23	2.81	7.04	0	0	5.63	0
-	-	4.22	1.64	3.03	0	0	2.44	0
2	16	4.22	1.64	2.95	0	0	2.37	0
-	-	0	0	0.03	0	0	0.02	0
3	17	0	0	0.1	0	0	0.1	0
-	-	4.22	1.64	5.67	0	0	5.59	0
3	18	4.22	1.64	5.82	0	0	5.72	0
-	-	7.23	2.81	10.82	0	0	9.61	0

3	19	7.23	2.81	10.88	0	0	9.65	0
-	-	9.03	3.51	13.03	0	0	10.88	0
3	20	9.03	3.51	13.02	0	0	10.87	0
-	-	9.64	3.75	12.73	0	0	10.32	0
3	21	9.64	3.75	12.7	0	0	10.29	0
-	-	9.03	3.51	10.6	0	0	8.5	0
3	22	9.03	3.51	10.54	0	0	8.45	0
-	-	7.23	2.81	7.14	0	0	5.71	0
3	23	7.23	2.81	7.06	0	0	5.65	0
-	-	4.22	1.64	3.05	0	0	2.46	0
3	24	4.22	1.64	2.96	0	0	2.39	0
-	-	0	0	0.04	0	0	0.03	0
4	25	0	0	0.11	0	0	0.13	0
-	-	4.22	1.64	5.78	0	0	5.75	0
4	26	4.22	1.64	5.94	0	0	5.89	0
-	-	7.23	2.81	10.9	0	0	9.7	0
4	27	7.23	2.81	10.96	0	0	9.72	0
-	-	9.03	3.51	13.07	0	0	10.92	0
4	28	9.03	3.51	13.07	0	0	10.9	0
-	-	9.64	3.75	12.77	0	0	10.34	0
4	29	9.64	3.75	12.73	0	0	10.31	0
-	-	9.03	3.51	10.63	0	0	8.52	0
4	30	9.03	3.51	10.57	0	0	8.47	0
-	-	7.23	2.81	7.16	0	0	5.73	0
4	31	7.23	2.81	7.08	0	0	5.67	0
-	-	4.22	1.64	3.07	0	0	2.48	0
4	32	4.22	1.64	2.97	0	0	2.4	0
-	-	0	0	0.05	0	0	0.04	0
5	33	0	0	0.12	0	0	0.14	0
-	-	4.22	1.64	5.94	0	0	6	0
5	34	4.22	1.64	6.1	0	0	6.14	0
-	-	7.23	2.81	11	0.01	0	9.8	0
5	35	7.23	2.81	11.06	0.01	0	9.82	0
-	-	9.03	3.51	13.12	0.01	0	10.96	0
5	36	9.03	3.51	13.12	0.01	0	10.94	0
-	-	9.64	3.75	12.8	0.02	0	10.37	0
5	37	9.64	3.75	12.77	0.02	0	10.34	0
-	-	9.03	3.51	10.66	0.02	0	8.54	0
5	38	9.03	3.51	10.6	0.02	0	8.49	0
-	-	7.23	2.81	7.19	0.01	0	5.76	0
5	39	7.23	2.81	7.11	0.01	0	5.69	0
-	-	4.22	1.64	3.09	0.01	0	2.5	0
5	40	4.22	1.64	2.99	0.01	0	2.42	0
-	-	0	0	0.05	0	0	0.04	0
6	41	0	0	0.13	0	0	0.15	0
-	-	4.22	1.64	6.14	0.01	0	6.33	0

6	42	4.22	1.64	6.31	0.01	0	6.47	0
-	-	7.23	2.81	11.13	0.02	0	9.92	0
6	43	7.23	2.81	11.18	0.02	0	9.93	0
-	-	9.03	3.51	13.19	0.03	0	11.01	0
6	44	9.03	3.51	13.19	0.03	0	11	0
-	-	9.64	3.75	12.85	0.04	0	10.41	0
6	45	9.64	3.75	12.82	0.04	0	10.38	0
-	-	9.03	3.51	10.7	0.04	0	8.57	0
6	46	9.03	3.51	10.64	0.04	0	8.52	0
-	-	7.23	2.81	7.23	0.03	0	5.79	0
6	47	7.23	2.81	7.14	0.03	0	5.72	0
-	-	4.22	1.64	3.12	0.02	0	2.53	0
6	48	4.22	1.64	3.02	0.02	0	2.44	0
-	-	0	0	0.06	0	0	0.05	0
7	49	0	0	0.13	0	0	0.16	0
-	-	4.22	1.64	6.41	0.02	0	6.76	0
7	50	4.22	1.64	6.57	0.03	0	6.89	0
-	-	7.23	2.81	11.26	0.05	0	10.05	0
7	51	7.23	2.81	11.31	0.05	0	10.06	0
-	-	9.03	3.51	13.27	0.07	0	11.07	0
7	52	9.03	3.51	13.27	0.07	0	11.06	0
-	-	9.64	3.75	12.91	0.07	0	10.45	0
7	53	9.64	3.75	12.88	0.07	0	10.42	0
-	-	9.03	3.51	10.74	0.06	0	8.6	0
7	54	9.03	3.51	10.68	0.06	0	8.55	0
-	-	7.23	2.81	7.27	0.05	0	5.82	0
7	55	7.23	2.81	7.19	0.04	0	5.75	0
-	-	4.22	1.64	3.15	0.02	0	2.56	0
7	56	4.22	1.64	3.05	0.02	0	2.48	0
-	-	0	0	0.06	0	0	0.05	0
8	57	0	0	0.12	0	0	0.15	0
-	-	4.22	1.64	6.75	0.06	0	7.31	0
8	58	4.22	1.64	6.9	0.06	0	7.42	0
-	-	7.23	2.81	11.41	0.11	0	10.18	0
8	59	7.23	2.81	11.46	0.11	0	10.18	0
-	-	9.03	3.51	13.36	0.12	0	11.14	0
8	60	9.03	3.51	13.37	0.12	0	11.13	0
-	-	9.64	3.75	12.98	0.11	0	10.5	0
8	61	9.64	3.75	12.94	0.11	0	10.47	0
-	-	9.03	3.51	10.8	0.08	0	8.64	0
8	62	9.03	3.51	10.74	0.08	0	8.59	0
-	-	7.23	2.81	7.32	0.06	0	5.86	0
8	63	7.23	2.81	7.24	0.06	0	5.79	0
-	-	4.22	1.64	3.19	0.03	0	2.6	0
8	64	4.22	1.64	3.09	0.03	0	2.52	0
-	-	0	0	0.06	0	0	0.04	0

9	65	0	0	0.07	0	0	0.14	-0.01
-	-	4.22	1.64	7.17	0.19	0	8.04	0
9	66	4.22	1.64	7.31	0.19	0	8.11	0
-	-	7.23	2.81	11.54	0.21	0	10.3	0
9	67	7.23	2.81	11.62	0.21	0	10.3	0
-	-	9.03	3.51	13.47	0.18	0	11.23	0
9	68	9.03	3.51	13.48	0.18	0	11.23	0
-	-	9.64	3.75	13.05	0.13	0	10.56	0
9	69	9.64	3.75	13.02	0.13	0	10.52	0
-	-	9.03	3.51	10.86	0.09	0	8.68	0
9	70	9.03	3.51	10.8	0.09	0	8.64	0
-	-	7.23	2.81	7.37	0.06	0	5.89	0
9	71	7.23	2.81	7.29	0.06	0	5.84	0
-	-	4.22	1.64	3.23	0.03	0	2.64	0
9	72	4.22	1.64	3.13	0.03	0	2.57	0
-	-	0	0	0.05	0	0	0.04	0
10	73	0	0	0.07	0	0	0.04	-0.11
-	-	4.22	1.64	7.55	0.46	0	8.96	0
10	74	4.22	1.64	7.68	0.46	0	8.97	0
-	-	7.23	2.81	11.74	0.3	0	10.37	0
10	75	7.23	2.81	11.82	0.3	0	10.42	0
-	-	9.03	3.51	13.59	0.2	0	11.34	0
10	76	9.03	3.51	13.6	0.2	0	11.35	0
-	-	9.64	3.75	13.13	0.13	0	10.6	0
10	77	9.64	3.75	13.11	0.13	0	10.59	0
-	-	9.03	3.51	10.93	0.09	0	8.72	0
10	78	9.03	3.51	10.87	0.09	0	8.69	0
-	-	7.23	2.81	7.43	0.05	0	5.93	0
10	79	7.23	2.81	7.36	0.05	0	5.89	0
-	-	4.22	1.64	3.28	0.02	0	2.68	0
10	80	4.22	1.64	3.18	0.03	0	2.63	0
-	-	0	0	0.05	0	0	0.03	-0.01
11	81	0	0	0.11	0	0	0.15	0
-	-	4.22	1.64	7.9	0.55	0	9.68	0
11	82	4.22	1.64	8.03	0.55	0	9.62	0
-	-	7.23	2.81	11.99	0.34	0	10.31	0
11	83	7.23	2.81	12.04	0.34	0	10.56	0
-	-	9.03	3.51	13.73	0.21	0	11.45	0
11	84	9.03	3.51	13.73	0.21	0	11.49	0
-	-	9.64	3.75	13.23	0.13	0	10.65	0
11	85	9.64	3.75	13.2	0.13	0	10.66	0
-	-	9.03	3.51	11	0.08	0	8.76	0
11	86	9.03	3.51	10.95	0.09	0	8.75	0
-	-	7.23	2.81	7.5	0.05	0	5.97	0
11	87	7.23	2.81	7.43	0.05	0	5.95	0
-	-	4.22	1.64	3.33	0.02	0	2.72	0

11	88	4.22	1.64	3.24	0.03	0	2.69	0
-	-	0	0	0.05	0	0	0.02	-0.01
12	89	0	0	0.09	0	0	0.08	-0.36
-	-	4.22	1.64	8.35	0.44	0	10.11	0
12	90	4.22	1.64	8.48	0.43	0	10.03	0
-	-	7.23	2.81	12.22	0.29	0	10.57	0
12	91	7.23	2.81	12.27	0.29	0	10.83	0
-	-	9.03	3.51	13.87	0.2	0	11.58	0
12	92	9.03	3.51	13.88	0.2	0	11.62	0
-	-	9.64	3.75	13.33	0.14	0	10.72	0
12	93	9.64	3.75	13.31	0.14	0	10.74	0
-	-	9.03	3.51	11.08	0.09	0	8.82	0
12	94	9.03	3.51	11.04	0.09	0	8.81	0
-	-	7.23	2.81	7.57	0.06	0	6.03	0
12	95	7.23	2.81	7.5	0.06	0	6	0
-	-	4.22	1.64	3.39	0.03	0	2.77	0
12	96	4.22	1.64	3.3	0.03	0	2.73	0
-	-	0	0	0.05	0	0	0.02	-0.01
13	97	0	0	0.04	0	0	0.04	-0.09
-	-	4.22	1.64	8.87	0.17	0	9.77	0
13	98	4.22	1.64	8.99	0.17	0	9.76	0
-	-	7.23	2.81	12.42	0.21	0	11.2	0
13	99	7.23	2.81	12.51	0.21	0	11.23	0
-	-	9.03	3.51	14.04	0.18	0	11.72	0
13	100	9.03	3.51	14.05	0.18	0	11.72	0
-	-	9.64	3.75	13.44	0.14	0	10.82	0
13	101	9.64	3.75	13.42	0.14	0	10.82	0
-	-	9.03	3.51	11.17	0.11	0	8.9	0
13	102	9.03	3.51	11.13	0.11	0	8.87	0
-	-	7.23	2.81	7.65	0.07	0	6.11	0
13	103	7.23	2.81	7.59	0.07	0	6.06	0
-	-	4.22	1.64	3.46	0.03	0	2.81	0
13	104	4.22	1.64	3.37	0.03	0	2.76	0
-	-	0	0	0.05	0	0	0.03	-0.02
14	105	0	0	0.01	0	0	0.04	-0.53
-	-	4.22	1.64	9.35	0.06	0	9.61	0
14	106	4.22	1.64	9.45	0.07	0	9.64	0
-	-	7.23	2.81	12.69	0.12	0	11.71	0
14	107	7.23	2.81	12.79	0.12	0	11.67	0
-	-	9.03	3.51	14.21	0.15	0	11.87	0
14	108	9.03	3.51	14.23	0.15	0	11.85	0
-	-	9.64	3.75	13.55	0.14	0	10.93	0
14	109	9.64	3.75	13.54	0.14	0	10.9	0
-	-	9.03	3.51	11.27	0.12	0	8.99	0
14	110	9.03	3.51	11.23	0.12	0	8.94	0
-	-	7.23	2.81	7.74	0.08	0	6.18	0

14	111	7.23	2.81	7.68	0.08	0	6.13	0
-	-	4.22	1.64	3.53	0.04	0	2.86	0
14	112	4.22	1.64	3.45	0.04	0	2.79	0
-	-	0	0	0.04	0	0	0.04	-0.02
15	113	0	0	0.01	0	0	0.04	-0.14
-	-	4.22	1.64	9.76	0.04	0	9.53	0
15	114	4.22	1.64	9.85	0.05	0	9.61	0
-	-	7.23	2.81	13.01	0.09	0	12.17	0
15	115	7.23	2.81	13.11	0.09	0	12.11	0
-	-	9.03	3.51	14.39	0.13	0	12.02	0
15	116	9.03	3.51	14.41	0.13	0	11.99	0
-	-	9.64	3.75	13.68	0.14	0	11.03	0
15	117	9.64	3.75	13.67	0.14	0	11	0
-	-	9.03	3.51	11.37	0.13	0	9.07	0
15	118	9.03	3.51	11.34	0.13	0	9.03	0
-	-	7.23	2.81	7.83	0.1	0	6.26	0
15	119	7.23	2.81	7.77	0.1	0	6.2	0
-	-	4.22	1.64	3.61	0.05	0	2.91	0
15	120	4.22	1.64	3.53	0.05	0	2.83	0
-	-	0	0	0.04	0	0	0.05	-0.02
16	121	0	0	0.01	0	0	0.04	-0.08
-	-	4.22	1.64	10.12	0.06	0	9.67	0
16	122	4.22	1.64	10.21	0.06	0	9.69	0
-	-	7.23	2.81	13.38	0.11	0	12.62	0
16	123	7.23	2.81	13.47	0.12	0	12.56	0
-	-	9.03	3.51	14.58	0.15	0	12.17	0
16	124	9.03	3.51	14.6	0.15	0	12.13	0
-	-	9.64	3.75	13.82	0.17	0	11.14	0
16	125	9.64	3.75	13.81	0.17	0	11.11	0
-	-	9.03	3.51	11.49	0.15	0	9.16	0
16	126	9.03	3.51	11.45	0.15	0	9.11	0
-	-	7.23	2.81	7.93	0.11	0	6.33	0
16	127	7.23	2.81	7.87	0.11	0	6.27	0
-	-	4.22	1.64	3.69	0.06	0	2.98	0
16	128	4.22	1.64	3.61	0.06	0	2.89	0
-	-	0	0	0.04	0	0	0.05	-0.02
17	129	0	0	0.01	0	0	0.04	-0.14
-	-	4.22	1.64	10.44	0.11	0	9.95	0
17	130	4.22	1.64	10.51	0.11	0	9.98	0
-	-	7.23	2.81	13.8	0.19	0	13.09	0
17	131	7.23	2.81	13.89	0.19	0	13.04	0
-	-	9.03	3.51	14.77	0.23	0	12.32	0
17	132	9.03	3.51	14.79	0.23	0	12.27	0
-	-	9.64	3.75	13.96	0.22	0	11.25	0
17	133	9.64	3.75	13.96	0.22	0	11.22	0
-	-	9.03	3.51	11.6	0.18	0	9.26	0

17	134	9.03	3.51	11.57	0.18	0	9.21	0
-	-	7.23	2.81	8.03	0.13	0	6.41	0
17	135	7.23	2.81	7.98	0.13	0	6.35	0
-	-	4.22	1.64	3.77	0.06	0	3.05	0
17	136	4.22	1.64	3.7	0.06	0	3.01	0
-	-	0	0	0.04	0	0	0.05	-0.03
18	137	0	0	0	0	0	0.1	-0.14
-	-	4.22	1.64	10.73	0.21	0	10.08	0
18	138	4.22	1.64	10.76	0.21	0	10.06	0
-	-	7.23	2.81	14.28	0.37	0	13.56	0
18	139	7.23	2.81	14.36	0.37	0	13.56	0
-	-	9.03	3.51	14.94	0.35	0	12.44	0
18	140	9.03	3.51	15	0.35	0	12.41	0
-	-	9.64	3.75	14.12	0.27	0	11.37	0
18	141	9.64	3.75	14.12	0.27	0	11.36	0
-	-	9.03	3.51	11.73	0.2	0	9.35	0
18	142	9.03	3.51	11.7	0.2	0	9.31	0
-	-	7.23	2.81	8.14	0.12	0	6.48	0
18	143	7.23	2.81	8.1	0.13	0	6.44	0
-	-	4.22	1.64	3.86	0.06	0	3.15	0
18	144	4.22	1.64	3.8	0.06	0	3.15	0
-	-	0	0	0.03	0	0	0.03	-0.03
19	145	0	0	-0.01	0	0	0.16	-0.12
-	-	4.22	1.64	10.99	0.3	0	10.47	0
19	146	4.22	1.64	11.01	0.29	0	10.33	0
-	-	7.23	2.81	14.72	0.66	0	13.94	0
19	147	7.23	2.81	14.79	0.65	0	13.92	0
-	-	9.03	3.51	15.16	0.43	0	12.52	0
19	148	9.03	3.51	15.22	0.43	0	12.55	0
-	-	9.64	3.75	14.28	0.29	0	11.5	0
19	149	9.64	3.75	14.29	0.29	0	11.51	0
-	-	9.03	3.51	11.86	0.19	0	9.43	0
19	150	9.03	3.51	11.84	0.19	0	9.42	0
-	-	7.23	2.81	8.26	0.11	0	6.54	0
19	151	7.23	2.81	8.22	0.12	0	6.53	0
-	-	4.22	1.64	3.96	0.05	0	3.24	0
19	152	4.22	1.64	3.9	0.06	0	3.29	0
-	-	0	0	0.03	0	0	0.01	-0.04
20	153	0	0	0	0	0	0.17	-0.35
-	-	4.22	1.64	11.23	0.35	0	10.98	0
20	154	4.22	1.64	11.28	0.34	0	10.5	0
-	-	7.23	2.81	15.12	0.76	0	14.63	0
20	155	7.23	2.81	15.18	0.75	0	14.64	0
-	-	9.03	3.51	15.44	0.47	0	12.47	0
20	156	9.03	3.51	15.46	0.47	0	12.72	0
-	-	9.64	3.75	14.45	0.29	0	11.62	0

20	157	9.64	3.75	14.46	0.29	0	11.69	0
-	-	9.03	3.51	12	0.18	0	9.49	0
20	158	9.03	3.51	11.98	0.18	0	9.54	0
-	-	7.23	2.81	8.38	0.11	0	6.61	0
20	159	7.23	2.81	8.34	0.11	0	6.63	0
-	-	4.22	1.64	4.05	0.05	0	3.34	0
20	160	4.22	1.64	4	0.05	0	3.43	0
-	-	0	0	0.03	0	0	0.01	-0.07
21	161	0	0	-0.01	0	0	0.17	-0.72
-	-	4.22	1.64	11.44	0.3	0	11.84	0
21	162	4.22	1.64	11.47	0.29	0	11.23	0
-	-	7.23	2.81	15.57	0.64	0	14.27	0
21	163	7.23	2.81	15.63	0.64	0	14.64	0
-	-	9.03	3.51	15.67	0.43	0	12.69	0
21	164	9.03	3.51	15.71	0.43	0	12.99	0
-	-	9.64	3.75	14.64	0.29	0	11.75	0
21	165	9.64	3.75	14.65	0.29	0	11.84	0
-	-	9.03	3.51	12.15	0.19	0	9.59	0
21	166	9.03	3.51	12.13	0.19	0	9.66	0
-	-	7.23	2.81	8.51	0.12	0	6.7	0
21	167	7.23	2.81	8.47	0.12	0	6.73	0
-	-	4.22	1.64	4.16	0.06	0	3.43	0
21	168	4.22	1.64	4.11	0.06	0	3.52	0
-	-	0	0	0.03	0	0	0.01	-0.08
22	169	0	0	-0.03	0	0	0.15	-0.46
-	-	4.22	1.64	11.63	0.21	0	11.4	0
22	170	4.22	1.64	11.6	0.21	0	11.11	0
-	-	7.23	2.81	16.07	0.36	0	14.28	0
22	171	7.23	2.81	16.13	0.36	0	14.48	0
-	-	9.03	3.51	15.88	0.35	0	13.29	0
22	172	9.03	3.51	15.96	0.35	0	13.36	0
-	-	9.64	3.75	14.83	0.28	0	11.93	0
22	173	9.64	3.75	14.85	0.28	0	11.97	0
-	-	9.03	3.51	12.29	0.21	0	9.73	0
22	174	9.03	3.51	12.29	0.21	0	9.76	0
-	-	7.23	2.81	8.63	0.13	0	6.82	0
22	175	7.23	2.81	8.61	0.13	0	6.83	0
-	-	4.22	1.64	4.26	0.06	0	3.52	0
22	176	4.22	1.64	4.22	0.06	0	3.6	0
-	-	0	0	0.02	0	0	0.01	-0.06
23	177	0	0	-0.05	0	0	0.1	-0.56
-	-	4.22	1.64	11.79	0.11	0	11.26	0
23	178	4.22	1.64	11.73	0.12	0	10.51	0
-	-	7.23	2.81	16.51	0.2	0	14.3	0
23	179	7.23	2.81	16.57	0.2	0	14.31	0
-	-	9.03	3.51	16.14	0.25	0	13.77	0

23	180	9.03	3.51	16.24	0.25	0	13.74	0
-	-	9.64	3.75	15.03	0.25	0	12.12	0
23	181	9.64	3.75	15.05	0.24	0	12.1	0
-	-	9.03	3.51	12.45	0.21	0	9.88	0
23	182	9.03	3.51	12.45	0.2	0	9.86	0
-	-	7.23	2.81	8.77	0.14	0	6.95	0
23	183	7.23	2.81	8.75	0.14	0	6.93	0
-	-	4.22	1.64	4.37	0.07	0	3.61	0
23	184	4.22	1.64	4.34	0.07	0	3.65	0
-	-	0	0	0.02	0	0	0.02	-0.04
24	185	0	0	-0.06	0	0	0.12	-0.65
-	-	4.22	1.64	11.93	0.08	0	11.55	0
24	186	4.22	1.64	11.85	0.08	0	11.18	0
-	-	7.23	2.81	16.87	0.15	0	14.48	0
24	187	7.23	2.81	16.93	0.15	0	14.39	0
-	-	9.03	3.51	16.46	0.2	0	14.19	0
24	188	9.03	3.51	16.55	0.2	0	14.14	0
-	-	9.64	3.75	15.24	0.22	0	12.29	0
24	189	9.64	3.75	15.27	0.22	0	12.25	0
-	-	9.03	3.51	12.61	0.2	0	10.01	0
24	190	9.03	3.51	12.62	0.2	0	9.98	0
-	-	7.23	2.81	8.91	0.15	0	7.08	0
24	191	7.23	2.81	8.9	0.15	0	7.04	0
-	-	4.22	1.64	4.49	0.08	0	3.68	0
24	192	4.22	1.64	4.46	0.08	0	3.7	0
-	-	0	0	0.01	0	0	0.05	-0.04
25	193	0	0	-0.07	0	0	0.15	-0.17
-	-	4.22	1.64	12.04	0.08	0	11.01	0
25	194	4.22	1.64	11.95	0.09	0	10.31	0
-	-	7.23	2.81	17.17	0.16	0	14.45	0
25	195	7.23	2.81	17.23	0.16	0	14.48	0
-	-	9.03	3.51	16.82	0.21	0	14.6	0
25	196	9.03	3.51	16.91	0.21	0	14.57	0
-	-	9.64	3.75	15.45	0.23	0	12.47	0
25	197	9.64	3.75	15.48	0.23	0	12.42	0
-	-	9.03	3.51	12.78	0.22	0	10.14	0
25	198	9.03	3.51	12.8	0.22	0	10.1	0
-	-	7.23	2.81	9.06	0.17	0	7.21	0
25	199	7.23	2.81	9.05	0.17	0	7.16	0
-	-	4.22	1.64	4.6	0.09	0	3.76	0
25	200	4.22	1.64	4.59	0.09	0	3.77	0
-	-	0	0	0.01	0	0	0.06	-0.04
26	201	0	0	-0.08	0	0	0.14	-0.68
-	-	4.22	1.64	12.11	0.13	0	11.56	0
26	202	4.22	1.64	12.02	0.13	0	11.15	0
-	-	7.23	2.81	17.41	0.23	0	14.44	0

26	203	7.23	2.81	17.47	0.24	0	14.39	0
-	-	9.03	3.51	17.22	0.29	0	14.97	0
26	204	9.03	3.51	17.31	0.29	0	15	0
-	-	9.64	3.75	15.66	0.31	0	12.65	0
26	205	9.64	3.75	15.7	0.31	0	12.6	0
-	-	9.03	3.51	12.96	0.27	0	10.28	0
26	206	9.03	3.51	12.98	0.27	0	10.25	0
-	-	7.23	2.81	9.21	0.2	0	7.32	0
26	207	7.23	2.81	9.21	0.19	0	7.27	0
-	-	4.22	1.64	4.72	0.1	0	3.87	0
26	208	4.22	1.64	4.71	0.1	0	3.87	0
-	-	0	0	0.01	0	0	0.05	-0.05
27	209	0	0	-0.1	0	0	0.1	-0.37
-	-	4.22	1.64	12.15	0.18	0	10.86	0
27	210	4.22	1.64	12.04	0.18	0	10.56	0
-	-	7.23	2.81	17.61	0.36	0	14.54	0
27	211	7.23	2.81	17.63	0.36	0	14.42	0
-	-	9.03	3.51	17.68	0.47	0	15.38	0
27	212	9.03	3.51	17.76	0.47	0	15.34	0
-	-	9.64	3.75	15.85	0.43	0	12.8	0
27	213	9.64	3.75	15.92	0.43	0	12.76	0
-	-	9.03	3.51	13.14	0.33	0	10.43	0
27	214	9.03	3.51	13.17	0.32	0	10.41	0
-	-	7.23	2.81	9.36	0.21	0	7.42	0
27	215	7.23	2.81	9.37	0.21	0	7.4	0
-	-	4.22	1.64	4.84	0.11	0	3.99	0
27	216	4.22	1.64	4.84	0.11	0	4.03	0
-	-	0	0	0	0	0	0.03	-0.05
28	217	0	0	-0.11	0	0	0.03	-0.19
-	-	4.22	1.64	12.13	0.22	0	10.36	0
28	218	4.22	1.64	12.01	0.21	0	10.25	0
-	-	7.23	2.81	17.77	0.45	0	14.53	0
28	219	7.23	2.81	17.79	0.45	0	14.45	0
-	-	9.03	3.51	18.1	0.77	0	15.98	0
28	220	9.03	3.51	18.18	0.77	0	15.96	0
-	-	9.64	3.75	16.08	0.52	0	12.89	0
28	221	9.64	3.75	16.15	0.52	0	12.92	0
-	-	9.03	3.51	13.34	0.35	0	10.58	0
28	222	9.03	3.51	13.37	0.35	0	10.6	0
-	-	7.23	2.81	9.52	0.22	0	7.51	0
28	223	7.23	2.81	9.54	0.22	0	7.52	0
-	-	4.22	1.64	4.96	0.11	0	4.1	0
28	224	4.22	1.64	4.97	0.11	0	4.21	0
-	-	0	0	0	0	0	0.01	-0.07
29	225	0	0	-0.11	0	0	0.11	-0.14
-	-	4.22	1.64	12.04	0.24	0	9.66	0

29	226	4.22	1.64	11.92	0.23	0	9.65	0
-	-	7.23	2.81	17.92	0.53	0	14.76	0
29	227	7.23	2.81	17.97	0.52	0	14.46	0
-	-	9.03	3.51	18.46	0.91	0	16.4	0
29	228	9.03	3.51	18.54	0.91	0	16.45	0
-	-	9.64	3.75	16.36	0.59	0	12.85	0
29	229	9.64	3.75	16.41	0.6	0	13.1	0
-	-	9.03	3.51	13.54	0.38	0	10.72	0
29	230	9.03	3.51	13.57	0.38	0	10.8	0
-	-	7.23	2.81	9.69	0.23	0	7.6	0
29	231	7.23	2.81	9.71	0.23	0	7.66	0
-	-	4.22	1.64	5.09	0.11	0	4.19	0
29	232	4.22	1.64	5.09	0.11	0	4.38	0
-	-	0	0	0	0	0	0.01	-0.12
30	233	0	0	-0.12	0	0	0.15	-0.12
-	-	4.22	1.64	11.89	0.27	0	9.32	0
30	234	4.22	1.64	11.76	0.27	0	9.31	0
-	-	7.23	2.81	18.02	0.55	0	14.27	0
30	235	7.23	2.81	18.06	0.54	0	14.2	0
-	-	9.03	3.51	18.89	0.86	0	16.34	0
30	236	9.03	3.51	18.96	0.86	0	16.71	0
-	-	9.64	3.75	16.61	0.59	0	13.05	0
30	237	9.64	3.75	16.67	0.59	0	13.38	0
-	-	9.03	3.51	13.74	0.4	0	10.87	0
30	238	9.03	3.51	13.78	0.4	0	10.99	0
-	-	7.23	2.81	9.86	0.25	0	7.72	0
30	239	7.23	2.81	9.88	0.25	0	7.81	0
-	-	4.22	1.64	5.21	0.12	0	4.29	0
30	240	4.22	1.64	5.22	0.12	0	4.48	0
-	-	0	0	0	0	0	0.01	-0.14
31	241	0	0	-0.1	0	0	0.04	-0.14
-	-	4.22	1.64	11.65	0.39	0	8.99	0
31	242	4.22	1.64	11.52	0.39	0	8.92	0
-	-	7.23	2.81	18.11	0.57	0	14.44	0
31	243	7.23	2.81	18.09	0.57	0	13.95	0
-	-	9.03	3.51	19.36	0.64	0	16.04	0
31	244	9.03	3.51	19.43	0.64	0	16.29	0
-	-	9.64	3.75	16.83	0.55	0	13.66	0
31	245	9.64	3.75	16.93	0.55	0	13.76	0
-	-	9.03	3.51	13.96	0.4	0	11.06	0
31	246	9.03	3.51	14	0.4	0	11.13	0
-	-	7.23	2.81	10.03	0.26	0	7.89	0
31	247	7.23	2.81	10.06	0.26	0	7.94	0
-	-	4.22	1.64	5.34	0.13	0	4.39	0
31	248	4.22	1.64	5.36	0.13	0	4.56	0
-	-	0	0	-0.01	0	0	0.01	-0.11

32	249	0	0	-0.06	0	0	0.04	-0.13
-	-	4.22	1.64	11.35	0.61	0	8.8	0
32	250	4.22	1.64	11.21	0.61	0	8.63	0
-	-	7.23	2.81	18.2	0.54	0	14.7	0
32	251	7.23	2.81	18.11	0.55	0	14.29	0
-	-	9.03	3.51	19.76	0.5	0	16.31	0
32	252	9.03	3.51	19.83	0.51	0	16.29	0
-	-	9.64	3.75	17.11	0.45	0	14.16	0
32	253	9.64	3.75	17.21	0.45	0	14.15	0
-	-	9.03	3.51	14.19	0.36	0	11.28	0
32	254	9.03	3.51	14.23	0.36	0	11.27	0
-	-	7.23	2.81	10.21	0.25	0	8.07	0
32	255	7.23	2.81	10.24	0.25	0	8.07	0
-	-	4.22	1.64	5.47	0.13	0	4.48	0
32	256	4.22	1.64	5.49	0.12	0	4.59	0
-	-	0	0	-0.01	0	0	0.01	-0.06
33	257	0	0	-0.06	0	0	0.03	-0.18
-	-	4.22	1.64	11.1	0.65	0	8.55	0
33	258	4.22	1.64	10.95	0.65	0	8.37	0
-	-	7.23	2.81	18.21	0.53	0	14.22	0
33	259	7.23	2.81	18.12	0.53	0	14.02	0
-	-	9.03	3.51	20.09	0.45	0	16.14	0
33	260	9.03	3.51	20.16	0.45	0	16.21	0
-	-	9.64	3.75	17.42	0.39	0	14.57	0
33	261	9.64	3.75	17.53	0.39	0	14.56	0
-	-	9.03	3.51	14.42	0.33	0	11.47	0
33	262	9.03	3.51	14.46	0.32	0	11.43	0
-	-	7.23	2.81	10.39	0.24	0	8.24	0
33	263	7.23	2.81	10.42	0.23	0	8.21	0
-	-	4.22	1.64	5.6	0.12	0	4.55	0
33	264	4.22	1.64	5.63	0.12	0	4.62	0
-	-	0	0	-0.01	0	0	0.05	-0.06
34	265	0	0	-0.11	0	0	0.04	-0.31
-	-	4.22	1.64	10.91	0.52	0	8.32	0
34	266	4.22	1.64	10.75	0.53	0	7.82	0
-	-	7.23	2.81	18.14	0.47	0	14.37	0
34	267	7.23	2.81	18.08	0.47	0	13.97	0
-	-	9.03	3.51	20.36	0.44	0	16.15	0
34	268	9.03	3.51	20.43	0.45	0	16.1	0
-	-	9.64	3.75	17.78	0.4	0	14.91	0
34	269	9.64	3.75	17.89	0.4	0	14.95	0
-	-	9.03	3.51	14.64	0.34	0	11.67	0
34	270	9.03	3.51	14.69	0.34	0	11.62	0
-	-	7.23	2.81	10.57	0.25	0	8.39	0
34	271	7.23	2.81	10.61	0.25	0	8.36	0
-	-	4.22	1.64	5.73	0.13	0	4.64	0

34	272	4.22	1.64	5.76	0.13	0	4.67	0
-	-	0	0	-0.02	0	0	0.06	-0.06
35	273	0	0	-0.09	0	0	0.04	-0.32
-	-	4.22	1.64	10.61	0.28	0	8.02	0
35	274	4.22	1.64	10.45	0.28	0	7.27	0
-	-	7.23	2.81	18.11	0.43	0	14.75	0
35	275	7.23	2.81	18.03	0.43	0	14.39	0
-	-	9.03	3.51	20.57	0.49	0	16.17	0
35	276	9.03	3.51	20.63	0.49	0	16.13	0
-	-	9.64	3.75	18.18	0.48	0	15.36	0
35	277	9.64	3.75	18.29	0.48	0	15.33	0
-	-	9.03	3.51	14.87	0.42	0	11.87	0
35	278	9.03	3.51	14.92	0.41	0	11.81	0
-	-	7.23	2.81	10.76	0.31	0	8.54	0
35	279	7.23	2.81	10.81	0.3	0	8.51	0
-	-	4.22	1.64	5.86	0.16	0	4.76	0
35	280	4.22	1.64	5.9	0.16	0	4.8	0
-	-	0	0	-0.02	0	0	0.06	-0.06
36	281	0	0	-0.06	0	0	0.03	-0.22
-	-	4.22	1.64	10.29	0.2	0	7.72	0
36	282	4.22	1.64	10.13	0.2	0	7.3	0
-	-	7.23	2.81	18.05	0.39	0	14.41	0
36	283	7.23	2.81	17.93	0.4	0	14.31	0
-	-	9.03	3.51	20.73	0.55	0	15.95	0
36	284	9.03	3.51	20.76	0.55	0	16.07	0
-	-	9.64	3.75	18.64	0.63	0	15.87	0
36	285	9.64	3.75	18.74	0.63	0	15.88	0
-	-	9.03	3.51	15.07	0.53	0	12.03	0
36	286	9.03	3.51	15.16	0.53	0	11.99	0
-	-	7.23	2.81	10.95	0.36	0	8.68	0
36	287	7.23	2.81	11.01	0.36	0	8.67	0
-	-	4.22	1.64	6	0.18	0	4.89	0
36	288	4.22	1.64	6.04	0.18	0	4.98	0
-	-	0	0	-0.02	0	0	0.04	-0.07
37	289	0	0	-0.06	0	0	0.03	-0.1
-	-	4.22	1.64	10.02	0.18	0	7.43	0
37	290	4.22	1.64	9.85	0.18	0	7.32	0
-	-	7.23	2.81	17.9	0.38	0	13.72	0
37	291	7.23	2.81	17.79	0.38	0	13.67	0
-	-	9.03	3.51	20.85	0.61	0	16.21	0
37	292	9.03	3.51	20.87	0.61	0	16.17	0
-	-	9.64	3.75	19.06	0.9	0	16.23	0
37	293	9.64	3.75	19.16	0.9	0	16.23	0
-	-	9.03	3.51	15.31	0.61	0	12.13	0
37	294	9.03	3.51	15.4	0.61	0	12.16	0
-	-	7.23	2.81	11.15	0.39	0	8.82	0

37	295	7.23	2.81	11.21	0.39	0	8.85	0
-	-	4.22	1.64	6.13	0.19	0	5.01	0
37	296	4.22	1.64	6.18	0.19	0	5.17	0
-	-	0	0	-0.02	0	0	0.02	-0.1
38	297	0	0	-0.06	0	0	0.08	-0.1
-	-	4.22	1.64	9.78	0.2	0	7.16	0
38	298	4.22	1.64	9.61	0.19	0	7.08	0
-	-	7.23	2.81	17.69	0.41	0	13.33	0
38	299	7.23	2.81	17.58	0.41	0	13.24	0
-	-	9.03	3.51	20.95	0.68	0	15.92	0
38	300	9.03	3.51	21.01	0.68	0	15.9	0
-	-	9.64	3.75	19.42	1.03	0	16.75	0
38	301	9.64	3.75	19.51	1.03	0	16.8	0
-	-	9.03	3.51	15.6	0.67	0	12.09	0
38	302	9.03	3.51	15.67	0.68	0	12.35	0
-	-	7.23	2.81	11.36	0.41	0	8.97	0
38	303	7.23	2.81	11.42	0.41	0	9.06	0
-	-	4.22	1.64	6.27	0.19	0	5.11	0
38	304	4.22	1.64	6.31	0.2	0	5.36	0
-	-	0	0	-0.02	0	0	0.02	-0.17
39	305	0	0	-0.06	0	0	0.1	-0.1
-	-	4.22	1.64	9.58	0.26	0	6.98	0
39	306	4.22	1.64	9.41	0.25	0	6.93	0
-	-	7.23	2.81	17.42	0.49	0	12.85	0
39	307	7.23	2.81	17.3	0.49	0	12.85	0
-	-	9.03	3.51	21.02	0.72	0	16.04	0
39	308	9.03	3.51	21.06	0.72	0	15.78	0
-	-	9.64	3.75	19.84	0.99	0	16.59	0
39	309	9.64	3.75	19.93	0.99	0	16.95	0
-	-	9.03	3.51	15.86	0.67	0	12.26	0
39	310	9.03	3.51	15.93	0.67	0	12.62	0
-	-	7.23	2.81	11.57	0.41	0	9.13	0
39	311	7.23	2.81	11.63	0.42	0	9.26	0
-	-	4.22	1.64	6.4	0.2	0	5.23	0
39	312	4.22	1.64	6.45	0.2	0	5.53	0
-	-	0	0	-0.02	0	0	0.02	-0.19
40	313	0	0	-0.06	0	0	0.09	-0.09
-	-	4.22	1.64	9.39	0.36	0	6.88	0
40	314	4.22	1.64	9.24	0.36	0	6.79	0
-	-	7.23	2.81	17.07	0.66	0	12.46	0
40	315	7.23	2.81	16.95	0.66	0	12.39	0
-	-	9.03	3.51	21.06	0.77	0	16.1	0
40	316	9.03	3.51	21.04	0.77	0	15.95	0
-	-	9.64	3.75	20.3	0.77	0	16.61	0
40	317	9.64	3.75	20.39	0.77	0	16.82	0
-	-	9.03	3.51	16.09	0.61	0	12.86	0

40	318	9.03	3.51	16.2	0.61	0	13	0
-	-	7.23	2.81	11.78	0.4	0	9.34	0
40	319	7.23	2.81	11.85	0.4	0	9.43	0
-	-	4.22	1.64	6.54	0.2	0	5.33	0
40	320	4.22	1.64	6.6	0.2	0	5.58	0
-	-	0	0	-0.03	0	0	0.02	-0.16
41	321	0	0	-0.06	0	0	0.05	-0.26
-	-	4.22	1.64	9.23	0.43	0	6.83	0
41	322	4.22	1.64	9.12	0.42	0	6.74	0
-	-	7.23	2.81	16.65	0.9	0	12	0
41	323	7.23	2.81	16.53	0.9	0	11.97	0
-	-	9.03	3.51	21.11	0.74	0	15.87	0
41	324	9.03	3.51	21.03	0.75	0	15.85	0
-	-	9.64	3.75	20.7	0.62	0	16.4	0
41	325	9.64	3.75	20.78	0.62	0	16.55	0
-	-	9.03	3.51	16.36	0.5	0	13.31	0
41	326	9.03	3.51	16.48	0.5	0	13.39	0
-	-	7.23	2.81	12	0.35	0	9.57	0
41	327	7.23	2.81	12.07	0.35	0	9.59	0
-	-	4.22	1.64	6.68	0.18	0	5.41	0
41	328	4.22	1.64	6.74	0.18	0	5.57	0
-	-	0	0	-0.03	0	0	0.02	-0.09
42	329	0	0	-0.06	0	0	0.02	-0.14
-	-	4.22	1.64	9.06	0.45	0	6.81	0
42	330	4.22	1.64	8.95	0.45	0	6.61	0
-	-	7.23	2.81	16.28	0.95	0	11.61	0
42	331	7.23	2.81	16.16	0.95	0	11.42	0
-	-	9.03	3.51	21.07	0.72	0	16.5	0
42	332	9.03	3.51	20.99	0.72	0	15.76	0
-	-	9.64	3.75	21.03	0.56	0	16.48	0
42	333	9.64	3.75	21.11	0.56	0	16.44	0
-	-	9.03	3.51	16.68	0.43	0	13.69	0
42	334	9.03	3.51	16.8	0.43	0	13.75	0
-	-	7.23	2.81	12.22	0.3	0	9.78	0
42	335	7.23	2.81	12.29	0.3	0	9.75	0
-	-	4.22	1.64	6.82	0.15	0	5.49	0
42	336	4.22	1.64	6.89	0.15	0	5.56	0
-	-	0	0	-0.03	0	0	0.05	-0.08
43	337	0	0	-0.06	0	0	0.02	-0.24
-	-	4.22	1.64	8.9	0.39	0	6.82	0
43	338	4.22	1.64	8.75	0.39	0	6.47	0
-	-	7.23	2.81	15.97	0.81	0	11.22	0
43	339	7.23	2.81	15.84	0.81	0	10.96	0
-	-	9.03	3.51	20.96	0.66	0	16.12	0
43	340	9.03	3.51	20.91	0.67	0	15.6	0
-	-	9.64	3.75	21.28	0.55	0	16.44	0

43	341	9.64	3.75	21.37	0.55	0	16.45	0
-	-	9.03	3.51	17.03	0.43	0	14.16	0
43	342	9.03	3.51	17.16	0.43	0	14.14	0
-	-	7.23	2.81	12.44	0.3	0	9.97	0
43	343	7.23	2.81	12.52	0.3	0	9.93	0
-	-	4.22	1.64	6.96	0.16	0	5.6	0
43	344	4.22	1.64	7.03	0.16	0	5.66	0
-	-	0	0	-0.03	0	0	0.08	-0.08
44	345	0	0	-0.06	0	0	0.02	-0.26
-	-	4.22	1.64	8.75	0.3	0	6.74	0
44	346	4.22	1.64	8.61	0.31	0	6.37	0
-	-	7.23	2.81	15.58	0.54	0	10.81	0
44	347	7.23	2.81	15.44	0.54	0	10.34	0
-	-	9.03	3.51	20.87	0.62	0	16.62	0
44	348	9.03	3.51	20.81	0.62	0	16.41	0
-	-	9.64	3.75	21.48	0.59	0	16.45	0
44	349	9.64	3.75	21.56	0.59	0	16.42	0
-	-	9.03	3.51	17.43	0.51	0	14.6	0
44	350	9.03	3.51	17.56	0.51	0	14.62	0
-	-	7.23	2.81	12.66	0.38	0	10.18	0
44	351	7.23	2.81	12.74	0.37	0	10.13	0
-	-	4.22	1.64	7.11	0.2	0	5.73	0
44	352	4.22	1.64	7.18	0.2	0	5.81	0
-	-	0	0	-0.04	0	0	0.08	-0.08
45	353	0	0	-0.06	0	0	0.02	-0.19
-	-	4.22	1.64	8.59	0.21	0	6.46	0
45	354	4.22	1.64	8.49	0.21	0	6.19	0
-	-	7.23	2.81	15.17	0.4	0	10.61	0
45	355	7.23	2.81	15.02	0.4	0	10.45	0
-	-	9.03	3.51	20.77	0.55	0	15.87	0
45	356	9.03	3.51	20.67	0.55	0	15.77	0
-	-	9.64	3.75	21.63	0.65	0	16.34	0
45	357	9.64	3.75	21.68	0.65	0	16.42	0
-	-	9.03	3.51	17.89	0.66	0	15.09	0
45	358	9.03	3.51	18	0.65	0	15.09	0
-	-	7.23	2.81	12.84	0.49	0	10.34	0
45	359	7.23	2.81	12.95	0.49	0	10.31	0
-	-	4.22	1.64	7.25	0.25	0	5.87	0
45	360	4.22	1.64	7.34	0.25	0	5.98	0
-	-	0	0	-0.04	0	0	0.05	-0.08
46	361	0	0	-0.05	0	0	0.02	-0.09
-	-	4.22	1.64	8.44	0.17	0	6.13	0
46	362	4.22	1.64	8.34	0.17	0	6	0
-	-	7.23	2.81	14.8	0.34	0	10.43	0
46	363	7.23	2.81	14.65	0.34	0	10.42	0
-	-	9.03	3.51	20.59	0.52	0	15.43	0

46	364	9.03	3.51	20.48	0.51	0	15.37	0
-	-	9.64	3.75	21.74	0.7	0	16.34	0
46	365	9.64	3.75	21.78	0.69	0	16.31	0
-	-	9.03	3.51	18.31	0.93	0	15.44	0
46	366	9.03	3.51	18.42	0.92	0	15.55	0
-	-	7.23	2.81	13.06	0.58	0	10.43	0
46	367	7.23	2.81	13.18	0.58	0	10.48	0
-	-	4.22	1.64	7.4	0.28	0	6.06	0
46	368	4.22	1.64	7.49	0.28	0	6.24	0
-	-	0	0	-0.04	0	0	0.02	-0.11
47	369	0	0	-0.05	0	0	0.07	-0.08
-	-	4.22	1.64	8.28	0.17	0	5.9	0
47	370	4.22	1.64	8.18	0.17	0	5.8	0
-	-	7.23	2.81	14.47	0.35	0	10.24	0
47	371	7.23	2.81	14.33	0.35	0	10.29	0
-	-	9.03	3.51	20.33	0.53	0	14.85	0
47	372	9.03	3.51	20.24	0.53	0	14.88	0
-	-	9.64	3.75	21.83	0.76	0	16.4	0
47	373	9.64	3.75	21.9	0.75	0	16.36	0
-	-	9.03	3.51	18.66	1.06	0	16	0
47	374	9.03	3.51	18.77	1.06	0	16.11	0
-	-	7.23	2.81	13.34	0.64	0	10.38	0
47	375	7.23	2.81	13.43	0.64	0	10.65	0
-	-	4.22	1.64	7.55	0.3	0	6.24	0
47	376	4.22	1.64	7.63	0.3	0	6.56	0
-	-	0	0	-0.04	0	0	0.02	-0.22
48	377	0	0	-0.05	0	0	0.08	-0.08
-	-	4.22	1.64	8.12	0.22	0	5.73	0
48	378	4.22	1.64	8.02	0.22	0	5.67	0
-	-	7.23	2.81	14.18	0.43	0	10.04	0
48	379	7.23	2.81	14.04	0.43	0	10.09	0
-	-	9.03	3.51	20.02	0.61	0	14.38	0
48	380	9.03	3.51	19.92	0.61	0	14.38	0
-	-	9.64	3.75	21.88	0.79	0	16.32	0
48	381	9.64	3.75	21.95	0.79	0	16.34	0
-	-	9.03	3.51	19.07	1.01	0	16.15	0
48	382	9.03	3.51	19.18	1.01	0	16.52	0
-	-	7.23	2.81	13.58	0.62	0	10.49	0
48	383	7.23	2.81	13.68	0.62	0	10.91	0
-	-	4.22	1.64	7.7	0.3	0	6.39	0
48	384	4.22	1.64	7.79	0.3	0	6.78	0
-	-	0	0	-0.04	0	0	0.02	-0.27
49	385	0	0	-0.05	0	0	0.07	-0.08
-	-	4.22	1.64	7.95	0.28	0	5.6	0
49	386	4.22	1.64	7.86	0.28	0	5.54	0
-	-	7.23	2.81	13.92	0.55	0	9.82	0

49	387	7.23	2.81	13.79	0.55	0	9.86	0
-	-	9.03	3.51	19.63	0.78	0	13.89	0
49	388	9.03	3.51	19.53	0.78	0	13.9	0
-	-	9.64	3.75	21.91	0.83	0	16.3	0
49	389	9.64	3.75	21.91	0.83	0	16.35	0
-	-	9.03	3.51	19.53	0.78	0	15.6	0
49	390	9.03	3.51	19.63	0.78	0	15.97	0
-	-	7.23	2.81	13.79	0.55	0	11.03	0
49	391	7.23	2.81	13.92	0.55	0	11.29	0
-	-	4.22	1.64	7.86	0.28	0	6.49	0
49	392	4.22	1.64	7.95	0.28	0	6.78	0
-	-	0	0	-0.05	0	0	0.02	-0.2
50	393	0	0	-0.04	0	0	0.04	-0.08
-	-	4.22	1.64	7.79	0.3	0	5.53	0
50	394	4.22	1.64	7.7	0.3	0	5.43	0
-	-	7.23	2.81	13.68	0.62	0	9.64	0
50	395	7.23	2.81	13.58	0.62	0	9.65	0
-	-	9.03	3.51	19.18	1.01	0	13.53	0
50	396	9.03	3.51	19.07	1.01	0	13.44	0
-	-	9.64	3.75	21.95	0.79	0	16.64	0
50	397	9.64	3.75	21.88	0.79	0	16.23	0
-	-	9.03	3.51	19.92	0.61	0	15.8	0
50	398	9.03	3.51	20.02	0.61	0	15.83	0
-	-	7.23	2.81	14.04	0.43	0	11.52	0
50	399	7.23	2.81	14.18	0.43	0	11.66	0
-	-	4.22	1.64	8.02	0.22	0	6.62	0
50	400	4.22	1.64	8.12	0.22	0	6.78	0
-	-	0	0	-0.05	0	0	0.03	-0.11
51	401	0	0	-0.04	0	0	0.02	-0.11
-	-	4.22	1.64	7.63	0.3	0	5.54	0
51	402	4.22	1.64	7.55	0.3	0	5.35	0
-	-	7.23	2.81	13.43	0.64	0	9.46	0
51	403	7.23	2.81	13.34	0.64	0	9.42	0
-	-	9.03	3.51	18.77	1.06	0	13.12	0
51	404	9.03	3.51	18.66	1.06	0	13.05	0
-	-	9.64	3.75	21.9	0.75	0	16.41	0
51	405	9.64	3.75	21.83	0.76	0	16.22	0
-	-	9.03	3.51	20.24	0.53	0	15.68	0
51	406	9.03	3.51	20.33	0.53	0	15.75	0
-	-	7.23	2.81	14.33	0.35	0	12.03	0
51	407	7.23	2.81	14.47	0.35	0	12.06	0
-	-	4.22	1.64	8.18	0.17	0	6.72	0
51	408	4.22	1.64	8.28	0.17	0	6.81	0
-	-	0	0	-0.05	0	0	0.07	-0.09
52	409	0	0	-0.04	0	0	0.02	-0.17
-	-	4.22	1.64	7.49	0.28	0	5.53	0

52	410	4.22	1.64	7.4	0.28	0	5.26	0
-	-	7.23	2.81	13.18	0.58	0	9.28	0
52	411	7.23	2.81	13.06	0.58	0	9.17	0
-	-	9.03	3.51	18.42	0.92	0	12.72	0
52	412	9.03	3.51	18.31	0.93	0	12.53	0
-	-	9.64	3.75	21.78	0.69	0	16.58	0
52	413	9.64	3.75	21.74	0.7	0	16.28	0
-	-	9.03	3.51	20.48	0.51	0	15.83	0
52	414	9.03	3.51	20.59	0.52	0	15.94	0
-	-	7.23	2.81	14.65	0.34	0	12.44	0
52	415	7.23	2.81	14.8	0.34	0	12.48	0
-	-	4.22	1.64	8.34	0.17	0	6.79	0
52	416	4.22	1.64	8.44	0.17	0	6.86	0
-	-	0	0	-0.05	0	0	0.09	-0.1
53	417	0	0	-0.04	0	0	0.02	-0.2
-	-	4.22	1.64	7.34	0.25	0	5.43	0
53	418	4.22	1.64	7.25	0.25	0	5.14	0
-	-	7.23	2.81	12.95	0.49	0	9.1	0
53	419	7.23	2.81	12.84	0.49	0	8.98	0
-	-	9.03	3.51	18	0.65	0	12.3	0
53	420	9.03	3.51	17.89	0.66	0	11.87	0
-	-	9.64	3.75	21.68	0.65	0	16.95	0
53	421	9.64	3.75	21.63	0.65	0	16.73	0
-	-	9.03	3.51	20.67	0.55	0	15.62	0
53	422	9.03	3.51	20.77	0.55	0	15.78	0
-	-	7.23	2.81	15.02	0.4	0	12.87	0
53	423	7.23	2.81	15.17	0.4	0	12.9	0
-	-	4.22	1.64	8.49	0.21	0	6.92	0
53	424	4.22	1.64	8.59	0.21	0	6.96	0
-	-	0	0	-0.06	0	0	0.09	-0.1
54	425	0	0	-0.04	0	0	0.02	-0.15
-	-	4.22	1.64	7.18	0.2	0	5.24	0
54	426	4.22	1.64	7.11	0.2	0	5.01	0
-	-	7.23	2.81	12.74	0.37	0	8.87	0
54	427	7.23	2.81	12.66	0.38	0	8.8	0
-	-	9.03	3.51	17.56	0.51	0	12.08	0
54	428	9.03	3.51	17.43	0.51	0	11.93	0
-	-	9.64	3.75	21.56	0.59	0	16.42	0
54	429	9.64	3.75	21.48	0.59	0	16.34	0
-	-	9.03	3.51	20.81	0.62	0	15.71	0
54	430	9.03	3.51	20.87	0.62	0	15.68	0
-	-	7.23	2.81	15.44	0.54	0	13.21	0
54	431	7.23	2.81	15.58	0.54	0	13.28	0
-	-	4.22	1.64	8.61	0.31	0	7.12	0
54	432	4.22	1.64	8.75	0.3	0	7.19	0
-	-	0	0	-0.06	0	0	0.07	-0.1

55	433	0	0	-0.03	0	0	0.02	-0.07
-	-	4.22	1.64	7.03	0.16	0	5.04	0
55	434	4.22	1.64	6.96	0.16	0	4.91	0
-	-	7.23	2.81	12.52	0.3	0	8.65	0
55	435	7.23	2.81	12.44	0.3	0	8.63	0
-	-	9.03	3.51	17.16	0.43	0	11.88	0
55	436	9.03	3.51	17.03	0.43	0	11.89	0
-	-	9.64	3.75	21.37	0.55	0	15.77	0
55	437	9.64	3.75	21.28	0.55	0	15.75	0
-	-	9.03	3.51	20.91	0.67	0	15.75	0
55	438	9.03	3.51	20.96	0.66	0	15.73	0
-	-	7.23	2.81	15.84	0.81	0	13.73	0
55	439	7.23	2.81	15.97	0.81	0	13.77	0
-	-	4.22	1.64	8.75	0.39	0	7.24	0
55	440	4.22	1.64	8.9	0.39	0	7.46	0
-	-	0	0	-0.06	0	0	0.03	-0.14
56	441	0	0	-0.03	0	0	0.05	-0.06
-	-	4.22	1.64	6.89	0.15	0	4.84	0
56	442	4.22	1.64	6.82	0.15	0	4.78	0
-	-	7.23	2.81	12.29	0.3	0	8.46	0
56	443	7.23	2.81	12.22	0.3	0	8.47	0
-	-	9.03	3.51	16.8	0.43	0	11.69	0
56	444	9.03	3.51	16.68	0.43	0	11.74	0
-	-	9.64	3.75	21.11	0.56	0	15.35	0
56	445	9.64	3.75	21.03	0.56	0	15.38	0
-	-	9.03	3.51	20.99	0.72	0	15.78	0
56	446	9.03	3.51	21.07	0.72	0	15.75	0
-	-	7.23	2.81	16.16	0.95	0	14.19	0
56	447	7.23	2.81	16.28	0.95	0	14.38	0
-	-	4.22	1.64	8.95	0.45	0	7.22	0
56	448	4.22	1.64	9.06	0.45	0	7.75	0
-	-	0	0	-0.06	0	0	0.03	-0.27
57	449	0	0	-0.03	0	0	0.06	-0.07
-	-	4.22	1.64	6.74	0.18	0	4.68	0
57	450	4.22	1.64	6.68	0.18	0	4.64	0
-	-	7.23	2.81	12.07	0.35	0	8.29	0
57	451	7.23	2.81	12	0.35	0	8.32	0
-	-	9.03	3.51	16.48	0.5	0	11.48	0
57	452	9.03	3.51	16.36	0.5	0	11.54	0
-	-	9.64	3.75	20.78	0.62	0	14.81	0
57	453	9.64	3.75	20.7	0.62	0	14.82	0
-	-	9.03	3.51	21.03	0.75	0	15.72	0
57	454	9.03	3.51	21.11	0.74	0	15.81	0
-	-	7.23	2.81	16.53	0.9	0	13.98	0
57	455	7.23	2.81	16.65	0.9	0	14.4	0
-	-	4.22	1.64	9.12	0.42	0	7.38	0

57	456	4.22	1.64	9.23	0.43	0	8.04	0
-	-	0	0	-0.06	0	0	0.04	-0.11
58	457	0	0	-0.03	0	0	0.06	-0.06
-	-	4.22	1.64	6.6	0.2	0	4.56	0
58	458	4.22	1.64	6.54	0.2	0	4.51	0
-	-	7.23	2.81	11.85	0.4	0	8.12	0
58	459	7.23	2.81	11.78	0.4	0	8.15	0
-	-	9.03	3.51	16.2	0.61	0	11.26	0
58	460	9.03	3.51	16.09	0.61	0	11.31	0
-	-	9.64	3.75	20.39	0.77	0	14.47	0
58	461	9.64	3.75	20.3	0.77	0	14.41	0
-	-	9.03	3.51	21.04	0.77	0	15.71	0
58	462	9.03	3.51	21.06	0.77	0	15.7	0
-	-	7.23	2.81	16.95	0.66	0	13.89	0
58	463	7.23	2.81	17.07	0.66	0	14.17	0
-	-	4.22	1.64	9.24	0.36	0	7.91	0
58	464	4.22	1.64	9.39	0.36	0	8.3	0
-	-	0	0	-0.06	0	0	0.04	-0.27
59	465	0	0	-0.02	0	0	0.03	-0.06
-	-	4.22	1.64	6.45	0.2	0	4.51	0
59	466	4.22	1.64	6.4	0.2	0	4.44	0
-	-	7.23	2.81	11.63	0.42	0	7.96	0
59	467	7.23	2.81	11.57	0.41	0	7.98	0
-	-	9.03	3.51	15.93	0.67	0	11.05	0
59	468	9.03	3.51	15.86	0.67	0	11.08	0
-	-	9.64	3.75	19.93	0.99	0	14	0
59	469	9.64	3.75	19.84	0.99	0	14.02	0
-	-	9.03	3.51	21.06	0.72	0	15.8	0
59	470	9.03	3.51	21.02	0.72	0	15.76	0
-	-	7.23	2.81	17.3	0.49	0	13.73	0
59	471	7.23	2.81	17.42	0.49	0	13.92	0
-	-	4.22	1.64	9.41	0.25	0	8.35	0
59	472	4.22	1.64	9.58	0.26	0	8.51	0
-	-	0	0	-0.06	0	0	0.03	-0.13
60	473	0	0	-0.02	0	0	0.01	-0.08
-	-	4.22	1.64	6.31	0.2	0	4.48	0
60	474	4.22	1.64	6.27	0.19	0	4.35	0
-	-	7.23	2.81	11.42	0.41	0	7.81	0
60	475	7.23	2.81	11.36	0.41	0	7.79	0
-	-	9.03	3.51	15.67	0.68	0	10.88	0
60	476	9.03	3.51	15.6	0.67	0	10.85	0
-	-	9.64	3.75	19.51	1.03	0	13.57	0
60	477	9.64	3.75	19.42	1.03	0	13.56	0
-	-	9.03	3.51	21.01	0.68	0	15.79	0
60	478	9.03	3.51	20.95	0.68	0	15.76	0
-	-	7.23	2.81	17.58	0.41	0	13.93	0

60	479	7.23	2.81	17.69	0.41	0	14.36	0
-	-	4.22	1.64	9.61	0.19	0	8.58	0
60	480	4.22	1.64	9.78	0.2	0	8.73	0
-	-	0	0	-0.06	0	0	0.04	-0.12
61	481	0	0	-0.02	0	0	0.01	-0.13
-	-	4.22	1.64	6.18	0.19	0	4.44	0
61	482	4.22	1.64	6.13	0.19	0	4.25	0
-	-	7.23	2.81	11.21	0.39	0	7.66	0
61	483	7.23	2.81	11.15	0.39	0	7.59	0
-	-	9.03	3.51	15.4	0.61	0	10.71	0
61	484	9.03	3.51	15.31	0.61	0	10.62	0
-	-	9.64	3.75	19.16	0.9	0	13.15	0
61	485	9.64	3.75	19.06	0.9	0	13.01	0
-	-	9.03	3.51	20.87	0.61	0	15.87	0
61	486	9.03	3.51	20.85	0.61	0	15.58	0
-	-	7.23	2.81	17.79	0.38	0	13.67	0
61	487	7.23	2.81	17.9	0.38	0	13.77	0
-	-	4.22	1.64	9.85	0.18	0	8.91	0
61	488	4.22	1.64	10.02	0.18	0	8.92	0
-	-	0	0	-0.06	0	0	0.14	-0.14
62	489	0	0	-0.02	0	0	0.01	-0.14
-	-	4.22	1.64	6.04	0.18	0	4.34	0
62	490	4.22	1.64	6	0.18	0	4.14	0
-	-	7.23	2.81	11.01	0.36	0	7.51	0
62	491	7.23	2.81	10.95	0.36	0	7.42	0
-	-	9.03	3.51	15.16	0.53	0	10.53	0
62	492	9.03	3.51	15.07	0.53	0	10.43	0
-	-	9.64	3.75	18.74	0.63	0	12.74	0
62	493	9.64	3.75	18.64	0.63	0	12.33	0
-	-	9.03	3.51	20.76	0.55	0	16.42	0
62	494	9.03	3.51	20.73	0.55	0	16.22	0
-	-	7.23	2.81	17.93	0.4	0	13.89	0
62	495	7.23	2.81	18.05	0.39	0	13.9	0
-	-	4.22	1.64	10.13	0.2	0	9.28	0
62	496	4.22	1.64	10.29	0.2	0	9.31	0
-	-	0	0	-0.06	0	0	0.15	-0.16
63	497	0	0	-0.02	0	0	0.01	-0.1
-	-	4.22	1.64	5.9	0.16	0	4.2	0
63	498	4.22	1.64	5.86	0.16	0	4.04	0
-	-	7.23	2.81	10.81	0.3	0	7.35	0
63	499	7.23	2.81	10.76	0.31	0	7.3	0
-	-	9.03	3.51	14.92	0.41	0	10.31	0
63	500	9.03	3.51	14.87	0.42	0	10.24	0
-	-	9.64	3.75	18.29	0.48	0	12.51	0
63	501	9.64	3.75	18.18	0.48	0	12.37	0
-	-	9.03	3.51	20.63	0.49	0	15.66	0

63	502	9.03	3.51	20.57	0.49	0	15.66	0
-	-	7.23	2.81	18.03	0.43	0	13.67	0
63	503	7.23	2.81	18.11	0.43	0	13.75	0
-	-	4.22	1.64	10.45	0.28	0	9.71	0
63	504	4.22	1.64	10.61	0.28	0	9.72	0
-	-	0	0	-0.09	0	0	0.03	-0.11
64	505	0	0	-0.02	0	0	0.01	-0.05
-	-	4.22	1.64	5.76	0.13	0	4.02	0
64	506	4.22	1.64	5.73	0.13	0	3.94	0
-	-	7.23	2.81	10.61	0.25	0	7.19	0
64	507	7.23	2.81	10.57	0.25	0	7.2	0
-	-	9.03	3.51	14.69	0.34	0	10.08	0
64	508	9.03	3.51	14.64	0.34	0	10.08	0
-	-	9.64	3.75	17.89	0.4	0	12.31	0
64	509	9.64	3.75	17.78	0.4	0	12.32	0
-	-	9.03	3.51	20.43	0.45	0	15.15	0
64	510	9.03	3.51	20.36	0.44	0	15.21	0
-	-	7.23	2.81	18.08	0.47	0	14.04	0
64	511	7.23	2.81	18.14	0.47	0	14.09	0
-	-	4.22	1.64	10.75	0.53	0	10.16	0
64	512	4.22	1.64	10.91	0.52	0	10.34	0
-	-	0	0	-0.11	0	0	0.05	-0.16
65	513	0	0	-0.01	0	0	0.04	-0.05
-	-	4.22	1.64	5.63	0.12	0	3.85	0
65	514	4.22	1.64	5.6	0.12	0	3.82	0
-	-	7.23	2.81	10.42	0.23	0	7.05	0
65	515	7.23	2.81	10.39	0.24	0	7.08	0
-	-	9.03	3.51	14.46	0.32	0	9.88	0
65	516	9.03	3.51	14.42	0.33	0	9.91	0
-	-	9.64	3.75	17.53	0.39	0	12.12	0
65	517	9.64	3.75	17.42	0.39	0	12.17	0
-	-	9.03	3.51	20.16	0.45	0	14.58	0
65	518	9.03	3.51	20.09	0.45	0	14.57	0
-	-	7.23	2.81	18.12	0.53	0	13.88	0
65	519	7.23	2.81	18.21	0.53	0	14.01	0
-	-	4.22	1.64	10.95	0.65	0	10.54	0
65	520	4.22	1.64	11.1	0.65	0	10.88	0
-	-	0	0	-0.06	0	0	0.12	-0.18
66	521	0	0	-0.01	0	0	0.05	-0.05
-	-	4.22	1.64	5.49	0.12	0	3.69	0
66	522	4.22	1.64	5.47	0.13	0	3.69	0
-	-	7.23	2.81	10.24	0.25	0	6.91	0
66	523	7.23	2.81	10.21	0.25	0	6.96	0
-	-	9.03	3.51	14.23	0.36	0	9.7	0
66	524	9.03	3.51	14.19	0.36	0	9.74	0
-	-	9.64	3.75	17.21	0.45	0	11.92	0

66	525	9.64	3.75	17.11	0.45	0	11.97	0
-	-	9.03	3.51	19.83	0.51	0	14.24	0
66	526	9.03	3.51	19.76	0.5	0	14.22	0
-	-	7.23	2.81	18.11	0.55	0	13.9	0
66	527	7.23	2.81	18.2	0.54	0	13.9	0
-	-	4.22	1.64	11.21	0.61	0	10.79	0
66	528	4.22	1.64	11.35	0.61	0	11.35	0
-	-	0	0	-0.06	0	0	0.15	-0.7
67	529	0	0	-0.01	0	0	0.05	-0.04
-	-	4.22	1.64	5.36	0.13	0	3.6	0
67	530	4.22	1.64	5.34	0.13	0	3.59	0
-	-	7.23	2.81	10.06	0.26	0	6.78	0
67	531	7.23	2.81	10.03	0.26	0	6.82	0
-	-	9.03	3.51	14	0.4	0	9.53	0
67	532	9.03	3.51	13.96	0.4	0	9.57	0
-	-	9.64	3.75	16.93	0.55	0	11.71	0
67	533	9.64	3.75	16.83	0.55	0	11.76	0
-	-	9.03	3.51	19.43	0.64	0	13.73	0
67	534	9.03	3.51	19.36	0.64	0	13.78	0
-	-	7.23	2.81	18.09	0.57	0	13.9	0
67	535	7.23	2.81	18.11	0.57	0	13.93	0
-	-	4.22	1.64	11.52	0.39	0	10.49	0
67	536	4.22	1.64	11.65	0.39	0	10.59	0
-	-	0	0	-0.1	0	0	0.03	-0.13
68	537	0	0	0	0	0	0.04	-0.04
-	-	4.22	1.64	5.22	0.12	0	3.54	0
68	538	4.22	1.64	5.21	0.12	0	3.51	0
-	-	7.23	2.81	9.88	0.25	0	6.65	0
68	539	7.23	2.81	9.86	0.25	0	6.68	0
-	-	9.03	3.51	13.78	0.4	0	9.38	0
68	540	9.03	3.51	13.74	0.4	0	9.41	0
-	-	9.64	3.75	16.67	0.59	0	11.51	0
68	541	9.64	3.75	16.61	0.59	0	11.54	0
-	-	9.03	3.51	18.96	0.86	0	13.27	0
68	542	9.03	3.51	18.89	0.86	0	13.33	0
-	-	7.23	2.81	18.06	0.54	0	13.75	0
68	543	7.23	2.81	18.02	0.55	0	13.82	0
-	-	4.22	1.64	11.76	0.27	0	10.98	0
68	544	4.22	1.64	11.89	0.27	0	11.48	0
-	-	0	0	-0.12	0	0	0.09	-0.76
69	545	0	0	0	0	0	0.01	-0.05
-	-	4.22	1.64	5.09	0.11	0	3.49	0
69	546	4.22	1.64	5.09	0.11	0	3.42	0
-	-	7.23	2.81	9.71	0.23	0	6.53	0
69	547	7.23	2.81	9.69	0.23	0	6.53	0
-	-	9.03	3.51	13.57	0.38	0	9.24	0

69	548	9.03	3.51	13.54	0.38	0	9.24	0
-	-	9.64	3.75	16.41	0.6	0	11.33	0
69	549	9.64	3.75	16.36	0.59	0	11.32	0
-	-	9.03	3.51	18.54	0.91	0	12.85	0
69	550	9.03	3.51	18.46	0.91	0	12.86	0
-	-	7.23	2.81	17.97	0.52	0	13.72	0
69	551	7.23	2.81	17.92	0.53	0	13.68	0
-	-	4.22	1.64	11.92	0.23	0	10.4	0
69	552	4.22	1.64	12.04	0.24	0	10.64	0
-	-	0	0	-0.11	0	0	0.12	-0.48
70	553	0	0	0	0	0	0.01	-0.07
-	-	4.22	1.64	4.97	0.11	0	3.43	0
70	554	4.22	1.64	4.96	0.11	0	3.33	0
-	-	7.23	2.81	9.54	0.22	0	6.41	0
70	555	7.23	2.81	9.52	0.22	0	6.38	0
-	-	9.03	3.51	13.37	0.35	0	9.12	0
70	556	9.03	3.51	13.34	0.35	0	9.06	0
-	-	9.64	3.75	16.15	0.52	0	11.17	0
70	557	9.64	3.75	16.08	0.52	0	11.09	0
-	-	9.03	3.51	18.18	0.77	0	12.43	0
70	558	9.03	3.51	18.1	0.77	0	12.31	0
-	-	7.23	2.81	17.79	0.45	0	13.87	0
70	559	7.23	2.81	17.77	0.45	0	13.59	0
-	-	4.22	1.64	12.01	0.21	0	11.06	0
70	560	4.22	1.64	12.13	0.22	0	11.4	0
-	-	0	0	-0.11	0	0	0.16	-0.61
71	561	0	0	0	0	0	0.01	-0.08
-	-	4.22	1.64	4.84	0.11	0	3.34	0
71	562	4.22	1.64	4.84	0.11	0	3.23	0
-	-	7.23	2.81	9.37	0.21	0	6.29	0
71	563	7.23	2.81	9.36	0.21	0	6.25	0
-	-	9.03	3.51	13.17	0.32	0	8.98	0
71	564	9.03	3.51	13.14	0.33	0	8.91	0
-	-	9.64	3.75	15.92	0.43	0	11	0
71	565	9.64	3.75	15.85	0.43	0	10.91	0
-	-	9.03	3.51	17.76	0.47	0	12.01	0
71	566	9.03	3.51	17.68	0.47	0	11.63	0
-	-	7.23	2.81	17.63	0.36	0	14.21	0
71	567	7.23	2.81	17.61	0.36	0	13.99	0
-	-	4.22	1.64	12.04	0.18	0	10.38	0
71	568	4.22	1.64	12.15	0.18	0	11.13	0
-	-	0	0	-0.1	0	0	0.17	-0.54
72	569	0	0	0.01	0	0	0.01	-0.06
-	-	4.22	1.64	4.71	0.1	0	3.22	0
72	570	4.22	1.64	4.72	0.1	0	3.13	0
-	-	7.23	2.81	9.21	0.19	0	6.17	0

72	571	7.23	2.81	9.21	0.2	0	6.15	0
-	-	9.03	3.51	12.98	0.27	0	8.84	0
72	572	9.03	3.51	12.96	0.27	0	8.8	0
-	-	9.64	3.75	15.7	0.31	0	10.79	0
72	573	9.64	3.75	15.66	0.31	0	10.74	0
-	-	9.03	3.51	17.31	0.29	0	11.78	0
72	574	9.03	3.51	17.22	0.29	0	11.65	0
-	-	7.23	2.81	17.47	0.24	0	13.64	0
72	575	7.23	2.81	17.41	0.23	0	13.69	0
-	-	4.22	1.64	12.02	0.13	0	10.14	0
72	576	4.22	1.64	12.11	0.13	0	10.49	0
-	-	0	0	-0.08	0	0	0.17	-0.32
73	577	0	0	0.01	0	0	0.01	-0.03
-	-	4.22	1.64	4.59	0.09	0	3.07	0
73	578	4.22	1.64	4.6	0.09	0	3.03	0
-	-	7.23	2.81	9.05	0.17	0	6.05	0
73	579	7.23	2.81	9.06	0.17	0	6.07	0
-	-	9.03	3.51	12.8	0.22	0	8.69	0
73	580	9.03	3.51	12.78	0.22	0	8.7	0
-	-	9.64	3.75	15.48	0.23	0	10.58	0
73	581	9.64	3.75	15.45	0.23	0	10.58	0
-	-	9.03	3.51	16.91	0.21	0	11.59	0
73	582	9.03	3.51	16.82	0.21	0	11.6	0
-	-	7.23	2.81	17.23	0.16	0	12.99	0
73	583	7.23	2.81	17.17	0.16	0	12.97	0
-	-	4.22	1.64	11.95	0.09	0	9.86	0
73	584	4.22	1.64	12.04	0.08	0	9.94	0
-	-	4.22	1.64	11.95	0.09	0	9.86	0
73	584	4.22	1.64	12.04	0.08	0	9.94	0
-	-	0	0	-0.07	0	0	0.14	-0.16
74	585	0	0	0.01	0	0	0.04	-0.03
-	-	4.22	1.64	4.46	0.08	0	2.92	0
74	586	4.22	1.64	4.49	0.08	0	2.93	0
-	-	7.23	2.81	8.9	0.15	0	5.94	0
74	587	7.23	2.81	8.91	0.15	0	5.98	0
-	-	9.03	3.51	12.62	0.2	0	8.55	0
74	588	9.03	3.51	12.61	0.2	0	8.59	0
-	-	9.64	3.75	15.27	0.22	0	10.4	0
74	589	9.64	3.75	15.24	0.22	0	10.42	0
-	-	9.03	3.51	16.55	0.2	0	11.41	0
74	590	9.03	3.51	16.46	0.2	0	11.44	0
-	-	7.23	2.81	16.93	0.15	0	12.6	0
74	591	7.23	2.81	16.87	0.15	0	12.62	0
-	-	4.22	1.64	11.85	0.08	0	9.63	0
74	592	4.22	1.64	11.93	0.08	0	9.61	0
-	-	0	0	-0.06	0	0	0.04	-0.13
75	593	0	0	0.02	0	0	0.05	-0.02
-	-	4.22	1.64	4.34	0.07	0	2.78	0

75	594	4.22	1.64	4.37	0.07	0	2.82	0
-	-	7.23	2.81	8.75	0.14	0	5.84	0
75	595	7.23	2.81	8.77	0.14	0	5.89	0
-	-	9.03	3.51	12.45	0.2	0	8.43	0
75	596	9.03	3.51	12.45	0.21	0	8.47	0
-	-	9.64	3.75	15.05	0.24	0	10.24	0
75	597	9.64	3.75	15.03	0.25	0	10.26	0
-	-	9.03	3.51	16.24	0.25	0	11.22	0
75	598	9.03	3.51	16.14	0.25	0	11.26	0
-	-	7.23	2.81	16.57	0.2	0	12.02	0
75	599	7.23	2.81	16.51	0.2	0	12.09	0
-	-	4.22	1.64	11.73	0.12	0	9.42	0
75	600	4.22	1.64	11.79	0.11	0	9.43	0
-	-	0	0	-0.05	0	0	0.04	-0.44
76	601	0	0	0.02	0	0	0.05	-0.02
-	-	4.22	1.64	4.22	0.06	0	2.67	0
76	602	4.22	1.64	4.26	0.06	0	2.74	0
-	-	7.23	2.81	8.61	0.13	0	5.74	0
76	603	7.23	2.81	8.63	0.13	0	5.8	0
-	-	9.03	3.51	12.29	0.21	0	8.3	0
76	604	9.03	3.51	12.29	0.21	0	8.35	0
-	-	9.64	3.75	14.85	0.28	0	10.09	0
76	605	9.64	3.75	14.83	0.28	0	10.12	0
-	-	9.03	3.51	15.96	0.35	0	11.03	0
76	606	9.03	3.51	15.88	0.35	0	11.07	0
-	-	7.23	2.81	16.13	0.36	0	11.5	0
76	607	7.23	2.81	16.07	0.36	0	11.57	0
-	-	4.22	1.64	11.6	0.21	0	9.17	0
76	608	4.22	1.64	11.63	0.21	0	9.13	0
-	-	0	0	-0.03	0	0	0.09	-0.12
77	609	0	0	0.03	0	0	0.05	-0.02
-	-	4.22	1.64	4.11	0.06	0	2.6	0
77	610	4.22	1.64	4.16	0.06	0	2.67	0
-	-	7.23	2.81	8.47	0.12	0	5.65	0
77	611	7.23	2.81	8.51	0.12	0	5.7	0
-	-	9.03	3.51	12.13	0.19	0	8.19	0
77	612	9.03	3.51	12.15	0.19	0	8.23	0
-	-	9.64	3.75	14.65	0.29	0	9.94	0
77	613	9.64	3.75	14.64	0.29	0	9.97	0
-	-	9.03	3.51	15.71	0.43	0	10.84	0
77	614	9.03	3.51	15.67	0.43	0	10.87	0
-	-	7.23	2.81	15.63	0.64	0	11.01	0
77	615	7.23	2.81	15.57	0.64	0	11.07	0
-	-	4.22	1.64	11.47	0.29	0	9.14	0
77	616	4.22	1.64	11.44	0.3	0	9.09	0
-	-	0	0	-0.01	0	0	0.04	-0.09

78	617	0	0	0.03	0	0	0.04	-0.02
-	-	4.22	1.64	4	0.05	0	2.56	0
78	618	4.22	1.64	4.05	0.05	0	2.61	0
-	-	7.23	2.81	8.34	0.11	0	5.56	0
78	619	7.23	2.81	8.38	0.11	0	5.6	0
-	-	9.03	3.51	11.98	0.18	0	8.08	0
78	620	9.03	3.51	12	0.18	0	8.11	0
-	-	9.64	3.75	14.46	0.29	0	9.81	0
78	621	9.64	3.75	14.45	0.29	0	9.83	0
-	-	9.03	3.51	15.46	0.47	0	10.65	0
78	622	9.03	3.51	15.44	0.47	0	10.67	0
-	-	7.23	2.81	15.18	0.75	0	10.52	0
78	623	7.23	2.81	15.12	0.76	0	10.55	0
-	-	4.22	1.64	11.28	0.34	0	9.07	0
78	624	4.22	1.64	11.23	0.35	0	9.07	0
-	-	0	0	0	0	0	0.13	-0.1
79	625	0	0	0.03	0	0	0.02	-0.02
-	-	4.22	1.64	3.9	0.06	0	2.52	0
79	626	4.22	1.64	3.96	0.05	0	2.56	0
-	-	7.23	2.81	8.22	0.12	0	5.48	0
79	627	7.23	2.81	8.26	0.11	0	5.51	0
-	-	9.03	3.51	11.84	0.19	0	7.98	0
79	628	9.03	3.51	11.86	0.19	0	7.99	0
-	-	9.64	3.75	14.29	0.29	0	9.69	0
79	629	9.64	3.75	14.28	0.29	0	9.68	0
-	-	9.03	3.51	15.22	0.43	0	10.48	0
79	630	9.03	3.51	15.16	0.43	0	10.47	0
-	-	7.23	2.81	14.79	0.65	0	10.03	0
79	631	7.23	2.81	14.72	0.66	0	9.94	0
-	-	4.22	1.64	11.01	0.29	0	9.36	0
79	632	4.22	1.64	10.99	0.3	0	9.42	0
-	-	0	0	-0.01	0	0	0.04	-0.22
80	633	0	0	0.03	0	0	0.01	-0.01
-	-	4.22	1.64	3.8	0.06	0	2.48	0
80	634	4.22	1.64	3.86	0.06	0	2.5	0
-	-	7.23	2.81	8.1	0.13	0	5.4	0
80	635	7.23	2.81	8.14	0.12	0	5.42	0
-	-	9.03	3.51	11.7	0.2	0	7.88	0
80	636	9.03	3.51	11.73	0.2	0	7.88	0
-	-	9.64	3.75	14.12	0.27	0	9.57	0
80	637	9.64	3.75	14.12	0.27	0	9.54	0
-	-	9.03	3.51	15	0.35	0	10.32	0
80	638	9.03	3.51	14.94	0.35	0	10.28	0
-	-	7.23	2.81	14.36	0.37	0	9.58	0
80	639	7.23	2.81	14.28	0.37	0	9.22	0
-	-	4.22	1.64	10.76	0.21	0	9.47	0

80	640	4.22	1.64	10.73	0.21	0	9.57	0
-	-	0	0	0	0	0	0.04	-0.43
81	641	0	0	0.04	0	0	0.01	-0.01
-	-	4.22	1.64	3.7	0.06	0	2.42	0
81	642	4.22	1.64	3.77	0.06	0	2.45	0
-	-	7.23	2.81	7.98	0.13	0	5.32	0
81	643	7.23	2.81	8.03	0.13	0	5.34	0
-	-	9.03	3.51	11.57	0.18	0	7.79	0
81	644	9.03	3.51	11.6	0.18	0	7.8	0
-	-	9.64	3.75	13.96	0.22	0	9.45	0
81	645	9.64	3.75	13.96	0.22	0	9.43	0
-	-	9.03	3.51	14.79	0.23	0	10.13	0
81	646	9.03	3.51	14.77	0.23	0	10.09	0
-	-	7.23	2.81	13.89	0.19	0	9.34	0
81	647	7.23	2.81	13.8	0.19	0	9.21	0
-	-	4.22	1.64	10.51	0.11	0	8.72	0
81	648	4.22	1.64	10.44	0.11	0	8.78	0
-	-	0	0	0.01	0	0	0.04	-0.17
82	649	0	0	0.04	0	0	0.02	-0.01
-	-	4.22	1.64	3.61	0.06	0	2.35	0
82	650	4.22	1.64	3.69	0.06	0	2.4	0
-	-	7.23	2.81	7.87	0.11	0	5.24	0
82	651	7.23	2.81	7.93	0.11	0	5.28	0
-	-	9.03	3.51	11.45	0.15	0	7.7	0
82	652	9.03	3.51	11.49	0.15	0	7.73	0
-	-	9.64	3.75	13.81	0.17	0	9.33	0
82	653	9.64	3.75	13.82	0.17	0	9.35	0
-	-	9.03	3.51	14.6	0.15	0	9.93	0
82	654	9.03	3.51	14.58	0.15	0	9.93	0
-	-	7.23	2.81	13.47	0.12	0	9.15	0
82	655	7.23	2.81	13.38	0.11	0	9.14	0
-	-	4.22	1.64	10.21	0.06	0	7.96	0
82	656	4.22	1.64	10.12	0.06	0	7.95	0
-	-	0	0	0.01	0	0	0.08	-0.08
83	657	0	0	0.04	0	0	0.03	0
-	-	4.22	1.64	3.53	0.05	0	2.28	0
83	658	4.22	1.64	3.61	0.05	0	2.34	0
-	-	7.23	2.81	7.77	0.1	0	5.17	0
83	659	7.23	2.81	7.83	0.1	0	5.22	0
-	-	9.03	3.51	11.34	0.13	0	7.62	0
83	660	9.03	3.51	11.37	0.13	0	7.66	0
-	-	9.64	3.75	13.67	0.14	0	9.23	0
83	661	9.64	3.75	13.68	0.14	0	9.26	0
-	-	9.03	3.51	14.41	0.13	0	9.77	0
83	662	9.03	3.51	14.39	0.13	0	9.77	0
-	-	7.23	2.81	13.11	0.09	0	8.97	0

83	663	7.23	2.81	13.01	0.09	0	8.98	0
-	-	4.22	1.64	9.85	0.05	0	7.11	0
83	664	4.22	1.64	9.76	0.04	0	7.05	0
-	-	0	0	0.01	0	0	0.13	0
84	665	0	0	0.04	0	0	0.04	0
-	-	4.22	1.64	3.45	0.04	0	2.22	0
84	666	4.22	1.64	3.53	0.04	0	2.29	0
-	-	7.23	2.81	7.68	0.08	0	5.11	0
84	667	7.23	2.81	7.74	0.08	0	5.16	0
-	-	9.03	3.51	11.23	0.12	0	7.54	0
84	668	9.03	3.51	11.27	0.12	0	7.58	0
-	-	9.64	3.75	13.54	0.14	0	9.13	0
84	669	9.64	3.75	13.55	0.14	0	9.16	0
-	-	9.03	3.51	14.23	0.15	0	9.62	0
84	670	9.03	3.51	14.21	0.15	0	9.62	0
-	-	7.23	2.81	12.79	0.12	0	8.77	0
84	671	7.23	2.81	12.69	0.12	0	8.77	0
-	-	4.22	1.64	9.45	0.07	0	6.43	0
84	672	4.22	1.64	9.35	0.06	0	6.33	0
-	-	0	0	0.01	0	0	0.14	0
85	673	0	0	0.05	0	0	0.04	0
-	-	4.22	1.64	3.37	0.03	0	2.17	0
85	674	4.22	1.64	3.46	0.03	0	2.25	0
-	-	7.23	2.81	7.59	0.07	0	5.05	0
85	675	7.23	2.81	7.65	0.07	0	5.1	0
-	-	9.03	3.51	11.13	0.11	0	7.47	0
85	676	9.03	3.51	11.17	0.11	0	7.52	0
-	-	9.64	3.75	13.42	0.14	0	9.04	0
85	677	9.64	3.75	13.44	0.14	0	9.07	0
-	-	9.03	3.51	14.05	0.18	0	9.49	0
85	678	9.03	3.51	14.04	0.18	0	9.49	0
-	-	7.23	2.81	12.51	0.21	0	8.56	0
85	679	7.23	2.81	12.42	0.21	0	8.56	0
-	-	4.22	1.64	8.99	0.17	0	5.87	0
85	680	4.22	1.64	8.87	0.17	0	5.76	0
-	-	0	0	0.04	0	0	0.14	0
86	681	0	0	0.05	0	0	0.04	0
-	-	4.22	1.64	3.3	0.03	0	2.13	0
86	682	4.22	1.64	3.39	0.03	0	2.2	0
-	-	7.23	2.81	7.5	0.06	0	4.99	0
86	683	7.23	2.81	7.57	0.06	0	5.05	0
-	-	9.03	3.51	11.04	0.09	0	7.41	0
86	684	9.03	3.51	11.08	0.09	0	7.45	0
-	-	9.64	3.75	13.31	0.14	0	8.96	0
86	685	9.64	3.75	13.33	0.14	0	8.98	0
-	-	9.03	3.51	13.88	0.2	0	9.37	0

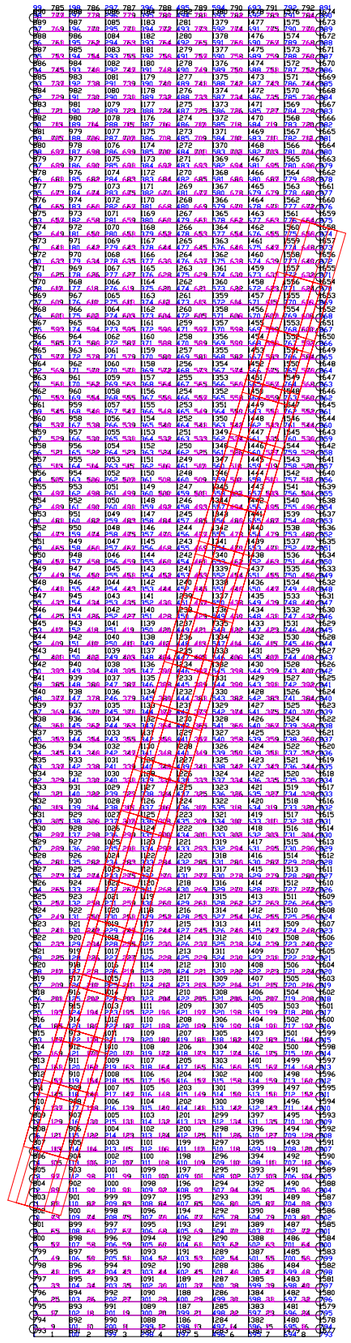
86	686	9.03	3.51	13.87	0.2	0	9.37	0
-	-	7.23	2.81	12.27	0.29	0	8.36	0
86	687	7.23	2.81	12.22	0.29	0	8.34	0
-	-	4.22	1.64	8.48	0.43	0	5.41	0
86	688	4.22	1.64	8.35	0.44	0	5.3	0
-	-	0	0	0.09	0	0	0.13	0
87	689	0	0	0.05	0	0	0.04	0
-	-	4.22	1.64	3.24	0.03	0	2.09	0
87	690	4.22	1.64	3.33	0.02	0	2.17	0
-	-	7.23	2.81	7.43	0.05	0	4.94	0
87	691	7.23	2.81	7.5	0.05	0	5	0
-	-	9.03	3.51	10.95	0.09	0	7.35	0
87	692	9.03	3.51	11	0.08	0	7.39	0
-	-	9.64	3.75	13.2	0.13	0	8.88	0
87	693	9.64	3.75	13.23	0.13	0	8.91	0
-	-	9.03	3.51	13.73	0.21	0	9.26	0
87	694	9.03	3.51	13.73	0.21	0	9.26	0
-	-	7.23	2.81	12.04	0.34	0	8.16	0
87	695	7.23	2.81	11.99	0.34	0	8.14	0
-	-	4.22	1.64	8.03	0.55	0	5.04	0
87	696	4.22	1.64	7.9	0.55	0	4.91	0
-	-	0	0	0.11	0	0	0.12	0
88	697	0	0	0.05	0	0	0.04	0
-	-	4.22	1.64	3.18	0.03	0	2.06	0
88	698	4.22	1.64	3.28	0.02	0	2.14	0
-	-	7.23	2.81	7.36	0.05	0	4.89	0
88	699	7.23	2.81	7.43	0.05	0	4.95	0
-	-	9.03	3.51	10.87	0.09	0	7.29	0
88	700	9.03	3.51	10.93	0.09	0	7.34	0
-	-	9.64	3.75	13.11	0.13	0	8.81	0
88	701	9.64	3.75	13.13	0.13	0	8.83	0
-	-	9.03	3.51	13.6	0.2	0	9.15	0
88	702	9.03	3.51	13.59	0.2	0	9.16	0
-	-	7.23	2.81	11.82	0.3	0	7.98	0
88	703	7.23	2.81	11.74	0.3	0	7.95	0
-	-	4.22	1.64	7.68	0.46	0	4.72	0
88	704	4.22	1.64	7.55	0.46	0	4.6	0
-	-	0	0	0.07	0	0	0.11	0
89	705	0	0	0.05	0	0	0.04	0
-	-	4.22	1.64	3.13	0.03	0	2.04	0
89	706	4.22	1.64	3.23	0.03	0	2.11	0
-	-	7.23	2.81	7.29	0.06	0	4.85	0
89	707	7.23	2.81	7.37	0.06	0	4.91	0
-	-	9.03	3.51	10.8	0.09	0	7.24	0
89	708	9.03	3.51	10.86	0.09	0	7.29	0
-	-	9.64	3.75	13.02	0.13	0	8.74	0

89	709	9.64	3.75	13.05	0.13	0	8.77	0
-	-	9.03	3.51	13.48	0.18	0	9.06	0
89	710	9.03	3.51	13.47	0.18	0	9.06	0
-	-	7.23	2.81	11.62	0.21	0	7.81	0
89	711	7.23	2.81	11.54	0.21	0	7.77	0
-	-	4.22	1.64	7.31	0.19	0	4.47	0
89	712	4.22	1.64	7.17	0.19	0	4.35	0
-	-	0	0	0.07	0	0	0.09	0
90	713	0	0	0.06	0	0	0.04	0
-	-	4.22	1.64	3.09	0.03	0	2.02	0
90	714	4.22	1.64	3.19	0.03	0	2.09	0
-	-	7.23	2.81	7.24	0.06	0	4.81	0
90	715	7.23	2.81	7.32	0.06	0	4.87	0
-	-	9.03	3.51	10.74	0.08	0	7.2	0
90	716	9.03	3.51	10.8	0.08	0	7.24	0
-	-	9.64	3.75	12.94	0.11	0	8.69	0
90	717	9.64	3.75	12.98	0.11	0	8.71	0
-	-	9.03	3.51	13.37	0.12	0	8.98	0
90	718	9.03	3.51	13.36	0.12	0	8.98	0
-	-	7.23	2.81	11.46	0.11	0	7.66	0
90	719	7.23	2.81	11.41	0.11	0	7.61	0
-	-	4.22	1.64	6.9	0.06	0	4.26	0
90	720	4.22	1.64	6.75	0.06	0	4.15	0
-	-	0	0	0.12	0	0	0.08	0
91	721	0	0	0.06	0	0	0.04	0
-	-	4.22	1.64	3.05	0.02	0	2	0
91	722	4.22	1.64	3.15	0.02	0	2.07	0
-	-	7.23	2.81	7.19	0.04	0	4.78	0
91	723	7.23	2.81	7.27	0.05	0	4.84	0
-	-	9.03	3.51	10.68	0.06	0	7.16	0
91	724	9.03	3.51	10.74	0.06	0	7.2	0
-	-	9.64	3.75	12.88	0.07	0	8.64	0
91	725	9.64	3.75	12.91	0.07	0	8.66	0
-	-	9.03	3.51	13.27	0.07	0	8.9	0
91	726	9.03	3.51	13.27	0.07	0	8.9	0
-	-	7.23	2.81	11.31	0.05	0	7.52	0
91	727	7.23	2.81	11.26	0.05	0	7.48	0
-	-	4.22	1.64	6.57	0.03	0	4.09	0
91	728	4.22	1.64	6.41	0.02	0	3.98	0
-	-	0	0	0.13	0	0	0.08	0
92	729	0	0	0.06	0	0	0.04	0
-	-	4.22	1.64	3.02	0.02	0	1.98	0
92	730	4.22	1.64	3.12	0.02	0	2.05	0
-	-	7.23	2.81	7.14	0.03	0	4.76	0
92	731	7.23	2.81	7.23	0.03	0	4.81	0
-	-	9.03	3.51	10.64	0.04	0	7.13	0

92	732	9.03	3.51	10.7	0.04	0	7.17	0
-	-	9.64	3.75	12.82	0.04	0	8.6	0
92	733	9.64	3.75	12.85	0.04	0	8.62	0
-	-	9.03	3.51	13.19	0.03	0	8.84	0
92	734	9.03	3.51	13.19	0.03	0	8.84	0
-	-	7.23	2.81	11.18	0.02	0	7.41	0
92	735	7.23	2.81	11.13	0.02	0	7.36	0
-	-	4.22	1.64	6.31	0.01	0	3.96	0
92	736	4.22	1.64	6.14	0.01	0	3.85	0
-	-	0	0	0.13	0	0	0.08	0
93	737	0	0	0.05	0	0	0.03	0
-	-	4.22	1.64	2.99	0.01	0	1.97	0
93	738	4.22	1.64	3.09	0.01	0	2.04	0
-	-	7.23	2.81	7.11	0.01	0	4.73	0
93	739	7.23	2.81	7.19	0.01	0	4.79	0
-	-	9.03	3.51	10.6	0.02	0	7.1	0
93	740	9.03	3.51	10.66	0.02	0	7.14	0
-	-	9.64	3.75	12.77	0.02	0	8.56	0
93	741	9.64	3.75	12.8	0.02	0	8.58	0
-	-	9.03	3.51	13.12	0.01	0	8.78	0
93	742	9.03	3.51	13.12	0.01	0	8.78	0
-	-	7.23	2.81	11.06	0.01	0	7.31	0
93	743	7.23	2.81	11	0.01	0	7.26	0
-	-	4.22	1.64	6.1	0	0	3.85	0
93	744	4.22	1.64	5.94	0	0	3.74	0
-	-	0	0	0.12	0	0	0.07	0
94	745	0	0	0.05	0	0	0.03	0
-	-	4.22	1.64	2.97	0	0	1.96	0
94	746	4.22	1.64	3.07	0	0	2.03	0
-	-	7.23	2.81	7.08	0	0	4.71	0
94	747	7.23	2.81	7.16	0	0	4.77	0
-	-	9.03	3.51	10.57	0	0	7.08	0
94	748	9.03	3.51	10.63	0	0	7.12	0
-	-	9.64	3.75	12.73	0	0	8.53	0
94	749	9.64	3.75	12.77	0	0	8.55	0
-	-	9.03	3.51	13.07	0	0	8.74	0
94	750	9.03	3.51	13.07	0	0	8.74	0
-	-	7.23	2.81	10.96	0	0	7.23	0
94	751	7.23	2.81	10.9	0	0	7.18	0
-	-	4.22	1.64	5.94	0	0	3.77	0
94	752	4.22	1.64	5.78	0	0	3.67	0
-	-	0	0	0.11	0	0	0.07	0
95	753	0	0	0.04	0	0	0.03	0
-	-	4.22	1.64	2.96	0	0	1.96	0
95	754	4.22	1.64	3.05	0	0	2.02	0
-	-	7.23	2.81	7.06	0	0	4.7	0

95	755	7.23	2.81	7.14	0	0	4.75	0
-	-	9.03	3.51	10.54	0	0	7.06	0
95	756	9.03	3.51	10.6	0	0	7.1	0
-	-	9.64	3.75	12.7	0	0	8.51	0
95	757	9.64	3.75	12.73	0	0	8.53	0
-	-	9.03	3.51	13.02	0	0	8.7	0
95	758	9.03	3.51	13.03	0	0	8.7	0
-	-	7.23	2.81	10.88	0	0	7.17	0
95	759	7.23	2.81	10.82	0	0	7.12	0
-	-	4.22	1.64	5.82	0	0	3.7	0
95	760	4.22	1.64	5.67	0	0	3.61	0
-	-	0	0	0.1	0	0	0.06	0
96	761	0	0	0.03	0	0	0.02	0
-	-	4.22	1.64	2.95	0	0	1.95	0
96	762	4.22	1.64	3.03	0	0	2	0
-	-	7.23	2.81	7.04	0	0	4.69	0
96	763	7.23	2.81	7.12	0	0	4.75	0
-	-	9.03	3.51	10.52	0	-0.01	7.04	0
96	764	9.03	3.51	10.58	0	-0.01	7.08	0
-	-	9.64	3.75	12.68	0	-0.01	8.49	0
96	765	9.64	3.75	12.71	0	-0.01	8.51	0
-	-	9.03	3.51	12.99	0	-0.01	8.68	0
96	766	9.03	3.51	12.99	0	-0.01	8.67	0
-	-	7.23	2.81	10.82	0	0	7.13	0
96	767	7.23	2.81	10.76	0	0	7.08	0
-	-	4.22	1.64	5.73	0	0	3.66	0
96	768	4.22	1.64	5.59	0	0	3.57	0
-	-	0	0	0.09	0	0	0.05	0
97	769	0	0	0.12	0	0	0.08	0
-	-	4.22	1.73	3.3	0	0	2.18	0
97	770	4.22	1.73	3.47	0	0	2.3	0
-	-	7.23	2.97	8.14	0	-0.01	5.42	0
97	771	7.23	2.97	8.25	0	-0.01	5.5	0
-	-	9.03	3.72	12.16	0	-0.01	8.14	0
97	772	9.03	3.72	12.24	0	-0.01	8.2	0
-	-	9.64	3.96	14.66	0	-0.01	9.82	0
97	773	9.64	3.96	14.7	0	-0.01	9.85	0
-	-	9.03	3.72	15.03	0	-0.01	10.03	0
97	774	9.03	3.72	15.01	0	-0.01	10.02	0
-	-	7.23	2.97	12.51	0	0	8.23	0
97	775	7.23	2.97	12.42	0	0	8.17	0
-	-	4.22	1.73	6.57	0	0	4.19	0
97	776	4.22	1.73	6.32	0	0	4.02	0
-	-	0	0	0.18	0	0	0.12	0

8.3 Croquis emparrillado



• Viaducto sobre riera de rubí (vía doble B-M)

ANEJO DE CÁLCULO DEL VIADUCTO SOBRE LA RIERA DE RUBÍ
LÍNEA DE MERCANCIAS

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1 GEOMETRÍA

1.1 GEOMETRÍA Y ESQUEMA ESTRUCTURAL

En la presente memoria se adjunta el cálculo del Viaducto de la Riera de Rubí, perteneciente al "Proyecto de Construcción de la Plataforma de Línea de Alta Velocidad Madrid-Zaragoza-Barcelona-Frontera Francesa. Tramo: Castellbisbal-Papiol".

El Viaducto de la Riera de Rubí consta de dos tableros independientes de doble vía. Uno correspondiente a la línea de alta velocidad (L.A.V.) y otro a la línea de mercancías (L.M.). La presente memoria incluye el cálculo del viaducto de la Línea de Mercancías.

La Línea de Mercancías consta de dos vías separadas 3,808 metros (separación en los ejes) de ancho ibérico. Las vías se estan dispuestas sobre una plataforma de blalasto. Además se ha previsto a ambos lados de la plataforma la colocación de canaletas de servicio, postes para catenarias y sumideros. En los bordes se colocarán sendas aceras prefabricadas con barandillas e impostas.

El viaducto de la L.M. tiene una longitud total de 170,5 m que se salvan mediante 6 vanos con luces de 25,00 + 30,50 + 30,20 + 30,00 + 29,80 + 25,00 m. Un alzado frontal del viaducto se puede ver en la figura número 1-1.

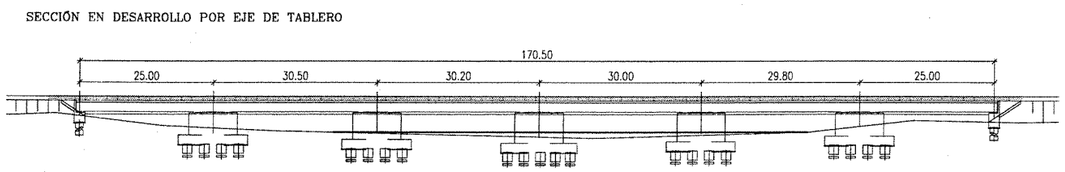


Figura 1-1: Sección Longitudinal del Viaducto

El tablero está constituido por dos vigas artesa A-170B, fabricadas por PRECON. Éstas tienen 1,70 m de canto y un intereje de 5,00 metros. La losa superior tiene un ancho de 12,60 metros con un bombeo del 2%. Ésta arranca en los voladizos con un canto de 0,29 m hasta alcanzar un canto de 0,39 m en el centro de la sección. La sección transversal del tablero está representada en la figura 1-2.

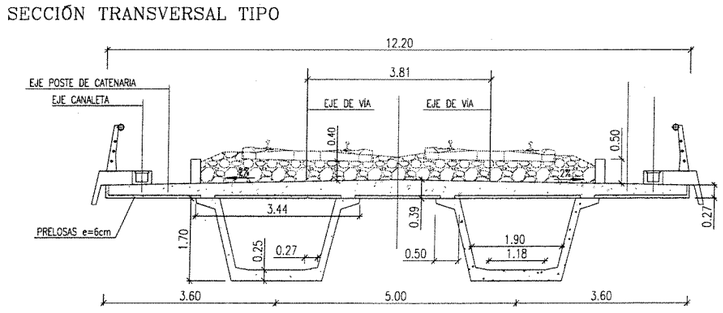


Figura 1-2: Sección Transversal del Viaducto

La unión de las vigas se realizará sobre las pilas. Para materializar la unión se emplearán barras de postesado de Ø 50mm y Ø 40mm. Las barras serán de acero calidad 85/105.

Para evitar construir un estribo con un ángulo de esviaje muy pronunciado, que daría lugar a esfuerzos transversales importantes, se ha decidido realizar dos estribos independientes y perpendiculares al eje del tablero. Cada uno de estos estribos soporta una de las vigas que, a su vez, soportan cada una de las vías de la línea de mercancías.

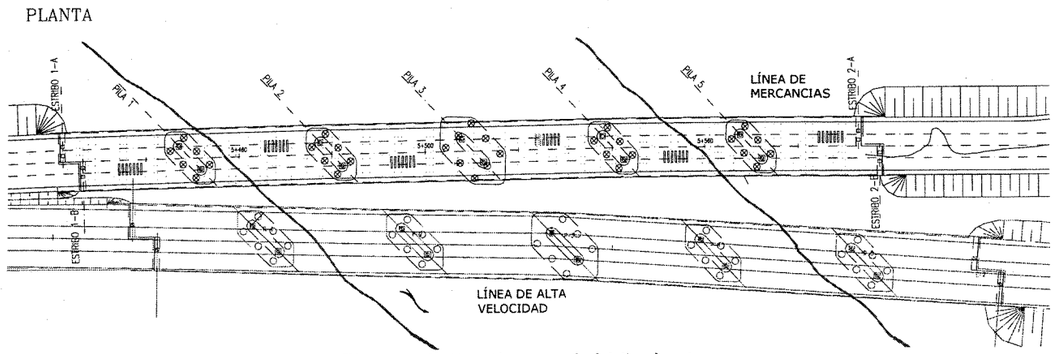


Figura 1-3: Planta del Viaducto

El punto fijo del viaducto se ha dispuesto en la tercera pila. De este modo, los movimientos del tablero en estribos debidos a retracción, incremento térmico y frenado del tren de cargas no hacen necesaria la colocación de aparato de vía.

Los apoyos del viaducto seran del tipo POT fijos (en pila 3), unidireccionales y móviles. Hay un aparato de apoyo bajo cada viga en los ejes de pila. En los estribos, se ejecutará una traviesa de modo que se puedan disponer dos aparatos de apoyo por viga.

1.2 SECCIÓN TIPO

La sección tipo del viaducto está compuesta por dos vigas, tipo A-170B, de hormigón pretesado HP-55 dispuestas paralelas.

Cada una de las vigas tiene un canto de 1,70 metros. La solera de la viga tiene un ancho de 1,90 metros. Las almas de las vigas tienen, en centro de luz, un espesor de 0,15 metros. Este espesor se ve recrecido en la zona cercana a pilas pasando a ser de 0,25m.

En la figura 1-4 se está representada una de las vigas que constituye el tablero.

El pretesado se materializará mediante 3 filas inferiores de 31 cordones Ø 0,6" y una fila inferior de 33 cordones Ø 0,6" debidamente envainados en los extremos para conseguir la fuerza de pretesado necesaria en cada sección. En cada una de las almas se dispondrán tres cordones Ø 0,6". Se colocará, también, dos vainas (una por alma) que servirán para, una vez desencofrada la viga, realizar un postesado compuesto por 5 cordones Ø 0,6" por vaina.

Los cordones inferiores se dispondrán divididos en tres zonas. En el espacio que queda definido por cada una de las zonas es necesario para poder anclar los aparatos de apoyo a la viga. Estos huecos se rellenarán posteriormente con mortero.

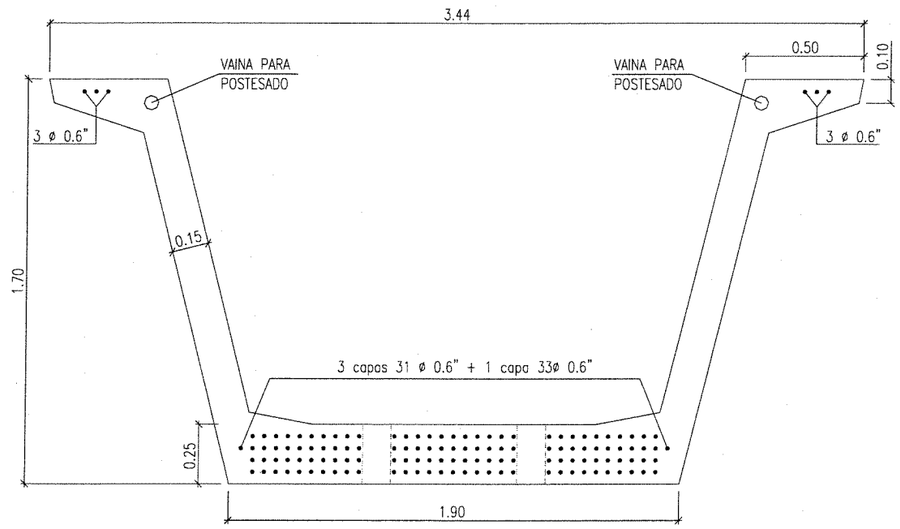


Figura 1-4: Sección Transversal de las vigas

Las dos vigas quedarán unidas mediante una losa de hormigón armado HA-30. La losa tendrá un bombeo del 2%.

La losa se hormigonará sobre unas prelosas dispuestas sobre las vigas. El hormigonado se realizará una vez se haya ejecutado la unión de las vigas.

El detalle de las losas y las prelosas se puede ver en la sección transversal tipo representada en la figura 1-2.

2 ACCIONES, MATERIALES, COEFICIENTES DE SEGURIDAD Y NORMATIVAS

2.1 ACCIONES

En el predimensionamiento del tablero se han considerado todas aquellas acciones verticales que permiten obtener los esfuerzos en servicio y de diseño para comprobar los elementos estructurales objeto del presente estudio.

Se aplican los criterios de cálculo establecidos por el GIF para viaductos de L.A.V.

Las acciones consideradas han sido:

Acciones Permanentes (G):

g1, PESO PROPIO.

El peso propio de los distintos elementos se ha calculado a partir de su geometría (secciones transversales) adoptando una densidad de valor γ =2,5 T/m3 para el hormigón armado y pretensado.

g2, PESO DEL BALASTO Y CARGAS MUERTAS

Las cargas permanentes distintas del propio peso del tablero son las siguientes:

- Impermeabilización
- Balasto
- Vías y traviesas
- Conductos de cableado y paseos
- Soportes de catenaria
- Impostas y barandillas

El peso de la impermeabilización corresponde a disponer una capa de 0,03 metros de impermeabilización bituminosa, de densidad 2,30 t/m^3, obteniendo:

$$g_{2,\text{impermeabilización}} = 0{,}57 \text{ T/m}$$

El peso de balasto sobre el tablero se calcula a partir de la plataforma en la estructura de vía tomando como densidad γ = 1,6 T/m^3.

Al estar el puente peraltado, el valor de la carga de balasto será diferente en la vía situada en el exterior de la curva y la vía situada en el interior.

Para la plataforma sobre el puente se obtiene:

$$g_{2,\text{ balasto, exterior}} = 3{,}398 \text{ T/m}$$
$$g_{2,\text{ balasto, interior}} = 4{,}033 \text{ T/m}$$

De acuerdo a las Bases de Cálculo del GIF se adoptarán para esta carga los siguientes valores característicos superior e inferior:

valor inferior (0.70 x peso medio) $g_{2,\text{ bal inf}}$ = 5,302 T/m de tablero
valor superior (1.3 x peso medio) $g_{2,\text{ bal, sup}}$ = 9,661 T/m de tablero

El peso de vías y traviesas para la plataforma con doble vía es:

$$g_{2,\text{vías+traviesas}} = 2 \times (0{,}50 + 0{,}12) = 2 \times 0{,}62 = 1{,}24 \text{ T/m}$$
(trav) + (carril)

El peso de los conductos para cableados y zona de paseos es:

$g_{2,\text{conductos}}$ = 0,30 T/m (peso de hormigón γ = 2,5 T/m^3) (peso de 1 canaleta)

q_{paseos} = 0,50 T/m^2 (esta carga en paseos se ha tratado como sobrecarga y no como carga permanente pudiendo actuar en las dos zonas extremas de paseo de 1,45 m de ancho).

$$q_{\text{conductos + paseos}} = 2 \times 0{,}30 = 0{,}60 \text{ T/m}$$

El peso de la imposta y barandilla es:

$g_{2,\text{imposta+barandilla}}$ = 1,0 T/m, de acuerdo a la sección tipo de plataforma.

El peso de los soportes de catenaria se tienen en cuenta sólo para efectos locales de anclaje de la catenaria y armado local de losa, pero no para el cálculo general del tablero.

	g2, medio (T/m)	**g2, inf (T/m)**	**g2, sup (T/m)**
Impermeabilización	0,57	0,57	0,57
Balasto	7,43	5,30	9,66
Vías y traviesas	1,24	1,24	1,24
Conductos cableado	0,60	0,60	0,60
Imposta y barandillas	1,00	1,00	1,00
TOTAL	**10,84 T/m**	**8,71 T/m**	**13,07 T/m**

Tabla 1. Carga permanente, g2

Proyecto: L.A.V. Castellbisbal - Papiol
Estructura: Viaducto sobre la Riera de Rubí - LM

CÁLCULO DE LAS CARGAS MUERTAS EN LOS PUENTES DE ANCHO IBÉRICO DE VÍA DOBLE

Impermeabilización del tablero

Ancho con impermeabilización bituminosa	8.26	Para ancho de puente de 14,00 m, distancia entre muretes guardabalasto = 10,10 m.
Espesor	0.03 m	0,03 m para impermeabilización tipo 1.
Densidad	2.30 T/m3	
Valor de la carga	**0.57 T/m**	

Cableado y paseos

Valor de la carga	**0.6 T/m**	Según especificaciones de las bases de cálculo del GIF para puentes de LAV.

Traviesas y carriles

Número de vías	2	
Peso del carril	0.06 T/m	Para UIC 60, 0,060 T/m.
Peso de la traviesa	0.30 T	Para traviesa monobloque RENFE, 0,300 T.
Separación de la traviesa	0.60 m	Normalmente 0,60 m.
Valor de la carga	**1.24 T/m**	

Impostas y barandillas

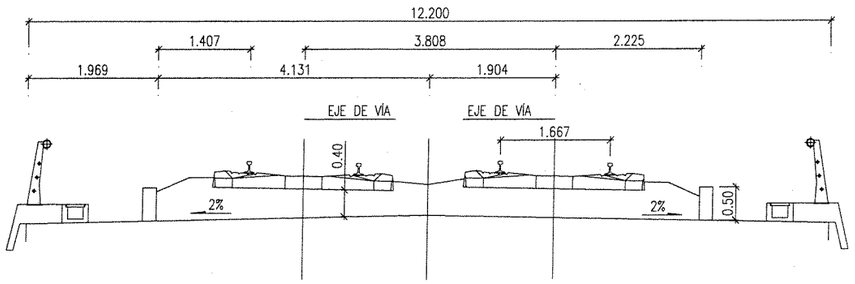
Número de impostas	2	
Carga por imposta	1.00 T/m	Por defecto 1 T/m imposta y barandilla.
Valor de la carga	**2.00 T/m**	

Soportes de catenarias

Valor de la carga	5.00 T	Dos cargas de este valor a 5,70 m a cada lado del eje del tablero sobre cada pila.

VALOR TOTAL DE LAS CARGAS MUERTAS (VALORES MÁXIMOS)

CARGA VERTICAL	**14.071 T**	
MONENTO TORSOR	**-1.680 T*m**	**Positivo hacia el exterior de la curva**



Carga de balasto

Peralte	33 mm	
Espesor de balasto bajo traviesa	0.4 m	Mínimo 0,30 m.
Espesor de traviesa	0.242 m	0,242 m para monobloque .
Altura de carril	0.172 m	0,172 m para UIC-60.
Separación entre carriles	1.667 m	1,435 m para vía UIC.
Distancia entre eje de vía y centro de tablero	1.904 m	2,35 m para vía UIC.
Distancia entre eje de vía y borde superior de balasto (hombro)	1.407 m	
Distancia entre eje de tablero e interior de guardabalasto	4.131 m	

Resultados para la cuña exterior

Distancia de eje de tablero a hombro	2.2405 m
Altura de balasto en centro de tablero	0.609 m
Altura de balasto en extremo de hombro	0.698 m
Area 1-1	1.364 m2
Area 1-2	0.100 m2
Area 2	0.660 m2
Excentricidad 1-1	1.120 m
Excentricidad 1-2	1.494 m
Excentricidad 2	4.140 m
Area total	2.124 m2
Excentricidad total	2.076 m
Peso total	**3.398 T**
Momento torsor	**7.054 T*m**

Resultados para la cuña interior

Distancia de eje de tablero a hombro	4.1445 m
Altura de balasto en centro de tablero	0.609 m
Altura de balasto en extremo de hombro	0.610 m2
Area 1-1	2.523 m2
Area 1-2	0.002 m2
Area 2	-0.004 m2
Excentricidad 1-1	2.072 m
Excentricidad 1-2	2.763 m
Excentricidad 2	4.140 m
Area total	2.521 m2
Excentricidad total	2.069 m
Peso total	**4.033 T**
Momento torsor	**8.347 T*m**

Valores totales para el conjunto de ambas vías. Valores máximos (=1,30*valores nominales).

Peso total	**9.661 T**	
Momento torsor	**-1.680 T*m**	Positivo hacia el exterior de la curva

Valores totales para el conjunto de ambas vías. Valores mínimos (=0,70*valores nominales).

Peso total	**5.202 T**	
Momento torsor	**-0.905 T*m**	Positivo hacia el exterior de la curva

Acciones permanentes de valor no constante (G*):

PRETENSADO

Las fuerzas del pretensado se calculan para cada fase de construcción de acuerdo con las especificaciones de la normativa vigente para el proyecto con hormigón estructural (EHE).

Para la determinación de las pérdidas de pretensado se han utilizado los siguientes valores de los parámetros de cálculo:

El efecto de la relajación del acero de pretensado a 1000 horas es: $\rho_{1000horas}$= 2 % y la relajación a tiempo infinito ($\rho f=\rho_{1000000horas}$).

Tensión inicial	0.60 fmax	0.70 fmax	0.80 fmax
ρ1000horas (%)	1.0	2.0	5.5
ρf (1000000horas) (%)	2.9	5.8	16

Coeficiente de envejecimiento para el hormigón a tiempo infinito χ = 0.80

Las acciones indirectas derivadas de las deformaciones impuestas se estiman de acuerdo con la rigidez de los elementos de apoyo. En los aparatos de apoyo tipo POT se considera el efecto de rozamiento de acuerdo con los criterios indicados en el apartado 8 de este anejo.

ACCIONES REOLÓGICAS.

Las acciones reolológicas se han determinado de acuerdo con las especificaciones de la normativa vigente para hormigón (EHE) diferenciando la retracción y la fluencia del hormigón.

RETRACCIÓN EN LAS VIGAS

$$\varepsilon c(t,to) = \sigma(to)\left[\frac{1}{Eo,to} + \frac{\varphi(t,to)}{Eo,28}\right]$$

$\varepsilon cs(t,ts) = \varepsilon cso\ \beta s\ (t-ts)$
$\varepsilon cso = \beta_{HR}\ (570-5\ fck)\ 10^{-6}$ (fck en MPa)
$\beta_{HR} = -1.55\ (1-(HR/100)^3)$

$$\beta s = \sqrt{\frac{t-ts}{0.035\,e^2 + (t-ts)}} \qquad e = \frac{2\,Ac}{u}$$

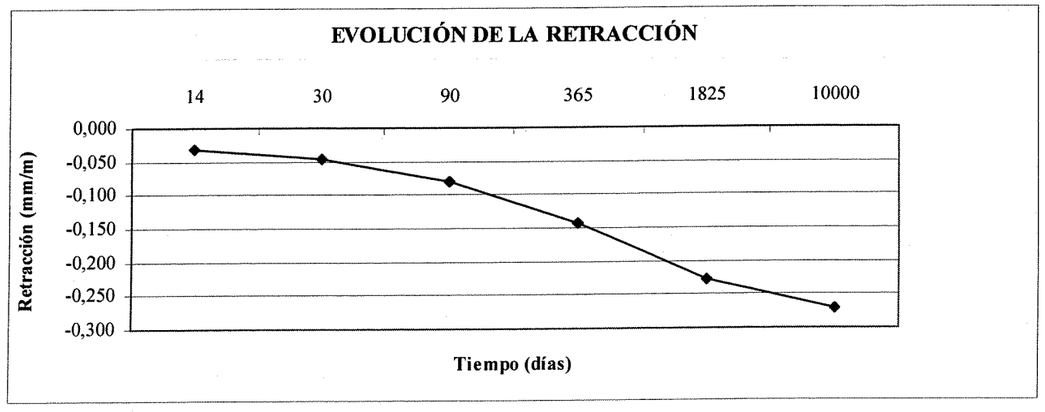
t = edad del hormigón en el instante de evaluación (en días)
ts = edad del hormigón al comienzo de la retracción (en días)
εcso = coeficiente básico de retracción
HR = humedad relativa
βs = coeficiente que define la evolución de la retracción en el tiempo
e = espesor medio en mm
Ac = área de la sección transversal
u = perímetro en contacto con la atmósfera

Los valores de la sección transversal tipo del tablero son los siguientes:

En la zona de construcción de las estructuras HR= 72 %

Sección transversal tipo : Ac=1,031 m^2 u=11,614 m e=178 mm

Cálculo del valor de la retracción en el tablero: $\varepsilon cs(t,ts)= 2{,}72\ 10^{-4}$



RETRACCIÓN EN LA LOSA

$$\varepsilon c(t,to) = \sigma(to)\left[\frac{1}{Eo,to} + \frac{\varphi(t,to)}{Eo,28}\right]$$

εcs(t,ts)= εcso βs (t-ts)
εcso = β_{HR} (570-5 fck) 10^{-6} (fck en MPa)
β_{HR} = -1.55 (1-(HR/100)^3)

$$\beta s = \sqrt{\frac{t-ts}{0.035\,e^2 + (t-ts)}} \qquad e = \frac{2\,Ac}{u}$$

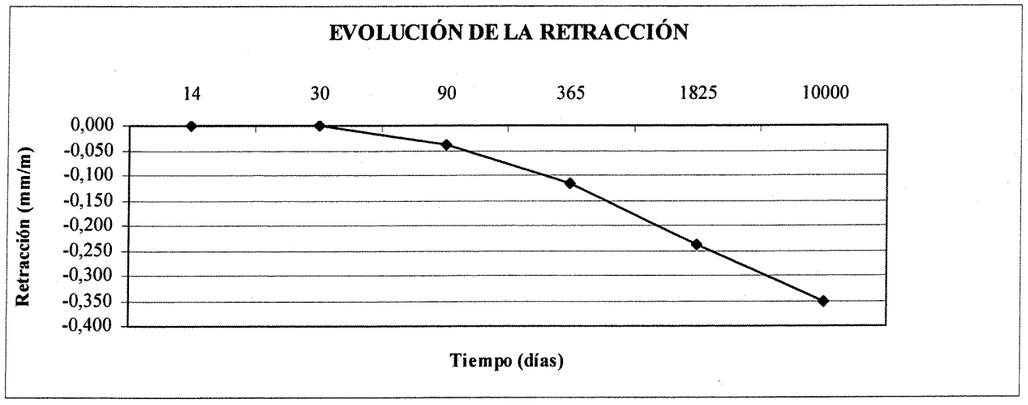
t = edad del hormigón en el instante de evaluación (en días)
ts = edad del hormigón al comienzo de la retracción (en días)
εcso = coeficiente básico de retracción
HR = humedad relativa
βs = coeficiente que define la evolución de la retracción en el tiempo
e = espesor medio en mm
Ac = área de la sección transversal
u = perímetro en contacto con la atmósfera

Los valores de la sección transversal tipo del tablero son los siguientes:

En la zona de construcción de las estructuras HR= 72 %

Sección transversal tipo : Ac=2,007 m^2 u=12,859 m e=312 mm

Cálculo del valor de la retracción en el tablero: εcs(t,ts)= 3,52 10^{-4}



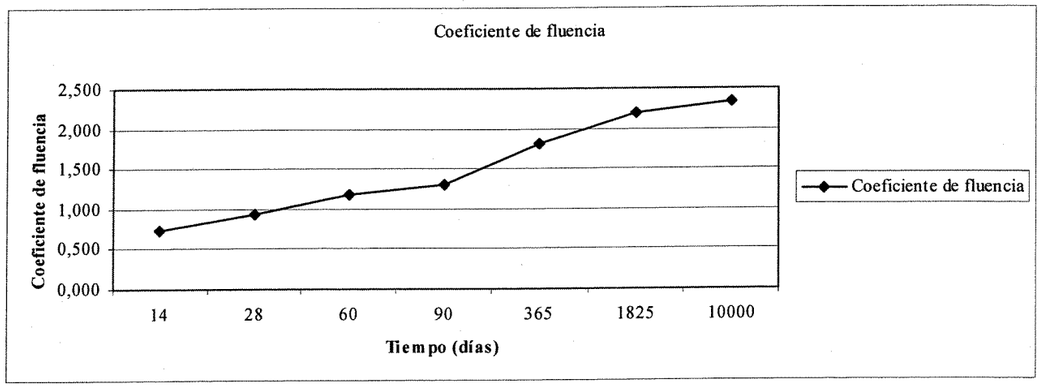
FLUENCIA

$$\varphi(t,to) = \varphi o\,\beta c(t-to)$$
$$\varphi o = \varphi_{HR}\,\beta(fcm)\,\beta(to)$$
$$\varphi_{HR} = 1 + \frac{100-HR}{9.9e^{1/3}}$$
$$\beta(fcm) = \frac{16.8}{\sqrt{fck+8}}$$
$$\beta to = \frac{1}{0.1+to^{0.2}}$$
$$\beta c(t-to) = \left[\frac{t-to}{\beta_H + (t-to)}\right]^{0.3}$$
$$\beta_H = 1.5e\left[1+(0.012HR)^{18}\right] + 250 > /1500$$

σc = tensión media en el hormigón aplicada en el tiempo to
Eo,to = módulo de deformación en el tiempo to
φ(t,to) = coeficiente de fluencia
φo = coeficiente básico de fluencia

En el caso del tablero, adoptando un valor de aplicación de la fuerza de postesado to = 3 días tenemos un coeficiente de fluencia a tiempo infinito (10000 días)

φf=2,328



Proyecto: L.A.V. Madrid - Zaragoza - Barcelona - Frontera Francesa. Tramo: Castellbisbal - Papiol
Estructura: Viaducto sobre la Riera de Rubí - LM

CÁLCULO DE RETRACCIÓN DEL HORMIGÓN - VIGA

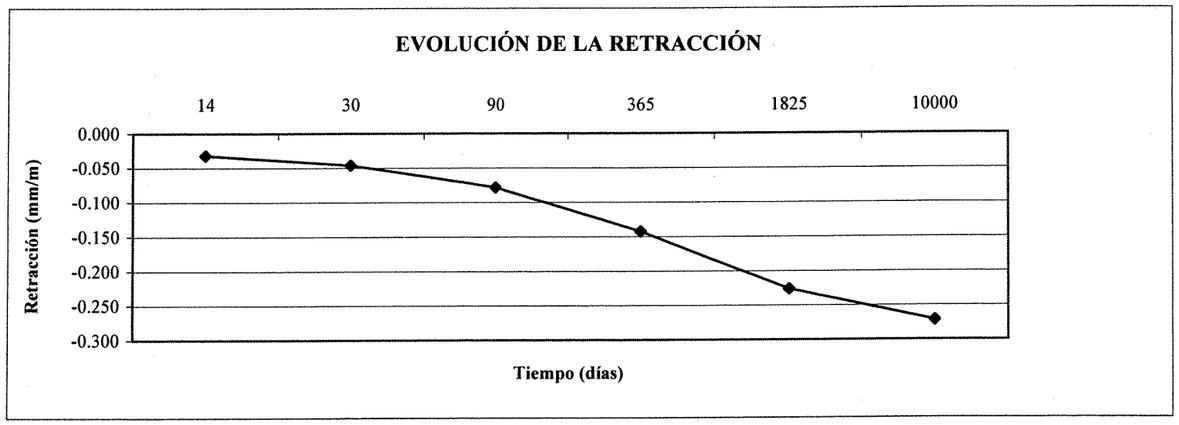
Area de la sección	1.031	m2
Perímetro de la sección	11.614	m
fck	55	MPa
Humedad Relativa	72	%
Módulo de deformación (Ec,28)	33822	MPa
Módulo de deformación (Ec,7)	27058	MPa
Módulo de deformación cargas rápidas (Ec,28)	39791	MPa
fctk	3.04	MPa
fctm	4.34	MPa

Espesor equivalente	178	mm
Comienzo retracción	0	días
Final de retracción	10,000	días

BetaHR	-0.971
Coef. básico de retracción	-0.00028658
Retracción final	**-0.000272**

Evolución de la retracción del hormigón

Tiempo (días)	beta, s	eps, cs	eps,cs(mm/m)
14	0.11194	-3.208E-05	-0.032
30	0.16270	-4.66276E-05	-0.047
90	0.27463	-7.87048E-05	-0.079
365	0.49859	-0.000142887	-0.143
1825	0.78945	-0.000226243	-0.226
10000	0.94902	-0.000271972	-0.272

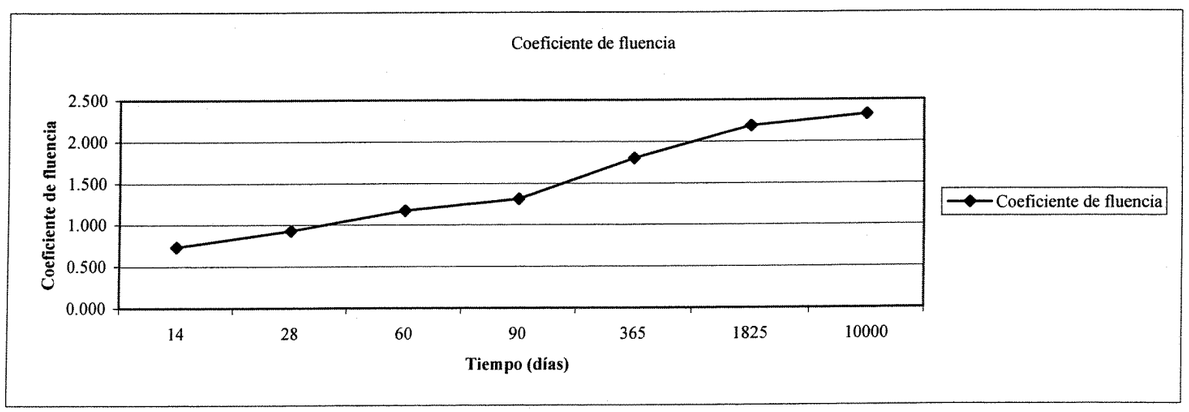


CÁLCULO DE LA FLUENCIA DEL HORMIGÓN - VIGA

Phi,HR	1.503
beta(fcm)	2.117
Puesta en carga, to, en días	3
beta(to)	0.743
betaH	535
betac (10000)	0.984
Phi (t=10000)	**2.328**
Coeficiente de relajación	0.634

Evolución de la fluencia del hormigón

Tiempo (días)	beta,c	Phio	Phi (t=10000)
14	0.310	2.364	0.733
28	0.393	2.364	0.930
60	0.495	2.364	1.171
90	0.554	2.364	1.310
365	0.762	2.364	1.801
1825	0.926	2.364	2.188
10000	0.984	2.364	2.328



Proyecto: L.A.V. Madrid - Zaragoza - Barcelona - Frontera Francesa. Tramo: Castellbisbal - Papiol
Estructura: Viaducto sobre la Riera de Rubí - LM

CÁLCULO DE RETRACCIÓN DEL HORMIGÓN - LOSA

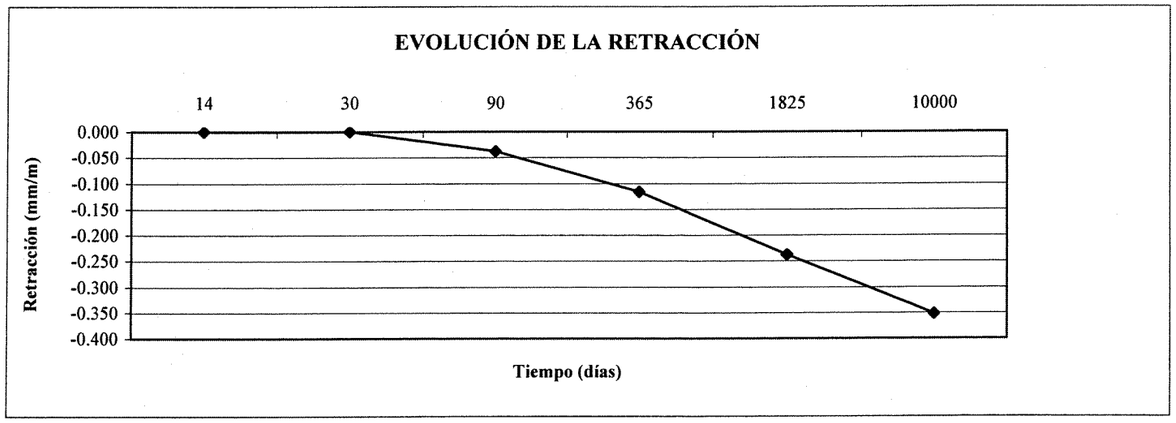
Area de la sección	2.007	m2
Perímetro de la sección	12.859	m
fck	30	MPa
Humedad Relativa	72	%
Módulo de deformación (Ec,28)	28577	MPa
Módulo de deformación (Ec,7)	22861	MPa
Módulo de deformación cargas rápidas (Ec,28)	33620	MPa
fctk	2.03	MPa
fctm	2.90	MPa

Espesor equivalente	312	mm
Comienzo retracción	60	días
Final de retracción	10,000	días

BetaHR	-0.971
Coef. básico de retracción	-0.00040802
Retracción final	**-0.000352**

Evolución de la retracción del hormigón

Tiempo (días)	beta, s	eps, cs	eps,cs(mm/m)
14	-	-	-
30	-	-	-
90	0.09338	-3.81006E-05	-0.038
365	0.28651	-0.000116902	-0.117
1825	0.58398	-0.000238274	-0.238
10000	0.86287	-0.000352065	-0.352



ACCIONES DEBIDAS AL TERRENO

Carga sobre zapatas y empuje de las tierras en alzados de estribos y aletas, con una densidad 2,0 T/m^3 y un ángulo de rozamiento interno de 30º (con presiones horizontales correspondientes a un empuje con coeficiente Ka= 0,33).

ASIENTOS DIFERENCIALES

Al estar cimentada la estructura sobre un terreno granular y mediante cimentación profunda no se prevée la existencia de asientos diferenciales significativos, por lo cual no se han tenido en cuenta en los cálculos.

Acciones variables (Q):

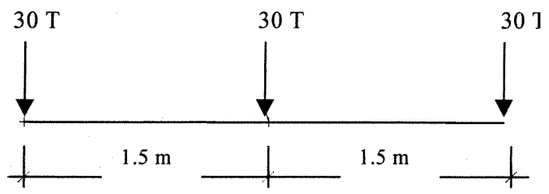
SOBRECARGAS DE USO. COMPONENTES VERTICALES.

En el cálculo de esfuerzos se ha empleado la envolvente de esfuerzos debidos a los trenes de carga de IPF-75 y del Eurocódigo 1 (parte 3, acciones en puentes) EC1-3 tomando como coeficiente de impacto correspondiente en cada caso.

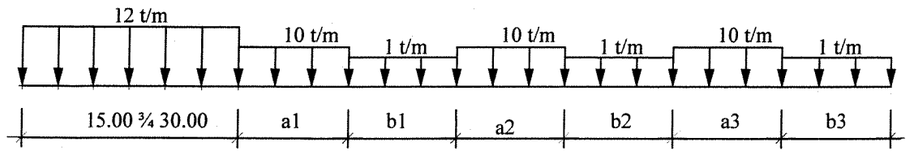
Los coeficientes de impacto no afectan al cálculo de apoyos, pilas y estribos, salvo aquellos casos en que la unión tablero-estructura fuera rígido. Esto conduciría a que el coeficiente de impacto afectaría a la subestructura para las fuerzas de frenado, transmitida al estribo a través del tope rígido longitudinal, y fuerza centrífuga, transmitida a través de apoyos tipo 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.

De acuerdo con la normativa IPF-75 Existen dos trenes de carga

Tipo A: Por cada vía: Q_A = 3 ejes de 30 T separados 1.50 m



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



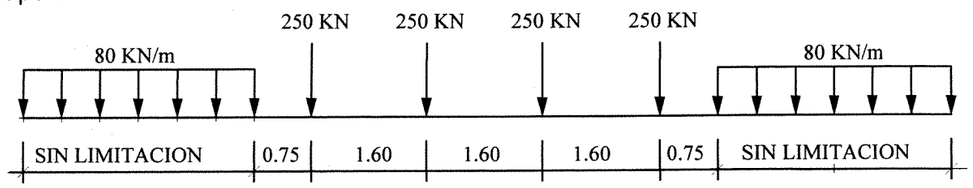
El tren tipo A suele condicionar el trabajo local de reparto de la losa y el tren tipo B condiciona el dimensionamiento general de la mayor parte de los Estados Límites Últimos o de Servicio.

De acuerdo con las especificaciones de la IPF, no se admite reducción de cargas por simultaneidad entre ambas vías. En cualquier caso se debe contemplar la posibilidad de un ripado de la vía respecto al eje teórico de 0.30 m.

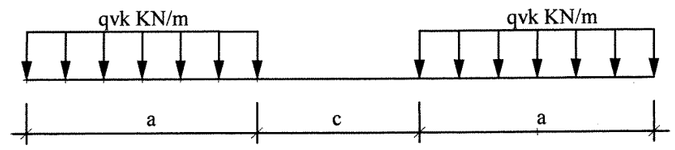
De acuerdo con la IPF-75, para algunas comprobaciones específicas asociadas a combinaciones de carga con viento transversal se considerará un tren sin carga de 12.5 KN/m.

El tren de cargas de Eurocódigo 1 (parte 3, acciones en puentes) EC1-3 se define de acuerdo con las configuraciones indicadas en las 2 figuras siguientes. En ambos casos, a efectos de cálculo se contemplará un eventual ripado de la vía de 0.30 m.

Tren tipo 71:



Modelo de carga SW:



Se considera adicionalmente un tren pesado equivalente al siguiente esquema de cargas (SW/0) ó (SW2) en una de las vías y el tren tipo 71 en la otra vía.

	SW0	SW2
Q_{vk} (kN)	133	150
a (m)	15	25
c (m)	5,3	7

Coeficientes de mayoración por impacto

De acuerdo con la normativa IPF75, se aplica la formulación siguiente:

$$I = 65\frac{\mu}{1-\mu+\mu^2}$$

El valor del coeficiente μ depende de la velocidad, la luz y el periodo de vibración de la estructura. En este viaducto se ha obtenido un primer periodo de vibración por flexión de flexión de valor T= 0.2924 s.

Para una velocidad máxima de 120 Km/h se obtiene: I = 12,222 %
De acuerdo con el Eurocódigo EC-1, para vías de mantenimiento cuidadoso.

$$\phi_2 = \frac{1{,}44}{\sqrt{L\phi}-0{,}20}+0{,}82 = 1{,}05$$

$L\phi$ = K * Lm = 42,63 m

Este valor se debe emplear en el cálculo longitudinal del tablero. Los coeficientes a aplicar en el cálculo local se estudiarán en el apartado correspondiente.

En las zonas del tablero destinadas a mantenimiento (zonas de paseo) se considera una sobrecarga de 0.5 T/m^2, considerándose concomitante con las sobrecargas ferroviario un 50 % de dicha carga.

SOBRECARGAS DE USO. COMPONENTES HORIZONTALES.

EFECTO LAZO

En la estructura se considerará una única fuerza transversal concomitante con la sobrecarga vertical para contemplar el efecto lazo. El valor de dicha carga (que no debe ser mayorada con el coeficiente de impacto) es el siguiente:

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

Según EC1 H_T = 10,2 T para el conjunto de ambas vías, aplicada a cota superior del carril.

FUERZA CENTRÍFUGA

En puentes de trazado curvo en planta se debe considerar la fuerza centrífuga, cuyo valor se puede obtener mediante la expresión siguiente:

IPF 75: $Fc = Q \times \frac{V^2}{127R} = 0{,}0252 \times Q$

El Eurocódigo 1 permite una reducción de la fuerza centrífuga en función de la longitud cargada. Se constata que la IPF-75 da un valor mayor de fuerza centrifuga que el EC1 y por tanto, si el puente es curvo se tomará dicho valor, combinado con el efecto del peralte. Se supondrá la carga actuando 1,80 m por encima del carril.

El puente está ubicado en una curva circular con un radio de curvatura en planta de valor medio R=4500 m.

En las hojas adjuntas se incluyen los cálculos de la fuerza centrífuga para los diferentes trenes de carga propuestos en la IPF-75 y en el Eurocódigo 1.

EFECTOS DE FRENADO Y ARRANQUE

En el presente proyecto se adoptan las acciones especificadas en el Eurocódigo EC-1 más desfavorables que las propuestas por la IPF-75 (1/8 de la carga frente a 1/4). Esta fuerza se considerará actuando sobre la cota superior del carril y no se multiplica por el coeficiente de impacto.

Estos valores se reducirán al 50% si se consideran concomitantes con la fuerza centrífuga.

PROYECTO: L.A.V. Madrid - Zaragoza - Barcelona - Frontera Francesa. Tramo: Castellbisbal - Papiol
O. F.: Viaducto sobre la Riera de Rubí - LM

CÁLCULO DEL COEFICIENTE DE IMPACTO

Frecuencia fundamental	3.42 Hz
Luz del vano intermedio	30 m
Longitud total del tablero	170.5 m

COEFICIENTE DE IMPACTO SEGÚN IPF-75

v (km/h)* = 120

Para luces iguales o menores de 6 metros
l = 39.6
ϕ = 1.40

Para luces mayores de 6 metros en tramos simplemente apoyados
l = 26.6
ϕ = 1.27

En general para tramos apoyados continuos
μ = 0.162
l = 12.2
ϕ = 1.12

* La validez de las expresiones de la IPF-75 se limita a trenes con velocidades de circulación inferior a 200 km/h

Valores de k en función del número de vanos

	Número de vanos				
	1	2	3	4	5
k	1	1.2	1.3	1.4	1.5

COEFICIENTE DE IMPACTO SEGÚN EUROCÓDIGO 1.

DETERMINACIÓN DE Lϕ

Número de vanos del tablero = 6
k = 1.5
Lm = 28.42
Lϕ = 42.63

Vías con grado de mantenimiento bueno
ϕ2 = 1.05

Vías con grado de mantenimiento normal
ϕ3 = 1.07

NOTA: La validez de aplicación de las fórmulas del eurocódigo se limita a trenes con velocidades de circulación inferiores a 200 km/h.

CÁLCULO DE LA FUERZA CENTRÍFUGA SEGÚN LAS ESPECIFICACIONES DEL EUROCÓDIGO 1.

PROYECTO: **L.A.V. Madrid - Zaragoza - Barcelona - Frontera Francesa. Tramo: Castellbisbal - Papiol**
OBRA DE FÁBRICA: **Viaducto sobre la Riera de Rubí - LM**

DATOS BÁSICOS

RADIO MEDIO DEL PUENTE (m) =	R =	4,500
VELOCIDAD DE DISEÑO (km/h) =	V =	120
PUENTE CONTÍNUO (SÍ = 1) =		1

DATOS COMPLEMENTARIOS

COEFICIENTE DE CLASIFICACIÓN	α =	1.00
COEFICIENTE DE IMPACTO =	ϕ =	1.05
LONGITUD CARGADA EN PILAS (en m) =	L_{fp} =	39.00
LONGITUD CARGADA EN ESTRIBO (en m) =	L_{fe} =	16.58

VALORES DE LAS CARGAS

TREN LM71	qk =	80	kN/m
	Qk =	250	kN
	c =	6.4	m
TREN SW/0	qk =	133	kN/m
	a =	15	m
	c =	5.3	m
TREN SW/2	qk =	150	kN/m
	a =	25	m
	c =	7.0	m

RESULTADOS

FUERZA CENTRÍFUGA SEGÚN EL TREN DE CARGA TIPO

	TREN LM71				TREN SW/0		TREN SW/2
	Caso a		Caso b		Caso a	Caso b	
	qk	Qk	qk	Qk	qk	qk	qk
	kN/m	kN	kN/m	kN	kN/m	kN/m	kN/m
PILA	2.12	6.61	2.12	6.61	3.52	3.52	1.76
ESTRIBO	2.12	6.61	2.12	6.61	3.52	3.52	1.76

FUERZA CENTRÍFUGA. VALOR DE LA RESULTANTE MÁXIMA EN KN.

	LM71	SW/0	SW/2
PILA	95.46	105.56	56.44
ESTRIBO	47.99	52.78	29.23

Hipótesis de cálculo:
De acuerdo con el EC1 la expresión utilizada para el cálculo de la fuerza centrífuga es la siguiente.

$$Q_{centrifuga} = \frac{V^2}{127 \cdot R} \cdot (f \cdot Q_{trafico})$$

Para los trenes LM71 y SW/0 se han considerado dos casos de carga:

Caso a: V = 120 km/h y f (factor de reducción) = 1
Caso b: V igual a la de diseño y f según la expresión del EC.

$$f = \left[1 - \frac{V - 120}{1000} \cdot \left(\frac{814}{V} + 1{,}75\right) \cdot \left(1 - \sqrt{\frac{2{,}88}{Lf}}\right)\right]$$

Si V<= 120 km/h ==> f = 1.
Si Lf <= 2,88 m ==> f = 1.
f >= 0,35

En el cálculo del factor de reducción f se ha tomado como velocidad máxima 300 km/h.

Los valores obtenidos son válidos para el caso de tráfico en una sola vía.
La velocidad de diseño de la vía se ha supuesto mayor o igual a 80 km/h.
La longitud de aplicación de las cargas se ha supuesto mayor que 2,88 m.

CÁLCULO DE LA FUERZA CENTRÍFUGA SEGÚN LAS ESPECIFICACIONES DE LA IPF-75

PROYECTO: **L.A.V. Madrid - Zaragoza - Barcelona - Frontera Francesa. Tramo: Castellbisbal - Papiol**
OBRA DE FÁBRICA: **Viaducto sobre la Riera de Rubí - LM**

DATOS BÁSICOS

RADIO MEDIO DEL PUENTE (m) =	R =	4,500
VELOCIDAD DE DISEÑO (km/h) =	V =	120
COEFICIENTE DE IMPACTO =	ϕ =	1.11
LONGITUD CARGADA (m) =	L =	39.00

VALORES DE LAS CARGAS

TREN TIPO A	Qk =	300	kN
	c =	1.5	m
TREN TIPO B	qk1 =	120	kN/m
	a =	30	m
	qk2 =	100	kN/m

CÁLCULOS INTERMEDIOS

COCIENTE V2/127R	0.0252
Longitud aplicación qk1	30.00
Longitud aplicación qk2	9.00
Número de cargas Qk	3

RESULTADOS

FUERZA CENTRÍFUGA SEGÚN EL TREN DE CARGA

TREN A	TREN B	
Qk	qk1	qk2
kN	kN/m	kN/m
8.39	3.36	2.80

FUERZA CENTRÍFUGA. VALOR TOTAL RESULTANTE

TREN TIPO A	TREN TIPO B
25.17	125.86

Hipótesis de cálculo:
De acuerdo con la instrucción IPF-75 la expresión utilizada para el cálculo de la fuerza centrífuga es la siguiente:

$$Q_{centrifuga} = \frac{V^2}{127 \cdot R} \cdot Q_{trafico}$$

Los valores obtenidos son válidos para el caso de tráfico en una sola vía.

CÁLCULO DE EXCENTRICIDADES - LÍNEA DE ALTA VELOCIDAD

PROYECTO: **L.A.V. Madrid - Zaragoza - Barcelona - Frontera Francesa. Tramo: Castellbisbal - Papiol**
OBRA DE FÁBRICA: **Viaducto sobre la Riera de Rubí - LM**

EC-1 LM71	Carga vertical	8	T/m
	Fuerza centrífuga	0.212	T/m
EC-1 SW/0	Carga vertical	13.3	T/m
	Fuerza centrífuga	0.352	T/m
EC-1 SW/2	Carga vertical	15	T/m
	Fuerza centrífuga	0.176	T/m
IPF-75 TIPO A	Carga vertical	30	T/m
	Fuerza centrífuga	0.839	T
IPF-75 TIPO B	Carga vertical	12	T/m
	Fuerza centrífuga	0.336	T/m
Distancia fib. sup. al c.d.g. del tablero		0.64	m
Peralte		33	mm
Altura del c.d.g. del tren sobre carril		1.8	m
Distancia entre carriles		1.668	m
Dinstancia eje vía-eje tablero		1.904	m
Dif de cotas carril director-centro tablero		0.756	m

Excentricidades — respecto eje de vía

Ripado	0.3	m
Peralte	0.036	m
L.M. 71 y SW/0 (EC1)	0.093	m

Fuerza centrífuga — respecto eje de vía

b= 3.212 m

Momento debido a la Fuerza Centrífuga

LM-71	0.681	[mT/m]
SW/0	1.131	
SW/2	0.565	
TIPO A	2.695	
TIPO B	1.079	

Excentricidad debida a la Fuerza Centrífuga (m)

LM-71	0.085	[m]
SW/0	0.085	
SW/2	0.038	
TIPO A	0.090	
TIPO B	0.090	

Excentricidad total — respecto eje de vía

	LM-71	SW/0	SW/2	TIPO A	TIPO B	
Peralte-f.centr+ripado	0.343	0.343	0.298	0.246	0.246	
Peralte-f.centr-ripado	-0.442	-0.442	-0.302	-0.354	-0.354	[m]
Peralte+ripado	0.428	0.428	0.336	0.336	0.336	

Excentricidad total — respecto eje de tablero

VÍA INTERIOR

	LM-71	SW/0	SW/2	TIPO A	TIPO B	
Peralte-f.centr+ripado	**2.247**	**2.247**	**2.202**	**2.150**	**2.150**	
Peralte-f.centr-ripado	**1.462**	**1.462**	**1.602**	**1.550**	**1.550**	[m]
Peralte+ripado	**2.332**	**2.332**	**2.240**	**2.240**	**2.240**	

VÍA EXTERIOR

	LM-71	SW/0	SW/2	TIPO A	TIPO B	
Peralte-f.centr+ripado	**-1.561**	**-1.561**	**-1.606**	**-1.658**	**-1.658**	
Peralte-f.centr-ripado	**-2.346**	**-2.346**	**-2.206**	**-2.258**	**-2.258**	[m]
Peralte+ripado	**-1.476**	**-1.476**	**-1.568**	**-1.568**	**-1.568**	

ACCIONES TÉRMICAS VÍA-ESTRUCTURA

La parte de estas acciones que se transmite al apoyo fijo del tablero se resume en la tabla adjunta, realizada de acuerdo con los criterios del Eurocódigo 1:

Cálculo según EC

Cálculos intermedios		
Rigidez del estribo por vía y metro de tablero	2,14E+06	kN/m
Resultados		
Fuerza horizontal total por frenado y arranque	**262,61**	T
Fuerza horizontal por variaciones térmicas	**169,56**	T
Fuerza horizontal por flexión vertical	**30,13**	T
Fuerza horizontal total	**462,30**	**T**

Cálculo sin tener en cuenta la continuidad del carril

Cálculos intermedios		
Resistencia a cortante entre tablero y vía en tramos cargados	6	T/m
Longitud cargada LM 71	180	m
Longitud sin carga LMT1	0	m
Longitud cargada SW0	30	m
Longitud sin carga SWO	150	m
Longitud cargada SW2	50	m
Longitud sin carga SW2	130	m
Fuerza horizontal por arranque vía 1	100	T
Fuerza horizontal por frenado vía 1	360	T
Fuerza horizontal por arranque vía 2	100	T
Fuerza horizontal por frenado vía 2	360	T
Fuerza de frenado sin reducción por continuidad del carril	**460**	**T**

EMPUJE SOBRE BARANDILLAS.

En el elemento superior de la barandilla se considera una fuerza horizontal de valor 1,5 kN/m actuando de modo simultáneo con la sobrecarga uniforme.

DESCARRILAMIENTO

El efecto de descarrilamiento se estudiará como una situación accidental, mayorándose las acciones por un coeficiente de seguridad γf =1,0 y minorándose los parámetros mecánicos de los materiales por los coeficientes indicados en el apartado 2.2.

Para el estudio del Estado Límite Último de estabilidad se empleará, según el Eurocódigo, una carga vertical de 80 KN/m en una longitud total de 20,00 m a una distancia máxima del eje de la vía de 1,5 veces el ancho.

Para el análisis local de elementos estructurales se tomarán 2 cargas verticales a cada lado del eje de vía de 5 T/m en 6.4 m y separadas entre sí 1.4 m

RESUMEN DE LAS FUERZAS EN APOYO FIJO Y TENSIONES EN CARRIL POR INTERACCIÓN VÍA ESTRUCTURA SEGÚN FICHA UIC 774-3
TABLEROS DE 2 VÍAS CON CARRIL CONTINUO SOLDADO, PUNTO FIJO EN ESTRIBO Y APARATOS DE APOYO TIPO POT

Proyecto: LAV Castellbisbal-Papiol
Estructura: Viaducto sobre la Riera de Rubí

Coeficientes de combinación

	Sobrecarga	Temperatura
Chi 0	0.8	0.6
Chi 1	0.6	0.6
Chi 2	0	0.5

Coeficientes de mayoración

	Sobrecarga	Temperatura
Gamma ELS	1	1
Gamma ELU	1.5	1.5

Valores de las fuerzas

	F. Temperatura sin roz. (kN)	F. Temperatura kN	F. Frenado/arranque kN	F. Giro sin roz. (kN)	F. Giro kN
Valores máximos	2626.1	4227.5	1695.6	301.3	867.7
Valores mínimos	-2626.1	-4227.5	-1695.6	0	0

Cálculo de las combinaciones de fuerzas en el apoyo fijo

ELS POCO PROBABLE

	F. Temperatura sin roz. (kN)	F. Temperatura kN	F. Frenado/arranque kN	F. Giro sin roz. (kN)	F. Giro kN	**Caso 1 kN**	**Caso 2 kN**
Valores máximos	2626.1	4227.5	1695.6	301.3	867.7	**4921.6**	**3572.6**
Valores mínimos	-2626.1	-4227.5	-1695.6	0	0.0	**-4227.5**	**-3271.3**

ELS FRECUENTE

	F. Temperatura sin roz. (kN)	F. Temperatura kN	F. Frenado/arranque kN	F. Giro sin roz. (kN)	F. Giro kN	**Caso 1 kN**	**Caso 2 kN**
Valores máximos	2626.1	4227.5	1695.6	301.3	867.7	**2536.5**	**2634.4**
Valores mínimos	-2626.1	-4227.5	-1695.6	0	0.0	**-2536.5**	**-2330.4**

ELS CASIPERMANENTE

	F. Temperatura sin roz. (kN)	F. Temperatura kN	F. Frenado/arranque kN	F. Giro sin roz. (kN)	F. Giro kN	**Caso 1 kN**	**Caso 2 kN**
Valores máximos	2626.1	4227.5	1695.6	301.3	867.7	**2113.7**	**2634.4**
Valores mínimos	-2626.1	-4227.5	-1695.6	0	0.0	**-2113.7**	**-2330.4**

Nota: Valor positivo de la fuerza horizontal --> hacia el trasdós.

Valores de las tensiones en el carril. Estribo fijo.

	T. Temperatura N/mm2	T. Frenado/arranque N/mm2	T. Giro N/mm2
Valores máximos	25.0	27.6	3.6
Valores mínimos	-25.0	-27.6	0

Valores de las tensiones en el carril. Estribo móvil.

	T. Temperatura N/mm2	T. Frenado/arranque N/mm2	T. Giro N/mm2
Valores máximos	57.7	24.3	-1.5
Valores mínimos	-57.7	-24.3	0

ELU PERSISTENTE O TRANSITORIO

	F. Temperatura sin roz. (kN)	F. Temperatura kN	F. Frenado/arranqu kN	F. Giro sin roz. (kN)	F. Giro kN	**Caso 1 kN**	**Caso 2 kN**
Valores máximos	2626.1	4227.5	1695.6	301.3	867.7	**7382.4**	**5358.9**
Valores mínimos	-2626.1	-4227.5	-1695.6	0	0.0	**-6341.2**	**-4906.9**

Cálculo de las combinaciones de tensiones en carril

Estribo fijo

ELS POCO PROBABLE

	T. Temperatura N/mm2	T. Frenado/arranque N/mm2	T. Giro N/mm2	**Caso 1 N/mm2**
Valores máximos	25.0	27.6	3.6	**56.2**
Valores mínimos	-25.0	-27.6	0.0	**-52.6**

Nota: Valor positivo de la fuerza tensión --> tracción.

Estribo móvil

ELS POCO PROBABLE

	T. Temperatura N/mm2	T. Frenado/arranque N/mm2	T. Giro N/mm2	**Caso 1 N/mm2**
Valores máximos	57.7	24.3	-1.5	**80.5**
Valores mínimos	-57.7	-24.3	0.0	**-82.0**

Las tensiones en el carril se encuentran entre los valores máximo y mínimo admisible (92 N/mm2 y -72 N/mm2)

Comprobación de la condición de movimientos del tablero en el apoyo fijo

Fuerza de frenado total	1695.6	kN	
Rigidez del tablero	2142.9	kN/mm	
Desplazamiento del estribo fijo	**0.8**	**mm**	**Menor que 5 mm --> admisible**

Comprobación de la condición de giro del tablero en el apoyo fijo

Giro en el estribo	0.0	rad	
Valor de H	2.09	m	
Desplazamiento del estribo fijo	**0.9**	**mm**	**Menor que 10 mm --> admisible**

CÁLCULO DE LAS TENSIONES EN CARRIL POR INTERACCIÓN VÍA ESTRUCTURA SEGÚN FICHA UIC 774-3
TABLEROS DE 2 VÍAS CON CARRIL CONTINUO SOLDADO, PUNTO FIJO EN ESTRIBO Y APARATOS DE APOYO TIPO POT

Proyecto: LAV Castellbisbal-Papiol

Estructura: Viaducto sobre la Riera de Rubí

Datos generales		
Longitud total del puente	180	m
Rigidez del estribo fijo frente a movimientos horizontales	2.14E+06	kN/m
Suma de reacciones verticales en el tablero por cargas permanentes	32927.8	kN
Suma de reacciones verticales en el tablero por sobrecarga y cargas permanentes	59161.5	kN
Coeficiente de rozamiento de los aparatos de apoyo	0.05	Normalmente 0.05
Máxima variación térmica anual en el tablero	37.8	ºC
Giro en el estribo por sobrecarga	0.00042	rad
Distancia en vertical entre el punto de giro en el estribo y la cara superior del tablero (H)	2.09	m
Distancia entre el c.d.g. del tablero y su cara superior (w)	0.6061	m

Cálculos intermedios		
Suma de fuerza de rozamiento en apoyos móviles por cargas permanentes	1646.39	kN
Suma de fuerza de rozamiento en apoyos móviles por sobrecarga y cargas permanentes	2958.075	kN
Fuerza total de frenado	4600	kN
Relación entre w / H (gamma)	0.29	
Relación entre rigidez del estribo y longitud del puente (por vía)	5.95	kN/mm/m

Cálculo de las tensiones en carril por efectos térmicos		
Estribo fijo		
Tensión K2k20 (según figura 4 apéndice A)	15	N/mm2
Tensión K5k20 (según figura 4 apéndice A)	22	N/mm2
Tensión Kk20 básica	24.2	N/mm2
Tensión corregida por diferencia térmica real	**25.0**	N/mm2
Estribo móvil		
Tensión K2k20 (según figura 5 apéndice A)	52	N/mm2
Tensión K5k20 (según figura 5 apéndice A)	55	N/mm2
Tensión Kk20 básica	56.0	N/mm2
Tensión corregida por diferencia térmica real	**57.7**	N/mm2

Cálculo de la fuerza horizontal en el apoyo fijo por efectos térmicos		
Fuerza K2k20 (según figura 6 apéndice A)	1000	kN
Fuerza K5k20 (según figura 6 apéndice A)	1200	kN
Fuerza K20k20 (según figura 6 apéndice A)	1350	kN
Fuerza Kk20 básica por 2 vías	2527.0	kN
Fuerza Kk20 corregida por rozamiento en apoyos deslizantes	4067.9	kN
Fuerza corregida por diferencia térmica real y número de vías (sin roz.)	**2626.1**	kN
Fuerza corregida por diferencia térmica real y número de vías	**4227.5**	kN

Cálculo de las tensiones en carril por giro del tablero		
Estribo fijo		
Tensión gamma 0 / K2 (según figura 1 apéndice B)	12	N/mm2
Tensión gamma 0 / K5 (según figura 1 apéndice B)	22	N/mm2
Tensión gamma 0 / K2 básica	25.2	N/mm2
Tensión gamma 0,5 / K2 (según figura 1 apéndice B)	17	N/mm2
Tensión gamma 0,5 / K5 (según figura 1 apéndice B)	22	N/mm2
Tensión gamma 0,5 / K2 básica	23.6	N/mm2
Tensión corregida por gamma real	24.3	N/mm2
Tensión corregida por giro real	**3.6**	N/mm2
Estribo móvil		
Tensión gamma 0 / K2 (según figura 3 apéndice B)	-8	N/mm2
Tensión gamma 0 / K5 (según figura 3 apéndice B)	-16	N/mm2
Tensión gamma 0 / K2 básica	-18.5	N/mm2
Tensión gamma 0,5 / K2 (según figura 3 apéndice B)	0.1	N/mm2
Tensión gamma 0,5 / K5 (según figura 3 apéndice B)	-3	N/mm2
Tensión gamma 0,5 / K2 básica	-4.0	N/mm2
Tensión corregida por gamma real	-10.1	N/mm2
Tensión corregida por giro real	**-1.5**	N/mm2

Cálculo de la fuerza horizontal en el apoyo fijo por giro del tablero		
Fuerza gamma 0 / K2 (según figura 5 apéndice B)	360	kN
Fuerza gamma 0 / K5 (según figura 5 apéndice B)	560	kN
Fuerza gamma 0 / K20 (según figura 5 apéndice B)	1100	kN
Fuerza gamma 0 / K2 básica	623.5	kN
Fuerza gamma 0,5 / K2 (según figura 5 apéndice B)	180	kN
Fuerza gamma 0,5 / K5 (según figura 5 apéndice B)	360	kN
Fuerza gamma 0,5 / K20 (según figura 5 apéndice B)	560	kN
Fuerza gamma 0,5 / K2 básica	417.2	kN
Fuerza gamma / K	1007.6	kN
Fuerza gamma / K20	1573.6	kN
Fuerza sin corrección por rozamiento en apoyos deslizantes	1007.6	kN
Fuerza corregida por rozamiento en apoyos deslizantes	2901.8	kN
Fuerza corregida por giro real (sin rozamiento)	**301.3**	kN
Fuerza corregida por giro real	**867.7**	kN

Cálculo de las tensiones en carril por frenado y arranque		
Estribo fijo		
Tensión K2k60 (según figura 1 apéndice A)	50	N/mm2
Tensión K5k60 (según figura 1 apéndice A)	33	N/mm2
Tensión Kk60 básica	27.6	N/mm2
Tensión corregida por carga real	**27.6**	N/mm2
Estribo móvil		
Tensión K2k60 (según figura 2 apéndice A)	50	N/mm2
Tensión K5k60 (según figura 2 apéndice A)	35	N/mm2
Tensión Kk60 básica	30.2	N/mm2
Tensión corregida por carga real	**24.3**	N/mm2

Cálculo de la fuerza horizontal en el apoyo fijo por frenado y arranque		
Fuerza K2k60 (según figura 3 apéndice A)	800	kN
Fuerza K5k60 (según figura 3 apéndice A)	1200	kN
Fuerza Kk60 básica	1327.0	kN
Fuerza corregida por carga real	**1695.6**	kN

Proyecto: LAV Castellbisbal-Papiol
Estructura: Viaducto sobre la Riera de Rubí

CÁLCULO DE FUERZAS LONGITUDINALES EN TABLEROS DE PUENTES DE FERROCARRIL

Datos

Longitud del tablero	180 m
Número de vías	2 (1 ó 2 vías)
Longitud de expansión (L)	180 m, (Se supone que el punto fijo se situa en un estribo).

Cálculo según IPF

Cálculos intermedios	
Carga vertical tren tipo A en primera vía	90 T
Carga vertical tren tipo A en segunda vía	90 T
Carga vertical tren tipo B en primera vía	1860 T
Carga vertical tren tipo B en segunda vía	1860 T
Valor total de la carga vertical	3720 T
Resultado	
Valor de la fuerza de frenado total	**465 T**

CARGAS SEGÚN EC-1

Cálculo sin tener en cuenta la continuidad del carril

Cálculos intermedios	
Resistencia a cortante entre tablero y vía en tramos cargados	6 T/m
Longitud cargada LM 71	180 m
Longitud sin carga LMT1	0 m
Longitud cargada SW0	30 m
Longitud sin carga SWO	150 m
Longitud cargada SW2	50 m
Longitud sin carga SW2	130 m
Fuerza horizontal por arranque vía 1	100 T
Fuerza horizontal por frenado vía 1	360 T
Fuerza horizontal por arranque vía 2	100 T
Fuerza horizontal por frenado vía 2	360 T
Fuerza de frenado sin reducción por continuidad del carril	**460 T**

Acciones climáticas

VIENTO

Al estar la estructura ubicada junto a la costa próxima a Barcelona. La velocidad de cálculo se puede determinar a partir de una velocidad de referencia de vref=24 m/s corregida con los siguientes parámetros multiplicadores:

Ct = factor de topografía

Cr = factor de riesgo (se toma un periodo de retorno de 100 años)

Cz = factor de altura (se adopta un entorno Tipo III, zona industrial)

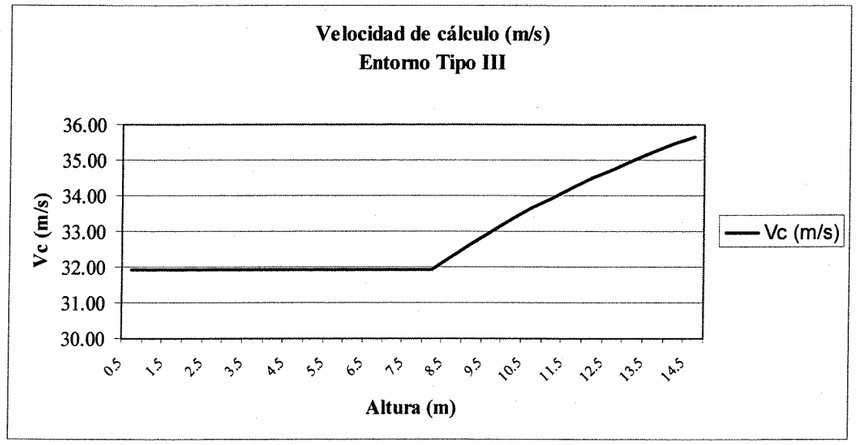
Cg = factor de ráfaga

$$Cz = Kz \ln(\frac{z}{zo}) \quad si \quad z \geq z_{min}$$

$$Cz = Kz \ln(\frac{z_{min}}{zo}) \quad si \quad z \leq z_{min}$$

$$Cg = \sqrt{\left(1 + \frac{7Kz}{CzCt}\right)}$$

Vref=24 m/s, Ct=1,00 y Cr=1,04



Para un entorno Tipo III

Kz= 0,22 zo = 0,30m zmin = 8,00 m

Para determinar el empuje de viento sobre el tablero, la velocidad de cálculo es:

Vc = Ct . Cr . Cz . Cg . Vref

Esta velocidad de viento da lugar a una presión de 0,088 T/m^2.

Las situaciones consideradas han sido:

Puente sin sobrecarga
Puente con tren en una vía
Puente con trenes en ambas vías

Se tiene en cuenta en el cálculo del empuje total del viento sobre el tablero los coeficientes de ocultamiento entre zonas expuestas, los valores obtenidos se detallan en el apartado 8 Cuando se combina con la sobrecarga se reduce en un 50% esta acción.

NIEVE

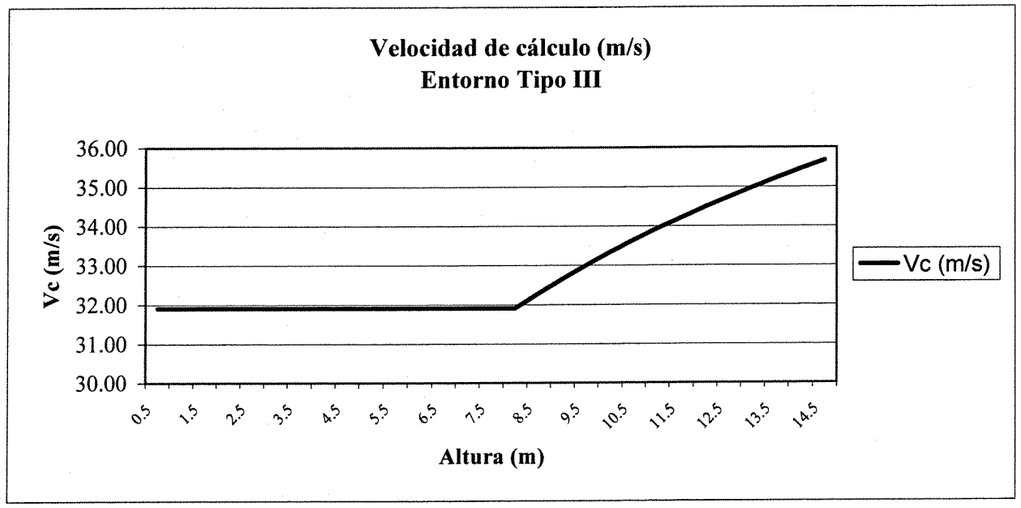
Según al IAP se debe aplicar una carga de nieve sobre la superficie de tablero en la que no se considere sobrecarga de uso. Para el cálculo del tablero se considera la posibilidad de tener sobrecarga en toda su superficie, por lo tanto no es necesario aplicar la sobrecarga de nieve.

CÁLCULO DE EMPUJES DE VIENTO

Viaducto sobre la Riera de Rubí - Línea de Mercancías

Vref	24 m/s
Ct	1
Periodo de retorno	100
Cr	1.04
Entorno Tipo	3
Kz	0.22
zo	0.3 m
Zmin	8 m

Altura (m)	Cz	Cg	Vc (m/s)
0.5	0.722	1.770	31.91
1.0	0.722	1.770	31.91
1.5	0.722	1.770	31.91
2.0	0.722	1.770	31.91
2.5	0.722	1.770	31.91
3.0	0.722	1.770	31.91
3.5	0.722	1.770	31.91
4.0	0.722	1.770	31.91
4.5	0.722	1.770	31.91
5.0	0.722	1.770	31.91
5.5	0.722	1.770	31.91
6.0	0.722	1.770	31.91
6.5	0.722	1.770	31.91
7.0	0.722	1.770	31.91
7.5	0.722	1.770	31.91
8.0	0.722	1.770	31.91
8.5	0.736	1.759	32.30
9.0	0.748	1.749	32.66
9.5	0.760	1.740	33.00
10.0	0.771	1.731	33.33
10.5	0.782	1.723	33.64
11.0	0.792	1.716	33.93
11.5	0.802	1.709	34.21
12.0	0.812	1.702	34.48
12.5	0.821	1.696	34.74
13.0	0.829	1.690	34.98
13.5	0.837	1.685	35.22
14.0	0.845	1.680	35.45
14.5	0.853	1.675	35.67
15.0	0.861	1.670	35.88
15.5	0.868	1.666	36.08
16.0	0.875	1.661	36.28
16.5	0.882	1.657	36.47
17.0	0.888	1.653	36.66
17.5	0.895	1.650	36.83
18.0	0.901	1.646	37.01
18.5	0.907	1.643	37.18
19.0	0.913	1.639	37.34
19.5	0.918	1.636	37.50
20.0	0.924	1.633	37.66



Proyecto: Viaducto sobre la Riera de Rubí - Línea de Mercancías
Estructura: Tablero Línea de Mercancías

Características de la sección transversal del tablero

Canto tablero	2.09	m
Distancia de fibra neutra a base inferior	1.45	m
Número de vigas o cajones	2	ud
Canto viga o cajón	1.70	m
Distancia libre entre vigas	5.00	m
Ancho tablero	12.20	m
Altura de barrera	1.00	m
Relación de solidez barrera	1	
Altura de balasto	0.70	m
Distancia entre barrera y balasto	1.77	m
Número de vías	2	ud

Valores sin tráfico

Espaciamiento relativo entre barreras	11.2	
Espaciamiento relativo balasto	1.77	
Espaciamiento relativo entre vigas	2.94	
Coeficiente de ocultamiento barreras	1	
Coeficiente de ocultamiento balasto	0.1	
Coeficiente de ocultamiento vigas	0.2	
Altura equivalente sin trafico	3.09	m
Area transversal sin tráfico	5.22	m
CD sin trafico	1.32	

Valores con tráfico en 1 vía

Separación entre ejes de vías	3.80	m
Distancia de eje de vía a barrera	4.20	m
Espaciamiento relativo entre barrera y tren	1.50	
Espaciamiento relativo balasto	1.77	
Espaciamiento relativo entre vigas	2.94	
Coeficiente de ocultamiento barreras	0.1	
Coeficiente de ocultamiento balasto	0.1	
Coeficiente de ocultamiento vigas	0.2	
Altura equivalente con trafico	6.09	m
CD con trafico	1.899	
Area transversal con tráfico en 1 vía	8.32	m2

Tabla de valores del coeficiente de ocultamiento

Espaciamiento relativo	Relación de solidez					
	0.1	0.2	0.3	0.4	0.5	0.6
0	0.75	0.4	0.31	0.22	0.13	0.06
1	1	0.82	0.64	0.46	0.28	0.1
2	1	0.84	0.68	0.52	0.36	0.2
3	1	0.86	0.72	0.59	0.45	0.31
4	1	0.89	0.78	0.68	0.57	0.46
5	1	1	0.92	0.85	0.77	0.69
6	1	1	1	1	1	1
	1	2	3	4	5	6

Valores con tráfico en ambas vías

Espaciamiento relativo entre barrera y tren	0.55	m
Espaciamiento relativo balasto	1.77	m
Espaciamiento relativo entre vigas	2.94	
Espaciamiento relativo entre trenes	0.375	
Coeficiente de ocultamiento barreras	0.06	
Coeficiente de ocultamiento balasto	0.1	
Coeficiente de ocultamiento vigas	0.2	
Coeficiente de ocultamiento de trenes	0.06	
Altura equivalente con trafico	6.09	m
CD con trafico	1.90	
Area transversal con tráfico en ambas vías	8.52	m2

Inclinación media del tablero+barrera	0.0	°
Coeficiente reductor de CD	1	
Altura de tablero	9.00	m
Altura equivalente con trafico	6.09	m
CD con trafico	1.90	
Longitud del tablero	170.50	m

Notación :

Fh= Componente horizontal del empuje de viento
Fv= Componente vertical del empuje de viento
Mv= Momento de vuelco debido al empuje de viento

El viento longitudinal equivale a un 25 % del viento transversal

Empuje de viento máximo sobre el tablero

								Esfuerzos totales en tablero		
Altura media del tablero+barrera	Cz	Cg	Vc (m/s)	Pw (T/m2)	Fh (T/m)	Fv (T/m)	Mv(mT/m)	Fh (T)	Fv (T)	Mv(mT)
9	0.748	1.749	32.66	0.088	0.458	0.407	1.425	78.06	69.34	243.02

Empuje de viento concomitante con sobrecarga sobre el tablero en una vía

								Esfuerzos totales en tablero		
Altura media del tablero+barrera	Cz	Cg	Vc (m/s)	Pw (T/m2)	Fh (T/m)	Fv (T/m)	Mv(mT/m)	Fh (T)	Fv (T)	Mv(mT)
10.5	0.782	1.723	33.64	0.067	0.559	0.216	0.884	95.26	36.78	150.66

Empuje de viento concomitante con sobrecarga sobre el tablero en las dos vías

								Esfuerzos totales en tablero		
Altura media del tablero+barrera	Cz	Cg	Vc (m/s)	Pw (T/m2)	Fh (T/m)	Fv (T/m)	Mv(mT/m)	Fh (T)	Fv (T)	Mv(mT)
10.5	0.782	1.723	33.64	0.067	0.572	0.216	0.889	97.55	36.78	151.58

Acciones Térmicas

VARIACIÓN UNIFORME DE TEMPERATURA

El puente está emplazado en la región climática III (Figura 7 de la IAP)

El viaducto se ha tratado como un puente de vigas, por tanto, la variación uniforme de temperatura viene dada por:

$$\Delta T = K \cdot z^a \cdot h^b \cdot s^c = 26{,}90 \cdot 3^{0{,}300} \cdot 2{,}09^{-0{,}088} \cdot 3{,}50^{0{,}057} = 37{,}6^{o}C$$

$$\Delta T_{CALC} = \Delta T/2 + 5 = 23{,}8^{o}C$$

GRADIENTE TÉRMICO

$\nabla Tsi,ref = 9{,}0\ ^{o}C$

$K_1 = 1{,}3$

$K_2 = 0{,}6$

Vertical positivo $\nabla T_{SI} = (K_1\ K_2) \cdot \nabla T_{SI,ref} = 7{,}0\ ^{o}C$

Vertical negativo $\nabla T_{SI} = 0^{o}C$ (tablero de hormigón con pavimento bituminoso)

Transversal $\nabla T_T = 2.5\ ^{o}C$ si la estructura tiene dirección Este-Oeste (+/- 25 g)

ACCIÓN SÍSMICA

La aceleración sísmica básica de la zona, según la normativa vigente, es $a_b = 0{,}04$ g.

La categoría de la estructura puede considerarse de especial importancia, lo que es equivalente a un factor de nivel de daño $\gamma_1 = 1.3$.

La aceleración de cálculo es: $a_c = \gamma_1\ a_b = 0.052$ g

Las acciones sísmicas en puentes sólo se consideran, de acuerdo con la IAP, para aceleraciones de cálculo superiores a 0.06g, por lo tanto no es preciso realizar el análisis sísmico del puente.

PROYECTO: L.A.V. Madrid - Zaragoza - Barcelona - Frontera Francesa. Tramo: Castellbisbal - Papiol
OBRA DE FÁBRICA: Viaducto sobre la Riera de Rubí - L.M.

CÁLCULO DE LA VARIACIÓN UNIFORME DE TEMPERATURA EN EL TABLERO

Datos	
Zona	3
Tipo de tablero (ver tabla adjunta)	4
Canto, m	2.09
Separación entre ejes de vigas (sólo puentes de vigas), m	5.00

Cálculos intermedios	
k	26.90
a	0.300
b	-0.088
c	0.057
Canto de cálculo, m	2.090
Separación de cálculo entre vigas, m	3.500

Resultados	
Valor total de la variación uniforme de temperatura, ºC	**37.6**
Valor de cálculo de la variación de temperatura, Δtd= Δt/2+5	**23.8**

Valores de k, a, b, c y h							
Tipología de tablero	**Tipo de tablero**	**k**	**a**	**b**	**c**	**Canto mínimo**	**Canto máximo**
Losa maciza de hormigón	1	23.89	0.292	-0.139	0	0.3	1.2
Losa aligerada de hormigón	2	24.91	0.292	-0.172	0	0.6	1.5
Cajón de hormigón	3	29.13	0.301	-0.148	0	1.7	4
Vigas de hormigón	4	26.9	0.3	-0.088	0.057	0.6	2.5
Cajón metálico	5	39.77	0.234	-0.069	0	1.5	4.5
Vigas metálicas	6	40.11	0.228	-0.072	0	2	6

CÁLCULO DEL GRADIENTE TÉRMICO EN EL TABLERO

Datos		
Gradiente de referencia	9.0	Según figura 13 IAP
Factor de corrección relativo al canto del tablero, K1	1.300	Según figura 12 IAP
Factor de corrección por presencia de balasto, K2	0.600	

Resultados	
Valor del gradiente térmico positivo, ºC	**7.0**

2.2 COEFICIENTES DE SEGURIDAD, MATERIALES, NIVELES DE CONTROL Y NORMATIVAS

HORMIGONES

- Vigas Prefabricadas..... HP-55 / B / 20 / IIb
- Tablero ..... HA-30 / B / 20 / IIb

Control del hormigón ESTADÍSTICO

γc= 1.50 (Situación persistente o transitoria)
γc= 1.30 (Situación accidental)

El módulo de elasticidad se ha evaluado en todos los casos de acuerdo a la expresión de la EHE:

$Ec = 8500 \sqrt[3]{f_{ck} + 8}$ (N/mm^2)

La resistencia a tracción se ha calculado como:

Valor medio: $fctm = 0{,}30 \sqrt[3]{f_{ck}^{\ 2}}$ (N/mm^2)

Valor característico inferior: $fctk = 0{,}21 \sqrt[3]{f_{ck}^{\ 2}}$ (N/mm2)

Los límites establecidos para la consistencia en la puesta en obra podrán superarse con el empleo de aditivos superfluidificantes, siempre que el valor de la relación agua-cemento cumpla los requisitos prefijados en EHE.

ACEROS

- Acero corrugado para la armadura pasiva tipo B500S, con fyk > 500 MPa
- Acero de pretensado tipo 170/190 con tendones de 0,6 " (Y 1860 S7 15.2).
- Acero para barras de tesado tipo 85/105

Control de los aceros NORMAL

γs= 1,15 (Situación persistente o transitoria)
γs= 1,0 (Situación accidental)

CONTROL DE EJECUCIÓN

El control de ejecución será INTENSO (γg= 1,35 y γfq= 1,5) en tablero y estribos de acuerdo con las especificaciones de la normativa EHE.

NORMAS UTILIZADAS

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 realizarán los cálculos empleando la normativa IPF-75 y los criterios especificados en los Eurocódigos, adoptándose el más desfavorable de ambos.

Cálculo según IPF-75

Para el cálculo de las acciones se utilizarán las siguientes instrucciones.

- 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 el cálculo de las acciones ambientales se utilizará la siguiente instrucción.

- Instrucción relativa a las acciones a considerar en el proyecto de Puentes de Carreteras I.A.P. 12 de Febrero de 1998.

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.

Cálculo según Eurocódigos y EHE

- 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 utilizarán las siguientes Instrucciones:

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

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)

2.3 AMBIENTES, RECUBRIMIENTOS, FISURACIÓN Y CUANTÍAS MÍNIMAS

De acuerdo con la normativa EHE se consideran los ambientes indicados en la tabla siguiente.

Elemento	Ambiente	Recubrimiento de Armadura pasiva (mm)	Límite de abertura de fisura Wmax (mm)	
			Hormigón armado	Hormigón postesado
Losa del tablero	IIb	35	0,30	-
Vigas	IIb	25	0,30	Descompresion bajo comb. cuasipermanente
Alzados de pilas	IIb	35	0,30	-
Cimentaciones	IIa	30	0,1	-
Pilotes/Pantallas	IIa	75	0,1	-

Para las armaduras postesas el recubrimiento es el máximo de los siguientes valores: 4 cm o el diámetro de la vaina.

Las cuantías mínimas de armadura pasiva B500S serán las expuestas en la siguiente tabla (EHE, art. 4.3.5)

Elemento	Posición	Tipo	Cuantía geométrica o/oo
Zapatas	cara superior o inferior	transversal o longitudinal	0.90
Pilotes	vertical	-	4.0
Pilas	vertical	-	4.0
Alzados de estribos y aletas (1)	horizontal	lado tierras	1.07
		lado visto	2.13
	vertical	lado tierras	0.90
		lado visto	0.30
Tablero	cara superior o inferior	transversal o longitudinal	0.90

(1) las cuantías geométricas horizontales se pueden reducir un 50 % si se colocan juntas de contracción distanciadas menos de 7,5 m.

2.4 HIPÓTESIS DE COMBINACIÓN DE ESFUERZOS

Se han considerado las combinaciones de hipótesis de las acciones recogidas en la Normativas IAP y EHE, basados en la teoría de Estados Límites, para las distintas situaciones de cálculo de la estructura.

2.4.1 ESTADOS LÍMITES ÚLTIMOS

Las hipótesis de cálculo consideradas son:

- Situaciones persistentes o transitorias

$$\sum_{j \geq 1} \gamma_{Gj}\, G_{kj} + \sum \gamma_{Gj}\, G^*_{kj} + \gamma_{Q1}\, Q_{k1} + \sum_{i > 1} \gamma_{Qi}\, \Psi_{0i}\, Q_{ki}$$

- Situaciones accidentales

$$\sum_{j \geq 1} \gamma_{Gaj}\, G_{kj} + \sum \gamma_{Gj}\, G^*_{kj} + \gamma_A\, A_k + \Psi_{11}\, Q_{k1} + \sum_{i > 1} \gamma_{Qi}\, \Psi_{2i}\, Q_{ki}$$

- Situaciones accidentales de sismo

$$\sum_{j \geq 1} G_{kj} + \sum \gamma_{Gj}\, G^*_{kj} + \gamma_i\, A_{Ed} + \sum_{i > 1} \gamma_{Qi}\, \Psi_{2i}\, Q_{ki}$$

donde:

G = Valor característico de las cargas permanentes.
G* = Valor característico de las cargas permanentes de valor no constante.
Q_{k1} = Valor característico de la carga variable dominante.
A_k = Valor característico de la acción accidental
A_{eq} = Valor característico de la acción sísmica, calculado según la Norma Sismorresistente.

Los coeficientes de seguridad y de combinación de acciones empleados se definen en la EHE para control de ejecución intenso.

2.4.2 ESTADOS LÍMITES DE SERVICIO

Las hipótesis de cálculo consideradas son:

- Combinación característica

$$\sum_{j \geq 1} \gamma_{Gj}\, G_{kj} + \sum \gamma_{Gj}\, G^*_{kj} + \gamma_{Q1}\, Q_{k1} + \sum_{i > 1} \gamma_{Qi}\, \Psi_{0i}\, Q_{ki}$$

- Combinación frecuente

$$\sum_{j \geq 1} \gamma_{Gaj}\, G_{kj} + \sum \gamma_{Gj}\, G^*_{kj} + \Psi_{11}\, Q_{k1} + \sum_{i > 1} \gamma_{Qi}\, \Psi_{2i}\, Q_{ki}$$

- Combinación casi permanente

$$\sum_{j \geq 1} G_{kj} + \sum \gamma_{Gj}\, G^*_{kj} + \sum_{i > 1} \gamma_{Qi}\, \Psi_{2i}\, Q_{ki}$$

Los valores representativos de las acciones se han obtenido de acuerdo con las especificaciones de las normativas vigentes, tomándose los siguientes valores de los coeficientes ψ:

Acción	ψ_0	ψ_1	ψ_2
Sobrecargas de uso	0.8	0.8 (a) 0.6 (b) 0.4 (c)	0
Viento	0.6	0.5	0.2
Temperatura	0.6	0.5	0.2

Nota: (a) Una vía cargada (b) dos vías cargadas (c) 0.4 tres o más vías cargadas

3 CÁLCULO ESTRUCTURAL

3.1 CÁLCULO ESTRUCTURAL CON MODELO DE EMPARRILLADO PLANO

3.1.1 DISCRETIZACIÓN Y CARACTERÍSTICAS MECÁNICAS

Puesto que el tablero se ejecutará por fases, se han realizado diferentes modelos para simular las distintas fases de construcción del viaducto. El cálculo del tablero se ha realizado posteriormente adicionando los esfuerzos de cada fase en el instante correspondiente a la misma.

A continuación se exponen modelos de cálculo que se han realizado para obtener los esfuerzos en las distintas fases de construcción.

MODELO 1: *Vigas sometidas a su peso propio.*

En este caso, los esfuerzos a los que estan sometidas las vigas son los del pretensado y a su peso propio.

Las vigas tienen el esquema estructural de viga biapoyada por lo que no ha sido necesario realizar ningún modelo de cálculo para obtener los esfuerzos.

MODELO 2: *Unión de las vigas y tesado de la losa.*

En el momento en que se realiza la unión de las vigas, el esquema estructural de las mismas pasa a ser el de una viga contínua. Los esfuerzos que afectan a las vigas son los correspondientes al peso propio de la losa.

La estructura se ha modelado mediante un esquema de viga contínua. Únicamente se ha modelado una de las vigas ya que los esfuerzos en la otra serán exactamente los mismos. Los esfuerzos obtenidos con el modelo corresponden a secciones separadas 1,0 metros entre ellas. En este caso, los esfuerzos a los que estan sometidas las vigas son los del pretensado y a su peso propio.

Para simular la separación de los apoyos, se han dispuesto dos barras transversales una a cada lado del nervio longitudinal. Su posición final coincide con la posición real de los apoyos tipo pot. Estas barras se han definido con una gran inercia y sin area de modo que influyan lo mínimo en los resultados. De este modo, el modelo ha servio también para verificar los apoyos provisionales a disponer en la estructura.

MODELO 3a: *Tablero sometido a cargas permanentes y sobrecargas - Losa sin fisurar.*

Una vez endurecida la losa se aplicarán las cargas permanentes y las sobrecargas. En este momento ya actuan las dos vigas de forma conjunta, unidas por la losa.

El tablero se ha modelado mediante un emparrillado plano constituido por dos nerios longitudinales, coincidentes con los ejes de viga en plana, con tres grados de libertad por nudo (desplazamiento vertical, giro de flexión longitudinal de la barra y giro a torsión). Los nervios longitudinales se han dividido de modo que quedan constituidos por barras con una longitud aproximada de un metro. Las propiedades mecánicas de las barras se obtienen como media de las características de sus secciones extremas. En la zona de estribos se ha simulado la riostra de apoyo empotrando el giro a torsión. En el resto de apoyos se han prescrito únicamente los movimientos verticales del nudo.

La numeración de barras es correlativa, tomando como origen el extremo izquierdo del nervio longitudinal.

Este modelo ha sido calibrado mediante un modelo de elementos finitos que se expondrá más adelante.

MODELO 3b: *Tablero sometido a cargas permanentes y sobrecargas - Losa fisurada*

Este modelo corresponde a una modificación del modelo 3a.

En las zonas en las que la losa ha fisurado (secciones sobre pilas), se modifican las características de la sección transvesal de las vigas longitudinales. La inercia de la sección transversal quedará definida por la inercia de la viga más la inercia de las barras longitudinales contenidas en la losa.

En las páginas siguientes se pueden ver las características de los modelos de cálculo 2, 3a y 3b.

MODELO DE CÁLCULO 2

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Modelo de Cálculo



Nudos que Componen la Estructura

Nudo	X (m)	Y (m)	Z (m)	Apoyo	Apoyo - código
1	0.0	0.0	0.0		
2	1.000	0.0	0.0		
3	24.000	0.0	0.0		
4	25.500	0.0	0.0		
5	27.000	0.0	0.0		
6	54.500	0.0	0.0		
7	56.000	0.0	0.0		
8	57.500	0.0	0.0		
9	84.500	0.0	0.0		
10	86.000	0.0	0.0		
11	87.500	0.0	0.0		
12	114.500	0.0	0.0		
13	116.000	0.0	0.0		
14	117.500	0.0	0.0		
15	144.500	0.0	0.0		
16	146.000	0.0	0.0		
17	147.500	0.0	0.0		
18	169.500	0.0	0.0		
19	170.500	0.0	0.0		
20	170.500	0.850	0.0	Apoyo Libre	llfllll
21	170.500	-0.850	0.0	Apoyo Móvil Long	lffllll
22	0.0	0.850	0.0	Apoyo Libre	llfllll
23	0.0	-0.850	0.0	Apoyo Móvil Long	lffllll
24	25.500	0.850	0.0	Apoyo Libre	llfllll
25	25.500	-0.850	0.0	Apoyo Móvil Long	lffllll
26	56.000	0.850	0.0	Apoyo Libre	llfllll
27	56.000	-0.850	0.0	Apoyo Móvil Long	lffllll
28	86.000	0.850	0.0	Apoyo Movil Transv	flfllll
29	86.000	-0.850	0.0	Apoyo Fijo	ffflll
30	116.000	0.850	0.0	Apoyo Libre	llfllll
31	116.000	-0.850	0.0	Apoyo Móvil Long	lffllll
32	146.000	0.850	0.0	Apoyo Libre	llfllll
33	146.000	-0.850	0.0	Apoyo Móvil Long	lffllll

Apoyos Aplicados a la Estructura

Nombre del apoyo	Lista de nudos	Condiciones de apoyo
Apoyo Fijo	29	UX UY UZ
Apoyo Libre	20A26CA2 30 32	UZ
Apoyo Móvil Long	21A27CA2 31 33	UY UZ
Apoyo Movil Transv	28	UX UZ

Barras que Componen la Estructura

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)	Gama (Deg)	Tipo
1	1	2	Viga A-170B Maciza	HP - 55	1.000	450.0	Barra
2	2	3	Viga A-170B	HP - 55	23.000	90.0	Barra
3	3	4	Viga A-170B Maciza	HP - 55	1.500	90.0	Barra
4	4	5	Viga A-170B Maciza	HP - 55	1.500	90.0	Barra
5	5	6	Viga A-170B	HP - 55	27.500	90.0	Barra
6	6	7	Viga A-170B Maciza	HP - 55	1.500	90.0	Barra
7	7	8	Viga A-170B Maciza	HP - 55	1.500	90.0	Barra
8	8	9	Viga A-170B	HP - 55	27.000	90.0	Barra
9	9	10	Viga A-170B Maciza	HP - 55	1.500	90.0	Barra
10	10	11	Viga A-170B Maciza	HP - 55	1.500	90.0	Barra
11	11	12	Viga A-170B	HP - 55	27.000	90.0	Barra
12	12	13	Viga A-170B Maciza	HP - 55	1.500	90.0	Barra
13	13	14	Viga A-170B Maciza	HP - 55	1.500	90.0	Barra
14	14	15	Viga A-170B	HP - 55	27.000	90.0	Barra
15	15	16	Viga A-170B Maciza	HP - 55	1.500	90.0	Barra
16	16	17	Viga A-170B Maciza	HP - 55	1.500	90.0	Barra
17	17	18	Viga A-170B	HP - 55	22.000	90.0	Barra
18	18	19	Viga A-170B Maciza	HP - 55	1.000	90.0	Barra
19	19	20	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
20	19	21	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
21	1	22	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
22	1	23	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
23	4	24	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
24	4	25	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
25	7	26	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
26	7	27	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
27	10	28	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
28	10	29	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
29	13	30	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
30	13	31	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
31	16	32	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra
32	16	33	Apoyo Excéntrico	HORMIGON SIN MASA	0.850	0.0	Barra

Características de las Barras que Componen la Estructura

Nombre de la sección	Lista de barras	SX (m^2)	SY (m^2)	SZ (m^2)	IX (m^4)	IY (m^4)	IZ (m^4)
Apoyo Excéntrico	19A32	0.100	0.0	0.0	1000000000000.000	1000000000000.000	1000000000000.000
Viga A-170B	2A17CA3	1.031	0.522	0.652	0.014	0.987	0.365
Viga A-170B Maciza	1A16CA3 3A18CA3	4.068	3.342	3.629	2.076	2.101	0.998

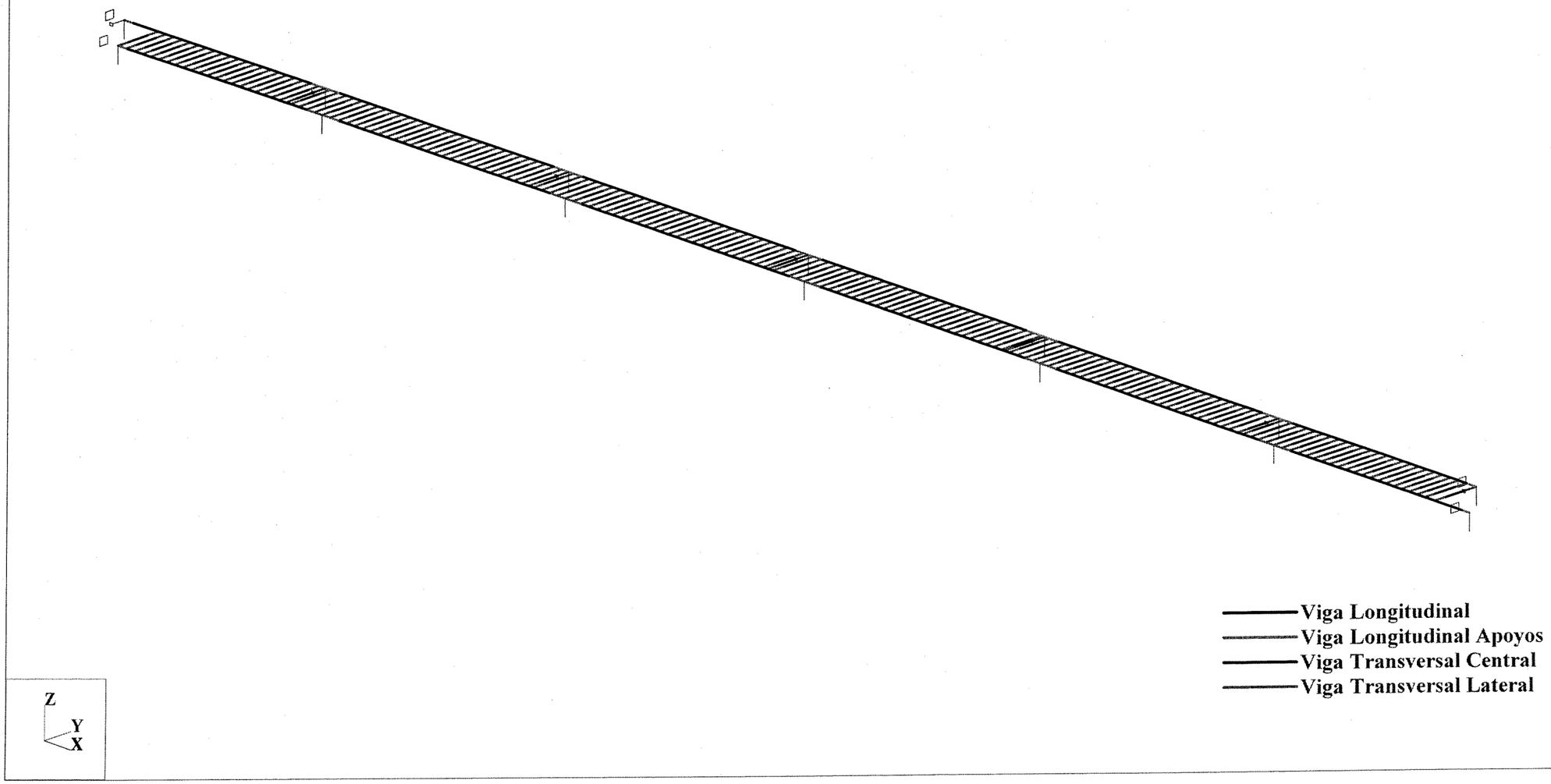
Cargas Aplicadas a la Estructura

Caso	Nombre del caso	Tipo de carga	Lista	Valores de carga
1	Peso Propio	peso propio	1A18	PZ Menos
2	Sobrecarga Losa	sobrecarga uniforme	1A18	PZ=-5.018(T/m) DY=0.0(m) DZ=0.361(m)
3	Viento	sobrecarga uniforme	1A18	PY=0.458(T/m)

Combinación de Acciones Aplicadas a la Estructura

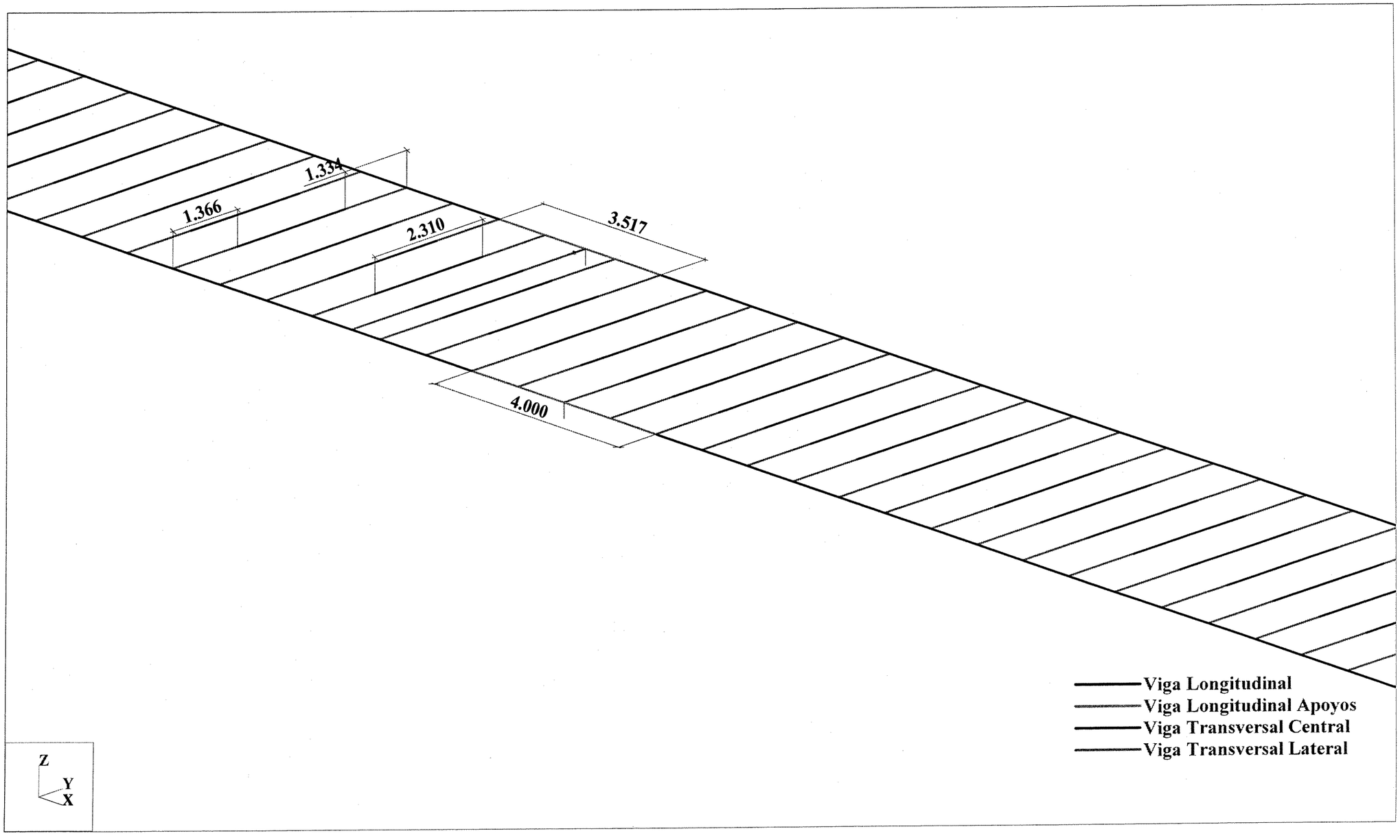
Combinación	Nombre	Tipo de análisis	Naturaleza de combinación	Definición
11 (C)	Comb Vuelco	Combinación lineal	ELU	1*1.00+2*1.35+3*1.50

Modelo de Cálculo

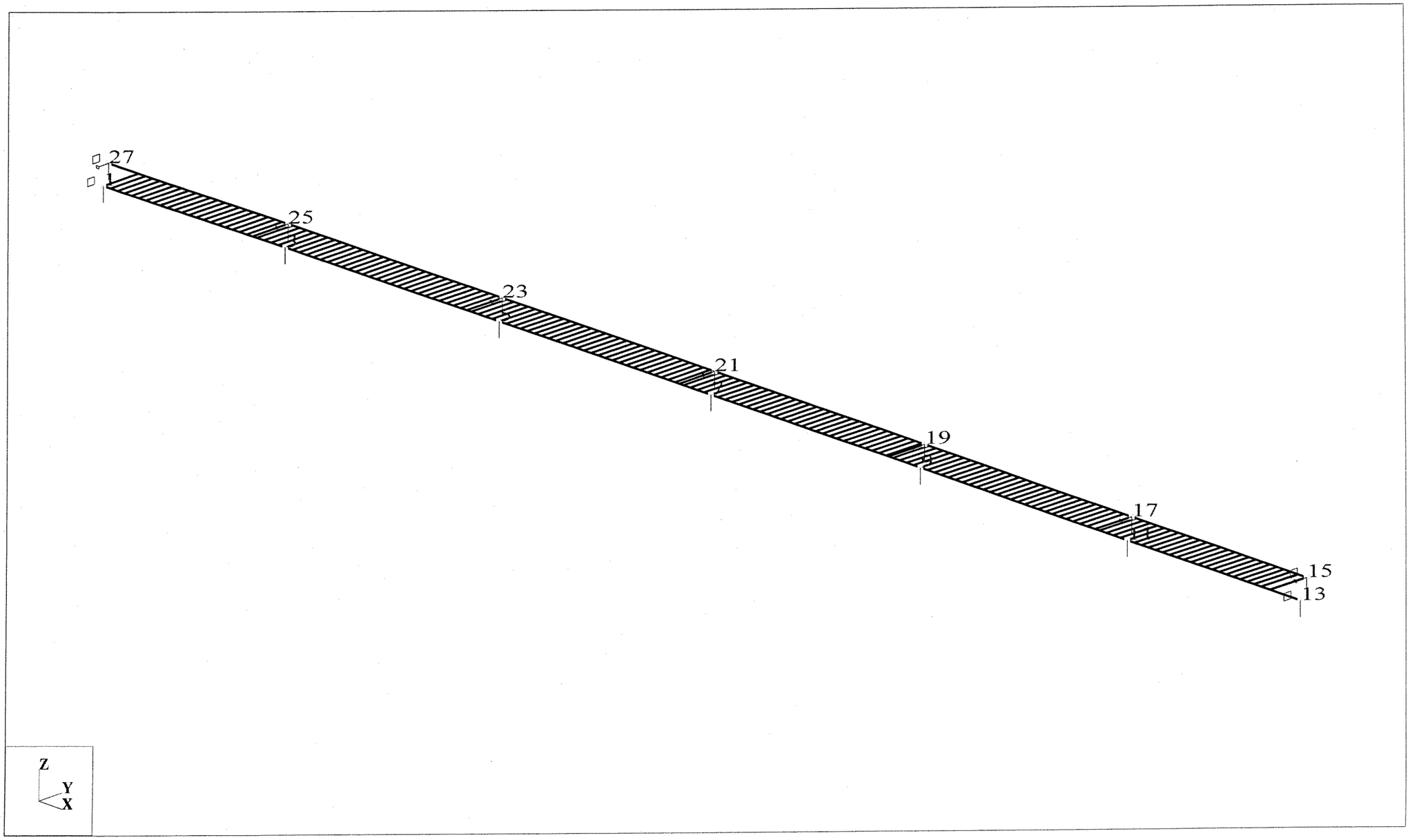


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Detalle en Pilas del Modelo de Cálculo



Numeración de los Nudos en los que se han Aplicado Apoyos



Nudos que Componen la Estructura

Nudo	X (m)	Y (m)	Z (m)
1	0.0	0.0	0.0
3	25.431	0.0	0.0
5	55.913	-0.190	0.0
7	86.143	-0.582	0.0
9	116.120	-1.172	0.0
11	145.848	-1.933	0.0
13	170.478	-2.645	0.0
15	166.236	2.483	0.0
17	141.360	3.192	0.0
19	111.606	3.931	0.0
21	81.595	4.490	0.0
23	51.331	4.852	0.0
25	20.814	5.011	0.0
27	-4.256	4.986	0.0
29	164.840	-2.482	0.0
30	164.878	-1.134	0.0
31	163.840	-2.453	0.0
32	163.879	-1.105	0.0
33	162.841	-2.424	0.0
34	162.879	-1.075	0.0
35	161.841	-2.395	0.0
36	161.880	-1.046	0.0
37	160.842	-2.367	0.0
38	160.880	-1.017	0.0
39	159.842	-2.338	0.0
40	159.880	-0.988	0.0
41	158.842	-2.309	0.0
42	158.881	-0.959	0.0
43	157.843	-2.280	0.0
44	157.881	-0.930	0.0
45	156.843	-2.251	0.0
46	156.882	-0.901	0.0
47	155.844	-2.222	0.0
48	155.882	-0.872	0.0
49	154.844	-2.193	0.0
50	154.883	-0.843	0.0
51	153.844	-2.164	0.0
52	153.883	-0.815	0.0
53	152.845	-2.136	0.0
54	152.883	-0.786	0.0
55	151.845	-2.107	0.0
56	151.884	-0.758	0.0
57	150.846	-2.078	0.0
58	150.884	-0.729	0.0
59	149.846	-2.049	0.0
60	149.885	-0.701	0.0
61	148.847	-2.020	0.0
62	148.885	-0.673	0.0
63	147.847	-1.991	0.0
64	147.885	-0.645	0.0
65	146.847	-1.962	0.0
66	146.886	-0.617	0.0
67	144.848	-1.908	0.0
68	144.886	-0.561	0.0
69	143.848	-1.882	0.0
70	143.887	-0.534	0.0
71	142.849	-1.857	0.0
72	142.887	-0.506	0.0
73	141.849	-1.831	0.0
74	141.888	-0.479	0.0
75	140.113	-1.787	0.0
76	140.146	-0.431	0.0
77	139.113	-1.761	0.0
78	139.147	-0.404	0.0
79	138.113	-1.735	0.0
80	138.147	-0.378	0.0
81	137.114	-1.710	0.0
82	137.147	-0.351	0.0
83	136.114	-1.684	0.0
84	136.148	-0.324	0.0
85	135.114	-1.658	0.0
86	135.148	-0.298	0.0
87	134.115	-1.633	0.0
88	134.148	-0.272	0.0
89	133.115	-1.607	0.0
90	133.149	-0.245	0.0
91	132.115	-1.582	0.0
92	132.149	-0.219	0.0
93	131.116	-1.556	0.0
94	131.149	-0.194	0.0
95	130.116	-1.530	0.0
96	130.150	-0.168	0.0
97	129.116	-1.505	0.0
98	129.150	-0.142	0.0
99	128.116	-1.479	0.0
100	128.150	-0.117	0.0
101	127.117	-1.454	0.0
102	127.151	-0.092	0.0
103	126.117	-1.428	0.0
104	126.151	-0.067	0.0
105	125.117	-1.402	0.0
106	125.151	-0.042	0.0
107	124.118	-1.377	0.0
108	124.152	-0.017	0.0
109	123.118	-1.351	0.0
110	123.152	0.007	0.0
111	122.118	-1.326	0.0
112	122.152	0.031	0.0
113	121.119	-1.300	0.0
114	121.152	0.055	0.0
115	120.119	-1.274	0.0
116	120.153	0.079	0.0
117	119.119	-1.249	0.0
118	119.153	0.103	0.0
119	118.120	-1.223	0.0
120	118.153	0.126	0.0
121	117.120	-1.197	0.0
122	117.154	0.150	0.0
123	115.121	-1.152	0.0
124	115.154	0.196	0.0
125	114.121	-1.133	0.0
126	114.154	0.218	0.0
127	113.121	-1.113	0.0
128	113.155	0.241	0.0
129	112.121	-1.093	0.0
130	112.155	0.263	0.0
131	111.138	-1.074	0.0
132	111.164	0.285	0.0
133	110.139	-1.054	0.0
134	110.164	0.307	0.0
135	109.139	-1.034	0.0
136	109.164	0.328	0.0
137	108.139	-1.015	0.0
138	108.164	0.350	0.0
139	107.139	-0.995	0.0
140	107.165	0.371	0.0
141	106.139	-0.975	0.0
142	106.165	0.392	0.0
143	105.140	-0.956	0.0
144	105.165	0.412	0.0
145	104.140	-0.936	0.0
146	104.165	0.433	0.0
147	103.140	-0.916	0.0
148	103.165	0.453	0.0
149	102.140	-0.897	0.0
150	102.166	0.473	0.0
151	101.140	-0.877	0.0
152	101.166	0.493	0.0
153	100.141	-0.857	0.0
154	100.166	0.512	0.0
155	99.141	-0.838	0.0
156	99.166	0.532	0.0
157	98.141	-0.818	0.0
158	98.166	0.551	0.0
159	97.141	-0.798	0.0
160	97.166	0.570	0.0
161	96.141	-0.779	0.0
162	96.167	0.588	0.0
163	95.141	-0.759	0.0
164	95.167	0.607	0.0
165	94.142	-0.739	0.0
166	94.167	0.625	0.0
167	93.142	-0.720	0.0
168	93.167	0.643	0.0
169	92.142	-0.700	0.0
170	92.167	0.661	0.0
171	91.142	-0.680	0.0
172	91.168	0.678	0.0
173	90.142	-0.661	0.0
174	90.168	0.696	0.0
175	89.143	-0.641	0.0
176	89.168	0.713	0.0

Nudo	X (m)	Y (m)	Z (m)
354	25.438	1.345	0.0
355	20.814	3.666	0.0
356	-0.001	1.345	0.0
357	51.308	1.197	0.0
358	51.299	-0.161	0.0
359	55.957	3.465	0.0
360	55.973	4.797	0.0
361	81.547	0.836	0.0
362	81.530	-0.522	0.0
363	86.211	3.072	0.0
364	86.236	4.404	0.0
365	111.534	0.277	0.0
366	111.507	-1.081	0.0
367	116.211	2.482	0.0
368	116.244	3.816	0.0
369	141.266	-0.462	0.0
370	141.231	-1.815	0.0
371	145.952	1.720	0.0
372	145.990	3.060	0.0
373	166.130	-1.171	0.0
374	166.092	-2.518	0.0
375	35.450	3.616	0.0
376	35.457	4.935	0.0
377	36.450	3.610	0.0
378	36.457	4.929	0.0
379	37.450	3.605	0.0
380	37.457	4.924	0.0
381	38.450	3.599	0.0
382	38.457	4.919	0.0
383	39.450	3.593	0.0
384	39.457	4.914	0.0
385	40.450	3.587	0.0
386	40.457	4.909	0.0
387	41.450	3.581	0.0
388	41.457	4.903	0.0
389	42.450	3.575	0.0
390	42.457	4.898	0.0
391	43.450	3.568	0.0
392	43.457	4.893	0.0
393	44.450	3.561	0.0
394	44.457	4.888	0.0
395	45.450	3.554	0.0
396	45.457	4.883	0.0
397	46.450	3.546	0.0
398	46.457	4.878	0.0
399	47.450	3.539	0.0
400	47.457	4.872	0.0
401	48.450	3.531	0.0
402	48.457	4.867	0.0
403	49.450	3.523	0.0
404	49.457	4.862	0.0
405	50.450	3.515	0.0
406	50.457	4.857	0.0
407	51.957	3.502	0.0
408	51.973	4.844	0.0
409	52.957	3.493	0.0
410	52.973	4.833	0.0
411	53.957	3.484	0.0
412	53.973	4.821	0.0
413	54.957	3.475	0.0
414	54.973	4.809	0.0
415	56.957	3.455	0.0
416	56.973	4.785	0.0
417	57.957	3.445	0.0
418	57.973	4.773	0.0
419	58.957	3.435	0.0
420	58.972	4.761	0.0
421	59.957	3.425	0.0
422	59.972	4.749	0.0
423	60.957	3.414	0.0
424	60.972	4.737	0.0
425	61.956	3.403	0.0
426	61.972	4.725	0.0
427	62.956	3.392	0.0
428	62.972	4.713	0.0
429	63.956	3.381	0.0
430	63.972	4.701	0.0
431	64.956	3.369	0.0
432	64.972	4.689	0.0
433	65.956	3.358	0.0
434	65.972	4.677	0.0
435	66.956	3.346	0.0
436	66.972	4.665	0.0
437	67.956	3.334	0.0
438	67.972	4.653	0.0
439	68.956	3.321	0.0
440	68.972	4.641	0.0
441	69.956	3.309	0.0
442	69.972	4.629	0.0
443	70.956	3.296	0.0
444	70.972	4.618	0.0
445	71.956	3.283	0.0
446	71.972	4.606	0.0
447	72.956	3.269	0.0
448	72.971	4.594	0.0
449	73.956	3.256	0.0
450	73.971	4.582	0.0
451	74.955	3.242	0.0
452	74.971	4.570	0.0
453	75.955	3.228	0.0
454	75.971	4.558	0.0
455	76.955	3.214	0.0
456	76.971	4.546	0.0
457	77.955	3.200	0.0
458	77.971	4.534	0.0
459	78.955	3.185	0.0
460	78.971	4.522	0.0
461	79.955	3.170	0.0
462	79.971	4.510	0.0
463	80.955	3.155	0.0
464	80.971	4.498	0.0
465	82.212	3.136	0.0
466	82.237	4.479	0.0
467	83.212	3.120	0.0
468	83.237	4.460	0.0
469	84.212	3.105	0.0
470	84.237	4.441	0.0
471	85.211	3.089	0.0
472	85.236	4.423	0.0
473	87.211	3.056	0.0
474	87.236	4.385	0.0
475	88.211	3.039	0.0
476	88.236	4.367	0.0
477	89.211	3.022	0.0
478	89.236	4.348	0.0
479	90.211	3.005	0.0
480	90.235	4.329	0.0
481	91.211	2.988	0.0
482	91.235	4.311	0.0
483	92.210	2.970	0.0
484	92.235	4.292	0.0
485	93.210	2.953	0.0
486	93.235	4.274	0.0
487	94.210	2.935	0.0
488	94.235	4.255	0.0
489	95.210	2.916	0.0
490	95.235	4.236	0.0
491	96.210	2.898	0.0
492	96.234	4.218	0.0
493	97.210	2.879	0.0
494	97.234	4.199	0.0
495	98.209	2.860	0.0
496	98.234	4.180	0.0
497	99.209	2.841	0.0
498	99.234	4.162	0.0
499	100.209	2.822	0.0
500	100.234	4.143	0.0
501	101.209	2.802	0.0
502	101.234	4.124	0.0
503	102.209	2.783	0.0
504	102.233	4.106	0.0
505	103.209	2.763	0.0
506	103.233	4.087	0.0
507	104.208	2.742	0.0
508	104.233	4.069	0.0
509	105.208	2.722	0.0
510	105.233	4.050	0.0
511	106.208	2.701	0.0
512	106.233	4.031	0.0
513	107.208	2.680	0.0
514	107.233	4.013	0.0
515	108.207	2.659	0.0
516	108.232	3.994	0.0
517	109.207	2.638	0.0
518	109.232	3.975	0.0
519	110.207	2.616	0.0
520	110.232	3.957	0.0
521	111.207	2.595	0.0
522	111.232	3.938	0.0
523	112.212	2.572	0.0
524	112.246	3.915	0.0
525	113.212	2.550	0.0
526	113.245	3.890	0.0
527	114.212	2.528	0.0
528	114.245	3.866	0.0
529	115.211	2.505	0.0
530	115.245	3.841	0.0

Nudo	X (m)	Y (m)	Z (m)
531	117.211	2.459	0.0
532	117.244	3.791	0.0
533	118.211	2.436	0.0
534	118.244	3.766	0.0
535	119.210	2.412	0.0
536	119.243	3.741	0.0
537	120.210	2.389	0.0
538	120.243	3.717	0.0
539	121.210	2.365	0.0
540	121.243	3.692	0.0
541	122.210	2.341	0.0
542	122.242	3.667	0.0
543	123.209	2.316	0.0
544	123.242	3.642	0.0
545	124.209	2.292	0.0
546	124.242	3.617	0.0
547	125.209	2.267	0.0
548	125.242	3.592	0.0
549	126.208	2.242	0.0
550	126.241	3.568	0.0
551	127.208	2.217	0.0
552	127.241	3.543	0.0
553	128.208	2.192	0.0
554	128.241	3.518	0.0
555	129.207	2.167	0.0
556	129.240	3.493	0.0
557	130.207	2.141	0.0
558	130.240	3.468	0.0
559	131.207	2.116	0.0
560	131.240	3.443	0.0
561	132.206	2.090	0.0
562	132.239	3.419	0.0
563	133.206	2.064	0.0
564	133.239	3.394	0.0
565	134.206	2.038	0.0
566	134.239	3.369	0.0
567	135.205	2.012	0.0
568	135.238	3.344	0.0
569	136.205	1.985	0.0
570	136.238	3.319	0.0
571	137.205	1.959	0.0
572	137.238	3.294	0.0
573	138.204	1.932	0.0
574	138.238	3.270	0.0
575	139.204	1.905	0.0
576	139.237	3.245	0.0
577	140.204	1.878	0.0
578	140.237	3.220	0.0
579	141.953	1.830	0.0
580	141.992	3.174	0.0
581	142.953	1.803	0.0
582	142.991	3.146	0.0
583	143.953	1.775	0.0
584	143.991	3.117	0.0
585	144.952	1.748	0.0
586	144.991	3.089	0.0
587	146.952	1.692	0.0
588	146.990	3.032	0.0
589	147.951	1.664	0.0
590	147.989	3.003	0.0
591	148.951	1.636	0.0
592	148.989	2.975	0.0
593	149.950	1.608	0.0
594	149.989	2.946	0.0
595	150.950	1.580	0.0
596	150.988	2.918	0.0
597	151.950	1.552	0.0
598	151.988	2.889	0.0
599	152.949	1.523	0.0
600	152.987	2.861	0.0
601	153.949	1.495	0.0
602	153.987	2.832	0.0
603	154.948	1.466	0.0
604	154.986	2.804	0.0
605	155.948	1.437	0.0
606	155.986	2.775	0.0
607	156.948	1.408	0.0
608	156.986	2.747	0.0
609	157.947	1.379	0.0
610	157.985	2.718	0.0
611	158.947	1.351	0.0
612	158.985	2.690	0.0
613	159.946	1.321	0.0
614	159.984	2.661	0.0
615	160.946	1.292	0.0
616	160.984	2.633	0.0
617	161.945	1.263	0.0
618	161.984	2.604	0.0
619	162.945	1.234	0.0
620	162.983	2.576	0.0
621	163.945	1.205	0.0
622	163.983	2.547	0.0
623	164.944	1.175	0.0
624	164.982	2.519	0.0
625	-0.004	3.655	0.0
626	-0.005	4.990	0.0
627	20.814	1.356	0.0
628	20.814	0.0	0.0
629	25.450	3.655	0.0
630	25.457	4.987	0.0
631	0.996	3.658	0.0
632	0.995	4.991	0.0
633	1.996	3.661	0.0
634	1.995	4.992	0.0
635	2.996	3.663	0.0
636	2.995	4.993	0.0
637	3.996	3.665	0.0
638	3.995	4.994	0.0
639	4.996	3.667	0.0
640	4.995	4.995	0.0
641	5.996	3.668	0.0
642	5.995	4.996	0.0
643	6.996	3.670	0.0
644	6.995	4.997	0.0
645	7.996	3.671	0.0
646	7.995	4.998	0.0
647	8.996	3.672	0.0
648	8.995	4.999	0.0
649	9.996	3.672	0.0
650	9.995	5.000	0.0
651	10.996	3.673	0.0
652	10.995	5.001	0.0
653	11.996	3.673	0.0
654	11.995	5.002	0.0
655	12.996	3.673	0.0
656	12.995	5.003	0.0
657	13.996	3.673	0.0
658	13.995	5.004	0.0
659	14.996	3.673	0.0
660	14.995	5.005	0.0
661	15.996	3.672	0.0
662	15.995	5.006	0.0
663	16.996	3.671	0.0
664	16.995	5.007	0.0
665	17.996	3.670	0.0
666	17.995	5.008	0.0
667	18.996	3.669	0.0
668	18.995	5.009	0.0
669	19.996	3.667	0.0
670	19.995	5.010	0.0
671	21.450	3.665	0.0
672	21.457	5.007	0.0
673	22.450	3.663	0.0
674	22.457	5.002	0.0
675	23.450	3.660	0.0
676	23.457	4.997	0.0
677	24.450	3.658	0.0
678	24.457	4.992	0.0
679	26.450	3.652	0.0
680	26.457	4.981	0.0
681	27.450	3.649	0.0
682	27.457	4.976	0.0
683	28.450	3.645	0.0
684	28.457	4.971	0.0
685	29.450	3.642	0.0
686	29.457	4.966	0.0
687	30.450	3.638	0.0
688	30.457	4.961	0.0
689	31.450	3.634	0.0
690	31.457	4.955	0.0
691	32.450	3.630	0.0
692	32.457	4.950	0.0
693	33.450	3.625	0.0
694	33.457	4.945	0.0
695	34.450	3.620	0.0
696	34.457	4.940	0.0
697	-1.256	4.989	0.0
698	-2.256	4.988	0.0
699	-3.256	4.987	0.0
700	169.478	-2.616	0.0
701	168.479	-2.587	0.0
702	167.479	-2.558	0.0
703	166.480	-2.529	0.0

Barras que Componen la Estructura

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
101	27	699	Viga Longitudinal Apoyos	HP - 55	1.000
102	699	698	Viga Longitudinal	HP - 55	1.000
103	698	697	Viga Longitudinal	HP - 55	1.000
104	697	626	Viga Longitudinal	HP - 55	1.251
105	626	632	Viga Longitudinal	HP - 55	1.000
106	632	634	Viga Longitudinal	HP - 55	1.000
107	634	636	Viga Longitudinal	HP - 55	1.000
108	636	638	Viga Longitudinal	HP - 55	1.000
109	638	640	Viga Longitudinal	HP - 55	1.000
110	640	642	Viga Longitudinal	HP - 55	1.000
111	642	644	Viga Longitudinal	HP - 55	1.000
112	644	646	Viga Longitudinal	HP - 55	1.000
113	646	648	Viga Longitudinal	HP - 55	1.000
114	648	650	Viga Longitudinal	HP - 55	1.000
115	650	652	Viga Longitudinal	HP - 55	1.000
116	652	654	Viga Longitudinal	HP - 55	1.000
117	654	656	Viga Longitudinal	HP - 55	1.000
118	656	658	Viga Longitudinal	HP - 55	1.000
119	658	660	Viga Longitudinal	HP - 55	1.000
120	660	662	Viga Longitudinal	HP - 55	1.000
121	662	664	Viga Longitudinal	HP - 55	1.000
122	664	666	Viga Longitudinal	HP - 55	1.000
123	666	668	Viga Longitudinal	HP - 55	1.000
124	668	670	Viga Longitudinal Apoyos	HP - 55	1.000
125	670	25	Viga Longitudinal Apoyos	HP - 55	0.819
126	25	672	Viga Longitudinal Apoyos	HP - 55	0.643
127	672	674	Viga Longitudinal Apoyos	HP - 55	1.000
128	674	676	Viga Longitudinal	HP - 55	1.000
129	676	678	Viga Longitudinal	HP - 55	1.000
130	678	630	Viga Longitudinal	HP - 55	1.000
131	630	680	Viga Longitudinal	HP - 55	1.000
132	680	682	Viga Longitudinal	HP - 55	1.000
133	682	684	Viga Longitudinal	HP - 55	1.000
134	684	686	Viga Longitudinal	HP - 55	1.000
135	686	688	Viga Longitudinal	HP - 55	1.000
136	688	690	Viga Longitudinal	HP - 55	1.000
137	690	692	Viga Longitudinal	HP - 55	1.000
138	692	694	Viga Longitudinal	HP - 55	1.000
139	694	696	Viga Longitudinal	HP - 55	1.000
140	696	376	Viga Longitudinal	HP - 55	1.000
141	376	378	Viga Longitudinal	HP - 55	1.000
142	378	380	Viga Longitudinal	HP - 55	1.000
143	380	382	Viga Longitudinal	HP - 55	1.000
144	382	384	Viga Longitudinal	HP - 55	1.000
145	384	386	Viga Longitudinal	HP - 55	1.000
146	386	388	Viga Longitudinal	HP - 55	1.000
147	388	390	Viga Longitudinal	HP - 55	1.000
148	390	392	Viga Longitudinal	HP - 55	1.000
149	392	394	Viga Longitudinal	HP - 55	1.000
150	394	396	Viga Longitudinal	HP - 55	1.000
151	396	398	Viga Longitudinal	HP - 55	1.000
152	398	400	Viga Longitudinal	HP - 55	1.000
153	400	402	Viga Longitudinal	HP - 55	1.000
154	402	404	Viga Longitudinal	HP - 55	1.000
155	404	406	Viga Longitudinal Apoyos	HP - 55	1.000
156	406	23	Viga Longitudinal Apoyos	HP - 55	0.874
157	23	408	Viga Longitudinal Apoyos	HP - 55	0.643
158	408	410	Viga Longitudinal Apoyos	HP - 55	1.000
159	410	412	Viga Longitudinal	HP - 55	1.000
160	412	414	Viga Longitudinal	HP - 55	1.000
161	414	360	Viga Longitudinal	HP - 55	1.000
162	360	416	Viga Longitudinal	HP - 55	1.000
163	416	418	Viga Longitudinal	HP - 55	1.000
164	418	420	Viga Longitudinal	HP - 55	1.000
165	420	422	Viga Longitudinal	HP - 55	1.000
166	422	424	Viga Longitudinal	HP - 55	1.000
167	424	426	Viga Longitudinal	HP - 55	1.000
168	426	428	Viga Longitudinal	HP - 55	1.000
169	428	430	Viga Longitudinal	HP - 55	1.000
170	430	432	Viga Longitudinal	HP - 55	1.000
171	432	434	Viga Longitudinal	HP - 55	1.000
172	434	436	Viga Longitudinal	HP - 55	1.000
173	436	438	Viga Longitudinal	HP - 55	1.000
174	438	440	Viga Longitudinal	HP - 55	1.000
175	440	442	Viga Longitudinal	HP - 55	1.000
176	442	444	Viga Longitudinal	HP - 55	1.000
177	444	446	Viga Longitudinal	HP - 55	1.000
178	446	448	Viga Longitudinal	HP - 55	1.000
179	448	450	Viga Longitudinal	HP - 55	1.000
180	450	452	Viga Longitudinal	HP - 55	1.000
181	452	454	Viga Longitudinal	HP - 55	1.000
182	454	456	Viga Longitudinal	HP - 55	1.000
183	456	458	Viga Longitudinal	HP - 55	1.000
184	458	460	Viga Longitudinal	HP - 55	1.000
185	460	462	Viga Longitudinal	HP - 55	1.000
186	462	464	Viga Longitudinal Apoyos	HP - 55	1.000
187	464	21	Viga Longitudinal Apoyos	HP - 55	0.624
188	21	466	Viga Longitudinal Apoyos	HP - 55	0.642
189	466	468	Viga Longitudinal Apoyos	HP - 55	1.000
190	468	470	Viga Longitudinal	HP - 55	1.000
191	470	472	Viga Longitudinal	HP - 55	1.000
192	472	364	Viga Longitudinal	HP - 55	1.000
193	364	474	Viga Longitudinal	HP - 55	1.000
194	474	476	Viga Longitudinal	HP - 55	1.000
195	476	478	Viga Longitudinal	HP - 55	1.000
196	478	480	Viga Longitudinal	HP - 55	1.000
197	480	482	Viga Longitudinal	HP - 55	1.000
198	482	484	Viga Longitudinal	HP - 55	1.000
199	484	486	Viga Longitudinal	HP - 55	1.000
200	486	488	Viga Longitudinal	HP - 55	1.000
201	488	490	Viga Longitudinal	HP - 55	1.000
202	490	492	Viga Longitudinal	HP - 55	1.000
203	492	494	Viga Longitudinal	HP - 55	1.000
204	494	496	Viga Longitudinal	HP - 55	1.000
205	496	498	Viga Longitudinal	HP - 55	1.000
206	498	500	Viga Longitudinal	HP - 55	1.000
207	500	502	Viga Longitudinal	HP - 55	1.000

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
208	502	504	Viga Longitudinal	HP - 55	1.000
209	504	506	Viga Longitudinal	HP - 55	1.000
210	506	508	Viga Longitudinal	HP - 55	1.000
211	508	510	Viga Longitudinal	HP - 55	1.000
212	510	512	Viga Longitudinal	HP - 55	1.000
213	512	514	Viga Longitudinal	HP - 55	1.000
214	514	516	Viga Longitudinal	HP - 55	1.000
215	516	518	Viga Longitudinal	HP - 55	1.000
216	518	520	Viga Longitudinal Apoyos	HP - 55	1.000
217	520	522	Viga Longitudinal Apoyos	HP - 55	1.000
218	522	19	Viga Longitudinal Apoyos	HP - 55	0.374
219	19	524	Viga Longitudinal Apoyos	HP - 55	0.640
220	524	526	Viga Longitudinal Apoyos	HP - 55	1.000
221	526	528	Viga Longitudinal	HP - 55	1.000
222	528	530	Viga Longitudinal	HP - 55	1.000
223	530	368	Viga Longitudinal	HP - 55	1.000
224	368	532	Viga Longitudinal	HP - 55	1.000
225	532	534	Viga Longitudinal	HP - 55	1.000
226	534	536	Viga Longitudinal	HP - 55	1.000
227	536	538	Viga Longitudinal	HP - 55	1.000
228	538	540	Viga Longitudinal	HP - 55	1.000
229	540	542	Viga Longitudinal	HP - 55	1.000
230	542	544	Viga Longitudinal	HP - 55	1.000
231	544	546	Viga Longitudinal	HP - 55	1.000
232	546	548	Viga Longitudinal	HP - 55	1.000
233	548	550	Viga Longitudinal	HP - 55	1.000
234	550	552	Viga Longitudinal	HP - 55	1.000
235	552	554	Viga Longitudinal	HP - 55	1.000
236	554	556	Viga Longitudinal	HP - 55	1.000
237	556	558	Viga Longitudinal	HP - 55	1.000
238	558	560	Viga Longitudinal	HP - 55	1.000
239	560	562	Viga Longitudinal	HP - 55	1.000
240	562	564	Viga Longitudinal	HP - 55	1.000
241	564	566	Viga Longitudinal	HP - 55	1.000
242	566	568	Viga Longitudinal	HP - 55	1.000
243	568	570	Viga Longitudinal	HP - 55	1.000
244	570	572	Viga Longitudinal	HP - 55	1.000
245	572	574	Viga Longitudinal	HP - 55	1.000
246	574	576	Viga Longitudinal	HP - 55	1.000
247	576	578	Viga Longitudinal Apoyos	HP - 55	1.000
248	578	17	Viga Longitudinal Apoyos	HP - 55	1.123
249	17	580	Viga Longitudinal Apoyos	HP - 55	0.632
250	580	582	Viga Longitudinal Apoyos	HP - 55	1.000
251	582	584	Viga Longitudinal	HP - 55	1.000
252	584	586	Viga Longitudinal	HP - 55	1.000
253	586	372	Viga Longitudinal	HP - 55	1.000
254	372	588	Viga Longitudinal	HP - 55	1.000
255	588	590	Viga Longitudinal	HP - 55	1.000
256	590	592	Viga Longitudinal	HP - 55	1.000
257	592	594	Viga Longitudinal	HP - 55	1.000
258	594	596	Viga Longitudinal	HP - 55	1.000
259	596	598	Viga Longitudinal	HP - 55	1.000
260	598	600	Viga Longitudinal	HP - 55	1.000
261	600	602	Viga Longitudinal	HP - 55	1.000
262	602	604	Viga Longitudinal	HP - 55	1.000
263	604	606	Viga Longitudinal	HP - 55	1.000
264	606	608	Viga Longitudinal	HP - 55	1.000
265	608	610	Viga Longitudinal	HP - 55	1.000
266	610	612	Viga Longitudinal	HP - 55	1.000
267	612	614	Viga Longitudinal	HP - 55	1.000
268	614	616	Viga Longitudinal	HP - 55	1.000
269	616	618	Viga Longitudinal	HP - 55	1.000
270	618	620	Viga Longitudinal	HP - 55	1.000
271	620	622	Viga Longitudinal	HP - 55	1.000
272	622	624	Viga Longitudinal	HP - 55	1.000
273	624	15	Viga Longitudinal Apoyos	HP - 55	1.254
501	1	343	Viga Longitudinal Apoyos	HP - 55	1.000
502	343	341	Viga Longitudinal	HP - 55	1.000
503	341	339	Viga Longitudinal	HP - 55	1.000
504	339	337	Viga Longitudinal	HP - 55	1.000
505	337	335	Viga Longitudinal	HP - 55	1.000
506	335	333	Viga Longitudinal	HP - 55	1.000
507	333	331	Viga Longitudinal	HP - 55	1.000
508	331	329	Viga Longitudinal	HP - 55	1.000
509	329	327	Viga Longitudinal	HP - 55	1.000
510	327	325	Viga Longitudinal	HP - 55	1.000
511	325	323	Viga Longitudinal	HP - 55	1.000
512	323	321	Viga Longitudinal	HP - 55	1.000
513	321	319	Viga Longitudinal	HP - 55	1.000
514	319	317	Viga Longitudinal	HP - 55	1.000
515	317	315	Viga Longitudinal	HP - 55	1.000
516	315	313	Viga Longitudinal	HP - 55	1.000
517	313	311	Viga Longitudinal	HP - 55	1.000
518	311	309	Viga Longitudinal	HP - 55	1.000
519	309	307	Viga Longitudinal	HP - 55	1.000
520	307	305	Viga Longitudinal	HP - 55	1.000
521	305	628	Viga Longitudinal	HP - 55	0.814
522	628	303	Viga Longitudinal	HP - 55	0.617
523	303	301	Viga Longitudinal	HP - 55	1.000
524	301	299	Viga Longitudinal	HP - 55	1.000
525	299	297	Viga Longitudinal Apoyos	HP - 55	1.000
526	297	3	Viga Longitudinal Apoyos	HP - 55	1.000
527	3	295	Viga Longitudinal Apoyos	HP - 55	1.000
528	295	293	Viga Longitudinal Apoyos	HP - 55	1.000
529	293	291	Viga Longitudinal	HP - 55	1.000
530	291	289	Viga Longitudinal	HP - 55	1.000
531	289	287	Viga Longitudinal	HP - 55	1.000
532	287	285	Viga Longitudinal	HP - 55	1.000
533	285	283	Viga Longitudinal	HP - 55	1.000
534	283	281	Viga Longitudinal	HP - 55	1.000
535	281	279	Viga Longitudinal	HP - 55	1.000
536	279	277	Viga Longitudinal	HP - 55	1.000
537	277	275	Viga Longitudinal	HP - 55	1.000
538	275	273	Viga Longitudinal	HP - 55	1.000
539	273	271	Viga Longitudinal	HP - 55	1.000
540	271	269	Viga Longitudinal	HP - 55	1.000
541	269	267	Viga Longitudinal	HP - 55	1.000
542	267	265	Viga Longitudinal	HP - 55	1.000
543	265	263	Viga Longitudinal	HP - 55	1.000
544	263	261	Viga Longitudinal	HP - 55	1.000
545	261	259	Viga Longitudinal	HP - 55	1.000
546	259	257	Viga Longitudinal	HP - 55	1.000
547	257	255	Viga Longitudinal	HP - 55	1.000
548	255	253	Viga Longitudinal	HP - 55	1.000
549	253	251	Viga Longitudinal	HP - 55	1.000
550	251	249	Viga Longitudinal	HP - 55	1.000
551	249	247	Viga Longitudinal	HP - 55	1.000

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
552	247	358	Viga Longitudinal	HP - 55	0.869
553	358	245	Viga Longitudinal	HP - 55	0.614
554	245	243	Viga Longitudinal	HP - 55	1.000
555	243	241	Viga Longitudinal	HP - 55	1.000
556	241	239	Viga Longitudinal Apoyos	HP - 55	1.000
557	239	5	Viga Longitudinal Apoyos	HP - 55	1.000
558	5	237	Viga Longitudinal Apoyos	HP - 55	1.000
559	237	235	Viga Longitudinal Apoyos	HP - 55	1.000
560	235	233	Viga Longitudinal	HP - 55	1.000
561	233	231	Viga Longitudinal	HP - 55	1.000
562	231	229	Viga Longitudinal	HP - 55	1.000
563	229	227	Viga Longitudinal	HP - 55	1.000
564	227	225	Viga Longitudinal	HP - 55	1.000
565	225	223	Viga Longitudinal	HP - 55	1.000
566	223	221	Viga Longitudinal	HP - 55	1.000
567	221	219	Viga Longitudinal	HP - 55	1.000
568	219	217	Viga Longitudinal	HP - 55	1.000
569	217	215	Viga Longitudinal	HP - 55	1.000
570	215	213	Viga Longitudinal	HP - 55	1.000
571	213	211	Viga Longitudinal	HP - 55	1.000
572	211	209	Viga Longitudinal	HP - 55	1.000
573	209	207	Viga Longitudinal	HP - 55	1.000
574	207	205	Viga Longitudinal	HP - 55	1.000
575	205	203	Viga Longitudinal	HP - 55	1.000
576	203	201	Viga Longitudinal	HP - 55	1.000
577	201	199	Viga Longitudinal	HP - 55	1.000
578	199	197	Viga Longitudinal	HP - 55	1.000
579	197	195	Viga Longitudinal	HP - 55	1.000
580	195	193	Viga Longitudinal	HP - 55	1.000
581	193	191	Viga Longitudinal	HP - 55	1.000
582	191	189	Viga Longitudinal	HP - 55	1.000
583	189	362	Viga Longitudinal	HP - 55	0.619
584	362	187	Viga Longitudinal	HP - 55	0.614
585	187	185	Viga Longitudinal	HP - 55	1.000
586	185	183	Viga Longitudinal	HP - 55	1.000
587	183	181	Viga Longitudinal Apoyos	HP - 55	1.000
588	181	7	Viga Longitudinal Apoyos	HP - 55	1.000
589	7	179	Viga Longitudinal Apoyos	HP - 55	1.000
590	179	177	Viga Longitudinal Apoyos	HP - 55	1.000
591	177	175	Viga Longitudinal	HP - 55	1.000
592	175	173	Viga Longitudinal	HP - 55	1.000
593	173	171	Viga Longitudinal	HP - 55	1.000
594	171	169	Viga Longitudinal	HP - 55	1.000
595	169	167	Viga Longitudinal	HP - 55	1.000
596	167	165	Viga Longitudinal	HP - 55	1.000
597	165	163	Viga Longitudinal	HP - 55	1.000
598	163	161	Viga Longitudinal	HP - 55	1.000
599	161	159	Viga Longitudinal	HP - 55	1.000
600	159	157	Viga Longitudinal	HP - 55	1.000
601	157	155	Viga Longitudinal	HP - 55	1.000
602	155	153	Viga Longitudinal	HP - 55	1.000
603	153	151	Viga Longitudinal	HP - 55	1.000
604	151	149	Viga Longitudinal	HP - 55	1.000
605	149	147	Viga Longitudinal	HP - 55	1.000
606	147	145	Viga Longitudinal	HP - 55	1.000
607	145	143	Viga Longitudinal	HP - 55	1.000
608	143	141	Viga Longitudinal	HP - 55	1.000
609	141	139	Viga Longitudinal	HP - 55	1.000
610	139	137	Viga Longitudinal	HP - 55	1.000
611	137	135	Viga Longitudinal	HP - 55	1.000
612	135	133	Viga Longitudinal	HP - 55	1.000
613	133	131	Viga Longitudinal	HP - 55	1.000
614	131	366	Viga Longitudinal	HP - 55	0.369
615	366	129	Viga Longitudinal	HP - 55	0.614
616	129	127	Viga Longitudinal	HP - 55	1.000
617	127	125	Viga Longitudinal	HP - 55	1.000
618	125	123	Viga Longitudinal Apoyos	HP - 55	1.000
619	123	9	Viga Longitudinal Apoyos	HP - 55	1.000
620	9	121	Viga Longitudinal Apoyos	HP - 55	1.000
621	121	119	Viga Longitudinal Apoyos	HP - 55	1.000
622	119	117	Viga Longitudinal	HP - 55	1.000
623	117	115	Viga Longitudinal	HP - 55	1.000
624	115	113	Viga Longitudinal	HP - 55	1.000
625	113	111	Viga Longitudinal	HP - 55	1.000
626	111	109	Viga Longitudinal	HP - 55	1.000
627	109	107	Viga Longitudinal	HP - 55	1.000
628	107	105	Viga Longitudinal	HP - 55	1.000
629	105	103	Viga Longitudinal	HP - 55	1.000
630	103	101	Viga Longitudinal	HP - 55	1.000
631	101	99	Viga Longitudinal	HP - 55	1.000
632	99	97	Viga Longitudinal	HP - 55	1.000
633	97	95	Viga Longitudinal	HP - 55	1.000
634	95	93	Viga Longitudinal	HP - 55	1.000
635	93	91	Viga Longitudinal	HP - 55	1.000
636	91	89	Viga Longitudinal	HP - 55	1.000
637	89	87	Viga Longitudinal	HP - 55	1.000
638	87	85	Viga Longitudinal	HP - 55	1.000
639	85	83	Viga Longitudinal	HP - 55	1.000
640	83	81	Viga Longitudinal	HP - 55	1.000
641	81	79	Viga Longitudinal	HP - 55	1.000
642	79	77	Viga Longitudinal	HP - 55	1.000
643	77	75	Viga Longitudinal	HP - 55	1.000
644	75	370	Viga Longitudinal	HP - 55	1.119
645	370	73	Viga Longitudinal	HP - 55	0.618
646	73	71	Viga Longitudinal	HP - 55	1.000
647	71	69	Viga Longitudinal	HP - 55	1.000
648	69	67	Viga Longitudinal Apoyos	HP - 55	1.000
649	67	11	Viga Longitudinal Apoyos	HP - 55	1.000
650	11	65	Viga Longitudinal Apoyos	HP - 55	1.000
651	65	63	Viga Longitudinal Apoyos	HP - 55	1.000
652	63	61	Viga Longitudinal	HP - 55	1.000
653	61	59	Viga Longitudinal	HP - 55	1.000
654	59	57	Viga Longitudinal	HP - 55	1.000
655	57	55	Viga Longitudinal	HP - 55	1.000
656	55	53	Viga Longitudinal	HP - 55	1.000
657	53	51	Viga Longitudinal	HP - 55	1.000
658	51	49	Viga Longitudinal	HP - 55	1.000
659	49	47	Viga Longitudinal	HP - 55	1.000
660	47	45	Viga Longitudinal	HP - 55	1.000
661	45	43	Viga Longitudinal	HP - 55	1.000
662	43	41	Viga Longitudinal	HP - 55	1.000
663	41	39	Viga Longitudinal	HP - 55	1.000
664	39	37	Viga Longitudinal	HP - 55	1.000
665	37	35	Viga Longitudinal	HP - 55	1.000
666	35	33	Viga Longitudinal	HP - 55	1.000
667	33	31	Viga Longitudinal	HP - 55	1.000
668	31	29	Viga Longitudinal	HP - 55	1.000

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
669	29	374	Viga Longitudinal	HP - 55	1.252
670	374	703	Viga Longitudinal	HP - 55	0.388
671	703	702	Viga Longitudinal	HP - 55	1.000
672	702	701	Viga Longitudinal	HP - 55	1.000
673	701	700	Viga Longitudinal	HP - 55	1.000
674	700	13	Viga Longitudinal Apoyos	HP - 55	1.000
1001	625	626	Viga Transversal Lateral	HA - 30	1.335
1002	631	632	Viga Transversal Lateral	HA - 30	1.333
1003	633	634	Viga Transversal Lateral	HA - 30	1.332
1004	635	636	Viga Transversal Lateral	HA - 30	1.330
1005	637	638	Viga Transversal Lateral	HA - 30	1.329
1006	639	640	Viga Transversal Lateral	HA - 30	1.329
1007	641	642	Viga Transversal Lateral	HA - 30	1.328
1008	643	644	Viga Transversal Lateral	HA - 30	1.328
1009	645	646	Viga Transversal Lateral	HA - 30	1.327
1010	647	648	Viga Transversal Lateral	HA - 30	1.328
1011	649	650	Viga Transversal Lateral	HA - 30	1.328
1012	651	652	Viga Transversal Lateral	HA - 30	1.328
1013	653	654	Viga Transversal Lateral	HA - 30	1.329
1014	655	656	Viga Transversal Lateral	HA - 30	1.330
1015	657	658	Viga Transversal Lateral	HA - 30	1.331
1016	659	660	Viga Transversal Lateral	HA - 30	1.333
1017	661	662	Viga Transversal Lateral	HA - 30	1.334
1018	663	664	Viga Transversal Lateral	HA - 30	1.336
1019	665	666	Viga Transversal Lateral	HA - 30	1.338
1020	667	668	Viga Transversal Lateral	HA - 30	1.340
1021	669	670	Viga Transversal Lateral	HA - 30	1.343
1022	355	25	Viga Transversal Lateral	HA - 30	1.345
1023	671	672	Viga Transversal Lateral	HA - 30	1.343
1024	673	674	Viga Transversal Lateral	HA - 30	1.340
1025	675	676	Viga Transversal Lateral	HA - 30	1.337
1026	677	678	Viga Transversal Lateral	HA - 30	1.334
1027	629	630	Viga Transversal Lateral	HA - 30	1.332
1028	679	680	Viga Transversal Lateral	HA - 30	1.329
1029	681	682	Viga Transversal Lateral	HA - 30	1.327
1030	683	684	Viga Transversal Lateral	HA - 30	1.326
1031	685	686	Viga Transversal Lateral	HA - 30	1.324
1032	687	688	Viga Transversal Lateral	HA - 30	1.323
1033	689	690	Viga Transversal Lateral	HA - 30	1.322
1034	691	692	Viga Transversal Lateral	HA - 30	1.321
1035	693	694	Viga Transversal Lateral	HA - 30	1.320
1036	695	696	Viga Transversal Lateral	HA - 30	1.319
1037	375	376	Viga Transversal Lateral	HA - 30	1.319
1038	377	378	Viga Transversal Lateral	HA - 30	1.319
1039	379	380	Viga Transversal Lateral	HA - 30	1.319
1040	381	382	Viga Transversal Lateral	HA - 30	1.320
1041	383	384	Viga Transversal Lateral	HA - 30	1.320
1042	385	386	Viga Transversal Lateral	HA - 30	1.321
1043	387	388	Viga Transversal Lateral	HA - 30	1.322
1044	389	390	Viga Transversal Lateral	HA - 30	1.324
1045	391	392	Viga Transversal Lateral	HA - 30	1.325
1046	393	394	Viga Transversal Lateral	HA - 30	1.327
1047	395	396	Viga Transversal Lateral	HA - 30	1.329
1048	397	398	Viga Transversal Lateral	HA - 30	1.331
1049	399	400	Viga Transversal Lateral	HA - 30	1.334
1050	401	402	Viga Transversal Lateral	HA - 30	1.336
1051	403	404	Viga Transversal Lateral	HA - 30	1.339
1052	405	406	Viga Transversal Lateral	HA - 30	1.342
1053	353	23	Viga Transversal Lateral	HA - 30	1.345
1054	407	408	Viga Transversal Lateral	HA - 30	1.343
1055	409	410	Viga Transversal Lateral	HA - 30	1.340
1056	411	412	Viga Transversal Lateral	HA - 30	1.337
1057	413	414	Viga Transversal Lateral	HA - 30	1.334
1058	359	360	Viga Transversal Lateral	HA - 30	1.332
1059	415	416	Viga Transversal Lateral	HA - 30	1.330
1060	417	418	Viga Transversal Lateral	HA - 30	1.328
1061	419	420	Viga Transversal Lateral	HA - 30	1.326
1062	421	422	Viga Transversal Lateral	HA - 30	1.324
1063	423	424	Viga Transversal Lateral	HA - 30	1.323
1064	425	426	Viga Transversal Lateral	HA - 30	1.322
1065	427	428	Viga Transversal Lateral	HA - 30	1.321
1066	429	430	Viga Transversal Lateral	HA - 30	1.320
1067	431	432	Viga Transversal Lateral	HA - 30	1.320
1068	433	434	Viga Transversal Lateral	HA - 30	1.320
1069	435	436	Viga Transversal Lateral	HA - 30	1.320
1070	437	438	Viga Transversal Lateral	HA - 30	1.320
1071	439	440	Viga Transversal Lateral	HA - 30	1.320
1072	441	442	Viga Transversal Lateral	HA - 30	1.321
1073	443	444	Viga Transversal Lateral	HA - 30	1.322
1074	445	446	Viga Transversal Lateral	HA - 30	1.323
1075	447	448	Viga Transversal Lateral	HA - 30	1.324
1076	449	450	Viga Transversal Lateral	HA - 30	1.326
1077	451	452	Viga Transversal Lateral	HA - 30	1.328
1078	453	454	Viga Transversal Lateral	HA - 30	1.330
1079	455	456	Viga Transversal Lateral	HA - 30	1.332
1080	457	458	Viga Transversal Lateral	HA - 30	1.334
1081	459	460	Viga Transversal Lateral	HA - 30	1.337
1082	461	462	Viga Transversal Lateral	HA - 30	1.340
1083	463	464	Viga Transversal Lateral	HA - 30	1.343
1084	351	21	Viga Transversal Lateral	HA - 30	1.345
1085	465	466	Viga Transversal Lateral	HA - 30	1.343
1086	467	468	Viga Transversal Lateral	HA - 30	1.340
1087	469	470	Viga Transversal Lateral	HA - 30	1.337
1088	471	472	Viga Transversal Lateral	HA - 30	1.334
1089	363	364	Viga Transversal Lateral	HA - 30	1.332
1090	473	474	Viga Transversal Lateral	HA - 30	1.330
1091	475	476	Viga Transversal Lateral	HA - 30	1.328
1092	477	478	Viga Transversal Lateral	HA - 30	1.326
1093	479	480	Viga Transversal Lateral	HA - 30	1.324
1094	481	482	Viga Transversal Lateral	HA - 30	1.323
1095	483	484	Viga Transversal Lateral	HA - 30	1.322
1096	485	486	Viga Transversal Lateral	HA - 30	1.321
1097	487	488	Viga Transversal Lateral	HA - 30	1.321
1098	489	490	Viga Transversal Lateral	HA - 30	1.320
1099	491	492	Viga Transversal Lateral	HA - 30	1.320
1100	493	494	Viga Transversal Lateral	HA - 30	1.320
1101	495	496	Viga Transversal Lateral	HA - 30	1.320
1102	497	498	Viga Transversal Lateral	HA - 30	1.321
1103	499	500	Viga Transversal Lateral	HA - 30	1.321
1104	501	502	Viga Transversal Lateral	HA - 30	1.322
1105	503	504	Viga Transversal Lateral	HA - 30	1.324
1106	505	506	Viga Transversal Lateral	HA - 30	1.325
1107	507	508	Viga Transversal Lateral	HA - 30	1.326
1108	509	510	Viga Transversal Lateral	HA - 30	1.328
1109	511	512	Viga Transversal Lateral	HA - 30	1.330
1110	513	514	Viga Transversal Lateral	HA - 30	1.333
1111	515	516	Viga Transversal Lateral	HA - 30	1.335

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
1112	517	518	Viga Transversal Lateral	HA - 30	1.338
1113	519	520	Viga Transversal Lateral	HA - 30	1.341
1114	521	522	Viga Transversal Lateral	HA - 30	1.344
1115	349	19	Viga Transversal Lateral	HA - 30	1.345
1116	523	524	Viga Transversal Lateral	HA - 30	1.343
1117	525	526	Viga Transversal Lateral	HA - 30	1.341
1118	527	528	Viga Transversal Lateral	HA - 30	1.338
1119	529	530	Viga Transversal Lateral	HA - 30	1.336
1120	367	368	Viga Transversal Lateral	HA - 30	1.334
1121	531	532	Viga Transversal Lateral	HA - 30	1.332
1122	533	534	Viga Transversal Lateral	HA - 30	1.331
1123	535	536	Viga Transversal Lateral	HA - 30	1.330
1124	537	538	Viga Transversal Lateral	HA - 30	1.328
1125	539	540	Viga Transversal Lateral	HA - 30	1.327
1126	541	542	Viga Transversal Lateral	HA - 30	1.327
1127	543	544	Viga Transversal Lateral	HA - 30	1.326
1128	545	546	Viga Transversal Lateral	HA - 30	1.326
1129	547	548	Viga Transversal Lateral	HA - 30	1.326
1130	549	550	Viga Transversal Lateral	HA - 30	1.326
1131	551	552	Viga Transversal Lateral	HA - 30	1.326
1132	553	554	Viga Transversal Lateral	HA - 30	1.326
1133	555	556	Viga Transversal Lateral	HA - 30	1.326
1134	557	558	Viga Transversal Lateral	HA - 30	1.327
1135	559	560	Viga Transversal Lateral	HA - 30	1.328
1136	561	562	Viga Transversal Lateral	HA - 30	1.329
1137	563	564	Viga Transversal Lateral	HA - 30	1.330
1138	565	566	Viga Transversal Lateral	HA - 30	1.332
1139	567	568	Viga Transversal Lateral	HA - 30	1.333
1140	569	570	Viga Transversal Lateral	HA - 30	1.335
1141	571	572	Viga Transversal Lateral	HA - 30	1.336
1142	573	574	Viga Transversal Lateral	HA - 30	1.338
1143	575	576	Viga Transversal Lateral	HA - 30	1.340
1144	577	578	Viga Transversal Lateral	HA - 30	1.342
1145	347	17	Viga Transversal Lateral	HA - 30	1.345
1146	579	580	Viga Transversal Lateral	HA - 30	1.344
1147	581	582	Viga Transversal Lateral	HA - 30	1.343
1148	583	584	Viga Transversal Lateral	HA - 30	1.342
1149	585	586	Viga Transversal Lateral	HA - 30	1.341
1150	371	372	Viga Transversal Lateral	HA - 30	1.340
1151	587	588	Viga Transversal Lateral	HA - 30	1.340
1152	589	590	Viga Transversal Lateral	HA - 30	1.339
1153	591	592	Viga Transversal Lateral	HA - 30	1.339
1154	593	594	Viga Transversal Lateral	HA - 30	1.338
1155	595	596	Viga Transversal Lateral	HA - 30	1.338
1156	597	598	Viga Transversal Lateral	HA - 30	1.338
1157	599	600	Viga Transversal Lateral	HA - 30	1.338
1158	601	602	Viga Transversal Lateral	HA - 30	1.338
1159	603	604	Viga Transversal Lateral	HA - 30	1.338
1160	605	606	Viga Transversal Lateral	HA - 30	1.338
1161	607	608	Viga Transversal Lateral	HA - 30	1.339
1162	609	610	Viga Transversal Lateral	HA - 30	1.339
1163	611	612	Viga Transversal Lateral	HA - 30	1.340
1164	613	614	Viga Transversal Lateral	HA - 30	1.340
1165	615	616	Viga Transversal Lateral	HA - 30	1.341
1166	617	618	Viga Transversal Lateral	HA - 30	1.341
1167	619	620	Viga Transversal Lateral	HA - 30	1.342
1168	621	622	Viga Transversal Lateral	HA - 30	1.343
1169	623	624	Viga Transversal Lateral	HA - 30	1.344
1170	345	15	Viga Transversal Lateral	HA - 30	1.345
1201	1	356	Viga Transversal Lateral	HA - 30	1.345
1202	343	344	Viga Transversal Lateral	HA - 30	1.348
1203	341	342	Viga Transversal Lateral	HA - 30	1.351
1204	339	340	Viga Transversal Lateral	HA - 30	1.353
1205	337	338	Viga Transversal Lateral	HA - 30	1.355
1206	335	336	Viga Transversal Lateral	HA - 30	1.357
1207	333	334	Viga Transversal Lateral	HA - 30	1.358
1208	331	332	Viga Transversal Lateral	HA - 30	1.360
1209	329	330	Viga Transversal Lateral	HA - 30	1.361
1210	327	328	Viga Transversal Lateral	HA - 30	1.362
1211	325	326	Viga Transversal Lateral	HA - 30	1.362
1212	323	324	Viga Transversal Lateral	HA - 30	1.363
1213	321	322	Viga Transversal Lateral	HA - 30	1.363
1214	319	320	Viga Transversal Lateral	HA - 30	1.363
1215	317	318	Viga Transversal Lateral	HA - 30	1.363
1216	315	316	Viga Transversal Lateral	HA - 30	1.363
1217	313	314	Viga Transversal Lateral	HA - 30	1.362
1218	311	312	Viga Transversal Lateral	HA - 30	1.361
1219	309	310	Viga Transversal Lateral	HA - 30	1.360
1220	307	308	Viga Transversal Lateral	HA - 30	1.359
1221	305	306	Viga Transversal Lateral	HA - 30	1.357
1222	628	627	Viga Transversal Lateral	HA - 30	1.356
1223	303	304	Viga Transversal Lateral	HA - 30	1.355
1224	301	302	Viga Transversal Lateral	HA - 30	1.353
1225	299	300	Viga Transversal Lateral	HA - 30	1.350
1226	297	298	Viga Transversal Lateral	HA - 30	1.348
1227	3	354	Viga Transversal Lateral	HA - 30	1.345
1228	295	296	Viga Transversal Lateral	HA - 30	1.348
1229	293	294	Viga Transversal Lateral	HA - 30	1.351
1230	291	292	Viga Transversal Lateral	HA - 30	1.354
1231	289	290	Viga Transversal Lateral	HA - 30	1.357
1232	287	288	Viga Transversal Lateral	HA - 30	1.359
1233	285	286	Viga Transversal Lateral	HA - 30	1.361
1234	283	284	Viga Transversal Lateral	HA - 30	1.363
1235	281	282	Viga Transversal Lateral	HA - 30	1.365
1236	279	280	Viga Transversal Lateral	HA - 30	1.366
1237	277	278	Viga Transversal Lateral	HA - 30	1.368
1238	275	276	Viga Transversal Lateral	HA - 30	1.369
1239	273	274	Viga Transversal Lateral	HA - 30	1.370
1240	271	272	Viga Transversal Lateral	HA - 30	1.370
1241	269	270	Viga Transversal Lateral	HA - 30	1.371
1242	267	268	Viga Transversal Lateral	HA - 30	1.371
1243	265	266	Viga Transversal Lateral	HA - 30	1.371
1244	263	264	Viga Transversal Lateral	HA - 30	1.370
1245	261	262	Viga Transversal Lateral	HA - 30	1.370
1246	259	260	Viga Transversal Lateral	HA - 30	1.369
1247	257	258	Viga Transversal Lateral	HA - 30	1.368
1248	255	256	Viga Transversal Lateral	HA - 30	1.367
1249	253	254	Viga Transversal Lateral	HA - 30	1.366
1250	251	252	Viga Transversal Lateral	HA - 30	1.364
1251	249	250	Viga Transversal Lateral	HA - 30	1.362
1252	247	248	Viga Transversal Lateral	HA - 30	1.360
1253	358	357	Viga Transversal Lateral	HA - 30	1.358
1254	245	246	Viga Transversal Lateral	HA - 30	1.357
1255	243	244	Viga Transversal Lateral	HA - 30	1.354
1256	241	242	Viga Transversal Lateral	HA - 30	1.351
1257	239	240	Viga Transversal Lateral	HA - 30	1.348
1258	5	352	Viga Transversal Lateral	HA - 30	1.345

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
1259	237	238	Viga Transversal Lateral	HA - 30	1.348
1260	235	236	Viga Transversal Lateral	HA - 30	1.351
1261	233	234	Viga Transversal Lateral	HA - 30	1.354
1262	231	232	Viga Transversal Lateral	HA - 30	1.357
1263	229	230	Viga Transversal Lateral	HA - 30	1.359
1264	227	228	Viga Transversal Lateral	HA - 30	1.361
1265	225	226	Viga Transversal Lateral	HA - 30	1.363
1266	223	224	Viga Transversal Lateral	HA - 30	1.365
1267	221	222	Viga Transversal Lateral	HA - 30	1.366
1268	219	220	Viga Transversal Lateral	HA - 30	1.367
1269	217	218	Viga Transversal Lateral	HA - 30	1.368
1270	215	216	Viga Transversal Lateral	HA - 30	1.369
1271	213	214	Viga Transversal Lateral	HA - 30	1.370
1272	211	212	Viga Transversal Lateral	HA - 30	1.370
1273	209	210	Viga Transversal Lateral	HA - 30	1.370
1274	207	208	Viga Transversal Lateral	HA - 30	1.370
1275	205	206	Viga Transversal Lateral	HA - 30	1.370
1276	203	204	Viga Transversal Lateral	HA - 30	1.369
1277	201	202	Viga Transversal Lateral	HA - 30	1.369
1278	199	200	Viga Transversal Lateral	HA - 30	1.368
1279	197	198	Viga Transversal Lateral	HA - 30	1.367
1280	195	196	Viga Transversal Lateral	HA - 30	1.365
1281	193	194	Viga Transversal Lateral	HA - 30	1.363
1282	191	192	Viga Transversal Lateral	HA - 30	1.362
1283	189	190	Viga Transversal Lateral	HA - 30	1.360
1284	362	361	Viga Transversal Lateral	HA - 30	1.358
1285	187	188	Viga Transversal Lateral	HA - 30	1.357
1286	185	186	Viga Transversal Lateral	HA - 30	1.354
1287	183	184	Viga Transversal Lateral	HA - 30	1.351
1288	181	182	Viga Transversal Lateral	HA - 30	1.348
1289	7	350	Viga Transversal Lateral	HA - 30	1.345
1290	179	180	Viga Transversal Lateral	HA - 30	1.348
1291	177	178	Viga Transversal Lateral	HA - 30	1.351
1292	175	176	Viga Transversal Lateral	HA - 30	1.354
1293	173	174	Viga Transversal Lateral	HA - 30	1.357
1294	171	172	Viga Transversal Lateral	HA - 30	1.359
1295	169	170	Viga Transversal Lateral	HA - 30	1.361
1296	167	168	Viga Transversal Lateral	HA - 30	1.363
1297	165	166	Viga Transversal Lateral	HA - 30	1.365
1298	163	164	Viga Transversal Lateral	HA - 30	1.366
1299	161	162	Viga Transversal Lateral	HA - 30	1.367
1300	159	160	Viga Transversal Lateral	HA - 30	1.368
1301	157	158	Viga Transversal Lateral	HA - 30	1.369
1302	155	156	Viga Transversal Lateral	HA - 30	1.370
1303	153	154	Viga Transversal Lateral	HA - 30	1.370
1304	151	152	Viga Transversal Lateral	HA - 30	1.370
1305	149	150	Viga Transversal Lateral	HA - 30	1.370
1306	147	148	Viga Transversal Lateral	HA - 30	1.370
1307	145	146	Viga Transversal Lateral	HA - 30	1.369
1308	143	144	Viga Transversal Lateral	HA - 30	1.368
1309	141	142	Viga Transversal Lateral	HA - 30	1.367
1310	139	140	Viga Transversal Lateral	HA - 30	1.366
1311	137	138	Viga Transversal Lateral	HA - 30	1.365
1312	135	136	Viga Transversal Lateral	HA - 30	1.363
1313	133	134	Viga Transversal Lateral	HA - 30	1.361
1314	131	132	Viga Transversal Lateral	HA - 30	1.359
1315	366	365	Viga Transversal Lateral	HA - 30	1.358
1316	129	130	Viga Transversal Lateral	HA - 30	1.357
1317	127	128	Viga Transversal Lateral	HA - 30	1.354
1318	125	126	Viga Transversal Lateral	HA - 30	1.351
1319	123	124	Viga Transversal Lateral	HA - 30	1.348
1320	9	348	Viga Transversal Lateral	HA - 30	1.345
1321	121	122	Viga Transversal Lateral	HA - 30	1.348
1322	119	120	Viga Transversal Lateral	HA - 30	1.350
1323	117	118	Viga Transversal Lateral	HA - 30	1.352
1324	115	116	Viga Transversal Lateral	HA - 30	1.354
1325	113	114	Viga Transversal Lateral	HA - 30	1.356
1326	111	112	Viga Transversal Lateral	HA - 30	1.357
1327	109	110	Viga Transversal Lateral	HA - 30	1.359
1328	107	108	Viga Transversal Lateral	HA - 30	1.360
1329	105	106	Viga Transversal Lateral	HA - 30	1.361
1330	103	104	Viga Transversal Lateral	HA - 30	1.361
1331	101	102	Viga Transversal Lateral	HA - 30	1.362
1332	99	100	Viga Transversal Lateral	HA - 30	1.363
1333	97	98	Viga Transversal Lateral	HA - 30	1.363
1334	95	96	Viga Transversal Lateral	HA - 30	1.363
1335	93	94	Viga Transversal Lateral	HA - 30	1.363
1336	91	92	Viga Transversal Lateral	HA - 30	1.363
1337	89	90	Viga Transversal Lateral	HA - 30	1.362
1338	87	88	Viga Transversal Lateral	HA - 30	1.362
1339	85	86	Viga Transversal Lateral	HA - 30	1.361
1340	83	84	Viga Transversal Lateral	HA - 30	1.360
1341	81	82	Viga Transversal Lateral	HA - 30	1.359
1342	79	80	Viga Transversal Lateral	HA - 30	1.358
1343	77	78	Viga Transversal Lateral	HA - 30	1.357
1344	75	76	Viga Transversal Lateral	HA - 30	1.356
1345	370	369	Viga Transversal Lateral	HA - 30	1.354
1346	73	74	Viga Transversal Lateral	HA - 30	1.353
1347	71	72	Viga Transversal Lateral	HA - 30	1.351
1348	69	70	Viga Transversal Lateral	HA - 30	1.349
1349	67	68	Viga Transversal Lateral	HA - 30	1.347
1350	11	346	Viga Transversal Lateral	HA - 30	1.345
1351	65	66	Viga Transversal Lateral	HA - 30	1.346
1352	63	64	Viga Transversal Lateral	HA - 30	1.347
1353	61	62	Viga Transversal Lateral	HA - 30	1.348
1354	59	60	Viga Transversal Lateral	HA - 30	1.348
1355	57	58	Viga Transversal Lateral	HA - 30	1.349
1356	55	56	Viga Transversal Lateral	HA - 30	1.350
1357	53	54	Viga Transversal Lateral	HA - 30	1.350
1358	51	52	Viga Transversal Lateral	HA - 30	1.350
1359	49	50	Viga Transversal Lateral	HA - 30	1.351
1360	47	48	Viga Transversal Lateral	HA - 30	1.351
1361	45	46	Viga Transversal Lateral	HA - 30	1.351
1362	43	44	Viga Transversal Lateral	HA - 30	1.351
1363	41	42	Viga Transversal Lateral	HA - 30	1.351
1364	39	40	Viga Transversal Lateral	HA - 30	1.350
1365	37	38	Viga Transversal Lateral	HA - 30	1.350
1366	35	36	Viga Transversal Lateral	HA - 30	1.350
1367	33	34	Viga Transversal Lateral	HA - 30	1.350
1368	31	32	Viga Transversal Lateral	HA - 30	1.349
1369	29	30	Viga Transversal Lateral	HA - 30	1.349
1370	374	373	Viga Transversal Lateral	HA - 30	1.348
1401	356	625	Viga Transversal Central	HA - 30	2.310
1402	344	631	Viga Transversal Central	HA - 30	2.310
1403	342	633	Viga Transversal Central	HA - 30	2.310
1404	340	635	Viga Transversal Central	HA - 30	2.310
1405	338	637	Viga Transversal Central	HA - 30	2.310

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
1406	336	639	Viga Transversal Central	HA - 30	2.310
1407	334	641	Viga Transversal Central	HA - 30	2.310
1408	332	643	Viga Transversal Central	HA - 30	2.310
1409	330	645	Viga Transversal Central	HA - 30	2.310
1410	328	647	Viga Transversal Central	HA - 30	2.310
1411	326	649	Viga Transversal Central	HA - 30	2.310
1412	324	651	Viga Transversal Central	HA - 30	2.310
1413	322	653	Viga Transversal Central	HA - 30	2.310
1414	320	655	Viga Transversal Central	HA - 30	2.310
1415	318	657	Viga Transversal Central	HA - 30	2.310
1416	316	659	Viga Transversal Central	HA - 30	2.310
1417	314	661	Viga Transversal Central	HA - 30	2.310
1418	312	663	Viga Transversal Central	HA - 30	2.310
1419	310	665	Viga Transversal Central	HA - 30	2.310
1420	308	667	Viga Transversal Central	HA - 30	2.310
1421	306	669	Viga Transversal Central	HA - 30	2.310
1422	627	355	Viga Transversal Central	HA - 30	2.310
1423	304	671	Viga Transversal Central	HA - 30	2.310
1424	302	673	Viga Transversal Central	HA - 30	2.310
1425	300	675	Viga Transversal Central	HA - 30	2.310
1426	298	677	Viga Transversal Central	HA - 30	2.310
1427	354	629	Viga Transversal Central	HA - 30	2.310
1428	296	679	Viga Transversal Central	HA - 30	2.310
1429	294	681	Viga Transversal Central	HA - 30	2.310
1430	292	683	Viga Transversal Central	HA - 30	2.310
1431	290	685	Viga Transversal Central	HA - 30	2.310
1432	288	687	Viga Transversal Central	HA - 30	2.310
1433	286	689	Viga Transversal Central	HA - 30	2.310
1434	284	691	Viga Transversal Central	HA - 30	2.310
1435	282	693	Viga Transversal Central	HA - 30	2.310
1436	280	695	Viga Transversal Central	HA - 30	2.310
1437	278	375	Viga Transversal Central	HA - 30	2.310
1438	276	377	Viga Transversal Central	HA - 30	2.310
1439	274	379	Viga Transversal Central	HA - 30	2.310
1440	272	381	Viga Transversal Central	HA - 30	2.310
1441	270	383	Viga Transversal Central	HA - 30	2.310
1442	268	385	Viga Transversal Central	HA - 30	2.310
1443	266	387	Viga Transversal Central	HA - 30	2.310
1444	264	389	Viga Transversal Central	HA - 30	2.310
1445	262	391	Viga Transversal Central	HA - 30	2.310
1446	260	393	Viga Transversal Central	HA - 30	2.310
1447	258	395	Viga Transversal Central	HA - 30	2.310
1448	256	397	Viga Transversal Central	HA - 30	2.310
1449	254	399	Viga Transversal Central	HA - 30	2.310
1450	252	401	Viga Transversal Central	HA - 30	2.310
1451	250	403	Viga Transversal Central	HA - 30	2.310
1452	248	405	Viga Transversal Central	HA - 30	2.310
1453	357	353	Viga Transversal Central	HA - 30	2.310
1454	246	407	Viga Transversal Central	HA - 30	2.310
1455	244	409	Viga Transversal Central	HA - 30	2.310
1456	242	411	Viga Transversal Central	HA - 30	2.310
1457	240	413	Viga Transversal Central	HA - 30	2.310
1458	352	359	Viga Transversal Central	HA - 30	2.310
1459	238	415	Viga Transversal Central	HA - 30	2.310
1460	236	417	Viga Transversal Central	HA - 30	2.310
1461	234	419	Viga Transversal Central	HA - 30	2.310
1462	232	421	Viga Transversal Central	HA - 30	2.310
1463	230	423	Viga Transversal Central	HA - 30	2.310
1464	228	425	Viga Transversal Central	HA - 30	2.310
1465	226	427	Viga Transversal Central	HA - 30	2.310
1466	224	429	Viga Transversal Central	HA - 30	2.310
1467	222	431	Viga Transversal Central	HA - 30	2.310
1468	220	433	Viga Transversal Central	HA - 30	2.310
1469	218	435	Viga Transversal Central	HA - 30	2.310
1470	216	437	Viga Transversal Central	HA - 30	2.310
1471	214	439	Viga Transversal Central	HA - 30	2.310
1472	212	441	Viga Transversal Central	HA - 30	2.310
1473	210	443	Viga Transversal Central	HA - 30	2.310
1474	208	445	Viga Transversal Central	HA - 30	2.310
1475	206	447	Viga Transversal Central	HA - 30	2.310
1476	204	449	Viga Transversal Central	HA - 30	2.310
1477	202	451	Viga Transversal Central	HA - 30	2.310
1478	200	453	Viga Transversal Central	HA - 30	2.310
1479	198	455	Viga Transversal Central	HA - 30	2.310
1480	196	457	Viga Transversal Central	HA - 30	2.310
1481	194	459	Viga Transversal Central	HA - 30	2.310
1482	192	461	Viga Transversal Central	HA - 30	2.310
1483	190	463	Viga Transversal Central	HA - 30	2.310
1484	361	351	Viga Transversal Central	HA - 30	2.310
1485	188	465	Viga Transversal Central	HA - 30	2.310
1486	186	467	Viga Transversal Central	HA - 30	2.310
1487	184	469	Viga Transversal Central	HA - 30	2.310
1488	182	471	Viga Transversal Central	HA - 30	2.310
1489	350	363	Viga Transversal Central	HA - 30	2.310
1490	180	473	Viga Transversal Central	HA - 30	2.310
1491	178	475	Viga Transversal Central	HA - 30	2.310
1492	176	477	Viga Transversal Central	HA - 30	2.310
1493	174	479	Viga Transversal Central	HA - 30	2.310
1494	172	481	Viga Transversal Central	HA - 30	2.310
1495	170	483	Viga Transversal Central	HA - 30	2.310
1496	168	485	Viga Transversal Central	HA - 30	2.310
1497	166	487	Viga Transversal Central	HA - 30	2.310
1498	164	489	Viga Transversal Central	HA - 30	2.310
1499	162	491	Viga Transversal Central	HA - 30	2.310
1500	160	493	Viga Transversal Central	HA - 30	2.310
1501	158	495	Viga Transversal Central	HA - 30	2.310
1502	156	497	Viga Transversal Central	HA - 30	2.310
1503	154	499	Viga Transversal Central	HA - 30	2.310
1504	152	501	Viga Transversal Central	HA - 30	2.310
1505	150	503	Viga Transversal Central	HA - 30	2.310
1506	148	505	Viga Transversal Central	HA - 30	2.310
1507	146	507	Viga Transversal Central	HA - 30	2.310
1508	144	509	Viga Transversal Central	HA - 30	2.310
1509	142	511	Viga Transversal Central	HA - 30	2.310
1510	140	513	Viga Transversal Central	HA - 30	2.310
1511	138	515	Viga Transversal Central	HA - 30	2.310
1512	136	517	Viga Transversal Central	HA - 30	2.310
1513	134	519	Viga Transversal Central	HA - 30	2.310
1514	132	521	Viga Transversal Central	HA - 30	2.310
1515	365	349	Viga Transversal Central	HA - 30	2.310
1516	130	523	Viga Transversal Central	HA - 30	2.310
1517	128	525	Viga Transversal Central	HA - 30	2.310
1518	126	527	Viga Transversal Central	HA - 30	2.310
1519	124	529	Viga Transversal Central	HA - 30	2.310
1520	348	367	Viga Transversal Central	HA - 30	2.310
1521	122	531	Viga Transversal Central	HA - 30	2.310
1522	120	533	Viga Transversal Central	HA - 30	2.310

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
1523	118	535	Viga Transversal Central	HA - 30	2.310
1524	116	537	Viga Transversal Central	HA - 30	2.310
1525	114	539	Viga Transversal Central	HA - 30	2.310
1526	112	541	Viga Transversal Central	HA - 30	2.310
1527	110	543	Viga Transversal Central	HA - 30	2.310
1528	108	545	Viga Transversal Central	HA - 30	2.310
1529	106	547	Viga Transversal Central	HA - 30	2.310
1530	104	549	Viga Transversal Central	HA - 30	2.310
1531	102	551	Viga Transversal Central	HA - 30	2.310
1532	100	553	Viga Transversal Central	HA - 30	2.310
1533	98	555	Viga Transversal Central	HA - 30	2.310
1534	96	557	Viga Transversal Central	HA - 30	2.310
1535	94	559	Viga Transversal Central	HA - 30	2.310
1536	92	561	Viga Transversal Central	HA - 30	2.310
1537	90	563	Viga Transversal Central	HA - 30	2.310
1538	88	565	Viga Transversal Central	HA - 30	2.310
1539	86	567	Viga Transversal Central	HA - 30	2.310
1540	84	569	Viga Transversal Central	HA - 30	2.310
1541	82	571	Viga Transversal Central	HA - 30	2.310
1542	80	573	Viga Transversal Central	HA - 30	2.310
1543	78	575	Viga Transversal Central	HA - 30	2.310
1544	76	577	Viga Transversal Central	HA - 30	2.310
1545	369	347	Viga Transversal Central	HA - 30	2.310
1546	74	579	Viga Transversal Central	HA - 30	2.310
1547	72	581	Viga Transversal Central	HA - 30	2.310
1548	70	583	Viga Transversal Central	HA - 30	2.310
1549	68	585	Viga Transversal Central	HA - 30	2.310
1550	346	371	Viga Transversal Central	HA - 30	2.310
1551	66	587	Viga Transversal Central	HA - 30	2.310
1552	64	589	Viga Transversal Central	HA - 30	2.310
1553	62	591	Viga Transversal Central	HA - 30	2.310
1554	60	593	Viga Transversal Central	HA - 30	2.310
1555	58	595	Viga Transversal Central	HA - 30	2.310
1556	56	597	Viga Transversal Central	HA - 30	2.310
1557	54	599	Viga Transversal Central	HA - 30	2.310
1558	52	601	Viga Transversal Central	HA - 30	2.310
1559	50	603	Viga Transversal Central	HA - 30	2.310
1560	48	605	Viga Transversal Central	HA - 30	2.310
1561	46	607	Viga Transversal Central	HA - 30	2.310
1562	44	609	Viga Transversal Central	HA - 30	2.310
1563	42	611	Viga Transversal Central	HA - 30	2.310
1564	40	613	Viga Transversal Central	HA - 30	2.310
1565	38	615	Viga Transversal Central	HA - 30	2.310
1566	36	617	Viga Transversal Central	HA - 30	2.310
1567	34	619	Viga Transversal Central	HA - 30	2.310
1568	32	621	Viga Transversal Central	HA - 30	2.310
1569	30	623	Viga Transversal Central	HA - 30	2.310
1570	373	345	Viga Transversal Central	HA - 30	2.310

Características de las Barras que Componen la Estructura

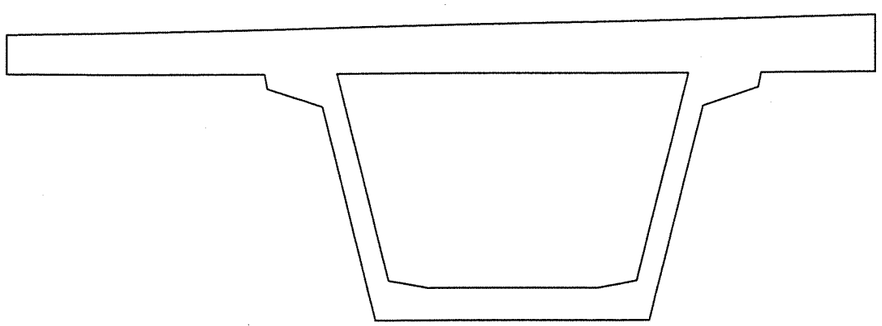
Nombre de la sección	Lista de barras	SX (cm^2)	SY (cm^2)	SZ (cm^2)	IX (cm^4)	IY (cm^4)	IZ (cm^4)
Viga Longitudinal	102A123 128A154 159A185 190A215 221A246 251A272 502A524 529A555 560A586 591A617 622A647 652A673	30151.483	0.0	0.0	120264892.557	136223825.206	698012202.123
Viga Longitudinal Apoyos	101 124A127 155A158 186A189 216A220 247A250 273 501 525A528 556A559 587A590 618A621 648A651 674	60516.483	0.0	0.0	207550690.616	218752246.991	817576433.346
Viga Transversal Central	1401A1570	3770.000	0.0	0.0	1361921.840	494325.000	3250000.000
Viga Transversal Lateral	1001A1170 1201A1370	5750.000	0.0	0.0	1439846.560	42016907.565	46833333.340

Apoyos Aplicados a la Estructura

Nombre del apoyo	Lista de nudos	Condiciones de apoyo
Libre Longitudinal	17 19 23 25	UY UZ
Estribo - Libre Long	15 27	UY UZ RX
Estribo - Libre	1 13	UZ RX
Libre	3A11CA2	UZ
Fijo	21	UX UY UZ

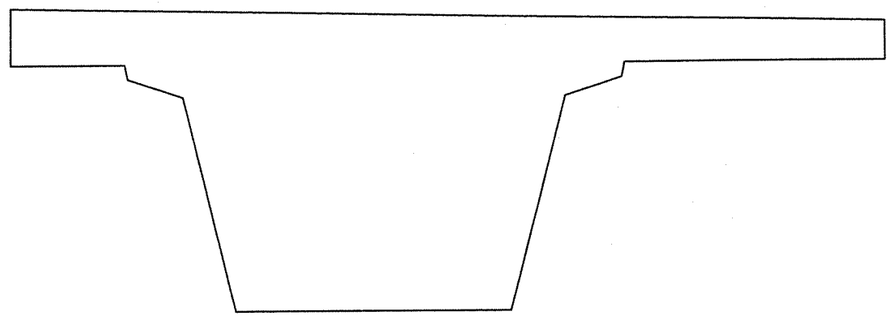
CARACTERÍSTICAS SECCIONES APLICADAS AL MODELO DE CÁLCULO

Secciones Sin Fisurar



Area: 30151.483
Perimeter: 2230.395
Bounding box: X: -351.445 -- 250.000
Y: 0.000 -- 209.000
Centroid: X: -21.348
Y: 145.454
Moments of inertia: X: 774892907.400
Y: 710995490.468
Product of inertia: XY: -114243754.209
Radii of gyration: X: 160.312
Y: 153.560
Principal moments and X-Y directions about centroid:
I: 136223825.206 along [0.999 -0.037]
J: 698012202.123 along [0.037 0.999]
It: 120264892.557

Nota: Todas las características estan expresadas en [cm]



Area: 60516.483
Perimeter: 1519.523
Bounding box: X: -250.000 -- 351.445
Y: 0.000 -- 209.000
Centroid: X: 10.636
Y: 123.151
Moments of inertia: X: 1138608825.763
Y: 822372994.879
Product of inertia: XY: 114243754.118
Radii of gyration: X: 137.167
Y: 116.573
Principal moments and X-Y directions about centroid:
I: 218752246.991 along [0.998 0.059]
J: 817576433.346 along [-0.059 0.998]
It: 207550690.616

Nota: Todas las características estan expresadas en [cm]

Casos de Carga Aplicados a la Estructura

Para aplicar las cargas, se ha trabajado con dos modelos de idénticas características mecánicas. En uno se han aplicado las sobrecargas debidas a los trenes definidos en la IPF-75 y en el Eurocódigo 1 y en el otro se han aplicado el resto de cargas. Se ha operado de este modo para reducir un poco el modelo con las sobrecargas de ferrocarril.

Cargas Aplicadas a la Estructura: Permanentes, Sobrecarga en Aceras y Gradiente Térmico:

Caso	Nombre del caso	Tipo de carga	Lista	Valores de carga
1	Peso Propio	peso propio	101A273 501A674 1001A1170 1201A1370 1401A1570	PZ Menos
2	Carga Permanente	sobrecarga uniforme	501A674	PZ=-5.243(T/m)
2	Carga Permanente	momento repartido	501A674	MX=10.851(Tm/m)
2	Carga Permanente	sobrecarga uniforme	101A273	PZ=-4.417(T/m)
2	Carga Permanente	momento repartido	101A273	MX=9.170(Tm/m)
2	Carga Permanente	sobrecarga uniforme	1001A1170 1201A1370 1401A1570	PZ=-0.882(T/m)
4	Retracción	temperatura	101A273 501A674	TZ=13.50(°C)
11	Gradiente Térmico	temperatura	101A273 501A674	TZ=7.00(°C)
21	Sobrecarga Acera Derecha	sobrecarga uniforme	501A674	PZ=-0.855(T/m)
21	Sobrecarga Acera Derecha	momento repartido	501A674	MX=2.407(Tm/m)
22	Sobrecarga Acera Izquierda	sobrecarga uniforme	101A273	PZ=-0.855(T/m)
22	Sobrecarga Acera Izquierda	momento repartido	101A273	MX=-2.407(Tm/m)

Combinación de Cargas:

Combinación	Nombre	Tipo de análisis	Naturaleza de combinación	Naturaleza de caso	Definición
23 (C)	Sobrecarga Ambas Aceras	Combinación lineal	ELU	permanente	(21+22)*1.00

Sobrecargas Aplicadas a la Estructura: Trenes IPF-75 y EC1

Caso	Nombre del caso	Tipo de carga	Lista	Valores de carga
1	Peso Propio	peso propio	101A273 501A674 1001A1170 1201A1370 1401A1570	PZ Menos
11	LM71 - Dcha - T1	fuerza sobre barra	1211A1219	FZ=-15.625(T) X=0.168(m)
11	LM71 - Dcha - T1	fuerza sobre barra	1201A1210 1220A1370	FZ=-8.000(T) X=0.168(m)
11	LM71 - Dcha - T1	sobrecarga uniforme	670A674	PZ=-8.000(T/m)
11	LM71 - Dcha - T1	momento repartido	670A674	MX=-1.344(Tm/m)
12	LM71 - Dcha - T2	fuerza sobre barra	1239A1245	FZ=-15.625(T) X=0.168(m)
12	LM71 - Dcha - T2	fuerza sobre barra	1201A1238 1246A1370	FZ=-8.000(T) X=0.168(m)
12	LM71 - Dcha - T2	sobrecarga uniforme	670A674	PZ=-8.000(T/m)
12	LM71 - Dcha - T2	momento repartido	670A674	MX=-1.344(Tm/m)
13	LM71 - Dcha - T3	momento repartido	670A674	MX=-1.344(Tm/m)
13	LM71 - Dcha - T3	sobrecarga uniforme	670A674	PZ=-8.000(T/m)
13	LM71 - Dcha - T3	fuerza sobre barra	1201A1269 1277A1370	FZ=-8.000(T) X=0.168(m)
13	LM71 - Dcha - T3	fuerza sobre barra	1270A1276	FZ=-15.625(T) X=0.168(m)
14	LM71 - Dcha - T4	fuerza sobre barra	1211A1219	FZ=-15.625(T) X=0.168(m)
14	LM71 - Dcha - T4	fuerza sobre barra	1201A1210 1220A1227 1258A1289 1320A1350	FZ=-8.000(T) X=0.168(m)
15	LM71 - Dcha - T5	fuerza sobre barra	1239A1245	FZ=-15.625(T) X=0.168(m)
15	LM71 - Dcha - T5	fuerza sobre barra	1227A1238 1246A1258 1289A1320 1350A1370	FZ=-8.000(T) X=0.168(m)
15	LM71 - Dcha - T5	sobrecarga uniforme	670A674	PZ=-8.000(T/m)
15	LM71 - Dcha - T5	momento repartido	670A674	MX=-1.344(Tm/m)
16	LM71 - Dcha - T6	fuerza sobre barra	1270A1276	FZ=-15.625(T) X=0.168(m)
16	LM71 - Dcha - T6	fuerza sobre barra	1201A1227 1258A1269 1277A1289 1320A1350	FZ=-8.000(T) X=0.168(m)
21	SW0 - Dcha - T1	fuerza sobre barra	1201A1206 1212A1227	FZ=-13.300(T) X=0.168(m)
22	SW0 - Dcha - T2	fuerza sobre barra	1225A1239 1245A1260	FZ=-13.300(T) X=0.168(m)
23	SW0 - Dcha - T3	fuerza sobre barra	1256A1270 1276A1291	FZ=-13.300(T) X=0.168(m)
26	SW2 - Dcha - T1	fuerza sobre barra	1201A1227	FZ=-15.000(T) X=0.260(m)
27	SW2 - Dcha - T2	fuerza sobre barra	1214A1238 1246A1271	FZ=-15.000(T) X=0.260(m)
28	SW2 - Dcha - T3	fuerza sobre barra	1229A1254 1262A1287	FZ=-15.000(T) X=0.260(m)
29	SW2 - Dcha - T4	fuerza sobre barra	1244A1269 1277A1302	FZ=-15.000(T) X=0.260(m)
31	Tipo A - Dcha - T1	fuerza sobre barra	1213A1215	FZ=-30.000(T) X=0.260(m)
32	Tipo A - Dcha - T2	fuerza sobre barra	1241A1243	FZ=-30.000(T) X=0.260(m)
33	Tipo A - Dcha - T3	fuerza sobre barra	1272A1274	FZ=-30.000(T) X=0.260(m)
41	Tipo B - Dcha - T1	fuerza sobre barra	1201A1227	FZ=-12.000(T) X=0.260(m)
41	Tipo B - Dcha - T1	fuerza sobre barra	1228A1370	FZ=-10.000(T) X=0.260(m)
41	Tipo B - Dcha - T1	sobrecarga uniforme	670A674	PZ=-10.000(T/m)
41	Tipo B - Dcha - T1	momento repartido	670A674	MX=-2.600(Tm/m)
42	Tipo B - Dcha - T2	momento repartido	670A674	MX=-2.600(Tm/m)
42	Tipo B - Dcha - T2	fuerza sobre barra	1227A1258	FZ=-12.000(T) X=0.260(m)
42	Tipo B - Dcha - T2	fuerza sobre barra	1201A1226 1259A1370	FZ=-10.000(T) X=0.260(m)
42	Tipo B - Dcha - T2	sobrecarga uniforme	670A674	PZ=-10.000(T/m)
43	Tipo B - Dcha - T3	fuerza sobre barra	1201A1257 1290A1370	FZ=-10.000(T) X=0.260(m)
43	Tipo B - Dcha - T3	fuerza sobre barra	1258A1289	FZ=-12.000(T) X=0.260(m)
43	Tipo B - Dcha - T3	sobrecarga uniforme	670A674	PZ=-10.000(T/m)
43	Tipo B - Dcha - T3	momento repartido	670A674	MX=-2.600(Tm/m)
44	Tipo B - Dcha - T4	fuerza sobre barra	1201A1227	FZ=-12.000(T) X=0.260(m)
44	Tipo B - Dcha - T4	fuerza sobre barra	1258A1289 1320A1350	FZ=-10.000(T) X=0.260(m)
44	Tipo B - Dcha - T4	fuerza sobre barra	1228A1257 1290A1319	FZ=-1.000(T) X=0.260(m)
45	Tipo B - Dcha - T5	fuerza sobre barra	1289A1320 1350A1370	FZ=-10.000(T) X=0.260(m)
45	Tipo B - Dcha - T5	sobrecarga uniforme	670A674	PZ=-10.000(T/m)
45	Tipo B - Dcha - T5	momento repartido	670A674	MX=-2.600(Tm/m)
45	Tipo B - Dcha - T5	fuerza sobre barra	1259A1288 1321A1349	FZ=-1.000(T) X=0.260(m)
45	Tipo B - Dcha - T5	fuerza sobre barra	1227A1258	FZ=-12.000(T) X=0.260(m)

Caso	Nombre del caso	Tipo de carga	Lista	Valores de carga
46	Tipo B - Dcha - T6	fuerza sobre barra	1227A1257 1290A1319	FZ=-1.000(T) X=0.260(m)
46	Tipo B - Dcha - T6	fuerza sobre barra	1201A1226 1320A1350	FZ=-10.000(T) X=0.260(m)
46	Tipo B - Dcha - T6	fuerza sobre barra	1258A1289	FZ=-12.000(T) X=0.260(m)
51	LM71 - Izq - T1	fuerza sobre barra	1011A1019	FZ=-15.625(T) X=0.321(m)
51	LM71 - Izq - T1	fuerza sobre barra	1001A1010 1020A1170	FZ=-8.000(T) X=0.321(m)
51	LM71 - Izq - T1	sobrecarga uniforme	101A104	PZ=-8.000(T/m)
51	LM71 - Izq - T1	momento repartido	101A104	MX=8.184(Tm/m)
52	LM71 - Izq - T2	fuerza sobre barra	1039A1045	FZ=-15.625(T) X=0.321(m)
52	LM71 - Izq - T2	fuerza sobre barra	1001A1038 1046A1170	FZ=-8.000(T) X=0.321(m)
52	LM71 - Izq - T2	sobrecarga uniforme	101A104	PZ=-8.000(T/m)
52	LM71 - Izq - T2	momento repartido	101A104	MX=8.184(Tm/m)
53	LM71 - Izq - T3	fuerza sobre barra	1070A1076	FZ=-15.625(T) X=0.321(m)
53	LM71 - Izq - T3	fuerza sobre barra	1001A1069 1077A1170	FZ=-8.000(T) X=0.321(m)
53	LM71 - Izq - T3	sobrecarga uniforme	101A104	PZ=-8.000(T/m)
53	LM71 - Izq - T3	momento repartido	101A104	MX=8.184(Tm/m)
54	LM71 - Izq - T4	sobrecarga uniforme	101A104	PZ=-8.000(T/m)
54	LM71 - Izq - T4	fuerza sobre barra	1001A1010 1020A1022 1053A1084 1115A1145	FZ=-8.000(T) X=0.321(m)
54	LM71 - Izq - T4	fuerza sobre barra	1011A1019	FZ=-15.625(T) X=0.321(m)
54	LM71 - Izq - T4	momento repartido	101A104	MX=8.184(Tm/m)
55	LM71 - Izq - T5	fuerza sobre barra	1039A1045	FZ=-15.625(T) X=0.321(m)
55	LM71 - Izq - T5	fuerza sobre barra	1022A1038 1046A1053 1084A1115 1145A1170	FZ=-8.000(T) X=0.321(m)
56	LM71 - Izq - T6	fuerza sobre barra	1001A1022 1053A1069 1077A1084 1115A1145	FZ=-8.000(T) X=0.321(m)
56	LM71 - Izq - T6	sobrecarga uniforme	101A104	PZ=-8.000(T/m)
56	LM71 - Izq - T6	momento repartido	101A104	MX=8.184(Tm/m)
56	LM71 - Izq - T6	fuerza sobre barra	1070A1076	FZ=-15.625(T) X=0.321(m)
61	SW0 - Izq - T1	fuerza sobre barra	1001A1006 1012A1027	FZ=-13.300(T) X=0.321(m)
61	SW0 - Izq - T1	sobrecarga uniforme	101A104	PZ=-13.300(T/m)
61	SW0 - Izq - T1	momento repartido	101A104	MX=13.606(Tm/m)
62	SW0 - Izq - T2	fuerza sobre barra	1025A1039 1045A1060	FZ=-13.300(T) X=0.321(m)
63	SW0 - Izq - T3	fuerza sobre barra	1056A1070 1076A1091	FZ=-13.300(T) X=0.321(m)
66	SW2 - Izq - T1	fuerza sobre barra	1001A1027	FZ=-15.000(T) X=0.413(m)
67	SW2 - Izq - T2	fuerza sobre barra	1014A1038 1046A1071	FZ=-15.000(T) X=0.413(m)
68	SW2 - Izq - T3	fuerza sobre barra	1029A1054 1062A1087	FZ=-15.000(T) X=0.413(m)
69	SW2 - Izq - T4	fuerza sobre barra	1044A1069 1077A1102	FZ=-15.000(T) X=0.413(m)
71	Tipo A - Izq - T1	fuerza sobre barra	1013A1015	FZ=-30.000(T) X=0.413(m)
72	Tipo A - Izq - T2	fuerza sobre barra	1041A1043	FZ=-30.000(T) X=0.413(m)
73	Tipo A - Izq - T3	fuerza sobre barra	1072A1074	FZ=-30.000(T) X=0.413(m)
81	Tipo B - Izq - T1	fuerza sobre barra	1028A1170	FZ=-10.000(T) X=0.413(m)
81	Tipo B - Izq - T1	sobrecarga uniforme	101A104	PZ=-12.000(T/m)
81	Tipo B - Izq - T1	momento repartido	101A104	MX=11.172(Tm/m)
81	Tipo B - Izq - T1	fuerza sobre barra	1001A1027	FZ=-12.000(T) X=0.413(m)
82	Tipo B - Izq - T2	fuerza sobre barra	1001A1026 1059A1170	FZ=-10.000(T) X=0.413(m)
82	Tipo B - Izq - T2	sobrecarga uniforme	101A104	PZ=-10.000(T/m)
82	Tipo B - Izq - T2	momento repartido	101A104	MX=9.310(Tm/m)
82	Tipo B - Izq - T2	fuerza sobre barra	1027A1058	FZ=-12.000(T) X=0.413(m)
83	Tipo B - Izq - T3	fuerza sobre barra	1058A1089	FZ=-12.000(T) X=0.413(m)
83	Tipo B - Izq - T3	fuerza sobre barra	1001A1057 1090A1170	FZ=-10.000(T) X=0.413(m)
83	Tipo B - Izq - T3	sobrecarga uniforme	101A104	PZ=-10.000(T/m)
83	Tipo B - Izq - T3	momento repartido	101A104	MX=9.310(Tm/m)
84	Tipo B - Izq - T4	fuerza sobre barra	1001A1027	FZ=-12.000(T) X=0.413(m)
84	Tipo B - Izq - T4	fuerza sobre barra	1053A1084 1115A1145	FZ=-10.000(T) X=0.413(m)
84	Tipo B - Izq - T4	fuerza sobre barra	1028A1052 1085A1114	FZ=-1.000(T) X=0.413(m)
84	Tipo B - Izq - T4	sobrecarga uniforme	101A104	PZ=-12.000(T/m)
84	Tipo B - Izq - T4	momento repartido	101A104	MX=11.172(Tm/m)

Caso	Nombre del caso	Tipo de carga	Lista	Valores de carga
85	Tipo B - Izq - T5	fuerza sobre barra	1027A1058	FZ=-12.000(T) X=0.413(m)
85	Tipo B - Izq - T5	fuerza sobre barra	1084A1115 1145A1170	FZ=-10.000(T) X=0.413(m)
85	Tipo B - Izq - T5	fuerza sobre barra	1059A1083 1116A1144	FZ=-1.000(T) X=0.413(m)
86	Tipo B - Izq - T6	fuerza sobre barra	1058A1089	FZ=-12.000(T) X=0.413(m)
86	Tipo B - Izq - T6	fuerza sobre barra	1001A1022 1115A1145	FZ=-10.000(T) X=0.413(m)
86	Tipo B - Izq - T6	fuerza sobre barra	1023A1057 1090A1114	FZ=-1.000(T) X=0.413(m)
86	Tipo B - Izq - T6	sobrecarga uniforme	101A104	PZ=-10.000(T/m)
86	Tipo B - Izq - T6	momento repartido	101A104	MX=9.310(Tm/m)

Combinación de Cargas:

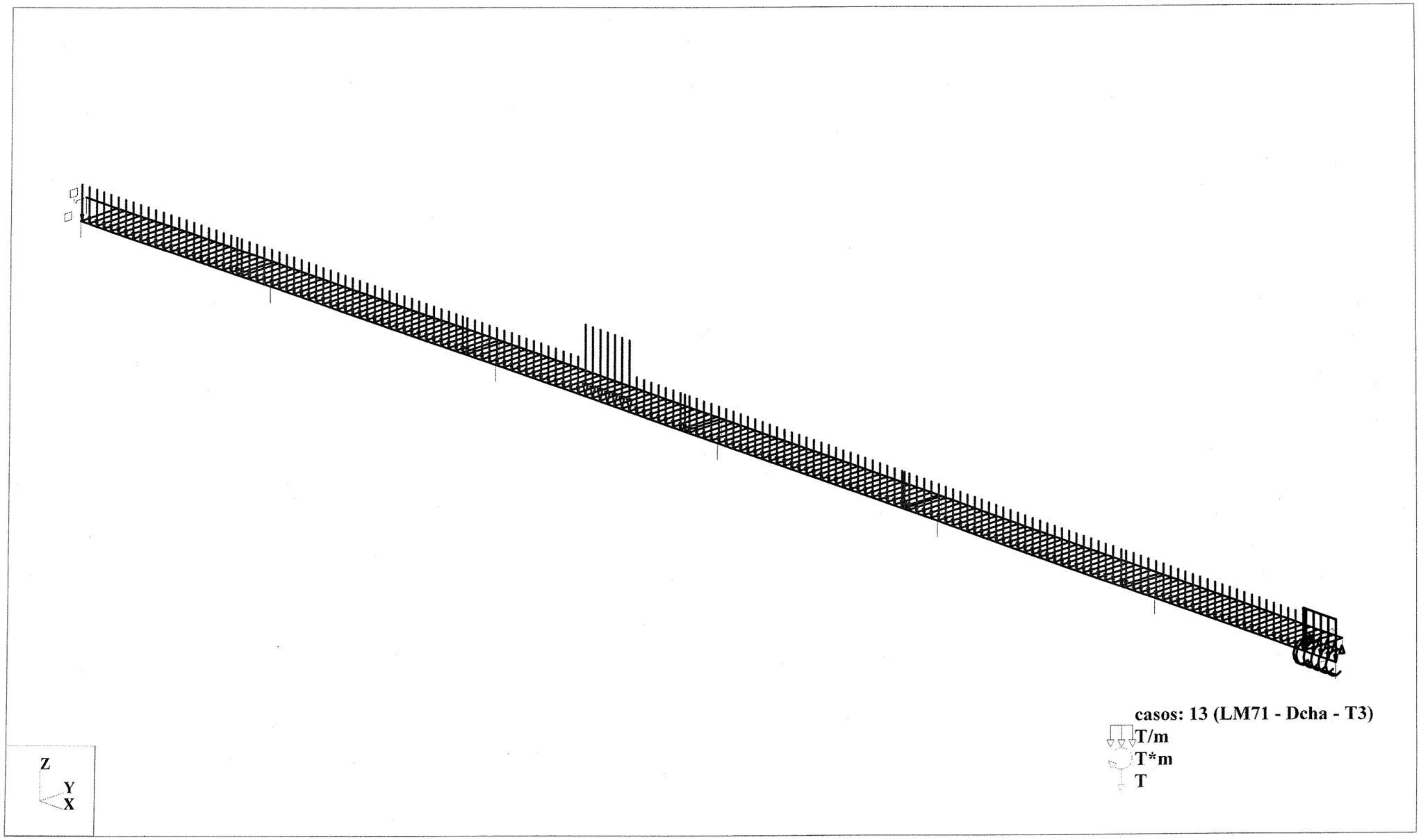
Combinación	Nombre	Tipo de análisis	Naturaleza de combinación	Naturaleza de caso	Definición
101 (C)	LM71 - Dcha - T1	Combinación lineal	ELU	permanente	11*1.07
102 (C)	LM71 - Dcha - T2	Combinación lineal	ELU	permanente	12*1.07
103 (C)	LM71 - Dcha - T3	Combinación lineal	ELU	permanente	13*1.07
104 (C)	LM71 - Dcha - T4	Combinación lineal	ELU	permanente	14*1.07
105 (C)	LM71 - Dcha - T5	Combinación lineal	ELU	permanente	15*1.07
106 (C)	LM71 - Dcha - T6	Combinación lineal	ELU	permanente	16*1.07
111 (C)	SW0 - Dcha - T1	Combinación lineal	ELU	permanente	21*1.07
112 (C)	SW0 - Dcha - T2	Combinación lineal	ELU	permanente	22*1.07
113 (C)	SW0 - Dcha - T3	Combinación lineal	ELU	permanente	23*1.07
121 (C)	SW2 - Dcha - T1	Combinación lineal	ELU	permanente	26*1.07
122 (C)	SW2 - Dcha - T2	Combinación lineal	ELU	permanente	27*1.07
123 (C)	SW2 - Dcha - T3	Combinación lineal	ELU	permanente	28*1.07
124 (C)	SW2 - Dcha - T4	Combinación lineal	ELU	permanente	29*1.07
151 (C)	Tipo A - Dcha - T1	Combinación lineal	ELU	permanente	31*1.12
152 (C)	Tipo A - Dcha - T2	Combinación lineal	ELU	permanente	32*1.12
153 (C)	Tipo A - Dcha - T3	Combinación lineal	ELU	permanente	33*1.12
161 (C)	Tipo B - Dcha - T1	Combinación lineal	ELU	permanente	41*1.12
162 (C)	Tipo B - Dcha - T2	Combinación lineal	ELU	permanente	42*1.12
163 (C)	Tipo B - Dcha - T3	Combinación lineal	ELU	permanente	43*1.12
164 (C)	Tipo B - Dcha - T4	Combinación lineal	ELU	permanente	44*1.12
165 (C)	Tipo B - Dcha - T5	Combinación lineal	ELU	permanente	45*1.12
166 (C)	Tipo B - Dcha - T6	Combinación lineal	ELU	permanente	46*1.12
201 (C)	LM71 - Izq - T1	Combinación lineal	ELU	permanente	51*1.07
202 (C)	LM71 - Izq - T2	Combinación lineal	ELU	permanente	52*1.07
203 (C)	LM71 - Izq - T3	Combinación lineal	ELU	permanente	53*1.07
204 (C)	LM71 - Izq - T4	Combinación lineal	ELU	permanente	54*1.07
205 (C)	LM71 - Izq - T5	Combinación lineal	ELU	permanente	55*1.07
206 (C)	LM71 - Izq - T6	Combinación lineal	ELU	permanente	56*1.07
211 (C)	SW0 - Izq - T1	Combinación lineal	ELU	permanente	61*1.07
212 (C)	SW0 - Izq - T2	Combinación lineal	ELU	permanente	62*1.07
213 (C)	SW0 - Izq - T3	Combinación lineal	ELU	permanente	63*1.07
221 (C)	SW2 - Izq - T1	Combinación lineal	ELU	permanente	66*1.07

Combinación	Nombre	Tipo de análisis	Naturaleza de combinación	Naturaleza de caso	Definición
222 (C)	SW2 - Izq - T2	Combinación lineal	ELU	permanente	67*1.07
223 (C)	SW2 - Izq - T3	Combinación lineal	ELU	permanente	68*1.07
224 (C)	SW2 - Izq - T4	Combinación lineal	ELU	permanente	69*1.07
251 (C)	Tipo A - Izq - T1	Combinación lineal	ELU	permanente	71*1.12
252 (C)	Tipo A - Izq - T2	Combinación lineal	ELU	permanente	72*1.12
253 (C)	Tipo A - Izq - T3	Combinación lineal	ELU	permanente	73*1.12
261 (C)	Tipo B - Izq - T1	Combinación lineal	ELU	permanente	81*1.12
262 (C)	Tipo B - Izq - T2	Combinación lineal	ELU	permanente	82*1.12
263 (C)	Tipo B - Izq - T3	Combinación lineal	ELU	permanente	83*1.12
264 (C)	Tipo B - Izq - T4	Combinación lineal	ELU	permanente	84*1.12
265 (C)	Tipo B - Izq - T5	Combinación lineal	ELU	permanente	85*1.12
266 (C)	Tipo B - Izq - T6	Combinación lineal	ELU	permanente	86*1.12
301 (C)	LM71 - 2 vías - T1	Combinación lineal	ELU	permanente	(11+51)*1.07
302 (C)	LM71 - 2 vías - T2	Combinación lineal	ELU	permanente	(12+52)*1.07
303 (C)	LM71 - 2 vías - T3	Combinación lineal	ELU	permanente	(13+53)*1.07
304 (C)	LM71 - 2 vías - T4	Combinación lineal	ELU	permanente	(14+54)*1.07
305 (C)	LM71 - 2 vías - T5	Combinación lineal	ELU	permanente	(15+55)*1.07
306 (C)	LM71 - 2 vías - T6	Combinación lineal	ELU	permanente	(16+56)*1.07
311 (C)	SW0 - 2 vías - T1	Combinación lineal	ELU	permanente	(21+61)*1.07
312 (C)	SW0 - 2 vías - T2	Combinación lineal	ELU	permanente	(22+62)*1.07
313 (C)	SW0 - 2 vías - T3	Combinación lineal	ELU	permanente	(23+63)*1.07
321 (C)	SW2 - 2 vías - T1	Combinación lineal	ELU	permanente	(26+66)*1.07
322 (C)	SW2 - 2 vías - T2	Combinación lineal	ELU	permanente	(27+67)*1.07
323 (C)	SW2 - 2 vías - T3	Combinación lineal	ELU	permanente	(28+68)*1.07
324 (C)	SW2 - 2 vías - T4	Combinación lineal	ELU	permanente	(29+69)*1.07
351 (C)	Tipo A - 2 vías - T1	Combinación lineal	ELU	permanente	(31+71)*1.12
352 (C)	Tipo A - 2 vías - T2	Combinación lineal	ELU	permanente	(32+72)*1.12
353 (C)	Tipo A - 2 vías - T3	Combinación lineal	ELU	permanente	(33+73)*1.12
361 (C)	Tipo B - 2 vías - T1	Combinación lineal	ELU	permanente	(41+81)*1.12
362 (C)	Tipo B - 2 vías - T2	Combinación lineal	ELU	permanente	(42+82)*1.12
363 (C)	Tipo B - 2 vías - T3	Combinación lineal	ELU	permanente	(43+83)*1.12
364 (C)	Tipo B - 2 vías - T4	Combinación lineal	ELU	permanente	(44+84)*1.12
365 (C)	Tipo B - 2 vías - T5	Combinación lineal	ELU	permanente	(45+85)*1.12
366 (C)	Tipo B - 2 vías - T6	Combinación lineal	ELU	permanente	(46+86)*1.12

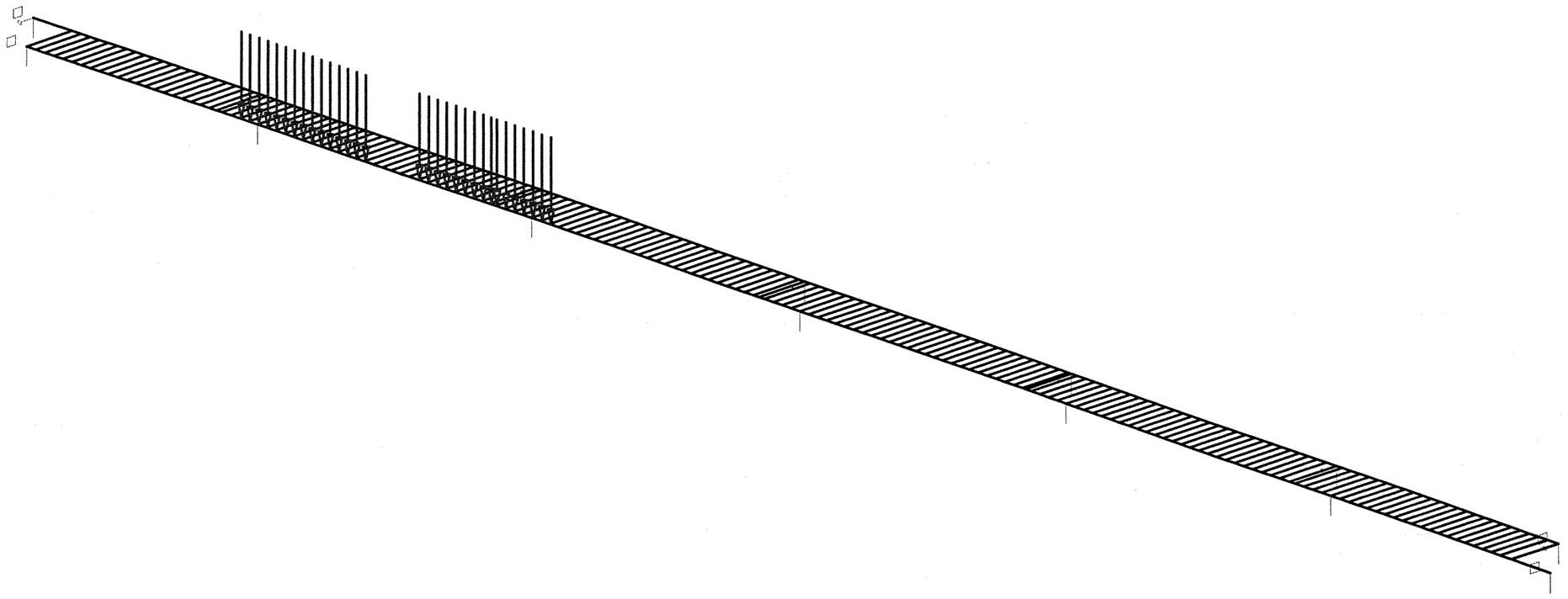
Se adjuntan, a continuación, unos gráficos con algunas de las posiciones en las que se han dispuesto los diferentes trenes de carga en el modelo de cálculo.

Se adjunta también un gráfico en el que se puede ver, de forma esquemática, la disposición de todos los tipos de trenes de carga.

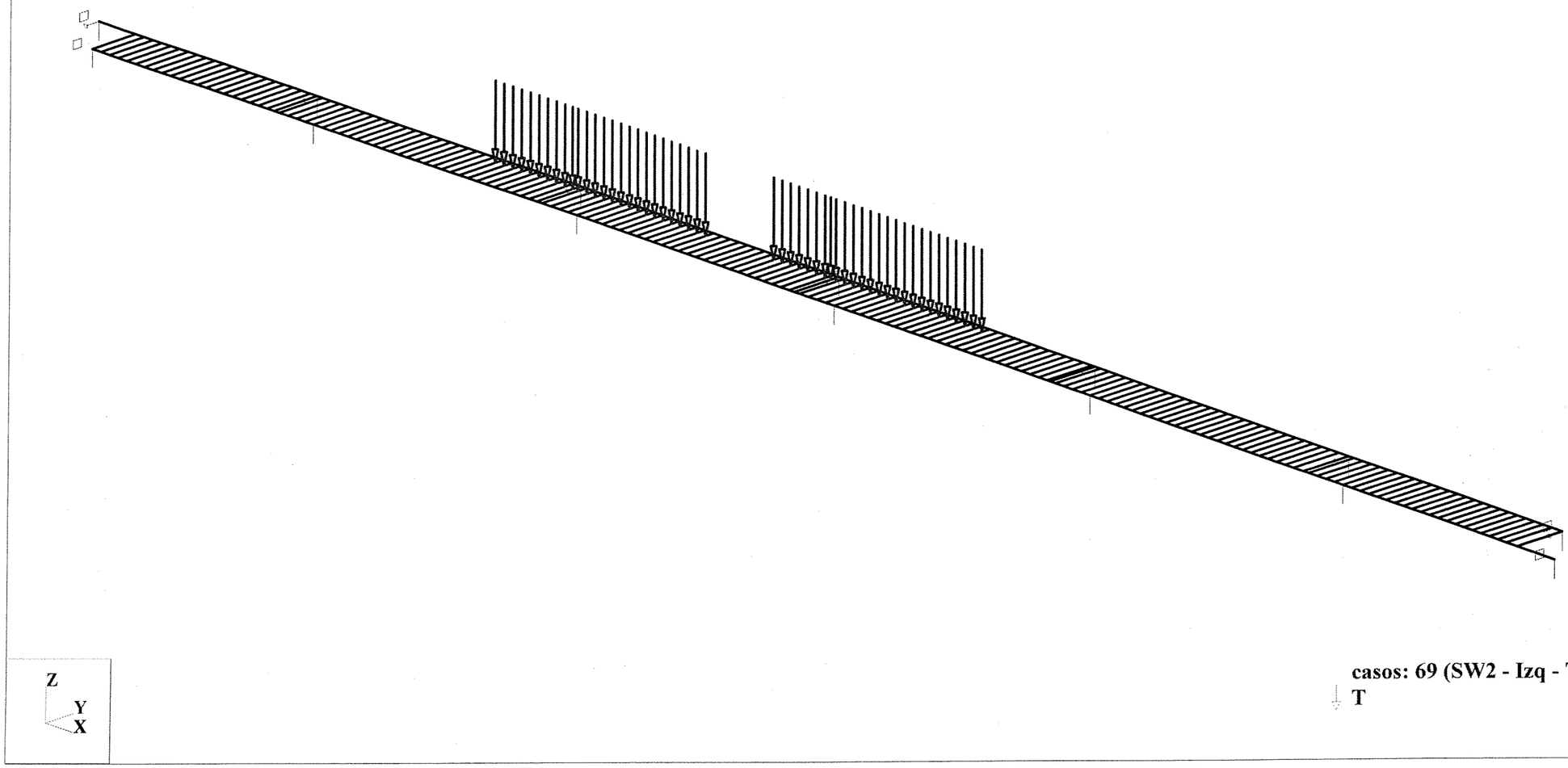
Disposición T3 (vía derecha) del vehículo LM



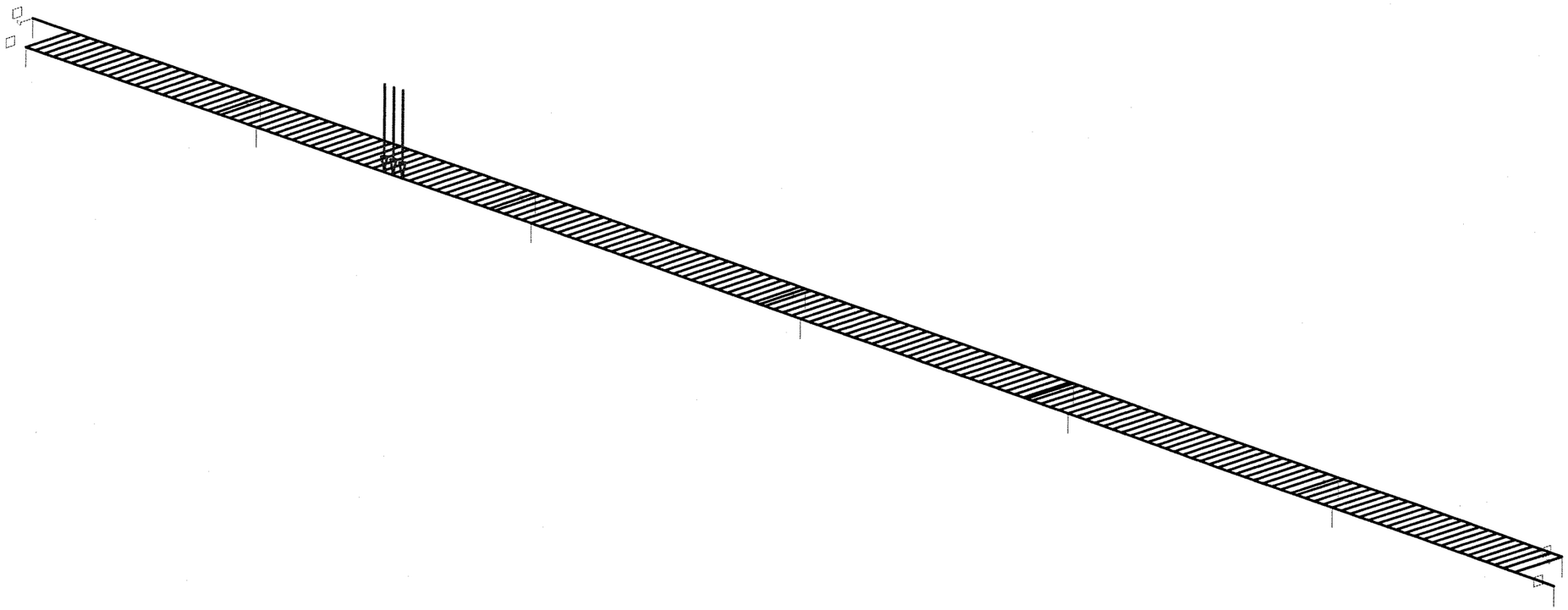
Disposición T2 (vía derecha) del vehículo SW0



Disposición T4 (vía izquierda) del vehículo SW2

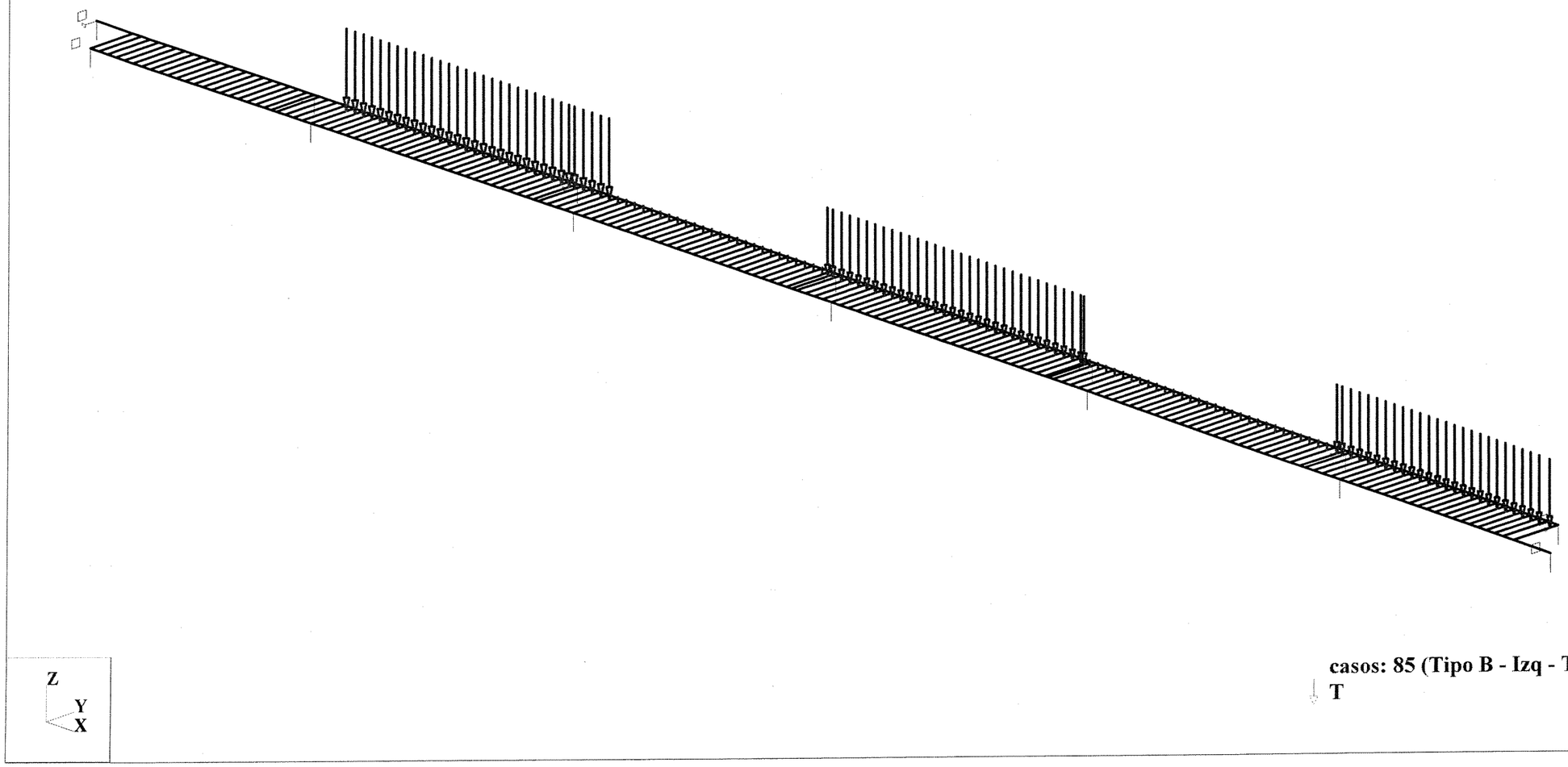


Disposición T2 (vía derecha) del vehículo Tipo A



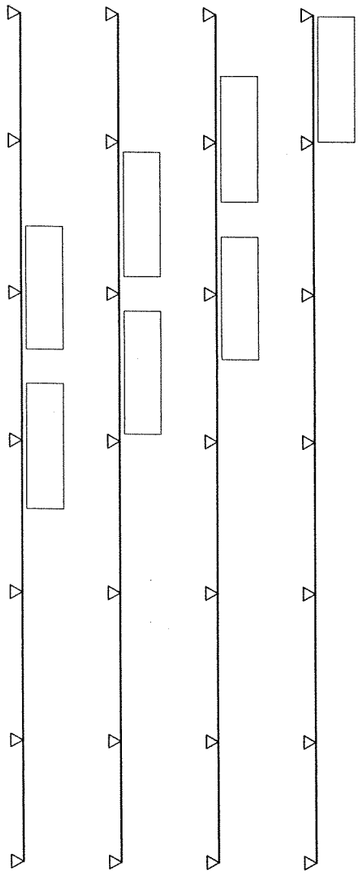
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Disposición T5 (vía izquierda) del vehículo Tipo B

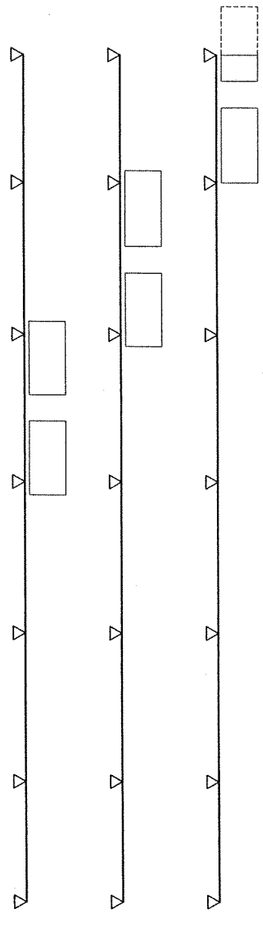


EC - LOADS

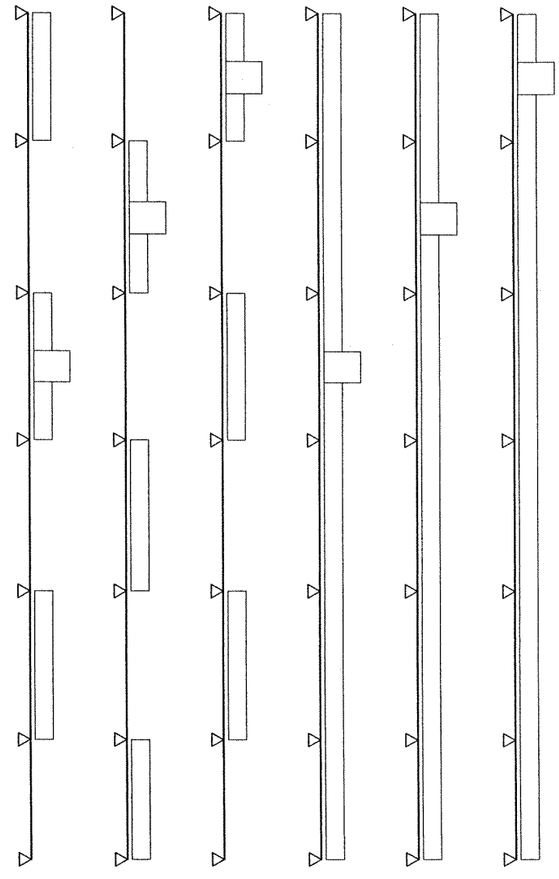
SW/2



SW/0

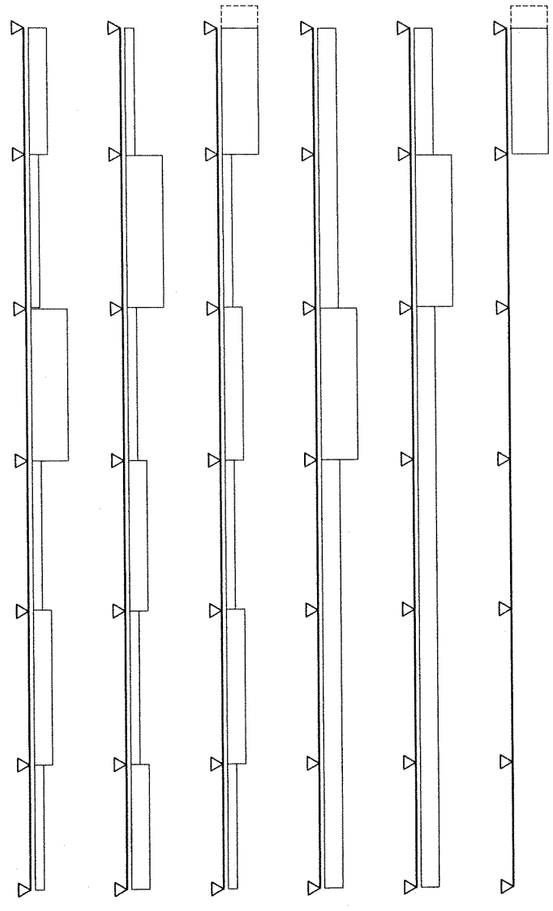


LM-71

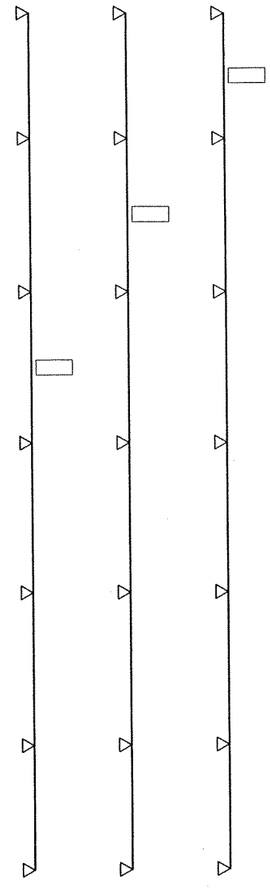


IPF - LOADS

Tipo B

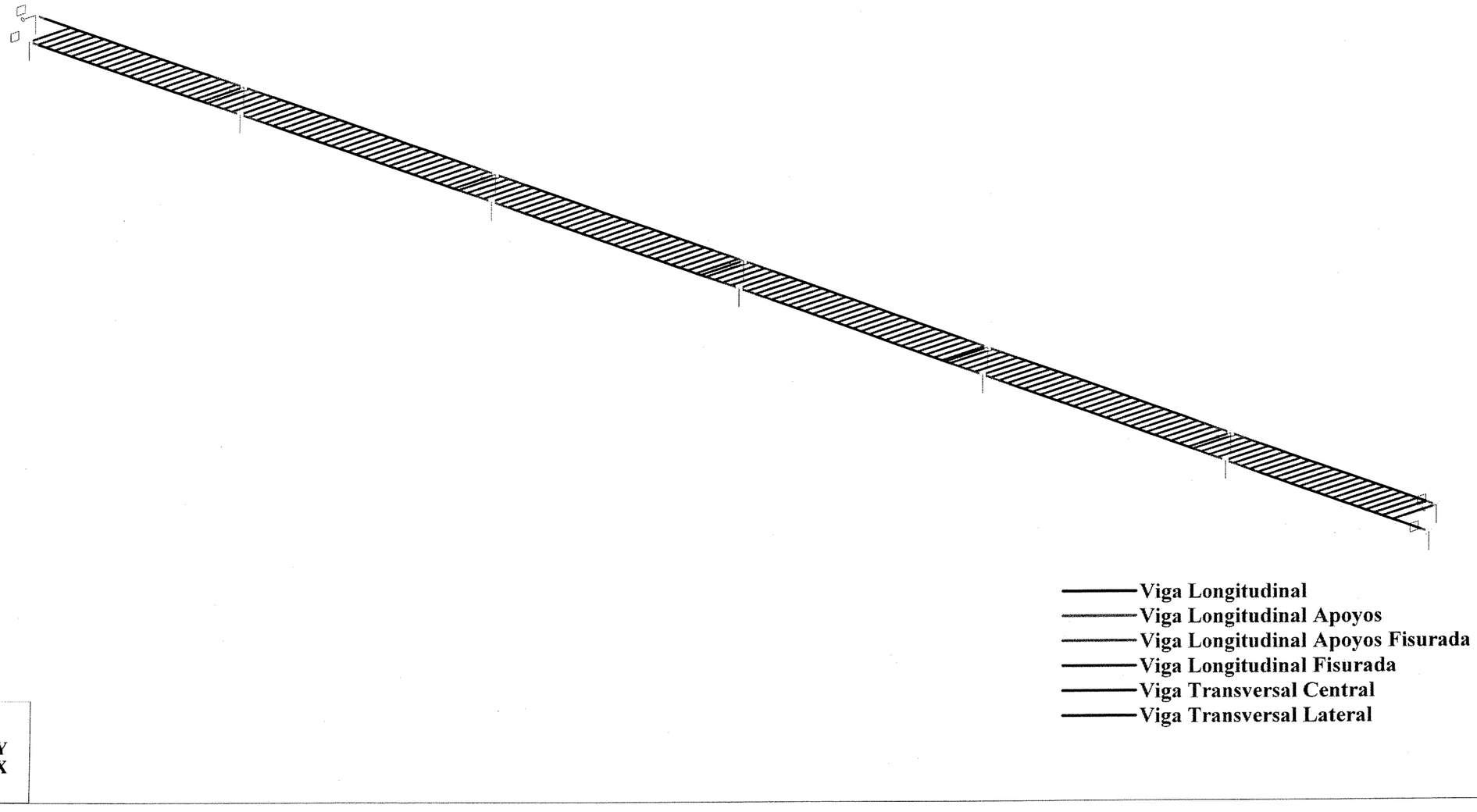


Tipo A



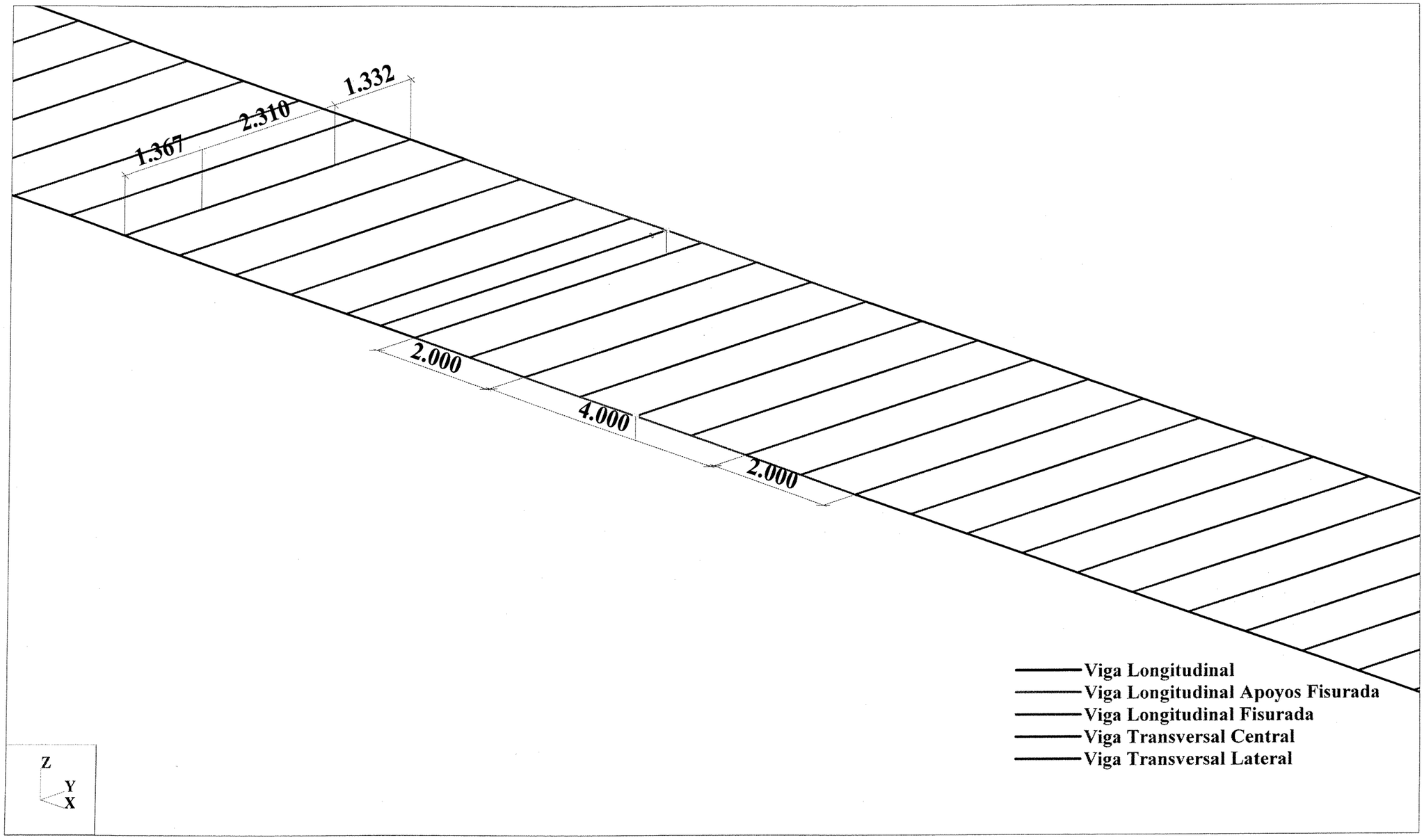
MODELO DE CÁLCULO 3b

Modelo de Cálculo

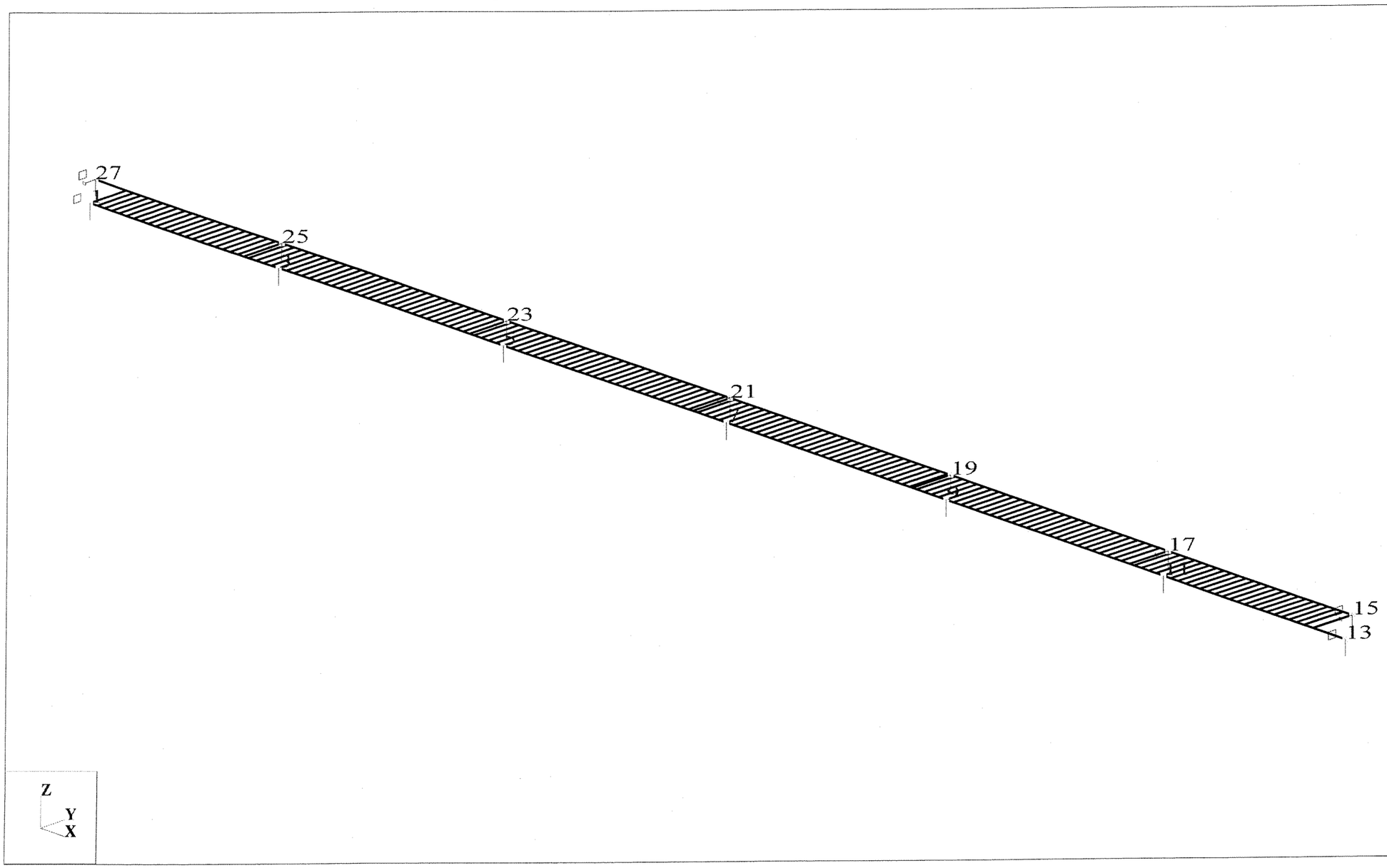


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Detalle en Pilas del Modelo de Cálculo



Numeración de los Nudos en los que se han Aplicado Apoyos



Nudos que Componen la Estructura

Nudo	X (m)	Y (m)	Z (m)
1	0.0	0.0	0.0
3	25.431	0.0	0.0
5	55.913	-0.190	0.0
7	86.143	-0.582	0.0
9	116.120	-1.172	0.0
11	145.848	-1.933	0.0
13	170.478	-2.645	0.0
15	166.236	2.483	0.0
17	141.360	3.192	0.0
19	111.606	3.931	0.0
21	81.595	4.490	0.0
23	51.331	4.852	0.0
25	20.814	5.011	0.0
27	-4.256	4.986	0.0
29	164.840	-2.482	0.0
30	164.878	-1.134	0.0
31	163.840	-2.453	0.0
32	163.879	-1.105	0.0
33	162.841	-2.424	0.0
34	162.879	-1.075	0.0
35	161.841	-2.395	0.0
36	161.880	-1.046	0.0
37	160.842	-2.367	0.0
38	160.880	-1.017	0.0
39	159.842	-2.338	0.0
40	159.880	-0.988	0.0
41	158.842	-2.309	0.0
42	158.881	-0.959	0.0
43	157.843	-2.280	0.0
44	157.881	-0.930	0.0
45	156.843	-2.251	0.0
46	156.882	-0.901	0.0
47	155.844	-2.222	0.0
48	155.882	-0.872	0.0
49	154.844	-2.193	0.0
50	154.883	-0.843	0.0
51	153.844	-2.164	0.0
52	153.883	-0.815	0.0
53	152.845	-2.136	0.0
54	152.883	-0.786	0.0
55	151.845	-2.107	0.0
56	151.884	-0.758	0.0
57	150.846	-2.078	0.0
58	150.884	-0.729	0.0
59	149.846	-2.049	0.0
60	149.885	-0.701	0.0
61	148.847	-2.020	0.0
62	148.885	-0.673	0.0
63	147.847	-1.991	0.0
64	147.885	-0.645	0.0
65	146.847	-1.962	0.0
66	146.886	-0.617	0.0
67	144.848	-1.908	0.0
68	144.886	-0.561	0.0
69	143.848	-1.882	0.0
70	143.887	-0.534	0.0
71	142.849	-1.857	0.0
72	142.887	-0.506	0.0
73	141.849	-1.831	0.0
74	141.888	-0.479	0.0
75	140.113	-1.787	0.0
76	140.146	-0.431	0.0
77	139.113	-1.761	0.0
78	139.147	-0.404	0.0
79	138.113	-1.735	0.0
80	138.147	-0.378	0.0
81	137.114	-1.710	0.0
82	137.147	-0.351	0.0
83	136.114	-1.684	0.0
84	136.148	-0.324	0.0
85	135.114	-1.658	0.0
86	135.148	-0.298	0.0
87	134.115	-1.633	0.0
88	134.148	-0.272	0.0
89	133.115	-1.607	0.0
90	133.149	-0.245	0.0
91	132.115	-1.582	0.0
92	132.149	-0.219	0.0
93	131.116	-1.556	0.0
94	131.149	-0.194	0.0
95	130.116	-1.530	0.0
96	130.150	-0.168	0.0
97	129.116	-1.505	0.0
98	129.150	-0.142	0.0
99	128.116	-1.479	0.0
100	128.150	-0.117	0.0
101	127.117	-1.454	0.0
102	127.151	-0.092	0.0
103	126.117	-1.428	0.0
104	126.151	-0.067	0.0
105	125.117	-1.402	0.0
106	125.151	-0.042	0.0
107	124.118	-1.377	0.0
108	124.152	-0.017	0.0
109	123.118	-1.351	0.0
110	123.152	0.007	0.0
111	122.118	-1.326	0.0
112	122.152	0.031	0.0
113	121.119	-1.300	0.0
114	121.152	0.055	0.0
115	120.119	-1.274	0.0
116	120.153	0.079	0.0
117	119.119	-1.249	0.0
118	119.153	0.103	0.0
119	118.120	-1.223	0.0
120	118.153	0.126	0.0
121	117.120	-1.197	0.0
122	117.154	0.150	0.0
123	115.121	-1.152	0.0
124	115.154	0.196	0.0
125	114.121	-1.133	0.0
126	114.154	0.218	0.0
127	113.121	-1.113	0.0
128	113.155	0.241	0.0
129	112.121	-1.093	0.0
130	112.155	0.263	0.0
131	111.138	-1.074	0.0
132	111.164	0.285	0.0
133	110.139	-1.054	0.0
134	110.164	0.307	0.0
135	109.139	-1.034	0.0
136	109.164	0.328	0.0
137	108.139	-1.015	0.0
138	108.164	0.350	0.0
139	107.139	-0.995	0.0
140	107.165	0.371	0.0
141	106.139	-0.975	0.0
142	106.165	0.392	0.0
143	105.140	-0.956	0.0
144	105.165	0.412	0.0
145	104.140	-0.936	0.0
146	104.165	0.433	0.0
147	103.140	-0.916	0.0
148	103.165	0.453	0.0
149	102.140	-0.897	0.0
150	102.166	0.473	0.0
151	101.140	-0.877	0.0
152	101.166	0.493	0.0
153	100.141	-0.857	0.0
154	100.166	0.512	0.0
155	99.141	-0.838	0.0
156	99.166	0.532	0.0
157	98.141	-0.818	0.0
158	98.166	0.551	0.0
159	97.141	-0.798	0.0
160	97.166	0.570	0.0
161	96.141	-0.779	0.0
162	96.167	0.588	0.0
163	95.141	-0.759	0.0
164	95.167	0.607	0.0
165	94.142	-0.739	0.0
166	94.167	0.625	0.0
167	93.142	-0.720	0.0
168	93.167	0.643	0.0
169	92.142	-0.700	0.0
170	92.167	0.661	0.0
171	91.142	-0.680	0.0
172	91.168	0.678	0.0
173	90.142	-0.661	0.0
174	90.168	0.696	0.0
175	89.143	-0.641	0.0
176	89.168	0.713	0.0
177	88.143	-0.621	0.0
178	88.168	0.730	0.0
179	87.143	-0.602	0.0

Nudo	X (m)	Y (m)	Z (m)
180	87.168	0.746	0.0
181	85.143	-0.569	0.0
182	85.168	0.779	0.0
183	84.143	-0.556	0.0
184	84.169	0.795	0.0
185	83.143	-0.543	0.0
186	83.169	0.811	0.0
187	82.144	-0.530	0.0
188	82.169	0.826	0.0
189	80.911	-0.514	0.0
190	80.927	0.845	0.0
191	79.911	-0.501	0.0
192	79.927	0.860	0.0
193	78.911	-0.488	0.0
194	78.927	0.875	0.0
195	77.911	-0.475	0.0
196	77.928	0.890	0.0
197	76.911	-0.462	0.0
198	76.928	0.904	0.0
199	75.911	-0.449	0.0
200	75.928	0.918	0.0
201	74.912	-0.436	0.0
202	74.928	0.932	0.0
203	73.912	-0.423	0.0
204	73.928	0.946	0.0
205	72.912	-0.410	0.0
206	72.928	0.960	0.0
207	71.912	-0.397	0.0
208	71.928	0.973	0.0
209	70.912	-0.384	0.0
210	70.928	0.986	0.0
211	69.912	-0.371	0.0
212	69.928	0.999	0.0
213	68.912	-0.359	0.0
214	68.928	1.011	0.0
215	67.912	-0.346	0.0
216	67.928	1.024	0.0
217	66.912	-0.333	0.0
218	66.929	1.036	0.0
219	65.912	-0.320	0.0
220	65.929	1.048	0.0
221	64.912	-0.307	0.0
222	64.929	1.060	0.0
223	63.912	-0.294	0.0
224	63.929	1.071	0.0
225	62.913	-0.281	0.0
226	62.929	1.082	0.0
227	61.913	-0.268	0.0
228	61.929	1.093	0.0
229	60.913	-0.255	0.0
230	60.929	1.104	0.0
231	59.913	-0.242	0.0
232	59.929	1.115	0.0
233	58.913	-0.229	0.0
234	58.929	1.125	0.0
235	57.913	-0.216	0.0
236	57.929	1.135	0.0
237	56.913	-0.203	0.0
238	56.929	1.145	0.0
239	54.913	-0.184	0.0
240	54.929	1.165	0.0
241	53.913	-0.177	0.0
242	53.929	1.174	0.0
243	52.913	-0.171	0.0
244	52.929	1.183	0.0
245	51.913	-0.165	0.0
246	51.929	1.192	0.0
247	50.430	-0.156	0.0
248	50.438	1.205	0.0
249	49.431	-0.149	0.0
250	49.438	1.213	0.0
251	48.431	-0.143	0.0
252	48.438	1.221	0.0
253	47.431	-0.137	0.0
254	47.438	1.229	0.0
255	46.431	-0.131	0.0
256	46.438	1.236	0.0
257	45.431	-0.125	0.0
258	45.438	1.244	0.0
259	44.431	-0.118	0.0
260	44.438	1.251	0.0
261	43.431	-0.112	0.0
262	43.438	1.258	0.0
263	42.431	-0.106	0.0
264	42.438	1.265	0.0
265	41.431	-0.100	0.0
266	41.438	1.271	0.0
267	40.431	-0.093	0.0
268	40.438	1.277	0.0
269	39.431	-0.087	0.0
270	39.438	1.284	0.0
271	38.431	-0.081	0.0
272	38.438	1.289	0.0
273	37.431	-0.075	0.0
274	37.438	1.295	0.0
275	36.431	-0.069	0.0
276	36.438	1.300	0.0
277	35.431	-0.062	0.0
278	35.438	1.306	0.0
279	34.431	-0.056	0.0
280	34.438	1.310	0.0
281	33.431	-0.050	0.0
282	33.438	1.315	0.0
283	32.431	-0.044	0.0
284	32.438	1.320	0.0
285	31.431	-0.037	0.0
286	31.438	1.324	0.0
287	30.431	-0.031	0.0
288	30.438	1.328	0.0
289	29.431	-0.025	0.0
290	29.438	1.332	0.0
291	28.431	-0.019	0.0
292	28.438	1.336	0.0
293	27.431	-0.013	0.0
294	27.438	1.339	0.0
295	26.431	-0.006	0.0
296	26.438	1.342	0.0
297	24.431	0.0	0.0
298	24.438	1.348	0.0
299	23.431	0.0	0.0
300	23.438	1.350	0.0
301	22.431	0.0	0.0
302	22.438	1.353	0.0
303	21.431	0.0	0.0
304	21.438	1.355	0.0
305	20.000	0.0	0.0
306	19.999	1.357	0.0
307	19.000	0.0	0.0
308	18.999	1.359	0.0
309	18.000	0.0	0.0
310	17.999	1.360	0.0
311	17.000	0.0	0.0
312	16.999	1.361	0.0
313	16.000	0.0	0.0
314	15.999	1.362	0.0
315	15.000	0.0	0.0
316	14.999	1.363	0.0
317	14.000	0.0	0.0
318	13.999	1.363	0.0
319	13.000	0.0	0.0
320	12.999	1.363	0.0
321	12.000	0.0	0.0
322	11.999	1.363	0.0
323	11.000	0.0	0.0
324	10.999	1.363	0.0
325	10.000	0.0	0.0
326	9.999	1.362	0.0
327	9.000	0.0	0.0
328	8.999	1.362	0.0
329	8.000	0.0	0.0
330	7.999	1.361	0.0
331	7.000	0.0	0.0
332	6.999	1.360	0.0
333	6.000	0.0	0.0
334	5.999	1.358	0.0
335	5.000	0.0	0.0
336	4.999	1.357	0.0
337	4.000	0.0	0.0
338	3.999	1.355	0.0
339	3.000	0.0	0.0
340	2.999	1.353	0.0
341	2.000	0.0	0.0
342	1.999	1.351	0.0
343	1.000	0.0	0.0
344	0.999	1.348	0.0
345	166.197	1.138	0.0
346	145.886	-0.589	0.0
347	141.325	1.848	0.0
348	116.154	0.173	0.0
349	111.579	2.586	0.0
350	86.168	0.763	0.0
351	81.577	3.146	0.0
352	55.929	1.155	0.0
353	51.322	3.507	0.0
354	25.438	1.345	0.0
355	20.814	3.666	0.0
356	-0.001	1.345	0.0

Nudo	X (m)	Y (m)	Z (m)
357	51.308	1.197	0.0
358	51.299	-0.161	0.0
359	55.957	3.465	0.0
360	55.973	4.797	0.0
361	81.547	0.836	0.0
362	81.530	-0.522	0.0
363	86.211	3.072	0.0
364	86.236	4.404	0.0
365	111.534	0.277	0.0
366	111.507	-1.081	0.0
367	116.211	2.482	0.0
368	116.244	3.816	0.0
369	141.266	-0.462	0.0
370	141.231	-1.815	0.0
371	145.952	1.720	0.0
372	145.990	3.060	0.0
373	166.130	-1.171	0.0
374	166.092	-2.518	0.0
375	35.450	3.616	0.0
376	35.457	4.935	0.0
377	36.450	3.610	0.0
378	36.457	4.929	0.0
379	37.450	3.605	0.0
380	37.457	4.924	0.0
381	38.450	3.599	0.0
382	38.457	4.919	0.0
383	39.450	3.593	0.0
384	39.457	4.914	0.0
385	40.450	3.587	0.0
386	40.457	4.909	0.0
387	41.450	3.581	0.0
388	41.457	4.903	0.0
389	42.450	3.575	0.0
390	42.457	4.898	0.0
391	43.450	3.568	0.0
392	43.457	4.893	0.0
393	44.450	3.561	0.0
394	44.457	4.888	0.0
395	45.450	3.554	0.0
396	45.457	4.883	0.0
397	46.450	3.546	0.0
398	46.457	4.878	0.0
399	47.450	3.539	0.0
400	47.457	4.872	0.0
401	48.450	3.531	0.0
402	48.457	4.867	0.0
403	49.450	3.523	0.0
404	49.457	4.862	0.0
405	50.450	3.515	0.0
406	50.457	4.857	0.0
407	51.957	3.502	0.0
408	51.973	4.844	0.0
409	52.957	3.493	0.0
410	52.973	4.833	0.0
411	53.957	3.484	0.0
412	53.973	4.821	0.0
413	54.957	3.475	0.0
414	54.973	4.809	0.0
415	56.957	3.455	0.0
416	56.973	4.785	0.0
417	57.957	3.445	0.0
418	57.973	4.773	0.0
419	58.957	3.435	0.0
420	58.972	4.761	0.0
421	59.957	3.425	0.0
422	59.972	4.749	0.0
423	60.957	3.414	0.0
424	60.972	4.737	0.0
425	61.956	3.403	0.0
426	61.972	4.725	0.0
427	62.956	3.392	0.0
428	62.972	4.713	0.0
429	63.956	3.381	0.0
430	63.972	4.701	0.0
431	64.956	3.369	0.0
432	64.972	4.689	0.0
433	65.956	3.358	0.0
434	65.972	4.677	0.0
435	66.956	3.346	0.0
436	66.972	4.665	0.0
437	67.956	3.334	0.0
438	67.972	4.653	0.0
439	68.956	3.321	0.0
440	68.972	4.641	0.0
441	69.956	3.309	0.0
442	69.972	4.629	0.0
443	70.956	3.296	0.0
444	70.972	4.618	0.0
445	71.956	3.283	0.0
446	71.972	4.606	0.0
447	72.956	3.269	0.0
448	72.971	4.594	0.0
449	73.956	3.256	0.0
450	73.971	4.582	0.0
451	74.955	3.242	0.0
452	74.971	4.570	0.0
453	75.955	3.228	0.0
454	75.971	4.558	0.0
455	76.955	3.214	0.0
456	76.971	4.546	0.0
457	77.955	3.200	0.0
458	77.971	4.534	0.0
459	78.955	3.185	0.0
460	78.971	4.522	0.0
461	79.955	3.170	0.0
462	79.971	4.510	0.0
463	80.955	3.155	0.0
464	80.971	4.498	0.0
465	82.212	3.136	0.0
466	82.237	4.479	0.0
467	83.212	3.120	0.0
468	83.237	4.460	0.0
469	84.212	3.105	0.0
470	84.237	4.441	0.0
471	85.211	3.089	0.0
472	85.236	4.423	0.0
473	87.211	3.056	0.0
474	87.236	4.385	0.0
475	88.211	3.039	0.0
476	88.236	4.367	0.0
477	89.211	3.022	0.0
478	89.236	4.348	0.0
479	90.211	3.005	0.0
480	90.235	4.329	0.0
481	91.211	2.988	0.0
482	91.235	4.311	0.0
483	92.210	2.970	0.0
484	92.235	4.292	0.0
485	93.210	2.953	0.0
486	93.235	4.274	0.0
487	94.210	2.935	0.0
488	94.235	4.255	0.0
489	95.210	2.916	0.0
490	95.235	4.236	0.0
491	96.210	2.898	0.0
492	96.234	4.218	0.0
493	97.210	2.879	0.0
494	97.234	4.199	0.0
495	98.209	2.860	0.0
496	98.234	4.180	0.0
497	99.209	2.841	0.0
498	99.234	4.162	0.0
499	100.209	2.822	0.0
500	100.234	4.143	0.0
501	101.209	2.802	0.0
502	101.234	4.124	0.0
503	102.209	2.783	0.0
504	102.233	4.106	0.0
505	103.209	2.763	0.0
506	103.233	4.087	0.0
507	104.208	2.742	0.0
508	104.233	4.069	0.0
509	105.208	2.722	0.0
510	105.233	4.050	0.0
511	106.208	2.701	0.0
512	106.233	4.031	0.0
513	107.208	2.680	0.0
514	107.233	4.013	0.0
515	108.207	2.659	0.0
516	108.232	3.994	0.0
517	109.207	2.638	0.0
518	109.232	3.975	0.0
519	110.207	2.616	0.0
520	110.232	3.957	0.0
521	111.207	2.595	0.0
522	111.232	3.938	0.0
523	112.212	2.572	0.0
524	112.246	3.915	0.0
525	113.212	2.550	0.0
526	113.245	3.890	0.0
527	114.212	2.528	0.0
528	114.245	3.866	0.0
529	115.211	2.505	0.0
530	115.245	3.841	0.0
531	117.211	2.459	0.0
532	117.244	3.791	0.0
533	118.211	2.436	0.0

Nudo	X (m)	Y (m)	Z (m)
534	118.244	3.766	0.0
535	119.210	2.412	0.0
536	119.243	3.741	0.0
537	120.210	2.389	0.0
538	120.243	3.717	0.0
539	121.210	2.365	0.0
540	121.243	3.692	0.0
541	122.210	2.341	0.0
542	122.242	3.667	0.0
543	123.209	2.316	0.0
544	123.242	3.642	0.0
545	124.209	2.292	0.0
546	124.242	3.617	0.0
547	125.209	2.267	0.0
548	125.242	3.592	0.0
549	126.208	2.242	0.0
550	126.241	3.568	0.0
551	127.208	2.217	0.0
552	127.241	3.543	0.0
553	128.208	2.192	0.0
554	128.241	3.518	0.0
555	129.207	2.167	0.0
556	129.240	3.493	0.0
557	130.207	2.141	0.0
558	130.240	3.468	0.0
559	131.207	2.116	0.0
560	131.240	3.443	0.0
561	132.206	2.090	0.0
562	132.239	3.419	0.0
563	133.206	2.064	0.0
564	133.239	3.394	0.0
565	134.206	2.038	0.0
566	134.239	3.369	0.0
567	135.205	2.012	0.0
568	135.238	3.344	0.0
569	136.205	1.985	0.0
570	136.238	3.319	0.0
571	137.205	1.959	0.0
572	137.238	3.294	0.0
573	138.204	1.932	0.0
574	138.238	3.270	0.0
575	139.204	1.905	0.0
576	139.237	3.245	0.0
577	140.204	1.878	0.0
578	140.237	3.220	0.0
579	141.953	1.830	0.0
580	141.992	3.174	0.0
581	142.953	1.803	0.0
582	142.991	3.146	0.0
583	143.953	1.775	0.0
584	143.991	3.117	0.0
585	144.952	1.748	0.0
586	144.991	3.089	0.0
587	146.952	1.692	0.0
588	146.990	3.032	0.0
589	147.951	1.664	0.0
590	147.989	3.003	0.0
591	148.951	1.636	0.0
592	148.989	2.975	0.0
593	149.950	1.608	0.0
594	149.989	2.946	0.0
595	150.950	1.580	0.0
596	150.988	2.918	0.0
597	151.950	1.552	0.0
598	151.988	2.889	0.0
599	152.949	1.523	0.0
600	152.987	2.861	0.0
601	153.949	1.495	0.0
602	153.987	2.832	0.0
603	154.948	1.466	0.0
604	154.986	2.804	0.0
605	155.948	1.437	0.0
606	155.986	2.775	0.0
607	156.948	1.408	0.0
608	156.986	2.747	0.0
609	157.947	1.379	0.0
610	157.985	2.718	0.0
611	158.947	1.351	0.0
612	158.985	2.690	0.0
613	159.946	1.321	0.0
614	159.984	2.661	0.0
615	160.946	1.292	0.0
616	160.984	2.633	0.0
617	161.945	1.263	0.0
618	161.984	2.604	0.0
619	162.945	1.234	0.0
620	162.983	2.576	0.0
621	163.945	1.205	0.0
622	163.983	2.547	0.0
623	164.944	1.175	0.0
624	164.982	2.519	0.0
625	-0.004	3.655	0.0
626	-0.005	4.990	0.0
627	20.814	1.356	0.0
628	20.814	0.0	0.0
629	25.450	3.655	0.0
630	25.457	4.987	0.0
631	0.996	3.658	0.0
632	0.995	4.991	0.0
633	1.996	3.661	0.0
634	1.995	4.992	0.0
635	2.996	3.663	0.0
636	2.995	4.993	0.0
637	3.996	3.665	0.0
638	3.995	4.994	0.0
639	4.996	3.667	0.0
640	4.995	4.995	0.0
641	5.996	3.668	0.0
642	5.995	4.996	0.0
643	6.996	3.670	0.0
644	6.995	4.997	0.0
645	7.996	3.671	0.0
646	7.995	4.998	0.0
647	8.996	3.672	0.0
648	8.995	4.999	0.0
649	9.996	3.672	0.0
650	9.995	5.000	0.0
651	10.996	3.673	0.0
652	10.995	5.001	0.0
653	11.996	3.673	0.0
654	11.995	5.002	0.0
655	12.996	3.673	0.0
656	12.995	5.003	0.0
657	13.996	3.673	0.0
658	13.995	5.004	0.0
659	14.996	3.673	0.0
660	14.995	5.005	0.0
661	15.996	3.672	0.0
662	15.995	5.006	0.0
663	16.996	3.671	0.0
664	16.995	5.007	0.0
665	17.996	3.670	0.0
666	17.995	5.008	0.0
667	18.996	3.669	0.0
668	18.995	5.009	0.0
669	19.996	3.667	0.0
670	19.995	5.010	0.0
671	21.450	3.665	0.0
672	21.457	5.007	0.0
673	22.450	3.663	0.0
674	22.457	5.002	0.0
675	23.450	3.660	0.0
676	23.457	4.997	0.0
677	24.450	3.658	0.0
678	24.457	4.992	0.0
679	26.450	3.652	0.0
680	26.457	4.981	0.0
681	27.450	3.649	0.0
682	27.457	4.976	0.0
683	28.450	3.645	0.0
684	28.457	4.971	0.0
685	29.450	3.642	0.0
686	29.457	4.966	0.0
687	30.450	3.638	0.0
688	30.457	4.961	0.0
689	31.450	3.634	0.0
690	31.457	4.955	0.0
691	32.450	3.630	0.0
692	32.457	4.950	0.0
693	33.450	3.625	0.0
694	33.457	4.945	0.0
695	34.450	3.620	0.0
696	34.457	4.940	0.0
697	-1.256	4.989	0.0
698	-2.256	4.988	0.0
699	-3.256	4.987	0.0
700	169.478	-2.616	0.0
701	168.479	-2.587	0.0
702	167.479	-2.558	0.0
703	166.480	-2.529	0.0

Barras que Componen la Estructura

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
101	27	699	Viga Longitudinal Apoyos	HP - 55	1.000
102	699	698	Viga Longitudinal	HP - 55	1.000
103	698	697	Viga Longitudinal	HP - 55	1.000
104	697	626	Viga Longitudinal	HP - 55	1.251
105	626	632	Viga Longitudinal	HP - 55	1.000
106	632	634	Viga Longitudinal	HP - 55	1.000
107	634	636	Viga Longitudinal	HP - 55	1.000
108	636	638	Viga Longitudinal	HP - 55	1.000
109	638	640	Viga Longitudinal	HP - 55	1.000
110	640	642	Viga Longitudinal	HP - 55	1.000
111	642	644	Viga Longitudinal	HP - 55	1.000
112	644	646	Viga Longitudinal	HP - 55	1.000
113	646	648	Viga Longitudinal	HP - 55	1.000
114	648	650	Viga Longitudinal	HP - 55	1.000
115	650	652	Viga Longitudinal	HP - 55	1.000
116	652	654	Viga Longitudinal	HP - 55	1.000
117	654	656	Viga Longitudinal	HP - 55	1.000
118	656	658	Viga Longitudinal	HP - 55	1.000
119	658	660	Viga Longitudinal	HP - 55	1.000
120	660	662	Viga Longitudinal	HP - 55	1.000
121	662	664	Viga Longitudinal	HP - 55	1.000
122	664	666	Viga Longitudinal Fisurada	HP - 55	1.000
123	666	668	Viga Longitudinal Fisurada	HP - 55	1.000
124	668	670	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
125	670	25	Viga Longitudinal Apoyos Fisurada	HP - 55	0.819
126	25	672	Viga Longitudinal Apoyos Fisurada	HP - 55	0.643
127	672	674	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
128	674	676	Viga Longitudinal Fisurada	HP - 55	1.000
129	676	678	Viga Longitudinal Fisurada	HP - 55	1.000
130	678	630	Viga Longitudinal	HP - 55	1.000
131	630	680	Viga Longitudinal	HP - 55	1.000
132	680	682	Viga Longitudinal	HP - 55	1.000
133	682	684	Viga Longitudinal	HP - 55	1.000
134	684	686	Viga Longitudinal	HP - 55	1.000
135	686	688	Viga Longitudinal	HP - 55	1.000
136	688	690	Viga Longitudinal	HP - 55	1.000
137	690	692	Viga Longitudinal	HP - 55	1.000
138	692	694	Viga Longitudinal	HP - 55	1.000
139	694	696	Viga Longitudinal	HP - 55	1.000
140	696	376	Viga Longitudinal	HP - 55	1.000
141	376	378	Viga Longitudinal	HP - 55	1.000
142	378	380	Viga Longitudinal	HP - 55	1.000
143	380	382	Viga Longitudinal	HP - 55	1.000
144	382	384	Viga Longitudinal	HP - 55	1.000
145	384	386	Viga Longitudinal	HP - 55	1.000
146	386	388	Viga Longitudinal	HP - 55	1.000
147	388	390	Viga Longitudinal	HP - 55	1.000
148	390	392	Viga Longitudinal	HP - 55	1.000
149	392	394	Viga Longitudinal	HP - 55	1.000
150	394	396	Viga Longitudinal	HP - 55	1.000
151	396	398	Viga Longitudinal	HP - 55	1.000
152	398	400	Viga Longitudinal	HP - 55	1.000
153	400	402	Viga Longitudinal Fisurada	HP - 55	1.000
154	402	404	Viga Longitudinal Fisurada	HP - 55	1.000
155	404	406	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
156	406	23	Viga Longitudinal Apoyos Fisurada	HP - 55	0.874
157	23	408	Viga Longitudinal Apoyos Fisurada	HP - 55	0.643
158	408	410	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
159	410	412	Viga Longitudinal Fisurada	HP - 55	1.000
160	412	414	Viga Longitudinal Fisurada	HP - 55	1.000
161	414	360	Viga Longitudinal	HP - 55	1.000
162	360	416	Viga Longitudinal	HP - 55	1.000
163	416	418	Viga Longitudinal	HP - 55	1.000
164	418	420	Viga Longitudinal	HP - 55	1.000
165	420	422	Viga Longitudinal	HP - 55	1.000
166	422	424	Viga Longitudinal	HP - 55	1.000
167	424	426	Viga Longitudinal	HP - 55	1.000
168	426	428	Viga Longitudinal	HP - 55	1.000
169	428	430	Viga Longitudinal	HP - 55	1.000
170	430	432	Viga Longitudinal	HP - 55	1.000
171	432	434	Viga Longitudinal	HP - 55	1.000
172	434	436	Viga Longitudinal	HP - 55	1.000
173	436	438	Viga Longitudinal	HP - 55	1.000
174	438	440	Viga Longitudinal	HP - 55	1.000
175	440	442	Viga Longitudinal	HP - 55	1.000
176	442	444	Viga Longitudinal	HP - 55	1.000
177	444	446	Viga Longitudinal	HP - 55	1.000
178	446	448	Viga Longitudinal	HP - 55	1.000
179	448	450	Viga Longitudinal	HP - 55	1.000
180	450	452	Viga Longitudinal	HP - 55	1.000
181	452	454	Viga Longitudinal	HP - 55	1.000
182	454	456	Viga Longitudinal	HP - 55	1.000
183	456	458	Viga Longitudinal	HP - 55	1.000
184	458	460	Viga Longitudinal Fisurada	HP - 55	1.000
185	460	462	Viga Longitudinal Fisurada	HP - 55	1.000
186	462	464	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
187	464	21	Viga Longitudinal Apoyos Fisurada	HP - 55	0.624
188	21	466	Viga Longitudinal Apoyos Fisurada	HP - 55	0.642
189	466	468	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
190	468	470	Viga Longitudinal Fisurada	HP - 55	1.000
191	470	472	Viga Longitudinal Fisurada	HP - 55	1.000
192	472	364	Viga Longitudinal	HP - 55	1.000
193	364	474	Viga Longitudinal	HP - 55	1.000
194	474	476	Viga Longitudinal	HP - 55	1.000
195	476	478	Viga Longitudinal	HP - 55	1.000
196	478	480	Viga Longitudinal	HP - 55	1.000
197	480	482	Viga Longitudinal	HP - 55	1.000
198	482	484	Viga Longitudinal	HP - 55	1.000
199	484	486	Viga Longitudinal	HP - 55	1.000
200	486	488	Viga Longitudinal	HP - 55	1.000
201	488	490	Viga Longitudinal	HP - 55	1.000
202	490	492	Viga Longitudinal	HP - 55	1.000
203	492	494	Viga Longitudinal	HP - 55	1.000
204	494	496	Viga Longitudinal	HP - 55	1.000
205	496	498	Viga Longitudinal	HP - 55	1.000
206	498	500	Viga Longitudinal	HP - 55	1.000
207	500	502	Viga Longitudinal	HP - 55	1.000

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
208	502	504	Viga Longitudinal	HP - 55	1.000
209	504	506	Viga Longitudinal	HP - 55	1.000
210	506	508	Viga Longitudinal	HP - 55	1.000
211	508	510	Viga Longitudinal	HP - 55	1.000
212	510	512	Viga Longitudinal	HP - 55	1.000
213	512	514	Viga Longitudinal	HP - 55	1.000
214	514	516	Viga Longitudinal	HP - 55	1.000
215	516	518	Viga Longitudinal Fisurada	HP - 55	1.000
216	518	520	Viga Longitudinal Fisurada	HP - 55	1.000
217	520	522	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
218	522	19	Viga Longitudinal Apoyos Fisurada	HP - 55	0.374
219	19	524	Viga Longitudinal Apoyos Fisurada	HP - 55	0.640
220	524	526	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
221	526	528	Viga Longitudinal Fisurada	HP - 55	1.000
222	528	530	Viga Longitudinal Fisurada	HP - 55	1.000
223	530	368	Viga Longitudinal	HP - 55	1.000
224	368	532	Viga Longitudinal	HP - 55	1.000
225	532	534	Viga Longitudinal	HP - 55	1.000
226	534	536	Viga Longitudinal	HP - 55	1.000
227	536	538	Viga Longitudinal	HP - 55	1.000
228	538	540	Viga Longitudinal	HP - 55	1.000
229	540	542	Viga Longitudinal	HP - 55	1.000
230	542	544	Viga Longitudinal	HP - 55	1.000
231	544	546	Viga Longitudinal	HP - 55	1.000
232	546	548	Viga Longitudinal	HP - 55	1.000
233	548	550	Viga Longitudinal	HP - 55	1.000
234	550	552	Viga Longitudinal	HP - 55	1.000
235	552	554	Viga Longitudinal	HP - 55	1.000
236	554	556	Viga Longitudinal	HP - 55	1.000
237	556	558	Viga Longitudinal	HP - 55	1.000
238	558	560	Viga Longitudinal	HP - 55	1.000
239	560	562	Viga Longitudinal	HP - 55	1.000
240	562	564	Viga Longitudinal	HP - 55	1.000
241	564	566	Viga Longitudinal	HP - 55	1.000
242	566	568	Viga Longitudinal	HP - 55	1.000
243	568	570	Viga Longitudinal	HP - 55	1.000
244	570	572	Viga Longitudinal	HP - 55	1.000
245	572	574	Viga Longitudinal Fisurada	HP - 55	1.000
246	574	576	Viga Longitudinal Fisurada	HP - 55	1.000
247	576	578	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
248	578	17	Viga Longitudinal Apoyos Fisurada	HP - 55	1.123
249	17	580	Viga Longitudinal Apoyos Fisurada	HP - 55	0.632
250	580	582	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
251	582	584	Viga Longitudinal Fisurada	HP - 55	1.000
252	584	586	Viga Longitudinal Fisurada	HP - 55	1.000
253	586	372	Viga Longitudinal	HP - 55	1.000
254	372	588	Viga Longitudinal	HP - 55	1.000
255	588	590	Viga Longitudinal	HP - 55	1.000
256	590	592	Viga Longitudinal	HP - 55	1.000
257	592	594	Viga Longitudinal	HP - 55	1.000
258	594	596	Viga Longitudinal	HP - 55	1.000
259	596	598	Viga Longitudinal	HP - 55	1.000
260	598	600	Viga Longitudinal	HP - 55	1.000
261	600	602	Viga Longitudinal	HP - 55	1.000
262	602	604	Viga Longitudinal	HP - 55	1.000
263	604	606	Viga Longitudinal	HP - 55	1.000
264	606	608	Viga Longitudinal	HP - 55	1.000
265	608	610	Viga Longitudinal	HP - 55	1.000
266	610	612	Viga Longitudinal	HP - 55	1.000
267	612	614	Viga Longitudinal	HP - 55	1.000
268	614	616	Viga Longitudinal	HP - 55	1.000
269	616	618	Viga Longitudinal	HP - 55	1.000
270	618	620	Viga Longitudinal	HP - 55	1.000
271	620	622	Viga Longitudinal	HP - 55	1.000
272	622	624	Viga Longitudinal	HP - 55	1.000
273	624	15	Viga Longitudinal Apoyos	HP - 55	1.254
501	1	343	Viga Longitudinal Apoyos	HP - 55	1.000
502	343	341	Viga Longitudinal	HP - 55	1.000
503	341	339	Viga Longitudinal	HP - 55	1.000
504	339	337	Viga Longitudinal	HP - 55	1.000
505	337	335	Viga Longitudinal	HP - 55	1.000
506	335	333	Viga Longitudinal	HP - 55	1.000
507	333	331	Viga Longitudinal	HP - 55	1.000
508	331	329	Viga Longitudinal	HP - 55	1.000
509	329	327	Viga Longitudinal	HP - 55	1.000
510	327	325	Viga Longitudinal	HP - 55	1.000
511	325	323	Viga Longitudinal	HP - 55	1.000
512	323	321	Viga Longitudinal	HP - 55	1.000
513	321	319	Viga Longitudinal	HP - 55	1.000
514	319	317	Viga Longitudinal	HP - 55	1.000
515	317	315	Viga Longitudinal	HP - 55	1.000
516	315	313	Viga Longitudinal	HP - 55	1.000
517	313	311	Viga Longitudinal	HP - 55	1.000
518	311	309	Viga Longitudinal	HP - 55	1.000
519	309	307	Viga Longitudinal	HP - 55	1.000
520	307	305	Viga Longitudinal	HP - 55	1.000
521	305	628	Viga Longitudinal	HP - 55	0.814
522	628	303	Viga Longitudinal	HP - 55	0.617
523	303	301	Viga Longitudinal Fisurada	HP - 55	1.000
524	301	299	Viga Longitudinal Fisurada	HP - 55	1.000
525	299	297	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
526	297	3	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
527	3	295	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
528	295	293	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
529	293	291	Viga Longitudinal Fisurada	HP - 55	1.000
530	291	289	Viga Longitudinal Fisurada	HP - 55	1.000
531	289	287	Viga Longitudinal	HP - 55	1.000
532	287	285	Viga Longitudinal	HP - 55	1.000
533	285	283	Viga Longitudinal	HP - 55	1.000
534	283	281	Viga Longitudinal	HP - 55	1.000
535	281	279	Viga Longitudinal	HP - 55	1.000
536	279	277	Viga Longitudinal	HP - 55	1.000
537	277	275	Viga Longitudinal	HP - 55	1.000
538	275	273	Viga Longitudinal	HP - 55	1.000
539	273	271	Viga Longitudinal	HP - 55	1.000
540	271	269	Viga Longitudinal	HP - 55	1.000
541	269	267	Viga Longitudinal	HP - 55	1.000
542	267	265	Viga Longitudinal	HP - 55	1.000
543	265	263	Viga Longitudinal	HP - 55	1.000
544	263	261	Viga Longitudinal	HP - 55	1.000
545	261	259	Viga Longitudinal	HP - 55	1.000
546	259	257	Viga Longitudinal	HP - 55	1.000
547	257	255	Viga Longitudinal	HP - 55	1.000
548	255	253	Viga Longitudinal	HP - 55	1.000
549	253	251	Viga Longitudinal	HP - 55	1.000
550	251	249	Viga Longitudinal	HP - 55	1.000
551	249	247	Viga Longitudinal	HP - 55	1.000

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
552	247	358	Viga Longitudinal	HP - 55	0.869
553	358	245	Viga Longitudinal	HP - 55	0.614
554	245	243	Viga Longitudinal Fisurada	HP - 55	1.000
555	243	241	Viga Longitudinal Fisurada	HP - 55	1.000
556	241	239	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
557	239	5	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
558	5	237	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
559	237	235	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
560	235	233	Viga Longitudinal Fisurada	HP - 55	1.000
561	233	231	Viga Longitudinal Fisurada	HP - 55	1.000
562	231	229	Viga Longitudinal	HP - 55	1.000
563	229	227	Viga Longitudinal	HP - 55	1.000
564	227	225	Viga Longitudinal	HP - 55	1.000
565	225	223	Viga Longitudinal	HP - 55	1.000
566	223	221	Viga Longitudinal	HP - 55	1.000
567	221	219	Viga Longitudinal	HP - 55	1.000
568	219	217	Viga Longitudinal	HP - 55	1.000
569	217	215	Viga Longitudinal	HP - 55	1.000
570	215	213	Viga Longitudinal	HP - 55	1.000
571	213	211	Viga Longitudinal	HP - 55	1.000
572	211	209	Viga Longitudinal	HP - 55	1.000
573	209	207	Viga Longitudinal	HP - 55	1.000
574	207	205	Viga Longitudinal	HP - 55	1.000
575	205	203	Viga Longitudinal	HP - 55	1.000
576	203	201	Viga Longitudinal	HP - 55	1.000
577	201	199	Viga Longitudinal	HP - 55	1.000
578	199	197	Viga Longitudinal	HP - 55	1.000
579	197	195	Viga Longitudinal	HP - 55	1.000
580	195	193	Viga Longitudinal	HP - 55	1.000
581	193	191	Viga Longitudinal	HP - 55	1.000
582	191	189	Viga Longitudinal	HP - 55	1.000
583	189	362	Viga Longitudinal	HP - 55	0.619
584	362	187	Viga Longitudinal	HP - 55	0.614
585	187	185	Viga Longitudinal Fisurada	HP - 55	1.000
586	185	183	Viga Longitudinal Fisurada	HP - 55	1.000
587	183	181	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
588	181	7	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
589	7	179	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
590	179	177	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
591	177	175	Viga Longitudinal Fisurada	HP - 55	1.000
592	175	173	Viga Longitudinal Fisurada	HP - 55	1.000
593	173	171	Viga Longitudinal	HP - 55	1.000
594	171	169	Viga Longitudinal	HP - 55	1.000
595	169	167	Viga Longitudinal	HP - 55	1.000
596	167	165	Viga Longitudinal	HP - 55	1.000
597	165	163	Viga Longitudinal	HP - 55	1.000
598	163	161	Viga Longitudinal	HP - 55	1.000
599	161	159	Viga Longitudinal	HP - 55	1.000
600	159	157	Viga Longitudinal	HP - 55	1.000
601	157	155	Viga Longitudinal	HP - 55	1.000
602	155	153	Viga Longitudinal	HP - 55	1.000
603	153	151	Viga Longitudinal	HP - 55	1.000
604	151	149	Viga Longitudinal	HP - 55	1.000
605	149	147	Viga Longitudinal	HP - 55	1.000
606	147	145	Viga Longitudinal	HP - 55	1.000
607	145	143	Viga Longitudinal	HP - 55	1.000
608	143	141	Viga Longitudinal	HP - 55	1.000
609	141	139	Viga Longitudinal	HP - 55	1.000
610	139	137	Viga Longitudinal	HP - 55	1.000
611	137	135	Viga Longitudinal	HP - 55	1.000
612	135	133	Viga Longitudinal	HP - 55	1.000
613	133	131	Viga Longitudinal	HP - 55	1.000
614	131	366	Viga Longitudinal	HP - 55	0.369
615	366	129	Viga Longitudinal	HP - 55	0.614
616	129	127	Viga Longitudinal Fisurada	HP - 55	1.000
617	127	125	Viga Longitudinal Fisurada	HP - 55	1.000
618	125	123	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
619	123	9	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
620	9	121	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
621	121	119	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
622	119	117	Viga Longitudinal Fisurada	HP - 55	1.000
623	117	115	Viga Longitudinal Fisurada	HP - 55	1.000
624	115	113	Viga Longitudinal	HP - 55	1.000
625	113	111	Viga Longitudinal	HP - 55	1.000
626	111	109	Viga Longitudinal	HP - 55	1.000
627	109	107	Viga Longitudinal	HP - 55	1.000
628	107	105	Viga Longitudinal	HP - 55	1.000
629	105	103	Viga Longitudinal	HP - 55	1.000
630	103	101	Viga Longitudinal	HP - 55	1.000
631	101	99	Viga Longitudinal	HP - 55	1.000
632	99	97	Viga Longitudinal	HP - 55	1.000
633	97	95	Viga Longitudinal	HP - 55	1.000
634	95	93	Viga Longitudinal	HP - 55	1.000
635	93	91	Viga Longitudinal	HP - 55	1.000
636	91	89	Viga Longitudinal	HP - 55	1.000
637	89	87	Viga Longitudinal	HP - 55	1.000
638	87	85	Viga Longitudinal	HP - 55	1.000
639	85	83	Viga Longitudinal	HP - 55	1.000
640	83	81	Viga Longitudinal	HP - 55	1.000
641	81	79	Viga Longitudinal	HP - 55	1.000
642	79	77	Viga Longitudinal	HP - 55	1.000
643	77	75	Viga Longitudinal	HP - 55	1.000
644	75	370	Viga Longitudinal	HP - 55	1.119
645	370	73	Viga Longitudinal	HP - 55	0.618
646	73	71	Viga Longitudinal Fisurada	HP - 55	1.000
647	71	69	Viga Longitudinal Fisurada	HP - 55	1.000
648	69	67	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
649	67	11	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
650	11	65	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
651	65	63	Viga Longitudinal Apoyos Fisurada	HP - 55	1.000
652	63	61	Viga Longitudinal Fisurada	HP - 55	1.000
653	61	59	Viga Longitudinal Fisurada	HP - 55	1.000
654	59	57	Viga Longitudinal	HP - 55	1.000
655	57	55	Viga Longitudinal	HP - 55	1.000
656	55	53	Viga Longitudinal	HP - 55	1.000
657	53	51	Viga Longitudinal	HP - 55	1.000
658	51	49	Viga Longitudinal	HP - 55	1.000
659	49	47	Viga Longitudinal	HP - 55	1.000
660	47	45	Viga Longitudinal	HP - 55	1.000
661	45	43	Viga Longitudinal	HP - 55	1.000
662	43	41	Viga Longitudinal	HP - 55	1.000
663	41	39	Viga Longitudinal	HP - 55	1.000
664	39	37	Viga Longitudinal	HP - 55	1.000
665	37	35	Viga Longitudinal	HP - 55	1.000
666	35	33	Viga Longitudinal	HP - 55	1.000
667	33	31	Viga Longitudinal	HP - 55	1.000
668	31	29	Viga Longitudinal	HP - 55	1.000

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
669	29	374	Viga Longitudinal	HP - 55	1.252
670	374	703	Viga Longitudinal	HP - 55	0.388
671	703	702	Viga Longitudinal	HP - 55	1.000
672	702	701	Viga Longitudinal	HP - 55	1.000
673	701	700	Viga Longitudinal	HP - 55	1.000
674	700	13	Viga Longitudinal Apoyos	HP - 55	1.000
1001	625	626	Viga Transversal Lateral	HA - 30	1.335
1002	631	632	Viga Transversal Lateral	HA - 30	1.333
1003	633	634	Viga Transversal Lateral	HA - 30	1.332
1004	635	636	Viga Transversal Lateral	HA - 30	1.330
1005	637	638	Viga Transversal Lateral	HA - 30	1.329
1006	639	640	Viga Transversal Lateral	HA - 30	1.329
1007	641	642	Viga Transversal Lateral	HA - 30	1.328
1008	643	644	Viga Transversal Lateral	HA - 30	1.328
1009	645	646	Viga Transversal Lateral	HA - 30	1.327
1010	647	648	Viga Transversal Lateral	HA - 30	1.328
1011	649	650	Viga Transversal Lateral	HA - 30	1.328
1012	651	652	Viga Transversal Lateral	HA - 30	1.328
1013	653	654	Viga Transversal Lateral	HA - 30	1.329
1014	655	656	Viga Transversal Lateral	HA - 30	1.330
1015	657	658	Viga Transversal Lateral	HA - 30	1.331
1016	659	660	Viga Transversal Lateral	HA - 30	1.333
1017	661	662	Viga Transversal Lateral	HA - 30	1.334
1018	663	664	Viga Transversal Lateral	HA - 30	1.336
1019	665	666	Viga Transversal Lateral	HA - 30	1.338
1020	667	668	Viga Transversal Lateral	HA - 30	1.340
1021	669	670	Viga Transversal Lateral	HA - 30	1.343
1022	355	25	Viga Transversal Lateral	HA - 30	1.345
1023	671	672	Viga Transversal Lateral	HA - 30	1.343
1024	673	674	Viga Transversal Lateral	HA - 30	1.340
1025	675	676	Viga Transversal Lateral	HA - 30	1.337
1026	677	678	Viga Transversal Lateral	HA - 30	1.334
1027	629	630	Viga Transversal Lateral	HA - 30	1.332
1028	679	680	Viga Transversal Lateral	HA - 30	1.329
1029	681	682	Viga Transversal Lateral	HA - 30	1.327
1030	683	684	Viga Transversal Lateral	HA - 30	1.326
1031	685	686	Viga Transversal Lateral	HA - 30	1.324
1032	687	688	Viga Transversal Lateral	HA - 30	1.323
1033	689	690	Viga Transversal Lateral	HA - 30	1.322
1034	691	692	Viga Transversal Lateral	HA - 30	1.321
1035	693	694	Viga Transversal Lateral	HA - 30	1.320
1036	695	696	Viga Transversal Lateral	HA - 30	1.319
1037	375	376	Viga Transversal Lateral	HA - 30	1.319
1038	377	378	Viga Transversal Lateral	HA - 30	1.319
1039	379	380	Viga Transversal Lateral	HA - 30	1.319
1040	381	382	Viga Transversal Lateral	HA - 30	1.320
1041	383	384	Viga Transversal Lateral	HA - 30	1.320
1042	385	386	Viga Transversal Lateral	HA - 30	1.321
1043	387	388	Viga Transversal Lateral	HA - 30	1.322
1044	389	390	Viga Transversal Lateral	HA - 30	1.324
1045	391	392	Viga Transversal Lateral	HA - 30	1.325
1046	393	394	Viga Transversal Lateral	HA - 30	1.327
1047	395	396	Viga Transversal Lateral	HA - 30	1.329
1048	397	398	Viga Transversal Lateral	HA - 30	1.331
1049	399	400	Viga Transversal Lateral	HA - 30	1.334
1050	401	402	Viga Transversal Lateral	HA - 30	1.336
1051	403	404	Viga Transversal Lateral	HA - 30	1.339
1052	405	406	Viga Transversal Lateral	HA - 30	1.342
1053	353	23	Viga Transversal Lateral	HA - 30	1.345
1054	407	408	Viga Transversal Lateral	HA - 30	1.343
1055	409	410	Viga Transversal Lateral	HA - 30	1.340
1056	411	412	Viga Transversal Lateral	HA - 30	1.337
1057	413	414	Viga Transversal Lateral	HA - 30	1.334
1058	359	360	Viga Transversal Lateral	HA - 30	1.332
1059	415	416	Viga Transversal Lateral	HA - 30	1.330
1060	417	418	Viga Transversal Lateral	HA - 30	1.328
1061	419	420	Viga Transversal Lateral	HA - 30	1.326
1062	421	422	Viga Transversal Lateral	HA - 30	1.324
1063	423	424	Viga Transversal Lateral	HA - 30	1.323
1064	425	426	Viga Transversal Lateral	HA - 30	1.322
1065	427	428	Viga Transversal Lateral	HA - 30	1.321
1066	429	430	Viga Transversal Lateral	HA - 30	1.320
1067	431	432	Viga Transversal Lateral	HA - 30	1.320
1068	433	434	Viga Transversal Lateral	HA - 30	1.320
1069	435	436	Viga Transversal Lateral	HA - 30	1.320
1070	437	438	Viga Transversal Lateral	HA - 30	1.320
1071	439	440	Viga Transversal Lateral	HA - 30	1.320
1072	441	442	Viga Transversal Lateral	HA - 30	1.321
1073	443	444	Viga Transversal Lateral	HA - 30	1.322
1074	445	446	Viga Transversal Lateral	HA - 30	1.323
1075	447	448	Viga Transversal Lateral	HA - 30	1.324
1076	449	450	Viga Transversal Lateral	HA - 30	1.326
1077	451	452	Viga Transversal Lateral	HA - 30	1.328
1078	453	454	Viga Transversal Lateral	HA - 30	1.330
1079	455	456	Viga Transversal Lateral	HA - 30	1.332
1080	457	458	Viga Transversal Lateral	HA - 30	1.334
1081	459	460	Viga Transversal Lateral	HA - 30	1.337
1082	461	462	Viga Transversal Lateral	HA - 30	1.340
1083	463	464	Viga Transversal Lateral	HA - 30	1.343
1084	351	21	Viga Transversal Lateral	HA - 30	1.345
1085	465	466	Viga Transversal Lateral	HA - 30	1.343
1086	467	468	Viga Transversal Lateral	HA - 30	1.340
1087	469	470	Viga Transversal Lateral	HA - 30	1.337
1088	471	472	Viga Transversal Lateral	HA - 30	1.334
1089	363	364	Viga Transversal Lateral	HA - 30	1.332
1090	473	474	Viga Transversal Lateral	HA - 30	1.330
1091	475	476	Viga Transversal Lateral	HA - 30	1.328
1092	477	478	Viga Transversal Lateral	HA - 30	1.326
1093	479	480	Viga Transversal Lateral	HA - 30	1.324
1094	481	482	Viga Transversal Lateral	HA - 30	1.323
1095	483	484	Viga Transversal Lateral	HA - 30	1.322
1096	485	486	Viga Transversal Lateral	HA - 30	1.321
1097	487	488	Viga Transversal Lateral	HA - 30	1.321
1098	489	490	Viga Transversal Lateral	HA - 30	1.320
1099	491	492	Viga Transversal Lateral	HA - 30	1.320
1100	493	494	Viga Transversal Lateral	HA - 30	1.320
1101	495	496	Viga Transversal Lateral	HA - 30	1.320
1102	497	498	Viga Transversal Lateral	HA - 30	1.321
1103	499	500	Viga Transversal Lateral	HA - 30	1.321
1104	501	502	Viga Transversal Lateral	HA - 30	1.322
1105	503	504	Viga Transversal Lateral	HA - 30	1.324
1106	505	506	Viga Transversal Lateral	HA - 30	1.325
1107	507	508	Viga Transversal Lateral	HA - 30	1.326
1108	509	510	Viga Transversal Lateral	HA - 30	1.328
1109	511	512	Viga Transversal Lateral	HA - 30	1.330
1110	513	514	Viga Transversal Lateral	HA - 30	1.333
1111	515	516	Viga Transversal Lateral	HA - 30	1.335

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
1112	517	518	Viga Transversal Lateral	HA - 30	1.338
1113	519	520	Viga Transversal Lateral	HA - 30	1.341
1114	521	522	Viga Transversal Lateral	HA - 30	1.344
1115	349	19	Viga Transversal Lateral	HA - 30	1.345
1116	523	524	Viga Transversal Lateral	HA - 30	1.343
1117	525	526	Viga Transversal Lateral	HA - 30	1.341
1118	527	528	Viga Transversal Lateral	HA - 30	1.338
1119	529	530	Viga Transversal Lateral	HA - 30	1.336
1120	367	368	Viga Transversal Lateral	HA - 30	1.334
1121	531	532	Viga Transversal Lateral	HA - 30	1.332
1122	533	534	Viga Transversal Lateral	HA - 30	1.331
1123	535	536	Viga Transversal Lateral	HA - 30	1.330
1124	537	538	Viga Transversal Lateral	HA - 30	1.328
1125	539	540	Viga Transversal Lateral	HA - 30	1.327
1126	541	542	Viga Transversal Lateral	HA - 30	1.327
1127	543	544	Viga Transversal Lateral	HA - 30	1.326
1128	545	546	Viga Transversal Lateral	HA - 30	1.326
1129	547	548	Viga Transversal Lateral	HA - 30	1.326
1130	549	550	Viga Transversal Lateral	HA - 30	1.326
1131	551	552	Viga Transversal Lateral	HA - 30	1.326
1132	553	554	Viga Transversal Lateral	HA - 30	1.326
1133	555	556	Viga Transversal Lateral	HA - 30	1.326
1134	557	558	Viga Transversal Lateral	HA - 30	1.327
1135	559	560	Viga Transversal Lateral	HA - 30	1.328
1136	561	562	Viga Transversal Lateral	HA - 30	1.329
1137	563	564	Viga Transversal Lateral	HA - 30	1.330
1138	565	566	Viga Transversal Lateral	HA - 30	1.332
1139	567	568	Viga Transversal Lateral	HA - 30	1.333
1140	569	570	Viga Transversal Lateral	HA - 30	1.335
1141	571	572	Viga Transversal Lateral	HA - 30	1.336
1142	573	574	Viga Transversal Lateral	HA - 30	1.338
1143	575	576	Viga Transversal Lateral	HA - 30	1.340
1144	577	578	Viga Transversal Lateral	HA - 30	1.342
1145	347	17	Viga Transversal Lateral	HA - 30	1.345
1146	579	580	Viga Transversal Lateral	HA - 30	1.344
1147	581	582	Viga Transversal Lateral	HA - 30	1.343
1148	583	584	Viga Transversal Lateral	HA - 30	1.342
1149	585	586	Viga Transversal Lateral	HA - 30	1.341
1150	371	372	Viga Transversal Lateral	HA - 30	1.340
1151	587	588	Viga Transversal Lateral	HA - 30	1.340
1152	589	590	Viga Transversal Lateral	HA - 30	1.339
1153	591	592	Viga Transversal Lateral	HA - 30	1.339
1154	593	594	Viga Transversal Lateral	HA - 30	1.338
1155	595	596	Viga Transversal Lateral	HA - 30	1.338
1156	597	598	Viga Transversal Lateral	HA - 30	1.338
1157	599	600	Viga Transversal Lateral	HA - 30	1.338
1158	601	602	Viga Transversal Lateral	HA - 30	1.338
1159	603	604	Viga Transversal Lateral	HA - 30	1.338
1160	605	606	Viga Transversal Lateral	HA - 30	1.338
1161	607	608	Viga Transversal Lateral	HA - 30	1.339
1162	609	610	Viga Transversal Lateral	HA - 30	1.339
1163	611	612	Viga Transversal Lateral	HA - 30	1.340
1164	613	614	Viga Transversal Lateral	HA - 30	1.340
1165	615	616	Viga Transversal Lateral	HA - 30	1.341
1166	617	618	Viga Transversal Lateral	HA - 30	1.341
1167	619	620	Viga Transversal Lateral	HA - 30	1.342
1168	621	622	Viga Transversal Lateral	HA - 30	1.343
1169	623	624	Viga Transversal Lateral	HA - 30	1.344
1170	345	15	Viga Transversal Lateral	HA - 30	1.345
1201	1	356	Viga Transversal Lateral	HA - 30	1.345
1202	343	344	Viga Transversal Lateral	HA - 30	1.348
1203	341	342	Viga Transversal Lateral	HA - 30	1.351
1204	339	340	Viga Transversal Lateral	HA - 30	1.353
1205	337	338	Viga Transversal Lateral	HA - 30	1.355
1206	335	336	Viga Transversal Lateral	HA - 30	1.357
1207	333	334	Viga Transversal Lateral	HA - 30	1.358
1208	331	332	Viga Transversal Lateral	HA - 30	1.360
1209	329	330	Viga Transversal Lateral	HA - 30	1.361
1210	327	328	Viga Transversal Lateral	HA - 30	1.362
1211	325	326	Viga Transversal Lateral	HA - 30	1.362
1212	323	324	Viga Transversal Lateral	HA - 30	1.363
1213	321	322	Viga Transversal Lateral	HA - 30	1.363
1214	319	320	Viga Transversal Lateral	HA - 30	1.363
1215	317	318	Viga Transversal Lateral	HA - 30	1.363
1216	315	316	Viga Transversal Lateral	HA - 30	1.363
1217	313	314	Viga Transversal Lateral	HA - 30	1.362
1218	311	312	Viga Transversal Lateral	HA - 30	1.361
1219	309	310	Viga Transversal Lateral	HA - 30	1.360
1220	307	308	Viga Transversal Lateral	HA - 30	1.359
1221	305	306	Viga Transversal Lateral	HA - 30	1.357
1222	628	627	Viga Transversal Lateral	HA - 30	1.356
1223	303	304	Viga Transversal Lateral	HA - 30	1.355
1224	301	302	Viga Transversal Lateral	HA - 30	1.353
1225	299	300	Viga Transversal Lateral	HA - 30	1.350
1226	297	298	Viga Transversal Lateral	HA - 30	1.348
1227	3	354	Viga Transversal Lateral	HA - 30	1.345
1228	295	296	Viga Transversal Lateral	HA - 30	1.348
1229	293	294	Viga Transversal Lateral	HA - 30	1.351
1230	291	292	Viga Transversal Lateral	HA - 30	1.354
1231	289	290	Viga Transversal Lateral	HA - 30	1.357
1232	287	288	Viga Transversal Lateral	HA - 30	1.359
1233	285	286	Viga Transversal Lateral	HA - 30	1.361
1234	283	284	Viga Transversal Lateral	HA - 30	1.363
1235	281	282	Viga Transversal Lateral	HA - 30	1.365
1236	279	280	Viga Transversal Lateral	HA - 30	1.366
1237	277	278	Viga Transversal Lateral	HA - 30	1.368
1238	275	276	Viga Transversal Lateral	HA - 30	1.369
1239	273	274	Viga Transversal Lateral	HA - 30	1.370
1240	271	272	Viga Transversal Lateral	HA - 30	1.370
1241	269	270	Viga Transversal Lateral	HA - 30	1.371
1242	267	268	Viga Transversal Lateral	HA - 30	1.371
1243	265	266	Viga Transversal Lateral	HA - 30	1.371
1244	263	264	Viga Transversal Lateral	HA - 30	1.370
1245	261	262	Viga Transversal Lateral	HA - 30	1.370
1246	259	260	Viga Transversal Lateral	HA - 30	1.369
1247	257	258	Viga Transversal Lateral	HA - 30	1.368
1248	255	256	Viga Transversal Lateral	HA - 30	1.367
1249	253	254	Viga Transversal Lateral	HA - 30	1.366
1250	251	252	Viga Transversal Lateral	HA - 30	1.364
1251	249	250	Viga Transversal Lateral	HA - 30	1.362
1252	247	248	Viga Transversal Lateral	HA - 30	1.360
1253	358	357	Viga Transversal Lateral	HA - 30	1.358
1254	245	246	Viga Transversal Lateral	HA - 30	1.357
1255	243	244	Viga Transversal Lateral	HA - 30	1.354
1256	241	242	Viga Transversal Lateral	HA - 30	1.351
1257	239	240	Viga Transversal Lateral	HA - 30	1.348
1258	5	352	Viga Transversal Lateral	HA - 30	1.345

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
1259	237	238	Viga Transversal Lateral	HA - 30	1.348
1260	235	236	Viga Transversal Lateral	HA - 30	1.351
1261	233	234	Viga Transversal Lateral	HA - 30	1.354
1262	231	232	Viga Transversal Lateral	HA - 30	1.357
1263	229	230	Viga Transversal Lateral	HA - 30	1.359
1264	227	228	Viga Transversal Lateral	HA - 30	1.361
1265	225	226	Viga Transversal Lateral	HA - 30	1.363
1266	223	224	Viga Transversal Lateral	HA - 30	1.365
1267	221	222	Viga Transversal Lateral	HA - 30	1.366
1268	219	220	Viga Transversal Lateral	HA - 30	1.367
1269	217	218	Viga Transversal Lateral	HA - 30	1.368
1270	215	216	Viga Transversal Lateral	HA - 30	1.369
1271	213	214	Viga Transversal Lateral	HA - 30	1.370
1272	211	212	Viga Transversal Lateral	HA - 30	1.370
1273	209	210	Viga Transversal Lateral	HA - 30	1.370
1274	207	208	Viga Transversal Lateral	HA - 30	1.370
1275	205	206	Viga Transversal Lateral	HA - 30	1.370
1276	203	204	Viga Transversal Lateral	HA - 30	1.369
1277	201	202	Viga Transversal Lateral	HA - 30	1.369
1278	199	200	Viga Transversal Lateral	HA - 30	1.368
1279	197	198	Viga Transversal Lateral	HA - 30	1.367
1280	195	196	Viga Transversal Lateral	HA - 30	1.365
1281	193	194	Viga Transversal Lateral	HA - 30	1.363
1282	191	192	Viga Transversal Lateral	HA - 30	1.362
1283	189	190	Viga Transversal Lateral	HA - 30	1.360
1284	362	361	Viga Transversal Lateral	HA - 30	1.358
1285	187	188	Viga Transversal Lateral	HA - 30	1.357
1286	185	186	Viga Transversal Lateral	HA - 30	1.354
1287	183	184	Viga Transversal Lateral	HA - 30	1.351
1288	181	182	Viga Transversal Lateral	HA - 30	1.348
1289	7	350	Viga Transversal Lateral	HA - 30	1.345
1290	179	180	Viga Transversal Lateral	HA - 30	1.348
1291	177	178	Viga Transversal Lateral	HA - 30	1.351
1292	175	176	Viga Transversal Lateral	HA - 30	1.354
1293	173	174	Viga Transversal Lateral	HA - 30	1.357
1294	171	172	Viga Transversal Lateral	HA - 30	1.359
1295	169	170	Viga Transversal Lateral	HA - 30	1.361
1296	167	168	Viga Transversal Lateral	HA - 30	1.363
1297	165	166	Viga Transversal Lateral	HA - 30	1.365
1298	163	164	Viga Transversal Lateral	HA - 30	1.366
1299	161	162	Viga Transversal Lateral	HA - 30	1.367
1300	159	160	Viga Transversal Lateral	HA - 30	1.368
1301	157	158	Viga Transversal Lateral	HA - 30	1.369
1302	155	156	Viga Transversal Lateral	HA - 30	1.370
1303	153	154	Viga Transversal Lateral	HA - 30	1.370
1304	151	152	Viga Transversal Lateral	HA - 30	1.370
1305	149	150	Viga Transversal Lateral	HA - 30	1.370
1306	147	148	Viga Transversal Lateral	HA - 30	1.370
1307	145	146	Viga Transversal Lateral	HA - 30	1.369
1308	143	144	Viga Transversal Lateral	HA - 30	1.368
1309	141	142	Viga Transversal Lateral	HA - 30	1.367
1310	139	140	Viga Transversal Lateral	HA - 30	1.366
1311	137	138	Viga Transversal Lateral	HA - 30	1.365
1312	135	136	Viga Transversal Lateral	HA - 30	1.363
1313	133	134	Viga Transversal Lateral	HA - 30	1.361
1314	131	132	Viga Transversal Lateral	HA - 30	1.359
1315	366	365	Viga Transversal Lateral	HA - 30	1.358
1316	129	130	Viga Transversal Lateral	HA - 30	1.357
1317	127	128	Viga Transversal Lateral	HA - 30	1.354
1318	125	126	Viga Transversal Lateral	HA - 30	1.351
1319	123	124	Viga Transversal Lateral	HA - 30	1.348
1320	9	348	Viga Transversal Lateral	HA - 30	1.345
1321	121	122	Viga Transversal Lateral	HA - 30	1.348
1322	119	120	Viga Transversal Lateral	HA - 30	1.350
1323	117	118	Viga Transversal Lateral	HA - 30	1.352
1324	115	116	Viga Transversal Lateral	HA - 30	1.354
1325	113	114	Viga Transversal Lateral	HA - 30	1.356
1326	111	112	Viga Transversal Lateral	HA - 30	1.357
1327	109	110	Viga Transversal Lateral	HA - 30	1.359
1328	107	108	Viga Transversal Lateral	HA - 30	1.360
1329	105	106	Viga Transversal Lateral	HA - 30	1.361
1330	103	104	Viga Transversal Lateral	HA - 30	1.361
1331	101	102	Viga Transversal Lateral	HA - 30	1.362
1332	99	100	Viga Transversal Lateral	HA - 30	1.363
1333	97	98	Viga Transversal Lateral	HA - 30	1.363
1334	95	96	Viga Transversal Lateral	HA - 30	1.363
1335	93	94	Viga Transversal Lateral	HA - 30	1.363
1336	91	92	Viga Transversal Lateral	HA - 30	1.363
1337	89	90	Viga Transversal Lateral	HA - 30	1.362
1338	87	88	Viga Transversal Lateral	HA - 30	1.362
1339	85	86	Viga Transversal Lateral	HA - 30	1.361
1340	83	84	Viga Transversal Lateral	HA - 30	1.360
1341	81	82	Viga Transversal Lateral	HA - 30	1.359
1342	79	80	Viga Transversal Lateral	HA - 30	1.358
1343	77	78	Viga Transversal Lateral	HA - 30	1.357
1344	75	76	Viga Transversal Lateral	HA - 30	1.356
1345	370	369	Viga Transversal Lateral	HA - 30	1.354
1346	73	74	Viga Transversal Lateral	HA - 30	1.353
1347	71	72	Viga Transversal Lateral	HA - 30	1.351
1348	69	70	Viga Transversal Lateral	HA - 30	1.349
1349	67	68	Viga Transversal Lateral	HA - 30	1.347
1350	11	346	Viga Transversal Lateral	HA - 30	1.345
1351	65	66	Viga Transversal Lateral	HA - 30	1.346
1352	63	64	Viga Transversal Lateral	HA - 30	1.347
1353	61	62	Viga Transversal Lateral	HA - 30	1.348
1354	59	60	Viga Transversal Lateral	HA - 30	1.348
1355	57	58	Viga Transversal Lateral	HA - 30	1.349
1356	55	56	Viga Transversal Lateral	HA - 30	1.350
1357	53	54	Viga Transversal Lateral	HA - 30	1.350
1358	51	52	Viga Transversal Lateral	HA - 30	1.350
1359	49	50	Viga Transversal Lateral	HA - 30	1.351
1360	47	48	Viga Transversal Lateral	HA - 30	1.351
1361	45	46	Viga Transversal Lateral	HA - 30	1.351
1362	43	44	Viga Transversal Lateral	HA - 30	1.351
1363	41	42	Viga Transversal Lateral	HA - 30	1.351
1364	39	40	Viga Transversal Lateral	HA - 30	1.350
1365	37	38	Viga Transversal Lateral	HA - 30	1.350
1366	35	36	Viga Transversal Lateral	HA - 30	1.350
1367	33	34	Viga Transversal Lateral	HA - 30	1.350
1368	31	32	Viga Transversal Lateral	HA - 30	1.349
1369	29	30	Viga Transversal Lateral	HA - 30	1.349
1370	374	373	Viga Transversal Lateral	HA - 30	1.348
1401	356	625	Viga Transversal Central	HA - 30	2.310
1402	344	631	Viga Transversal Central	HA - 30	2.310
1403	342	633	Viga Transversal Central	HA - 30	2.310
1404	340	635	Viga Transversal Central	HA - 30	2.310
1405	338	637	Viga Transversal Central	HA - 30	2.310

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
1406	336	639	Viga Transversal Central	HA - 30	2.310
1407	334	641	Viga Transversal Central	HA - 30	2.310
1408	332	643	Viga Transversal Central	HA - 30	2.310
1409	330	645	Viga Transversal Central	HA - 30	2.310
1410	328	647	Viga Transversal Central	HA - 30	2.310
1411	326	649	Viga Transversal Central	HA - 30	2.310
1412	324	651	Viga Transversal Central	HA - 30	2.310
1413	322	653	Viga Transversal Central	HA - 30	2.310
1414	320	655	Viga Transversal Central	HA - 30	2.310
1415	318	657	Viga Transversal Central	HA - 30	2.310
1416	316	659	Viga Transversal Central	HA - 30	2.310
1417	314	661	Viga Transversal Central	HA - 30	2.310
1418	312	663	Viga Transversal Central	HA - 30	2.310
1419	310	665	Viga Transversal Central	HA - 30	2.310
1420	308	667	Viga Transversal Central	HA - 30	2.310
1421	306	669	Viga Transversal Central	HA - 30	2.310
1422	627	355	Viga Transversal Central	HA - 30	2.310
1423	304	671	Viga Transversal Central	HA - 30	2.310
1424	302	673	Viga Transversal Central	HA - 30	2.310
1425	300	675	Viga Transversal Central	HA - 30	2.310
1426	298	677	Viga Transversal Central	HA - 30	2.310
1427	354	629	Viga Transversal Central	HA - 30	2.310
1428	296	679	Viga Transversal Central	HA - 30	2.310
1429	294	681	Viga Transversal Central	HA - 30	2.310
1430	292	683	Viga Transversal Central	HA - 30	2.310
1431	290	685	Viga Transversal Central	HA - 30	2.310
1432	288	687	Viga Transversal Central	HA - 30	2.310
1433	286	689	Viga Transversal Central	HA - 30	2.310
1434	284	691	Viga Transversal Central	HA - 30	2.310
1435	282	693	Viga Transversal Central	HA - 30	2.310
1436	280	695	Viga Transversal Central	HA - 30	2.310
1437	278	375	Viga Transversal Central	HA - 30	2.310
1438	276	377	Viga Transversal Central	HA - 30	2.310
1439	274	379	Viga Transversal Central	HA - 30	2.310
1440	272	381	Viga Transversal Central	HA - 30	2.310
1441	270	383	Viga Transversal Central	HA - 30	2.310
1442	268	385	Viga Transversal Central	HA - 30	2.310
1443	266	387	Viga Transversal Central	HA - 30	2.310
1444	264	389	Viga Transversal Central	HA - 30	2.310
1445	262	391	Viga Transversal Central	HA - 30	2.310
1446	260	393	Viga Transversal Central	HA - 30	2.310
1447	258	395	Viga Transversal Central	HA - 30	2.310
1448	256	397	Viga Transversal Central	HA - 30	2.310
1449	254	399	Viga Transversal Central	HA - 30	2.310
1450	252	401	Viga Transversal Central	HA - 30	2.310
1451	250	403	Viga Transversal Central	HA - 30	2.310
1452	248	405	Viga Transversal Central	HA - 30	2.310
1453	357	353	Viga Transversal Central	HA - 30	2.310
1454	246	407	Viga Transversal Central	HA - 30	2.310
1455	244	409	Viga Transversal Central	HA - 30	2.310
1456	242	411	Viga Transversal Central	HA - 30	2.310
1457	240	413	Viga Transversal Central	HA - 30	2.310
1458	352	359	Viga Transversal Central	HA - 30	2.310
1459	238	415	Viga Transversal Central	HA - 30	2.310
1460	236	417	Viga Transversal Central	HA - 30	2.310
1461	234	419	Viga Transversal Central	HA - 30	2.310
1462	232	421	Viga Transversal Central	HA - 30	2.310
1463	230	423	Viga Transversal Central	HA - 30	2.310
1464	228	425	Viga Transversal Central	HA - 30	2.310
1465	226	427	Viga Transversal Central	HA - 30	2.310
1466	224	429	Viga Transversal Central	HA - 30	2.310
1467	222	431	Viga Transversal Central	HA - 30	2.310
1468	220	433	Viga Transversal Central	HA - 30	2.310
1469	218	435	Viga Transversal Central	HA - 30	2.310
1470	216	437	Viga Transversal Central	HA - 30	2.310
1471	214	439	Viga Transversal Central	HA - 30	2.310
1472	212	441	Viga Transversal Central	HA - 30	2.310
1473	210	443	Viga Transversal Central	HA - 30	2.310
1474	208	445	Viga Transversal Central	HA - 30	2.310
1475	206	447	Viga Transversal Central	HA - 30	2.310
1476	204	449	Viga Transversal Central	HA - 30	2.310
1477	202	451	Viga Transversal Central	HA - 30	2.310
1478	200	453	Viga Transversal Central	HA - 30	2.310
1479	198	455	Viga Transversal Central	HA - 30	2.310
1480	196	457	Viga Transversal Central	HA - 30	2.310
1481	194	459	Viga Transversal Central	HA - 30	2.310
1482	192	461	Viga Transversal Central	HA - 30	2.310
1483	190	463	Viga Transversal Central	HA - 30	2.310
1484	361	351	Viga Transversal Central	HA - 30	2.310
1485	188	465	Viga Transversal Central	HA - 30	2.310
1486	186	467	Viga Transversal Central	HA - 30	2.310
1487	184	469	Viga Transversal Central	HA - 30	2.310
1488	182	471	Viga Transversal Central	HA - 30	2.310
1489	350	363	Viga Transversal Central	HA - 30	2.310
1490	180	473	Viga Transversal Central	HA - 30	2.310
1491	178	475	Viga Transversal Central	HA - 30	2.310
1492	176	477	Viga Transversal Central	HA - 30	2.310
1493	174	479	Viga Transversal Central	HA - 30	2.310
1494	172	481	Viga Transversal Central	HA - 30	2.310
1495	170	483	Viga Transversal Central	HA - 30	2.310
1496	168	485	Viga Transversal Central	HA - 30	2.310
1497	166	487	Viga Transversal Central	HA - 30	2.310
1498	164	489	Viga Transversal Central	HA - 30	2.310
1499	162	491	Viga Transversal Central	HA - 30	2.310
1500	160	493	Viga Transversal Central	HA - 30	2.310
1501	158	495	Viga Transversal Central	HA - 30	2.310
1502	156	497	Viga Transversal Central	HA - 30	2.310
1503	154	499	Viga Transversal Central	HA - 30	2.310
1504	152	501	Viga Transversal Central	HA - 30	2.310
1505	150	503	Viga Transversal Central	HA - 30	2.310
1506	148	505	Viga Transversal Central	HA - 30	2.310
1507	146	507	Viga Transversal Central	HA - 30	2.310
1508	144	509	Viga Transversal Central	HA - 30	2.310
1509	142	511	Viga Transversal Central	HA - 30	2.310
1510	140	513	Viga Transversal Central	HA - 30	2.310
1511	138	515	Viga Transversal Central	HA - 30	2.310
1512	136	517	Viga Transversal Central	HA - 30	2.310
1513	134	519	Viga Transversal Central	HA - 30	2.310
1514	132	521	Viga Transversal Central	HA - 30	2.310
1515	365	349	Viga Transversal Central	HA - 30	2.310
1516	130	523	Viga Transversal Central	HA - 30	2.310
1517	128	525	Viga Transversal Central	HA - 30	2.310
1518	126	527	Viga Transversal Central	HA - 30	2.310
1519	124	529	Viga Transversal Central	HA - 30	2.310
1520	348	367	Viga Transversal Central	HA - 30	2.310
1521	122	531	Viga Transversal Central	HA - 30	2.310
1522	120	533	Viga Transversal Central	HA - 30	2.310

Barra	Nudos	Nudo 2	Sección	Material	Longitud (m)
1523	118	535	Viga Transversal Central	HA - 30	2.310
1524	116	537	Viga Transversal Central	HA - 30	2.310
1525	114	539	Viga Transversal Central	HA - 30	2.310
1526	112	541	Viga Transversal Central	HA - 30	2.310
1527	110	543	Viga Transversal Central	HA - 30	2.310
1528	108	545	Viga Transversal Central	HA - 30	2.310
1529	106	547	Viga Transversal Central	HA - 30	2.310
1530	104	549	Viga Transversal Central	HA - 30	2.310
1531	102	551	Viga Transversal Central	HA - 30	2.310
1532	100	553	Viga Transversal Central	HA - 30	2.310
1533	98	555	Viga Transversal Central	HA - 30	2.310
1534	96	557	Viga Transversal Central	HA - 30	2.310
1535	94	559	Viga Transversal Central	HA - 30	2.310
1536	92	561	Viga Transversal Central	HA - 30	2.310
1537	90	563	Viga Transversal Central	HA - 30	2.310
1538	88	565	Viga Transversal Central	HA - 30	2.310
1539	86	567	Viga Transversal Central	HA - 30	2.310
1540	84	569	Viga Transversal Central	HA - 30	2.310
1541	82	571	Viga Transversal Central	HA - 30	2.310
1542	80	573	Viga Transversal Central	HA - 30	2.310
1543	78	575	Viga Transversal Central	HA - 30	2.310
1544	76	577	Viga Transversal Central	HA - 30	2.310
1545	369	347	Viga Transversal Central	HA - 30	2.310
1546	74	579	Viga Transversal Central	HA - 30	2.310
1547	72	581	Viga Transversal Central	HA - 30	2.310
1548	70	583	Viga Transversal Central	HA - 30	2.310
1549	68	585	Viga Transversal Central	HA - 30	2.310
1550	346	371	Viga Transversal Central	HA - 30	2.310
1551	66	587	Viga Transversal Central	HA - 30	2.310
1552	64	589	Viga Transversal Central	HA - 30	2.310
1553	62	591	Viga Transversal Central	HA - 30	2.310
1554	60	593	Viga Transversal Central	HA - 30	2.310
1555	58	595	Viga Transversal Central	HA - 30	2.310
1556	56	597	Viga Transversal Central	HA - 30	2.310
1557	54	599	Viga Transversal Central	HA - 30	2.310
1558	52	601	Viga Transversal Central	HA - 30	2.310
1559	50	603	Viga Transversal Central	HA - 30	2.310
1560	48	605	Viga Transversal Central	HA - 30	2.310
1561	46	607	Viga Transversal Central	HA - 30	2.310
1562	44	609	Viga Transversal Central	HA - 30	2.310
1563	42	611	Viga Transversal Central	HA - 30	2.310
1564	40	613	Viga Transversal Central	HA - 30	2.310
1565	38	615	Viga Transversal Central	HA - 30	2.310
1566	36	617	Viga Transversal Central	HA - 30	2.310
1567	34	619	Viga Transversal Central	HA - 30	2.310
1568	32	621	Viga Transversal Central	HA - 30	2.310
1569	30	623	Viga Transversal Central	HA - 30	2.310
1570	373	345	Viga Transversal Central	HA - 30	2.310

Características de las Barras que Componen la Estructura

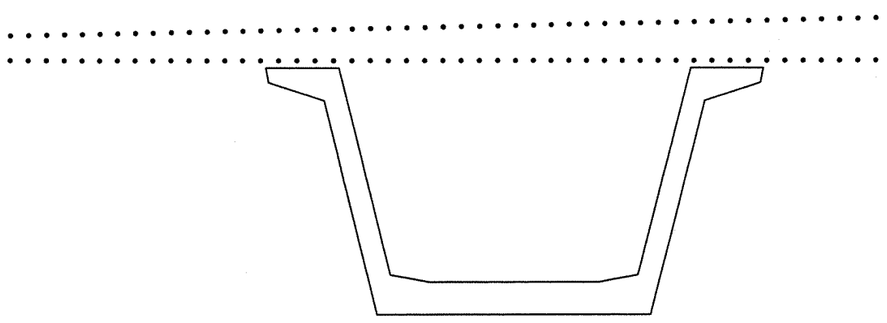
Nombre de la sección	Lista de barras	SX (cm^2)	SY (cm^2)	SZ (cm^2)	IX (cm^4)	IY (cm^4)	IZ (cm^4)
Viga Longitudinal	102A121 130A152 161A183 192A214 223A244 253A272 502A522 531A553 562A584 593A615 624A645 654A673	30151.483	0.0	0.0	120264892.557	136223825.206	698012202.123
Viga Longitudinal Apoyos	101 273 501 674	60516.483	0.0	0.0	207550690.616	218752246.991	817576433.346
Viga Longitudinal Apoyos Fisurada	124A127 155A158 186A189 217A220 247A250 525A528 556A559 587A590 618A621 648A651	40717.680	0.0	0.0	207550690.616	100146130.310	211232969.750
Viga Longitudinal Fisurada	122A246CA31 123A216CA31 128A252CA31 129A222CA31 245 251 523A647CA31 524A617CA31 529A653CA31 530A623CA31 646 652	10352.680	0.0	0.0	120264892.557	37087875.360	99855465.920
Viga Transversal Central	1401A1570	3770.000	0.0	0.0	1361921.840	494325.000	3250000.000
Viga Transversal Lateral	1001A1170 1201A1370	5750.000	0.0	0.0	1439846.560	42016907.565	46833333.340

Apoyos Aplicados a la Estructura

Nombre del apoyo	Lista de nudos	Condiciones de apoyo
Libre Longitudinal	17 19 23 25	UY UZ
Estribo - Libre Long	15 27	UY UZ RX
Estribo - Libre	1 13	UZ RX
Libre	3A11CA2	UZ
Fijo	21	UX UY UZ

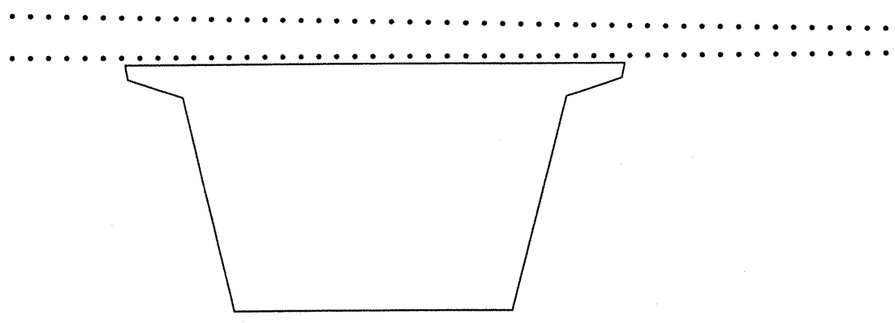
CARACTERÍSTICAS SECCIONES APLICADAS AL MODELO DE CÁLCULO

Secciones Fisuradas



Area: 10352.68
Centroid: X: 0
Y: 66.62
Moments of inertia: X: 37087875.36
Y: 99855465.92
It: 120264892.56

Nota: Todas las características estan expresadas en [cm]



Area: 40717.68
Centroid: X: 0
Y: 92.26
Moments of inertia: X: 100146130.31
Y: 211232969.75
It: 207550690.616

Nota: Todas las características estan expresadas en [cm]

Casos de Carga Aplicados a la Estructura

Igual que en el modelo 3ª, para aplicar las cargas, se ha trabajado con dos modelos de idénticas características mecánicas. En uno se han aplicado las sobrecargas debidas a los trenes definidos en la IPF-75 y en el Eurocódigo 1 y en el otro se han aplicado el resto de cargas. Se ha operado de este modo para reducir un poco el modelo con las sobrecargas de ferrocarril.

Cargas Aplicadas a la Estructura: Permanentes, Sobrecarga en Aceras y Gradiente Térmico

Caso	Nombre del caso	Tipo de carga	Lista	Valores de carga
1	Peso Propio	peso propio	101A273 501A674 1001A1170 1201A1370 1401A1570	PZ Menos
1	Peso Propio	peso propio	101A273 501A674 1001A1170 1201A1370 1401A1570	PZ Menos
2	Peso Vigas	sobrecarga uniforme	101 124A127 155A158 186A189 217A220 247A250 273 501 525A528 556A559 587A590 618A621 648A651 674	PZ=-10.170(T/m)
2	Peso Vigas	sobrecarga uniforme	102A123 128A154 159A185 190A216 221A246 251A272 502A524 529A555 560A586 591A617 622A647 652A673	PZ=-2.578(T/m)
3	Peso Losa	momento repartido	501A674	MX=4.729(Tm/m)
3	Peso Losa	momento repartido	101A273	MX=-4.729(Tm/m)
3	Peso Losa	sobrecarga uniforme	101A273 501A674	PZ=-2.735(T/m)
3	Peso Losa	sobrecarga uniforme	1001A1170 1201A1370 1401A1570	PZ=-0.912(T/m)
4	Carga Permanente	sobrecarga uniforme	1001A1170 1201A1370 1401A1570	PZ=-0.882(T/m)
4	Carga Permanente	momento repartido	101A273	MX=9.170(Tm/m)
4	Carga Permanente	sobrecarga uniforme	101A273	PZ=-4.417(T/m)
4	Carga Permanente	momento repartido	501A674	MX=10.851(Tm/m)
4	Carga Permanente	sobrecarga uniforme	501A674	PZ=-5.243(T/m)
5	Retracción	temperatura	101A273 501A674	TZ=13.50(°C)
11	Gradiente Térmico	temperatura	101A273 501A674	TZ=7.00(°C)
21	Sobrecarga Acera Derecha	sobrecarga uniforme	501A674	PZ=-0.855(T/m)
21	Sobrecarga Acera Derecha	momento repartido	501A674	MX=2.407(Tm/m)
22	Sobrecarga Acera Izquierda	sobrecarga uniforme	101A273	PZ=-0.855(T/m)
22	Sobrecarga Acera Izquierda	momento repartido	101A273	MX=-2.407(Tm/m)

Combinación de Cargas

Combinación	Nombre	Tipo de análisis	Naturaleza de combinación	Naturaleza de caso	Definición
23 (C)	Sobrecarga Ambas Aceras	Combinación lineal	ELS	permanente	(21+22)*1.00

Sobrecargas Aplicadas a la Estructura: Trenes IPF-75 y EC1

Caso	Nombre del caso	Tipo de carga	Lista	Valores de carga
1	Peso Propio	peso propio	101A273 501A674 1001A1170 1201A1370 1401A1570	PZ Menos
11	LM71 - Dcha - T1	fuerza sobre barra	1211A1219	FZ=-15.625(T) X=0.168(m)
11	LM71 - Dcha - T1	fuerza sobre barra	1201A1210 1220A1370	FZ=-8.000(T) X=0.168(m)
11	LM71 - Dcha - T1	sobrecarga uniforme	670A674	PZ=-8.000(T/m)
11	LM71 - Dcha - T1	momento repartido	670A674	MX=-1.344(Tm/m)
12	LM71 - Dcha - T2	fuerza sobre barra	1239A1245	FZ=-15.625(T) X=0.168(m)
12	LM71 - Dcha - T2	fuerza sobre barra	1201A1238 1246A1370	FZ=-8.000(T) X=0.168(m)
12	LM71 - Dcha - T2	sobrecarga uniforme	670A674	PZ=-8.000(T/m)
12	LM71 - Dcha - T2	momento repartido	670A674	MX=-1.344(Tm/m)
13	LM71 - Dcha - T3	momento repartido	670A674	MX=-1.344(Tm/m)
13	LM71 - Dcha - T3	sobrecarga uniforme	670A674	PZ=-8.000(T/m)
13	LM71 - Dcha - T3	fuerza sobre barra	1201A1269 1277A1370	FZ=-8.000(T) X=0.168(m)
13	LM71 - Dcha - T3	fuerza sobre barra	1270A1276	FZ=-15.625(T) X=0.168(m)
14	LM71 - Dcha - T4	fuerza sobre barra	1211A1219	FZ=-15.625(T) X=0.168(m)
14	LM71 - Dcha - T4	fuerza sobre barra	1201A1210 1220A1227 1258A1289 1320A1350	FZ=-8.000(T) X=0.168(m)
15	LM71 - Dcha - T5	fuerza sobre barra	1239A1245	FZ=-15.625(T) X=0.168(m)
15	LM71 - Dcha - T5	fuerza sobre barra	1227A1238 1246A1258 1289A1320 1350A1370	FZ=-8.000(T) X=0.168(m)
15	LM71 - Dcha - T5	sobrecarga uniforme	670A674	PZ=-8.000(T/m)
15	LM71 - Dcha - T5	momento repartido	670A674	MX=-1.344(Tm/m)
16	LM71 - Dcha - T6	fuerza sobre barra	1270A1276	FZ=-15.625(T) X=0.168(m)
16	LM71 - Dcha - T6	fuerza sobre barra	1201A1227 1258A1269 1277A1289 1320A1350	FZ=-8.000(T) X=0.168(m)
21	SW0 - Dcha - T1	fuerza sobre barra	1201A1206 1212A1227	FZ=-13.300(T) X=0.168(m)
22	SW0 - Dcha - T2	fuerza sobre barra	1225A1239 1245A1260	FZ=-13.300(T) X=0.168(m)
23	SW0 - Dcha - T3	fuerza sobre barra	1256A1270 1276A1291	FZ=-13.300(T) X=0.168(m)
26	SW2 - Dcha - T1	fuerza sobre barra	1201A1227	FZ=-15.000(T) X=0.260(m)
27	SW2 - Dcha - T2	fuerza sobre barra	1214A1238 1246A1271	FZ=-15.000(T) X=0.260(m)
28	SW2 - Dcha - T3	fuerza sobre barra	1229A1254 1262A1287	FZ=-15.000(T) X=0.260(m)
29	SW2 - Dcha - T4	fuerza sobre barra	1244A1269 1277A1302	FZ=-15.000(T) X=0.260(m)
31	Tipo A - Dcha - T1	fuerza sobre barra	1213A1215	FZ=-30.000(T) X=0.260(m)
32	Tipo A - Dcha - T2	fuerza sobre barra	1241A1243	FZ=-30.000(T) X=0.260(m)
33	Tipo A - Dcha - T3	fuerza sobre barra	1272A1274	FZ=-30.000(T) X=0.260(m)
41	Tipo B - Dcha - T1	fuerza sobre barra	1201A1227	FZ=-12.000(T) X=0.260(m)
41	Tipo B - Dcha - T1	fuerza sobre barra	1228A1370	FZ=-10.000(T) X=0.260(m)
41	Tipo B - Dcha - T1	sobrecarga uniforme	670A674	PZ=-10.000(T/m)
41	Tipo B - Dcha - T1	momento repartido	670A674	MX=-2.600(Tm/m)
42	Tipo B - Dcha - T2	momento repartido	670A674	MX=-2.600(Tm/m)
42	Tipo B - Dcha - T2	fuerza sobre barra	1227A1258	FZ=-12.000(T) X=0.260(m)
42	Tipo B - Dcha - T2	fuerza sobre barra	1201A1226 1259A1370	FZ=-10.000(T) X=0.260(m)
42	Tipo B - Dcha - T2	sobrecarga uniforme	670A674	PZ=-10.000(T/m)
43	Tipo B - Dcha - T3	fuerza sobre barra	1201A1257 1290A1370	FZ=-10.000(T) X=0.260(m)

Caso	Nombre del caso	Tipo de carga	Lista	Valores de carga
43	Tipo B - Dcha - T3	fuerza sobre barra	1258A1289	FZ=-12.000(T) X=0.260(m)
43	Tipo B - Dcha - T3	sobrecarga uniforme	670A674	PZ=-10.000(T/m)
43	Tipo B - Dcha - T3	momento repartido	670A674	MX=-2.600(Tm/m)
44	Tipo B - Dcha - T4	fuerza sobre barra	1201A1227	FZ=-12.000(T) X=0.260(m)
44	Tipo B - Dcha - T4	fuerza sobre barra	1258A1289 1320A1350	FZ=-10.000(T) X=0.260(m)
44	Tipo B - Dcha - T4	fuerza sobre barra	1228A1257 1290A1319	FZ=-1.000(T) X=0.260(m)
45	Tipo B - Dcha - T5	fuerza sobre barra	1289A1320 1350A1370	FZ=-10.000(T) X=0.260(m)
45	Tipo B - Dcha - T5	sobrecarga uniforme	670A674	PZ=-10.000(T/m)
45	Tipo B - Dcha - T5	momento repartido	670A674	MX=-2.600(Tm/m)
45	Tipo B - Dcha - T5	fuerza sobre barra	1259A1288 1321A1349	FZ=-1.000(T) X=0.260(m)
45	Tipo B - Dcha - T5	fuerza sobre barra	1227A1258	FZ=-12.000(T) X=0.260(m)
46	Tipo B - Dcha - T6	fuerza sobre barra	1227A1257 1290A1319	FZ=-1.000(T) X=0.260(m)
46	Tipo B - Dcha - T6	fuerza sobre barra	1201A1226 1320A1350	FZ=-10.000(T) X=0.260(m)
46	Tipo B - Dcha - T6	fuerza sobre barra	1258A1289	FZ=-12.000(T) X=0.260(m)
51	LM71 - Izq - T1	fuerza sobre barra	1011A1019	FZ=-15.625(T) X=0.321(m)
51	LM71 - Izq - T1	fuerza sobre barra	1001A1010 1020A1170	FZ=-8.000(T) X=0.321(m)
51	LM71 - Izq - T1	sobrecarga uniforme	101A104	PZ=-8.000(T/m)
51	LM71 - Izq - T1	momento repartido	101A104	MX=8.184(Tm/m)
52	LM71 - Izq - T2	fuerza sobre barra	1039A1045	FZ=-15.625(T) X=0.321(m)
52	LM71 - Izq - T2	fuerza sobre barra	1001A1038 1046A1170	FZ=-8.000(T) X=0.321(m)
52	LM71 - Izq - T2	sobrecarga uniforme	101A104	PZ=-8.000(T/m)
52	LM71 - Izq - T2	momento repartido	101A104	MX=8.184(Tm/m)
53	LM71 - Izq - T3	fuerza sobre barra	1070A1076	FZ=-15.625(T) X=0.321(m)
53	LM71 - Izq - T3	fuerza sobre barra	1001A1069 1077A1170	FZ=-8.000(T) X=0.321(m)
53	LM71 - Izq - T3	sobrecarga uniforme	101A104	PZ=-8.000(T/m)
53	LM71 - Izq - T3	momento repartido	101A104	MX=8.184(Tm/m)
54	LM71 - Izq - T4	sobrecarga uniforme	101A104	PZ=-8.000(T/m)
54	LM71 - Izq - T4	fuerza sobre barra	1001A1010 1020A1022 1053A1084 1115A1145	FZ=-8.000(T) X=0.321(m)
54	LM71 - Izq - T4	fuerza sobre barra	1011A1019	FZ=-15.625(T) X=0.321(m)
54	LM71 - Izq - T4	momento repartido	101A104	MX=8.184(Tm/m)
55	LM71 - Izq - T5	fuerza sobre barra	1039A1045	FZ=-15.625(T) X=0.321(m)
55	LM71 - Izq - T5	fuerza sobre barra	1022A1038 1046A1053 1084A1115 1145A1170	FZ=-8.000(T) X=0.321(m)
56	LM71 - Izq - T6	fuerza sobre barra	1001A1022 1053A1069 1077A1084 1115A1145	FZ=-8.000(T) X=0.321(m)
56	LM71 - Izq - T6	sobrecarga uniforme	101A104	PZ=-8.000(T/m)
56	LM71 - Izq - T6	momento repartido	101A104	MX=8.184(Tm/m)
56	LM71 - Izq - T6	fuerza sobre barra	1070A1076	FZ=-15.625(T) X=0.321(m)
61	SW0 - Izq - T1	fuerza sobre barra	1001A1006 1012A1027	FZ=-13.300(T) X=0.321(m)
61	SW0 - Izq - T1	sobrecarga uniforme	101A104	PZ=-13.300(T/m)
61	SW0 - Izq - T1	momento repartido	101A104	MX=13.606(Tm/m)
62	SW0 - Izq - T2	fuerza sobre barra	1025A1039 1045A1060	FZ=-13.300(T) X=0.321(m)
63	SW0 - Izq - T3	fuerza sobre barra	1056A1070 1076A1091	FZ=-13.300(T) X=0.321(m)
66	SW2 - Izq - T1	fuerza sobre barra	1001A1027	FZ=-15.000(T) X=0.413(m)
67	SW2 - Izq - T2	fuerza sobre barra	1014A1038 1046A1071	FZ=-15.000(T) X=0.413(m)
68	SW2 - Izq - T3	fuerza sobre barra	1029A1054 1062A1087	FZ=-15.000(T) X=0.413(m)
69	SW2 - Izq - T4	fuerza sobre barra	1044A1069 1077A1102	FZ=-15.000(T) X=0.413(m)
71	Tipo A - Izq - T1	fuerza sobre barra	1013A1015	FZ=-30.000(T) X=0.413(m)
72	Tipo A - Izq - T2	fuerza sobre barra	1041A1043	FZ=-30.000(T) X=0.413(m)
73	Tipo A - Izq - T3	fuerza sobre barra	1072A1074	FZ=-30.000(T) X=0.413(m)
81	Tipo B - Izq - T1	fuerza sobre barra	1028A1170	FZ=-10.000(T) X=0.413(m)
81	Tipo B - Izq - T1	sobrecarga uniforme	101A104	PZ=-12.000(T/m)
81	Tipo B - Izq - T1	momento repartido	101A104	MX=11.172(Tm/m)
81	Tipo B - Izq - T1	fuerza sobre barra	1001A1027	FZ=-12.000(T) X=0.413(m)
82	Tipo B - Izq - T2	fuerza sobre barra	1001A1026 1059A1170	FZ=-10.000(T) X=0.413(m)
82	Tipo B - Izq - T2	sobrecarga uniforme	101A104	PZ=-10.000(T/m)
82	Tipo B - Izq - T2	momento repartido	101A104	MX=9.310(Tm/m)
82	Tipo B - Izq - T2	fuerza sobre barra	1027A1058	FZ=-12.000(T) X=0.413(m)
83	Tipo B - Izq - T3	fuerza sobre barra	1058A1089	FZ=-12.000(T) X=0.413(m)

Caso	Nombre del caso	Tipo de carga	Lista	Valores de carga
83	Tipo B - Izq - T3	fuerza sobre barra	1001A1057 1090A1170	FZ=-10.000(T) X=0.413(m)
83	Tipo B - Izq - T3	sobrecarga uniforme	101A104	PZ=-10.000(T/m)
83	Tipo B - Izq - T3	momento repartido	101A104	MX=9.310(Tm/m)
84	Tipo B - Izq - T4	fuerza sobre barra	1001A1027	FZ=-12.000(T) X=0.413(m)
84	Tipo B - Izq - T4	fuerza sobre barra	1053A1084 1115A1145	FZ=-10.000(T) X=0.413(m)
84	Tipo B - Izq - T4	fuerza sobre barra	1028A1052 1085A1114	FZ=-1.000(T) X=0.413(m)
84	Tipo B - Izq - T4	sobrecarga uniforme	101A104	PZ=-12.000(T/m)
84	Tipo B - Izq - T4	momento repartido	101A104	MX=11.172(Tm/m)
85	Tipo B - Izq - T5	fuerza sobre barra	1027A1058	FZ=-12.000(T) X=0.413(m)
85	Tipo B - Izq - T5	fuerza sobre barra	1084A1115 1145A1170	FZ=-10.000(T) X=0.413(m)
85	Tipo B - Izq - T5	fuerza sobre barra	1059A1083 1116A1144	FZ=-1.000(T) X=0.413(m)
86	Tipo B - Izq - T6	fuerza sobre barra	1058A1089	FZ=-12.000(T) X=0.413(m)
86	Tipo B - Izq - T6	fuerza sobre barra	1001A1022 1115A1145	FZ=-10.000(T) X=0.413(m)
86	Tipo B - Izq - T6	fuerza sobre barra	1023A1057 1090A1114	FZ=-1.000(T) X=0.413(m)
86	Tipo B - Izq - T6	sobrecarga uniforme	101A104	PZ=-10.000(T/m)
86	Tipo B - Izq - T6	momento repartido	101A104	MX=9.310(Tm/m)

Combinación de Cargas:

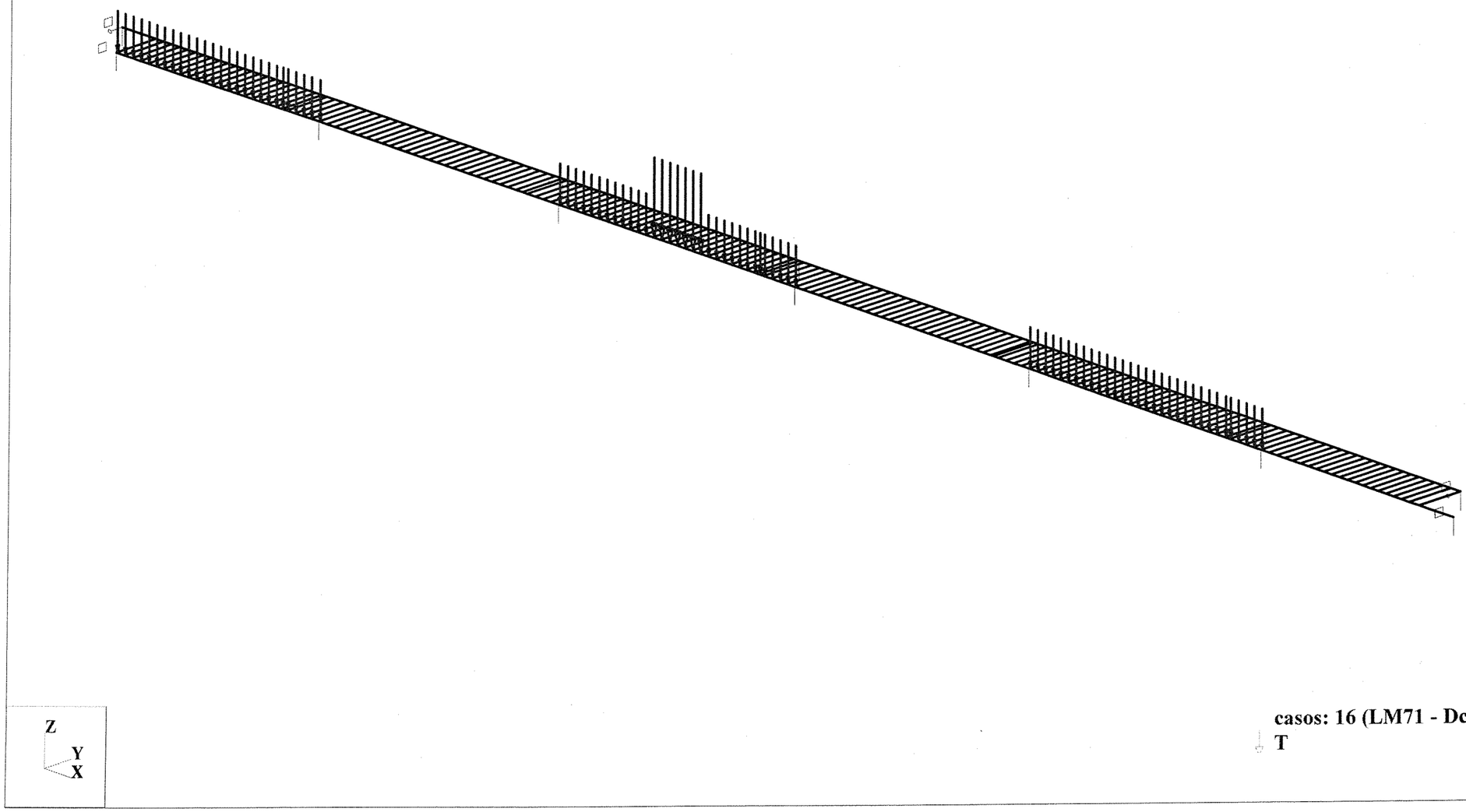
Combinación	Nombre	Tipo de análisis	Naturaleza de combinación	Naturaleza de caso	Definición
101 (C)	LM71 - Dcha - T1	Combinación lineal	ELU	permanente	11*1.07
102 (C)	LM71 - Dcha - T2	Combinación lineal	ELU	permanente	12*1.07
103 (C)	LM71 - Dcha - T3	Combinación lineal	ELU	permanente	13*1.07
104 (C)	LM71 - Dcha - T4	Combinación lineal	ELU	permanente	14*1.07
105 (C)	LM71 - Dcha - T5	Combinación lineal	ELU	permanente	15*1.07
106 (C)	LM71 - Dcha - T6	Combinación lineal	ELU	permanente	16*1.07
111 (C)	SW0 - Dcha - T1	Combinación lineal	ELU	permanente	21*1.07
112 (C)	SW0 - Dcha - T2	Combinación lineal	ELU	permanente	22*1.07
113 (C)	SW0 - Dcha - T3	Combinación lineal	ELU	permanente	23*1.07
121 (C)	SW2 - Dcha - T1	Combinación lineal	ELU	permanente	26*1.07
122 (C)	SW2 - Dcha - T2	Combinación lineal	ELU	permanente	27*1.07
123 (C)	SW2 - Dcha - T3	Combinación lineal	ELU	permanente	28*1.07
124 (C)	SW2 - Dcha - T4	Combinación lineal	ELU	permanente	29*1.07
151 (C)	Tipo A - Dcha - T1	Combinación lineal	ELU	permanente	31*1.12
152 (C)	Tipo A - Dcha - T2	Combinación lineal	ELU	permanente	32*1.12
153 (C)	Tipo A - Dcha - T3	Combinación lineal	ELU	permanente	33*1.12
161 (C)	Tipo B - Dcha - T1	Combinación lineal	ELU	permanente	41*1.12
162 (C)	Tipo B - Dcha - T2	Combinación lineal	ELU	permanente	42*1.12
163 (C)	Tipo B - Dcha - T3	Combinación lineal	ELU	permanente	43*1.12
164 (C)	Tipo B - Dcha - T4	Combinación lineal	ELU	permanente	44*1.12
165 (C)	Tipo B - Dcha - T5	Combinación lineal	ELU	permanente	45*1.12
166 (C)	Tipo B - Dcha - T6	Combinación lineal	ELU	permanente	46*1.12
201 (C)	LM71 - Izq - T1	Combinación lineal	ELU	permanente	51*1.07
202 (C)	LM71 - Izq - T2	Combinación lineal	ELU	permanente	52*1.07
203 (C)	LM71 - Izq - T3	Combinación lineal	ELU	permanente	53*1.07
204 (C)	LM71 - Izq - T4	Combinación lineal	ELU	permanente	54*1.07
205 (C)	LM71 - Izq - T5	Combinación lineal	ELU	permanente	55*1.07

Combinación	Nombre	Tipo de análisis	Naturaleza de combinación	Naturaleza de caso	Definición
206 (C)	LM71 - Izq - T6	Combinación lineal	ELU	permanente	56*1.07
211 (C)	SW0 - Izq - T1	Combinación lineal	ELU	permanente	61*1.07
212 (C)	SW0 - Izq - T2	Combinación lineal	ELU	permanente	62*1.07
213 (C)	SW0 - Izq - T3	Combinación lineal	ELU	permanente	63*1.07
221 (C)	SW2 - Izq - T1	Combinación lineal	ELU	permanente	66*1.07
222 (C)	SW2 - Izq - T2	Combinación lineal	ELU	permanente	67*1.07
223 (C)	SW2 - Izq - T3	Combinación lineal	ELU	permanente	68*1.07
224 (C)	SW2 - Izq - T4	Combinación lineal	ELU	permanente	69*1.07
251 (C)	Tipo A - Izq - T1	Combinación lineal	ELU	permanente	71*1.12
252 (C)	Tipo A - Izq - T2	Combinación lineal	ELU	permanente	72*1.12
253 (C)	Tipo A - Izq - T3	Combinación lineal	ELU	permanente	73*1.12
261 (C)	Tipo B - Izq - T1	Combinación lineal	ELU	permanente	81*1.12
262 (C)	Tipo B - Izq - T2	Combinación lineal	ELU	permanente	82*1.12
263 (C)	Tipo B - Izq - T3	Combinación lineal	ELU	permanente	83*1.12
264 (C)	Tipo B - Izq - T4	Combinación lineal	ELU	permanente	84*1.12
265 (C)	Tipo B - Izq - T5	Combinación lineal	ELU	permanente	85*1.12
266 (C)	Tipo B - Izq - T6	Combinación lineal	ELU	permanente	86*1.12
301 (C)	LM71 - 2 vías - T1	Combinación lineal	ELU	permanente	(11+51)*1.07
302 (C)	LM71 - 2 vías - T2	Combinación lineal	ELU	permanente	(12+52)*1.07
303 (C)	LM71 - 2 vías - T3	Combinación lineal	ELU	permanente	(13+53)*1.07
304 (C)	LM71 - 2 vías - T4	Combinación lineal	ELU	permanente	(14+54)*1.07
305 (C)	LM71 - 2 vías - T5	Combinación lineal	ELU	permanente	(15+55)*1.07
306 (C)	LM71 - 2 vías - T6	Combinación lineal	ELU	permanente	(16+56)*1.07
311 (C)	SW0 - 2 vías - T1	Combinación lineal	ELU	permanente	(21+61)*1.07
312 (C)	SW0 - 2 vías - T2	Combinación lineal	ELU	permanente	(22+62)*1.07
313 (C)	SW0 - 2 vías - T3	Combinación lineal	ELU	permanente	(23+63)*1.07
321 (C)	SW2 - 2 vías - T1	Combinación lineal	ELU	permanente	(26+66)*1.07
322 (C)	SW2 - 2 vías - T2	Combinación lineal	ELU	permanente	(27+67)*1.07
323 (C)	SW2 - 2 vías - T3	Combinación lineal	ELU	permanente	(28+68)*1.07
324 (C)	SW2 - 2 vías - T4	Combinación lineal	ELU	permanente	(29+69)*1.07
351 (C)	Tipo A - 2 vías - T1	Combinación lineal	ELU	permanente	(31+71)*1.12
352 (C)	Tipo A - 2 vías - T2	Combinación lineal	ELU	permanente	(32+72)*1.12
353 (C)	Tipo A - 2 vías - T3	Combinación lineal	ELU	permanente	(33+73)*1.12
361 (C)	Tipo B - 2 vías - T1	Combinación lineal	ELU	permanente	(41+81)*1.12
362 (C)	Tipo B - 2 vías - T2	Combinación lineal	ELU	permanente	(42+82)*1.12
363 (C)	Tipo B - 2 vías - T3	Combinación lineal	ELU	permanente	(43+83)*1.12
364 (C)	Tipo B - 2 vías - T4	Combinación lineal	ELU	permanente	(44+84)*1.12
365 (C)	Tipo B - 2 vías - T5	Combinación lineal	ELU	permanente	(45+85)*1.12
366 (C)	Tipo B - 2 vías - T6	Combinación lineal	ELU	permanente	(46+86)*1.12

Se adjuntan, a continuación, unos gráficos con algunas de las posiciones en las que se han dispuesto los diferentes trenes de carga en el modelo de cálculo.

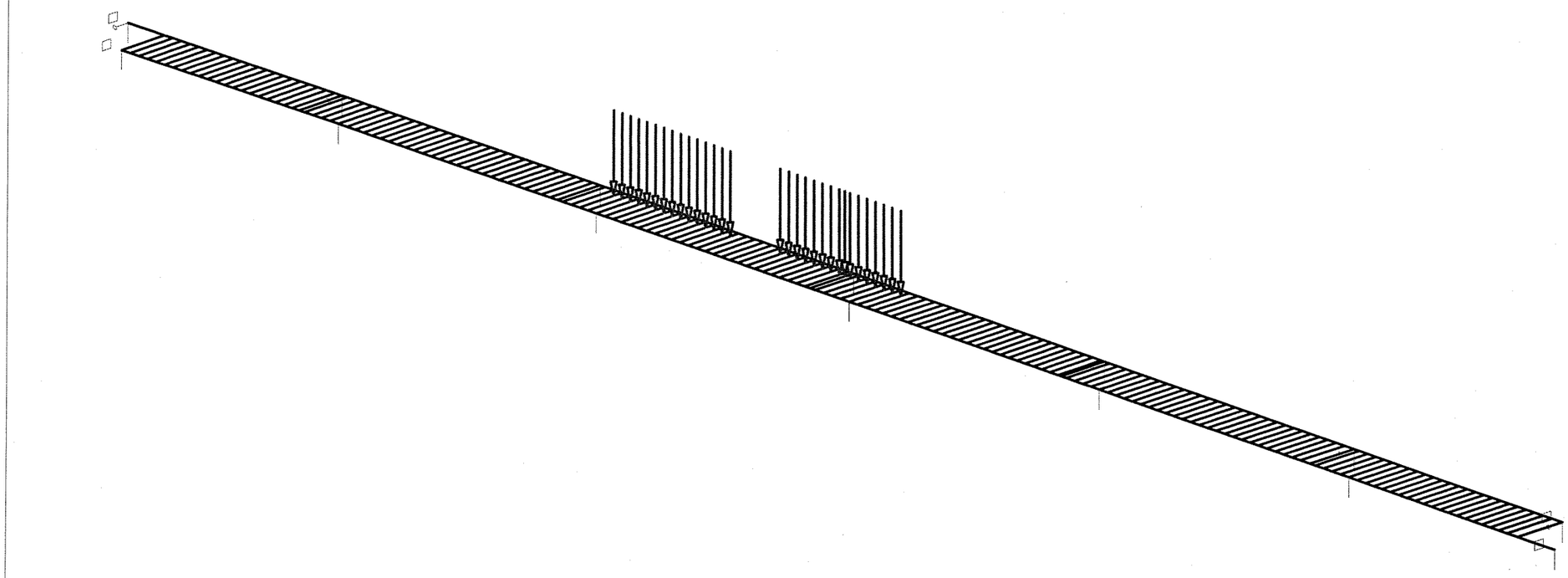
Se adjunta también un gráfico en el que se puede ver, de forma esquemática, la disposición de todos los tipos de trenes de carga.

Disposición T6 (vía derecha) del vehículo LM

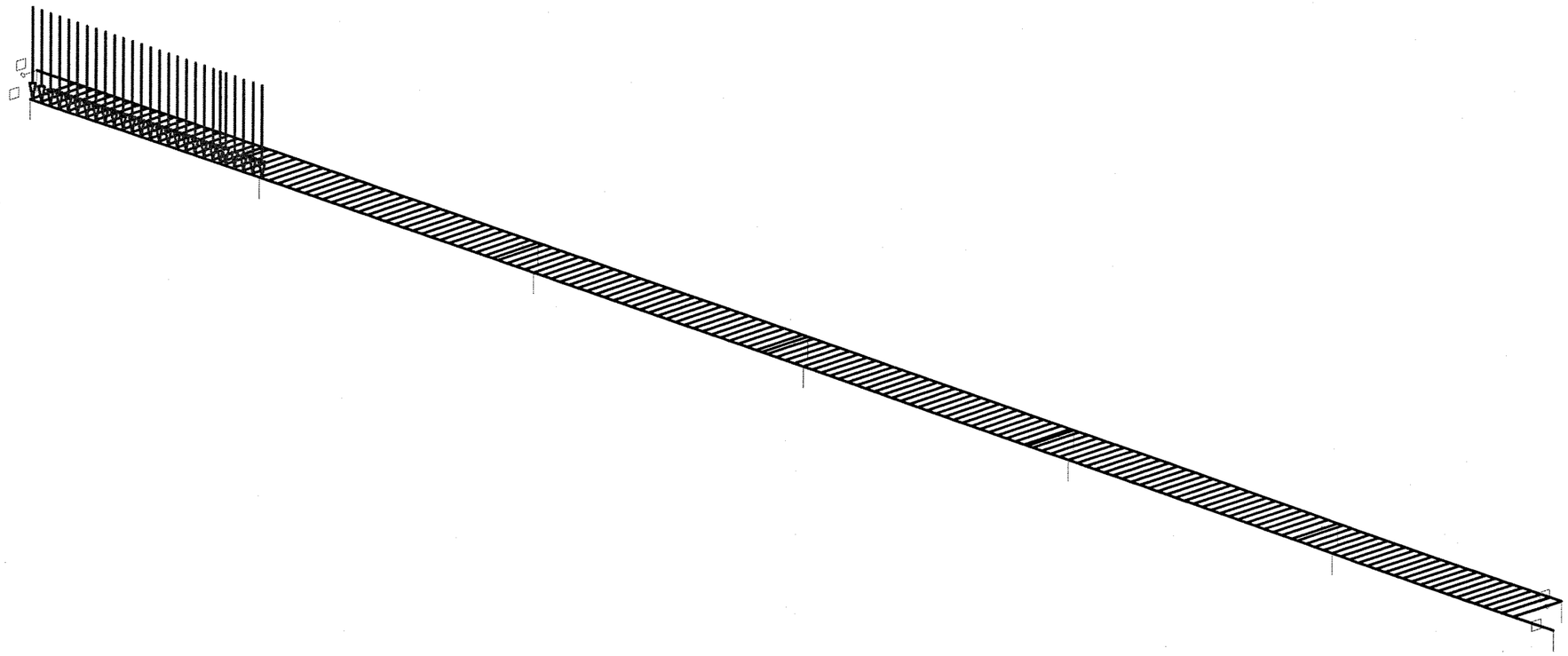


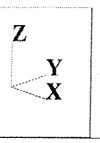
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Disposición T3 (vía izquierda) del vehículo SW0



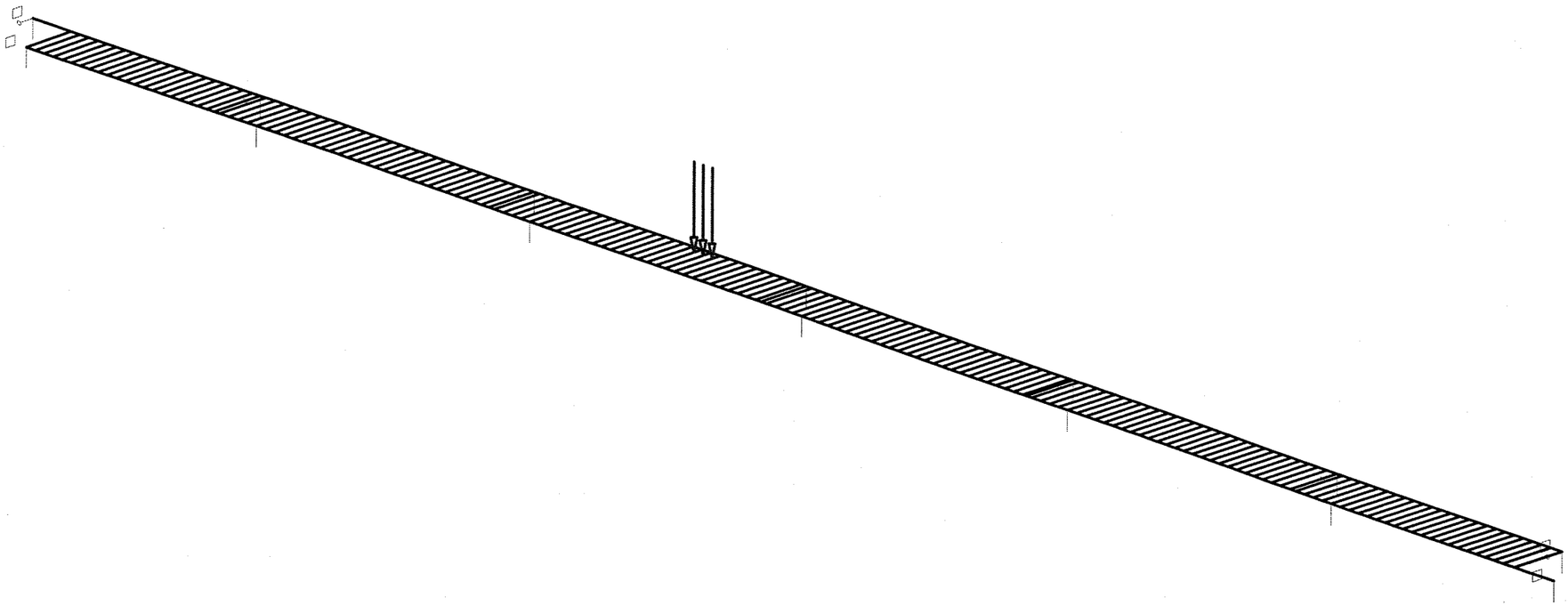
Disposición T1 (vía derecha) del vehículo SW2

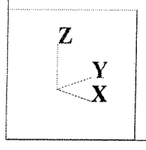




casos: 26 (SW2 - Dcha - T1)
T

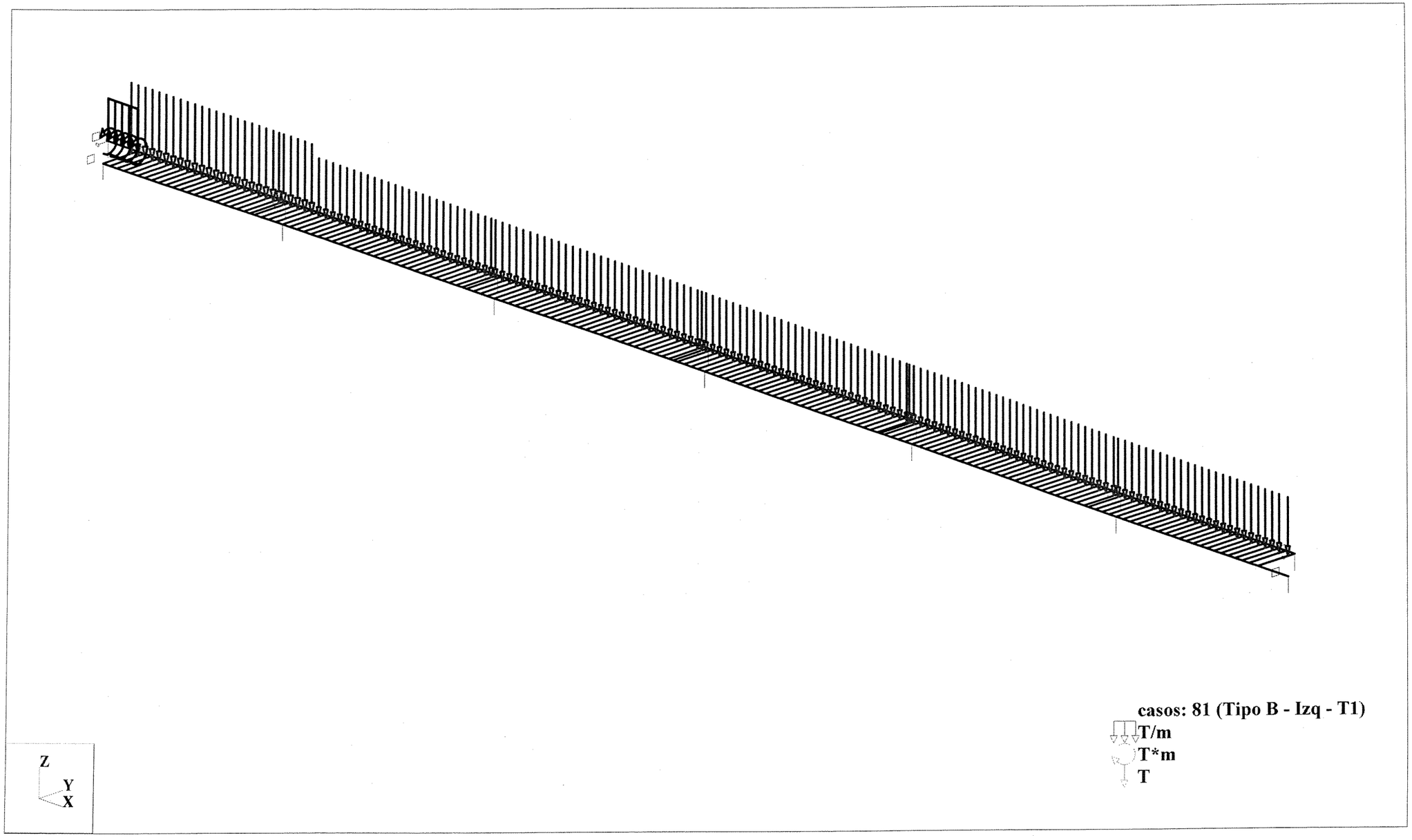
Disposición T3 (vía izquierda) del vehículo Tipo A



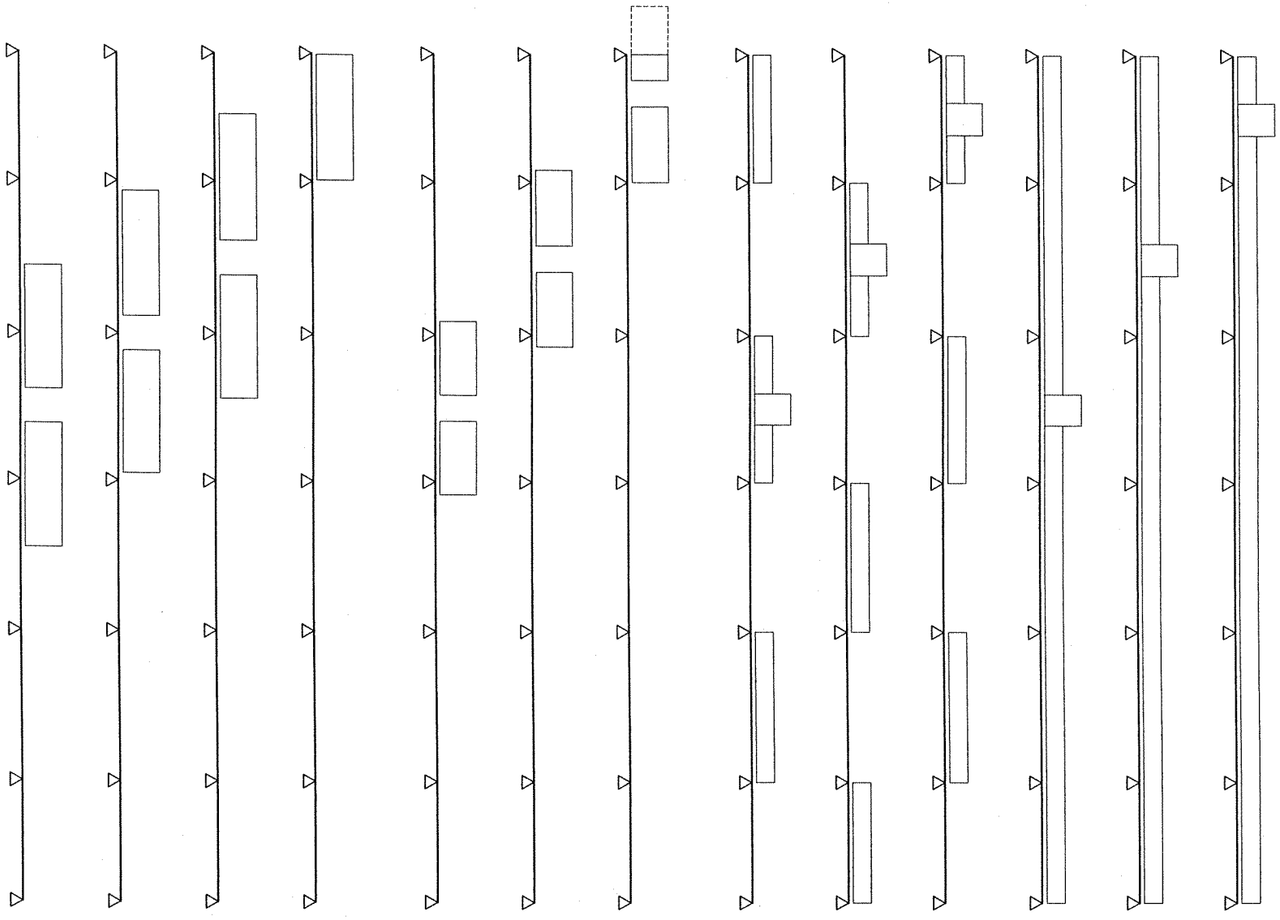


casos: 73 (Tipo A - Izq - T3)
T

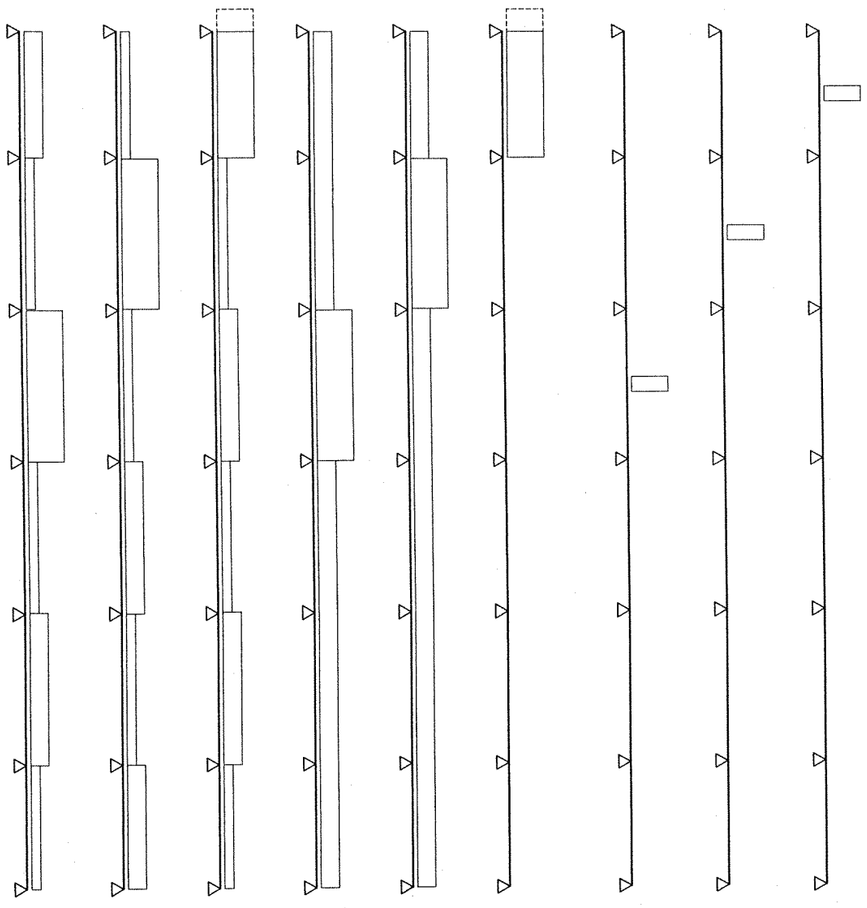
Disposición T1 (vía izquierda) del vehículo Tipo B



EC - LOADS



IPF - LOADS



3.1.2 CÁLCULO DE ESFUERZOS

Mediante los modelos antieriormente presentados se ha realizado el cálculo de los esfuerzos que afectan al viaducto en las diferentes fases de construcción.

Como se puede ver en los dibujos de los diferentes trenes de cargas aplicados a la estructura, adjuntos en el apartado anterior, los trenes se han concentrado en los tres primeros vanos del viaducto. Esto se ha hecho aprovechando la simetría del mismo y para reducir el coste computacional del modelo.

Del mismo modo (y con idéntico proposito) únicamente se han aplicado los coeficientes de excentricidad que más solicitan a una de las vigas: viga derecha mirando en el sentido de avance del p.k.

Para elegir estos coeficientes de excentricidad, se han aplicado todos ellos a un mismo tren de cargas. Con este cálculo se han obtenido los coeficientes a aplicar al modelo original. Los resultados de este cálculo se adjuntan al final del presente apartado.

Con estas dos simplificaciones se ha reducido mucho el esfuerzo computacional del modelo de cálculo. No obstante esto hace que los resultados más desfavorables se den en los tres primeros vanos de la viga derecha y, por tanto, se deban extrapolar estos resultados al resto de vigas.

Los resultados que expondremos a continuación corresponden a la totalidad de la viga derecha del viaducto. Estos resultados se presentan diferenciados para cada una de las fases de construcción. Finalmente se incluye la combinación de los diferentes esfuerzos para obtener las solicitaciones más desfavorables en Estado Límite Último.

No se han combinado los esfuerzos para el Estado Límite de Servicio ya que se han ido combinando independientemente al realizar las diferentes comprobaciones.

MODELO DE CÁLCULO 1

ESFUERZOS PESO PROPIO DE LAS VIGAS DURANTE CONSTRUCCIÓN

Posición	Fy [T·m]	Mz [T]
0.0	40.67	0.00
1.0	30.50	35.58
2.0	27.92	64.79
3.0	25.34	91.42
4.0	22.76	115.46
5.0	20.18	136.93
6.0	17.60	155.82
7.0	15.02	172.13
8.0	12.44	185.85
9.0	9.86	197.00
10.0	7.28	205.57
11.0	4.70	211.56
12.0	2.12	214.97
13.0	-0.46	215.81
14.0	-3.04	214.06
15.0	-5.62	209.73
16.0	-8.20	202.82
17.0	-10.78	193.33
18.0	-13.36	181.27
19.0	-15.94	166.62
20.0	-18.52	149.40
21.0	-21.10	129.59
21.5	-22.39	118.72
22.5	-24.96	95.05
23.5	-27.54	68.79
24.5	-33.92	39.01
25.5	50.73	0.00
26.5	40.56	45.64
27.5	34.18	82.06
28.5	31.60	114.95
29.5	29.02	145.26
30.5	26.44	172.99
31.5	23.86	198.14
32.5	21.28	220.71
33.5	18.70	240.70
34.5	16.12	258.11
35.5	13.54	272.95
36.5	10.96	285.20
37.5	8.38	294.87
38.5	5.80	301.97
39.5	3.22	306.48
40.5	0.65	308.42
41.5	-1.94	307.77
42.5	-4.51	304.55
43.5	-7.09	298.74
44.5	-9.67	290.36
45.5	-12.25	279.40
46.5	-14.83	265.85
47.5	-17.41	249.73
48.5	-19.99	231.03
49.5	-22.57	209.75
50.5	-25.15	185.89
51.0	-26.44	172.99
52.0	-29.02	145.26
53.0	-31.60	114.95
54.0	-34.18	82.06
55.0	-40.56	45.64
56.0	-50.73	0.00

Posición	Fy [T·m]	Mz [T]
57.0	39.91	45.00
58.0	33.53	80.77
59.0	30.95	113.02
60.0	28.38	142.68
61.0	25.80	169.77
62.0	23.22	194.27
63.0	20.64	216.20
64.0	18.06	235.54
65.0	15.48	252.31
66.0	12.90	266.50
67.0	10.32	278.11
68.0	7.74	287.13
69.0	5.16	293.58
70.0	2.58	297.45
71.0	0.00	298.74
72.0	-2.58	297.45
73.0	-5.16	293.58
74.0	-7.74	287.13
75.0	-10.32	278.11
76.0	-12.90	266.50
77.0	-15.48	252.31
78.0	-18.06	235.54
79.0	-20.64	216.20
80.0	-23.22	194.27
81.0	-25.80	169.77
82.0	-28.38	142.68
83.0	-30.95	113.02
84.0	-33.53	80.77
85.0	-39.91	45.00
86.0	-50.09	0.00
87.0	39.91	45.00
88.0	33.53	80.77
89.0	30.95	113.02
90.0	28.38	142.68
91.0	25.80	169.77
92.0	23.22	194.27
93.0	20.64	216.20
94.0	18.06	235.54
95.0	15.48	252.31
96.0	12.90	266.50
97.0	10.32	278.11
98.0	7.74	287.13
99.0	5.16	293.58
100.0	2.58	297.45
101.0	0.00	298.74
102.0	-2.58	297.45
103.0	-5.16	293.58
104.0	-7.74	287.13
105.0	-10.32	278.11
106.0	-12.90	266.50
107.0	-15.48	252.31
108.0	-18.06	235.54
109.0	-20.64	216.20
110.0	-23.22	194.27
111.0	-25.80	169.77
112.0	-28.38	142.68
113.0	-30.95	113.02
114.0	-33.53	80.77

Posición	Fy [T·m]	Mz [T]
115.0	-39.91	45.00
116.0	50.09	0.00
117.0	39.91	45.00
118.0	33.53	80.77
119.0	30.95	113.02
120.0	28.38	142.68
121.0	25.80	169.77
122.0	23.22	194.27
123.0	20.64	216.20
124.0	18.06	235.54
125.0	15.48	252.31
126.0	12.90	266.50
127.0	10.32	278.11
128.0	7.74	287.13
129.0	5.16	293.58
130.0	2.58	297.45
131.0	0.00	298.74
132.0	-2.58	297.45
133.0	-5.16	293.58
134.0	-7.74	287.13
135.0	-10.32	278.11
136.0	-12.90	266.50
137.0	-15.48	252.31
138.0	-18.06	235.54
139.0	-20.64	216.20
140.0	-23.22	194.27
141.0	-25.80	169.77
142.0	-28.38	142.68
143.0	-30.95	113.02
144.0	-33.53	80.77
145.0	-39.91	45.00
146.0	-50.09	0.00
147.0	32.62	37.71
148.0	26.25	66.20
149.0	23.67	91.15
150.0	21.09	113.53
151.0	18.51	133.33
152.0	15.93	150.55
153.0	13.35	165.19
154.0	10.77	177.24
155.0	8.19	186.72
156.0	5.61	193.62
157.0	3.03	197.94
158.0	0.45	199.69
159.0	-2.13	198.85
160.0	-4.71	195.43
161.0	-7.29	189.43
162.0	-9.87	180.85
163.0	-12.45	169.70
164.0	-15.03	155.96
165.0	-17.61	139.64
166.0	-20.19	120.75
166.5	-21.48	110.33
167.5	-24.05	87.57
168.5	-26.63	62.23
169.5	-29.21	34.30
170.5	-39.39	0.00

MODELO DE CÁLCULO 2

PESO PROPIO LOSA

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
0.0	47.01	-22.63	0.78
1.0	41.99	-20.83	44.55
2.0	36.97	-19.02	84.03
3.0	31.95	-17.21	118.49
4.0	26.94	-15.40	147.94
5.0	21.92	-13.59	172.37
6.0	16.90	-11.78	191.78
7.0	11.88	-9.97	206.17
8.0	6.87	-8.15	215.54
9.0	1.85	-6.34	219.90
10.0	-3.17	-4.53	219.24
11.0	-8.19	-2.72	213.57
12.0	-13.20	-0.91	202.87
13.0	-18.22	0.90	187.16
14.0	-23.24	2.71	166.43
15.0	-28.26	4.53	140.68
16.0	-33.27	6.34	109.92
17.0	-38.29	8.15	74.14
18.0	-43.31	9.96	33.34
19.0	-48.33	11.77	-12.48
20.0	-53.34	13.58	-63.31
21.0	-58.36	15.39	-119.17
21.5	-60.87	16.30	-148.97
22.5	-65.89	18.11	-212.35
23.5	-70.90	19.92	-280.75
24.5	-75.92	21.75	-353.43
25.5	77.63	-27.62	-432.50
26.5	72.61	-25.81	-357.38
27.5	67.60	-24.00	-287.35
28.5	62.58	-22.19	-222.27
29.5	57.56	-20.38	-162.20
30.5	52.54	-18.57	-107.15
31.5	47.53	-16.76	-57.11
32.5	42.51	-14.94	-12.10
33.5	37.49	-13.13	27.90
34.5	32.47	-11.32	62.88
35.5	27.46	-9.51	92.85
36.5	22.44	-7.70	117.79
37.5	17.42	-5.89	137.72
38.5	12.40	-4.08	152.63
39.5	7.39	-2.26	162.52
40.5	2.37	-0.45	167.40
41.5	-2.65	1.36	167.26
42.5	-7.67	3.17	162.10
43.5	-12.69	4.98	151.92
44.5	-17.70	6.79	136.73
45.5	-22.72	8.60	116.52
46.5	-27.74	10.42	91.29
47.5	-32.76	12.23	61.04
48.5	-37.77	14.04	25.78
49.5	-42.79	15.85	-14.51
50.5	-47.81	17.66	-59.81
51.0	-50.32	18.57	-84.34
52.0	-55.33	20.38	-137.16
53.0	-60.35	22.19	-195.01
54.0	-65.37	24.00	-257.87
55.0	-70.39	25.81	-325.67
56.0	-75.40	27.62	-398.56
57.0	70.24	-25.36	-326.17
58.0	65.23	-23.55	-258.15
59.0	60.21	-21.74	-195.43
60.0	55.19	-19.92	-137.73
61.0	50.17	-18.11	-85.05
62.0	45.16	-16.30	-37.38
63.0	40.14	-14.49	5.26
64.0	35.12	-12.68	42.89
65.0	30.10	-10.87	75.51
66.0	25.09	-9.06	103.10
67.0	20.07	-7.25	125.68
68.0	15.05	-5.43	143.24
69.0	10.03	-3.62	155.78
70.0	5.02	-1.81	163.31
71.0	0.00	0.00	165.81
72.0	-5.02	1.81	163.30
73.0	-10.04	3.62	155.78
74.0	-15.05	5.43	143.23
75.0	-20.07	7.25	125.67
76.0	-25.09	9.06	103.09
77.0	-30.11	10.87	75.49
78.0	-35.12	12.68	42.88
79.0	-40.14	14.49	5.24
80.0	-45.16	16.30	-37.41
81.0	-50.18	18.11	-85.07

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
82.0	-55.19	19.92	-137.76
83.0	-60.21	21.74	-195.46
84.0	-65.23	23.55	-258.18
85.0	-70.25	25.36	-326.21
86.0	-75.26	27.17	-398.96
87.0	70.35	-25.36	-325.83
88.0	65.34	-23.55	-257.97
89.0	60.32	-21.74	-195.14
90.0	55.30	-19.92	-137.33
91.0	50.28	-18.11	-84.54
92.0	45.27	-16.30	-36.76
93.0	40.25	-14.49	5.99
94.0	35.23	-12.68	43.73
95.0	30.21	-10.87	76.46
96.0	25.20	-9.06	104.16
97.0	20.18	-7.25	126.85
98.0	15.16	-5.43	144.52
99.0	10.14	-3.62	157.17
100.0	5.13	-1.81	164.81
101.0	0.11	0.00	167.43
102.0	-4.91	1.81	165.03
103.0	-9.93	3.62	157.61
104.0	-14.94	5.43	145.17
105.0	-19.96	7.25	127.72
106.0	-24.98	9.06	105.25
107.0	-30.00	10.87	77.76
108.0	-35.01	12.68	45.26
109.0	-40.03	14.49	7.74
110.0	-45.05	16.30	-34.81
111.0	-50.07	18.11	-82.36
112.0	-55.08	19.92	-134.94
113.0	-60.10	21.74	-192.53
114.0	-65.12	23.55	-255.14
115.0	-70.14	25.36	-322.79
116.0	-75.15	27.17	-395.43
117.0	69.85	-25.36	-322.96
118.0	64.83	-23.55	-255.72
119.0	59.81	-21.74	-193.40
120.0	54.79	-19.92	-136.10
121.0	49.78	-18.11	-83.81
122.0	44.76	-16.30	-36.55
123.0	39.74	-14.49	5.70
124.0	34.72	-12.68	42.93
125.0	29.71	-10.87	75.15
126.0	24.69	-9.06	102.34
127.0	19.67	-7.25	124.52
128.0	14.65	-5.43	141.68
129.0	9.64	-3.62	153.83
130.0	4.62	-1.81	160.95
131.0	-0.40	0.00	163.06
132.0	-5.42	1.81	160.15
133.0	-10.44	3.62	152.23
134.0	-15.45	5.43	139.29
135.0	-20.47	7.25	121.32
136.0	-25.49	9.06	98.35
137.0	-30.51	10.87	70.35
138.0	-35.52	12.68	37.34
139.0	-40.54	14.49	-0.70
140.0	-45.56	16.30	-43.74
141.0	-50.58	18.11	-91.81
142.0	-55.59	19.92	-144.89
143.0	-60.61	21.74	-203.00
144.0	-65.63	23.55	-266.11
145.0	-70.65	25.36	-334.16
146.0	-75.66	27.17	-407.31
147.0	73.07	-20.79	-330.73
148.0	68.06	-19.02	-261.26
149.0	63.04	-17.20	-195.71
150.0	58.02	-15.39	-135.18
151.0	53.00	-13.58	-79.67
152.0	47.99	-11.77	-29.18
153.0	42.97	-9.96	16.30
154.0	37.95	-8.15	56.76
155.0	32.93	-6.34	92.20
156.0	27.92	-4.53	122.62
157.0	22.90	-2.71	148.03
158.0	17.88	-0.90	168.42
159.0	12.86	0.91	183.79
160.0	7.85	2.72	194.14
161.0	2.83	4.53	199.48
162.0	-2.19	6.34	199.80
163.0	-7.21	8.15	195.10
164.0	-12.23	9.97	185.38
165.0	-17.24	11.78	170.65
166.0	-22.26	13.59	150.90
166.5	-24.77	14.49	139.14
167.5	-29.79	16.31	111.86
168.5	-34.80	18.12	79.57
169.5	-39.82	19.97	43.35
170.5	-44.84	21.78	1.02

UNIÓN VIGAS SOBRE CIMBRA

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
0.0	-2.00	-1.16	0.00
1.0	-2.00	-1.16	-2.00
2.0	-2.00	-1.16	-4.00
3.0	-2.00	-1.16	-6.00
4.0	-2.00	-1.16	-8.00
5.0	-2.00	-1.16	-10.00
6.0	-2.00	-1.16	-12.00
7.0	-2.00	-1.16	-13.99
8.0	-2.00	-1.16	-15.99
9.0	-2.00	-1.16	-17.99
10.0	-2.00	-1.16	-19.99
11.0	-2.00	-1.16	-21.99
12.0	-2.00	-1.16	-23.99
13.0	-2.00	-1.16	-25.99
14.0	-2.00	-1.16	-27.99
15.0	-2.00	-1.16	-29.99
16.0	-2.00	-1.16	-31.99
17.0	-2.00	-1.16	-33.99
18.0	-2.00	-1.16	-35.98
19.0	-2.00	-1.16	-37.98
20.0	-2.00	-1.16	-39.98
21.0	-2.00	-1.16	-41.61
21.5	-2.00	-1.16	-42.84
22.5	-2.00	-1.16	-44.84
23.5	-2.00	-1.16	378.50
24.5	-2.00	-1.16	376.50
25.5	0.61	-3.49	374.49
26.5	0.61	-3.52	375.10
27.5	0.61	-0.85	-49.62
28.5	0.61	-0.85	-49.01
29.5	0.61	-0.85	-48.40
30.5	0.61	-0.84	-47.78
31.5	0.61	-0.85	-47.17
32.5	0.61	-0.85	-46.56
33.5	0.61	-0.85	-45.95
34.5	0.61	-0.84	-45.34
35.5	0.61	-0.85	-44.72
36.5	0.61	-0.85	-44.11
37.5	0.61	-0.85	-43.50
38.5	0.61	-0.84	-42.89
39.5	0.61	-0.85	-42.27
40.5	0.61	-0.85	-41.66
41.5	0.61	-0.85	-41.05
42.5	0.61	-0.84	-40.44
43.5	0.61	-0.85	-39.82
44.5	0.61	-0.85	-39.21
45.5	0.61	-0.85	-38.60
46.5	0.61	-0.84	-37.99
47.5	0.61	-0.85	-37.37
48.5	0.61	-0.85	-36.76
49.5	0.61	-0.84	-36.15
50.5	0.61	-0.85	-35.54
51.0	0.61	-0.85	-35.01
52.0	0.61	-0.85	-34.63
53.0	0.61	-0.85	-34.02
54.0	0.61	-3.52	391.93
55.0	0.61	-3.48	392.54
56.0	-0.24	-6.16	393.12
57.0	-0.24	-6.12	392.88
58.0	-0.24	-0.63	-32.66
59.0	-0.24	-0.63	-32.90
60.0	-0.24	-0.63	-33.14
61.0	-0.24	-0.63	-33.38
62.0	-0.24	-0.63	-33.62
63.0	-0.24	-0.63	-33.86
64.0	-0.24	-0.63	-34.09
65.0	-0.24	-0.63	-34.33
66.0	-0.24	-0.63	-34.57
67.0	-0.24	-0.63	-34.81
68.0	-0.24	-0.63	-35.05
69.0	-0.24	-0.63	-35.29
70.0	-0.24	-0.63	-35.52
71.0	-0.24	-0.63	-35.76
72.0	-0.24	-0.63	-36.00
73.0	-0.24	-0.63	-36.24
74.0	-0.24	-0.63	-36.48
75.0	-0.24	-0.63	-36.72
76.0	-0.24	-0.63	-36.96
77.0	-0.24	-0.63	-37.19
78.0	-0.24	-0.63	-37.43
79.0	-0.24	-0.63	-37.67
80.0	-0.24	-0.63	-37.91
81.0	-0.24	-0.63	-38.15
81.5	-0.24	-0.63	-38.30

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
82.0	-0.24	-0.63	-38.44
83.0	-0.24	-0.63	-38.68
84.0	-0.24	-6.16	386.39
85.0	-0.24	-6.16	386.15
86.0	0.22	-8.71	385.86
87.0	0.22	-8.74	386.08
88.0	0.22	-0.36	-38.96
89.0	0.22	-0.37	-38.73
90.0	0.22	-0.36	-38.51
91.0	0.22	-0.36	-38.29
92.0	0.22	-0.37	-38.07
93.0	0.22	-0.36	-37.84
94.0	0.22	-0.36	-37.62
95.0	0.22	-0.36	-37.40
96.0	0.22	-0.37	-37.18
97.0	0.22	-0.36	-36.95
98.0	0.22	-0.36	-36.73
99.0	0.22	-0.37	-36.51
100.0	0.22	-0.36	-36.29
101.0	0.22	-0.36	-36.06
102.0	0.22	-0.37	-35.84
103.0	0.22	-0.36	-35.62
104.0	0.22	-0.36	-35.40
105.0	0.22	-0.37	-35.17
106.0	0.22	-0.36	-34.95
107.0	0.22	-0.36	-34.73
108.0	0.22	-0.37	-34.51
109.0	0.22	-0.36	-34.28
110.0	0.22	-0.36	-34.06
111.0	0.22	-0.37	-33.84
111.5	0.22	-0.36	-33.76
112.0	0.22	-0.36	-33.62
113.0	0.22	-0.36	-33.40
114.0	0.22	-8.70	392.08
115.0	0.22	-8.74	392.31
116.0	-0.66	-11.06	392.47
117.0	-0.66	-11.06	391.81
118.0	-0.66	-0.17	-34.05
119.0	-0.66	-0.17	-34.71
120.0	-0.66	-0.17	-35.37
121.0	-0.66	-0.17	-36.03
122.0	-0.66	-0.17	-36.69
123.0	-0.66	-0.17	-37.35
124.0	-0.66	-0.17	-38.01
125.0	-0.66	-0.17	-38.67
126.0	-0.66	-0.17	-39.33
127.0	-0.66	-0.17	-39.99
128.0	-0.66	-0.17	-40.65
129.0	-0.66	-0.17	-41.31
130.0	-0.66	-0.17	-41.97
131.0	-0.66	-0.17	-42.63
132.0	-0.66	-0.17	-43.29
133.0	-0.66	-0.17	-43.95
134.0	-0.66	-0.17	-44.61
135.0	-0.66	-0.17	-45.27
136.0	-0.66	-0.17	-45.93
137.0	-0.66	-0.17	-46.59
138.0	-0.66	-0.17	-47.25
139.0	-0.66	-0.17	-47.91
140.0	-0.66	-0.17	-48.57
141.0	-0.66	-0.17	-49.31
142.0	-0.66	-0.17	-49.72
143.0	-0.66	-0.17	-50.38
144.0	-0.66	-11.06	374.16
145.0	-0.66	-11.06	373.50
146.0	2.13	-12.29	372.81
147.0	2.13	-12.29	374.93
148.0	2.13	0.00	-48.11
149.0	2.13	0.00	-45.98
150.0	2.13	0.00	-43.86
151.0	2.13	0.00	-41.73
152.0	2.13	0.00	-39.61
153.0	2.13	0.00	-37.48
154.0	2.13	0.00	-35.36
155.0	2.13	0.00	-33.23
156.0	2.13	0.00	-31.11
157.0	2.13	0.00	-28.98
158.0	2.13	0.00	-26.86
159.0	2.13	0.00	-24.73
160.0	2.13	0.00	-22.61
161.0	2.13	0.00	-20.48
162.0	2.13	0.00	-18.36
163.0	2.13	0.00	-16.24
164.0	2.13	0.00	-14.11
165.0	2.13	0.00	-11.99
166.0	2.13	0.00	-9.32
166.5	2.13	0.00	-8.50
167.5	2.13	0.00	-6.37
168.5	2.13	0.00	-4.25
169.5	2.13	0.00	-2.13
170.5	2.13	0.00	0.00

PESO VIGAS (Suponiendo que el viaducto se hubiese ejecutado sobre cimbra)

Posición [m]	Cortante [T]	Flector [T·m]
0.0	31.578	0.406
1.0	21.403	26.517
2.0	18.823	46.63
3.0	16.244	64.164
4.0	13.664	79.118
5.0	11.085	91.492
6.0	8.505	101.287
7.0	5.926	108.503
8.0	3.346	113.139
9.0	0.767	115.196
10.0	-1.813	114.673
11.0	-4.392	111.57
12.0	-6.972	105.888
13.0	-9.551	97.626
14.0	-12.131	86.785
15.0	-14.71	73.365
16.0	-17.29	57.365
17.0	-19.869	38.785
18.0	-22.449	17.626
19.0	-25.029	-6.113
20.0	-27.608	-32.432
21.0	-30.188	-61.329
21.5	-31.477	-76.746
22.5	-34.057	-109.513
23.5	-36.636	-144.859
24.5	-43.014	-183.355
25.5	51.346	-231.788
26.5	41.172	-185.529
27.5	34.794	-148.535
28.5	32.215	-115.031
29.5	29.635	-84.106
30.5	27.056	-55.761
31.5	24.476	-29.995
32.5	21.897	-6.808
33.5	19.317	13.799
34.5	16.738	31.826
35.5	14.158	47.274
36.5	11.579	60.142
37.5	8.999	70.431
38.5	6.419	78.14
39.5	3.84	83.27
40.5	1.26	85.82
41.5	-1.319	85.791
42.5	-3.899	83.182
43.5	-6.478	77.993
44.5	-9.058	70.225
45.5	-11.637	59.878
46.5	-14.217	46.951
47.5	-16.796	31.444
48.5	-19.376	13.358
49.5	-21.955	-7.308
50.5	-24.535	-30.553
51.0	-25.825	-43.143
52.0	-28.404	-70.257
53.0	-30.984	-99.951
54.0	-33.563	-132.225
55.0	-39.941	-167.987
56.0	50.069	-213.206
57.0	39.894	-168.224
58.0	33.517	-132.317
59.0	30.937	-100.09
60.0	28.358	-70.443
61.0	25.778	-43.375
62.0	23.199	-18.886
63.0	20.619	3.023
64.0	18.04	22.352
65.0	15.46	39.102
66.0	12.881	53.272
67.0	10.301	64.863
68.0	7.721	73.874
69.0	5.142	80.306
70.0	2.562	84.158
71.0	-0.017	85.431
72.0	-2.597	84.124
73.0	-5.176	80.237
74.0	-7.756	73.771
75.0	-10.335	64.726
76.0	-12.915	53.101
77.0	-15.494	38.896
78.0	-18.074	22.112
79.0	-20.653	2.749
80.0	-23.233	-19.194
81.0	-25.812	-43.717
82.0	-28.392	-70.819
83.0	-30.971	-100.501
84.0	-33.551	-132.762
85.0	-39.928	-168.704
86.0	-50.103	-213.719
87.0	39.983	-168.509
88.0	33.606	-132.653
89.0	31.027	-100.337
90.0	28.447	-70.6
91.0	25.868	-43.442
92.0	23.288	-18.865
93.0	20.709	3.134
94.0	18.129	22.552
95.0	15.549	39.392
96.0	12.97	53.651
97.0	10.39	65.332
98.0	7.811	74.432
99.0	5.231	80.953
100.0	2.652	84.895
101.0	0.072	86.257
102.0	-2.507	85.039
103.0	-5.087	81.242
104.0	-7.666	74.866
105.0	-10.246	65.91
106.0	-12.825	54.374
107.0	-15.405	40.259
108.0	-17.984	23.564
109.0	-20.564	4.29
110.0	-23.144	-17.564
111.0	-25.723	-41.997
112.0	-28.303	-69.01
113.0	-30.882	-98.602
114.0	-33.462	-130.774
115.0	-39.839	-166.485
116.0	-50.014	-211.411
117.0	39.662	-166.602
118.0	33.285	-131.125
119.0	30.705	-99.13
120.0	28.126	-69.715
121.0	25.546	-42.879

Posición [m]	Cortante [T]	Flector [T·m]
122.0	22.967	-18.622
123.0	20.387	3.055
124.0	17.808	22.152
125.0	15.228	38.67
126.0	12.649	52.608
127.0	10.069	63.967
128.0	7.49	72.746
129.0	4.91	78.946
130.0	2.33	82.566
131.0	-0.249	83.607
132.0	-2.829	82.068
133.0	-5.408	77.95
134.0	-7.988	71.252
135.0	-10.567	61.974
136.0	-13.147	50.117
137.0	-15.726	35.681
138.0	-18.306	18.665
139.0	-20.885	-0.931
140.0	-23.465	-23.106
141.0	-26.044	-47.86
142.0	-28.624	-75.195
143.0	-31.203	-105.108
144.0	-33.783	-137.601
145.0	-40.16	-173.576
146.0	-50.335	-218.824
147.0	41.556	-171.657
148.0	35.178	-134.812
149.0	32.599	-100.923
150.0	30.019	-69.614
151.0	27.44	-40.884
152.0	24.86	-14.734
153.0	22.281	8.836
154.0	19.701	29.827
155.0	17.122	48.238
156.0	14.542	64.07
157.0	11.963	77.323
158.0	9.383	87.996
159.0	6.804	96.089
160.0	4.224	101.603
161.0	1.644	104.537
162.0	-0.935	104.892
163.0	-3.515	102.667
164.0	-6.094	97.862
165.0	-8.674	90.478
166.0	-11.253	80.515
166.5	-12.543	74.566
167.5	-15.122	60.733
168.5	-17.702	44.321
169.5	-20.282	25.901
170.5	-30.456	0.532

MODELO DE CÁLCULO 3a

CARGAS PERMANENTES

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
Coo CALC	Cortante	Torsor	Flector
0.0	101.27	-23.41	-1.27
1.0	82.40	-43.12	96.09
2.0	66.40	-55.59	174.62
3.0	52.68	-62.28	237.23
4.0	40.75	-64.42	286.22
5.0	30.20	-63.02	323.38
6.0	20.70	-58.93	350.11
7.0	11.99	-52.83	367.46
8.0	3.84	-45.24	376.22
9.0	-3.92	-36.61	376.95
10.0	-11.42	-27.30	370.05
11.0	-18.78	-17.58	355.78
12.0	-26.09	-7.72	334.26
13.0	-33.45	2.06	305.55
14.0	-40.94	11.54	269.60
15.0	-48.65	20.50	226.28
16.0	-56.68	28.66	175.36
17.0	-65.15	35.75	116.51
18.0	-74.19	41.41	49.30
19.0	-83.98	45.23	-26.87
20.0	-94.95	46.17	-112.79
21.0	-105.96	42.59	-191.14
21.5	-116.79	34.79	-256.72
22.5	-130.88	28.05	-375.45
23.5	-145.73	19.44	-508.41
24.5	-161.37	8.84	-656.31
25.5	173.12	1.94	-820.02
26.5	156.83	-10.24	-649.50
27.5	140.75	-22.03	-495.42
28.5	125.13	-32.63	-357.64
29.5	110.27	-41.32	-235.63
30.5	96.33	-47.71	-128.57
31.5	83.34	-51.71	-35.48
32.5	71.28	-53.40	44.62
33.5	60.07	-52.93	112.67
34.5	49.63	-50.58	169.54
35.5	39.83	-46.53	216.04
36.5	30.59	-41.12	252.82

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
37.5	21.79	-34.57	280.44
38.5	13.35	-27.16	299.35
39.5	5.18	-19.01	309.92
40.5	-2.81	-10.43	312.41
41.5	-10.69	-1.57	307.02
42.5	-18.54	7.33	293.86
43.5	-26.43	16.17	272.95
44.5	-34.45	24.67	244.26
45.5	-42.69	32.62	207.64
46.5	-51.23	39.76	162.89
47.5	-60.20	45.85	109.68
48.5	-69.73	50.55	47.59
49.5	-79.94	53.49	-23.94
50.5	-91.38	53.43	-105.67
51.0	-103.25	49.22	-186.22
52.0	-114.63	40.14	-249.70
53.0	-129.33	32.11	-366.15
54.0	-144.72	22.38	-497.42
55.0	-160.86	10.63	-644.20
56.0	173.28	3.18	-807.30
57.0	156.61	-9.94	-636.56
58.0	140.22	-22.26	-482.64
59.0	124.36	-33.35	-345.32
60.0	109.32	-42.39	-224.02
61.0	95.23	-49.05	-117.84
62.0	82.14	-53.22	-25.79
63.0	70.00	-55.01	53.16
64.0	58.74	-54.60	119.99
65.0	48.25	-52.24	175.60
66.0	38.42	-48.23	220.77
67.0	29.16	-42.80	256.20
68.0	20.35	-36.22	282.46
69.0	11.91	-28.71	300.00
70.0	3.73	-20.58	309.18
71.0	-4.26	-11.96	310.29
72.0	-12.15	-3.06	303.52
73.0	-20.00	5.94	288.96
74.0	-27.90	14.76	266.65
75.0	-35.92	23.28	236.56

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
76.0	-44.16	31.25	198.53
77.0	-52.72	38.43	152.37
78.0	-61.70	44.51	97.74
79.0	-71.24	49.21	34.22
80.0	-81.47	52.15	-38.77
81.0	-92.91	52.12	-121.97
81.5	-103.15	46.01	-179.61
82.0	-114.25	37.64	-243.02
83.0	-128.69	30.28	-359.01
84.0	-143.87	21.03	-489.59
85.0	-159.82	9.82	-635.45
86.0	171.59	2.56	-797.44
87.0	155.07	-10.07	-628.30
88.0	138.81	-22.13	-475.85
89.0	123.05	-32.98	-339.86
90.0	108.10	-41.77	-219.78
91.0	94.10	-48.24	-114.73
92.0	81.07	-52.26	-23.73
93.0	68.98	-53.94	54.23
94.0	57.75	-53.45	120.12
95.0	47.29	-51.04	174.83
96.0	37.49	-46.95	219.14
97.0	28.24	-41.53	253.72
98.0	19.44	-34.94	279.15
99.0	11.00	-27.44	295.86
100.0	2.82	-19.34	304.23
101.0	-5.17	-10.75	304.52
102.0	-13.06	-1.87	296.93
103.0	-20.92	7.02	281.55
104.0	-28.82	15.81	258.41
105.0	-36.86	24.28	227.47
106.0	-45.11	32.16	188.60
107.0	-53.68	39.25	141.57
108.0	-62.67	45.28	86.06
109.0	-72.21	49.90	21.65
110.0	-82.81	51.94	-52.25
111.0	-94.52	51.22	-136.76
111.5	-103.39	42.59	-171.17
112.0	-114.41	34.44	-234.73
113.0	-128.76	27.24	-350.84
114.0	-143.88	18.08	-481.45
115.0	-159.76	7.09	-627.26

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
116.0	170.27	-0.60	-789.15
117.0	153.83	-13.11	-621.29
118.0	137.66	-24.97	-470.00
119.0	121.99	-35.61	-335.09
120.0	107.10	-44.30	-216.00
121.0	93.15	-50.65	-111.91
122.0	80.17	-54.61	-21.78
123.0	68.12	-56.25	55.34
124.0	56.93	-55.74	120.44
125.0	46.51	-53.33	174.39
126.0	36.74	-49.28	217.98
127.0	27.53	-43.85	251.88
128.0	18.77	-37.30	276.65
129.0	10.37	-29.89	292.75
130.0	2.25	-21.76	300.56
131.0	-5.69	-13.19	300.34
132.0	-13.50	-4.36	292.29
133.0	-21.28	4.54	276.53
134.0	-29.10	13.32	253.09
135.0	-37.04	21.76	221.95
136.0	-45.19	29.63	182.97
137.0	-53.66	36.68	135.94
138.0	-62.57	42.58	80.54
139.0	-72.05	47.00	16.33
140.0	-82.69	48.58	-57.33
141.0	-95.30	48.13	-152.07
142.0	-106.10	40.20	-210.99
143.0	-120.17	33.30	-318.71
144.0	-134.88	24.74	-440.62
145.0	-150.34	14.23	-577.32
146.0	162.49	4.78	-729.65
147.0	146.43	-7.40	-569.38
148.0	130.58	-19.17	-425.31
149.0	115.18	-29.82	-297.29
150.0	100.50	-38.78	-184.82
151.0	86.66	-45.73	-87.09
152.0	73.69	-50.58	-3.26
153.0	61.56	-53.43	67.60
154.0	50.21	-54.42	126.34
155.0	39.58	-53.72	173.77
156.0	29.60	-51.55	210.60
157.0	20.22	-47.97	237.50

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
158.0	-4.78	12.48	114.39
159.0	-4.39	13.57	109.74
160.0	-4.16	14.26	105.53
161.0	-4.18	14.32	101.57
162.0	-4.60	13.41	97.64
163.0	-5.61	11.02	93.33
164.0	-7.47	6.51	88.06
165.0	-10.53	-0.98	80.98
166.0	-15.64	-13.61	68.24
166.5	-15.64	-13.60	62.17
167.5	-15.64	-13.60	46.53
168.5	-15.64	-13.60	30.89
169.5	-15.64	-13.60	15.25
170.5	-15.64	-13.60	-0.39

Envolvente de Esfuerzos - Trenes sobre Vía Derecha

Barra/Nudo/Caso			FZ (T)	MX (Tm)	MY (Tm)
501/	1/	121 (C)	139.921>>	-67.079	-2.491
501/	1/	165 (C)	-18.648<<	23.529	0.614
501/	1/	165 (C)	-18.648	23.529>>	0.614
501/	1/	104 (C)	97.159	-67.822<<	-1.999
501/	343/	121 (C)	139.921	-67.079	137.430>>
501/	343/	165 (C)	-18.648	23.529	-18.034<<
502/	343/	121 (C)	112.794>>	-98.884	134.980
502/	343/	165 (C)	-15.059<<	32.444	-17.434
502/	343/	165 (C)	-15.059	32.444>>	-17.434
502/	343/	121 (C)	112.794	-98.884<<	134.980
502/	341/	121 (C)	112.794	-98.884	247.774>>
502/	341/	165 (C)	-15.059	32.444	-32.492<<
503/	341/	121 (C)	90.684>>	-118.076	245.446
503/	341/	165 (C)	-12.614<<	38.518	-31.914
503/	341/	165 (C)	-12.614	38.518>>	-31.914
503/	341/	121 (C)	90.684	-118.076<<	245.446
503/	339/	121 (C)	90.684	-118.076	336.131>>
503/	339/	165 (C)	-12.614	38.518	-44.528<<
504/	339/	121 (C)	72.477>>	-127.430	333.967
504/	339/	165 (C)	-11.024<<	42.472	-43.974
504/	339/	165 (C)	-11.024	42.472>>	-43.974
504/	339/	121 (C)	72.477	-127.430<<	333.967
504/	337/	121 (C)	72.477	-127.430	406.443>>
504/	337/	165 (C)	-11.024	42.472	-54.999<<
505/	337/	121 (C)	57.262>>	-129.224	404.469
505/	337/	165 (C)	-10.067<<	44.863	-54.470
505/	337/	165 (C)	-10.067	44.863>>	-54.470
505/	337/	121 (C)	57.262	-129.224<<	404.469
505/	335/	121 (C)	57.262	-129.224	461.731>>
505/	335/	165 (C)	-10.067	44.863	-64.537<<
506/	335/	121 (C)	44.303>>	-125.301	459.961
506/	335/	165 (C)	-9.574<<	46.109	-64.033
506/	335/	165 (C)	-9.574	46.109>>	-64.033
506/	335/	121 (C)	44.303	-125.301<<	459.961
506/	333/	121 (C)	44.303	-125.301	504.264>>
506/	333/	165 (C)	-9.574	46.109	-73.607<<
507/	333/	104 (C)	33.801>>	-105.131	369.933
507/	333/	165 (C)	-9.422<<	46.517	-73.123
507/	333/	165 (C)	-9.422	46.517>>	-73.123
507/	333/	121 (C)	33.016	-117.130<<	502.705
507/	331/	121 (C)	33.016	-117.130	535.721>>
507/	331/	165 (C)	-9.422	46.517	-82.545<<
508/	331/	104 (C)	29.425>>	-95.791	402.545
508/	331/	165 (C)	-9.527<<	46.300	-82.080
508/	331/	165 (C)	-9.527	46.300>>	-82.080
508/	331/	121 (C)	22.940	-105.872<<	534.374
508/	329/	121 (C)	22.940	-105.872	557.314>>
508/	329/	165 (C)	-9.527	46.300	-91.607<<
509/	329/	151 (C)	25.946>>	-37.361	181.498
509/	329/	165 (C)	-9.835<<	45.593	-91.159
509/	329/	165 (C)	-9.835	45.593>>	-91.159
509/	329/	121 (C)	13.718	-92.429<<	556.177
509/	327/	121 (C)	13.718	-92.429	569.895>>
509/	327/	165 (C)	-9.835	45.593	-100.993<<
510/	327/	151 (C)	28.621>>	-30.249	206.964
510/	327/	165 (C)	-10.317<<	44.466	-100.559
510/	327/	165 (C)	-10.317	44.466>>	-100.559
510/	327/	121 (C)	5.074	-77.500<<	568.964
510/	325/	121 (C)	5.074	-77.500	574.038>>
510/	325/	165 (C)	-10.317	44.466	-110.876<<
511/	325/	151 (C)	31.785>>	-21.874	235.182
511/	325/	162 (C)	-11.482<<	-6.796	311.461
511/	325/	165 (C)	-10.968	42.934>>	-110.453
511/	325/	121 (C)	-3.203	-61.623<<	573.309
511/	325/	121 (C)	-3.203	-61.623	573.309>>
511/	323/	165 (C)	-10.968	42.934	-121.422<<
512/	323/	151 (C)	35.400>>	-12.334	266.659
512/	323/	162 (C)	-17.881<<	3.119	299.950
512/	323/	165 (C)	-11.801	40.966>>	-121.011
512/	323/	121 (C)	-11.276	-45.212<<	569.572
512/	323/	121 (C)	-11.276	-45.212	569.572>>
512/	321/	165 (C)	-11.801	40.966	-132.812<<
513/	321/	122 (C)	23.285>>	7.062	164.516
513/	321/	161 (C)	-25.019<<	2.422	382.458
513/	321/	165 (C)	-12.845	38.488>>	-132.414
513/	321/	104 (C)	-7.451	-30.218<<	492.175
513/	321/	121 (C)	-19.270	-28.590	557.953>>
513/	319/	165 (C)	-12.845	38.488	-145.259<<
514/	319/	122 (C)	10.707>>	11.845	187.717
514/	319/	161 (C)	-32.693<<	14.335	357.567
514/	319/	165 (C)	-14.144	35.391>>	-144.875
514/	319/	104 (C)	-17.233	-15.622<<	484.520
514/	319/	121 (C)	-27.285	-12.016	538.525>>
514/	317/	165 (C)	-14.144	35.391	-159.019<<
515/	317/	113 (C)	2.349>>	-3.904	24.121
515/	317/	151 (C)	-52.343<<	-6.259	284.929
515/	317/	165 (C)	-15.756	31.529>>	-158.652
515/	317/	151 (C)	-52.343	-6.259<<	284.929
515/	317/	121 (C)	-35.404	4.295	511.262>>
515/	315/	165 (C)	-15.756	31.529	-174.409<<
516/	315/	113 (C)	2.637>>	-3.149	26.418
516/	315/	161 (C)	-49.065<<	35.639	284.870
516/	315/	162 (C)	-45.811	37.171>>	189.304
516/	315/	113 (C)	2.637	-3.149<<	26.418
516/	315/	121 (C)	-43.701	20.151	476.056>>
516/	313/	165 (C)	-17.751	26.732	-191.815<<
517/	313/	113 (C)	2.991>>	-2.223	29.008
517/	313/	101 (C)	-60.299<<	38.302	280.455
517/	313/	161 (C)	-57.986	44.459>>	236.328
517/	313/	113 (C)	2.991	-2.223<<	29.008
517/	313/	121 (C)	-52.245	35.368	432.722>>
517/	311/	165 (C)	-20.206	20.803	-211.708<<
518/	311/	113 (C)	3.425>>	-1.096	31.958
518/	311/	101 (C)	-72.723<<	46.255	220.772
518/	311/	161 (C)	-67.554	51.661>>	178.974
518/	311/	113 (C)	3.425	-1.096<<	31.958
518/	311/	121 (C)	-61.110	49.761	381.007>>
518/	309/	165 (C)	-23.206	13.534	-234.641<<
519/	309/	113 (C)	3.951>>	0.265	35.349
519/	309/	101 (C)	-85.944<<	52.187	148.767
519/	309/	121 (C)	-70.369	63.132>>	320.585
519/	309/	153 (C)	1.871	-0.029<<	16.981
519/	309/	121 (C)	-70.369	63.132	320.585>>
519/	307/	165 (C)	-26.834	4.715	-261.259<<
520/	307/	113 (C)	4.580>>	1.889	39.277
520/	307/	101 (C)	-92.075<<	57.137	63.621
520/	307/	121 (C)	-80.108	75.265>>	251.052
520/	307/	105 (C)	-26.640	-8.596<<	-219.974
520/	307/	121 (C)	-80.108	75.265	251.052>>
520/	305/	165 (C)	-31.169	-5.843	-292.288<<
521/	305/	113 (C)	5.306>>	3.759	43.854
521/	305/	161 (C)	-101.743<<	59.567	-53.233
521/	305/	121 (C)	-91.039	84.480>>	171.919
521/	305/	105 (C)	-30.901	-19.207<<	-246.616
521/	305/	121 (C)	-91.039	84.480	171.919>>
521/	628/	165 (C)	-36.088	-17.849	-321.668<<
522/	628/	113 (C)	6.093>>	5.787	48.189
522/	628/	161 (C)	-115.550<<	56.271	-135.265
522/	628/	121 (C)	-103.084	90.971>>	98.846
522/	628/	165 (C)	-41.358	-30.736<<	-321.778
522/	628/	164 (C)	-83.707	80.798	111.897>>
522/	303/	165 (C)	-41.358	-30.736	-347.280<<
523/	303/	113 (C)	6.918>>	7.919	51.964
523/	303/	161 (C)	-130.268<<	50.728	-205.694
523/	303/	121 (C)	-116.043	95.219>>	36.378
523/	303/	165 (C)	-46.838	-44.153<<	-347.428
523/	303/	106 (C)	-55.043	61.971	78.899>>
523/	301/	165 (C)	-46.838	-44.153	-394.266<<
524/	301/	113 (C)	7.780>>	10.154	58.930
524/	301/	161 (C)	-146.304<<	41.950	-335.243
524/	301/	121 (C)	-130.473	95.878>>	-78.524
524/	301/	165 (C)	-52.439	-57.901<<	-394.617
524/	299/	113 (C)	7.780	10.154	66.710>>
524/	299/	162 (C)	-136.500	18.950	-525.252<<
525/	299/	113 (C)	8.692>>	12.517	66.785
525/	299/	161 (C)	-163.038<<	31.423	-480.987
525/	299/	121 (C)	-145.549	94.862>>	-207.867
525/	299/	165 (C)	-58.267	-72.164<<	-447.620
525/	297/	113 (C)	8.692	12.517	75.477>>
525/	297/	162 (C)	-152.063	6.232	-677.006<<
526/	297/	113 (C)	9.560>>	14.756	75.569
526/	297/	161 (C)	-180.502<<	19.020	-643.579
526/	297/	121 (C)	-161.873	90.532>>	-352.299
526/	297/	165 (C)	-63.645	-85.144<<	-506.595
526/	3/	113 (C)	9.560	14.756	85.129>>
526/	3/	162 (C)	-168.106	-7.682	-844.940<<
527/	3/	162 (C)	181.174>>	-17.370	-845.103
527/	3/	113 (C)	-13.738<<	16.316	85.345
527/	3/	104 (C)	24.966	88.748>>	-336.058
527/	3/	165 (C)	163.297	-96.161<<	-571.726
527/	3/	113 (C)	-13.738	16.316	85.345>>
527/	3/	162 (C)	181.174	-17.370	-845.103<<
528/	295/	162 (C)	163.037>>	-31.426	-664.281
528/	295/	113 (C)	-13.004<<	18.179	71.755
528/	295/	104 (C)	23.275	84.943>>	-310.244

528/	295/	165 (C)	146.291	-107.970<<	-409.574
528/	295/	113 (C)	-13.004	18.179	71.755>>
528/	295/	162 (C)	163.037	-31.426	-664.281<<
529/	293/	162 (C)	145.541>>	-43.949	-501.746
529/	293/	113 (C)	-12.372<<	19.783	58.911
529/	293/	104 (C)	20.937	79.315>>	-286.182
529/	293/	165 (C)	130.558	-116.476<<	-264.528
529/	293/	113 (C)	-12.372	19.783	58.911>>
529/	293/	161 (C)	129.584	-14.605	-518.419<<
530/	291/	162 (C)	128.742>>	-54.672	-356.927
530/	291/	113 (C)	-11.738<<	21.394	46.729
530/	291/	104 (C)	18.625	73.759>>	-264.545
530/	291/	165 (C)	115.542	-123.125<<	-135.364
530/	291/	113 (C)	-11.738	21.394	46.729>>
530/	291/	161 (C)	114.793	-25.372	-389.233<<
531/	289/	162 (C)	112.944>>	-62.881	-229.057
531/	289/	113 (C)	-11.139<<	22.925	35.204
531/	289/	104 (C)	16.460	68.548>>	-245.297
531/	289/	165 (C)	101.438	-127.453<<	-21.304
531/	287/	123 (C)	101.533	-109.915	130.919>>
531/	289/	121 (C)	32.710	57.287	-346.150<<
532/	287/	162 (C)	98.276>>	-68.238	-117.055
532/	287/	113 (C)	-10.596<<	24.318	24.297
532/	287/	104 (C)	14.504	63.870>>	-228.266
532/	287/	165 (C)	88.316	-129.296<<	78.624
532/	285/	123 (C)	86.857	-110.142	216.393>>
532/	287/	121 (C)	29.735	50.355	-312.972<<
533/	285/	162 (C)	84.751>>	-70.728	-19.730
533/	285/	113 (C)	-10.122<<	25.551	13.941
533/	285/	104 (C)	12.785	59.726>>	-213.248
533/	285/	165 (C)	76.163	-128.651<<	165.470
533/	283/	123 (C)	73.228	-107.657	288.298>>
533/	285/	121 (C)	27.101	44.173	-282.854<<
534/	283/	162 (C)	72.312>>	-70.481	64.079
534/	283/	113 (C)	-9.720<<	26.608	4.073
534/	283/	104 (C)	11.303	56.185>>	-199.976
534/	283/	165 (C)	64.916	-125.717<<	240.195
534/	281/	123 (C)	60.561	-102.733	347.598>>
534/	283/	121 (C)	24.822	38.872	-255.420<<
535/	281/	162 (C)	60.857>>	-67.749	135.499
535/	281/	113 (C)	-9.393<<	27.485	-5.385
535/	281/	104 (C)	10.041	53.186>>	-188.212
535/	281/	165 (C)	54.486	-120.705<<	303.743
535/	279/	123 (C)	48.745	-95.631	395.173>>
535/	281/	121 (C)	22.886	34.398	-230.307<<
536/	279/	102 (C)	52.909>>	-61.057	166.524
536/	279/	113 (C)	-9.140<<	28.184	-14.506
536/	279/	166 (C)	6.235	50.804>>	-136.498
536/	279/	165 (C)	44.771	-113.909<<	356.934
536/	277/	123 (C)	37.656	-86.704	431.771>>
536/	279/	121 (C)	21.264	30.700	-207.161<<
537/	277/	102 (C)	47.427>>	-54.339	218.710
537/	277/	113 (C)	-8.960<<	28.701	-23.374
537/	277/	166 (C)	4.775	50.034>>	-129.827
537/	277/	165 (C)	35.665	-105.481<<	400.541
537/	275/	123 (C)	27.169	-76.149	458.032>>
537/	277/	121 (C)	19.918	27.627	-185.662<<
538/	275/	102 (C)	42.615>>	-45.943	265.503
538/	275/	113 (C)	-8.857<<	29.037	-32.057
538/	275/	166 (C)	3.421	49.537>>	-124.608
538/	275/	165 (C)	27.072	-95.788<<	435.146
538/	273/	123 (C)	17.163	-64.402	474.419>>
538/	275/	121 (C)	18.805	25.132	-165.523<<
539/	273/	152 (C)	40.569>>	-29.285	212.994
539/	273/	112 (C)	-9.491<<	-63.426	323.790
539/	273/	166 (C)	2.128	49.191>>	-120.736
539/	273/	165 (C)	18.901	-85.021<<	461.280
539/	271/	123 (C)	7.519	-51.721	481.314>>
539/	273/	104 (C)	6.563	45.057	-152.159<<
540/	271/	152 (C)	43.700>>	-20.975	253.158
540/	271/	113 (C)	-8.901<<	29.110	-49.183
540/	271/	166 (C)	0.849	48.891>>	-118.145
540/	271/	165 (C)	11.069	-73.436<<	479.365
540/	269/	165 (C)	11.069	-73.436	490.433>>
540/	271/	104 (C)	5.895	43.530	-145.180<<
541/	269/	124 (C)	23.279>>	-14.650	133.355
541/	269/	123 (C)	-11.121<<	-24.691	478.662
541/	269/	166 (C)	-0.467	48.475>>	-116.835
541/	269/	165 (C)	3.507	-61.070<<	489.764
541/	267/	165 (C)	3.507	-61.070	493.271>>
541/	269/	104 (C)	5.224	41.960	-138.883<<
542/	267/	124 (C)	25.675>>	-7.821	156.327
542/	267/	123 (C)	-20.334<<	-10.894	467.392
542/	267/	166 (C)	-1.873	47.844>>	-116.827
542/	267/	165 (C)	-3.850	-48.235<<	492.731
542/	267/	165 (C)	-3.850	-48.235	492.731>>
542/	267/	104 (C)	4.504	40.280	-133.256<<
543/	265/	124 (C)	28.524>>	0.218	181.757
543/	265/	152 (C)	-45.052<<	-17.345	294.823
543/	265/	166 (C)	-3.429	46.839>>	-118.219
543/	265/	165 (C)	-11.057	-35.023<<	488.480
543/	265/	165 (C)	-11.057	-35.023	488.480>>
543/	263/	106 (C)	-2.849	39.707	-130.904<<
544/	263/	124 (C)	16.080>>	5.368	210.112
544/	263/	152 (C)	-41.687<<	-8.453	249.814
544/	263/	166 (C)	-5.199	45.310>>	-121.158
544/	263/	165 (C)	-18.161	-21.610<<	477.160
544/	263/	165 (C)	-18.161	-21.610	477.160>>
544/	261/	106 (C)	-3.826	37.373	-134.312<<
545/	261/	121 (C)	14.208>>	15.092	-48.049
545/	261/	123 (C)	-48.856<<	28.235	378.870
545/	261/	166 (C)	-7.255	43.043>>	-125.878
545/	261/	165 (C)	-25.211	-7.974<<	458.881
545/	261/	165 (C)	-25.211	-7.974	458.881>>
545/	259/	106 (C)	-5.051	34.387	-138.963<<
546/	259/	121 (C)	13.626>>	13.773	-33.676
546/	259/	123 (C)	-59.062<<	39.492	330.493
546/	259/	163 (C)	-32.370	41.259>>	205.894
546/	259/	165 (C)	-32.249	5.629<<	433.692
546/	259/	165 (C)	-32.249	5.629	433.692>>
546/	257/	106 (C)	-6.585	30.637	-145.159<<
547/	257/	121 (C)	12.999>>	12.326	-19.898
547/	257/	123 (C)	-69.846<<	49.271	272.060
547/	257/	123 (C)	-69.846	49.271>>	272.060
547/	257/	151 (C)	4.730	6.087<<	-6.958
547/	257/	165 (C)	-39.322	19.128	401.610>>
547/	255/	166 (C)	-12.538	35.609	-154.404<<
548/	255/	121 (C)	12.321>>	10.740	-6.760
548/	255/	123 (C)	-81.368<<	57.143	202.973
548/	255/	123 (C)	-81.368	57.143>>	202.973
548/	255/	151 (C)	4.466	5.441<<	-2.165
548/	255/	165 (C)	-46.479	32.352	362.597>>
548/	253/	166 (C)	-15.932	30.030	-169.897<<
549/	253/	121 (C)	11.599>>	9.028	5.678
549/	253/	123 (C)	-93.801<<	62.722	122.467
549/	253/	123 (C)	-93.801	62.722>>	122.467
549/	253/	153 (C)	-8.163	3.617<<	-69.644
549/	253/	165 (C)	-53.780	45.257	316.562>>
549/	251/	166 (C)	-19.938	22.892	-189.444<<
550/	251/	121 (C)	10.851>>	7.240	17.371
550/	251/	123 (C)	-107.331<<	65.495	29.626
550/	251/	123 (C)	-107.331	65.495>>	29.626
550/	251/	153 (C)	-9.391	0.561<<	-77.728
550/	251/	165 (C)	-61.290	57.569	263.370>>
550/	249/	166 (C)	-24.631	14.063	-213.741<<
551/	249/	121 (C)	10.118>>	5.475	28.284
551/	249/	123 (C)	-122.144<<	65.008	-76.672
551/	249/	165 (C)	-69.090	69.097>>	202.814
551/	249/	113 (C)	-23.425	-5.618<<	-184.430
551/	249/	165 (C)	-69.090	69.097	202.814>>
551/	247/	166 (C)	-30.063	3.416	-243.553<<
552/	247/	121 (C)	9.360>>	3.657	38.447
552/	247/	123 (C)	-138.892<<	59.695	-197.804
552/	247/	165 (C)	-77.833	78.356>>	134.578
552/	247/	106 (C)	-25.806	-16.983<<	-215.195
552/	247/	165 (C)	-77.833	78.356	134.578>>
552/	358/	123 (C)	-138.892	59.695	-318.490<<
553/	358/	121 (C)	8.588>>	1.802	46.612
553/	358/	123 (C)	-157.314<<	50.238	-317.540
553/	358/	165 (C)	-87.530	85.274>>	67.885
553/	358/	106 (C)	-30.762	-29.327<<	-237.700
553/	358/	165 (C)	-87.530	85.274	67.885>>
553/	245/	123 (C)	-157.314	50.238	-414.101<<
554/	245/	121 (C)	7.802>>	-0.092	51.915
554/	245/	123 (C)	-176.918<<	37.846	-413.151
554/	245/	165 (C)	-97.967	90.378>>	15.125
554/	245/	106 (C)	-35.922	-42.189<<	-256.687
554/	243/	121 (C)	7.802	-0.092	59.718>>
554/	243/	123 (C)	-176.918	37.846	-590.072<<
555/	243/	121 (C)	6.977>>	-2.086	59.740
555/	243/	123 (C)	-182.439<<	25.389	-589.344
555/	243/	165 (C)	-109.593	92.597>>	-81.826
555/	243/	106 (C)	-41.254	-55.528<<	-292.889
555/	241/	121 (C)	6.977	-2.086	66.718>>
555/	241/	123 (C)	-182.439	25.389	-771.786<<
556/	241/	121 (C)	6.122>>	-4.165	66.714
556/	241/	123 (C)	-188.780<<	10.923	-771.311
556/	241/	165 (C)	-121.644	93.719>>	-190.384
556/	241/	106 (C)	-46.849	-69.467<<	-334.622
556/	239/	121 (C)	6.122	-4.165	72.836>>
556/	239/	123 (C)	-188.780	10.923	-960.095<<
557/	239/	121 (C)	5.308>>	-6.128	72.798
557/	239/	123 (C)	-195.752<<	-5.328	-959.782
557/	239/	165 (C)	-134.747	91.980>>	-311.000
557/	239/	106 (C)	-52.069	-82.418<<	-382.078
557/	5/	121 (C)	5.308	-6.128	78.106>>
557/	5/	123 (C)	-195.752	-5.328	-1155.538<<
558/	5/	123 (C)	193.987>>	-14.440	-1155.599
558/	5/	121 (C)	-2.362<<	-8.373	77.984
558/	5/	165 (C)	39.544	90.674>>	-444.140

558/	5/	166 (C)	163.893	-94.526<<	-546.455
558/	5/	121 (C)	-2.362	-8.373	77.984>>
558/	5/	123 (C)	193.987	-14.440	-1155.599<<
559/	237/	123 (C)	186.926>>	-30.915	-961.927
559/	237/	121 (C)	-2.936<<	-9.727	75.521
559/	237/	165 (C)	36.850	87.233>>	-403.695
559/	237/	166 (C)	146.314	-107.729<<	-383.688
559/	237/	121 (C)	-2.936	-9.727	75.521>>
559/	237/	123 (C)	186.926	-30.915	-961.927<<
560/	235/	123 (C)	180.471>>	-45.666	-775.519
560/	235/	121 (C)	-3.329<<	-10.637	72.463
560/	235/	165 (C)	33.423	81.869>>	-365.973
560/	235/	166 (C)	130.078	-117.332<<	-238.662
560/	235/	121 (C)	-3.329	-10.637	72.463>>
560/	235/	123 (C)	180.471	-45.666	-775.519<<
561/	233/	123 (C)	174.802>>	-58.520	-595.875
561/	233/	121 (C)	-3.610<<	-11.265	69.013
561/	233/	165 (C)	29.985	76.396>>	-331.798
561/	233/	166 (C)	114.641	-124.931<<	-110.007
561/	233/	121 (C)	-3.610	-11.265	69.013>>
561/	233/	123 (C)	174.802	-58.520	-595.875<<
562/	231/	123 (C)	154.683>>	-72.193	-422.117
562/	231/	121 (C)	-3.805<<	-11.684	65.283
562/	231/	165 (C)	26.700	71.270>>	-301.148
562/	231/	166 (C)	100.191	-130.031<<	3.129
562/	229/	166 (C)	100.191	-130.031	103.319>>
562/	231/	123 (C)	154.683	-72.193	-422.117<<
563/	229/	123 (C)	136.046>>	-82.156	-268.597
563/	229/	121 (C)	-3.934<<	-11.937	61.361
563/	229/	165 (C)	23.660	66.698>>	-273.855
563/	229/	166 (C)	86.791	-132.465<<	101.798
563/	227/	166 (C)	86.791	-132.465	188.596>>
563/	229/	165 (C)	23.660	66.698	-273.855<<
564/	227/	123 (C)	118.925>>	-88.252	-133.775
564/	227/	121 (C)	-4.015<<	-12.084	57.309
564/	227/	165 (C)	20.906	62.866>>	-249.635
564/	227/	166 (C)	74.418	-132.327<<	187.059
564/	225/	166 (C)	74.418	-132.327	261.476>>
564/	227/	165 (C)	20.906	62.866	-249.635<<
565/	225/	123 (C)	103.255>>	-90.697	-16.082
565/	225/	121 (C)	-4.058<<	-12.138	53.179
565/	225/	165 (C)	18.442	59.713>>	-228.210
565/	225/	166 (C)	63.002	-129.743<<	259.996
565/	223/	166 (C)	63.002	-129.743	322.996>>
565/	225/	165 (C)	18.442	59.713	-228.210<<
566/	223/	123 (C)	88.912>>	-89.792	85.983
566/	223/	121 (C)	-4.075<<	-12.126	49.007
566/	223/	165 (C)	16.252	57.225>>	-209.271
566/	223/	166 (C)	52.444	-124.981<<	321.585
566/	221/	166 (C)	52.444	-124.981	374.028>>
566/	223/	165 (C)	16.252	57.225	-209.271<<
567/	221/	123 (C)	75.738>>	-85.913	173.789
567/	221/	121 (C)	-4.070<<	-12.061	44.821
567/	221/	165 (C)	14.301	55.302>>	-192.541
567/	221/	166 (C)	42.636	-118.277<<	372.717
567/	219/	166 (C)	42.636	-118.277	415.352>>
567/	221/	165 (C)	14.301	55.302	-192.541<<
568/	219/	123 (C)	63.570>>	-79.536	248.504
568/	219/	121 (C)	-4.048<<	-11.965	40.639
568/	219/	165 (C)	12.549	53.898>>	-177.756
568/	219/	166 (C)	33.471	-110.020<<	414.121
568/	217/	166 (C)	33.471	-110.020	447.591>>
568/	219/	165 (C)	12.549	53.898	-177.756<<
569/	217/	123 (C)	52.239>>	-71.018	311.180
569/	217/	124 (C)	-7.826<<	-30.405	169.053
569/	217/	165 (C)	10.947	52.842>>	-164.730
569/	217/	166 (C)	24.842	-100.358<<	446.487
569/	215/	166 (C)	24.842	-100.358	471.332>>
569/	217/	165 (C)	10.947	52.842	-164.730<<
570/	215/	123 (C)	41.590>>	-60.782	362.666
570/	215/	122 (C)	-13.903<<	-19.907	214.039
570/	215/	165 (C)	9.446	52.027>>	-153.300
570/	215/	166 (C)	16.656	-89.573<<	470.352
570/	213/	166 (C)	16.656	-89.573	487.008>>
570/	215/	105 (C)	7.325	48.554	-156.003<<
571/	213/	153 (C)	43.351>>	-20.482	252.076
571/	213/	122 (C)	-26.812<<	-15.859	200.152
571/	213/	165 (C)	7.992	51.306>>	-143.373
571/	213/	166 (C)	8.829	-77.831<<	486.165
571/	211/	166 (C)	8.829	-77.831	494.994>>
571/	213/	105 (C)	6.671	47.018	-148.235<<
572/	211/	123 (C)	21.773>>	-36.590	434.657
572/	211/	122 (C)	-24.309<<	-8.685	173.429
572/	211/	165 (C)	6.529	50.580>>	-134.884
572/	211/	166 (C)	1.288	-65.464<<	494.270
572/	209/	166 (C)	1.288	-65.464	495.558>>
572/	211/	105 (C)	5.992	45.444	-141.115<<
573/	209/	123 (C)	12.357>>	-23.266	456.123
573/	209/	122 (C)	-22.152<<	-2.443	149.266
573/	209/	165 (C)	4.998	49.664>>	-127.858
573/	209/	166 (C)	-6.032	-52.492<<	494.978
573/	209/	166 (C)	-6.032	-52.492	494.978>>
573/	209/	105 (C)	5.246	43.682	-134.683<<
574/	207/	112 (C)	11.797>>	15.420	-58.098
574/	207/	153 (C)	-45.391<<	-16.884	292.718
574/	207/	165 (C)	3.340	48.421>>	-122.358
574/	207/	166 (C)	-13.189	-39.115<<	488.507
574/	207/	166 (C)	-13.189	-39.115	488.507>>
574/	207/	105 (C)	4.386	41.632	-129.004<<
575/	205/	112 (C)	11.374>>	14.460	-46.147
575/	205/	153 (C)	-42.025<<	-7.938	247.378
575/	205/	165 (C)	1.489	46.678>>	-118.520
575/	205/	166 (C)	-20.234	-25.416<<	475.024
575/	205/	166 (C)	-20.234	-25.416	475.024>>
575/	205/	105 (C)	3.364	39.158	-124.197<<
576/	203/	124 (C)	10.954>>	25.858	168.613
576/	203/	103 (C)	-40.266<<	22.677	311.753
576/	203/	165 (C)	-0.623	44.301>>	-116.527
576/	203/	164 (C)	-23.128	-12.315<<	382.469
576/	203/	123 (C)	-15.192	18.352	465.600>>
576/	203/	105 (C)	2.128	36.170	-120.418<<
577/	201/	112 (C)	10.460>>	12.352	-23.546
577/	201/	103 (C)	-44.513<<	32.467	271.903
577/	201/	165 (C)	-3.064	41.082>>	-116.660
577/	201/	121 (C)	-3.127	-9.343<<	5.837
577/	201/	123 (C)	-24.444	31.992	450.734>>
577/	199/	165 (C)	-3.064	41.082	-119.724<<
578/	199/	112 (C)	9.946>>	11.139	-12.954
578/	199/	103 (C)	-49.259<<	40.977	227.911
578/	199/	163 (C)	-45.632	45.295>>	257.455
578/	199/	121 (C)	-2.912	-8.776<<	2.620
578/	199/	123 (C)	-33.873	45.151	426.767>>
578/	197/	165 (C)	-5.905	36.857	-125.158<<
579/	197/	112 (C)	9.389>>	9.808	-2.889
579/	197/	163 (C)	-55.089<<	53.066	212.453
579/	197/	123 (C)	-43.557	57.660>>	393.511
579/	197/	121 (C)	-2.671	-8.144<<	-0.374
579/	197/	123 (C)	-43.557	57.660	393.511>>
579/	195/	165 (C)	-9.214	31.448	-133.936<<
580/	195/	112 (C)	8.794>>	8.374	6.603
580/	195/	163 (C)	-65.171<<	59.206	158.101
580/	195/	123 (C)	-53.576	69.207>>	350.719
580/	195/	121 (C)	-2.409	-7.460<<	-3.122
580/	195/	123 (C)	-53.576	69.207	350.719>>
580/	193/	165 (C)	-13.049	24.748	-146.588<<
581/	193/	112 (C)	8.181>>	6.886	15.478
581/	193/	163 (C)	-75.999<<	63.467	93.743
581/	193/	123 (C)	-64.001	79.709>>	298.031
581/	193/	121 (C)	-2.135	-6.748<<	-5.596
581/	193/	123 (C)	-64.001	79.709	298.031>>
581/	191/	165 (C)	-17.449	16.623	-163.709<<
582/	191/	112 (C)	7.584>>	5.434	23.714
582/	191/	163 (C)	-87.686<<	65.544	18.616
582/	191/	123 (C)	-74.900	88.963>>	235.031
582/	191/	121 (C)	-1.867	-6.051<<	-7.784
582/	191/	123 (C)	-74.900	88.963	235.031>>
582/	189/	165 (C)	-22.423	7.069	-185.896<<
583/	189/	112 (C)	6.973>>	3.951	31.340
583/	189/	163 (C)	-100.810<<	64.083	-68.202
583/	189/	123 (C)	-87.114	95.003>>	161.228
583/	189/	105 (C)	-16.264	-9.298<<	-147.860
583/	189/	123 (C)	-87.114	95.003	161.228>>
583/	362/	165 (C)	-27.953	-3.871	-203.072<<
584/	362/	112 (C)	6.353>>	2.442	35.688
584/	362/	163 (C)	-114.847<<	60.393	-129.692
584/	362/	123 (C)	-100.224	98.824>>	108.501
584/	362/	105 (C)	-20.275	-19.241<<	-157.951
584/	362/	123 (C)	-100.224	98.824	108.501>>
584/	187/	165 (C)	-33.777	-15.506	-223.768<<
585/	187/	112 (C)	5.717>>	0.904	39.621
585/	187/	163 (C)	-129.813<<	54.369	-199.336
585/	187/	123 (C)	-114.277	100.340>>	48.143
585/	187/	105 (C)	-24.467	-29.682<<	-170.444
585/	187/	123 (C)	-114.277	100.340	48.143>>
585/	185/	163 (C)	-129.813	54.369	-329.147<<
586/	185/	112 (C)	5.046>>	-0.733	45.363
586/	185/	163 (C)	-146.130<<	45.081	-328.369
586/	185/	123 (C)	-129.858	98.119>>	-64.905
586/	185/	165 (C)	-46.277	-40.980<<	-263.786
586/	183/	112 (C)	5.046	-0.733	50.410>>
586/	183/	163 (C)	-146.130	45.081	-474.498<<
587/	183/	112 (C)	4.354>>	-2.423	50.414
587/	183/	163 (C)	-163.121<<	34.060	-473.891
587/	183/	123 (C)	-146.060	94.260>>	-193.586
587/	183/	165 (C)	-52.959	-54.769<<	-310.418
587/	181/	112 (C)	4.354	-2.423	54.768>>
587/	181/	163 (C)	-163.121	34.060	-637.025<<
588/	181/	112 (C)	3.689>>	-4.041	54.743
588/	181/	163 (C)	-180.831<<	21.177	-636.541
588/	181/	123 (C)	-147.725	91.248>>	-338.549

588/	181/	165 (C)	-59.347	-67.704<<	-363.897
588/	7/	112 (C)	3.689	-4.041	58.432>>
588/	7/	163 (C)	-180.831	21.177	-817.370<<
589/	7/	124 (C)	170.022>>	1.518	-706.832
589/	7/	112 (C)	-1.593<<	-5.850	58.347
589/	7/	166 (C)	39.855	89.325>>	-450.393
589/	7/	165 (C)	135.319	-78.894<<	-424.464
589/	7/	112 (C)	-1.593	-5.850	58.347>>
589/	7/	163 (C)	160.544	12.554	-817.019<<
590/	179/	124 (C)	150.614>>	-10.237	-536.944
590/	179/	112 (C)	-2.073<<	-7.005	56.677
590/	179/	166 (C)	37.263	86.224>>	-409.622
590/	179/	165 (C)	120.407	-90.461<<	-290.110
590/	179/	112 (C)	-2.073	-7.005	56.677>>
590/	179/	163 (C)	144.659	-0.760	-656.495<<
591/	177/	124 (C)	131.743>>	-20.713	-386.603
591/	177/	112 (C)	-2.412<<	-7.798	54.513
591/	177/	166 (C)	33.921	81.038>>	-371.496
591/	177/	165 (C)	106.669	-98.978<<	-170.785
591/	177/	112 (C)	-2.412	-7.798	54.513>>
591/	177/	163 (C)	129.126	-13.279	-512.008<<
592/	175/	163 (C)	114.201>>	-24.334	-383.267
592/	175/	112 (C)	-2.659<<	-8.362	52.010
592/	175/	166 (C)	30.544	75.690>>	-336.832
592/	175/	165 (C)	93.646	-105.690<<	-65.312
592/	175/	112 (C)	-2.659	-8.362	52.010>>
592/	175/	163 (C)	114.201	-24.334	-383.267<<
593/	173/	163 (C)	100.178>>	-33.080	-269.600
593/	173/	112 (C)	-2.835<<	-8.761	49.258
593/	173/	166 (C)	27.303	70.706>>	-305.616
593/	173/	165 (C)	81.487	-110.217<<	27.049
593/	171/	165 (C)	81.487	-110.217	108.535>>
593/	173/	123 (C)	31.887	53.872	-316.883<<
594/	171/	163 (C)	87.185>>	-39.282	-170.038
594/	171/	112 (C)	-2.957<<	-9.021	46.331
594/	171/	166 (C)	24.292	66.238>>	-277.715
594/	171/	165 (C)	70.234	-112.453<<	107.235
594/	169/	165 (C)	70.234	-112.453	177.468>>
594/	171/	123 (C)	28.655	46.223	-284.597<<
595/	169/	163 (C)	75.242>>	-42.865	-83.501
595/	169/	112 (C)	-3.036<<	-9.174	43.285
595/	169/	166 (C)	21.555	62.402>>	-252.879
595/	169/	165 (C)	59.862	-112.441<<	176.188
595/	167/	165 (C)	59.862	-112.441	236.049>>
595/	169/	123 (C)	25.836	39.545	-255.621<<
596/	167/	163 (C)	64.298>>	-43.937	-8.915
596/	167/	112 (C)	-3.083<<	-9.257	40.159
596/	167/	166 (C)	19.100	59.296>>	-230.801
596/	167/	165 (C)	50.307	-110.403<<	234.783
596/	165/	165 (C)	50.307	-110.403	285.089>>
596/	167/	166 (C)	19.100	59.296	-230.801<<
597/	165/	163 (C)	54.261>>	-42.735	54.765
597/	165/	112 (C)	-3.105<<	-9.277	36.988
597/	165/	166 (C)	16.910	56.812>>	-211.206
597/	165/	165 (C)	41.484	-106.489<<	283.892
597/	163/	165 (C)	41.484	-106.489	325.375>>
597/	165/	166 (C)	16.910	56.812	-211.206<<
598/	163/	163 (C)	45.018>>	-39.542	108.462
598/	163/	112 (C)	-3.108<<	-9.250	33.796
598/	163/	166 (C)	14.954	54.897>>	-193.814

598/	163/	165 (C)	33.297	-100.960<<	324.252
598/	161/	165 (C)	33.297	-100.960	357.549>>
598/	163/	166 (C)	14.954	54.897	-193.814<<
599/	161/	163 (C)	36.446>>	-34.650	152.994
599/	161/	112 (C)	-3.095<<	-9.183	30.603
599/	161/	166 (C)	13.191	53.433>>	-178.390
599/	161/	165 (C)	25.655	-94.017<<	356.522
599/	159/	165 (C)	25.655	-94.017	382.176>>
599/	161/	166 (C)	13.191	53.433	-178.390<<
600/	159/	163 (C)	28.424>>	-28.417	189.032
600/	159/	112 (C)	-3.068<<	-9.090	27.422
600/	159/	166 (C)	11.574	52.356>>	-164.719
600/	159/	165 (C)	18.469	-85.991<<	381.227
600/	157/	165 (C)	18.469	-85.991	399.698>>
600/	159/	106 (C)	8.942	49.962	-165.946<<
601/	157/	163 (C)	20.830>>	-21.090	217.151
601/	157/	124 (C)	-14.489<<	-20.760	216.515
601/	157/	166 (C)	10.053	51.492>>	-152.667
601/	157/	165 (C)	11.659	-76.976<<	398.861
601/	155/	165 (C)	11.659	-76.976	410.520>>
601/	157/	106 (C)	8.248	48.346	-156.552<<
602/	155/	123 (C)	15.509>>	15.762	-112.057
602/	155/	124 (C)	-27.398<<	-16.723	202.035
602/	155/	166 (C)	8.574	50.710>>	-142.137
602/	155/	165 (C)	5.155	-67.149<<	409.799
602/	153/	165 (C)	5.155	-67.149	414.954>>
602/	155/	106 (C)	7.569	46.746	-147.863<<
603/	153/	123 (C)	14.853>>	14.339	-96.408
603/	153/	124 (C)	-24.892<<	-9.556	174.719
603/	153/	166 (C)	7.082	49.913>>	-133.071
603/	153/	165 (C)	-1.105	-56.790<<	414.332
603/	153/	165 (C)	-1.105	-56.790	414.332>>
603/	153/	106 (C)	6.862	45.102	-139.848<<
604/	151/	123 (C)	14.278>>	13.090	-81.422
604/	151/	124 (C)	-22.731<<	-3.315	149.965
604/	151/	166 (C)	5.520	48.919>>	-125.496
604/	151/	165 (C)	-7.175	-45.915<<	412.726
604/	151/	165 (C)	-7.175	-45.915	412.726>>
604/	151/	106 (C)	6.085	43.264	-132.550<<
605/	149/	123 (C)	13.751>>	11.939	-67.016
605/	149/	124 (C)	-20.909<<	2.017	127.412
605/	149/	166 (C)	3.827	47.578>>	-119.486
605/	149/	165 (C)	-13.102	-34.646<<	405.171
605/	149/	165 (C)	-13.102	-34.646	405.171>>
605/	149/	106 (C)	5.193	41.122	-126.041<<
606/	147/	123 (C)	13.245>>	10.838	-53.140
606/	147/	124 (C)	-19.402<<	6.465	106.712
606/	147/	166 (C)	1.940	45.770>>	-115.160
606/	147/	165 (C)	-18.928	-23.213<<	391.802
606/	147/	165 (C)	-18.928	-23.213	391.802>>
606/	147/	106 (C)	4.139	38.595	-120.425<<
607/	145/	123 (C)	12.740>>	9.715	-39.777
607/	145/	165 (C)	-24.694<<	-11.605	372.731
607/	145/	166 (C)	-0.205	43.296>>	-112.730
607/	145/	165 (C)	-24.694	-11.605<<	372.731
607/	145/	165 (C)	-24.694	-11.605	372.731>>
607/	145/	106 (C)	2.875	35.526	-115.881<<
608/	143/	123 (C)	12.218>>	8.534	-26.930
608/	143/	162 (C)	-31.964<<	33.610	220.415
608/	143/	166 (C)	-2.675	39.994>>	-112.461

608/	143/	112 (C)	-2.353	-7.096<<	4.084
608/	143/	165 (C)	-30.441	0.071	348.016>>
608/	141/	166 (C)	-2.675	39.994	-115.137<<
609/	141/	123 (C)	11.671>>	7.281	-14.613
609/	141/	162 (C)	-39.692<<	40.467	188.934
609/	141/	163 (C)	-37.066	44.332>>	186.112
609/	141/	112 (C)	-2.188	-6.658<<	1.662
609/	141/	165 (C)	-36.211	11.599	317.678>>
609/	139/	166 (C)	-5.535	35.736	-120.212<<
610/	139/	123 (C)	11.100>>	5.952	-2.859
610/	139/	162 (C)	-47.887<<	46.152	149.807
610/	139/	163 (C)	-45.421	49.624>>	149.649
610/	139/	112 (C)	-2.007	-6.184<<	-0.587
610/	139/	165 (C)	-42.058	22.944	281.693>>
610/	137/	164 (C)	-10.793	28.526	-130.257<<
611/	137/	123 (C)	10.517>>	4.583	8.305
611/	137/	162 (C)	-56.649<<	50.401	102.552
611/	137/	163 (C)	-54.348	53.468>>	104.894
611/	137/	112 (C)	-1.819	-5.692<<	-2.649
611/	137/	165 (C)	-48.041	33.940	239.984>>
611/	135/	164 (C)	-14.480	22.157	-144.384<<
612/	135/	123 (C)	9.950>>	3.241	18.862
612/	135/	162 (C)	-66.075<<	52.946	46.603
612/	135/	163 (C)	-63.935	55.615>>	51.271
612/	135/	112 (C)	-1.636	-5.210<<	-4.516
612/	135/	165 (C)	-54.237	44.326	192.424>>
612/	133/	164 (C)	-18.691	14.514	-162.782<<
613/	133/	123 (C)	9.371>>	1.870	28.840
613/	133/	162 (C)	-76.649<<	52.670	-18.754
613/	133/	163 (C)	-74.682	54.915>>	-11.924
613/	133/	112 (C)	-1.428	-4.675<<	-6.194
613/	133/	165 (C)	-61.115	53.054	138.784>>
613/	131/	164 (C)	-23.488	5.415	-186.074<<
614/	131/	123 (C)	8.790>>	0.498	38.226
614/	131/	162 (C)	-88.414<<	49.448	-94.706
614/	131/	165 (C)	-68.853	59.684>>	78.358
614/	131/	104 (C)	-16.763	-10.411<<	-145.925
614/	131/	165 (C)	-68.853	59.684	78.358>>
614/	366/	164 (C)	-28.736	-4.830	-196.598<<
615/	366/	123 (C)	8.208>>	-0.894	41.479
615/	366/	162 (C)	-100.636<<	45.142	-126.622
615/	366/	165 (C)	-76.938	65.439>>	53.694
615/	366/	104 (C)	-20.334	-19.219<<	-152.145
615/	366/	105 (C)	-57.302	54.317	56.019>>
615/	129/	164 (C)	-34.140	-15.392	-217.526<<
616/	129/	123 (C)	7.612>>	-2.314	46.528
616/	129/	162 (C)	-113.644<<	38.864	-187.729
616/	129/	165 (C)	-85.604	69.778>>	7.203
616/	129/	104 (C)	-24.085	-28.514<<	-164.691
616/	127/	123 (C)	7.612	-2.314	54.140>>
616/	127/	162 (C)	-113.644	38.864	-301.372<<
617/	127/	123 (C)	6.983>>	-3.823	54.143
617/	127/	162 (C)	-127.793<<	29.776	-300.780
617/	127/	165 (C)	-95.224	71.791>>	-77.598
617/	127/	166 (C)	-44.714	-39.001<<	-248.034
617/	125/	123 (C)	6.983	-3.823	61.126>>
617/	125/	162 (C)	-127.793	29.776	-428.572<<
618/	125/	123 (C)	6.316>>	-5.429	61.108
618/	125/	162 (C)	-142.540<<	19.136	-428.141
618/	125/	165 (C)	-105.209	72.832>>	-172.012

618/	125/	166 (C)	-51.127	-52.125<<	-293.087
618/	123/	123 (C)	6.316	-5.429	67.424>>
618/	123/	162 (C)	-142.540	19.136	-570.679<<
619/	123/	123 (C)	5.684>>	-6.956	67.376
619/	123/	161 (C)	-157.877<<	7.431	-567.776
619/	123/	165 (C)	-116.055	71.614>>	-276.382
619/	123/	166 (C)	-57.269	-64.396<<	-344.717
619/	9/	123 (C)	5.684	-6.956	73.060>>
619/	9/	162 (C)	-157.837	7.183	-728.201<<
620/	9/	161 (C)	152.218>>	-1.181	-725.548
620/	9/	123 (C)	-2.746<<	-8.685	72.939
620/	9/	165 (C)	36.089	70.506>>	-391.225
620/	9/	166 (C)	131.857	-75.438<<	-403.109
620/	9/	123 (C)	-2.746	-8.685	72.939>>
620/	9/	162 (C)	152.131	-1.247	-728.097<<
621/	121/	161 (C)	136.747>>	-13.658	-573.490
621/	121/	123 (C)	-3.171<<	-9.677	70.097
621/	121/	165 (C)	33.736	67.820>>	-354.410
621/	121/	166 (C)	117.140	-86.537<<	-272.178
621/	121/	123 (C)	-3.171	-9.677	70.097>>
621/	121/	162 (C)	136.719	-13.576	-576.123<<
622/	119/	162 (C)	121.767>>	-24.751	-439.687
622/	119/	123 (C)	-3.441<<	-10.273	66.813
622/	119/	165 (C)	30.776	63.478>>	-319.980
622/	119/	166 (C)	103.565	-94.638<<	-156.074
622/	119/	123 (C)	-3.441	-10.273	66.813>>
622/	119/	162 (C)	121.767	-24.751	-439.687<<
623/	117/	162 (C)	107.422>>	-34.422	-318.396
623/	117/	123 (C)	-3.621<<	-10.654	63.262
623/	117/	165 (C)	27.782	59.010>>	-288.605
623/	117/	166 (C)	90.700	-100.943<<	-53.664
623/	117/	123 (C)	-3.621	-10.654	63.262>>
623/	117/	162 (C)	107.422	-34.422	-318.396<<
624/	115/	162 (C)	93.944>>	-41.931	-211.576
624/	115/	123 (C)	-3.736<<	-10.874	59.533
624/	115/	165 (C)	24.901	54.793>>	-260.300
624/	115/	166 (C)	78.686	-105.101<<	35.816
624/	113/	166 (C)	78.686	-105.101	114.496>>
624/	115/	165 (C)	24.901	54.793	-260.300<<
625/	113/	162 (C)	81.445>>	-46.986	-118.318
625/	113/	123 (C)	-3.803<<	-10.984	55.690
625/	113/	165 (C)	22.218	51.061>>	-234.929
625/	113/	166 (C)	67.560	-107.025<<	113.240
625/	111/	166 (C)	67.560	-107.025	180.802>>
625/	113/	165 (C)	22.218	51.061	-234.929<<
626/	111/	162 (C)	69.936>>	-49.583	-37.565
626/	111/	123 (C)	-3.834<<	-11.001	51.784
626/	111/	165 (C)	19.772	47.852>>	-212.289
626/	111/	166 (C)	57.297	-106.741<<	179.578
626/	109/	166 (C)	57.297	-106.741	236.876>>
626/	111/	165 (C)	19.772	47.852	-212.289<<
627/	109/	162 (C)	59.366>>	-49.830	31.683
627/	109/	123 (C)	-3.840<<	-10.962	47.848
627/	109/	165 (C)	17.571	45.250>>	-192.118
627/	109/	166 (C)	47.831	-104.461<<	235.679
627/	107/	166 (C)	47.831	-104.461	283.511>>
627/	109/	165 (C)	17.571	45.250	-192.118<<
628/	107/	162 (C)	49.644>>	-47.955	90.398
628/	107/	123 (C)	-3.828<<	-10.881	43.907
628/	107/	165 (C)	15.601	43.204>>	-174.166
628/	107/	166 (C)	39.077	-100.382<<	282.373
628/	105/	166 (C)	39.077	-100.382	321.447>>
628/	107/	165 (C)	15.601	43.204	-174.166<<
629/	105/	162 (C)	40.664>>	-44.227	139.447
629/	105/	123 (C)	-3.801<<	-10.768	39.980
629/	105/	165 (C)	13.836	41.650>>	-158.195
629/	105/	166 (C)	30.943	-94.735<<	320.385
629/	103/	166 (C)	30.943	-94.735	351.328>>
629/	105/	165 (C)	13.836	41.650	-158.195<<
630/	103/	162 (C)	32.309>>	-38.940	179.595
630/	103/	123 (C)	-3.763<<	-10.629	36.082
630/	103/	165 (C)	12.241	40.504>>	-143.992
630/	103/	166 (C)	23.334	-87.760<<	350.353
630/	101/	166 (C)	23.334	-87.760	373.688>>
630/	103/	165 (C)	12.241	40.504	-143.992<<
631/	101/	162 (C)	24.463>>	-32.385	211.477
631/	101/	123 (C)	-3.714<<	-10.467	32.222
631/	101/	165 (C)	10.777	39.667>>	-131.384
631/	101/	166 (C)	16.165	-79.679<<	372.809
631/	99/	166 (C)	16.165	-79.679	388.972>>
631/	101/	165 (C)	10.777	39.667	-131.384<<
632/	99/	162 (C)	17.014>>	-24.845	235.607
632/	99/	123 (C)	-3.656<<	-10.281	28.412
632/	99/	165 (C)	9.401	39.033>>	-120.238
632/	99/	166 (C)	9.353	-70.694<<	388.197
632/	97/	166 (C)	9.353	-70.694	397.551>>
632/	99/	105 (C)	6.679	35.615	-121.646<<
633/	97/	162 (C)	9.855>>	-16.615	252.393
633/	97/	123 (C)	-3.585<<	-10.072	24.661
633/	97/	165 (C)	8.068	38.502>>	-110.457
633/	97/	166 (C)	2.829	-61.028<<	396.877
633/	95/	166 (C)	2.829	-61.028	399.706>>
633/	97/	105 (C)	6.146	34.333	-114.626<<
634/	95/	165 (C)	6.732>>	37.927	-102.010
634/	95/	106 (C)	-3.858<<	-40.443	313.613
634/	95/	165 (C)	6.732	37.927>>	-102.010
634/	95/	166 (C)	-3.473	-50.728<<	399.156
634/	95/	166 (C)	-3.473	-50.728	399.156>>
634/	95/	105 (C)	5.594	32.969	-108.148<<
635/	93/	165 (C)	5.345>>	37.217	-94.889
635/	93/	166 (C)	-9.608<<	-40.054	395.242
635/	93/	165 (C)	5.345	37.217>>	-94.889
635/	93/	166 (C)	-9.608	-40.054<<	395.242
635/	93/	166 (C)	-9.608	-40.054	395.242>>
635/	93/	105 (C)	4.987	31.471	-102.224<<
636/	91/	105 (C)	4.292>>	29.738	-96.912
636/	91/	166 (C)	-15.626<<	-29.094	385.310
636/	91/	165 (C)	3.855	36.237>>	-89.152
636/	91/	166 (C)	-15.626	-29.094<<	385.310
636/	91/	166 (C)	-15.626	-29.094	385.310>>
636/	91/	105 (C)	4.292	29.738	-96.912<<
637/	89/	105 (C)	3.469>>	27.677	-92.303
637/	89/	166 (C)	-21.574<<	-17.970	369.477
637/	89/	165 (C)	2.212	34.856>>	-84.900
637/	89/	166 (C)	-21.574	-17.970<<	369.477
637/	89/	166 (C)	-21.574	-17.970	369.477>>
637/	89/	105 (C)	3.469	27.677	-92.303<<
638/	87/	124 (C)	2.964>>	3.871	-8.054
638/	87/	166 (C)	-27.496<<	-6.798	347.815
638/	87/	165 (C)	0.360	32.938>>	-82.294
638/	87/	123 (C)	-2.992	-8.428<<	7.285
638/	87/	166 (C)	-27.496	-6.798	347.815>>
638/	87/	105 (C)	2.480	25.190	-88.527<<
639/	85/	124 (C)	2.823>>	3.559	-5.047
639/	85/	166 (C)	-33.436<<	4.309	320.353
639/	85/	162 (C)	-32.457	34.121>>	208.316
639/	85/	123 (C)	-2.809	-7.944<<	4.213
639/	85/	166 (C)	-33.436	4.309	320.353>>
639/	85/	105 (C)	1.286	22.175	-85.755<<
640/	83/	124 (C)	2.669>>	3.212	-2.183
640/	83/	163 (C)	-40.865<<	38.710	176.622
640/	83/	162 (C)	-40.284	40.528>>	176.366
640/	83/	123 (C)	-2.604	-7.403<<	1.328
640/	83/	166 (C)	-39.446	15.219	287.066>>
640/	81/	165 (C)	-4.191	26.938	-87.122<<
641/	81/	124 (C)	2.505>>	2.832	0.522
641/	81/	163 (C)	-49.121<<	44.013	136.329
641/	81/	162 (C)	-48.594	45.692>>	136.671
641/	81/	123 (C)	-2.379	-6.813<<	-1.346
641/	81/	164 (C)	-45.162	27.055	248.141>>
641/	79/	165 (C)	-6.995	22.594	-93.768<<
642/	79/	124 (C)	2.333>>	2.430	3.057
642/	79/	163 (C)	-57.956<<	47.819	87.857
642/	79/	162 (C)	-57.484	49.352>>	88.742
642/	79/	123 (C)	-2.141	-6.192<<	-3.786
642/	79/	164 (C)	-51.526	36.998	203.381>>
642/	77/	165 (C)	-10.208	17.221	-103.663<<
643/	77/	124 (C)	2.162>>	2.031	5.413
643/	77/	163 (C)	-67.464<<	49.906	30.602
643/	77/	162 (C)	-67.049	51.293>>	31.970
643/	77/	123 (C)	-1.904	-5.574<<	-5.978
643/	77/	164 (C)	-58.153	46.284	152.370>>
643/	75/	165 (C)	-13.856	10.729	-117.263<<
644/	75/	124 (C)	1.978>>	1.596	7.594
644/	75/	163 (C)	-78.151<<	49.076	-36.147
644/	75/	164 (C)	-65.513	53.759>>	94.828
644/	75/	123 (C)	-1.636	-4.889<<	-7.927
644/	75/	164 (C)	-65.513	53.759	94.828>>
644/	370/	165 (C)	-18.029	2.937	-137.257<<
645/	370/	124 (C)	1.782>>	1.131	9.822
645/	370/	163 (C)	-90.185<<	44.938	-122.901
645/	370/	164 (C)	-73.867	58.794>>	22.219
645/	370/	105 (C)	-11.905	-11.196<<	-105.654
645/	370/	164 (C)	-73.867	58.794	22.219>>
645/	73/	163 (C)	-90.185	44.938	-178.627<<
646/	73/	124 (C)	1.580>>	0.656	10.936
646/	73/	163 (C)	-102.969<<	38.897	-177.947
646/	73/	164 (C)	-82.828	62.334>>	-22.704
646/	73/	105 (C)	-14.994	-19.035<<	-113.038
646/	71/	124 (C)	1.580	0.656	12.517>>
646/	71/	163 (C)	-102.969	38.897	-280.919<<
647/	71/	124 (C)	1.367>>	0.148	12.527
647/	71/	163 (C)	-116.852<<	30.156	-280.333
647/	71/	164 (C)	-92.758	63.513>>	-104.785
647/	71/	105 (C)	-18.194	-27.168<<	-128.158
647/	69/	124 (C)	1.367	0.148	13.894>>
647/	69/	163 (C)	-116.852	30.156	-397.188<<
648/	69/	124 (C)	1.150>>	-0.369	13.898
648/	69/	163 (C)	-131.260<<	20.057	-396.750
648/	69/	164 (C)	-103.086	63.654>>	-196.798

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
158.0	11.44	-43.04	255.08
159.0	3.28	-36.67	263.93
160.0	-4.17	-28.76	264.68
161.0	-10.77	-18.88	258.04
162.0	-16.30	-6.48	244.84
163.0	-20.44	9.16	226.17
164.0	-22.75	29.15	203.42
165.0	-22.66	54.92	178.42
166.0	-21.29	89.79	146.52
166.5	-23.33	94.04	137.95
167.5	-28.57	104.88	112.33
168.5	-33.81	115.72	81.45
169.5	-39.06	126.57	45.32
170.5	-44.30	137.42	3.96

ESFUERZOS DEBIDOS A LA RETRACCIÓN DEL HORMIGÓN

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
0.0	6.72	-17.35	0.90
1.0	13.43	-0.15	8.41
2.0	17.60	10.65	22.53
3.0	19.95	16.88	40.72
4.0	21.03	19.89	61.16
5.0	21.25	20.74	82.59
6.0	20.92	20.16	104.18
7.0	20.25	18.71	125.38
8.0	19.39	16.76	145.85
9.0	18.43	14.56	165.42
10.0	17.46	12.29	184.00
11.0	16.50	10.05	201.57
12.0	15.59	7.90	218.16
13.0	14.74	5.89	233.81
14.0	13.95	4.04	248.59
15.0	13.26	2.40	262.56
16.0	12.67	1.03	275.81
17.0	12.24	0.02	288.46
18.0	12.01	-0.49	300.64
19.0	12.07	-0.27	312.56
20.0	12.35	0.50	324.61
21.0	12.65	1.31	334.69
21.5	12.85	1.88	342.56
22.5	12.70	1.57	355.56
23.5	12.07	0.04	368.41
24.5	11.09	-2.36	380.54
25.5	-2.74	-7.42	391.57
26.5	-3.72	-9.82	388.71
27.5	-4.36	-11.32	384.80
28.5	-4.69	-12.08	380.27
29.5	-4.81	-12.32	375.43
30.5	-4.80	-12.27	370.49
31.5	-4.70	-11.94	365.57
32.5	-4.56	-11.54	360.76
33.5	-4.41	-11.11	356.09
34.5	-4.26	-10.72	351.59
35.5	-4.11	-10.29	347.25
36.5	-3.99	-9.94	343.05
37.5	-3.88	-9.64	338.98

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
38.5	-3.79	-9.43	335.01
39.5	-3.72	-9.18	331.14
40.5	-3.66	-9.00	327.34
41.5	-3.59	-8.82	323.60
42.5	-3.52	-8.65	319.93
43.5	-3.42	-8.36	316.32
44.5	-3.29	-8.00	312.81
45.5	-3.08	-7.47	309.44
46.5	-2.78	-6.74	306.26
47.5	-2.35	-5.61	303.38
48.5	-1.74	-4.06	300.93
49.5	-0.88	-1.93	299.10
50.5	0.15	0.70	298.19
51.0	1.17	3.28	298.37
52.0	2.07	5.53	299.18
53.0	2.58	6.82	301.42
54.0	2.60	6.88	304.19
55.0	2.20	5.93	306.93
56.0	1.05	2.33	309.22
57.0	0.41	0.77	310.26
58.0	-0.07	-0.44	310.60
59.0	-0.32	-1.07	310.48
60.0	-0.42	-1.31	310.12
61.0	-0.42	-1.29	309.67
62.0	-0.37	-1.18	309.22
63.0	-0.29	-0.96	308.84
64.0	-0.19	-0.72	308.55
65.0	-0.10	-0.46	308.35
66.0	-0.02	-0.29	308.26
67.0	0.04	-0.13	308.24
68.0	0.08	-0.03	308.28
69.0	0.11	0.06	308.37
70.0	0.11	0.05	308.49
71.0	0.10	0.02	308.60
72.0	0.09	-0.03	308.71
73.0	0.06	-0.06	308.80
74.0	0.05	-0.12	308.86
75.0	0.07	-0.09	308.90
76.0	0.13	0.06	308.96

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
77.0	0.27	0.44	309.07
78.0	0.53	1.04	309.31
79.0	0.95	2.10	309.80
80.0	1.61	3.74	310.70
81.0	2.41	5.77	312.34
81.5	3.19	7.68	313.91
82.0	3.85	9.38	315.98
83.0	4.12	10.06	320.03
84.0	3.93	9.62	324.37
85.0	3.32	8.12	328.45
86.0	-0.26	3.97	331.88
87.0	-1.06	1.95	331.61
88.0	-1.65	0.47	330.48
89.0	-1.99	-0.33	328.77
90.0	-2.14	-0.74	326.74
91.0	-2.18	-0.83	324.57
92.0	-2.14	-0.71	322.38
93.0	-2.07	-0.56	320.22
94.0	-1.99	-0.35	318.15
95.0	-1.90	-0.14	316.17
96.0	-1.84	0.06	314.27
97.0	-1.79	0.15	312.44
98.0	-1.77	0.20	310.66
99.0	-1.77	0.22	308.91
100.0	-1.80	0.12	307.15
101.0	-1.84	-0.01	305.36
102.0	-1.91	-0.14	303.52
103.0	-1.98	-0.35	301.61
104.0	-2.04	-0.51	299.63
105.0	-2.07	-0.56	297.57
106.0	-2.03	-0.52	295.48
107.0	-1.90	-0.20	293.41
108.0	-1.61	0.54	291.46
109.0	-1.09	1.81	289.79
110.0	-0.41	3.52	288.70
111.0	0.25	5.21	288.36
111.5	0.84	6.65	288.55
112.0	1.28	7.75	289.19
113.0	1.28	7.77	290.67
114.0	0.78	6.58	292.15
115.0	-0.13	4.27	293.06
116.0	6.29	-0.20	292.98

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
117.0	5.20	-2.91	299.23
118.0	4.33	-5.07	304.31
119.0	3.72	-6.57	308.53
120.0	3.31	-7.59	312.14
121.0	3.04	-8.29	315.35
122.0	2.86	-8.68	318.28
123.0	2.74	-8.95	321.04
124.0	2.67	-9.11	323.70
125.0	2.62	-9.22	326.28
126.0	2.57	-9.32	328.81
127.0	2.52	-9.42	331.29
128.0	2.46	-9.55	333.73
129.0	2.39	-9.74	336.10
130.0	2.30	-9.90	338.40
131.0	2.20	-10.12	340.61
132.0	2.10	-10.35	342.71
133.0	2.00	-10.56	344.70
134.0	1.93	-10.71	346.59
135.0	1.92	-10.71	348.40
136.0	1.99	-10.48	350.19
137.0	2.21	-9.88	352.03
138.0	2.66	-8.76	354.08
139.0	3.42	-6.77	356.56
140.0	4.50	-4.00	359.88
141.0	5.66	-1.12	364.90
142.0	6.73	1.65	368.44
143.0	7.45	3.52	375.31
144.0	7.70	4.19	382.91
145.0	7.57	3.93	390.69
146.0	-17.46	2.05	398.30
147.0	-17.65	1.63	380.80
148.0	-17.59	1.90	363.06
149.0	-17.22	2.87	345.41
150.0	-16.64	4.41	328.17
151.0	-15.91	6.37	311.54
152.0	-15.07	8.54	295.66
153.0	-14.16	10.95	280.65
154.0	-13.18	13.51	266.58
155.0	-12.17	16.20	253.51
156.0	-11.15	18.90	241.49
157.0	-10.15	21.57	230.52
158.0	-9.22	24.07	220.60

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
159.0	-8.47	26.17	211.65
160.0	-8.02	27.50	203.51
161.0	-8.06	27.62	195.89
162.0	-8.87	25.87	188.31
163.0	-10.82	21.24	180.00
164.0	-14.41	12.55	169.83
165.0	-20.31	-1.89	156.17
166.0	-30.16	-26.26	131.60
166.5	-30.16	-26.22	119.90
167.5	-30.16	-26.23	89.73
168.5	-30.16	-26.23	59.57
169.5	-30.16	-26.23	29.41
170.5	-30.16	-26.23	-0.76

ESFUERZOS DEBIDOS AL GRADIENTE TÉRMICO

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
Coo CALC	Cortante	Torsor	Flector
0.0	3.48	-9.00	0.47
1.0	6.96	-0.08	4.36
2.0	9.13	5.52	11.68
3.0	10.34	8.75	21.11
4.0	10.90	10.32	31.71
5.0	11.02	10.75	42.83
6.0	10.85	10.45	54.02
7.0	10.50	9.70	65.01
8.0	10.05	8.69	75.63
9.0	9.56	7.55	85.77
10.0	9.05	6.37	95.41
11.0	8.56	5.21	104.52
12.0	8.08	4.10	113.12
13.0	7.64	3.05	121.24
14.0	7.24	2.09	128.90
15.0	6.87	1.24	136.14
16.0	6.57	0.53	143.01
17.0	6.35	0.01	149.57
18.0	6.23	-0.25	155.89
19.0	6.26	-0.14	162.07
20.0	6.40	0.26	168.31
21.0	6.56	0.68	173.54
21.5	6.66	0.98	177.62
22.5	6.59	0.81	184.36
23.5	6.26	0.02	191.03
24.5	5.75	-1.23	197.32
25.5	-1.42	-3.85	203.04
26.5	-1.93	-5.09	201.55
27.5	-2.26	-5.87	199.53
28.5	-2.43	-6.26	197.18
29.5	-2.49	-6.39	194.67
30.5	-2.49	-6.36	192.10
31.5	-2.44	-6.19	189.55
32.5	-2.37	-5.99	187.06
33.5	-2.29	-5.76	184.64
34.5	-2.21	-5.56	182.31
35.5	-2.13	-5.34	180.05
36.5	-2.07	-5.15	177.88

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
37.5	-2.01	-5.00	175.77
38.5	-1.97	-4.89	173.71
39.5	-1.93	-4.76	171.70
40.5	-1.90	-4.67	169.73
41.5	-1.86	-4.57	167.79
42.5	-1.83	-4.48	165.89
43.5	-1.78	-4.33	164.02
44.5	-1.70	-4.15	162.20
45.5	-1.60	-3.87	160.45
46.5	-1.44	-3.49	158.80
47.5	-1.22	-2.91	157.31
48.5	-0.90	-2.10	156.04
49.5	-0.46	-1.00	155.09
50.5	0.08	0.37	154.62
51.0	0.61	1.70	154.71
52.0	1.07	2.87	155.13
53.0	1.34	3.54	156.29
54.0	1.35	3.57	157.73
55.0	1.14	3.07	159.15
56.0	0.54	1.21	160.34
57.0	0.21	0.40	160.88
58.0	-0.03	-0.23	161.05
59.0	-0.17	-0.55	160.99
60.0	-0.22	-0.68	160.80
61.0	-0.22	-0.67	160.57
62.0	-0.19	-0.61	160.34
63.0	-0.15	-0.50	160.14
64.0	-0.10	-0.37	159.99
65.0	-0.05	-0.24	159.89
66.0	-0.01	-0.15	159.84
67.0	0.02	-0.07	159.83
68.0	0.04	-0.01	159.85
69.0	0.06	0.03	159.90
70.0	0.06	0.02	159.96
71.0	0.05	0.01	160.02
72.0	0.04	-0.02	160.07
73.0	0.03	-0.03	160.12
74.0	0.03	-0.06	160.15
75.0	0.04	-0.05	160.17

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
76.0	0.07	0.03	160.20
77.0	0.14	0.23	160.26
78.0	0.27	0.54	160.38
79.0	0.49	1.09	160.64
80.0	0.84	1.94	161.11
81.0	1.25	2.99	161.96
81.5	1.65	3.98	162.77
82.0	1.99	4.87	163.84
83.0	2.14	5.22	165.94
84.0	2.04	4.99	168.19
85.0	1.72	4.21	170.31
86.0	-0.14	2.06	172.09
87.0	-0.55	1.01	171.95
88.0	-0.86	0.24	171.36
89.0	-1.03	-0.17	170.47
90.0	-1.11	-0.39	169.42
91.0	-1.13	-0.43	168.30
92.0	-1.11	-0.37	167.16
93.0	-1.07	-0.29	166.04
94.0	-1.03	-0.18	164.97
95.0	-0.99	-0.07	163.94
96.0	-0.95	0.03	162.95
97.0	-0.93	0.08	162.01
98.0	-0.92	0.11	161.08
99.0	-0.92	0.12	160.17
100.0	-0.93	0.06	159.26
101.0	-0.96	0.00	158.34
102.0	-0.99	-0.07	157.38
103.0	-1.03	-0.18	156.39
104.0	-1.06	-0.27	155.36
105.0	-1.07	-0.29	154.30
106.0	-1.06	-0.27	153.21
107.0	-0.99	-0.10	152.14
108.0	-0.84	0.28	151.13
109.0	-0.57	0.94	150.26
110.0	-0.21	1.83	149.70
111.0	0.13	2.70	149.52
111.5	0.44	3.45	149.62
112.0	0.66	4.02	149.95
113.0	0.66	4.03	150.72
114.0	0.41	3.41	151.49
115.0	-0.07	2.22	151.96

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
116.0	3.26	-0.10	151.92
117.0	2.70	-1.51	155.16
118.0	2.25	-2.63	157.79
119.0	1.93	-3.41	159.98
120.0	1.72	-3.94	161.85
121.0	1.57	-4.30	163.51
122.0	1.48	-4.50	165.04
123.0	1.42	-4.64	166.47
124.0	1.39	-4.73	167.84
125.0	1.36	-4.78	169.18
126.0	1.33	-4.83	170.49
127.0	1.31	-4.89	171.78
128.0	1.28	-4.95	173.04
129.0	1.24	-5.05	174.27
130.0	1.19	-5.13	175.47
131.0	1.14	-5.25	176.61
132.0	1.09	-5.37	177.70
133.0	1.04	-5.48	178.74
134.0	1.00	-5.55	179.72
135.0	0.99	-5.55	180.65
136.0	1.03	-5.44	181.58
137.0	1.15	-5.12	182.53
138.0	1.38	-4.54	183.60
139.0	1.77	-3.51	184.88
140.0	2.33	-2.08	186.60
141.0	2.93	-0.58	189.21
142.0	3.49	0.86	191.04
143.0	3.87	1.83	194.60
144.0	3.99	2.17	198.55
145.0	3.93	2.04	202.58
146.0	-9.05	1.06	206.52
147.0	-9.15	0.85	197.45
148.0	-9.12	0.98	188.25
149.0	-8.93	1.49	179.10
150.0	-8.63	2.29	170.16
151.0	-8.25	3.30	161.54
152.0	-7.81	4.43	153.31
153.0	-7.34	5.68	145.52
154.0	-6.84	7.00	138.23
155.0	-6.31	8.40	131.45
156.0	-5.78	9.80	125.22
157.0	-5.26	11.19	119.53

648/	69/	165 (C)	-37.775	-35.913<<	-211.484
648/	67/	124 (C)	1.150	-0.369	15.048>>
648/	67/	163 (C)	-131.260	20.057	-528.001<<
649/	67/	124 (C)	0.942>>	-0.867	15.044
649/	67/	162 (C)	-146.198<<	8.905	-524.894
649/	67/	164 (C)	-114.235	61.605>>	-299.126
649/	67/	165 (C)	-42.748	-45.686<<	-249.604
649/	11/	124 (C)	0.942	-0.867	15.986>>
649/	11/	163 (C)	-146.172	8.624	-673.850<<
650/	11/	162 (C)	145.503>>	-1.186	-670.953
650/	11/	124 (C)	-0.358<<	-1.363	15.970
650/	11/	164 (C)	34.358	58.853>>	-412.460
650/	11/	165 (C)	114.253	-55.846<<	-293.026
650/	11/	124 (C)	-0.358	-1.363	15.970>>
650/	11/	163 (C)	145.413	-1.279	-673.707<<
651/	65/	162 (C)	130.427>>	-13.142	-525.521
651/	65/	124 (C)	-0.513<<	-1.730	15.594
651/	65/	166 (C)	32.868	55.911>>	-379.742
651/	65/	165 (C)	100.504	-65.050<<	-179.428
651/	65/	124 (C)	-0.513	-1.730	15.594>>
651/	65/	163 (C)	130.400	-13.076	-528.362<<
652/	63/	163 (C)	115.820>>	-23.872	-398.160
652/	63/	124 (C)	-0.629<<	-1.996	15.058
652/	63/	166 (C)	30.848	51.395>>	-346.272
652/	63/	165 (C)	87.725	-71.769<<	-79.673
652/	61/	105 (C)	64.791	-61.419	29.206>>
652/	63/	163 (C)	115.820	-23.872	-398.160<<
653/	61/	163 (C)	101.807>>	-33.241	-282.720
653/	61/	124 (C)	-0.718<<	-2.199	14.405
653/	61/	166 (C)	28.739	46.683>>	-314.917
653/	61/	165 (C)	75.594	-76.890<<	7.206
653/	59/	105 (C)	55.684	-64.557	84.186>>
653/	61/	166 (C)	28.739	46.683	-314.917<<
654/	59/	163 (C)	88.600>>	-40.687	-181.415
654/	59/	124 (C)	-0.787<<	-2.352	13.663
654/	59/	166 (C)	26.710	42.103>>	-285.763
654/	59/	165 (C)	64.197	-80.208<<	81.915
654/	57/	165 (C)	64.197	-80.208	146.113>>
654/	59/	166 (C)	26.710	42.103	-285.763<<
655/	57/	163 (C)	76.302>>	-45.937	-93.367
655/	57/	124 (C)	-0.840<<	-2.466	12.853
655/	57/	166 (C)	24.864	37.921>>	-258.704
655/	57/	165 (C)	53.545	-81.692<<	145.236
655/	55/	165 (C)	53.545	-81.692	198.782>>
655/	57/	166 (C)	24.864	37.921	-258.704<<
656/	55/	163 (C)	64.923>>	-48.947	-17.651
656/	55/	124 (C)	-0.881<<	-2.555	11.989
656/	55/	166 (C)	23.253	34.348>>	-233.533
656/	55/	165 (C)	43.602	-81.486<<	197.908
656/	53/	165 (C)	43.602	-81.486	241.512>>
656/	55/	166 (C)	23.253	34.348	-233.533<<
657/	53/	163 (C)	54.421>>	-49.843	46.698
657/	53/	124 (C)	-0.914<<	-2.623	11.083
657/	53/	166 (C)	21.894	31.358>>	-210.012
657/	53/	165 (C)	34.310	-79.692<<	240.685
657/	51/	165 (C)	34.310	-79.692	274.995>>
657/	53/	166 (C)	21.894	31.358	-210.012<<
658/	51/	163 (C)	44.725>>	-48.808	100.578
658/	51/	124 (C)	-0.941<<	-2.677	10.145
658/	51/	166 (C)	20.781	28.962>>	-187.873

658/	51/	165 (C)	25.602	-76.501<<	274.222
658/	49/	165 (C)	25.602	-76.501	299.824>>
658/	51/	166 (C)	20.781	28.962	-187.873<<
659/	49/	163 (C)	35.754>>	-46.034	144.816
659/	49/	124 (C)	-0.963<<	-2.719	9.179
659/	49/	166 (C)	19.890	27.083>>	-166.864
659/	49/	165 (C)	17.421	-72.037<<	299.120
659/	47/	165 (C)	17.421	-72.037	316.540>>
659/	49/	166 (C)	19.890	27.083	-166.864<<
660/	47/	163 (C)	27.432>>	-41.765	180.132
660/	47/	124 (C)	-0.981<<	-2.753	8.190
660/	47/	166 (C)	19.179	25.668>>	-146.749
660/	47/	165 (C)	9.729	-66.497<<	315.889
660/	45/	165 (C)	9.729	-66.497	325.618>>
660/	47/	166 (C)	19.179	25.668	-146.749<<
661/	45/	163 (C)	19.699>>	-36.111	207.207
661/	45/	124 (C)	-0.993<<	-2.773	7.184
661/	45/	166 (C)	18.595	24.543>>	-127.344
661/	45/	165 (C)	2.513	-59.828<<	325.045
661/	43/	165 (C)	2.513	-59.828	327.558>>
661/	45/	166 (C)	18.595	24.543	-127.344<<
662/	43/	166 (C)	18.070>>	23.552	-108.515
662/	43/	105 (C)	-4.382<<	-39.937	258.395
662/	43/	166 (C)	18.070	23.552>>	-108.515
662/	43/	165 (C)	-4.200	-52.010<<	327.055
662/	43/	165 (C)	-4.200	-52.010	327.055>>
662/	43/	166 (C)	18.070	23.552	-108.515<<
663/	41/	166 (C)	17.519>>	22.474	-90.199
663/	41/	165 (C)	-10.337<<	-42.835	322.424
663/	41/	166 (C)	17.519	22.474>>	-90.199
663/	41/	165 (C)	-10.337	-42.835<<	322.424
663/	41/	165 (C)	-10.337	-42.835	322.424>>
663/	41/	166 (C)	17.519	22.474	-90.199<<
664/	39/	166 (C)	16.833>>	21.068	-72.412
664/	39/	165 (C)	-15.763<<	-32.076	311.713
664/	39/	166 (C)	16.833	21.068>>	-72.412
664/	39/	165 (C)	-15.763	-32.076<<	311.713
664/	39/	165 (C)	-15.763	-32.076	311.713>>
664/	39/	166 (C)	16.833	21.068	-72.412<<
665/	37/	166 (C)	15.876>>	18.969	-55.290
665/	37/	165 (C)	-20.272<<	-19.135	295.641
665/	37/	166 (C)	15.876	18.969>>	-55.290
665/	37/	165 (C)	-20.272	-19.135<<	295.641
665/	37/	165 (C)	-20.272	-19.135	295.641>>
665/	37/	166 (C)	15.876	18.969	-55.290<<
666/	35/	166 (C)	14.475>>	15.748	-39.103
666/	35/	165 (C)	-23.565<<	-3.279	275.122
666/	35/	166 (C)	14.475	15.748>>	-39.103
666/	35/	165 (C)	-23.565	-3.279<<	275.122
666/	35/	165 (C)	-23.565	-3.279	275.122>>
666/	35/	166 (C)	14.475	15.748	-39.103<<
667/	33/	166 (C)	12.409>>	10.868	-24.286
667/	33/	165 (C)	-25.234<<	16.412	251.367
667/	33/	163 (C)	-13.726	27.455>>	229.005
667/	33/	124 (C)	-0.736	-2.089<<	1.264
667/	33/	165 (C)	-25.234	16.412	251.367>>
667/	33/	166 (C)	12.409	10.868	-24.286<<
668/	31/	166 (C)	9.401>>	3.623	-11.510
668/	31/	165 (C)	-24.737<<	41.359	226.007
668/	31/	163 (C)	-16.023	45.659>>	215.502

668/	31/	124 (C)	-0.555	-1.633<<	0.493
668/	31/	165 (C)	-24.737	41.359	226.007>>
668/	31/	166 (C)	9.401	3.623	-11.510<<
669/	29/	166 (C)	5.096>>	-6.864	-1.722
669/	29/	165 (C)	-21.369<<	73.295	201.216
669/	29/	165 (C)	-21.369	73.295>>	201.216
669/	29/	164 (C)	5.045	-7.078<<	-1.739
669/	29/	165 (C)	-21.369	73.295	201.216>>
669/	29/	164 (C)	5.045	-7.078	-1.739<<
670/	374/	124 (C)	0.115>>	0.051	-0.504
670/	703/	163 (C)	-20.221<<	92.216	172.370
670/	374/	165 (C)	-14.672	113.453>>	174.563
670/	374/	164 (C)	-1.282	-22.634<<	4.966
670/	374/	163 (C)	-15.912	93.336	179.417>>
670/	374/	124 (C)	0.115	0.051	-0.504<<
671/	703/	124 (C)	0.115>>	0.051	-0.459
671/	702/	163 (C)	-31.322<<	89.383	146.487
671/	703/	165 (C)	-18.982	112.384>>	167.963
671/	703/	164 (C)	-1.282	-22.632<<	4.475
671/	703/	163 (C)	-20.221	92.268	172.342>>
671/	703/	124 (C)	0.115	0.051	-0.459<<
672/	702/	124 (C)	0.115>>	0.051	-0.344
672/	701/	163 (C)	-42.422<<	86.484	109.540
672/	702/	165 (C)	-30.082	109.485>>	143.359
672/	702/	164 (C)	-1.282	-22.633<<	3.191
672/	702/	163 (C)	-31.322	89.369	146.496>>
672/	702/	124 (C)	0.115	0.051	-0.344<<
673/	701/	124 (C)	0.115>>	0.051	-0.229
673/	700/	163 (C)	-53.522<<	83.599	61.484
673/	701/	165 (C)	-41.182	106.600>>	107.642
673/	701/	164 (C)	-1.282	-22.633<<	1.909
673/	701/	163 (C)	-42.422	86.484	109.540>>
673/	701/	124 (C)	0.115	0.051	-0.229<<
674/	700/	124 (C)	0.115>>	0.051	-0.114
674/	13/	163 (C)	-64.621<<	80.720	2.326
674/	700/	165 (C)	-52.282	103.721>>	60.816
674/	700/	164 (C)	-1.282	-22.633<<	0.630
674/	700/	163 (C)	-53.522	83.605	61.476>>
674/	13/	164 (C)	-1.282	-22.633	-0.652<<

Envolvente de Esfuerzos - Trenes sobre Vía Izquierda

Barra/Nudo/Caso			FZ (T)	MX (Tm)	MY (Tm)
501/	1/	221 (C)	88.765>>	214.180	-0.208
501/	1/	265 (C)	-25.638<<	1.167	0.504
501/	1/	221 (C)	88.765	214.180>>	-0.208
501/	1/	223 (C)	-22.248	-1.198<<	0.403
501/	343/	221 (C)	88.765	214.180	88.557>>
501/	343/	265 (C)	-25.638	1.167	-25.134<<
502/	343/	221 (C)	69.137>>	164.424	88.272
502/	343/	265 (C)	-20.846<<	13.531	-24.645
502/	343/	221 (C)	69.137	164.424>>	88.272
502/	343/	213 (C)	4.121	-3.565<<	4.850
502/	341/	221 (C)	69.137	164.424	157.410>>
502/	341/	265 (C)	-20.846	13.531	-45.491<<
503/	341/	221 (C)	53.325>>	124.730	157.086
503/	341/	265 (C)	-17.515<<	22.284	-45.029
503/	341/	261 (C)	37.325	126.962>>	117.282
503/	341/	213 (C)	3.437	-5.266<<	8.845
503/	339/	221 (C)	53.325	124.730	210.411>>
503/	339/	265 (C)	-17.515	22.284	-62.544<<
504/	339/	221 (C)	40.373>>	92.677	210.058
504/	339/	265 (C)	-15.259<<	28.393	-62.114
504/	339/	261 (C)	26.307	100.016>>	154.494
504/	339/	213 (C)	2.985	-6.379<<	12.162
504/	337/	221 (C)	40.373	92.677	250.432>>
504/	337/	265 (C)	-15.259	28.393	-77.373<<
505/	337/	221 (C)	29.545>>	66.382	250.052
505/	337/	265 (C)	-13.771<<	32.622	-76.976
505/	337/	261 (C)	16.977	77.712>>	180.639
505/	337/	213 (C)	2.703	-7.059<<	15.035
505/	335/	221 (C)	29.545	66.382	279.597>>
505/	335/	265 (C)	-13.771	32.622	-90.747<<
506/	335/	221 (C)	20.282>>	44.410	279.187
506/	335/	265 (C)	-12.812<<	35.574	-90.380
506/	335/	261 (C)	8.940	59.029>>	197.407
506/	335/	213 (C)	2.541	-7.430<<	17.632
506/	333/	221 (C)	20.282	44.410	299.469>>
506/	333/	265 (C)	-12.812	35.574	-103.192<<
507/	333/	204 (C)	14.430>>	14.317	256.682
507/	333/	265 (C)	-12.196<<	37.719	-102.853
507/	333/	262 (C)	-1.667	45.890>>	144.186
507/	333/	213 (C)	2.464	-7.582<<	20.073
507/	331/	221 (C)	12.173	25.696	311.195>>
507/	331/	265 (C)	-12.196	37.719	-115.049<<
508/	331/	204 (C)	9.217>>	2.745	270.685
508/	331/	265 (C)	-11.779<<	39.421	-114.732
508/	331/	265 (C)	-11.779	39.421>>	-114.732
508/	331/	213 (C)	2.443	-7.583<<	22.443
508/	329/	221 (C)	4.927	9.475	315.630>>
508/	329/	265 (C)	-11.779	39.421	-126.511<<
509/	329/	251 (C)	5.634>>	9.051	112.291
509/	329/	265 (C)	-11.450<<	40.962	-126.212
509/	329/	265 (C)	-11.450	40.962>>	-126.212
509/	329/	266 (C)	0.143	-16.383<<	262.967
509/	329/	221 (C)	-1.650	-4.772	315.089>>
509/	327/	265 (C)	-11.450	40.962	-137.662<<
510/	327/	251 (C)	3.631>>	4.855	117.874
510/	327/	262 (C)	-15.339<<	18.381	123.809
510/	327/	265 (C)	-11.123	42.564>>	-137.376
510/	327/	266 (C)	-4.282	-25.877<<	262.557
510/	327/	221 (C)	-7.673	-17.369	312.842>>
510/	325/	265 (C)	-11.123	42.564	-148.499<<
511/	325/	213 (C)	2.558>>	-7.086	29.586
511/	325/	261 (C)	-19.316<<	0.352	177.306
511/	325/	265 (C)	-10.733	44.395>>	-148.220
511/	325/	266 (C)	-8.282	-34.151<<	257.685
511/	325/	221 (C)	-13.198	-28.483	304.514>>
511/	323/	265 (C)	-10.733	44.395	-158.953<<
512/	323/	213 (C)	2.627>>	-6.824	32.062
512/	323/	261 (C)	-23.159<<	-6.045	157.483
512/	323/	265 (C)	-10.231	46.586>>	-158.675
512/	323/	266 (C)	-11.880	-41.288<<	248.773
512/	323/	221 (C)	-18.233	-38.161	290.601>>
512/	321/	265 (C)	-10.231	46.586	-168.906<<
513/	321/	213 (C)	2.707>>	-6.524	34.610
513/	321/	261 (C)	-26.387<<	-10.676	133.778
513/	321/	265 (C)	-9.580	49.234>>	-168.622
513/	321/	266 (C)	-15.067	-47.282<<	236.226
513/	321/	221 (C)	-22.747	-46.357	271.599>>
513/	319/	265 (C)	-9.580	49.234	-178.201<<
514/	319/	213 (C)	2.799>>	-6.181	37.238
514/	319/	261 (C)	-28.945<<	-13.419	106.819
514/	319/	265 (C)	-8.757	52.403>>	-177.904
514/	319/	221 (C)	-26.687	-52.963<<	248.036
514/	319/	204 (C)	-18.145	-52.207	251.918>>
514/	317/	265 (C)	-8.757	52.403	-186.662<<
515/	317/	213 (C)	2.909>>	-5.783	39.960
515/	317/	261 (C)	-30.772<<	-14.138	77.294
515/	317/	265 (C)	-7.755	56.120>>	-186.343
515/	317/	204 (C)	-21.807	-58.633<<	233.041
515/	317/	204 (C)	-21.807	-58.633	233.041>>
515/	315/	265 (C)	-7.755	56.120	-194.098<<
516/	315/	213 (C)	3.043>>	-5.311	42.792
516/	315/	221 (C)	-32.588<<	-60.855	189.642
516/	315/	265 (C)	-6.583	60.371>>	-193.749
516/	315/	204 (C)	-24.894	-63.575<<	210.463
516/	315/	204 (C)	-24.894	-63.575	210.463>>
516/	313/	265 (C)	-6.583	60.371	-200.332<<
517/	313/	213 (C)	3.210>>	-4.742	45.758
517/	313/	221 (C)	-34.439<<	-61.917	156.196
517/	313/	265 (C)	-5.275	65.077>>	-199.940
517/	313/	204 (C)	-27.272	-66.737<<	184.780
517/	313/	204 (C)	-27.272	-66.737	184.780>>
517/	311/	265 (C)	-5.275	65.077	-205.215<<
518/	311/	213 (C)	3.423>>	-4.042	48.892
518/	311/	221 (C)	-35.540<<	-61.046	120.941
518/	311/	265 (C)	-3.898	70.080>>	-204.768
518/	311/	204 (C)	-28.827	-67.868<<	156.725
518/	311/	204 (C)	-28.827	-67.868	156.725>>
518/	309/	265 (C)	-3.898	70.080	-208.666<<
519/	309/	213 (C)	3.697>>	-3.173	52.241
519/	309/	221 (C)	-35.959<<	-58.441	84.668
519/	309/	223 (C)	1.664	75.192>>	-169.183
519/	309/	204 (C)	-29.482	-66.811<<	127.153
519/	309/	204 (C)	-29.482	-66.811	127.153>>
519/	307/	265 (C)	-2.564	75.106	-210.713<<
520/	307/	213 (C)	4.051>>	-2.089	55.866
520/	307/	221 (C)	-35.879<<	-54.584	48.109
520/	307/	223 (C)	3.555	81.799>>	-166.957
520/	307/	204 (C)	-29.133	-63.366<<	97.010
520/	307/	204 (C)	-29.133	-63.366	97.010>>
520/	305/	265 (C)	-1.448	79.725	-211.559<<
521/	305/	223 (C)	5.070>>	87.668	-162.811
521/	305/	221 (C)	-35.205<<	-49.332	11.761
521/	305/	223 (C)	5.070	87.668>>	-162.811
521/	305/	204 (C)	-27.862	-57.771<<	67.324
521/	305/	206 (C)	-15.628	-37.640	70.881>>
521/	628/	265 (C)	-0.878	83.179	-211.661<<
522/	628/	223 (C)	6.268>>	92.922	-158.059
522/	628/	221 (C)	-34.265<<	-43.495	-17.246
522/	628/	223 (C)	6.268	92.922>>	-158.059
522/	628/	204 (C)	-26.003	-50.831<<	44.184
522/	303/	213 (C)	5.102	0.968	66.658>>
522/	303/	265 (C)	-0.757	85.678	-211.499<<
523/	303/	223 (C)	7.198>>	97.643	-153.556
523/	303/	221 (C)	-33.234<<	-37.495	-38.634
523/	303/	223 (C)	7.198	97.643>>	-153.556
523/	303/	204 (C)	-23.659	-42.800<<	27.748
523/	301/	213 (C)	5.726	2.755	72.346>>
523/	301/	265 (C)	-1.011	87.371	-211.868<<
524/	301/	223 (C)	7.710>>	101.568	-145.693
524/	301/	221 (C)	-32.225<<	-31.676	-72.018
524/	301/	223 (C)	7.710	101.568>>	-145.693
524/	301/	204 (C)	-20.913	-33.907<<	3.793
524/	299/	213 (C)	6.412	4.716	78.745>>
524/	299/	265 (C)	-1.842	87.854	-213.073<<
525/	299/	223 (C)	7.981>>	105.106	-137.264
525/	299/	221 (C)	-31.367<<	-26.377	-104.261
525/	299/	223 (C)	7.981	105.106>>	-137.264
525/	299/	221 (C)	-31.367	-26.377<<	-104.261
525/	297/	213 (C)	7.106	6.719	85.858>>
525/	297/	262 (C)	-17.892	71.934	-229.340<<
526/	297/	213 (C)	7.773>>	8.669	85.870
526/	297/	221 (C)	-30.568<<	-21.361	-135.543
526/	297/	223 (C)	7.095	105.835>>	-128.508
526/	297/	221 (C)	-30.568	-21.361<<	-135.543
526/	3/	213 (C)	7.773	8.669	93.643>>
526/	3/	262 (C)	-18.641	75.029	-247.250<<
527/	3/	265 (C)	78.277>>	78.420	-219.357
527/	3/	206 (C)	-18.855<<	2.516	13.727
527/	3/	223 (C)	63.354	104.159>>	-119.986
527/	3/	221 (C)	5.620	-15.697<<	-166.060
527/	3/	213 (C)	-16.896	10.005	93.732>>
527/	3/	262 (C)	63.858	76.288	-246.007<<

528/	295/	265 (C)	73.111>>	68.666	-140.557
528/	295/	206 (C)	-16.730<<	9.016	-4.947
528/	295/	223 (C)	59.797	98.442>>	-55.899
528/	295/	221 (C)	6.483	-10.912<<	-160.214
528/	295/	213 (C)	-16.285	11.839	76.890>>
528/	295/	261 (C)	49.714	59.352	-184.120<<
529/	293/	265 (C)	66.987>>	56.589	-67.046
529/	293/	213 (C)	-15.724<<	13.580	60.668
529/	293/	223 (C)	54.680	88.989>>	4.534
529/	293/	211 (C)	6.547	-8.175<<	-107.701
529/	293/	213 (C)	-15.724	13.580	60.668>>
529/	293/	221 (C)	7.220	-6.662	-153.463<<
530/	291/	265 (C)	60.535>>	43.870	0.217
530/	291/	213 (C)	-15.148<<	15.388	45.034
530/	291/	223 (C)	48.987	78.352>>	59.766
530/	291/	211 (C)	6.477	-6.306<<	-100.974
530/	289/	223 (C)	48.987	78.352	108.748>>
530/	291/	221 (C)	7.741	-3.128	-145.979<<
531/	289/	265 (C)	53.884>>	30.813	60.895
531/	289/	213 (C)	-14.590<<	17.188	29.997
531/	289/	223 (C)	42.836	66.800>>	109.198
531/	289/	211 (C)	6.375	-4.676<<	-94.326
531/	287/	223 (C)	42.836	66.800	152.034>>
531/	289/	221 (C)	8.096	-0.185	-137.978<<
532/	287/	265 (C)	47.135>>	17.636	114.808
532/	287/	213 (C)	-14.066<<	18.940	15.534
532/	287/	223 (C)	36.333	54.560>>	152.381
532/	287/	211 (C)	6.260	-3.223<<	-87.786
532/	285/	223 (C)	36.333	54.560	188.715>>
532/	287/	221 (C)	8.327	2.295	-129.624<<
533/	285/	265 (C)	40.357>>	4.544	161.849
533/	285/	213 (C)	-13.582<<	20.636	1.603
533/	285/	223 (C)	29.572	41.894>>	188.939
533/	285/	212 (C)	26.715	-4.261<<	148.757
533/	283/	223 (C)	29.572	41.894	218.511>>
533/	285/	221 (C)	8.465	4.368	-121.044<<
534/	283/	265 (C)	33.609>>	-8.377	202.000
534/	283/	213 (C)	-13.137<<	22.282	-11.834
534/	283/	266 (C)	-7.469	40.244>>	-85.725
534/	283/	212 (C)	20.314	-16.174<<	175.235
534/	281/	223 (C)	22.637	28.947	241.262>>
534/	281/	204 (C)	-3.895	33.392	-117.182<<
535/	281/	205 (C)	28.035>>	-17.716	199.019
535/	281/	213 (C)	-12.721<<	23.903	-24.818
535/	281/	266 (C)	-7.220	42.288>>	-92.765
535/	281/	212 (C)	14.193	-27.350<<	195.210
535/	279/	265 (C)	26.935	-21.006	262.224>>
535/	279/	204 (C)	-3.223	36.329	-120.008<<
536/	279/	205 (C)	22.654>>	-27.501	226.736
536/	279/	213 (C)	-12.322<<	25.537	-37.376
536/	279/	266 (C)	-7.100	44.020>>	-99.553
536/	279/	212 (C)	8.430	-37.633<<	208.965
536/	277/	265 (C)	20.377	-33.281	282.172>>
536/	277/	204 (C)	-2.680	38.936	-122.283<<
537/	277/	205 (C)	17.200>>	-37.353	249.000
537/	277/	213 (C)	-11.926<<	27.215	-49.538
537/	277/	266 (C)	-7.069	45.514>>	-106.236
537/	277/	212 (C)	3.106	-46.773<<	216.879
537/	275/	265 (C)	13.973	-45.038	295.617>>
537/	275/	204 (C)	-2.232	41.269	-124.115<<

538/	275/	205 (C)	11.646>>	-47.407	265.723
538/	275/	213 (C)	-11.514<<	28.997	-61.296
538/	275/	266 (C)	-7.091	46.898>>	-112.888
538/	275/	265 (C)	7.762	-56.266<<	294.984
538/	273/	265 (C)	7.762	-56.266	302.746>>
538/	273/	204 (C)	-1.851	43.446	-125.560<<
539/	273/	221 (C)	8.281>>	11.775	-68.656
539/	273/	222 (C)	-13.909<<	-36.544	111.518
539/	273/	266 (C)	-7.132	48.253>>	-119.567
539/	273/	265 (C)	1.789	-66.835<<	302.014
539/	271/	265 (C)	1.789	-66.835	303.803>>
539/	271/	266 (C)	-7.132	48.253	-126.699<<
540/	271/	221 (C)	8.147>>	12.408	-60.140
540/	271/	223 (C)	-18.353<<	-44.481	247.958
540/	271/	266 (C)	-7.160	49.680>>	-126.286
540/	271/	265 (C)	-3.893	-76.653<<	302.969
540/	271/	265 (C)	-3.893	-76.653	302.969>>
540/	269/	266 (C)	-7.160	49.680	-133.446<<
541/	269/	221 (C)	7.982>>	12.875	-51.766
541/	269/	223 (C)	-24.358<<	-54.281	228.934
541/	269/	266 (C)	-7.144	51.223>>	-133.047
541/	269/	265 (C)	-9.226	-85.489<<	298.169
541/	269/	265 (C)	-9.226	-85.489	298.169>>
541/	267/	266 (C)	-7.144	51.223	-140.191<<
542/	267/	221 (C)	7.784>>	13.190	-43.557
542/	267/	223 (C)	-29.888<<	-62.842	203.803
542/	267/	206 (C)	-5.284	53.060>>	-135.842
542/	267/	265 (C)	-14.138	-93.267<<	287.946
542/	267/	265 (C)	-14.138	-93.267	287.946>>
542/	265/	266 (C)	-7.058	52.998	-146.846<<
543/	265/	221 (C)	7.546>>	13.339	-35.550
543/	265/	223 (C)	-34.836<<	-69.887	173.056
543/	265/	206 (C)	-4.781	55.635>>	-140.724
543/	265/	265 (C)	-18.555	-99.771<<	272.735
543/	265/	265 (C)	-18.555	-99.771	272.735>>
543/	263/	266 (C)	-6.874	55.064	-153.316<<
544/	263/	221 (C)	7.265>>	13.316	-27.783
544/	263/	223 (C)	-39.090<<	-75.157	137.284
544/	263/	206 (C)	-4.224	58.432>>	-145.088
544/	263/	265 (C)	-22.390	-104.822<<	253.035
544/	263/	265 (C)	-22.390	-104.822	253.035>>
544/	261/	266 (C)	-6.572	57.499	-159.473<<
545/	261/	221 (C)	6.933>>	13.105	-20.307
545/	261/	223 (C)	-42.538<<	-78.340	97.220
545/	261/	206 (C)	-3.611	61.421>>	-148.891
545/	261/	205 (C)	-23.816	-108.608<<	225.272
545/	261/	265 (C)	-25.556	-108.132	229.472>>
545/	259/	266 (C)	-6.134	60.305	-165.193<<
546/	259/	221 (C)	6.549>>	12.707	-13.168
546/	259/	223 (C)	-45.073<<	-79.216	53.673
546/	259/	206 (C)	-2.952	64.630>>	-152.056
546/	259/	205 (C)	-26.485	-111.592<<	200.359
546/	259/	265 (C)	-27.967	-109.570	202.704>>
546/	257/	266 (C)	-5.554	63.557	-170.311<<
547/	257/	221 (C)	6.109>>	12.121	-6.425
547/	257/	223 (C)	-46.611<<	-77.572	7.597
547/	257/	206 (C)	-2.270	67.998>>	-154.538
547/	257/	205 (C)	-28.248	-112.417<<	172.764
547/	257/	265 (C)	-29.551	-108.940	173.523>>
547/	255/	266 (C)	-4.835	67.235	-174.687<<

548/	255/	221 (C)	5.618>>	11.360	-0.132
548/	255/	223 (C)	-47.104<<	-73.301	-39.987
548/	255/	206 (C)	-1.606	71.445>>	-156.301
548/	255/	205 (C)	-29.098	-111.087<<	143.406
548/	255/	205 (C)	-29.098	-111.087	143.406>>
548/	253/	266 (C)	-4.003	71.304	-178.191<<
549/	253/	221 (C)	5.086>>	10.454	5.651
549/	253/	223 (C)	-46.577<<	-66.490	-87.963
549/	253/	266 (C)	-3.108	75.590>>	-177.662
549/	253/	205 (C)	-29.059	-107.630<<	113.264
549/	253/	205 (C)	-29.059	-107.630	113.264>>
549/	251/	266 (C)	-3.108	75.590	-180.771<<
550/	251/	221 (C)	4.535>>	9.459	10.884
550/	251/	223 (C)	-45.158<<	-57.463	-135.272
550/	251/	266 (C)	-2.244	79.925>>	-180.179
550/	251/	205 (C)	-28.201	-102.266<<	83.228
550/	251/	205 (C)	-28.201	-102.266	83.228>>
550/	249/	266 (C)	-2.244	79.925	-182.422<<
551/	249/	221 (C)	4.001>>	8.468	15.541
551/	249/	223 (C)	-43.140<<	-46.957	-180.950
551/	249/	266 (C)	-1.556	83.951>>	-181.751
551/	249/	205 (C)	-26.667	-95.363<<	54.164
551/	249/	205 (C)	-26.667	-95.363	54.164>>
551/	247/	223 (C)	-43.140	-46.957	-224.087<<
552/	247/	221 (C)	3.374>>	7.239	19.648
552/	247/	223 (C)	-40.543<<	-35.137	-224.463
552/	247/	266 (C)	-1.444	86.685>>	-182.643
552/	247/	205 (C)	-24.282	-86.542<<	26.771
552/	247/	205 (C)	-24.282	-86.542	26.771>>
552/	358/	223 (C)	-40.543	-35.137	-259.691<<
553/	358/	221 (C)	2.680>>	5.833	22.672
553/	358/	223 (C)	-37.598<<	-22.515	-259.921
553/	358/	266 (C)	-1.850	88.309>>	-183.215
553/	358/	205 (C)	-21.309	-76.441<<	5.057
553/	245/	221 (C)	2.680	5.833	24.317>>
553/	245/	223 (C)	-37.598	-22.515	-282.999<<
554/	245/	221 (C)	1.938>>	4.301	24.408
554/	245/	223 (C)	-34.460<<	-9.458	-283.168
554/	245/	266 (C)	-2.666	89.033>>	-183.647
554/	245/	205 (C)	-17.857	-65.295<<	-8.602
554/	243/	221 (C)	1.938	4.301	26.346>>
554/	243/	223 (C)	-34.460	-9.458	-317.629<<
555/	243/	221 (C)	1.116>>	2.560	26.425
555/	243/	223 (C)	-30.914<<	4.496	-317.684
555/	243/	266 (C)	-4.135	88.342>>	-185.615
555/	243/	205 (C)	-13.979	-53.279<<	-26.920
555/	241/	221 (C)	1.116	2.560	27.541>>
555/	241/	223 (C)	-30.914	4.496	-348.599<<
556/	241/	211 (C)	0.376>>	-0.787	18.633
556/	241/	223 (C)	-27.253<<	18.679	-348.434
556/	241/	266 (C)	-6.059	86.719>>	-189.039
556/	241/	205 (C)	-9.988	-41.144<<	-41.193
556/	239/	221 (C)	0.304	0.818	27.899>>
556/	239/	223 (C)	-27.253	18.679	-375.688<<
557/	239/	211 (C)	-0.120>>	-1.782	19.022
557/	239/	223 (C)	-24.120<<	31.382	-375.296
557/	239/	266 (C)	-9.200	82.093>>	-194.396
557/	239/	205 (C)	-5.848	-28.741<<	-51.312
557/	239/	221 (C)	-0.478	-0.864	27.925>>
557/	5/	223 (C)	-24.120	31.382	-399.416<<

558/	5/	266 (C)	78.529>>	75.463	-202.424
558/	5/	205 (C)	-19.130<<	-16.354	-57.269
558/	5/	266 (C)	78.529	75.463>>	-202.424
558/	5/	212 (C)	9.869	-17.231<<	-138.943
558/	237/	221 (C)	0.840	-2.579	28.272>>
558/	5/	223 (C)	68.027	44.186	-398.572<<
559/	237/	266 (C)	72.889>>	64.813	-123.402
559/	237/	205 (C)	-15.443<<	-5.269	-76.201
559/	237/	266 (C)	72.889	64.813>>	-123.402
559/	237/	212 (C)	9.384	-15.038<<	-128.843
559/	235/	221 (C)	0.227	-3.877	28.471>>
559/	237/	223 (C)	68.807	50.897	-329.849<<
560/	235/	223 (C)	68.031>>	53.750	-260.290
560/	235/	205 (C)	-12.242<<	4.530	-91.352
560/	235/	263 (C)	53.578	55.735>>	-112.970
560/	235/	212 (C)	8.793	-13.294<<	-119.221
560/	233/	213 (C)	52.963	46.299	33.493>>
560/	235/	223 (C)	68.031	53.750	-260.290<<
561/	233/	223 (C)	66.000>>	53.511	-191.561
561/	233/	205 (C)	-9.570<<	12.910	-103.248
561/	233/	223 (C)	66.000	53.511>>	-191.561
561/	233/	212 (C)	8.349	-11.479<<	-110.209
561/	231/	213 (C)	46.166	33.108	79.867>>
561/	233/	223 (C)	66.000	53.511	-191.561<<
562/	231/	223 (C)	62.598>>	49.974	-124.932
562/	231/	205 (C)	-7.374<<	20.023	-112.433
562/	231/	223 (C)	62.598	49.974>>	-124.932
562/	231/	212 (C)	7.923	-9.851<<	-101.657
562/	229/	266 (C)	52.734	25.465	128.978>>
562/	231/	223 (C)	62.598	49.974	-124.932<<
563/	229/	223 (C)	58.206>>	44.039	-61.796
563/	229/	205 (C)	-5.593<<	26.016	-119.398
563/	229/	223 (C)	58.206	44.039>>	-61.796
563/	229/	212 (C)	7.530	-8.364<<	-93.544
563/	227/	266 (C)	45.792	12.060	174.760>>
563/	227/	205 (C)	-5.593	26.016	-124.992<<
564/	227/	223 (C)	53.034>>	36.226	-3.138
564/	227/	205 (C)	-4.166<<	31.092	-124.558
564/	227/	223 (C)	53.034	36.226>>	-3.138
564/	227/	204 (C)	26.480	-12.604<<	130.445
564/	225/	266 (C)	38.870	-1.217	213.498>>
564/	225/	205 (C)	-4.166	31.092	-128.724<<
565/	225/	223 (C)	47.261>>	26.965	50.230
565/	225/	205 (C)	-3.031<<	35.375	-128.280
565/	225/	205 (C)	-3.031	35.375>>	-128.280
565/	225/	204 (C)	21.720	-21.469<<	156.677
565/	223/	266 (C)	32.015	-14.210	245.264>>
565/	223/	205 (C)	-3.031	35.375	-131.311<<
566/	223/	223 (C)	41.046>>	16.641	97.709
566/	223/	265 (C)	-2.403<<	36.034	-122.845
566/	223/	205 (C)	-2.132	39.025>>	-130.858
566/	223/	222 (C)	16.832	-32.234<<	131.376
566/	221/	266 (C)	25.269	-26.844	270.173>>
566/	221/	205 (C)	-2.132	39.025	-132.991<<
567/	221/	223 (C)	34.525>>	5.600	138.855
567/	221/	265 (C)	-2.298<<	38.669	-124.791
567/	221/	205 (C)	-1.421	42.164>>	-132.537
567/	221/	222 (C)	10.559	-43.621<<	148.009
567/	219/	266 (C)	18.667	-39.014	288.376>>
567/	219/	205 (C)	-1.421	42.164	-133.958<<

568/	219/	223 (C)	27.821>>	-5.906	173.363
568/	219/	224 (C)	-6.277<<	-26.651	118.820
568/	219/	205 (C)	-0.852	44.951>>	-133.493
568/	219/	222 (C)	4.643	-54.333<<	158.254
568/	217/	266 (C)	12.246	-50.720	300.045>>
568/	217/	205 (C)	-0.852	44.951	-134.345<<
569/	217/	223 (C)	21.039>>	-17.573	201.046
569/	217/	224 (C)	-10.399<<	-31.990	112.195
569/	217/	205 (C)	-0.388	47.450>>	-133.882
569/	217/	222 (C)	-0.794	-64.029<<	162.486
569/	215/	266 (C)	6.041	-61.797	305.412>>
569/	215/	205 (C)	-0.388	47.450	-134.270<<
570/	215/	223 (C)	14.283>>	-29.172	221.832
570/	215/	224 (C)	-13.558<<	-35.039	101.393
570/	215/	205 (C)	0.003	49.765>>	-133.806
570/	215/	222 (C)	-5.617	-72.412<<	161.192
570/	213/	266 (C)	0.097	-72.168	304.736>>
570/	215/	205 (C)	0.003	49.765	-133.806<<
571/	213/	223 (C)	7.645>>	-40.454	235.748
571/	213/	224 (C)	-15.998<<	-36.341	87.401
571/	213/	205 (C)	0.348	51.959>>	-133.342
571/	213/	266 (C)	-5.535	-81.685<<	303.878
571/	213/	266 (C)	-5.535	-81.685	303.878>>
571/	211/	265 (C)	-2.442	47.448	-134.749<<
572/	211/	212 (C)	5.482>>	1.591	-33.972
572/	211/	224 (C)	-17.820<<	-36.138	70.940
572/	211/	205 (C)	0.669	54.134>>	-132.520
572/	211/	266 (C)	-10.793	-90.291<<	297.382
572/	211/	266 (C)	-10.793	-90.291	297.382>>
572/	209/	265 (C)	-2.458	49.668	-136.766<<
573/	209/	212 (C)	5.310>>	2.236	-28.343
573/	209/	224 (C)	-19.119<<	-34.617	52.652
573/	209/	205 (C)	0.982	56.304>>	-131.379
573/	209/	266 (C)	-15.610	-97.734<<	285.555
573/	209/	266 (C)	-15.610	-97.734	285.555>>
573/	207/	265 (C)	-2.412	52.038	-138.743<<
574/	207/	212 (C)	5.123>>	2.753	-22.888
574/	207/	263 (C)	-21.730<<	-53.173	132.917
574/	207/	205 (C)	1.299	58.518>>	-129.920
574/	207/	266 (C)	-19.906	-103.852<<	268.840
574/	207/	266 (C)	-19.906	-103.852	268.840>>
574/	205/	265 (C)	-2.284	54.633	-140.591<<
575/	205/	212 (C)	4.914>>	3.131	-17.623
575/	205/	263 (C)	-25.079<<	-55.720	110.487
575/	205/	205 (C)	1.626	60.788>>	-128.143
575/	205/	266 (C)	-23.597	-108.413<<	247.781
575/	205/	266 (C)	-23.597	-108.413	247.781>>
575/	203/	265 (C)	-2.061	57.488	-142.215<<
576/	203/	212 (C)	4.676>>	3.367	-12.571
576/	203/	263 (C)	-27.703<<	-56.448	84.657
576/	203/	205 (C)	1.960	63.159>>	-126.018
576/	203/	206 (C)	-25.326	-112.491<<	220.335
576/	203/	266 (C)	-26.594	-111.281	222.963>>
576/	201/	265 (C)	-1.734	60.675	-143.490<<
577/	201/	212 (C)	4.408>>	3.451	-7.762
577/	201/	263 (C)	-29.520<<	-55.125	56.197
577/	201/	205 (C)	2.292	65.574>>	-123.553
577/	201/	206 (C)	-27.818	-115.022<<	193.877
577/	201/	266 (C)	-28.817	-112.185	195.136>>
577/	199/	265 (C)	-1.307	64.156	-144.327<<

578/	199/	212 (C)	4.106>>	3.389	-3.229
578/	199/	263 (C)	-30.468<<	-51.609	25.936
578/	199/	205 (C)	2.599	68.001>>	-120.741
578/	199/	206 (C)	-29.383	-115.347<<	164.919
578/	199/	266 (C)	-30.196	-110.988	165.089>>
578/	197/	265 (C)	-0.799	67.909	-144.633<<
579/	197/	212 (C)	3.774>>	3.189	0.994
579/	197/	266 (C)	-30.697<<	-107.603	133.707
579/	197/	265 (C)	-0.254	71.823>>	-144.115
579/	197/	206 (C)	-30.024	-113.465<<	134.428
579/	197/	223 (C)	-29.820	-93.012	134.830>>
579/	195/	265 (C)	-0.254	71.823	-144.369<<
580/	195/	212 (C)	3.420>>	2.876	4.875
580/	195/	223 (C)	-31.287<<	-91.871	104.092
580/	195/	265 (C)	0.256	75.771>>	-143.794
580/	195/	206 (C)	-29.775	-109.507<<	103.326
580/	195/	223 (C)	-31.287	-91.871	104.092>>
580/	195/	265 (C)	0.256	75.771	-143.794<<
581/	193/	212 (C)	3.058>>	2.495	8.387
581/	193/	223 (C)	-31.967<<	-88.874	71.968
581/	193/	265 (C)	0.612	79.427>>	-142.918
581/	193/	206 (C)	-28.724	-103.670<<	72.575
581/	193/	206 (C)	-28.724	-103.670	72.575>>
581/	193/	265 (C)	0.612	79.427	-142.918<<
582/	191/	212 (C)	2.717>>	2.116	11.520
582/	191/	223 (C)	-32.026<<	-84.470	39.290
582/	191/	265 (C)	0.637	82.374>>	-141.619
582/	191/	206 (C)	-27.045	-96.411<<	43.010
582/	191/	206 (C)	-27.045	-96.411	43.010>>
582/	189/	224 (C)	-17.284	16.719	-148.445<<
583/	189/	212 (C)	2.304>>	1.535	14.301
583/	189/	223 (C)	-31.448<<	-78.688	6.679
583/	189/	265 (C)	-0.096	83.605>>	-140.289
583/	189/	206 (C)	-24.587	-87.427<<	15.252
583/	189/	204 (C)	-17.216	-66.703	22.355>>
583/	362/	224 (C)	-16.277	24.815	-158.306<<
584/	362/	212 (C)	1.851>>	0.839	15.785
584/	362/	223 (C)	-30.591<<	-72.341	-13.281
584/	362/	265 (C)	-1.445	83.461>>	-139.626
584/	362/	206 (C)	-21.723	-77.567<<	-0.598
584/	187/	212 (C)	1.851	0.839	16.921>>
584/	187/	224 (C)	-15.516	32.350	-167.521<<
585/	187/	212 (C)	1.357>>	0.030	16.978
585/	187/	223 (C)	-29.502<<	-65.558	-32.481
585/	187/	265 (C)	-3.332	82.052>>	-139.781
585/	187/	206 (C)	-18.358	-66.607<<	-14.517
585/	185/	212 (C)	1.357	0.030	18.335>>
585/	185/	224 (C)	-15.082	39.054	-182.216<<
586/	185/	212 (C)	0.793>>	-0.978	18.385
586/	185/	223 (C)	-28.202<<	-58.472	-62.312
586/	185/	265 (C)	-6.045	78.800>>	-142.368
586/	185/	223 (C)	-28.202	-58.472<<	-62.312
586/	183/	212 (C)	0.793	-0.978	19.179>>
586/	183/	224 (C)	-15.323	44.156	-197.037<<
587/	183/	212 (C)	0.233>>	-2.007	19.212
587/	183/	223 (C)	-26.725<<	-51.227	-90.697
587/	183/	265 (C)	-9.245	74.436>>	-147.695
587/	183/	223 (C)	-26.725	-51.227<<	-90.697
587/	181/	212 (C)	0.233	-2.007	19.445>>
587/	181/	224 (C)	-16.140	47.784	-212.545<<

588/	181/	222 (C)	0.555>>	-22.874	-53.123
588/	181/	223 (C)	-24.660<<	-42.768	-117.490
588/	181/	265 (C)	-13.451	67.565>>	-156.250
588/	181/	223 (C)	-24.660	-42.768<<	-117.490
588/	181/	212 (C)	-0.294	-2.978	19.460>>
588/	7/	224 (C)	-18.094	48.475	-229.903<<
589/	7/	265 (C)	69.716>>	59.561	-168.695
589/	7/	206 (C)	-18.303<<	-17.789	-65.497
589/	7/	265 (C)	69.716	59.561>>	-168.695
589/	7/	223 (C)	-0.928	-33.251<<	-142.339
589/	179/	212 (C)	0.425	-3.956	19.565>>
589/	7/	224 (C)	64.669	47.488	-228.833<<
590/	179/	265 (C)	63.900>>	48.672	-98.536
590/	179/	206 (C)	-14.610<<	-6.652	-83.612
590/	179/	265 (C)	63.900	48.672>>	-98.536
590/	179/	223 (C)	1.209	-25.017<<	-143.100
590/	177/	212 (C)	0.030	-4.643	19.575>>
590/	179/	263 (C)	46.508	43.346	-177.417<<
591/	177/	265 (C)	57.571>>	36.483	-34.323
591/	177/	204 (C)	-11.650<<	3.919	-62.694
591/	177/	261 (C)	42.890	43.727>>	-105.086
591/	177/	223 (C)	3.129	-17.528<<	-141.655
591/	175/	205 (C)	45.928	26.434	27.151>>
591/	177/	223 (C)	3.129	-17.528	-141.655<<
592/	175/	265 (C)	51.184>>	24.202	23.431
592/	175/	204 (C)	-9.512<<	10.716	-74.074
592/	175/	261 (C)	39.161	39.435>>	-61.692
592/	175/	213 (C)	8.418	-11.571<<	-108.599
592/	173/	265 (C)	51.184	24.202	74.615>>
592/	175/	223 (C)	4.649	-11.263	-138.268<<
593/	173/	265 (C)	44.824>>	12.024	74.684
593/	173/	204 (C)	-7.738<<	16.559	-83.280
593/	173/	261 (C)	35.008	34.084>>	-22.097
593/	173/	213 (C)	7.960	-10.007<<	-99.981
593/	171/	265 (C)	44.824	12.024	119.507>>
593/	173/	223 (C)	5.834	-6.007	-133.351<<
594/	171/	265 (C)	38.546>>	0.096	119.461
594/	171/	204 (C)	-6.285<<	21.540	-90.690
594/	171/	264 (C)	-5.248	28.862>>	-102.190
594/	171/	213 (C)	7.543	-8.569<<	-91.833
594/	169/	265 (C)	38.546	0.096	158.007>>
594/	169/	206 (C)	-4.749	24.737	-128.216<<
595/	169/	265 (C)	32.387>>	-11.486	157.857
595/	169/	204 (C)	-5.106<<	25.782	-96.633
595/	169/	264 (C)	-4.267	33.215>>	-107.004
595/	169/	205 (C)	25.387	-13.085<<	133.277
595/	167/	265 (C)	32.387	-11.486	190.244>>
595/	167/	206 (C)	-3.324	29.793	-131.121<<
596/	167/	265 (C)	26.372>>	-22.721	189.992
596/	167/	204 (C)	-4.155<<	29.441	-101.380
596/	167/	264 (C)	-3.577	36.820>>	-110.824
596/	167/	265 (C)	26.372	-22.721<<	189.992
596/	165/	265 (C)	26.372	-22.721	216.364>>
596/	165/	206 (C)	-2.191	34.094	-132.874<<
597/	165/	265 (C)	20.517>>	-33.514	216.017
597/	165/	204 (C)	-3.386<<	32.604	-105.171
597/	165/	264 (C)	-3.119	39.807>>	-113.956
597/	165/	224 (C)	16.297	-34.000<<	133.861
597/	163/	265 (C)	20.517	-33.514	236.535>>
597/	163/	206 (C)	-1.292	37.752	-133.724<<

598/	163/	265 (C)	14.839>>	-43.854	236.097
598/	163/	264 (C)	-2.835<<	42.336	-116.632
598/	163/	264 (C)	-2.835	42.336>>	-116.632
598/	163/	224 (C)	10.018	-45.402<<	149.936
598/	161/	265 (C)	14.839	-43.854	250.936>>
598/	161/	206 (C)	-0.579	40.916	-133.855<<
599/	161/	265 (C)	9.355>>	-53.677	250.416
599/	161/	264 (C)	-2.675<<	44.532	-119.032
599/	161/	264 (C)	-2.675	44.532>>	-119.032
599/	161/	224 (C)	4.108	-56.055<<	159.631
599/	159/	265 (C)	9.355	-53.677	259.770>>
599/	159/	206 (C)	-0.005	43.693	-133.413<<
600/	159/	223 (C)	8.645>>	12.591	-78.136
600/	159/	264 (C)	-2.593<<	46.555	-121.269
600/	159/	264 (C)	-2.593	46.555>>	-121.269
600/	159/	224 (C)	-1.310	-65.709<<	163.305
600/	157/	265 (C)	4.086	-63.008	263.241>>
600/	159/	206 (C)	0.468	46.230	-132.956<<
601/	157/	223 (C)	8.616>>	13.675	-69.213
601/	157/	224 (C)	-6.104<<	-74.008	161.477
601/	157/	206 (C)	0.873	48.580>>	-132.033
601/	157/	224 (C)	-6.104	-74.008<<	161.477
601/	157/	265 (C)	-0.939	-71.713	262.549>>
601/	157/	206 (C)	0.873	48.580	-132.033<<
602/	155/	223 (C)	8.523>>	14.498	-60.325
602/	155/	224 (C)	-10.139<<	-80.627	154.790
602/	155/	206 (C)	1.237	50.820>>	-130.708
602/	155/	224 (C)	-10.139	-80.627<<	154.790
602/	155/	265 (C)	-5.686	-79.705	260.849>>
602/	153/	266 (C)	-1.810	45.922	-132.245<<
603/	153/	223 (C)	8.371>>	15.093	-51.530
603/	153/	224 (C)	-13.129<<	-84.948	144.000
603/	153/	206 (C)	1.582	53.053>>	-129.007
603/	153/	265 (C)	-10.112	-86.959<<	254.313
603/	153/	265 (C)	-10.112	-86.959	254.313>>
603/	151/	266 (C)	-1.773	48.265	-133.589<<
604/	151/	223 (C)	8.160>>	15.453	-42.894
604/	151/	224 (C)	-15.310<<	-87.467	130.195
604/	151/	206 (C)	1.926	55.295>>	-126.962
604/	151/	265 (C)	-14.163	-93.272<<	243.293
604/	151/	265 (C)	-14.163	-93.272	243.293>>
604/	149/	266 (C)	-1.663	50.783	-134.828<<
605/	149/	223 (C)	7.891>>	15.586	-34.475
605/	149/	262 (C)	-18.142<<	-39.029	90.172
605/	149/	206 (C)	2.281	57.585>>	-124.573
605/	149/	265 (C)	-17.779	-98.504<<	228.173
605/	149/	265 (C)	-17.779	-98.504	228.173>>
605/	147/	266 (C)	-1.460	53.539	-135.866<<
606/	147/	223 (C)	7.561>>	15.505	-26.330
606/	147/	265 (C)	-20.895<<	-102.561	209.369
606/	147/	264 (C)	-1.717	60.084>>	-133.091
606/	147/	265 (C)	-20.895	-102.561<<	209.369
606/	147/	265 (C)	-20.895	-102.561	209.369>>
606/	145/	266 (C)	-1.150	56.621	-136.575<<
607/	145/	223 (C)	7.172>>	15.203	-18.525
607/	145/	265 (C)	-23.442<<	-105.217	187.422
607/	145/	264 (C)	-1.276	63.250>>	-134.359
607/	145/	265 (C)	-23.442	-105.217<<	187.422
607/	145/	265 (C)	-23.442	-105.217	187.422>>
607/	143/	266 (C)	-0.727	60.013	-136.852<<

608/	143/	223 (C)	6.724>>	14.693	-11.121
608/	143/	265 (C)	-25.358<<	-106.325	162.919
608/	143/	264 (C)	-0.731	66.739>>	-135.173
608/	143/	265 (C)	-25.358	-106.325<<	162.919
608/	143/	265 (C)	-25.358	-106.325	162.919>>
608/	141/	266 (C)	-0.197	63.710	-136.587<<
609/	141/	223 (C)	6.225>>	13.998	-4.175
609/	141/	265 (C)	-26.592<<	-105.816	136.480
609/	141/	264 (C)	-0.109	70.537>>	-135.401
609/	141/	265 (C)	-26.592	-105.816<<	136.480
609/	141/	265 (C)	-26.592	-105.816	136.480>>
609/	141/	266 (C)	0.412	67.701	-136.084<<
610/	139/	223 (C)	5.687>>	13.153	2.252
610/	139/	265 (C)	-27.121<<	-103.601	108.846
610/	139/	264 (C)	0.541	74.486>>	-134.974
610/	139/	265 (C)	-27.121	-103.601<<	108.846
610/	139/	265 (C)	-27.121	-103.601	108.846>>
610/	139/	266 (C)	1.050	71.828	-135.137<<
611/	137/	223 (C)	5.136>>	12.227	8.119
611/	137/	265 (C)	-26.972<<	-99.760	80.752
611/	137/	264 (C)	1.128	78.372>>	-133.856
611/	137/	265 (C)	-26.972	-99.760<<	80.752
611/	137/	265 (C)	-26.972	-99.760	80.752>>
611/	137/	264 (C)	1.128	78.372	-133.856<<
612/	135/	223 (C)	4.612>>	11.323	13.411
612/	135/	265 (C)	-26.244<<	-94.582	52.888
612/	135/	264 (C)	1.512	81.894>>	-132.074
612/	135/	265 (C)	-26.244	-94.582<<	52.888
612/	135/	265 (C)	-26.244	-94.582	52.888>>
612/	135/	264 (C)	1.512	81.894	-132.074<<
613/	133/	223 (C)	3.974>>	10.122	18.161
613/	133/	265 (C)	-24.645<<	-87.412	25.865
613/	133/	264 (C)	1.298	84.091>>	-129.903
613/	133/	265 (C)	-24.645	-87.412<<	25.865
613/	133/	205 (C)	-19.712	-73.072	29.891>>
613/	133/	264 (C)	1.298	84.091	-129.903<<
614/	131/	223 (C)	3.245>>	8.690	22.253
614/	131/	265 (C)	-22.370<<	-78.743	0.588
614/	131/	264 (C)	0.427	84.819>>	-127.939
614/	131/	265 (C)	-22.370	-78.743<<	0.588
614/	366/	223 (C)	3.245	8.690	23.450>>
614/	131/	264 (C)	0.427	84.819	-127.939<<
615/	366/	223 (C)	2.483>>	7.165	23.565
615/	366/	265 (C)	-19.869<<	-69.581	-8.277
615/	366/	264 (C)	-0.827	84.737>>	-127.070
615/	366/	265 (C)	-19.869	-69.581<<	-8.277
615/	129/	223 (C)	2.483	7.165	25.090>>
615/	129/	262 (C)	-17.819	13.534	-131.027<<
616/	129/	223 (C)	1.659>>	5.480	25.200
616/	129/	265 (C)	-16.866<<	-59.299	-21.024
616/	129/	264 (C)	-2.571	83.519>>	-126.851
616/	129/	265 (C)	-16.866	-59.299<<	-21.024
616/	127/	223 (C)	1.659	5.480	26.859>>
616/	127/	262 (C)	-16.448	22.171	-147.323<<
617/	127/	213 (C)	0.820>>	-1.170	18.177
617/	127/	262 (C)	-15.377<<	30.086	-147.059
617/	127/	264 (C)	-5.089	80.562>>	-128.695
617/	127/	265 (C)	-13.413	-48.068<<	-38.317
617/	125/	223 (C)	0.733	3.530	27.688>>
617/	125/	262 (C)	-15.377	30.086	-162.436<<

618/	125/	213 (C)	0.262>>	-2.179	19.029
618/	125/	263 (C)	-14.698<<	37.831	-155.993
618/	125/	264 (C)	-8.064	76.576>>	-133.075
618/	125/	265 (C)	-9.841	-36.692<<	-51.982
618/	125/	223 (C)	-0.185	1.578	27.754>>
618/	123/	262 (C)	-14.639	37.143	-176.666<<
619/	123/	224 (C)	0.514>>	-23.306	-53.778
619/	123/	263 (C)	-14.995<<	42.322	-170.144
619/	123/	264 (C)	-12.040	70.122>>	-140.435
619/	123/	265 (C)	-6.163	-25.125<<	-61.930
619/	123/	223 (C)	-1.073	-0.332	27.605>>
619/	9/	262 (C)	-14.740	42.076	-190.868<<
620/	9/	264 (C)	66.098>>	62.293	-151.482
620/	9/	205 (C)	-14.402<<	-15.507	-47.081
620/	9/	264 (C)	66.098	62.293>>	-151.482
620/	9/	224 (C)	-4.569	-16.969<<	-53.408
620/	121/	223 (C)	1.242	-2.234	27.769>>
620/	9/	262 (C)	46.164	45.559	-190.009<<
621/	121/	264 (C)	60.494>>	51.752	-84.923
621/	121/	205 (C)	-11.641<<	-7.036	-61.358
621/	121/	264 (C)	60.494	51.752>>	-84.923
621/	121/	224 (C)	-2.663	-11.422<<	-57.926
621/	119/	223 (C)	0.534	-3.734	28.278>>
621/	121/	262 (C)	44.057	45.327	-143.241<<
622/	119/	264 (C)	54.356>>	39.867	-24.078
622/	119/	205 (C)	-9.220<<	0.518	-72.803
622/	119/	262 (C)	40.983	42.606>>	-98.604
622/	119/	224 (C)	-1.003	-6.532<<	-60.493
622/	117/	206 (C)	42.110	28.759	38.414>>
622/	117/	265 (C)	-7.521	5.111	-98.647<<
623/	117/	264 (C)	48.151>>	27.872	30.507
623/	117/	205 (C)	-7.194<<	7.011	-81.785
623/	117/	262 (C)	37.355	38.490>>	-57.108
623/	117/	223 (C)	-0.508	-5.855<<	28.142
623/	115/	266 (C)	47.945	26.342	81.445>>
623/	115/	265 (C)	-5.415	12.419	-103.734<<
624/	115/	264 (C)	41.956>>	15.949	78.772
624/	115/	205 (C)	-5.525<<	12.551	-88.712
624/	115/	262 (C)	33.296	33.284>>	-19.315
624/	115/	223 (C)	-0.882	-6.577<<	27.577
624/	113/	266 (C)	41.757	14.513	123.307>>
624/	113/	265 (C)	-3.782	18.477	-107.159<<
625/	113/	264 (C)	35.826>>	4.211	120.732
625/	113/	205 (C)	-4.165<<	17.272	-93.946
625/	113/	262 (C)	28.913	27.253>>	14.340
625/	113/	223 (C)	-1.177	-7.120<<	26.632
625/	111/	266 (C)	35.632	2.863	158.942>>
625/	111/	265 (C)	-2.557	23.464	-109.339<<
626/	111/	264 (C)	29.793>>	-7.228	156.462
626/	111/	205 (C)	-3.067<<	21.275	-97.810
626/	111/	265 (C)	-1.673	27.526>>	-108.955
626/	111/	206 (C)	22.199	-9.370<<	134.279
626/	109/	266 (C)	29.604	-8.495	188.447>>
626/	109/	265 (C)	-1.673	27.526	-110.628<<
627/	109/	264 (C)	23.882>>	-18.355	186.063
627/	109/	205 (C)	-2.183<<	24.713	-100.563
627/	109/	265 (C)	-1.066	30.866>>	-110.238
627/	109/	266 (C)	23.698	-19.550<<	188.249
627/	107/	266 (C)	23.698	-19.550	211.948>>
627/	107/	265 (C)	-1.066	30.866	-111.304<<

628/	107/	264 (C)	18.112>>	-29.116	209.658
628/	107/	223 (C)	-1.705<<	-7.931	22.276
628/	107/	265 (C)	-0.674	33.633>>	-110.913
628/	107/	266 (C)	17.933	-30.243<<	211.657
628/	105/	266 (C)	17.933	-30.243	229.588>>
628/	105/	265 (C)	-0.674	33.633	-111.587<<
629/	105/	264 (C)	12.501>>	-39.474	227.392
629/	105/	223 (C)	-1.794<<	-8.011	20.504
629/	105/	265 (C)	-0.442	35.973>>	-111.200
629/	105/	266 (C)	12.325	-40.540<<	229.207
629/	103/	266 (C)	12.325	-40.540	241.533>>
629/	103/	265 (C)	-0.442	35.973	-111.642<<
630/	103/	264 (C)	7.068>>	-49.389	239.430
630/	103/	223 (C)	-1.852<<	-8.024	18.643
630/	103/	265 (C)	-0.322	38.020>>	-111.260
630/	103/	266 (C)	6.895	-50.399<<	241.065
630/	101/	266 (C)	6.895	-50.399	247.961>>
630/	101/	265 (C)	-0.322	38.020	-111.581<<
631/	101/	224 (C)	4.263>>	11.111	-37.937
631/	101/	223 (C)	-1.885<<	-7.982	16.724
631/	101/	265 (C)	-0.266	39.898>>	-111.204
631/	101/	266 (C)	1.667	-59.769<<	247.408
631/	99/	266 (C)	1.667	-59.769	249.075>>
631/	99/	265 (C)	-0.266	39.898	-111.470<<
632/	99/	224 (C)	4.300>>	11.518	-33.517
632/	99/	263 (C)	-4.487<<	-22.693	120.527
632/	99/	265 (C)	-0.235	41.717>>	-111.098
632/	99/	266 (C)	-3.329	-68.578<<	248.443
632/	99/	266 (C)	-3.329	-68.578	248.443>>
632/	97/	265 (C)	-0.235	41.717	-111.332<<
633/	97/	224 (C)	4.286>>	11.775	-29.060
633/	97/	263 (C)	-8.696<<	-28.374	115.732
633/	97/	265 (C)	-0.191	43.589>>	-110.960
633/	97/	266 (C)	-8.055	-76.768<<	244.397
633/	97/	266 (C)	-8.055	-76.768	244.397>>
633/	95/	265 (C)	-0.191	43.589	-111.150<<
634/	95/	224 (C)	4.227>>	11.888	-24.622
634/	95/	263 (C)	-12.567<<	-33.197	106.667
634/	95/	265 (C)	-0.101	45.571>>	-110.789
634/	95/	266 (C)	-12.467	-84.161<<	235.568
634/	95/	266 (C)	-12.467	-84.161	235.568>>
634/	93/	265 (C)	-0.101	45.571	-110.890<<
635/	93/	224 (C)	4.127>>	11.875	-20.243
635/	93/	266 (C)	-16.508<<	-90.697	222.251
635/	93/	265 (C)	0.062	47.781>>	-110.523
635/	93/	266 (C)	-16.508	-90.697<<	222.251
635/	93/	266 (C)	-16.508	-90.697	222.251>>
635/	93/	265 (C)	0.062	47.781	-110.523<<
636/	91/	224 (C)	3.985>>	11.740	-15.969
636/	91/	266 (C)	-20.117<<	-96.205	204.837
636/	91/	265 (C)	0.325	50.273>>	-110.090
636/	91/	266 (C)	-20.117	-96.205<<	204.837
636/	91/	266 (C)	-20.117	-96.205	204.837>>
636/	91/	265 (C)	0.325	50.273	-110.090<<
637/	89/	224 (C)	3.805>>	11.486	-11.839
637/	89/	266 (C)	-23.224<<	-100.520	183.761
637/	89/	265 (C)	0.704	53.104>>	-109.386
637/	89/	266 (C)	-23.224	-100.520<<	183.761
637/	89/	266 (C)	-23.224	-100.520	183.761>>
637/	89/	265 (C)	0.704	53.104	-109.386<<

638/	87/	224 (C)	3.585>>	11.114	-7.895
638/	87/	266 (C)	-25.757<<	-103.476	159.542
638/	87/	265 (C)	1.207	56.302>>	-108.289
638/	87/	266 (C)	-25.757	-103.476<<	159.542
638/	87/	266 (C)	-25.757	-103.476	159.542>>
638/	87/	265 (C)	1.207	56.302	-108.289<<
639/	85/	205 (C)	3.644>>	54.007	-89.686
639/	85/	266 (C)	-27.650<<	-104.911	132.772
639/	85/	265 (C)	1.830	59.864>>	-106.667
639/	85/	266 (C)	-27.650	-104.911<<	132.772
639/	85/	266 (C)	-27.650	-104.911	132.772>>
639/	85/	265 (C)	1.830	59.864	-106.667<<
640/	83/	205 (C)	4.218>>	56.921	-85.626
640/	83/	266 (C)	-28.846<<	-104.700	104.106
640/	83/	265 (C)	2.549	63.741>>	-104.392
640/	83/	266 (C)	-28.846	-104.700<<	104.106
640/	83/	266 (C)	-28.846	-104.700	104.106>>
640/	83/	265 (C)	2.549	63.741	-104.392<<
641/	81/	205 (C)	4.755>>	59.819	-80.964
641/	81/	266 (C)	-29.316<<	-102.785	74.272
641/	81/	265 (C)	3.313	67.815>>	-101.357
641/	81/	266 (C)	-29.316	-102.785<<	74.272
641/	81/	264 (C)	-29.209	-102.270	74.330>>
641/	81/	265 (C)	3.313	67.815	-101.357<<
642/	79/	205 (C)	5.184>>	62.544	-75.725
642/	79/	266 (C)	-29.079<<	-99.229	44.016
642/	79/	265 (C)	4.032	71.879>>	-97.498
642/	79/	266 (C)	-29.079	-99.229<<	44.016
642/	79/	264 (C)	-28.983	-98.760	44.184>>
642/	79/	265 (C)	4.032	71.879	-97.498<<
643/	77/	205 (C)	5.401>>	64.822	-70.029
643/	77/	266 (C)	-28.223<<	-94.262	14.120
643/	77/	265 (C)	4.565	75.562>>	-92.869
643/	77/	266 (C)	-28.223	-94.262<<	14.120
643/	77/	264 (C)	-28.138	-93.838	14.387>>
643/	75/	263 (C)	-21.238	-11.827	-105.403<<
644/	75/	205 (C)	5.096>>	65.953	-64.101
644/	75/	266 (C)	-26.527<<	-87.417	-14.836
644/	75/	265 (C)	4.506	77.942>>	-87.676
644/	75/	266 (C)	-26.527	-87.417<<	-14.836
644/	370/	224 (C)	1.640	7.023	11.649>>
644/	370/	263 (C)	-19.522	-2.872	-127.305<<
645/	370/	205 (C)	4.024>>	65.380	-57.832
645/	370/	266 (C)	-24.091<<	-78.965	-45.142
645/	370/	265 (C)	3.560	78.343>>	-81.942
645/	370/	266 (C)	-24.091	-78.965<<	-45.142
645/	73/	224 (C)	1.188	6.000	12.451>>
645/	73/	263 (C)	-17.866	5.924	-138.232<<
646/	73/	205 (C)	2.552>>	63.880	-54.782
646/	73/	266 (C)	-21.203<<	-69.563	-60.562
646/	73/	265 (C)	2.120	77.589>>	-79.045
646/	73/	266 (C)	-21.203	-69.563<<	-60.562
646/	71/	224 (C)	0.708	4.915	13.221>>
646/	71/	263 (C)	-16.407	14.171	-154.444<<
647/	71/	205 (C)	0.432>>	60.913	-51.657
647/	71/	266 (C)	-17.915<<	-59.361	-82.210
647/	71/	265 (C)	-0.136	74.969>>	-76.203
647/	71/	266 (C)	-17.915	-59.361<<	-82.210
647/	69/	224 (C)	0.182	3.717	13.459>>
647/	69/	263 (C)	-15.409	21.266	-169.551<<

648/	69/	223 (C)	0.096>>	-1.937	-5.945
648/	69/	262 (C)	-14.872<<	27.608	-167.801
648/	69/	265 (C)	-2.891	71.188>>	-75.618
648/	69/	266 (C)	-14.516	-49.067<<	-100.415
648/	69/	224 (C)	-0.330	2.544	13.498>>
648/	67/	263 (C)	-14.849	27.207	-183.954<<
649/	67/	223 (C)	0.305>>	-1.393	-5.858
649/	67/	262 (C)	-15.222<<	31.165	-182.111
649/	67/	265 (C)	-6.653	64.863>>	-77.813
649/	67/	266 (C)	-10.924	-38.389<<	-115.070
649/	67/	224 (C)	-0.830	1.390	13.190>>
649/	11/	263 (C)	-15.153	30.883	-198.548<<
650/	11/	265 (C)	55.621>>	56.518	-83.653
650/	11/	266 (C)	-5.947<<	-27.605	-126.102
650/	11/	265 (C)	55.621	56.518>>	-83.653
650/	11/	266 (C)	-5.947	-27.605<<	-126.102
650/	65/	224 (C)	0.913	0.275	13.280>>
650/	11/	263 (C)	49.728	32.570	-197.834<<
651/	65/	265 (C)	50.224>>	46.034	-27.536
651/	65/	266 (C)	-2.709<<	-18.019	-131.928
651/	65/	265 (C)	50.224	46.034>>	-27.536
651/	65/	266 (C)	-2.709	-18.019<<	-131.928
651/	63/	205 (C)	39.018	35.112	25.882>>
651/	65/	263 (C)	47.405	30.967	-147.502<<
652/	63/	265 (C)	44.284>>	34.154	23.068
652/	63/	223 (C)	-0.063<<	0.010	-6.157
652/	63/	265 (C)	44.284	34.154>>	23.068
652/	63/	266 (C)	0.117	-9.581<<	-134.431
652/	61/	265 (C)	44.284	34.154	67.353>>
652/	63/	266 (C)	0.117	-9.581	-134.431<<
653/	61/	263 (C)	40.244>>	21.130	-54.893
653/	61/	224 (C)	-0.127<<	-2.100	13.886
653/	61/	265 (C)	38.219	21.959>>	67.630
653/	61/	266 (C)	2.415	-2.557<<	-134.072
653/	59/	265 (C)	38.219	21.959	105.845>>
653/	61/	266 (C)	2.415	-2.557	-134.072<<
654/	59/	263 (C)	35.858>>	14.058	-14.238
654/	59/	224 (C)	-0.357<<	-2.614	13.731
654/	59/	263 (C)	35.858	14.058>>	-14.238
654/	59/	224 (C)	-0.357	-2.614<<	13.731
654/	57/	265 (C)	32.081	9.586	138.094>>
654/	59/	266 (C)	4.267	3.224	-131.389<<
655/	57/	263 (C)	31.091>>	5.929	21.946
655/	57/	224 (C)	-0.544<<	-3.022	13.343
655/	57/	266 (C)	5.749	7.960>>	-126.836
655/	57/	205 (C)	19.536	-4.112<<	114.312
655/	55/	265 (C)	25.912	-2.873	164.069>>
655/	57/	266 (C)	5.749	7.960	-126.836<<
656/	55/	263 (C)	26.037>>	-3.036	53.273
656/	55/	224 (C)	-0.694<<	-3.345	12.766
656/	55/	266 (C)	6.928	11.865>>	-120.787
656/	55/	265 (C)	19.742	-15.396<<	164.027
656/	53/	265 (C)	19.742	-15.396	183.769>>
656/	55/	266 (C)	6.928	11.865	-120.787<<
657/	53/	263 (C)	20.782>>	-12.620	79.450
657/	53/	224 (C)	-0.815<<	-3.597	12.038
657/	53/	266 (C)	7.863	15.055>>	-113.549
657/	53/	265 (C)	13.602	-27.874<<	183.623
657/	51/	265 (C)	13.602	-27.874	197.225>>
657/	53/	266 (C)	7.863	15.055	-113.549<<

658/	51/	263 (C)	15.409>>	-22.634	100.274
658/	51/	224 (C)	-0.911<<	-3.792	11.188
658/	51/	266 (C)	8.603	17.668>>	-105.368
658/	51/	265 (C)	7.529	-40.248<<	196.974
658/	49/	265 (C)	7.529	-40.248	204.503>>
658/	51/	266 (C)	8.603	17.668	-105.368<<
659/	49/	263 (C)	9.998>>	-32.874	115.628
659/	49/	224 (C)	-0.988<<	-3.940	10.241
659/	49/	266 (C)	9.183	19.791>>	-96.443
659/	49/	265 (C)	1.568	-52.396<<	204.149
659/	47/	265 (C)	1.568	-52.396	205.718>>
659/	49/	266 (C)	9.183	19.791	-96.443<<
660/	47/	266 (C)	9.628>>	21.515	-86.928
660/	47/	265 (C)	-4.213<<	-64.227	205.245
660/	47/	266 (C)	9.628	21.515>>	-86.928
660/	47/	265 (C)	-4.213	-64.227<<	205.245
660/	47/	265 (C)	-4.213	-64.227	205.245>>
660/	47/	266 (C)	9.628	21.515	-86.928<<
661/	45/	266 (C)	9.949>>	22.848	-76.962
661/	45/	265 (C)	-9.724<<	-75.469	200.450
661/	45/	266 (C)	9.949	22.848>>	-76.962
661/	45/	265 (C)	-9.724	-75.469<<	200.450
661/	45/	265 (C)	-9.724	-75.469	200.450>>
661/	45/	266 (C)	9.949	22.848	-76.962<<
662/	43/	266 (C)	10.143>>	23.793	-66.665
662/	43/	265 (C)	-14.833<<	-85.831	190.028
662/	43/	266 (C)	10.143	23.793>>	-66.665
662/	43/	265 (C)	-14.833	-85.831<<	190.028
662/	43/	265 (C)	-14.833	-85.831	190.028>>
662/	43/	266 (C)	10.143	23.793	-66.665<<
663/	41/	266 (C)	10.191>>	24.298	-56.166
663/	41/	265 (C)	-19.363<<	-94.869	174.387
663/	41/	266 (C)	10.191	24.298>>	-56.166
663/	41/	265 (C)	-19.363	-94.869<<	174.387
663/	41/	265 (C)	-19.363	-94.869	174.387>>
663/	41/	266 (C)	10.191	24.298	-56.166<<
664/	39/	266 (C)	10.054>>	24.287	-45.603
664/	39/	265 (C)	-23.075<<	-102.052	154.073
664/	39/	266 (C)	10.054	24.287>>	-45.603
664/	39/	265 (C)	-23.075	-102.052<<	154.073
664/	39/	265 (C)	-23.075	-102.052	154.073>>
664/	39/	266 (C)	10.054	24.287	-45.603<<
665/	37/	266 (C)	9.671>>	23.593	-35.165
665/	37/	265 (C)	-25.651<<	-106.558	129.934
665/	37/	266 (C)	9.671	23.593>>	-35.165
665/	37/	265 (C)	-25.651	-106.558<<	129.934
665/	37/	265 (C)	-25.651	-106.558	129.934>>
665/	37/	266 (C)	9.671	23.593	-35.165<<
666/	35/	266 (C)	8.953>>	21.998	-25.098
666/	35/	265 (C)	-26.678<<	-107.376	103.112
666/	35/	266 (C)	8.953	21.998>>	-25.098
666/	35/	265 (C)	-26.678	-107.376<<	103.112
666/	35/	265 (C)	-26.678	-107.376	103.112>>
666/	35/	266 (C)	8.953	21.998	-25.098<<
667/	33/	266 (C)	7.780>>	19.209	-15.728
667/	33/	265 (C)	-25.624<<	-103.230	75.126
667/	33/	266 (C)	7.780	19.209>>	-15.728
667/	33/	265 (C)	-25.624	-103.230<<	75.126
667/	33/	265 (C)	-25.624	-103.230	75.126>>
667/	33/	266 (C)	7.780	19.209	-15.728<<

668/	31/	266 (C)	5.990>>	14.816	-7.518
668/	31/	265 (C)	-21.819<<	-92.439	48.108
668/	31/	266 (C)	5.990	14.816>>	-7.518
668/	31/	265 (C)	-21.819	-92.439<<	48.108
668/	31/	265 (C)	-21.819	-92.439	48.108>>
668/	31/	266 (C)	5.990	14.816	-7.518<<
669/	29/	266 (C)	3.374>>	8.300	-1.087
669/	29/	265 (C)	-14.426<<	-72.945	24.828
669/	29/	266 (C)	3.374	8.300>>	-1.087
669/	29/	265 (C)	-14.426	-72.945<<	24.828
669/	29/	265 (C)	-14.426	-72.945	24.828>>
669/	29/	266 (C)	3.374	8.300	-1.087<<
670/	374/	224 (C)	0.160>>	-0.781	-0.726
670/	374/	263 (C)	-2.280<<	-41.132	8.808
670/	374/	223 (C)	-0.055	0.129>>	0.246
670/	374/	262 (C)	-2.267	-41.167<<	8.752
670/	374/	263 (C)	-2.280	-41.132	8.808>>
670/	374/	224 (C)	0.160	-0.781	-0.726<<
671/	703/	224 (C)	0.160>>	-0.781	-0.663
671/	703/	263 (C)	-2.280<<	-41.130	7.935
671/	703/	223 (C)	-0.055	0.129>>	0.224
671/	703/	262 (C)	-2.267	-41.165<<	7.884
671/	703/	263 (C)	-2.280	-41.130	7.935>>
671/	703/	224 (C)	0.160	-0.781	-0.663<<
672/	702/	224 (C)	0.160>>	-0.781	-0.503
672/	702/	263 (C)	-2.280<<	-41.130	5.651
672/	702/	223 (C)	-0.055	0.129>>	0.169
672/	702/	262 (C)	-2.267	-41.165<<	5.612
672/	702/	263 (C)	-2.280	-41.130	5.651>>
672/	702/	224 (C)	0.160	-0.781	-0.503<<
673/	701/	224 (C)	0.160>>	-0.781	-0.343
673/	701/	263 (C)	-2.280<<	-41.130	3.371
673/	701/	223 (C)	-0.055	0.129>>	0.114
673/	701/	262 (C)	-2.267	-41.165<<	3.345
673/	701/	263 (C)	-2.280	-41.130	3.371>>
673/	701/	224 (C)	0.160	-0.781	-0.343<<
674/	700/	224 (C)	0.160>>	-0.781	-0.183
674/	700/	263 (C)	-2.280<<	-41.130	1.095
674/	700/	223 (C)	-0.055	0.129>>	0.059
674/	700/	262 (C)	-2.267	-41.165<<	1.081
674/	700/	263 (C)	-2.280	-41.130	1.095>>
674/	13/	262 (C)	-2.267	-41.165	-1.186<<

Envolvente de Esfuerzos - Trenes sobre Ambas Vías

Barra/Nudo/Caso	FZ (T)	MX (Tm)	MY (Tm)
501/ 1/ 321 (C)	228.686>>	147.102	-2.699
501/ 1/ 365 (C)	-44.286<<	24.696	1.118
501/ 1/ 361 (C)	172.415	160.228>>	-1.567
501/ 1/ 313 (C)	7.994	-3.956<<	-0.230
501/ 343/ 321 (C)	228.686	147.102	225.987>>
501/ 343/ 365 (C)	-44.286	24.696	-43.168<<
502/ 343/ 321 (C)	181.932>>	65.540	223.252
502/ 343/ 365 (C)	-35.904<<	45.975	-42.079
502/ 343/ 361 (C)	135.791	98.750>>	169.200
502/ 343/ 313 (C)	6.436	-7.836<<	7.541
502/ 341/ 321 (C)	181.932	65.540	405.184>>
502/ 341/ 365 (C)	-35.904	45.975	-77.983<<
503/ 341/ 321 (C)	144.009>>	6.654	402.532
503/ 341/ 365 (C)	-30.129<<	60.803	-76.943
503/ 341/ 362 (C)	79.758	61.136>>	231.943
503/ 341/ 304 (C)	110.710	-18.285<<	301.554
503/ 339/ 321 (C)	144.009	6.654	546.541>>
503/ 339/ 365 (C)	-30.129	60.803	-107.072<<
504/ 339/ 321 (C)	112.850>>	-34.753	544.025
504/ 339/ 365 (C)	-26.283<<	70.865	-106.089
504/ 339/ 365 (C)	-26.283	70.865>>	-106.089
504/ 339/ 304 (C)	89.749	-50.308<<	410.069
504/ 337/ 321 (C)	112.850	-34.753	656.875>>
504/ 337/ 365 (C)	-26.283	70.865	-132.372<<
505/ 337/ 321 (C)	86.807>>	-62.842	654.521
505/ 337/ 365 (C)	-23.838<<	77.485	-131.446
505/ 337/ 365 (C)	-23.838	77.485>>	-131.446
505/ 337/ 304 (C)	73.038	-71.334<<	497.763
505/ 335/ 321 (C)	86.807	-62.842	741.328>>
505/ 335/ 365 (C)	-23.838	77.485	-155.285<<
506/ 335/ 321 (C)	64.585>>	-80.891	739.148
506/ 335/ 365 (C)	-22.386<<	81.683	-154.413
506/ 335/ 365 (C)	-22.386	81.683>>	-154.413
506/ 335/ 304 (C)	59.481	-84.123<<	568.894
506/ 333/ 321 (C)	64.585	-80.891	803.733>>
506/ 333/ 365 (C)	-22.386	81.683	-176.799<<
507/ 333/ 304 (C)	48.231>>	-90.814	626.615
507/ 333/ 365 (C)	-21.619<<	84.236	-175.976
507/ 333/ 365 (C)	-21.619	84.236>>	-175.976
507/ 333/ 321 (C)	45.189	-91.434<<	801.727
507/ 331/ 321 (C)	45.189	-91.434	846.916>>
507/ 331/ 365 (C)	-21.619	84.236	-197.594<<
508/ 331/ 304 (C)	38.642>>	-93.046	673.230
508/ 331/ 365 (C)	-21.306<<	85.721	-196.812
508/ 331/ 365 (C)	-21.306	85.721>>	-196.812
508/ 331/ 321 (C)	27.867	-96.397<<	845.077
508/ 329/ 321 (C)	27.867	-96.397	872.944>>
508/ 329/ 365 (C)	-21.306	85.721	-218.118<<
509/ 329/ 351 (C)	31.580>>	-28.310	293.789
509/ 329/ 365 (C)	-21.284<<	86.556	-217.371
509/ 329/ 365 (C)	-21.284	86.556>>	-217.371
509/ 329/ 321 (C)	12.068	-97.201<<	871.266
509/ 327/ 321 (C)	12.068	-97.201	883.334>>
509/ 327/ 365 (C)	-21.284	86.556	-238.655<<
510/ 327/ 351 (C)	32.252>>	-25.394	324.838
510/ 327/ 365 (C)	-21.440<<	87.030	-237.935
510/ 327/ 365 (C)	-21.440	87.030>>	-237.935
510/ 327/ 321 (C)	-2.599	-94.869<<	881.806
510/ 327/ 321 (C)	-2.599	-94.869	881.806>>
510/ 325/ 365 (C)	-21.440	87.030	-259.374<<
511/ 325/ 351 (C)	33.005>>	-22.092	356.609
511/ 325/ 362 (C)	-30.377<<	5.424	419.616
511/ 325/ 365 (C)	-21.701	87.328>>	-258.673
511/ 325/ 321 (C)	-16.402	-90.106<<	877.822
511/ 325/ 321 (C)	-16.402	-90.106	877.822>>
511/ 323/ 365 (C)	-21.701	87.328	-280.375<<
512/ 323/ 351 (C)	33.716>>	-18.698	389.182
512/ 323/ 361 (C)	-40.699<<	-16.004	557.500
512/ 323/ 365 (C)	-22.032	87.552>>	-279.686
512/ 323/ 321 (C)	-29.509	-83.374<<	860.173
512/ 323/ 321 (C)	-29.509	-83.374	860.173>>
512/ 321/ 365 (C)	-22.032	87.552	-301.718<<
513/ 321/ 322 (C)	19.525>>	50.340	154.447
513/ 321/ 361 (C)	-51.406<<	-8.255	516.236
513/ 321/ 365 (C)	-22.424	87.722>>	-301.036
513/ 321/ 321 (C)	-42.017	-74.947<<	829.552
513/ 321/ 321 (C)	-42.017	-74.947	829.552>>
513/ 319/ 365 (C)	-22.424	87.722	-323.461<<
514/ 319/ 322 (C)	5.702>>	55.280	173.910
514/ 319/ 361 (C)	-61.638<<	0.916	464.386
514/ 319/ 365 (C)	-22.901	87.793>>	-322.780
514/ 319/ 304 (C)	-35.379	-67.829<<	736.438
514/ 319/ 321 (C)	-53.972	-64.979	786.561>>
514/ 317/ 365 (C)	-22.901	87.793	-345.681<<
515/ 317/ 313 (C)	5.258>>	-9.687	64.081
515/ 317/ 361 (C)	-71.444<<	11.363	402.436
515/ 317/ 365 (C)	-23.512	87.650>>	-344.996
515/ 317/ 304 (C)	-48.838	-59.703<<	700.293
515/ 317/ 321 (C)	-65.393	-53.546	731.761>>
515/ 315/ 365 (C)	-23.512	87.650	-368.507<<
516/ 315/ 313 (C)	5.679>>	-8.460	69.210
516/ 315/ 361 (C)	-80.884<<	22.913	330.827
516/ 315/ 365 (C)	-24.334	87.103>>	-367.813
516/ 315/ 304 (C)	-61.839	-50.399<<	650.817
516/ 315/ 321 (C)	-76.289	-40.704	665.698>>
516/ 313/ 365 (C)	-24.334	87.103	-392.147<<
517/ 313/ 313 (C)	6.201>>	-6.964	74.766
517/ 313/ 301 (C)	-90.800<<	20.688	330.209
517/ 313/ 365 (C)	-25.481	85.880>>	-391.442
517/ 313/ 304 (C)	-74.341	-39.861<<	588.480
517/ 313/ 321 (C)	-86.684	-26.549	588.919>>
517/ 311/ 365 (C)	-25.481	85.880	-416.923<<
518/ 311/ 313 (C)	6.848>>	-5.138	80.850
518/ 311/ 301 (C)	-103.925<<	31.080	239.566
518/ 311/ 365 (C)	-27.103	83.613>>	-416.204
518/ 311/ 304 (C)	-86.320	-28.067<<	513.798
518/ 311/ 304 (C)	-86.320	-28.067	513.798>>
518/ 309/ 365 (C)	-27.103	83.613	-443.307<<
519/ 309/ 313 (C)	7.648>>	-2.908	87.591
519/ 309/ 301 (C)	-117.067<<	41.461	135.994
519/ 309/ 322 (C)	-61.313	89.988>>	69.022
519/ 309/ 304 (C)	-97.777	-15.066<<	427.318
519/ 309/ 304 (C)	-97.777	-15.066	427.318>>
519/ 307/ 365 (C)	-29.398	79.820	-471.972<<
520/ 307/ 313 (C)	8.630>>	-0.201	95.144
520/ 307/ 301 (C)	-122.395<<	52.678	19.507
520/ 307/ 322 (C)	-75.178	96.514>>	8.477
520/ 307/ 351 (C)	-55.707	-5.290<<	80.816
520/ 307/ 304 (C)	-100.674	0.502	329.594>>
520/ 305/ 365 (C)	-32.617	73.882	-503.847<<
521/ 305/ 313 (C)	9.839>>	3.087	103.716
521/ 305/ 361 (C)	-129.020<<	80.540	-163.494
521/ 305/ 322 (C)	-90.114	100.595>>	-65.793
521/ 305/ 351 (C)	-53.649	1.021<<	25.247
521/ 305/ 304 (C)	-103.668	15.725	229.199>>
521/ 628/ 365 (C)	-36.965	65.330	-533.329<<
522/ 628/ 313 (C)	11.194>>	6.755	111.700
522/ 628/ 361 (C)	-141.162<<	86.161	-267.584
522/ 628/ 322 (C)	-106.183	102.029>>	-138.148
522/ 628/ 324 (C)	-9.300	2.814<<	-74.714
522/ 628/ 306 (C)	-63.010	24.889	166.295>>
522/ 303/ 365 (C)	-42.115	54.942	-558.779<<
523/ 303/ 313 (C)	12.644>>	10.674	118.584
523/ 303/ 361 (C)	-154.356<<	89.236	-353.572
523/ 303/ 322 (C)	-123.286	100.998>>	-202.499
523/ 303/ 324 (C)	-10.479	0.603<<	-80.470
523/ 301/ 313 (C)	12.644	10.674	131.228>>
523/ 301/ 365 (C)	-47.848	43.218	-606.134<<
524/ 301/ 313 (C)	14.193>>	14.869	131.263
524/ 301/ 361 (C)	-169.233<<	88.250	-506.862
524/ 301/ 322 (C)	-142.126	95.827>>	-324.643
524/ 301/ 324 (C)	-11.644	-1.527<<	-91.017
524/ 299/ 313 (C)	14.193	14.869	145.455>>
524/ 299/ 362 (C)	-154.829	84.831	-737.315<<
525/ 299/ 313 (C)	15.799>>	19.236	145.536
525/ 299/ 361 (C)	-185.204<<	84.578	-675.035
525/ 299/ 322 (C)	-162.221	87.626>>	-465.668
525/ 299/ 352 (C)	-22.984	-6.066<<	-239.391
525/ 297/ 313 (C)	15.799	19.236	161.335>>
525/ 297/ 362 (C)	-169.955	78.166	-906.346<<
526/ 297/ 313 (C)	17.333>>	23.425	161.439
526/ 297/ 361 (C)	-202.892<<	76.534	-859.168
526/ 297/ 364 (C)	-148.762	84.341>>	-294.665
526/ 297/ 305 (C)	-66.866	-15.520<<	-635.556
526/ 3/ 313 (C)	17.333	23.425	178.772>>
526/ 3/ 362 (C)	-186.747	67.347	-1092.190<<
527/ 3/ 362 (C)	245.031>>	58.919	-1091.110
527/ 3/ 313 (C)	-30.633<<	26.321	179.077
527/ 3/ 364 (C)	28.392	88.279>>	-441.732
527/ 3/ 305 (C)	197.047	-29.538<<	-702.857
527/ 3/ 313 (C)	-30.633	26.321	179.077>>
527/ 3/ 362 (C)	245.031	58.919	-1091.110<<

528/	295/	362 (C)	223.522>>	41.410	-845.679
528/	295/	313 (C)	-29.289<<	30.018	148.644
528/	295/	364 (C)	26.767	90.287>>	-412.188
528/	295/	305 (C)	180.669	-47.412<<	-506.387
528/	295/	313 (C)	-29.289	30.018	148.644>>
528/	295/	361 (C)	194.660	56.987	-847.303<<
529/	293/	362 (C)	201.471>>	22.426	-621.977
529/	293/	313 (C)	-28.096<<	33.363	119.579
529/	293/	366 (C)	9.728	90.599>>	-279.389
529/	293/	305 (C)	164.747	-64.046<<	-326.480
529/	293/	313 (C)	-28.096	33.363	119.579>>
529/	293/	361 (C)	175.859	40.885	-652.178<<
530/	291/	362 (C)	179.567>>	3.951	-420.639
530/	291/	313 (C)	-26.886<<	36.781	91.763
530/	291/	366 (C)	8.414	91.808>>	-268.673
530/	291/	305 (C)	149.219	-79.550<<	-162.734
530/	289/	323 (C)	166.280	-28.575	139.503>>
530/	291/	321 (C)	43.708	61.784	-528.650<<
531/	289/	362 (C)	158.255>>	-12.969	-241.463
531/	289/	313 (C)	-25.728<<	40.113	65.201
531/	289/	366 (C)	6.921	92.516>>	-259.306
531/	289/	365 (C)	155.323	-96.641<<	39.590
531/	287/	323 (C)	144.368	-43.115	282.953>>
531/	289/	321 (C)	40.806	57.102	-484.127<<
532/	287/	362 (C)	137.781>>	-27.710	-83.764
532/	287/	313 (C)	-24.662<<	43.258	39.831
532/	287/	366 (C)	5.342	92.994>>	-251.450
532/	287/	365 (C)	135.451	-111.660<<	193.432
532/	285/	323 (C)	123.190	-55.582	405.108>>
532/	287/	321 (C)	38.062	52.650	-442.597<<
533/	285/	362 (C)	118.254>>	-40.009	53.335
533/	285/	313 (C)	-23.704<<	46.187	15.544
533/	285/	366 (C)	3.742	93.334>>	-245.214
533/	285/	365 (C)	116.520	-124.107<<	327.319
533/	283/	323 (C)	102.800	-65.763	506.809>>
533/	285/	321 (C)	35.565	48.541	-403.897<<
534/	283/	362 (C)	99.701>>	-49.807	170.817
534/	283/	313 (C)	-22.857<<	48.890	-7.761
534/	283/	366 (C)	2.160	93.720>>	-240.584
534/	283/	365 (C)	98.525	-134.094<<	442.195
534/	281/	323 (C)	83.199	-73.786	588.860>>
534/	283/	321 (C)	33.355	45.012	-367.749<<
535/	281/	305 (C)	82.998>>	-126.871	436.014
535/	281/	313 (C)	-22.114<<	51.388	-30.203
535/	281/	366 (C)	0.621	94.197>>	-237.549
535/	281/	365 (C)	81.422	-141.712<<	539.034
535/	279/	323 (C)	64.354	-79.713	652.040>>
535/	281/	321 (C)	31.436	42.051	-333.857<<
536/	279/	305 (C)	72.035>>	-130.371	517.498
536/	279/	313 (C)	-21.462<<	53.721	-51.882
536/	279/	366 (C)	-0.865	94.824>>	-236.051
536/	279/	365 (C)	65.148	-147.191<<	618.728
536/	277/	323 (C)	46.217	-83.752	697.079>>
536/	279/	321 (C)	29.791	39.658	-301.917<<
537/	277/	305 (C)	61.672>>	-132.163	588.057
537/	277/	313 (C)	-20.886<<	55.916	-72.912
537/	277/	366 (C)	-2.294	95.548>>	-236.063
537/	277/	365 (C)	49.638	-150.519<<	682.185
537/	275/	365 (C)	49.638	-150.519	731.824>>
537/	277/	304 (C)	5.829	89.798	-290.211<<

538/	275/	305 (C)	51.819>>	-132.641	648.258
538/	275/	313 (C)	-20.372<<	58.034	-93.353
538/	275/	366 (C)	-3.670	96.434>>	-237.495
538/	275/	365 (C)	34.834	-152.054<<	730.129
538/	273/	365 (C)	34.834	-152.054	764.964>>
538/	275/	304 (C)	5.421	90.139	-283.555<<
539/	273/	352 (C)	46.992>>	-37.337	339.742
539/	273/	322 (C)	-19.997<<	-62.982	285.011
539/	273/	366 (C)	-5.004	97.444>>	-240.303
539/	273/	365 (C)	20.690	-151.855<<	763.294
539/	271/	365 (C)	20.690	-151.855	783.984>>
539/	273/	304 (C)	5.052	90.582	-277.311<<
540/	271/	352 (C)	46.648>>	-36.223	386.186
540/	271/	323 (C)	-20.226<<	-82.921	728.799
540/	271/	366 (C)	-6.311	98.571>>	-244.432
540/	271/	365 (C)	7.176	-150.088<<	782.334
540/	269/	365 (C)	7.176	-150.088	789.509>>
540/	271/	304 (C)	4.704	91.111	-271.429<<
541/	269/	321 (C)	24.423>>	32.834	-162.891
541/	269/	323 (C)	-35.480<<	-78.972	707.596
541/	269/	366 (C)	-7.611	99.698>>	-249.881
541/	269/	365 (C)	-5.719	-146.559<<	787.933
541/	269/	365 (C)	-5.719	-146.559	787.933>>
541/	269/	304 (C)	4.350	91.592	-265.915<<
542/	267/	321 (C)	23.633>>	31.874	-138.050
542/	267/	323 (C)	-50.222<<	-73.736	671.194
542/	267/	366 (C)	-8.931	100.842>>	-256.615
542/	267/	365 (C)	-17.989	-141.502<<	780.677
542/	267/	365 (C)	-17.989	-141.502	780.677>>
542/	265/	306 (C)	-7.347	94.631	-269.601<<
543/	265/	324 (C)	24.978>>	31.528	198.230
543/	265/	323 (C)	-64.454<<	-67.166	620.127
543/	265/	366 (C)	-10.303	101.904>>	-264.661
543/	265/	365 (C)	-29.612	-134.795<<	761.215
543/	265/	365 (C)	-29.612	-134.795	761.215>>
543/	263/	306 (C)	-7.629	95.342	-276.409<<
544/	263/	321 (C)	22.024>>	29.637	-90.762
544/	263/	323 (C)	-78.175<<	-59.329	554.911
544/	263/	366 (C)	-11.771	102.809>>	-274.059
544/	263/	365 (C)	-40.552	-126.431<<	730.194
544/	263/	365 (C)	-40.552	-126.431	730.194>>
544/	261/	366 (C)	-11.771	102.809	-285.830<<
545/	261/	321 (C)	21.142>>	28.197	-68.355
545/	261/	323 (C)	-91.394<<	-50.105	476.090
545/	261/	366 (C)	-13.389	103.348>>	-284.937
545/	261/	365 (C)	-50.767	-116.106<<	688.352
545/	261/	365 (C)	-50.767	-116.106	688.352>>
545/	259/	366 (C)	-13.389	103.348	-298.326<<
546/	259/	321 (C)	20.175>>	26.480	-46.844
546/	259/	323 (C)	-104.135<<	-39.724	384.166
546/	259/	366 (C)	-15.228	103.438>>	-297.413
546/	259/	365 (C)	-60.216	-103.940<<	636.396
546/	259/	365 (C)	-60.216	-103.940	636.396>>
546/	257/	366 (C)	-15.228	103.438	-312.640<<
547/	257/	321 (C)	19.108>>	24.448	-26.323
547/	257/	323 (C)	-116.457<<	-28.301	279.657
547/	257/	366 (C)	-17.373	102.844>>	-311.718
547/	257/	305 (C)	-71.370	-91.986<<	520.731
547/	257/	365 (C)	-68.873	-89.813	575.132>>
547/	255/	366 (C)	-17.373	102.844	-329.091<<

548/	255/	321 (C)	17.940>>	22.100	-6.892
548/	255/	323 (C)	-128.472<<	-16.158	162.985
548/	255/	366 (C)	-19.934	101.335>>	-328.153
548/	255/	305 (C)	-75.595	-78.858<<	448.597
548/	255/	365 (C)	-76.744	-73.806	505.366>>
548/	253/	366 (C)	-19.934	101.335	-348.088<<
549/	253/	321 (C)	16.685>>	19.482	11.330
549/	253/	323 (C)	-140.378<<	-3.768	34.504
549/	253/	366 (C)	-23.046	98.483>>	-347.168
549/	253/	305 (C)	-79.160	-64.150<<	372.408
549/	253/	365 (C)	-83.894	-55.955	427.948>>
549/	251/	366 (C)	-23.046	98.483	-370.214<<
550/	251/	321 (C)	15.386>>	16.698	28.255
550/	251/	323 (C)	-152.489<<	8.033	-105.645
550/	251/	366 (C)	-26.874	93.987>>	-369.288
550/	251/	305 (C)	-82.153	-48.211<<	292.831
550/	251/	365 (C)	-90.477	-36.803	343.623>>
550/	249/	366 (C)	-26.874	93.987	-396.163<<
551/	249/	321 (C)	14.119>>	13.942	43.826
551/	249/	323 (C)	-165.283<<	18.051	-257.622
551/	249/	324 (C)	-82.520	89.523>>	17.337
551/	249/	305 (C)	-84.739	-31.452<<	210.484
551/	249/	365 (C)	-96.783	-17.080	253.017>>
551/	247/	366 (C)	-31.619	87.367	-426.859<<
552/	247/	321 (C)	12.735>>	10.896	58.095
552/	247/	323 (C)	-179.435<<	24.558	-422.266
552/	247/	324 (C)	-97.013	95.098>>	-64.299
552/	247/	305 (C)	-87.281	-14.714<<	125.776
552/	247/	365 (C)	-103.257	2.162	156.399>>
552/	358/	323 (C)	-179.435	24.558	-578.181<<
553/	358/	321 (C)	11.268>>	7.634	69.284
553/	358/	323 (C)	-194.912<<	27.722	-577.461
553/	358/	324 (C)	-112.721	97.807>>	-147.577
553/	358/	352 (C)	-38.998	-5.103<<	-67.529
553/	245/	321 (C)	11.268	7.634	76.201>>
553/	245/	323 (C)	-194.912	27.722	-697.100<<
554/	245/	321 (C)	9.740>>	4.209	76.323
554/	245/	323 (C)	-211.377<<	28.387	-696.320
554/	245/	324 (C)	-129.479	98.000>>	-215.645
554/	245/	352 (C)	-37.162	0.464<<	-91.401
554/	243/	321 (C)	9.740	4.209	86.063>>
554/	243/	323 (C)	-211.377	28.387	-907.701<<
555/	243/	321 (C)	8.093>>	0.475	86.165
555/	243/	323 (C)	-213.353<<	29.885	-907.028
555/	243/	324 (C)	-148.002	93.957>>	-343.974
555/	243/	311 (C)	6.056	-1.752<<	59.997
555/	241/	321 (C)	8.093	0.475	94.259>>
555/	241/	323 (C)	-213.353	29.885	-1120.385<<
556/	241/	321 (C)	6.426>>	-3.347	94.309
556/	241/	323 (C)	-216.034<<	29.603	-1119.745
556/	241/	324 (C)	-167.775	86.915>>	-490.845
556/	241/	353 (C)	-23.239	-5.973<<	-231.797
556/	239/	321 (C)	6.426	-3.347	100.735>>
556/	239/	323 (C)	-216.034	29.603	-1335.783<<
557/	239/	321 (C)	4.830>>	-6.992	100.723
557/	239/	323 (C)	-219.872<<	26.054	-1335.078
557/	239/	324 (C)	-189.372	75.145>>	-657.553
557/	239/	306 (C)	-65.279	-17.293<<	-560.105
557/	5/	321 (C)	4.830	-6.992	105.554>>
557/	5/	323 (C)	-219.872	26.054	-1554.954<<

558/	5/	323 (C)	262.013>>	29.747	-1554.172
558/	5/	321 (C)	-1.522<<	-10.952	105.416
558/	5/	365 (C)	27.573	80.122>>	-521.546
558/	5/	306 (C)	194.845	-33.729<<	-625.883
558/	5/	321 (C)	-1.522	-10.952	105.416>>
558/	5/	323 (C)	262.013	29.747	-1554.172<<
559/	237/	323 (C)	255.733>>	19.982	-1291.776
559/	237/	321 (C)	-2.709<<	-13.604	103.766
559/	237/	365 (C)	27.321	86.090>>	-492.765
559/	237/	306 (C)	177.633	-53.653<<	-431.685
559/	237/	321 (C)	-2.709	-13.604	103.766>>
559/	237/	323 (C)	255.733	19.982	-1291.776<<
560/	235/	323 (C)	248.502>>	8.084	-1035.809
560/	235/	321 (C)	-3.594<<	-15.525	100.889
560/	235/	365 (C)	25.942	88.999>>	-464.188
560/	235/	306 (C)	161.075	-71.692<<	-254.928
560/	235/	321 (C)	-3.594	-15.525	100.889>>
560/	235/	323 (C)	248.502	8.084	-1035.809<<
561/	233/	323 (C)	240.802>>	-5.009	-787.436
561/	233/	321 (C)	-4.271<<	-16.943	97.124
561/	233/	365 (C)	24.129	90.584>>	-437.077
561/	233/	306 (C)	145.063	-88.290<<	-94.960
561/	231/	304 (C)	112.823	-75.519	101.859>>
561/	233/	323 (C)	240.802	-5.009	-787.436<<
562/	231/	323 (C)	217.281>>	-22.218	-547.049
562/	231/	321 (C)	-4.780<<	-17.962	92.678
562/	231/	365 (C)	22.090	91.431>>	-411.843
562/	231/	366 (C)	152.925	-104.566<<	79.373
562/	229/	366 (C)	152.925	-104.566	232.296>>
562/	231/	323 (C)	217.281	-22.218	-547.049<<
563/	229/	323 (C)	194.252>>	-38.116	-330.393
563/	229/	321 (C)	-5.155<<	-18.657	87.724
563/	229/	365 (C)	19.967	91.876>>	-388.707
563/	229/	366 (C)	132.583	-120.405<<	230.762
563/	227/	366 (C)	132.583	-120.405	363.357>>
563/	229/	365 (C)	19.967	91.876	-388.707<<
564/	227/	323 (C)	171.959>>	-52.026	-136.913
564/	227/	321 (C)	-5.424<<	-19.120	82.389
564/	227/	305 (C)	8.711	92.749>>	-344.639
564/	227/	366 (C)	113.288	-133.544<<	361.688
564/	225/	366 (C)	113.288	-133.544	474.973>>
564/	227/	365 (C)	17.853	92.284	-367.715<<
565/	225/	323 (C)	150.516>>	-63.732	34.148
565/	225/	321 (C)	-5.609<<	-19.382	76.789
565/	225/	305 (C)	8.561	93.964>>	-334.969
565/	225/	366 (C)	95.017	-143.952<<	473.245
565/	223/	366 (C)	95.017	-143.952	568.261>>
565/	225/	365 (C)	15.803	92.701	-348.879<<
566/	223/	323 (C)	129.957>>	-73.152	183.693
566/	223/	321 (C)	-5.728<<	-19.494	71.004
566/	223/	305 (C)	8.356	94.992>>	-325.463
566/	223/	366 (C)	77.713	-151.824<<	566.489
566/	221/	366 (C)	77.713	-151.824	644.201>>
566/	223/	365 (C)	13.849	93.258	-332.116<<
567/	221/	323 (C)	110.263>>	-80.312	312.644
567/	221/	321 (C)	-5.796<<	-19.482	65.103
567/	221/	305 (C)	8.121	95.879>>	-316.182
567/	221/	366 (C)	61.303	-157.291<<	642.426
567/	219/	366 (C)	61.303	-157.291	703.728>>
567/	221/	365 (C)	12.003	93.972	-317.332<<

568/	219/	323 (C)	91.390>>	-85.443	421.867
568/	219/	321 (C)	-5.820<<	-19.389	59.132
568/	219/	305 (C)	7.870	96.759>>	-307.124
568/	219/	366 (C)	45.716	-160.741<<	701.921
568/	217/	366 (C)	45.716	-160.741	747.636>>
568/	219/	305 (C)	7.870	96.759	-307.124<<
569/	217/	323 (C)	73.278>>	-88.591	512.227
569/	217/	324 (C)	-18.225<<	-62.395	281.248
569/	217/	305 (C)	7.607	97.563>>	-298.333
569/	217/	366 (C)	30.883	-162.154<<	745.858
569/	215/	366 (C)	30.883	-162.154	776.744>>
569/	217/	305 (C)	7.607	97.563	-298.333<<
570/	215/	323 (C)	55.873>>	-89.954	584.498
570/	215/	322 (C)	-19.521<<	-92.319	375.232
570/	215/	305 (C)	7.328	98.319>>	-289.809
570/	215/	366 (C)	16.754	-161.741<<	774.990
570/	213/	366 (C)	16.754	-161.741	791.744>>
570/	215/	305 (C)	7.328	98.319	-289.809<<
571/	213/	353 (C)	45.964>>	-36.189	383.588
571/	213/	322 (C)	-36.505<<	-95.003	355.161
571/	213/	305 (C)	7.019	98.977>>	-281.577
571/	213/	366 (C)	3.295	-159.516<<	790.043
571/	211/	366 (C)	3.295	-159.516	793.337>>
571/	213/	305 (C)	7.019	98.977	-281.577<<
572/	211/	323 (C)	22.994>>	-87.851	677.565
572/	211/	322 (C)	-37.040<<	-92.285	318.110
572/	211/	365 (C)	4.071	100.248>>	-269.192
572/	211/	366 (C)	-9.505	-155.755<<	791.652
572/	211/	366 (C)	-9.505	-155.755	791.652>>
572/	211/	305 (C)	6.661	99.578	-273.635<<
573/	209/	312 (C)	17.531>>	18.600	-98.822
573/	209/	322 (C)	-37.123<<	-88.722	280.553
573/	209/	365 (C)	2.586	101.702>>	-264.189
573/	209/	366 (C)	-21.642	-150.226<<	780.534
573/	209/	366 (C)	-21.642	-150.226	780.534>>
573/	209/	305 (C)	6.228	99.986	-266.063<<
574/	207/	312 (C)	16.921>>	18.174	-80.986
574/	207/	353 (C)	-55.653<<	-59.690	417.963
574/	207/	365 (C)	1.055	103.054>>	-260.664
574/	207/	366 (C)	-33.095	-142.966<<	757.348
574/	207/	366 (C)	-33.095	-142.966	757.348>>
574/	207/	365 (C)	1.055	103.054	-260.664<<
575/	205/	312 (C)	16.288>>	17.591	-63.770
575/	205/	353 (C)	-55.207<<	-56.514	361.884
575/	205/	365 (C)	-0.572	104.165>>	-258.673
575/	205/	366 (C)	-43.831	-133.829<<	722.805
575/	205/	366 (C)	-43.831	-133.829	722.805>>
575/	203/	365 (C)	-0.572	104.165	-259.246<<
576/	203/	312 (C)	15.609>>	16.820	-47.192
576/	203/	303 (C)	-65.837<<	-33.533	410.330
576/	203/	365 (C)	-2.356	104.977>>	-258.283
576/	203/	366 (C)	-53.810	-122.943<<	677.595
576/	203/	366 (C)	-53.810	-122.943	677.595>>
576/	201/	365 (C)	-2.356	104.977	-260.639<<
577/	201/	312 (C)	14.868>>	15.804	-31.308
577/	201/	303 (C)	-72.104<<	-23.702	344.213
577/	201/	365 (C)	-4.371	105.238>>	-259.680
577/	201/	306 (C)	-70.250	-110.468<<	577.681
577/	201/	323 (C)	-48.807	-57.324	639.296>>
577/	199/	365 (C)	-4.371	105.238	-264.051<<

578/	199/	312 (C)	14.052>>	14.528	-16.182
578/	199/	303 (C)	-77.937<<	-12.856	271.944
578/	199/	365 (C)	-6.704	104.766>>	-263.087
578/	199/	306 (C)	-74.884	-98.149<<	506.489
578/	199/	323 (C)	-61.380	-47.017	590.033>>
578/	197/	365 (C)	-6.704	104.766	-269.792<<
579/	197/	312 (C)	13.163>>	12.996	-1.895
579/	197/	363 (C)	-85.623<<	7.200	207.234
579/	197/	365 (C)	-9.468	103.271>>	-268.837
579/	197/	306 (C)	-78.813	-84.174<<	430.813
579/	197/	323 (C)	-73.378	-35.352	528.340>>
579/	195/	365 (C)	-9.468	103.271	-278.305<<
580/	195/	312 (C)	12.214>>	11.250	11.478
580/	195/	363 (C)	-94.943<<	21.175	121.747
580/	195/	365 (C)	-12.793	100.520>>	-277.334
580/	195/	306 (C)	-82.099	-68.822<<	351.359
580/	195/	323 (C)	-84.863	-22.664	454.811>>
580/	193/	365 (C)	-12.793	100.520	-290.127<<
581/	193/	312 (C)	11.239>>	9.381	23.865
581/	193/	363 (C)	-104.343<<	34.938	27.166
581/	193/	365 (C)	-16.837	96.050>>	-289.178
581/	193/	306 (C)	-84.861	-52.294<<	268.832
581/	193/	323 (C)	-95.969	-9.164	370.000>>
581/	191/	365 (C)	-16.837	96.050	-306.015<<
582/	191/	312 (C)	10.301>>	7.550	35.234
582/	191/	363 (C)	-114.261<<	47.370	-76.544
582/	191/	365 (C)	-21.787	89.443>>	-305.091
582/	191/	322 (C)	-25.870	-37.537<<	-23.936
582/	191/	323 (C)	-106.926	4.493	274.322>>
582/	189/	365 (C)	-21.787	89.443	-326.879<<
583/	189/	312 (C)	9.277>>	5.486	45.642
583/	189/	363 (C)	-125.469<<	56.594	-190.027
583/	189/	365 (C)	-28.049	79.734>>	-326.068
583/	189/	322 (C)	-24.107	-31.490<<	-49.909
583/	189/	323 (C)	-118.563	16.315	167.907>>
583/	362/	365 (C)	-28.049	79.734	-343.420<<
584/	362/	312 (C)	8.204>>	3.281	51.473
584/	362/	363 (C)	-137.628<<	63.502	-266.753
584/	362/	324 (C)	-114.799	76.180>>	-231.172
584/	362/	322 (C)	-22.415	-25.692<<	-64.901
584/	362/	323 (C)	-130.816	26.483	95.220>>
584/	187/	365 (C)	-35.222	67.954	-364.282<<
585/	187/	312 (C)	7.075>>	0.934	56.599
585/	187/	363 (C)	-150.828<<	67.753	-350.284
585/	187/	324 (C)	-131.176	77.614>>	-300.590
585/	187/	322 (C)	-20.777	-20.115<<	-78.731
585/	185/	312 (C)	7.075	0.934	63.673>>
585/	185/	363 (C)	-150.828	67.753	-501.110<<
586/	185/	312 (C)	5.840>>	-1.712	63.749
586/	185/	363 (C)	-165.722<<	67.919	-500.105
586/	185/	324 (C)	-149.400	74.600>>	-430.652
586/	185/	322 (C)	-19.225	-14.838<<	-99.550
586/	183/	312 (C)	5.840	-1.712	69.588>>
586/	183/	363 (C)	-165.722	67.919	-665.824<<
587/	183/	312 (C)	4.587>>	-4.430	69.626
587/	183/	363 (C)	-181.679<<	65.323	-664.821
587/	183/	324 (C)	-168.879	68.375>>	-578.950
587/	183/	322 (C)	-17.668	-9.676<<	-118.757
587/	181/	312 (C)	4.587	-4.430	74.213>>
587/	181/	363 (C)	-181.679	65.323	-846.516<<

588/	181/	312 (C)	3.396>>	-7.019	74.203
588/	181/	363 (C)	-199.221<<	58.625	-845.493
588/	181/	366 (C)	-147.808	67.851>>	-386.853
588/	181/	305 (C)	-49.652	-7.947<<	-373.772
588/	7/	312 (C)	3.396	-7.019	77.599>>
588/	7/	363 (C)	-199.221	58.625	-1044.710<<
589/	7/	324 (C)	234.691>>	49.006	-935.665
589/	7/	304 (C)	-1.331<<	55.025	-289.633
589/	7/	366 (C)	28.549	77.143>>	-533.026
589/	7/	305 (C)	158.274	-24.279<<	-423.753
589/	7/	312 (C)	-1.169	-9.805	77.487>>
589/	7/	363 (C)	208.931	55.009	-1043.471<<
590/	179/	324 (C)	210.942>>	31.760	-700.408
590/	179/	312 (C)	-2.043<<	-11.648	76.222
590/	179/	366 (C)	28.357	83.395>>	-503.266
590/	179/	305 (C)	141.844	-42.545<<	-266.004
590/	179/	312 (C)	-2.043	-11.648	76.222>>
590/	179/	363 (C)	191.166	42.586	-833.913<<
591/	177/	324 (C)	186.713>>	13.100	-489.121
591/	177/	312 (C)	-2.687<<	-12.920	74.057
591/	177/	366 (C)	27.034	86.434>>	-473.674
591/	177/	365 (C)	164.240	-62.495<<	-205.108
591/	177/	312 (C)	-2.687	-12.920	74.057>>
591/	177/	363 (C)	172.740	28.301	-642.295<<
592/	175/	324 (C)	162.633>>	-5.337	-302.352
592/	175/	312 (C)	-3.181<<	-13.838	71.245
592/	175/	366 (C)	25.256	88.096>>	-445.492
592/	175/	365 (C)	144.830	-81.488<<	-41.880
592/	173/	305 (C)	110.912	-73.994	111.196>>
592/	175/	323 (C)	40.146	51.125	-491.148<<
593/	173/	324 (C)	139.102>>	-22.480	-139.885
593/	173/	312 (C)	-3.554<<	-14.490	67.933
593/	173/	366 (C)	23.239	89.066>>	-419.135
593/	173/	365 (C)	126.311	-98.194<<	101.732
593/	171/	365 (C)	126.311	-98.194	228.043>>
593/	173/	323 (C)	37.721	47.865	-450.234<<
594/	171/	363 (C)	118.972>>	-11.094	-179.049
594/	171/	312 (C)	-3.829<<	-14.913	64.248
594/	171/	306 (C)	10.603	89.918>>	-365.887
594/	171/	365 (C)	108.780	-112.357<<	226.696
594/	169/	365 (C)	108.780	-112.357	335.475>>
594/	171/	323 (C)	35.395	44.580	-411.837<<
595/	169/	363 (C)	102.434>>	-20.840	-60.414
595/	169/	312 (C)	-4.026<<	-15.155	60.290
595/	169/	306 (C)	10.555	91.422>>	-354.325
595/	169/	365 (C)	92.249	-123.928<<	334.045
595/	167/	365 (C)	92.249	-123.928	426.293>>
595/	169/	323 (C)	33.254	41.516	-375.839<<
596/	167/	363 (C)	86.726>>	-28.531	41.595
596/	167/	312 (C)	-4.162<<	-15.273	56.131
596/	167/	306 (C)	10.403	92.673>>	-342.810
596/	167/	365 (C)	76.679	-133.123<<	424.775
596/	165/	365 (C)	76.679	-133.123	501.453>>
596/	167/	366 (C)	16.972	90.445	-352.741<<
597/	165/	363 (C)	71.836>>	-34.196	127.845
597/	165/	312 (C)	-4.248<<	-15.280	51.839
597/	165/	306 (C)	10.190	93.689>>	-331.471
597/	165/	365 (C)	62.001	-140.003<<	499.909
597/	163/	365 (C)	62.001	-140.003	561.910>>
597/	165/	366 (C)	15.019	91.017	-334.824<<

598/	163/	363 (C)	57.719>>	-37.943	199.174
598/	163/	312 (C)	-4.296<<	-15.204	47.461
598/	163/	306 (C)	9.945	94.587>>	-320.356
598/	163/	365 (C)	48.136	-144.814<<	560.349
598/	161/	365 (C)	48.136	-144.814	608.485>>
598/	163/	306 (C)	9.945	94.587	-320.356<<
599/	161/	363 (C)	44.319>>	-39.885	256.380
599/	161/	312 (C)	-4.311<<	-15.058	43.038
599/	161/	306 (C)	9.684	95.384>>	-309.504
599/	161/	365 (C)	35.010	-147.694<<	606.937
599/	159/	365 (C)	35.010	-147.694	641.947>>
599/	161/	306 (C)	9.684	95.384	-309.504<<
600/	159/	363 (C)	31.578>>	-40.243	300.181
600/	159/	312 (C)	-4.299<<	-14.864	38.597
600/	159/	306 (C)	9.410	96.193>>	-298.902
600/	159/	365 (C)	22.556	-148.999<<	640.382
600/	157/	365 (C)	22.556	-148.999	662.939>>
600/	159/	306 (C)	9.410	96.193	-298.902<<
601/	157/	323 (C)	24.897>>	31.154	-197.694
601/	157/	324 (C)	-20.593<<	-94.768	377.993
601/	157/	306 (C)	9.121	96.926>>	-288.585
601/	157/	365 (C)	10.720	-148.689<<	661.411
601/	155/	365 (C)	10.720	-148.689	672.131>>
601/	157/	306 (C)	9.121	96.926	-288.585<<
602/	155/	323 (C)	24.032>>	30.260	-172.382
602/	155/	324 (C)	-37.537<<	-97.350	356.826
602/	155/	306 (C)	8.806	97.565>>	-278.571
602/	155/	365 (C)	-0.531	-146.853<<	670.648
602/	155/	365 (C)	-0.531	-146.853	670.648>>
602/	155/	306 (C)	8.806	97.565	-278.571<<
603/	153/	323 (C)	23.224>>	29.432	-147.939
603/	153/	324 (C)	-38.021<<	-94.504	318.719
603/	153/	364 (C)	2.016	98.996>>	-243.661
603/	153/	365 (C)	-11.217	-143.749<<	668.644
603/	153/	365 (C)	-11.217	-143.749	668.644>>
603/	153/	306 (C)	8.444	98.155	-268.855<<
604/	151/	323 (C)	22.438>>	28.544	-124.315
604/	151/	324 (C)	-38.041<<	-90.782	280.160
604/	151/	364 (C)	0.694	100.468>>	-240.763
604/	151/	365 (C)	-21.337	-139.187<<	656.019
604/	151/	365 (C)	-21.337	-139.187	656.019>>
604/	151/	306 (C)	8.011	98.559	-259.512<<
605/	149/	323 (C)	21.641>>	27.526	-101.491
605/	149/	324 (C)	-37.679<<	-86.375	241.613
605/	149/	364 (C)	-0.678	101.833>>	-239.189
605/	149/	365 (C)	-30.880	-133.149<<	633.344
605/	149/	365 (C)	-30.880	-133.149	633.344>>
605/	149/	366 (C)	2.367	101.117	-253.892<<
606/	147/	323 (C)	20.807>>	26.342	-79.470
606/	147/	365 (C)	-39.822<<	-125.774	601.171
606/	147/	364 (C)	-2.141	103.070>>	-238.957
606/	147/	365 (C)	-39.822	-125.774<<	601.171
606/	147/	365 (C)	-39.822	-125.774	601.171>>
606/	147/	366 (C)	0.790	102.390	-250.585<<
607/	145/	323 (C)	19.912>>	24.918	-58.302
607/	145/	365 (C)	-48.136<<	-116.822	560.153
607/	145/	364 (C)	-3.751	103.979>>	-240.189
607/	145/	365 (C)	-48.136	-116.822<<	560.153
607/	145/	365 (C)	-48.136	-116.822	560.153>>
607/	143/	366 (C)	-0.932	103.309	-249.787<<

608/	143/	323 (C)	18.942>>	23.227	-38.050
608/	143/	365 (C)	-55.798<<	-106.254	510.935
608/	143/	364 (C)	-5.576	104.398>>	-243.031
608/	143/	365 (C)	-55.798	-106.254<<	510.935
608/	143/	365 (C)	-55.798	-106.254	510.935>>
608/	141/	366 (C)	-2.873	103.704	-251.724<<
609/	141/	323 (C)	17.896>>	21.279	-18.789
609/	141/	362 (C)	-63.976<<	6.614	191.765
609/	141/	364 (C)	-7.706	104.189>>	-247.668
609/	141/	365 (C)	-62.803	-94.218<<	454.158
609/	141/	365 (C)	-62.803	-94.218	454.158>>
609/	139/	366 (C)	-5.123	103.437	-255.883<<
610/	139/	323 (C)	16.787>>	19.106	-0.607
610/	139/	362 (C)	-71.994<<	17.928	127.878
610/	139/	364 (C)	-10.252	103.012>>	-254.438
610/	139/	365 (C)	-69.179	-80.657<<	390.539
610/	139/	365 (C)	-69.179	-80.657	390.539>>
610/	137/	364 (C)	-10.252	103.012	-264.690<<
611/	137/	323 (C)	15.652>>	16.810	16.423
611/	137/	362 (C)	-79.990<<	29.292	56.143
611/	137/	364 (C)	-13.352	100.529>>	-263.760
611/	137/	365 (C)	-75.012	-65.820<<	320.736
611/	137/	365 (C)	-75.012	-65.820	320.736>>
611/	135/	364 (C)	-13.352	100.529	-277.112<<
612/	135/	323 (C)	14.562>>	14.564	32.273
612/	135/	362 (C)	-88.273<<	39.919	-23.379
612/	135/	364 (C)	-17.179	96.407>>	-276.165
612/	135/	365 (C)	-80.481	-50.257<<	245.311
612/	135/	365 (C)	-80.481	-50.257	245.311>>
612/	133/	364 (C)	-17.179	96.407	-293.344<<
613/	133/	323 (C)	13.345>>	11.993	47.002
613/	133/	362 (C)	-97.418<<	48.422	-111.056
613/	133/	364 (C)	-22.190	89.505>>	-292.489
613/	133/	324 (C)	-26.315	-38.473<<	-29.768
613/	133/	365 (C)	-85.760	-34.358	164.649>>
613/	131/	364 (C)	-22.190	89.505	-314.679<<
614/	131/	323 (C)	12.035>>	9.189	60.479
614/	131/	362 (C)	-107.691<<	54.109	-207.757
614/	131/	364 (C)	-28.309	79.989>>	-313.934
614/	131/	324 (C)	-24.602	-32.572<<	-56.186
614/	131/	305 (C)	-69.410	-17.630	84.060>>
614/	366/	364 (C)	-28.309	79.989	-324.379<<
615/	366/	323 (C)	10.691>>	6.271	65.045
615/	366/	362 (C)	-118.455<<	58.676	-246.706
615/	366/	364 (C)	-34.966	69.345>>	-323.630
615/	366/	324 (C)	-22.923	-26.781<<	-65.363
615/	129/	323 (C)	10.691	6.271	71.610>>
615/	129/	364 (C)	-34.966	69.345	-345.104<<
616/	129/	323 (C)	9.271>>	3.166	71.728
616/	129/	362 (C)	-130.093<<	61.035	-318.603
616/	129/	363 (C)	-128.341	63.499>>	-302.602
616/	129/	324 (C)	-21.273	-21.149<<	-79.526
616/	127/	323 (C)	9.271	3.166	80.999>>
616/	127/	362 (C)	-130.093	61.035	-448.695<<
617/	127/	323 (C)	7.716>>	-0.294	81.098
617/	127/	362 (C)	-143.169<<	59.862	-447.840
617/	127/	363 (C)	-141.828	61.369>>	-430.053
617/	127/	324 (C)	-19.680	-15.762<<	-100.851
617/	125/	323 (C)	7.716	-0.294	88.813>>
617/	125/	362 (C)	-143.169	59.862	-591.008<<

618/	125/	323 (C)	6.131>>	-3.851	88.862
618/	125/	362 (C)	-157.178<<	56.278	-590.168
618/	125/	361 (C)	-157.177	57.073>>	-586.394
618/	125/	324 (C)	-18.066	-10.454<<	-120.520
618/	123/	323 (C)	6.131	-3.851	94.993>>
618/	123/	362 (C)	-157.178	56.278	-747.345<<
619/	123/	323 (C)	4.611>>	-7.288	94.981
619/	123/	361 (C)	-172.690<<	49.765	-742.712
619/	123/	361 (C)	-172.690	49.765>>	-742.712
619/	123/	323 (C)	4.611	-7.288<<	94.981
619/	9/	323 (C)	4.611	-7.288	99.592>>
619/	9/	362 (C)	-172.577	49.259	-919.069<<
620/	9/	361 (C)	198.464>>	44.524	-914.435
620/	9/	323 (C)	-1.505<<	-10.919	99.466
620/	9/	365 (C)	22.784	56.836>>	-459.371
620/	9/	306 (C)	150.355	-18.762<<	-376.689
620/	9/	323 (C)	-1.505	-10.919	99.466>>
620/	9/	362 (C)	198.295	44.312	-918.106<<
621/	121/	361 (C)	180.849>>	31.721	-715.529
621/	121/	323 (C)	-2.637<<	-13.411	97.841
621/	121/	365 (C)	23.577	64.215>>	-435.661
621/	121/	366 (C)	177.415	-36.525<<	-353.666
621/	121/	323 (C)	-2.637	-13.411	97.841>>
621/	121/	362 (C)	180.776	31.751	-719.365<<
622/	119/	362 (C)	162.750>>	17.855	-538.291
622/	119/	323 (C)	-3.481<<	-15.191	95.048
622/	119/	365 (C)	23.256	68.589>>	-411.106
622/	119/	366 (C)	157.708	-56.402<<	-176.942
622/	119/	323 (C)	-3.481	-15.191	95.048>>
622/	119/	362 (C)	162.750	17.855	-538.291<<
623/	117/	362 (C)	144.776>>	4.068	-375.504
623/	117/	323 (C)	-4.129<<	-16.508	91.405
623/	117/	365 (C)	22.367	71.430>>	-386.925
623/	117/	366 (C)	138.645	-74.601<<	-20.165
623/	115/	306 (C)	104.059	-65.928	128.978>>
623/	117/	365 (C)	22.367	71.430	-386.925<<
624/	115/	362 (C)	127.239>>	-8.648	-230.891
624/	115/	323 (C)	-4.619<<	-17.452	87.110
624/	115/	365 (C)	21.119	73.269>>	-363.677
624/	115/	366 (C)	120.442	-90.588<<	117.369
624/	113/	366 (C)	120.442	-90.588	237.803>>
624/	115/	365 (C)	21.119	73.269	-363.677<<
625/	113/	362 (C)	110.358>>	-19.733	-103.978
625/	113/	323 (C)	-4.980<<	-18.104	82.322
625/	113/	365 (C)	19.661	74.525>>	-341.710
625/	113/	366 (C)	103.192	-104.162<<	236.549
625/	111/	366 (C)	103.192	-104.162	339.744>>
625/	113/	365 (C)	19.661	74.525	-341.710<<
626/	111/	362 (C)	94.235>>	-28.946	5.962
626/	111/	323 (C)	-5.239<<	-18.506	77.176
626/	111/	365 (C)	18.099	75.378>>	-321.244
626/	111/	366 (C)	86.901	-115.237<<	338.420
626/	109/	366 (C)	86.901	-115.237	425.323>>
626/	111/	365 (C)	18.099	75.378	-321.244<<
627/	109/	362 (C)	78.900>>	-36.201	99.703
627/	109/	323 (C)	-5.418<<	-18.731	71.768
627/	109/	365 (C)	16.506	76.116>>	-302.356
627/	109/	366 (C)	71.529	-124.011<<	423.929
627/	107/	366 (C)	71.529	-124.011	495.459>>
627/	109/	365 (C)	16.506	76.116	-302.356<<

628/	107/	362 (C)	64.341>>	-41.531	178.062
628/	107/	323 (C)	-5.532<<	-18.812	66.183
628/	107/	365 (C)	14.928	76.837>>	-285.079
628/	107/	366 (C)	57.010	-130.625<<	494.030
628/	105/	366 (C)	57.010	-130.625	551.035>>
628/	107/	365 (C)	14.928	76.837	-285.079<<
629/	105/	362 (C)	50.515>>	-45.039	241.830
629/	105/	323 (C)	-5.595<<	-18.778	60.485
629/	105/	365 (C)	13.393	77.622>>	-269.395
629/	105/	366 (C)	43.268	-135.274<<	549.592
629/	103/	366 (C)	43.268	-135.274	592.861>>
629/	105/	365 (C)	13.393	77.622	-269.395<<
630/	103/	362 (C)	37.372>>	-46.852	291.772
630/	103/	323 (C)	-5.615<<	-18.653	54.725
630/	103/	365 (C)	11.919	78.523>>	-255.252
630/	103/	366 (C)	30.230	-138.159<<	591.418
630/	101/	366 (C)	30.230	-138.159	621.649>>
630/	103/	365 (C)	11.919	78.523	-255.252<<
631/	101/	362 (C)	24.863>>	-47.099	328.578
631/	101/	323 (C)	-5.599<<	-18.449	48.945
631/	101/	365 (C)	10.511	79.565>>	-242.588
631/	101/	366 (C)	17.832	-139.448<<	620.217
631/	99/	366 (C)	17.832	-139.448	638.048>>
631/	101/	365 (C)	10.511	79.565	-242.588<<
632/	99/	362 (C)	12.942>>	-45.891	352.892
632/	99/	323 (C)	-5.551<<	-18.176	43.184
632/	99/	365 (C)	9.166	80.749>>	-231.335
632/	99/	366 (C)	6.025	-139.272<<	636.640
632/	97/	366 (C)	6.025	-139.272	642.665>>
632/	99/	365 (C)	9.166	80.749	-231.335<<
633/	97/	365 (C)	7.877>>	82.091	-221.416
633/	97/	306 (C)	-6.077<<	-110.095	507.662
633/	97/	365 (C)	7.877	82.091>>	-221.416
633/	97/	366 (C)	-5.226	-137.796<<	641.274
633/	97/	366 (C)	-5.226	-137.796	641.274>>
633/	97/	365 (C)	7.877	82.091	-221.416<<
634/	95/	324 (C)	7.677>>	16.759	-45.962
634/	95/	366 (C)	-15.940<<	-134.889	634.724
634/	95/	365 (C)	6.630	83.498>>	-212.799
634/	95/	366 (C)	-15.940	-134.889<<	634.724
634/	95/	366 (C)	-15.940	-134.889	634.724>>
634/	95/	365 (C)	6.630	83.498	-212.799<<
635/	93/	324 (C)	7.459>>	16.513	-38.082
635/	93/	366 (C)	-26.116<<	-130.751	617.494
635/	93/	365 (C)	5.407	84.998>>	-205.413
635/	93/	366 (C)	-26.116	-130.751<<	617.494
635/	93/	366 (C)	-26.116	-130.751	617.494>>
635/	93/	365 (C)	5.407	84.998	-205.413<<
636/	91/	324 (C)	7.200>>	16.142	-30.426
636/	91/	366 (C)	-35.743<<	-125.299	590.147
636/	91/	365 (C)	4.180	86.510>>	-199.242
636/	91/	366 (C)	-35.743	-125.299<<	590.147
636/	91/	366 (C)	-35.743	-125.299	590.147>>
636/	91/	365 (C)	4.180	86.510	-199.242<<
637/	89/	324 (C)	6.898>>	15.635	-23.034
637/	89/	366 (C)	-44.797<<	-118.490	553.238
637/	89/	365 (C)	2.916	87.960>>	-194.287
637/	89/	366 (C)	-44.797	-118.490<<	553.238
637/	89/	366 (C)	-44.797	-118.490	553.238>>
637/	89/	365 (C)	2.916	87.960	-194.287<<

638/	87/	324 (C)	6.549>>	14.985	-15.949
638/	87/	366 (C)	-53.253<<	-110.274	507.357
638/	87/	365 (C)	1.567	89.240>>	-190.583
638/	87/	366 (C)	-53.253	-110.274<<	507.357
638/	87/	366 (C)	-53.253	-110.274	507.357>>
638/	87/	365 (C)	1.567	89.240	-190.583<<
639/	85/	324 (C)	6.149>>	14.189	-9.225
639/	85/	366 (C)	-61.086<<	-100.602	453.124
639/	85/	365 (C)	0.074	90.207>>	-188.214
639/	85/	366 (C)	-61.086	-100.602<<	453.124
639/	85/	366 (C)	-61.086	-100.602	453.124>>
639/	85/	365 (C)	0.074	90.207	-188.214<<
640/	83/	324 (C)	5.702>>	13.253	-2.910
640/	83/	366 (C)	-68.292<<	-89.481	391.173
640/	83/	365 (C)	-1.642	90.679>>	-187.323
640/	83/	366 (C)	-68.292	-89.481<<	391.173
640/	83/	366 (C)	-68.292	-89.481	391.173>>
640/	81/	365 (C)	-1.642	90.679	-188.965<<
641/	81/	324 (C)	5.215>>	12.199	2.944
641/	81/	366 (C)	-74.896<<	-76.990	322.161
641/	81/	365 (C)	-3.682	90.409>>	-188.130
641/	81/	366 (C)	-74.896	-76.990<<	322.161
641/	81/	364 (C)	-74.371	-75.216	322.471>>
641/	79/	365 (C)	-3.682	90.409	-191.812<<
642/	79/	324 (C)	4.704>>	11.067	8.294
642/	79/	366 (C)	-80.979<<	-63.379	246.716
642/	79/	365 (C)	-6.176	89.100>>	-190.953
642/	79/	366 (C)	-80.979	-63.379<<	246.716
642/	79/	364 (C)	-80.508	-61.763	247.565>>
642/	77/	365 (C)	-6.176	89.100	-197.129<<
643/	77/	324 (C)	4.200>>	9.938	13.108
643/	77/	363 (C)	-88.702<<	38.079	-53.562
643/	77/	365 (C)	-9.291	86.291>>	-196.276
643/	77/	366 (C)	-86.707	-49.013<<	165.425
643/	77/	364 (C)	-86.291	-47.554	166.756>>
643/	75/	365 (C)	-9.291	86.291	-205.567<<
644/	75/	324 (C)	3.618>>	8.619	17.407
644/	75/	363 (C)	-97.672<<	46.205	-141.604
644/	75/	365 (C)	-13.522	80.879>>	-204.755
644/	75/	366 (C)	-92.323	-34.569<<	78.587
644/	75/	364 (C)	-91.968	-33.279	80.344>>
644/	370/	363 (C)	-97.672	46.205	-250.916<<
645/	370/	324 (C)	2.969>>	7.131	21.540
645/	370/	363 (C)	-108.051<<	50.862	-250.093
645/	370/	365 (C)	-19.100	72.370>>	-219.115
645/	370/	366 (C)	-98.186	-20.947<<	-24.651
645/	73/	324 (C)	2.969	7.131	23.374>>
645/	73/	363 (C)	-108.051	50.862	-316.859<<
646/	73/	324 (C)	2.288>>	5.570	23.450
646/	73/	363 (C)	-119.376<<	53.068	-315.984
646/	73/	365 (C)	-25.373	62.151>>	-230.175
646/	73/	366 (C)	-104.205	-7.865<<	-85.142
646/	71/	324 (C)	2.288	5.570	25.738>>
646/	71/	363 (C)	-119.376	53.068	-435.363<<
647/	71/	324 (C)	1.549>>	3.865	25.804
647/	71/	363 (C)	-132.261<<	51.422	-434.475
647/	71/	362 (C)	-132.110	52.606>>	-430.604
647/	71/	323 (C)	-0.826	-5.045<<	-17.547
647/	69/	324 (C)	1.549	3.865	27.353>>
647/	69/	363 (C)	-132.261	51.422	-566.740<<

648/	69/	324 (C)	0.821>>	2.174	27.395
648/	69/	363 (C)	-146.109<<	47.264	-565.856
648/	69/	362 (C)	-146.082	48.137>>	-561.824
648/	69/	323 (C)	-0.296	-3.698<<	-18.409
648/	67/	324 (C)	0.821	2.174	28.216>>
648/	67/	363 (C)	-146.109	47.264	-711.954<<
649/	67/	323 (C)	0.231>>	-2.359	-18.722
649/	67/	362 (C)	-161.420<<	40.070	-707.005
649/	67/	362 (C)	-161.420	40.070>>	-707.005
649/	67/	323 (C)	0.231	-2.359<<	-18.722
649/	11/	324 (C)	0.112	0.523	28.346>>
649/	11/	363 (C)	-161.325	39.507	-872.398<<
650/	11/	362 (C)	195.319>>	31.549	-867.572
650/	11/	323 (C)	-0.664<<	-1.041	-18.495
650/	11/	362 (C)	195.319	31.549>>	-867.572
650/	11/	305 (C)	128.290	-6.739<<	-250.565
650/	65/	324 (C)	0.555	-1.088	28.893>>
650/	11/	363 (C)	195.141	31.290	-871.541<<
651/	65/	362 (C)	177.880>>	17.890	-671.721
651/	65/	323 (C)	-0.225<<	0.078	-19.142
651/	65/	364 (C)	30.170	37.912>>	-508.780
651/	65/	305 (C)	113.413	-21.952<<	-122.486
651/	65/	324 (C)	-0.012	-2.403	28.865>>
651/	65/	363 (C)	177.806	17.891	-675.864<<
652/	63/	363 (C)	159.956>>	2.992	-497.688
652/	63/	324 (C)	-0.472<<	-3.454	28.811
652/	63/	366 (C)	30.965	41.814>>	-480.702
652/	63/	365 (C)	132.009	-37.615<<	-56.605
652/	61/	305 (C)	98.971	-36.041	89.526>>
652/	63/	363 (C)	159.956	2.992	-497.688<<
653/	61/	363 (C)	142.051>>	-12.112	-337.613
653/	61/	324 (C)	-0.845<<	-4.299	28.291
653/	61/	366 (C)	31.154	44.126>>	-448.989
653/	61/	365 (C)	113.813	-54.931<<	74.836
653/	59/	365 (C)	113.813	-54.931	188.639>>
653/	61/	366 (C)	31.154	44.126	-448.989<<
654/	59/	363 (C)	124.458>>	-26.629	-195.653
654/	59/	324 (C)	-1.144<<	-4.966	27.394
654/	59/	366 (C)	30.977	45.326>>	-417.152
654/	59/	365 (C)	96.278	-70.622<<	187.927
654/	57/	365 (C)	96.278	-70.622	284.208>>
654/	59/	366 (C)	30.977	45.326	-417.152<<
655/	57/	363 (C)	107.392>>	-40.008	-71.421
655/	57/	324 (C)	-1.384<<	-5.487	26.196
655/	57/	366 (C)	30.613	45.881>>	-385.540
655/	57/	365 (C)	79.457	-84.565<<	283.393
655/	55/	365 (C)	79.457	-84.565	362.851>>
655/	57/	366 (C)	30.613	45.881	-385.540<<
656/	55/	363 (C)	90.960>>	-51.983	35.622
656/	55/	324 (C)	-1.576<<	-5.900	24.755
656/	55/	366 (C)	30.180	46.213>>	-354.319
656/	55/	365 (C)	63.344	-96.881<<	361.935
656/	53/	365 (C)	63.344	-96.881	425.281>>
656/	55/	366 (C)	30.180	46.213	-354.319<<
657/	53/	363 (C)	75.203>>	-62.463	126.148
657/	53/	324 (C)	-1.729<<	-6.220	23.121
657/	53/	366 (C)	29.757	46.413>>	-323.561
657/	53/	365 (C)	47.912	-107.566<<	424.308
657/	51/	365 (C)	47.912	-107.566	472.221>>
657/	53/	366 (C)	29.757	46.413	-323.561<<

658/	51/	363 (C)	60.133>>	-71.442	200.852
658/	51/	324 (C)	-1.852<<	-6.469	21.333
658/	51/	366 (C)	29.384	46.630>>	-293.242
658/	51/	365 (C)	33.130	-116.749<<	471.196
658/	49/	365 (C)	33.130	-116.749	504.327>>
658/	51/	366 (C)	29.384	46.630	-293.242<<
659/	49/	363 (C)	45.751>>	-78.908	260.443
659/	49/	324 (C)	-1.951<<	-6.660	19.420
659/	49/	366 (C)	29.073	46.874>>	-263.308
659/	49/	365 (C)	18.989	-124.433<<	503.270
659/	47/	365 (C)	18.989	-124.433	522.257>>
659/	49/	366 (C)	29.073	46.874	-263.308<<
660/	47/	363 (C)	32.069>>	-84.930	305.592
660/	47/	324 (C)	-2.028<<	-6.804	17.407
660/	47/	366 (C)	28.807	47.184>>	-233.677
660/	47/	365 (C)	5.515	-130.725<<	521.134
660/	45/	365 (C)	5.515	-130.725	526.649>>
660/	47/	366 (C)	28.807	47.184	-233.677<<
661/	45/	366 (C)	28.544>>	47.391	-204.305
661/	45/	305 (C)	-7.436<<	-106.408	416.870
661/	45/	366 (C)	28.544	47.391>>	-204.305
661/	45/	365 (C)	-7.211	-135.297<<	525.495
661/	45/	365 (C)	-7.211	-135.297	525.495>>
661/	45/	366 (C)	28.544	47.391	-204.305<<
662/	43/	366 (C)	28.213>>	47.344	-175.179
662/	43/	365 (C)	-19.033<<	-137.841	517.084
662/	43/	366 (C)	28.213	47.344>>	-175.179
662/	43/	365 (C)	-19.033	-137.841<<	517.084
662/	43/	365 (C)	-19.033	-137.841	517.084>>
662/	43/	366 (C)	28.213	47.344	-175.179<<
663/	41/	366 (C)	27.710>>	46.773	-146.365
663/	41/	365 (C)	-29.700<<	-137.703	496.811
663/	41/	366 (C)	27.710	46.773>>	-146.365
663/	41/	365 (C)	-29.700	-137.703<<	496.811
663/	41/	365 (C)	-29.700	-137.703	496.811>>
663/	41/	366 (C)	27.710	46.773	-146.365<<
664/	39/	366 (C)	26.886>>	45.354	-118.014
664/	39/	365 (C)	-38.838<<	-134.128	465.786
664/	39/	366 (C)	26.886	45.354>>	-118.014
664/	39/	365 (C)	-38.838	-134.128<<	465.786
664/	39/	365 (C)	-38.838	-134.128	465.786>>
664/	39/	366 (C)	26.886	45.354	-118.014<<
665/	37/	366 (C)	25.546>>	42.561	-90.455
665/	37/	365 (C)	-45.924<<	-125.693	425.575
665/	37/	366 (C)	25.546	42.561>>	-90.455
665/	37/	365 (C)	-45.924	-125.693<<	425.575
665/	37/	365 (C)	-45.924	-125.693	425.575>>
665/	37/	366 (C)	25.546	42.561	-90.455<<
666/	35/	366 (C)	23.428>>	37.746	-64.201
666/	35/	365 (C)	-50.243<<	-110.655	378.234
666/	35/	366 (C)	23.428	37.746>>	-64.201
666/	35/	365 (C)	-50.243	-110.655<<	378.234
666/	35/	365 (C)	-50.243	-110.655	378.234>>
666/	35/	366 (C)	23.428	37.746	-64.201<<
667/	33/	366 (C)	20.189>>	30.077	-40.014
667/	33/	365 (C)	-50.859<<	-86.818	326.493
667/	33/	366 (C)	20.189	30.077>>	-40.014
667/	33/	365 (C)	-50.859	-86.818<<	326.493
667/	33/	365 (C)	-50.859	-86.818	326.493>>
667/	33/	366 (C)	20.189	30.077	-40.014<<

668/	31/	366 (C)	15.390>>	18.439	-19.029
668/	31/	365 (C)	-46.556<<	-51.080	274.115
668/	31/	366 (C)	15.390	18.439>>	-19.029
668/	31/	365 (C)	-46.556	-51.080<<	274.115
668/	31/	365 (C)	-46.556	-51.080	274.115>>
668/	31/	366 (C)	15.390	18.439	-19.029<<
669/	29/	366 (C)	8.470>>	1.436	-2.809
669/	29/	365 (C)	-35.795<<	0.350	226.045
669/	29/	303 (C)	-21.540	6.516>>	172.592
669/	29/	324 (C)	-0.624	-2.997<<	-0.357
669/	29/	365 (C)	-35.795	0.350	226.045>>
669/	29/	364 (C)	8.404	1.205	-2.817<<
670/	374/	324 (C)	0.275>>	-0.731	-1.229
670/	703/	363 (C)	-22.501<<	51.084	180.292
670/	374/	365 (C)	-16.136	73.583>>	179.825
670/	374/	364 (C)	-2.111	-24.832<<	8.543
670/	374/	363 (C)	-18.192	52.204	188.225>>
670/	374/	324 (C)	0.275	-0.731	-1.229<<
671/	703/	324 (C)	0.275>>	-0.731	-1.122
671/	702/	363 (C)	-33.602<<	48.254	152.142
671/	703/	365 (C)	-20.446	72.516>>	172.669
671/	703/	364 (C)	-2.111	-24.829<<	7.731
671/	703/	363 (C)	-22.501	51.138	180.277>>
671/	703/	324 (C)	0.275	-0.731	-1.122<<
672/	702/	324 (C)	0.275>>	-0.731	-0.847
672/	701/	363 (C)	-44.702<<	45.354	112.911
672/	702/	365 (C)	-31.546	69.616>>	146.597
672/	702/	364 (C)	-2.111	-24.830<<	5.617
672/	702/	363 (C)	-33.602	48.238	152.146>>
672/	702/	324 (C)	0.275	-0.731	-0.847<<
673/	701/	324 (C)	0.275>>	-0.731	-0.572
673/	700/	363 (C)	-55.802<<	42.469	62.574
673/	701/	365 (C)	-42.646	66.731>>	109.417
673/	701/	364 (C)	-2.111	-24.830<<	3.505
673/	701/	363 (C)	-44.702	45.354	112.911>>
673/	701/	324 (C)	0.275	-0.731	-0.572<<
674/	700/	324 (C)	0.275>>	-0.731	-0.296
674/	13/	363 (C)	-66.901<<	39.590	1.141
674/	700/	365 (C)	-53.746	63.853>>	61.130
674/	700/	364 (C)	-2.111	-24.830<<	1.396
674/	700/	363 (C)	-55.802	42.475	62.570>>
674/	13/	364 (C)	-2.111	-24.830	-0.715<<

Envolvente de Esfuerzos debidos a Sobrecarga en Aceras

Barra/Nudo/Caso			FZ (T)	MX (Tm)	MY (Tm)
501/	1/	23 (C)	8.598>>	-26.699	-0.021
501/	1/	22	0.271<<	4.314	0.142
501/	1/	22	0.271	4.314>>	0.142
501/	1/	21	8.327	-31.013<<	-0.164
501/	343/	23 (C)	7.743	-24.292	8.150>>
501/	1/	21	8.327	-31.013	-0.164<<
502/	343/	23 (C)	7.345>>	-25.795	8.115
502/	343/	22	0.104<<	3.452	0.541
502/	343/	22	0.104	3.452>>	0.541
502/	343/	21	7.241	-29.247<<	7.574
502/	341/	23 (C)	6.490	-23.388	15.032>>
502/	343/	22	0.104	3.452	0.541<<
503/	341/	21	6.237>>	-27.368	14.233
503/	341/	22	-0.091<<	2.463	0.754
503/	341/	22	-0.091	2.463>>	0.754
503/	341/	21	6.237	-27.368<<	14.233
503/	339/	23 (C)	5.290	-22.498	20.705>>
503/	339/	22	-0.091	2.463	0.663<<
504/	339/	21	5.311>>	-25.376	19.897
504/	339/	22	-0.308<<	1.367	0.755
504/	339/	22	-0.308	1.367>>	0.755
504/	339/	21	5.311	-25.376<<	19.897
504/	337/	23 (C)	4.148	-21.602	25.228>>
504/	337/	22	-0.308	1.367	0.448<<
505/	337/	21	4.455>>	-23.283	24.648
505/	337/	22	-0.538<<	0.184	0.521
505/	337/	22	-0.538	0.184>>	0.521
505/	337/	21	4.455	-23.283<<	24.648
505/	335/	21	3.600	-20.876	28.676>>
505/	335/	22	-0.538	0.184	-0.017<<
506/	335/	21	3.660>>	-21.109	28.559
506/	335/	22	-0.775<<	-1.058	0.038
506/	335/	22	-0.775	-1.058>>	0.038
506/	335/	23 (C)	2.885	-22.167<<	28.597
506/	333/	21	2.805	-18.702	31.792>>
506/	333/	22	-0.775	-1.058	-0.737<<
507/	333/	21	2.913>>	-18.880	31.692
507/	333/	22	-1.007<<	-2.331	-0.702
507/	333/	22	-1.007	-2.331>>	-0.702
507/	333/	23 (C)	1.906	-21.211<<	30.990
507/	331/	21	2.058	-16.473	34.178>>
507/	331/	22	-1.007	-2.331	-1.709<<
508/	331/	21	2.201>>	-16.622	34.096
508/	331/	22	-1.224<<	-3.604	-1.693
508/	331/	22	-1.224	-3.604>>	-1.693
508/	331/	23 (C)	0.978	-20.226<<	32.402
508/	329/	21	1.346	-14.215	35.870>>
508/	329/	22	-1.224	-3.604	-2.917<<
509/	329/	21	1.511>>	-14.366	35.806
509/	329/	22	-1.413<<	-4.844	-2.921
509/	329/	22	-1.413	-4.844>>	-2.921
509/	329/	23 (C)	0.098	-19.209<<	32.885
509/	327/	21	0.656	-11.959	36.889>>
509/	327/	22	-1.413	-4.844	-4.334<<
510/	327/	21	0.827>>	-12.142	36.845
510/	325/	23 (C)	-1.589<<	-15.748	31.327
510/	327/	22	-1.562	-6.013>>	-4.356
510/	327/	23 (C)	-0.734	-18.155<<	32.489
510/	325/	21	-0.028	-9.735	37.245>>
510/	325/	22	-1.562	-6.013	-5.918<<
511/	325/	21	0.137>>	-9.984	37.219
511/	323/	23 (C)	-2.373<<	-14.649	29.316
511/	325/	22	-1.655	-7.071>>	-5.958
511/	325/	23 (C)	-1.518	-17.056<<	31.261
511/	325/	21	0.137	-9.984	37.219>>
511/	323/	22	-1.655	-7.071	-7.613<<
512/	323/	21	-0.576>>	-7.925	36.922
512/	321/	23 (C)	-3.108<<	-13.495	26.572
512/	321/	21	-1.431	-5.518>>	35.918
512/	323/	23 (C)	-2.253	-15.902<<	29.252
512/	323/	21	-0.576	-7.925	36.922>>
512/	321/	22	-1.676	-7.978	-9.346<<
513/	321/	21	-1.326>>	-6.000	35.930
513/	319/	23 (C)	-3.792<<	-12.279	23.148
513/	319/	21	-2.181	-3.593>>	34.176
513/	321/	23 (C)	-2.937	-14.686<<	26.512
513/	321/	21	-1.326	-6.000	35.930>>
513/	319/	22	-1.610	-8.686	-11.028<<
514/	319/	22	-1.439>>	-9.152	-11.113
514/	317/	23 (C)	-4.423<<	-10.990	19.097
514/	317/	21	-2.984	-1.838>>	31.648
514/	319/	23 (C)	-3.568	-13.397<<	23.092
514/	319/	21	-2.129	-4.245	34.205>>
514/	317/	22	-1.439	-9.152	-12.551<<
515/	317/	22	-1.145>>	-9.331	-12.646
515/	315/	23 (C)	-5.001<<	-9.622	14.473
515/	315/	21	-3.857	-0.291>>	28.264
515/	317/	23 (C)	-4.146	-12.029<<	19.047
515/	317/	21	-3.002	-2.698	31.693>>
515/	315/	22	-1.145	-9.331	-13.791<<
516/	315/	22	-0.715>>	-9.185	-13.891
516/	313/	23 (C)	-5.528<<	-8.172	9.332
516/	313/	21	-4.813	1.012>>	23.937
516/	315/	23 (C)	-4.673	-10.579<<	14.432
516/	315/	21	-3.958	-1.395	28.323>>
516/	313/	22	-0.715	-9.185	-14.606<<
517/	313/	22	-0.138>>	-8.687	-14.707
517/	311/	23 (C)	-6.007<<	-6.650	3.721
517/	311/	21	-5.869	2.037>>	18.566
517/	313/	23 (C)	-5.152	-9.057<<	9.301
517/	313/	21	-5.014	-0.370	24.007>>
517/	311/	22	-0.138	-8.687	-14.845<<
518/	311/	22	0.587>>	-7.830	-14.940
518/	309/	21	-7.035<<	2.755	12.036
518/	309/	21	-7.035	2.755>>	12.036
518/	311/	22	0.587	-7.830<<	-14.940
518/	311/	21	-6.180	0.348	18.644>>
518/	311/	22	0.587	-7.830	-14.940<<
519/	309/	22	1.450>>	-6.641	-14.436
519/	307/	21	-8.321<<	3.150	4.224
519/	307/	21	-8.321	3.150>>	4.224
519/	309/	22	1.450	-6.641<<	-14.436
519/	309/	21	-7.466	0.743	12.117>>
519/	309/	22	1.450	-6.641	-14.436<<
520/	307/	22	2.420>>	-5.195	-13.047
520/	305/	21	-9.725<<	3.224	-4.994
520/	305/	21	-9.725	3.224>>	-4.994
520/	307/	22	2.420	-5.195<<	-13.047
520/	307/	21	-8.870	0.817	4.304>>
520/	305/	23 (C)	-7.305	-1.971	-15.621<<
521/	305/	22	3.481>>	-3.533	-10.669
521/	628/	21	-11.144<<	2.407	-13.710
521/	628/	21	-11.144	2.407>>	-13.710
521/	305/	22	3.481	-3.533<<	-10.669
521/	305/	21	-10.447	0.447	-4.920>>
521/	628/	23 (C)	-7.662	-1.125	-21.545<<
522/	628/	22	4.595>>	-1.751	-7.858
522/	303/	21	-12.527<<	0.772	-21.205
522/	303/	21	-12.527	0.772>>	-21.205
522/	628/	23 (C)	-7.405	-2.463<<	-21.502
522/	303/	22	4.595	-1.751	-5.025>>
522/	303/	23 (C)	-7.932	-0.979	-26.230<<
523/	303/	22	5.736>>	0.094	-5.042
523/	301/	21	-14.338<<	-0.200	-35.045
523/	303/	22	5.736	0.094>>	-5.042
523/	303/	21	-13.483	-2.607<<	-21.134
523/	301/	22	5.736	0.094	0.694>>
523/	301/	21	-14.338	-0.200	-35.045<<
524/	301/	22	6.894>>	1.971	0.700
524/	299/	21	-16.291<<	-1.540	-50.857
524/	301/	22	6.894	1.971>>	0.700
524/	301/	21	-15.436	-3.947<<	-34.993
524/	299/	22	6.894	1.971	7.594>>
524/	299/	21	-16.291	-1.540	-50.857<<
525/	299/	22	8.046>>	3.821	7.634
525/	297/	21	-18.311<<	-3.063	-68.716
525/	299/	22	8.046	3.821>>	7.634
525/	299/	21	-17.456	-5.470<<	-50.833
525/	297/	22	8.046	3.821	15.680>>
525/	297/	21	-18.311	-3.063	-68.716<<
526/	297/	22	9.116>>	5.446	15.746
526/	3/	21	-20.333<<	-4.603	-88.618
526/	297/	22	9.116	5.446>>	15.746
526/	297/	21	-19.478	-7.010<<	-68.712
526/	3/	22	9.116	5.446	24.862>>
526/	3/	21	-20.333	-4.603	-88.618<<
527/	3/	21	18.163>>	-7.918	-88.691
527/	3/	22	-3.920<<	6.582	24.990
527/	3/	22	-3.920	6.582>>	24.990
527/	3/	21	18.163	-7.918<<	-88.691
527/	3/	22	-3.920	6.582	24.990>>
527/	3/	21	18.163	-7.918	-88.691<<

528/	295/	21	16.267>>	-9.147	-71.012
528/	295/	22	-3.136<<	7.456	21.180
528/	295/	22	-3.136	7.456>>	21.180
528/	295/	21	16.267	-9.147<<	-71.012
528/	295/	22	-3.136	7.456	21.180>>
528/	295/	21	16.267	-9.147	-71.012<<
529/	293/	21	14.498>>	-10.079	-55.241
529/	293/	22	-2.527<<	7.880	18.156
529/	293/	22	-2.527	7.880>>	18.156
529/	293/	21	14.498	-10.079<<	-55.241
529/	293/	22	-2.527	7.880	18.156>>
529/	293/	21	14.498	-10.079	-55.241<<
530/	291/	21	12.827>>	-10.774	-41.261
530/	291/	22	-2.043<<	7.984	15.746
530/	291/	22	-2.043	7.984>>	15.746
530/	291/	21	12.827	-10.774<<	-41.261
530/	291/	22	-2.043	7.984	15.746>>
530/	291/	21	12.827	-10.774	-41.261<<
531/	289/	21	11.286>>	-11.157	-28.964
531/	289/	22	-1.685<<	7.766	13.817
531/	289/	22	-1.685	7.766>>	13.817
531/	289/	21	11.286	-11.157<<	-28.964
531/	289/	22	-1.685	7.766	13.817>>
531/	289/	21	11.286	-11.157	-28.964<<
532/	287/	21	9.886>>	-11.195	-18.211
532/	287/	22	-1.447<<	7.243	12.238
532/	287/	22	-1.447	7.243>>	12.238
532/	287/	21	9.886	-11.195<<	-18.211
532/	287/	22	-1.447	7.243	12.238>>
532/	287/	21	9.886	-11.195	-18.211<<
533/	285/	21	8.625>>	-10.897	-8.855
533/	285/	22	-1.314<<	6.451	10.886
533/	285/	22	-1.314	6.451>>	10.886
533/	285/	21	8.625	-10.897<<	-8.855
533/	285/	22	-1.314	6.451	10.886>>
533/	285/	21	8.625	-10.897	-8.855<<
534/	283/	21	7.494>>	-10.283	-0.753
534/	283/	22	-1.273<<	5.425	9.654
534/	283/	22	-1.273	5.425>>	9.654
534/	283/	21	7.494	-10.283<<	-0.753
534/	281/	23 (C)	5.366	-2.451	14.710>>
534/	283/	21	7.494	-10.283	-0.753<<
535/	281/	21	6.477>>	-9.388	6.229
535/	281/	22	-1.305<<	4.210	8.447
535/	281/	22	-1.305	4.210>>	8.447
535/	281/	21	6.477	-9.388<<	6.229
535/	279/	23 (C)	4.317	-2.772	19.435>>
535/	281/	21	6.477	-9.388	6.229<<
536/	279/	21	5.558>>	-8.258	12.206
536/	279/	22	-1.394<<	2.848	7.191
536/	279/	22	-1.394	2.848>>	7.191
536/	279/	21	5.558	-8.258<<	12.206
536/	277/	23 (C)	3.309	-3.003	23.149>>
536/	277/	22	-1.394	2.848	5.797<<
537/	277/	21	4.718>>	-6.932	17.282
537/	277/	22	-1.522<<	1.386	5.827
537/	277/	22	-1.522	1.386>>	5.827
537/	277/	21	4.718	-6.932<<	17.282
537/	275/	23 (C)	2.341	-3.139	25.893>>
537/	275/	22	-1.522	1.386	4.305<<

538/	275/	21	3.939>>	-5.461	21.535
538/	275/	22	-1.671<<	-0.135	4.316
538/	275/	22	-1.671	-0.135>>	4.316
538/	275/	23 (C)	2.267	-5.596<<	25.852
538/	273/	23 (C)	1.412	-3.189	27.707>>
538/	273/	22	-1.671	-0.135	2.645<<
539/	273/	21	3.202>>	-3.890	25.028
539/	273/	22	-1.825<<	-1.668	2.637
539/	271/	21	2.347	-1.483>>	27.817
539/	273/	23 (C)	1.376	-5.558<<	27.665
539/	271/	23 (C)	0.521	-3.151	28.628>>
539/	271/	22	-1.825	-1.668	0.811<<
540/	271/	21	2.489>>	-2.265	27.802
540/	271/	22	-1.967<<	-3.170	0.784
540/	269/	21	1.634	0.142>>	29.879
540/	271/	23 (C)	0.523	-5.435<<	28.586
540/	269/	21	1.634	0.142	29.879>>
540/	269/	22	-1.967	-3.170	-1.183<<
541/	269/	21	1.784>>	-0.622	29.884
541/	269/	22	-2.077<<	-4.597	-1.229
541/	267/	21	0.929	1.785>>	31.256
541/	269/	23 (C)	-0.293	-5.219<<	28.655
541/	267/	21	0.929	1.785	31.256>>
541/	267/	22	-2.077	-4.597	-3.306<<
542/	267/	21	1.068>>	0.987	31.280
542/	267/	22	-2.138<<	-5.900	-3.370
542/	265/	21	0.213	3.394>>	31.936
542/	267/	22	-2.138	-5.900<<	-3.370
542/	265/	21	0.213	3.394	31.936>>
542/	265/	22	-2.138	-5.900	-5.509<<
543/	265/	21	0.325>>	2.522	31.979
543/	263/	23 (C)	-2.662<<	-2.105	24.170
543/	263/	21	-0.530	4.929>>	31.892
543/	265/	22	-2.132	-7.034<<	-5.590
543/	265/	21	0.325	2.522	31.979>>
543/	263/	22	-2.132	-7.034	-7.722<<
544/	263/	21	-0.463>>	3.935	31.954
544/	261/	23 (C)	-3.358<<	-1.605	21.220
544/	261/	21	-1.318	6.342>>	31.078
544/	263/	22	-2.040	-7.947<<	-7.819
544/	263/	21	-0.463	3.935	31.954>>
544/	261/	22	-2.040	-7.947	-9.858<<
545/	261/	21	-1.314>>	5.193	31.156
545/	259/	23 (C)	-4.010<<	-0.996	17.622
545/	259/	21	-2.169	7.600>>	29.429
545/	261/	22	-1.841	-8.596<<	-9.966
545/	261/	21	-1.314	5.193	31.156>>
545/	259/	22	-1.841	-8.596	-11.807<<
546/	259/	22	-1.519>>	-8.931	-11.924
546/	257/	23 (C)	-4.619<<	-0.282	13.421
546/	257/	21	-3.100	8.649>>	26.865
546/	259/	22	-1.519	-8.931<<	-11.924
546/	259/	21	-2.245	6.243	29.522>>
546/	257/	22	-1.519	-8.931	-13.443<<
547/	257/	22	-1.058>>	-8.916	-13.566
547/	255/	23 (C)	-5.185<<	0.536	8.662
547/	255/	21	-4.127	9.452>>	23.286
547/	257/	22	-1.058	-8.916<<	-13.566
547/	257/	21	-3.272	7.045	26.970>>
547/	255/	22	-1.058	-8.916	-14.624<<

548/	255/	22	-0.448>>	-8.522	-14.748
548/	253/	23 (C)	-5.714<<	1.446	3.382
548/	253/	21	-5.266	9.968>>	18.578
548/	255/	22	-0.448	-8.522<<	-14.748
548/	255/	21	-4.411	7.561	23.401>>
548/	253/	22	-0.448	-8.522	-15.196<<
549/	253/	22	0.312>>	-7.751	-15.311
549/	251/	21	-6.528<<	10.177	12.612
549/	251/	21	-6.528	10.177>>	12.612
549/	253/	22	0.312	-7.751<<	-15.311
549/	253/	21	-5.673	7.770	18.697>>
549/	253/	22	0.312	-7.751	-15.311<<
550/	251/	22	1.211>>	-6.630	-15.101
550/	249/	21	-7.917<<	10.058	5.258
550/	249/	21	-7.917	10.058>>	5.258
550/	251/	22	1.211	-6.630<<	-15.101
550/	251/	21	-7.062	7.651	12.733>>
550/	251/	22	1.211	-6.630	-15.101<<
551/	249/	22	2.214>>	-5.242	-13.968
551/	247/	21	-9.431<<	9.626	-3.614
551/	247/	21	-9.431	9.626>>	-3.614
551/	249/	22	2.214	-5.242<<	-13.968
551/	249/	21	-8.576	7.219	5.374>>
551/	247/	23 (C)	-7.217	4.384	-15.368<<
552/	247/	22	3.333>>	-3.574	-11.813
552/	358/	21	-11.012<<	8.437	-12.741
552/	358/	21	-11.012	8.437>>	-12.741
552/	247/	22	3.333	-3.574<<	-11.813
552/	247/	21	-10.269	6.346	-3.508>>
552/	358/	23 (C)	-7.680	4.863	-21.658<<
553/	358/	22	4.523>>	-1.728	-8.954
553/	245/	21	-12.521<<	6.278	-20.161
553/	245/	21	-12.521	6.278>>	-20.161
553/	358/	22	4.523	-1.728<<	-8.954
553/	245/	22	4.523	-1.728	-6.177>>
553/	245/	23 (C)	-7.997	4.550	-26.338<<
554/	245/	22	5.752>>	0.209	-6.210
554/	243/	21	-14.461<<	4.797	-34.079
554/	243/	23 (C)	-8.709	5.007>>	-34.536
554/	245/	22	5.752	0.209<<	-6.210
554/	243/	22	5.752	0.209	-0.458>>
554/	243/	23 (C)	-8.709	5.007	-34.536<<
555/	243/	22	7.013>>	2.225	-0.465
555/	241/	21	-16.543<<	2.967	-50.101
555/	241/	23 (C)	-9.530	5.192>>	-43.553
555/	243/	21	-15.688	0.560<<	-34.000
555/	241/	22	7.013	2.225	6.549>>
555/	241/	21	-16.543	2.967	-50.101<<
556/	241/	22	8.264>>	4.209	6.578
556/	239/	21	-18.683<<	0.994	-68.296
556/	239/	23 (C)	-10.419	5.204>>	-53.455
556/	241/	21	-17.828	-1.413<<	-50.055
556/	239/	22	8.264	4.209	14.842>>
556/	239/	21	-18.683	0.994	-68.296<<
557/	239/	22	9.423>>	5.957	14.899
557/	5/	21	-20.838<<	-1.030	-88.672
557/	239/	22	9.423	5.957>>	14.899
557/	239/	21	-19.983	-3.437<<	-68.275
557/	5/	22	9.423	5.957	24.322>>
557/	5/	21	-20.838	-1.030	-88.672<<

558/	5/	21	18.686>>	-4.770	-88.716
558/	5/	22	-4.186<<	7.184	24.453
558/	5/	22	-4.186	7.184>>	24.453
558/	5/	21	18.686	-4.770<<	-88.716
558/	5/	22	-4.186	7.184	24.453>>
558/	5/	21	18.686	-4.770	-88.716<<
559/	237/	21	16.656>>	-6.480	-70.492
559/	237/	22	-3.335<<	8.141	20.372
559/	237/	22	-3.335	8.141>>	20.372
559/	237/	21	16.656	-6.480<<	-70.492
559/	237/	22	-3.335	8.141	20.372>>
559/	237/	21	16.656	-6.480	-70.492<<
560/	235/	21	14.758>>	-7.845	-54.318
560/	235/	22	-2.672<<	8.615	17.150
560/	235/	22	-2.672	8.615>>	17.150
560/	235/	21	14.758	-7.845<<	-54.318
560/	235/	22	-2.672	8.615	17.150>>
560/	235/	21	14.758	-7.845	-54.318<<
561/	233/	21	12.982>>	-8.915	-40.062
561/	233/	22	-2.143<<	8.758	14.594
561/	233/	22	-2.143	8.758>>	14.594
561/	233/	21	12.982	-8.915<<	-40.062
561/	233/	22	-2.143	8.758	14.594>>
561/	233/	21	12.982	-8.915	-40.062<<
562/	231/	21	11.357>>	-9.613	-27.595
562/	231/	22	-1.747<<	8.565	12.566
562/	231/	22	-1.747	8.565>>	12.566
562/	231/	21	11.357	-9.613<<	-27.595
562/	231/	22	-1.747	8.565	12.566>>
562/	231/	21	11.357	-9.613	-27.595<<
563/	229/	21	9.889>>	-9.919	-16.757
563/	229/	22	-1.477<<	8.060	10.926
563/	229/	22	-1.477	8.060>>	10.926
563/	229/	21	9.889	-9.919<<	-16.757
563/	229/	22	-1.477	8.060	10.926>>
563/	229/	21	9.889	-9.919	-16.757<<
564/	227/	21	8.576>>	-9.838	-7.386
564/	227/	22	-1.319<<	7.272	9.547
564/	227/	22	-1.319	7.272>>	9.547
564/	227/	21	8.576	-9.838<<	-7.386
564/	227/	22	-1.319	7.272	9.547>>
564/	227/	21	8.576	-9.838	-7.386<<
565/	225/	21	7.403>>	-9.406	0.679
565/	225/	22	-1.257<<	6.245	8.311
565/	225/	22	-1.257	6.245>>	8.311
565/	225/	21	7.403	-9.406<<	0.679
565/	223/	23 (C)	5.291	-0.754	14.740>>
565/	225/	21	7.403	-9.406	0.679<<
566/	223/	21	6.355>>	-8.663	7.582
566/	223/	22	-1.272<<	5.025	7.122
566/	223/	22	-1.272	5.025>>	7.122
566/	223/	21	6.355	-8.663<<	7.582
566/	221/	23 (C)	4.228	-1.232	19.391>>
566/	221/	22	-1.272	5.025	5.850<<
567/	221/	21	5.412>>	-7.657	13.452
567/	221/	22	-1.347<<	3.656	5.901
567/	221/	22	-1.347	3.656>>	5.901
567/	221/	21	5.412	-7.657<<	13.452
567/	219/	23 (C)	3.210	-1.594	23.021>>
567/	219/	22	-1.347	3.656	4.554<<

568/	219/	21	4.553>>	-6.441	18.392
568/	219/	22	-1.462<<	2.183	4.587
568/	219/	22	-1.462	2.183>>	4.587
568/	219/	21	4.553	-6.441<<	18.392
568/	217/	23 (C)	2.236	-1.851	25.674>>
568/	217/	22	-1.462	2.183	3.125<<
569/	217/	21	3.760>>	-5.060	22.493
569/	217/	22	-1.601<<	0.654	3.138
569/	217/	22	-1.601	0.654>>	3.138
569/	217/	21	3.760	-5.060<<	22.493
569/	215/	23 (C)	1.304	-1.999	27.394>>
569/	215/	22	-1.601	0.654	1.537<<
570/	215/	21	3.012>>	-3.566	25.819
570/	215/	22	-1.745<<	-0.886	1.532
570/	215/	22	-1.745	-0.886>>	1.532
570/	215/	23 (C)	1.267	-4.452<<	27.350
570/	213/	21	2.157	-1.159	28.435>>
570/	213/	22	-1.745	-0.886	-0.213<<
571/	213/	21	2.291>>	-2.003	28.416
571/	213/	22	-1.876<<	-2.393	-0.238
571/	211/	21	1.436	0.404>>	30.310
571/	213/	23 (C)	0.414	-4.396<<	28.178
571/	211/	21	1.436	0.404	30.310>>
571/	211/	22	-1.876	-2.393	-2.114<<
572/	211/	21	1.578>>	-0.425	30.311
572/	211/	22	-1.977<<	-3.820	-2.158
572/	209/	21	0.723	1.981>>	31.493
572/	211/	23 (C)	-0.399	-4.245<<	28.153
572/	209/	21	0.723	1.981	31.493>>
572/	209/	22	-1.977	-3.820	-4.134<<
573/	209/	21	0.855>>	1.130	31.513
573/	207/	23 (C)	-2.027<<	-1.583	25.749
573/	207/	21	-0.000	3.537>>	31.971
573/	209/	22	-2.027	-5.120<<	-4.196
573/	207/	21	-0.000	3.537	31.971>>
573/	207/	22	-2.027	-5.120	-6.223<<
574/	207/	21	0.105>>	2.616	32.011
574/	205/	23 (C)	-2.760<<	-1.223	23.409
574/	205/	21	-0.750	5.022>>	31.719
574/	207/	22	-2.010	-6.245<<	-6.301
574/	207/	21	0.105	2.616	32.011>>
574/	205/	22	-2.010	-6.245	-8.310<<
575/	205/	21	-0.691>>	3.990	31.776
575/	203/	23 (C)	-3.450<<	-0.751	20.382
575/	203/	21	-1.546	6.397>>	30.689
575/	205/	22	-1.905	-7.148<<	-8.402
575/	205/	21	-0.691	3.990	31.776>>
575/	203/	22	-1.905	-7.148	-10.307<<
576/	203/	21	-1.549>>	5.199	30.763
576/	201/	23 (C)	-4.097<<	-0.172	16.712
576/	201/	21	-2.404	7.606>>	28.818
576/	203/	22	-1.694	-7.778<<	-10.412
576/	203/	21	-1.549	5.199	30.763>>
576/	201/	22	-1.694	-7.778	-12.106<<
577/	201/	22	-1.359>>	-8.095	-12.219
577/	199/	23 (C)	-4.701<<	0.521	12.446
577/	199/	21	-3.342	8.615>>	26.023
577/	201/	22	-1.359	-8.095<<	-12.219
577/	201/	21	-2.487	6.209	28.906>>
577/	199/	22	-1.359	-8.095	-13.578<<

578/	199/	22	-0.887>>	-8.061	-13.695
578/	197/	23 (C)	-5.263<<	1.320	7.624
578/	197/	21	-4.377	9.381>>	22.206
578/	199/	22	-0.887	-8.061<<	-13.695
578/	199/	21	-3.522	6.975	26.124>>
578/	197/	22	-0.887	-8.061	-14.582<<
579/	197/	22	-0.268>>	-7.657	-14.698
579/	195/	23 (C)	-5.790<<	2.213	2.285
579/	195/	21	-5.523	9.870>>	17.251
579/	197/	22	-0.268	-7.657<<	-14.698
579/	197/	21	-4.668	7.464	22.315>>
579/	195/	22	-0.268	-7.657	-14.966<<
580/	195/	22	0.496>>	-6.880	-15.076
580/	193/	21	-6.789<<	10.050	11.036
580/	193/	21	-6.789	10.050>>	11.036
580/	195/	22	0.496	-6.880<<	-15.076
580/	195/	21	-5.934	7.644	17.366>>
580/	195/	22	0.496	-6.880	-15.076<<
581/	193/	22	1.390>>	-5.775	-14.673
581/	191/	21	-8.182<<	9.918	3.427
581/	191/	21	-8.182	9.918>>	3.427
581/	193/	22	1.390	-5.775<<	-14.673
581/	193/	21	-7.327	7.511	11.150>>
581/	193/	22	1.390	-5.775	-14.673<<
582/	191/	22	2.376>>	-4.436	-13.351
582/	189/	21	-9.692<<	9.488	-5.699
582/	189/	21	-9.692	9.488>>	-5.699
582/	191/	22	2.376	-4.436<<	-13.351
582/	191/	21	-8.837	7.081	3.535>>
582/	189/	23 (C)	-7.317	5.052	-16.675<<
583/	189/	22	3.457>>	-2.863	-11.023
583/	362/	21	-11.042<<	7.738	-12.250
583/	362/	21	-11.042	7.738>>	-12.250
583/	189/	22	3.457	-2.863<<	-11.023
583/	189/	21	-10.513	6.249	-5.602>>
583/	362/	23 (C)	-7.585	4.875	-21.135<<
584/	362/	22	4.583>>	-1.177	-8.919
584/	187/	21	-12.486<<	5.737	-19.644
584/	187/	21	-12.486	5.737>>	-19.644
584/	362/	22	4.583	-1.177<<	-8.919
584/	187/	22	4.583	-1.177	-6.105>>
584/	187/	23 (C)	-7.904	4.560	-25.749<<
585/	187/	22	5.749>>	0.604	-6.134
585/	185/	21	-14.365<<	4.403	-33.454
585/	185/	23 (C)	-8.617	5.007>>	-33.839
585/	187/	22	5.749	0.604<<	-6.134
585/	185/	22	5.749	0.604	-0.386>>
585/	185/	23 (C)	-8.617	5.007	-33.839<<
586/	185/	22	6.950>>	2.473	-0.390
586/	183/	21	-16.387<<	2.720	-49.306
586/	183/	23 (C)	-9.437	5.193>>	-42.747
586/	185/	21	-15.532	0.313<<	-33.378
586/	183/	22	6.950	2.473	6.560>>
586/	183/	21	-16.387	2.720	-49.306<<
587/	183/	22	8.146>>	4.325	6.589
587/	181/	21	-18.474<<	0.871	-67.279
587/	181/	23 (C)	-10.328	5.196>>	-52.543
587/	183/	21	-17.619	-1.536<<	-49.263
587/	181/	22	8.146	4.325	14.736>>
587/	181/	21	-18.474	0.871	-67.279<<

588/	181/	22	9.256>>	5.950	14.793
588/	7/	21	-20.581<<	-1.030	-87.381
588/	181/	22	9.256	5.950>>	14.793
588/	181/	21	-19.726	-3.436<<	-67.259
588/	7/	22	9.256	5.950	24.048>>
588/	7/	21	-20.581	-1.030	-87.381<<
589/	7/	21	18.422>>	-4.692	-87.424
589/	7/	22	-4.065<<	7.077	24.175
589/	7/	22	-4.065	7.077>>	24.175
589/	7/	21	18.422	-4.692<<	-87.424
589/	7/	22	-4.065	7.077	24.175>>
589/	7/	21	18.422	-4.692	-87.424<<
590/	179/	21	16.429>>	-6.299	-69.447
590/	179/	22	-3.252<<	7.941	20.213
590/	179/	22	-3.252	7.941>>	20.213
590/	179/	21	16.429	-6.299<<	-69.447
590/	179/	22	-3.252	7.941	20.213>>
590/	179/	21	16.429	-6.299	-69.447<<
591/	177/	21	14.562>>	-7.595	-53.479
591/	177/	22	-2.619<<	8.346	17.070
591/	177/	22	-2.619	8.346>>	17.070
591/	177/	21	14.562	-7.595<<	-53.479
591/	177/	22	-2.619	8.346	17.070>>
591/	177/	21	14.562	-7.595	-53.479<<
592/	175/	21	12.813>>	-8.606	-39.399
592/	175/	22	-2.114<<	8.433	14.563
592/	175/	22	-2.114	8.433>>	14.563
592/	175/	21	12.813	-8.606<<	-39.399
592/	175/	22	-2.114	8.433	14.563>>
592/	175/	21	12.813	-8.606	-39.399<<
593/	173/	21	11.209>>	-9.249	-27.083
593/	173/	22	-1.737<<	8.196	12.559
593/	173/	22	-1.737	8.196>>	12.559
593/	173/	21	11.209	-9.249<<	-27.083
593/	173/	22	-1.737	8.196	12.559>>
593/	173/	21	11.209	-9.249	-27.083<<
594/	171/	21	9.759>>	-9.511	-16.374
594/	171/	22	-1.482<<	7.659	10.924
594/	171/	22	-1.482	7.659>>	10.924
594/	171/	21	9.759	-9.511<<	-16.374
594/	171/	22	-1.482	7.659	10.924>>
594/	171/	21	9.759	-9.511	-16.374<<
595/	169/	21	8.458>>	-9.400	-7.111
595/	169/	22	-1.334<<	6.854	9.533
595/	169/	22	-1.334	6.854>>	9.533
595/	169/	21	8.458	-9.400<<	-7.111
595/	169/	22	-1.334	6.854	9.533>>
595/	169/	21	8.458	-9.400	-7.111<<
596/	167/	21	7.295>>	-8.944	0.855
596/	167/	22	-1.277<<	5.820	8.278
596/	167/	22	-1.277	5.820>>	8.278
596/	167/	21	7.295	-8.944<<	0.855
596/	165/	23 (C)	5.163	-0.718	14.772>>
596/	167/	21	7.295	-8.944	0.855<<
597/	165/	21	6.253>>	-8.186	7.671
597/	165/	22	-1.294<<	4.602	7.064
597/	165/	22	-1.294	4.602>>	7.064
597/	165/	21	6.253	-8.186<<	7.671
597/	163/	23 (C)	4.104	-1.178	19.314>>
597/	163/	22	-1.294	4.602	5.770<<

598/	163/	21	5.313>>	-7.173	13.459
598/	163/	22	-1.366<<	3.246	5.815
598/	163/	22	-1.366	3.246>>	5.815
598/	163/	21	5.313	-7.173<<	13.459
598/	161/	23 (C)	3.092	-1.521	22.841>>
598/	161/	22	-1.366	3.246	4.449<<
599/	161/	21	4.454>>	-5.952	18.323
599/	161/	22	-1.476<<	1.798	4.476
599/	161/	22	-1.476	1.798>>	4.476
599/	161/	21	4.454	-5.952<<	18.323
599/	159/	23 (C)	2.124	-1.748	25.397>>
599/	159/	22	-1.476	1.798	3.000<<
600/	159/	21	3.658>>	-4.580	22.345
600/	159/	22	-1.605<<	0.303	3.009
600/	159/	22	-1.605	0.303>>	3.009
600/	159/	21	3.658	-4.580<<	22.345
600/	157/	23 (C)	1.198	-1.871	27.027>>
600/	157/	22	-1.605	0.303	1.404<<
601/	157/	21	2.904>>	-3.098	25.589
601/	157/	22	-1.735<<	-1.194	1.393
601/	155/	21	2.049	-0.692>>	28.114
601/	157/	23 (C)	1.170	-4.292<<	26.983
601/	155/	21	2.049	-0.692	28.114>>
601/	155/	22	-1.735	-1.194	-0.341<<
602/	155/	21	2.175>>	-1.554	28.099
602/	155/	22	-1.848<<	-2.645	-0.371
602/	153/	21	1.320	0.853>>	29.894
602/	155/	23 (C)	0.326	-4.199<<	27.729
602/	153/	21	1.320	0.853	29.894>>
602/	153/	22	-1.848	-2.645	-2.219<<
603/	153/	21	1.451>>	-0.001	29.899
603/	153/	22	-1.926<<	-4.005	-2.267
603/	151/	21	0.596	2.406>>	30.969
603/	153/	23 (C)	-0.476	-4.006<<	27.632
603/	151/	21	0.596	2.406	30.969>>
603/	151/	22	-1.926	-4.005	-4.193<<
604/	151/	21	0.714>>	1.524	30.993
604/	149/	23 (C)	-2.092<<	-1.297	25.118
604/	149/	21	-0.141	3.931>>	31.327
604/	151/	22	-1.951	-5.228<<	-4.258
604/	149/	21	-0.141	3.931	31.327>>
604/	149/	22	-1.951	-5.228	-6.209<<
605/	149/	21	-0.052>>	2.977	31.369
605/	147/	23 (C)	-2.811<<	-0.883	22.743
605/	147/	21	-0.907	5.384>>	30.937
605/	149/	22	-1.905	-6.267<<	-6.289
605/	149/	21	-0.052	2.977	31.369>>
605/	147/	22	-1.905	-6.267	-8.194<<
606/	147/	21	-0.864>>	4.306	30.997
606/	145/	23 (C)	-3.487<<	-0.361	19.697
606/	145/	21	-1.719	6.712>>	29.753
606/	147/	22	-1.768	-7.073<<	-8.288
606/	147/	21	-0.864	4.306	30.997>>
606/	145/	22	-1.768	-7.073	-10.056<<
607/	145/	22	-1.524>>	-7.606	-10.161
607/	143/	23 (C)	-4.120<<	0.277	16.023
607/	143/	21	-2.596	7.883>>	27.707
607/	145/	22	-1.524	-7.606<<	-10.161
607/	145/	21	-1.741	5.476	29.828>>
607/	143/	22	-1.524	-7.606	-11.685<<

608/	143/	22	-1.157>>	-7.828	-11.796
608/	141/	23 (C)	-4.710<<	1.027	11.765
608/	141/	21	-3.553	8.855>>	24.718
608/	143/	22	-1.157	-7.828<<	-11.796
608/	143/	21	-2.698	6.449	27.796>>
608/	141/	22	-1.157	-7.828	-12.953<<
609/	141/	22	-0.659>>	-7.709	-13.068
609/	139/	23 (C)	-5.262<<	1.877	6.963
609/	139/	21	-4.604	9.586>>	20.691
609/	141/	22	-0.659	-7.709<<	-13.068
609/	141/	21	-3.749	7.179	24.819>>
609/	139/	22	-0.659	-7.709	-13.727<<
610/	139/	22	-0.025>>	-7.246	-13.839
610/	137/	23 (C)	-5.785<<	2.808	1.651
610/	137/	21	-5.760	10.054>>	15.514
610/	139/	22	-0.025	-7.246<<	-13.839
610/	139/	21	-4.905	7.647	20.799>>
610/	137/	22	-0.025	-7.246	-13.863<<
611/	137/	22	0.735>>	-6.461	-13.964
611/	135/	21	-7.028<<	10.243	9.071
611/	135/	21	-7.028	10.243>>	9.071
611/	137/	22	0.735	-6.461<<	-13.964
611/	137/	21	-6.173	7.837	15.625>>
611/	137/	22	0.735	-6.461	-13.964<<
612/	135/	22	1.594>>	-5.421	-13.312
612/	133/	21	-8.406<<	10.155	1.251
612/	133/	21	-8.406	10.155>>	1.251
612/	135/	22	1.594	-5.421<<	-13.312
612/	135/	21	-7.551	7.749	9.182>>
612/	135/	22	1.594	-5.421	-13.312<<
613/	133/	22	2.577>>	-4.074	-11.785
613/	131/	21	-9.949<<	9.668	-8.117
613/	131/	21	-9.949	9.668>>	-8.117
613/	133/	22	2.577	-4.074<<	-11.785
613/	133/	21	-9.094	7.261	1.357>>
613/	131/	23 (C)	-7.372	5.593	-17.326<<
614/	131/	22	3.650>>	-2.506	-9.253
614/	366/	21	-11.104<<	7.293	-12.046
614/	366/	21	-11.104	7.293>>	-12.046
614/	131/	22	3.650	-2.506<<	-9.253
614/	366/	22	3.650	-2.506	-7.906>>
614/	366/	23 (C)	-7.454	4.787	-19.951<<
615/	366/	22	4.751>>	-0.866	-7.942
615/	129/	21	-12.526<<	5.371	-19.456
615/	129/	21	-12.526	5.371>>	-19.456
615/	366/	22	4.751	-0.866<<	-7.942
615/	129/	22	4.751	-0.866	-5.024>>
615/	129/	23 (C)	-7.775	4.504	-24.480<<
616/	129/	22	5.901>>	0.894	-5.054
616/	127/	21	-14.386<<	4.108	-33.273
616/	127/	23 (C)	-8.485	5.002>>	-32.425
616/	129/	22	5.901	0.894<<	-5.054
616/	127/	22	5.901	0.894	0.847>>
616/	127/	21	-14.386	4.108	-33.273<<
617/	127/	22	7.099>>	2.772	0.843
617/	125/	21	-16.394<<	2.477	-49.119
617/	125/	23 (C)	-9.295	5.249>>	-41.177
617/	127/	21	-15.539	0.071<<	-33.200
617/	125/	22	7.099	2.772	7.942>>
617/	125/	21	-16.394	2.477	-49.119<<

618/	125/	22	8.300>>	4.656	7.972
618/	123/	21	-18.471<<	0.666	-67.074
618/	123/	23 (C)	-10.171	5.323>>	-50.802
618/	125/	21	-17.616	-1.740<<	-49.078
618/	123/	22	8.300	4.656	16.272>>
618/	123/	21	-18.471	0.666	-67.074<<
619/	123/	22	9.420>>	6.324	16.331
619/	9/	21	-20.571<<	-1.191	-87.153
619/	123/	22	9.420	6.324>>	16.331
619/	123/	21	-19.716	-3.597<<	-67.057
619/	9/	22	9.420	6.324	25.751>>
619/	9/	21	-20.571	-1.191	-87.153<<
620/	9/	21	18.425>>	-4.882	-87.196
620/	9/	22	-4.387<<	7.510	25.877
620/	9/	22	-4.387	7.510>>	25.877
620/	9/	21	18.425	-4.882<<	-87.196
620/	9/	22	-4.387	7.510	25.877>>
620/	9/	21	18.425	-4.882	-87.196<<
621/	121/	21	16.436>>	-6.464	-69.203
621/	121/	22	-3.559<<	8.429	21.595
621/	121/	22	-3.559	8.429>>	21.595
621/	121/	21	16.436	-6.464<<	-69.203
621/	121/	22	-3.559	8.429	21.595>>
621/	121/	21	16.436	-6.464	-69.203<<
622/	119/	21	14.572>>	-7.731	-53.213
622/	119/	22	-2.913<<	8.886	18.147
622/	119/	22	-2.913	8.886>>	18.147
622/	119/	21	14.572	-7.731<<	-53.213
622/	119/	22	-2.913	8.886	18.147>>
622/	119/	21	14.572	-7.731	-53.213<<
623/	117/	21	12.825>>	-8.710	-39.109
623/	117/	22	-2.394<<	9.029	15.349
623/	117/	22	-2.394	9.029>>	15.349
623/	117/	21	12.825	-8.710<<	-39.109
623/	117/	22	-2.394	9.029	15.349>>
623/	117/	21	12.825	-8.710	-39.109<<
624/	115/	21	11.221>>	-9.331	-26.765
624/	115/	22	-2.003<<	8.851	13.069
624/	115/	22	-2.003	8.851>>	13.069
624/	115/	21	11.221	-9.331<<	-26.765
624/	115/	22	-2.003	8.851	13.069>>
624/	115/	21	11.221	-9.331	-26.765<<
625/	113/	21	9.772>>	-9.568	-16.031
625/	113/	22	-1.734<<	8.371	11.174
625/	113/	22	-1.734	8.371>>	11.174
625/	113/	21	9.772	-9.568<<	-16.031
625/	113/	22	-1.734	8.371	11.174>>
625/	113/	21	9.772	-9.568	-16.031<<
626/	111/	21	8.471>>	-9.433	-6.742
626/	111/	22	-1.573<<	7.623	9.536
626/	111/	22	-1.573	7.623>>	9.536
626/	111/	21	8.471	-9.433<<	-6.742
626/	111/	22	-1.573	7.623	9.536>>
626/	111/	21	8.471	-9.433	-6.742<<
627/	109/	21	7.308>>	-8.954	1.253
627/	109/	22	-1.505<<	6.644	8.046
627/	109/	22	-1.505	6.644>>	8.046
627/	109/	21	7.308	-8.954<<	1.253
627/	107/	23 (C)	4.947	0.096	14.735>>
627/	109/	21	7.308	-8.954	1.253<<

628/	107/	21	6.265>>	-8.173	8.095
628/	107/	22	-1.513<<	5.480	6.609
628/	107/	22	-1.513	5.480>>	6.609
628/	107/	21	6.265	-8.173<<	8.095
628/	105/	23 (C)	3.897	-0.287	19.090>>
628/	105/	22	-1.513	5.480	5.096<<
629/	105/	21	5.324>>	-7.137	13.907
629/	105/	22	-1.577<<	4.176	5.147
629/	105/	22	-1.577	4.176>>	5.147
629/	105/	21	5.324	-7.137<<	13.907
629/	103/	23 (C)	2.891	-0.554	22.435>>
629/	103/	22	-1.577	4.176	3.570<<
630/	103/	21	4.464>>	-5.894	18.795
630/	103/	22	-1.680<<	2.779	3.603
630/	103/	22	-1.680	2.779>>	3.603
630/	103/	21	4.464	-5.894<<	18.795
630/	101/	23 (C)	1.929	-0.709	24.816>>
630/	101/	22	-1.680	2.779	1.923<<
631/	101/	21	3.666>>	-4.497	22.840
631/	101/	22	-1.804<<	1.335	1.937
631/	101/	22	-1.804	1.335>>	1.937
631/	101/	21	3.666	-4.497<<	22.840
631/	99/	23 (C)	1.007	-0.755	26.274>>
631/	99/	22	-1.804	1.335	0.133<<
632/	99/	21	2.910>>	-2.992	26.106
632/	99/	22	-1.930<<	-0.110	0.129
632/	99/	22	-1.930	-0.110>>	0.129
632/	99/	23 (C)	0.980	-3.101<<	26.235
632/	97/	21	2.055	-0.585	28.650>>
632/	97/	22	-1.930	-0.110	-1.801<<
633/	97/	21	2.177>>	-1.430	28.635
633/	97/	22	-2.041<<	-1.510	-1.825
633/	95/	21	1.322	0.976>>	30.447
633/	97/	23 (C)	0.136	-2.940<<	26.810
633/	95/	21	1.322	0.976	30.447>>
633/	95/	22	-2.041	-1.510	-3.866<<
634/	95/	21	1.449>>	0.150	30.450
634/	95/	22	-2.117<<	-2.819	-3.907
634/	93/	21	0.594	2.557>>	31.533
634/	95/	22	-2.117	-2.819<<	-3.907
634/	93/	21	0.594	2.557	31.533>>
634/	93/	22	-2.117	-2.819	-6.024<<
635/	93/	21	0.707>>	1.695	31.556
635/	91/	23 (C)	-2.290<<	0.112	23.672
635/	91/	21	-0.148	4.101>>	31.897
635/	93/	22	-2.142	-3.989<<	-6.083
635/	91/	21	-0.148	4.101	31.897>>
635/	91/	22	-2.142	-3.989	-8.225<<
636/	91/	21	-0.067>>	3.161	31.938
636/	89/	23 (C)	-3.018<<	0.594	21.111
636/	89/	21	-0.922	5.568>>	31.505
636/	91/	22	-2.095	-4.974<<	-8.299
636/	91/	21	-0.067	3.161	31.938>>
636/	89/	22	-2.095	-4.974	-10.394<<
637/	89/	21	-0.892>>	4.505	31.563
637/	87/	23 (C)	-3.707<<	1.184	17.863
637/	87/	21	-1.747	6.911>>	30.306
637/	89/	22	-1.960	-5.727<<	-10.482
637/	89/	21	-0.892	4.505	31.563>>
637/	87/	22	-1.960	-5.727	-12.443<<

638/	87/	22	-1.720>>	-6.206	-12.541
638/	85/	23 (C)	-4.358<<	1.881	13.970
638/	85/	21	-2.639	8.087>>	28.230
638/	87/	22	-1.720	-6.206<<	-12.541
638/	87/	21	-1.784	5.681	30.380>>
638/	85/	22	-1.720	-6.206	-14.261<<
639/	85/	22	-1.358>>	-6.372	-14.367
639/	83/	23 (C)	-4.974<<	2.681	9.466
639/	83/	21	-3.616	9.053>>	25.191
639/	85/	22	-1.358	-6.372<<	-14.367
639/	85/	21	-2.761	6.647	28.318>>
639/	83/	22	-1.358	-6.372	-15.725<<
640/	83/	22	-0.867>>	-6.201	-15.834
640/	81/	23 (C)	-5.561<<	3.570	4.385
640/	81/	21	-4.694	9.771>>	21.086
640/	83/	22	-0.867	-6.201<<	-15.834
640/	83/	21	-3.839	7.365	25.290>>
640/	81/	22	-0.867	-6.201	-16.701<<
641/	81/	22	-0.243>>	-5.685	-16.807
641/	79/	23 (C)	-6.128<<	4.524	-1.253
641/	79/	21	-5.885	10.209>>	15.797
641/	81/	22	-0.243	-5.685<<	-16.807
641/	81/	21	-5.030	7.803	21.192>>
641/	79/	22	-0.243	-5.685	-17.050<<
642/	79/	22	0.504>>	-4.847	-17.146
642/	77/	21	-7.197<<	10.347	9.200
642/	77/	21	-7.197	10.347>>	9.200
642/	79/	22	0.504	-4.847<<	-17.146
642/	79/	21	-6.342	7.941	15.907>>
642/	79/	22	0.504	-4.847	-17.146<<
643/	77/	22	1.345>>	-3.763	-16.720
643/	75/	21	-8.630<<	10.190	1.165
643/	75/	21	-8.630	10.190>>	1.165
643/	77/	22	1.345	-3.763<<	-16.720
643/	77/	21	-7.775	7.784	9.306>>
643/	77/	22	1.345	-3.763	-16.720<<
644/	75/	22	2.312>>	-2.360	-15.438
644/	370/	21	-10.332<<	9.915	-9.692
644/	370/	21	-10.332	9.915>>	-9.692
644/	75/	22	2.312	-2.360<<	-15.438
644/	75/	21	-9.375	7.222	1.267>>
644/	370/	23 (C)	-8.021	7.555	-22.543<<
645/	370/	22	3.378>>	-0.699	-12.892
645/	73/	21	-11.774<<	8.033	-16.675
645/	73/	21	-11.774	8.033>>	-16.675
645/	370/	22	3.378	-0.699<<	-12.892
645/	370/	21	-11.246	6.546	-9.601>>
645/	73/	23 (C)	-8.397	7.334	-27.479<<
646/	73/	22	4.479>>	1.050	-10.836
646/	71/	21	-13.628<<	6.865	-29.727
646/	71/	23 (C)	-9.149	7.915>>	-36.084
646/	73/	22	4.479	1.050<<	-10.836
646/	71/	22	4.479	1.050	-6.356>>
646/	71/	23 (C)	-9.149	7.915	-36.084<<
647/	71/	22	5.616>>	2.900	-6.367
647/	69/	21	-15.597<<	5.421	-44.770
647/	69/	23 (C)	-9.981	8.321>>	-45.520
647/	71/	22	5.616	2.900<<	-6.367
647/	69/	22	5.616	2.900	-0.750>>
647/	69/	23 (C)	-9.981	8.321	-45.520<<

648/	69/	22	6.726>>	4.697	-0.732
648/	67/	21	-17.614<<	3.869	-61.857
648/	67/	23 (C)	-10.887	8.566>>	-55.863
648/	69/	21	-16.759	1.463<<	-44.733
648/	67/	22	6.726	4.697	5.994>>
648/	67/	21	-17.614	3.869	-61.857<<
649/	67/	22	7.734>>	6.247	6.036
649/	11/	21	-19.655<<	2.263	-81.010
649/	11/	23 (C)	-11.921	8.510>>	-67.240
649/	67/	21	-18.800	-0.143<<	-61.844
649/	11/	22	7.734	6.247	13.771>>
649/	11/	21	-19.655	2.263	-81.010<<
650/	11/	21	17.482>>	-1.422	-81.030
650/	11/	22	-2.141<<	7.411	13.855
650/	65/	23 (C)	14.486	8.395>>	-52.191
650/	11/	21	17.482	-1.422<<	-81.030
650/	11/	22	-2.141	7.411	13.855>>
650/	11/	21	17.482	-1.422	-81.030<<
651/	65/	21	15.537>>	-2.766	-63.957
651/	65/	22	-1.441<<	8.212	11.787
651/	65/	22	-1.441	8.212>>	11.787
651/	65/	21	15.537	-2.766<<	-63.957
651/	65/	22	-1.441	8.212	11.787>>
651/	65/	21	15.537	-2.766	-63.957<<
652/	63/	21	13.701>>	-3.827	-48.846
652/	63/	22	-0.921<<	8.580	10.422
652/	63/	22	-0.921	8.580>>	10.422
652/	63/	21	13.701	-3.827<<	-48.846
652/	63/	22	-0.921	8.580	10.422>>
652/	63/	21	13.701	-3.827	-48.846<<
653/	61/	21	11.988>>	-4.557	-35.591
653/	61/	22	-0.521<<	8.668	9.579
653/	61/	22	-0.521	8.668>>	9.579
653/	61/	21	11.988	-4.557<<	-35.591
653/	61/	22	-0.521	8.668	9.579>>
653/	61/	21	11.988	-4.557	-35.591<<
654/	59/	21	10.424>>	-4.906	-24.060
654/	59/	22	-0.238<<	8.492	9.129
654/	59/	22	-0.238	8.492>>	9.129
654/	59/	21	10.424	-4.906<<	-24.060
654/	59/	22	-0.238	8.492	9.129>>
654/	59/	21	10.424	-4.906	-24.060<<
655/	57/	21	9.012>>	-4.855	-14.096
655/	57/	22	-0.063<<	8.077	8.952
655/	57/	22	-0.063	8.077>>	8.952
655/	57/	21	9.012	-4.855<<	-14.096
655/	57/	22	-0.063	8.077	8.952>>
655/	57/	21	9.012	-4.855	-14.096<<
656/	55/	23 (C)	7.768>>	3.046	3.399
656/	55/	22	0.018<<	7.457	8.940
656/	55/	22	0.018	7.457>>	8.940
656/	55/	21	7.749	-4.411<<	-5.541
656/	53/	23 (C)	6.913	5.452	10.808>>
656/	55/	21	7.749	-4.411	-5.541<<
657/	53/	23 (C)	6.645>>	3.072	10.752
657/	53/	22	0.022<<	6.677	8.993
657/	53/	22	0.022	6.677>>	8.993
657/	53/	21	6.623	-3.605<<	1.759
657/	51/	23 (C)	5.790	5.478	17.039>>
657/	53/	21	6.623	-3.605	1.759<<

658/	51/	21	5.617>>	-2.476	7.943
658/	51/	22	-0.036<<	5.780	9.034
658/	51/	22	-0.036	5.780>>	9.034
658/	51/	21	5.617	-2.476<<	7.943
658/	49/	23 (C)	4.725	5.710	22.200>>
658/	51/	21	5.617	-2.476	7.943<<
659/	49/	21	4.714>>	-1.063	13.136
659/	49/	22	-0.140<<	4.810	8.998
659/	47/	23 (C)	3.719	6.153>>	26.349
659/	49/	21	4.714	-1.063<<	13.136
659/	47/	23 (C)	3.719	6.153	26.349>>
659/	47/	22	-0.140	4.810	8.858<<
660/	47/	21	3.896>>	0.587	17.440
660/	47/	22	-0.273<<	3.808	8.842
660/	45/	23 (C)	2.768	6.802>>	29.547
660/	47/	21	3.896	0.587<<	17.440
660/	45/	23 (C)	2.768	6.802	29.547>>
660/	45/	22	-0.273	3.808	8.569<<
661/	45/	21	3.146>>	2.439	20.945
661/	45/	22	-0.420<<	2.818	8.533
661/	43/	23 (C)	1.871	7.663>>	31.846
661/	45/	21	3.146	2.439<<	20.945
661/	43/	23 (C)	1.871	7.663	31.846>>
661/	43/	22	-0.420	2.818	8.113<<
662/	43/	21	2.448>>	4.453	23.719
662/	43/	22	-0.568<<	1.879	8.059
662/	41/	23 (C)	1.026	8.739>>	33.301
662/	43/	22	-0.568	1.879<<	8.059
662/	41/	23 (C)	1.026	8.739	33.301>>
662/	41/	22	-0.568	1.879	7.492<<
663/	41/	21	1.788>>	6.598	25.813
663/	41/	22	-0.701<<	1.032	7.420
663/	39/	23 (C)	0.232	10.036>>	33.962
663/	41/	22	-0.701	1.032<<	7.420
663/	39/	23 (C)	0.232	10.036	33.962>>
663/	39/	22	-0.701	1.032	6.719<<
664/	39/	21	1.151>>	8.834	27.268
664/	39/	22	-0.807<<	0.309	6.631
664/	37/	23 (C)	-0.511	11.549>>	33.885
664/	39/	22	-0.807	0.309<<	6.631
664/	39/	23 (C)	0.344	9.143	33.899>>
664/	37/	22	-0.807	0.309	5.823<<
665/	37/	21	0.526>>	11.142	28.105
665/	35/	23 (C)	-1.205<<	13.294	33.115
665/	35/	21	-0.329	13.548>>	28.273
665/	37/	22	-0.876	-0.254<<	5.718
665/	37/	23 (C)	-0.350	10.889	33.824>>
665/	35/	22	-0.876	-0.254	4.842<<
666/	35/	21	-0.100>>	13.498	28.335
666/	33/	23 (C)	-1.852<<	15.277	31.703
666/	33/	21	-0.955	15.904>>	27.877
666/	35/	22	-0.897	-0.627<<	4.723
666/	35/	23 (C)	-0.997	12.871	33.058>>
666/	33/	22	-0.897	-0.627	3.826<<
667/	33/	21	-0.735>>	15.869	27.961
667/	31/	23 (C)	-2.455<<	17.486	29.697
667/	31/	21	-1.590	18.275>>	26.868
667/	33/	22	-0.865	-0.789<<	3.694
667/	33/	23 (C)	-1.600	15.080	31.655>>
667/	31/	22	-0.865	-0.789	2.830<<

668/	31/	22	-0.775>>	-0.727	2.688
668/	29/	23 (C)	-3.021<<	19.926	27.133
668/	29/	21	-2.246	20.653>>	25.220
668/	31/	22	-0.775	-0.727<<	2.688
668/	31/	23 (C)	-2.166	17.520	29.657>>
668/	29/	22	-0.775	-0.727	1.913<<
669/	29/	22	-0.634>>	-0.445	1.766
669/	374/	23 (C)	-3.779<<	23.182	23.128
669/	374/	21	-3.145	23.627>>	22.156
669/	29/	22	-0.634	-0.445<<	1.766
669/	29/	23 (C)	-2.708	20.169	27.102>>
669/	374/	22	-0.634	-0.445	0.972<<
670/	374/	22	-0.183>>	0.682	0.824
670/	703/	23 (C)	-3.565<<	25.087	21.832
670/	703/	23 (C)	-3.565	25.087>>	21.832
670/	374/	22	-0.183	0.682<<	0.824
670/	374/	23 (C)	-3.233	24.153	23.124>>
670/	703/	22	-0.183	0.682	0.753<<
671/	703/	22	-0.183>>	0.682	0.753
671/	702/	23 (C)	-4.420<<	27.500	17.900
671/	702/	23 (C)	-4.420	27.500>>	17.900
671/	703/	22	-0.183	0.682<<	0.753
671/	703/	23 (C)	-3.565	25.094	21.824>>
671/	702/	22	-0.183	0.682	0.569<<
672/	702/	22	-0.183>>	0.682	0.569
672/	701/	23 (C)	-5.275<<	29.904	13.125
672/	701/	23 (C)	-5.275	29.904>>	13.125
672/	702/	22	-0.183	0.682<<	0.569
672/	702/	23 (C)	-4.420	27.498	17.903>>
672/	701/	22	-0.183	0.682	0.386<<
673/	701/	22	-0.183>>	0.682	0.386
673/	700/	23 (C)	-6.130<<	32.310	7.491
673/	700/	23 (C)	-6.130	32.310>>	7.491
673/	701/	22	-0.183	0.682<<	0.386
673/	701/	23 (C)	-5.275	29.904	13.125>>
673/	700/	22	-0.183	0.682	0.203<<
674/	700/	22	-0.183>>	0.682	0.203
674/	13/	23 (C)	-6.985<<	34.717	1.000
674/	13/	23 (C)	-6.985	34.717>>	1.000
674/	700/	22	-0.183	0.682<<	0.203
674/	700/	23 (C)	-6.130	32.311	7.488>>
674/	13/	22	-0.183	0.682	0.020<<

MODELO DE CÁLCULO 3b

PESO PROPIO VIGA (Considerando que esta se ejecuta sobre cimbra)

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
0.0	41.27	23.45	-0.22
1.0	26.90	12.59	35.73
2.0	21.28	4.64	61.10
3.0	16.54	-1.08	80.86
4.0	12.49	-5.07	95.89
5.0	8.94	-7.75	106.87
6.0	5.79	-9.44	114.33
7.0	2.92	-10.38	118.64
8.0	0.28	-10.74	120.10
9.0	-2.19	-10.65	118.92
10.0	-4.51	-10.17	115.29
11.0	-6.70	-9.34	109.35
12.0	-8.74	-8.15	101.23
13.0	-10.65	-6.58	91.07
14.0	-12.38	-4.58	79.03
15.0	-13.92	-2.07	65.26
16.0	-15.22	1.03	49.97
17.0	-16.25	4.81	33.41
18.0	-17.03	9.27	15.87
19.0	-17.74	13.88	-2.31
20.0	-18.70	17.87	-21.13
21.0	-19.55	20.98	-36.93
21.5	-20.29	23.08	-49.13
22.5	-22.66	23.63	-70.40
23.5	-25.43	23.18	-94.03
24.5	-36.50	20.92	-124.15
25.5	61.28	17.96	-165.33
26.5	49.17	13.06	-108.97
27.5	36.91	7.75	-64.80
28.5	32.40	2.86	-29.22
29.5	28.22	-1.22	1.79
30.5	24.35	-4.52	28.61
31.5	20.75	-7.14	51.54
32.5	17.37	-9.18	70.87
33.5	14.19	-10.75	86.80
34.5	11.16	-11.93	99.55
35.5	8.27	-12.75	109.27
36.5	5.49	-13.29	116.10
37.5	2.81	-13.56	120.14

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
38.5	0.23	-13.61	121.50
39.5	-2.26	-13.39	120.29
40.5	-4.64	-12.93	116.59
41.5	-6.92	-12.18	110.51
42.5	-9.06	-11.10	102.16
43.5	-11.04	-9.62	91.67
44.5	-12.85	-7.68	79.20
45.5	-14.43	-5.18	64.94
46.5	-15.74	-2.02	49.12
47.5	-16.76	1.92	32.00
48.5	-17.47	6.61	13.93
49.5	-18.08	11.54	-4.71
50.5	-18.91	15.94	-23.89
51.0	-19.77	19.43	-41.02
52.0	-20.37	21.93	-53.31
53.0	-22.59	22.91	-74.67
54.0	-25.19	22.93	-98.23
55.0	-36.12	21.06	-128.10
56.0	61.04	18.52	-168.87
57.0	49.00	13.80	-112.73
58.0	36.76	8.61	-68.72
59.0	32.26	3.75	-33.27
60.0	28.08	-0.29	-2.38
61.0	24.22	-3.53	24.31
62.0	20.64	-6.10	47.13
63.0	17.28	-8.08	66.35
64.0	14.11	-9.59	82.20
65.0	11.10	-10.69	94.88
66.0	8.22	-11.47	104.55
67.0	5.46	-11.95	111.35
68.0	2.80	-12.17	115.38
69.0	0.23	-12.14	116.74
70.0	-2.24	-11.90	115.55
71.0	-4.61	-11.38	111.88
72.0	-6.87	-10.58	105.84
73.0	-8.99	-9.43	97.56
74.0	-10.95	-7.90	87.15
75.0	-12.73	-5.89	74.79
76.0	-14.28	-3.31	60.67

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
77.0	-15.57	-0.07	45.00
78.0	-16.55	3.95	28.08
79.0	-17.25	8.68	10.24
80.0	-17.90	13.51	-8.14
81.0	-18.89	17.53	-27.10
81.5	-19.19	20.80	-38.99
82.0	-19.90	23.04	-50.91
83.0	-22.24	23.72	-71.79
84.0	-24.97	23.42	-94.99
85.0	-36.00	21.30	-124.64
86.0	60.69	18.53	-165.30
87.0	48.60	13.73	-109.52
88.0	36.35	8.49	-65.91
89.0	31.85	3.63	-30.88
90.0	27.67	-0.40	-0.41
91.0	23.81	-3.65	25.87
92.0	20.22	-6.21	48.27
93.0	16.86	-8.21	67.07
94.0	13.68	-9.72	82.51
95.0	10.67	-10.84	94.77
96.0	7.79	-11.60	104.01
97.0	5.03	-12.09	110.37
98.0	2.37	-12.32	113.97
99.0	-0.20	-12.28	114.90
100.0	-2.66	-12.02	113.28
101.0	-5.02	-11.47	109.19
102.0	-7.26	-10.62	102.75
103.0	-9.36	-9.45	94.07
104.0	-11.30	-7.85	83.29
105.0	-13.05	-5.75	70.58
106.0	-14.56	-3.08	56.13
107.0	-15.80	0.29	40.20
108.0	-16.72	4.46	23.04
109.0	-17.37	9.30	5.06
110.0	-18.04	14.08	-13.41
111.0	-19.16	17.75	-32.48
111.5	-18.87	20.91	-39.41
112.0	-19.63	22.99	-51.13
113.0	-22.06	23.45	-71.73
114.0	-24.88	22.89	-94.76
115.0	-36.00	20.57	-124.33
116.0	60.80	17.51	-165.01

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
117.0	48.67	12.58	-109.13
118.0	36.39	7.27	-65.46
119.0	31.87	2.37	-30.40
120.0	27.68	-1.70	0.09
121.0	23.81	-4.98	26.36
122.0	20.21	-7.56	48.75
123.0	16.85	-9.56	67.54
124.0	13.68	-11.08	82.95
125.0	10.68	-12.18	95.19
126.0	7.81	-12.93	104.43
127.0	5.07	-13.37	110.79
128.0	2.43	-13.54	114.42
129.0	-0.10	-13.46	115.41
130.0	-2.52	-13.09	113.87
131.0	-4.83	-12.45	109.92
132.0	-7.02	-11.50	103.65
133.0	-9.06	-10.19	95.20
134.0	-10.94	-8.47	84.72
135.0	-12.63	-6.26	72.37
136.0	-14.09	-3.49	58.35
137.0	-15.29	-0.08	42.88
138.0	-16.22	4.03	26.26
139.0	-16.98	8.54	8.81
140.0	-17.83	12.84	-9.33
141.0	-19.32	16.32	-30.66
142.0	-19.88	18.92	-42.80
143.0	-21.99	20.09	-63.69
144.0	-24.52	20.23	-86.66
145.0	-35.35	18.56	-115.88
146.0	58.40	15.65	-155.98
147.0	46.50	11.23	-102.49
148.0	34.41	6.35	-60.98
149.0	30.03	1.74	-27.88
150.0	25.93	-2.19	0.79
151.0	22.09	-5.46	25.34
152.0	18.49	-8.16	46.03
153.0	15.08	-10.36	63.10
154.0	11.85	-12.14	76.76
155.0	8.78	-13.51	87.17
156.0	5.86	-14.54	94.50
157.0	3.09	-15.18	98.91
158.0	0.51	-15.38	100.54

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
159.0	-1.86	-15.04	99.57
160.0	-3.95	-14.05	96.23
161.0	-5.68	-12.16	90.78
162.0	-6.94	-9.09	83.59
163.0	-7.57	-4.50	75.14
164.0	-7.39	2.12	66.06
165.0	-6.15	11.36	57.16
166.0	-4.09	24.27	47.25
166.5	-5.09	24.29	45.46
167.5	-7.66	24.28	39.09
168.5	-10.24	24.28	30.14
169.5	-12.82	24.283	18.603
170.5	-22.99	24.283	0.7

PESO PROPIO LOSA

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
0.0	61.98	12.65	-0.37
1.0	50.02	-3.66	59.83
2.0	39.92	-15.42	108.06
3.0	31.26	-23.64	146.20
4.0	23.72	-29.14	175.68
5.0	17.02	-32.57	197.63
6.0	10.98	-34.43	212.91
7.0	5.44	-35.09	222.17
8.0	0.28	-34.81	225.90
9.0	-4.56	-33.78	224.49
10.0	-9.11	-32.09	218.26
11.0	-13.41	-29.79	207.49
12.0	-17.44	-26.83	192.44
13.0	-21.17	-23.16	173.37
14.0	-24.56	-18.65	150.60
15.0	-27.55	-13.17	124.46
16.0	-30.07	-6.52	95.36
17.0	-32.05	1.47	63.79
18.0	-33.51	10.76	30.37
19.0	-34.85	20.31	-4.25
20.0	-36.74	28.51	-40.06
21.0	-38.85	34.02	-70.33
21.5	-41.21	36.63	-94.12
22.5	-45.85	38.00	-136.10
23.5	-51.24	37.46	-182.68
24.5	-57.95	33.56	-234.52
25.5	88.36	28.23	-293.08
26.5	79.67	19.26	-205.74
27.5	70.67	9.42	-127.23
28.5	61.93	0.25	-57.98
29.5	53.81	-7.40	2.42
30.5	46.29	-13.58	54.67
31.5	39.27	-18.47	99.36
32.5	32.69	-22.28	137.02
33.5	26.48	-25.18	168.08
34.5	20.58	-27.32	192.92
35.5	14.94	-28.77	211.86
36.5	9.52	-29.67	225.15

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
37.5	4.31	-30.07	233.03
38.5	-0.72	-30.02	235.68
39.5	-5.55	-29.45	233.32
40.5	-10.19	-28.39	226.13
41.5	-14.60	-26.77	214.30
42.5	-18.75	-24.51	198.06
43.5	-22.59	-21.43	177.69
44.5	-26.07	-17.45	153.49
45.5	-29.10	-12.35	125.85
46.5	-31.62	-5.96	95.19
47.5	-33.53	1.97	62.06
48.5	-34.86	11.38	27.15
49.5	-36.02	21.20	-8.81
50.5	-37.65	29.85	-45.78
51.0	-39.66	36.07	-78.96
52.0	-41.76	39.13	-103.13
53.0	-46.12	41.07	-145.63
54.0	-51.20	41.19	-192.44
55.0	-57.65	37.77	-244.17
56.0	88.33	32.94	-302.30
57.0	79.71	23.97	-214.92
58.0	70.69	13.99	-136.30
59.0	61.90	4.57	-66.97
60.0	53.73	-3.29	-6.55
61.0	46.19	-9.58	45.67
62.0	39.18	-14.56	90.32
63.0	32.62	-18.40	127.94
64.0	26.43	-21.29	158.99
65.0	20.56	-23.39	183.84
66.0	14.95	-24.85	202.82
67.0	9.56	-25.73	216.18
68.0	4.38	-26.09	224.16
69.0	-0.62	-25.96	226.95
70.0	-5.43	-25.39	224.74
71.0	-10.04	-24.28	217.73
72.0	-14.42	-22.61	206.12
73.0	-18.54	-20.25	190.13
74.0	-22.36	-17.15	170.02

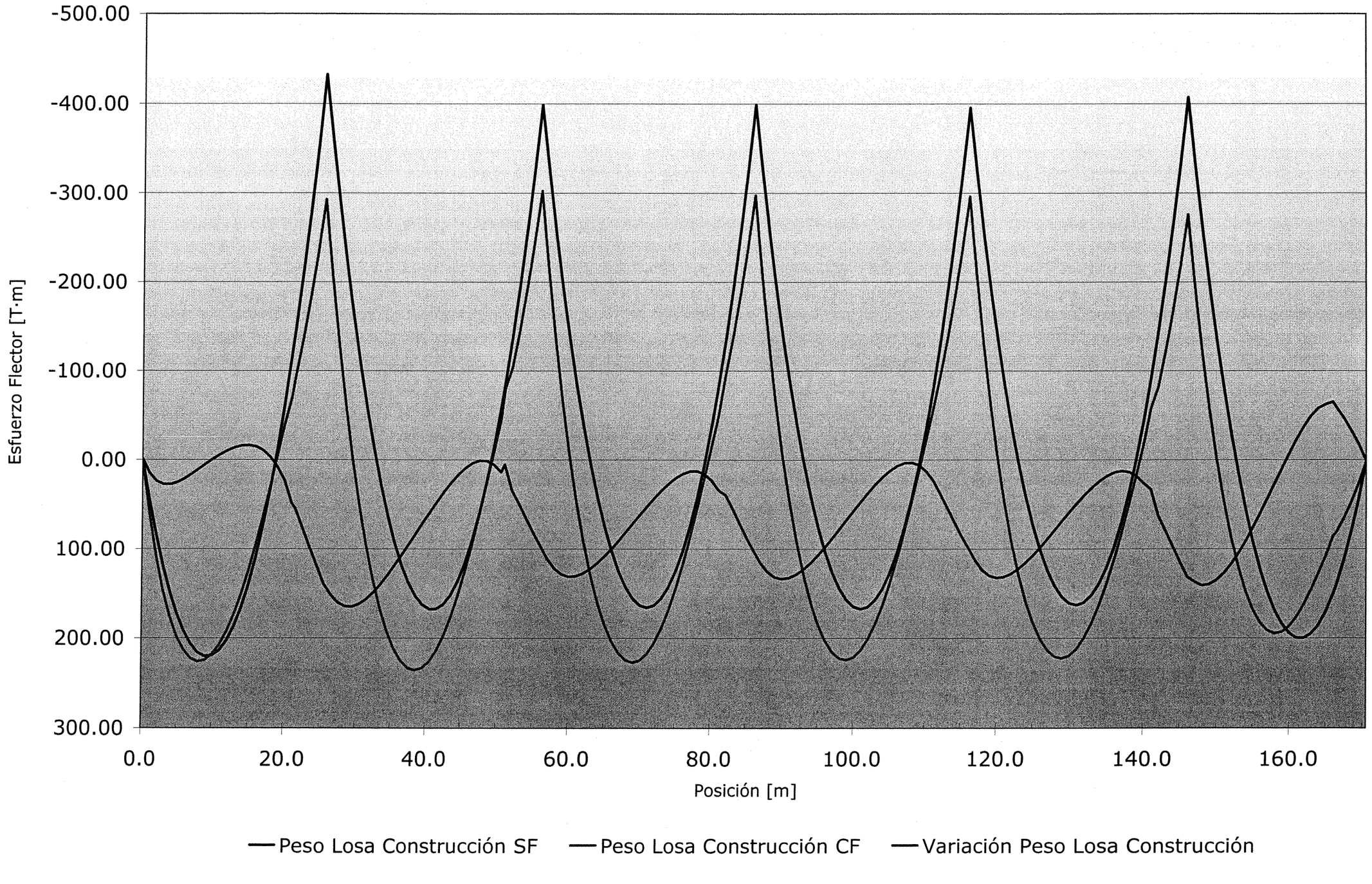
Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
75.0	-25.80	-13.09	146.12
76.0	-28.81	-7.92	118.80
77.0	-31.31	-1.44	88.50
78.0	-33.20	6.54	55.76
79.0	-34.54	15.92	21.27
80.0	-35.82	25.46	-14.28
81.0	-37.75	33.40	-50.95
81.5	-39.24	38.08	-74.22
82.0	-41.51	40.73	-98.10
83.0	-46.05	42.23	-140.29
84.0	-51.33	41.86	-186.99
85.0	-57.96	38.06	-238.84
86.0	87.85	32.86	-297.26
87.0	79.15	23.77	-210.33
88.0	70.09	13.71	-132.26
89.0	61.29	4.28	-63.50
90.0	53.12	-3.57	-3.66
91.0	45.57	-9.87	47.98
92.0	38.55	-14.83	92.04
93.0	31.98	-18.68	129.05
94.0	25.79	-21.58	159.49
95.0	19.91	-23.68	183.72
96.0	14.29	-25.09	202.08
97.0	8.90	-25.97	214.80
98.0	3.72	-26.31	222.15
99.0	-1.27	-26.13	224.31
100.0	-6.07	-25.50	221.48
101.0	-10.66	-24.33	213.86
102.0	-15.02	-22.55	201.65
103.0	-19.11	-20.13	185.09
104.0	-22.89	-16.88	164.44
105.0	-26.29	-12.66	140.04
106.0	-29.24	-7.33	112.26
107.0	-31.67	-0.65	81.57
108.0	-33.49	7.56	48.49
109.0	-34.79	17.09	13.76
110.0	-36.14	26.50	-21.95
111.0	-38.32	33.86	-58.86
111.5	-39.18	37.26	-72.56
112.0	-41.52	39.78	-96.38
113.0	-46.17	41.03	-138.55
114.0	-51.58	40.36	-185.36

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
115.0	-58.31	36.34	-237.42
116.0	87.68	30.76	-296.22
117.0	78.92	21.54	-209.47
118.0	69.83	11.44	-131.60
119.0	61.02	2.01	-63.08
120.0	52.83	-5.84	-3.50
121.0	45.28	-12.13	47.86
122.0	38.26	-17.06	91.63
123.0	31.69	-20.86	128.37
124.0	25.51	-23.70	158.53
125.0	19.66	-25.72	182.50
126.0	14.08	-27.04	200.61
127.0	8.74	-27.76	213.14
128.0	3.62	-27.92	220.32
129.0	-1.30	-27.58	222.39
130.0	-6.00	-26.66	219.55
131.0	-10.48	-25.20	212.01
132.0	-14.72	-23.11	200.00
133.0	-18.67	-20.31	183.77
134.0	-22.29	-16.67	163.60
135.0	-25.53	-12.07	139.83
136.0	-28.34	-6.36	112.85
137.0	-30.65	0.60	83.11
138.0	-32.43	8.90	51.14
139.0	-33.95	17.87	17.61
140.0	-35.69	26.30	-17.31
141.0	-38.47	33.58	-58.35
142.0	-40.57	36.77	-81.98
143.0	-44.82	39.06	-123.26
144.0	-49.83	39.46	-168.73
145.0	-56.18	36.47	-219.09
146.0	82.93	31.12	-275.87
147.0	74.53	22.94	-193.85
148.0	65.75	13.78	-120.37
149.0	57.19	5.20	-55.90
150.0	49.17	-2.00	-0.12
151.0	41.70	-7.81	47.62
152.0	34.70	-12.42	87.86
153.0	28.10	-15.97	121.06
154.0	21.86	-18.60	147.65
155.0	15.94	-20.38	167.98
156.0	10.32	-21.41	182.37

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
157.0	4.99	-21.61	191.13
158.0	-0.01	-20.95	194.55
159.0	-4.62	-19.25	192.96
160.0	-8.76	-16.36	186.74
161.0	-12.30	-11.87	176.37
162.0	-15.06	-5.37	162.45
163.0	-16.83	3.68	145.75
164.0	-17.31	16.04	127.30
165.0	-16.15	32.61	108.38
166.0	-13.20	56.68	85.89
166.5	-14.26	58.54	80.59
167.5	-16.99	63.26	65.11
168.5	-19.73	67.99	46.89
169.5	-22.462	72.715	25.923
170.5	-25.197	77.442	2.231

Se adjunta a continuación un gráfico en el que se puede ver la diferencia en los esfuerzos flectores con la losa fisurada y sin fisurar. Esta diferencia de esfuerzos conllevará una redistribución de esfuerzos a nivel seccional que deberá tenerse en cuenta en los cálculos.

Variación Flexión Peso Propio Losa



CARGAS PERMANENTES

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
0.0	109.71	-21.31	-1.43
1.0	89.32	-44.89	104.21
2.0	72.28	-60.04	189.51
3.0	57.87	-68.53	257.86
4.0	45.50	-71.80	311.89
5.0	34.72	-71.07	353.69
6.0	25.11	-67.28	384.81
7.0	16.40	-61.22	406.47
8.0	8.33	-53.48	419.54
9.0	0.72	-44.53	424.68
10.0	-6.58	-34.74	422.32
11.0	-13.66	-24.39	412.81
12.0	-20.64	-13.70	396.32
13.0	-27.56	-2.87	372.99
14.0	-34.51	7.95	342.86
15.0	-41.53	18.59	305.90
16.0	-48.71	28.88	262.03
17.0	-56.11	38.62	211.11
18.0	-63.77	47.71	152.90
19.0	-71.97	55.48	87.23
20.0	-81.54	59.90	13.51
21.0	-91.60	58.74	-53.63
21.5	-102.04	51.91	-109.93
22.5	-116.68	43.83	-213.60
23.5	-132.60	32.57	-332.10
24.5	-150.18	17.15	-466.44
25.5	173.32	1.90	-618.72
26.5	153.88	-18.17	-448.03
27.5	134.74	-37.58	-297.04
28.5	116.68	-54.30	-165.71
29.5	100.52	-66.23	-52.69
30.5	86.26	-73.44	44.18
31.5	73.57	-76.68	126.84
32.5	62.17	-76.67	196.86
33.5	51.83	-74.03	255.57
34.5	42.32	-69.31	304.01
35.5	33.48	-62.86	343.06
36.5	25.14	-55.15	373.36

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
37.5	17.20	-46.46	395.43
38.5	9.55	-37.06	409.66
39.5	2.12	-27.05	416.37
40.5	-5.17	-16.69	415.75
41.5	-12.36	-6.11	407.96
42.5	-19.50	4.55	393.09
43.5	-26.65	15.27	371.19
44.5	-33.85	25.82	342.26
45.5	-41.15	36.10	306.24
46.5	-48.63	45.90	263.04
47.5	-56.37	55.09	212.45
48.5	-64.38	63.57	154.22
49.5	-72.87	70.82	88.17
50.5	-82.81	74.56	13.76
51.0	-93.67	72.91	-58.97
52.0	-104.67	64.85	-116.08
53.0	-119.95	55.41	-222.18
54.0	-136.42	43.06	-343.77
55.0	-154.52	26.47	-481.74
56.0	175.75	10.59	-638.14
57.0	155.78	-10.76	-464.88
58.0	136.10	-31.32	-311.86
59.0	117.56	-49.11	-179.06
60.0	101.03	-61.86	-65.07
61.0	86.51	-69.59	32.42
62.0	73.65	-73.18	115.41
63.0	62.15	-73.35	185.62
64.0	51.74	-70.79	244.40
65.0	42.20	-66.02	292.87
66.0	33.34	-59.60	331.89
67.0	25.00	-51.84	362.16
68.0	17.05	-43.08	384.20
69.0	9.41	-33.54	398.41
70.0	1.97	-23.56	405.08
71.0	-5.32	-13.17	404.43
72.0	-12.52	-2.57	396.60
73.0	-19.69	8.15	381.68
74.0	-26.87	18.77	359.70

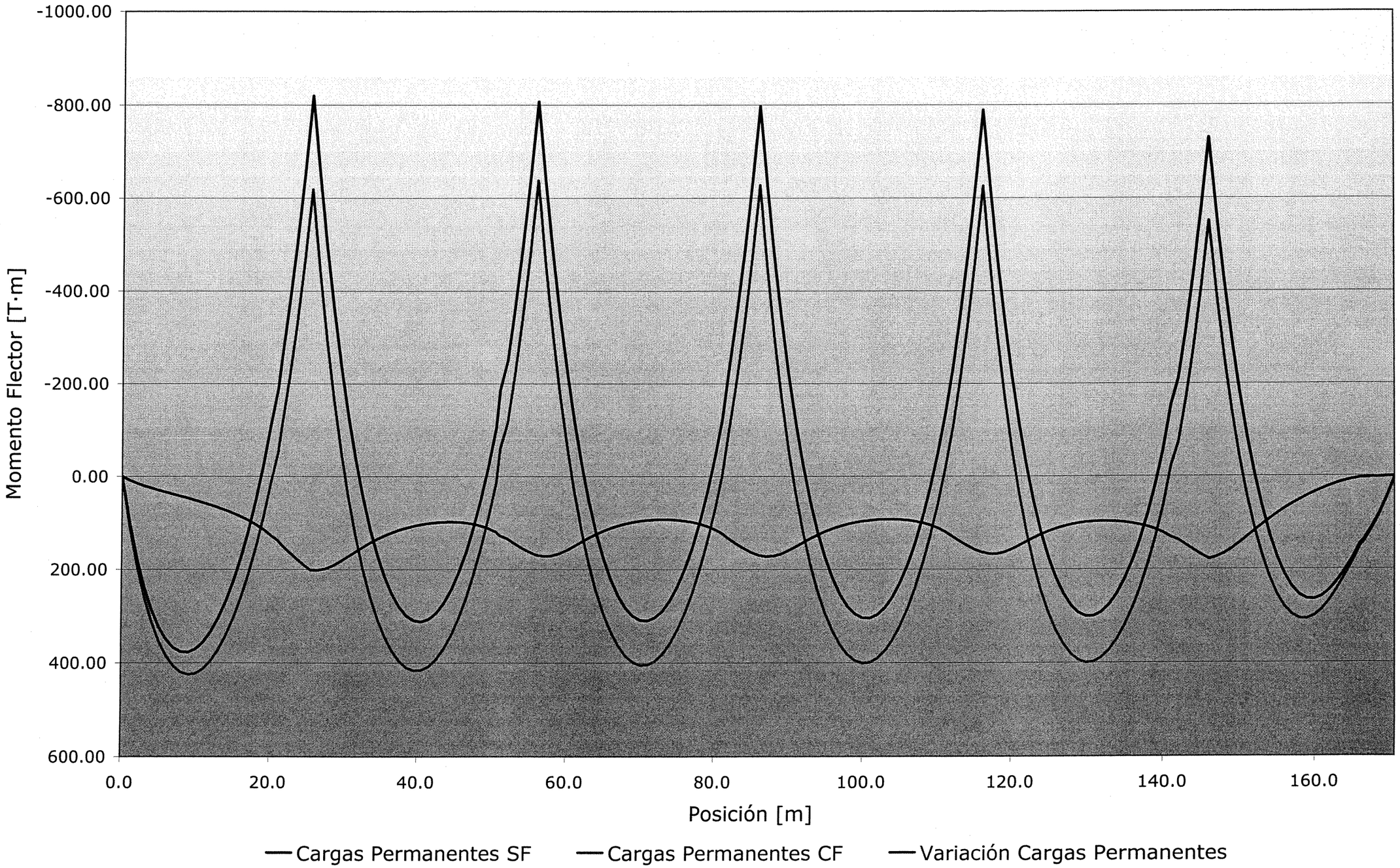
Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
75.0	-34.11	29.26	330.66
76.0	-41.47	39.44	294.49
77.0	-49.00	49.19	251.07
78.0	-56.81	58.22	200.23
79.0	-64.91	66.50	141.68
80.0	-73.57	73.36	75.23
81.0	-83.80	76.40	0.23
81.5	-93.24	72.33	-51.36
82.0	-104.16	64.48	-108.19
83.0	-119.40	55.17	-213.68
84.0	-135.87	42.77	-334.64
85.0	-153.98	26.24	-472.01
86.0	174.31	10.24	-627.81
87.0	154.41	-10.84	-455.91
88.0	134.82	-31.20	-304.20
89.0	116.38	-48.75	-172.59
90.0	99.93	-61.28	-59.69
91.0	85.46	-68.90	36.78
92.0	72.63	-72.40	118.82
93.0	61.14	-72.56	188.08
94.0	50.73	-70.00	245.93
95.0	41.18	-65.28	293.47
96.0	32.30	-58.84	331.56
97.0	23.94	-51.16	360.87
98.0	15.98	-42.46	381.93
99.0	8.31	-32.99	395.14
100.0	0.84	-23.08	400.79
101.0	-6.48	-12.78	399.09
102.0	-13.71	-2.24	390.18
103.0	-20.92	8.31	374.14
104.0	-28.13	18.85	351.01
105.0	-35.41	29.25	320.78
106.0	-42.81	39.30	283.38
107.0	-50.39	48.90	238.69
108.0	-58.22	57.87	186.53
109.0	-66.38	65.99	126.65
110.0	-75.18	72.47	58.83
111.0	-85.69	74.79	-17.68
111.5	-93.65	68.39	-48.40
112.0	-104.43	60.83	-105.46
113.0	-119.61	51.61	-211.18
114.0	-136.07	39.13	-332.31

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
115.0	-154.18	22.57	-469.83
116.0	173.86	6.08	-625.81
117.0	153.98	-15.05	-454.33
118.0	134.44	-35.37	-302.98
119.0	116.03	-52.87	-171.72
120.0	99.61	-65.43	-59.11
121.0	85.15	-73.08	37.06
122.0	72.33	-76.64	118.83
123.0	60.85	-76.85	187.84
124.0	50.46	-74.35	245.45
125.0	40.94	-69.69	292.76
126.0	32.10	-63.33	330.64
127.0	23.78	-55.66	359.79
128.0	15.88	-46.98	380.74
129.0	8.28	-37.60	393.89
130.0	0.91	-27.59	399.56
131.0	-6.31	-17.25	397.97
132.0	-13.43	-6.70	389.28
133.0	-20.50	3.94	373.58
134.0	-27.59	14.52	350.93
135.0	-34.74	24.89	321.31
136.0	-42.04	34.87	284.65
137.0	-49.57	44.24	240.81
138.0	-57.27	53.09	189.50
139.0	-65.22	61.32	130.64
140.0	-74.27	66.85	63.96
141.0	-85.64	69.51	-21.06
142.0	-95.63	63.61	-73.61
143.0	-109.69	56.78	-170.52
144.0	-124.85	47.13	-281.63
145.0	-141.60	33.38	-407.82
146.0	157.49	17.87	-551.06
147.0	138.92	-0.63	-395.68
148.0	120.56	-18.74	-259.11
149.0	103.19	-34.40	-141.36
150.0	87.52	-45.93	-41.18
151.0	73.50	-53.40	43.33
152.0	60.86	-57.53	113.85
153.0	49.36	-58.92	171.78
154.0	38.78	-58.11	218.27
155.0	28.96	-55.49	254.26
156.0	19.77	-51.47	280.48

Posición [m]	Cortante [T]	Torsor [T·m]	Flector [T·m]
157.0	11.15	-46.16	297.60
158.0	3.06	-39.64	306.17
159.0	-4.44	-31.82	306.72
160.0	-11.27	-22.53	299.81
161.0	-17.23	-11.24	286.15
162.0	-22.05	2.71	266.58
163.0	-25.35	20.19	242.23
164.0	-26.62	42.53	214.64
165.0	-25.18	71.39	185.84
166.0	-22.15	110.15	150.87
166.5	-24.18	114.41	141.96
167.5	-29.42	125.24	115.48
168.5	-34.67	136.09	83.75
169.5	-39.91	146.941	46.761
170.5	-45.152	157.787	4.547

Se adjunta a continuación un gráfico en el que se puede ver la diferencia en los esfuerzos flectores con la losa fisurada y sin fisurar. Esta diferencia de esfuerzos conllevará una redistribución de esfuerzos a nivel seccional que deberá tenerse en cuenta en los cálculos.

Variación Flexión Cargas Permanentes



Envolvente de Esfuerzos - Trenes sobre Vía Derecha

Barra/Nudo/Caso			FZ (T)	MX (Tm)	MY (Tm)
501/	1/	121 (C)	145.710>>	-76.085	-2.736
501/	1/	123 (C)	-13.003<<	27.353	0.558
501/	1/	165 (C)	-12.486	27.396>>	0.545
501/	1/	121 (C)	145.710	-76.085<<	-2.736
501/	343/	121 (C)	145.710	-76.085	142.975>>
501/	343/	123 (C)	-13.003	27.353	-12.445<<
502/	343/	121 (C)	117.396>>	-110.806	140.289
502/	343/	123 (C)	-10.273<<	34.043	-11.902
502/	343/	123 (C)	-10.273	34.043>>	-11.902
502/	343/	121 (C)	117.396	-110.806<<	140.289
502/	341/	121 (C)	117.396	-110.806	257.685>>
502/	341/	123 (C)	-10.273	34.043	-22.175<<
503/	341/	121 (C)	94.544>>	-131.802	255.133
503/	341/	123 (C)	-8.446<<	38.499	-21.652
503/	341/	123 (C)	-8.446	38.499>>	-21.652
503/	341/	121 (C)	94.544	-131.802<<	255.133
503/	339/	121 (C)	94.544	-131.802	349.677>>
503/	339/	123 (C)	-8.446	38.499	-30.098<<
504/	339/	121 (C)	75.934>>	-142.113	347.303
504/	339/	123 (C)	-7.293<<	41.293	-29.598
504/	339/	123 (C)	-7.293	41.293>>	-29.598
504/	339/	121 (C)	75.934	-142.113<<	347.303
504/	337/	121 (C)	75.934	-142.113	423.236>>
504/	337/	123 (C)	-7.293	41.293	-36.890<<
505/	337/	121 (C)	60.573>>	-144.224	421.065
505/	337/	123 (C)	-6.634<<	42.868	-36.412
505/	337/	123 (C)	-6.634	42.868>>	-36.412
505/	337/	121 (C)	60.573	-144.224<<	421.065
505/	335/	121 (C)	60.573	-144.224	481.638>>
505/	335/	123 (C)	-6.634	42.868	-43.046<<
506/	335/	121 (C)	47.662>>	-140.130	479.686
506/	335/	123 (C)	-6.337<<	43.559	-42.589
506/	335/	123 (C)	-6.337	43.559>>	-42.589
506/	335/	121 (C)	47.662	-140.130<<	479.686
506/	333/	121 (C)	47.662	-140.130	527.348>>
506/	333/	123 (C)	-6.337	43.559	-48.925<<
507/	333/	121 (C)	36.569>>	-131.423	525.621
507/	333/	123 (C)	-6.301<<	43.613	-48.488
507/	333/	123 (C)	-6.301	43.613>>	-48.488
507/	333/	121 (C)	36.569	-131.423<<	525.621
507/	331/	121 (C)	36.569	-131.423	562.190>>
507/	331/	123 (C)	-6.301	43.613	-54.789<<
508/	331/	104 (C)	31.810>>	-104.091	416.674
508/	331/	123 (C)	-6.455<<	43.209	-54.370
508/	331/	123 (C)	-6.455	43.209>>	-54.370
508/	331/	121 (C)	26.797	-119.355<<	560.690
508/	329/	121 (C)	26.797	-119.355	587.487>>
508/	329/	123 (C)	-6.455	43.209	-60.825<<
509/	329/	104 (C)	28.571>>	-91.835	447.366
509/	329/	123 (C)	-6.751<<	42.470	-60.422
509/	329/	123 (C)	-6.751	42.470>>	-60.422
509/	329/	121 (C)	17.956	-104.904<<	586.213
509/	327/	121 (C)	17.956	-104.904	604.169>>
509/	327/	123 (C)	-6.751	42.470	-67.173<<
510/	327/	151 (C)	30.834>>	-33.926	222.860
510/	327/	123 (C)	-7.155<<	41.477	-66.785
510/	327/	123 (C)	-7.155	41.477>>	-66.785
510/	327/	121 (C)	9.743	-88.844<<	603.119
510/	325/	121 (C)	9.743	-88.844	612.862>>
510/	325/	123 (C)	-7.155	41.477	-73.940<<
511/	325/	151 (C)	34.220>>	-24.981	253.258
511/	325/	123 (C)	-7.648<<	40.279	-73.567
511/	325/	123 (C)	-7.648	40.279>>	-73.567
511/	325/	121 (C)	1.915	-71.789<<	612.033
511/	323/	121 (C)	1.915	-71.789	613.948>>
511/	323/	123 (C)	-7.648	40.279	-81.216<<
512/	323/	151 (C)	38.053>>	-14.877	287.147
512/	323/	162 (C)	-11.323<<	-3.195	360.808
512/	323/	123 (C)	-8.220	38.905>>	-80.857
512/	323/	121 (C)	-5.730	-54.252<<	613.337
512/	323/	121 (C)	-5.730	-54.252	613.337>>
512/	321/	123 (C)	-8.220	38.905	-89.078<<
513/	321/	122 (C)	27.990>>	2.921	206.607
513/	321/	161 (C)	-17.738<<	-3.475	449.295
513/	321/	123 (C)	-8.865	37.367>>	-88.735
513/	321/	121 (C)	-13.368	-36.684<<	607.212
513/	321/	121 (C)	-13.368	-36.684	607.212>>
513/	319/	123 (C)	-8.865	37.367	-97.600<<
514/	319/	122 (C)	15.839>>	8.772	234.475
514/	319/	161 (C)	-24.861<<	9.820	431.642
514/	319/	123 (C)	-9.579	35.676>>	-97.274
514/	319/	121 (C)	-21.171	-19.524<<	593.664
514/	319/	121 (C)	-21.171	-19.524	593.664>>
514/	317/	123 (C)	-9.579	35.676	-106.853<<
515/	317/	122 (C)	3.917>>	15.266	250.306
515/	317/	151 (C)	-49.325<<	-7.841	313.909
515/	317/	123 (C)	-10.357	33.846>>	-106.546
515/	317/	151 (C)	-49.325	-7.841<<	313.909
515/	317/	121 (C)	-29.321	-3.239	572.526>>
515/	315/	123 (C)	-10.357	33.846	-116.904<<
516/	315/	113 (C)	1.040>>	-1.820	8.554
516/	315/	151 (C)	-45.895<<	1.235	264.791
516/	315/	162 (C)	-36.787	36.976>>	279.794
516/	315/	113 (C)	1.040	-1.820<<	8.554
516/	315/	121 (C)	-38.029	11.636	543.450>>
516/	313/	123 (C)	-11.189	31.905	-127.809<<
517/	313/	113 (C)	1.205>>	-1.371	9.568
517/	313/	101 (C)	-52.120<<	36.092	371.977
517/	313/	162 (C)	-44.299	44.184>>	243.557
517/	313/	113 (C)	1.205	-1.371<<	9.568
517/	313/	121 (C)	-47.553	24.450	505.877>>
517/	311/	123 (C)	-12.051	29.910	-139.605<<
518/	311/	113 (C)	1.422>>	-0.791	10.741
518/	311/	101 (C)	-64.589<<	43.939	320.410
518/	311/	161 (C)	-58.348	50.583>>	286.949
518/	311/	113 (C)	1.422	-0.791<<	10.741
518/	311/	121 (C)	-57.600	35.928	458.673>>
518/	309/	123 (C)	-13.190	27.243	-152.421<<
519/	309/	113 (C)	1.731>>	0.025	12.125
519/	309/	101 (C)	-77.569<<	50.482	256.420
519/	309/	161 (C)	-68.162	57.165>>	229.226
519/	309/	153 (C)	0.770	-0.097<<	5.500
519/	309/	121 (C)	-67.496	47.763	401.394>>
519/	307/	123 (C)	-15.146	22.551	-167.077<<
520/	307/	113 (C)	2.176>>	1.184	13.816
520/	307/	101 (C)	-83.083<<	56.991	179.549
520/	307/	161 (C)	-78.543	62.322>>	161.813
520/	307/	153 (C)	0.967	0.409<<	6.252
520/	307/	121 (C)	-76.856	60.919	334.275>>
520/	305/	123 (C)	-18.506	14.359	-184.990<<
521/	305/	113 (C)	2.786>>	2.760	15.959
521/	305/	161 (C)	-90.229<<	64.284	84.138
521/	305/	121 (C)	-86.167	74.255>>	257.979
521/	305/	105 (C)	-20.364	-4.669<<	-148.240
521/	305/	121 (C)	-86.167	74.255	257.979>>
521/	628/	123 (C)	-23.726	1.535	-203.763<<
522/	628/	113 (C)	3.544>>	4.711	18.201
522/	628/	161 (C)	-103.262<<	62.937	11.623
522/	628/	121 (C)	-95.640	87.246>>	188.512
522/	628/	105 (C)	-26.209	-19.289<<	-164.440
522/	628/	121 (C)	-95.640	87.246	188.512>>
522/	303/	123 (C)	-30.620	-15.466	-222.132<<
523/	303/	113 (C)	4.406>>	6.927	20.375
523/	303/	161 (C)	-117.520<<	58.559	-51.025
523/	303/	121 (C)	-105.544	99.199>>	130.467
523/	303/	165 (C)	-39.067	-37.490<<	-218.485
523/	303/	121 (C)	-105.544	99.199	130.467>>
523/	301/	123 (C)	-38.706	-35.454	-260.502<<
524/	301/	113 (C)	5.347>>	9.352	24.820
524/	301/	161 (C)	-133.646<<	49.580	-167.657
524/	301/	121 (C)	-116.865	107.702>>	26.136
524/	301/	165 (C)	-48.018	-59.653<<	-257.761
524/	301/	111 (C)	-92.071	81.314	42.243>>
524/	299/	162 (C)	-125.161	24.482	-339.438<<
525/	299/	113 (C)	6.310>>	11.833	30.252
525/	299/	161 (C)	-150.744<<	38.167	-300.648
525/	299/	121 (C)	-129.255	113.475>>	-89.345
525/	299/	165 (C)	-57.066	-81.995<<	-306.498
525/	297/	113 (C)	6.310	11.833	36.562>>
525/	297/	162 (C)	-142.018	8.537	-481.115<<
526/	297/	113 (C)	7.200>>	14.118	36.651
526/	297/	161 (C)	-169.004<<	23.795	-450.706
526/	297/	121 (C)	-143.827	113.567>>	-217.038
526/	297/	165 (C)	-65.199	-101.870<<	-364.432
526/	3/	113 (C)	7.200	14.118	43.850>>
526/	3/	162 (C)	-159.577	-9.155	-640.371<<
527/	3/	162 (C)	179.022>>	-25.432	-640.380
527/	3/	113 (C)	-9.403<<	16.039	44.047
527/	3/	121 (C)	45.020	109.223>>	-358.517
527/	3/	165 (C)	156.593	-119.668<<	-431.484
527/	3/	113 (C)	-9.403	16.039	44.047>>
527/	3/	162 (C)	179.022	-25.432	-640.380<<
528/	295/	162 (C)	158.315>>	-45.914	-461.749
528/	295/	113 (C)	-8.585<<	18.106	34.784
528/	295/	121 (C)	41.155	100.384>>	-312.053
528/	295/	165 (C)	137.839	-135.820<<	-276.439
528/	295/	113 (C)	-8.585	18.106	34.784>>
528/	295/	162 (C)	158.315	-45.914	-461.749<<
529/	293/	162 (C)	138.240>>	-64.839	-304.093

529/	293/	113 (C)	-7.845<<	19.968	26.354
529/	293/	104 (C)	21.156	88.212>>	-189.480
529/	293/	165 (C)	121.248	-146.381<<	-140.311
529/	293/	113 (C)	-7.845	19.968	26.354>>
529/	293/	161 (C)	123.004	-28.354	-318.771<<
530/	291/	162 (C)	119.382>>	-80.693	-167.044
530/	291/	113 (C)	-7.120<<	21.797	18.717
530/	291/	104 (C)	16.490	76.713>>	-167.542
530/	291/	165 (C)	106.336	-152.697<<	-21.012
530/	289/	123 (C)	115.313	-142.967	114.896>>
530/	291/	121 (C)	28.622	70.106	-233.631<<
531/	289/	162 (C)	102.601>>	-91.339	-49.090
531/	289/	113 (C)	-6.500<<	23.370	11.837
531/	289/	104 (C)	12.144	65.995>>	-150.563
531/	289/	165 (C)	93.271	-154.347<<	83.394
531/	287/	123 (C)	100.668	-143.083	213.686>>
531/	289/	121 (C)	22.492	55.230	-204.639<<
532/	287/	162 (C)	87.915>>	-96.728	52.111
532/	287/	113 (C)	-6.025<<	24.583	5.598
532/	287/	104 (C)	8.748	57.654>>	-138.170
532/	287/	165 (C)	81.508	-152.720<<	174.978
532/	285/	123 (C)	87.374	-139.784	299.480>>
532/	287/	121 (C)	17.686	43.647	-182.109<<
533/	285/	162 (C)	74.942>>	-97.788	138.705
533/	285/	113 (C)	-5.687<<	25.460	-0.171
533/	285/	104 (C)	6.430	51.979>>	-129.161
533/	285/	165 (C)	70.538	-149.030<<	254.870
533/	283/	123 (C)	74.843	-134.472	372.822>>
533/	285/	121 (C)	14.373	35.735	-164.367<<
534/	283/	162 (C)	63.391>>	-95.281	212.405
534/	283/	113 (C)	-5.458<<	26.068	-5.601
534/	283/	104 (C)	4.906	48.300>>	-122.438
534/	283/	165 (C)	60.312	-143.471<<	323.842
534/	281/	123 (C)	63.052	-127.294	434.435>>
534/	283/	121 (C)	12.171	30.597	-149.904<<
535/	281/	162 (C)	53.001>>	-89.848	274.661
535/	281/	113 (C)	-5.317<<	26.462	-10.802
535/	281/	104 (C)	3.953	46.049>>	-117.213
535/	281/	165 (C)	50.760	-136.193<<	382.674
535/	279/	123 (C)	51.941	-118.369	485.034>>
535/	281/	121 (C)	10.781	27.467	-137.609<<
536/	279/	102 (C)	47.186>>	-77.701	278.264
536/	279/	113 (C)	-5.248<<	26.684	-15.860
536/	279/	104 (C)	3.399	44.802>>	-112.912
536/	279/	165 (C)	41.802	-127.444<<	432.037
536/	277/	123 (C)	41.436	-107.939	525.240>>
536/	279/	121 (C)	9.972	25.779	-126.672<<
537/	277/	102 (C)	42.698>>	-68.454	324.592
537/	277/	113 (C)	-5.238<<	26.757	-20.857
537/	277/	104 (C)	3.110	44.193>>	-109.151
537/	277/	165 (C)	33.357	-117.295<<	472.587
537/	275/	123 (C)	31.452	-96.068	555.618>>
537/	277/	121 (C)	9.564	25.049	-116.519<<
538/	275/	102 (C)	38.862>>	-57.586	366.550
538/	275/	122 (C)	-11.170<<	-44.195	264.797
538/	275/	166 (C)	1.700	44.708>>	-67.874
538/	275/	165 (C)	25.348	-106.083<<	504.804
538/	273/	123 (C)	21.904	-83.129	576.581>>
538/	275/	121 (C)	9.422	24.978	-106.746<<
539/	273/	152 (C)	40.145>>	-33.725	248.605
539/	273/	112 (C)	-9.454<<	-72.271	376.673
539/	273/	166 (C)	0.956	45.711>>	-65.762
539/	273/	165 (C)	17.701	-93.946<<	529.142
539/	271/	123 (C)	12.708	-69.289	588.501>>
539/	273/	104 (C)	2.945	44.016	-102.267<<
540/	271/	152 (C)	43.563>>	-24.680	288.311
540/	271/	112 (C)	-5.585<<	-61.833	366.618
540/	271/	166 (C)	0.234	46.772>>	-64.367
540/	271/	165 (C)	10.348	-81.116<<	545.963
540/	269/	123 (C)	3.777	-54.825	591.644>>
540/	271/	104 (C)	2.931	44.100	-98.901<<
541/	269/	124 (C)	26.069>>	-21.400	177.706
541/	269/	113 (C)	-5.714<<	25.839	-41.280
541/	269/	166 (C)	-0.516	47.751>>	-63.685
541/	269/	165 (C)	3.223	-67.594<<	555.589
541/	269/	123 (C)	-4.972	-39.778	591.186>>
541/	269/	104 (C)	2.894	44.102	-95.547<<
542/	267/	124 (C)	28.846>>	-13.607	203.405
542/	267/	152 (C)	-15.090<<	-20.916	345.480
542/	267/	166 (C)	-1.333	48.564>>	-63.730
542/	267/	165 (C)	-3.739	-53.719<<	558.231
542/	267/	123 (C)	-13.629	-24.558	585.920>>
542/	267/	104 (C)	2.795	43.954	-92.218<<
543/	265/	124 (C)	32.105>>	-4.535	231.952
543/	265/	152 (C)	-44.432<<	-19.102	330.311
543/	265/	166 (C)	-2.257	49.112>>	-64.579
543/	265/	165 (C)	-10.607	-39.609<<	554.063
543/	265/	123 (C)	-22.290	-9.349	572.170>>
543/	263/	106 (C)	-1.455	41.125	-89.200<<
544/	263/	124 (C)	20.094>>	1.703	263.845
544/	263/	152 (C)	-40.873<<	-9.711	285.919
544/	263/	166 (C)	-3.321	49.312>>	-66.336
544/	263/	165 (C)	-17.458	-25.517<<	543.182
544/	263/	123 (C)	-31.061	5.518	549.935>>
544/	261/	106 (C)	-1.871	40.165	-90.653<<
545/	261/	122 (C)	12.736>>	24.960	256.344
545/	261/	123 (C)	-40.069<<	19.881	519.105
545/	261/	166 (C)	-4.562	49.061>>	-69.162
545/	261/	165 (C)	-24.384	-11.519<<	525.616
545/	261/	165 (C)	-24.384	-11.519	525.616>>
545/	259/	106 (C)	-2.429	38.827	-92.678<<
546/	259/	121 (C)	9.621>>	26.992	-26.799
546/	259/	123 (C)	-49.466<<	33.194	479.444
546/	259/	166 (C)	-6.012	48.293>>	-73.221
546/	259/	112 (C)	-8.426	1.025<<	377.951
546/	259/	165 (C)	-31.500	1.933	501.285>>
546/	257/	106 (C)	-3.150	37.087	-95.430<<
547/	257/	121 (C)	9.229>>	26.116	-16.864
547/	257/	123 (C)	-59.436<<	45.042	430.567
547/	257/	163 (C)	-36.043	55.510>>	282.106
547/	257/	153 (C)	-3.642	8.430<<	-35.812
547/	257/	165 (C)	-38.952	14.522	470.010>>
547/	255/	106 (C)	-4.053	34.886	-99.100<<
548/	255/	121 (C)	8.636>>	24.719	-7.318
548/	255/	123 (C)	-70.206<<	54.804	371.893
548/	255/	163 (C)	-43.918	62.018>>	246.833
548/	255/	153 (C)	-3.911	7.774<<	-39.376
548/	255/	165 (C)	-46.930	25.718	431.453>>
548/	253/	106 (C)	-5.154	32.200	-103.888<<
549/	253/	121 (C)	7.803>>	22.705	1.617
549/	253/	123 (C)	-81.722<<	62.726	302.441
549/	253/	162 (C)	-59.551	69.004>>	289.129
549/	253/	153 (C)	-4.281	6.857<<	-43.172
549/	253/	165 (C)	-55.141	36.387	384.811>>
549/	251/	106 (C)	-6.668	28.453	-110.114<<
550/	251/	121 (C)	6.758>>	20.144	9.679
550/	251/	123 (C)	-93.888<<	68.941	221.580
550/	251/	162 (C)	-69.708	74.927>>	230.382
550/	251/	153 (C)	-4.923	5.262<<	-47.303
550/	251/	165 (C)	-62.999	47.878	329.955>>
550/	249/	166 (C)	-15.573	35.841	-122.107<<
551/	249/	121 (C)	5.635>>	17.377	16.618
551/	249/	123 (C)	-107.037<<	72.632	128.760
551/	249/	162 (C)	-80.354	79.581>>	161.592
551/	249/	153 (C)	-6.021	2.527<<	-52.044
551/	249/	165 (C)	-70.248	60.842	267.341>>
551/	247/	166 (C)	-20.378	26.699	-141.787<<
552/	247/	121 (C)	4.405>>	14.364	22.395
552/	247/	123 (C)	-122.307<<	71.075	22.928
552/	247/	162 (C)	-92.375	80.897>>	82.261
552/	247/	113 (C)	-18.086	-3.662<<	-130.496
552/	247/	165 (C)	-77.451	74.025	197.649>>
552/	358/	166 (C)	-27.025	12.952	-164.637<<
553/	358/	121 (C)	3.134>>	11.260	26.328
553/	358/	123 (C)	-139.877<<	63.798	-82.028
553/	358/	165 (C)	-84.844	86.778>>	131.055
553/	358/	113 (C)	-23.360	-16.692<<	-145.876
553/	358/	165 (C)	-84.844	86.778	131.055>>
553/	245/	166 (C)	-35.409	-5.118	-185.794<<
554/	245/	121 (C)	1.831>>	8.080	28.374
554/	245/	123 (C)	-159.291<<	51.925	-166.562
554/	245/	165 (C)	-92.637	98.568>>	79.851
554/	245/	106 (C)	-31.469	-33.439<<	-159.412
554/	245/	112 (C)	-84.148	78.905	82.518>>
554/	243/	123 (C)	-159.291	51.925	-325.855<<
555/	243/	111 (C)	0.533>>	2.726	21.888
555/	243/	123 (C)	-165.364<<	38.149	-324.931
555/	243/	165 (C)	-101.557	107.634>>	-11.704
555/	243/	106 (C)	-39.746	-54.156<<	-190.993
555/	241/	121 (C)	0.370	4.512	30.710>>
555/	241/	123 (C)	-165.364	38.149	-490.298<<
556/	241/	111 (C)	-0.544>>	0.067	22.463
556/	241/	123 (C)	-172.294<<	22.255	-489.780
556/	241/	165 (C)	-111.149	114.980>>	-111.992
556/	241/	106 (C)	-48.219	-75.311<<	-231.306
556/	241/	121 (C)	-1.189	0.694	30.777>>
556/	239/	123 (C)	-172.294	22.255	-662.076<<
557/	239/	151 (C)	-1.370>>	-0.160	9.500
557/	239/	123 (C)	-180.181<<	3.805	-661.455
557/	239/	165 (C)	-122.620	117.379>>	-221.666
557/	239/	166 (C)	-76.597	-96.270<<	-353.820
557/	239/	121 (C)	-2.664	-2.915	29.552>>
557/	5/	123 (C)	-180.181	3.805	-841.640<<
558/	5/	123 (C)	188.970>>	-12.762	-841.163
558/	5/	111 (C)	-0.279<<	-4.489	20.197
558/	5/	165 (C)	45.427	115.877>>	-341.848
558/	5/	166 (C)	158.427	-115.628<<	-432.282
558/	5/	121 (C)	-0.121	-5.865	26.717>>
558/	5/	123 (C)	188.970	-12.762	-841.163<<
559/	237/	123 (C)	178.523>>	-37.633	-652.289
559/	237/	121 (C)	-0.825<<	-7.548	26.444
559/	237/	165 (C)	41.364	109.000>>	-294.979
559/	237/	166 (C)	139.016	-133.351<<	-275.381
559/	237/	121 (C)	-0.825	-7.548	26.444>>
559/	237/	123 (C)	178.523	-37.633	-652.289<<
560/	235/	123 (C)	168.013>>	-62.523	-474.236
560/	235/	121 (C)	-1.132<<	-8.235	25.463
560/	235/	165 (C)	35.275	96.903>>	-252.283
560/	235/	166 (C)	121.897	-145.091<<	-138.118

560/	235/	121 (C)	-1.132	-8.235	25.463>>
560/	235/	123 (C)	168.013	-62.523	-474.236<<
561/	233/	123 (C)	158.570>>	-84.798	-307.526
561/	233/	121 (C)	-1.185<<	-8.292	24.214
561/	233/	165 (C)	28.601	83.266>>	-216.139
561/	233/	166 (C)	106.581	-152.310<<	-18.186
561/	231/	166 (C)	106.581	-152.310	88.393>>
561/	233/	123 (C)	158.570	-84.798	-307.526<<
562/	231/	123 (C)	136.052>>	-104.449	-150.714
562/	231/	121 (C)	-1.124<<	-8.069	22.947
562/	231/	165 (C)	22.371	70.698>>	-187.034
562/	231/	166 (C)	93.207	-154.636<<	86.460
562/	229/	166 (C)	93.207	-154.636	179.665>>
562/	231/	165 (C)	22.371	70.698	-187.034<<
563/	229/	123 (C)	116.609>>	-116.369	-16.524
563/	229/	121 (C)	-1.073<<	-7.872	21.776
563/	229/	105 (C)	8.998	61.689>>	-147.077
563/	229/	166 (C)	81.201	-153.490<<	177.998
563/	227/	166 (C)	81.201	-153.490	259.205>>
563/	229/	165 (C)	17.367	61.158	-164.462<<
564/	227/	123 (C)	99.859>>	-121.517	98.295
564/	227/	121 (C)	-1.077<<	-7.825	20.649
564/	227/	105 (C)	6.770	56.239>>	-137.774
564/	227/	166 (C)	70.035	-150.259<<	257.544
564/	225/	166 (C)	70.035	-150.259	327.578>>
564/	227/	165 (C)	13.736	55.067	-146.843<<
565/	225/	123 (C)	85.289>>	-121.158	196.484
565/	225/	121 (C)	-1.116<<	-7.867	19.512
565/	225/	105 (C)	5.342	52.776>>	-130.674
565/	225/	166 (C)	59.653	-145.013<<	325.997
565/	223/	166 (C)	59.653	-145.013	385.648>>
565/	225/	165 (C)	11.122	51.496	-132.824<<
566/	223/	123 (C)	72.458>>	-116.411	280.247
566/	223/	121 (C)	-1.174<<	-7.961	18.331
566/	223/	105 (C)	4.484	50.739>>	-124.972
566/	223/	166 (C)	49.976	-137.977<<	384.152
566/	221/	166 (C)	49.976	-137.977	434.127>>
566/	223/	105 (C)	4.484	50.739	-124.972<<
567/	221/	123 (C)	60.996>>	-108.168	351.350
567/	221/	121 (C)	-1.241<<	-8.079	17.090
567/	221/	105 (C)	4.019	49.669>>	-120.105
567/	221/	166 (C)	40.918	-129.323<<	432.744
567/	219/	166 (C)	40.918	-129.323	473.662>>
567/	221/	105 (C)	4.019	49.669	-120.105<<
568/	219/	123 (C)	50.599>>	-97.312	411.140
568/	219/	121 (C)	-1.309<<	-8.207	15.776
568/	219/	165 (C)	6.893	49.756>>	-103.462
568/	219/	166 (C)	32.396	-119.401<<	472.366
568/	217/	166 (C)	32.396	-119.401	504.762>>
568/	219/	105 (C)	3.808	49.260	-115.669<<
569/	217/	123 (C)	41.013>>	-84.365	460.723
569/	217/	124 (C)	-10.829<<	-39.324	253.346
569/	217/	165 (C)	6.113	50.731>>	-96.129
569/	217/	166 (C)	24.324	-108.287<<	503.602
569/	215/	166 (C)	24.324	-108.287	527.928>>
569/	217/	105 (C)	3.750	49.218	-111.426<<
570/	215/	153 (C)	39.820>>	-33.358	247.415
570/	215/	122 (C)	-18.357<<	-18.235	271.503
570/	215/	165 (C)	5.454	51.998>>	-89.542
570/	215/	166 (C)	16.626	-96.226<<	526.901
570/	213/	166 (C)	16.626	-96.226	543.526>>
570/	215/	105 (C)	3.766	49.355	-107.222<<
571/	213/	153 (C)	43.230>>	-24.273	286.804

571/	213/	122 (C)	-30.625<<	-12.562	253.208
571/	213/	165 (C)	4.835	53.349>>	-83.592
571/	213/	166 (C)	9.231	-83.343<<	542.644
571/	211/	123 (C)	23.480	-54.283	555.779>>
571/	213/	105 (C)	3.793	49.507	-102.992<<
572/	211/	123 (C)	15.219>>	-38.060	555.318
572/	211/	122 (C)	-27.553<<	-3.956	222.731
572/	211/	165 (C)	4.192	54.647>>	-78.224
572/	211/	166 (C)	2.074	-69.968<<	551.118
572/	209/	123 (C)	15.219	-38.060	570.537>>
572/	211/	105 (C)	3.783	49.581	-98.714<<
573/	209/	112 (C)	7.983>>	24.553	-52.059
573/	209/	122 (C)	-24.900<<	3.544	195.395
573/	209/	165 (C)	3.472	55.736>>	-73.482
573/	209/	166 (C)	-4.911	-56.107<<	552.591
573/	207/	123 (C)	7.115	-21.397	577.388>>
573/	209/	105 (C)	3.695	49.447	-94.441<<
574/	207/	112 (C)	8.053>>	24.834	-43.815
574/	207/	153 (C)	-44.789<<	-18.814	327.785
574/	207/	165 (C)	2.627	56.501>>	-69.442
574/	207/	166 (C)	-11.793	-41.991<<	547.230
574/	207/	123 (C)	-0.960	-4.674	577.318>>
574/	207/	105 (C)	3.494	49.023	-90.250<<
575/	205/	113 (C)	9.859>>	-17.370	360.584
575/	205/	153 (C)	-41.234<<	-9.375	283.042
575/	205/	165 (C)	1.610	56.822>>	-66.238
575/	205/	166 (C)	-18.644	-27.753<<	535.145
575/	205/	123 (C)	-9.134	11.835	576.481>>
575/	205/	105 (C)	3.146	48.216	-86.263<<
576/	203/	124 (C)	12.983>>	29.651	247.623
576/	203/	153 (C)	-38.116<<	-1.131	241.937
576/	203/	165 (C)	0.374	56.605>>	-64.029
576/	203/	166 (C)	-25.552	-13.778<<	516.362
576/	203/	123 (C)	-17.554	27.581	567.670>>
576/	203/	105 (C)	2.617	46.968	-82.615<<
577/	201/	112 (C)	7.737>>	24.288	-18.937
577/	201/	103 (C)	-41.027<<	40.014	364.512
577/	201/	165 (C)	-1.127	55.708>>	-63.055
577/	201/	121 (C)	-1.403	-8.152<<	1.905
577/	201/	123 (C)	-26.396	42.290	550.636>>
577/	201/	105 (C)	1.871	45.165	-79.508<<
578/	199/	112 (C)	7.370>>	23.427	-10.922
578/	199/	103 (C)	-45.329<<	49.645	324.135
578/	199/	162 (C)	-32.888	58.207>>	289.366
578/	199/	121 (C)	-1.294	-7.852<<	0.419
578/	199/	123 (C)	-35.877	55.352	524.959>>
578/	199/	105 (C)	0.873	42.725	-77.157<<
579/	197/	112 (C)	6.821>>	22.097	-3.277
579/	197/	103 (C)	-50.442<<	57.239	279.574
579/	197/	123 (C)	-46.271	66.121>>	489.991
579/	197/	121 (C)	-1.138	-7.436<<	-0.957
579/	197/	123 (C)	-46.271	66.121	489.991>>
579/	195/	105 (C)	-0.415	39.547	-76.240<<
580/	195/	112 (C)	6.063>>	20.234	3.807
580/	195/	163 (C)	-60.117<<	70.951	278.431
580/	195/	123 (C)	-57.299	75.155>>	444.514
580/	195/	121 (C)	-0.932	-6.897<<	-2.173
580/	195/	123 (C)	-57.299	75.155	444.514>>
580/	193/	165 (C)	-7.905	47.305	-78.330<<
581/	193/	112 (C)	5.134>>	17.934	10.090
581/	193/	163 (C)	-70.403<<	76.574	219.155
581/	193/	123 (C)	-68.273	84.322>>	387.941
581/	193/	121 (C)	-0.692	-6.270<<	-3.171

581/	193/	123 (C)	-68.273	84.322	387.941>>
581/	191/	165 (C)	-11.577	40.959	-89.228<<
582/	191/	112 (C)	4.164>>	15.521	15.373
582/	191/	163 (C)	-81.257<<	80.746	149.703
582/	191/	123 (C)	-78.757	94.665>>	320.407
582/	191/	121 (C)	-0.449	-5.637<<	-3.911
582/	191/	123 (C)	-78.757	94.665	320.407>>
582/	189/	165 (C)	-16.413	31.692	-104.979<<
583/	189/	112 (C)	3.133>>	12.978	19.653
583/	189/	163 (C)	-93.587<<	81.311	69.490
583/	189/	123 (C)	-89.494	104.480>>	242.526
583/	189/	121 (C)	-0.189	-4.971<<	-4.400
583/	189/	123 (C)	-89.494	104.480	242.526>>
583/	362/	165 (C)	-22.806	18.563	-118.495<<
584/	362/	112 (C)	2.087>>	10.404	21.687
584/	362/	163 (C)	-107.026<<	79.144	12.720
584/	362/	123 (C)	-100.501	113.645>>	188.144
584/	362/	105 (C)	-18.193	-4.707<<	-96.753
584/	362/	123 (C)	-100.501	113.645	188.144>>
584/	187/	165 (C)	-30.249	2.839	-136.513<<
585/	187/	112 (C)	1.012>>	7.768	23.075
585/	187/	163 (C)	-121.751<<	73.794	-51.813
585/	187/	123 (C)	-112.056	121.526>>	127.619
585/	187/	105 (C)	-24.409	-20.221<<	-107.624
585/	187/	123 (C)	-112.056	121.526	127.619>>
585/	185/	165 (C)	-38.721	-15.482	-174.780<<
586/	185/	121 (C)	0.666>>	-2.812	-4.229
586/	185/	163 (C)	-138.436<<	63.645	-172.513
586/	185/	123 (C)	-125.200	125.521>>	17.019
586/	185/	105 (C)	-31.378	-37.606<<	-132.042
586/	185/	112 (C)	-0.197	4.801	24.207>>
586/	183/	163 (C)	-138.436	63.645	-310.947<<
587/	183/	121 (C)	0.986>>	-2.011	-3.588
587/	183/	163 (C)	-156.020<<	51.218	-310.161
587/	183/	123 (C)	-139.306	127.035>>	-106.645
587/	183/	165 (C)	-58.047	-57.989<<	-223.336
587/	183/	112 (C)	-1.482	1.642	24.072>>
587/	181/	163 (C)	-156.020	51.218	-466.194<<
588/	181/	121 (C)	1.296>>	-1.234	-2.609
588/	181/	163 (C)	-174.775<<	35.782	-465.383
588/	181/	123 (C)	-139.766	127.118>>	-244.317
588/	181/	165 (C)	-67.215	-77.866<<	-282.007
588/	181/	112 (C)	-2.705	-1.366	22.568>>
588/	7/	163 (C)	-174.775	35.782	-640.155<<
589/	7/	124 (C)	167.483>>	7.288	-567.209
589/	7/	121 (C)	-0.482<<	-0.571	-1.308
589/	7/	123 (C)	50.652	123.454>>	-381.542
589/	7/	165 (C)	131.848	-95.313<<	-350.767
589/	179/	112 (C)	0.184	-3.837	19.924>>
589/	7/	163 (C)	162.128	21.080	-639.324<<
590/	179/	124 (C)	145.904>>	-9.890	-399.799
590/	179/	112 (C)	-0.428<<	-5.319	19.805
590/	179/	123 (C)	45.525	111.411>>	-329.414
590/	179/	165 (C)	115.330	-110.860<<	-220.240
590/	179/	112 (C)	-0.428	-5.319	19.805>>
590/	179/	163 (C)	143.440	0.764	-477.030<<
591/	177/	124 (C)	124.843>>	-25.833	-254.211
591/	177/	112 (C)	-0.723<<	-6.004	19.257
591/	177/	166 (C)	35.436	96.092>>	-251.377
591/	177/	165 (C)	100.855	-121.148<<	-106.390
591/	177/	112 (C)	-0.723	-6.004	19.257>>
591/	177/	163 (C)	124.691	-19.792	-333.700<<
592/	175/	163 (C)	106.829>>	-38.175	-209.702

592/	175/	112 (C)	-0.811<<	-6.173	18.443
592/	175/	166 (C)	28.774	82.471>>	-215.089
592/	175/	165 (C)	87.983	-127.408<<	-7.180
592/	173/	165 (C)	87.983	-127.408	80.802>>
592/	175/	123 (C)	31.005	76.049	-243.332<<
593/	173/	163 (C)	90.885>>	-51.740	-103.883
593/	173/	112 (C)	-0.801<<	-6.102	17.566
593/	173/	166 (C)	22.557	69.963>>	-185.810
593/	173/	165 (C)	76.781	-129.470<<	79.168
593/	171/	165 (C)	76.781	-129.470	155.949>>
593/	173/	123 (C)	24.192	59.434	-211.963<<
594/	171/	163 (C)	77.124>>	-59.852	-14.084
594/	171/	112 (C)	-0.789<<	-6.028	16.725
594/	171/	106 (C)	9.331	61.375>>	-147.433
594/	171/	165 (C)	66.729	-128.625<<	154.546
594/	169/	165 (C)	66.729	-128.625	221.274>>
594/	171/	123 (C)	18.894	46.553	-187.762<<
595/	169/	163 (C)	65.271>>	-63.174	62.021
595/	169/	112 (C)	-0.813<<	-6.046	15.892
595/	169/	106 (C)	7.103	55.897>>	-137.814
595/	169/	165 (C)	57.371	-126.001<<	219.913
595/	167/	165 (C)	57.371	-126.001	277.283>>
595/	169/	123 (C)	15.248	37.766	-168.833<<
596/	167/	163 (C)	54.958>>	-62.656	126.345
596/	167/	112 (C)	-0.857<<	-6.121	15.030
596/	167/	106 (C)	5.677	52.454>>	-130.381
596/	167/	165 (C)	48.662	-121.780<<	275.947
596/	165/	165 (C)	48.662	-121.780	324.609>>
596/	167/	123 (C)	12.831	32.065	-153.507<<
597/	165/	163 (C)	45.866>>	-59.059	180.464
597/	165/	112 (C)	-0.912<<	-6.224	14.121
597/	165/	106 (C)	4.823	50.428>>	-124.348
597/	165/	165 (C)	40.541	-116.043<<	323.354
597/	163/	165 (C)	40.541	-116.043	363.895>>
597/	165/	123 (C)	11.310	28.573	-140.566<<
598/	163/	163 (C)	37.728>>	-53.066	225.605
598/	163/	112 (C)	-0.970<<	-6.338	13.155
598/	163/	106 (C)	4.363	49.388>>	-119.142
598/	163/	165 (C)	32.936	-108.995<<	362.724
598/	161/	165 (C)	32.936	-108.995	395.660>>
598/	163/	123 (C)	10.429	26.661	-129.109<<
599/	161/	163 (C)	30.323>>	-45.209	262.733
599/	161/	112 (C)	-1.026<<	-6.449	12.128
599/	161/	166 (C)	7.113	49.132>>	-101.057
599/	161/	165 (C)	25.777	-100.779<<	394.591
599/	159/	165 (C)	25.777	-100.779	420.368>>
599/	161/	123 (C)	9.989	25.824	-118.504<<
600/	159/	163 (C)	23.466>>	-36.032	292.572
600/	159/	124 (C)	-6.693<<	-25.290	278.844
600/	159/	166 (C)	6.339	50.138>>	-93.505
600/	159/	165 (C)	18.994	-91.689<<	419.381
600/	157/	165 (C)	18.994	-91.689	438.377>>
600/	159/	106 (C)	4.113	48.975	-109.777<<
601/	157/	163 (C)	17.004>>	-25.836	315.690
601/	157/	124 (C)	-18.711<<	-18.939	272.098
601/	157/	166 (C)	5.686	51.429>>	-86.699
601/	157/	165 (C)	12.523	-81.768<<	437.509
601/	155/	165 (C)	12.523	-81.768	450.032>>
601/	157/	106 (C)	4.140	49.143	-105.214<<
602/	155/	163 (C)	10.810>>	-14.941	332.476
602/	155/	124 (C)	-30.993<<	-13.300	253.441
602/	155/	166 (C)	5.076	52.808>>	-80.521
602/	155/	165 (C)	6.305	-71.164<<	449.284
602/	153/	165 (C)	6.305	-71.164	455.588>>
602/	155/	106 (C)	4.179	49.330	-100.613<<
603/	153/	123 (C)	10.161>>	27.177	-77.824
603/	153/	124 (C)	-27.933<<	-4.724	222.589
603/	153/	166 (C)	4.443	54.135>>	-74.917
603/	153/	165 (C)	0.284	-60.154<<	454.943
603/	151/	165 (C)	0.284	-60.154	455.227>>
603/	153/	106 (C)	4.182	49.440	-95.950<<
604/	151/	123 (C)	10.305>>	27.717	-67.373
604/	151/	124 (C)	-25.290<<	2.751	194.864
604/	151/	166 (C)	3.731	55.250>>	-69.929
604/	151/	165 (C)	-5.592	-48.737<<	454.710
604/	151/	165 (C)	-5.592	-48.737	454.710>>
604/	151/	106 (C)	4.107	49.340	-91.279<<
605/	149/	123 (C)	10.392>>	28.093	-56.769
605/	149/	124 (C)	-23.057<<	9.138	169.834
605/	149/	166 (C)	2.891	56.029>>	-65.639
605/	149/	165 (C)	-11.378	-37.055<<	448.729
605/	149/	165 (C)	-11.378	-37.055	448.729>>
605/	149/	106 (C)	3.915	48.936	-86.683<<
606/	147/	123 (C)	10.390>>	28.236	-46.063
606/	147/	124 (C)	-21.215<<	14.444	147.079
606/	147/	166 (C)	1.873	56.369>>	-62.162
606/	147/	165 (C)	-17.132	-25.388<<	437.081
606/	147/	165 (C)	-17.132	-25.388	437.081>>
606/	147/	106 (C)	3.571	48.163	-82.265<<
607/	145/	123 (C)	10.265>>	28.051	-35.355
607/	145/	165 (C)	-22.920<<	-13.779	419.813
607/	145/	166 (C)	0.628	56.126>>	-59.697
607/	145/	165 (C)	-22.920	-13.779<<	419.813
607/	145/	165 (C)	-22.920	-13.779	419.813>>
607/	145/	106 (C)	3.037	46.901	-78.196<<
608/	143/	123 (C)	9.985>>	27.459	-24.770
608/	143/	165 (C)	-28.824<<	-2.434	396.890
608/	143/	166 (C)	-0.900	55.167>>	-58.476
608/	143/	112 (C)	-1.078	-6.385<<	1.284
608/	143/	165 (C)	-28.824	-2.434	396.890>>
608/	143/	106 (C)	2.273	45.051	-74.669<<
609/	141/	123 (C)	9.514>>	26.374	-14.458
609/	141/	162 (C)	-35.629<<	51.191	284.158
609/	141/	163 (C)	-33.840	57.503>>	282.007
609/	141/	112 (C)	-0.985	-6.136<<	0.140
609/	141/	165 (C)	-34.943	8.273	368.198>>
609/	141/	106 (C)	1.236	42.528	-71.908<<
610/	139/	123 (C)	8.809>>	24.690	-4.623
610/	139/	162 (C)	-43.452<<	57.836	249.256
610/	139/	163 (C)	-41.819	63.764>>	248.969
610/	139/	112 (C)	-0.854	-5.791<<	-0.911
610/	139/	165 (C)	-41.407	18.128	333.523>>
610/	137/	104 (C)	-1.722	32.785	-71.762<<
611/	137/	123 (C)	7.844>>	22.337	4.484
611/	137/	162 (C)	-51.901<<	62.907	206.529
611/	137/	163 (C)	-50.479	68.314>>	207.942
611/	137/	112 (C)	-0.685	-5.349<<	-1.825
611/	137/	165 (C)	-47.989	27.691	292.324>>
611/	135/	164 (C)	-9.190	42.037	-75.496<<
612/	135/	123 (C)	6.677>>	19.465	12.574
612/	135/	162 (C)	-60.903<<	66.536	155.415
612/	135/	163 (C)	-59.731	71.320>>	158.307
612/	135/	112 (C)	-0.490	-4.844<<	-2.560
612/	135/	165 (C)	-54.280	37.907	244.572>>
612/	133/	164 (C)	-12.813	35.820	-87.675<<
613/	133/	123 (C)	5.488>>	16.530	19.399
613/	133/	162 (C)	-70.612<<	68.383	95.393
613/	133/	163 (C)	-69.692	72.540>>	99.493
613/	133/	112 (C)	-0.299	-4.349<<	-3.085
613/	133/	165 (C)	-60.162	49.146	190.638>>
613/	131/	164 (C)	-17.634	26.599	-104.681<<
614/	131/	123 (C)	4.296>>	13.610	24.991
614/	131/	162 (C)	-81.841<<	66.503	25.725
614/	131/	163 (C)	-81.174	70.032>>	30.772
614/	131/	112 (C)	-0.103	-3.849<<	-3.412
614/	131/	165 (C)	-66.147	60.194	130.957>>
614/	366/	164 (C)	-24.034	13.439	-112.986<<
615/	366/	123 (C)	3.103>>	10.685	26.685
615/	366/	161 (C)	-93.759<<	63.790	-2.638
615/	366/	165 (C)	-72.255	70.909>>	107.181
615/	366/	104 (C)	-18.515	-8.946<<	-92.864
615/	366/	165 (C)	-72.255	70.909	107.181>>
615/	129/	164 (C)	-31.044	-1.201	-131.572<<
616/	129/	123 (C)	1.863>>	7.652	28.711
616/	129/	161 (C)	-106.931<<	57.095	-59.180
616/	129/	165 (C)	-78.777	80.642>>	63.565
616/	129/	104 (C)	-24.174	-23.046<<	-104.014
616/	129/	165 (C)	-78.777	80.642	63.565>>
616/	127/	164 (C)	-38.999	-18.223	-170.195<<
617/	127/	112 (C)	0.542>>	-2.222	-3.180
617/	127/	163 (C)	-121.948<<	46.869	-160.216
617/	127/	165 (C)	-86.341	87.844>>	-14.289
617/	127/	104 (C)	-30.490	-38.810<<	-128.250
617/	125/	123 (C)	0.444	4.180	31.152>>
617/	125/	162 (C)	-121.787	45.376	-287.783<<
618/	125/	112 (C)	0.789>>	-1.606	-2.658
618/	125/	163 (C)	-138.044<<	32.901	-281.570
618/	125/	165 (C)	-94.533	93.420>>	-99.587
618/	125/	164 (C)	-57.094	-57.719<<	-218.492
618/	125/	123 (C)	-1.092	0.415	31.217>>
618/	123/	162 (C)	-137.558	32.208	-424.764<<
619/	123/	112 (C)	1.029>>	-1.004	-1.875
619/	123/	163 (C)	-155.022<<	16.749	-419.049
619/	123/	165 (C)	-104.308	94.890>>	-192.880
619/	123/	166 (C)	-66.223	-76.437<<	-271.491
619/	123/	123 (C)	-2.554	-3.179	30.085>>
619/	9/	162 (C)	-154.224	16.825	-578.422<<
620/	9/	163 (C)	154.313>>	1.618	-573.667
620/	9/	112 (C)	-0.394<<	-0.490	-0.843
620/	9/	165 (C)	41.084	92.885>>	-295.284
620/	9/	166 (C)	129.133	-93.418<<	-339.178
620/	9/	123 (C)	-0.228	-6.095	27.360>>
620/	9/	162 (C)	154.184	2.327	-577.992<<
621/	121/	161 (C)	136.208>>	-16.544	-423.606
621/	121/	123 (C)	-0.923<<	-7.764	26.977
621/	121/	165 (C)	37.327	86.643>>	-253.024
621/	121/	166 (C)	112.906	-108.263<<	-211.335
621/	121/	123 (C)	-0.923	-7.764	26.977>>
621/	121/	162 (C)	136.148	-16.575	-423.881<<
622/	119/	161 (C)	118.422>>	-34.823	-287.711
622/	119/	123 (C)	-1.220<<	-8.432	25.896
622/	119/	165 (C)	31.923	76.114>>	-214.631
622/	119/	166 (C)	98.694	-117.900<<	-99.873
622/	119/	123 (C)	-1.220	-8.432	25.896>>
622/	119/	162 (C)	118.388	-34.788	-288.042<<
623/	117/	161 (C)	101.633>>	-50.624	-170.106
623/	117/	123 (C)	-1.265<<	-8.473	24.556
623/	117/	165 (C)	26.057	64.390>>	-182.029
623/	117/	166 (C)	86.064	-123.560<<	-2.789

623/	115/	166 (C)	86.064	-123.560	83.278>>
623/	117/	165 (C)	26.057	64.390	-182.029<<
624/	115/	161 (C)	86.686>>	-61.826	-69.534
624/	115/	123 (C)	-1.197<<	-8.240	23.208
624/	115/	165 (C)	20.598	53.645>>	-155.599
624/	115/	166 (C)	75.069	-125.111<<	81.707
624/	113/	166 (C)	75.069	-125.111	156.771>>
624/	115/	165 (C)	20.598	53.645	-155.599<<
625/	113/	162 (C)	73.709>>	-67.983	15.670
625/	113/	123 (C)	-1.142<<	-8.043	21.960
625/	113/	105 (C)	7.662	45.745>>	-116.035
625/	113/	166 (C)	65.183	-123.881<<	155.409
625/	111/	166 (C)	65.183	-123.881	220.594>>
625/	113/	165 (C)	16.193	45.527	-134.873<<
626/	111/	162 (C)	62.400>>	-70.076	88.354
626/	111/	123 (C)	-1.145<<	-7.991	20.763
626/	111/	105 (C)	5.843	41.247>>	-108.163
626/	111/	166 (C)	55.957	-120.945<<	219.285
626/	109/	166 (C)	55.957	-120.945	275.244>>
626/	111/	165 (C)	12.955	40.282	-118.529<<
627/	109/	162 (C)	52.450>>	-68.779	149.799
627/	109/	123 (C)	-1.183<<	-8.036	19.557
627/	109/	105 (C)	4.657	38.339>>	-102.083
627/	109/	166 (C)	47.357	-116.450<<	273.974
627/	107/	166 (C)	47.357	-116.450	321.332>>
627/	109/	165 (C)	10.586	37.204	-105.386<<
628/	107/	162 (C)	43.591>>	-64.749	201.389
628/	107/	123 (C)	-1.241<<	-8.134	18.307
628/	107/	105 (C)	3.925	36.558>>	-97.167
628/	107/	166 (C)	39.328	-110.511<<	320.131
628/	105/	166 (C)	39.328	-110.511	359.456>>
628/	107/	105 (C)	3.925	36.558	-97.167<<
629/	105/	162 (C)	35.598>>	-58.555	244.223
629/	105/	123 (C)	-1.308<<	-8.257	16.996
629/	105/	105 (C)	3.506	35.553>>	-92.962
629/	105/	166 (C)	31.806	-103.289<<	358.338
629/	103/	166 (C)	31.806	-103.289	390.145>>
629/	105/	105 (C)	3.506	35.553	-92.962<<
630/	103/	162 (C)	28.275>>	-50.688	279.184
630/	103/	123 (C)	-1.376<<	-8.386	15.614
630/	103/	165 (C)	6.575	35.625>>	-77.623
630/	103/	166 (C)	24.721	-94.965<<	389.121
630/	101/	166 (C)	24.721	-94.965	413.844>>
630/	103/	105 (C)	3.293	35.054	-89.158<<
631/	101/	162 (C)	21.462>>	-41.554	306.943
631/	101/	123 (C)	-1.439<<	-8.506	14.161
631/	101/	165 (C)	5.785	36.434>>	-70.727
631/	101/	166 (C)	18.008	-85.705<<	412.923
631/	99/	166 (C)	18.008	-85.705	430.930>>
631/	101/	105 (C)	3.204	34.857	-85.550<<
632/	99/	162 (C)	15.019>>	-31.501	328.013
632/	99/	123 (C)	-1.494<<	-8.607	12.644
632/	99/	165 (C)	5.103	37.496>>	-64.594
632/	99/	166 (C)	11.601	-75.674<<	430.119
632/	97/	166 (C)	11.601	-75.674	441.720>>
632/	99/	105 (C)	3.176	34.803	-82.019<<
633/	97/	162 (C)	8.830>>	-20.862	342.768
633/	97/	123 (C)	-1.537<<	-8.682	11.068
633/	97/	165 (C)	4.463	38.652>>	-59.113
633/	97/	166 (C)	5.436	-65.080<<	441.018
633/	95/	166 (C)	5.436	-65.080	446.454>>
633/	97/	105 (C)	3.162	34.782	-78.500<<
634/	95/	165 (C)	3.811>>	39.752	-54.257
634/	95/	123 (C)	-1.566<<	-8.723	9.450
634/	95/	165 (C)	3.811	39.752>>	-54.257
634/	95/	166 (C)	-0.549	-53.951<<	445.886
634/	95/	166 (C)	-0.549	-53.951	445.886>>
634/	95/	105 (C)	3.125	34.676	-74.994<<
635/	93/	165 (C)	3.105>>	40.704	-50.030
635/	93/	166 (C)	-6.419<<	-42.584	444.886
635/	93/	165 (C)	3.105	40.704>>	-50.030
635/	93/	166 (C)	-6.419	-42.584<<	444.886
635/	93/	166 (C)	-6.419	-42.584	444.886>>
635/	93/	105 (C)	3.035	34.435	-71.516<<
636/	91/	105 (C)	2.867>>	33.987	-68.126
636/	91/	166 (C)	-12.245<<	-31.115	438.147
636/	91/	165 (C)	2.307	41.410>>	-46.493
636/	91/	166 (C)	-12.245	-31.115<<	438.147
636/	91/	166 (C)	-12.245	-31.115	438.147>>
636/	91/	105 (C)	2.867	33.987	-68.126<<
637/	89/	105 (C)	2.600>>	33.280	-64.904
637/	89/	166 (C)	-18.108<<	-19.755	425.715
637/	89/	165 (C)	1.384	41.785>>	-43.741
637/	89/	166 (C)	-18.108	-19.755<<	425.715
637/	89/	166 (C)	-18.108	-19.755	425.715>>
637/	89/	105 (C)	2.600	33.280	-64.904<<
638/	87/	124 (C)	2.384>>	8.251	-6.784
638/	87/	166 (C)	-24.110<<	-8.760	407.556
638/	87/	165 (C)	0.303	41.750>>	-41.903
638/	87/	166 (C)	-24.110	-8.760<<	407.556
638/	87/	166 (C)	-24.110	-8.760	407.556>>
638/	87/	105 (C)	2.215	32.267	-61.951<<
639/	85/	124 (C)	2.290>>	8.049	-4.305
639/	85/	166 (C)	-30.373<<	1.559	383.537
639/	85/	162 (C)	-28.826	41.418>>	305.739
639/	85/	123 (C)	-1.383	-8.125<<	1.291
639/	85/	166 (C)	-30.373	1.559	383.537>>
639/	85/	105 (C)	1.696	30.904	-59.389<<
640/	83/	124 (C)	2.141>>	7.705	-1.920
640/	83/	166 (C)	-37.060<<	10.791	353.394
640/	83/	162 (C)	-36.314	48.639>>	277.567
640/	83/	123 (C)	-1.242	-7.748<<	-0.177
640/	83/	164 (C)	-36.862	12.057	353.436>>
640/	83/	105 (C)	1.029	29.156	-57.357<<
641/	81/	124 (C)	1.927>>	7.194	0.313
641/	81/	163 (C)	-44.517<<	53.145	241.589
641/	81/	162 (C)	-44.331	54.497>>	241.890
641/	81/	123 (C)	-1.053	-7.248<<	-1.500
641/	81/	164 (C)	-43.769	20.706	316.738>>
641/	81/	105 (C)	0.081	26.693	-55.946<<
642/	79/	124 (C)	1.654>>	6.528	2.323
642/	79/	163 (C)	-52.831<<	58.200	197.732
642/	79/	162 (C)	-52.688	59.442>>	198.232
642/	79/	123 (C)	-0.824	-6.650<<	-2.625
642/	79/	164 (C)	-50.399	29.997	273.130>>
642/	77/	105 (C)	-1.362	22.980	-56.820<<
643/	77/	124 (C)	1.354>>	5.794	4.038
643/	77/	163 (C)	-61.496<<	62.368	145.632
643/	77/	162 (C)	-61.398	63.495>>	146.286
643/	77/	123 (C)	-0.583	-6.024<<	-3.503
643/	77/	164 (C)	-56.535	40.549	222.962>>
643/	75/	165 (C)	-10.015	29.013	-63.551<<
644/	75/	124 (C)	1.008>>	4.951	5.444
644/	75/	163 (C)	-71.241<<	63.877	84.961
644/	75/	162 (C)	-71.193	64.874>>	85.722
644/	75/	123 (C)	-0.309	-5.323<<	-4.135
644/	75/	164 (C)	-62.575	51.360	166.798>>
644/	370/	165 (C)	-14.456	20.502	-79.214<<
645/	370/	124 (C)	0.633>>	4.039	6.611
645/	370/	162 (C)	-82.553<<	62.391	6.989
645/	370/	162 (C)	-82.553	62.391>>	6.989
645/	370/	123 (C)	-0.012	-4.573<<	-4.520
645/	370/	164 (C)	-68.823	61.677	97.314>>
645/	73/	165 (C)	-20.279	8.568	-91.283<<
646/	73/	123 (C)	0.295>>	-3.801	-4.567
646/	73/	162 (C)	-94.969<<	57.289	-43.061
646/	73/	164 (C)	-75.428	71.155>>	55.469
646/	73/	105 (C)	-15.111	-11.899<<	-72.758
646/	73/	164 (C)	-75.428	71.155	55.469>>
646/	71/	163 (C)	-94.906	56.572	-138.795<<
647/	71/	123 (C)	0.638>>	-2.948	-4.311
647/	71/	162 (C)	-109.015<<	48.163	-137.195
647/	71/	164 (C)	-82.963	78.366>>	-19.122
647/	71/	105 (C)	-20.246	-24.882<<	-87.869
647/	71/	124 (C)	-0.188	2.049	7.329>>
647/	69/	163 (C)	-108.888	47.604	-246.856<<
648/	69/	123 (C)	0.987>>	-2.079	-3.697
648/	69/	162 (C)	-123.784<<	37.183	-245.599
648/	69/	164 (C)	-91.077	84.081>>	-101.113
648/	69/	105 (C)	-25.500	-38.172<<	-108.397
648/	69/	124 (C)	-0.641	0.947	7.162>>
648/	67/	163 (C)	-123.593	36.784	-369.830<<
649/	67/	123 (C)	1.323>>	-1.240	-2.715
649/	67/	162 (C)	-139.408<<	23.962	-368.773
649/	67/	164 (C)	-100.710	85.832>>	-191.020
649/	67/	165 (C)	-48.782	-52.250<<	-194.311
649/	67/	124 (C)	-1.071	-0.101	6.515>>
649/	11/	163 (C)	-139.155	23.717	-508.388<<
650/	11/	162 (C)	139.797>>	10.057	-507.685
650/	11/	123 (C)	-0.511<<	-0.532	-1.382
650/	11/	164 (C)	35.492	83.336>>	-290.155
650/	11/	165 (C)	107.709	-66.534<<	-244.022
650/	65/	124 (C)	0.209	-0.949	5.619>>
650/	11/	163 (C)	139.697	9.943	-507.885<<
651/	65/	162 (C)	122.909>>	-6.484	-367.802
651/	65/	123 (C)	-0.300<<	-0.004	-1.876
651/	65/	164 (C)	32.924	77.546>>	-253.520
651/	65/	165 (C)	93.115	-77.847<<	-137.268
651/	65/	124 (C)	-0.022	-1.500	5.583>>
651/	65/	163 (C)	122.848	-6.499	-368.101<<
652/	63/	162 (C)	106.267>>	-22.488	-245.027
652/	63/	123 (C)	-0.153<<	0.361	-2.157
652/	63/	166 (C)	28.611	67.333>>	-219.901
652/	63/	165 (C)	80.339	-84.539<<	-45.224
652/	61/	105 (C)	59.295	-72.330	40.551>>
652/	63/	163 (C)	106.234	-22.434	-245.383<<
653/	61/	162 (C)	90.548>>	-36.214	-139.326
653/	61/	124 (C)	-0.210<<	-1.920	5.346
653/	61/	166 (C)	23.760	55.653>>	-190.641
653/	61/	165 (C)	69.018	-87.624<<	33.959
653/	59/	165 (C)	69.018	-87.624	102.971>>
653/	61/	166 (C)	23.760	55.653	-190.641<<
654/	59/	162 (C)	76.451>>	-45.970	-49.544
654/	59/	124 (C)	-0.234<<	-1.958	5.115
654/	59/	166 (C)	19.234	44.727>>	-166.566
654/	59/	165 (C)	59.021	-87.433<<	101.922
654/	57/	165 (C)	59.021	-87.433	160.944>>
654/	59/	166 (C)	19.234	44.727	-166.566<<
655/	57/	163 (C)	64.037>>	-51.447	25.750

Envolvente de Esfuerzos - Trenes sobre Vía Izquierda

Barra/Nudo/Caso	FZ (T)	MX (Tm)	MY (Tm)
501/ 1/ 221 (C)	95.130>>	224.704	-0.279
501/ 1/ 265 (C)	-20.659<<	20.301	0.602
501/ 1/ 221 (C)	95.130	224.704>>	-0.279
501/ 1/ 213 (C)	2.530	-3.091<<	-0.101
501/ 343/ 221 (C)	95.130	224.704	94.851>>
501/ 343/ 265 (C)	-20.659	20.301	-20.057<<
502/ 343/ 221 (C)	74.236>>	171.639	94.500
502/ 343/ 265 (C)	-16.721<<	30.310	-19.474
502/ 343/ 261 (C)	56.486	179.773>>	74.223
502/ 343/ 213 (C)	1.994	-4.391<<	2.330
502/ 341/ 221 (C)	74.236	171.639	168.736>>
502/ 341/ 265 (C)	-16.721	30.310	-36.195<<
503/ 341/ 221 (C)	57.561>>	129.657	168.356
503/ 341/ 265 (C)	-14.096<<	37.092	-35.642
503/ 341/ 261 (C)	42.222	144.003>>	130.713
503/ 341/ 213 (C)	1.637	-5.240<<	4.229
503/ 339/ 221 (C)	57.561	129.657	225.917>>
503/ 339/ 265 (C)	-14.096	37.092	-49.738<<
504/ 339/ 221 (C)	44.044>>	96.072	225.517
504/ 339/ 265 (C)	-12.451<<	41.481	-49.219
504/ 339/ 261 (C)	30.414	114.842>>	172.887
504/ 339/ 213 (C)	1.413	-5.751<<	5.776
504/ 337/ 221 (C)	44.044	96.072	269.562>>
504/ 337/ 265 (C)	-12.451	41.481	-61.670<<
505/ 337/ 221 (C)	32.863>>	68.787	269.146
505/ 337/ 265 (C)	-11.522<<	44.132	-61.185
505/ 337/ 261 (C)	20.456	90.749>>	203.207
505/ 337/ 213 (C)	1.288	-6.011<<	7.105
505/ 335/ 221 (C)	32.863	68.787	302.008>>
505/ 335/ 265 (C)	-11.522	44.132	-72.707<<
506/ 335/ 221 (C)	23.391>>	46.198	301.572
506/ 335/ 265 (C)	-11.105<<	45.560	-72.258
506/ 335/ 262 (C)	6.742	71.554>>	165.738
506/ 335/ 213 (C)	1.233	-6.087<<	8.312
506/ 333/ 221 (C)	23.391	46.198	324.963>>
506/ 333/ 265 (C)	-11.105	45.560	-83.363<<
507/ 333/ 204 (C)	16.233>>	16.468	269.484
507/ 333/ 265 (C)	-11.040<<	46.167	-82.948
507/ 333/ 262 (C)	0.487	57.374>>	172.440
507/ 333/ 213 (C)	1.230	-6.028<<	9.468
507/ 331/ 221 (C)	15.165	27.104	339.664>>
507/ 331/ 265 (C)	-11.040	46.167	-93.988<<
508/ 331/ 204 (C)	11.122>>	5.120	285.297
508/ 331/ 265 (C)	-11.200<<	46.274	-93.605
508/ 331/ 222 (C)	-1.032	47.175>>	9.264
508/ 331/ 213 (C)	1.262	-5.872<<	10.625
508/ 329/ 221 (C)	7.848	10.631	347.014>>
508/ 329/ 265 (C)	-11.200	46.274	-104.805<<
509/ 329/ 251 (C)	7.115>>	9.684	126.487
509/ 329/ 265 (C)	-11.481<<	46.146	-104.454
509/ 329/ 222 (C)	-1.744	47.145>>	8.363
509/ 329/ 206 (C)	1.886	-12.528<<	217.659
509/ 327/ 221 (C)	1.211	-3.836	347.684>>
509/ 327/ 265 (C)	-11.481	46.146	-115.936<<
510/ 327/ 251 (C)	5.125>>	5.499	133.557
510/ 327/ 262 (C)	-15.044<<	24.692	156.986
510/ 327/ 222 (C)	-2.595	47.019>>	6.738
510/ 327/ 266 (C)	-3.374	-21.877<<	273.122
510/ 327/ 221 (C)	-4.897	-16.705	347.095>>
510/ 325/ 265 (C)	-11.792	46.016	-127.407<<
511/ 325/ 251 (C)	2.697>>	0.368	138.616
511/ 325/ 262 (C)	-19.321<<	16.575	141.673
511/ 325/ 222 (C)	-3.608	46.753>>	4.246
511/ 325/ 266 (C)	-7.455	-30.380<<	269.205
511/ 325/ 221 (C)	-10.563	-28.226	341.556>>
511/ 323/ 265 (C)	-12.044	46.110	-139.162<<
512/ 323/ 213 (C)	1.575>>	-4.711	15.829
512/ 323/ 261 (C)	-23.612<<	-3.985	193.849
512/ 323/ 265 (C)	-12.144	46.670>>	-138.904
512/ 323/ 221 (C)	-15.827	-38.529<<	330.298
512/ 323/ 221 (C)	-15.827	-38.529	330.298>>
512/ 321/ 265 (C)	-12.144	46.670	-151.047<<
513/ 321/ 213 (C)	1.670>>	-4.356	17.349
513/ 321/ 261 (C)	-27.557<<	-10.532	169.690
513/ 321/ 265 (C)	-11.981	47.977>>	-150.820
513/ 321/ 221 (C)	-20.698	-47.660<<	313.723
513/ 321/ 221 (C)	-20.698	-47.660	313.723>>
513/ 319/ 265 (C)	-11.981	47.977	-162.802<<
514/ 319/ 213 (C)	1.762>>	-4.000	18.968
514/ 319/ 261 (C)	-30.814<<	-15.136	141.527
514/ 319/ 265 (C)	-11.422	50.376>>	-162.606
514/ 319/ 221 (C)	-25.163	-55.619<<	292.233
514/ 319/ 221 (C)	-25.163	-55.619	292.233>>
514/ 317/ 265 (C)	-11.422	50.376	-174.029<<
515/ 317/ 213 (C)	1.841>>	-3.661	20.682
515/ 317/ 261 (C)	-33.243<<	-17.467	110.058
515/ 317/ 265 (C)	-10.296	54.303>>	-173.865
515/ 317/ 221 (C)	-29.207	-62.391<<	266.243
515/ 317/ 221 (C)	-29.207	-62.391	266.243>>
515/ 315/ 265 (C)	-10.296	54.303	-184.161<<
516/ 315/ 213 (C)	1.900>>	-3.364	22.481
516/ 315/ 261 (C)	-34.677<<	-17.114	76.123
516/ 315/ 265 (C)	-8.383	60.318>>	-184.028
516/ 315/ 221 (C)	-32.823	-67.985<<	236.188
516/ 315/ 204 (C)	-25.454	-67.482	239.702>>
516/ 313/ 265 (C)	-8.383	60.318	-192.411<<
517/ 313/ 213 (C)	1.923>>	-3.144	24.344
517/ 313/ 221 (C)	-36.035<<	-72.484	202.517
517/ 313/ 223 (C)	-4.606	69.418>>	-189.108
517/ 313/ 204 (C)	-29.632	-75.160<<	213.577
517/ 313/ 204 (C)	-29.632	-75.160	213.577>>
517/ 311/ 265 (C)	-5.402	69.134	-197.707<<
518/ 311/ 213 (C)	1.944>>	-2.913	26.207
518/ 311/ 221 (C)	-38.373<<	-74.734	165.396
518/ 311/ 223 (C)	-0.406	81.459>>	-193.366
518/ 311/ 204 (C)	-33.130	-81.159<<	182.960
518/ 311/ 204 (C)	-33.130	-81.159	182.960>>
518/ 309/ 265 (C)	-1.534	80.306	-198.862<<
519/ 309/ 212 (C)	4.537>>	89.648	-164.856
519/ 309/ 221 (C)	-39.240<<	-73.257	125.890
519/ 309/ 223 (C)	4.078	94.345>>	-193.110
519/ 309/ 204 (C)	-35.074	-83.319<<	148.691
519/ 309/ 204 (C)	-35.074	-83.319	148.691>>
519/ 309/ 265 (C)	2.469	91.946	-198.167<<
520/ 307/ 223 (C)	7.957>>	105.856	-187.997
520/ 307/ 221 (C)	-38.687<<	-68.212	85.699
520/ 307/ 223 (C)	7.957	105.856>>	-187.997
520/ 307/ 204 (C)	-35.008	-80.559<<	112.516
520/ 307/ 204 (C)	-35.008	-80.559	112.516>>
520/ 307/ 265 (C)	5.665	101.700	-194.628<<
521/ 305/ 223 (C)	10.273>>	113.677	-178.920
521/ 305/ 221 (C)	-36.714<<	-59.708	46.255
521/ 305/ 223 (C)	10.273	113.677>>	-178.920
521/ 305/ 204 (C)	-32.908	-72.874<<	76.544
521/ 305/ 204 (C)	-32.908	-72.874	76.544>>
521/ 305/ 265 (C)	7.066	107.172	-187.813<<
522/ 628/ 223 (C)	11.161>>	118.119	-169.341
522/ 628/ 221 (C)	-33.972<<	-49.371	15.827
522/ 628/ 223 (C)	11.161	118.119>>	-169.341
522/ 628/ 204 (C)	-29.399	-61.801<<	48.943
522/ 628/ 204 (C)	-29.399	-61.801	48.943>>
522/ 628/ 265 (C)	6.813	108.695	-180.820<<
523/ 303/ 223 (C)	10.988>>	120.063	-161.354
523/ 303/ 221 (C)	-30.918<<	-38.320	-5.510
523/ 303/ 223 (C)	10.988	120.063>>	-161.354
523/ 303/ 204 (C)	-24.902	-48.378<<	30.131
523/ 301/ 213 (C)	4.864	5.506	41.705>>
523/ 303/ 265 (C)	5.312	107.236	-175.491<<
524/ 301/ 223 (C)	9.757>>	119.639	-149.454
524/ 301/ 221 (C)	-27.692<<	-26.960	-36.647
524/ 301/ 223 (C)	9.757	119.639>>	-149.454
524/ 301/ 204 (C)	-19.435	-32.679<<	4.743
524/ 299/ 213 (C)	6.055	8.753	47.767>>
524/ 299/ 262 (C)	-11.909	86.370	-170.988<<
525/ 299/ 223 (C)	8.228>>	118.694	-138.828
525/ 299/ 221 (C)	-24.728<<	-16.397	-64.238
525/ 299/ 223 (C)	8.228	118.694>>	-138.828
525/ 299/ 221 (C)	-24.728	-16.397<<	-64.238
525/ 297/ 213 (C)	7.227	11.973	55.057>>
525/ 297/ 262 (C)	-11.582	92.168	-181.711<<
526/ 297/ 213 (C)	8.302>>	14.957	55.115
526/ 297/ 221 (C)	-22.443<<	-7.680	-88.597
526/ 297/ 223 (C)	5.444	114.684>>	-129.701
526/ 297/ 221 (C)	-22.443	-7.680<<	-88.597
526/ 3/ 213 (C)	8.302	14.957	63.418>>
526/ 3/ 262 (C)	-13.014	93.549	-193.666<<
527/ 3/ 265 (C)	79.697>>	76.672	-170.869
527/ 3/ 213 (C)	-14.983<<	17.506	63.589
527/ 3/ 223 (C)	71.179	108.559>>	-122.834
527/ 3/ 211 (C)	8.516	-2.891<<	-82.936
527/ 3/ 213 (C)	-14.983	17.506	63.589>>
527/ 3/ 262 (C)	70.503	91.230	-192.078<<
528/ 295/ 265 (C)	72.991>>	63.061	-90.871
528/ 295/ 213 (C)	-13.965<<	20.354	48.728
528/ 295/ 223 (C)	66.356	99.666>>	-51.084
528/ 295/ 211 (C)	8.081	-1.605<<	-74.035
528/ 295/ 213 (C)	-13.965	20.354	48.728>>
528/ 295/ 261 (C)	54.882	73.582	-120.962<<
529/ 293/ 265 (C)	66.111>>	49.103	-17.763

655/	57/	124 (C)	-0.253<<	-1.984	4.868
655/	57/	166 (C)	15.744	36.344>>	-147.287
655/	57/	165 (C)	49.759	-85.434<<	160.143
655/	55/	165 (C)	49.759	-85.434	209.903>>
655/	57/	166 (C)	15.744	36.344	-147.287<<
656/	55/	163 (C)	53.021>>	-53.656	89.067
656/	55/	124 (C)	-0.278<<	-2.028	4.599
656/	55/	166 (C)	13.433	30.910>>	-131.465
656/	55/	165 (C)	40.822	-82.716<<	209.107
656/	53/	165 (C)	40.822	-82.716	249.929>>
656/	55/	166 (C)	13.433	30.910	-131.465<<
657/	53/	163 (C)	43.153>>	-53.070	141.438
657/	53/	124 (C)	-0.307<<	-2.082	4.304
657/	53/	166 (C)	11.999	27.628>>	-117.927
657/	53/	165 (C)	32.238	-79.157<<	249.179
657/	51/	165 (C)	32.238	-79.157	281.418>>
657/	53/	166 (C)	11.999	27.628	-117.927<<
658/	51/	163 (C)	34.220>>	-50.236	184.021
658/	51/	124 (C)	-0.337<<	-2.139	3.978
658/	51/	166 (C)	11.201	25.914>>	-105.790
658/	51/	165 (C)	24.014	-74.773<<	280.716
658/	49/	165 (C)	24.014	-74.773	304.730>>
658/	51/	166 (C)	11.201	25.914	-105.790<<
659/	49/	163 (C)	26.050>>	-45.572	217.764
659/	49/	124 (C)	-0.367<<	-2.195	3.622
659/	49/	166 (C)	10.850	25.284>>	-94.420
659/	49/	165 (C)	16.148	-69.542<<	304.093
659/	47/	165 (C)	16.148	-69.542	320.239>>
659/	49/	166 (C)	10.850	25.284	-94.420<<
660/	47/	163 (C)	18.510>>	-39.486	243.417
660/	47/	124 (C)	-0.394<<	-2.248	3.234
660/	47/	166 (C)	10.792	25.382>>	-83.363
660/	47/	165 (C)	8.648	-63.547<<	319.651
660/	45/	165 (C)	8.648	-63.547	328.299>>
660/	47/	166 (C)	10.792	25.382	-83.363<<
661/	45/	163 (C)	11.511>>	-32.141	261.632
661/	45/	124 (C)	-0.418<<	-2.292	2.819
661/	45/	166 (C)	10.899	25.864>>	-72.334
661/	45/	165 (C)	1.541	-56.640<<	327.781
661/	43/	165 (C)	1.541	-56.640	329.323>>
661/	45/	166 (C)	10.899	25.864	-72.334<<
662/	43/	166 (C)	11.059>>	26.458	-61.164
662/	43/	165 (C)	-5.117<<	-48.725	328.869
662/	43/	166 (C)	11.059	26.458>>	-61.164
662/	43/	165 (C)	-5.117	-48.725<<	328.869
662/	43/	165 (C)	-5.117	-48.725	328.869>>
662/	43/	166 (C)	11.059	26.458	-61.164<<
663/	41/	166 (C)	11.163>>	26.890	-49.805
663/	41/	165 (C)	-11.227<<	-39.527	323.365
663/	41/	166 (C)	11.163	26.890>>	-49.805
663/	41/	165 (C)	-11.227	-39.527<<	323.365
663/	41/	165 (C)	-11.227	-39.527	323.365>>
663/	41/	166 (C)	11.163	26.890	-49.805<<
664/	39/	166 (C)	11.098>>	26.888	-38.303
664/	39/	165 (C)	-16.629<<	-28.761	311.802
664/	39/	166 (C)	11.098	26.888>>	-38.303
664/	39/	165 (C)	-16.629	-28.761<<	311.802
664/	39/	165 (C)	-16.629	-28.761	311.802>>
664/	39/	166 (C)	11.098	26.888	-38.303<<
665/	37/	166 (C)	10.734>>	26.117	-26.834
665/	37/	165 (C)	-21.093<<	-15.769	294.897
665/	37/	166 (C)	10.734	26.117>>	-26.834
665/	37/	165 (C)	-21.093	-15.769<<	294.897
665/	37/	165 (C)	-21.093	-15.769	294.897>>
665/	37/	166 (C)	10.734	26.117	-26.834<<
666/	35/	166 (C)	9.914>>	24.185	-15.700
666/	35/	165 (C)	-24.296<<	0.244	273.583
666/	35/	166 (C)	9.914	24.185>>	-15.700
666/	35/	124 (C)	-0.401	-2.178<<	0.512
666/	35/	165 (C)	-24.296	0.244	273.583>>
666/	35/	166 (C)	9.914	24.185	-15.700<<
667/	33/	166 (C)	8.443>>	20.610	-5.348
667/	33/	165 (C)	-25.802<<	20.268	249.118
667/	33/	163 (C)	-18.068	39.874>>	244.341
667/	33/	124 (C)	-0.339	-2.011<<	0.082
667/	33/	165 (C)	-25.802	20.268	249.118>>
667/	33/	166 (C)	8.443	20.610	-5.348<<
668/	31/	166 (C)	6.072>>	14.769	3.561
668/	31/	165 (C)	-25.035<<	45.808	223.207
668/	31/	163 (C)	-19.476	60.040>>	226.596
668/	31/	124 (C)	-0.240	-1.749<<	-0.286
668/	31/	163 (C)	-19.476	60.040	226.596>>
668/	29/	124 (C)	-0.240	-1.749	-0.527<<
669/	29/	166 (C)	2.490>>	5.883	10.124
669/	29/	165 (C)	-21.249<<	78.696	198.131
669/	29/	163 (C)	-18.978	84.760>>	207.533
669/	29/	124 (C)	-0.091	-1.361<<	-0.557
669/	29/	163 (C)	-18.978	84.760	207.533>>
669/	374/	124 (C)	-0.091	-1.361	-0.671<<
670/	374/	124 (C)	0.155>>	-0.734	-0.702
670/	703/	163 (C)	-21.214<<	112.200	176.923
670/	374/	165 (C)	-13.960	120.246>>	171.638
670/	374/	164 (C)	-3.176	-8.329<<	13.695
670/	374/	163 (C)	-16.904	113.320	184.355>>
670/	374/	124 (C)	0.155	-0.734	-0.702<<
671/	703/	124 (C)	0.155>>	-0.734	-0.642
671/	702/	163 (C)	-32.314<<	109.369	150.041
671/	703/	165 (C)	-18.270	119.176>>	165.312
671/	703/	164 (C)	-3.176	-8.325<<	12.464
671/	703/	163 (C)	-21.214	112.254	176.889>>
671/	703/	124 (C)	0.155	-0.734	-0.642<<
672/	702/	124 (C)	0.155>>	-0.734	-0.487
672/	701/	163 (C)	-43.415<<	106.470	112.103
672/	702/	165 (C)	-29.370	116.277>>	141.420
672/	702/	164 (C)	-3.176	-8.326<<	9.287
672/	702/	163 (C)	-32.314	109.354	150.052>>
672/	702/	124 (C)	0.155	-0.734	-0.487<<
673/	701/	124 (C)	0.155>>	-0.734	-0.332
673/	700/	163 (C)	-54.515<<	103.585	63.054
673/	701/	165 (C)	-40.471	113.392>>	106.415
673/	701/	164 (C)	-3.176	-8.326<<	6.111
673/	701/	163 (C)	-43.415	106.470	112.103>>
673/	701/	124 (C)	0.155	-0.734	-0.332<<
674/	700/	124 (C)	0.155>>	-0.734	-0.176
674/	13/	163 (C)	-65.614<<	100.706	2.902
674/	700/	165 (C)	-51.571	110.513>>	60.300
674/	700/	164 (C)	-3.176	-8.326<<	2.936
674/	700/	163 (C)	-54.515	103.591	63.044>>
674/	13/	164 (C)	-3.176	-8.326	-0.240<<

560/	233/	213 (C)	53.074	36.334	59.872>>
560/	235/	223 (C)	71.811	61.155	-145.482<<
561/	233/	223 (C)	67.877>>	56.113	-73.016
561/	233/	205 (C)	-5.914<<	29.351	-68.589
561/	233/	263 (C)	52.314	57.567>>	0.842
561/	233/	212 (C)	8.315	-6.542<<	-60.406
561/	231/	266 (C)	58.962	31.935	111.065>>
561/	231/	205 (C)	-5.914	29.351	-74.503<<
562/	231/	223 (C)	62.995>>	48.834	-4.645
562/	231/	205 (C)	-5.257<<	32.541	-73.994
562/	231/	263 (C)	46.684	49.032>>	53.618
562/	231/	212 (C)	6.664	-8.023<<	-51.911
562/	229/	266 (C)	52.904	20.641	163.942>>
562/	229/	205 (C)	-5.257	32.541	-79.250<<
563/	229/	223 (C)	57.530>>	40.190	58.787
563/	229/	205 (C)	-4.819<<	35.107	-78.860
563/	229/	223 (C)	57.530	40.190>>	58.787
563/	229/	212 (C)	5.322	-8.943<<	-45.160
563/	227/	266 (C)	46.760	9.272	210.785>>
563/	227/	205 (C)	-4.819	35.107	-83.679<<
564/	227/	223 (C)	51.517>>	30.234	116.657
564/	227/	205 (C)	-4.386<<	37.625	-83.261
564/	227/	205 (C)	-4.386	37.625>>	-83.261
564/	227/	204 (C)	27.293	-14.816<<	146.201
564/	225/	266 (C)	40.250	-2.946	250.972>>
564/	225/	205 (C)	-4.386	37.625	-87.646<<
565/	225/	223 (C)	45.097>>	19.329	168.391
565/	225/	205 (C)	-3.988<<	40.002	-87.216
565/	225/	205 (C)	-3.988	40.002>>	-87.216
565/	225/	222 (C)	23.129	-25.018<<	167.193
565/	223/	266 (C)	33.534	-15.565	284.306>>
565/	223/	205 (C)	-3.988	40.002	-91.203<<
566/	223/	223 (C)	38.389>>	7.755	213.586
566/	223/	265 (C)	-3.675<<	39.447	-74.230
566/	223/	205 (C)	-3.642	42.212>>	-90.761
566/	223/	222 (C)	16.252	-37.770<<	190.188
566/	221/	266 (C)	26.735	-28.307	310.711>>
566/	221/	205 (C)	-3.642	42.212	-94.404<<
567/	221/	223 (C)	31.498>>	-4.214	251.956
567/	221/	265 (C)	-4.099<<	40.708	-77.453
567/	221/	205 (C)	-3.357	44.235>>	-93.958
567/	221/	222 (C)	9.604	-50.097<<	206.183
567/	219/	266 (C)	19.946	-40.920	330.205>>
567/	219/	205 (C)	-3.357	44.235	-97.315<<
568/	219/	223 (C)	24.515>>	-16.437	283.315
568/	219/	224 (C)	-4.784<<	-26.697	168.857
568/	219/	205 (C)	-3.133	46.107>>	-96.856
568/	219/	222 (C)	3.315	-61.754<<	215.403
568/	217/	266 (C)	13.241	-53.317	342.870>>
568/	217/	205 (C)	-3.133	46.107	-99.989<<
569/	217/	223 (C)	17.520>>	-28.642	307.574
569/	217/	224 (C)	-9.628<<	-33.863	163.732
569/	217/	205 (C)	-2.964	47.821>>	-99.532
569/	217/	222 (C)	-2.488	-72.375<<	218.230
569/	215/	266 (C)	6.682	-65.259	348.865>>
569/	215/	205 (C)	-2.964	47.821	-102.496<<
570/	215/	223 (C)	10.591>>	-40.675	324.723
570/	215/	224 (C)	-13.571<<	-38.900	153.689
570/	215/	205 (C)	-2.840	49.423>>	-102.040
570/	215/	222 (C)	-7.675	-81.670<<	215.156
570/	213/	266 (C)	0.326	-76.643	348.394>>
570/	213/	205 (C)	-2.840	49.423	-104.879<<
571/	213/	223 (C)	3.797>>	-52.335	334.834
571/	213/	224 (C)	-16.855<<	-42.335	139.652
571/	213/	205 (C)	-2.745	50.949>>	-104.430
571/	213/	222 (C)	-12.109	-89.300<<	206.824
571/	213/	266 (C)	-5.771	-87.302	347.502>>
571/	211/	205 (C)	-2.745	50.949	-107.175<<
572/	211/	252 (C)	2.486>>	11.392	-16.108
572/	211/	224 (C)	-19.571<<	-44.403	122.277
572/	211/	205 (C)	-2.658	52.493>>	-106.720
572/	211/	266 (C)	-11.549	-97.194<<	340.724
572/	211/	266 (C)	-11.549	-97.194	340.724>>
572/	209/	205 (C)	-2.658	52.493	-109.379<<
573/	209/	252 (C)	2.508>>	11.584	-13.491
573/	209/	224 (C)	-21.797<<	-45.232	102.153
573/	209/	205 (C)	-2.552	54.102>>	-108.935
573/	209/	266 (C)	-16.943	-106.064<<	328.084
573/	209/	223 (C)	-9.104	-74.069	334.547>>
573/	207/	265 (C)	-6.703	47.528	-113.075<<
574/	207/	252 (C)	2.504>>	11.698	-10.851
574/	207/	263 (C)	-26.646<<	-66.363	195.054
574/	207/	205 (C)	-2.388	55.892>>	-111.052
574/	207/	266 (C)	-21.880	-113.766<<	309.966
574/	207/	223 (C)	-15.072	-83.752	324.654>>
574/	205/	265 (C)	-6.900	49.263	-119.606<<
575/	205/	252 (C)	2.469>>	11.721	-8.215
575/	205/	263 (C)	-30.851<<	-71.067	167.559
575/	205/	205 (C)	-2.118	57.982>>	-113.021
575/	205/	266 (C)	-26.277	-120.073<<	286.848
575/	205/	223 (C)	-20.630	-92.413	308.717>>
575/	203/	265 (C)	-6.883	51.556	-126.147<<
576/	203/	252 (C)	2.396>>	11.639	-5.612
576/	203/	263 (C)	-34.235<<	-73.721	135.762
576/	203/	205 (C)	-1.678	60.578>>	-114.719
576/	203/	266 (C)	-30.045	-124.854<<	259.243
576/	203/	223 (C)	-25.715	-100.000	287.128>>
576/	201/	265 (C)	-6.554	54.702	-132.369<<
577/	201/	252 (C)	2.275>>	11.427	-3.082
577/	201/	263 (C)	-36.608<<	-73.800	100.526
577/	201/	205 (C)	-0.985	63.865>>	-115.996
577/	201/	206 (C)	-30.629	-127.939<<	230.012
577/	201/	223 (C)	-30.277	-106.311	260.410>>
577/	199/	265 (C)	-5.788	58.995	-137.851<<
578/	199/	252 (C)	2.096>>	11.058	-0.673
578/	199/	263 (C)	-37.747<<	-70.763	62.873
578/	199/	205 (C)	0.068	68.134>>	-116.591
578/	199/	206 (C)	-33.130	-130.582<<	198.150
578/	199/	223 (C)	-34.286	-111.310	229.093>>
578/	197/	265 (C)	-4.422	64.866	-141.985<<
579/	197/	252 (C)	1.843>>	10.496	1.554
579/	197/	223 (C)	-37.745<<	-115.005	193.768
579/	197/	205 (C)	1.617	73.728>>	-116.152
579/	197/	206 (C)	-34.870	-131.425<<	163.800
579/	197/	223 (C)	-37.745	-115.005	193.768>>
579/	195/	265 (C)	-2.254	72.825	-143.973<<
580/	195/	205 (C)	3.493>>	80.259	-113.970
580/	195/	223 (C)	-40.155<<	-116.205	154.708
580/	195/	265 (C)	0.542	82.483>>	-143.464
580/	195/	206 (C)	-35.469	-129.560<<	127.506
580/	195/	223 (C)	-40.155	-116.205	154.708>>
580/	195/	265 (C)	0.542	82.483	-143.464<<
581/	193/	205 (C)	5.173>>	86.394	-109.730
581/	193/	223 (C)	-40.901<<	-113.333	113.207
581/	193/	265 (C)	3.310	92.161>>	-142.155
581/	193/	206 (C)	-34.488	-123.849<<	90.629
581/	193/	223 (C)	-40.901	-113.333	113.207>>
581/	193/	265 (C)	3.310	92.161	-142.155<<
582/	191/	205 (C)	6.056>>	90.644	-103.602
582/	191/	223 (C)	-40.064<<	-106.628	71.159
582/	191/	265 (C)	5.211	99.776>>	-137.757
582/	191/	206 (C)	-32.049	-114.627<<	54.934
582/	191/	223 (C)	-40.064	-106.628	71.159>>
582/	191/	265 (C)	5.211	99.776	-137.757<<
583/	189/	205 (C)	5.380>>	91.169	-96.555
583/	189/	223 (C)	-37.703<<	-96.342	30.155
583/	189/	265 (C)	5.238	102.885>>	-131.384
583/	189/	206 (C)	-28.048	-101.735<<	21.859
583/	189/	223 (C)	-37.703	-96.342	30.155>>
583/	362/	224 (C)	-12.259	30.908	-141.542<<
584/	362/	265 (C)	3.836>>	102.593	-126.898
584/	362/	223 (C)	-34.624<<	-84.409	6.044
584/	362/	265 (C)	3.836	102.593>>	-126.898
584/	362/	206 (C)	-23.216	-86.913<<	3.605
584/	362/	204 (C)	-16.338	-66.040	9.439>>
584/	187/	224 (C)	-10.099	41.947	-147.081<<
585/	187/	265 (C)	1.107>>	99.069	-123.366
585/	187/	223 (C)	-30.984<<	-71.217	-15.865
585/	187/	265 (C)	1.107	99.069>>	-123.366
585/	187/	223 (C)	-30.984	-71.217<<	-15.865
585/	187/	212 (C)	-0.497	0.092	8.286>>
585/	185/	224 (C)	-8.873	50.636	-155.278<<
586/	185/	221 (C)	0.316>>	-1.491	-1.461
586/	185/	223 (C)	-26.693<<	-56.635	-47.366
586/	185/	265 (C)	-3.287	91.619>>	-121.220
586/	185/	223 (C)	-26.693	-56.635<<	-47.366
586/	185/	212 (C)	-1.042	-0.871	7.847>>
586/	183/	224 (C)	-8.878	56.343	-163.500<<
587/	183/	222 (C)	1.706>>	-24.816	-43.767
587/	183/	223 (C)	-22.109<<	-41.596	-74.204
587/	183/	265 (C)	-8.507	82.218>>	-123.622
587/	183/	223 (C)	-22.109	-41.596<<	-74.204
587/	183/	212 (C)	-1.604	-1.908	6.842>>
587/	181/	224 (C)	-9.778	59.784	-172.440<<
588/	181/	264 (C)	5.255>>	-2.821	-38.045
588/	181/	223 (C)	-17.476<<	-26.711	-96.090
588/	181/	265 (C)	-14.895	69.894>>	-131.360
588/	181/	223 (C)	-17.476	-26.711<<	-96.090
588/	181/	212 (C)	-2.124	-2.865	5.246>>
588/	7/	224 (C)	-12.427	58.743	-183.858<<
589/	7/	265 (C)	70.849>>	56.891	-145.399
589/	7/	206 (C)	-13.164<<	3.818	-40.894
589/	7/	261 (C)	54.398	64.953>>	-160.690
589/	7/	223 (C)	3.027	-14.006<<	-113.108
589/	179/	212 (C)	0.590	-3.606	3.670>>
589/	7/	224 (C)	68.996	54.327	-182.572<<
590/	179/	265 (C)	63.759>>	42.821	-74.340
590/	179/	204 (C)	-9.696<<	14.017	-30.239
590/	179/	261 (C)	51.223	62.114>>	-105.486
590/	179/	223 (C)	5.163	-5.814<<	-109.454
590/	177/	212 (C)	0.300	-4.032	3.943>>
590/	179/	263 (C)	52.198	61.469	-122.359<<
591/	177/	265 (C)	56.938>>	29.413	-10.536
591/	177/	204 (C)	-7.701<<	20.481	-39.398
591/	177/	261 (C)	46.938	56.396>>	-53.585
591/	177/	213 (C)	10.083	-5.558<<	-69.127
591/	175/	265 (C)	56.938	29.413	46.402>>
591/	177/	223 (C)	6.003	-1.090	-103.669<<
592/	175/	265 (C)	50.808>>	17.793	46.340

592/	175/	204 (C)	-6.541<<	24.783	-46.615
592/	175/	263 (C)	43.338	50.109>>	-20.804
592/	175/	213 (C)	8.323	-7.070<<	-58.758
592/	173/	265 (C)	50.808	17.793	97.148>>
592/	175/	223 (C)	5.878	0.997	-97.206<<
593/	173/	265 (C)	45.217>>	7.555	97.089
593/	173/	204 (C)	-5.907<<	27.723	-52.734
593/	173/	263 (C)	38.514	43.390>>	23.032
593/	173/	213 (C)	6.648	-8.591<<	-50.262
593/	171/	265 (C)	45.217	7.555	142.305>>
593/	173/	223 (C)	5.349	1.898	-91.018<<
594/	171/	265 (C)	39.689>>	-2.475	142.335
594/	171/	204 (C)	-5.469<<	30.115	-58.304
594/	171/	264 (C)	-3.687	40.344>>	-60.346
594/	171/	213 (C)	5.292	-9.534<<	-43.533
594/	169/	265 (C)	39.689	-2.475	182.024>>
594/	171/	223 (C)	4.904	2.821	-85.498<<
595/	169/	265 (C)	33.949>>	-12.990	181.934
595/	169/	204 (C)	-5.064<<	32.380	-63.423
595/	169/	264 (C)	-3.677	42.215>>	-63.575
595/	169/	205 (C)	26.628	-14.799<<	145.794
595/	167/	265 (C)	33.949	-12.990	215.883>>
595/	167/	206 (C)	-4.069	36.341	-86.032<<
596/	167/	265 (C)	28.113>>	-23.765	215.676
596/	167/	204 (C)	-4.709<<	34.503	-68.119
596/	167/	264 (C)	-3.762	43.829>>	-66.782
596/	167/	224 (C)	22.756	-26.418<<	168.702
596/	165/	265 (C)	28.113	-23.765	243.790>>
596/	165/	206 (C)	-3.670	38.753	-89.279<<
597/	165/	265 (C)	22.267>>	-34.531	243.475
597/	165/	204 (C)	-4.411<<	36.452	-72.455
597/	165/	264 (C)	-3.937	45.183>>	-70.079
597/	165/	224 (C)	15.856	-39.220<<	191.312
597/	163/	265 (C)	22.267	-34.531	265.741>>
597/	163/	206 (C)	-3.318	41.001	-92.165<<
598/	163/	265 (C)	16.472>>	-45.155	265.323
598/	163/	264 (C)	-4.193<<	46.319	-73.555
598/	163/	264 (C)	-4.193	46.319>>	-73.555
598/	163/	224 (C)	9.191	-51.605<<	206.894
598/	161/	265 (C)	16.472	-45.155	281.795>>
598/	161/	206 (C)	-3.020	43.083	-94.746<<
599/	161/	265 (C)	10.780>>	-55.493	281.283
599/	161/	264 (C)	-4.517<<	47.269	-77.298
599/	161/	264 (C)	-4.517	47.269>>	-77.298
599/	161/	224 (C)	2.888	-63.247<<	215.698
599/	159/	265 (C)	10.780	-55.493	292.063>>
599/	159/	206 (C)	-2.779	44.998	-97.084<<
600/	159/	223 (C)	5.332>>	13.149	-54.866
600/	159/	264 (C)	-4.890<<	48.112	-81.366
600/	159/	264 (C)	-4.890	48.112>>	-81.366
600/	159/	224 (C)	-2.922	-73.904<<	218.079
600/	157/	265 (C)	5.233	-65.525	296.679>>
600/	157/	206 (C)	-2.586	46.797	-99.219<<
601/	157/	223 (C)	5.502>>	14.716	-49.265
601/	157/	224 (C)	-8.111<<	-83.205	214.557
601/	157/	264 (C)	-5.290	48.892>>	-85.823
601/	157/	224 (C)	-8.111	-83.205<<	214.557
601/	157/	265 (C)	-0.131	-75.080	295.976>>
601/	155/	206 (C)	-2.434	48.487	-101.205<<
602/	155/	223 (C)	5.644>>	16.116	-43.489
602/	155/	224 (C)	-12.543<<	-90.826	205.773
602/	155/	206 (C)	-2.304	50.115>>	-100.764
602/	155/	224 (C)	-12.543	-90.826<<	205.773

602/	155/	265 (C)	-5.273	-84.060	295.063>>
602/	153/	206 (C)	-2.304	50.115	-103.069<<
603/	153/	223 (C)	5.748>>	17.340	-37.562
603/	153/	224 (C)	-15.933<<	-96.165	192.478
603/	153/	206 (C)	-2.178	51.772>>	-102.621
603/	153/	224 (C)	-15.933	-96.165<<	192.478
603/	153/	265 (C)	-10.148	-92.450	288.910>>
603/	151/	206 (C)	-2.178	51.772	-104.799<<
604/	151/	223 (C)	5.803>>	18.358	-31.528
604/	151/	262 (C)	-19.254<<	-44.846	160.793
604/	151/	206 (C)	-2.027	53.507>>	-104.362
604/	151/	265 (C)	-14.707	-100.043<<	277.813
604/	151/	265 (C)	-14.707	-100.043	277.813>>
604/	149/	266 (C)	-6.286	46.733	-108.570<<
605/	149/	223 (C)	5.798>>	19.148	-25.438
605/	149/	262 (C)	-23.185<<	-49.612	140.946
605/	149/	206 (C)	-1.816	55.418>>	-105.965
605/	149/	265 (C)	-18.892	-106.707<<	262.098
605/	149/	265 (C)	-18.892	-106.707	262.098>>
605/	147/	266 (C)	-6.416	48.630	-114.629<<
606/	147/	223 (C)	5.719>>	19.690	-19.347
606/	147/	262 (C)	-26.517<<	-52.888	117.085
606/	147/	206 (C)	-1.499	57.663>>	-107.353
606/	147/	265 (C)	-22.640	-112.363<<	242.112
606/	147/	265 (C)	-22.640	-112.363	242.112>>
606/	145/	266 (C)	-6.328	51.130	-120.608<<
607/	145/	223 (C)	5.551>>	19.940	-13.333
607/	145/	262 (C)	-29.098<<	-54.250	89.830
607/	145/	206 (C)	-1.016	60.369>>	-108.439
607/	145/	265 (C)	-25.879	-116.764<<	218.336
607/	145/	265 (C)	-25.879	-116.764	218.336>>
607/	143/	266 (C)	-5.929	54.446	-126.210<<
608/	143/	223 (C)	5.272>>	19.852	-7.489
608/	143/	262 (C)	-30.746<<	-53.247	59.946
608/	143/	206 (C)	-0.290	63.740>>	-109.056
608/	143/	265 (C)	-28.533	-119.735<<	191.292
608/	143/	265 (C)	-28.533	-119.735	191.292>>
608/	141/	266 (C)	-5.096	58.893	-131.002<<
609/	141/	223 (C)	4.855>>	19.364	-1.921
609/	141/	262 (C)	-31.253<<	-49.367	28.367
609/	141/	264 (C)	-3.774	68.461>>	-130.293
609/	141/	265 (C)	-30.528	-121.151<<	161.545
609/	141/	265 (C)	-30.528	-121.151	161.545>>
609/	139/	266 (C)	-3.681	64.901	-134.381<<
610/	139/	223 (C)	4.269>>	18.397	3.227
610/	139/	265 (C)	-31.797<<	-120.807	129.810
610/	139/	264 (C)	-1.602	76.231>>	-133.772
610/	139/	265 (C)	-31.797	-120.807<<	129.810
610/	139/	265 (C)	-31.797	-120.807	129.810>>
610/	137/	266 (C)	-1.493	72.921	-135.587<<
611/	137/	206 (C)	4.115>>	79.983	-104.909
611/	137/	265 (C)	-31.958<<	-117.752	96.680
611/	137/	264 (C)	1.141	85.533>>	-134.854
611/	137/	265 (C)	-31.958	-117.752<<	96.680
611/	137/	265 (C)	-31.958	-117.752	96.680>>
611/	137/	266 (C)	1.269	82.459	-135.072<<
612/	135/	206 (C)	5.668>>	85.819	-100.024
612/	135/	265 (C)	-30.646<<	-111.114	63.406
612/	135/	264 (C)	3.761	94.670>>	-132.897
612/	135/	265 (C)	-30.646	-111.114<<	63.406
612/	135/	265 (C)	-30.646	-111.114	63.406>>
612/	135/	266 (C)	3.907	91.817	-132.994<<
613/	133/	206 (C)	6.341>>	89.550	-93.382

613/	133/	265 (C)	-28.085<<	-101.449	31.703
613/	133/	264 (C)	5.363	101.364>>	-127.996
613/	133/	265 (C)	-28.085	-101.449<<	31.703
613/	133/	205 (C)	-22.452	-84.712	35.696>>
613/	133/	264 (C)	5.363	101.364	-127.996<<
614/	131/	206 (C)	5.343>>	89.267	-86.038
614/	131/	265 (C)	-24.273<<	-88.864	2.768
614/	131/	264 (C)	4.885	103.033>>	-121.424
614/	131/	265 (C)	-24.273	-88.864<<	2.768
614/	366/	223 (C)	0.886	11.526	16.510>>
614/	131/	264 (C)	4.885	103.033	-121.424<<
615/	366/	266 (C)	3.673>>	100.241	-118.148
615/	366/	265 (C)	-20.051<<	-75.328	-6.991
615/	366/	264 (C)	3.489	102.551>>	-118.411
615/	366/	265 (C)	-20.051	-75.328<<	-6.991
615/	366/	223 (C)	-0.029	9.597	16.637>>
615/	129/	262 (C)	-14.151	24.742	-122.096<<
616/	129/	204 (C)	1.122>>	80.256	-83.827
616/	129/	265 (C)	-15.045<<	-59.971	-20.018
616/	129/	264 (C)	0.840	99.038>>	-115.116
616/	129/	265 (C)	-15.045	-59.971<<	-20.018
616/	129/	223 (C)	-1.006	7.512	16.753>>
616/	127/	262 (C)	-11.766	35.945	-133.476<<
617/	127/	212 (C)	0.194>>	-1.129	-0.788
617/	127/	263 (C)	-10.425<<	46.625	-130.464
617/	127/	264 (C)	-3.408	91.738>>	-113.271
617/	127/	265 (C)	-9.142	-42.549<<	-35.638
617/	127/	223 (C)	-2.143	5.018	15.884>>
617/	125/	262 (C)	-10.019	45.592	-143.113<<
618/	125/	224 (C)	1.799>>	-25.058	-42.934
618/	125/	203 (C)	-9.914<<	41.750	-107.183
618/	125/	264 (C)	-8.476	82.510>>	-115.815
618/	125/	205 (C)	-2.832	-25.123<<	-27.156
618/	125/	223 (C)	-3.323	2.394	13.825>>
618/	123/	262 (C)	-8.768	53.985	-151.268<<
619/	123/	224 (C)	5.055>>	-16.026	-41.122
619/	123/	264 (C)	-14.717<<	70.376	-123.527
619/	123/	264 (C)	-14.717	70.376>>	-123.527
619/	123/	224 (C)	5.055	-16.026<<	-41.122
619/	123/	223 (C)	-4.448	-0.119	10.522>>
619/	9/	262 (C)	-8.941	58.764	-159.352<<
620/	9/	264 (C)	68.773>>	57.417	-137.436
620/	9/	205 (C)	-10.259<<	0.392	-27.549
620/	9/	261 (C)	54.060	60.243>>	-158.115
620/	9/	224 (C)	-2.491	-8.380<<	-35.918
620/	121/	223 (C)	1.494	-2.191	7.517>>
620/	9/	262 (C)	54.009	60.123	-158.118<<
621/	121/	264 (C)	61.836>>	43.544	-68.459
621/	121/	205 (C)	-7.434<<	9.013	-37.346
621/	121/	261 (C)	50.753	56.995>>	-103.305
621/	121/	213 (C)	0.287	-4.043<<	3.365
621/	119/	223 (C)	0.823	-3.611	8.281>>
621/	121/	262 (C)	50.719	56.921	-103.358<<
622/	119/	264 (C)	55.166>>	30.338	-6.566
622/	119/	205 (C)	-5.685<<	14.853	-44.295
622/	119/	261 (C)	46.409	51.065>>	-51.917
622/	119/	223 (C)	0.386	-4.462<<	8.217
622/	117/	266 (C)	55.053	28.933	49.240>>
622/	117/	265 (C)	-2.684	23.181	-57.741<<
623/	117/	264 (C)	49.178>>	18.901	48.557
623/	117/	205 (C)	-4.740<<	18.609	-49.554
623/	117/	261 (C)	41.773	44.398>>	-5.029
623/	117/	223 (C)	0.113	-4.923<<	8.549

529/	293/	213 (C)	-13.046<<	22.969	34.909
529/	293/	223 (C)	60.714	88.896>>	15.684
529/	293/	211 (C)	7.193	-1.652<<	-65.596
529/	291/	223 (C)	60.714	88.896	76.400>>
529/	293/	221 (C)	8.467	3.367	-91.803<<
530/	291/	265 (C)	59.718>>	36.544	48.346
530/	291/	213 (C)	-12.178<<	25.492	22.075
530/	291/	223 (C)	55.289	78.926>>	76.761
530/	291/	211 (C)	6.025	-2.570<<	-58.161
530/	289/	223 (C)	55.289	78.926	132.046>>
530/	291/	221 (C)	7.372	2.794	-82.969<<
531/	289/	265 (C)	53.716>>	25.125	108.051
531/	289/	213 (C)	-11.471<<	27.645	10.147
531/	289/	223 (C)	49.895	69.272>>	132.449
531/	289/	211 (C)	4.869	-3.622<<	-51.992
531/	287/	223 (C)	49.895	69.272	182.345>>
531/	289/	221 (C)	6.150	1.727	-75.368<<
532/	287/	265 (C)	47.620>>	13.601	161.861
532/	287/	213 (C)	-10.956<<	29.359	-1.061
532/	287/	223 (C)	43.992	58.533>>	182.887
532/	287/	211 (C)	3.960	-4.195<<	-47.063
532/	285/	223 (C)	43.992	58.533	226.880>>
532/	285/	204 (C)	-4.943	34.113	-74.224<<
533/	285/	265 (C)	41.154>>	1.310	209.432
533/	285/	213 (C)	-10.606<<	30.700	-11.759
533/	285/	266 (C)	-5.776	46.814>>	-49.580
533/	285/	212 (C)	28.934	-8.622<<	179.383
533/	283/	223 (C)	37.324	46.106	264.578>>
533/	283/	204 (C)	-4.713	35.936	-78.569<<
534/	283/	265 (C)	34.479>>	-11.411	250.403
534/	283/	213 (C)	-10.390<<	31.749	-22.105
534/	283/	266 (C)	-6.017	47.582>>	-54.883
534/	283/	212 (C)	22.577	-20.406<<	208.091
534/	281/	223 (C)	30.134	32.517	294.938>>
534/	281/	204 (C)	-4.480	37.743	-82.664<<
535/	281/	205 (C)	28.310>>	-22.423	246.222
535/	281/	213 (C)	-10.282<<	32.576	-32.239
535/	281/	266 (C)	-6.347	48.122>>	-60.432
535/	281/	212 (C)	16.344	-31.850<<	230.324
535/	279/	223 (C)	22.611	18.246	317.622>>
535/	279/	204 (C)	-4.267	39.476	-86.535<<
536/	279/	205 (C)	22.879>>	-32.320	274.185
536/	279/	213 (C)	-10.258<<	33.246	-42.265
536/	279/	266 (C)	-6.758	48.467>>	-66.312
536/	279/	212 (C)	10.363	-42.672<<	246.208
536/	277/	265 (C)	20.959	-37.015	332.803>>
536/	277/	204 (C)	-4.088	41.116	-90.217<<
537/	277/	205 (C)	17.322>>	-42.403	296.639
537/	277/	213 (C)	-10.298<<	33.804	-52.281
537/	277/	266 (C)	-7.238	48.633>>	-72.623
537/	277/	212 (C)	4.749	-52.526<<	256.020
537/	275/	265 (C)	14.280	-49.439	346.532>>
537/	275/	204 (C)	-3.948	42.632	-93.764<<
538/	275/	205 (C)	11.628>>	-52.791	313.444
538/	275/	213 (C)	-10.379<<	34.323	-62.341
538/	275/	266 (C)	-7.771	48.687>>	-79.422
538/	275/	265 (C)	7.741	-61.476<<	345.864
538/	273/	265 (C)	7.741	-61.476	353.605>>
538/	273/	204 (C)	-3.847	44.061	-97.204<<
539/	273/	252 (C)	6.768>>	-10.835	154.538
539/	273/	222 (C)	-13.479<<	-40.242	162.698
539/	273/	266 (C)	-8.336	48.679>>	-86.768
539/	273/	265 (C)	1.396	-72.963<<	352.829

539/	271/	265 (C)	1.396	-72.963	354.225>>
539/	271/	206 (C)	-7.340	46.998	-103.740<<
540/	271/	221 (C)	4.166>>	8.904	-33.936
540/	271/	222 (C)	-16.806<<	-43.897	148.722
540/	271/	266 (C)	-8.905	48.696>>	-94.691
540/	271/	265 (C)	-4.700	-83.809<<	353.337
540/	271/	265 (C)	-4.700	-83.809	353.337>>
540/	269/	206 (C)	-7.369	48.046	-110.718<<
541/	269/	221 (C)	4.235>>	9.943	-29.576
541/	269/	223 (C)	-22.698<<	-65.382	312.712
541/	269/	206 (C)	-7.385	49.149>>	-110.347
541/	269/	265 (C)	-10.494	-93.778<<	347.669
541/	269/	265 (C)	-10.494	-93.778	347.669>>
541/	267/	206 (C)	-7.385	49.149	-117.732<<
542/	267/	221 (C)	4.282>>	10.856	-25.142
542/	267/	223 (C)	-29.369<<	-76.813	289.135
542/	267/	206 (C)	-7.352	50.442>>	-117.367
542/	267/	265 (C)	-15.921	-102.828<<	336.108
542/	267/	265 (C)	-15.921	-102.828	336.108>>
542/	265/	206 (C)	-7.352	50.442	-124.719<<
543/	265/	221 (C)	4.294>>	11.616	-20.658
543/	265/	223 (C)	-35.502<<	-86.837	258.769
543/	265/	206 (C)	-7.219	52.048>>	-124.368
543/	265/	265 (C)	-20.917	-110.767<<	319.035
543/	265/	265 (C)	-20.917	-110.767	319.035>>
543/	263/	266 (C)	-10.207	49.954	-132.056<<
544/	263/	221 (C)	4.261>>	12.202	-16.157
544/	263/	223 (C)	-40.950<<	-95.115	222.149
544/	263/	206 (C)	-6.918	54.159>>	-131.247
544/	263/	265 (C)	-25.407	-117.446<<	296.879
544/	263/	265 (C)	-25.407	-117.446	296.879>>
544/	261/	266 (C)	-10.281	51.396	-142.017<<
545/	261/	221 (C)	4.170>>	12.583	-11.690
545/	261/	223 (C)	-45.541<<	-101.161	180.000
545/	261/	206 (C)	-6.360	56.972>>	-137.852
545/	261/	265 (C)	-29.314	-122.592<<	270.195
545/	261/	265 (C)	-29.314	-122.592	270.195>>
545/	259/	266 (C)	-10.002	53.760	-151.739<<
546/	259/	221 (C)	4.005>>	12.728	-7.312
546/	259/	223 (C)	-49.072<<	-104.535	133.165
546/	259/	206 (C)	-5.425	60.837>>	-143.914
546/	259/	265 (C)	-32.559	-126.100<<	239.545
546/	259/	205 (C)	-29.713	-124.838	239.735>>
546/	257/	266 (C)	-9.221	57.476	-160.702<<
547/	257/	221 (C)	3.751>>	12.596	-3.098
547/	257/	223 (C)	-51.309<<	-104.637	82.737
547/	257/	206 (C)	-3.959	66.141>>	-149.058
547/	257/	205 (C)	-32.453	-128.086<<	208.834
547/	257/	205 (C)	-32.453	-128.086	208.834>>
547/	255/	266 (C)	-7.738	63.036	-168.212<<
548/	255/	221 (C)	3.383>>	12.133	0.862
548/	255/	223 (C)	-51.985<<	-100.816	30.019
548/	255/	206 (C)	-1.761	73.412>>	-152.747
548/	255/	205 (C)	-34.526	-129.802<<	175.176
548/	255/	205 (C)	-34.526	-129.802	175.176>>
548/	253/	266 (C)	-5.302	71.101	-173.303<<
549/	253/	221 (C)	2.891>>	11.319	4.438
549/	253/	223 (C)	-50.686<<	-92.038	-23.393
549/	253/	206 (C)	0.984	82.150>>	-154.029
549/	253/	205 (C)	-35.538	-128.943<<	139.268
549/	253/	205 (C)	-35.538	-128.943	139.268>>
549/	251/	266 (C)	-2.057	81.262	-174.929<<
550/	251/	204 (C)	4.776>>	82.947	-115.567

550/	251/	223 (C)	-47.372<<	-78.216	-75.290
550/	251/	266 (C)	1.343	91.933>>	-174.210
550/	251/	205 (C)	-34.979	-124.286<<	102.306
550/	251/	205 (C)	-34.979	-124.286	102.306>>
550/	251/	266 (C)	1.343	91.933	-174.210<<
551/	249/	213 (C)	7.637>>	97.616	-151.312
551/	249/	223 (C)	-42.888<<	-61.491	-123.345
551/	249/	266 (C)	4.064	101.019>>	-171.799
551/	249/	205 (C)	-32.881	-115.910<<	66.054
551/	249/	205 (C)	-32.881	-115.910	66.054>>
551/	249/	266 (C)	4.064	101.019	-171.799<<
552/	247/	213 (C)	8.953>>	103.320	-142.623
552/	247/	223 (C)	-37.832<<	-43.482	-166.630
552/	247/	266 (C)	5.108	106.068>>	-166.612
552/	247/	205 (C)	-29.050	-103.426<<	32.089
552/	247/	205 (C)	-29.050	-103.426	32.089>>
552/	358/	223 (C)	-37.832	-43.482	-199.503<<
553/	358/	213 (C)	8.592>>	105.045	-133.683
553/	358/	223 (C)	-32.817<<	-25.663	-199.575
553/	358/	266 (C)	4.483	107.132>>	-160.950
553/	358/	205 (C)	-23.975	-88.037<<	5.946
553/	245/	221 (C)	0.304	6.214	12.921>>
553/	245/	223 (C)	-32.817	-25.663	-219.718<<
554/	245/	213 (C)	6.961>>	103.747	-127.300
554/	245/	223 (C)	-27.956<<	-8.289	-219.836
554/	245/	266 (C)	2.643	105.287>>	-157.055
554/	245/	205 (C)	-18.043	-70.658<<	-9.608
554/	245/	221 (C)	-0.462	4.615	13.015>>
554/	243/	223 (C)	-27.956	-8.289	-247.792<<
555/	243/	213 (C)	3.696>>	98.634	-119.374
555/	243/	223 (C)	-22.556<<	10.316	-248.021
555/	243/	266 (C)	-0.582	100.217>>	-153.476
555/	243/	205 (C)	-11.128	-51.027<<	-28.327
555/	243/	221 (C)	-1.339	2.732	12.651>>
555/	241/	223 (C)	-22.556	10.316	-270.578<<
556/	241/	213 (C)	-0.921>>	90.449	-114.805
556/	241/	223 (C)	-16.717<<	29.966	-270.404
556/	241/	266 (C)	-4.457	93.731>>	-153.219
556/	241/	205 (C)	-3.896	-30.764<<	-39.717
556/	241/	221 (C)	-2.241	0.760	11.372>>
556/	239/	223 (C)	-16.717	29.966	-287.121<<
557/	239/	205 (C)	2.989>>	-11.491	-43.466
557/	239/	206 (C)	-14.057<<	65.336	-140.396
557/	239/	266 (C)	-9.676	83.926>>	-156.893
557/	239/	205 (C)	2.989	-11.491<<	-43.466
557/	239/	221 (C)	-3.091	-1.099	9.141>>
557/	5/	223 (C)	-11.961	46.746	-298.333<<
558/	5/	266 (C)	79.397>>	72.281	-165.526
558/	5/	205 (C)	-13.681<<	4.765	-39.937
558/	5/	263 (C)	67.182	78.192>>	-189.452
558/	5/	212 (C)	12.578	-5.325<<	-95.886
558/	237/	221 (C)	0.943	-2.614	6.940>>
558/	5/	223 (C)	74.859	59.297	-296.807<<
559/	237/	223 (C)	74.470>>	63.067	-220.895
559/	237/	205 (C)	-9.695<<	16.556	-52.956
559/	237/	263 (C)	63.125	73.594>>	-121.411
559/	237/	212 (C)	11.648	-4.267<<	-82.820
559/	235/	221 (C)	0.457	-3.599	7.348>>
559/	237/	223 (C)	74.470	63.067	-220.895<<
560/	235/	223 (C)	71.811>>	61.155	-145.482
560/	235/	205 (C)	-7.244<<	24.402	-61.955
560/	235/	263 (C)	57.863	65.926>>	-57.560
560/	235/	212 (C)	10.033	-5.128<<	-70.734

623/	115/	266 (C)	49.092	17.646	98.287>>
623/	115/	265 (C)	-1.923	27.085	-59.111<<
624/	115/	264 (C)	43.712>>	8.819	97.695
624/	115/	205 (C)	-4.279<<	21.091	-53.940
624/	115/	262 (C)	37.038	37.492>>	37.029
624/	115/	223 (C)	-0.058	-5.146<<	8.618
624/	113/	266 (C)	43.649	7.698	141.890>>
624/	113/	265 (C)	-1.762	29.415	-60.411<<
625/	113/	264 (C)	38.296>>	-1.113	141.455
625/	113/	205 (C)	-3.976<<	23.131	-57.947
625/	113/	265 (C)	-1.829	31.124>>	-60.042
625/	113/	223 (C)	-0.185	-5.274<<	8.528
625/	111/	266 (C)	38.248	-2.124	180.192>>
625/	111/	205 (C)	-3.976	23.131	-61.922<<
626/	111/	264 (C)	32.658>>	-11.540	179.684
626/	111/	205 (C)	-3.673<<	25.114	-61.640
626/	111/	265 (C)	-1.944	32.652>>	-61.501
626/	111/	266 (C)	32.622	-12.458<<	180.123
626/	109/	266 (C)	32.622	-12.458	212.746>>
626/	109/	205 (C)	-3.673	25.114	-65.313<<
627/	109/	264 (C)	26.921>>	-22.213	212.161
627/	109/	205 (C)	-3.395<<	27.005	-65.017
627/	109/	265 (C)	-2.120	33.993>>	-63.069
627/	109/	266 (C)	26.891	-23.055<<	212.563
627/	107/	266 (C)	26.891	-23.055	239.455>>
627/	107/	205 (C)	-3.395	27.005	-68.412<<
628/	107/	264 (C)	21.174>>	-32.900	238.793
628/	107/	205 (C)	-3.154<<	28.777	-68.108
628/	107/	265 (C)	-2.360	35.144>>	-64.815
628/	107/	266 (C)	21.147	-33.678<<	239.164
628/	105/	266 (C)	21.147	-33.678	260.310>>
628/	105/	205 (C)	-3.154	28.777	-71.261<<
629/	105/	264 (C)	15.483>>	-43.440	259.575
629/	105/	205 (C)	-2.954<<	30.425	-70.952
629/	105/	265 (C)	-2.659	36.125>>	-66.803
629/	105/	266 (C)	15.458	-44.164<<	259.918
629/	103/	266 (C)	15.458	-44.164	275.376>>
629/	103/	205 (C)	-2.954	30.425	-73.906<<
630/	103/	264 (C)	9.901>>	-53.712	274.570
630/	103/	265 (C)	-3.005<<	36.971	-69.098
630/	103/	265 (C)	-3.005	36.971>>	-69.098
630/	103/	266 (C)	9.875	-54.388<<	274.887
630/	101/	266 (C)	9.875	-54.388	284.763>>
630/	101/	205 (C)	-2.793	31.962	-76.387<<
631/	101/	264 (C)	4.469>>	-63.617	283.891
631/	101/	265 (C)	-3.381<<	37.735	-71.747
631/	101/	265 (C)	-3.381	37.735>>	-71.747
631/	101/	266 (C)	4.443	-64.252<<	284.181
631/	99/	266 (C)	4.443	-64.252	288.624>>
631/	99/	205 (C)	-2.663	33.417	-78.737<<
632/	99/	224 (C)	2.490>>	10.218	-20.449
632/	99/	263 (C)	-5.188<<	-29.751	188.282
632/	99/	265 (C)	-3.765	38.483>>	-74.785
632/	99/	266 (C)	-0.800	-73.661<<	287.956
632/	99/	266 (C)	-0.800	-73.661	287.956>>
632/	97/	205 (C)	-2.552	34.828	-80.979<<
633/	97/	224 (C)	2.551>>	10.654	-17.820
633/	97/	263 (C)	-10.088<<	-37.182	182.719
633/	97/	265 (C)	-4.126	39.308>>	-78.217
633/	97/	266 (C)	-5.818	-82.566<<	286.398
633/	97/	266 (C)	-5.818	-82.566	286.398>>
633/	95/	205 (C)	-2.439	36.261	-83.107<<
634/	95/	224 (C)	2.586>>	10.998	-15.131
634/	95/	263 (C)	-14.685<<	-43.830	172.179
634/	95/	265 (C)	-4.422	40.296>>	-82.032
634/	95/	266 (C)	-10.576	-90.801<<	279.762
634/	95/	266 (C)	-10.576	-90.801	279.762>>
634/	93/	265 (C)	-4.422	40.296	-86.454<<
635/	93/	224 (C)	2.592>>	11.251	-12.405
635/	93/	263 (C)	-18.889<<	-49.524	156.956
635/	93/	265 (C)	-4.603	41.611>>	-86.156
635/	93/	266 (C)	-15.036	-98.362<<	268.288
635/	93/	266 (C)	-15.036	-98.362	268.288>>
635/	91/	265 (C)	-4.603	41.611	-90.759<<
636/	91/	224 (C)	2.567>>	11.401	-9.671
636/	91/	263 (C)	-22.600<<	-53.990	137.457
636/	91/	265 (C)	-4.601	43.421>>	-90.479
636/	91/	266 (C)	-19.159	-105.135<<	252.295
636/	91/	266 (C)	-19.159	-105.135	252.295>>
636/	89/	265 (C)	-4.601	43.421	-95.079<<
637/	89/	224 (C)	2.503>>	11.436	-6.962
637/	89/	263 (C)	-25.692<<	-56.919	114.177
637/	89/	265 (C)	-4.329	45.951>>	-94.817
637/	89/	266 (C)	-22.909	-111.038<<	232.123
637/	89/	266 (C)	-22.909	-111.038	232.123>>
637/	87/	265 (C)	-4.329	45.951	-99.147<<
638/	87/	224 (C)	2.392>>	11.336	-4.316
638/	87/	263 (C)	-28.025<<	-57.957	87.748
638/	87/	265 (C)	-3.680	49.486>>	-98.902
638/	87/	266 (C)	-26.254	-116.002<<	208.159
638/	87/	266 (C)	-26.254	-116.002	208.159>>
638/	85/	265 (C)	-3.680	49.486	-102.582<<
639/	85/	224 (C)	2.225>>	11.076	-1.781
639/	85/	263 (C)	-29.435<<	-56.692	58.948
639/	85/	265 (C)	-2.514	54.383>>	-102.353
639/	85/	266 (C)	-29.174	-119.984<<	180.824
639/	85/	266 (C)	-29.174	-119.984	180.824>>
639/	83/	265 (C)	-2.514	54.383	-104.868<<
640/	83/	205 (C)	2.007>>	56.389	-88.779
640/	83/	266 (C)	-31.668<<	-122.998	150.555
640/	83/	265 (C)	-0.659	61.084>>	-104.650
640/	83/	266 (C)	-31.668	-122.998<<	150.555
640/	83/	266 (C)	-31.668	-122.998	150.555>>
640/	81/	265 (C)	-0.659	61.084	-105.309<<
641/	81/	205 (C)	3.892>>	62.647	-86.377
641/	81/	266 (C)	-33.316<<	-124.001	117.580
641/	81/	265 (C)	1.781	69.335>>	-104.921
641/	81/	266 (C)	-33.316	-124.001<<	117.580
641/	81/	264 (C)	-33.293	-123.653	117.594>>
641/	81/	265 (C)	1.781	69.335	-104.921<<
642/	79/	205 (C)	5.737>>	68.899	-81.925
642/	79/	266 (C)	-33.572<<	-121.642	82.888
642/	79/	265 (C)	4.340	77.986>>	-102.539
642/	79/	266 (C)	-33.572	-121.642<<	82.888
642/	79/	264 (C)	-33.553	-121.324	82.927>>
642/	79/	265 (C)	4.340	77.986	-102.539<<
643/	77/	205 (C)	7.076>>	73.963	-75.464
643/	77/	266 (C)	-32.388<<	-115.797	48.093
643/	77/	265 (C)	6.406	85.480>>	-97.361
643/	77/	266 (C)	-32.388	-115.797<<	48.093
643/	77/	264 (C)	-32.375	-115.508	48.151>>
643/	77/	265 (C)	6.406	85.480	-97.361<<
644/	75/	205 (C)	7.310>>	76.423	-67.617
644/	75/	266 (C)	-29.508<<	-105.959	14.610
644/	75/	265 (C)	7.188	89.945>>	-90.041
644/	75/	266 (C)	-29.508	-105.959<<	14.610
644/	75/	264 (C)	-29.500	-105.698	14.682>>
644/	370/	263 (C)	-19.212	-7.419	-102.044<<
645/	370/	265 (C)	6.124>>	90.041	-80.946
645/	370/	266 (C)	-25.147<<	-92.688	-19.292
645/	370/	265 (C)	6.124	90.041>>	-80.946
645/	370/	266 (C)	-25.147	-92.688<<	-19.292
645/	370/	224 (C)	-0.033	6.131	7.453>>
645/	73/	263 (C)	-15.957	5.370	-111.661<<
646/	73/	265 (C)	3.993>>	87.553	-76.153
646/	73/	264 (C)	-20.036<<	-77.506	-35.509
646/	73/	265 (C)	3.993	87.553>>	-76.153
646/	73/	266 (C)	-20.034	-77.718<<	-35.594
646/	73/	224 (C)	-0.548	4.955	7.497>>
646/	71/	263 (C)	-13.207	16.843	-124.566<<
647/	71/	205 (C)	0.466>>	65.923	-49.468
647/	71/	264 (C)	-14.013<<	-60.485	-56.208
647/	71/	265 (C)	0.358	81.489>>	-71.220
647/	71/	266 (C)	-14.006	-60.674<<	-56.291
647/	71/	224 (C)	-1.128	3.618	7.013>>
647/	69/	263 (C)	-11.140	26.610	-135.385<<
648/	69/	223 (C)	0.563>>	-1.511	-1.370
648/	69/	262 (C)	-9.794<<	34.993	-134.590
648/	69/	265 (C)	-4.177	73.265>>	-70.014
648/	69/	266 (C)	-7.645	-42.977<<	-70.580
648/	69/	224 (C)	-1.717	2.253	5.925>>
648/	67/	263 (C)	-9.700	34.748	-144.506<<
649/	67/	223 (C)	0.722>>	-1.093	-0.811
649/	67/	265 (C)	-9.899<<	62.040	-73.479
649/	67/	265 (C)	-9.899	62.040>>	-73.479
649/	67/	266 (C)	-1.531	-26.009<<	-78.106
649/	67/	224 (C)	-2.276	0.949	4.217>>
649/	11/	263 (C)	-9.702	39.170	-153.401<<
650/	11/	265 (C)	54.627>>	49.568	-82.796
650/	11/	266 (C)	-3.092<<	-11.913	-79.211
650/	11/	265 (C)	54.627	49.568>>	-82.796
650/	11/	266 (C)	-3.092	-11.913<<	-79.211
650/	65/	224 (C)	0.859	-0.134	2.782>>
650/	11/	263 (C)	51.306	39.674	-152.438<<
651/	65/	265 (C)	48.309>>	36.796	-27.940
651/	65/	223 (C)	-0.210<<	-0.443	-0.399
651/	65/	265 (C)	48.309	36.796>>	-27.940
651/	65/	266 (C)	0.273	-2.060<<	-81.770
651/	63/	265 (C)	48.309	36.796	20.370>>
651/	65/	263 (C)	48.160	35.983	-100.422<<
652/	63/	262 (C)	43.992>>	29.583	-51.586
652/	63/	223 (C)	-0.130<<	-0.223	-0.602
652/	63/	261 (C)	43.990	29.585>>	-51.591
652/	63/	224 (C)	0.273	-1.444<<	3.239
652/	61/	265 (C)	42.241	24.624	62.704>>
652/	63/	266 (C)	2.238	4.159	-80.948<<
653/	61/	262 (C)	39.361>>	21.959	-7.160
653/	61/	223 (C)	-0.073<<	-0.065	-0.725
653/	61/	261 (C)	39.359	21.964>>	-7.168
653/	61/	224 (C)	0.114	-1.771<<	3.486
653/	59/	265 (C)	36.717	13.811	99.461>>
653/	61/	266 (C)	3.143	7.625	-78.279<<
654/	59/	262 (C)	34.522>>	13.720	32.545
654/	59/	223 (C)	-0.034<<	0.048	-0.793
654/	59/	263 (C)	34.515	13.729>>	32.422
654/	59/	224 (C)	0.008	-1.972<<	3.580
654/	57/	265 (C)	31.501	3.770	131.022>>
654/	59/	266 (C)	3.495	9.587	-74.819<<
655/	57/	262 (C)	29.418>>	4.722	67.397

655/	57/	224 (C)	-0.072<<	-2.113	3.572
655/	57/	264 (C)	3.739	11.234>>	-71.057
655/	57/	205 (C)	19.812	-7.163<<	104.789
655/	55/	265 (C)	26.130	-6.665	157.294>>
655/	57/	266 (C)	3.741	11.175	-71.119<<
656/	55/	263 (C)	24.000>>	-5.159	96.908
656/	55/	224 (C)	-0.139<<	-2.227	3.483
656/	55/	264 (C)	4.067	12.937>>	-67.091
656/	55/	265 (C)	20.381	-18.107<<	157.308
656/	53/	265 (C)	20.381	-18.107	177.690>>
656/	55/	266 (C)	4.070	12.886	-67.151<<
657/	53/	263 (C)	18.380>>	-15.685	121.020
657/	53/	224 (C)	-0.196<<	-2.318	3.325
657/	53/	264 (C)	4.436	14.646>>	-62.780
657/	53/	265 (C)	14.403	-30.158<<	177.579
657/	51/	265 (C)	14.403	-30.158	191.982>>
657/	53/	266 (C)	4.439	14.601	-62.837<<
658/	51/	263 (C)	12.658>>	-26.601	139.403
658/	51/	224 (C)	-0.243<<	-2.389	3.111
658/	51/	264 (C)	4.817	16.299>>	-58.084
658/	51/	265 (C)	8.318	-42.535<<	191.748
658/	49/	265 (C)	8.318	-42.535	200.066>>
658/	51/	266 (C)	4.821	16.260	-58.138<<
659/	49/	263 (C)	6.926>>	-37.668	151.955
659/	49/	224 (C)	-0.282<<	-2.444	2.849
659/	49/	264 (C)	5.188	17.841>>	-52.996
659/	49/	265 (C)	2.240	-54.957<<	199.713
659/	47/	265 (C)	2.240	-54.957	201.953>>
659/	49/	266 (C)	5.192	17.807	-53.046<<
660/	47/	266 (C)	5.534>>	19.215	-47.567
660/	47/	265 (C)	-3.721<<	-67.214	201.465
660/	47/	264 (C)	5.530	19.245>>	-47.521
660/	47/	265 (C)	-3.721	-67.214<<	201.465
660/	47/	265 (C)	-3.721	-67.214	201.465>>
660/	47/	266 (C)	5.534	19.215	-47.567<<
661/	45/	266 (C)	5.830>>	20.429	-41.734
661/	45/	265 (C)	-9.436<<	-78.946	197.136
661/	45/	264 (C)	5.826	20.456>>	-41.692
661/	45/	265 (C)	-9.436	-78.946<<	197.136
661/	45/	265 (C)	-9.436	-78.946	197.136>>
661/	45/	266 (C)	5.830	20.429	-41.734<<
662/	43/	266 (C)	6.058>>	21.403	-35.592
662/	43/	265 (C)	-14.750<<	-89.799	186.964
662/	43/	264 (C)	6.054	21.426>>	-35.555
662/	43/	265 (C)	-14.750	-89.799<<	186.964
662/	43/	265 (C)	-14.750	-89.799	186.964>>
662/	43/	266 (C)	6.058	21.403	-35.592<<
663/	41/	266 (C)	6.190>>	22.066	-29.212
663/	41/	265 (C)	-19.465<<	-99.276	171.357
663/	41/	264 (C)	6.186	22.086>>	-29.179
663/	41/	265 (C)	-19.465	-99.276<<	171.357
663/	41/	265 (C)	-19.465	-99.276	171.357>>
663/	41/	266 (C)	6.190	22.066	-29.212<<
664/	39/	266 (C)	6.188>>	22.332	-22.682
664/	39/	265 (C)	-23.324<<	-106.803	150.885
664/	39/	264 (C)	6.183	22.351>>	-22.654
664/	39/	265 (C)	-23.324	-106.803<<	150.885
664/	39/	265 (C)	-23.324	-106.803	150.885>>
664/	39/	266 (C)	6.188	22.332	-22.682<<
665/	37/	266 (C)	5.999>>	22.065	-16.141
665/	37/	265 (C)	-25.991<<	-111.513	126.433
665/	37/	264 (C)	5.995	22.082>>	-16.118
665/	37/	265 (C)	-25.991	-111.513<<	126.433

665/	37/	265 (C)	-25.991	-111.513	126.433>>
665/	37/	266 (C)	5.999	22.065	-16.141<<
666/	35/	266 (C)	5.552>>	21.088	-9.778
666/	35/	265 (C)	-27.034<<	-112.345	99.201
666/	35/	264 (C)	5.548	21.105>>	-9.760
666/	35/	265 (C)	-27.034	-112.345<<	99.201
666/	35/	265 (C)	-27.034	-112.345	99.201>>
666/	35/	266 (C)	5.552	21.088	-9.778<<
667/	33/	266 (C)	4.751>>	19.167	-3.842
667/	33/	265 (C)	-25.896<<	-107.962	70.782
667/	33/	264 (C)	4.747	19.183>>	-3.828
667/	33/	265 (C)	-25.896	-107.962<<	70.782
667/	33/	265 (C)	-25.896	-107.962	70.782>>
667/	33/	266 (C)	4.751	19.167	-3.842<<
668/	31/	266 (C)	3.471>>	15.984	1.306
668/	31/	265 (C)	-21.877<<	-96.608	43.408
668/	31/	264 (C)	3.468	16.001>>	1.315
668/	31/	265 (C)	-21.877	-96.608<<	43.408
668/	31/	263 (C)	-18.751	-81.347	44.824>>
668/	29/	224 (C)	-0.190	-1.948	-0.531<<
669/	29/	266 (C)	1.549>>	11.136	5.184
669/	29/	265 (C)	-14.099<<	-76.122	19.983
669/	29/	264 (C)	1.547	11.154>>	5.190
669/	29/	265 (C)	-14.099	-76.122<<	19.983
669/	29/	263 (C)	-12.724	-65.291	24.896>>
669/	374/	224 (C)	-0.063	-1.612	-0.638<<
670/	374/	224 (C)	0.145>>	-1.075	-0.667
670/	374/	263 (C)	-2.017<<	-37.905	7.749
670/	374/	264 (C)	-1.700	2.964>>	7.547
670/	374/	265 (C)	-0.441	-41.281<<	0.733
670/	374/	263 (C)	-2.017	-37.905	7.749>>
670/	374/	224 (C)	0.145	-1.075	-0.667<<
671/	703/	224 (C)	0.145>>	-1.075	-0.610
671/	703/	263 (C)	-2.017<<	-37.903	6.978
671/	703/	264 (C)	-1.700	2.966>>	6.886
671/	703/	265 (C)	-0.441	-41.281<<	0.574
671/	703/	263 (C)	-2.017	-37.903	6.978>>
671/	703/	224 (C)	0.145	-1.075	-0.610<<
672/	702/	224 (C)	0.145>>	-1.075	-0.466
672/	702/	263 (C)	-2.017<<	-37.904	4.956
672/	702/	264 (C)	-1.700	2.966>>	5.186
672/	702/	265 (C)	-0.441	-41.281<<	0.129
672/	702/	264 (C)	-1.700	2.966	5.186>>
672/	702/	224 (C)	0.145	-1.075	-0.466<<
673/	701/	224 (C)	0.145>>	-1.075	-0.321
673/	701/	263 (C)	-2.017<<	-37.904	2.939
673/	701/	264 (C)	-1.700	2.966>>	3.486
673/	701/	265 (C)	-0.441	-41.281<<	-0.312
673/	701/	264 (C)	-1.700	2.966	3.486>>
673/	700/	265 (C)	-0.441	-41.281	-0.753<<
674/	700/	224 (C)	0.145>>	-1.075	-0.176
674/	700/	263 (C)	-2.017<<	-37.904	0.925
674/	700/	264 (C)	-1.700	2.966>>	1.785
674/	700/	265 (C)	-0.441	-41.281<<	-0.749
674/	700/	264 (C)	-1.700	2.966	1.785>>
674/	13/	265 (C)	-0.441	-41.281	-1.189<<