CONTRATO DE CONSULTORÍA Y ASISTENCIA
PARA LA REALIZACIÓN DE PRUEBAS DE CARGA
PARA LA RECEPCIÓN DE PUENTES DE LA
LINEA DE ALTA VELOCIDAD
MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA.
TRAMO: VILAFRANCA DEL PENEDÉS- BARCELONA



INFORME DE PRUEBA DE CARGA

TRAMO: SANTA COLOMA DE CERVELLÓ - SANT JOAN DESPÍ.
VIADUCTO LAV (mixta)
63RMVI01
P.K. OBRA: 608+492 A 609+144; LÍNEA:606+797

NORMALIZADO POR INECO

Diciembre de 2006

UNIDAD DE CONSTRUCCIÓN

INFORME DE RESULTADOS
PRUEBA DE CARGA DE LA ESTRUCTURA
VIADUCTO LAV MIXTA (63RMVI01)
PC-LL-07-03

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VIADUCTO LAV MIXTA (63RMVI01)

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1. INTRODUCCIÓN.

A instancias del ADIF, se redacta el presente documento, "Informe de Resultados", que recoge toda la información obtenida en la prueba de carga referente a la estructura: Viaducto LAV (mixta) (63RMVI01) de la línea de alta velocidad Madrid-Zaragoza-Barcelona-Frontera Francesa, Tramo: Vilafranca del Penedés - Barcelona, subtramo: VIIa, de acuerdo con las especificaciones del Contrato AV 004/06 suscrito con dicho Organismo, cuyo alcance es la realización de las preceptivas pruebas de carga en los puentes y estructuras a recibir por el ADIF, previamente a su puesta en servicio.

La redacción del presente documento atiende a las especificaciones de la "Instrucción relativa a las acciones a considerar en el Proyecto de Puentes de Ferrocarril", y se ha realizado siguiendo las directrices recogidas en la publicación del Ministerio de Fomento ***"Instrucción sobre las inspecciones técnicas en los puentes de ferrocarril (ITPF-05)***, así como las indicadas en el Plan de Actuación de dichas pruebas, redactado por el ADIF, e incluido en el Pliego de Bases, con objeto de desarrollar las especificaciones del Contrato.

2. OBJETO DEL DOCUMENTO.

El objeto del presente Informe es explicar las actividades realizadas en la obra de referencia, exponer los resultados obtenidos en la Prueba de Carga y, a partir de un análisis de los mismos, emitir las conclusiones y recomendaciones oportunas.

En cuanto a las actividades desarrolladas en la estructura que nos ocupa, podemos agruparlas en las siguientes fases:

- Inspección preliminar: Realizada el día 19 de Diciembre de 2006.
- Análisis del Proyecto de la estructura y realización del Proyecto de Prueba de Carga.
- Realización de la Prueba de Carga: 20-21-22-23-27 y 29 de Diciembre de 2006.
- Análisis de resultados y realización del Informe Final.

3. DESCRIPCIÓN DE LA OBRA.

La estructura objeto de la prueba, Viaducto LAV (Mixta) (63RMVI01), pertenece a la línea de alta velocidad Madrid-Zaragoza-Barcelona-Frontera Francesa, Tramo: Vilafranca del Penedés - Barcelona, subtramo: VIIa. P.K. Obra: 608+492, P.K. Línea: 606+797

Debido a la modificación del trazado ha sido necesario diseñar un viaducto doble sobre el río Llobregat. Se trata de una estructura formada por dos puentes casi gemelos, de 14,00 m. de ancho, y once (vía mixta de 3 hilos) y doce (vía UIC) vanos respectivamente, los vanos centrales de 45 m de luz y los extremos de 36 m, que discurren en una recta prácticamente en toda su longitud.

Los tableros se organizan en secciones cajón de hormigón pretensado, con tramos de canto variable, en una longitud de 8 m a un lado y otro de la pila, con transición parabólica de segundo grado. El canto máximo de la sección, en el tramo de canto constante, es de 2,89 m, que llegan a 4,14 m. sobre las pilas.

La modificación del trazado únicamente afecta a la parte final del tramo, concretamente a partir del P.K. 607+765.417. y hasta el P.K. 608+644. Esta modificación conlleva la aparición de dos nuevas estructuras consistentes de dos viaductos sobre el río Llobregat.

Sendos viaductos se componen de 4 vanos de longitudes 33+45+45+33 para la vía del AVE (UIC) y 38+45+45+38 para la vía de mercancías (MIXTA). El tablero está formado por secciones de cajón de hormigón pretensado, con tramos de canto variable, en una longitud de 8 metros, a un lado y otro de la pila, con transición parabólica de segundo grado. El canto máximo de la sección, en el tramo de canto constante es de 2,89 m, que llegan a 4,14 sobre las pilas.

La configuración de vanos es la siguiente:

(38+2*45+38) PILA ESTRIBO (36+9*45+36)

Vano	Luz de cálculo (m)	Ancho del Tablero (m)	Sección Transversal
V-1	38,00	14,00	Cajón
V-2	45,00	14,00	Cajón
V-3	45,00	14,00	Cajón
V-4	38,00	14,00	Cajón
V-1	36,00	14,00	Cajón
V-2	45,00	14,00	Cajón
V-3	45,00	14,00	Cajón
V-4	45,00	14,00	Cajón
V-5	45,00	14,00	Cajón
V-6	45,00	14,00	Cajón
V-7	45,00	14,00	Cajón
V-8	45,00	14,00	Cajón
V-9	45,00	14,00	Cajón
V-10	45,00	14,00	Cajón
V-11	36,00	14,00	Cajón

4. INSPECCIÓN PRELIMINAR.

La inspección previa a la ejecución de la Prueba de Carga fue realizada por el ingeniero de OFITECO Sr. Juan Carlos Garrido Baro. Dicha inspección se efectuó en fecha 19 de Diciembre de 2006, siguiéndose las directrices del Plan de Actuación mencionado en el Apartado 1 del presente Informe, así como la publicación del Ministerio de Fomento ***"Instrucción sobre las inspecciones técnicas en los puentes de ferrocarril (ITPF-05),*** comprobándose en la misma la coincidencia geométrica de la obra con la especificada en la documentación de Proyecto facilitada.

Asimismo, se comprobó que la estructura no presentaba daños, defectos ni aspectos anómalos de carácter estructural de importancia. Tan sólo hay que comentar la existencia de algún golpe en la viga, la cual aparece indicada en la ficha de seguimiento de la misma.

Con los datos recogidos en las inspecciones realizadas se procedió a la cumplimentación de la ficha de seguimiento de la estructura para el Sistema de Gestión de Mantenimiento que está implementando el ADIF, utilizando para ello el formato informático de ficha facilitado por dicho Organismo.

En el anejo nº VII de este documento se adjuntan una copia de la mencionada ficha de seguimiento y, la documentación fotográfica correspondiente a las inspecciones realizadas.

5. ANÁLISIS DEL PROYECTO DE LA ESTRUCTURA.

La documentación facilitada por el ADIF comprende:

a) Planos del Viaducto LAV (mixta) (63RMVI01) del Proyecto Modificado de Plataforma. Línea de Alta Velocidad Madrid – Zaragoza – Barcelona – Frontera francesa. Tramo: Vilafranca del Penedés - Barcelona, subtramo: VIIa.

b) Anejo de Cálculo del Viaducto LAV (mixta) (63RMVI01) del Proyecto Modificado de Plataforma. Línea de Alta Velocidad Madrid – Zaragoza – Barcelona – Frontera francesa. Tramo: Vilafranca del Penedés - Barcelona, subtramo: VIIa.

Como anejo nº I a este documento, se acompaña copia de la documentación facilitada referente a la estructura objeto de estudio.

6. PLAN DE PRUEBA.

Debido a que el Proyecto de la estructura no incluye el Plan de Prueba de la misma, fue necesaria la elaboración posterior de un Proyecto de Prueba de Carga, con objeto de evaluar las tensiones y deformaciones de la estructura bajo las solicitaciones de un tren de cargas constituido por dos (2) locomotoras y ocho (8) tolvas cargadas con balasto, distribuidas en las vías de la línea mixta.

Dicho Proyecto de Prueba de Carga fue realizado por OFITECO, exponiéndose en los apartados siguientes un resumen del mismo.

6.1. ACCIONES REPRODUCIDAS.

La materialización de la sobrecarga en el Proyecto de Prueba se realizó de acuerdo con la solicitud cursada a través del ADIF, mediante la prestación de una (1) locomotora y tres (4) tolvas por cada vía, cuyas dimensiones se detallan en el croquis incluido en el anejo nº III.

Con estos medios, las acciones a reproducir son las propias de la utilización de la estructura, y consisten, dada la naturaleza de la misma, en diecinueve (19) hipótesis de sobrecarga de tipo estático, así como las correspondientes hipótesis de sobrecarga dotadas del impacto dinámico que le proporcionan tanto la velocidad como el frenado.

Así pues, el desarrollo de la Prueba de Carga se programó del siguiente modo.

6.1.1. Pruebas estáticas.

Se realizará una (1) prueba estática para cada hipótesis de carga, resultando un total de diecinueve (19) pruebas estáticas, cargando dos vanos alternos para obtener los máximos momentos flectores positivos en centros de vano y cargando dos vanos consecutivos para obtener los máximos momentos flectores negativos. Las cargas aplicadas en cada hipótesis corresponden a las de la tabla siguiente:

Hipótesis	Vano	Vías	Sobrecargas
H-1	V-1	1 y 2	2 Locom. + 2 Tolva
	V-2	1 y 2	6 Tolvas
H-2	V-2	1 y 2	2 Locom. + 2 Tolva
	V-3	1 y 2	6 Tolvas
H-3	V-3	1 y 2	2 Locom. + 2 Tolva
	V-4	1 y 2	6 Tolvas
H-4	V-1	1 y 2	2 Locom. + 2 Tolva
	V-3	1 y 2	6 Tolvas
H-5	V-2	1 y 2	2 Locom. + 2 Tolva
	V-4	1 y 2	4 Tolvas
H-1	V-1	1 y 2	2 Locom. + 2 Tolva
	V-2	1 y 2	6 Tolvas
H-2	V-2	1 y 2	2 Locom. + 2 Tolva
	V-3	1 y 2	6 Tolvas
H-3	V-3	1 y 2	2 Locom. + 2 Tolva
	V-4	1 y 2	6 Tolvas
H-4	V-4	1 y 2	2 Locom. + 2 Tolva
	V-5	1 y 2	6 Tolvas
H-5	V-5	1 y 2	2 Locom. + 2 Tolva
	V-6	1 y 2	6 Tolvas

Hipótesis	Vano	Vías	Sobrecargas
H-6	V-6	1 y 2	2 Locom. + 2 Tolva
	V-7	1 y 2	6 Tolvas
H-7	V-7	1 y 2	2 Locom. + 2 Tolva
	V-8	1 y 2	6 Tolvas
H-8	V-8	1 y 2	2 Locom. + 2 Tolva
	V-9	1 y 2	6 Tolvas
H-9	V-9	1 y 2	2 Locom. + 2 Tolva
	V-10	1 y 2	6 Tolvas
H-10	V-10	1 y 2	2 Locom. + 2 Tolva
	V-11	1 y 2	4 Tolvas
H-11	V-1	1 y 2	2 Locom. + 2 Tolva
	V-3	1 y 2	6 Tolvas
H-12	V-2	1 y 2	2 Locom. + 2 Tolva
	V-4	1 y 2	6 Tolvas
H-13	V-3	1 y 2	2 Locom. + 2 Tolva
	V-5	1 y 2	6 Tolvas
H-14	V-4	1 y 2	2 Locom. + 2 Tolva
	V-6	1 y 2	6 Tolvas
H-15	V-5	1 y 2	2 Locom. + 2 Tolva
	V-7	1 y 2	6 Tolvas
H-16	V-6	1 y 2	2 Locom. + 2 Tolva
	V-8	1 y 2	6 Tolvas
H-17	V-7	1 y 2	2 Locom. + 2 Tolva
	V-9	1 y 2	6 Tolvas
H-18	V-8	1 y 2	2 Locom. + 2 Tolva
	V-10	1 y 2	6 Tolvas
H-19	V-9	1 y 2	2 Locom. + 2 Tolva
	V-11	1 y 2	6 Tolvas

En el Anejo nº III se adjuntan las mencionadas posiciones de las sobrecargas para cada vano.

Para cada vano, el ensayo de prueba de carga estática se realizará atendiendo a los siguientes escalones:

- Escalón 0: Verificación de conexión y funcionamiento de todos los instrumentos de medida, equilibrado y puesta a cero.

- Escalón 1: Determinación de las lecturas origen estabilizadas de todos los sensores, sin carga en la estructura.

- Escalón 2: Situación o posicionamiento de la carga de prueba, realizándose medidas continuas en intervalos de tiempo entre 5-15 seg.

- Escalón 3: Estabilización de las medidas con la carga de prueba situada, realizándose la medida continua de todos los equipos en intervalos de tiempo entre 5-15 seg hasta su total estabilización, durante un tiempo no inferior a 10 minutos.

- Escalón 4: Descarga de la estructura retirando los vehículos que constituyen el tren de carga. Se realizarán lecturas de forma continua, cada 5-15 seg, de todos los sensores.

- Escalón 5: Estabilización final de las medidas, con la estructura totalmente descargada, realizándose la medida continua de todos los sensores, cada 5-15 seg, hasta alcanzar una recuperación no inferior al

85%, en un intervalo de tiempo no superior al de mantenimiento de la carga de prueba.

En los escalones de estabilización de carga (Escalón 3) y estabilización de descarga (Escalón 5), aparte de los tiempos indicados, y simultáneamente, se seguirán los siguientes criterios de estabilización:

- En 10 minutos no habrá variaciones superiores al 5% de la medida anterior.

- Se esperará a obtener recuperaciones finales superiores al 85 % y sirviendo los criterios anteriores. En caso de no alcanzarse dicho tanto por ciento se procederá a realizar un segundo ciclo de carga.

6.1.2. Pruebas dinámicas.

En cada vano, a continuación de la correspondiente prueba estática, se realizarán cuatro (5) pruebas de carácter dinámico, realizándose cargando dos (2) vías en la prueba causiestática y el resto solo por una vía , con el mismo tren de carga que el utilizado en la prueba estática en dicha vía. Dichas pruebas dinámicas serán las siguientes:

- **Prueba D-1:** Prueba cuasi-estática (V = 10 Km/h).

- **Prueba D-2:** Prueba a velocidad cuasi-estática (V = 5 Km/h).

- **Prueba D-3:** Prueba a velocidad media (V = 30 Km/h).

- **Prueba D-4:** Prueba a máxima velocidad (V = 80 Km/h).

- **Prueba D-5:** Prueba de frenado a máxima velocidad (V = 80 Km/h).

6.2. PUNTOS DE MEDIDA.

La disposición de los puntos de medida puede observarse en el anejo nº III, resultando unos totales de:

Vano	Flexímetros		Bandas	Geófonos
	Apoyos	½Lc	½Lc	
1	2	2	2	1
2	2	2	2	1
3	2	2	2	1
4	2	2	2	1
5	2	2	2	1
6	2	2	2	1
7	2	1	-	1
8	2	2	2	1
9	2	2	2	1
10	2	2	2	1
11	2	2	2	1
12	2	2	2	1
13	2	2	2	1
14	2	2	2	1
15	2	2	2	1
Totales	59		28	15

6.3. EQUIPOS UTILIZADOS.

6.3.1. Parámetros de control.

Las medidas realizadas durante el ensayo de prueba de carga fueron de tres (3) tipos:

- Descensos verticales (flechas).
- Deformaciones unitarias (tensiones en el hormigón).
- Frecuencia de vibración en el centro del vano.

6.3.2. Sensores.

Para la obtención de dichas medidas se utilizaron los siguientes equipos o sensores:

- Para el control de flechas verticales en el centro del vano se utilizaron flexímetros equipados con un sensor lineal potenciométrico de desplazamiento y salida 4:20 mA, utilizando como elemento de transmisión de flechas un hilo de acero inoxidable de 2 mm de diámetro fijado a la cara inferior del tablero. El rango de medida es de 50 mm con una precisión del 0.1%.

- Para el control de flechas verticales en los apoyos de los tableros se utilizaron los mismos sensores lineales potenciométricos de desplazamiento lineal y salida 4:20 mA, montados sobre unos angulares metálicos y palpando directamente sobre las vigas. El rango de medida es también de 50 mm con una precisión de 0.1%.

- La medición de las deformaciones unitarias se realizó mediante bandas extensométricas directamente adheridas al hormigón, en la fibra inferior del dintel y según la dirección longitudinal del mismo.

- El control de vibraciones se realizó mediante geófonos verticales situados en la sección media del tablero.

- Por último, como medidas auxiliares, se realizo un control continuo de los parámetros metereológicos más significativos: Temperatura, presión atmosférica y humedad relativa.

En el anejo nº VIII se encuentran las fichas técnicas de los distintos equipos utilizados durante la prueba.

6.3.3. Unidad de adquisición.

La unidad de adquisición empleada en el ensayo de prueba de carga, está basada en un ordenador industrial de las siguientes características:

- Ordenador PC2000 Pentium III a 800 MHz.
- Memoria RAM 128Mb.
- Disco duro de 20 Gb.
- Controladora ATI XPERT con 8 Mb.
- CD ROM 52x.
- IOMEGA interno 100 Mb.
- Disquetera 3 1/2 (1.4 Mb).
- Monitor color de 17".
- Puertos serie y paralelo.
- Teclado y ratón.

En el Bus del ordenador central se alojan dos (2) tarjetas conversoras de 16 bits, de 32 canales analógicos y 100.000 muestras/seg cada una de ellas, que se encarga de comandar 64 tarjetas acondicionadoras donde se recogen las señales de los distintos sensores a la frecuencia deseada.

Las características fundamentales de las tarjetas conversoras son:

- 32 canales de adquisición cada una de ellas (total 64 canales disponibles).
- Acondicionamiento de las señales a +/- 10 VDC.
- Amplificación seleccionable por software (1, 10, 100, y 1000).
- Filtros de señal.

Por su parte las tarjetas acondicionadoras (64) permiten la conexión y adquisición indistinta de cualquier tipo de sensor, tanto flexímetros y bandas extensométricas como geófonos.

El conjunto de tarjetas de acondicionamiento (64 en total) se encuentran repartidas en dos (2) cajas externas al ordenador central, disponiéndose de treinta y dos (32) canales en cada una de ellas, que a su vez reciben las acometidas, mediante mangueras multiconductoras, de los distintos sensores instalados, centralizados previamente en cajas de conexión intermedias. El equilibrio y ajuste de señal de los distintos canales se realiza de forma automática.

La alimentación general del Sistema se realiza a 220V 50 Hz, mediante un grupo eléctrico y una fuente de alimentación ininterrumpida con salida estabilizada y autonomía de 1 hora. La excitación de los sensores se realiza a B.T. (24 VDC) con fuentes de alimentación

estabilizadas y perfectamente apantalladas. El sistema tiene todas las masas interconectadas a tierra, materializándose dicha conexión con una pica externa.

El sistema de adquisición, así como el de transmisión de datos, están concebidos para evitar la influencia de las líneas de medida sobre las señales de los distintos sensores.

Así pues, las señales que nos proporcionan los flexímetros resistivos se convierten en señales 4-20 mA en los puntos de medida y luego, son llevadas a las tarjetas acondicionadoras donde se convierten en tensión, sin utilizar ningún tipo de amplificación.

Por otro lado, cada una de las bandas extensométricas forma parte de un circuito extensométrico diseñado especialmente por OFITECO, con compensación absoluta de las líneas de medida, alimentado a 24 VDC y corriente constante de 5-10 mA, midiéndose las deformaciones producidas como desequilibrios o variaciones de la tensión de salida del mismo en tarjetas amplificadoras, amplificando por 10, 100 ó 1000 la señal recibida. Todos los circuitos llevan un sistema automático de ajuste inicial de cero. La lectura de las bandas se realiza a tres hilos.

Por ultimo, los geófonos para control de vibraciones proporcionan señales entre +/- 10 V que se llevan directamente a las tarjetas mencionadas, utilizando normalmente amplificaciones de 1 y 10 para su registro.

El programa de adquisición, **"PCESTRUCTURAS"**, desarrollado íntegramente por OFITECO en entorno Windows, se ocupa de realizar las funciones de adquisición y análisis, permitiendo la realización simultánea de ambas funciones con las siguientes prestaciones:

ADQUISICIÓN:

Programación software de todos los parámetros de configuración de las pruebas, tanto estáticas como dinámicas, teniendo como variables los siguientes parámetros:

- Parámetros de identificación.

- Número de canales y tipo.

- Filtros software.

- Constantes de los sensores.

- Valores teóricos esperados en la prueba.

- Canales asociados entre sí (para cálculo de valores netos en flechas en secciones que no sean apoyos)

- Factores de amplificación.

- Velocidad de muestreo (hasta 100.000 muestras/segundo).

- Duración (sólo para las dinámicas, hasta 5 minutos a velocidad máxima de adquisición).

- Estabilización y ajuste automático de medidas iniciales, visualizándose los valores absolutos y rangos disponibles de los canales configurados.

- Adquisición de datos según la configuración adoptada:

- En las pruebas estáticas se visualizan, en tiempo real y directamente en mm o en deformaciones unitarias, según se trate de flechas o de bandas extensométricas, la totalidad de los canales configurados, los valores teóricos estimados de los mismos y el porcentaje que frente a estos últimos representan, así como los porcentajes de recuperación durante el proceso de descarga. En las flechas de secciones que no sean apoyos podrán visualizarse también directamente los valores netos correspondientes. Por último, en cualquier momento durante la prueba podrá visualizarse la representación gráfica de los canales que se seleccionen.

- En las pruebas dinámicas se permite escoger varios canales de los existentes para su visualización gráfica en tiempo real, así como el control automático de disparo de la unidad, mediante un algoritmo de nivel con un preevento establecido.

- Almacenamiento en tiempo real (DMA) en soporte magnético de los datos. Generación de ficheros compatibles con los módulos de representación gráfica y análisis.

- Enlace directo con los módulos de representación gráfica y análisis.

Enlazando con los módulos de **ANALISIS Y REPRESENTACIÓN GRAFICA**, los datos almacenados se pueden tratar de forma inmediata para obtener:

- Listado de datos en monitor o impresora.

- Generación de salidas gráficas en monitor, impresora o plotter. Gráficos temporales independientes y multicanales.

- Zoom de ventanas gráficas seleccionadas y chequeo de gráficos mediante cursor.

- Cálculo de porcentajes alcanzados en las pruebas y valores de recuperación.

- Coeficientes de impacto dinámico.

- Análisis FFT en tiempo real, modos y frecuencias de vibración.

- Decremento logarítmico y amortiguamiento.

Así pues, en cualquier momento de la prueba, el sistema de adquisición permitirá conocer los valores de las magnitudes obtenidas en cualquiera de los sensores de control, con el fin de poder establecer la comparación directa y rápida de los resultados de cada ensayo, así como dictaminar sobre la necesidad de adoptar medidas precautorias especiales.

Finalmente, como prestaciones generales del sistema de adquisición, podemos enumerar las siguientes:

- Capacidad simultánea de 64 canales (posibilidad inmediata de 2 sistemas de 32 canales).

- Velocidad de muestreo hasta 100.000 muestras/segundo.

- Tiempo máximo de muestreo (sólo para las dinámicas), hasta 5 minutos a velocidad máxima de adquisición.

- Deriva máxima, en un intervalo de quince minutos, inferior a la resolución del sistema.

- Resolución global del sistema:

- 0,01 mm para flechas.
- 0,01 με para deformaciones.

6.3.4. Equipos auxiliares.

Además se contó con los siguientes medios y materiales auxiliares:

- Mangueras de conexión multicanal (16 canales) entre el Sistema de Adquisición y cajas de conexión intermedias.

- Cajas de conexión multicanal (15 canales) intermedias.

- Mangueras de conexión de sensores, mono y multicanales, empalmables entre sí.

- Equipos auxiliares de verificación y comprobación de las señales de los sensores: polímetros de precisión, medidores de aislamiento, osciloscopio, etc.

- Furgoneta Mercedes- Benz Sprinter carrozada interiormente.

- Emisoras portátiles de comunicación por radio, que permiten mantener una perfecta comunicación entre la zona de adquisición y la de aplicación de cargas.

- Teléfono móvil.

- Repuestos básicos: disco duro, sensores, cajas de conexión, mangueras, fuentes de alimentación, tarjetas de adquisición, etc.

- Grupos eléctricos de 2000 W.

- Fuente de alimentación ininterrumpida (UPS) de 2000 W y 1 hora de autonomía.

- Focos halógenos y materiales auxiliares para iluminación exterior en pruebas nocturnas (hasta una potencia de 1500 W).

- Escalera de dos cuerpos, extensible hasta 5.5 m.

- Cámara fotográfica digital.

- Cintas métricas de diferentes longitudes.

- Distanciómetro digital de rango mínimo de 10 metros.

6.4. PREVISIÓN DE RESULTADOS.

Los valores previstos, para la prueba estática, de las medidas a realizar, en cuanto a flechas y deformaciones unitarias se refiere, obtenidos de acuerdo con el tren de cargas del Proyecto de Prueba y con la localización de los sensores que se observa en el croquis correspondiente del anejo nº III, son los siguientes, (flechas negativas indican descenso y deformaciones unitarias positivas indican tracción):

PRUEBA ESTÁTICA

H-1: VANOS 1 Y 2

Sección	Zona	Flecha (mm)	Deformación (με)
V-1	1/2	-2,7	45
	P-1	-	-141
V-2	1/4	-2,5	6
	1/2	-4,7	52
	3/4	-3,9	46

H-2: VANOS 2 Y 3

Sección	Zona	Flecha (mm)	Deformación (με)
V-2	1/4	-2,3	31
	1/2	-2,5	38
	3/4	-0,7	-11
	P-2	-	-167
V-3	1/4	-4,2	1
	1/2	-8,2	64
	3/4	-8,5	75

H-3: VANOS 3 Y 4

Sección	Zona	Flecha (mm)	Deformación (με)
V-3	1/4	-7,3	32
	1/2	-11,6	86
	3/4	-11,0	85
	P-3	-	-11
V-4	1/2	0,9	-16

H-4: VANOS 1 Y 3

Sección	Zona	Flecha (mm)	Deformación (με)
V-1	1/2	-0,80	99
	P-1	-	-32
V-2	1/4	6,10	-47
	1/2	8,30	-58
	3/4	7,00	-70
	P-2	-	-85
V-3	1/4	-9,60	57
	1/2	-14,40	101
	3/4	-13,30	93

H-5: VANOS 2 Y 4

Sección	Zona	Flecha (mm)	Deformación (με)
V-2	1/4	-5,80	45
	1/2	-8,10	84
	3/4	-5,90	46
	P-2	-	-60
V-3	1/4	4,30	-43
	1/2	5,00	-29
	3/4	4,10	-16
	P-3	-	0
V-4	1/2	-2,5	46

H-1: VANOS 1 Y 2

Sección	Zona	Flecha (mm)	Deformación (με)
V-1	1/2	-2,0	41
	P-1	-	-134
V-2	1/4	-2,6	9
	1/2	-4,7	52
	3/4	-4,2	43

H-2: VANOS 2 Y 3

Sección	Zona	Flecha (mm)	Deformación (με)
V-2	1/4	-3,5	41
	1/2	-4,1	55
	3/4	-1,9	-6
	P-2	-	-142
V-3	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-3: VANOS 3 Y 4

Sección	Zona	Flecha (mm)	Deformación (με)
V-3	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-3	-	-142
V-4	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-4: VANOS 4 Y 5

Sección	Zona	Flecha (mm)	Deformación (με)
V-4	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-4	-	-143
V-5	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-5: VANOS 5 Y 6

Sección	Zona	Flecha (mm)	Deformación (με)
V-5	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-5	-	-143
V-6	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-6: VANOS 6 Y 7

Sección	Zona	Flecha (mm)	Deformación (με)
V-6	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-6	-	-143
V-7	1/4	-2,2	3
	1/2	-4,2	49
	3/4	-3,6	44

H-7: VANOS 7 Y 8

Sección	Zona	Flecha (mm)	Deformación (με)
V-7	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-7	-	-143
V-8	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-8: VANOS 8 Y 9

Sección	Zona	Flecha (mm)	Deformación (με)
V-8	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-8	-	-143
V-9	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-9: VANOS 9 Y 10

Sección	Zona	Flecha (mm)	Deformación (με)
V-9	1/4	-3,6	42
	1/2	-4,2	56
	3/4	-2,0	-6
	P-9	-	-142
V-10	1/4	-2,1	3
	1/2	-4,2	49
	3/4	-3,5	43

10: VANOS 10 Y 11

Sección	Zona	Flecha (mm)	Deformación (με)
V-10	1/4	-4,0	43
	1/2	-5,0	62
	3/4	-2,8	6
	P-10	-	-124
V-11	1/2	-1,5	35

H-11: VANOS 1 Y 3

Vano	Sección	Flecha (mm)	Deformación (με)
V-1	1/2	-6,3	88
	P-1	-	-35
V-2	1/4	4,8	-40
	1/2	6,2	-44
	3/4	5,1	-48
	P-2	-	-54
V-3	1/4	-6,4	59
	1/2	-8,5	79
	3/4	-6,0	48

H-12: VANOS 2 Y 4

Sección	Zona	Flecha (mm)	Deformación (με)
V-2	1/4	-6,1	44
	1/2	-8,6	87
	3/4	-6,5	55
	P-2	-	-46
V-3	1/4	5,3	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-3	-	-50
V-4	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-13: VANOS 3 Y 5

Sección	Zona	Flecha (mm)	Deformación (με)
V-3	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-3	-	-46
V-4	1/4	5,3	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-4	-	-50
V-5	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-14: VANOS 4 Y 6

Sección	Zona	Flecha (mm)	Deformación (με)
V-4	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-4	-	-46
V-5	1/4	5,3	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-5	-	-50
V-6	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-15: VANOS 5 Y 7

Sección	Zona	Flecha (mm)	Deformación (με)
V-5	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-5	-	-46
V-6	1/4	5,3	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-6	-	-50
V-7	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-16: VANOS 6 Y 8

Sección	Zona	Flecha (mm)	Deformación (με)
V-6	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-6	-	-46
V-7	1/4	5,4	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-7	-	-50
V-8	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-17: VANOS 7 Y 9

Sección	Zona	Flecha (mm)	Deformación (με)
V-7	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-7	-	-46
V-8	1/4	5,4	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-8	-	-50
V-9	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-18: VANOS 8 Y 10

Sección	Zona	Flecha (mm)	Deformación (με)
V-8	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-8	-	-47
V-9	1/4	5,3	-47
	1/2	6,8	-48
	3/4	5,4	-48
	P-9	-	-49
V-10	1/4	-6,6	61
	1/2	-8,6	80
	3/4	-6,0	46

H-19: VANOS 9 Y 11

Sección	Zona	Flecha (mm)	Deformación (με)
V-9	1/4	-6,0	46
	1/2	-8,4	86
	3/4	-6,2	51
	P-9	-	-53
V-10	1/4	4,8	-46
	1/2	5,8	-41
	3/4	4,4	-36
	P-10		-29
V-11	1/2	-5,6	79

6.5. FRECUENCIAS

La frecuencia natural de vibración, en el tablero de cuatro vanos de los cuatro (4) primeros modos de vibración y en el tablero largo de los doce (12) primeros modos de vibración, son los siguientes:

Modo 1: 2.5Hz

Modo 2: 3.3 Hz

Modo 3: 4.2 Hz

Modo 4: 4.8Hz

Modo 1: 2.3 Hz

Modo 2: 2.4 Hz

Modo 3: 2.7Hz

Modo 4: 2.9 Hz

Modo 5: 3.3 Hz

Modo 6: 3.6Hz

Modo 7: 4.0 Hz

Modo 8: 4.3 Hz

Modo 9: 4.6 Hz

7. PRUEBA DE CARGA.

7.1. DESCRIPCIÓN DEL ENSAYO.

El ensayo de Prueba de Carga fue realizado por un equipo de personal especializado de OFITECO, bajo la dirección del Ingeniero D. Juan Carlos Garrido, los días 20-21-22-23-27 y 29 de Julio de 2007.

La instrumentación y la realización del ensayo se efectuaron de acuerdo a lo estipulado en el Proyecto de prueba, exceptuando en el vano 7 que solo se tomó una lectura del centro del vano con láser y en los vano 9 y 10 no se han tenido en cuenta los resultados de las bandas, debido a han dado valores anómalos por problemas de derivas.

Las locomotoras fueron las previstas en el Proyecto de Prueba, cuyas características y dimensiones son las siguientes:

- **Locomotora S/316:**
    - Peso total: 109.5 t
    - Seis (6) ejes, transmitiendo cada eje 18.25 t, divididos en dos (2) bogies con tres (3) ejes cada uno.
    - Separación entre ejes de un mismo bogie: 2.07/2.12m.
    - Separación entre el tercer eje del primer bogie y el primer eje del segundo bogie es de: 5.01m

- Longitud total de la locomotora entre topes: 17.87m
- Distancia entre pivotes de bogies: 13.39
- Distancia entre bogies: 4.40

- **Tolva cargada con balasto :**

  - Peso total de 80 T
  - Dos (2) bogies de dos (2) ejes, transmitiendo cada eje 20 T
  - Separación entre ejes intermedios de los dos (2) bogies: 7.4 m
  - Separación entre ejes de un mismo bogie: 1.80 m

En el Anejo nº III se adjuntan esquemas del tren de cargas.

La secuencia de realización de las pruebas fue la siguiente:

Vano	Prueba	Fecha	Hora	Duración	Fichero
1- 2	ESTÁTICA E-1	20/12/06	18:21	15 min	ESTATICA -1
2- 3	ESTÁTICA E-2	20/12/06	18:54	17 min	ESTATICA -2
3- 4	ESTÁTICA E-3	20/12/06	19:39	20 min	ESTATICA -3
4- 5	ESTÁTICA E-4	23/12/06	00:05	21 min	ESTATICA -4
5- 6	ESTÁTICA E-5	23/12/06	00:37	19 min	ESTATICA -5

Vano	Prueba	Fecha	Hora	Duración	Fichero
6- 7	ESTÁTICA E-6	23/12/06	01:09	21 min	ESTATICA -6
7- 8	ESTÁTICA E-7	23/12/06	01:34	24 min	ESTATICA -7
8- 9	ESTÁTICA E-8	27/12/06	12:12	26 min	ESTATICA -8
9- 10	ESTÁTICA E-9	27/12/06	12:48	24 min	ESTATICA -9
10- 11	ESTÁTICA E-10	27/12/06	13:15	19 min	ESTATICA -10
1- 3	ESTÁTICA E-11	20/12/06	20:05	29 min	ESTATICA -12
2- 4	ESTÁTICA E-12	20/12/06	20:59	26 min	ESTATICA -13
3- 5	ESTÁTICA E-13	23/12/06	01:52	22 min	ESTATICA -14
4- 6	ESTÁTICA E-14	23/12/06	02:12	31 min	ESTATICA -15
5- 7	ESTÁTICA E-15	23/12/06	02:36	23 min	ESTATICA -16
6- 8	ESTÁTICA E-16	23/12/06	00:05	21 min	ESTATICA -17
7- 9	ESTÁTICA E-17	27/12/06	13:48	30 min	ESTATICA -18
8- 10	ESTÁTICA E-18	27/12/06	14:09	28 min	ESTATICA -19
9- 11	ESTÁTICA E-19	27/12/06	11:46	25 min	ESTATICA -20
1- 2	ESTÁTICA E-1	29/12/06	15:31	15 min	ESTATICA -22
2- 3	ESTÁTICA E-2	29/12/06	15:58	17 min	ESTATICA -23
3- 4	ESTÁTICA E-3	29/12/06	16:29	20 min	ESTATICA -24
1- 3	ESTÁTICA E-4	29/12/06	16:49	26 min	ESTATICA -25
2- 4	ESTÁTICA E-5	29/12/06	17:34	26 min	ESTATICA -26
1- 4	PRUEBA D-1 V1-4	20/12/06	22:19	260 s	DINAMICA 5
1- 4	PRUEBA D-2 V1-4	21/12/06	0:03	260 s	DINAMICA 30
5- 8	PRUEBA D-1 V5-8	23/12/06	13:46	260 s	DINAMICA 5
5- 8	PRUEBA D-2 V5-8	23/12/06	13:29	260 s	DINAMICA 30

Vano	Prueba	Fecha	Hora	Duración	Fichero
9- 11	PRUEBA D-1 V9-11	27/12/06	17:12	260 s	DINAMICA 5
9- 11	PRUEBA D-2 V9-11	27/12/06	18:07	260 s	DINAMICA 30
12- 15	PRUEBA D-1 V12-15	29/12/06	1:46	140 s	DINAMICA 5
12- 15	PRUEBA D-2 V12-15	29/12/06	1:29	260 s	DINAMICA 30

Correspondiendo la nomenclatura utilizada a las siguientes pruebas:

- **Estática:** Prueba estática con una (1) locomotora y cuatro (4) tolvas cargadas de balastro por vía
- **Prueba D-1:** Prueba cuasi-estática (V = 5 Km/h).
- **Prueba D-2:** Prueba frenado (V = 30 Km/h).

Realizándose todas ellas según las especificaciones y condiciones expresadas en el Proyecto de Prueba de Carga.

Los datos climatológicos medidos durante la realización de las pruebas fueron:

Prueba	Temperatura (ºC)	Presión (mbar)	Humedad (%)
ESTATICA 1	6.2	1028	72
ESTATICA 2	6.2	1028	72
ESTATICA 3	6.2	1028	72
ESTATICA 4	9.9	1032	75
ESTATICA 5	9.9	1032	75
ESTATICA 6	9.9	1032	75
ESTATICA 7	9.9	1032	75

Prueba	Temperatura (ºC)	Presión (mbar)	Humedad (%)
ESTATICA 8	13.6	1033	47
ESTATICA 9	13.6	1033	47
ESTATICA 10	13.6	1033	47
ESTATICA 11	6.2	1028	72
ESTATICA 12	6.2	1028	72
ESTATICA 13	9.9	1032	75
ESTATICA 14	9.9	1032	75
ESTATICA 15	9.9	1032	75
ESTATICA 16	9.9	1032	75
ESTATICA 17	13.6	1033	47
ESTATICA 18	13.6	1033	47
ESTATICA 19	13.6	1033	47
ESTATICA 20	20.5	1029	44
ESTATICA 21	20.5	1029	44
ESTATICA 22	20.5	1029	44
ESTATICA 23	20.5	1029	44
ESTATICA 24	20.5	1029	44
PRUEBA D V1-4	7.2	1028	67
PRUEBA D V5-8	9.9	1032	75
PRUEBA D V9-11	13.6	1033	47
PRUEBA D V1-4	20.5	1029	44

Por último, decir que no se produjeron incidencias durante la realización de la prueba de carga.

7.2. RESULTADOS OBTENIDOS.

A continuación se presentan los resúmenes tabulados de los resultados obtenidos en las pruebas realizadas en la estructura, estáticas y dinámicas.

Como complemento a este apartado, en el anejo nº IV, se presentan los registros obtenidos durante los diferentes ensayos de que constaron las pruebas.

VIADUCTO DE LLOBREGAT LAV MIXTA

FLECHAS PRUEBA ESTÁTICA

HIPOTESIS 1

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F1	V1	Estribo 1	-	-0,26	-0,26	-	-0,05	-0,05	80,77
F2	V1	1/2Lc	-2	-2,14	-1,98	98,75	-0,05	-0,02	98,99
F3	V1	1/2Lc	-2	-1,88	-1,72	85,75	-0,10	-0,07	95,92
F4	V1	Pila 1	-	-0,07	-0,07	-	-0,01	-0,01	85,71
F5	V2	Pila 1	-	-0,28	-0,28	-	-0,01	-0,01	96,43
F6	V2	1/2Lc	-4,7	-4,63	-4,28	90,96	-0,02	-0,01	99,77
F7	V2	1/2Lc	-4,7	-4,89	-4,54	96,49	-0,06	-0,05	98,90
F8	V2	Pila 2	-	-0,43	-0,43	-	0,02	0,02	>100
Flecha máxima alcanzada (mm)			**-4,54**	**Porcentaje medio alcanzado (%)**	**Vano1**	92,25	**Recuperación media (%)**	**Vano1**	**90,35**
					Vano2	93,72		**Vano2**	**99,94**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

BANDAS PRUEBA ESTÁTICA

HIPOTESIS 1

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %		Valor en Descarga (uE)		Recuperación Alcanzada %
B1	V1	1/2Lc	41,00	25,00	60,98		-0,19		>100
B2	V1	1/2Lc	41,00	25,36	61,85		-1,24		>100
B3	V2	1/2Lc	52,00	51,15	98,37		-3,90		>100
B4	V2	1/2Lc	52,00	51,41	98,87		1,29		97,49
Deformación máxima alcanzada (µE)			**51,41**	**Porcentaje medio alcanzado (%)**	**Vano 1**	**61,41**	**Recuperación media (%)**	**Vano 1**	**>100**
					Vano 2	**98,62**		**Vano 2**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 2

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F5	V2	Pila 1	-	-0,29	-0,29	-	0,02	0,02	>100
F6	V2	1/2Lc	-4,1	-3,81	-3,55	86,46	-0,16	-0,18	94,92
F7	V2	1/2Lc	-4,1	-3,59	-3,33	81,10	-0,06	-0,08	97,59
F8	V2	Pila 2	-	-0,24	-0,24	-	0,02	0,02	>100
F9	V3	Pila 2	-	0,15	0,15	-	0,02	0,02	86,67
F10	V3	1/2Lc	-4,3	-4,15	-3,69	85,81	-0,19	0,12	>100
F11	V3	1/2Lc	-4,3	-4,28	-3,82	88,84	0,06	0,11	>100
F12	V3	Pila 3	-	-0,46	-0,46	-	-0,05	-0,05	89,13
Flecha máxima alcanzada (mm)			**-3,82**	**Porcentaje medio alcanzado (%)**	**Vano2**	**83.40**	**Recuperación media (%)**	**Vano2**	**>100**
					Vano3	**79.42**		**Vano3**	**95,48**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

BANDAS PRUEBA ESTÁTICA

HIPOTESIS 2

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %		Valor en Descarga (uE)		Recuperación Alcanzada %
B3	V2	1/2Lc	55	46,39	84,35		0,59		98,73
B4	V2	1/2Lc	55	45,87	83,40		-1,05		>100
B5	V3	1/2Lc	49	36,35	74,18		0,78		97,85
B6	V3	1/2Lc	49	41,49	84,67		-5,86		>100
Deformación máxima alcanzada (µE)			**46,39**	**Porcentaje medio alcanzado (%)**	**Vano 2**	**83,87**	**Recuperación media (%)**	**Vano 2**	**>100**
					Vano 3	**79,43**		**Vano 3**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 3

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F9	V3	Pila 2	-	-0,44	-0,44	-	0,00	0,00	100,00
F10	V3	1/2Lc	-4,20	-3,55	-3,23	76,90	0,08	0,08	>100
F11	V3	1/2Lc	-4,20	-4,14	-3,82	90,95	-0,19	-0,16	95,81
F12	V3	Pila 3	-	-0,20	-0,20	-	-0,03	-0,03	85,00
F13	V4	Pila 3	-	-0,19	-0,19	-	0,01	0,01	>100
F14	V4	1/2Lc	-4,30	-4,31	-4,22	98,02	-0,05	-0,05	98,81
F15	V4	1/2Lc	-4,30	-4,37	-4,28	99,42	-0,40	-0,40	90,64
F16	V4	Pila 4	-	0,00	0,00	-	0,00	0,00	100,00
Flecha máxima alcanzada (mm)			**-4,28**	**Porcentaje medio alcanzado (%)**	**Vano3**	**74.15**	**Recuperación media (%)**	**Vano3**	**95,82**
					Vano4	**81.09**		**Vano4**	**98,68**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

BANDAS PRUEBA ESTÁTICA

HIPOTESIS 3

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %		Valor en Descarga (uE)		Recuperación Alcanzada %
B5	V3	1/2Lc	56	45,22	80,75		2,58		94,29
B6	V3	1/2Lc	56	42,72	76,29		-3,34		>100
B7	V4	1/2Lc	49	48,88	99,76		0,62		98,73
B8	V4	1/2Lc	49	34,39	70,18		0,15		99,56
Deformación máxima alcanzada (µE)			**48,88**	**Porcentaje medio alcanzado (%)**	**Vano 3**	**78,52**	**Recuperación media (%)**	**Vano 3**	**>100**
					Vano 4	**84,97**		**Vano 4**	**99,15**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 4

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F13	V4	Pila 3	-	-0,26	-0,26	-	0,03	0,03	>100
F14	V4	1/2Lc	-4,20	-4,61	-4,24	100,95	-0,26	-0,28	93,51
F15	V4	1/2Lc	-4,20	-4,87	-4,50	107,14	0,04	0,03	>100
F16	V4	Pila 4	-	-0,48	-0,48	-	0,00	0,00	100,00
F17	V5	Pila 4	-	-0,27	-0,27	-	0,01	0,01	>100
F18	V5	1/2Lc	-4,30	-3,76	-3,58	83,26	0,12	0,13	>100
F19	V5	1/2Lc	-4,30	-3,45	-3,27	76,05	0,06	0,07	>100
F20	V5	Pila 5	-	-0,09	-0,09	-	-0,02	-0,02	77,78
Flecha máxima alcanzada (mm)			**-4,50**	**Porcentaje medio alcanzado (%)**	**Vano4**	**104.05**	**Recuperación media (%)**	**Vano4**	**>100**
					Vano5	**79.65**		**Vano5**	**96,74**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

BANDAS PRUEBA ESTÁTICA

HIPOTESIS 4

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %	Valor en Descarga (uE)	Recuperación Alcanzada %
B5	V4	1/2Lc	56	47,25	84,38	2,35	95,03
B6	V4	1/2Lc	56	42,08	75,14	1,46	96,53
B7	V5	1/2Lc	49	44,98	91,80	3,35	92,55
B8	V5	1/2Lc	49	35,68	72,82	-1,82	>100
Deformación máxima alcanzada (µE)			**47,25**	**Porcentaje medio alcanzado (%)**	**Vano 4** **79,76**	**Recuperación media (%)**	**Vano 4** **95,78**
					Vano 5 **82,31**		**Vano 5** **98,83**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

FLECHAS PRUEBA ESTÁTICA

HIPOTESIS 5

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F17	V5	Pila 4	-	-0,32	-0,32	-	0,00	0,00	100,00
F18	V5	1/2Lc	-4,20	-4,45	-4,13	98,33	-0,06	-0,06	98,55
F19	V5	1/2Lc	-4,20	-4,51	-4,16	99,05	-0,10	0,01	100,00
F20	V5	Pila 5	-	-0,35	-0,35	-	-0,11	-0,11	68,57
F21	V6	Pila 5	-	-0,22	-0,22	-	0,00	0,00	100,00
F22	V6	1/2Lc	-4,30	-3,71	-3,49	81,16	0,12	0,12	>100
F23	V6	1/2Lc	-4,30	-4,31	-4,03	93,72	-0,21	-0,16	96,03
F24	V6	Pila 6	-	-0,28	-0,28	-	-0,05	-0,05	82,14
Flecha máxima alcanzada (mm)			**-4,16**	**Porcentaje medio alcanzado (%)**	**Vano5**	**98.69**	**Recuperación media (%)**	**Vano5**	**91,84**
					Vano6	**87.44**		**Vano6**	**95,40**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

BANDAS PRUEBA ESTÁTICA

HIPOTESIS 5

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %	Valor en Descarga (uE)	Recuperación Alcanzada %
B9	V5	1/2Lc	56	47,54	51,52	0,64	98,65
B10	V5	1/2Lc	56	41,61	74,30	-0,23	>100
B11	V6	1/2Lc	49	42,32	86,37	-0,50	>100
B12	V6	1/2Lc	49	46,11	94,10	-0,79	>100

Deformación máxima alcanzada (µE)			**47,54**	**Porcentaje medio alcanzado (%)**	**Vano1**	**62,91**	**Recuperación media (%)**	**Vano1**	**99,60**
					Vano2	**90,23**		**Vano2**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 6

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F21	V6	Pila 5	-	-0,32	-0,32	-	0,03	0,03	>100
F22	V6	1/2Lc	-4,20	-3,61	-3,29	78,33	0,01	-0,02	99,39
F23	V6	1/2Lc	-4,20	-4,02	-3,39	80,71	0,01	-0,03	92,07
F24	V6	Pila 6	-	-0,63	-0,63	-	0,04	0,04	96,77
F25	V7	Pila 6	-	0,03	0,03	-	0,00	0,00	100,00
F26	V7	1/2Lc	-4,20	-4,17	-4,17	99,29	-0,11	-0,11	97,36
F27	V7	1/2Lc	-4,20	-3,93	-3,74	89,05	0,05	0,05	>100
F28	V7	Pila 7	-	-0,19	-0,19	-	0,00	0,00	100,00
Flecha máxima alcanzada (mm)			**-4,17**	**Porcentaje medio alcanzado (%)**	**Vano6**	**79.52**	**Recuperación media (%)**	**Vano6**	**>100**
					Vano7	**94.17**		**Vano7**	**84,89**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

BANDAS PRUEBA ESTÁTICA

HIPOTESIS 6

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %		Valor en Descarga (uE)		Recuperación Alcanzada %
B11	V6	1/2Lc	56	49,66	88,68		0,54		98,91
B12	V6	1/2Lc	56	54,98	98,18		4,75		91,36
Deformación máxima alcanzada (µE)			**54,98**	**Porcentaje medio alcanzado (%)**	**Vano 6**	**93,43**	**Recuperación media (%)**	**Vano5**	**95,14**
					Vano 7	*		**Vano6**	*

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 7

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F25	V7	Pila 6	-	-0,34	-0,34	-	0,12	0,12	>100
F26	V7	1/2Lc	-4,20	-3,52	-3,18	75,71	0,00	0,00	100,00
F27	V7	1/2Lc	-4,20	-3,60	-3,26	77,62	0,42	0,32	>100
F28	V7	Pila 7	-	-0,34	-0,34	-	0,10	0,10	>100
F29	V8	Pila 7	-	-0,02	-0,02	-	0,00	0,00	100,00
F30	V8	1/2Lc	-4,30	-2,95	-2,93	68,14	-0,43	-0,43	85,32
F31	V8	1/2Lc	-4,30	-4,64	-4,62	107,44	-0,19	-0,19	95,89
Flecha máxima alcanzada (mm)			**-4,62**	**Porcentaje medio alcanzado (%)**	**Vano7**	76,67	**Recuperación media (%)**	**Vano7**	**>100**
					Vano8	87,79		**Vano8**	**93,74**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

BANDAS PRUEBA ESTÁTICA

HIPOTESIS 7

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %		Valor en Descarga (uE)		Recuperación Alcanzada %
B13	V8	1/2Lc	49	39,29	80,18		-1,23		>100
B14	V8	1/2Lc	49	30,97	63,20		-0,41		>100
Deformación máxima alcanzada (µE)			**39,29**	**Porcentaje medio alcanzado (%)**	**Vano 7**	*	**Recuperación media (%)**	**Vano 7**	*
					Vano 8	**71,69**		**Vano 8**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 8

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F29	V8	Pila 6	-	-0,18	-0,18	-	0,01	0,01	>100
F30	V8	1/2Lc	-4,2	-3,13	-2,95	70,24	0,50	0,49	>100
F31	V8	1/2Lc	-4,2	-3,55	-3,40	80,95	-0,51	-0,55	83,82
F32	V9	Pila 7	-	-0,15	-0,15	-	0,04	0,04	>100
F33	V9	1/2Lc	-4,3	-4,71	-4,24	98,60	-0,14	-0,12	97,17
F34	V9	1/2Lc	-4,3	-4,95	-4,48	104,19	-0,51	-0,49	89,06
F35	V9	Pila 8	-	-0,47	-0,47	-	-0,02	-0,02	95,74
Flecha máxima alcanzada (mm)			**-4,48**	**Porcentaje medio alcanzado (%)**	**Vano 8**	**75.60**	**Recuperación media (%)**	**Vano 8**	**>100**
					Vano 9	**101.40**		**Vano 9**	**93,99**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

BANDAS PRUEBA ESTÁTICA

HIPOTESIS 8

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %		Valor en Descarga (uE)		Recuperación Alcanzada %
B13	V8	1/2Lc	56	48,76	87,07		1,64		96,64
B14	V8	1/2Lc	56	51,24	91,50		1,32		97,42
Deformación máxima alcanzada (µE)			**48,76**	**Porcentaje medio alcanzado (%)**	**Vano 8**	**89,29**	**Recuperación media (%)**	**Vano 8**	**97,03**
					Vano 9	*		**Vano 9**	*

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 9

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F32	V9	Pila 8	-	0,07	-0,06	-	0,06	0,06	>100
F33	V9	1/2Lc	-4,2	-4,28	-4,07	96,90	-0,20	-0,20	95,09
F34	V9	1/2Lc	-4,2	-4,39	-4,18	99,52	-0,67	-0,57	86,36
F35	V9	Pila 9	-	-0,21	-0,21	-	-0,10	-0,10	52,38
F36	V10	Pila 9	-	-0,19	-0,19	-	-0,23	-0,23	-21,05
F37	V10	1/2Lc	-4,2	-4,05	-3,86	91,90	-0,02	-0,02	99,48
F38	V10	1/2Lc	-4,2	-3,97	-3,91	93,10	-0,09	-0,09	97,70
F39	V10	Pila 10	-	-0,06	-0,06	-	0,20	0,20	>100
Flecha máxima alcanzada (mm)			**-4,18**	**Porcentaje medio alcanzado (%)**	**Vano 9**	98,21	**Recuperación media (%)**	**Vano 9**	**108,46**
					Vano 10	92,50		**Vano 10**	**152,37**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

BANDAS PRUEBA ESTÁTICA

HIPOTESIS 9

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %		Valor en Descarga (uE)		Recuperación Alcanzada %
B15	V9	1/2Lc	56	44,84	80,07		0,00		100,00
B16	V9	1/2Lc	56	40,61	72,52		-0,12		>100
B17	V10	1/2Lc	49	36,86	75,22		0,82		97,78
B18	V10	1/2Lc	49	32,04	65,39		0,47		98,53
Deformación máxima alcanzada (µE)			**44,84**	**Porcentaje medio alcanzado (%)**	**Vano 9**	76,29	**Recuperación media (%)**	**Vano 9**	**>100**
					Vano 10	70,31		**Vano 10**	**98,15**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 10

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F36	V10	Pila 9	-	-0,32	-0,32	-	-0,07	-0,07	78,13
F37	V10	1/2Lc	-5	-4,59	-4,27	85,40	-0,12	-0,05	98,83
F38	V10	1/2Lc	-5	-4,81	-4,72	94,40	-0,29	-0,26	94,49
F39	V10	Pila 10	-	-0,09	-0,09	-	-0,03	-0,03	66,67
F40	V11	Pila 10	-	-0,10	-0,10	-	-0,03	-0,03	70,00
F41	V11	1/2Lc	-1,5	-1,51	-1,41	94,00	0,12	0,15	>100
F42	V11	1/2Lc	-1,5	-1,63	-1,40	93,33	-0,14	-0,11	92,14
F43	V11	Pila 11	-	-0,23	-0,23	-	-0,03	-0,03	86,96
Flecha máxima alcanzada (mm)			**-4,72**	**Porcentaje medio alcanzado (%)**	**Vano 10**	89,90	**Recuperación media (%)**	**Vano 10**	**84,53**
					Vano11	93,67		**Vano 11**	**89,93**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
BANDAS PRUEBA ESTÁTICA
HIPOTESIS 10

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %	Valor en Descarga (uE)	Recuperación Alcanzada %
B17	V10	1/2Lc	62	44,25	71,37	0,70	98,42
B18	V10	1/2Lc	62	43,43	70,05	0,00	100,00
B19	V11	1/2Lc	35	34,39	98,26	3,52	89,76
B20	V11	1/2Lc	35	33,33	95,23	0,12	99,64
Deformación máxima alcanzada (µE)			**44,25**	**Porcentaje medio alcanzado (%)**	**Vano9** **83,30**	**Recuperación media (%)**	**Vano9** **99,21**
					Vano10 **96,74**		**Vano10** **94,70**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 11

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F1	V1	Estribo 1	-	-0,27	-0,27	-	0,03	0,03	>100
F2	V1	1/2Lc	-6,3	-4,52	-4,25	67,46	-0,06	-0,09	97,88
F3	V1	1/2Lc	-6,3	-5,64	-5,20	82,54	-0,10	0,00	100,00
F4	V1	Pila 1	-	-0,44	-0,44	-	-0,10	-0,10	77,27
F5	V2	Pila 1	-	0,08	0,08	-	-0,08	-0,08	>100
F6	V2	1/2Lc	6,2	3,29	3,21	51,77	-0,15	-0,07	>100
F7	V2	1/2Lc	6,2	3,76	3,65	58,87	-0,05	0,00	100,00
F8	V2	Pila 2	-	0,11	0,11	-	-0,05	-0,05	>100
F9	V3	Pila 2	-	-0,51	-0,51	-	-0,10	-0,10	80,39
F10	V3	1/2Lc	-8,5	-6,91	-6,40	75,29	-0,19	-0,09	98,59
F11	V3	1/2Lc	-8,5	-6,58	-6,00	70,59	0,19	0,17	>100
F12	V3	Pila 3	-	-0,58	-0,58	-	0,02	0,02	>100
Flecha máxima alcanzada (mm)			**-6,40**	**Porcentaje medio alcanzado (%)**	**Vano1**	75,00	**Recuperación media (%)**	**Vano1**	**96,57**
					Vano 2	55,32		**Vano 2**	**>100**
					Vano 3	72,94		**Vano 3**	**96,32**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
BANDAS PRUEBA ESTÁTICA
HIPOTESIS 11

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %	Valor en Descarga (uE)	Recuperación Alcanzada %
B1	V1	1/2Lc	87	73,59	84,59	-1,17	>100
B2	V1	1/2Lc	87	69,60	80,00	0,12	99,83
B3	V2	1/2Lc	-48	-37,68	78,50	-1,17	96,89
B4	V2	1/2Lc	-48	-36,39	75,81	0,82	>100
B5	V3	1/2Lc	80	74,77	93,46	-0,23	>100
B6	V3	1/2Lc	80	74,65	93,31	-0,12	>100

Deformación máxima alcanzada (µE)			**74,77**	**Porcentaje medio alcanzado (%)**	**Vano1**	82,29	**Recuperación media (%)**	**Vano1**	**>100**
					Vano 2			**Vano 2**	**99,57**
					Vano 3	93,39		**Vano 3**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 12

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F5	V2	Pila 1	-	-0,51	-0,51	-	0,02	0,02	>100
F6	V2	1/2Lc	-8,6	-6,51	-6,00	69,77	0,08	-0,29	95,17
F7	V2	1/2Lc	-8,6	-6,92	-6,37	74,07	-0,06	-0,22	96,55
F8	V2	Pila 2	-	-0,55	-0,55	-	0,11	0,11	>100
F9	V3	Pila 2	-	0,18	0,18	-	-0,05	-0,05	>100
F10	V3	1/2Lc	6,8	4,65	4,47	65,74	0,27	0,00	100,00
F11	V3	1/2Lc	6,8	4,06	3,73	54,85	0,25	-0,26	>100
F12	V3	Pila 3	-	0,33	0,33	-	0,03	0,03	90,91
F13	V4	Pila 3	-	-0,48	-0,48	-	0,05	0,05	>100
F14	V4	1/2Lc	-8,7	-7,52	-7,04	80,92	0,01	-0,18	97,44
F15	V4	1/2Lc	-8,7	-7,72	-7,72	88,74	-0,20	-0,19	97,54
F16	V4	Pila 4	-	0,00	0,00	-	0,00	0,00	100,00

Flecha máxima alcanzada (mm)	**-7,72**	**Porcentaje medio alcanzado (%)**	**Vano 2**	71,92	**Recuperación media (%)**	**Vano 2**	**>100**
			Vano 3	60,29		**Vano 3**	**>100**
			Vano 4	84,83		**Vano 4**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
BANDAS PRUEBA ESTÁTICA
HIPOTESIS 12

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %	Valor en Descarga (uE)	Recuperación Alcanzada %
B1	V1	1/2Lc	88	61,57	69,97	-0,23	>100
B2	V1	1/2Lc	88	55,93	63,56	-3,99	>100
B3	V2	1/2Lc	-44	-35,50	80,68	-3,76	89,41
B4	V2	1/2Lc	-44	-33,51	76,16	-3,29	90,18
B5	V3	1/2Lc	79	63,47	80,34	0,35	99,45
B6	V3	1/2Lc	79	75,65	95,76	-0,59	>100

Deformación máxima alcanzada (µE)	**75,65**	**Porcentaje medio alcanzado (%)**	**Vano 1**	**66.76**	**Recuperación media (%)**	**Vano 1**	**>100**
			Vano 2	**78.42**		**Vano 2**	**89,80**
			Vano 3	**88.05**		**Vano 3**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 13

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F9	V3	Pila 2	-	-0,11	-0,11	-	0,02	0,02	>100
F10	V3	1/2Lc	-8,70	-7,62	-7,51	86,32	-0,45	-0,47	93,74
F11	V3	1/2Lc	-8,70	-7,68	-7,63	87,70	-0,56	-0,57	92,53
F12	V3	Pila 3	-	-0,05	-0,05	-	0,01	0,01	>100
F13	V4	Pila 3	-	0,34	0,34	-	-0,01	-0,01	>100
F14	V4	1/2Lc	6,80	6,10	5,76	84,71	-0,04	-0,03	>100
F15	V4	1/2Lc	6,80	5,76	5,65	83,09	0,46	0,48	91,50
F16	V4	Pila 4	-	0,11	0,11	-	-0,02	-0,02	>100
F17	V5	Pila 4	-	-0,40	-0,40	-	0,04	0,04	>100
F18	V5	1/2Lc	-8,70	-7,84	-7,44	85,52	-0,60	-0,64	91,40
F19	V5	1/2Lc	-8,70	-8,45	-7,95	91,38	-0,04	-0,05	99,37
F20	V5	Pila 5	-	-0,50	-0,50	-	0,01	0,01	>100
Flecha máxima alcanzada (mm)			**-7,95**	**Porcentaje medio alcanzado (%)**	**Vano 3**	87,01	**Recuperación media (%)**	**Vano 3**	**>100**
					Vano 4	83,90		**Vano 4**	**>100**
					Vano 5	88,45		**Vano 5**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
BANDAS PRUEBA ESTÁTICA
HIPOTESIS 13

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %	Valor en Descarga (uE)	Recuperación Alcanzada %
B3	V2	1/2Lc	88	81,87	93,03	6,44	92,13
B4	V2	1/2Lc	88	80,65	91,65	6,47	91,98
B5	V3	1/2Lc	-48	-36,78	76,63	7,39	120,09
B6	V3	1/2Lc	-48	-33,89	70,60	12,12	135,76
B7	V4	1/2Lc	80	67,49	84,36	3,87	94,27
B8	V4	1/2Lc	80	58,45	73,06	0,00	100,00
Deformación máxima alcanzada (µE)			**81,87**	**Porcentaje medio alcanzado (%)**	**Vano 2**	**92.34**	**Recuperación media (%)**	**Vano 2**	**92,06**
					Vano 3	**73.61**		**Vano 3**	**>100**
					Vano 4	**78.71**		**Vano 4**	**97,13**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 14

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F13	V4	Pila 3	-	-0,18	-0,18	-	0,01	0,01	>100
F14	V4	1/2Lc	-8,70	-7,50	-7,32	84,14	-0,13	-0,14	98,09
F15	V4	1/2Lc	-8,70	-7,41	-7,14	82,07	0,26	0,30	>100
F16	V4	Pila 4	-	-0,27	-0,27	-	-0,04	-0,04	85,19
F17	V5	Pila 4	-	0,31	0,31	-	0,01	0,01	96,77
F18	V5	1/2Lc	6,80	4,77	4,46	65,59	0,53	0,52	88,34
F19	V5	1/2Lc	6,80	5,11	4,68	68,82	0,00	-0,01	>100
F20	V5	Pila 5	-	0,43	0,43	-	0,01	0,01	97,67
F21	V6	Pila 5	-	-0,58	-0,58	-	0,00	0,00	100,00
F22	V6	1/2Lc	-8,70	-7,85	-7,27	83,56	0,01	0,01	>100
F23	V6	1/2Lc	-8,70	-7,22	-6,89	79,20	-0,18	-0,21	96,95
F24	V6	Pila 6	-	-0,33	-0,33	-	0,03	0,03	>100
Flecha máxima alcanzada (mm)			**-7,32**	**Porcentaje medio alcanzado (%)**	**Vano 4**	83,10	**Recuperación media (%)**	**Vano 4**	**98,26**
					Vano 5	67,21		**Vano 5**	**95,75**
					Vano 6	81,38		**Vano 6**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
BANDAS PRUEBA ESTÁTICA
HIPOTESIS 14

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %	Valor en Descarga (uE)	Recuperación Alcanzada %
B5	V4	1/2Lc	88,00	86,36	98,14	17,45	79,79
B6	V4	1/2Lc	88,00	84,98	96,57	-2,12	>100
B7	V5	1/2Lc	-48,00	-35,45	73,85	7,56	>100
B8	V5	1/2Lc	-48,00	-34,32	71,50	4,11	>100
B9	V6	1/2Lc	80,00	68,49	85,61	-2,29	>100
B10	V6	1/2Lc	80,00	56,19	70,24	-1,86	>100
Deformación máxima alcanzada (µE)			**86,36**	**Porcentaje medio alcanzado (%)**	**Vano 4**	**97,35**	**Recuperación media (%)**	**Vano 4**	**91,14**
					Vano 5	**72,68**		**Vano 5**	**>100**
					Vano 6	**77,93**		**Vano 6**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 15

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F17	V5	Pila 2	-	-0,37	-0,37	-	0,00	0,00	100,00
F18	V5	1/2Lc	-8,70	-6,94	-6,57	75,52	0,12	0,12	>100
F19	V5	1/2Lc	-8,70	-8,03	-7,48	85,98	-0,03	-0,04	99,47
F20	V5	Pila 3	-	-0,55	-0,55	-	0,01	0,01	>100
F21	V6	Pila 3	-	0,47	0,47	-	0,00	0,00	100,00
F22	V6	1/2Lc	6,80	4,79	4,32	63,53	0,17	0,17	96,06
F23	V6	1/2Lc	6,80	4,42	4,12	60,59	-0,12	-0,10	>100
F24	V6	Pila 4	-	0,30	0,30	-	-0,02	-0,02	>100
F25	V7	Pila 4	-	-0,56	-0,56	-	0,09	0,09	>100
F26	V7	1/2Lc	-8,70	-6,92	-6,36	73,10	-0,11	-0,20	96,86
F27	V7	1/2Lc	-8,70	-7,24	-6,93	79,66	-0,08	-0,08	98,85
F28	V7	Pila 5	-	-0,31	-0,31	-	0,00	0,00	100,00
Flecha máxima alcanzada (mm)			**-7,48**	**Porcentaje medio alcanzado (%)**	**Vano 5**	80,75	**Recuperación media (%)**	**Vano 5**	**>100**
					Vano 6	62,06		**Vano 6**	**>100**
					Vano 7	76,38		**Vano 7**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
BANDAS PRUEBA ESTÁTICA
HIPOTESIS 15

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %		Valor en Descarga (uE)		Recuperación Alcanzada %
B10	V5	1/2Lc	88,00	65,73	74,69		0,82		98,75
B11	V6	1/2Lc	-48,00	-31,22	65,04		1,88		>100
B12	V6	1/2Lc	-48,00	-25,94	54,04		1,06		>100
Deformación máxima alcanzada (µE)			**65,73**	**Porcentaje medio alcanzado (%)**	**Vano 5**	**74,69**	**Recuperación media (%)**	**Vano 5**	**98,75**
					Vano 6	**59,54**		**Vano 6**	**>100**
					Vano 7	*		**Vano 7**	*/

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 16

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F21	V6	Pila 5	-	-0,52	-0,52	-	0,01	0,01	>100
F22	V6	1/2Lc	-8,70	-7,10	-6,58	75,63	0,41	0,40	>100
F23	V6	1/2Lc	-8,70	-7,00	-6,63	76,21	0,02	-0,04	99,40
F24	V6	Pila 6	-	-0,37	-0,37	-	0,06	0,06	>100
F25	V7	Pila 6	-	0,48	0,48	-	0,04	0,04	91,67
F26	V7	1/2Lc	6,80	5,38	4,90	72,06	-0,30	-0,34	>100
F27	V7	1/2Lc	6,80	4,30	4,18	61,47	-0,07	-0,07	>100
F28	V7	Pila 7	-	0,12	0,12	-	0,00	0,00	100,00
F29	V8	Pila 7	-	-0,57	-0,57	-	0,00	0,00	100,00
F30	V8	1/2Lc	-8,70	-7,41	-6,84	78,62	0,23	0,23	>100
F31	V8	1/2Lc	-8,70	-8,22	-7,65	87,93	-0,42	-0,42	94,51
Flecha máxima alcanzada (mm)			**-7,65**	**Porcentaje medio alcanzado (%)**	**Vano 6**	75,92	**Recuperación media (%)**	**Vano 6**	**>100**
					Vano 7	66,76		**Vano 7**	**>100**
					Vano 8	83,28		**Vano 8**	**99,29**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
BANDAS PRUEBA ESTÁTICA
HIPOTESIS 16

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %		Valor en Descarga (uE)		Recuperación Alcanzada %
B11	V6	1/2Lc	88,00	65,85	74,83		3,05		95,37
B12	V6	1/2Lc	88,00	70,07	79,63		0,23		99,67
B13	V7	1/2Lc	80,00	70,19	87,74		0,59		99,16
B14	V7	1/2Lc	80,00	62,33	77,91		0,70		98,88
Deformación máxima alcanzada (µE)			**70,19**	**Porcentaje medio alcanzado (%)**	**Vano 6**	**77,23**	**Recuperación media (%)**	**Vano 6**	**97,52**
					Vano 7	*		**Vano 7**	*
					Vano 8	**82,83**		**Vano 8**	**99,02**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 17

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F25	V7	Pila 6	-	-0,11	-0,11	-	-0,02	-0,02	81,82
F26	V7	1/2Lc	-8,70	-7,60	-7,49	86,09	-0,44	-0,42	94,39
F27	V7	1/2Lc	-8,70	-7,48	-7,46	85,75	-0,13	-0,13	98,26
F28	V7	Pila 7	-	-0,02	-0,02	-	0,00	0,00	100,00
F29	V8	Pila 7	-	0,10	0,10	-	0,03	0,03	70,00
F30	V8	1/2Lc	6,80	3,89	3,79	55,74	-0,84	-0,87	>100
F31	V8	1/2Lc	6,80	4,27	4,17	61,32	-0,01	-0,04	>100
F32	V9	Pila 8	-	-0,31	-0,31	-	-0,01	-0,01	96,77
F33	V9	1/2Lc	-8,70	-8,00	-7,69	88,39	-0,37	-0,36	95,32
F34	V9	1/2Lc	-8,70	-8,19	-7,67	88,16	-0,03	-0,03	99,61
F35	V9	Pila 9	-	-0,52	-0,52	-	0,00	0,00	100,00
Flecha máxima alcanzada (mm)			**-7,69**	**Porcentaje medio alcanzado (%)**	**Vano 7**	85,92	**Recuperación media (%)**	**Vano 7**	**93,62**
					Vano 8	58,53		**Vano 8**	**97,67**
					Vano 9	88,28		**Vano 9**	**98,31**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
BANDAS PRUEBA ESTÁTICA
HIPOTESIS 17

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %		Valor en Descarga (uE)		Recuperación Alcanzada %
B13	V8	1/2Lc	-48,00	-36,93	76,94		-14,92		59,60
B14	V8	1/2Lc	-48,00	-41,55	86,56		0,02		>100
B15	V9	1/2Lc	80,00	80,40	100,50		0,12		99,85
B16	V9	1/2Lc	80,00	78,64	98,30		0,00		100,00
Deformación máxima alcanzada (µE)			**80,40**	**Porcentaje medio alcanzado (%)**	**Vano 7**	*	**Recuperación media (%)**	**Vano 7**	*
					Vano 8	**81,75**		**Vano 8**	**79,82**
					Vano 9	**99,40**		**Vano 9**	**99,93**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 18

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F29	V8	Pila 7	-	-0,37	-0,37	-	0,02	0,02	>100
F30	V8	1/2Lc	-8,70	-7,21	-6,84	78,62	0,10	0,08	>100
F31	V8	1/2Lc	-8,70	-6,73	-6,36	73,10	-0,07	-0,07	98,90
F32	V9	Pila 8	-	-0,10	-0,10	-	-0,03	-0,03	70,00
F33	V9	1/2Lc	6,80	4,98	4,98	73,24	-0,11	-0,08	>100
F34	V9	1/2Lc	6,80	4,75	4,61	67,79	0,02	0,02	99,57
F35	V10	Pila 9	-	0,14	0,14	-	-0,08	-0,08	>100
F36	V11	Pila 9	-	-0,53	-0,53	-	0,01	0,01	>100
F37	V11	1/2Lc	-8,60	-7,81	-7,28	84,65	-0,37	-0,38	94,78
F38	V11	1/2Lc	-8,60	-7,96	-7,61	88,49	-0,35	-0,35	95,40
F39	V11	Pila 10	-	-0,35	-0,35	-	0,00	0,00	100,00
Flecha máxima alcanzada (mm)			**-7,61**	**Porcentaje medio alcanzado (%)**	**Vano 8**	75,86	**Recuperación media (%)**	**Vano 8**	**93,87**
					Vano 9	67,79		**Vano 9**	**>100**
					Vano 10	86,57		**Vano 10**	**96,73**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
BANDAS PRUEBA ESTÁTICA
HIPOTESIS 18

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %		Valor en Descarga (uE)		Recuperación Alcanzada %
B13	V8	1/2Lc	88,00	64,91	73,76		0,70		98,92
B14	V8	1/2Lc	88,00	60,57	68,83		0,47		99,22
B15	V9	1/2Lc	-48,00	-36,86	76,79		0,35		>100
B16	V9	1/2Lc	-48,00	-28,64	59,67		0,82		>100
Deformación máxima alcanzada (µE)			**64,91**	**Porcentaje medio alcanzado (%)**	**Vano 8**	**71,30**	**Recuperación media (%)**	**Vano 8**	**99,07**
					Vano 9	**68,23**		**Vano 9**	**>100**
					Vano 10	*		**Vano 10**	*

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 19

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F32	V9	Pila 8	-	0,20	0,20	-	0,03	0,03	85,00
F33	V9	1/2Lc	-8,70	-7,47	-7,67	88,16	-0,13	-0,16	97,91
F34	V9	1/2Lc	-8,70	-7,81	-7,45	85,63	-0,04	-0,14	98,12
F35	V9	Pila 9	-	-0,36	-0,36		0,10	0,10	>100
F36	V10	Pila 9	-	0,26	0,26	-	-0,07	-0,07	>100
F37	V10	1/2Lc	5,80	3,47	3,21	55,34	0,08	0,15	95,33
F38	V10	1/2Lc	5,80	3,96	3,99	68,79	0,14	0,15	96,24
F39	V10	Pila 10	-	-0,03	-0,03	-	-0,01	-0,01	66,67
F40	V11	Pila 10	-	-0,02	-0,02	-	-0,01	-0,01	50,00
F41	V11	1/2Lc	-5,60	-5,25	-5,23	93,39	-0,34	-0,33	93,69
F42	V11	1/2Lc	-5,60	-5,02	-4,70	83,93	-0,24	-0,23	95,11
F43	V11	Pila 11	-	-0,32	-0,32	-	-0,01	-0,01	96,88
Flecha máxima alcanzada (mm)			**-7,67**	**Porcentaje medio alcanzado (%)**	**Vano 9**	86,90	**Recuperación media (%)**	**Vano 9**	**>100**
					Vano 10	62,07		**Vano 10**	**96,29**
					Vano 11	88,66		**Vano 11**	**83,92**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
BANDAS PRUEBA ESTÁTICA
HIPOTESIS 19

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %	Valor en Descarga (uE)	Recuperación Alcanzada %
B15	V9	1/2Lc	86,00	66,55	77,38	-4,58	>100
B16	V9	1/2Lc	86,00	60,57	70,43	-0,35	>100
B17	V10	1/2Lc	-41,00	-36,86	89,90	0,35	>100
B18	V10	1/2Lc	-41,00	-34,04	83,02	0,35	>100
B19	V11	1/2Lc	79,00	78,88	99,85	0,47	99,40
B20	V11	1/2Lc	79,00	70,19	88,85	0,35	99,50

Deformación máxima alcanzada (µE)	**78,88**	**Porcentaje medio alcanzado (%)**			**Recuperación media (%)**		
			Vano 9	**84,91**		**Vano 9**	**>100**
			Vano 10	**86,46**		**Vano 10**	**>100**
			Vano 11	**94,35**		**Vano 11**	**99,45**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

FLECHAS PRUEBA ESTÁTICA

HIPOTESIS 1

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F1	V1	Estribo 2	-	-0,27	-0,27	-	-0,03	-0,03	88,89
F2	V1	1/2Lc	-2,7	-2,17	-1,90	70,37	-0,03	0,00	100,00
F3	V1	1/2Lc	-2,7	-2,65	-2,61	96,67	-0,07	-0,06	97,70
F4	V1	Pila 14	-	-0,04	-0,04	-	-0,01	-0,01	75,00
F5	V2	Pila 14	-	-0,31	-0,31	-	0,00	0,00	100,00
F6	V2	1/2Lc	-4,7	-4,59	-4,28	91,06	-0,02	-0,02	99,53
F7	V2	1/2Lc	-4,7	-4,88	-4,47	95,11	-0,08	-0,08	98,21
F8	V2	Pila 13	-	-0,41	-0,41	-	0,00	0,00	100,00
Flecha máxima alcanzada (mm)			**-4,47**	**Porcentaje medio alcanzado (%)**	**Vano1**	83,52	**Recuperación media (%)**	**Vano1**	**90,40**
					Vano2	93,09		**Vano2**	**99,44**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

FLECHAS PRUEBA ESTÁTICA

HIPOTESIS 1

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F1	V1	Estribo 2	-	-0.27	-0.27	-	-0.03	-0.03	88.89
F2	V1	1/2Lc	-2.7	-2.17	-1.90	70.37	-0.03	0.00	100.00
F3	V1	1/2Lc	-2.7	-2.65	-2.61	96.67	-0.07	-0.06	97.70
F4	V1	Pila 14	-	-0.04	-0.04	-	-0.01	-0.01	75.00
F5	V2	Pila 14	-	-0.31	-0.31	-	0.00	0.00	100.00
F6	V2	1/2Lc	-4.7	-4.59	-4.28	91.06	-0.02	-0.02	99.53
F7	V2	1/2Lc	-4.7	-4.88	-4.47	95.11	-0.08	-0.08	98.21
F8	V2	Pila 13	-	-0.41	-0.41	-	0.00	0.00	100.00
Flecha máxima alcanzada (mm)			**-4.47**	**Porcentaje medio alcanzado (%)**	**Vano1**	83.52	**Recuperación media (%)**	**Vano1**	**90.40**
					Vano2	93.09		**Vano2**	**99.44**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 2

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F5	V2	Pila 14	-	-0,27	-0,27	-	-0,02	-0,02	92,59
F6	V2	1/2Lc	-2,5	-2,16	-1,89	75,60	-0,08	-0,06	96,83
F7	V2	1/2Lc	-2,5	-2,18	-1,96	78,40	-0,19	-0,15	92,35
F8	V2	Pila 13	-	-0,22	-0,22	-	-0,04	-0,04	81,82
F9	V3	Pila 13	-	0,10	0,10	-	-0,27	-0,27	>100
F10	V3	1/2Lc	-8,2	-4,86	-4,96	60,49	0,12	0,12	>100
F11	V3	1/2Lc	-8,2	-4,97	-4,71	57,44	0,01	-0,01	99,79
F12	V3	Pila 12	-	-0,26	-0,26	-	0,02	0,02	>100
Flecha máxima alcanzada (mm)			**-4,96**	**Porcentaje medio alcanzado (%)**	**Vano 3**	**77.00**	**Recuperación media (%)**	**Vano 3**	**90,90**
					Vano 4	**58.96**		**Vano 4**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 2

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F5	V2	Pila 14	-	-0.27	-0.27	-	-0.02	-0.02	92.59
F6	V2	1/2Lc	-2.5	-2.16	-1.89	75.60	-0.08	-0.06	96.83
F7	V2	1/2Lc	-2.5	-2.18	-1.96	78.40	-0.19	-0.15	92.35
F8	V2	Pila 13	-	-0.22	-0.22	-	-0.04	-0.04	81.82
F9	V3	Pila 13	-	0.10	0.10	-	-0.27	-0.27	>100
F10	V3	1/2Lc	-8.2	-4.86	-4.96	60.49	0.12	0.12	>100
F11	V3	1/2Lc	-8.2	-4.97	-4.71	57.44	0.01	-0.01	99.79
F12	V3	Pila 12	-	-0.26	-0.26	-	0.02	0.02	>100
Flecha máxima alcanzada (mm)			**-4.96**	**Porcentaje medio alcanzado (%)**	**Vano 3**	**77.00**	**Recuperación media (%)**	**Vano 3**	**90.90**
					Vano 4	**58.96**		**Vano 4**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 3

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F9	V3	Pila 13	-	-0,45	-0,45	-	0,00	0,00	100,00
F10	V3	1/2Lc	-11,60	-8,91	-8,46	72,93	0,11	0,11	>100
F11	V3	1/2Lc	-11,60	-8,90	-8,73	75,26	-0,18	-0,15	98,28
F12	V3	Pila 12	-	-0,17	-0,17	-	-0,03	-0,03	82,35
F13	V4	Pila 12	-	0,20	0,20	-	-0,05	-0,05	>100
F14	V4	1/2Lc	0,90	0,90	0,70	77,78	-0,04	0,01	98,57
F15	V4	1/2Lc	0,90	1,12	0,78	86,67	-0,07	-0,05	>100
F16	V4	Pila 11	-	0,34	0,34	-	-0,02	-0,02	>100
Flecha máxima alcanzada (mm)			**-8,73**	**Porcentaje medio alcanzado (%)**	**Vano 3**	**74.15**	**Recuperación media (%)**	**Vano 3**	**95,48**
					Vano 4	**82.22**		**Vano 4**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 3

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F9	V3	Pila 13	-	-0.45	-0.45	-	0.00	0.00	100.00
F10	V3	1/2Lc	-11.60	-8.91	-8.46	72.93	0.11	0.11	>100
F11	V3	1/2Lc	-11.60	-8.90	-8.73	75.26	-0.18	-0.15	98.28
F12	V3	Pila 12	-	-0.17	-0.17	-	-0.03	-0.03	82.35
F13	V4	Pila 12	-	0.20	0.20	-	-0.05	-0.05	>100
F14	V4	1/2Lc	0.90	0.90	0.70	77.78	-0.04	0.01	98.57
F15	V4	1/2Lc	0.90	1.12	0.78	86.67	-0.07	-0.05	>100
F16	V4	Pila 11	-	0.34	0.34	-	-0.02	-0.02	>100
Flecha máxima alcanzada (mm)			**-8.73**	**Porcentaje medio alcanzado (%)**	**Vano 3**	**74.15**	**Recuperación media (%)**	**Vano 3**	**95.48**
					Vano 4	**82.22**		**Vano 4**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 4

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F1	V1	Estribo 2	-	-0,53	-0,53	-	0,00	0,00	100,00
F2	V1	1/2Lc	-0,80	-1,16	-0,63	78,75	-0,04	-0,04	93,65
F3	V1	1/2Lc	-0,80	-1,13	-0,78	97,50	-0,06	-0,06	92,31
F4	V1	Pila 14	-	-0,35	-0,35	-	0,00	0,00	100,00
F5	V2	Pila 14	-	0,11	0,11	-	-0,02	-0,02	>100
F6	V2	1/2Lc	8,30	5,20	5,09	61,33	0,19	0,21	95,87
F7	V2	1/2Lc	8,30	5,27	5,06	60,96	0,01	-0,01	>100
F8	V2	Pila 13	-	0,21	0,21	-	0,02	0,02	90,48
F9	V3	Pila 13	-	-0,35	-0,35	-	-0,07	-0,07	80,00
F10	V3	1/2Lc	-14,40	-9,31	-8,96	62,22	-0,07	0,00	100,00
F11	V3	1/2Lc	-14,40	-9,54	-9,19	63,82	-0,06	-0,12	98,69
F12	V3	Pila 14	-	-0,35	-0,35	-	0,06	0,06	>100
Flecha máxima alcanzada (mm)			**-9,19**	**Porcentaje medio alcanzado (%)**	**Vano 1**	**51.98**	**Recuperación media (%)**	**Vano 1**	**96,49**
					Vano 2	**61.14**		**Vano 2**	**>100**
					Vano 3	**63.02**		**Vano 3**	**98,96**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

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VIADUCTO DE LLOBREGAT LAV MIXTA
FLECHAS PRUEBA ESTÁTICA
HIPOTESIS 4

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F1	V1	Estribo 2	-	-0.53	-0.53	-	0.00	0.00	100.00
F2	V1	1/2Lc	-0.80	-1.16	-0.63	78.75	-0.04	-0.04	93.65
F3	V1	1/2Lc	-0.80	-1.13	-0.78	97.50	-0.06	-0.06	92.31
F4	V1	Pila 14	-	-0.35	-0.35	-	0.00	0.00	100.00
F5	V2	Pila 14	-	0.11	0.11	-	-0.02	-0.02	>100
F6	V2	1/2Lc	8.30	5.20	5.09	61.33	0.19	0.21	95.87
F7	V2	1/2Lc	8.30	5.27	5.06	60.96	0.01	-0.01	>100
F8	V2	Pila 13	-	0.21	0.21	-	0.02	0.02	90.48
F9	V3	Pila 13	-	-0.35	-0.35	-	-0.07	-0.07	80.00
F10	V3	1/2Lc	-14.40	-9.31	-8.96	62.22	-0.07	0.00	100.00
F11	V3	1/2Lc	-14.40	-9.54	-9.19	63.82	-0.06	-0.12	98.69
F12	V3	Pila 14	-	-0.35	-0.35	-	0.06	0.06	>100

Flecha máxima alcanzada (mm)	**-9.19**	**Porcentaje medio alcanzado (%)**	**Vano 1**	**51.98**	**Recuperación media (%)**	**Vano 1**	**96.49**
			Vano 2	**61.14**		**Vano 2**	**>100**
			Vano 3	**63.02**		**Vano 3**	**98.96**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA

FLECHAS PRUEBA ESTÁTICA

HIPOTESIS 5

Sensor	Vano	Posición	Valor Teórico (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Porcentaje Alcanzado %	Valor en Descarga Bruto (mm)	Valor en Descarga Neto (mm)	Recuperación Alcanzada %
F5	V2	Pila 14	-	-0,49	-0,49	-	0,03	0,03	>100
F6	V2	1/2Lc	-8,10	-6,45	-5,96	73,58	0,06	0,03	>100
F7	V2	1/2Lc	-8,10	-6,90	-6,42	79,26	-0,09	-0,19	97,04
F8	V2	Pila 13	-	-0,48	-0,48	-	0,10	0,10	>100
F9	V3	Pila 13	-	0,16	0,16	-	-0,03	-0,03	>100
F10	V3	1/2Lc	5,00	4,55	4,39	87,80	0,24	0,27	93,85
F11	V3	1/2Lc	5,00	3,96	3,51	70,20	0,24	0,22	93,73
F12	V3	Pila 12	-	0,45	0,45	-	0,02	0,02	95,56
F13	V4	Pila 12	-	-0,48	-0,48	-	0,05	0,05	>100
F14	V4	1/2Lc	-2,50	-2,01	-1,53	61,20	0,04	-0,01	99,35
F15	V4	1/2Lc	-2,50	-1,98	-1,68	67,20	-0,20	0,10	>100
F12	V4	Pila 11	-	0,00	-0,30	-	0,00	-0,30	100,00
Flecha máxima alcanzada (mm)			**-6,42**	**Porcentaje medio alcanzado (%)**	**Vano 2**	**76.42**	**Recuperación media (%)**	**Vano2**	**>100**
					Vano 3	**79.00**		**Vano 3**	**>100**
					Vano 4	**64.20**		**Vano 4**	**>100**

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO DE LLOBREGAT LAV MIXTA
BANDAS PRUEBA ESTÁTICA
HIPOTESIS 5

Sensor	Vano	Posición	Valor Teórico (uE)	Valor en Carga (uE)	Porcentaje Alcanzado %	Valor en Descarga (uE)	Recuperación Alcanzada %
B3	V2	1/2Lc	84	71.95	51.52	-7.98	>100
B4	V2	1/2Lc	84	71.01	84.54	-1.41	>100
B5	V3	1/2Lc	-29	-19.15	66.03	0.94	>100
B6	V3	1/2Lc	-29	-24.85	85.69	1.94	>100
B7	V4	1/2Lc	46	38.17	82.98	2.94	92.30
B8	V4	1/2Lc	46	*	*	*	*

Deformación máxima alcanzada (µE)	71.95	Porcentaje medio alcanzado (%)	Vano 2	68.03	Recuperación media (%)	Vano 2	>100
			Vano 3	75.86		Vano 3	>100
			Vano 4	82.98		Vano 4	96.24

NOTA: Los valores marcados con un "*" se corresponden con valores anómalos que serán debidamente explicados en el desarrollo de este informe.

VIADUCTO LAV (MIXTA)

FLECHAS PRUEBAS DINÁMICAS

VANOS 1, 2,3 y 4

Sensor	Vano	Posición	DINAMICA 5Km		DINÁMICA 30Km		
			Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Impacto Dinámico
F1	V1	Estribo	-0.46	-0.46	-0.08	-0.08	0.17
F2	V1	1/2Lc	-4.06	-3.69	-2.46	-2.32	0.63
F3	V1	1/2Lc	-5.20	-4.83	-1.60	-1.46	0.30
F4	V1	Pila 1	-0.28	-0.28	-0.21	-0.21	0.75
F5	V2	Pila 1	-0.38	-0.38	-0.14	-0.14	0.37
F6	V2	1/2Lc	-4.63	-4.23	-3.08	-2.87	0.68
F7	V2	1/2Lc	-5.02	-4.62	-1.69	-1.48	0.32
F8	V2	Pila 2	-0.43	-0.43	-0.29	-0.29	0.67
F9	V3	Pila 2	-0.24	-0.24	-0.18	-0.18	0.75
F10	V3	1/2Lc	-4.33	-3.98	-3.27	-3.27	0.82
F11	V3	1/2Lc	-1.96	-1.96	-1.89	-1.89	0.96
F12	V3	Pila 3	-0.47	-0.47	-0.24	-0.24	0.51
F13	V4	Pila 3	-0.40	-0.40	-0.12	-0.12	0.30
F14	V4	1/2Lc	-0.36	-0.36	-0.26	-0.26	0.72
F15	V4	1/2Lc	-4.54	-4.54	-3.68	-3.62	0.80
F16	V4	Pila 4	0.00	0.00	0.00	0.00	0.00
		Impacto medio			**Vano 1**		**0.46**
					Vano 2		**0.51**
					Vano 3		**0.76**
					Vano 4		**0.45**

VIADUCTO LAV (MIXTA)

FLECHAS PRUEBAS DINÁMICAS

VANOS 1, 2, 3 y 4

Sensor	Vano	Posición	DINAMICA 5Km		DINÁMICA 30Km		
			Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Impacto Dinámico
B1	V1	1/2Lc	38.62	38.62	37.44	37.44	0.97
B2	V1	1/2Lc	22.65	22.65	20.07	20.07	0.89
B3	V2	1/2Lc	35.45	35.45	35.46	35.46	1.00
B4	V2	1/2Lc	17.37	17.37	17.84	17.84	1.03
B5	V4	1/2Lc	36.03	36.03	34.63	34.63	0.96
B6	V4	1/2Lc	20.05	20.05	21.01	21.01	1.05
		Impacto medio			Vano 1		0.93
					Vano 2		1.01
					Vano 3		*
					Vano 4		1.00

ados con un "*" en cada prueba no se han tenido en cuenta para el cálculo del impa

VIADUCTO LAV (MIXTA)

FLECHAS PRUEBAS DINÁMICAS

VANOS 5,6,7,8 y 9

Sensor	Vano	Posición	DINAMICA 5Km		DINÁMICA 30Km		
			Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Impacto Dinámico
F17	V5	Pila 4	-0.30	-0.30	-0.08	-0.08	0.27
F18	V5	1/2Lc	-4.63	-4.26	-3.50	-3.42	0.80
F19	V5	1/2Lc	-5.12	-4.75	-1.93	-1.85	0.39
F20	V5	Pila 5	-0.45	-0.45	-0.30	-0.30	0.67
F21	V6	Pila 6	-0.44	-0.44	-0.30	-0.30	0.68
F22	V6	1/2Lc	-3.94	-3.57	-3.13	-2.89	0.81
F23	V6	1/2Lc	-4.34	-3.97	-1.00	-0.76	0.19
F24	V6	Pila 7	-0.30	-0.30	-0.18	-0.18	0.60
F25	V7	Pila 7	-0.43	-0.43	-0.19	-0.19	0.44
F26	V7	1/2Lc	-5.31	-5.00	-0.93	-0.75	0.15
F27	V7	1/2Lc	-5.10	-4.79	-3.58	-3.40	0.71
F28	V7	Pila 8	-0.20	-0.20	-0.18	-0.18	0.90
F29	V8	Pila 8	-0.22	-0.22	-0.16	-0.16	0.73
F30	V8	1/2Lc	-4.45	-4.23	-3.37	-3.21	0.76
F31	V8	1/2Lc	-5.24	-5.02	-1.91	-1.75	0.35
F32	V8	Pila 9	-0.21	0.01	-0.15	0.01	1.00
F33	V9	Pila 9	-0.21	-0.21	-0.15	-0.15	0.71
F34	V9	1/2Lc	-1.36	-1.36	-0.82	-0.82	0.60
F35	V9	1/2Lc	-4.97	-4.97	-3.72	-3.50	0.70
F36	V9	Pila 10	-0.24	-0.24	-0.22	-0.22	0.92
		Impacto medio			**Vano 5**		**0.60**
					Vano 6		**0.50**
					Vano 7		**0.43**
					Vano 8		**0.67**
					Vano 9		**0.65**

VIADUCTO LAV (MIXTA)

FLECHAS PRUEBAS DINÁMICAS

VANOS 5,6,7,8,9,10 Y 11

Sensor	Vano	Posición	DINAMICA 5Km		DINÁMICA 30Km		
			Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Impacto Dinámico
B7	V6	1/2Lc	33.92	33.92	27.47	27.47	0.81
B8	V6	1/2Lc	20.31	20.31	23.83	23.83	1.17
B9	V7	1/2Lc	33.33	33.33	27.82	27.82	0.83
B10	V7	1/2Lc	16.67	16.67	15.85	15.85	0.95
B11	V8	1/2Lc	27.70	27.70	26.41	26.41	0.95
B12	V8	1/2Lc	21.48	21.48	18.78	18.78	0.87
B13	V9	1/2Lc	33.45	33.45	31.34	31.34	1.00
B14	V9	1/2Lc	19.74	19.74	19.01	19.01	1.00
B15	V10	1/2Lc	0.00	0.00	0.00	0.00	0.00
B16	V10	1/2Lc	0.00	0.00	0.00	0.00	0.00
B17	V11	1/2Lc	31.46	31.46	24.41	24.41	0.78
B18	V11	1/2Lc	31.57	31.57	32.87	32.87	1.04
		Impacto medio			**Vano 6**		**0.99**
					Vano 7		**0.89**
					Vano 8		**0.91**
					Vano 9		**1.00**
					Vano 10		**0.00**
					Vano 11		**0.91**

VIADUCTO LAV (MIXTA)
FLECHAS PRUEBAS DINÁMICAS
VANOS 10,11,12,13 y 14

Sensor	Vano	Posición	DINAMICA 5Km		DINÁMICA 30Km		
			Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Impacto Dinámico
F37	V10	Pila 10	-0.34	-0.34	-0.21	-0.21	0.62
F38	V10	1/2Lc	-5.31	-4.94	-0.93	-0.76	0.15
F39	V10	1/2Lc	-5.03	-4.66	-3.85	-3.68	0.79
F40	V10	Pila 11	-0.40	-0.40	-0.13	-0.13	0.33
F41	V11	Pila 11	-0.21	-0.21	-0.15	-0.15	0.71
F42	V11	1/2Lc	-4.63	-4.49	-3.08	-3.01	0.67
F43	V11	1/2Lc	-5.10	-4.96	-3.58	-3.51	0.71
F44	V11	Pila 12	-0.08	-0.08	0.00	0.00	0.00
F45	V12	Pila 12	-0.08	-0.08	-0.01	-0.01	0.13
F46	V12	1/2Lc	-3.77	-3.52	-2.41	-2.40	0.68
F47	V12	1/2Lc	-3.67	-3.42	-1.12	-0.96	0.28
F48	V12	Pila 13	-0.43	-0.43	-0.32	-0.32	0.74
F49	V13	Pila 13	-0.33	-0.33	-0.34	-0.34	1.03
F50	V13	1/2Lc	-4.97	-4.97	-1.63	-1.39	0.28
F51	V13	1/2Lc	*	*	-3.65	-3.41	*
F52	V13	Pila 14	-0.29	-0.29	-0.14	-0.14	0.48
		Impacto medio			**Vano 10**		**0.47**
					Vano 11		**0.52**
					Vano 12		**0.46**
					Vano 13		**0.60**

VIADUCTO LAV (MIXTA)

FLECHAS PRUEBAS DINÁMICAS

VANOS 15 Y 16

Sensor	Vano	Posición	DINAMICA 5Km		DINÁMICA 30Km		
			Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Impacto Dinámico
F53	V10	Pila 10	-0.23	-0.23	-0.23	-0.23	1.00
F54	V10	1/2Lc	-4.56	-4.36	-3.27	-3.08	0.71
F55	V10	1/2Lc	-5.63	-5.43	-1.62	-1.43	0.26
F56	V10	Pila 11	-0.18	-0.18	-0.15	-0.15	0.83
F57	V11	Pila 11	-0.21	-0.21	-0.15	-0.15	0.71
F58	V11	1/2Lc	-4.72	-4.51	-2.89	-2.74	0.61
F59	V11	1/2Lc	-4.34	-4.13	-1.03	-0.88	0.21
F60	V11	Pila 12	-0.21	-0.21	-0.15	-0.15	0.71
		Impacto medio			**Vano 10**		**0.49**
					Vano 11		**0.56**

VANOS 12,13,14 Y 15

Sensor	Vano	Posición	DINAMICA 5Km		DINAMICA 30Km		
			Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Valor en Carga Bruto (mm)	Valor en Carga Neto (mm)	Impacto Dinámico
B19	V12	1/2Lc	39.09	39.09	37.56	37.56	0.96
B20	V12	1/2Lc	18.08	18.08	19.01	19.01	1.05
B21	V13	1/2Lc	25.94	25.94	21.95	21.95	0.85
B22	V13	1/2Lc	17.72	17.72	18.78	18.78	1.06
B23	V14	1/2Lc	32.63	32.63	26.64	26.64	0.82
B24	V14	1/2Lc	23.12	23.12	21.01	21.01	0.91
B25	V15	1/2Lc	28.17	28.17	23.59	23.59	0.84
B26	V15	1/2Lc	18.08	18.08	18.90	18.90	1.05
		Impacto medio			**Vano 12**		**1.01**
					Vano 13		**0.95**
					Vano 14		**0.86**
					Vano 15		**0.94**

PRUEBAS DINÁMICAS

FRECUENCIAS PROPIAS DE VIBRACIÓN

La frecuencia natural de vibración obtenida es:

Vano 1: 5.2 Hz

Vano 2: 3.2 Hz

Vano 3: 3.1 Hz

Vano 4: 4.1 Hz

Vano 5: 2.8 Hz

Vano 6: 2.7 Hz

Vano 7: 3.5 Hz

Vano 8: 3.5 Hz

Vano 9: 3.0 Hz

Vano 10: 2.9 Hz

Vano 11: 3.5 Hz

Vano 12: 3.9 Hz

Vano 13: 3.2 Hz

Vano 14: 3.2 Hz

Vano 15: 1.8 Hz

8. ANÁLISIS DE LOS RESULTADOS OBTENIDOS.

A la vista de los resultados obtenidos, expresados en las tablas precedentes, se considera oportuno realizar los siguientes comentarios:

- Antes de comenzar, hay que decir que el análisis del comportamiento de la estructura que se expone a continuación, ha sido realizado en base a considerar como resultados previstos, y por tanto como comportamiento teórico esperado, el obtenido mediante el cálculo del Proyecto de Prueba, calculado con el programa SAP-2000, el cual permite realizar el análisis estático y dinámico de estructuras tridimensionales.

- Los registros obtenidos, en general, no presenta anomalías dignas de tenerse en consideración, salvo en el caso de las bandas de los vanos 3 y 5 que no pudieron ser instrumentadas por su difícil acceso (*).

- Las pruebas dinámicas solo se pudieron realizar a 5 km/h y de frenado con una velocidad máxima de 30 km/h por cuestiones de seguridad.

Sobre los resultados obtenidos cabe realizar el siguiente análisis:

8.1. PRUEBAS ESTÁTICAS.

- **Incidencias.**

Durante la prueba estática, no se han producido incidencias destacables, salvo los problemas con los sensores indicados con anterioridad.

- **Porcentajes alcanzados.**

Los resultados obtenidos en la prueba estática alcanzan los siguientes valores de porcentaje frente a los previstos en el Proyecto de Prueba de Carga:

% ALCANZADO EN FLECHAS

Prueba	% Mínimo	% Máximo	% Medio
ESTÁTICA H-1	85.75	98.75	92.98
ESTÁTICA H-2	81.10	88.64	81.41
ESTÁTICA H-3	76.90	99.42	91.32
ESTÁTICA H-4	76.05	100	91.85
ESTÁTICA H-5	81.16	99.05	93.05
ESTÁTICA H-6	78.33	99.29	86.85
ESTÁTICA H-7	68.74	101.21	82.23
ESTÁTICA H-8	70.24	104.19	88.50
ESTÁTICA H-9	91.90	99.52	95.35
ESTÁTICA H-10	85.40	94.40	91.78
ESTÁTICA H-11	51.77	82.54	67.60
ESTÁTICA H-12	54.85	88.74	72.34
ESTÁTICA H-13	83.09	91.38	86.45
ESTÁTICA H-14	65.59	84.14	77.23
ESTÁTICA H-15	60.59	85.98	73.06
ESTÁTICA H-16	61.47	87.93	75.32

Prueba	% Mínimo	% Máximo	% Medio
ESTÁTICA H-17	55.74	88.39	77.57
ESTÁTICA H-18	67.79	88.49	76.74
ESTÁTICA H-19	55.34	93.39	79.21
ESTÁTICA H-2.1	70.37	96.67	85.13
ESTÁTICA H-2.2	57.44	78.40	67.98
ESTÁTICA H-2.3	72.93	86.67	78.18
ESTÁTICA H-2.4	60.96	97.50	58.71
ESTÁTICA H-2.5	61.20	87.80	73.20

% ALCANZADO EN DEFORMACIONES

Prueba	% Mínimo	% Máximo	% Medio
ESTÁTICA H-1	60.98	98.87	80.01
ESTÁTICA H-2	74.18	84.67	81.65
ESTÁTICA H-3	70.18	99.76	81.75
ESTÁTICA H-4	72.82	91.80	80.03
ESTÁTICA H-5	51.52	94.10	76.57
ESTÁTICA H-6	88.68	98.18	93.43
ESTÁTICA H-7	63.20	80.18	71.69
ESTÁTICA H-8	87.07	91.50	89.29

Prueba	% Mínimo	% Máximo	% Medio
ESTÁTICA H-9	72.52	80.07	73.30
ESTÁTICA H-10	70.05	98.26	90.02
ESTÁTICA H-11	75.81	93.46	87.84
ESTÁTICA H-12	63.56	95.76	77.74
ESTÁTICA H-13	70.60	93.03	81.55
ESTÁTICA H-14	70.24	98.14	82.65
ESTÁTICA H-15	54.04	74.69	67.11
ESTÁTICA H-16	74.83	87.74	80.03
ESTÁTICA H-17	76.94	100.50	90.57
ESTÁTICA H-18	59.67	76.79	67.76
ESTÁTICA H-19	70.43	99.85	88.57
ESTÁTICA H-2.1	67.61	97.94	85.13
ESTÁTICA H-2.2	85.99	99.05	94.23
ESTÁTICA H-2.3	62.79	100.00	90.56
ESTÁTICA H-2.4	69.83	96.44	85.51
ESTÁTICA H-2.5	51.52	98.12	79.14

Así pues, se obtienen los siguientes porcentajes medios, para flechas y deformaciones, frente a los valores previstos en el Proyecto de Prueba:

% ALCANZADO

Prueba	Flechas	Deformaciones
ESTÁTICA	81.01	82.33

A la vista de los menores porcentajes alcanzados en flechas y deformaciones frente a los teóricos esperados, cabe realizar los siguientes comentarios:

- La estructura presenta una rigidez longitudinal sensiblemente superior a la supuesta en la elaboración del Proyecto de Prueba, es decir, los módulos de elasticidad reales, o más bien las características reales de deformación en la estructura (E, I) deben ser superiores a las utilizadas en el Proyecto, además, la constante de rigidez del muelle utilizado para modelizar el empotramiento elástico de los hastiales del pórtico debe ser sensiblemente superior a la utilizada en el Proyecto.

A pesar de todo, estos porcentajes, son perfectamente admisibles y, junto a las elevadas y prácticamente instantáneas recuperaciones obtenidas (tal como veremos en el apartado correspondiente), indican un comportamiento de la estructura correcto y esencialmente elástico durante la realización de la prueba.

- **Valores máximos de flecha.**

Las flechas máximas medidas en los vanos, en la prueba estática, fueron:

Flecha máxima (mm)	Luz de cálculo por cada vano (m)	Relación con la luz de cálculo
-5.64	36	203040
-6.37	45	286650
-6.40	45	288000
-7.72	45	347400
-7.95	45	357750
-7.27	45	327150
-7.49	45	337050
-7.65	45	344250
-7.69	45	346050
-7.61	45	342450
-5.23	45	235350
-0.78	36	28080
-6.42	45	288900
-9.19	45	413550
-1.68	45	75600

Dichos valores son perfectamente admisibles.

- **Recuperaciones.**

Las recuperaciones en el proceso de descarga se producen de forma casi instantánea, tal como puede observarse en los gráficos correspondientes, alcanzando porcentajes perfectamente admisibles frente a los exigidos en el Proyecto de Prueba de Carga.

Así pues, los porcentajes medios de recuperación son los siguientes:

% RECUPERACIÓN EN FLECHAS

Prueba	% Mínimo	% Máximo	% Medio
ESTÁTICA H-1	80.70	100.00	95.14
ESTÁTICA H-2	86.67	100.00	97.74
ESTÁTICA H-3	85.00	100.00	97.25
ESTÁTICA H-4	77.78	100.00	100.00
ESTÁTICA H-5	68.57	100.00	93.62
ESTÁTICA H-6	92.07	100.00	92.44
ESTÁTICA H-7	85.32	100.00	96.87
ESTÁTICA H-8	83.82	100.00	97.00
ESTÁTICA H-9	52.38	100.00	100.00
ESTÁTICA H-10	70.00	100.00	87.23
ESTÁTICA H-11	77.27	100.00	97.63
ESTÁTICA H-12	90.91	100.00	100.00
ESTÁTICA H-13	91.40	100.00	100.00
ESTÁTICA H-14	85.19	100.00	100.00
ESTÁTICA H-15	96.06	100.00	100.00
ESTÁTICA H-16	91.67	100.00	100.00
ESTÁTICA H-17	81.82	100.00	96.53
ESTÁTICA H-18	94.78	100.00	96.86

Prueba	% Mínimo	% Máximo	% Medio
ESTÁTICA H-19	50.00	100.00	93.19
ESTÁTICA H-2.1	88.89	100.00	100.00
ESTÁTICA H-2.2	81.82	100.00	95.45
ESTÁTICA H-2.3	82.35	100.00	97.74
ESTÁTICA H-2.4	92.31	100.00	100.00
ESTÁTICA H-2.5	93.73	100.00	100.00

% RECUPERACIÓN EN DEFORMACIONES

Prueba	% Mínimo	% Máximo	% Medio
ESTÁTICA H-1	97.49	100.00	100.00
ESTÁTICA H-2	97.85	100.00	100.00
ESTÁTICA H-3	94.29	100.00	100.00
ESTÁTICA H-4	92.55	100.00	97.30
ESTÁTICA H-5	98.65	100.00	100.00
ESTÁTICA H-6	91.36	98.91	95.14
ESTÁTICA H-7	100.00	100.00	100.00
ESTÁTICA H-8	96.64	97.42	97.03
ESTÁTICA H-9	97.78	100.00	100.00
ESTÁTICA H-10	89.76	100.00	96.95

Prueba	% Mínimo	% Máximo	% Medio
ESTÁTICA H-11	96.89	100.00	100.00
ESTÁTICA H-12	89.41	100.00	96.60
ESTÁTICA H-13	91.98	100.00	96.39
ESTÁTICA H-14	79.79	100.00	100.00
ESTÁTICA H-15	98.75	100.00	100.00
ESTÁTICA H-16	95.37	99.67	98.77
ESTÁTICA H-17	59.60	100.00	89.87
ESTÁTICA H-18	98.92	100.00	100.00
ESTÁTICA H-19	99.40	100.00	100.00
ESTÁTICA H-1.2	97.22	100.00	100.00
ESTÁTICA H-1.3	92.35	100.00	95.73
ESTÁTICA H-1.4	100.00	100.00	100.00
ESTÁTICA H-1.5	70.11	100.00	84.87
ESTÁTICA H-1.6	96.94	100.00	100.00

Por lo que tomando por válidos los valores medios obtenidos, resultan los siguientes porcentajes:

% RECUPERACIÓN

Prueba	Flechas	Deformaciones
ESTÁTICA	97.28	93.70

Estas recuperaciones permiten considerar el comportamiento de la estructura como esencialmente elástico.

8.2. PRUEBAS DINÁMICAS.

- **Incidencias.**

Las pruebas dinámicas, se realizaron sin ninguna incidencia salvo la comentada al principio de este punto.

- **Frecuencia propia de vibración.**

Del análisis de frecuencia realizado sobre la señal obtenida con los geófonos en las distintas pruebas dinámicas se obtiene como frecuencia del primer modo de vibración de la estructura el siguiente valor:

Prueba	Frecuencia Teórica (Hz)	Frecuencia medida (Hz)
VANO 1	2.3	5.2
VANO 2	2.3	3.2
VANO 3	2.3	3.1
VANO 4	2.3	4.1
VANO 5	2.3	2.8

Prueba	Frecuencia Teórica (Hz)	Frecuencia medida (Hz)
VANO 6	2.3	2.7
VANO 7	2.3	3.5
VANO 8	2.3	3.5
VANO 9	2.3	3.0
VANO 10	2.3	2.9
VANO 11	2.3	3.5
VANO 12	2.5	3.9
VANO 13	2.5	3.2
VANO 14	2.5	3.2
VANO 15	2.5	1.8

Como se observa, este valor es superior al teórico calculado, lo que denota una rigidez real de la estructura superior a la considerada en el modelo de calculo empleado el en proyecto de prueba de carga, siendo al mismo tiempo perfectamente admisibles para las características y tipología de la estructura, y conforme a los valores de flechas y deformaciones unitarias medidas. En el anejo nº IV se incluye el registro de geófono más representativo de la frecuencia de vibración del puente.

- **Coeficientes de impacto.**

Las flechas y deformaciones, en las pruebas dinámicas, se midieron sobre los mismos canales instrumentados en la prueba estática.

Estas flechas medidas, en especial las flechas netas medidas en los respectivos vanos (descontado los descensos en los apoyos correspondientes) y estas deformaciones, se compararán con unos valores de referencia (dividiéndolas por dichos valores), para

obtener así lo coeficientes de impacto dinámicos de la estructura frente a las acciones de velocidad y frenado.

Tal como ya se ha visto anteriormente, para el establecimiento de dichos valores de referencia se ha utilizado el método de determinación práctica de los mismos, consistente en realizar una prueba **CUASIESTÁTICA** (a velocidad = Cte. = 5 km/h) con una (1) locomotora circulando por una vía. Una vez realizada esta prueba, los valores netos medidos se han usado como valores de referencia.

Antes de analizar los resultados obtenidos, podemos decir que en puentes de ferrocarril situados en líneas de alta velocidad, los valores de coeficientes de impacto obtenidos son próximos a la unidad.

Así pues, realizados los comentarios anteriores, el resultado de los coeficientes de impacto obtenidos en las pruebas dinámicas realizadas son los siguientes:

IMPACTOS EN FLECHAS

Vano	Prueba	Coeficiente de impacto
V1	DINÁMICA 30 Km/h	0.46
V2	DINÁMICA 30 Km/h	0.51
V3	DINÁMICA 30 Km/h	0.76
V4	DINÁMICA 30 Km/h	0.45
V5	DINÁMICA 30 Km/h	0.60
V6	DINÁMICA 30 Km/h	0.50
V7	DINÁMICA 30 Km/h	0.43
V8	DINÁMICA 30 Km/h	0.67
V9	DINÁMICA 30 Km/h	0.65
V10	DINÁMICA 30 Km/h	0.47
V11	DINÁMICA 30 Km/h	0.52

Vano	Prueba	Coeficiente de impacto
V12	DINÁMICA 30 Km/h	0.46
V13	DINÁMICA 30 Km/h	0.60
V14	DINÁMICA 30 Km/h	0.49
V15	DINÁMICA 30 Km/h	0.56

IMPACTOS EN BANDAS

Vano	Prueba	Coeficiente de impacto
V1	DINÁMICA 30 Km/h	0.93
V2	DINÁMICA 30 Km/h	1.01
V4	DINÁMICA 30 Km/h	1.00
V6	DINÁMICA 30 Km/h	0.99
V7	DINÁMICA 30 Km/h	0.89
V8	DINÁMICA 30 Km/h	0.91
V9	DINÁMICA 30 Km/h	1.00
V10	DINÁMICA 30 Km/h	0.00
V11	DINÁMICA 30 Km/h	0.91
V12	DINÁMICA 30 Km/h	1.01
V13	DINÁMICA 30 Km/h	0.95
V14	DINÁMICA 30 Km/h	0.86
V15	DINÁMICA 30 Km/h	0.94

Estos valores son perfectamente admisibles para el tipo de prueba realizada.

- **Amortiguamiento de la estructura.**

Se calcula a través del llamado Decremento Logarítmico "δ", que tiene la siguiente expresión:

$$\delta = \frac{1}{n} Ln(\frac{A_0}{A_n})$$

Siendo: n = Nº de ciclos del intervalo considerado, a la frecuencia fundamental.
A_0 = Amplitud de respuesta dinámica al inicio de dicho intervalo.
A_n = Amplitud de la respuesta dinámica al final del intervalo.

También se puede expresar el amortiguamiento, como fracción del amortiguamiento critico, a través del índice de amortiguamiento ζ, que se define mediante la siguiente expresión y suele expresarse en tanto por cien:

$$\xi = \frac{\delta}{2\pi}$$

Los valores obtenidos son los siguientes:

Vano	Amortiguamiento δ	Índice de amortiguamiento ζ(%)
1	0.06	0.9
2	0.05	0.8
3	0.06	1.0
4	0.03	0.5
5	0.04	0.7
6	0.03	0.5
7	0.06	1.0
8	0.08	1.3
9	0.03	0.5
10	0.04	0.7
11	0.03	0.5
12	0.06	0.9
13	0.05	0.8
14	0.03	0.5
15	0.06	1.0

Estos valores se consideran perfectamente admisibles, ya que se consideran valores normales del amortiguamiento, los comprendidos entre 0,03 y 0,12 y del índice de amortiguamiento, los comprendidos entre 0,5% y 2%, tal y como ocurre en este caso.

9. CONCLUSIONES Y RECOMENDACIONES.

De acuerdo con lo expuesto en los apartados precedentes, pueden extraerse las siguientes conclusiones y recomendaciones:

- Durante las pruebas no se detecto ningún tipo de comportamiento anómalo de la estructura, así como tampoco se presentaron incidencias que nos hagan dudar de la fiabilidad de los resultados obtenidos, por lo que se consideran estos perfectamente correctos además de admisibles.

- Los valores de flechas y deformaciones unitarias obtenidas son perfectamente admisibles, indicando un comportamiento correcto y esencialmente elástico de la estructura frente al previsto en el Proyecto de Prueba de Carga. Los porcentajes medios obtenidos en las pruebas estáticas son los siguientes:

Prueba	Flechas	Deformaciones
ESTÁTICA	81.01%	82.33%

- Los valores máximos de flecha obtenidos en las pruebas estáticas fueron los siguientes:

Flecha máxima (mm)	Luz de cálculo por cada vano (m)	Relación con la luz de cálculo
-5.64	36	203040
-6.37	45	286650
-6.40	45	288000
-7.72	45	347400

Flecha máxima (mm)	Luz de cálculo por cada vano (m)	Relación con la luz de cálculo
-7.95	45	357750
-7.27	45	327150
-7.49	45	337050
-7.65	45	344250
-7.69	45	346050
-7.61	45	342450
-5.23	45	235350
-0.78	36	28080
-6.42	45	288900
-9.19	45	413550
-1.68	45	75600

- Las recuperaciones obtenidas han sido siempre superiores al 80% y de forma casi instantánea (tal y como se observa en las gráficas del anejo nº IV), lo cual permite considerar el comportamiento de la estructura como esencialmente elástico.

- Durante la realización de las pruebas no se detectó la aparición de daños en las zonas objeto del ensayo.

Por todo ello, se considera que el comportamiento de la obra en estudio, durante la realización de la prueba de carga, ha sido correcto y esencialmente elástico, aunque con una rigidez claramente superior a la prevista en el Proyecto de Prueba de carga.

El presente informe consta de 92 hojas correlativamente numeradas, así como de nueve Anejos sin numerar titulados:

I. DOCUMENTACIÓN FACILITADA POR EL ADIF
II. PROYECTO DE PRUEBA DE CARGA
III. ESQUEMA DE INSTRUMENTACIÓN Y TREN DE CARGA
IV. REGISTRO DE MEDIDAS
V. REPORTAJE FOTOGRÁFICO
VI. ACTA DE PRUEBA DE CARGA
VII. FICHA DE SEGUIMIENTO
VIII. PLANIMETRÍA Y NIVELACIÓN
IX. INSPECCIÓN DE CAUCE

Madrid, Diciembre de 2006



Fdo. Juan Carlos Garrido
Dpto. Instrumentación y Sistemas
OFITECO

CONTRATO DE CONSULTORÍA Y ASISTENCIA TÉCNICA PARA LA REALIZACIÓN DE PRUEBAS DE CARGA PARA LA RECEPCIÓN DE PUENTES DE LA LÍNEA DE ALTA VELOCIDAD MADRID-ZARAGOZA-BARCELONA-FRONTERA FRANCESA.
TRAMO: VILLAFRANCA DEL PENEDES-BARCELONA
AV 004/06

INFORME DE RESULTADOS
PRUEBA DE CARGA DE LA ESTRUCTURA
VIADUCTO LAV MIXTA (63RMVI01)

ANEJOS

Oficina Técnica de Estudios y Control de Obras, S.A. - OFITECO	**DICIEMBRE - 2006**

CONTRATO DE CONSULTORÍA Y ASISTENCIA TÉCNICA PARA LA REALIZACIÓN DE PRUEBAS DE CARGA PARA LA RECEPCIÓN DE PUENTES DE LA LÍNEA DE ALTA VELOCIDAD MADRID-ZARAGOZA-BARCELONA-FRONTERA FRANCESA.
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INFORME DE RESULTADOS
PRUEBA DE CARGA DE LA ESTRUCTURA
VIADUCTO LAV MIXTA (63RMVI01)

I. DOCUMENTACIÓN FACILITADA POR EL ADIF

Oficina Técnica de Estudios y Control de Obras, S.A. - OFITECO	**DICIEMBRE - 2006**

1.1.17.- ENVOLVENTES DE ESFUERZOS DE SC EN ANDENES.

Hipótesis de carga consideradas SC 2.5 kN/m2 en andenes

Combinación: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+46.120	+4.859	-0.000	+36.129	+3.329	+16.376
C 1	-42.164	+4.859	-0.000	-33.030	+3.329	+16.377
C 1	+3.636	+12.718	-0.000	+2.779	+9.658	+44.750
C 1	+0.319	-2.999	+0.000	+0.319	-2.999	-11.997
C 1	+0.151	-1.317	+0.000	+2.779	+9.658	+44.750
C 1	+2.491	+7.418	-0.000	+0.319	-2.999	-11.997
Barra 2						
C 1	+36.129	+3.329	+16.377	+26.138	+1.799	+26.633
C 1	-33.030	+3.329	+16.377	-23.896	+1.799	+26.633
C 1	+2.779	+9.657	+44.750	+1.922	+6.597	+77.260
C 1	+0.319	-2.999	-11.997	+0.319	-2.999	-23.994
C 1	+2.779	+9.657	+44.750	+1.922	+6.597	+77.260
C 1	+0.319	-2.999	-11.997	+0.319	-2.999	-23.994
Barra 3						
C 1	+26.138	+1.799	+26.633	+28.937	+0.269	+30.769
C 1	-23.896	+1.799	+26.633	-27.552	+0.269	+30.769
C 1	+1.922	+6.597	+77.260	+1.639	+5.504	+66.049
C 1	+0.319	-2.999	-23.994	-0.254	-4.966	-4.510
C 1	+1.922	+6.597	+77.260	+1.066	+3.537	+97.529
C 1	+0.319	-2.999	-23.994	+0.319	-2.999	-35.991
Barra 4						
C 1	+28.937	+0.269	+30.769	+18.946	-1.261	+28.785
C 1	-27.552	+0.269	+30.769	-18.418	-1.261	+28.785
C 1	+1.639	+5.504	+66.049	+0.782	+2.444	+81.944
C 1	-0.254	-4.966	-4.510	-0.254	-4.966	-24.373
C 1	+1.066	+3.537	+97.529	+0.209	+0.477	+105.557
C 1	+0.319	-2.999	-35.991	+0.319	-2.999	-47.987
Barra 5						
C 1	+18.946	-1.261	+28.785	+20.607	-2.791	+20.682
C 1	-18.418	-1.261	+28.785	-20.936	-2.791	+20.682
C 1	+0.782	+2.444	+81.944	+0.447	+1.901	+38.018
C 1	-0.254	-4.966	-24.374	-0.776	-7.483	+3.345
C 1	+0.209	+0.477	+105.558	-0.648	-2.583	+101.347
C 1	+0.319	-2.999	-47.987	+0.319	-2.999	-59.984
Barra 6						
C 1	+20.607	-2.791	+20.682	+29.742	-4.321	+6.458
C 1	-20.936	-2.791	+20.682	-30.927	-4.321	+6.458
C 1	+0.447	+1.901	+38.018	+0.447	+1.901	+45.622
C 1	-0.776	-7.483	+3.345	-1.633	-10.543	-32.706
C 1	-0.648	-2.583	+101.347	-1.505	-5.643	+84.897
C 1	+0.319	-2.999	-59.984	+0.319	-2.999	-71.981

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 7						
C 1	+29.742	-4.321	+6.458	+29.303	-5.851	-13.886
C 1	-30.927	-4.321	+6.458	-31.346	-5.851	-13.885
C 1	+0.447	+1.901	+45.622	+0.018	+0.966	+27.037
C 1	-1.633	-10.543	-32.706	-2.061	-12.668	-54.808
C 1	-1.505	-5.642	+84.897	-2.362	-8.702	+56.208
C 1	+0.319	-3.000	-71.981	+0.319	-3.000	-83.979
Barra 8						
C 1	+29.303	-5.851	-13.885	+37.204	-7.174	-36.419
C 1	-31.346	-5.851	-13.885	-39.988	-7.174	-36.419
C 1	+0.018	+0.966	+27.037	+0.018	+0.966	+30.378
C 1	-2.061	-12.667	-54.808	-2.802	-15.314	-103.216
C 1	-2.362	-8.702	+56.208	-1.151	-3.806	+38.518
C 1	+0.319	-2.999	-83.979	-1.633	-10.543	-111.355
Barra 9						
C 1	+37.204	-7.174	-36.419	+45.105	-8.498	-63.532
C 1	-39.988	-7.174	-36.419	-48.630	-8.498	-63.532
C 1	+0.018	+0.966	+30.378	+0.018	+0.966	+33.719
C 1	-2.802	-15.314	-103.215	-3.543	-17.961	-160.782
C 1	-1.151	-3.806	+38.517	+0.018	+0.966	+33.719
C 1	-1.633	-10.543	-111.355	-3.543	-17.961	-160.782
Barra 10						
C 1	+45.105	-8.497	-63.532	+47.571	-8.910	-72.932
C 1	-48.630	-8.497	-63.532	-51.327	-8.910	-72.932
C 1	+0.018	+0.966	+33.719	+0.018	+0.966	+34.762
C 1	-3.543	-17.959	-160.783	-3.774	-18.786	-180.626
C 1	+0.018	+0.966	+33.719	+0.018	+0.966	+34.762
C 1	-3.543	-17.959	-160.783	-3.774	-18.786	-180.626
Barra 11						
C 1	+62.154	+8.649	-72.933	+59.456	+8.236	-63.815
C 1	-57.269	+8.649	-72.933	-54.803	+8.236	-63.815
C 1	+4.610	+20.403	-180.627	+4.378	+19.576	-159.039
C 1	+0.275	-3.104	+34.762	+0.275	-3.104	+31.409
C 1	+0.275	-3.104	+34.762	+0.275	-3.104	+31.409
C 1	+4.610	+20.403	-180.627	+4.378	+19.576	-159.039
Barra 12						
C 1	+59.456	+8.235	-63.815	+50.814	+6.911	-37.612
C 1	-54.803	+8.235	-63.815	-46.902	+6.911	-37.612
C 1	+4.378	+19.574	-159.039	+3.637	+16.927	-95.893
C 1	+0.275	-3.104	+31.409	+0.275	-3.104	+20.669
C 1	+0.275	-3.104	+31.409	+1.010	-0.200	+28.047
C 1	+4.378	+19.574	-159.039	+2.903	+14.023	-103.271

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 13						
C 1	+50.814	+6.911	-37.613	+47.167	+6.352	-27.928
C 1	-46.902	+6.911	-37.613	-43.568	+6.352	-27.928
C 1	+3.637	+16.925	-95.893	+3.324	+15.808	-71.993
C 1	+0.275	-3.104	+20.668	+0.275	-3.104	+16.136
C 1	+1.010	-0.200	+28.047	+0.697	-1.317	+26.940
C 1	+2.903	+14.021	-103.272	+2.903	+14.021	-82.796
Barra 14						
C 1	+47.167	+6.353	-27.929	+42.320	+5.588	-15.988
C 1	-43.568	+6.353	-27.929	-39.149	+5.588	-15.988
C 1	+3.324	+15.810	-71.994	+2.896	+14.280	-41.904
C 1	+0.275	-3.104	+16.136	+0.275	-3.104	+9.928
C 1	+0.697	-1.317	+26.940	+2.157	+4.173	+33.770
C 1	+2.903	+14.023	-82.798	+1.014	+7.002	-65.746
Barra 15						
C 1	+42.320	+5.587	-15.987	+44.603	+5.204	-10.589
C 1	-39.149	+5.587	-15.987	-41.646	+5.204	-10.589
C 1	+2.896	+14.284	-41.904	+2.903	+14.025	-40.722
C 1	+0.275	-3.111	+9.930	+0.054	-3.616	+19.544
C 1	+2.157	+4.176	+33.767	+1.943	+3.411	+37.562
C 1	+1.014	+6.998	-65.742	+1.014	+6.998	-58.740
Barra 16						
C 1	+44.603	+5.207	-10.590	+33.364	+3.486	+8.968
C 1	-41.646	+5.207	-10.590	-31.370	+3.486	+8.968
C 1	+2.903	+14.029	-40.726	+1.939	+10.586	+14.658
C 1	+0.054	-3.615	+19.545	+0.054	-3.615	+3.278
C 1	+1.943	+3.411	+37.562	+1.951	+7.948	+68.912
C 1	+1.014	+7.003	-58.742	+0.043	-0.977	-50.977
Barra 17						
C 1	+33.364	+3.486	+8.968	+22.994	+1.764	+20.780
C 1	-31.370	+3.486	+8.968	-21.965	+1.764	+20.780
C 1	+1.939	+10.586	+14.658	+0.975	+7.144	+54.550
C 1	+0.054	-3.615	+3.278	+0.054	-3.615	-12.990
C 1	+1.951	+7.948	+68.912	+0.987	+4.506	+96.934
C 1	+0.043	-0.977	-50.977	+0.043	-0.977	-55.374
Barra 18						
C 1	+22.994	+1.764	+20.780	+33.270	+0.043	+24.846
C 1	-21.965	+1.764	+20.780	-33.204	+0.043	+24.846
C 1	+0.975	+7.143	+54.550	+1.014	+7.002	+35.791
C 1	+0.054	-3.615	-12.990	-0.948	-6.916	+13.902
C 1	+0.987	+4.506	+96.935	+0.023	+1.063	+109.463
C 1	+0.043	-0.977	-55.374	+0.043	-0.977	-59.771

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 19						
C 1	+33.270	+0.043	+24.846	+24.216	-1.344	+22.489
C 1	-33.204	+0.043	+24.846	-24.927	-1.344	+22.489
C 1	+1.014	+7.002	+35.791	+0.237	+4.229	+56.149
C 1	-0.948	-6.916	+13.902	-0.948	-6.916	-11.170
C 1	+0.023	+1.063	+109.464	-0.754	-1.710	+108.290
C 1	+0.043	-0.977	-59.771	+0.043	-0.977	-63.312
Barra 20						
C 1	+24.216	-1.344	+22.489	+30.139	-2.730	+15.106
C 1	-24.927	-1.343	+22.489	-31.626	-2.730	+15.106
C 1	+0.237	+4.229	+56.148	+0.132	+4.029	+26.285
C 1	-0.948	-6.916	-11.170	-1.619	-9.489	+3.927
C 1	-0.754	-1.710	+108.289	-1.530	-4.483	+97.065
C 1	+0.043	-0.977	-63.311	+0.043	-0.977	-66.853
Barra 21						
C 1	+30.139	-2.730	+15.105	+38.416	-4.117	+2.696
C 1	-31.626	-2.730	+15.105	-40.681	-4.117	+2.696
C 1	+0.132	+4.029	+26.285	+0.132	+4.029	+40.889
C 1	-1.619	-9.489	+3.926	-2.396	-12.262	-35.497
C 1	-1.530	-4.483	+97.064	-2.307	-7.256	+75.786
C 1	+0.043	-0.977	-66.853	+0.043	-0.977	-70.394
Barra 22						
C 1	+38.416	-4.117	+2.696	+38.907	-5.503	-14.740
C 1	-40.681	-4.117	+2.696	-41.947	-5.503	-14.740
C 1	+0.132	+4.029	+40.889	-0.217	+3.133	+32.128
C 1	-2.396	-12.262	-35.497	-2.824	-14.140	-61.609
C 1	-2.307	-7.256	+75.786	-2.092	-4.090	+56.905
C 1	+0.043	-0.977	-70.394	-0.948	-6.916	-86.386
Barra 23						
C 1	+38.907	-5.503	-14.740	+46.808	-6.827	-36.071
C 1	-41.947	-5.503	-14.740	-50.589	-6.827	-36.071
C 1	-0.217	+3.133	+32.128	-0.217	+3.133	+42.969
C 1	-2.824	-14.140	-61.609	-3.565	-16.787	-115.111
C 1	-2.092	-4.090	+56.905	-1.386	-1.391	+50.232
C 1	-0.948	-6.917	-86.386	-2.396	-12.262	-122.373
Barra 24						
C 1	+46.808	-6.827	-36.071	+54.709	-8.150	-61.981
C 1	-50.589	-6.827	-36.071	-59.231	-8.150	-61.981
C 1	-0.217	+3.133	+42.969	-0.217	+3.133	+53.811
C 1	-3.565	-16.787	-115.111	-4.306	-19.433	-177.772
C 1	-1.386	-1.391	+50.232	-0.217	+3.133	+53.811
C 1	-2.396	-12.262	-122.374	-4.306	-19.433	-177.772

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 25						
C 1	+54.709	-8.150	-61.981	+57.175	-8.564	-71.006
C 1	-59.231	-8.150	-61.981	-61.929	-8.564	-71.006
C 1	-0.217	+3.134	+53.811	-0.217	+3.134	+57.195
C 1	-4.306	-19.435	-177.772	-4.537	-20.261	-199.207
C 1	-0.217	+3.134	+53.811	-0.217	+3.134	+57.195
C 1	-4.306	-19.435	-177.772	-4.537	-20.261	-199.207
Barra 26						
C 1	+62.700	+8.593	-71.007	+60.002	+8.180	-61.949
C 1	-57.872	+8.593	-71.007	-55.405	+8.180	-61.949
C 1	+4.566	+20.953	-199.208	+4.335	+20.127	-177.023
C 1	+0.262	-3.767	+57.194	+0.262	-3.767	+53.126
C 1	+0.262	-3.767	+57.194	+0.262	-3.767	+53.126
C 1	+4.566	+20.953	-199.208	+4.335	+20.127	-177.023
Barra 27						
C 1	+60.002	+8.179	-61.949	+51.360	+6.856	-35.938
C 1	-55.405	+8.179	-61.949	-47.504	+6.856	-35.938
C 1	+4.335	+20.126	-177.024	+3.594	+17.479	-111.969
C 1	+0.262	-3.767	+53.126	+0.262	-3.767	+40.093
C 1	+0.262	-3.767	+53.126	+0.995	-0.872	+47.794
C 1	+4.335	+20.126	-177.024	+2.860	+14.584	-119.669
Barra 28						
C 1	+51.360	+6.857	-35.938	+47.713	+6.298	-26.336
C 1	-47.504	+6.857	-35.938	-44.170	+6.298	-26.336
C 1	+3.594	+17.480	-111.969	+3.281	+16.363	-87.265
C 1	+0.262	-3.766	+40.093	+0.262	-3.766	+34.594
C 1	+0.995	-0.871	+47.794	+0.683	-1.988	+45.706
C 1	+2.860	+14.584	-119.670	+2.860	+14.584	-98.377
Barra 29						
C 1	+47.713	+6.298	-26.335	+42.885	+5.533	-14.505
C 1	-44.170	+6.298	-26.335	-39.771	+5.533	-14.505
C 1	+3.281	+16.362	-87.264	+2.853	+14.832	-56.071
C 1	+0.262	-3.767	+34.593	+0.262	-3.767	+27.060
C 1	+0.683	-1.989	+45.706	+2.142	+3.471	+52.148
C 1	+2.860	+14.584	-98.377	+0.972	+7.594	-81.158
Barra 30						
C 1	+42.885	+5.534	-14.506	+45.169	+5.151	-9.162
C 1	-39.771	+5.534	-14.506	-42.269	+5.151	-9.162
C 1	+2.853	+14.833	-56.072	+2.860	+14.586	-54.622
C 1	+0.262	-3.766	+27.060	+0.040	-4.283	+36.298
C 1	+2.142	+3.470	+52.151	+1.928	+2.705	+55.237
C 1	+0.972	+7.597	-81.163	+0.972	+7.597	-73.562

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 31						
C 1	+45.169	+5.150	-9.164	+33.929	+3.429	+10.138
C 1	-42.269	+5.150	-9.164	-31.993	+3.429	+10.138
C 1	+2.860	+14.583	-54.626	+1.896	+11.141	+3.253
C 1	+0.040	-4.283	+36.298	+0.040	-4.283	+17.022
C 1	+1.928	+2.706	+55.236	+1.935	+7.173	+84.812
C 1	+0.972	+7.594	-73.564	+0.002	-0.316	-64.536
Barra 32						
C 1	+33.929	+3.429	+10.138	+23.581	+1.707	+21.694
C 1	-31.993	+3.429	+10.138	-22.609	+1.707	+21.694
C 1	+1.896	+11.141	+3.254	+0.932	+7.698	+45.642
C 1	+0.040	-4.283	+17.022	+0.040	-4.283	-2.253
C 1	+1.935	+7.173	+84.812	+0.971	+3.730	+109.345
C 1	+0.002	-0.316	-64.536	+0.002	-0.316	-65.956
Barra 33						
C 1	+23.581	+1.707	+21.695	+33.857	-0.014	+25.505
C 1	-22.609	+1.707	+21.695	-33.848	-0.014	+25.505
C 1	+0.932	+7.698	+45.642	+0.972	+7.594	+28.957
C 1	+0.040	-4.283	-2.253	-0.964	-7.622	+22.053
C 1	+0.971	+3.730	+109.346	+0.007	+0.288	+118.387
C 1	+0.002	-0.316	-65.956	+0.002	-0.316	-67.377
Barra 34						
C 1	+33.857	-0.014	+25.505	+24.803	-1.400	+22.942
C 1	-33.848	-0.014	+25.505	-25.571	-1.400	+22.942
C 1	+0.972	+7.594	+28.957	+0.196	+4.821	+51.459
C 1	-0.964	-7.622	+22.053	-0.964	-7.622	-5.576
C 1	+0.007	+0.288	+118.387	-0.769	-2.485	+114.404
C 1	+0.002	-0.315	-67.377	+0.002	-0.315	-68.520
Barra 35						
C 1	+24.803	-1.400	+22.942	+30.736	-2.787	+15.352
C 1	-25.571	-1.400	+22.942	-32.280	-2.787	+15.352
C 1	+0.196	+4.821	+51.459	+0.091	+4.643	+23.645
C 1	-0.964	-7.622	-5.576	-1.635	-10.217	+7.060
C 1	-0.769	-2.486	+114.404	-1.546	-5.259	+100.367
C 1	+0.002	-0.315	-68.520	+0.002	-0.315	-69.662
Barra 36						
C 1	+30.736	-2.787	+15.352	+39.014	-4.174	+2.736
C 1	-32.280	-2.787	+15.352	-41.335	-4.174	+2.736
C 1	+0.091	+4.643	+23.645	+0.091	+4.643	+40.478
C 1	-1.635	-10.218	+7.059	-2.412	-12.991	-35.005
C 1	-1.546	-5.259	+100.367	-2.322	-8.032	+76.278
C 1	+0.002	-0.315	-69.663	+0.002	-0.315	-70.805

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 37						
C 1	+39.014	-4.173	+2.736	+39.508	-5.560	-14.906
C 1	-41.335	-4.173	+2.736	-42.605	-5.560	-14.906
C 1	+0.091	+4.643	+40.478	-0.258	+3.756	+33.972
C 1	-2.412	-12.990	-35.005	-2.839	-14.876	-63.784
C 1	-2.322	-8.032	+76.278	-2.134	-3.499	+58.650
C 1	+0.002	-0.315	-70.805	-0.964	-7.622	-88.462
Barra 38						
C 1	+39.508	-5.560	-14.906	+47.409	-6.884	-36.434
C 1	-42.605	-5.560	-14.906	-51.247	-6.884	-36.434
C 1	-0.258	+3.756	+33.972	-0.258	+3.756	+46.968
C 1	-2.839	-14.876	-63.784	-3.581	-17.523	-119.836
C 1	-2.134	-3.498	+58.650	-1.427	-0.776	+54.177
C 1	-0.964	-7.622	-88.462	-2.412	-12.991	-127.044
Barra 39						
C 1	+47.409	-6.884	-36.434	+55.310	-8.207	-62.540
C 1	-51.247	-6.884	-36.434	-59.890	-8.207	-62.540
C 1	-0.258	+3.756	+46.968	-0.258	+3.756	+59.964
C 1	-3.581	-17.523	-119.835	-4.322	-20.170	-185.045
C 1	-1.427	-0.777	+54.176	-0.258	+3.756	+59.964
C 1	-2.412	-12.991	-127.044	-4.322	-20.170	-185.045
Barra 40						
C 1	+55.310	-8.207	-62.540	+57.776	-8.620	-71.627
C 1	-59.890	-8.207	-62.540	-62.587	-8.620	-71.627
C 1	-0.258	+3.756	+59.965	-0.258	+3.756	+64.021
C 1	-4.322	-20.171	-185.045	-4.553	-20.997	-207.275
C 1	-0.258	+3.756	+59.965	-0.258	+3.756	+64.021
C 1	-4.322	-20.171	-185.045	-4.553	-20.997	-207.275
Barra 41						
C 1	+62.734	+8.610	-71.627	+60.036	+8.197	-62.551
C 1	-57.909	+8.610	-71.627	-55.443	+8.197	-62.551
C 1	+4.565	+21.186	-207.275	+4.334	+20.360	-184.839
C 1	+0.260	-3.966	+64.021	+0.260	-3.966	+59.737
C 1	+0.260	-3.966	+64.021	+0.260	-3.966	+59.737
C 1	+4.565	+21.186	-207.275	+4.334	+20.360	-184.839
Barra 42						
C 1	+60.036	+8.197	-62.551	+51.394	+6.874	-36.478
C 1	-55.443	+8.197	-62.551	-47.542	+6.874	-36.478
C 1	+4.334	+20.361	-184.840	+3.593	+17.714	-118.971
C 1	+0.260	-3.966	+59.738	+0.260	-3.966	+46.014
C 1	+0.260	-3.966	+59.738	+0.993	-1.073	+53.748
C 1	+4.334	+20.361	-184.840	+2.859	+14.820	-126.705

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 43						
C 1	+51.394	+6.873	-36.478	+47.747	+6.315	-26.850
C 1	-47.542	+6.873	-36.478	-44.208	+6.315	-26.850
C 1	+3.593	+17.713	-118.971	+3.280	+16.596	-93.922
C 1	+0.260	-3.966	+46.014	+0.260	-3.966	+40.222
C 1	+0.993	-1.073	+53.748	+0.680	-2.190	+51.366
C 1	+2.859	+14.820	-126.705	+2.859	+14.820	-105.065
Barra 44						
C 1	+47.747	+6.315	-26.850	+42.920	+5.550	-14.985
C 1	-44.208	+6.315	-26.850	-39.808	+5.550	-14.985
C 1	+3.280	+16.597	-93.922	+2.852	+15.067	-62.259
C 1	+0.260	-3.967	+40.223	+0.260	-3.967	+32.289
C 1	+0.680	-2.190	+51.366	+2.140	+3.265	+57.496
C 1	+2.859	+14.820	-105.065	+0.971	+7.835	-87.466
Barra 45						
C 1	+42.920	+5.555	-14.983	+45.203	+5.172	-9.624
C 1	-39.808	+5.555	-14.983	-42.306	+5.172	-9.624
C 1	+2.852	+15.078	-62.258	+2.859	+14.832	-60.601
C 1	+0.260	-3.969	+32.292	+0.038	-4.488	+41.353
C 1	+2.140	+3.265	+57.498	+1.926	+2.500	+60.379
C 1	+0.971	+7.844	-87.465	+0.971	+7.844	-79.626
Barra 46						
C 1	+45.203	+5.168	-9.625	+33.963	+3.447	+9.759
C 1	-42.306	+5.168	-9.625	-32.030	+3.447	+9.759
C 1	+2.859	+14.821	-60.604	+1.895	+11.379	-1.654
C 1	+0.038	-4.485	+41.354	+0.038	-4.485	+21.172
C 1	+1.926	+2.501	+60.378	+1.933	+6.960	+89.157
C 1	+0.971	+7.836	-79.628	+0.001	-0.066	-69.639
Barra 47						
C 1	+33.963	+3.447	+9.759	+23.616	+1.726	+21.398
C 1	-32.030	+3.447	+9.759	-22.646	+1.726	+21.398
C 1	+1.895	+11.379	-1.653	+0.931	+7.936	+41.806
C 1	+0.038	-4.485	+21.172	+0.038	-4.485	+0.990
C 1	+1.933	+6.960	+89.158	+0.969	+3.518	+112.734
C 1	+0.001	-0.066	-69.639	+0.001	-0.066	-69.938
Barra 48						
C 1	+23.616	+1.726	+21.398	+33.891	+0.004	+25.291
C 1	-22.646	+1.726	+21.398	-33.886	+0.005	+25.291
C 1	+0.931	+7.936	+41.807	+0.971	+7.836	+26.154
C 1	+0.038	-4.485	+0.990	-0.966	-7.827	+24.428
C 1	+0.969	+3.518	+112.734	+0.005	+0.075	+120.819
C 1	+0.001	-0.066	-69.938	+0.001	-0.066	-70.237

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 49						
C 1	+33.891	+0.004	+25.291	+24.837	-1.382	+22.794
C 1	-33.886	+0.004	+25.291	-25.608	-1.382	+22.794
C 1	+0.971	+7.836	+26.154	+0.195	+5.063	+49.532
C 1	-0.966	-7.827	+24.428	-0.966	-7.827	-3.944
C 1	+0.005	+0.075	+120.820	-0.772	-2.699	+116.064
C 1	+0.001	-0.066	-70.237	+0.001	-0.066	-70.476
Barra 50						
C 1	+24.837	-1.382	+22.794	+30.770	-2.769	+15.271
C 1	-25.608	-1.382	+22.794	-32.318	-2.769	+15.271
C 1	+0.195	+5.063	+49.532	+0.090	+4.887	+22.585
C 1	-0.966	-7.827	-3.944	-1.637	-10.424	+7.956
C 1	-0.772	-2.698	+116.064	-1.548	-5.471	+101.258
C 1	+0.001	-0.066	-70.476	+0.001	-0.066	-70.716
Barra 51						
C 1	+30.770	-2.768	+15.271	+39.048	-4.155	+2.722
C 1	-32.318	-2.768	+15.271	-41.372	-4.155	+2.722
C 1	+0.090	+4.887	+22.585	+0.090	+4.887	+40.301
C 1	-1.637	-10.424	+7.956	-2.414	-13.197	-34.858
C 1	-1.548	-5.470	+101.258	-2.325	-8.243	+76.401
C 1	+0.001	-0.067	-70.716	+0.001	-0.067	-70.958
Barra 52						
C 1	+39.048	-4.155	+2.722	+39.542	-5.542	-14.854
C 1	-41.372	-4.155	+2.722	-42.643	-5.542	-14.854
C 1	+0.090	+4.887	+40.301	-0.259	+4.000	+34.680
C 1	-2.414	-13.197	-34.858	-2.842	-15.084	-64.389
C 1	-2.325	-8.244	+76.402	-2.134	-3.257	+59.352
C 1	+0.001	-0.067	-70.958	-0.966	-7.827	-89.061
Barra 53						
C 1	+39.542	-5.542	-14.854	+47.443	-6.865	-36.318
C 1	-42.643	-5.542	-14.854	-51.285	-6.865	-36.318
C 1	-0.259	+4.000	+34.680	-0.259	+4.000	+48.522
C 1	-2.842	-15.084	-64.388	-3.583	-17.731	-121.157
C 1	-2.134	-3.257	+59.353	-1.428	-0.533	+55.727
C 1	-0.966	-7.827	-89.061	-2.414	-13.197	-128.362
Barra 54						
C 1	+47.443	-6.865	-36.318	+55.344	-8.189	-62.361
C 1	-51.285	-6.865	-36.318	-59.927	-8.189	-62.361
C 1	-0.259	+4.001	+48.522	-0.259	+4.001	+62.364
C 1	-3.583	-17.731	-121.157	-4.324	-20.378	-187.085
C 1	-1.428	-0.533	+55.727	-0.259	+4.001	+62.364
C 1	-2.414	-13.197	-128.362	-4.324	-20.378	-187.085

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 55						
C 1	+55.344	-8.188	-62.361	+57.811	-8.601	-71.427
C 1	-59.927	-8.188	-62.361	-62.625	-8.601	-71.427
C 1	-0.259	+4.000	+62.364	-0.259	+4.000	+66.684
C 1	-4.324	-20.376	-187.086	-4.555	-21.202	-209.538
C 1	-0.259	+4.000	+62.364	-0.259	+4.000	+66.684
C 1	-4.324	-20.376	-187.086	-4.555	-21.202	-209.538
Barra 56						
C 1	+62.736	+8.604	-71.428	+60.038	+8.191	-62.357
C 1	-57.911	+8.604	-71.428	-55.445	+8.191	-62.357
C 1	+4.565	+21.252	-209.540	+4.334	+20.426	-187.032
C 1	+0.259	-4.043	+66.684	+0.259	-4.043	+62.317
C 1	+0.259	-4.043	+66.684	+0.259	-4.043	+62.317
C 1	+4.565	+21.252	-209.540	+4.334	+20.426	-187.032
Barra 57						
C 1	+60.038	+8.192	-62.357	+51.396	+6.868	-36.304
C 1	-55.445	+8.192	-62.357	-47.544	+6.868	-36.304
C 1	+4.334	+20.427	-187.032	+3.593	+17.780	-120.935
C 1	+0.259	-4.043	+62.317	+0.259	-4.043	+48.328
C 1	+0.259	-4.043	+62.317	+0.993	-1.150	+56.064
C 1	+4.334	+20.427	-187.032	+2.859	+14.886	-128.672
Barra 58						
C 1	+51.396	+6.868	-36.304	+47.749	+6.310	-26.684
C 1	-47.544	+6.868	-36.304	-44.210	+6.310	-26.684
C 1	+3.593	+17.779	-120.936	+3.280	+16.662	-95.792
C 1	+0.259	-4.043	+48.327	+0.259	-4.043	+42.424
C 1	+0.993	-1.149	+56.064	+0.680	-2.266	+53.570
C 1	+2.859	+14.886	-128.672	+2.859	+14.886	-106.937
Barra 59						
C 1	+47.749	+6.310	-26.684	+42.922	+5.545	-14.830
C 1	-44.210	+6.310	-26.684	-39.810	+5.545	-14.830
C 1	+3.280	+16.663	-95.793	+2.852	+15.133	-63.998
C 1	+0.259	-4.043	+42.425	+0.259	-4.043	+34.338
C 1	+0.680	-2.266	+53.570	+2.140	+3.188	+59.555
C 1	+2.859	+14.886	-106.939	+0.971	+7.902	-89.214
Barra 60						
C 1	+42.922	+5.547	-14.830	+45.205	+5.164	-9.475
C 1	-39.810	+5.547	-14.830	-42.308	+5.164	-9.475
C 1	+2.852	+15.137	-63.999	+2.859	+14.892	-62.279
C 1	+0.259	-4.043	+34.338	+0.038	-4.563	+43.328
C 1	+2.140	+3.195	+59.553	+1.926	+2.430	+62.365
C 1	+0.971	+7.899	-89.213	+0.971	+7.899	-81.316

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 61						
C 1	+45.205	+5.162	-9.475	+33.965	+3.441	+9.883
C 1	-42.308	+5.163	-9.475	-32.032	+3.441	+9.883
C 1	+2.859	+14.887	-62.279	+1.895	+11.444	-3.035
C 1	+0.038	-4.562	+43.328	+0.038	-4.562	+22.801
C 1	+1.926	+2.424	+62.363	+1.932	+6.879	+90.806
C 1	+0.971	+7.901	-81.314	+0.001	+0.004	-71.040
Barra 62						
C 1	+33.965	+3.441	+9.883	+23.617	+1.720	+21.496
C 1	-32.032	+3.441	+9.883	-22.648	+1.720	+21.496
C 1	+1.895	+11.444	-3.035	+0.931	+8.002	+40.717
C 1	+0.038	-4.562	+22.801	+0.038	-4.562	+2.274
C 1	+1.932	+6.878	+90.806	+0.969	+3.436	+114.013
C 1	+0.001	+0.004	-71.040	+0.001	+0.004	-71.022
Barra 63						
C 1	+23.617	+1.720	+21.495	+33.893	-0.001	+25.363
C 1	-22.648	+1.720	+21.495	-33.888	-0.001	+25.363
C 1	+0.931	+8.001	+40.717	+0.971	+7.901	+25.349
C 1	+0.038	-4.561	+2.274	-0.966	-7.904	+25.377
C 1	+0.969	+3.436	+114.013	+0.005	-0.007	+121.729
C 1	+0.001	+0.004	-71.022	+0.001	+0.004	-71.003
Barra 64						
C 1	+33.893	-0.001	+25.363	+24.839	-1.388	+22.845
C 1	-33.888	-0.001	+25.363	-25.610	-1.388	+22.845
C 1	+0.971	+7.901	+25.349	+0.195	+5.128	+48.963
C 1	-0.966	-7.904	+25.377	-0.966	-7.904	-3.274
C 1	+0.005	-0.007	+121.728	-0.772	-2.780	+116.677
C 1	+0.001	+0.004	-71.003	+0.001	+0.004	-70.987
Barra 65						
C 1	+24.839	-1.388	+22.845	+30.772	-2.775	+15.301
C 1	-25.610	-1.388	+22.845	-32.320	-2.775	+15.301
C 1	+0.195	+5.128	+48.964	+0.090	+4.952	+22.246
C 1	-0.966	-7.904	-3.274	-1.638	-10.502	+8.355
C 1	-0.772	-2.780	+116.677	-1.548	-5.553	+101.573
C 1	+0.001	+0.004	-70.987	+0.001	+0.004	-70.972
Barra 66						
C 1	+30.772	-2.774	+15.301	+39.050	-4.161	+2.730
C 1	-32.320	-2.774	+15.301	-41.374	-4.161	+2.730
C 1	+0.090	+4.953	+22.246	+0.090	+4.953	+40.199
C 1	-1.638	-10.501	+8.355	-2.414	-13.275	-34.740
C 1	-1.548	-5.554	+101.573	-2.325	-8.327	+76.414
C 1	+0.001	+0.005	-70.972	+0.001	+0.005	-70.954

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 67						
C 1	+39.050	-4.161	+2.730	+39.544	-5.548	-14.867
C 1	-41.374	-4.161	+2.730	-42.645	-5.548	-14.867
C 1	+0.090	+4.953	+40.199	-0.259	+4.066	+34.812
C 1	-2.414	-13.275	-34.739	-2.842	-15.161	-64.547
C 1	-2.325	-8.327	+76.414	-2.135	-3.192	+59.491
C 1	+0.001	+0.005	-70.954	-0.966	-7.904	-89.226
Barra 68						
C 1	+39.544	-5.548	-14.867	+47.445	-6.871	-36.352
C 1	-42.645	-5.548	-14.867	-51.287	-6.871	-36.352
C 1	-0.259	+4.066	+34.812	-0.259	+4.066	+48.880
C 1	-2.842	-15.161	-64.547	-3.583	-17.808	-121.584
C 1	-2.135	-3.192	+59.491	-1.428	-0.468	+56.087
C 1	-0.966	-7.903	-89.226	-2.414	-13.274	-128.791
Barra 69						
C 1	+47.445	-6.871	-36.352	+55.346	-8.194	-62.415
C 1	-51.287	-6.871	-36.352	-59.929	-8.194	-62.415
C 1	-0.259	+4.066	+48.880	-0.259	+4.066	+62.948
C 1	-3.583	-17.808	-121.584	-4.324	-20.455	-187.779
C 1	-1.428	-0.468	+56.087	-0.259	+4.066	+62.948
C 1	-2.414	-13.274	-128.791	-4.324	-20.455	-187.779
Barra 70						
C 1	+55.346	-8.194	-62.416	+57.813	-8.607	-71.488
C 1	-59.929	-8.194	-62.416	-62.627	-8.607	-71.488
C 1	-0.259	+4.066	+62.949	-0.259	+4.066	+67.339
C 1	-4.324	-20.454	-187.780	-4.555	-21.280	-210.316
C 1	-0.259	+4.066	+62.949	-0.259	+4.066	+67.339
C 1	-4.324	-20.454	-187.780	-4.555	-21.280	-210.316
Barra 71						
C 1	+62.736	+8.607	-71.489	+60.038	+8.194	-62.417
C 1	-57.911	+8.607	-71.489	-55.445	+8.194	-62.417
C 1	+4.565	+21.271	-210.317	+4.334	+20.445	-187.791
C 1	+0.259	-4.057	+67.339	+0.259	-4.057	+62.958
C 1	+0.259	-4.057	+67.339	+0.259	-4.057	+62.958
C 1	+4.565	+21.271	-210.317	+4.334	+20.445	-187.791
Barra 72						
C 1	+60.038	+8.193	-62.416	+51.396	+6.870	-36.357
C 1	-55.445	+8.194	-62.416	-47.544	+6.870	-36.356
C 1	+4.334	+20.444	-187.790	+3.593	+17.797	-121.632
C 1	+0.259	-4.057	+62.958	+0.259	-4.057	+48.919
C 1	+0.259	-4.057	+62.958	+0.993	-1.163	+56.658
C 1	+4.334	+20.444	-187.790	+2.859	+14.903	-129.371

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 73						
C 1	+51.396	+6.870	-36.355	+47.750	+6.311	-26.734
C 1	-47.544	+6.870	-36.355	-44.210	+6.311	-26.734
C 1	+3.593	+17.796	-121.630	+3.280	+16.679	-96.464
C 1	+0.259	-4.056	+48.920	+0.259	-4.056	+42.995
C 1	+0.993	-1.163	+56.659	+0.680	-2.279	+54.145
C 1	+2.859	+14.902	-129.370	+2.859	+14.902	-107.613
Barra 74						
C 1	+47.749	+6.311	-26.733	+42.922	+5.546	-14.876
C 1	-44.210	+6.312	-26.733	-39.811	+5.547	-14.876
C 1	+3.280	+16.680	-96.462	+2.852	+15.150	-64.634
C 1	+0.259	-4.057	+42.995	+0.259	-4.057	+34.881
C 1	+0.680	-2.280	+54.145	+2.140	+3.175	+60.118
C 1	+2.859	+14.903	-107.612	+0.971	+7.918	-89.871
Barra 75						
C 1	+42.922	+5.543	-14.875	+45.205	+5.160	-9.524
C 1	-39.811	+5.543	-14.874	-42.308	+5.160	-9.524
C 1	+2.852	+15.140	-64.628	+2.859	+14.892	-62.911
C 1	+0.259	-4.054	+34.879	+0.038	-4.571	+43.863
C 1	+2.140	+3.174	+60.119	+1.926	+2.409	+62.912
C 1	+0.971	+7.912	-89.868	+0.971	+7.912	-81.959
Barra 76						
C 1	+45.205	+5.164	-9.521	+33.965	+3.442	+9.843
C 1	-42.308	+5.164	-9.521	-32.032	+3.442	+9.843
C 1	+2.859	+14.902	-62.904	+1.895	+11.460	-3.589
C 1	+0.038	-4.575	+43.862	+0.038	-4.575	+23.274
C 1	+1.926	+2.410	+62.911	+1.932	+6.845	+91.261
C 1	+0.971	+7.918	-81.953	+0.001	+0.040	-71.576
Barra 77						
C 1	+33.965	+3.442	+9.843	+23.618	+1.721	+21.460
C 1	-32.032	+3.442	+9.843	-22.648	+1.721	+21.460
C 1	+1.895	+11.460	-3.589	+0.931	+8.017	+40.235
C 1	+0.038	-4.575	+23.274	+0.038	-4.575	+2.686
C 1	+1.932	+6.845	+91.261	+0.969	+3.402	+114.315
C 1	+0.001	+0.040	-71.576	+0.001	+0.040	-71.394
Barra 78						
C 1	+23.618	+1.721	+21.461	+33.893	-0.000	+25.333
C 1	-22.648	+1.721	+21.461	-33.888	-0.000	+25.333
C 1	+0.931	+8.018	+40.235	+0.971	+7.918	+24.937
C 1	+0.038	-4.575	+2.686	-0.966	-7.918	+25.729
C 1	+0.969	+3.402	+114.315	+0.005	-0.040	+121.880
C 1	+0.001	+0.040	-71.394	+0.001	+0.040	-71.214

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 79						
C 1	+33.893	-0.000	+25.333	+24.839	-1.387	+22.820
C 1	-33.888	-0.000	+25.333	-25.610	-1.387	+22.820
C 1	+0.971	+7.918	+24.937	+0.195	+5.145	+48.613
C 1	-0.966	-7.918	+25.728	-0.966	-7.918	-2.974
C 1	+0.005	-0.040	+121.880	-0.772	-2.814	+116.707
C 1	+0.001	+0.040	-71.214	+0.001	+0.040	-71.068
Barra 80						
C 1	+24.839	-1.387	+22.820	+30.772	-2.773	+15.280
C 1	-25.610	-1.387	+22.820	-32.320	-2.773	+15.280
C 1	+0.195	+5.145	+48.613	+0.090	+4.970	+21.962
C 1	-0.966	-7.918	-2.974	-1.638	-10.517	+8.598
C 1	-0.772	-2.814	+116.708	-1.548	-5.587	+101.483
C 1	+0.001	+0.040	-71.068	+0.001	+0.040	-70.922
Barra 81						
C 1	+30.772	-2.773	+15.280	+39.050	-4.160	+2.714
C 1	-32.320	-2.773	+15.280	-41.375	-4.160	+2.714
C 1	+0.090	+4.970	+21.962	+0.090	+4.970	+39.978
C 1	-1.638	-10.516	+8.598	-2.414	-13.289	-34.551
C 1	-1.548	-5.587	+101.483	-2.325	-8.360	+76.204
C 1	+0.001	+0.040	-70.922	+0.001	+0.040	-70.776
Barra 82						
C 1	+39.050	-4.160	+2.714	+39.545	-5.546	-14.878
C 1	-41.375	-4.160	+2.714	-42.645	-5.546	-14.878
C 1	+0.090	+4.970	+39.978	-0.259	+4.084	+34.660
C 1	-2.414	-13.290	-34.551	-2.842	-15.177	-64.416
C 1	-2.325	-8.360	+76.204	-2.135	-3.175	+59.325
C 1	+0.001	+0.041	-70.776	-0.966	-7.918	-89.081
Barra 83						
C 1	+39.545	-5.546	-14.878	+47.446	-6.870	-36.359
C 1	-42.645	-5.546	-14.878	-51.287	-6.870	-36.359
C 1	-0.259	+4.084	+34.660	-0.259	+4.084	+48.789
C 1	-2.842	-15.177	-64.416	-3.583	-17.823	-121.506
C 1	-2.135	-3.175	+59.325	-1.428	-0.450	+55.990
C 1	-0.966	-7.918	-89.082	-2.414	-13.290	-128.707
Barra 84						
C 1	+47.446	-6.870	-36.359	+55.347	-8.193	-62.418
C 1	-51.287	-6.870	-36.359	-59.929	-8.193	-62.418
C 1	-0.259	+4.084	+48.789	-0.259	+4.084	+62.919
C 1	-3.583	-17.823	-121.507	-4.324	-20.470	-187.754
C 1	-1.428	-0.450	+55.990	-0.259	+4.084	+62.919
C 1	-2.414	-13.290	-128.707	-4.324	-20.470	-187.754

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 85						
C 1	+55.346	-8.194	-62.418	+57.813	-8.607	-71.490
C 1	-59.929	-8.194	-62.417	-62.627	-8.607	-71.490
C 1	-0.259	+4.085	+62.918	-0.259	+4.085	+67.329
C 1	-4.324	-20.472	-187.753	-4.555	-21.298	-210.309
C 1	-0.259	+4.085	+62.918	-0.259	+4.085	+67.329
C 1	-4.324	-20.472	-187.753	-4.555	-21.298	-210.309
Barra 86						
C 1	+62.736	+8.607	-71.490	+60.038	+8.194	-62.417
C 1	-57.911	+8.607	-71.490	-55.445	+8.194	-62.417
C 1	+4.565	+21.252	-210.309	+4.334	+20.426	-187.802
C 1	+0.259	-4.038	+67.329	+0.259	-4.038	+62.968
C 1	+0.259	-4.038	+67.329	+0.259	-4.038	+62.968
C 1	+4.565	+21.252	-210.309	+4.334	+20.426	-187.802
Barra 87						
C 1	+60.038	+8.194	-62.417	+51.396	+6.871	-36.354
C 1	-55.445	+8.194	-62.417	-47.544	+6.871	-36.354
C 1	+4.334	+20.426	-187.802	+3.593	+17.779	-121.706
C 1	+0.259	-4.038	+62.968	+0.259	-4.038	+48.998
C 1	+0.259	-4.038	+62.968	+0.993	-1.145	+56.737
C 1	+4.334	+20.426	-187.802	+2.859	+14.886	-129.445
Barra 88						
C 1	+51.396	+6.872	-36.355	+47.749	+6.314	-26.730
C 1	-47.544	+6.872	-36.355	-44.210	+6.314	-26.730
C 1	+3.593	+17.782	-121.707	+3.280	+16.665	-96.563
C 1	+0.259	-4.038	+48.998	+0.259	-4.038	+43.103
C 1	+0.993	-1.145	+56.737	+0.680	-2.262	+54.250
C 1	+2.859	+14.889	-129.446	+2.859	+14.889	-107.711
Barra 89						
C 1	+47.749	+6.313	-26.731	+42.922	+5.548	-14.870
C 1	-44.210	+6.313	-26.731	-39.810	+5.548	-14.870
C 1	+3.280	+16.663	-96.565	+2.852	+15.133	-64.767
C 1	+0.259	-4.038	+43.103	+0.259	-4.038	+35.027
C 1	+0.680	-2.262	+54.250	+2.140	+3.192	+60.247
C 1	+2.859	+14.887	-107.711	+0.971	+7.904	-89.987
Barra 90						
C 1	+42.921	+5.545	-14.870	+45.205	+5.163	-9.517
C 1	-39.810	+5.545	-14.870	-42.308	+5.163	-9.517
C 1	+2.852	+15.129	-64.765	+2.859	+14.881	-63.056
C 1	+0.259	-4.039	+35.025	+0.038	-4.556	+44.021
C 1	+2.140	+3.189	+60.247	+1.926	+2.424	+63.057
C 1	+0.971	+7.901	-89.987	+0.971	+7.901	-82.091

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 91						
C 1	+45.205	+5.165	-9.513	+33.965	+3.444	+9.859
C 1	-42.308	+5.165	-9.513	-32.032	+3.444	+9.859
C 1	+2.859	+14.887	-63.048	+1.895	+11.445	-3.801
C 1	+0.038	-4.556	+44.023	+0.038	-4.556	+23.519
C 1	+1.926	+2.428	+63.060	+1.932	+6.814	+91.348
C 1	+0.971	+7.903	-82.086	+0.001	+0.074	-71.630
Barra 92						
C 1	+33.965	+3.444	+9.858	+23.617	+1.723	+21.485
C 1	-32.032	+3.444	+9.859	-22.648	+1.723	+21.485
C 1	+1.895	+11.445	-3.801	+0.931	+8.002	+39.955
C 1	+0.038	-4.556	+23.518	+0.038	-4.556	+3.015
C 1	+1.932	+6.814	+91.347	+0.969	+3.371	+114.264
C 1	+0.001	+0.074	-71.630	+0.001	+0.074	-71.295
Barra 93						
C 1	+23.617	+1.723	+21.485	+33.893	+0.002	+25.365
C 1	-22.648	+1.723	+21.485	-33.888	+0.002	+25.365
C 1	+0.931	+8.002	+39.955	+0.971	+7.903	+24.600
C 1	+0.038	-4.556	+3.015	-0.966	-7.899	+26.130
C 1	+0.969	+3.371	+114.264	+0.005	-0.071	+121.689
C 1	+0.001	+0.075	-71.295	+0.001	+0.075	-70.959
Barra 94						
C 1	+33.893	+0.001	+25.365	+24.839	-1.385	+22.857
C 1	-33.888	+0.002	+25.365	-25.610	-1.385	+22.857
C 1	+0.971	+7.903	+24.600	+0.195	+5.130	+48.221
C 1	-0.966	-7.900	+26.130	-0.966	-7.900	-2.506
C 1	+0.005	-0.072	+121.689	-0.772	-2.845	+116.402
C 1	+0.001	+0.075	-70.959	+0.001	+0.075	-70.687
Barra 95						
C 1	+24.839	-1.385	+22.858	+30.772	-2.771	+15.324
C 1	-25.610	-1.385	+22.858	-32.320	-2.771	+15.324
C 1	+0.195	+5.130	+48.221	+0.090	+4.955	+21.530
C 1	-0.966	-7.899	-2.506	-1.638	-10.498	+9.119
C 1	-0.772	-2.844	+116.402	-1.548	-5.617	+101.066
C 1	+0.001	+0.074	-70.687	+0.001	+0.074	-70.418
Barra 96						
C 1	+30.772	-2.772	+15.324	+39.050	-4.158	+2.764
C 1	-32.320	-2.772	+15.324	-41.374	-4.158	+2.764
C 1	+0.090	+4.955	+21.530	+0.090	+4.955	+39.492
C 1	-1.638	-10.498	+9.119	-2.414	-13.271	-33.963
C 1	-1.548	-5.617	+101.066	-2.325	-8.390	+75.677
C 1	+0.001	+0.074	-70.417	+0.001	+0.074	-70.148

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 97						
C 1	+39.050	-4.158	+2.764	+39.544	-5.545	-14.821
C 1	-41.374	-4.158	+2.764	-42.645	-5.545	-14.821
C 1	+0.090	+4.955	+39.492	-0.259	+4.069	+34.129
C 1	-2.414	-13.271	-33.963	-2.842	-15.158	-63.771
C 1	-2.325	-8.390	+75.677	-2.135	-3.190	+58.769
C 1	+0.001	+0.074	-70.148	-0.966	-7.899	-88.412
Barra 98						
C 1	+39.544	-5.545	-14.821	+47.445	-6.868	-36.295
C 1	-42.645	-5.544	-14.821	-51.287	-6.868	-36.295
C 1	-0.259	+4.069	+34.129	-0.259	+4.069	+48.208
C 1	-2.842	-15.158	-63.772	-3.583	-17.805	-120.797
C 1	-2.135	-3.190	+58.769	-1.428	-0.465	+55.399
C 1	-0.966	-7.899	-88.412	-2.414	-13.271	-127.989
Barra 99						
C 1	+47.445	-6.868	-36.295	+55.346	-8.191	-62.348
C 1	-51.287	-6.868	-36.295	-59.929	-8.191	-62.348
C 1	-0.259	+4.069	+48.208	-0.259	+4.069	+62.287
C 1	-3.583	-17.805	-120.797	-4.324	-20.452	-186.982
C 1	-1.428	-0.465	+55.399	-0.259	+4.069	+62.287
C 1	-2.414	-13.271	-127.989	-4.324	-20.452	-186.982
Barra 100						
C 1	+55.346	-8.192	-62.347	+57.812	-8.605	-71.417
C 1	-59.929	-8.192	-62.347	-62.627	-8.605	-71.417
C 1	-0.259	+4.069	+62.287	-0.259	+4.069	+66.681
C 1	-4.324	-20.453	-186.981	-4.555	-21.279	-209.515
C 1	-0.259	+4.069	+62.287	-0.259	+4.069	+66.681
C 1	-4.324	-20.453	-186.981	-4.555	-21.279	-209.515
Barra 101						
C 1	+62.734	+8.599	-71.417	+60.036	+8.186	-62.353
C 1	-57.909	+8.599	-71.417	-55.443	+8.186	-62.353
C 1	+4.565	+21.171	-209.516	+4.334	+20.345	-187.096
C 1	+0.259	-3.973	+66.681	+0.259	-3.973	+62.390
C 1	+0.259	-3.973	+66.681	+0.259	-3.973	+62.390
C 1	+4.565	+21.171	-209.516	+4.334	+20.345	-187.096
Barra 102						
C 1	+60.036	+8.186	-62.353	+51.394	+6.863	-36.318
C 1	-55.443	+8.186	-62.353	-47.542	+6.863	-36.318
C 1	+4.334	+20.345	-187.097	+3.593	+17.699	-121.281
C 1	+0.259	-3.973	+62.390	+0.259	-3.973	+48.644
C 1	+0.259	-3.973	+62.390	+0.993	-1.082	+56.380
C 1	+4.334	+20.345	-187.097	+2.859	+14.808	-129.017

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 103						
C 1	+51.394	+6.864	-36.319	+47.747	+6.305	-26.706
C 1	-47.542	+6.864	-36.319	-44.208	+6.305	-26.706
C 1	+3.593	+17.700	-121.283	+3.280	+16.583	-96.256
C 1	+0.259	-3.973	+48.644	+0.259	-3.973	+42.844
C 1	+0.993	-1.082	+56.380	+0.680	-2.199	+53.986
C 1	+2.859	+14.810	-129.019	+2.859	+14.810	-107.397
Barra 104						
C 1	+47.747	+6.304	-26.707	+42.919	+5.539	-14.862
C 1	-44.208	+6.304	-26.707	-39.808	+5.539	-14.862
C 1	+3.280	+16.582	-96.257	+2.852	+15.052	-64.622
C 1	+0.259	-3.973	+42.844	+0.259	-3.973	+34.897
C 1	+0.680	-2.199	+53.985	+2.140	+3.246	+60.072
C 1	+2.859	+14.808	-107.399	+0.971	+7.833	-89.797
Barra 105						
C 1	+42.919	+5.539	-14.862	+45.203	+5.156	-9.515
C 1	-39.808	+5.539	-14.862	-42.306	+5.156	-9.515
C 1	+2.852	+15.054	-64.623	+2.859	+14.810	-62.975
C 1	+0.259	-3.976	+34.898	+0.038	-4.497	+43.944
C 1	+2.140	+3.248	+60.069	+1.925	+2.483	+62.936
C 1	+0.971	+7.830	-89.794	+0.971	+7.830	-81.967
Barra 106						
C 1	+45.203	+5.160	-9.513	+33.963	+3.438	+9.832
C 1	-42.306	+5.160	-9.513	-32.030	+3.438	+9.832
C 1	+2.859	+14.813	-62.973	+1.895	+11.370	-4.062
C 1	+0.038	-4.494	+43.946	+0.038	-4.494	+23.725
C 1	+1.925	+2.493	+62.939	+1.932	+6.739	+91.089
C 1	+0.971	+7.826	-81.966	+0.000	+0.138	-71.425
Barra 107						
C 1	+33.963	+3.438	+9.832	+23.615	+1.717	+21.431
C 1	-32.030	+3.438	+9.832	-22.646	+1.717	+21.431
C 1	+1.895	+11.370	-4.062	+0.931	+7.928	+39.359
C 1	+0.038	-4.494	+23.725	+0.038	-4.494	+3.504
C 1	+1.932	+6.739	+91.088	+0.969	+3.297	+113.670
C 1	+0.000	+0.137	-71.425	+0.000	+0.137	-70.807
Barra 108						
C 1	+23.615	+1.717	+21.431	+33.891	-0.004	+25.285
C 1	-22.646	+1.717	+21.431	-33.886	-0.004	+25.285
C 1	+0.931	+7.928	+39.358	+0.971	+7.826	+23.687
C 1	+0.038	-4.494	+3.504	-0.966	-7.834	+26.884
C 1	+0.969	+3.297	+113.669	+0.005	-0.145	+120.760
C 1	+0.000	+0.137	-70.806	+0.000	+0.137	-70.189

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 109						
C 1	+33.891	-0.004	+25.286	+24.837	-1.391	+22.757
C 1	-33.886	-0.004	+25.286	-25.608	-1.391	+22.757
C 1	+0.971	+7.826	+23.688	+0.195	+5.053	+47.031
C 1	-0.966	-7.834	+26.884	-0.966	-7.834	-1.516
C 1	+0.005	-0.145	+120.761	-0.772	-2.919	+115.207
C 1	+0.000	+0.137	-70.190	+0.000	+0.137	-69.693
Barra 110						
C 1	+24.837	-1.391	+22.758	+30.770	-2.777	+15.203
C 1	-25.608	-1.391	+22.758	-32.318	-2.777	+15.203
C 1	+0.195	+5.053	+47.031	+0.090	+4.877	+20.061
C 1	-0.966	-7.835	-1.516	-1.638	-10.432	+10.346
C 1	-0.772	-2.918	+115.208	-1.548	-5.691	+99.605
C 1	+0.000	+0.137	-69.693	+0.000	+0.137	-69.198
Barra 111						
C 1	+30.770	-2.777	+15.203	+39.048	-4.164	+2.623
C 1	-32.318	-2.777	+15.203	-41.372	-4.164	+2.623
C 1	+0.090	+4.877	+20.061	+0.090	+4.877	+37.741
C 1	-1.638	-10.431	+10.345	-2.414	-13.205	-32.495
C 1	-1.548	-5.691	+99.604	-2.325	-8.464	+73.949
C 1	+0.000	+0.136	-69.198	+0.000	+0.136	-68.703
Barra 112						
C 1	+39.048	-4.164	+2.623	+39.542	-5.550	-14.984
C 1	-41.372	-4.164	+2.623	-42.643	-5.550	-14.984
C 1	+0.090	+4.877	+37.741	-0.259	+3.990	+32.088
C 1	-2.414	-13.205	-32.495	-2.842	-15.091	-62.055
C 1	-2.325	-8.464	+73.949	-2.135	-3.266	+56.748
C 1	+0.000	+0.136	-68.703	-0.966	-7.834	-86.716
Barra 113						
C 1	+39.542	-5.550	-14.983	+47.443	-6.874	-36.477
C 1	-42.643	-5.550	-14.983	-51.285	-6.874	-36.477
C 1	-0.259	+3.990	+32.088	-0.259	+3.990	+45.895
C 1	-2.842	-15.091	-62.055	-3.583	-17.738	-118.848
C 1	-2.135	-3.266	+56.748	-1.428	-0.543	+53.095
C 1	-0.966	-7.834	-86.715	-2.414	-13.205	-126.049
Barra 114						
C 1	+47.443	-6.874	-36.477	+55.344	-8.197	-62.549
C 1	-51.285	-6.874	-36.477	-59.927	-8.197	-62.549
C 1	-0.259	+3.990	+45.895	-0.259	+3.990	+59.701
C 1	-3.583	-17.738	-118.848	-4.324	-20.385	-184.800
C 1	-1.428	-0.543	+53.095	-0.259	+3.990	+59.701
C 1	-2.414	-13.205	-126.049	-4.324	-20.385	-184.800

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 115						
C 1	+55.344	-8.197	-62.549	+57.810	-8.610	-71.625
C 1	-59.927	-8.197	-62.549	-62.625	-8.610	-71.625
C 1	-0.259	+3.990	+59.702	-0.259	+3.990	+64.010
C 1	-4.324	-20.384	-184.800	-4.556	-21.210	-207.261
C 1	-0.259	+3.990	+59.702	-0.259	+3.990	+64.010
C 1	-4.324	-20.384	-184.800	-4.556	-21.210	-207.261
Barra 116						
C 1	+62.696	+8.621	-71.625	+59.998	+8.208	-62.538
C 1	-57.874	+8.621	-71.625	-55.408	+8.208	-62.538
C 1	+4.563	+20.973	-207.261	+4.331	+20.147	-185.057
C 1	+0.258	-3.731	+64.011	+0.258	-3.731	+59.981
C 1	+0.258	-3.731	+64.011	+0.258	-3.731	+59.981
C 1	+4.563	+20.973	-207.261	+4.332	+20.147	-185.057
Barra 117						
C 1	+59.998	+8.207	-62.538	+51.356	+6.884	-36.431
C 1	-55.408	+8.207	-62.538	-47.507	+6.884	-36.431
C 1	+4.331	+20.145	-185.058	+3.590	+17.498	-119.934
C 1	+0.258	-3.731	+59.981	+0.258	-3.731	+47.071
C 1	+0.258	-3.731	+59.981	+0.992	-0.838	+54.812
C 1	+4.332	+20.145	-185.058	+2.857	+14.605	-127.675
Barra 118						
C 1	+51.356	+6.883	-36.431	+47.709	+6.324	-26.789
C 1	-47.507	+6.883	-36.431	-44.173	+6.324	-26.789
C 1	+3.590	+17.498	-119.934	+3.278	+16.381	-95.202
C 1	+0.258	-3.732	+47.071	+0.258	-3.732	+41.624
C 1	+0.992	-0.839	+54.812	+0.679	-1.955	+52.773
C 1	+2.857	+14.604	-127.675	+2.857	+14.604	-106.351
Barra 119						
C 1	+47.709	+6.325	-26.789	+42.882	+5.560	-14.904
C 1	-44.173	+6.325	-26.789	-39.774	+5.560	-14.904
C 1	+3.278	+16.381	-95.202	+2.849	+14.851	-63.970
C 1	+0.258	-3.731	+41.624	+0.258	-3.731	+34.162
C 1	+0.679	-1.955	+52.774	+2.139	+3.496	+59.397
C 1	+2.857	+14.605	-106.352	+0.969	+7.624	-89.204
Barra 120						
C 1	+42.882	+5.563	-14.906	+45.165	+5.181	-9.534
C 1	-39.774	+5.563	-14.906	-42.272	+5.181	-9.534
C 1	+2.849	+14.858	-63.973	+2.857	+14.610	-62.535
C 1	+0.258	-3.731	+34.162	+0.037	-4.248	+43.467
C 1	+2.139	+3.501	+59.394	+1.925	+2.736	+62.514
C 1	+0.969	+7.626	-89.206	+0.969	+7.626	-81.581

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 121						
C 1	+45.165	+5.178	-9.535	+33.925	+3.456	+9.891
C 1	-42.272	+5.178	-9.535	-31.996	+3.456	+9.891
C 1	+2.857	+14.605	-62.537	+1.893	+11.163	-4.560
C 1	+0.037	-4.250	+43.466	+0.037	-4.250	+24.342
C 1	+1.925	+2.732	+62.510	+1.930	+6.523	+90.657
C 1	+0.969	+7.624	-81.581	-0.000	+0.390	-70.875
Barra 122						
C 1	+33.925	+3.456	+9.891	+23.577	+1.735	+21.572
C 1	-31.996	+3.456	+9.891	-22.612	+1.735	+21.572
C 1	+1.893	+11.163	-4.559	+0.929	+7.720	+37.927
C 1	+0.037	-4.250	+24.342	+0.037	-4.250	+5.217
C 1	+1.930	+6.523	+90.658	+0.966	+3.080	+112.264
C 1	-0.000	+0.390	-70.875	-0.000	+0.390	-69.120
Barra 123						
C 1	+23.577	+1.735	+21.572	+33.853	+0.014	+25.508
C 1	-22.612	+1.735	+21.572	-33.852	+0.014	+25.508
C 1	+0.929	+7.720	+37.927	+0.969	+7.624	+21.339
C 1	+0.037	-4.250	+5.217	-0.967	-7.596	+29.676
C 1	+0.966	+3.081	+112.263	+0.002	-0.362	+118.382
C 1	-0.000	+0.390	-69.119	-0.000	+0.390	-67.366
Barra 124						
C 1	+33.853	+0.014	+25.508	+24.799	-1.373	+23.045
C 1	-33.852	+0.014	+25.508	-25.574	-1.373	+23.045
C 1	+0.969	+7.623	+21.340	+0.192	+4.850	+43.949
C 1	-0.967	-7.596	+29.676	-0.967	-7.596	+2.141
C 1	+0.002	-0.362	+118.381	-0.774	-3.135	+112.043
C 1	-0.000	+0.390	-67.366	-0.000	+0.390	-65.953
Barra 125						
C 1	+24.799	-1.373	+23.045	+30.732	-2.759	+15.556
C 1	-25.574	-1.373	+23.045	-32.284	-2.759	+15.556
C 1	+0.192	+4.851	+43.949	+0.087	+4.679	+16.311
C 1	-0.967	-7.596	+2.141	-1.639	-10.198	+14.802
C 1	-0.774	-3.135	+112.044	-1.551	-5.908	+95.655
C 1	-0.000	+0.389	-65.954	-0.000	+0.389	-64.542
Barra 126						
C 1	+30.732	-2.759	+15.557	+39.010	-4.146	+3.042
C 1	-32.284	-2.759	+15.557	-41.338	-4.146	+3.042
C 1	+0.087	+4.680	+16.311	+0.087	+4.680	+33.274
C 1	-1.639	-10.198	+14.803	-2.415	-12.971	-27.190
C 1	-1.551	-5.907	+95.655	-2.327	-8.680	+69.215
C 1	-0.000	+0.389	-64.542	-0.000	+0.389	-63.132

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 127						
C 1	+39.010	-4.146	+3.042	+39.505	-5.532	-14.499
C 1	-41.338	-4.146	+3.042	-42.609	-5.532	-14.499
C 1	+0.087	+4.679	+33.274	-0.261	+3.795	+26.962
C 1	-2.415	-12.971	-27.191	-2.843	-14.860	-55.961
C 1	-2.327	-8.681	+69.216	-2.137	-3.469	+51.464
C 1	-0.000	+0.389	-63.132	-0.967	-7.596	-80.463
Barra 128						
C 1	+39.505	-5.532	-14.500	+47.406	-6.856	-35.930
C 1	-42.609	-5.532	-14.500	-51.251	-6.856	-35.930
C 1	-0.261	+3.795	+26.962	-0.261	+3.795	+40.094
C 1	-2.843	-14.860	-55.961	-3.584	-17.507	-111.954
C 1	-2.137	-3.469	+51.464	-1.430	-0.741	+47.228
C 1	-0.967	-7.596	-80.463	-2.415	-12.971	-119.088
Barra 129						
C 1	+47.406	-6.856	-35.930	+55.307	-8.179	-61.941
C 1	-51.251	-6.856	-35.930	-59.893	-8.179	-61.941
C 1	-0.261	+3.795	+40.094	-0.261	+3.795	+53.225
C 1	-3.584	-17.507	-111.954	-4.325	-20.154	-177.106
C 1	-1.430	-0.741	+47.228	-0.261	+3.795	+53.225
C 1	-2.415	-12.971	-119.088	-4.325	-20.154	-177.106
Barra 130						
C 1	+55.307	-8.179	-61.940	+57.773	-8.592	-70.997
C 1	-59.893	-8.179	-61.940	-62.590	-8.592	-70.997
C 1	-0.261	+3.796	+53.225	-0.261	+3.796	+57.324
C 1	-4.325	-20.154	-177.106	-4.556	-20.980	-199.318
C 1	-0.261	+3.796	+53.225	-0.261	+3.796	+57.324
C 1	-4.325	-20.154	-177.106	-4.556	-20.980	-199.318
Barra 131						
C 1	+62.034	+8.560	-70.996	+59.336	+8.147	-61.975
C 1	-57.269	+8.560	-70.996	-54.803	+8.147	-61.975
C 1	+4.547	+20.241	-199.317	+4.316	+19.415	-177.904
C 1	+0.217	-3.120	+57.324	+0.217	-3.120	+53.954
C 1	+0.217	-3.120	+57.324	+0.217	-3.120	+53.954
C 1	+4.547	+20.241	-199.317	+4.316	+19.415	-177.904
Barra 132						
C 1	+59.336	+8.148	-61.974	+50.694	+6.824	-36.072
C 1	-54.803	+8.148	-61.974	-46.902	+6.825	-36.072
C 1	+4.316	+19.416	-177.903	+3.574	+16.769	-115.303
C 1	+0.217	-3.120	+53.954	+0.217	-3.120	+43.158
C 1	+0.217	-3.120	+53.954	+0.951	-0.235	+50.927
C 1	+4.316	+19.416	-177.903	+2.841	+13.884	-123.071

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 133						
C 1	+50.694	+6.825	-36.073	+47.047	+6.266	-26.516
C 1	-46.902	+6.825	-36.073	-43.568	+6.266	-26.516
C 1	+3.574	+16.769	-115.304	+3.262	+15.653	-91.634
C 1	+0.217	-3.120	+43.158	+0.217	-3.120	+38.603
C 1	+0.951	-0.234	+50.926	+0.638	-1.351	+49.770
C 1	+2.841	+13.884	-123.073	+2.841	+13.884	-102.801
Barra 134						
C 1	+47.047	+6.266	-26.516	+42.222	+5.501	-14.749
C 1	-43.568	+6.266	-26.516	-39.171	+5.501	-14.749
C 1	+3.262	+15.653	-91.635	+2.833	+14.123	-61.860
C 1	+0.217	-3.120	+38.603	+0.217	-3.120	+32.362
C 1	+0.638	-1.351	+49.769	+2.097	+4.066	+57.635
C 1	+2.841	+13.883	-102.802	+0.954	+6.937	-87.133
Barra 135						
C 1	+42.222	+5.496	-14.747	+44.506	+5.114	-9.440
C 1	-39.171	+5.496	-14.747	-41.669	+5.114	-9.440
C 1	+2.833	+14.112	-61.857	+2.841	+13.872	-61.156
C 1	+0.217	-3.119	+32.363	-0.005	-3.644	+42.275
C 1	+2.097	+4.066	+57.638	+1.883	+3.301	+61.320
C 1	+0.954	+6.926	-87.132	+0.954	+6.926	-80.201
Barra 136						
C 1	+44.506	+5.121	-9.438	+33.266	+3.400	+9.734
C 1	-41.669	+5.121	-9.438	-31.393	+3.400	+9.734
C 1	+2.841	+13.885	-61.151	+1.877	+10.443	-6.413
C 1	-0.005	-3.643	+42.275	-0.005	-3.643	+25.881
C 1	+1.883	+3.315	+61.324	+1.914	+5.765	+88.648
C 1	+0.954	+6.927	-80.200	-0.042	+1.034	-69.180
Barra 137						
C 1	+33.266	+3.400	+9.734	+22.930	+1.679	+21.161
C 1	-31.393	+3.400	+9.734	-22.021	+1.679	+21.161
C 1	+1.877	+10.443	-6.413	+0.913	+7.000	+32.833
C 1	-0.005	-3.643	+25.881	-0.005	-3.643	+9.488
C 1	+1.914	+5.765	+88.648	+0.950	+2.323	+106.847
C 1	-0.042	+1.034	-69.180	-0.042	+1.034	-64.525
Barra 138						
C 1	+22.930	+1.679	+21.161	+33.206	-0.043	+24.842
C 1	-22.021	+1.679	+21.161	-33.261	-0.043	+24.842
C 1	+0.913	+7.000	+32.833	+0.954	+6.927	+13.312
C 1	-0.005	-3.643	+9.488	-1.009	-7.012	+36.371
C 1	+0.950	+2.323	+106.847	-0.014	-1.119	+109.555
C 1	-0.042	+1.034	-64.526	-0.042	+1.034	-59.872

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 139						
C 1	+33.206	-0.043	+24.842	+24.151	-1.429	+22.174
C 1	-33.261	-0.043	+24.842	-24.983	-1.429	+22.174
C 1	+0.954	+6.927	+13.312	+0.177	+4.154	+33.396
C 1	-1.009	-7.012	+36.372	-1.009	-7.012	+10.953
C 1	-0.014	-1.119	+109.556	-0.790	-3.892	+100.473
C 1	-0.042	+1.034	-59.872	-0.042	+1.034	-56.124
Barra 140						
C 1	+24.151	-1.429	+22.174	+30.102	-2.816	+14.481
C 1	-24.983	-1.429	+22.174	-31.710	-2.816	+14.481
C 1	+0.177	+4.154	+33.395	+0.073	+4.010	+3.777
C 1	-1.009	-7.012	+10.953	-1.681	-9.641	+25.185
C 1	-0.790	-3.892	+100.472	-1.566	-6.665	+81.338
C 1	-0.042	+1.034	-56.124	-0.042	+1.034	-52.377
Barra 141						
C 1	+30.102	-2.816	+14.481	+38.379	-4.202	+1.761
C 1	-31.710	-2.816	+14.481	-40.764	-4.202	+1.761
C 1	+0.073	+4.010	+3.777	+0.073	+4.010	+18.314
C 1	-1.681	-9.641	+25.185	-2.458	-12.415	-14.792
C 1	-1.566	-6.665	+81.339	-2.343	-9.438	+52.152
C 1	-0.042	+1.034	-52.377	-0.042	+1.034	-48.631
Barra 142						
C 1	+38.379	-4.202	+1.761	+38.899	-5.589	-15.985
C 1	-40.764	-4.202	+1.761	-42.060	-5.589	-15.985
C 1	+0.073	+4.010	+18.314	-0.275	+3.142	+10.012
C 1	-2.458	-12.415	-14.792	-2.887	-14.320	-41.982
C 1	-2.343	-9.438	+52.152	-2.152	-4.166	+33.331
C 1	-0.042	+1.033	-48.630	-1.009	-7.012	-65.301
Barra 143						
C 1	+38.899	-5.589	-15.985	+46.800	-6.912	-37.612
C 1	-42.060	-5.589	-15.985	-50.702	-6.912	-37.612
C 1	-0.275	+3.142	+10.012	-0.275	+3.142	+20.885
C 1	-2.887	-14.320	-41.982	-3.628	-16.967	-96.108
C 1	-2.152	-4.166	+33.330	-1.445	-1.410	+27.526
C 1	-1.009	-7.012	-65.301	-2.458	-12.415	-102.749
Barra 144						
C 1	+46.800	-6.912	-37.612	+54.701	-8.236	-63.817
C 1	-50.702	-6.912	-37.612	-59.344	-8.236	-63.817
C 1	-0.275	+3.142	+20.885	-0.275	+3.142	+31.757
C 1	-3.628	-16.967	-96.108	-4.369	-19.614	-159.391
C 1	-1.445	-1.410	+27.526	-0.275	+3.142	+31.757
C 1	-2.458	-12.415	-102.749	-4.369	-19.614	-159.391

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 145						
C 1	+54.701	-8.236	-63.817	+57.167	-8.649	-72.935
C 1	-59.344	-8.236	-63.817	-62.042	-8.649	-72.935
C 1	-0.275	+3.142	+31.758	-0.275	+3.142	+35.151
C 1	-4.369	-19.614	-159.391	-4.600	-20.440	-181.020
C 1	-0.275	+3.142	+31.758	-0.275	+3.142	+35.151
C 1	-4.369	-19.614	-159.391	-4.600	-20.440	-181.020
Barra 146						
C 1	+51.374	+8.911	-72.935	+48.676	+8.498	-63.534
C 1	-47.614	+8.911	-72.935	-45.147	+8.498	-63.534
C 1	+3.778	+18.799	-181.021	+3.547	+17.972	-161.166
C 1	-0.018	-0.977	+35.152	-0.018	-0.977	+34.097
C 1	-0.018	-0.977	+35.152	-0.018	-0.977	+34.097
C 1	+3.778	+18.799	-181.021	+3.547	+17.973	-161.166
Barra 147						
C 1	+48.676	+8.497	-63.534	+40.034	+7.174	-36.423
C 1	-45.147	+8.497	-63.534	-37.246	+7.174	-36.423
C 1	+3.547	+17.972	-161.165	+2.806	+15.325	-103.561
C 1	-0.018	-0.978	+34.097	-0.018	-0.978	+30.715
C 1	-0.018	-0.978	+34.097	+0.679	+1.927	+39.050
C 1	+3.547	+17.972	-161.165	+2.108	+12.421	-111.896
Barra 148						
C 1	+40.034	+7.175	-36.423	+36.387	+6.616	-26.357
C 1	-37.247	+7.175	-36.423	-33.913	+6.616	-26.357
C 1	+2.806	+15.327	-103.561	+2.493	+14.210	-82.002
C 1	-0.018	-0.977	+30.715	-0.018	-0.977	+29.288
C 1	+0.679	+1.928	+39.050	+2.091	+7.720	+42.867
C 1	+2.108	+12.421	-111.896	+0.383	+5.513	-95.581
Barra 149						
C 1	+36.387	+6.615	-26.356	+32.364	+5.850	-13.892
C 1	-33.913	+6.615	-26.356	-30.318	+5.850	-13.892
C 1	+2.493	+14.208	-82.001	+2.065	+12.678	-55.115
C 1	-0.018	-0.978	+29.288	-0.018	-0.978	+27.332
C 1	+2.091	+7.717	+42.867	+2.366	+8.661	+57.165
C 1	+0.384	+5.513	-95.580	-0.319	+3.039	-84.949
Barra 150						
C 1	+32.364	+5.848	-13.891	+34.648	+5.465	-8.233
C 1	-30.318	+5.848	-13.891	-32.816	+5.465	-8.233
C 1	+2.065	+12.673	-55.113	+2.108	+12.416	-56.502
C 1	-0.018	-0.977	+27.331	-0.276	-1.485	+40.035
C 1	+2.366	+8.665	+57.165	+2.151	+7.900	+65.448
C 1	-0.319	+3.031	-84.947	-0.319	+3.031	-81.915

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 151						
C 1	+34.648	+5.469	-8.232	+26.218	+4.178	+8.046
C 1	-32.815	+5.469	-8.232	-25.109	+4.178	+8.046
C 1	+2.108	+12.420	-56.499	+1.385	+9.838	-18.938
C 1	-0.276	-1.483	+40.034	-0.276	-1.483	+35.031
C 1	+2.151	+7.904	+65.445	+1.428	+5.322	+87.765
C 1	-0.319	+3.033	-81.910	-0.319	+3.033	-71.672
Barra 152						
C 1	+26.218	+4.178	+8.046	+17.788	+2.887	+19.968
C 1	-25.109	+4.178	+8.046	-17.402	+2.887	+19.968
C 1	+1.385	+9.838	-18.938	+0.662	+7.257	+9.909
C 1	-0.276	-1.483	+35.031	-0.276	-1.483	+30.027
C 1	+1.428	+5.322	+87.765	+0.706	+2.740	+101.370
C 1	-0.319	+3.034	-71.672	-0.319	+3.034	-61.434
Barra 153						
C 1	+17.788	+2.887	+19.968	+19.273	+1.596	+27.533
C 1	-17.402	+2.887	+19.968	-19.609	+1.596	+27.533
C 1	+0.662	+7.256	+9.909	+0.383	+5.509	-23.260
C 1	-0.276	-1.483	+30.027	-0.720	-2.318	+78.325
C 1	+0.706	+2.740	+101.371	-0.017	+0.158	+106.261
C 1	-0.319	+3.034	-61.435	-0.319	+3.034	-51.196
Barra 154						
C 1	+19.273	+1.596	+27.532	+26.979	+0.305	+30.740
C 1	-19.609	+1.596	+27.532	-28.039	+0.305	+30.740
C 1	+0.383	+5.509	-23.260	+0.383	+5.509	-4.666
C 1	-0.720	-2.318	+78.325	-1.443	-4.900	+66.146
C 1	-0.017	+0.158	+106.261	-0.740	-2.424	+102.437
C 1	-0.319	+3.034	-51.196	-0.319	+3.034	-40.957
Barra 155						
C 1	+26.979	+0.305	+30.740	+19.002	-0.986	+29.590
C 1	-28.039	+0.305	+30.740	-20.784	-0.986	+29.590
C 1	+0.383	+5.509	-4.666	-0.319	+3.034	-30.718
C 1	-1.443	-4.899	+66.146	-1.463	-5.006	+89.899
C 1	-0.740	-2.424	+102.437	-1.463	-5.006	+89.899
C 1	-0.319	+3.034	-40.957	-0.319	+3.034	-30.718
Barra 156						
C 1	+19.002	-0.986	+29.590	+26.709	-2.277	+24.084
C 1	-20.784	-0.986	+29.590	-29.214	-2.277	+24.084
C 1	-0.319	+3.034	-30.718	-0.319	+3.034	-20.479
C 1	-1.463	-5.006	+89.899	-2.186	-7.588	+68.647
C 1	-1.463	-5.006	+89.899	-2.186	-7.588	+68.647
C 1	-0.319	+3.034	-30.718	-0.319	+3.034	-20.479

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 157						
C 1	+26.709	-2.277	+24.084	+34.416	-3.568	+14.220
C 1	-29.214	-2.277	+24.084	-37.644	-3.568	+14.220
C 1	-0.319	+3.034	-20.479	-0.319	+3.034	-10.239
C 1	-2.186	-7.588	+68.646	-2.909	-10.170	+38.680
C 1	-2.186	-7.588	+68.646	-2.909	-10.170	+38.680
C 1	-0.319	+3.034	-20.479	-0.319	+3.034	-10.239
Barra 158						
C 1	+34.416	-3.568	+14.220	+42.123	-4.859	+0.000
C 1	-37.644	-3.568	+14.220	-46.074	-4.859	+0.000
C 1	-0.319	+3.034	-10.239	-0.319	+3.034	-0.000
C 1	-2.909	-10.170	+38.680	-3.632	-12.752	+0.000
C 1	-2.909	-10.170	+38.680	-2.309	-7.415	+0.000
C 1	-0.319	+3.034	-10.239	-0.466	+1.143	-0.000

Hipótesis de carga consideradas

Combinación: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	1	+0.000	+7.418	+2.491
C 1	1	-0.000	-1.317	+0.151
C 1	1	+0.000	+12.718	+3.636
C 1	1	-0.000	-2.999	+0.319
C 1	1	+0.000	+4.859	+46.120
C 1	1	+0.000	+4.859	-42.164
C 1	11	+0.002	+24.561	+5.729
C 1	11	-0.001	+5.861	+1.739
C 1	11	+0.001	+39.188	+8.384
C 1	11	+0.000	-4.070	+0.257
C 1	11	+0.001	+17.559	+100.759
C 1	11	+0.001	+17.559	-92.118
C 1	26	+0.002	+24.013	+6.354
C 1	26	-0.001	+11.924	+3.033
C 1	26	+0.001	+41.214	+9.103
C 1	26	+0.000	-6.900	+0.479
C 1	26	+0.001	+17.157	+111.736
C 1	26	+0.001	+17.157	-102.154
C 1	41	+0.001	+22.181	+4.997
C 1	41	-0.002	+9.934	+3.187
C 1	41	-0.000	+42.183	+9.118
C 1	41	-0.001	-7.722	+0.517
C 1	41	-0.000	+17.230	+112.360
C 1	41	-0.000	+17.230	-102.724
C 1	56	+0.002	+26.389	+6.000
C 1	56	-0.001	+3.887	+2.596
C 1	56	+0.002	+42.454	+9.121
C 1	56	-0.000	-8.043	+0.518
C 1	56	+0.001	+17.205	+112.396
C 1	56	+0.001	+17.205	-102.757
C 1	71	+0.002	+21.929	+5.573
C 1	71	-0.001	+14.382	+3.850
C 1	71	+0.001	+42.551	+9.121
C 1	71	-0.000	-8.122	+0.518
C 1	71	+0.000	+17.214	+112.398
C 1	71	+0.000	+17.214	-102.759
C 1	86	+0.001	+14.865	+4.052
C 1	86	-0.002	+19.391	+5.317
C 1	86	-0.001	+42.551	+9.121
C 1	86	-0.000	-8.123	+0.518
C 1	86	-0.001	+17.214	+112.398
C 1	86	-0.000	+17.214	-102.758
C 1	101	+0.002	+18.259	+4.993
C 1	101	-0.001	+3.734	+1.835
C 1	101	+0.001	+42.450	+9.121
C 1	101	-0.000	-8.042	+0.518
C 1	101	+0.000	+17.204	+112.395
C 1	101	+0.000	+17.204	-102.757

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	116	+0.001	+11.764	+2.901
C 1	116	-0.002	+22.253	+6.705
C 1	116	-0.000	+42.183	+9.118
C 1	116	-0.000	-7.721	+0.517
C 1	116	-0.000	+17.231	+112.360
C 1	116	-0.000	+17.231	-102.724
C 1	131	+0.000	-3.048	+0.625
C 1	131	-0.002	+25.303	+6.246
C 1	131	-0.001	+41.221	+9.103
C 1	131	+0.000	-6.916	+0.479
C 1	131	-0.001	+17.153	+111.732
C 1	131	-0.001	+17.153	-102.150
C 1	146	+0.001	+7.726	+1.368
C 1	146	-0.001	+15.272	+4.702
C 1	146	+0.000	+39.239	+8.378
C 1	146	-0.001	-4.119	+0.257
C 1	146	-0.000	+17.560	+100.688
C 1	146	-0.000	+17.560	-92.053
C 1	159	+0.000	+7.415	+2.309
C 1	159	-0.000	-1.143	+0.466
C 1	159	+0.000	+12.752	+3.632
C 1	159	+0.000	-3.034	+0.319
C 1	159	+0.000	+4.859	+46.074
C 1	159	+0.000	+4.859	-42.123

1.1.18.- ENVOLVENTES DE ESFUERZOS DE LOCOMOTORA UIC 71 UNA VÍA.

Hip¢tesis de carga consideradas

Combinaci¢n: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85
87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102
104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119
121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153
155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170
172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187
189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204
206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221
223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255
257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272
274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289
291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306
308 309 310 311 312 313 314 315 316

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+141.924	+53.303	-0.000	+124.480	+44.738	+178.953
C 1	-141.924	+53.303	-0.000	-124.480	+44.738	+178.953
C 1	+141.924	+53.303	-0.000	+124.480	+44.738	+178.953
C 1	+6.951	-7.652	-0.000	+6.951	-7.652	-30.606
C 1	+89.591	+28.605	+0.000	+124.480	+44.738	+178.953
C 1	+54.703	+14.841	-0.000	+6.951	-7.652	-30.606
Barra 2						
C 1	+124.480	+44.739	+178.953	+107.036	+36.454	+291.629
C 1	-124.480	+44.739	+178.953	-107.036	+36.454	+291.629
C 1	+6.951	-7.652	-30.606	-22.602	-8.359	+288.755
C 1	+124.480	+44.739	+178.953	+107.036	+36.454	+291.629
C 1	+6.951	-7.652	-30.606	+6.951	-7.652	-61.213
Barra 3						
C 1	+107.035	+36.453	+291.629	+89.591	+28.605	+343.263
C 1	-107.035	+36.453	+291.629	-89.591	+28.605	+343.263
C 1	+107.035	+36.453	+291.629	+89.591	+28.605	+343.263
C 1	-22.602	-8.360	+288.753	-40.046	-16.645	+368.292
C 1	+107.035	+36.453	+291.629	-40.046	-16.645	+368.292
C 1	+6.951	-7.652	-61.212	+6.951	-7.652	-91.818
Barra 4						
C 1	+89.591	+28.605	+343.263	+72.147	+21.348	+341.580
C 1	-89.591	+28.605	+343.263	-72.147	+21.348	+341.580
C 1	+89.591	+28.605	+343.263	+72.147	+21.348	+341.580
C 1	-40.046	-16.645	+368.290	-57.490	-24.493	+388.529
C 1	-40.046	-16.645	+368.290	-57.490	-24.493	+388.529
C 1	+6.951	-7.651	-91.818	+6.951	-7.651	-122.423

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 5						
C 1	+72.147	+21.349	+341.581	+77.331	-31.656	+282.849
C 1	-72.147	+21.349	+341.581	-77.331	-31.656	+282.849
C 1	+72.147	+21.349	+341.581	+54.703	+14.840	+296.811
C 1	-57.490	-24.493	+388.528	-74.934	-31.749	+357.825
C 1	-57.490	-24.493	+388.528	-74.934	-31.749	+357.825
C 1	+6.951	-7.651	-122.423	+6.951	-7.651	-153.027
Barra 6						
C 1	+77.331	-31.656	+282.849	+94.775	-38.912	+223.120
C 1	-77.331	-31.656	+282.849	-94.775	-38.912	+223.120
C 1	+54.703	+14.841	+296.811	+37.470	+9.233	+221.590
C 1	-74.934	-31.749	+357.823	-94.775	-38.912	+223.120
C 1	-74.934	-31.749	+357.823	-92.378	-38.257	+287.023
C 1	+6.951	-7.651	-153.028	+6.951	-7.651	-183.635
Barra 7						
C 1	+94.775	-38.911	+223.121	+112.219	-45.419	+126.287
C 1	-94.775	-38.911	+223.121	-112.219	-45.419	+126.287
C 1	+37.470	+9.233	+221.591	+22.652	+4.598	+128.728
C 1	-94.775	-38.911	+223.121	-112.219	-45.419	+126.287
C 1	-92.378	-38.257	+287.023	-109.612	-43.865	+189.372
C 1	+6.951	-7.652	-183.635	+6.951	-7.652	-214.242
Barra 8						
C 1	+112.219	-45.419	+126.289	+129.453	-51.027	+33.762
C 1	-112.219	-45.419	+126.289	-129.453	-51.027	+33.762
C 1	+22.652	+4.598	+128.728	+0.395	+2.464	+77.525
C 1	-112.219	-45.419	+126.289	-129.453	-51.027	+33.762
C 1	-109.612	-43.865	+189.373	-53.695	-22.964	+88.928
C 1	+6.951	-7.652	-214.243	+6.951	-7.652	-240.719
Barra 9						
C 1	+129.453	-51.027	+33.761	+144.270	-55.663	-63.626
C 1	-129.453	-51.027	+33.761	-144.270	-55.663	-63.626
C 1	+0.395	+2.464	+77.525	+0.395	+2.464	+86.051
C 1	-129.453	-51.027	+33.761	-144.270	-55.663	-63.626
C 1	-53.695	-22.964	+88.927	+0.395	+2.464	+86.051
C 1	+6.951	-7.653	-240.718	+6.951	-7.653	-267.195
Barra 10						
C 1	+144.270	-55.664	-63.626	+144.270	-55.664	-123.742
C 1	-144.270	-55.664	-63.626	-144.270	-55.664	-123.742
C 1	+0.395	+2.462	+86.052	+0.395	+2.462	+88.713
C 1	-144.270	-55.664	-63.626	-144.270	-55.664	-123.742
C 1	+0.395	+2.462	+86.052	+0.395	+2.462	+88.713
C 1	+6.951	-7.648	-267.195	+6.951	-7.648	-275.457

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 11						
C 1	+136.298	-50.339	+64.684	+122.381	+46.418	-203.697
C 1	-136.298	-50.339	+64.684	-122.381	+46.418	-203.697
C 1	+122.381	+46.418	-253.824	+122.381	+46.418	-203.697
C 1	-136.298	-50.339	+64.684	-106.747	-39.671	+16.079
C 1	+5.994	-7.922	+88.713	+5.994	-7.922	+80.158
C 1	+105.459	+39.656	-275.457	-5.387	+7.176	-236.061
Barra 12						
C 1	+122.381	+46.407	-203.696	+122.381	+46.407	-43.130
C 1	-122.381	+46.407	-203.696	-122.381	+46.407	-43.130
C 1	+122.381	+46.407	-203.696	+122.381	+46.407	-43.130
C 1	-106.747	-39.670	+16.078	-55.409	-18.616	+24.027
C 1	+5.994	-7.920	+80.157	+5.994	-7.920	+52.754
C 1	-5.387	+7.182	-236.060	-5.387	+7.182	-211.208
Barra 13						
C 1	+122.381	+46.406	-43.137	+122.381	+46.406	+24.629
C 1	-122.381	+46.406	-43.137	-122.381	+46.406	+24.629
C 1	+122.381	+46.406	-43.137	+122.381	+46.406	+24.629
C 1	-55.409	-18.616	+24.027	-43.349	-15.750	+28.915
C 1	+5.994	-7.922	+52.754	+66.130	+25.041	+43.465
C 1	-5.387	+7.180	-211.207	-5.387	+7.180	-200.723
Barra 14						
C 1	+122.381	+46.410	+24.623	+122.381	+46.410	+117.441
C 1	-122.381	+46.410	+24.623	-122.381	+46.410	+117.441
C 1	+122.381	+46.410	+24.623	+122.381	+46.410	+117.441
C 1	-43.349	-15.750	+28.916	-74.135	-26.864	-15.551
C 1	+66.130	+25.040	+43.464	+122.381	+46.410	+117.441
C 1	-5.387	+7.184	-200.723	-5.387	+7.184	-186.355
Barra 15						
C 1	+122.381	+46.438	+117.438	+122.381	+46.438	+163.875
C 1	-122.381	+46.438	+117.438	-122.381	+46.438	+163.875
C 1	+122.381	+46.438	+117.438	+122.381	+46.438	+163.875
C 1	-74.135	-26.869	-15.550	-86.418	-31.251	-4.064
C 1	+122.381	+46.438	+117.438	+122.381	+46.438	+163.875
C 1	-5.387	+7.141	-186.352	-5.387	+7.141	-179.203
Barra 16						
C 1	+122.381	+46.443	+163.871	+105.459	+39.693	+260.066
C 1	-122.381	+46.443	+163.871	-105.459	+39.693	+260.066
C 1	+122.381	+46.443	+163.871	+105.459	+39.693	+260.066
C 1	-86.418	-31.246	-4.063	-39.908	-13.226	+93.652
C 1	+122.381	+46.443	+163.871	-11.019	-1.716	+278.396
C 1	-5.387	+7.156	-179.193	-5.387	+7.156	-146.990

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 17						
C 1	+105.459	+39.693	+260.064	+88.537	+32.443	+319.081
C 1	-105.459	+39.693	+260.064	-88.537	+32.443	+319.081
C 1	+105.459	+39.693	+260.064	+88.537	+32.443	+319.081
C 1	-39.908	-13.227	+93.652	-44.541	-13.818	+232.342
C 1	-11.019	-1.716	+278.394	-27.941	-8.466	+344.218
C 1	-5.387	+7.156	-146.990	-5.387	+7.156	-114.787
Barra 18						
C 1	+88.537	+32.443	+319.082	+71.614	+25.066	+334.090
C 1	-88.537	+32.443	+319.082	-71.614	+25.066	+334.090
C 1	+88.537	+32.443	+319.082	+71.614	+25.066	+334.090
C 1	-44.541	-13.819	+232.343	-61.463	-20.569	+267.784
C 1	-27.941	-8.467	+344.216	-44.864	-15.716	+370.609
C 1	-5.387	+7.156	-114.788	+5.994	-7.933	-89.678
Barra 19						
C 1	+71.614	+25.067	+334.090	+78.386	-27.819	+285.895
C 1	-71.614	+25.067	+334.090	-78.386	-27.819	+285.895
C 1	+71.614	+25.067	+334.090	+57.982	+19.285	+313.867
C 1	-61.464	-20.570	+267.785	-78.386	-27.819	+285.895
C 1	-44.864	-15.717	+370.609	-0.218	-0.865	+364.833
C 1	+5.994	-7.933	-89.679	+5.994	-7.933	-118.435
Barra 20						
C 1	+78.386	-27.818	+285.895	+95.308	-35.193	+271.766
C 1	-78.386	-27.818	+285.895	-95.308	-35.193	+271.766
C 1	+57.982	+19.286	+313.864	+44.350	+13.856	+267.966
C 1	-78.386	-27.818	+285.895	-95.308	-35.193	+271.766
C 1	-0.218	-0.865	+364.833	-13.850	-6.646	+323.656
C 1	+5.994	-7.933	-118.434	+5.994	-7.933	-147.191
Barra 21						
C 1	+95.308	-35.194	+271.764	+108.940	-40.977	+209.626
C 1	-95.308	-35.194	+271.764	-108.940	-40.977	+209.626
C 1	+44.350	+13.857	+267.966	+31.018	+8.972	+202.175
C 1	-95.308	-35.194	+271.764	-108.940	-40.977	+209.626
C 1	-13.850	-6.648	+323.655	-27.482	-12.075	+258.077
C 1	+5.994	-7.933	-147.193	+5.994	-7.933	-175.947
Barra 22						
C 1	+108.940	-40.975	+209.627	+122.572	-46.404	+124.375
C 1	-108.940	-40.975	+209.627	-122.572	-46.404	+124.375
C 1	+31.018	+8.972	+202.174	-5.387	+7.156	+21.188
C 1	-108.940	-40.975	+209.627	-122.572	-46.404	+124.375
C 1	-27.482	-12.075	+258.077	-40.815	-16.960	+174.576
C 1	+5.994	-7.933	-175.948	+5.994	-7.933	-204.705

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 23						
C 1	+122.572	-46.403	+124.374	+135.905	-51.289	+31.628
C 1	-122.572	-46.403	+124.374	-135.905	-51.289	+31.628
C 1	-5.387	+7.156	+21.189	-5.387	+7.156	+45.951
C 1	-122.572	-46.403	+124.374	-135.905	-51.289	+31.628
C 1	-40.815	-16.960	+174.576	-56.814	-22.810	+83.764
C 1	+5.994	-7.933	-204.706	+5.994	-7.933	-232.154
Barra 24						
C 1	+135.905	-51.289	+31.630	+147.389	-55.508	-68.253
C 1	-135.905	-51.289	+31.630	-147.389	-55.508	-68.253
C 1	-5.387	+7.157	+45.950	-5.387	+7.157	+70.713
C 1	-135.905	-51.289	+31.630	-147.389	-55.508	-68.253
C 1	-56.814	-22.810	+83.764	+0.341	+2.555	+83.594
C 1	+5.994	-7.933	-232.155	+5.994	-7.933	-259.603
Barra 25						
C 1	+147.389	-55.506	-68.255	+147.389	-55.506	-128.207
C 1	-147.389	-55.506	-68.255	-147.389	-55.506	-128.207
C 1	-5.387	+7.158	+70.713	-5.387	+7.158	+78.443
C 1	-147.389	-55.506	-68.255	-147.389	-55.506	-128.207
C 1	+0.341	+2.554	+83.594	+0.341	+2.554	+86.352
C 1	+5.994	-7.930	-259.604	+5.994	-7.930	-268.162
Barra 26						
C 1	+136.257	-50.292	+62.883	+122.318	+46.242	-197.152
C 1	-136.257	-50.292	+62.883	-122.318	+46.242	-197.152
C 1	+122.318	+46.242	-247.094	+122.318	+46.242	-197.152
C 1	-136.257	-50.292	+62.883	-106.706	-39.624	+14.329
C 1	+5.991	-7.860	+86.350	+5.991	-7.860	+77.862
C 1	+105.405	+39.473	-268.162	-6.192	+7.832	-258.260
Barra 27						
C 1	+122.318	+46.236	-197.155	+122.318	+46.236	-37.177
C 1	-122.318	+46.236	-197.155	-122.318	+46.236	-37.177
C 1	+122.318	+46.236	-197.155	+122.318	+46.236	-37.177
C 1	-106.706	-39.623	+14.328	-55.448	-18.625	+24.314
C 1	+5.991	-7.859	+77.861	-0.306	-2.305	+67.981
C 1	-6.192	+7.836	-258.260	-6.192	+7.836	-231.147
Barra 28						
C 1	+122.318	+46.242	-37.176	+122.318	+46.242	+30.336
C 1	-122.318	+46.242	-37.176	-122.318	+46.242	+30.336
C 1	+122.318	+46.242	-37.176	+122.318	+46.242	+30.336
C 1	-55.448	-18.625	+24.314	-43.351	-15.726	+28.139
C 1	-0.306	-2.305	+67.982	-0.306	-2.305	+64.617
C 1	-6.192	+7.832	-231.152	-6.192	+7.832	-219.711

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 29						
C 1	+122.318	+46.236	+30.344	+122.318	+46.236	+122.813
C 1	-122.318	+46.236	+30.344	-122.318	+46.236	+122.813
C 1	+122.318	+46.236	+30.344	+122.318	+46.236	+122.813
C 1	-43.351	-15.727	+28.139	-74.136	-26.841	-16.283
C 1	-0.306	-2.304	+64.618	+122.318	+46.236	+122.813
C 1	-6.192	+7.836	-219.717	-6.192	+7.836	-204.047
Barra 30						
C 1	+122.318	+46.250	+122.797	+122.318	+46.250	+169.063
C 1	-122.318	+46.250	+122.797	-122.318	+46.250	+169.063
C 1	+122.318	+46.250	+122.797	+122.318	+46.250	+169.063
C 1	-74.136	-26.841	-16.286	-86.420	-31.220	-4.679
C 1	+122.318	+46.250	+122.797	+122.318	+46.250	+169.063
C 1	-6.192	+7.813	-204.031	-6.192	+7.813	-196.219
Barra 31						
C 1	+122.318	+46.235	+169.046	+105.405	+39.468	+264.672
C 1	-122.318	+46.235	+169.046	-105.405	+39.468	+264.672
C 1	+122.318	+46.235	+169.046	+105.405	+39.468	+264.672
C 1	-86.420	-31.221	-4.678	-39.942	-13.314	+95.436
C 1	+122.318	+46.235	+169.046	-11.082	-1.924	+282.639
C 1	-6.192	+7.836	-196.210	-6.192	+7.836	-160.947
Barra 32						
C 1	+105.405	+39.467	+264.671	+88.491	+32.227	+322.530
C 1	-105.405	+39.467	+264.671	-88.491	+32.227	+322.530
C 1	-39.942	-13.314	+95.437	-44.604	-14.026	+235.649
C 1	-11.082	-1.924	+282.639	-27.996	-8.692	+347.807
C 1	-6.192	+7.836	-160.946	-6.192	+7.836	-125.683
Barra 33						
C 1	+88.491	+32.227	+322.531	+71.577	+24.879	+336.238
C 1	-88.491	+32.227	+322.531	-71.577	+24.879	+336.238
C 1	+88.491	+32.227	+322.531	+71.577	+24.879	+336.238
C 1	-44.604	-14.025	+235.652	-61.518	-20.793	+270.365
C 1	-27.996	-8.691	+347.807	-44.910	-15.932	+373.086
C 1	-6.192	+7.836	-125.684	+5.991	-7.859	-90.493
Barra 34						
C 1	+71.577	+24.879	+336.237	+78.432	-28.034	+287.586
C 1	-71.577	+24.879	+336.237	-78.432	-28.034	+287.586
C 1	+71.577	+24.879	+336.237	+57.952	+19.129	+315.072
C 1	-61.518	-20.794	+270.365	-78.432	-28.034	+287.586
C 1	-44.910	-15.932	+373.085	-0.255	-1.053	+366.298
C 1	+5.991	-7.859	-90.492	+5.991	-7.859	-118.983

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 35						
C 1	+78.432	-28.037	+287.588	+95.345	-35.383	+272.546
C 1	-78.432	-28.037	+287.588	-95.345	-35.383	+272.546
C 1	+57.952	+19.129	+315.075	+44.327	+13.737	+268.452
C 1	-78.432	-28.037	+287.588	-95.345	-35.383	+272.546
C 1	-0.255	-1.054	+366.301	-13.880	-6.803	+324.296
C 1	+5.991	-7.858	-118.984	+5.991	-7.858	-147.470
Barra 36						
C 1	+95.345	-35.383	+272.549	+108.970	-41.132	+209.704
C 1	-95.345	-35.383	+272.549	-108.970	-41.132	+209.704
C 1	+44.327	+13.738	+268.452	+31.002	+8.892	+202.207
C 1	-95.345	-35.383	+272.549	-108.970	-41.132	+209.704
C 1	-13.880	-6.803	+324.298	-27.505	-12.194	+258.129
C 1	+5.991	-7.858	-147.470	+5.991	-7.858	-175.959
Barra 37						
C 1	+108.970	-41.132	+209.704	+122.595	-46.523	+123.997
C 1	-108.970	-41.132	+209.704	-122.595	-46.523	+123.997
C 1	+31.002	+8.892	+202.205	-6.192	+7.837	+23.215
C 1	-108.970	-41.132	+209.704	-122.595	-46.523	+123.997
C 1	-27.505	-12.194	+258.130	-40.831	-17.041	+174.317
C 1	+5.991	-7.858	-175.958	+5.991	-7.858	-204.445
Barra 38						
C 1	+122.595	-46.522	+123.994	+135.921	-51.369	+31.090
C 1	-122.595	-46.522	+123.994	-135.921	-51.369	+31.090
C 1	-6.192	+7.837	+23.216	-6.192	+7.837	+50.330
C 1	-122.595	-46.522	+123.994	-135.921	-51.369	+31.090
C 1	-40.831	-17.041	+174.317	-56.824	-22.853	+83.469
C 1	+5.991	-7.859	-204.444	+5.991	-7.859	-231.637
Barra 39						
C 1	+135.921	-51.369	+31.092	+147.399	-55.552	-68.699
C 1	-135.921	-51.369	+31.092	-147.399	-55.552	-68.699
C 1	-6.192	+7.837	+50.330	-6.192	+7.837	+77.446
C 1	-135.921	-51.369	+31.092	-147.399	-55.552	-68.699
C 1	-56.824	-22.853	+83.470	+0.340	+2.531	+83.352
C 1	+5.991	-7.859	-231.638	+5.991	-7.859	-258.829
Barra 40						
C 1	+147.399	-55.555	-68.700	+147.399	-55.555	-128.697
C 1	-147.399	-55.555	-68.700	-147.399	-55.555	-128.697
C 1	-6.192	+7.837	+77.447	-6.192	+7.837	+85.911
C 1	-147.399	-55.555	-68.700	-147.399	-55.555	-128.697
C 1	+0.340	+2.532	+83.350	+0.340	+2.532	+86.085
C 1	+5.991	-7.859	-258.828	-108.970	-41.137	-268.457

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 41						
C 1	+136.257	-50.282	+62.678	+122.318	+46.195	-196.418
C 1	-136.257	-50.282	+62.678	-122.318	+46.195	-196.418
C 1	+122.318	+46.195	-246.313	+122.318	+46.195	-196.418
C 1	-136.257	-50.282	+62.678	-106.706	-39.614	+14.134
C 1	+5.991	-7.848	+86.085	-0.352	-2.526	+83.181
C 1	-6.193	+7.895	-268.457	-6.193	+7.895	-259.928
Barra 42						
C 1	+122.318	+46.204	-196.420	+122.318	+46.204	-36.551
C 1	-122.318	+46.204	-196.420	-122.318	+46.204	-36.551
C 1	+122.318	+46.204	-196.420	+122.318	+46.204	-36.551
C 1	-106.706	-39.615	+14.135	-55.448	-18.626	+24.342
C 1	-0.352	-2.527	+83.180	-0.352	-2.527	+74.438
C 1	-6.193	+7.894	-259.924	-6.193	+7.894	-232.611
Barra 43						
C 1	+122.318	+46.211	-36.551	+122.318	+46.211	+30.910
C 1	-122.318	+46.211	-36.551	-122.318	+46.211	+30.910
C 1	+122.318	+46.211	-36.551	+122.318	+46.211	+30.910
C 1	-55.448	-18.626	+24.342	-43.350	-15.722	+28.060
C 1	-0.352	-2.527	+74.439	-0.352	-2.527	+70.752
C 1	-6.193	+7.895	-232.617	-6.193	+7.895	-221.086
Barra 44						
C 1	+122.318	+46.209	+30.906	+122.318	+46.209	+123.328
C 1	-122.318	+46.209	+30.906	-122.318	+46.209	+123.328
C 1	-43.350	-15.723	+28.060	-74.136	-26.837	-16.353
C 1	-0.352	-2.524	+70.750	+122.318	+46.209	+123.328
C 1	-6.193	+7.891	-221.090	-6.193	+7.891	-205.311
Barra 45						
C 1	+122.318	+46.188	+123.328	+122.318	+46.188	+169.531
C 1	-122.318	+46.188	+123.328	-122.318	+46.188	+169.531
C 1	+122.318	+46.188	+123.328	+122.318	+46.188	+169.531
C 1	-74.136	-26.837	-16.355	-86.420	-31.216	-4.736
C 1	+122.318	+46.188	+123.328	+122.318	+46.188	+169.531
C 1	-6.193	+7.875	-205.297	-6.193	+7.875	-197.438
Barra 46						
C 1	+122.318	+46.216	+169.530	+105.404	+39.446	+265.100
C 1	-122.318	+46.216	+169.530	-105.404	+39.446	+265.100
C 1	+122.318	+46.216	+169.530	+105.404	+39.446	+265.100
C 1	-86.420	-31.219	-4.735	-39.942	-13.322	+95.603
C 1	+122.318	+46.216	+169.530	-11.083	-1.943	+283.034
C 1	-6.193	+7.885	-197.416	-6.193	+7.885	-161.936

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 47						
C 1	+105.404	+39.446	+265.099	+88.491	+32.206	+322.847
C 1	-105.404	+39.446	+265.099	-88.491	+32.206	+322.847
C 1	+105.404	+39.446	+265.099	+88.491	+32.206	+322.847
C 1	-39.942	-13.322	+95.603	-44.604	-14.045	+235.957
C 1	-11.082	-1.943	+283.034	-27.996	-8.713	+348.139
C 1	-6.193	+7.885	-161.935	-6.193	+7.885	-126.454
Barra 48						
C 1	+88.491	+32.206	+322.848	+71.577	+24.861	+336.432
C 1	-88.491	+32.206	+322.848	-71.577	+24.861	+336.432
C 1	+88.491	+32.206	+322.848	+71.577	+24.861	+336.432
C 1	-44.604	-14.045	+235.958	-61.518	-20.815	+270.601
C 1	-27.996	-8.713	+348.139	-44.910	-15.953	+373.313
C 1	-6.193	+7.885	-126.454	-6.193	+7.885	-90.973
Barra 49						
C 1	+71.577	+24.859	+336.434	+78.432	-28.054	+287.738
C 1	-71.577	+24.859	+336.434	-78.432	-28.054	+287.738
C 1	+71.577	+24.859	+336.434	+57.952	+19.113	+315.180
C 1	-61.518	-20.817	+270.604	-78.432	-28.054	+287.738
C 1	-44.910	-15.953	+373.312	-0.255	-1.073	+366.429
C 1	-6.193	+7.885	-90.974	+5.991	-7.853	-119.042
Barra 50						
C 1	+78.432	-28.055	+287.736	+95.345	-35.400	+272.616
C 1	-78.432	-28.055	+287.736	-95.345	-35.400	+272.616
C 1	+57.952	+19.116	+315.182	+44.327	+13.729	+268.495
C 1	-78.432	-28.055	+287.736	-95.345	-35.400	+272.616
C 1	-0.255	-1.071	+366.428	-13.880	-6.816	+324.353
C 1	+5.991	-7.854	-119.042	+5.991	-7.854	-147.511
Barra 51						
C 1	+95.345	-35.398	+272.617	+108.970	-41.145	+209.713
C 1	-95.345	-35.398	+272.617	-108.970	-41.145	+209.713
C 1	+44.327	+13.728	+268.495	+31.002	+8.885	+202.214
C 1	-95.345	-35.398	+272.617	-108.970	-41.145	+209.713
C 1	-13.880	-6.816	+324.352	-27.505	-12.204	+258.141
C 1	+5.991	-7.854	-147.511	+5.991	-7.854	-175.979
Barra 52						
C 1	+108.970	-41.144	+209.715	+122.595	-46.532	+123.973
C 1	-108.970	-41.144	+209.715	-122.595	-46.532	+123.973
C 1	+31.002	+8.886	+202.216	-6.193	+7.885	+23.355
C 1	-108.970	-41.144	+209.715	-122.595	-46.532	+123.973
C 1	-27.505	-12.204	+258.143	-40.831	-17.047	+174.303
C 1	+5.991	-7.854	-175.981	+5.991	-7.854	-204.450

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 53						
C 1	+122.595	-46.532	+123.975	+135.921	-51.375	+31.057
C 1	-122.595	-46.532	+123.975	-135.921	-51.375	+31.057
C 1	-6.193	+7.884	+23.355	-6.193	+7.884	+50.635
C 1	-122.595	-46.532	+123.975	-135.921	-51.375	+31.057
C 1	-40.831	-17.047	+174.304	-56.824	-22.856	+83.452
C 1	+5.991	-7.854	-204.450	+5.991	-7.854	-231.626
Barra 54						
C 1	+135.921	-51.375	+31.057	+147.399	-55.556	-68.729
C 1	-135.921	-51.375	+31.057	-147.399	-55.556	-68.729
C 1	-6.193	+7.884	+50.635	-6.193	+7.884	+77.915
C 1	-135.921	-51.375	+31.057	-147.399	-55.556	-68.729
C 1	-56.824	-22.857	+83.453	+0.340	+2.530	+83.356
C 1	+5.991	-7.854	-231.627	+5.991	-7.854	-258.800
Barra 55						
C 1	+147.399	-55.551	-68.729	+147.399	-55.551	-128.729
C 1	-147.399	-55.551	-68.729	-147.399	-55.551	-128.729
C 1	-6.193	+7.882	+77.914	-6.193	+7.882	+86.428
C 1	-147.399	-55.551	-68.729	-147.399	-55.551	-128.729
C 1	+0.340	+2.534	+83.355	-6.193	+7.882	+86.428
C 1	+5.991	-7.859	-258.801	-108.970	-41.145	-268.578
Barra 56						
C 1	+136.257	-50.286	+62.670	+122.318	+46.207	-196.382
C 1	-136.257	-50.286	+62.670	-122.318	+46.207	-196.382
C 1	+122.318	+46.207	-246.291	+122.318	+46.207	-196.382
C 1	-136.257	-50.286	+62.670	-106.706	-39.618	+14.122
C 1	-0.352	-2.541	+86.428	-0.352	-2.541	+83.683
C 1	-6.193	+7.895	-268.574	-6.193	+7.895	-260.049
Barra 57						
C 1	+122.318	+46.206	-196.383	+122.318	+46.206	-36.507
C 1	-122.318	+46.206	-196.383	-122.318	+46.206	-36.507
C 1	+122.318	+46.206	-196.383	+122.318	+46.206	-36.507
C 1	-106.706	-39.615	+14.123	-55.448	-18.626	+24.345
C 1	-0.352	-2.541	+83.683	-0.352	-2.541	+74.891
C 1	-6.193	+7.896	-260.051	-6.193	+7.896	-232.733
Barra 58						
C 1	+122.318	+46.203	-36.504	+122.318	+46.203	+30.949
C 1	-122.318	+46.203	-36.504	-122.318	+46.203	+30.949
C 1	+122.318	+46.203	-36.504	+122.318	+46.203	+30.949
C 1	-55.448	-18.626	+24.345	-43.350	-15.723	+28.054
C 1	-0.352	-2.543	+74.894	-0.352	-2.543	+71.182
C 1	-6.193	+7.891	-232.734	-6.193	+7.891	-221.207

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 59						
C 1	+122.318	+46.207	+30.953	+122.318	+46.207	+123.371
C 1	-122.318	+46.207	+30.953	-122.318	+46.207	+123.371
C 1	+122.318	+46.207	+30.953	+122.318	+46.207	+123.371
C 1	-43.350	-15.723	+28.054	-74.136	-26.837	-16.359
C 1	-0.352	-2.541	+71.183	+122.318	+46.207	+123.371
C 1	-6.193	+7.896	-221.211	-6.193	+7.896	-205.418
Barra 60						
C 1	+122.318	+46.219	+123.375	+122.318	+46.219	+169.594
C 1	-122.318	+46.219	+123.375	-122.318	+46.219	+169.594
C 1	+122.318	+46.219	+123.375	+122.318	+46.219	+169.594
C 1	-74.136	-26.845	-16.357	-86.420	-31.220	-4.746
C 1	+122.318	+46.219	+123.375	+122.318	+46.219	+169.594
C 1	-6.193	+7.875	-205.422	-6.193	+7.875	-197.547
Barra 61						
C 1	+122.318	+46.214	+169.595	+105.404	+39.445	+265.165
C 1	-122.318	+46.214	+169.595	-105.404	+39.445	+265.165
C 1	+122.318	+46.214	+169.595	+105.404	+39.445	+265.165
C 1	-86.420	-31.219	-4.743	-39.942	-13.323	+95.627
C 1	+122.318	+46.214	+169.595	-11.083	-1.945	+283.092
C 1	-6.193	+7.889	-197.537	-6.193	+7.889	-162.038
Barra 62						
C 1	+105.404	+39.445	+265.167	+88.491	+32.206	+322.910
C 1	-105.404	+39.445	+265.167	-88.491	+32.206	+322.910
C 1	+105.404	+39.445	+265.167	+88.491	+32.206	+322.910
C 1	-39.942	-13.323	+95.628	-44.604	-14.047	+236.010
C 1	-11.082	-1.945	+283.093	-27.996	-8.714	+348.199
C 1	-6.193	+7.889	-162.038	-6.193	+7.889	-126.539
Barra 63						
C 1	+88.491	+32.205	+322.910	+71.577	+24.861	+336.486
C 1	-88.491	+32.205	+322.910	-71.577	+24.861	+336.486
C 1	+88.491	+32.205	+322.910	+71.577	+24.861	+336.486
C 1	-44.604	-14.046	+236.010	-61.518	-20.816	+270.654
C 1	-27.996	-8.714	+348.201	-44.910	-15.954	+373.366
C 1	-6.193	+7.889	-126.539	-6.193	+7.889	-91.038
Barra 64						
C 1	+71.577	+24.861	+336.485	+78.432	-28.056	+287.789
C 1	-71.577	+24.861	+336.485	-78.432	-28.056	+287.789
C 1	+71.577	+24.861	+336.485	+57.952	+19.115	+315.230
C 1	-61.518	-20.815	+270.650	-78.432	-28.056	+287.789
C 1	-44.910	-15.955	+373.370	-0.255	-1.071	+366.484
C 1	-6.193	+7.889	-91.039	+5.991	-7.854	-119.078

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 65						
C 1	+78.432	-28.056	+287.789	+95.345	-35.400	+272.667
C 1	-78.432	-28.056	+287.789	-95.345	-35.400	+272.667
C 1	+57.952	+19.116	+315.231	+44.327	+13.729	+268.537
C 1	-78.432	-28.056	+287.789	-95.345	-35.400	+272.667
C 1	-0.255	-1.071	+366.483	-13.880	-6.816	+324.402
C 1	+5.991	-7.854	-119.079	+5.991	-7.854	-147.548
Barra 66						
C 1	+95.345	-35.401	+272.670	+108.970	-41.148	+209.754
C 1	-95.345	-35.401	+272.670	-108.970	-41.148	+209.754
C 1	+44.327	+13.727	+268.538	+31.002	+8.884	+202.242
C 1	-95.345	-35.401	+272.670	-108.970	-41.148	+209.754
C 1	-13.880	-6.819	+324.403	-27.505	-12.206	+258.175
C 1	+5.991	-7.853	-147.549	+5.991	-7.853	-176.016
Barra 67						
C 1	+108.970	-41.146	+209.756	+122.595	-46.533	+124.004
C 1	-108.970	-41.146	+209.756	-122.595	-46.533	+124.004
C 1	+31.002	+8.884	+202.243	-6.193	+7.889	+23.357
C 1	-108.970	-41.146	+209.756	-122.595	-46.533	+124.004
C 1	-27.505	-12.205	+258.176	-40.831	-17.048	+174.329
C 1	+5.991	-7.854	-176.017	+5.991	-7.854	-204.483
Barra 68						
C 1	+122.595	-46.535	+124.003	+135.921	-51.377	+31.075
C 1	-122.595	-46.535	+124.003	-135.921	-51.377	+31.075
C 1	-6.193	+7.890	+23.357	-6.193	+7.890	+50.656
C 1	-122.595	-46.535	+124.003	-135.921	-51.377	+31.075
C 1	-40.831	-17.048	+174.328	-56.824	-22.857	+83.464
C 1	+5.991	-7.853	-204.485	+5.991	-7.853	-231.655
Barra 69						
C 1	+135.921	-51.377	+31.075	+147.399	-55.556	-68.720
C 1	-135.921	-51.377	+31.075	-147.399	-55.556	-68.720
C 1	-6.193	+7.890	+50.656	-6.193	+7.890	+77.954
C 1	-135.921	-51.377	+31.075	-147.399	-55.556	-68.720
C 1	-56.824	-22.857	+83.464	+0.340	+2.529	+83.332
C 1	+5.991	-7.853	-231.654	+5.991	-7.853	-258.825
Barra 70						
C 1	+147.399	-55.555	-68.722	+147.399	-55.555	-128.721
C 1	-147.399	-55.555	-68.722	-147.399	-55.555	-128.721
C 1	-6.193	+7.891	+77.954	-6.193	+7.891	+86.476
C 1	-147.399	-55.555	-68.722	-147.399	-55.555	-128.721
C 1	+0.340	+2.527	+83.332	-6.193	+7.891	+86.476
C 1	+5.991	-7.852	-258.825	-108.970	-41.148	-268.582

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 71						
C 1	+136.257	-50.287	+62.673	+122.318	+46.227	-196.384
C 1	-136.257	-50.287	+62.673	-122.318	+46.227	-196.384
C 1	+122.318	+46.227	-246.305	+122.318	+46.227	-196.384
C 1	-136.257	-50.287	+62.673	-106.706	-39.619	+14.124
C 1	-0.352	-2.539	+86.476	-0.352	-2.539	+83.735
C 1	-6.193	+7.883	-268.586	-6.193	+7.883	-260.068
Barra 72						
C 1	+122.318	+46.221	-196.384	+122.318	+46.221	-36.459
C 1	-122.318	+46.221	-196.384	-122.318	+46.221	-36.459
C 1	+122.318	+46.221	-196.384	+122.318	+46.221	-36.459
C 1	-106.706	-39.619	+14.124	-55.448	-18.625	+24.346
C 1	-0.352	-2.539	+83.735	-0.352	-2.539	+74.950
C 1	-6.193	+7.885	-260.069	-6.193	+7.885	-232.790
Barra 73						
C 1	+122.318	+46.219	-36.453	+122.318	+46.219	+31.027
C 1	-122.318	+46.219	-36.453	-122.318	+46.219	+31.027
C 1	+122.318	+46.219	-36.453	+122.318	+46.219	+31.027
C 1	-55.448	-18.626	+24.346	-43.350	-15.725	+28.045
C 1	-0.352	-2.537	+74.951	-0.352	-2.537	+71.245
C 1	-6.193	+7.879	-232.789	-6.193	+7.879	-221.289
Barra 74						
C 1	+122.318	+46.215	+31.027	+122.318	+46.215	+123.461
C 1	-122.318	+46.215	+31.027	-122.318	+46.215	+123.461
C 1	+122.318	+46.215	+31.027	+122.318	+46.215	+123.461
C 1	-43.350	-15.725	+28.044	-74.136	-26.839	-16.372
C 1	-0.352	-2.541	+71.245	+122.318	+46.215	+123.461
C 1	-6.193	+7.889	-221.285	-6.193	+7.889	-205.508
Barra 75						
C 1	+122.318	+46.219	+123.469	+122.318	+46.219	+169.656
C 1	-122.318	+46.219	+123.469	-122.318	+46.219	+169.656
C 1	+122.318	+46.219	+123.469	+122.318	+46.219	+169.656
C 1	-74.136	-26.837	-16.374	-86.420	-31.216	-4.754
C 1	+122.318	+46.219	+123.469	+122.318	+46.219	+169.656
C 1	-6.193	+7.906	-205.516	-6.193	+7.906	-197.609
Barra 76						
C 1	+122.318	+46.210	+169.668	+105.404	+39.439	+265.222
C 1	-122.318	+46.210	+169.668	-105.404	+39.439	+265.222
C 1	+122.318	+46.210	+169.668	+105.404	+39.439	+265.222
C 1	-86.420	-31.218	-4.753	-39.942	-13.324	+95.650
C 1	+122.318	+46.210	+169.668	-11.082	-1.949	+283.147
C 1	-6.193	+7.893	-197.616	-6.193	+7.893	-162.098

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 77						
C 1	+105.404	+39.439	+265.221	+88.491	+32.200	+322.938
C 1	-105.404	+39.439	+265.221	-88.491	+32.200	+322.938
C 1	+105.404	+39.439	+265.221	+88.491	+32.200	+322.938
C 1	-39.942	-13.324	+95.650	-44.604	-14.051	+236.042
C 1	-11.082	-1.949	+283.146	-27.996	-8.720	+348.233
C 1	-6.193	+7.893	-162.098	-6.193	+7.893	-126.579
Barra 78						
C 1	+88.491	+32.200	+322.937	+71.577	+24.856	+336.484
C 1	-88.491	+32.200	+322.937	-71.577	+24.856	+336.484
C 1	+88.491	+32.200	+322.937	+71.577	+24.856	+336.484
C 1	-44.604	-14.051	+236.043	-61.518	-20.821	+270.664
C 1	-27.996	-8.719	+348.231	-44.910	-15.959	+373.370
C 1	-6.193	+7.893	-126.579	-6.193	+7.893	-91.063
Barra 79						
C 1	+71.577	+24.854	+336.485	+78.432	-28.061	+287.779
C 1	-71.577	+24.854	+336.485	-78.432	-28.061	+287.779
C 1	+71.577	+24.854	+336.485	+57.952	+19.110	+315.207
C 1	-61.518	-20.821	+270.662	-78.432	-28.061	+287.779
C 1	-44.910	-15.959	+373.372	-0.255	-1.078	+366.462
C 1	-6.193	+7.893	-91.063	+5.991	-7.849	-119.030
Barra 80						
C 1	+78.432	-28.063	+287.781	+95.345	-35.404	+272.633
C 1	-78.432	-28.063	+287.781	-95.345	-35.404	+272.633
C 1	+57.952	+19.110	+315.211	+44.327	+13.724	+268.503
C 1	-78.432	-28.063	+287.781	-95.345	-35.404	+272.633
C 1	-0.255	-1.076	+366.467	-13.880	-6.822	+324.369
C 1	+5.991	-7.850	-119.031	+5.991	-7.850	-147.485
Barra 81						
C 1	+95.345	-35.405	+272.633	+108.970	-41.150	+209.708
C 1	-95.345	-35.405	+272.633	-108.970	-41.150	+209.708
C 1	+44.327	+13.725	+268.503	+31.002	+8.882	+202.206
C 1	-95.345	-35.405	+272.633	-108.970	-41.150	+209.708
C 1	-13.880	-6.821	+324.366	-27.505	-12.208	+258.130
C 1	+5.991	-7.849	-147.486	+5.991	-7.849	-175.938
Barra 82						
C 1	+108.970	-41.151	+209.706	+122.595	-46.538	+123.944
C 1	-108.970	-41.151	+209.706	-122.595	-46.538	+123.944
C 1	+31.002	+8.881	+202.206	-6.193	+7.893	+23.385
C 1	-108.970	-41.151	+209.706	-122.595	-46.538	+123.944
C 1	-27.505	-12.209	+258.131	-40.831	-17.051	+174.278
C 1	+5.991	-7.849	-175.938	+5.991	-7.849	-204.389

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 83						
C 1	+122.595	-46.538	+123.944	+135.921	-51.380	+31.017
C 1	-122.595	-46.538	+123.944	-135.921	-51.380	+31.017
C 1	-6.193	+7.893	+23.385	-6.193	+7.893	+50.696
C 1	-122.595	-46.538	+123.944	-135.921	-51.380	+31.017
C 1	-40.831	-17.051	+174.281	-56.824	-22.859	+83.427
C 1	+5.991	-7.849	-204.389	+5.991	-7.849	-231.544
Barra 84						
C 1	+135.921	-51.380	+31.017	+147.399	-55.558	-68.760
C 1	-135.921	-51.380	+31.017	-147.399	-55.558	-68.760
C 1	-6.193	+7.893	+50.696	-6.193	+7.893	+78.007
C 1	-135.921	-51.380	+31.017	-147.399	-55.558	-68.760
C 1	-56.824	-22.859	+83.427	+0.340	+2.526	+83.236
C 1	+5.991	-7.848	-231.544	+5.991	-7.848	-258.700
Barra 85						
C 1	+147.399	-55.563	-68.761	+147.399	-55.563	-128.768
C 1	-147.399	-55.563	-68.761	-147.399	-55.563	-128.768
C 1	-6.193	+7.895	+78.008	-6.193	+7.895	+86.534
C 1	-147.399	-55.563	-68.761	-147.399	-55.563	-128.768
C 1	+0.340	+2.525	+83.234	-6.193	+7.895	+86.534
C 1	+5.991	-7.848	-258.693	-108.970	-41.156	-268.684
Barra 86						
C 1	+136.257	-50.281	+62.647	+122.318	+46.199	-196.295
C 1	-136.257	-50.281	+62.647	-122.318	+46.199	-196.295
C 1	+122.318	+46.199	-246.184	+122.318	+46.199	-196.295
C 1	-136.257	-50.281	+62.647	-106.707	-39.613	+14.104
C 1	-0.352	-2.546	+86.535	-0.352	-2.546	+83.786
C 1	-6.193	+7.906	-268.688	-6.193	+7.906	-260.151
Barra 87						
C 1	+122.318	+46.193	-196.294	+122.318	+46.193	-36.463
C 1	-122.318	+46.193	-196.294	-122.318	+46.193	-36.463
C 1	+122.318	+46.193	-196.294	+122.318	+46.193	-36.463
C 1	-106.707	-39.613	+14.104	-55.449	-18.627	+24.347
C 1	-0.352	-2.547	+83.785	-0.352	-2.547	+74.973
C 1	-6.193	+7.906	-260.152	-6.193	+7.906	-232.796
Barra 88						
C 1	+122.318	+46.195	-36.465	+122.318	+46.195	+30.980
C 1	-122.318	+46.195	-36.465	-122.318	+46.195	+30.980
C 1	+122.318	+46.195	-36.465	+122.318	+46.195	+30.980
C 1	-55.449	-18.626	+24.347	-43.351	-15.723	+28.051
C 1	-0.352	-2.545	+74.974	-0.352	-2.545	+71.257
C 1	-6.193	+7.902	-232.797	-6.193	+7.902	-221.258

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 89						
C 1	+122.318	+46.205	+30.977	+122.318	+46.205	+123.383
C 1	-122.318	+46.205	+30.977	-122.318	+46.205	+123.383
C 1	+122.318	+46.205	+30.977	+122.318	+46.205	+123.383
C 1	-43.351	-15.723	+28.051	-74.137	-26.837	-16.361
C 1	-0.352	-2.545	+71.256	+122.318	+46.205	+123.383
C 1	-6.193	+7.898	-221.256	-6.193	+7.898	-205.455
Barra 90						
C 1	+122.318	+46.219	+123.391	+122.318	+46.219	+169.609
C 1	-122.318	+46.219	+123.391	-122.318	+46.219	+169.609
C 1	+122.318	+46.219	+123.391	+122.318	+46.219	+169.609
C 1	-74.137	-26.841	-16.358	-86.420	-31.220	-4.744
C 1	+122.318	+46.219	+123.391	+122.318	+46.219	+169.609
C 1	-6.193	+7.875	-205.453	-6.193	+7.875	-197.578
Barra 91						
C 1	+122.318	+46.210	+169.602	+105.404	+39.439	+265.151
C 1	-122.318	+46.210	+169.602	-105.404	+39.439	+265.151
C 1	+122.318	+46.210	+169.602	+105.404	+39.439	+265.151
C 1	-86.420	-31.218	-4.745	-39.942	-13.324	+95.624
C 1	+122.318	+46.210	+169.602	-11.082	-1.949	+283.082
C 1	-6.193	+7.892	-197.571	-6.193	+7.892	-162.056
Barra 92						
C 1	+105.404	+39.439	+265.151	+88.491	+32.198	+322.860
C 1	-105.404	+39.439	+265.151	-88.491	+32.198	+322.860
C 1	-39.942	-13.324	+95.624	-44.604	-14.051	+235.982
C 1	-11.082	-1.949	+283.083	-27.996	-8.720	+348.160
C 1	-6.193	+7.893	-162.056	-6.193	+7.893	-126.540
Barra 93						
C 1	+88.491	+32.198	+322.861	+71.577	+24.853	+336.398
C 1	-88.491	+32.198	+322.861	-71.577	+24.853	+336.398
C 1	+88.491	+32.198	+322.861	+71.577	+24.853	+336.398
C 1	-44.604	-14.051	+235.981	-61.518	-20.822	+270.589
C 1	-27.996	-8.720	+348.161	-44.910	-15.961	+373.286
C 1	-6.193	+7.893	-126.540	-6.193	+7.893	-91.022
Barra 94						
C 1	+71.577	+24.853	+336.399	+78.432	-28.063	+287.684
C 1	-71.577	+24.853	+336.399	-78.432	-28.063	+287.684
C 1	+71.577	+24.853	+336.399	+57.952	+19.106	+315.113
C 1	-61.518	-20.821	+270.586	-78.432	-28.063	+287.684
C 1	-44.910	-15.961	+373.288	-0.255	-1.080	+366.367
C 1	-6.193	+7.894	-91.023	+5.991	-7.843	-118.924

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 95						
C 1	+78.432	-28.063	+287.686	+95.345	-35.406	+272.526
C 1	-78.432	-28.063	+287.686	-95.345	-35.406	+272.526
C 1	+57.952	+19.108	+315.116	+44.327	+13.721	+268.408
C 1	-78.432	-28.063	+287.686	-95.345	-35.406	+272.526
C 1	-0.255	-1.078	+366.366	-13.880	-6.824	+324.259
C 1	+5.991	-7.844	-118.924	+5.991	-7.844	-147.358
Barra 96						
C 1	+95.345	-35.407	+272.523	+108.970	-41.152	+209.594
C 1	-95.345	-35.407	+272.523	-108.970	-41.152	+209.594
C 1	+44.327	+13.723	+268.407	+31.002	+8.880	+202.124
C 1	-95.345	-35.407	+272.523	-108.970	-41.152	+209.594
C 1	-13.880	-6.824	+324.260	-27.505	-12.210	+258.030
C 1	+5.991	-7.844	-147.358	+5.991	-7.844	-175.793
Barra 97						
C 1	+108.970	-41.152	+209.595	+122.595	-46.538	+123.837
C 1	-108.970	-41.152	+209.595	-122.595	-46.538	+123.837
C 1	+31.002	+8.880	+202.123	-6.193	+7.892	+23.418
C 1	-108.970	-41.152	+209.595	-122.595	-46.538	+123.837
C 1	-27.505	-12.210	+258.028	-40.831	-17.052	+174.192
C 1	+5.991	-7.845	-175.793	+5.991	-7.845	-204.230
Barra 98						
C 1	+122.595	-46.539	+123.838	+135.921	-51.380	+30.929
C 1	-122.595	-46.539	+123.838	-135.921	-51.380	+30.929
C 1	-6.193	+7.892	+23.419	-6.193	+7.892	+50.725
C 1	-122.595	-46.539	+123.838	-135.921	-51.380	+30.929
C 1	-40.831	-17.051	+174.193	-56.824	-22.860	+83.371
C 1	+5.991	-7.845	-204.229	+5.991	-7.845	-231.373
Barra 99						
C 1	+135.921	-51.381	+30.929	+147.399	-55.559	-68.819
C 1	-135.921	-51.381	+30.929	-147.399	-55.559	-68.819
C 1	-6.193	+7.892	+50.726	-6.193	+7.892	+78.032
C 1	-135.921	-51.381	+30.929	-147.399	-55.559	-68.819
C 1	-56.824	-22.860	+83.371	+0.340	+2.525	+83.180
C 1	+5.991	-7.844	-231.372	+5.991	-7.844	-258.515
Barra 100						
C 1	+147.399	-55.557	-68.821	+147.399	-55.557	-128.824
C 1	-147.399	-55.557	-68.821	-147.399	-55.557	-128.824
C 1	-6.193	+7.894	+78.032	-6.193	+7.894	+86.559
C 1	-147.399	-55.557	-68.821	-147.399	-55.557	-128.824
C 1	+0.340	+2.523	+83.180	-6.193	+7.894	+86.559
C 1	+5.991	-7.840	-258.515	-108.970	-41.148	-268.797

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 101						
C 1	+136.257	-50.271	+62.611	+122.318	+46.152	-196.178
C 1	-136.257	-50.271	+62.611	-122.318	+46.152	-196.178
C 1	+122.318	+46.152	-246.023	+122.318	+46.152	-196.178
C 1	-136.257	-50.271	+62.611	-106.707	-39.602	+14.079
C 1	-0.352	-2.559	+86.559	-0.352	-2.559	+83.795
C 1	-6.193	+7.938	-268.793	-6.193	+7.938	-260.224
Barra 102						
C 1	+122.318	+46.147	-196.179	+122.318	+46.147	-36.510
C 1	-122.318	+46.147	-196.179	-122.318	+46.147	-36.510
C 1	+122.318	+46.147	-196.179	+122.318	+46.147	-36.510
C 1	-106.707	-39.602	+14.079	-55.449	-18.628	+24.345
C 1	-0.352	-2.558	+83.796	-0.352	-2.558	+74.946
C 1	-6.193	+7.942	-260.222	-6.193	+7.942	-232.744
Barra 103						
C 1	+122.318	+46.148	-36.508	+122.318	+46.148	+30.871
C 1	-122.318	+46.148	-36.508	-122.318	+46.148	+30.871
C 1	+122.318	+46.148	-36.508	+122.318	+46.148	+30.871
C 1	-55.449	-18.628	+24.345	-43.351	-15.715	+28.068
C 1	-0.352	-2.559	+74.946	-0.352	-2.559	+71.213
C 1	-6.193	+7.938	-232.746	-6.193	+7.938	-221.148
Barra 104						
C 1	+122.318	+46.156	+30.871	+122.318	+46.156	+123.180
C 1	-122.318	+46.156	+30.871	-122.318	+46.156	+123.180
C 1	-43.351	-15.716	+28.067	-74.137	-26.830	-16.330
C 1	-0.352	-2.555	+71.212	+122.318	+46.156	+123.180
C 1	-6.193	+7.934	-221.152	-6.193	+7.934	-205.285
Barra 105						
C 1	+122.318	+46.219	+123.172	+122.318	+46.219	+169.375
C 1	-122.318	+46.219	+123.172	-122.318	+46.219	+169.375
C 1	+122.318	+46.219	+123.172	+122.318	+46.219	+169.375
C 1	-74.137	-26.834	-16.331	-86.420	-31.216	-4.713
C 1	+122.318	+46.219	+123.172	+122.318	+46.219	+169.375
C 1	-6.193	+7.906	-205.266	-6.193	+7.906	-197.359
Barra 106						
C 1	+122.318	+46.220	+169.363	+105.404	+39.450	+264.930
C 1	-122.318	+46.220	+169.363	-105.404	+39.450	+264.930
C 1	+122.318	+46.220	+169.363	+105.404	+39.450	+264.930
C 1	-86.420	-31.219	-4.712	-39.942	-13.320	+95.544
C 1	+122.318	+46.220	+169.363	-11.082	-1.939	+282.885
C 1	-6.193	+7.884	-197.368	-6.193	+7.884	-161.889

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 107						
C 1	+105.404	+39.450	+264.930	+88.491	+32.210	+322.697
C 1	-105.404	+39.450	+264.930	-88.491	+32.210	+322.697
C 1	+105.404	+39.450	+264.930	+88.491	+32.210	+322.697
C 1	-39.942	-13.320	+95.544	-44.604	-14.041	+235.828
C 1	-11.082	-1.939	+282.885	-27.996	-8.709	+347.990
C 1	-6.193	+7.884	-161.889	-6.193	+7.884	-126.410
Barra 108						
C 1	+88.491	+32.211	+322.699	+71.577	+24.865	+336.311
C 1	-88.491	+32.211	+322.699	-71.577	+24.865	+336.311
C 1	+88.491	+32.211	+322.699	+71.577	+24.865	+336.311
C 1	-44.604	-14.040	+235.827	-61.518	-20.809	+270.474
C 1	-27.996	-8.708	+347.991	-44.910	-15.948	+373.180
C 1	-6.193	+7.884	-126.410	-6.193	+7.884	-90.933
Barra 109						
C 1	+71.577	+24.864	+336.311	+78.432	-28.050	+287.629
C 1	-71.577	+24.864	+336.311	-78.432	-28.050	+287.629
C 1	+71.577	+24.864	+336.311	+57.952	+19.118	+315.088
C 1	-61.518	-20.811	+270.475	-78.432	-28.050	+287.629
C 1	-44.910	-15.949	+373.183	-0.255	-1.068	+366.326
C 1	-6.193	+7.884	-90.935	+5.991	-7.849	-118.914
Barra 110						
C 1	+78.432	-28.050	+287.631	+95.345	-35.396	+272.530
C 1	-78.432	-28.050	+287.631	-95.345	-35.396	+272.530
C 1	+57.952	+19.118	+315.088	+44.327	+13.730	+268.429
C 1	-78.432	-28.050	+287.631	-95.345	-35.396	+272.530
C 1	-0.255	-1.067	+366.327	-13.880	-6.814	+324.275
C 1	+5.991	-7.849	-118.913	+5.991	-7.849	-147.367
Barra 111						
C 1	+95.345	-35.394	+272.531	+108.970	-41.141	+209.649
C 1	-95.345	-35.394	+272.531	-108.970	-41.141	+209.649
C 1	+44.327	+13.730	+268.427	+31.002	+8.886	+202.166
C 1	-95.345	-35.394	+272.531	-108.970	-41.141	+209.649
C 1	-13.880	-6.812	+324.276	-27.505	-12.202	+258.079
C 1	+5.991	-7.850	-147.367	+5.991	-7.850	-175.821
Barra 112						
C 1	+108.970	-41.140	+209.647	+122.595	-46.529	+123.921
C 1	-108.970	-41.140	+209.647	-122.595	-46.529	+123.921
C 1	+31.002	+8.886	+202.165	-6.193	+7.883	+23.373
C 1	-108.970	-41.140	+209.647	-122.595	-46.529	+123.921
C 1	-27.505	-12.201	+258.080	-40.831	-17.046	+174.259
C 1	+5.991	-7.850	-175.821	+5.991	-7.850	-204.277

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 113						
C 1	+122.595	-46.529	+123.921	+135.921	-51.374	+31.017
C 1	-122.595	-46.529	+123.921	-135.921	-51.374	+31.017
C 1	-6.193	+7.883	+23.373	-6.193	+7.883	+50.647
C 1	-122.595	-46.529	+123.921	-135.921	-51.374	+31.017
C 1	-40.831	-17.046	+174.259	-56.824	-22.856	+83.425
C 1	+5.991	-7.850	-204.279	+5.991	-7.850	-231.439
Barra 114						
C 1	+135.921	-51.374	+31.016	+147.399	-55.555	-68.754
C 1	-135.921	-51.374	+31.016	-147.399	-55.555	-68.754
C 1	-6.193	+7.883	+50.648	-6.193	+7.883	+77.921
C 1	-135.921	-51.374	+31.016	-147.399	-55.555	-68.754
C 1	-56.824	-22.856	+83.424	+0.340	+2.510	+82.663
C 1	+5.991	-7.850	-231.438	+5.991	-7.850	-258.600
Barra 115						
C 1	+147.399	-55.555	-68.757	+147.399	-55.555	-128.754
C 1	-147.399	-55.555	-68.757	-147.399	-55.555	-128.754
C 1	-6.193	+7.883	+77.922	-6.193	+7.883	+86.438
C 1	-147.399	-55.555	-68.757	-147.399	-55.555	-128.754
C 1	+0.340	+2.511	+82.663	-6.193	+7.883	+86.438
C 1	+5.991	-7.852	-258.598	-108.970	-41.145	-268.617
Barra 116						
C 1	+136.257	-50.284	+62.648	+122.318	+46.211	-196.234
C 1	-136.257	-50.284	+62.648	-122.318	+46.211	-196.234
C 1	+122.318	+46.211	-246.143	+122.318	+46.211	-196.234
C 1	-136.257	-50.284	+62.648	-106.707	-39.616	+14.101
C 1	-0.352	-2.539	+86.436	-0.352	-2.539	+83.696
C 1	-6.193	+7.895	-268.613	-6.193	+7.895	-260.094
Barra 117						
C 1	+122.318	+46.198	-196.238	+122.318	+46.198	-36.395
C 1	-122.318	+46.198	-196.238	-122.318	+46.198	-36.395
C 1	+122.318	+46.198	-196.238	+122.318	+46.198	-36.395
C 1	-106.707	-39.615	+14.102	-55.449	-18.626	+24.348
C 1	-0.352	-2.542	+83.694	-0.352	-2.542	+74.901
C 1	-6.193	+7.897	-260.092	-6.193	+7.897	-232.768
Barra 118						
C 1	+122.318	+46.203	-36.391	+122.318	+46.203	+31.051
C 1	-122.318	+46.203	-36.391	-122.318	+46.203	+31.051
C 1	+122.318	+46.203	-36.391	+122.318	+46.203	+31.051
C 1	-55.449	-18.626	+24.348	-43.351	-15.723	+28.038
C 1	-0.352	-2.541	+74.900	-0.352	-2.541	+71.190
C 1	-6.193	+7.898	-232.766	-6.193	+7.898	-221.246

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 119						
C 1	+122.318	+46.193	+31.051	+122.318	+46.193	+123.439
C 1	-122.318	+46.193	+31.051	-122.318	+46.193	+123.439
C 1	+122.318	+46.193	+31.051	+122.318	+46.193	+123.439
C 1	-43.351	-15.721	+28.039	-74.136	-26.835	-16.369
C 1	-0.352	-2.543	+71.189	+122.318	+46.193	+123.439
C 1	-6.193	+7.898	-221.238	-6.193	+7.898	-205.439
Barra 120						
C 1	+122.318	+46.188	+123.453	+122.318	+46.188	+169.641
C 1	-122.318	+46.188	+123.453	-122.318	+46.188	+169.641
C 1	+122.318	+46.188	+123.453	+122.318	+46.188	+169.641
C 1	-74.137	-26.837	-16.370	-86.420	-31.220	-4.754
C 1	+122.318	+46.188	+123.453	+122.318	+46.188	+169.641
C 1	-6.193	+7.906	-205.438	-6.193	+7.906	-197.547
Barra 121						
C 1	+122.318	+46.196	+169.632	+105.404	+39.420	+265.102
C 1	-122.318	+46.196	+169.632	-105.404	+39.420	+265.102
C 1	+122.318	+46.196	+169.632	+105.404	+39.420	+265.102
C 1	-86.420	-31.216	-4.749	-39.942	-13.329	+95.612
C 1	+122.318	+46.196	+169.632	-11.082	-1.963	+283.047
C 1	-6.193	+7.899	-197.534	-6.193	+7.899	-161.990
Barra 122						
C 1	+105.404	+39.419	+265.101	+88.491	+32.175	+322.693
C 1	-105.404	+39.419	+265.101	-88.491	+32.175	+322.693
C 1	+105.404	+39.419	+265.101	+88.491	+32.175	+322.693
C 1	-39.942	-13.329	+95.613	-44.604	-14.065	+235.881
C 1	-11.082	-1.963	+283.048	-27.996	-8.740	+348.024
C 1	-6.193	+7.899	-161.990	-6.193	+7.899	-126.444
Barra 123						
C 1	+88.491	+32.176	+322.694	+71.577	+24.829	+336.104
C 1	-88.491	+32.176	+322.694	-71.577	+24.829	+336.104
C 1	+88.491	+32.176	+322.694	+71.577	+24.829	+336.104
C 1	-44.604	-14.064	+235.882	-61.518	-20.841	+270.369
C 1	-27.996	-8.739	+348.022	-44.910	-15.983	+373.019
C 1	-6.193	+7.898	-126.444	-6.193	+7.898	-90.901
Barra 124						
C 1	+71.577	+24.828	+336.102	+78.432	-28.085	+287.338
C 1	-71.577	+24.828	+336.102	-78.432	-28.085	+287.338
C 1	+71.577	+24.828	+336.102	+57.952	+19.083	+314.734
C 1	-61.518	-20.840	+270.367	-78.432	-28.085	+287.338
C 1	-44.910	-15.983	+373.019	-0.255	-1.104	+365.988
C 1	-6.193	+7.898	-90.901	+5.989	-7.787	-118.062

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 125						
C 1	+78.432	-28.084	+287.340	+95.346	-35.433	+272.055
C 1	-78.432	-28.084	+287.340	-95.346	-35.433	+272.055
C 1	+57.952	+19.084	+314.731	+44.327	+13.698	+267.975
C 1	-78.432	-28.084	+287.340	-95.346	-35.433	+272.055
C 1	-0.255	-1.104	+365.989	-13.880	-6.848	+323.792
C 1	+5.989	-7.788	-118.062	+5.989	-7.788	-146.294
Barra 126						
C 1	+95.346	-35.431	+272.057	+108.971	-41.176	+209.038
C 1	-95.346	-35.431	+272.057	-108.971	-41.176	+209.038
C 1	+44.327	+13.700	+267.976	+31.001	+8.862	+201.706
C 1	-95.346	-35.431	+272.057	-108.971	-41.176	+209.038
C 1	-13.880	-6.847	+323.790	-27.505	-12.232	+257.516
C 1	+5.989	-7.789	-146.293	+5.989	-7.789	-174.523
Barra 127						
C 1	+108.970	-41.176	+209.041	+122.595	-46.561	+123.244
C 1	-108.970	-41.176	+209.041	-122.595	-46.561	+123.244
C 1	+31.001	+8.862	+201.708	-6.193	+7.898	+23.620
C 1	-108.970	-41.176	+209.041	-122.595	-46.561	+123.244
C 1	-27.505	-12.233	+257.516	-40.831	-17.070	+173.708
C 1	+5.989	-7.788	-174.525	+5.989	-7.788	-202.756
Barra 128						
C 1	+122.595	-46.561	+123.245	+135.921	-51.399	+30.380
C 1	-122.595	-46.561	+123.245	-135.921	-51.399	+30.380
C 1	-6.193	+7.898	+23.619	-6.193	+7.898	+50.945
C 1	-122.595	-46.561	+123.245	-135.921	-51.399	+30.380
C 1	-40.831	-17.070	+173.710	-56.825	-22.872	+83.023
C 1	+5.989	-7.787	-202.757	+5.989	-7.787	-229.702
Barra 129						
C 1	+135.921	-51.399	+30.381	+147.400	-55.570	-69.208
C 1	-135.921	-51.399	+30.381	-147.400	-55.570	-69.208
C 1	-6.193	+7.898	+50.946	-6.193	+7.898	+78.271
C 1	-135.921	-51.399	+30.381	-147.400	-55.570	-69.208
C 1	-56.825	-22.872	+83.022	-6.193	+7.898	+78.271
C 1	+5.989	-7.788	-229.703	+5.989	-7.788	-256.649
Barra 130						
C 1	+147.400	-55.572	-69.208	+147.400	-55.572	-129.225
C 1	-147.400	-55.572	-69.208	-147.400	-55.572	-129.225
C 1	-6.193	+7.899	+78.272	-6.193	+7.899	+86.802
C 1	-147.400	-55.572	-69.208	-147.400	-55.572	-129.225
C 1	-6.193	+7.899	+78.272	-6.193	+7.899	+86.802
C 1	+5.989	-7.789	-256.650	-108.971	-41.176	-269.635

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 131						
C 1	+136.253	-50.248	+62.369	+122.295	+46.016	-194.924
C 1	-136.253	-50.248	+62.369	-122.295	+46.016	-194.924
C 1	+122.295	+46.016	-244.625	+122.295	+46.016	-194.924
C 1	-136.253	-50.248	+62.369	-106.702	-39.580	+13.862
C 1	-0.352	-2.581	+86.801	-0.352	-2.581	+84.014
C 1	-6.197	+8.016	-269.635	-6.197	+8.016	-260.974
Barra 132						
C 1	+122.295	+46.021	-194.921	+122.295	+46.021	-35.687
C 1	-122.295	+46.021	-194.921	-122.295	+46.021	-35.687
C 1	+122.295	+46.021	-194.921	+122.295	+46.021	-35.687
C 1	-106.702	-39.581	+13.862	-55.452	-18.631	+24.362
C 1	-0.352	-2.582	+84.015	-0.352	-2.582	+75.083
C 1	-6.197	+8.017	-260.975	-6.197	+8.017	-233.237
Barra 133						
C 1	+122.295	+46.023	-35.684	+122.295	+46.023	+31.504
C 1	-122.295	+46.023	-35.684	-122.295	+46.023	+31.504
C 1	+122.295	+46.023	-35.684	+122.295	+46.023	+31.504
C 1	-55.452	-18.631	+24.362	-43.347	-15.695	+27.968
C 1	-0.352	-2.582	+75.084	-0.352	-2.582	+71.313
C 1	-6.197	+8.016	-233.234	-6.197	+8.016	-221.535
Barra 134						
C 1	+122.295	+46.027	+31.512	+122.295	+46.027	+123.561
C 1	-122.295	+46.027	+31.512	-122.295	+46.027	+123.561
C 1	+122.295	+46.027	+31.512	+122.295	+46.027	+123.561
C 1	-43.347	-15.695	+27.967	-74.133	-26.809	-16.389
C 1	-0.352	-2.579	+71.315	+122.295	+46.027	+123.561
C 1	-6.197	+8.012	-221.533	-6.197	+8.012	-205.512
Barra 135						
C 1	+122.295	+46.031	+123.563	+122.295	+46.031	+169.594
C 1	-122.295	+46.031	+123.563	-122.295	+46.031	+169.594
C 1	+122.295	+46.031	+123.563	+122.295	+46.031	+169.594
C 1	-74.133	-26.810	-16.392	-86.416	-31.189	-4.752
C 1	+122.295	+46.031	+123.563	+122.295	+46.031	+169.594
C 1	-6.197	+8.000	-205.516	-6.197	+8.000	-197.516
Barra 136						
C 1	+122.295	+46.093	+169.616	+105.372	+39.274	+264.487
C 1	-122.295	+46.093	+169.616	-105.372	+39.274	+264.487
C 1	+122.295	+46.093	+169.616	+105.372	+39.274	+264.487
C 1	-86.416	-31.199	-4.754	-39.950	-13.363	+95.437
C 1	+122.295	+46.093	+169.616	-11.106	-2.066	+282.566
C 1	-6.197	+7.961	-197.519	-6.197	+7.961	-161.694

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 137						
C 1	+105.372	+39.275	+264.489	+88.450	+31.996	+321.189
C 1	-105.372	+39.275	+264.489	-88.450	+31.996	+321.189
C 1	+105.372	+39.275	+264.489	+88.450	+31.996	+321.189
C 1	-39.950	-13.363	+95.437	-44.628	-14.168	+234.936
C 1	-11.106	-2.066	+282.563	-28.028	-8.884	+346.758
C 1	-6.197	+7.961	-161.693	-6.197	+7.961	-125.869
Barra 138						
C 1	+88.450	+31.996	+321.189	+71.527	+24.627	+333.571
C 1	-88.450	+31.996	+321.189	-71.527	+24.627	+333.571
C 1	+88.450	+31.996	+321.189	+71.527	+24.627	+333.571
C 1	-44.628	-14.168	+234.935	-61.550	-20.986	+268.447
C 1	-28.028	-8.884	+346.757	-44.951	-16.163	+370.702
C 1	-6.197	+7.961	-125.869	-6.197	+7.961	-90.046
Barra 139						
C 1	+71.527	+24.627	+333.573	+78.473	-28.265	+284.369
C 1	-71.527	+24.627	+333.573	-78.473	-28.265	+284.369
C 1	+71.527	+24.627	+333.573	+57.895	+18.880	+311.467
C 1	-61.550	-20.985	+268.447	-78.473	-28.265	+284.369
C 1	-44.951	-16.163	+370.704	-0.305	-1.305	+362.722
C 1	-6.197	+7.960	-90.045	+5.702	-7.113	-107.779
Barra 140						
C 1	+78.473	-28.264	+284.371	+95.396	-35.631	+268.067
C 1	-78.473	-28.264	+284.371	-95.396	-35.631	+268.067
C 1	+57.895	+18.880	+311.467	+44.263	+13.510	+264.277
C 1	-78.473	-28.264	+284.371	-95.396	-35.631	+268.067
C 1	-0.305	-1.302	+362.723	-13.937	-7.052	+319.785
C 1	+5.702	-7.113	-107.780	+5.702	-7.113	-133.565
Barra 141						
C 1	+95.395	-35.631	+268.066	+109.028	-41.381	+204.294
C 1	-95.395	-35.631	+268.066	-109.028	-41.381	+204.294
C 1	+44.263	+13.509	+264.277	+30.930	+8.706	+198.130
C 1	-95.395	-35.631	+268.066	-109.028	-41.381	+204.294
C 1	-13.937	-7.052	+319.784	-27.569	-12.423	+253.125
C 1	+5.702	-7.114	-133.565	+5.702	-7.114	-159.354
Barra 142						
C 1	+109.028	-41.379	+204.292	+122.660	-46.751	+118.167
C 1	-109.028	-41.379	+204.292	-122.660	-46.751	+118.167
C 1	+30.930	+8.706	+198.129	-6.197	+7.959	+25.375
C 1	-109.028	-41.379	+204.292	-122.660	-46.751	+118.167
C 1	-27.569	-12.423	+253.125	-40.902	-17.226	+169.569
C 1	+5.702	-7.114	-159.353	+5.702	-7.114	-185.142

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 143						
C 1	+122.660	-46.751	+118.166	+135.992	-51.554	+25.704
C 1	-122.660	-46.751	+118.166	-135.992	-51.554	+25.704
C 1	-6.197	+7.959	+25.374	-6.197	+7.959	+52.915
C 1	-122.660	-46.751	+118.166	-135.992	-51.554	+25.704
C 1	-40.902	-17.226	+169.568	-56.902	-22.971	+80.035
C 1	+5.702	-7.114	-185.142	+5.702	-7.114	-209.757
Barra 144						
C 1	+135.992	-51.554	+25.702	+147.477	-55.670	-72.541
C 1	-135.992	-51.554	+25.702	-147.477	-55.670	-72.541
C 1	-6.197	+7.960	+52.915	-6.197	+7.960	+80.455
C 1	-135.992	-51.554	+25.702	-147.477	-55.670	-72.541
C 1	-56.902	-22.971	+80.034	-6.197	+7.960	+80.455
C 1	+5.702	-7.114	-209.755	-95.396	-35.631	-236.831
Barra 145						
C 1	+147.477	-55.670	-72.544	+147.477	-55.670	-132.666
C 1	-147.477	-55.670	-72.544	-147.477	-55.670	-132.666
C 1	-6.197	+7.960	+80.457	-6.197	+7.960	+89.053
C 1	-147.477	-55.670	-72.544	-147.477	-55.670	-132.666
C 1	-6.197	+7.960	+80.457	-6.197	+7.960	+89.053
C 1	-95.396	-35.629	-236.833	-109.028	-41.379	-276.748
Barra 146						
C 1	+134.744	-50.344	+60.313	+115.065	+46.230	-180.218
C 1	-134.744	-50.344	+60.313	-115.065	+46.230	-180.218
C 1	+115.065	+46.230	-230.148	+115.065	+46.230	-180.218
C 1	-134.744	-50.344	+60.313	-105.193	-39.676	+11.702
C 1	-0.409	-2.476	+89.053	-0.409	-2.476	+86.381
C 1	-7.200	+7.684	-276.752	-7.200	+7.684	-268.448
Barra 147						
C 1	+115.065	+46.221	-180.222	+115.065	+46.221	-20.296
C 1	-115.065	+46.221	-180.222	-115.065	+46.221	-20.296
C 1	+115.065	+46.221	-180.222	+115.065	+46.221	-20.296
C 1	-105.193	-39.673	+11.703	-56.190	-18.614	+24.638
C 1	-0.409	-2.476	+86.381	-0.409	-2.476	+77.813
C 1	-7.200	+7.696	-268.448	-7.200	+7.696	-241.819
Barra 148						
C 1	+115.065	+46.219	-20.301	+115.065	+46.219	+47.191
C 1	-115.065	+46.219	-20.301	-115.065	+46.219	+47.191
C 1	+115.065	+46.219	-20.301	+115.065	+46.219	+47.191
C 1	-56.190	-18.613	+24.638	-42.325	-15.727	+25.509
C 1	-0.409	-2.477	+77.813	-0.409	-2.477	+74.197
C 1	-7.200	+7.691	-241.816	-7.200	+7.691	-230.590

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 149						
C 1	+115.065	+46.219	+47.186	+115.065	+46.219	+139.623
C 1	-115.065	+46.219	+47.186	-115.065	+46.219	+139.623
C 1	+115.065	+46.219	+47.186	+115.065	+46.219	+139.623
C 1	-42.325	-15.725	+25.509	-73.111	-26.839	-18.906
C 1	-0.409	-2.478	+74.197	+115.065	+46.219	+139.623
C 1	-7.200	+7.701	-230.586	-7.200	+7.701	-215.184
Barra 150						
C 1	+115.065	+46.219	+139.641	+115.065	+46.219	+185.844
C 1	-115.065	+46.219	+139.641	-115.065	+46.219	+185.844
C 1	+115.065	+46.219	+139.641	+115.065	+46.219	+185.844
C 1	-73.111	-26.845	-18.905	-85.345	-31.197	-7.373
C 1	+115.065	+46.219	+139.641	+115.065	+46.219	+185.844
C 1	-7.200	+7.703	-215.195	-7.200	+7.703	-207.484
Barra 151						
C 1	+115.065	+46.238	+185.842	+100.317	+40.920	+264.164
C 1	-115.065	+46.238	+185.842	-100.317	+40.920	+264.164
C 1	+115.065	+46.238	+185.842	+100.317	+40.920	+264.164
C 1	-85.345	-31.198	-7.371	-73.215	-24.340	+122.714
C 1	+115.065	+46.238	+185.842	+36.392	+17.836	+288.563
C 1	-7.200	+7.683	-207.488	-7.200	+7.683	-181.555
Barra 152						
C 1	+100.317	+40.917	+264.165	+85.569	+35.034	+318.055
C 1	-100.317	+40.917	+264.165	-85.569	+35.034	+318.055
C 1	-73.215	-24.340	+122.715	-51.857	-14.025	+284.014
C 1	+36.392	+17.834	+288.564	+21.645	+12.515	+348.934
C 1	-7.200	+7.685	-181.556	-7.200	+7.685	-155.619
Barra 153						
C 1	+85.569	+35.032	+318.056	+70.822	+28.673	+340.191
C 1	-85.569	+35.032	+318.056	-70.822	+28.673	+340.191
C 1	+85.569	+35.032	+318.056	+70.822	+28.673	+340.191
C 1	-51.857	-14.024	+284.016	-66.605	-19.343	+326.437
C 1	+21.645	+12.516	+348.936	+6.897	+6.630	+382.958
C 1	-7.200	+7.685	-155.623	-7.200	+7.685	-129.687
Barra 154						
C 1	+70.822	+28.673	+340.196	+81.353	-25.229	+340.597
C 1	-70.822	+28.673	+340.196	-81.353	-25.229	+340.597
C 1	+70.822	+28.673	+340.196	+56.074	+21.938	+324.537
C 1	-66.605	-19.345	+326.438	-81.353	-25.229	+340.597
C 1	+6.897	+6.630	+382.960	-7.851	+0.272	+383.639
C 1	-7.200	+7.685	-129.687	-7.200	+7.685	-103.750

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 155						
C 1	+81.353	-25.229	+340.598	+96.101	-31.586	+319.820
C 1	-81.353	-25.229	+340.598	-96.101	-31.586	+319.820
C 1	+56.074	+21.939	+324.533	+41.326	+14.916	+266.292
C 1	-81.353	-25.229	+340.598	-96.101	-31.586	+319.820
C 1	-7.851	+0.273	+383.638	-22.599	-6.463	+345.243
C 1	-7.200	+7.685	-103.749	-7.200	+7.685	-77.812
Barra 156						
C 1	+96.101	-31.587	+319.818	+110.849	-38.323	+258.684
C 1	-96.101	-31.587	+319.818	-110.849	-38.323	+258.684
C 1	+41.326	+14.915	+266.291	+26.578	+7.701	+161.944
C 1	-96.101	-31.587	+319.818	-110.849	-38.323	+258.684
C 1	-22.599	-6.464	+345.242	-37.347	-13.487	+263.299
C 1	-7.200	+7.685	-77.813	-7.200	+7.685	-51.875
Barra 157						
C 1	+110.849	-38.323	+258.685	+125.597	-45.345	+153.042
C 1	-110.849	-38.323	+258.685	-125.597	-45.345	+153.042
C 1	+26.578	+7.701	+161.944	-7.200	+7.685	-25.937
C 1	-110.849	-38.323	+258.685	-125.597	-45.345	+153.042
C 1	-37.347	-13.486	+263.299	-125.597	-45.345	+153.042
C 1	-7.200	+7.685	-51.875	-7.200	+7.685	-25.937
Barra 158						
C 1	+125.597	-45.346	+153.042	+233.882	-26.474	+0.000
C 1	-125.597	-45.346	+153.042	-140.344	-52.560	-0.000
C 1	-7.200	+7.685	-25.938	-7.200	+7.685	-0.000
C 1	-125.597	-45.346	+153.042	-140.344	-52.560	-0.000
C 1	-125.597	-45.346	+153.042	-96.101	-31.587	+0.001
C 1	-7.200	+7.685	-25.938	-4.065	+5.656	-0.000

Hip¢tesis de carga consideradas

Combinaci¢n: C 1 =

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	
53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	
70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	
87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	
104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	
138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	
155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	
172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	
189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	
206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	
223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	
240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	
257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	
274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	
291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	
308	309	310	311	312	313	314	315	316								

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	1	+0.000	+14.841	+54.703
C 1	1	-0.000	+28.605	+89.591
C 1	1	+0.000	+53.303	+141.924
C 1	1	+0.000	-7.652	+6.951
C 1	1	+0.000	+53.303	+141.924
C 1	1	+0.000	+53.303	-141.924
C 1	11	+0.006	+52.404	+105.841
C 1	11	-0.003	+28.011	+61.772
C 1	11	-0.001	+59.306	+136.071
C 1	11	+0.000	-32.015	-75.134
C 1	11	-0.001	+59.306	+136.071
C 1	11	-0.001	+59.306	-136.071
C 1	26	+0.006	+53.648	+115.606
C 1	26	-0.002	+34.848	+73.931
C 1	26	+0.001	+59.269	+139.013
C 1	26	+0.001	-32.033	-75.810
C 1	26	+0.001	+59.269	+139.013
C 1	26	+0.001	+59.269	-139.013
C 1	41	+0.002	+26.611	+58.022
C 1	41	-0.004	+35.143	+73.974
C 1	41	+0.000	+59.337	+139.022
C 1	41	+0.000	-32.008	-75.812
C 1	41	+0.000	+59.337	+139.022
C 1	41	+0.000	+59.337	-139.022
C 1	56	+0.006	+47.301	+99.414
C 1	56	-0.004	+43.250	+89.926
C 1	56	-0.004	+59.333	+139.022
C 1	56	-0.002	-32.010	-75.812
C 1	56	-0.004	+59.333	+139.022
C 1	56	-0.004	+59.333	-139.022
C 1	71	+0.004	+35.158	+73.974
C 1	71	-0.004	+53.465	+115.366
C 1	71	+0.002	+59.327	+139.022
C 1	71	+0.000	-32.010	-75.812
C 1	71	+0.002	+59.327	+139.022
C 1	71	+0.002	+59.327	-139.022

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	86	+0.005	+18.270	+42.069
C 1	86	-0.004	+53.428	+115.366
C 1	86	+0.000	+59.349	+139.022
C 1	86	+0.001	-32.001	-75.812
C 1	86	+0.000	+59.349	+139.022
C 1	86	+0.000	+59.349	-139.022
C 1	101	+0.008	+53.379	+115.366
C 1	101	-0.004	+35.213	+73.974
C 1	101	-0.001	+59.359	+139.022
C 1	101	+0.000	-31.991	-75.812
C 1	101	-0.001	+59.359	+139.022
C 1	101	-0.001	+59.359	-139.022
C 1	116	+0.004	+53.824	+115.628
C 1	116	-0.004	+49.039	+102.777
C 1	116	-0.001	+59.334	+139.022
C 1	116	+0.001	-32.006	-75.812
C 1	116	-0.001	+59.334	+139.022
C 1	116	-0.001	+59.334	-139.022
C 1	131	+0.004	+31.025	+67.462
C 1	131	-0.004	+35.301	+73.972
C 1	131	+0.000	+59.412	+139.018
C 1	131	-0.000	-31.962	-75.808
C 1	131	+0.000	+59.412	+139.018
C 1	131	+0.000	+59.412	-139.018
C 1	146	+0.004	+35.176	+73.290
C 1	146	-0.004	+48.027	+94.616
C 1	146	+0.000	+59.356	+137.737
C 1	146	-0.000	-31.997	-74.385
C 1	146	+0.000	+59.356	+137.737
C 1	146	+0.000	+59.356	-137.737
C 1	159	+0.001	+31.587	+96.101
C 1	159	-0.000	-5.656	+4.065
C 1	159	-0.000	+52.560	+140.344
C 1	159	-0.000	-7.685	+7.200
C 1	159	-0.000	+52.560	+140.344
C 1	159	+0.000	+26.474	-233.882

1.1.19.- ENVOLVENTES DE ESFUERZOS DE SC UIC 71 DOS VÍAS.

Nombre del fichero llbn

SC 2 locomotoras UIC 71 con carga negativa 96.8 kN/m por vía en 6.40 m

Hipótesis de carga consideradas

Combinación: C 1 =
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85
87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102
104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119
121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153
155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170
172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187
189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204
206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221
223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255
257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272
274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289
291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306
308 309 310 311 312 313 314 315 316

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+39.229	+106.559	-0.000	+34.408	+89.437	+357.747
C 1	-39.229	+106.559	-0.000	-34.408	+89.437	+357.747
C 1	+39.229	+106.559	-0.000	+34.408	+89.437	+357.747
C 1	+1.921	-15.296	+0.000	+1.921	-15.296	-61.185
C 1	+15.121	+29.668	+0.000	+34.408	+89.437	+357.747
C 1	+29.586	+72.875	-0.001	+1.921	-15.296	-61.185
Barra 2						
C 1	+34.408	+89.437	+357.746	+29.586	+72.875	+583.001
C 1	-34.408	+89.437	+357.746	-29.586	+72.875	+583.001
C 1	+34.408	+89.437	+357.746	+29.586	+72.875	+583.001
C 1	+1.921	-15.296	-61.185	-6.250	-16.718	+577.254
C 1	+34.408	+89.437	+357.746	+29.586	+72.875	+583.001
C 1	+1.921	-15.296	-61.185	+1.921	-15.296	-122.371
Barra 3						
C 1	+29.586	+72.873	+582.999	+24.764	+57.184	+686.221
C 1	-29.586	+72.873	+582.999	-24.764	+57.184	+686.221
C 1	+29.586	+72.873	+582.999	+24.764	+57.184	+686.221
C 1	-6.250	-16.719	+577.252	-11.072	-33.282	+736.255
C 1	+29.586	+72.873	+582.999	-11.072	-33.282	+736.255
C 1	+1.921	-15.296	-122.371	+1.921	-15.296	-183.554

Barra 4

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
C 1	+24.764	+57.182	+686.222	+19.942	+42.678	+682.857
C 1	-24.764	+57.182	+686.222	-19.942	+42.678	+682.857
C 1	+24.764	+57.182	+686.222	+19.942	+42.678	+682.857
C 1	-11.072	-33.282	+736.256	-15.893	-48.973	+776.712
C 1	-11.072	-33.282	+736.256	-15.893	-48.973	+776.712
C 1	+1.921	-15.295	-183.555	+1.921	-15.295	-244.736

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 5						
C 1	+19.942	+42.679	+682.859	+21.375	-63.283	+565.445
C 1	-19.942	+42.679	+682.859	-21.375	-63.283	+565.445
C 1	+19.942	+42.679	+682.859	+15.121	+29.668	+593.357
C 1	-15.893	-48.970	+776.715	-20.715	-63.476	+715.333
C 1	-15.893	-48.970	+776.715	-20.715	-63.476	+715.333
C 1	+1.921	-15.296	-244.736	+1.921	-15.296	-305.921
Barra 6						
C 1	+21.375	-63.283	+565.445	+26.197	-77.790	+446.039
C 1	-21.375	-63.283	+565.445	-26.197	-77.790	+446.039
C 1	+15.121	+29.668	+593.357	+10.357	+18.458	+442.984
C 1	-20.715	-63.477	+715.334	-26.197	-77.790	+446.039
C 1	-20.715	-63.477	+715.334	-25.537	-76.487	+573.790
C 1	+1.921	-15.297	-305.918	+1.921	-15.297	-367.106
Barra 7						
C 1	+26.197	-77.787	+446.043	+31.019	-90.798	+252.465
C 1	-26.197	-77.787	+446.043	-31.019	-90.798	+252.465
C 1	+10.357	+18.458	+442.985	+6.261	+9.191	+257.341
C 1	-26.197	-77.787	+446.043	-31.019	-90.798	+252.465
C 1	-25.537	-76.485	+573.793	-30.300	-87.697	+378.579
C 1	+1.921	-15.296	-367.106	+1.921	-15.296	-428.294
Barra 8						
C 1	+31.019	-90.798	+252.465	+35.782	-102.009	+67.494
C 1	-31.019	-90.798	+252.465	-35.782	-102.009	+67.494
C 1	+6.261	+9.191	+257.342	+0.109	+4.927	+154.981
C 1	-31.019	-90.798	+252.465	-35.782	-102.009	+67.494
C 1	-30.300	-87.696	+378.581	-14.841	-45.906	+177.777
C 1	+1.921	-15.297	-428.295	+1.921	-15.297	-481.223
Barra 9						
C 1	+35.782	-102.010	+67.496	+39.878	-111.277	-127.198
C 1	-35.782	-102.010	+67.496	-39.878	-111.277	-127.198
C 1	+0.109	+4.927	+154.980	+0.109	+4.927	+172.026
C 1	-35.782	-102.010	+67.496	-39.878	-111.277	-127.198
C 1	-14.841	-45.906	+177.775	+0.109	+4.927	+172.026
C 1	+1.921	-15.297	-481.223	+1.921	-15.297	-534.150
Barra 10						
C 1	+39.878	-111.270	-127.199	+39.878	-111.270	-247.371
C 1	-39.878	-111.270	-127.199	-39.878	-111.270	-247.371
C 1	+0.109	+4.924	+172.028	+0.109	+4.924	+177.344
C 1	-39.878	-111.270	-127.199	-39.878	-111.270	-247.371
C 1	+0.109	+4.924	+172.028	+0.109	+4.924	+177.344
C 1	+1.921	-15.297	-534.152	+1.921	-15.297	-550.672

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 11						
C 1	+37.689	-100.672	+129.364	+33.828	+92.781	-407.217
C 1	-40.148	+1.709	+60.354	-40.148	+1.709	+62.199
C 1	+33.828	+92.781	-507.418	+33.828	+92.781	-407.217
C 1	-37.689	-100.672	+129.364	-29.517	-79.336	+32.157
C 1	+1.657	-15.834	+177.346	+1.657	-15.834	+160.243
C 1	+29.150	+79.258	-550.668	-1.489	+14.359	-471.908
Barra 12						
C 1	+33.828	+92.771	-407.213	+33.828	+92.771	-86.224
C 1	-40.148	+1.709	+62.200	-40.148	+1.709	+68.114
C 1	+33.828	+92.771	-407.213	+33.828	+92.771	-86.224
C 1	-29.517	-79.336	+32.157	-15.321	-37.229	+48.013
C 1	+1.657	-15.833	+160.244	+1.657	-15.833	+105.460
C 1	-1.489	+14.359	-471.908	-1.489	+14.359	-422.230
Barra 13						
C 1	+33.828	+92.781	-86.227	+33.828	+92.781	+49.234
C 1	-40.148	+1.709	+68.113	-40.148	+1.709	+70.608
C 1	+33.828	+92.781	-86.227	+33.828	+92.781	+49.234
C 1	-15.321	-37.228	+48.014	-11.990	-31.508	+57.773
C 1	+1.657	-15.832	+105.461	+18.276	+50.043	+86.887
C 1	-1.489	+14.367	-422.234	-1.489	+14.367	-401.266
Barra 14						
C 1	+33.828	+92.773	+49.227	+33.828	+92.773	+234.773
C 1	-40.148	+1.709	+70.608	-33.828	+92.773	+234.773
C 1	+33.828	+92.773	+49.227	+33.828	+92.773	+234.773
C 1	-11.990	-31.509	+57.774	-20.499	-53.724	-31.163
C 1	+18.276	+50.051	+86.887	+33.828	+92.773	+234.773
C 1	-1.489	+14.355	-401.262	-1.489	+14.355	-372.555
Barra 15						
C 1	+33.828	+92.875	+234.750	+33.828	+92.875	+327.594
C 1	-33.828	+92.875	+234.750	-33.828	+92.875	+327.594
C 1	+33.828	+92.875	+234.750	+33.828	+92.875	+327.594
C 1	-20.499	-53.729	-31.162	-23.895	-62.490	-8.209
C 1	+33.828	+92.875	+234.750	+33.828	+92.875	+327.594
C 1	-1.489	+14.281	-372.516	-1.489	+14.281	-358.234
Barra 16						
C 1	+33.828	+92.845	+327.593	+29.150	+79.350	+519.900
C 1	-33.828	+92.845	+327.593	-29.150	+79.350	+519.900
C 1	+33.828	+92.845	+327.593	+29.150	+79.350	+519.900
C 1	-23.895	-62.485	-8.203	-11.032	-26.445	+187.154
C 1	+33.828	+92.845	+327.593	-3.047	-3.433	+556.543
C 1	-1.489	+14.306	-358.226	-1.489	+14.306	-293.849

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 17						
C 1	+29.150	+79.350	+519.897	+24.473	+64.858	+637.877
C 1	-29.150	+79.350	+519.897	-24.473	+64.858	+637.877
C 1	+29.150	+79.350	+519.897	+24.473	+64.858	+637.877
C 1	-11.032	-26.445	+187.153	-12.312	-27.624	+464.477
C 1	-3.047	-3.433	+556.543	-7.724	-16.928	+688.129
C 1	-1.489	+14.306	-293.849	-1.489	+14.306	-229.471
Barra 18						
C 1	+24.472	+64.857	+637.880	+19.795	+50.111	+667.883
C 1	-24.472	+64.857	+637.880	-19.795	+50.111	+667.883
C 1	+24.472	+64.857	+637.880	+19.795	+50.111	+667.883
C 1	-12.312	-27.624	+464.475	-16.989	-41.120	+535.330
C 1	-7.724	-16.929	+688.129	-12.402	-31.421	+740.888
C 1	-1.489	+14.307	-229.472	+1.657	-15.859	-179.276
Barra 19						
C 1	+19.795	+50.110	+667.886	+21.667	-55.612	+571.531
C 1	-19.795	+50.110	+667.886	-21.667	-55.612	+571.531
C 1	+19.795	+50.110	+667.886	+16.027	+38.553	+627.453
C 1	-16.989	-41.119	+535.332	-21.667	-55.612	+571.531
C 1	-12.402	-31.421	+740.893	-0.059	-1.728	+729.340
C 1	+1.657	-15.858	-179.277	+1.657	-15.858	-236.764
Barra 20						
C 1	+21.667	-55.611	+571.535	+26.344	-70.358	+543.297
C 1	-21.667	-55.611	+571.535	-26.344	-70.358	+543.297
C 1	+16.027	+38.551	+627.452	+12.259	+27.701	+535.695
C 1	-21.667	-55.611	+571.535	-26.344	-70.358	+543.297
C 1	-0.059	-1.728	+729.339	-3.827	-13.287	+647.020
C 1	+1.657	-15.859	-236.764	+1.657	-15.859	-294.254
Barra 21						
C 1	+26.344	-70.357	+543.289	+30.112	-81.916	+419.071
C 1	-26.344	-70.357	+543.289	-30.112	-81.916	+419.071
C 1	+12.259	+27.702	+535.697	+8.574	+17.937	+404.168
C 1	-26.344	-70.357	+543.289	-30.112	-81.916	+419.071
C 1	-3.827	-13.286	+647.023	-7.595	-24.136	+515.924
C 1	+1.657	-15.859	-294.252	+1.657	-15.859	-351.738
Barra 22						
C 1	+30.112	-81.914	+419.068	+33.880	-92.766	+248.639
C 1	-30.112	-81.914	+419.068	-33.880	-92.766	+248.639
C 1	+8.574	+17.936	+404.169	-1.489	+14.307	+42.358
C 1	-30.112	-81.914	+419.068	-33.880	-92.766	+248.639
C 1	-7.595	-24.136	+515.927	-11.280	-33.902	+348.996
C 1	+1.657	-15.858	-351.738	+1.657	-15.858	-409.229

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 23						
C 1	+33.880	-92.766	+248.639	+37.566	-102.532	+63.229
C 1	-33.880	-92.766	+248.639	-37.566	-102.532	+63.229
C 1	-1.489	+14.307	+42.359	-1.489	+14.307	+91.861
C 1	-33.880	-92.766	+248.639	-37.566	-102.532	+63.229
C 1	-11.280	-33.902	+348.997	-15.703	-45.597	+167.454
C 1	+1.657	-15.858	-409.227	+1.657	-15.858	-464.102
Barra 24						
C 1	+37.566	-102.532	+63.232	+40.740	-110.967	-136.447
C 1	-37.566	-102.532	+63.232	-40.740	-110.967	-136.447
C 1	-1.489	+14.307	+91.860	-1.489	+14.307	+141.362
C 1	-37.566	-102.532	+63.232	-40.740	-110.967	-136.447
C 1	-15.703	-45.597	+167.455	+0.094	+5.108	+167.114
C 1	+1.657	-15.857	-464.107	+1.657	-15.857	-518.973
Barra 25						
C 1	+40.740	-110.973	-136.443	+40.740	-110.973	-256.301
C 1	-40.740	-110.973	-136.443	-40.740	-110.973	-256.301
C 1	-1.489	+14.307	+141.364	-1.489	+14.307	+156.816
C 1	-40.740	-110.973	-136.443	-40.740	-110.973	-256.301
C 1	+0.094	+5.102	+167.114	+0.094	+5.102	+172.627
C 1	+1.657	-15.852	-518.971	+1.657	-15.852	-536.094
Barra 26						
C 1	+37.678	-100.578	+125.762	+33.810	+92.438	-394.131
C 1	-40.127	+1.748	+58.763	-40.127	+1.748	+60.649
C 1	+33.810	+92.438	-493.977	+33.810	+92.438	-394.131
C 1	-37.678	-100.578	+125.762	-29.506	-79.242	+28.656
C 1	+1.656	-15.717	+172.627	+1.656	-15.717	+155.653
C 1	+29.135	+78.922	-536.090	-1.711	+15.656	-516.293
Barra 27						
C 1	+33.810	+92.432	-394.135	+33.810	+92.432	-74.323
C 1	-40.127	+1.749	+60.650	-40.127	+1.749	+66.701
C 1	+33.810	+92.432	-394.135	+33.810	+92.432	-74.323
C 1	-29.506	-79.242	+28.657	-15.332	-37.246	+48.585
C 1	+1.656	-15.712	+155.653	-0.085	-4.608	+135.901
C 1	-1.711	+15.666	-516.291	-1.711	+15.666	-462.088
Barra 28						
C 1	+33.810	+92.453	-74.320	+33.810	+92.453	+60.648
C 1	-40.127	+1.750	+66.699	-40.127	+1.750	+69.252
C 1	+33.810	+92.453	-74.320	+33.810	+92.453	+60.648
C 1	-15.332	-37.245	+48.585	-11.991	-31.465	+56.215
C 1	-0.085	-4.605	+135.902	-0.085	-4.605	+129.178
C 1	-1.711	+15.656	-462.094	-1.711	+15.656	-439.242

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 29						
C 1	+33.810	+92.430	+60.656	+33.810	+92.430	+245.508
C 1	-40.127	+1.749	+69.252	-33.810	+92.430	+245.508
C 1	+33.810	+92.430	+60.656	+33.810	+92.430	+245.508
C 1	-11.991	-31.463	+56.216	-20.499	-53.678	-32.628
C 1	-0.085	-4.605	+129.178	+33.810	+92.430	+245.508
C 1	-1.711	+15.656	-439.230	-1.711	+15.656	-407.918
Barra 30						
C 1	+33.810	+92.375	+245.531	+33.810	+92.375	+337.969
C 1	-33.810	+92.375	+245.531	-33.810	+92.375	+337.969
C 1	+33.810	+92.375	+245.531	+33.810	+92.375	+337.969
C 1	-20.499	-53.690	-32.627	-23.895	-62.428	-9.436
C 1	+33.810	+92.375	+245.531	+33.810	+92.375	+337.969
C 1	-1.711	+15.688	-407.906	-1.711	+15.688	-392.281
Barra 31						
C 1	+33.810	+92.430	+337.940	+29.135	+78.900	+529.107
C 1	-33.810	+92.430	+337.940	-29.135	+78.900	+529.107
C 1	+33.810	+92.430	+337.940	+29.135	+78.900	+529.107
C 1	-23.895	-62.436	-9.435	-11.042	-26.619	+190.721
C 1	+33.810	+92.430	+337.940	-3.064	-3.847	+565.027
C 1	-1.711	+15.666	-392.246	-1.711	+15.666	-321.751
Barra 32						
C 1	+29.135	+78.900	+529.104	+24.460	+64.424	+644.771
C 1	-29.135	+78.900	+529.104	-24.460	+64.424	+644.771
C 1	+29.135	+78.900	+529.104	+24.460	+64.424	+644.771
C 1	-11.042	-26.619	+190.721	-12.329	-28.039	+471.090
C 1	-3.064	-3.848	+565.025	-7.739	-17.378	+695.304
C 1	-1.711	+15.666	-321.751	-1.711	+15.666	-251.255
Barra 33						
C 1	+24.460	+64.425	+644.776	+19.785	+49.735	+672.176
C 1	-24.460	+64.425	+644.776	-19.785	+49.735	+672.176
C 1	+24.460	+64.425	+644.776	+19.785	+49.735	+672.176
C 1	-12.329	-28.039	+471.094	-17.004	-41.569	+540.488
C 1	-7.739	-17.378	+695.310	-12.414	-31.852	+745.841
C 1	-1.711	+15.666	-251.256	+1.656	-15.711	-180.907
Barra 34						
C 1	+19.785	+49.735	+672.179	+21.679	-56.043	+574.914
C 1	-19.785	+49.735	+672.179	-21.679	-56.043	+574.914
C 1	+19.785	+49.735	+672.179	+16.019	+38.240	+629.871
C 1	-17.004	-41.572	+540.484	-21.679	-56.043	+574.914
C 1	-12.414	-31.853	+745.838	-0.069	-2.103	+732.274
C 1	+1.656	-15.712	-180.906	+1.656	-15.712	-237.857

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 35						
C 1	+21.679	-56.043	+574.918	+26.354	-70.733	+544.848
C 1	-21.679	-56.043	+574.918	-26.354	-70.733	+544.848
C 1	+16.019	+38.239	+629.867	+12.253	+27.463	+536.662
C 1	-21.679	-56.043	+574.918	-26.354	-70.733	+544.848
C 1	-0.069	-2.103	+732.277	-3.835	-13.600	+648.305
C 1	+1.656	-15.710	-237.859	+1.656	-15.710	-294.811
Barra 36						
C 1	+26.354	-70.736	+544.855	+30.121	-82.229	+419.219
C 1	-26.354	-70.736	+544.855	-30.121	-82.229	+419.219
C 1	+12.253	+27.463	+536.667	+8.569	+17.774	+404.232
C 1	-26.354	-70.736	+544.855	-30.121	-82.229	+419.219
C 1	-3.835	-13.599	+648.308	-7.601	-24.375	+516.029
C 1	+1.656	-15.710	-294.813	+1.656	-15.710	-351.760
Barra 37						
C 1	+30.121	-82.229	+419.223	+33.887	-93.005	+247.879
C 1	-30.121	-82.229	+419.223	-33.887	-93.005	+247.879
C 1	+8.569	+17.775	+404.232	-1.711	+15.667	+46.410
C 1	-30.121	-82.229	+419.223	-33.887	-93.005	+247.879
C 1	-7.601	-24.375	+516.033	-11.285	-34.063	+348.479
C 1	+1.656	-15.710	-351.760	+1.656	-15.710	-408.709
Barra 38						
C 1	+33.887	-93.002	+247.883	+37.570	-102.692	+62.155
C 1	-33.887	-93.002	+247.883	-37.570	-102.692	+62.155
C 1	-1.711	+15.667	+46.411	-1.711	+15.667	+100.616
C 1	-33.887	-93.002	+247.883	-37.570	-102.692	+62.155
C 1	-11.285	-34.062	+348.477	-15.706	-45.684	+166.864
C 1	+1.656	-15.711	-408.708	+1.656	-15.711	-463.068
Barra 39						
C 1	+37.570	-102.690	+62.153	+40.743	-111.054	-137.338
C 1	-37.570	-102.690	+62.153	-40.743	-111.054	-137.338
C 1	-1.711	+15.667	+100.616	-1.711	+15.667	+154.823
C 1	-37.570	-102.690	+62.153	-40.743	-111.054	-137.338
C 1	-15.706	-45.684	+166.867	+0.094	+5.061	+166.630
C 1	+1.656	-15.710	-463.072	+1.656	-15.710	-517.428
Barra 40						
C 1	+40.743	-111.055	-137.340	+40.743	-111.055	-257.285
C 1	-40.743	-111.055	-137.340	-40.743	-111.055	-257.285
C 1	-1.711	+15.666	+154.826	-1.711	+15.666	+171.744
C 1	-40.743	-111.055	-137.340	-40.743	-111.055	-257.285
C 1	+0.094	+5.059	+166.629	+0.094	+5.059	+172.094
C 1	+1.656	-15.711	-517.422	-30.121	-82.227	-536.672

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 41						
C 1	+37.678	-100.558	+125.352	+33.810	+92.352	-392.656
C 1	-40.127	+1.757	+58.575	-40.127	+1.757	+60.472
C 1	+33.810	+92.352	-492.406	+33.810	+92.352	-392.656
C 1	-37.678	-100.558	+125.352	-29.506	-79.223	+28.267
C 1	+1.656	-15.689	+172.094	-0.097	-5.053	+166.289
C 1	-1.712	+15.773	-536.672	-1.712	+15.773	-519.625
Barra 42						
C 1	+33.810	+92.368	-392.662	+33.810	+92.368	-73.073
C 1	-40.127	+1.757	+60.474	-40.127	+1.757	+66.552
C 1	+33.810	+92.368	-392.662	+33.810	+92.368	-73.073
C 1	-29.506	-79.226	+28.270	-15.331	-37.249	+48.642
C 1	-0.097	-5.052	+166.288	-0.097	-5.052	+148.810
C 1	-1.712	+15.782	-519.617	-1.712	+15.782	-465.016
Barra 43						
C 1	+33.810	+92.375	-73.086	+33.810	+92.375	+61.797
C 1	-40.127	+1.758	+66.552	-40.127	+1.758	+69.115
C 1	+33.810	+92.375	-73.086	+33.810	+92.375	+61.797
C 1	-15.331	-37.249	+48.642	-11.991	-31.454	+56.061
C 1	-0.097	-5.051	+148.811	-0.097	-5.051	+141.439
C 1	-1.712	+15.781	-465.008	-1.712	+15.781	-441.984
Barra 44						
C 1	+33.810	+92.375	+61.789	+33.810	+92.375	+246.539
C 1	-40.127	+1.755	+69.116	-33.810	+92.375	+246.539
C 1	+33.810	+92.375	+61.789	+33.810	+92.375	+246.539
C 1	-11.991	-31.455	+56.060	-20.499	-53.670	-32.768
C 1	-0.097	-5.049	+141.439	+33.810	+92.375	+246.539
C 1	-1.712	+15.773	-441.980	-1.712	+15.773	-410.434
Barra 45						
C 1	+33.810	+92.438	+246.531	+33.810	+92.438	+338.938
C 1	-33.810	+92.438	+246.531	-33.810	+92.438	+338.938
C 1	+33.810	+92.438	+246.531	+33.810	+92.438	+338.938
C 1	-20.499	-53.674	-32.764	-23.895	-62.436	-9.549
C 1	+33.810	+92.438	+246.531	+33.810	+92.438	+338.938
C 1	-1.712	+15.813	-410.469	-1.712	+15.813	-394.656
Barra 46						
C 1	+33.810	+92.390	+338.909	+29.135	+78.857	+529.963
C 1	-33.810	+92.390	+338.909	-29.135	+78.857	+529.963
C 1	+33.810	+92.390	+338.909	+29.135	+78.857	+529.963
C 1	-23.895	-62.431	-9.549	-11.042	-26.636	+191.053
C 1	+33.810	+92.390	+338.909	-3.064	-3.888	+565.816
C 1	-1.712	+15.763	-394.658	-1.712	+15.763	-323.727

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 47						
C 1	+29.135	+78.857	+529.964	+24.460	+64.384	+645.410
C 1	-29.135	+78.857	+529.964	-24.460	+64.384	+645.410
C 1	+29.135	+78.857	+529.964	+24.460	+64.384	+645.410
C 1	-11.042	-26.636	+191.054	-12.329	-28.077	+471.705
C 1	-3.064	-3.886	+565.816	-7.739	-17.421	+695.970
C 1	-1.712	+15.763	-323.727	-1.712	+15.763	-252.794
Barra 48						
C 1	+24.460	+64.386	+645.407	+19.785	+49.700	+672.564
C 1	-24.460	+64.386	+645.407	-19.785	+49.700	+672.564
C 1	+24.460	+64.386	+645.407	+19.785	+49.700	+672.564
C 1	-12.329	-28.077	+471.705	-17.004	-41.611	+540.959
C 1	-7.739	-17.420	+695.971	-12.414	-31.891	+746.291
C 1	-1.712	+15.762	-252.796	-1.712	+15.762	-181.865
Barra 49						
C 1	+19.785	+49.700	+672.566	+21.679	-56.088	+575.214
C 1	-19.785	+49.700	+672.566	-21.679	-56.088	+575.214
C 1	+19.785	+49.700	+672.566	+16.019	+38.213	+630.082
C 1	-17.004	-41.611	+540.957	-21.679	-56.088	+575.214
C 1	-12.414	-31.898	+746.295	-0.069	-2.139	+732.535
C 1	-1.712	+15.763	-181.865	+1.656	-15.698	-237.979
Barra 50						
C 1	+21.679	-56.082	+575.215	+26.355	-70.766	+544.993
C 1	-21.679	-56.082	+575.215	-26.355	-70.766	+544.993
C 1	+16.019	+38.213	+630.081	+12.253	+27.443	+536.754
C 1	-21.679	-56.082	+575.215	-26.355	-70.766	+544.993
C 1	-0.069	-2.136	+732.531	-3.835	-13.625	+648.422
C 1	+1.656	-15.700	-237.977	+1.656	-15.700	-294.893
Barra 51						
C 1	+26.355	-70.766	+544.984	+30.121	-82.252	+419.246
C 1	-26.355	-70.766	+544.984	-30.121	-82.252	+419.246
C 1	+12.253	+27.444	+536.753	+8.569	+17.764	+404.252
C 1	-26.355	-70.766	+544.984	-30.121	-82.252	+419.246
C 1	-3.835	-13.622	+648.417	-7.601	-24.394	+516.051
C 1	+1.656	-15.700	-294.891	+1.656	-15.700	-351.801
Barra 52						
C 1	+30.121	-82.250	+419.244	+33.887	-93.023	+247.838
C 1	-30.121	-82.250	+419.244	-33.887	-93.023	+247.838
C 1	+8.569	+17.762	+404.251	-1.712	+15.762	+46.690
C 1	-30.121	-82.250	+419.244	-33.887	-93.023	+247.838
C 1	-7.601	-24.393	+516.054	-11.285	-34.076	+348.453
C 1	+1.656	-15.700	-351.805	+1.656	-15.700	-408.721

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 47						
C 1	+29.135	+78.857	+529.964	+24.460	+64.384	+645.410
C 1	-29.135	+78.857	+529.964	-24.460	+64.384	+645.410
C 1	+29.135	+78.857	+529.964	+24.460	+64.384	+645.410
C 1	-11.042	-26.636	+191.054	-12.329	-28.077	+471.705
C 1	-3.064	-3.886	+565.816	-7.739	-17.421	+695.970
C 1	-1.712	+15.763	-323.727	-1.712	+15.763	-252.794
Barra 48						
C 1	+24.460	+64.386	+645.407	+19.785	+49.700	+672.564
C 1	-24.460	+64.386	+645.407	-19.785	+49.700	+672.564
C 1	+24.460	+64.386	+645.407	+19.785	+49.700	+672.564
C 1	-12.329	-28.077	+471.705	-17.004	-41.611	+540.959
C 1	-7.739	-17.420	+695.971	-12.414	-31.891	+746.291
C 1	-1.712	+15.762	-252.796	-1.712	+15.762	-181.865
Barra 49						
C 1	+19.785	+49.700	+672.566	+21.679	-56.088	+575.214
C 1	-19.785	+49.700	+672.566	-21.679	-56.088	+575.214
C 1	+19.785	+49.700	+672.566	+16.019	+38.213	+630.082
C 1	-17.004	-41.611	+540.957	-21.679	-56.088	+575.214
C 1	-12.414	-31.898	+746.295	-0.069	-2.139	+732.535
C 1	-1.712	+15.763	-181.865	+1.656	-15.698	-237.979
Barra 50						
C 1	+21.679	-56.082	+575.215	+26.355	-70.766	+544.993
C 1	-21.679	-56.082	+575.215	-26.355	-70.766	+544.993
C 1	+16.019	+38.213	+630.081	+12.253	+27.443	+536.754
C 1	-21.679	-56.082	+575.215	-26.355	-70.766	+544.993
C 1	-0.069	-2.136	+732.531	-3.835	-13.625	+648.422
C 1	+1.656	-15.700	-237.977	+1.656	-15.700	-294.893
Barra 51						
C 1	+26.355	-70.766	+544.984	+30.121	-82.252	+419.246
C 1	-26.355	-70.766	+544.984	-30.121	-82.252	+419.246
C 1	+12.253	+27.444	+536.753	+8.569	+17.764	+404.252
C 1	-26.355	-70.766	+544.984	-30.121	-82.252	+419.246
C 1	-3.835	-13.622	+648.417	-7.601	-24.394	+516.051
C 1	+1.656	-15.700	-294.891	+1.656	-15.700	-351.801
Barra 52						
C 1	+30.121	-82.250	+419.244	+33.887	-93.023	+247.838
C 1	-30.121	-82.250	+419.244	-33.887	-93.023	+247.838
C 1	+8.569	+17.762	+404.251	-1.712	+15.762	+46.690
C 1	-30.121	-82.250	+419.244	-33.887	-93.023	+247.838
C 1	-7.601	-24.393	+516.054	-11.285	-34.076	+348.453
C 1	+1.656	-15.700	-351.805	+1.656	-15.700	-408.721

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 53						
C 1	+33.887	-93.022	+247.838	+37.570	-102.704	+62.086
C 1	-33.887	-93.022	+247.838	-37.570	-102.704	+62.086
C 1	-1.712	+15.762	+46.690	-1.712	+15.762	+101.225
C 1	-33.887	-93.022	+247.838	-37.570	-102.704	+62.086
C 1	-11.285	-34.075	+348.450	-15.706	-45.692	+166.829
C 1	+1.656	-15.700	-408.721	+1.656	-15.700	-463.045
Barra 54						
C 1	+37.570	-102.704	+62.086	+40.743	-111.062	-137.398
C 1	-37.570	-102.704	+62.086	-40.743	-111.062	-137.398
C 1	-1.712	+15.762	+101.224	-1.712	+15.762	+155.760
C 1	-37.570	-102.704	+62.086	-40.743	-111.062	-137.398
C 1	-15.706	-45.691	+166.831	+0.094	+5.058	+166.638
C 1	+1.656	-15.700	-463.046	+1.656	-15.700	-517.371
Barra 55						
C 1	+40.743	-111.051	-137.404	+40.743	-111.051	-257.336
C 1	-40.743	-111.051	-137.404	-40.743	-111.051	-257.336
C 1	-1.712	+15.760	+155.758	-1.712	+15.760	+172.779
C 1	-40.743	-111.051	-137.404	-40.743	-111.051	-257.336
C 1	+0.094	+5.063	+166.637	-1.712	+15.760	+172.779
C 1	+1.656	-15.711	-517.369	-30.121	-82.250	-536.918
Barra 56						
C 1	+37.678	-100.562	+125.336	+33.810	+92.375	-392.592
C 1	-40.127	+1.755	+58.571	-40.127	+1.755	+60.466
C 1	+33.810	+92.375	-492.355	+33.810	+92.375	-392.592
C 1	-37.678	-100.562	+125.336	-29.506	-79.227	+28.245
C 1	-0.097	-5.080	+172.775	-0.097	-5.080	+167.292
C 1	-1.712	+15.789	-536.918	-1.712	+15.789	-519.863
Barra 57						
C 1	+33.810	+92.372	-392.590	+33.810	+92.372	-72.984
C 1	-40.127	+1.756	+60.467	-40.127	+1.756	+66.542
C 1	+33.810	+92.372	-392.590	+33.810	+92.372	-72.984
C 1	-29.506	-79.227	+28.245	-15.331	-37.249	+48.647
C 1	-0.097	-5.080	+167.292	-0.097	-5.080	+149.716
C 1	-1.712	+15.784	-519.869	-1.712	+15.784	-465.260
Barra 58						
C 1	+33.810	+92.375	-72.984	+33.810	+92.375	+61.883
C 1	-40.127	+1.756	+66.540	-40.127	+1.756	+69.105
C 1	+33.810	+92.375	-72.984	+33.810	+92.375	+61.883
C 1	-15.331	-37.248	+48.647	-11.991	-31.453	+56.047
C 1	-0.097	-5.086	+149.717	-0.097	-5.086	+142.301
C 1	-1.712	+15.773	-465.258	-1.712	+15.773	-442.227

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 59						
C 1	+33.810	+92.375	+61.883	+33.810	+92.375	+246.637
C 1	-40.127	+1.756	+69.104	-33.810	+92.375	+246.637
C 1	+33.810	+92.375	+61.883	+33.810	+92.375	+246.637
C 1	-11.991	-31.454	+56.047	-20.499	-53.669	-32.779
C 1	-0.097	-5.080	+142.303	+33.810	+92.375	+246.637
C 1	-1.712	+15.785	-442.227	-1.712	+15.785	-410.652
Barra 60						
C 1	+33.810	+92.438	+246.625	+33.810	+92.438	+339.063
C 1	-33.810	+92.438	+246.625	-33.810	+92.438	+339.063
C 1	+33.810	+92.438	+246.625	+33.810	+92.438	+339.063
C 1	-20.499	-53.674	-32.780	-23.895	-62.436	-9.568
C 1	+33.810	+92.438	+246.625	+33.810	+92.438	+339.063
C 1	-1.712	+15.813	-410.656	-1.712	+15.813	-394.875
Barra 61						
C 1	+33.810	+92.388	+339.036	+29.135	+78.854	+530.096
C 1	-33.810	+92.388	+339.036	-29.135	+78.854	+530.096
C 1	+33.810	+92.388	+339.036	+29.135	+78.854	+530.096
C 1	-23.895	-62.431	-9.565	-11.042	-26.637	+191.101
C 1	+33.810	+92.388	+339.036	-3.064	-3.890	+565.935
C 1	-1.712	+15.770	-394.898	-1.712	+15.770	-323.932
Barra 62						
C 1	+29.135	+78.854	+530.097	+24.460	+64.382	+645.531
C 1	-29.135	+78.854	+530.097	-24.460	+64.382	+645.531
C 1	+29.135	+78.854	+530.097	+24.460	+64.382	+645.531
C 1	-11.042	-26.637	+191.102	-12.329	-28.081	+471.811
C 1	-3.064	-3.890	+565.935	-7.739	-17.424	+696.090
C 1	-1.712	+15.771	-323.933	-1.712	+15.771	-252.964
Barra 63						
C 1	+24.460	+64.381	+645.532	+19.785	+49.700	+672.672
C 1	-24.460	+64.381	+645.532	-19.785	+49.700	+672.672
C 1	+24.460	+64.381	+645.532	+19.785	+49.700	+672.672
C 1	-12.329	-28.080	+471.811	-17.004	-41.615	+541.065
C 1	-7.739	-17.424	+696.092	-12.414	-31.896	+746.402
C 1	-1.712	+15.771	-252.966	-1.712	+15.771	-181.996
Barra 64						
C 1	+19.785	+49.696	+672.679	+21.679	-56.088	+575.332
C 1	-19.785	+49.696	+672.679	-21.679	-56.088	+575.332
C 1	+19.785	+49.696	+672.679	+16.019	+38.213	+630.184
C 1	-17.004	-41.617	+541.066	-21.679	-56.088	+575.332
C 1	-12.414	-31.898	+746.397	-0.069	-2.143	+732.637
C 1	-1.712	+15.772	-181.998	+1.656	-15.700	-238.051

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 65						
C 1	+21.679	-56.084	+575.328	+26.355	-70.772	+545.090
C 1	-21.679	-56.084	+575.328	-26.355	-70.772	+545.090
C 1	+16.019	+38.211	+630.183	+12.253	+27.445	+536.836
C 1	-21.679	-56.084	+575.328	-26.355	-70.772	+545.090
C 1	-0.069	-2.142	+732.644	-3.835	-13.627	+648.520
C 1	+1.656	-15.700	-238.053	+1.656	-15.700	-294.967
Barra 66						
C 1	+26.355	-70.773	+545.094	+30.121	-82.258	+419.321
C 1	-26.355	-70.773	+545.094	-30.121	-82.258	+419.321
C 1	+12.253	+27.442	+536.837	+8.569	+17.760	+404.303
C 1	-26.355	-70.773	+545.094	-30.121	-82.258	+419.321
C 1	-3.835	-13.628	+648.519	-7.601	-24.396	+516.123
C 1	+1.656	-15.700	-294.963	+1.656	-15.700	-351.875
Barra 67						
C 1	+30.121	-82.257	+419.326	+33.887	-93.025	+247.897
C 1	-30.121	-82.257	+419.326	-33.887	-93.025	+247.897
C 1	+8.569	+17.760	+404.308	-1.712	+15.772	+46.692
C 1	-30.121	-82.257	+419.326	-33.887	-93.025	+247.897
C 1	-7.601	-24.396	+516.124	-11.285	-34.078	+348.498
C 1	+1.656	-15.699	-351.875	+1.656	-15.699	-408.787
Barra 68						
C 1	+33.887	-93.027	+247.898	+37.570	-102.707	+62.121
C 1	-33.887	-93.027	+247.898	-37.570	-102.707	+62.121
C 1	-1.712	+15.772	+46.693	-1.712	+15.772	+101.267
C 1	-33.887	-93.027	+247.898	-37.570	-102.707	+62.121
C 1	-11.285	-34.077	+348.501	-15.706	-45.693	+166.855
C 1	+1.656	-15.698	-408.787	+1.656	-15.698	-463.104
Barra 69						
C 1	+37.570	-102.708	+62.121	+40.743	-111.062	-137.378
C 1	-37.570	-102.708	+62.121	-40.743	-111.062	-137.378
C 1	-1.712	+15.772	+101.266	-1.712	+15.772	+155.839
C 1	-37.570	-102.708	+62.121	-40.743	-111.062	-137.378
C 1	-15.706	-45.692	+166.853	+0.094	+5.055	+166.589
C 1	+1.656	-15.697	-463.104	+1.656	-15.697	-517.420
Barra 70						
C 1	+40.743	-111.066	-137.379	+40.743	-111.066	-257.328
C 1	-40.743	-111.066	-137.379	-40.743	-111.066	-257.328
C 1	-1.712	+15.771	+155.839	-1.712	+15.771	+172.875
C 1	-40.743	-111.066	-137.379	-40.743	-111.066	-257.328
C 1	+0.094	+5.057	+166.590	-1.712	+15.771	+172.875
C 1	+1.656	-15.711	-517.418	-30.121	-82.266	-536.926

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 71						
C 1	+37.678	-100.570	+125.344	+33.810	+92.414	-392.586
C 1	-40.127	+1.752	+58.574	-40.127	+1.752	+60.466
C 1	+33.810	+92.414	-492.398	+33.810	+92.414	-392.586
C 1	-37.678	-100.570	+125.344	-29.506	-79.235	+28.246
C 1	-0.097	-5.074	+172.875	-0.097	-5.074	+167.396
C 1	-1.712	+15.742	-536.922	-1.712	+15.742	-519.910
Barra 72						
C 1	+33.810	+92.400	-392.594	+33.810	+92.400	-72.889
C 1	-40.127	+1.752	+60.466	-40.127	+1.752	+66.529
C 1	+33.810	+92.400	-392.594	+33.810	+92.400	-72.889
C 1	-29.506	-79.233	+28.247	-15.331	-37.248	+48.650
C 1	-0.097	-5.075	+167.395	-0.097	-5.075	+149.834
C 1	-1.712	+15.763	-519.904	-1.712	+15.763	-465.370
Barra 73						
C 1	+33.810	+92.406	-72.883	+33.810	+92.406	+62.031
C 1	-40.127	+1.752	+66.528	-40.127	+1.752	+69.087
C 1	+33.810	+92.406	-72.883	+33.810	+92.406	+62.031
C 1	-15.331	-37.247	+48.651	-11.991	-31.458	+56.027
C 1	-0.097	-5.074	+149.838	-0.097	-5.074	+142.426
C 1	-1.712	+15.758	-465.391	-1.712	+15.758	-442.367
Barra 74						
C 1	+33.810	+92.383	+62.039	+33.810	+92.383	+246.809
C 1	-40.127	+1.754	+69.087	-33.810	+92.383	+246.809
C 1	+33.810	+92.383	+62.039	+33.810	+92.383	+246.809
C 1	-11.991	-31.458	+56.028	-20.499	-53.673	-32.807
C 1	-0.097	-5.078	+142.426	+33.810	+92.383	+246.809
C 1	-1.712	+15.766	-442.371	-1.712	+15.766	-410.832
Barra 75						
C 1	+33.810	+92.375	+246.781	+33.810	+92.375	+339.188
C 1	-33.810	+92.375	+246.781	-33.810	+92.375	+339.188
C 1	+33.810	+92.375	+246.781	+33.810	+92.375	+339.188
C 1	-20.499	-53.682	-32.803	-23.895	-62.428	-9.588
C 1	+33.810	+92.375	+246.781	+33.810	+92.375	+339.188
C 1	-1.712	+15.750	-410.813	-1.712	+15.750	-395.094
Barra 76						
C 1	+33.810	+92.379	+339.186	+29.135	+78.845	+530.207
C 1	-33.810	+92.379	+339.186	-29.135	+78.845	+530.207
C 1	+33.810	+92.379	+339.186	+29.135	+78.845	+530.207
C 1	-23.895	-62.430	-9.584	-11.042	-26.640	+191.146
C 1	+33.810	+92.379	+339.186	-3.064	-3.898	+566.041
C 1	-1.712	+15.778	-395.055	-1.712	+15.778	-324.051

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 77						
C 1	+29.135	+78.843	+530.206	+24.460	+64.370	+645.586
C 1	-29.135	+78.843	+530.206	-24.460	+64.370	+645.586
C 1	+29.135	+78.843	+530.206	+24.460	+64.370	+645.586
C 1	-11.042	-26.641	+191.146	-12.329	-28.090	+471.875
C 1	-3.064	-3.900	+566.041	-7.739	-17.434	+696.158
C 1	-1.712	+15.779	-324.052	-1.712	+15.779	-253.046
Barra 78						
C 1	+24.460	+64.371	+645.585	+19.785	+49.690	+672.672
C 1	-24.460	+64.371	+645.585	-19.785	+49.690	+672.672
C 1	+24.460	+64.371	+645.585	+19.785	+49.690	+672.672
C 1	-12.329	-28.089	+471.873	-17.004	-41.624	+541.086
C 1	-7.739	-17.433	+696.152	-12.414	-31.906	+746.414
C 1	-1.712	+15.778	-253.045	-1.712	+15.778	-182.044
Barra 79						
C 1	+19.785	+49.688	+672.671	+21.679	-56.094	+575.304
C 1	-19.785	+49.688	+672.671	-21.679	-56.094	+575.304
C 1	+19.785	+49.688	+672.671	+16.019	+38.203	+630.137
C 1	-17.004	-41.625	+541.090	-21.679	-56.094	+575.304
C 1	-12.414	-31.904	+746.408	-0.069	-2.150	+732.602
C 1	-1.712	+15.778	-182.045	+1.656	-15.691	-237.953
Barra 80						
C 1	+21.679	-56.098	+575.305	+26.355	-70.777	+545.028
C 1	-21.679	-56.098	+575.305	-26.355	-70.777	+545.028
C 1	+16.019	+38.207	+630.136	+12.253	+27.436	+536.770
C 1	-21.679	-56.098	+575.305	-26.355	-70.777	+545.028
C 1	-0.069	-2.148	+732.605	-3.835	-13.631	+648.445
C 1	+1.656	-15.691	-237.959	+1.656	-15.691	-294.838
Barra 81						
C 1	+26.355	-70.779	+545.023	+30.121	-82.264	+419.227
C 1	-26.355	-70.779	+545.023	-30.121	-82.264	+419.227
C 1	+12.253	+27.436	+536.771	+8.569	+17.756	+404.234
C 1	-26.355	-70.779	+545.023	-30.121	-82.264	+419.227
C 1	-3.835	-13.634	+648.445	-7.601	-24.402	+516.031
C 1	+1.656	-15.691	-294.840	+1.656	-15.691	-351.719
Barra 82						
C 1	+30.121	-82.268	+419.229	+33.887	-93.034	+247.776
C 1	-30.121	-82.268	+419.229	-33.887	-93.034	+247.776
C 1	+8.569	+17.756	+404.230	-1.712	+15.780	+46.750
C 1	-30.121	-82.268	+419.229	-33.887	-93.034	+247.776
C 1	-7.601	-24.404	+516.034	-11.285	-34.082	+348.404
C 1	+1.656	-15.689	-351.719	+1.656	-15.689	-408.596

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 83						
C 1	+33.887	-93.035	+247.779	+37.570	-102.713	+62.006
C 1	-33.887	-93.035	+247.779	-37.570	-102.713	+62.006
C 1	-1.712	+15.780	+46.749	-1.712	+15.780	+101.347
C 1	-33.887	-93.035	+247.779	-37.570	-102.713	+62.006
C 1	-11.285	-34.083	+348.404	-15.706	-45.696	+166.782
C 1	+1.656	-15.688	-408.596	+1.656	-15.688	-462.883
Barra 84						
C 1	+37.570	-102.714	+62.008	+40.743	-111.066	-137.459
C 1	-37.570	-102.714	+62.008	-40.743	-111.066	-137.459
C 1	-1.712	+15.780	+101.347	-1.712	+15.780	+155.943
C 1	-37.570	-102.714	+62.008	-40.743	-111.066	-137.459
C 1	-15.706	-45.695	+166.780	+0.094	+5.049	+166.397
C 1	+1.656	-15.689	-462.883	+1.656	-15.689	-517.170
Barra 85						
C 1	+40.743	-111.070	-137.467	+40.743	-111.070	-257.418
C 1	-40.743	-111.070	-137.467	-40.743	-111.070	-257.418
C 1	-1.712	+15.785	+155.944	-1.712	+15.785	+172.992
C 1	-40.743	-111.070	-137.467	-40.743	-111.070	-257.418
C 1	+0.094	+5.047	+166.396	-1.712	+15.785	+172.992
C 1	+1.656	-15.680	-517.168	-30.121	-82.273	-537.137
Barra 86						
C 1	+37.678	-100.556	+125.291	+33.810	+92.352	-392.412
C 1	-40.127	+1.759	+58.542	-40.127	+1.759	+60.442
C 1	+33.810	+92.352	-492.152	+33.810	+92.352	-392.412
C 1	-37.678	-100.556	+125.291	-29.506	-79.221	+28.209
C 1	-0.097	-5.090	+172.992	-0.097	-5.090	+167.495
C 1	-1.712	+15.797	-537.133	-1.712	+15.797	-520.080
Barra 87						
C 1	+33.810	+92.345	-392.412	+33.810	+92.345	-72.898
C 1	-40.127	+1.759	+60.442	-40.127	+1.759	+66.529
C 1	+33.810	+92.345	-392.412	+33.810	+92.345	-72.898
C 1	-29.506	-79.221	+28.209	-15.332	-37.250	+48.651
C 1	-0.097	-5.091	+167.497	-0.097	-5.091	+149.881
C 1	-1.712	+15.805	-520.068	-1.712	+15.805	-465.388
Barra 88						
C 1	+33.810	+92.359	-72.891	+33.810	+92.359	+61.930
C 1	-40.127	+1.758	+66.530	-40.127	+1.758	+69.096
C 1	+33.810	+92.359	-72.891	+33.810	+92.359	+61.930
C 1	-15.332	-37.250	+48.650	-11.991	-31.449	+56.040
C 1	-0.097	-5.090	+149.883	-0.097	-5.090	+142.451
C 1	-1.712	+15.797	-465.391	-1.712	+15.797	-442.313

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 89						
C 1	+33.810	+92.359	+61.938	+33.810	+92.359	+246.652
C 1	-40.127	+1.758	+69.097	-33.810	+92.359	+246.652
C 1	+33.810	+92.359	+61.938	+33.810	+92.359	+246.652
C 1	-11.991	-31.453	+56.042	-20.499	-53.668	-32.783
C 1	-0.097	-5.088	+142.449	+33.810	+92.359	+246.652
C 1	-1.712	+15.793	-442.313	-1.712	+15.793	-410.727
Barra 90						
C 1	+33.810	+92.375	+246.656	+33.810	+92.375	+339.063
C 1	-33.810	+92.375	+246.656	-33.810	+92.375	+339.063
C 1	+33.810	+92.375	+246.656	+33.810	+92.375	+339.063
C 1	-20.499	-53.682	-32.780	-23.895	-62.436	-9.568
C 1	+33.810	+92.375	+246.656	+33.810	+92.375	+339.063
C 1	-1.712	+15.688	-410.719	-1.712	+15.688	-395.000
Barra 91						
C 1	+33.810	+92.379	+339.054	+29.135	+78.844	+530.064
C 1	-33.810	+92.379	+339.054	-29.135	+78.844	+530.064
C 1	+33.810	+92.379	+339.054	+29.135	+78.844	+530.064
C 1	-23.895	-62.430	-9.568	-11.042	-26.640	+191.095
C 1	+33.810	+92.379	+339.054	-3.064	-3.898	+565.914
C 1	-1.712	+15.778	-394.966	-1.712	+15.778	-323.966
Barra 92						
C 1	+29.135	+78.843	+530.067	+24.460	+64.370	+645.436
C 1	-29.135	+78.843	+530.067	-24.460	+64.370	+645.436
C 1	+29.135	+78.843	+530.067	+24.460	+64.370	+645.436
C 1	-11.042	-26.640	+191.095	-12.329	-28.089	+471.756
C 1	-3.064	-3.899	+565.914	-7.739	-17.434	+696.009
C 1	-1.712	+15.778	-323.967	-1.712	+15.778	-252.967
Barra 93						
C 1	+24.460	+64.369	+645.435	+19.785	+49.685	+672.496
C 1	-24.460	+64.369	+645.435	-19.785	+49.685	+672.496
C 1	+24.460	+64.369	+645.435	+19.785	+49.685	+672.496
C 1	-12.329	-28.091	+471.752	-17.004	-41.625	+540.936
C 1	-7.739	-17.435	+696.014	-12.414	-31.909	+746.244
C 1	-1.712	+15.779	-252.968	-1.712	+15.779	-181.964
Barra 94						
C 1	+19.785	+49.682	+672.499	+21.679	-56.102	+575.113
C 1	-19.785	+49.682	+672.499	-21.679	-56.102	+575.113
C 1	+19.785	+49.682	+672.499	+16.019	+38.197	+629.953
C 1	-17.004	-41.631	+540.934	-21.679	-56.102	+575.113
C 1	-12.414	-31.911	+746.244	-0.069	-2.156	+732.406
C 1	-1.712	+15.779	-181.967	+1.656	-15.681	-237.744

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 95						
C 1	+21.679	-56.098	+575.113	+26.355	-70.781	+544.809
C 1	-21.679	-56.098	+575.113	-26.355	-70.781	+544.809
C 1	+16.019	+38.201	+629.945	+12.253	+27.432	+536.578
C 1	-21.679	-56.098	+575.113	-26.355	-70.781	+544.809
C 1	-0.069	-2.151	+732.402	-3.835	-13.637	+648.231
C 1	+1.656	-15.680	-237.744	+1.656	-15.680	-294.582
Barra 96						
C 1	+26.355	-70.781	+544.813	+30.121	-82.268	+419.004
C 1	-26.355	-70.781	+544.813	-30.121	-82.268	+419.004
C 1	+12.253	+27.432	+536.576	+8.569	+17.752	+404.066
C 1	-26.355	-70.781	+544.813	-30.121	-82.268	+419.004
C 1	-3.835	-13.638	+648.234	-7.601	-24.406	+515.828
C 1	+1.656	-15.683	-294.586	+1.656	-15.683	-351.432
Barra 97						
C 1	+30.121	-82.267	+419.002	+33.887	-93.035	+247.567
C 1	-30.121	-82.267	+419.002	-33.887	-93.035	+247.567
C 1	+8.569	+17.753	+404.066	-1.712	+15.778	+46.817
C 1	-30.121	-82.267	+419.002	-33.887	-93.035	+247.567
C 1	-7.601	-24.405	+515.827	-11.285	-34.085	+348.231
C 1	+1.656	-15.683	-351.430	+1.656	-15.683	-408.279
Barra 98						
C 1	+33.887	-93.035	+247.564	+37.570	-102.715	+61.830
C 1	-33.887	-93.035	+247.564	-37.570	-102.715	+61.830
C 1	-1.712	+15.778	+46.817	-1.712	+15.778	+101.405
C 1	-33.887	-93.035	+247.564	-37.570	-102.715	+61.830
C 1	-11.285	-34.085	+348.231	-15.706	-45.697	+166.668
C 1	+1.656	-15.684	-408.277	+1.656	-15.684	-462.541
Barra 99						
C 1	+37.570	-102.715	+61.828	+40.743	-111.067	-137.579
C 1	-37.570	-102.715	+61.828	-40.743	-111.067	-137.579
C 1	-1.712	+15.778	+101.405	-1.712	+15.778	+155.996
C 1	-37.570	-102.715	+61.828	-40.743	-111.067	-137.579
C 1	-15.706	-45.697	+166.666	+0.094	+5.047	+166.286
C 1	+1.656	-15.681	-462.538	+1.656	-15.681	-516.799
Barra 100						
C 1	+40.743	-111.070	-137.584	+40.743	-111.070	-257.535
C 1	-40.743	-111.070	-137.584	-40.743	-111.070	-257.535
C 1	-1.712	+15.779	+155.995	-1.712	+15.779	+173.039
C 1	-40.743	-111.070	-137.584	-40.743	-111.070	-257.535
C 1	+0.094	+5.047	+166.284	-1.712	+15.779	+173.039
C 1	+1.656	-15.680	-516.797	-30.121	-82.273	-537.355

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 101						
C 1	+37.678	-100.537	+125.217	+33.810	+92.258	-392.186
C 1	-40.127	+1.772	+58.497	-40.127	+1.772	+60.410
C 1	+33.810	+92.258	-491.816	+33.810	+92.258	-392.186
C 1	-37.678	-100.537	+125.217	-29.506	-79.202	+28.157
C 1	-0.097	-5.117	+173.039	-0.097	-5.117	+167.515
C 1	-1.712	+15.875	-537.352	-1.712	+15.875	-520.209
Barra 102						
C 1	+33.810	+92.255	-392.184	+33.810	+92.255	-72.983
C 1	-40.127	+1.772	+60.410	-40.127	+1.772	+66.541
C 1	+33.810	+92.255	-392.184	+33.810	+92.255	-72.983
C 1	-29.506	-79.201	+28.157	-15.332	-37.253	+48.648
C 1	-0.097	-5.113	+167.517	-0.097	-5.113	+149.824
C 1	-1.712	+15.875	-520.211	-1.712	+15.875	-465.283
Barra 103						
C 1	+33.810	+92.250	-72.977	+33.810	+92.250	+61.703
C 1	-40.127	+1.771	+66.540	-40.127	+1.771	+69.128
C 1	+33.810	+92.250	-72.977	+33.810	+92.250	+61.703
C 1	-15.332	-37.253	+48.648	-11.991	-31.438	+56.075
C 1	-0.097	-5.109	+149.824	-0.097	-5.109	+142.361
C 1	-1.712	+15.875	-465.273	-1.712	+15.875	-442.117
Barra 104						
C 1	+33.810	+92.273	+61.711	+33.810	+92.273	+246.258
C 1	-40.127	+1.770	+69.127	-33.810	+92.273	+246.258
C 1	+33.810	+92.273	+61.711	+33.810	+92.273	+246.258
C 1	-11.991	-31.439	+56.075	-20.499	-53.654	-32.723
C 1	-0.097	-5.107	+142.361	+33.810	+92.273	+246.258
C 1	-1.712	+15.859	-442.105	-1.712	+15.859	-410.387
Barra 105						
C 1	+33.810	+92.375	+246.219	+33.810	+92.375	+338.563
C 1	-33.810	+92.375	+246.219	-33.810	+92.375	+338.563
C 1	+33.810	+92.375	+246.219	+33.810	+92.375	+338.563
C 1	-20.499	-53.659	-32.721	-23.895	-62.420	-9.498
C 1	+33.810	+92.375	+246.219	+33.810	+92.375	+338.563
C 1	-1.712	+15.875	-410.375	-1.712	+15.875	-394.531
Barra 106						
C 1	+33.810	+92.399	+338.577	+29.135	+78.865	+529.627
C 1	-33.810	+92.399	+338.577	-29.135	+78.865	+529.627
C 1	+33.810	+92.399	+338.577	+29.135	+78.865	+529.627
C 1	-23.895	-62.432	-9.502	-11.042	-26.632	+190.935
C 1	+33.810	+92.399	+338.577	-3.064	-3.879	+565.518
C 1	-1.712	+15.762	-394.562	-1.712	+15.762	-323.634

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 107						
C 1	+29.135	+78.867	+529.628	+24.460	+64.393	+645.111
C 1	-29.135	+78.867	+529.628	-24.460	+64.393	+645.111
C 1	+29.135	+78.867	+529.628	+24.460	+64.393	+645.111
C 1	-11.042	-26.632	+190.935	-12.329	-28.070	+471.447
C 1	-3.064	-3.879	+565.519	-7.739	-17.411	+695.672
C 1	-1.712	+15.761	-323.634	-1.712	+15.761	-252.708
Barra 108						
C 1	+24.460	+64.392	+645.108	+19.785	+49.707	+672.324
C 1	-24.460	+64.392	+645.108	-19.785	+49.707	+672.324
C 1	+24.460	+64.392	+645.108	+19.785	+49.707	+672.324
C 1	-12.329	-28.069	+471.447	-17.004	-41.601	+540.707
C 1	-7.739	-17.411	+695.674	-12.414	-31.886	+746.029
C 1	-1.712	+15.761	-252.706	-1.712	+15.761	-181.784
Barra 109						
C 1	+19.785	+49.709	+672.320	+21.679	-56.073	+575.000
C 1	-19.785	+49.709	+672.320	-21.679	-56.073	+575.000
C 1	+19.785	+49.709	+672.320	+16.019	+38.219	+629.895
C 1	-17.004	-41.602	+540.707	-21.679	-56.073	+575.000
C 1	-12.414	-31.882	+746.033	-0.069	-2.129	+732.328
C 1	-1.712	+15.760	-181.785	+1.656	-15.690	-237.721
Barra 110						
C 1	+21.679	-56.072	+575.004	+26.355	-70.760	+544.825
C 1	-21.679	-56.072	+575.004	-26.355	-70.760	+544.825
C 1	+16.019	+38.221	+629.894	+12.253	+27.449	+536.615
C 1	-21.679	-56.072	+575.004	-26.355	-70.760	+544.825
C 1	-0.069	-2.130	+732.327	-3.835	-13.617	+648.262
C 1	+1.656	-15.691	-237.719	+1.656	-15.691	-294.604
Barra 111						
C 1	+26.355	-70.758	+544.816	+30.121	-82.244	+419.118
C 1	-26.355	-70.758	+544.816	-30.121	-82.244	+419.118
C 1	+12.253	+27.450	+536.615	+8.569	+17.766	+404.152
C 1	-26.355	-70.758	+544.816	-30.121	-82.244	+419.118
C 1	-3.835	-13.614	+648.257	-7.601	-24.389	+515.930
C 1	+1.656	-15.691	-294.605	+1.656	-15.691	-351.486
Barra 112						
C 1	+30.121	-82.244	+419.113	+33.887	-93.017	+247.735
C 1	-30.121	-82.244	+419.113	-33.887	-93.017	+247.735
C 1	+8.569	+17.766	+404.152	-1.712	+15.758	+46.725
C 1	-30.121	-82.244	+419.113	-33.887	-93.017	+247.735
C 1	-7.601	-24.387	+515.929	-11.285	-34.072	+348.363
C 1	+1.656	-15.692	-351.484	+1.656	-15.692	-408.375

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 113						
C 1	+33.887	-93.018	+247.734	+37.570	-102.704	+62.006
C 1	-33.887	-93.018	+247.734	-37.570	-102.704	+62.006
C 1	-1.712	+15.758	+46.726	-1.712	+15.758	+101.249
C 1	-33.887	-93.018	+247.734	-37.570	-102.704	+62.006
C 1	-11.285	-34.074	+348.363	-15.706	-45.690	+166.774
C 1	+1.656	-15.693	-408.373	+1.656	-15.693	-462.674
Barra 114						
C 1	+37.570	-102.703	+62.005	+40.743	-111.060	-137.446
C 1	-37.570	-102.703	+62.005	-40.743	-111.060	-137.446
C 1	-1.712	+15.759	+101.250	-1.712	+15.759	+155.774
C 1	-37.570	-102.703	+62.005	-40.743	-111.060	-137.446
C 1	-15.706	-45.690	+166.772	+0.094	+5.018	+165.254
C 1	+1.656	-15.693	-462.671	+1.656	-15.693	-516.971
Barra 115						
C 1	+40.743	-111.059	-137.451	+40.743	-111.059	-257.395
C 1	-40.743	-111.059	-137.451	-40.743	-111.059	-257.395
C 1	-1.712	+15.754	+155.777	-1.712	+15.754	+172.797
C 1	-40.743	-111.059	-137.451	-40.743	-111.059	-257.395
C 1	+0.094	+5.018	+165.252	-1.712	+15.754	+172.797
C 1	+1.656	-15.688	-516.961	-30.121	-82.234	-536.984
Barra 116						
C 1	+37.678	-100.564	+125.291	+33.810	+92.383	-392.295
C 1	-40.127	+1.760	+58.518	-40.127	+1.760	+60.417
C 1	+33.810	+92.383	-492.066	+33.810	+92.383	-392.295
C 1	-37.678	-100.564	+125.291	-29.506	-79.229	+28.201
C 1	-0.097	-5.078	+172.799	-0.097	-5.078	+167.314
C 1	-1.712	+15.773	-536.984	-1.712	+15.773	-519.961
Barra 117						
C 1	+33.810	+92.355	-392.303	+33.810	+92.355	-72.754
C 1	-40.127	+1.760	+60.417	-40.127	+1.760	+66.505
C 1	+33.810	+92.355	-392.303	+33.810	+92.355	-72.754
C 1	-29.506	-79.226	+28.203	-15.332	-37.249	+48.653
C 1	-0.097	-5.081	+167.315	-0.097	-5.081	+149.734
C 1	-1.712	+15.787	-519.953	-1.712	+15.787	-465.331
Barra 118						
C 1	+33.810	+92.375	-72.758	+33.810	+92.375	+62.078
C 1	-40.127	+1.758	+66.505	-40.127	+1.758	+69.073
C 1	+33.810	+92.375	-72.758	+33.810	+92.375	+62.078
C 1	-15.332	-37.249	+48.653	-11.991	-31.451	+56.016
C 1	-0.097	-5.082	+149.734	-0.097	-5.082	+142.316
C 1	-1.712	+15.773	-465.320	-1.712	+15.773	-442.289

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 119						
C 1	+33.810	+92.352	+62.078	+33.810	+92.352	+246.777
C 1	-40.127	+1.761	+69.073	-33.810	+92.352	+246.777
C 1	+33.810	+92.352	+62.078	+33.810	+92.352	+246.777
C 1	-11.991	-31.451	+56.018	-20.499	-53.666	-32.802
C 1	-0.097	-5.084	+142.316	+33.810	+92.352	+246.777
C 1	-1.712	+15.793	-442.285	-1.712	+15.793	-410.695
Barra 120						
C 1	+33.810	+92.375	+246.750	+33.810	+92.375	+339.125
C 1	-33.810	+92.375	+246.750	-33.810	+92.375	+339.125
C 1	+33.810	+92.375	+246.750	+33.810	+92.375	+339.125
C 1	-20.499	-53.682	-32.795	-23.895	-62.420	-9.580
C 1	+33.810	+92.375	+246.750	+33.810	+92.375	+339.125
C 1	-1.712	+15.750	-410.656	-1.712	+15.750	-394.906
Barra 121						
C 1	+33.810	+92.351	+339.108	+29.135	+78.805	+529.967
C 1	-33.810	+92.351	+339.108	-29.135	+78.805	+529.967
C 1	+33.810	+92.351	+339.108	+29.135	+78.805	+529.967
C 1	-23.895	-62.425	-9.577	-11.042	-26.650	+191.072
C 1	+33.810	+92.351	+339.108	-3.064	-3.927	+565.843
C 1	-1.712	+15.791	-394.893	-1.712	+15.791	-323.837
Barra 122						
C 1	+29.135	+78.804	+529.970	+24.460	+64.322	+645.100
C 1	-29.135	+78.804	+529.970	-24.460	+64.322	+645.100
C 1	+29.135	+78.804	+529.970	+24.460	+64.322	+645.100
C 1	-11.042	-26.650	+191.072	-12.329	-28.117	+471.555
C 1	-3.064	-3.926	+565.846	-7.739	-17.473	+695.734
C 1	-1.712	+15.791	-323.835	-1.712	+15.791	-252.777
Barra 123						
C 1	+24.460	+64.325	+645.095	+19.785	+49.636	+671.908
C 1	-24.460	+64.325	+645.095	-19.785	+49.636	+671.908
C 1	+24.460	+64.325	+645.095	+19.785	+49.636	+671.908
C 1	-12.329	-28.116	+471.551	-17.004	-41.663	+540.496
C 1	-7.739	-17.472	+695.734	-12.414	-31.953	+745.709
C 1	-1.712	+15.789	-252.776	-1.712	+15.789	-181.723
Barra 124						
C 1	+19.785	+49.635	+671.906	+21.679	-56.147	+574.417
C 1	-19.785	+49.635	+671.906	-21.679	-56.147	+574.417
C 1	+19.785	+49.635	+671.906	+16.019	+38.148	+629.188
C 1	-17.004	-41.662	+540.496	-21.679	-56.147	+574.417
C 1	-12.414	-31.956	+745.709	-0.069	-2.203	+731.641
C 1	-1.712	+15.789	-181.723	+1.655	-15.567	-236.018

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 125						
C 1	+21.679	-56.143	+574.422	+26.355	-70.832	+543.875
C 1	-21.679	-56.143	+574.422	-26.355	-70.832	+543.875
C 1	+16.019	+38.151	+629.183	+12.252	+27.385	+535.711
C 1	-21.679	-56.143	+574.422	-26.355	-70.832	+543.875
C 1	-0.069	-2.202	+731.644	-3.835	-13.687	+647.297
C 1	+1.655	-15.567	-236.021	+1.655	-15.567	-292.455
Barra 126						
C 1	+26.355	-70.828	+543.871	+30.121	-82.315	+417.895
C 1	-26.355	-70.828	+543.871	-30.121	-82.315	+417.895
C 1	+12.252	+27.389	+535.714	+8.569	+17.716	+403.234
C 1	-26.355	-70.828	+543.871	-30.121	-82.315	+417.895
C 1	-3.835	-13.685	+647.292	-7.602	-24.449	+514.803
C 1	+1.655	-15.568	-292.457	+1.655	-15.568	-348.891
Barra 127						
C 1	+30.121	-82.316	+417.896	+33.887	-93.082	+246.375
C 1	-30.121	-82.316	+417.896	-33.887	-93.082	+246.375
C 1	+8.569	+17.715	+403.236	-1.712	+15.789	+47.218
C 1	-30.121	-82.316	+417.896	-33.887	-93.082	+246.375
C 1	-7.602	-24.452	+514.808	-11.285	-34.123	+347.264
C 1	+1.655	-15.568	-348.896	+1.655	-15.568	-405.330
Barra 128						
C 1	+33.887	-93.081	+246.379	+37.570	-102.751	+60.735
C 1	-33.887	-93.081	+246.379	-37.570	-102.751	+60.735
C 1	-11.285	-34.122	+347.263	-15.706	-45.721	+165.971
C 1	+1.655	-15.568	-405.334	+1.655	-15.568	-459.201
Barra 129						
C 1	+37.570	-102.751	+60.734	+40.743	-111.091	-138.356
C 1	-37.570	-102.751	+60.734	-40.743	-111.091	-138.356
C 1	-1.712	+15.788	+101.847	-1.712	+15.788	+156.473
C 1	-37.570	-102.751	+60.734	-40.743	-111.091	-138.356
C 1	-15.706	-45.721	+165.971	-1.712	+15.788	+156.473
C 1	+1.655	-15.568	-459.200	+1.655	-15.568	-513.070
Barra 130						
C 1	+40.743	-111.094	-138.361	+40.743	-111.094	-258.336
C 1	-40.743	-111.094	-138.361	-40.743	-111.094	-258.336
C 1	-1.712	+15.789	+156.475	-1.712	+15.789	+173.527
C 1	-40.743	-111.094	-138.361	-40.743	-111.094	-258.336
C 1	-1.712	+15.789	+156.475	-1.712	+15.789	+173.527
C 1	+1.655	-15.555	-513.078	-30.121	-82.297	-539.020

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 131						
C 1	+37.676	-100.490	+124.731	+33.804	+92.000	-389.676
C 1	-40.122	+1.814	+58.042	-40.122	+1.814	+60.000
C 1	+33.804	+92.000	-489.031	+33.804	+92.000	-389.676
C 1	-37.676	-100.490	+124.731	-29.505	-79.155	+27.727
C 1	-0.097	-5.158	+173.525	-0.097	-5.158	+167.953
C 1	-1.713	+16.031	-539.020	-1.713	+16.031	-521.717
Barra 132						
C 1	+33.804	+92.002	-389.670	+33.804	+92.002	-71.341
C 1	-40.122	+1.813	+60.000	-40.122	+1.813	+66.273
C 1	+33.804	+92.002	-389.670	+33.804	+92.002	-71.341
C 1	-29.505	-79.157	+27.723	-15.332	-37.258	+48.682
C 1	-0.097	-5.161	+167.955	-0.097	-5.161	+150.100
C 1	-1.713	+16.027	-521.717	-1.713	+16.027	-466.267
Barra 133						
C 1	+33.804	+92.000	-71.336	+33.804	+92.000	+62.984
C 1	-40.122	+1.814	+66.272	-40.122	+1.814	+68.920
C 1	+33.804	+92.000	-71.336	+33.804	+92.000	+62.984
C 1	-15.332	-37.258	+48.681	-11.990	-31.398	+55.876
C 1	-0.097	-5.160	+150.100	-0.097	-5.160	+142.566
C 1	-1.713	+16.023	-466.273	-1.713	+16.023	-442.867
Barra 134						
C 1	+33.804	+92.012	+62.984	+33.804	+92.012	+247.016
C 1	-40.122	+1.812	+68.921	-33.804	+92.012	+247.016
C 1	+33.804	+92.012	+62.984	+33.804	+92.012	+247.016
C 1	-11.990	-31.399	+55.875	-20.498	-53.614	-32.841
C 1	-0.097	-5.158	+142.568	+33.804	+92.012	+247.016
C 1	-1.713	+16.016	-442.871	-1.713	+16.016	-410.840
Barra 135						
C 1	+33.804	+92.063	+247.000	+33.804	+92.063	+339.094
C 1	-33.804	+92.063	+247.000	-33.804	+92.063	+339.094
C 1	+33.804	+92.063	+247.000	+33.804	+92.063	+339.094
C 1	-20.498	-53.620	-32.838	-23.894	-62.389	-9.584
C 1	+33.804	+92.063	+247.000	+33.804	+92.063	+339.094
C 1	-1.713	+15.938	-410.844	-1.713	+15.938	-394.844
Barra 136						
C 1	+33.804	+92.143	+339.081	+29.126	+78.514	+528.744
C 1	-33.804	+92.143	+339.081	-29.126	+78.514	+528.744
C 1	+33.804	+92.143	+339.081	+29.126	+78.514	+528.744
C 1	-23.894	-62.391	-9.585	-11.044	-26.717	+190.721
C 1	+33.804	+92.143	+339.081	-3.071	-4.134	+564.880
C 1	-1.713	+15.916	-394.863	-1.713	+15.916	-323.243

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 137						
C 1	+29.126	+78.515	+528.743	+24.448	+63.962	+642.092
C 1	-29.126	+78.515	+528.743	-24.448	+63.962	+642.092
C 1	+29.126	+78.515	+528.743	+24.448	+63.962	+642.092
C 1	-11.044	-26.717	+190.721	-12.336	-28.324	+469.660
C 1	-3.071	-4.133	+564.877	-7.748	-17.762	+693.207
C 1	-1.713	+15.915	-323.244	-1.713	+15.915	-251.626
Barra 138						
C 1	+24.448	+63.962	+642.091	+19.771	+49.230	+666.846
C 1	-24.448	+63.962	+642.091	-19.771	+49.230	+666.846
C 1	+24.448	+63.962	+642.091	+19.771	+49.230	+666.846
C 1	-12.336	-28.322	+469.660	-17.013	-41.953	+536.658
C 1	-7.748	-17.762	+693.203	-12.426	-32.315	+741.076
C 1	-1.713	+15.915	-251.627	-1.713	+15.915	-180.011
Barra 139						
C 1	+19.771	+49.233	+666.847	+21.691	-56.504	+568.488
C 1	-19.771	+49.233	+666.847	-21.691	-56.504	+568.488
C 1	+19.771	+49.233	+666.847	+16.003	+37.742	+622.660
C 1	-17.013	-41.953	+536.664	-21.691	-56.504	+568.488
C 1	-12.426	-32.314	+741.080	-0.083	-2.605	+725.125
C 1	-1.713	+15.914	-180.014	+1.576	-14.221	-215.463
Barra 140						
C 1	+21.691	-56.500	+568.492	+26.368	-71.234	+535.895
C 1	-21.691	-56.500	+568.492	-26.368	-71.234	+535.895
C 1	+16.003	+37.744	+622.656	+12.235	+27.006	+528.316
C 1	-21.691	-56.500	+568.492	-26.368	-71.234	+535.895
C 1	-0.083	-2.605	+725.128	-3.851	-14.094	+639.285
C 1	+1.576	-14.221	-215.465	+1.576	-14.221	-267.014
Barra 141						
C 1	+26.368	-71.232	+535.898	+30.136	-82.723	+408.407
C 1	-26.368	-71.232	+535.898	-30.136	-82.723	+408.407
C 1	+12.235	+27.007	+528.318	+8.549	+17.403	+396.080
C 1	-26.368	-71.232	+535.898	-30.136	-82.723	+408.407
C 1	-3.851	-14.093	+639.286	-7.619	-24.831	+506.029
C 1	+1.576	-14.221	-267.014	+1.576	-14.221	-318.564
Barra 142						
C 1	+30.136	-82.724	+408.402	+33.904	-93.459	+236.227
C 1	-30.136	-82.724	+408.402	-33.904	-93.459	+236.227
C 1	+8.549	+17.405	+396.081	-1.713	+15.913	+50.726
C 1	-30.136	-82.724	+408.402	-33.904	-93.459	+236.227
C 1	-7.619	-24.829	+506.025	-11.305	-34.434	+338.988
C 1	+1.576	-14.222	-318.563	+1.576	-14.222	-370.121

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 143						
C 1	+33.904	-93.461	+236.229	+37.590	-103.063	+51.383
C 1	-33.904	-93.461	+236.229	-37.590	-103.063	+51.383
C 1	-1.713	+15.912	+50.727	-1.713	+15.912	+105.782
C 1	-33.904	-93.461	+236.229	-37.590	-103.063	+51.383
C 1	-11.305	-34.433	+338.986	-15.728	-45.920	+159.998
C 1	+1.576	-14.222	-370.118	+1.576	-14.222	-419.330
Barra 144						
C 1	+37.590	-103.063	+51.384	+40.764	-111.290	-145.017
C 1	-37.590	-103.063	+51.384	-40.764	-111.290	-145.017
C 1	-1.713	+15.912	+105.783	-1.713	+15.912	+160.838
C 1	-37.590	-103.063	+51.384	-40.764	-111.290	-145.017
C 1	-15.728	-45.920	+159.997	-1.713	+15.912	+160.838
C 1	+1.576	-14.222	-419.325	-26.368	-71.230	-473.451
Barra 145						
C 1	+40.764	-111.289	-145.023	+40.764	-111.289	-265.215
C 1	-40.764	-111.289	-145.023	-40.764	-111.289	-265.215
C 1	-1.713	+15.912	+160.840	-1.713	+15.912	+178.027
C 1	-40.764	-111.289	-145.023	-40.764	-111.289	-265.215
C 1	-1.713	+15.912	+160.840	-1.713	+15.912	+178.027
C 1	-26.368	-71.219	-473.451	-30.136	-82.711	-553.254
Barra 146						
C 1	+37.259	-100.685	+120.623	+31.805	+92.414	-360.287
C 1	-39.249	+57.326	-52.311	-39.249	+57.326	+9.602
C 1	+31.805	+92.414	-460.082	+31.805	+92.414	-360.287
C 1	-37.259	-100.685	+120.623	-29.088	-79.350	+23.404
C 1	-0.113	-4.943	+178.025	-0.113	-4.943	+172.688
C 1	-1.990	+15.367	-553.254	-1.990	+15.367	-536.658
Barra 147						
C 1	+31.805	+92.402	-360.283	+31.805	+92.402	-40.572
C 1	-39.249	+57.325	+9.602	-37.749	+50.064	+29.623
C 1	+31.805	+92.402	-360.283	+31.805	+92.402	-40.572
C 1	-29.088	-79.342	+23.406	-15.536	-37.224	+49.232
C 1	-0.113	-4.951	+172.686	-0.113	-4.951	+155.557
C 1	-1.990	+15.386	-536.652	-1.990	+15.386	-483.421
Barra 148						
C 1	+31.805	+92.422	-40.578	+31.805	+92.422	+94.336
C 1	-37.749	+50.066	+29.625	-37.749	+50.066	+102.723
C 1	+31.805	+92.422	-40.578	+31.805	+92.422	+94.336
C 1	-15.536	-37.224	+49.231	-11.707	-31.459	+50.954
C 1	-0.113	-4.945	+155.555	-0.113	-4.945	+148.330
C 1	-1.990	+15.383	-483.414	-1.990	+15.383	-460.969

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 149						
C 1	+31.805	+92.387	+94.336	+31.805	+92.387	+279.117
C 1	-37.749	+50.059	+102.721	-37.749	+50.059	+202.840
C 1	+31.805	+92.387	+94.336	+31.805	+92.387	+279.117
C 1	-11.707	-31.457	+50.955	-20.215	-53.672	-37.878
C 1	-0.113	-4.951	+148.326	+31.805	+92.387	+279.117
C 1	-1.990	+15.391	-460.965	-1.990	+15.391	-430.176
Barra 150						
C 1	+31.805	+92.438	+279.094	+31.805	+92.438	+371.531
C 1	-37.749	+50.073	+202.843	-31.805	+92.438	+371.531
C 1	+31.805	+92.438	+279.094	+31.805	+92.438	+371.531
C 1	-20.215	-53.682	-37.873	-23.598	-62.397	-14.830
C 1	+31.805	+92.438	+279.094	+31.805	+92.438	+371.531
C 1	-1.990	+15.344	-430.172	-1.990	+15.344	-414.828
Barra 151						
C 1	+31.805	+92.434	+371.517	+27.729	+81.801	+528.096
C 1	-31.805	+92.434	+371.517	-27.729	+81.801	+528.096
C 1	+31.805	+92.434	+371.517	+27.729	+81.801	+528.096
C 1	-23.598	-62.389	-14.823	-20.242	-48.670	+245.258
C 1	+31.805	+92.434	+371.517	+10.060	+35.657	+576.869
C 1	-1.990	+15.360	-414.791	-1.990	+15.360	-362.949
Barra 152						
C 1	+27.729	+81.799	+528.097	+23.652	+70.033	+635.824
C 1	-27.729	+81.799	+528.097	-23.652	+70.033	+635.824
C 1	+10.060	+35.655	+576.870	+5.983	+25.022	+697.557
C 1	-20.242	-48.670	+245.258	-14.334	-28.036	+567.778
C 1	+10.060	+35.655	+576.870	+5.983	+25.022	+697.557
C 1	-1.990	+15.360	-362.949	-1.990	+15.360	-311.105
Barra 153						
C 1	+23.652	+70.034	+635.827	+19.576	+57.324	+680.086
C 1	-23.652	+70.034	+635.827	-19.576	+57.324	+680.086
C 1	+23.652	+70.034	+635.827	+19.576	+57.324	+680.086
C 1	-14.334	-28.039	+567.777	-18.410	-38.671	+652.581
C 1	+5.983	+25.020	+697.562	+1.907	+13.257	+765.576
C 1	-1.990	+15.363	-311.105	-1.990	+15.363	-259.256
Barra 154						
C 1	+19.576	+57.323	+680.089	+22.487	-50.435	+680.894
C 1	-19.576	+57.323	+680.089	-22.487	-50.435	+680.894
C 1	+19.576	+57.323	+680.089	+15.499	+43.855	+648.781
C 1	-18.410	-38.672	+652.582	-22.487	-50.435	+680.894
C 1	+1.907	+13.256	+765.581	-2.170	+0.546	+766.936
C 1	-1.990	+15.363	-259.256	-1.990	+15.363	-207.408

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 155						
C 1	+22.487	-50.434	+680.887	+26.563	-63.146	+639.351
C 1	-22.487	-50.434	+680.887	-26.563	-63.146	+639.351
C 1	+15.499	+43.856	+648.779	+11.423	+29.817	+532.344
C 1	-22.487	-50.434	+680.887	-26.563	-63.146	+639.351
C 1	-2.170	+0.545	+766.940	-6.246	-12.921	+690.178
C 1	-1.990	+15.363	-207.406	-1.990	+15.363	-155.557
Barra 156						
C 1	+26.563	-63.146	+639.350	+30.640	-76.611	+517.138
C 1	-26.563	-63.146	+639.350	-30.640	-76.611	+517.138
C 1	+11.423	+29.817	+532.345	+7.346	+15.396	+323.745
C 1	-26.563	-63.146	+639.350	-30.640	-76.611	+517.138
C 1	-6.246	-12.920	+690.175	-10.323	-26.960	+526.367
C 1	-1.990	+15.363	-155.555	-1.990	+15.363	-103.704
Barra 157						
C 1	+30.640	-76.612	+517.139	+34.716	-90.650	+305.948
C 1	-30.640	-76.612	+517.139	-34.716	-90.650	+305.948
C 1	+7.346	+15.396	+323.743	-1.990	+15.364	-51.853
C 1	-30.640	-76.612	+517.139	-34.716	-90.650	+305.948
C 1	-10.323	-26.958	+526.364	-34.716	-90.650	+305.948
C 1	-1.990	+15.364	-103.705	-1.990	+15.364	-51.853
Barra 158						
C 1	+34.716	-90.651	+305.948	+38.793	-105.073	+0.000
C 1	-34.716	-90.651	+305.948	-38.793	-105.073	+0.000
C 1	-1.990	+15.363	-51.852	-1.990	+15.363	+0.000
C 1	-34.716	-90.651	+305.948	-18.410	-38.671	+0.001
C 1	-1.990	+15.363	-51.852	-30.640	-76.614	-0.001

Hipótesis de carga consideradas

Combinación: C 1 =

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	
53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	
70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	
87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	
104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	
138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	
155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	
172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	
189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	
206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	
223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	
240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	
257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	
274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	
291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	
308	309	310	311	312	313	314	315	316								

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	1	+0.001	+72.875	+29.586
C 1	1	-0.000	+29.668	+15.121
C 1	1	+0.000	+106.559	+39.229
C 1	1	+0.000	-15.296	+1.921
C 1	1	+0.000	+106.559	+39.229
C 1	1	+0.000	+106.559	-39.229
C 1	11	+0.016	+113.664	+33.749
C 1	11	-0.004	+94.555	+27.229
C 1	11	+0.004	+118.549	+37.611
C 1	11	-0.001	-64.036	-20.780
C 1	11	+0.004	+118.549	+37.611
C 1	11	+0.004	+118.549	-37.611
C 1	26	+0.008	+69.672	+20.435
C 1	26	-0.008	+49.188	+15.108
C 1	26	+0.002	+118.496	+38.425
C 1	26	+0.001	-64.072	-20.967
C 1	26	+0.002	+118.496	+38.425
C 1	26	+0.002	+118.496	-38.425
C 1	41	+0.012	+53.184	+16.038
C 1	41	-0.008	+86.438	+24.857
C 1	41	+0.000	+118.621	+38.427
C 1	41	+0.000	-64.022	-20.968
C 1	41	+0.000	+118.621	+38.427
C 1	41	+0.000	+118.621	-38.427
C 1	56	+0.012	+106.852	+31.889
C 1	56	-0.012	+86.438	+24.857
C 1	56	-0.002	+118.605	+38.427
C 1	56	-0.006	-64.021	-20.968
C 1	56	-0.002	+118.605	+38.427
C 1	56	-0.002	+118.605	-38.427

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	71	+0.016	+106.863	+31.889
C 1	71	-0.008	+55.973	+17.228
C 1	71	+0.004	+118.609	+38.427
C 1	71	-0.002	-64.029	-20.968
C 1	71	+0.004	+118.609	+38.427
C 1	71	+0.004	+118.609	-38.427
C 1	86	+0.008	+36.520	+11.628
C 1	86	-0.016	+79.398	+23.070
C 1	86	+0.004	+118.641	+38.427
C 1	86	+0.001	-64.015	-20.968
C 1	86	+0.004	+118.641	+38.427
C 1	86	+0.004	+118.641	-38.427
C 1	101	+0.008	+79.305	+23.070
C 1	101	-0.012	+114.668	+35.435
C 1	101	+0.000	+118.676	+38.427
C 1	101	-0.000	-63.991	-20.968
C 1	101	+0.000	+118.676	+38.427
C 1	101	+0.000	+118.676	-38.427
C 1	116	+0.012	+70.273	+20.447
C 1	116	-0.012	+79.406	+23.070
C 1	116	+0.002	+118.613	+38.427
C 1	116	+0.001	-64.022	-20.968
C 1	116	+0.002	+118.613	+38.427
C 1	116	+0.002	+118.613	-38.427
C 1	131	+0.008	+36.672	+11.628
C 1	131	-0.012	+70.578	+20.447
C 1	131	+0.000	+118.770	+38.426
C 1	131	+0.001	-63.932	-20.966
C 1	131	+0.000	+118.770	+38.426
C 1	131	+0.000	+118.770	-38.426
C 1	146	+0.008	+107.680	+31.665
C 1	146	-0.016	+105.930	+29.998
C 1	146	+0.000	+118.660	+38.072
C 1	146	-0.002	-64.007	-20.573
C 1	146	+0.000	+118.660	+38.072
C 1	146	+0.000	+118.660	-38.072
C 1	159	+0.001	+38.671	+18.410
C 1	159	-0.001	+76.614	+30.640
C 1	159	+0.000	+105.073	+38.793
C 1	159	+0.000	-15.363	+1.990
C 1	159	+0.000	+105.073	+38.793
C 1	159	+0.000	+105.073	-38.793

Hipótesis de carga consideradas SC 96.80 kN/m por vía

Combinación: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+501.684	+125.512	-0.001	+393.004	+85.992	+423.006
C 1	-399.523	+125.512	-0.001	-312.974	+85.992	+423.006
C 1	+93.917	+328.495	-0.001	+71.786	+249.454	+1155.895
C 1	+8.244	-77.471	-0.000	+8.244	-77.471	-309.884
C 1	+52.215	+172.999	+0.000	+71.786	+249.454	+1155.895
C 1	+34.211	+74.303	-0.002	+8.244	-77.471	-309.884
Barra 2						
C 1	+393.004	+85.991	+423.007	+284.324	+46.471	+687.932
C 1	-312.975	+85.991	+423.007	-226.426	+46.471	+687.932
C 1	+71.786	+249.453	+1155.898	+49.655	+170.413	+1995.628
C 1	+8.244	-77.471	-309.885	+8.244	-77.471	-619.765
C 1	+71.786	+249.453	+1155.898	+49.655	+170.413	+1995.628
C 1	+8.244	-77.471	-309.885	+8.244	-77.471	-619.765
Barra 3						
C 1	+284.324	+46.470	+687.927	+306.203	+6.950	+794.771
C 1	-226.426	+46.470	+687.927	-270.435	+6.950	+794.771
C 1	+49.655	+170.410	+1995.619	+42.324	+142.168	+1706.043
C 1	+8.244	-77.470	-619.766	-6.556	-128.268	-116.503
C 1	+49.655	+170.410	+1995.619	+27.524	+91.370	+2519.187
C 1	+8.244	-77.470	-619.766	+8.244	-77.470	-929.644
Barra 4						
C 1	+306.203	+6.948	+794.772	+197.523	-32.572	+743.527
C 1	-270.435	+6.948	+794.772	-183.886	-32.572	+743.527
C 1	+42.324	+142.162	+1706.044	+20.193	+63.122	+2116.619
C 1	-6.556	-128.266	-116.499	-6.556	-128.266	-629.566
C 1	+27.524	+91.363	+2519.189	+5.393	+12.323	+2726.560
C 1	+8.244	-77.466	-929.644	+8.244	-77.466	-1239.507
Barra 5						
C 1	+197.523	-32.569	+743.526	+207.793	-72.089	+534.209
C 1	-183.886	-32.569	+743.526	-216.287	-72.089	+534.209
C 1	+20.193	+63.128	+2116.624	+11.546	+49.100	+982.017
C 1	-6.556	-128.266	-629.573	-20.040	-193.279	+86.402
C 1	+5.393	+12.328	+2726.569	-16.739	-66.712	+2617.805
C 1	+8.244	-77.467	-1239.519	+8.244	-77.467	-1549.386
Barra 6						
C 1	+207.793	-72.089	+534.210	+294.341	-111.609	+166.813
C 1	-216.287	-72.089	+534.210	-324.967	-111.609	+166.813
C 1	+11.546	+49.102	+982.017	+11.546	+49.102	+1178.423
C 1	-20.040	-193.280	+86.404	-42.172	-272.320	-844.796
C 1	-16.739	-66.707	+2617.800	-38.870	-145.747	+2192.896
C 1	+8.244	-77.471	-1549.378	+8.244	-77.471	-1859.270

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 7						
C 1	+294.341	-111.608	+166.812	+283.174	-151.128	-358.661
C 1	-324.967	-111.608	+166.812	-335.931	-151.128	-358.661
C 1	+11.546	+49.104	+1178.425	+0.469	+24.943	+698.359
C 1	-42.172	-272.321	-844.800	-53.226	-327.200	-1415.681
C 1	-38.870	-145.741	+2192.897	-61.001	-224.781	+1451.850
C 1	+8.244	-77.476	-1859.273	+8.244	-77.476	-2169.173
Barra 8						
C 1	+283.174	-151.128	-358.660	+358.039	-185.313	-940.707
C 1	-335.931	-151.128	-358.660	-429.939	-185.313	-940.707
C 1	+0.469	+24.943	+698.360	+0.469	+24.943	+784.663
C 1	-53.226	-327.200	-1415.680	-72.369	-395.569	-2666.077
C 1	-61.001	-224.782	+1451.862	-29.729	-98.305	+994.913
C 1	+8.244	-77.475	-2169.183	-42.172	-272.322	-2876.326
Barra 9						
C 1	+358.039	-185.315	-940.702	+432.903	-219.499	-1641.030
C 1	-429.939	-185.315	-940.702	-523.948	-219.499	-1641.030
C 1	+0.469	+24.944	+784.661	+0.469	+24.944	+870.962
C 1	-72.369	-395.573	-2666.064	-91.513	-463.943	-4153.020
C 1	-29.729	-98.303	+994.908	+0.469	+24.944	+870.962
C 1	-42.172	-272.326	-2876.311	-91.513	-463.943	-4153.020
Barra 10						
C 1	+432.904	-219.472	-1641.022	+456.272	-230.143	-1883.841
C 1	-523.948	-219.472	-1641.022	-553.291	-230.143	-1883.841
C 1	+0.469	+24.949	+870.961	+0.469	+24.949	+897.906
C 1	-91.513	-463.894	-4153.004	-97.488	-485.234	-4665.589
C 1	+0.469	+24.949	+870.961	+0.469	+24.949	+897.906
C 1	-91.513	-463.894	-4153.004	-97.488	-485.234	-4665.589
Barra 11						
C 1	+672.624	+223.379	-1883.839	+643.280	+212.708	-1648.362
C 1	-546.448	+223.379	-1883.839	-523.080	+212.708	-1648.362
C 1	+119.067	+526.939	-4665.575	+113.092	+505.598	-4108.021
C 1	+7.109	-80.182	+897.897	+7.109	-80.182	+811.297
C 1	+7.109	-80.182	+897.897	+7.109	-80.182	+811.297
C 1	+119.067	+526.939	-4665.575	+113.092	+505.598	-4108.021
Barra 12						
C 1	+643.280	+212.711	-1648.358	+549.272	+178.526	-971.516
C 1	-523.080	+212.711	-1648.358	-448.215	+178.526	-971.516
C 1	+113.092	+505.600	-4108.003	+93.948	+437.230	-2476.903
C 1	+7.109	-80.177	+811.287	+7.109	-80.177	+533.871
C 1	+7.109	-80.177	+811.287	+26.081	-5.156	+724.454
C 1	+113.092	+505.600	-4108.003	+74.976	+362.209	-2667.487

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 13						
C 1	+549.272	+178.536	-971.500	+509.604	+164.111	-721.425
C 1	-448.215	+178.536	-971.500	-416.625	+164.111	-721.425
C 1	+93.948	+437.254	-2476.863	+85.871	+408.405	-1859.653
C 1	+7.109	-80.182	+533.863	+7.109	-80.182	+416.802
C 1	+26.081	-5.164	+724.447	+18.003	-34.013	+695.855
C 1	+74.976	+362.236	-2667.447	+74.976	+362.236	-2138.706
Barra 14						
C 1	+509.604	+164.095	-721.404	+456.773	+144.335	-412.981
C 1	-416.625	+164.095	-721.404	-374.860	+144.335	-412.981
C 1	+85.870	+408.370	-1859.612	+74.805	+368.850	-1082.406
C 1	+7.109	-80.179	+416.804	+7.109	-80.179	+256.445
C 1	+18.003	-34.009	+695.866	+55.726	+107.783	+872.245
C 1	+74.976	+362.200	-2138.673	+26.188	+180.887	-1698.207
Barra 15						
C 1	+456.774	+144.333	-412.922	+478.411	+134.452	-273.545
C 1	-374.860	+144.333	-412.922	-402.030	+134.453	-273.545
C 1	+74.805	+368.979	-1082.341	+74.976	+362.255	-1051.934
C 1	+7.109	-80.314	+256.498	+1.405	-93.350	+504.844
C 1	+55.726	+107.785	+872.351	+50.193	+88.025	+970.219
C 1	+26.188	+180.880	-1698.194	+26.188	+180.880	-1517.309
Barra 16						
C 1	+478.411	+134.492	-273.544	+356.146	+90.032	+231.634
C 1	-402.030	+134.492	-273.544	-304.663	+90.032	+231.634
C 1	+74.976	+362.360	-1051.946	+50.078	+273.440	+378.605
C 1	+1.405	-93.377	+504.858	+1.405	-93.377	+84.663
C 1	+50.193	+88.109	+970.228	+50.384	+205.305	+1780.001
C 1	+26.188	+180.875	-1517.316	+1.099	-25.242	-1316.734
Barra 17						
C 1	+356.146	+90.033	+231.637	+242.763	+45.573	+536.750
C 1	-304.663	+90.033	+231.637	-216.177	+45.573	+536.750
C 1	+50.078	+273.444	+378.610	+25.181	+184.524	+1409.026
C 1	+1.405	-93.377	+84.665	+1.405	-93.377	-335.525
C 1	+50.384	+205.310	+1780.000	+25.486	+116.390	+2503.817
C 1	+1.099	-25.243	-1316.726	+1.099	-25.243	-1430.316
Barra 18						
C 1	+242.763	+45.571	+536.749	+340.130	+1.111	+641.788
C 1	-216.177	+45.571	+536.749	-338.442	+1.111	+641.788
C 1	+25.181	+184.515	+1409.028	+26.188	+180.872	+924.493
C 1	+1.405	-93.374	-335.531	-24.500	-178.650	+359.082
C 1	+25.486	+116.377	+2503.824	+0.589	+27.457	+2827.460
C 1	+1.099	-25.235	-1430.325	+1.099	-25.235	-1543.885

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 19						
C 1	+340.130	+1.113	+641.786	+241.639	-34.702	+580.899
C 1	-338.442	+1.113	+641.786	-260.007	-34.702	+580.899
C 1	+26.188	+180.875	+924.484	+6.131	+109.245	+1450.330
C 1	-24.500	-178.649	+359.087	-24.500	-178.649	-288.533
C 1	+0.589	+27.455	+2827.456	-19.468	-44.175	+2797.136
C 1	+1.099	-25.229	-1543.885	+1.099	-25.229	-1635.338
Barra 20						
C 1	+241.639	-34.706	+580.900	+296.037	-70.521	+390.183
C 1	-260.008	-34.706	+580.900	-334.462	-70.521	+390.183
C 1	+6.131	+109.244	+1450.323	+3.406	+104.062	+678.950
C 1	-24.500	-178.655	-288.523	-41.831	-245.103	+101.416
C 1	-19.468	-44.176	+2797.147	-39.524	-115.806	+2507.187
C 1	+1.099	-25.236	-1635.347	+1.099	-25.236	-1726.821
Barra 21						
C 1	+296.037	-70.516	+390.179	+374.472	-106.331	+69.635
C 1	-334.462	-70.516	+390.179	-432.954	-106.331	+69.635
C 1	+3.406	+104.064	+678.939	+3.406	+104.064	+1056.165
C 1	-41.831	-245.096	+101.419	-61.888	-316.726	-916.894
C 1	-39.524	-115.803	+2507.178	-59.581	-187.433	+1957.550
C 1	+1.099	-25.229	-1726.820	+1.099	-25.229	-1818.280
Barra 22						
C 1	+374.472	-106.335	+69.632	+373.411	-142.150	-380.740
C 1	-432.954	-106.335	+69.632	-451.949	-142.150	-380.740
C 1	+3.406	+104.061	+1056.163	-5.605	+80.933	+829.877
C 1	-61.888	-316.731	-916.898	-72.932	-365.233	-1591.357
C 1	-59.581	-187.431	+1957.547	-54.038	-105.645	+1469.873
C 1	+1.099	-25.239	-1818.282	-24.500	-178.655	-2231.354
Barra 23						
C 1	+373.411	-142.145	-380.745	+448.276	-176.330	-931.710
C 1	-451.949	-142.145	-380.745	-545.957	-176.330	-931.710
C 1	-5.605	+80.933	+829.874	-5.605	+80.933	+1109.904
C 1	-72.932	-365.223	-1591.364	-92.076	-433.593	-2973.324
C 1	-54.038	-105.644	+1469.863	-35.793	-35.937	+1297.491
C 1	-24.500	-178.646	-2231.354	-61.888	-316.722	-3160.912
Barra 24						
C 1	+448.276	-176.331	-931.712	+523.141	-210.516	-1600.967
C 1	-545.957	-176.331	-931.712	-639.965	-210.516	-1600.967
C 1	-5.605	+80.933	+1109.906	-5.605	+80.933	+1389.933
C 1	-92.076	-433.595	-2973.330	-111.219	-501.965	-4591.866
C 1	-35.793	-35.937	+1297.501	-5.605	+80.933	+1389.933
C 1	-61.888	-316.726	-3160.924	-111.219	-501.965	-4591.866

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 25						
C 1	+523.141	-210.537	-1600.957	+546.509	-221.208	-1834.099
C 1	-639.965	-210.537	-1600.957	-669.309	-221.208	-1834.099
C 1	-5.605	+80.936	+1389.938	-5.605	+80.936	+1477.335
C 1	-111.219	-502.011	-4591.852	-117.195	-523.352	-5145.533
C 1	-5.605	+80.936	+1389.938	-5.605	+80.936	+1477.335
C 1	-111.219	-502.011	-4591.852	-117.195	-523.352	-5145.533
Barra 26						
C 1	+677.753	+221.936	-1834.094	+648.409	+211.265	-1600.147
C 1	-553.043	+221.936	-1834.094	-529.674	+211.265	-1600.147
C 1	+117.947	+541.175	-5145.520	+111.972	+519.834	-4572.544
C 1	+6.764	-97.303	+1477.331	+6.764	-97.303	+1372.250
C 1	+6.763	-97.303	+1477.331	+6.763	-97.303	+1372.250
C 1	+117.947	+541.175	-5145.520	+111.972	+519.834	-4572.544
Barra 27						
C 1	+648.410	+211.276	-1600.149	+554.401	+177.091	-928.271
C 1	-529.674	+211.276	-1600.149	-454.809	+177.091	-928.271
C 1	+111.972	+519.846	-4572.552	+92.828	+451.476	-2892.160
C 1	+6.764	-97.294	+1372.255	+6.764	-97.294	+1035.619
C 1	+6.764	-97.294	+1372.255	+25.713	-22.515	+1234.519
C 1	+111.972	+519.846	-4572.552	+73.879	+376.697	-3091.061
Barra 28						
C 1	+554.401	+177.098	-928.267	+514.733	+162.674	-680.250
C 1	-454.809	+177.098	-928.267	-423.219	+162.674	-680.250
C 1	+92.829	+451.486	-2892.131	+84.751	+422.636	-2254.063
C 1	+6.764	-97.289	+1035.597	+6.764	-97.289	+893.564
C 1	+25.713	-22.513	+1234.501	+17.635	-51.362	+1180.594
C 1	+73.879	+376.710	-3091.035	+73.879	+376.710	-2541.092
Barra 29						
C 1	+514.733	+162.665	-680.245	+462.103	+142.905	-374.670
C 1	-423.219	+162.665	-680.245	-381.655	+142.905	-374.670
C 1	+84.751	+422.626	-2254.043	+73.685	+383.106	-1448.306
C 1	+6.764	-97.295	+893.554	+6.764	-97.295	+698.966
C 1	+17.635	-51.368	+1180.589	+55.333	+89.659	+1346.977
C 1	+73.879	+376.698	-2541.078	+25.116	+196.151	-2096.318
Barra 30						
C 1	+462.103	+142.887	-374.707	+483.740	+133.007	-236.711
C 1	-381.655	+142.887	-374.707	-408.825	+133.007	-236.711
C 1	+73.685	+383.051	-1448.387	+73.879	+376.640	-1410.976
C 1	+6.764	-97.277	+698.972	+1.037	-110.625	+937.553
C 1	+55.333	+89.510	+1347.044	+49.800	+69.750	+1426.678
C 1	+25.115	+196.265	-2096.458	+25.115	+196.265	-1900.101

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 31						
C 1	+483.740	+133.023	-236.711	+361.475	+88.563	+261.863
C 1	-408.825	+133.023	-236.711	-311.457	+88.563	+261.863
C 1	+73.879	+376.689	-1411.002	+48.981	+287.769	+84.037
C 1	+1.037	-110.643	+937.581	+1.037	-110.643	+439.689
C 1	+49.800	+69.890	+1426.744	+49.978	+185.283	+2190.691
C 1	+25.116	+196.156	-1900.165	+0.040	-8.157	-1666.964
Barra 32						
C 1	+361.475	+88.564	+261.865	+248.314	+44.104	+560.363
C 1	-311.457	+88.564	+261.865	-223.194	+44.104	+560.363
C 1	+48.981	+287.769	+84.041	+24.084	+198.849	+1178.923
C 1	+1.037	-110.641	+439.689	+1.037	-110.641	-58.197
C 1	+49.978	+185.282	+2190.692	+25.080	+96.362	+2824.377
C 1	+0.040	-8.153	-1666.962	+0.040	-8.153	-1703.651
Barra 33						
C 1	+248.314	+44.105	+560.366	+345.682	-0.355	+658.802
C 1	-223.194	+44.105	+560.366	-345.459	-0.355	+658.802
C 1	+24.083	+198.853	+1178.934	+25.116	+196.160	+747.965
C 1	+1.037	-110.642	-58.203	-24.893	-196.870	+569.639
C 1	+25.080	+96.362	+2824.396	+0.182	+7.442	+3057.952
C 1	+0.040	-8.152	-1703.666	+0.040	-8.152	-1740.349
Barra 34						
C 1	+345.682	-0.359	+658.799	+247.190	-36.174	+592.589
C 1	-345.459	-0.359	+658.799	-267.024	-36.174	+592.589
C 1	+25.116	+196.152	+747.963	+5.059	+124.522	+1329.197
C 1	-24.893	-196.870	+569.636	-24.893	-196.870	-144.020
C 1	+0.182	+7.435	+3057.940	-19.874	-64.195	+2955.049
C 1	+0.040	-8.153	-1740.341	+0.040	-8.153	-1769.873
Barra 35						
C 1	+247.190	-36.173	+592.593	+301.693	-71.988	+396.545
C 1	-267.024	-36.173	+592.593	-341.583	-71.988	+396.545
C 1	+5.059	+124.525	+1329.200	+2.346	+119.940	+610.755
C 1	-24.893	-196.870	-144.015	-42.236	-263.915	+182.334
C 1	-19.874	-64.206	+2955.068	-39.930	-135.836	+2592.476
C 1	+0.040	-8.139	-1769.884	+0.040	-8.139	-1799.387
Barra 36						
C 1	+301.693	-71.985	+396.548	+380.127	-107.800	+70.674
C 1	-341.583	-71.985	+396.548	-440.074	-107.800	+70.674
C 1	+2.346	+119.941	+610.750	+2.346	+119.941	+1045.542
C 1	-42.236	-263.912	+182.347	-62.293	-335.542	-904.195
C 1	-39.930	-135.834	+2592.489	-59.987	-207.464	+1970.246
C 1	+0.040	-8.137	-1799.391	+0.040	-8.137	-1828.899

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 37						
C 1	+380.127	-107.805	+70.674	+379.107	-143.619	-385.022
C 1	-440.074	-107.804	+70.674	-459.110	-143.619	-385.022
C 1	+2.346	+119.940	+1045.538	-6.661	+97.022	+877.491
C 1	-62.293	-335.549	-904.191	-73.342	-384.261	-1647.536
C 1	-59.987	-207.471	+1970.244	-55.110	-90.369	+1514.939
C 1	+0.040	-8.138	-1828.896	-24.893	-196.870	-2284.984
Barra 38						
C 1	+379.107	-143.618	-385.026	+453.972	-177.803	-941.085
C 1	-459.110	-143.618	-385.026	-553.118	-177.803	-941.085
C 1	-6.661	+97.021	+877.495	-6.661	+97.021	+1213.187
C 1	-73.342	-384.258	-1647.546	-92.485	-452.627	-3095.357
C 1	-55.110	-90.362	+1514.940	-36.854	-20.058	+1399.379
C 1	-24.893	-196.874	-2284.991	-62.293	-335.548	-3281.551
Barra 39						
C 1	+453.972	-177.802	-941.080	+528.836	-211.987	-1615.424
C 1	-553.118	-177.802	-941.080	-647.127	-211.987	-1615.424
C 1	-6.661	+97.021	+1213.189	-6.661	+97.021	+1548.880
C 1	-92.486	-452.624	-3095.348	-111.629	-520.994	-4779.729
C 1	-36.854	-20.058	+1399.386	-6.661	+97.021	+1548.880
C 1	-62.293	-335.545	-3281.545	-111.629	-520.994	-4779.729
Barra 40						
C 1	+528.837	-212.008	-1615.416	+552.205	-222.679	-1850.136
C 1	-647.127	-212.008	-1615.416	-676.470	-222.679	-1850.136
C 1	-6.661	+97.025	+1548.882	-6.661	+97.025	+1653.667
C 1	-111.629	-521.042	-4779.714	-117.604	-542.383	-5353.938
C 1	-6.661	+97.025	+1548.882	-6.661	+97.025	+1653.667
C 1	-111.629	-521.042	-4779.714	-117.604	-542.383	-5353.938
Barra 41						
C 1	+678.078	+222.423	-1850.145	+648.734	+211.753	-1615.696
C 1	-553.450	+222.423	-1850.145	-530.082	+211.753	-1615.696
C 1	+117.924	+547.291	-5353.946	+111.949	+525.950	-4774.419
C 1	+6.704	-102.445	+1653.658	+6.704	-102.445	+1543.027
C 1	+6.703	-102.445	+1653.658	+6.703	-102.445	+1543.027
C 1	+117.924	+547.291	-5353.946	+111.949	+525.950	-4774.419
Barra 42						
C 1	+648.734	+211.734	-1615.700	+554.725	+177.549	-942.243
C 1	-530.082	+211.734	-1615.700	-455.217	+177.549	-942.243
C 1	+111.949	+525.920	-4774.426	+92.805	+457.550	-3073.024
C 1	+6.704	-102.452	+1543.024	+6.704	-102.452	+1188.537
C 1	+6.704	-102.452	+1543.024	+25.653	-27.716	+1388.306
C 1	+111.949	+525.920	-4774.426	+73.856	+382.814	-3272.793

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 43						
C 1	+554.725	+177.563	-942.218	+515.057	+163.139	-693.562
C 1	-455.217	+177.563	-942.218	-423.626	+163.139	-693.562
C 1	+92.805	+457.567	-3072.981	+84.727	+428.717	-2426.070
C 1	+6.704	-102.440	+1188.546	+6.704	-102.440	+1038.947
C 1	+25.653	-27.703	+1388.317	+17.575	-56.552	+1326.781
C 1	+73.856	+382.829	-3272.752	+73.856	+382.829	-2713.904
Barra 44						
C 1	+515.057	+163.134	-693.550	+462.427	+143.374	-387.034
C 1	-423.626	+163.134	-693.550	-382.062	+143.374	-387.034
C 1	+84.727	+428.726	-2426.055	+73.662	+389.206	-1608.112
C 1	+6.704	-102.458	+1038.955	+6.704	-102.458	+834.044
C 1	+17.575	-56.569	+1326.790	+55.273	+84.333	+1485.149
C 1	+73.856	+382.837	-2713.890	+25.092	+202.415	-2259.217
Barra 45						
C 1	+462.428	+143.361	-387.015	+484.065	+133.481	-248.616
C 1	-382.062	+143.361	-387.015	-409.232	+133.481	-248.616
C 1	+73.662	+389.289	-1608.125	+73.856	+382.909	-1565.354
C 1	+6.704	-102.567	+834.095	+0.977	-115.947	+1068.121
C 1	+55.273	+84.438	+1485.120	+49.740	+64.678	+1559.621
C 1	+25.092	+202.284	-2259.150	+25.092	+202.284	-2056.853
Barra 46						
C 1	+484.065	+133.496	-248.619	+361.800	+89.036	+252.081
C 1	-409.232	+133.496	-248.619	-311.865	+89.036	+252.081
C 1	+73.855	+382.839	-1565.413	+48.958	+293.919	-42.706
C 1	+0.977	-115.847	+1068.175	+0.977	-115.847	+546.868
C 1	+49.740	+64.596	+1559.560	+49.917	+179.789	+2302.951
C 1	+25.092	+202.397	-2056.798	+0.017	-1.717	-1798.789
Barra 47						
C 1	+361.800	+89.035	+252.082	+248.639	+44.575	+552.710
C 1	-311.865	+89.035	+252.082	-223.602	+44.575	+552.710
C 1	+48.958	+293.917	-42.702	+24.060	+204.997	+1079.857
C 1	+0.977	-115.846	+546.866	+0.977	-115.846	+25.562
C 1	+49.917	+179.785	+2302.955	+25.020	+90.865	+2911.917
C 1	+0.017	-1.714	-1798.791	+0.017	-1.714	-1806.498
Barra 48						
C 1	+248.640	+44.578	+552.706	+346.007	+0.118	+653.269
C 1	-223.602	+44.578	+552.706	-345.867	+0.118	+653.269
C 1	+24.060	+205.003	+1079.856	+25.092	+202.398	+675.562
C 1	+0.977	-115.847	+25.557	-24.953	-202.162	+630.976
C 1	+25.020	+90.871	+2911.918	+0.122	+1.951	+3120.763
C 1	+0.017	-1.715	-1806.506	+0.017	-1.715	-1814.225

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 49						
C 1	+346.007	+0.113	+653.276	+247.516	-35.702	+588.768
C 1	-345.867	+0.113	+653.276	-267.433	-35.702	+588.768
C 1	+25.092	+202.397	+675.568	+5.036	+130.767	+1279.417
C 1	-24.953	-202.170	+630.984	-24.953	-202.170	-101.880
C 1	+0.122	+1.929	+3120.781	-19.934	-69.701	+2997.936
C 1	+0.017	-1.703	-1814.230	+0.017	-1.703	-1820.400
Barra 50						
C 1	+247.515	-35.701	+588.767	+302.018	-71.516	+394.442
C 1	-267.433	-35.701	+588.767	-341.992	-71.516	+394.442
C 1	+5.036	+130.766	+1279.413	+2.323	+126.237	+583.383
C 1	-24.953	-202.167	-101.879	-42.296	-269.268	+205.501
C 1	-19.934	-69.684	+2997.926	-39.991	-141.314	+2615.498
C 1	+0.017	-1.717	-1820.392	+0.017	-1.717	-1826.614
Barra 51						
C 1	+302.018	-71.509	+394.443	+380.453	-107.324	+70.295
C 1	-341.991	-71.509	+394.443	-440.483	-107.324	+70.295
C 1	+2.323	+126.239	+583.378	+2.323	+126.239	+1040.988
C 1	-42.296	-269.256	+205.508	-62.353	-340.886	-900.398
C 1	-39.990	-141.293	+2615.495	-60.047	-212.923	+1973.446
C 1	+0.017	-1.724	-1826.609	+0.017	-1.724	-1832.856
Barra 52						
C 1	+380.453	-107.327	+70.296	+379.433	-143.142	-383.679
C 1	-440.483	-107.327	+70.296	-459.519	-143.142	-383.679
C 1	+2.323	+126.238	+1040.987	-6.684	+103.334	+895.792
C 1	-62.353	-340.892	-900.395	-73.402	-389.618	-1663.150
C 1	-60.047	-212.929	+1973.449	-55.133	-84.117	+1533.082
C 1	+0.017	-1.725	-1832.858	-24.953	-202.167	-2300.439
Barra 53						
C 1	+379.433	-143.143	-383.678	+454.298	-177.328	-938.093
C 1	-459.519	-143.143	-383.678	-553.528	-177.328	-938.093
C 1	-6.684	+103.333	+895.793	-6.684	+103.333	+1253.323
C 1	-73.402	-389.620	-1663.149	-92.546	-457.989	-3129.510
C 1	-55.133	-84.120	+1533.085	-36.877	-13.763	+1439.426
C 1	-24.953	-202.167	-2300.441	-62.353	-340.893	-3315.613
Barra 54						
C 1	+454.298	-177.329	-938.088	+529.162	-211.514	-1610.788
C 1	-553.527	-177.329	-938.088	-647.536	-211.514	-1610.788
C 1	-6.684	+103.333	+1253.324	-6.684	+103.333	+1610.853
C 1	-92.546	-457.990	-3129.501	-111.689	-526.360	-4832.431
C 1	-36.877	-13.765	+1439.432	-6.684	+103.333	+1610.853
C 1	-62.353	-340.893	-3315.609	-111.689	-526.360	-4832.431

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 55						
C 1	+529.163	-211.505	-1610.790	+552.531	-222.176	-1844.977
C 1	-647.536	-211.505	-1610.790	-676.879	-222.176	-1844.977
C 1	-6.684	+103.341	+1610.848	-6.684	+103.341	+1722.463
C 1	-111.689	-526.351	-4832.430	-117.664	-547.692	-5412.417
C 1	-6.684	+103.341	+1610.848	-6.684	+103.341	+1722.463
C 1	-111.689	-526.351	-4832.430	-117.664	-547.692	-5412.417
Barra 56						
C 1	+678.096	+222.253	-1844.967	+648.753	+211.582	-1610.703
C 1	-553.473	+222.253	-1844.967	-530.105	+211.582	-1610.703
C 1	+117.921	+548.936	-5412.387	+111.946	+527.596	-4831.071
C 1	+6.702	-104.431	+1722.452	+6.702	-104.431	+1609.665
C 1	+6.702	-104.431	+1722.452	+6.702	-104.431	+1609.665
C 1	+117.921	+548.936	-5412.387	+111.946	+527.596	-4831.071
Barra 57						
C 1	+648.752	+211.588	-1610.693	+554.744	+177.403	-937.739
C 1	-530.105	+211.588	-1610.693	-455.240	+177.403	-937.739
C 1	+111.945	+527.612	-4831.050	+92.802	+459.242	-3123.785
C 1	+6.702	-104.436	+1609.663	+6.702	-104.436	+1248.308
C 1	+6.702	-104.436	+1609.663	+25.652	-29.698	+1448.145
C 1	+111.945	+527.612	-4831.050	+73.852	+384.504	-3323.623
Barra 58						
C 1	+554.744	+177.402	-937.719	+515.076	+162.977	-689.264
C 1	-455.240	+177.402	-937.719	-423.650	+162.977	-689.264
C 1	+92.802	+459.229	-3123.743	+84.724	+430.379	-2474.353
C 1	+6.702	-104.424	+1248.305	+6.702	-104.424	+1095.826
C 1	+25.652	-29.687	+1448.146	+17.574	-58.537	+1383.722
C 1	+73.852	+384.491	-3323.584	+73.852	+384.491	-2762.249
Barra 59						
C 1	+515.075	+162.990	-689.252	+462.446	+143.230	-383.036
C 1	-423.649	+162.990	-689.252	-382.086	+143.230	-383.036
C 1	+84.724	+430.419	-2474.330	+73.658	+390.899	-1653.025
C 1	+6.702	-104.438	+1095.826	+6.702	-104.438	+886.953
C 1	+17.574	-58.550	+1383.728	+55.271	+82.337	+1538.316
C 1	+73.852	+384.530	-2762.231	+25.089	+204.124	-2304.388
Barra 60						
C 1	+462.446	+143.231	-383.019	+484.084	+133.351	-244.764
C 1	-382.086	+143.231	-383.019	-409.256	+133.351	-244.764
C 1	+73.659	+390.973	-1653.012	+73.853	+384.593	-1608.679
C 1	+6.702	-104.511	+886.973	+0.976	-117.891	+1119.152
C 1	+55.272	+82.369	+1538.311	+49.739	+62.609	+1610.840
C 1	+25.089	+204.093	-2304.350	+25.089	+204.093	-2100.367

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 61						
C 1	+484.083	+133.347	-244.747	+361.818	+88.887	+255.280
C 1	-409.256	+133.347	-244.747	-311.888	+88.887	+255.280
C 1	+73.852	+384.521	-1608.658	+48.954	+295.601	-78.389
C 1	+0.975	-117.827	+1119.164	+0.975	-117.827	+588.950
C 1	+49.738	+62.612	+1610.851	+49.916	+177.673	+2345.533
C 1	+25.089	+204.083	-2100.344	+0.014	+0.101	-1834.971
Barra 62						
C 1	+361.818	+88.887	+255.278	+248.658	+44.427	+555.234
C 1	-311.888	+88.887	+255.278	-223.626	+44.427	+555.234
C 1	+48.954	+295.600	-78.395	+24.057	+206.680	+1051.729
C 1	+0.975	-117.825	+588.951	+0.975	-117.825	+58.738
C 1	+49.916	+177.670	+2345.525	+25.019	+88.750	+2944.968
C 1	+0.014	+0.104	-1834.969	+0.014	+0.104	-1834.502
Barra 63						
C 1	+248.658	+44.426	+555.237	+346.026	-0.034	+655.118
C 1	-223.626	+44.426	+555.237	-345.891	-0.034	+655.118
C 1	+24.057	+206.676	+1051.738	+25.089	+204.081	+654.761
C 1	+0.975	-117.824	+58.737	-24.954	-204.149	+655.475
C 1	+25.019	+88.744	+2944.976	+0.121	-0.176	+3144.251
C 1	+0.014	+0.108	-1834.502	+0.014	+0.108	-1834.015
Barra 64						
C 1	+346.025	-0.034	+655.122	+247.534	-35.849	+590.081
C 1	-345.891	-0.034	+655.122	-267.456	-35.849	+590.081
C 1	+25.089	+204.084	+654.768	+5.033	+132.454	+1264.726
C 1	-24.954	-204.153	+655.476	-24.954	-204.153	-84.564
C 1	+0.121	-0.181	+3144.254	-19.935	-71.811	+3013.764
C 1	+0.014	+0.113	-1834.010	+0.014	+0.113	-1833.602
Barra 65						
C 1	+247.534	-35.845	+590.078	+302.037	-71.660	+395.216
C 1	-267.456	-35.845	+590.078	-342.015	-71.660	+395.216
C 1	+5.033	+132.455	+1264.731	+2.320	+127.925	+574.627
C 1	-24.954	-204.145	-84.576	-42.298	-271.245	+215.805
C 1	-19.936	-71.805	+3013.761	-39.992	-143.435	+2623.641
C 1	+0.014	+0.115	-1833.606	+0.014	+0.115	-1833.209
Barra 66						
C 1	+302.037	-71.661	+395.210	+380.472	-107.476	+70.511
C 1	-342.015	-71.661	+395.210	-440.506	-107.476	+70.511
C 1	+2.320	+127.924	+574.626	+2.320	+127.924	+1038.345
C 1	-42.298	-271.246	+215.795	-62.354	-342.876	-897.323
C 1	-39.992	-143.451	+2623.626	-60.048	-215.081	+1973.772
C 1	+0.014	+0.130	-1833.207	+0.014	+0.130	-1832.749

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 67						
C 1	+380.471	-107.477	+70.506	+379.451	-143.292	-384.021
C 1	-440.506	-107.477	+70.506	-459.542	-143.292	-384.021
C 1	+2.320	+127.922	+1038.348	-6.687	+105.021	+899.196
C 1	-62.354	-342.876	-897.337	-73.404	-391.605	-1667.239
C 1	-60.048	-215.074	+1973.776	-55.137	-82.439	+1536.659
C 1	+0.014	+0.120	-1832.765	-24.954	-204.145	-2304.702
Barra 68						
C 1	+379.451	-143.297	-384.018	+454.316	-177.482	-938.969
C 1	-459.542	-143.297	-384.018	-553.551	-177.482	-938.969
C 1	-6.687	+105.024	+899.198	-6.687	+105.024	+1262.580
C 1	-73.404	-391.619	-1667.234	-92.547	-459.988	-3140.518
C 1	-55.137	-82.443	+1536.658	-36.880	-12.077	+1448.732
C 1	-24.954	-204.151	-2304.695	-62.354	-342.888	-3326.669
Barra 69						
C 1	+454.316	-177.482	-938.966	+529.181	-211.667	-1612.192
C 1	-553.551	-177.482	-938.966	-647.559	-211.667	-1612.192
C 1	-6.687	+105.023	+1262.577	-6.687	+105.023	+1625.958
C 1	-92.547	-459.987	-3140.511	-111.691	-528.357	-4850.342
C 1	-36.880	-12.077	+1448.734	-6.687	+105.023	+1625.958
C 1	-62.354	-342.887	-3326.667	-111.691	-528.357	-4850.342
Barra 70						
C 1	+529.181	-211.653	-1612.183	+552.549	-222.323	-1846.562
C 1	-647.559	-211.653	-1612.183	-676.903	-222.323	-1846.562
C 1	-6.687	+105.019	+1625.957	-6.687	+105.019	+1739.385
C 1	-111.690	-528.324	-4850.324	-117.666	-549.665	-5432.508
C 1	-6.687	+105.019	+1625.957	-6.687	+105.019	+1739.385
C 1	-111.690	-528.324	-4850.324	-117.666	-549.665	-5432.508
Barra 71						
C 1	+678.097	+222.301	-1846.566	+648.753	+211.631	-1612.219
C 1	-553.474	+222.301	-1846.566	-530.106	+211.631	-1612.219
C 1	+117.921	+549.398	-5432.512	+111.945	+528.057	-4850.642
C 1	+6.702	-104.796	+1739.380	+6.702	-104.796	+1626.203
C 1	+6.702	-104.796	+1739.380	+6.702	-104.796	+1626.203
C 1	+117.921	+549.398	-5432.512	+111.945	+528.057	-4850.642
Barra 72						
C 1	+648.753	+211.637	-1612.215	+554.745	+177.452	-939.091
C 1	-530.106	+211.637	-1612.215	-455.241	+177.452	-939.091
C 1	+111.945	+528.074	-4850.629	+92.802	+459.704	-3141.771
C 1	+6.702	-104.800	+1626.199	+6.702	-104.800	+1263.589
C 1	+6.702	-104.800	+1626.199	+25.652	-30.044	+1463.484
C 1	+111.945	+528.074	-4850.629	+73.852	+384.948	-3341.666

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 73						
C 1	+554.745	+177.458	-939.122	+515.076	+163.033	-690.507
C 1	-455.241	+177.458	-939.122	-423.650	+163.033	-690.507
C 1	+92.802	+459.713	-3141.817	+84.724	+430.863	-2491.589
C 1	+6.702	-104.797	+1263.572	+6.702	-104.797	+1110.575
C 1	+25.652	-30.036	+1463.476	+17.574	-58.886	+1398.573
C 1	+73.852	+384.952	-3341.721	+73.852	+384.952	-2779.586
Barra 74						
C 1	+515.076	+163.021	-690.541	+462.447	+143.261	-384.247
C 1	-423.650	+163.022	-690.541	-382.087	+143.262	-384.247
C 1	+84.724	+430.838	-2491.657	+73.658	+391.318	-1669.476
C 1	+6.702	-104.795	+1110.575	+6.702	-104.795	+900.982
C 1	+17.574	-58.895	+1398.567	+55.271	+82.023	+1552.879
C 1	+73.852	+384.938	-2779.648	+25.089	+204.500	-2321.374
Barra 75						
C 1	+462.446	+143.201	-384.243	+484.084	+133.321	-245.945
C 1	-382.086	+143.201	-384.243	-409.256	+133.321	-245.945
C 1	+73.658	+391.242	-1669.479	+73.852	+384.893	-1624.833
C 1	+6.702	-104.840	+900.993	+0.975	-118.252	+1132.943
C 1	+55.271	+81.758	+1552.955	+49.738	+61.998	+1624.943
C 1	+25.089	+204.643	-2321.441	+25.089	+204.643	-2116.833
Barra 76						
C 1	+484.084	+133.377	-245.931	+361.819	+88.917	+254.230
C 1	-409.257	+133.377	-245.931	-311.889	+88.917	+254.230
C 1	+73.852	+384.930	-1624.822	+48.954	+296.010	-92.709
C 1	+0.975	-118.176	+1132.960	+0.975	-118.176	+601.169
C 1	+49.738	+62.237	+1624.990	+49.916	+176.796	+2357.265
C 1	+25.089	+204.517	-2116.853	+0.014	+1.037	-1848.805
Barra 77						
C 1	+361.819	+88.918	+254.233	+248.659	+44.458	+554.329
C 1	-311.889	+88.918	+254.233	-223.627	+44.458	+554.329
C 1	+48.954	+296.011	-92.700	+24.057	+207.091	+1039.282
C 1	+0.975	-118.174	+601.166	+0.975	-118.174	+69.375
C 1	+49.916	+176.794	+2357.271	+25.018	+87.874	+2952.779
C 1	+0.014	+1.043	-1848.804	+0.014	+1.043	-1844.121
Barra 78						
C 1	+248.659	+44.459	+554.324	+346.026	-0.001	+654.357
C 1	-223.627	+44.459	+554.324	-345.892	-0.001	+654.357
C 1	+24.057	+207.095	+1039.274	+25.089	+204.518	+644.136
C 1	+0.975	-118.176	+69.374	-24.954	-204.519	+664.578
C 1	+25.018	+87.883	+2952.766	+0.121	-1.037	+3148.162
C 1	+0.014	+1.036	-1844.117	+0.014	+1.036	-1839.448

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 79						
C 1	+346.026	-0.005	+654.356	+247.535	-35.820	+589.429
C 1	-345.892	-0.005	+654.356	-267.457	-35.820	+589.429
C 1	+25.089	+204.511	+644.139	+5.032	+132.881	+1255.672
C 1	-24.954	-204.521	+664.572	-24.954	-204.521	-76.814
C 1	+0.121	-1.051	+3148.161	-19.936	-72.681	+3014.535
C 1	+0.014	+1.041	-1839.449	+0.014	+1.041	-1835.677
Barra 80						
C 1	+247.535	-35.817	+589.440	+302.038	-71.632	+394.682
C 1	-267.457	-35.817	+589.440	-342.016	-71.632	+394.682
C 1	+5.032	+132.885	+1255.689	+2.319	+128.375	+567.284
C 1	-24.955	-204.519	-76.809	-42.298	-271.639	+222.080
C 1	-19.936	-72.672	+3014.572	-39.992	-144.302	+2621.303
C 1	+0.014	+1.038	-1835.692	+0.014	+1.038	-1831.938
Barra 81						
C 1	+302.038	-71.635	+394.685	+380.472	-107.450	+70.099
C 1	-342.016	-71.635	+394.685	-440.507	-107.450	+70.099
C 1	+2.319	+128.375	+567.284	+2.319	+128.375	+1032.645
C 1	-42.298	-271.644	+222.085	-62.354	-343.274	-892.447
C 1	-39.992	-144.308	+2621.298	-60.049	-215.938	+1968.349
C 1	+0.014	+1.039	-1831.928	+0.014	+1.039	-1828.150
Barra 82						
C 1	+380.472	-107.447	+70.099	+379.453	-143.262	-384.312
C 1	-440.507	-107.447	+70.099	-459.544	-143.262	-384.312
C 1	+2.319	+128.374	+1032.643	-6.688	+105.480	+895.262
C 1	-62.354	-343.267	-892.444	-73.404	-392.004	-1663.885
C 1	-60.049	-215.945	+1968.349	-55.137	-82.006	+1532.360
C 1	+0.014	+1.052	-1828.150	-24.955	-204.517	-2300.983
Barra 83						
C 1	+379.453	-143.262	-384.315	+454.317	-177.447	-939.144
C 1	-459.544	-143.262	-384.315	-553.552	-177.447	-939.144
C 1	-6.688	+105.482	+895.260	-6.688	+105.482	+1260.227
C 1	-73.404	-392.006	-1663.890	-92.547	-460.376	-3138.514
C 1	-55.137	-82.007	+1532.359	-36.880	-11.625	+1446.226
C 1	-24.955	-204.516	-2300.989	-62.354	-343.268	-3324.513
Barra 84						
C 1	+454.317	-177.448	-939.144	+529.182	-211.633	-1612.258
C 1	-553.552	-177.448	-939.144	-647.560	-211.633	-1612.258
C 1	-6.688	+105.483	+1260.226	-6.688	+105.483	+1625.193
C 1	-92.547	-460.379	-3138.513	-111.691	-528.749	-4849.711
C 1	-36.880	-11.623	+1446.225	-6.688	+105.483	+1625.193
C 1	-62.354	-343.273	-3324.512	-111.691	-528.749	-4849.711

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 85						
C 1	+529.182	-211.642	-1612.255	+552.549	-222.312	-1846.580
C 1	-647.560	-211.642	-1612.255	-676.904	-222.312	-1846.580
C 1	-6.688	+105.482	+1625.195	-6.688	+105.482	+1739.121
C 1	-111.691	-528.766	-4849.705	-117.666	-550.107	-5432.281
C 1	-6.688	+105.482	+1625.195	-6.688	+105.482	+1739.121
C 1	-111.691	-528.766	-4849.705	-117.666	-550.107	-5432.281
Barra 86						
C 1	+678.094	+222.327	-1846.579	+648.751	+211.657	-1612.217
C 1	-553.472	+222.327	-1846.579	-530.104	+211.657	-1612.217
C 1	+117.920	+548.951	-5432.271	+111.945	+527.611	-4850.910
C 1	+6.702	-104.296	+1739.113	+6.702	-104.296	+1626.477
C 1	+6.702	-104.296	+1739.113	+6.702	-104.296	+1626.477
C 1	+117.920	+548.951	-5432.271	+111.945	+527.611	-4850.909
Barra 87						
C 1	+648.751	+211.660	-1612.229	+554.743	+177.476	-939.023
C 1	-530.104	+211.660	-1612.229	-455.240	+177.476	-939.023
C 1	+111.945	+527.615	-4850.936	+92.801	+459.246	-3143.662
C 1	+6.702	-104.295	+1626.479	+6.702	-104.295	+1265.616
C 1	+6.702	-104.295	+1626.479	+25.651	-29.572	+1465.504
C 1	+111.945	+527.615	-4850.936	+73.852	+384.523	-3343.550
Barra 88						
C 1	+554.743	+177.455	-939.017	+515.075	+163.030	-690.471
C 1	-455.240	+177.455	-939.017	-423.650	+163.030	-690.471
C 1	+92.802	+459.203	-3143.647	+84.724	+430.353	-2494.280
C 1	+6.702	-104.293	+1265.614	+6.702	-104.293	+1113.339
C 1	+25.652	-29.571	+1465.503	+17.574	-58.421	+1401.259
C 1	+73.852	+384.481	-3343.536	+73.852	+384.481	-2782.200
Barra 89						
C 1	+515.075	+163.058	-690.450	+462.445	+143.298	-384.095
C 1	-423.650	+163.058	-690.450	-382.086	+143.298	-384.095
C 1	+84.724	+430.418	-2494.253	+73.658	+390.898	-1672.933
C 1	+6.702	-104.301	+1113.352	+6.702	-104.301	+904.744
C 1	+17.574	-58.416	+1401.273	+55.271	+82.439	+1556.180
C 1	+73.852	+384.533	-2782.174	+25.089	+204.158	-2324.370
Barra 90						
C 1	+462.446	+143.458	-384.087	+484.083	+133.578	-245.677
C 1	-382.086	+143.458	-384.087	-409.256	+133.578	-245.677
C 1	+73.658	+391.176	-1672.960	+73.852	+384.796	-1628.474
C 1	+6.702	-104.260	+904.787	+0.975	-117.640	+1137.121
C 1	+55.271	+82.620	+1556.281	+49.738	+62.860	+1628.871
C 1	+25.089	+204.296	-2324.454	+25.089	+204.296	-2120.225

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 91						
C 1	+484.083	+133.425	-245.724	+361.818	+88.965	+254.651
C 1	-409.256	+133.425	-245.724	-311.888	+88.965	+254.651
C 1	+73.852	+384.542	-1628.553	+48.954	+295.622	-98.185
C 1	+0.975	-117.693	+1137.105	+0.975	-117.693	+607.487
C 1	+49.738	+62.724	+1628.830	+49.916	+176.009	+2359.507
C 1	+25.089	+204.125	-2120.279	+0.014	+1.921	-1850.205
Barra 92						
C 1	+361.817	+88.963	+254.651	+248.657	+44.503	+554.949
C 1	-311.888	+88.963	+254.651	-223.626	+44.503	+554.949
C 1	+48.954	+295.618	-98.179	+24.057	+206.698	+1032.029
C 1	+0.975	-117.691	+607.482	+0.975	-117.691	+77.869
C 1	+49.916	+176.002	+2359.516	+25.018	+87.082	+2951.450
C 1	+0.014	+1.925	-1850.213	+0.014	+1.925	-1841.551
Barra 93						
C 1	+248.657	+44.503	+554.946	+346.025	+0.043	+655.177
C 1	-223.625	+44.503	+554.946	-345.891	+0.043	+655.177
C 1	+24.057	+206.697	+1032.025	+25.089	+204.126	+635.425
C 1	+0.975	-117.691	+77.867	-24.955	-204.040	+674.928
C 1	+25.018	+87.076	+2951.441	+0.121	-1.844	+3143.227
C 1	+0.014	+1.930	-1841.549	+0.014	+1.930	-1832.874
Barra 94						
C 1	+346.025	+0.040	+655.172	+247.533	-35.775	+590.411
C 1	-345.891	+0.040	+655.172	-267.456	-35.775	+590.411
C 1	+25.089	+204.127	+635.424	+5.032	+132.497	+1245.550
C 1	-24.955	-204.047	+674.920	-24.955	-204.047	-64.728
C 1	+0.121	-1.857	+3143.228	-19.936	-73.487	+3006.680
C 1	+0.014	+1.938	-1832.885	+0.014	+1.938	-1825.859
Barra 95						
C 1	+247.533	-35.771	+590.412	+302.036	-71.586	+395.824
C 1	-267.456	-35.771	+590.412	-342.015	-71.586	+395.824
C 1	+5.032	+132.498	+1245.552	+2.319	+127.992	+556.104
C 1	-24.954	-204.040	-64.729	-42.298	-271.164	+235.543
C 1	-19.936	-73.462	+3006.685	-39.992	-145.092	+2610.534
C 1	+0.014	+1.920	-1825.861	+0.014	+1.920	-1818.887
Barra 96						
C 1	+302.036	-71.587	+395.826	+380.471	-107.402	+71.409
C 1	-342.015	-71.587	+395.826	-440.506	-107.402	+71.409
C 1	+2.319	+127.993	+556.110	+2.319	+127.993	+1020.082
C 1	-42.298	-271.166	+235.543	-62.354	-342.796	-877.264
C 1	-39.992	-145.091	+2610.529	-60.049	-216.721	+1954.756
C 1	+0.014	+1.917	-1818.876	+0.014	+1.917	-1811.938

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 97						
C 1	+380.471	-107.400	+71.411	+379.451	-143.215	-382.833
C 1	-440.506	-107.400	+71.411	-459.543	-143.215	-382.833
C 1	+2.319	+127.994	+1020.085	-6.688	+105.104	+881.554
C 1	-62.354	-342.794	-877.264	-73.404	-391.534	-1647.220
C 1	-60.049	-216.712	+1954.742	-55.137	-82.386	+1518.019
C 1	+0.014	+1.911	-1811.921	-24.955	-204.044	-2283.686
Barra 98						
C 1	+379.451	-143.216	-382.832	+454.316	-177.401	-937.494
C 1	-459.543	-143.216	-382.832	-553.551	-177.401	-937.494
C 1	-6.688	+105.102	+881.556	-6.688	+105.102	+1245.208
C 1	-73.404	-391.534	-1647.219	-92.547	-459.904	-3120.196
C 1	-55.137	-82.390	+1518.016	-36.881	-12.008	+1430.967
C 1	-24.955	-204.042	-2283.681	-62.354	-342.794	-3305.956
Barra 99						
C 1	+454.316	-177.402	-937.496	+529.180	-211.586	-1610.436
C 1	-553.551	-177.402	-937.496	-647.558	-211.586	-1610.436
C 1	-6.688	+105.104	+1245.209	-6.688	+105.104	+1608.868
C 1	-92.547	-459.908	-3120.200	-111.691	-528.277	-4829.739
C 1	-36.881	-12.007	+1430.966	-6.688	+105.104	+1608.868
C 1	-62.354	-342.796	-3305.958	-111.691	-528.277	-4829.739
Barra 100						
C 1	+529.180	-211.589	-1610.437	+552.548	-222.260	-1844.705
C 1	-647.559	-211.589	-1610.437	-676.902	-222.260	-1844.705
C 1	-6.688	+105.118	+1608.864	-6.688	+105.118	+1722.384
C 1	-111.691	-528.297	-4829.737	-117.666	-549.638	-5411.793
C 1	-6.688	+105.118	+1608.864	-6.688	+105.118	+1722.384
C 1	-111.691	-528.297	-4829.737	-117.666	-549.638	-5411.793
Barra 101						
C 1	+678.071	+222.116	-1844.718	+648.728	+211.445	-1610.589
C 1	-553.453	+222.116	-1844.718	-530.085	+211.445	-1610.589
C 1	+117.919	+546.862	-5411.812	+111.944	+525.521	-4832.725
C 1	+6.698	-102.631	+1722.377	+6.698	-102.631	+1611.546
C 1	+6.698	-102.631	+1722.377	+6.698	-102.631	+1611.546
C 1	+117.919	+546.862	-5411.812	+111.944	+525.521	-4832.725
Barra 102						
C 1	+648.727	+211.449	-1610.588	+554.719	+177.264	-938.115
C 1	-530.086	+211.449	-1610.588	-455.221	+177.264	-938.115
C 1	+111.943	+525.518	-4832.721	+92.800	+457.148	-3132.712
C 1	+6.698	-102.620	+1611.546	+6.698	-102.620	+1256.483
C 1	+6.698	-102.620	+1611.546	+25.648	-27.957	+1456.306
C 1	+111.943	+525.518	-4832.721	+73.850	+382.485	-3332.535

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 103						
C 1	+554.720	+177.264	-938.085	+515.052	+162.839	-689.832
C 1	-455.221	+177.264	-938.085	-423.631	+162.839	-689.832
C 1	+92.800	+457.165	-3132.653	+84.722	+428.315	-2486.319
C 1	+6.698	-102.637	+1256.484	+6.698	-102.637	+1106.655
C 1	+25.648	-27.978	+1456.317	+17.570	-56.828	+1394.442
C 1	+73.851	+382.506	-3332.487	+73.851	+382.506	-2774.106
Barra 104						
C 1	+515.052	+162.852	-689.849	+462.422	+143.092	-383.901
C 1	-423.631	+162.852	-689.849	-382.067	+143.092	-383.901
C 1	+84.722	+428.329	-2486.352	+73.657	+388.809	-1669.203
C 1	+6.698	-102.625	+1106.653	+6.698	-102.625	+901.401
C 1	+17.570	-56.803	+1394.442	+55.268	+83.849	+1551.659
C 1	+73.851	+382.507	-2774.140	+25.087	+202.335	-2319.460
Barra 105						
C 1	+462.422	+143.167	-383.891	+484.060	+133.287	-245.740
C 1	-382.067	+143.167	-383.891	-409.237	+133.287	-245.740
C 1	+73.657	+388.942	-1669.206	+73.851	+382.625	-1626.563
C 1	+6.698	-102.609	+901.424	+0.972	-116.051	+1135.083
C 1	+55.268	+84.084	+1551.683	+49.735	+64.324	+1625.708
C 1	+25.087	+202.250	-2319.465	+25.087	+202.250	-2117.188
Barra 106						
C 1	+484.059	+133.272	-245.733	+361.794	+88.812	+253.955
C 1	-409.237	+133.272	-245.733	-311.870	+88.812	+253.955
C 1	+73.851	+382.612	-1626.587	+48.953	+293.692	-104.914
C 1	+0.972	-116.067	+1135.121	+0.972	-116.067	+612.825
C 1	+49.735	+64.391	+1625.721	+49.915	+174.071	+2352.824
C 1	+25.087	+202.154	-2117.187	+0.010	+3.554	-1844.913
Barra 107						
C 1	+361.794	+88.812	+253.954	+248.634	+44.352	+553.576
C 1	-311.870	+88.812	+253.954	-223.607	+44.352	+553.576
C 1	+48.953	+293.692	-104.914	+24.055	+204.772	+1016.635
C 1	+0.972	-116.067	+612.821	+0.972	-116.067	+90.516
C 1	+49.914	+174.077	+2352.818	+25.017	+85.157	+2936.097
C 1	+0.010	+3.548	-1844.911	+0.010	+3.548	-1828.944
Barra 108						
C 1	+248.634	+44.352	+553.576	+346.001	-0.108	+653.126
C 1	-223.607	+44.352	+553.577	-345.872	-0.108	+653.126
C 1	+24.055	+204.770	+1016.636	+25.087	+202.148	+611.847
C 1	+0.972	-116.067	+90.517	-24.958	-202.365	+694.405
C 1	+25.017	+85.159	+2936.094	+0.119	-3.761	+3119.242
C 1	+0.010	+3.544	-1828.941	+0.010	+3.544	-1812.990

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 109						
C 1	+346.001	-0.109	+653.130	+247.510	-35.924	+587.837
C 1	-345.872	-0.109	+653.130	-267.437	-35.924	+587.837
C 1	+25.087	+202.148	+611.849	+5.031	+130.518	+1214.831
C 1	-24.958	-202.366	+694.412	-24.958	-202.366	-39.157
C 1	+0.119	-3.756	+3119.264	-19.937	-75.386	+2975.834
C 1	+0.010	+3.539	-1813.002	+0.010	+3.539	-1800.161
Barra 110						
C 1	+247.510	-35.922	+587.833	+302.013	-71.737	+392.698
C 1	-267.437	-35.922	+587.833	-341.996	-71.737	+392.698
C 1	+5.031	+130.521	+1214.826	+2.318	+125.975	+518.183
C 1	-24.958	-202.365	-39.159	-42.301	-269.450	+267.213
C 1	-19.937	-75.371	+2975.834	-39.994	-147.001	+2572.775
C 1	+0.010	+3.527	-1800.168	+0.010	+3.527	-1787.380
Barra 111						
C 1	+302.012	-71.735	+392.702	+380.447	-107.550	+67.753
C 1	-341.996	-71.735	+392.702	-440.487	-107.550	+67.753
C 1	+2.318	+125.979	+518.181	+2.318	+125.979	+974.861
C 1	-42.301	-269.450	+267.224	-62.358	-341.080	-839.355
C 1	-39.994	-146.995	+2572.788	-60.050	-218.625	+1910.103
C 1	+0.010	+3.524	-1787.384	+0.010	+3.524	-1774.598
Barra 112						
C 1	+380.447	-107.550	+67.756	+379.428	-143.365	-387.021
C 1	-440.487	-107.550	+67.756	-459.524	-143.365	-387.021
C 1	+2.318	+125.977	+974.857	-6.689	+103.070	+828.844
C 1	-62.358	-341.077	-839.344	-73.407	-389.800	-1602.887
C 1	-60.050	-218.610	+1910.101	-55.138	-84.362	+1465.825
C 1	+0.010	+3.510	-1774.589	-24.958	-202.368	-2239.867
Barra 113						
C 1	+379.428	-143.364	-387.027	+454.292	-177.549	-942.193
C 1	-459.524	-143.364	-387.027	-553.532	-177.549	-942.193
C 1	-6.689	+103.070	+828.842	-6.689	+103.070	+1185.463
C 1	-73.407	-389.798	-1602.895	-92.551	-458.167	-3069.849
C 1	-55.138	-84.362	+1465.820	-36.882	-14.022	+1371.457
C 1	-24.958	-202.366	-2239.873	-62.358	-341.075	-3255.843
Barra 114						
C 1	+454.292	-177.548	-942.195	+529.157	-211.733	-1615.652
C 1	-553.532	-177.548	-942.195	-647.540	-211.733	-1615.652
C 1	-6.689	+103.070	+1185.466	-6.689	+103.070	+1542.084
C 1	-92.551	-458.167	-3069.855	-111.694	-526.536	-4773.390
C 1	-36.882	-14.020	+1371.455	-6.689	+103.070	+1542.084
C 1	-62.358	-341.076	-3255.845	-111.694	-526.536	-4773.390

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 115						
C 1	+529.157	-211.744	-1615.653	+552.525	-222.415	-1850.084
C 1	-647.540	-211.744	-1615.653	-676.883	-222.415	-1850.084
C 1	-6.689	+103.065	+1542.091	-6.689	+103.065	+1653.401
C 1	-111.694	-526.553	-4773.397	-117.670	-547.894	-5353.569
C 1	-6.689	+103.065	+1542.091	-6.689	+103.065	+1653.401
C 1	-111.694	-526.553	-4773.397	-117.670	-547.894	-5353.569
Barra 116						
C 1	+677.660	+222.675	-1850.080	+648.316	+212.005	-1615.368
C 1	-553.126	+222.675	-1850.080	-529.758	+212.005	-1615.368
C 1	+117.859	+541.727	-5353.551	+111.883	+520.387	-4780.059
C 1	+6.675	-96.377	+1653.393	+6.675	-96.377	+1549.324
C 1	+6.675	-96.378	+1653.393	+6.675	-96.378	+1549.324
C 1	+117.859	+541.727	-5353.551	+111.883	+520.387	-4780.059
Barra 117						
C 1	+648.316	+211.988	-1615.366	+554.308	+177.804	-941.025
C 1	-529.758	+211.988	-1615.366	-454.893	+177.804	-941.025
C 1	+111.883	+520.352	-4780.053	+92.739	+451.983	-3097.907
C 1	+6.675	-96.375	+1549.321	+6.675	-96.375	+1215.858
C 1	+6.675	-96.375	+1549.321	+25.625	-21.644	+1415.808
C 1	+111.883	+520.352	-4780.053	+73.790	+377.251	-3297.857
Barra 118						
C 1	+554.308	+177.806	-941.011	+514.640	+163.382	-691.977
C 1	-454.894	+177.806	-941.011	-423.304	+163.382	-691.977
C 1	+92.739	+451.984	-3097.881	+84.661	+423.134	-2459.101
C 1	+6.675	-96.371	+1215.858	+6.675	-96.371	+1075.147
C 1	+25.625	-21.634	+1415.802	+17.547	-50.483	+1363.153
C 1	+73.790	+377.247	-3297.824	+73.790	+377.247	-2747.106
Barra 119						
C 1	+514.640	+163.372	-691.970	+462.011	+143.612	-384.966
C 1	-423.304	+163.372	-691.970	-381.740	+143.612	-384.966
C 1	+84.661	+423.118	-2459.091	+73.596	+383.598	-1652.338
C 1	+6.675	-96.374	+1075.151	+6.675	-96.374	+882.406
C 1	+17.547	-50.497	+1363.150	+55.244	+90.296	+1534.230
C 1	+73.790	+377.240	-2747.090	+25.027	+196.928	-2304.162
Barra 120						
C 1	+462.011	+143.714	-385.013	+483.648	+133.834	-246.294
C 1	-381.739	+143.714	-385.013	-408.909	+133.834	-246.294
C 1	+73.596	+383.834	-1652.485	+73.790	+377.486	-1615.292
C 1	+6.675	-96.406	+882.459	+0.949	-109.818	+1122.704
C 1	+55.245	+90.442	+1534.203	+49.712	+70.682	+1614.641
C 1	+25.027	+196.986	-2304.229	+25.027	+196.986	-2107.229

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 121						
C 1	+483.648	+133.740	-246.303	+361.383	+89.280	+255.489
C 1	-408.909	+133.740	-246.303	-311.542	+89.280	+255.489
C 1	+73.790	+377.255	-1615.347	+48.892	+288.335	-117.772
C 1	+0.949	-109.776	+1122.740	+0.949	-109.776	+628.751
C 1	+49.712	+70.557	+1614.630	+49.854	+168.488	+2341.681
C 1	+25.027	+196.922	-2107.237	-0.013	+10.072	-1830.703
Barra 122						
C 1	+361.383	+89.281	+255.486	+248.223	+44.821	+557.211
C 1	-311.542	+89.281	+255.486	-223.280	+44.821	+557.211
C 1	+48.892	+288.337	-117.780	+23.995	+199.417	+979.660
C 1	+0.949	-109.774	+628.751	+0.949	-109.774	+134.761
C 1	+49.854	+168.486	+2341.684	+24.956	+79.566	+2899.791
C 1	-0.013	+10.077	-1830.713	-0.013	+10.077	-1785.370
Barra 123						
C 1	+248.223	+44.821	+557.207	+345.590	+0.361	+658.865
C 1	-223.280	+44.821	+557.207	-345.545	+0.361	+658.865
C 1	+23.995	+199.419	+979.653	+25.027	+196.922	+551.196
C 1	+0.949	-109.777	+134.761	-24.981	-196.200	+766.533
C 1	+24.956	+79.578	+2899.775	+0.059	-9.342	+3057.804
C 1	-0.013	+10.064	-1785.361	-0.013	+10.064	-1740.075
Barra 124						
C 1	+345.590	+0.361	+658.865	+247.099	-35.454	+595.253
C 1	-345.545	+0.361	+658.865	-267.110	-35.454	+595.253
C 1	+25.027	+196.926	+551.195	+4.970	+125.296	+1135.215
C 1	-24.981	-196.204	+766.536	-24.981	-196.204	+55.291
C 1	+0.059	-9.346	+3057.807	-19.998	-80.976	+2894.077
C 1	-0.013	+10.068	-1740.076	-0.013	+10.068	-1703.571
Barra 125						
C 1	+247.099	-35.453	+595.254	+301.602	-71.268	+401.826
C 1	-267.110	-35.453	+595.254	-341.669	-71.268	+401.826
C 1	+4.970	+125.294	+1135.195	+2.257	+120.873	+421.306
C 1	-24.981	-196.200	+55.312	-42.325	-263.409	+382.345
C 1	-19.998	-80.965	+2894.094	-40.054	-152.595	+2470.773
C 1	-0.013	+10.059	-1703.587	-0.013	+10.059	-1667.121
Barra 126						
C 1	+301.602	-71.268	+401.822	+380.037	-107.083	+78.564
C 1	-341.669	-71.268	+401.822	-440.161	-107.083	+78.564
C 1	+2.257	+120.873	+421.298	+2.257	+120.873	+859.466
C 1	-42.325	-263.409	+382.346	-62.381	-335.039	-702.338
C 1	-40.054	-152.584	+2470.773	-60.111	-224.214	+1787.827
C 1	-0.013	+10.049	-1667.129	-0.013	+10.049	-1630.699

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 127						
C 1	+380.037	-107.084	+78.564	+379.018	-142.899	-374.521
C 1	-440.161	-107.084	+78.565	-459.198	-142.899	-374.521
C 1	+2.257	+120.873	+859.461	-6.749	+98.035	+696.433
C 1	-62.381	-335.041	-702.332	-73.431	-383.832	-1445.475
C 1	-60.111	-224.222	+1787.848	-55.199	-89.597	+1329.314
C 1	-0.013	+10.054	-1630.719	-24.981	-196.201	-2078.356
Barra 128						
C 1	+379.018	-142.898	-374.521	+453.883	-177.083	-928.081
C 1	-459.198	-142.898	-374.521	-553.206	-177.083	-928.081
C 1	-6.749	+98.035	+696.429	-6.749	+98.035	+1035.621
C 1	-73.431	-383.831	-1445.471	-92.574	-452.201	-2891.784
C 1	-55.199	-89.596	+1329.321	-36.942	-19.125	+1219.895
C 1	-24.981	-196.200	-2078.364	-62.381	-335.040	-3076.057
Barra 129						
C 1	+453.883	-177.081	-928.085	+528.747	-211.266	-1599.921
C 1	-553.206	-177.081	-928.085	-647.214	-211.266	-1599.921
C 1	-6.749	+98.033	+1035.621	-6.749	+98.033	+1374.811
C 1	-92.574	-452.195	-2891.791	-111.717	-520.564	-4574.653
C 1	-36.942	-19.125	+1219.890	-6.749	+98.033	+1374.811
C 1	-62.381	-335.037	-3076.060	-111.717	-520.564	-4574.653
Barra 130						
C 1	+528.747	-211.264	-1599.916	+552.115	-221.935	-1833.858
C 1	-647.214	-211.264	-1599.916	-676.558	-221.935	-1833.858
C 1	-6.749	+98.027	+1374.817	-6.749	+98.027	+1480.687
C 1	-111.718	-520.555	-4574.649	-117.693	-541.896	-5148.403
C 1	-6.749	+98.027	+1374.817	-6.749	+98.027	+1480.687
C 1	-111.718	-520.555	-4574.649	-117.693	-541.896	-5148.403
Barra 131						
C 1	+670.455	+221.143	-1833.874	+641.111	+210.473	-1600.790
C 1	-547.395	+221.143	-1833.874	-524.027	+210.473	-1600.790
C 1	+117.447	+522.888	-5148.436	+111.472	+501.547	-4595.223
C 1	+5.612	-80.601	+1480.688	+5.612	-80.601	+1393.644
C 1	+5.612	-80.601	+1480.688	+5.612	-80.601	+1393.644
C 1	+117.447	+522.888	-5148.436	+111.472	+501.547	-4595.223
Barra 132						
C 1	+641.111	+210.459	-1600.797	+547.103	+176.274	-931.748
C 1	-524.027	+210.459	-1600.797	-449.163	+176.274	-931.748
C 1	+111.472	+501.515	-4595.239	+92.329	+433.146	-2978.280
C 1	+5.612	-80.597	+1393.646	+5.612	-80.597	+1114.784
C 1	+5.612	-80.597	+1393.646	+24.558	-6.061	+1315.443
C 1	+111.472	+501.515	-4595.239	+73.382	+358.610	-3178.939

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 133						
C 1	+547.103	+176.266	-931.748	+507.436	+161.841	-684.907
C 1	-449.163	+176.266	-931.748	-417.573	+161.841	-684.907
C 1	+92.329	+433.130	-2978.277	+84.251	+404.280	-2366.933
C 1	+5.612	-80.598	+1114.781	+5.612	-80.598	+997.118
C 1	+24.558	-6.064	+1315.435	+16.480	-34.913	+1285.545
C 1	+73.382	+358.596	-3178.931	+73.382	+358.596	-2655.360
Barra 134						
C 1	+507.436	+161.855	-684.916	+454.832	+142.095	-380.967
C 1	-417.573	+161.855	-684.916	-376.035	+142.095	-380.967
C 1	+84.251	+404.294	-2366.934	+73.185	+364.774	-1597.869
C 1	+5.612	-80.585	+997.102	+5.612	-80.585	+835.936
C 1	+16.480	-34.883	+1285.527	+54.164	+105.019	+1488.724
C 1	+73.382	+358.592	-2655.358	+24.633	+179.171	-2250.658
Barra 135						
C 1	+454.833	+142.114	-380.954	+476.470	+132.234	-243.807
C 1	-376.035	+142.114	-380.954	-403.205	+132.234	-243.807
C 1	+73.186	+364.813	-1597.821	+73.382	+358.620	-1579.543
C 1	+5.612	-80.585	+835.914	-0.118	-94.152	+1091.931
C 1	+54.165	+105.108	+1488.783	+48.632	+85.348	+1583.931
C 1	+24.633	+179.120	-2250.690	+24.633	+179.120	-2071.543
Barra 136						
C 1	+476.470	+132.278	-243.782	+354.205	+87.818	+251.433
C 1	-403.205	+132.278	-243.782	-305.838	+87.818	+251.433
C 1	+73.382	+358.653	-1579.522	+48.485	+269.733	-165.652
C 1	-0.118	-94.098	+1091.959	-0.118	-94.098	+668.517
C 1	+48.632	+85.636	+1584.004	+49.447	+148.917	+2289.792
C 1	+24.633	+178.920	-2071.568	-1.080	+26.719	-1786.926
Barra 137						
C 1	+354.204	+87.821	+251.429	+241.164	+43.361	+546.585
C 1	-305.838	+87.821	+251.429	-217.695	+43.361	+546.585
C 1	+48.484	+269.740	-165.661	+23.587	+180.820	+848.093
C 1	-0.118	-94.098	+668.518	-0.118	-94.098	+245.077
C 1	+49.447	+148.925	+2289.782	+24.549	+60.005	+2759.871
C 1	-1.080	+26.717	-1786.925	-1.080	+26.717	-1666.701
Barra 138						
C 1	+241.164	+43.362	+546.581	+338.532	-1.098	+641.661
C 1	-217.695	+43.362	+546.581	-339.960	-1.098	+641.661
C 1	+23.587	+180.821	+848.082	+24.633	+178.922	+343.847
C 1	-0.118	-94.097	+245.080	-26.061	-181.118	+939.474
C 1	+24.549	+60.012	+2759.861	-0.349	-28.908	+2829.820
C 1	-1.080	+26.712	-1666.698	-1.080	+26.712	-1546.498

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 139						
C 1	+338.532	-1.103	+641.671	+240.041	-36.918	+572.764
C 1	-339.960	-1.103	+641.671	-261.525	-36.918	+572.764
C 1	+24.633	+178.915	+343.849	+4.576	+107.285	+862.605
C 1	-26.061	-181.120	+939.493	-26.061	-181.120	+282.923
C 1	-0.349	-28.912	+2829.846	-20.405	-100.542	+2595.212
C 1	-1.080	+26.707	-1546.504	-1.080	+26.707	-1449.684
Barra 140						
C 1	+240.041	-36.912	+572.765	+294.716	-72.727	+374.039
C 1	-261.526	-36.912	+572.765	-336.258	-72.727	+374.039
C 1	+4.576	+107.292	+862.611	+1.883	+103.586	+97.547
C 1	-26.061	-181.116	+282.918	-43.424	-249.040	+650.532
C 1	-20.405	-100.522	+2595.217	-40.461	-172.152	+2100.990
C 1	-1.080	+26.699	-1449.688	-1.080	+26.699	-1352.912
Barra 141						
C 1	+294.716	-72.730	+374.034	+373.151	-108.545	+45.486
C 1	-336.258	-72.730	+374.034	-434.749	-108.545	+45.486
C 1	+1.883	+103.584	+97.544	+1.883	+103.584	+473.049
C 1	-43.424	-249.045	+650.523	-63.481	-320.675	-382.077
C 1	-40.461	-172.155	+2100.981	-60.518	-243.785	+1347.105
C 1	-1.080	+26.695	-1352.914	-1.080	+26.695	-1256.134
Barra 142						
C 1	+373.151	-108.542	+45.484	+372.388	-144.357	-412.893
C 1	-434.749	-108.542	+45.484	-454.042	-144.357	-412.893
C 1	+1.883	+103.585	+473.051	-7.095	+81.168	+258.613
C 1	-63.481	-320.669	-382.083	-74.559	-369.882	-1084.399
C 1	-60.518	-243.773	+1347.098	-55.593	-107.596	+860.932
C 1	-1.080	+26.690	-1256.130	-26.061	-181.118	-1686.718
Barra 143						
C 1	+372.388	-144.360	-412.893	+447.252	-178.544	-971.508
C 1	-454.042	-144.360	-412.893	-548.050	-178.544	-971.507
C 1	-7.095	+81.167	+258.612	-7.095	+81.167	+539.450
C 1	-74.559	-369.886	-1084.398	-93.703	-438.256	-2482.465
C 1	-55.593	-107.600	+860.932	-37.317	-36.416	+710.993
C 1	-26.061	-181.120	-1686.718	-63.481	-320.673	-2654.008
Barra 144						
C 1	+447.252	-178.540	-971.512	+522.117	-212.724	-1648.396
C 1	-548.050	-178.539	-971.512	-642.058	-212.724	-1648.396
C 1	-7.095	+81.166	+539.454	-7.095	+81.166	+820.287
C 1	-93.703	-438.245	-2482.477	-112.846	-506.615	-4117.080
C 1	-37.317	-36.416	+710.996	-7.095	+81.166	+820.287
C 1	-63.481	-320.663	-2654.019	-112.846	-506.615	-4117.080

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 145						
C 1	+522.117	-212.745	-1648.411	+545.485	-223.415	-1883.897
C 1	-642.058	-212.745	-1648.410	-671.401	-223.415	-1883.897
C 1	-7.095	+81.160	+820.299	-7.095	+81.160	+907.966
C 1	-112.846	-506.650	-4117.120	-118.821	-527.991	-4675.760
C 1	-7.095	+81.160	+820.299	-7.095	+81.160	+907.966
C 1	-112.846	-506.650	-4117.120	-118.821	-527.991	-4675.760
Barra 146						
C 1	+553.794	+230.183	-1883.906	+524.450	+219.513	-1641.088
C 1	-456.673	+230.183	-1883.906	-433.305	+219.513	-1641.088
C 1	+97.589	+485.588	-4675.787	+91.614	+464.248	-4162.904
C 1	-0.469	-25.222	+907.976	-0.469	-25.222	+880.728
C 1	-0.469	-25.222	+907.976	-0.469	-25.222	+880.728
C 1	+97.589	+485.588	-4675.787	+91.614	+464.248	-4162.904
Barra 147						
C 1	+524.451	+219.485	-1641.094	+430.443	+185.300	-940.813
C 1	-433.305	+219.485	-1641.094	-358.441	+185.300	-940.813
C 1	+91.614	+464.221	-4162.915	+72.471	+395.852	-2674.990
C 1	-0.469	-25.251	+880.726	-0.469	-25.251	+793.365
C 1	-0.469	-25.251	+880.726	+17.550	+49.772	+1008.666
C 1	+91.614	+464.221	-4162.914	+54.452	+320.828	-2890.291
Barra 148						
C 1	+430.443	+185.296	-940.807	+390.775	+170.872	-680.801
C 1	-358.440	+185.296	-940.807	-326.850	+170.872	-680.801
C 1	+72.471	+395.846	-2674.977	+64.393	+366.996	-2118.109
C 1	-0.469	-25.253	+793.364	-0.469	-25.253	+756.507
C 1	+17.550	+49.774	+1008.674	+54.019	+199.393	+1107.263
C 1	+54.452	+320.819	-2890.287	+9.906	+142.351	-2468.865
Barra 149						
C 1	+390.775	+170.878	-680.814	+346.359	+151.118	-358.808
C 1	-326.850	+170.878	-680.814	-293.501	+151.118	-358.808
C 1	+64.393	+367.015	-2118.127	+53.327	+327.495	-1423.601
C 1	-0.469	-25.260	+756.499	-0.469	-25.260	+705.984
C 1	+54.019	+199.328	+1107.228	+61.103	+223.707	+1476.593
C 1	+9.906	+142.427	-2468.857	-8.244	+78.529	-2194.209
Barra 150						
C 1	+346.359	+151.110	-358.788	+367.996	+141.230	-212.632
C 1	-293.501	+151.110	-358.788	-320.671	+141.230	-212.632
C 1	+53.327	+327.438	-1423.547	+54.452	+320.777	-1459.377
C 1	-0.469	-25.218	+705.972	-7.126	-38.317	+1034.114
C 1	+61.103	+223.881	+1476.560	+55.570	+204.121	+1690.551
C 1	-8.244	+78.340	-2194.135	-8.244	+78.340	-2115.814

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 151						
C 1	+367.997	+141.257	-212.634	+276.298	+107.912	+207.838
C 1	-320.671	+141.257	-212.634	-247.645	+107.912	+207.838
C 1	+54.452	+320.810	-1459.360	+35.779	+254.120	-489.172
C 1	-7.126	-38.296	+1034.093	-7.126	-38.296	+904.848
C 1	+55.570	+204.166	+1690.461	+36.897	+137.476	+2266.980
C 1	-8.244	+78.348	-2115.728	-8.244	+78.348	-1851.304
Barra 152						
C 1	+276.298	+107.912	+207.837	+184.599	+74.567	+515.775
C 1	-247.645	+107.912	+207.837	-174.620	+74.567	+515.775
C 1	+35.779	+254.121	-489.175	+17.106	+187.431	+255.958
C 1	-7.126	-38.298	+904.850	-7.126	-38.298	+775.591
C 1	+36.897	+137.467	+2266.984	+18.224	+70.777	+2618.397
C 1	-8.244	+78.356	-1851.309	-8.244	+78.356	-1586.847
Barra 153						
C 1	+184.599	+74.566	+515.776	+194.106	+41.221	+711.168
C 1	-174.620	+74.566	+515.776	-202.800	+41.221	+711.168
C 1	+17.106	+187.433	+255.949	+9.905	+142.306	-600.809
C 1	-7.126	-38.301	+775.602	-18.599	-59.865	+2023.145
C 1	+18.224	+70.770	+2618.420	-0.449	+4.080	+2744.731
C 1	-8.244	+78.361	-1586.868	-8.244	+78.361	-1322.395
Barra 154						
C 1	+194.106	+41.218	+711.163	+267.132	+7.873	+794.011
C 1	-202.800	+41.218	+711.163	-294.499	+7.873	+794.011
C 1	+9.905	+142.305	-600.822	+9.905	+142.305	-120.531
C 1	-18.599	-59.870	+2023.148	-37.272	-126.560	+1708.552
C 1	-0.449	+4.074	+2744.729	-19.123	-62.616	+2645.951
C 1	-8.244	+78.362	-1322.404	-8.244	+78.362	-1057.929
Barra 155						
C 1	+267.132	+7.873	+794.018	+180.050	-25.472	+764.321
C 1	-294.499	+7.873	+794.018	-226.090	-25.472	+764.321
C 1	+9.906	+142.305	-120.522	-8.244	+78.360	-793.453
C 1	-37.272	-126.558	+1708.557	-37.796	-129.304	+2322.096
C 1	-19.122	-62.614	+2645.957	-37.796	-129.304	+2322.096
C 1	-8.244	+78.360	-1057.921	-8.244	+78.360	-793.453
Barra 156						
C 1	+180.050	-25.468	+764.318	+253.075	-58.813	+622.088
C 1	-226.090	-25.468	+764.318	-317.788	-58.813	+622.088
C 1	-8.244	+78.366	-793.451	-8.244	+78.366	-528.968
C 1	-37.796	-129.303	+2322.087	-56.469	-195.993	+1773.145
C 1	-37.796	-129.303	+2322.087	-56.469	-195.993	+1773.145
C 1	-8.244	+78.366	-793.451	-8.244	+78.366	-528.968

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 157						
C 1	+253.075	-58.816	+622.088	+326.101	-92.161	+367.314
C 1	-317.788	-58.816	+622.088	-409.487	-92.161	+367.314
C 1	-8.244	+78.364	-528.963	-8.244	+78.364	-264.486
C 1	-56.469	-195.996	+1773.138	-75.142	-262.686	+999.114
C 1	-56.469	-195.996	+1773.138	-75.142	-262.686	+999.114
C 1	-8.244	+78.364	-528.963	-8.244	+78.364	-264.486
Barra 158						
C 1	+326.101	-92.160	+367.313	+399.126	-125.505	+0.002
C 1	-409.487	-92.160	+367.313	-501.186	-125.505	+0.002
C 1	-8.244	+78.364	-264.482	-8.244	+78.364	-0.001
C 1	-75.142	-262.685	+999.109	-93.815	-329.375	+0.004
C 1	-75.142	-262.685	+999.109	-86.919	-299.212	+0.004
C 1	-8.244	+78.364	-264.482	-4.053	+24.403	-0.001

Hipótesis de carga consideradas

Combinación: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	1	+0.002	+74.303	+34.211
C 1	1	-0.000	+172.999	+52.215
C 1	1	+0.001	+328.495	+93.917
C 1	1	+0.000	-77.471	+8.244
C 1	1	+0.001	+125.512	+501.684
C 1	1	+0.001	+125.512	-399.523
C 1	11	+0.031	+419.926	+103.828
C 1	11	-0.034	+324.376	+71.192
C 1	11	-0.012	+1012.174	+216.555
C 1	11	+0.010	-105.131	+6.640
C 1	11	-0.001	+453.521	+1096.050
C 1	11	-0.001	+453.521	-872.854
C 1	26	+0.022	+441.920	+124.276
C 1	26	-0.033	+228.273	+60.095
C 1	26	-0.014	+1064.527	+235.142
C 1	26	+0.003	-178.239	+12.369
C 1	26	-0.005	+443.144	+1215.455
C 1	26	-0.005	+443.144	-967.945
C 1	41	+0.033	+485.967	+126.428
C 1	41	-0.016	+283.976	+67.682
C 1	41	+0.008	+1089.674	+235.529
C 1	41	+0.009	-199.470	+13.364
C 1	41	+0.009	+445.102	+1222.243
C 1	41	+0.009	+445.102	-973.350
C 1	56	+0.035	+111.322	+55.107
C 1	56	-0.054	+492.305	+127.024
C 1	56	-0.030	+1096.629	+235.586
C 1	56	+0.011	-207.772	+13.386
C 1	56	-0.010	+444.428	+1222.629
C 1	56	-0.010	+444.428	-973.657
C 1	71	+0.030	+152.911	+56.766
C 1	71	-0.021	+188.634	+60.800
C 1	71	+0.004	+1099.063	+235.587
C 1	71	+0.005	-209.815	+13.389
C 1	71	+0.004	+444.624	+1222.650
C 1	71	+0.004	+444.624	-973.674
C 1	86	+0.060	+359.888	+107.133
C 1	86	-0.061	+555.233	+137.929
C 1	86	-0.010	+1099.058	+235.587
C 1	86	+0.008	-209.779	+13.389
C 1	86	-0.001	+444.640	+1222.649
C 1	86	-0.001	+444.640	-973.673
C 1	101	+0.053	+669.968	+184.929
C 1	101	-0.027	+160.662	+37.442
C 1	101	+0.018	+1096.500	+235.585
C 1	101	+0.007	-207.749	+13.386
C 1	101	+0.013	+444.375	+1222.627
C 1	101	+0.013	+444.375	-973.655

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	116	+0.036	+259.141	+83.912
C 1	116	-0.045	+423.856	+111.331
C 1	116	-0.017	+1089.621	+235.528
C 1	116	+0.008	-199.442	+13.364
C 1	116	-0.005	+445.089	+1222.238
C 1	116	-0.005	+445.089	-973.346
C 1	131	+0.060	+440.958	+110.407
C 1	131	-0.028	+346.184	+91.356
C 1	131	+0.033	+1064.783	+235.140
C 1	131	-0.001	-178.628	+12.361
C 1	131	+0.016	+443.078	+1215.411
C 1	131	+0.016	+443.078	-967.909
C 1	146	+0.030	+609.695	+129.257
C 1	146	-0.012	+90.954	+47.079
C 1	146	+0.027	+1013.579	+216.411
C 1	146	-0.009	-106.382	+6.627
C 1	146	+0.009	+453.599	+1095.273
C 1	146	+0.009	+453.599	-872.236
C 1	159	+0.004	+299.212	+86.919
C 1	159	-0.001	-24.403	+4.053
C 1	159	+0.004	+329.375	+93.815
C 1	159	-0.001	-78.364	+8.244
C 1	159	+0.002	+125.505	+501.186
C 1	159	+0.002	+125.505	-399.126

1.1.20.- ENVOLVENTES DE ESFUERZOS DE SC IPF 75 DOS VÍAS.

Nombre del fichero llbn

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
1	1	2	0.00	4.00	8.93	18.99	0.00	0	0.00
2	2	3	0.00	4.00	8.93	18.99	0.00	0	0.00
3	3	4	0.00	4.00	8.93	18.99	0.00	0	0.00
4	4	5	0.00	4.00	8.93	18.99	0.00	0	0.00
5	5	6	0.00	4.00	8.93	18.99	0.00	0	0.00
6	6	7	0.00	4.00	8.93	18.99	0.00	0	0.00
7	7	8	0.00	4.00	8.93	18.99	0.00	0	0.00
8	8	9	0.00	3.46	10.67	22.06	0.00	0	0.00
9	9	10	0.00	3.46	19.42	34.45	0.00	0	0.00
10	10	11	0.00	1.08	26.43	43.77	0.00	0	0.00
11	11	12	0.00	1.08	26.43	43.77	0.00	0	0.00
12	12	13	0.00	3.46	19.41	34.44	0.00	0	0.00
13	13	14	0.00	1.46	11.87	23.01	0.00	0	0.00
14	14	15	0.00	2.00	10.13	19.97	0.00	0	0.00
15	15	16	0.00	1.00	11.40	23.88	0.00	0	0.00
16	16	17	0.00	4.50	8.93	18.99	0.00	0	0.00
17	17	18	0.00	4.50	8.93	18.99	0.00	0	0.00
18	18	19	0.00	4.50	8.93	18.99	0.00	0	0.00
19	19	20	0.00	3.63	8.93	18.99	0.00	0	0.00
20	20	21	0.00	3.63	8.93	18.99	0.00	0	0.00
21	21	22	0.00	3.63	8.93	18.99	0.00	0	0.00
22	22	23	0.00	3.63	8.93	18.99	0.00	0	0.00
23	23	24	0.00	3.46	10.67	22.06	0.00	0	0.00
24	24	25	0.00	3.46	19.42	34.45	0.00	0	0.00
25	25	26	0.00	1.08	26.43	43.77	0.00	0	0.00
26	26	27	0.00	1.08	26.43	43.77	0.00	0	0.00
27	27	28	0.00	3.46	19.41	34.44	0.00	0	0.00
28	28	29	0.00	1.46	11.87	23.01	0.00	0	0.00
29	29	30	0.00	2.00	10.13	19.97	0.00	0	0.00
30	30	31	0.00	1.00	11.40	23.88	0.00	0	0.00
31	31	32	0.00	4.50	8.93	18.99	0.00	0	0.00
32	32	33	0.00	4.50	8.93	18.99	0.00	0	0.00
33	33	34	0.00	4.50	8.93	18.99	0.00	0	0.00
34	34	35	0.00	3.63	8.93	18.99	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
35	35	36	0.00	3.63	8.93	18.99	0.00	0	0.00
36	36	37	0.00	3.63	8.93	18.99	0.00	0	0.00
37	37	38	0.00	3.63	8.93	18.99	0.00	0	0.00
38	38	39	0.00	3.46	10.67	22.06	0.00	0	0.00
39	39	40	0.00	3.46	19.42	34.45	0.00	0	0.00
40	40	41	0.00	1.08	26.43	43.77	0.00	0	0.00
41	41	42	0.00	1.08	26.43	43.77	0.00	0	0.00
42	42	43	0.00	3.46	19.41	34.44	0.00	0	0.00
43	43	44	0.00	1.46	11.87	23.01	0.00	0	0.00
44	44	45	0.00	2.00	10.13	19.97	0.00	0	0.00
45	45	46	0.00	1.00	11.40	23.88	0.00	0	0.00
46	46	47	0.00	4.50	8.93	18.99	0.00	0	0.00
47	47	48	0.00	4.50	8.93	18.99	0.00	0	0.00
48	48	49	0.00	4.50	8.93	18.99	0.00	0	0.00
49	49	50	0.00	3.63	8.93	18.99	0.00	0	0.00
50	50	51	0.00	3.63	8.93	18.99	0.00	0	0.00
51	51	52	0.00	3.63	8.93	18.99	0.00	0	0.00
52	52	53	0.00	3.63	8.93	18.99	0.00	0	0.00
53	53	54	0.00	3.46	10.67	22.06	0.00	0	0.00
54	54	55	0.00	3.46	19.42	34.45	0.00	0	0.00
55	55	56	0.00	1.08	26.43	43.77	0.00	0	0.00
56	56	57	0.00	1.08	26.43	43.77	0.00	0	0.00
57	57	58	0.00	3.46	19.41	34.44	0.00	0	0.00
58	58	59	0.00	1.46	11.87	23.01	0.00	0	0.00
59	59	60	0.00	2.00	10.13	19.97	0.00	0	0.00
60	60	61	0.00	1.00	11.40	23.88	0.00	0	0.00
61	61	62	0.00	4.50	8.93	18.99	0.00	0	0.00
62	62	63	0.00	4.50	8.93	18.99	0.00	0	0.00
63	63	64	0.00	4.50	8.93	18.99	0.00	0	0.00
64	64	65	0.00	3.63	8.93	18.99	0.00	0	0.00
65	65	66	0.00	3.63	8.93	18.99	0.00	0	0.00
66	66	67	0.00	3.63	8.93	18.99	0.00	0	0.00
67	67	68	0.00	3.63	8.93	18.99	0.00	0	0.00
68	68	69	0.00	3.46	10.67	22.06	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
69	69	70	0.00	3.46	19.42	34.45	0.00	0	0.00
70	70	71	0.00	1.08	26.43	43.77	0.00	0	0.00
71	71	72	0.00	1.08	26.43	43.77	0.00	0	0.00
72	72	73	0.00	3.46	19.41	34.44	0.00	0	0.00
73	73	74	0.00	1.46	11.87	23.01	0.00	0	0.00
74	74	75	0.00	2.00	10.13	19.97	0.00	0	0.00
75	75	76	0.00	1.00	11.40	23.88	0.00	0	0.00
76	76	77	0.00	4.50	8.93	18.99	0.00	0	0.00
77	77	78	0.00	4.50	8.93	18.99	0.00	0	0.00
78	78	79	0.00	4.50	8.93	18.99	0.00	0	0.00
79	79	80	0.00	3.63	8.93	18.99	0.00	0	0.00
80	80	81	0.00	3.63	8.93	18.99	0.00	0	0.00
81	81	82	0.00	3.63	8.93	18.99	0.00	0	0.00
82	82	83	0.00	3.63	8.93	18.99	0.00	0	0.00
83	83	84	0.00	3.46	10.67	22.06	0.00	0	0.00
84	84	85	0.00	3.46	19.42	34.45	0.00	0	0.00
85	85	86	0.00	1.08	26.43	43.77	0.00	0	0.00
86	86	87	0.00	1.08	26.43	43.77	0.00	0	0.00
87	87	88	0.00	3.46	19.41	34.44	0.00	0	0.00
88	88	89	0.00	1.46	11.87	23.01	0.00	0	0.00
89	89	90	0.00	2.00	10.13	19.97	0.00	0	0.00
90	90	91	0.00	1.00	11.40	23.88	0.00	0	0.00
91	91	92	0.00	4.50	8.93	18.99	0.00	0	0.00
92	92	93	0.00	4.50	8.93	18.99	0.00	0	0.00
93	93	94	0.00	4.50	8.93	18.99	0.00	0	0.00
94	94	95	0.00	3.63	8.93	18.99	0.00	0	0.00
95	95	96	0.00	3.63	8.93	18.99	0.00	0	0.00
96	96	97	0.00	3.63	8.93	18.99	0.00	0	0.00
97	97	98	0.00	3.63	8.93	18.99	0.00	0	0.00
98	98	99	0.00	3.46	10.67	22.06	0.00	0	0.00
99	99	100	0.00	3.46	19.42	34.45	0.00	0	0.00
100	100	101	0.00	1.08	26.43	43.77	0.00	0	0.00
101	101	102	0.00	1.08	26.43	43.77	0.00	0	0.00
102	102	103	0.00	3.46	19.41	34.44	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
103	103	104	0.00	1.46	11.87	23.01	0.00	0	0.00
104	104	105	0.00	2.00	10.13	19.97	0.00	0	0.00
105	105	106	0.00	1.00	11.40	23.88	0.00	0	0.00
106	106	107	0.00	4.50	8.93	18.99	0.00	0	0.00
107	107	108	0.00	4.50	8.93	18.99	0.00	0	0.00
108	108	109	0.00	4.50	8.93	18.99	0.00	0	0.00
109	109	110	0.00	3.63	8.93	18.99	0.00	0	0.00
110	110	111	0.00	3.63	8.93	18.99	0.00	0	0.00
111	111	112	0.00	3.63	8.93	18.99	0.00	0	0.00
112	112	113	0.00	3.63	8.93	18.99	0.00	0	0.00
113	113	114	0.00	3.46	10.67	22.06	0.00	0	0.00
114	114	115	0.00	3.46	19.42	34.45	0.00	0	0.00
115	115	116	0.00	1.08	26.43	43.77	0.00	0	0.00
116	116	117	0.00	1.08	26.43	43.77	0.00	0	0.00
117	117	118	0.00	3.46	19.41	34.44	0.00	0	0.00
118	118	119	0.00	1.46	11.87	23.01	0.00	0	0.00
119	119	120	0.00	2.00	10.13	19.97	0.00	0	0.00
120	120	121	0.00	1.00	11.40	23.88	0.00	0	0.00
121	121	122	0.00	4.50	8.93	18.99	0.00	0	0.00
122	122	123	0.00	4.50	8.93	18.99	0.00	0	0.00
123	123	124	0.00	4.50	8.93	18.99	0.00	0	0.00
124	124	125	0.00	3.63	8.93	18.99	0.00	0	0.00
125	125	126	0.00	3.63	8.93	18.99	0.00	0	0.00
126	126	127	0.00	3.63	8.93	18.99	0.00	0	0.00
127	127	128	0.00	3.63	8.93	18.99	0.00	0	0.00
128	128	129	0.00	3.46	10.67	22.06	0.00	0	0.00
129	129	130	0.00	3.46	19.42	34.45	0.00	0	0.00
130	130	131	0.00	1.08	26.43	43.77	0.00	0	0.00
131	131	132	0.00	1.08	26.43	43.77	0.00	0	0.00
132	132	133	0.00	3.46	19.41	34.44	0.00	0	0.00
133	133	134	0.00	1.46	11.87	23.01	0.00	0	0.00
134	134	135	0.00	2.00	10.13	19.97	0.00	0	0.00
135	135	136	0.00	1.00	11.40	23.88	0.00	0	0.00
136	136	137	0.00	4.50	8.93	18.99	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
Módulo de elasticidad: 3500000
Módulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
137	137	138	0.00	4.50	8.93	18.99	0.00	0	0.00
138	138	139	0.00	4.50	8.93	18.99	0.00	0	0.00
139	139	140	0.00	3.63	8.93	18.99	0.00	0	0.00
140	140	141	0.00	3.63	8.93	18.99	0.00	0	0.00
141	141	142	0.00	3.63	8.93	18.99	0.00	0	0.00
142	142	143	0.00	3.63	8.93	18.99	0.00	0	0.00
143	143	144	0.00	3.46	10.67	22.06	0.00	0	0.00
144	144	145	0.00	3.46	19.42	34.45	0.00	0	0.00
145	145	146	0.00	1.08	26.43	43.77	0.00	0	0.00
146	146	147	0.00	1.08	26.43	43.77	0.00	0	0.00
147	147	148	0.00	3.46	19.41	34.44	0.00	0	0.00
148	148	149	0.00	1.46	11.87	23.01	0.00	0	0.00
149	149	150	0.00	2.00	10.13	19.97	0.00	0	0.00
150	150	151	0.00	1.00	11.40	23.88	0.00	0	0.00
151	151	152	0.00	3.38	8.93	18.99	0.00	0	0.00
152	152	153	0.00	3.38	8.93	18.99	0.00	0	0.00
153	153	154	0.00	3.38	8.93	18.99	0.00	0	0.00
154	154	155	0.00	3.38	8.93	18.99	0.00	0	0.00
155	155	156	0.00	3.38	8.93	18.99	0.00	0	0.00
156	156	157	0.00	3.38	8.93	18.99	0.00	0	0.00
157	157	158	0.00	3.38	8.93	18.99	0.00	0	0.00
158	158	159	0.00	3.38	8.93	18.99	0.00	0	0.00

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
1	0.00	0.00
2	0.00	4.00
3	0.00	8.00
4	0.00	12.00
5	0.00	16.00
6	0.00	20.00
7	0.00	24.00
8	0.00	28.00
9	0.00	31.46
10	0.00	34.92
11	0.00	36.00
12	0.00	37.08
13	0.00	40.54
14	0.00	42.00
15	0.00	44.00
16	0.00	45.00
17	0.00	49.50
18	0.00	54.00
19	0.00	58.50
20	0.00	62.13
21	0.00	65.75
22	0.00	69.38
23	0.00	73.00
24	0.00	76.46
25	0.00	79.92
26	0.00	81.00
27	0.00	82.08
28	0.00	85.54
29	0.00	87.00
30	0.00	89.00
31	0.00	90.00
32	0.00	94.50
33	0.00	99.00
34	0.00	103.50
35	0.00	107.13
36	0.00	110.75
37	0.00	114.38
38	0.00	118.00
39	0.00	121.46
40	0.00	124.92
41	0.00	126.00
42	0.00	127.08
43	0.00	130.54
44	0.00	132.00
45	0.00	134.00
46	0.00	135.00
47	0.00	139.50
48	0.00	144.00
49	0.00	148.50
50	0.00	152.13

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
51	0.00	155.75
52	0.00	159.38
53	0.00	163.00
54	0.00	166.46
55	0.00	169.92
56	0.00	171.00
57	0.00	172.08
58	0.00	175.54
59	0.00	177.00
60	0.00	179.00
61	0.00	180.00
62	0.00	184.50
63	0.00	189.00
64	0.00	193.50
65	0.00	197.13
66	0.00	200.75
67	0.00	204.38
68	0.00	208.00
69	0.00	211.46
70	0.00	214.92
71	0.00	216.00
72	0.00	217.08
73	0.00	220.54
74	0.00	222.00
75	0.00	224.00
76	0.00	225.00
77	0.00	229.50
78	0.00	234.00
79	0.00	238.50
80	0.00	242.13
81	0.00	245.75
82	0.00	249.38
83	0.00	253.00
84	0.00	256.46
85	0.00	259.92
86	0.00	261.00
87	0.00	262.08
88	0.00	265.54
89	0.00	267.00
90	0.00	269.00
91	0.00	270.00
92	0.00	274.50
93	0.00	279.00
94	0.00	283.50
95	0.00	287.13
96	0.00	290.75
97	0.00	294.38
98	0.00	298.00
99	0.00	301.46
100	0.00	304.92

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
101	0.00	306.00
102	0.00	307.08
103	0.00	310.54
104	0.00	312.00
105	0.00	314.00
106	0.00	315.00
107	0.00	319.50
108	0.00	324.00
109	0.00	328.50
110	0.00	332.12
111	0.00	335.75
112	0.00	339.37
113	0.00	343.00
114	0.00	346.46
115	0.00	349.92
116	0.00	351.00
117	0.00	352.08
118	0.00	355.54
119	0.00	357.00
120	0.00	359.00
121	0.00	360.00
122	0.00	364.50
123	0.00	369.00
124	0.00	373.50
125	0.00	377.12
126	0.00	380.75
127	0.00	384.37
128	0.00	388.00
129	0.00	391.46
130	0.00	394.92
131	0.00	396.00
132	0.00	397.08
133	0.00	400.54
134	0.00	402.00
135	0.00	404.00
136	0.00	405.00
137	0.00	409.50
138	0.00	414.00
139	0.00	418.50
140	0.00	422.12
141	0.00	425.75
142	0.00	429.37
143	0.00	433.00
144	0.00	436.46
145	0.00	439.92
146	0.00	441.00
147	0.00	442.08
148	0.00	445.54
149	0.00	447.00
150	0.00	449.00

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
151	0.00	450.00
152	0.00	453.37
153	0.00	456.75
154	0.00	460.12
155	0.00	463.50
156	0.00	466.87
157	0.00	470.25
158	0.00	473.62
159	0.00	477.00

Condiciones de contorno

Nudo	KgiroX	KgiroY	KdeltaZ	Angcoa
1	0.00E+00	1.00E+19	1.00E+19	0.0
11	0.00E+00	1.00E+19	1.00E+19	0.0
26	0.00E+00	1.00E+19	1.00E+19	0.0
41	0.00E+00	1.00E+19	1.00E+19	0.0
56	0.00E+00	1.00E+19	1.00E+19	0.0
71	0.00E+00	1.00E+19	1.00E+19	0.0
86	0.00E+00	1.00E+19	1.00E+19	0.0
101	0.00E+00	1.00E+19	1.00E+19	0.0
116	0.00E+00	1.00E+19	1.00E+19	0.0
131	0.00E+00	1.00E+19	1.00E+19	0.0
146	0.00E+00	1.00E+19	1.00E+19	0.0
159	0.00E+00	1.00E+19	1.00E+19	0.0

Nombre del fichero: i75

Carga en barras (tipos de carga)

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Repartida Uniforme    :  Tipo (0) , P       , A , B ,Vertical
Torsor uniforme       :  Tipo (1) , mt      , A , B
Concentrada           :  Tipo (2) , F       , A ,     Vertical
Torsor concentrado    :  Tipo (3) , MT      , A , B
Pretensado            :  Tipo (4) , Binic, Bfin , v1, v2, Paso
Gradiente termico     :  Tipo (5) , Grad. Temp. øC , Coef. dilat.
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Hip¢tesis de carga No. 1: ipf75 1

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	1,2,3,4,5,6,7
1	33.24		0.00	1.00	1,2,3,4,5,6,7
0	-12.00		0.00	0.58	8
1	33.24		0.00	0.58	8
0	-10.00		0.58	1.00	8
0	27.70		0.58	1.00	8
0	-10.00		0.00	1.00	9,10
1	27.70		0.58	1.00	9,10
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	2.77		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	27.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

Hip¢tesis de carga No. 2: ipf752

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	1,2,3,4,5,6,7
1	-29.64		0.00	1.00	1,2,3,4,5,6,7
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	-2.47		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-24.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	9,10
1	-24.70		0.00	1.00	9,10
0	-12.00		0.00	0.58	8
1	-29.64		0.00	0.58	8
0	-10.00		0.58	1.00	8
1	-24.70		0.58	1.00	8

Hip¢tesis de carga No. 3: ipf75 3

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	2,3,4,5,6,7,8
1	33.34		0.00	1.00	2,3,4,5,6,7,8
0	-12.00		0.00	0.73	9
1	33.24		0.00	0.73	9
0	-10.00		0.73	1.00	9
0	27.70		0.73	1.00	9
0	-10.00		0.00	1.00	10
1	27.70		0.58	1.00	10
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	2.77		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	27.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

Hip¢tesis de carga No. 4: ipf75 4

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	2,3,4,5,6,7,8
1	-29.64		0.00	1.00	2,3,4,5,6,7,8
0	-12.00		0.00	0.73	9
1	-29.64		0.00	0.73	9
0	-10.00		0.73	1.00	9
0	-24.70		0.73	1.00	9
0	-10.00		0.00	1.00	10
1	-24.70		0.58	1.00	10
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	-2.47		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-24.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

Hip¢tesis de carga No. 5: ipf75 5

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.50	1.00	2
1	33.24		0.50	1.00	2
0	-12.00		0.00	1.00	3,4,5,6,7,8,9,10
1	33.24		0.00	1.00	3,4,5,6,7,8,9,10
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	2.77		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	27.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

Hip¢tesis de carga No. 6: ipf75 6

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.50	1.00	2
1	-29.64		0.50	1.00	2
0	-12.00		0.00	1.00	3,4,5,6,7,8,9,10
1	-29.64		0.00	1.00	3,4,5,6,7,8,9,10
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	-2.47		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-24.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

Hip¢tesis de carga No. 7: ipf75 7

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	6,7,8,9,10,11,12,13,14,15,16
1	33.24		0.00	1.00	6,7,8,9,10,11,12,13,14,15,16
0	-12.00		0.00	0.11	17
1	33.24		0.00	0.11	17
0	-10.00		0.11	1.00	17
1	27.70		0.11	1.00	17
0	-10.00		0.00	1.00	18,19,20,21,22,23,24,25
1	27.70		0.00	1.00	18,19,20,21,22,23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	2.77		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51
1	27.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51

Hip¢tesis de carga No. 8: ipf75 8

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	6,7,8,9,10,11,12,13,14,15,16
1	-29.64		0.00	1.00	6,7,8,9,10,11,12,13,14,15,16
0	-12.00		0.00	0.11	17
1	-29.64		0.00	0.11	17
0	-10.00		0.11	1.00	17
1	-24.70		0.11	1.00	17
0	-10.00		0.00	1.00	18,19,20,21,22,23,24,25
1	-24.70		0.00	1.00	18,19,20,21,22,23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-2.47		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51
1	-24.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51

Hip¢tesis de carga No. 9: ipf75 9

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20
1	33.24		0.00	1.00	11,12,13,14,15,16,17,18,19,20
0	-12.00		0.00	0.07	21
1	33.24		0.00	0.07	21
0	-10.00		0.07	1.00	21
1	27.70		0.07	1.00	21
0	-10.00		0.00	1.00	22,23,24,25
1	27.70		0.00	1.00	22,23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	2.77		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	27.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55

Hip¢tesis de carga No. 10: ipf75 10

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20
1	-29.64		0.00	1.00	11,12,13,14,15,16,17,18,19,20
0	-12.00		0.00	0.07	21
1	-29.64		0.00	0.07	21
0	-10.00		0.07	1.00	21
1	-24.70		0.07	1.00	21
0	-10.00		0.00	1.00	22,23,24,25
1	-24.70		0.00	1.00	22,23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-2.47		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	-24.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,53,63,64,55

Hip¢tesis de carga No. 11: ipf75 11

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	13,14,15,16,17,18,19,20,21
1	33.24		0.00	1.00	13,14,15,16,17,18,19,20,21
0	-12.00		0.00	0.32	22
1	33.24		0.00	0.32	22
0	-10.00		0.32	1.00	22
1	27.70		0.32	1.00	22
0	-10.00		0.00	1.00	23,24,25
1	27.70		0.00	1.00	23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	2.77		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	27.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55

Hip¢tesis de carga No. 12: ipf75 12

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	13,14,15,16,17,18,19,20,21
1	-29.64		0.00	1.00	13,14,15,16,17,18,19,20,21
0	-12.00		0.00	0.32	22
1	-29.64		0.00	0.32	22
0	-10.00		0.32	1.00	22
1	-24.70		0.32	1.00	22
0	-10.00		0.00	1.00	23,24,25
1	-24.70		0.00	1.00	23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-2.47		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	-24.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55

Hip¢tesis de carga No. 13: ipf75 13

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	21,22,23,24,25,26,27,28,29,30,31
1	33.24		0.00	1.00	21,22,23,24,25,26,27,28,29,30,31
0	-12.00		0.00	0.28	32
1	33.24		0.00	0.28	32
0	-10.00		0.28	1.00	32
1	27.70		0.28	1.00	32
0	-10.00		0.00	1.00	33,34,35,36,37,38,39,40
1	27.70		0.00	1.00	33,34,35,36,37,38,39,40
0	-1.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	2.77		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
0	-10.00		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	27.70		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70

Hip¢tesis de carga No. 14: ipf75 14

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	21,22,23,24,25,26,27,28,29,30,31
1	-29.64		0.00	1.00	21,22,23,24,25,26,27,28,29,30,31
0	-12.00		0.00	0.28	32
1	-29.64		0.00	0.28	32
0	-10.00		0.28	1.00	32
1	-24.70		0.28	1.00	32
0	-10.00		0.00	1.00	33,34,35,36,37,38,39,40
1	-24.70		0.00	1.00	33,34,35,36,37,38,39,40
0	-1.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	-2.47		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
0	-10.00		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	-24.70		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70

Hip¢tesis de carga No. 15: ipf75 15

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35
1	33.24		0.00	1.00	26,27,28,29,30,31,32,33,34,35
0	-12.00		0.00	0.07	36
1	33.24		0.00	0.07	36
0	-10.00		0.07	1.00	36
1	27.70		0.07	1.00	36
0	-10.00		0.00	1.00	37,38,39,40
1	27.70		0.00	1.00	37,38,39,40
0	-1.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	2.77		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
0	-10.00		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	27.70		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70

Hip¢tesis de carga No. 16: ipf75 16

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35
1	-29.64		0.00	1.00	26,27,28,29,30,31,32,33,34,35
0	-12.00		0.00	0.07	36
1	-29.64		0.00	0.07	36
0	-10.00		0.07	1.00	36
1	-24.70		0.07	1.00	36
0	-10.00		0.00	1.00	37,38,39,40
1	-24.70		0.00	1.00	37,38,39,40
0	-1.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	-2.47		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
0	-10.00		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	-24.70		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70

Hip¢tesis de carga No. 17: ipf75 17

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35
1	33.24		0.00	1.00	26,27,28,29,30,31,32,33,34,35
0	-12.00		0.00	0.32	52
1	33.24		0.00	0.32	52
0	-10.00		0.32	1.00	52
1	27.70		0.32	1.00	52
0	-10.00		0.00	1.00	53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	27.70		0.00	1.00	53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
0	-1.00		0.00	1.00	71,72,73,74,75,76,77,78,79,80,81,82,83,84,85
1	2.77		0.00	1.00	71,72,73,74,75,76,77,78,79,80,81,82,83,84,85
0	-10.00		0.00	1.00	86,87,88,89,90,91,92,93,94,95,96,97,98,99,100
1	27.70		0.00	1.00	86,87,88,89,90,91,92,93,94,95,96,97,98,99,100

Hip¢tesis de carga No. 18: ipf75 18

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35
1	-29.64		0.00	1.00	26,27,28,29,30,31,32,33,34,35
0	-12.00		0.00	0.32	52
1	-29.64		0.00	0.32	52
0	-10.00		0.32	1.00	52
1	-24.70		0.32	1.00	52
0	-10.00		0.00	1.00	53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	-24.70		0.00	1.00	53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
0	-1.00		0.00	1.00	71,72,73,74,75,76,77,78,79,80,81,82,83,84,85
1	-2.47		0.00	1.00	71,72,73,74,75,76,77,78,79,80,81,82,83,84,85
0	-10.00		0.00	1.00	86,87,88,89,90,91,92,93,94,95,96,97,98,99,100
1	-24.70		0.00	1.00	86,87,88,89,90,91,92,93,94,95,96,97,98,99,100

Hipotesis y/o Combinaciones de carga consideradas
Hipotesis: C 1 = +1.00*(Hip: 1)
Hipotesis: C 2 = +1.00*(Hip: 1)+1.00*(Hip: 2)
Hipotesis: C 3 = +1.00*(Hip: 3)
Hipotesis: C 4 = +1.00*(Hip: 3)+1.00*(Hip: 4)
Hipotesis: C 5 = +1.00*(Hip: 5)
Hipotesis: C 6 = +1.00*(Hip: 5)+1.00*(Hip: 6)
Hipotesis: C 7 = +1.00*(Hip: 7)
Hipotesis: C 8 = +1.00*(Hip: 7)+1.00*(Hip: 8)
Hipotesis: C 9 = +1.00*(Hip: 9)
Hipotesis: C10 = +1.00*(Hip: 9)+1.00*(Hip:10)
Hipotesis: C11 = +1.00*(Hip:11)
Hipotesis: C12 = +1.00*(Hip:11)+1.00*(Hip:12)
Hipotesis: C13 = +1.00*(Hip:13)
Hipotesis: C14 = +1.00*(Hip:13)+1.00*(Hip:14)
Hipotesis: C15 = +1.00*(Hip:15)
Hipotesis: C16 = +1.00*(Hip:15)+1.00*(Hip:16)
Hipotesis: C17 = +1.00*(Hip:17)
Hipotesis: C18 = +1.00*(Hip:17)+1.00*(Hip:18)

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+551.390	+188.220	-0.004	+418.430	+140.220	+656.877
C 2	+48.102	+379.806	-0.004	+33.702	+283.806	+1327.220
C 3	+447.827	+146.976	-0.004	+447.827	+146.976	+587.901
C 4	+49.655	+295.049	-0.004	+49.655	+295.049	+1180.194
C 5	+397.261	+127.938	-0.002	+397.261	+127.938	+511.751
C 6	+43.025	+255.876	-0.004	+43.025	+255.876	+1023.502
C 7	+160.065	-11.479	+0.000	+160.065	-11.479	-45.914
C 8	+17.3 36	-22.957	+0.000	+17.336	-22.957	-91.828
C 9	+48.777	-43.473	+0.000	+48.777	-43.473	-173.892
C10	+5.287	-86.946	+0.000	+5.287	-86.946	-347.783
C11	+40.082	-42.477	+0.002	+40.082	-42.477	-169.906
C12	+4.341	-84.953	+0.004	+4.341	-84.953	-339.813
C13	+8.540	+5.367	+0.000	+8.540	+5.367	+21.470
C14	+0.925	+10.735	+0.000	+0.925	+10.735	+42.939
C15	+2.772	+13.995	+0.000	+2.772	+13.995	+55.981
C16	+0.300	+27.991	+0.000	+0.300	+27.991	+111.963
C17	+2.486	+12.034	-0.000	+2.486	+12.034	+48.134
C18	+0.269	+24.067	-0.000	+0.269	+24.067	+96.268
Barra 2						
C 1	+418.430	+140.219	+656.875	+285.470	+92.219	+1121.754
C 2	+33.702	+283.805	+1327.223	+19.302	+187.805	+2270.441
C 3	+447.827	+146.977	+587.902	+314.467	+98.977	+1079.805
C 4	+49.655	+295.053	+1180.191	+34.855	+199.053	+2168.395
C 5	+397.261	+127.938	+511.746	+330.781	+103.938	+999.498
C 6	+43.025	+255.875	+1023.492	+35.825	+207.875	+1998.996
C 7	+160.065	-11.478	-45.914	+160.065	-11.478	-91.827
C 8	+17.336	-22.957	-91.828	+17.336	-22.957	-183.653
C 9	+48.777	-43.472	-173.893	+48.777	-43.472	-347.781
C10	+5.287	-86.943	-347.785	+5.287	-86.943	-695.563
C11	+40.082	-42.477	-169.906	+40.082	-42.477	-339.813
C12	+4.341	-84.953	-339.813	+4.341	-84.953	-679.625
C13	+8.540	+5.368	+21.470	+8.540	+5.368	+42.940
C14	+0.925	+10.735	+42.939	+0.925	+10.735	+85.879
C15	+2.772	+13.996	+55.981	+2.772	+13.996	+111.963
C16	+0.300	+27.991	+111.963	+0.300	+27.991	+223.926
C17	+2.486	+12.033	+48.134	+2.486	+12.033	+96.268
C18	+0.269	+24.066	+96.269	+0.269	+24.066	+192.535

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 3						
C 1	+285.470	+92.219	+1121.746	+152.510	+44.219	+1394.625
C 2	+19.302	+187.805	+2270.434	+4.902	+91.805	+2829.648
C 3	+314.467	+98.975	+1079.801	+181.107	+50.975	+1379.695
C 4	+34.855	+199.047	+2168.387	+20.055	+103.047	+2772.563
C 5	+330.781	+103.938	+999.496	+197.821	+55.938	+1319.246
C 6	+35.825	+207.875	+1998.992	+21.425	+111.875	+2638.492
C 7	+160.065	-11.478	-91.828	+160.065	-11.478	-137.739
C 8	+17.336	-22.956	-183.656	+17.336	-22.956	-275.479
C 9	+48.777	-43.472	-347.781	+48.777	-43.472	-521.670
C10	+5.287	-86.943	-695.563	+5.287	-86.943	-1043.340
C11	+40.082	-42.476	-339.809	+40.082	-42.476	-509.711
C12	+4.341	-84.951	-679.617	+4.341	-84.951	-1019.422
C13	+8.540	+5.367	+42.940	+8.540	+5.367	+64.408
C14	+0.925	+10.734	+85.879	+0.925	+10.734	+128.817
C15	+2.772	+13.995	+111.963	+2.772	+13.995	+167.941
C16	+0.300	+27.989	+223.926	+0.300	+27.989	+335.883
C17	+2.486	+12.034	+96.268	+2.486	+12.034	+144.400
C18	+0.269	+24.067	+192.535	+0.269	+24.067	+288.801
Barra 4						
C 1	+152.510	+44.211	+1394.633	+19.550	-3.789	+1475.469
C 2	+4.902	+91.793	+2829.656	-9.498	-4.207	+3004.813
C 3	+181.107	+50.969	+1379.695	+47.747	+2.969	+1487.570
C 4	+20.055	+103.031	+2772.570	+5.255	+7.031	+2992.711
C 5	+197.821	+55.930	+1319.242	+64.861	+7.930	+1446.965
C 6	+21.425	+111.859	+2638.484	+7.025	+15.859	+2893.930
C 7	+160.065	-11.478	-137.740	+160.065	-11.478	-183.650
C 8	+17.336	-22.955	-275.480	+17.336	-22.955	-367.301
C 9	+48.777	-43.473	-521.668	+48.777	-43.473	-695.555
C10	+5.287	-86.945	-1043.336	+5.287	-86.945	-1391.109
C11	+40.082	-42.473	-509.711	+40.082	-42.473	-679.605
C12	+4.341	-84.945	-1019.422	+4.341	-84.945	-1359.211
C13	+8.540	+5.367	+64.409	+8.540	+5.367	+85.877
C14	+0.925	+10.734	+128.817	+0.925	+10.734	+171.754
C15	+2.772	+13.994	+167.943	+2.772	+13.994	+223.920
C16	+0.300	+27.988	+335.887	+0.300	+27.988	+447.840
C17	+2.486	+12.033	+144.400	+2.486	+12.033	+192.530
C18	+0.269	+24.065	+288.801	+0.269	+24.065	+385.061

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 5						
C 1	+19.550	-3.777	+1475.469	-113.410	-51.777	+1364.344
C 2	-9.498	-4.195	+3004.828	-23.898	-100.195	+2796.023
C 3	+47.748	+2.973	+1487.578	-85.612	-45.027	+1403.477
C 4	+5.256	+7.043	+2992.727	-9.544	-88.957	+2828.914
C 5	+64.861	+7.934	+1446.977	-68.099	-40.066	+1382.711
C 6	+7.025	+15.867	+2893.953	-7.375	-80.133	+2765.422
C 7	+160.065	-11.478	-183.652	+160.065	-11.478	-229.562
C 8	+17.335	-22.955	-367.305	+17.335	-22.955	-459.123
C 9	+48.777	-43.471	-695.555	+48.777	-43.471	-869.438
C10	+5.287	-86.941	-1391.109	+5.287	-86.941	-1738.875
C11	+40.082	-42.475	-679.609	+40.082	-42.475	-849.508
C12	+4.341	-84.949	-1359.219	+4.341	-84.949	-1699.016
C13	+8.540	+5.367	+85.877	+8.540	+5.367	+107.346
C14	+0.925	+10.734	+171.755	+0.925	+10.734	+214.692
C15	+2.772	+13.994	+223.923	+2.772	+13.994	+279.899
C16	+0.300	+27.988	+447.846	+0.300	+27.988	+559.799
C17	+2.486	+12.033	+192.531	+2.486	+12.033	+240.664
C18	+0.269	+24.066	+385.063	+0.269	+24.066	+481.328
Barra 6						
C 1	-113.410	-51.781	+1364.340	-246.370	-99.781	+1061.215
C 2	-23.898	-100.195	+2796.020	-38.298	-196.195	+2203.246
C 3	-85.613	-45.023	+1403.469	-218.973	-93.023	+1127.375
C 4	-9.545	-88.949	+2828.898	-24.345	-184.949	+2281.094
C 5	-68.099	-40.061	+1382.703	-201.059	-88.061	+1126.465
C 6	-7.375	-80.121	+2765.406	-21.775	-176.121	+2252.930
C 7	+160.065	-11.479	-229.561	+27.105	-59.479	-371.479
C 8	+17.336	-22.957	-459.121	+2.936	-118.957	-742.957
C 9	+48.777	-43.473	-869.438	+48.777	-43.473	-1043.328
C10	+5.287	-86.945	-1738.875	+5.287	-86.945	-2086.656
C11	+40.082	-42.477	-849.512	+40.082	-42.477	-1019.418
C12	+4.341	-84.953	-1699.023	+4.341	-84.953	-2038.836
C13	+8.540	+5.368	+107.346	+8.540	+5.368	+128.816
C14	+0.925	+10.735	+214.692	+0.925	+10.735	+257.633
C15	+2.772	+13.996	+279.899	+2.772	+13.996	+335.882
C16	+0.300	+27.991	+559.799	+0.300	+27.991	+671.764
C17	+2.486	+12.033	+240.664	+2.486	+12.033	+288.798
C18	+0.269	+24.066	+481.328	+0.269	+24.066	+577.596

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 7						
C 1	-246.370	-99.779	+1061.223	-379.330	-147.779	+566.102
C 2	-38.298	-196.191	+2203.250	-52.698	-292.191	+1226.484
C 3	-218.973	-93.020	+1127.367	-352.333	-141.020	+659.289
C 4	-24.345	-184.943	+2281.082	-39.145	-280.943	+1349.316
C 5	-201.059	-88.057	+1126.453	-334.019	-136.057	+678.230
C 6	-21.775	-176.113	+2252.906	-36.175	-272.113	+1356.461
C 7	+27.105	-59.479	-371.477	-105.855	-107.479	-705.395
C 8	+2.936	-118.959	-742.953	-11.464	-214.959	-1410.789
C 9	+48.777	-43.475	-1043.328	+48.777	-43.475	-1217.230
C10	+5.287	-86.949	-2086.656	+5.287	-86.949	-2434.461
C11	+40.082	-42.477	-1019.418	+40.082	-42.477	-1189.328
C12	+4.341	-84.953	-2038.836	+4.341	-84.953	-2378.656
C13	+8.540	+5.368	+128.816	+8.540	+5.368	+150.287
C14	+0.925	+10.735	+257.633	+0.925	+10.735	+300.573
C15	+2.772	+13.997	+335.882	+2.772	+13.997	+391.868
C16	+0.300	+27.993	+671.764	+0.300	+27.993	+783.736
C17	+2.486	+12.034	+288.798	+2.486	+12.034	+336.936
C18	+0.269	+24.068	+577.596	+0.269	+24.068	+673.871
Barra 8						
C 1	-379.330	-147.779	+566.112	-445.806	-145.933	+14.623
C 2	-52.698	-292.191	+1226.504	-23.833	-328.945	+105.648
C 3	-352.333	-141.021	+659.294	-467.689	-182.541	+99.524
C 4	-39.145	-280.945	+1349.322	-51.947	-363.985	+233.596
C 5	-334.019	-136.058	+678.228	-449.029	-177.578	+135.630
C 6	-36.175	-272.117	+1356.455	-48.631	-355.157	+271.260
C 7	-105.855	-107.479	-705.399	-220.866	-148.999	-1149.106
C 8	-11.464	-214.959	-1410.799	-23.920	-297.999	-2298.213
C 9	+48.777	-43.473	-1217.238	+48.777	-43.473	-1367.656
C10	+5.287	-86.945	-2434.477	+5.287	-86.945	-2735.313
C11	+40.082	-42.479	-1189.332	+40.082	-42.479	-1336.316
C12	+4.341	-84.957	-2378.664	+4.341	-84.957	-2672.633
C13	+8.540	+5.368	+150.287	+8.540	+5.368	+168.861
C14	+0.925	+10.736	+300.574	+0.925	+10.736	+337.722
C15	+2.772	+13.997	+391.867	+2.772	+13.997	+440.295
C16	+0.300	+27.994	+783.734	+0.300	+27.994	+880.590
C17	+2.486	+12.034	+336.935	+2.486	+12.034	+378.575
C18	+0.269	+24.068	+673.869	+0.269	+24.068	+757.150

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 9						
C 1	-445.806	-145.930	+14.623	-486.251	-180.530	-550.164
C 2	-23.833	-328.939	+105.643	+21.184	-398.139	-1152.214
C 3	-467.689	-182.542	+99.521	-552.107	-196.727	-591.327
C 4	-51.947	-363.987	+233.579	-61.089	-440.584	-1166.507
C 5	-449.030	-177.580	+135.626	-564.040	-219.100	-550.632
C 6	-48.631	-355.160	+271.252	-61.087	-438.200	-1101.264
C 7	-220.866	-149.000	-1149.106	-335.876	-190.520	-1736.470
C 8	-23.921	-298.000	-2298.213	-36.377	-381.040	-3472.939
C 9	+48.777	-43.477	-1367.652	+48.777	-43.477	-1518.078
C10	+5.287	-86.953	-2735.305	+5.287	-86.953	-3036.156
C11	+40.082	-42.482	-1336.305	+40.082	-42.482	-1483.285
C12	+4.341	-84.965	-2672.609	+4.341	-84.965	-2966.570
C13	+8.540	+5.368	+168.859	+8.540	+5.368	+187.432
C14	+0.925	+10.736	+337.719	+0.925	+10.736	+374.863
C15	+2.772	+13.996	+440.294	+2.772	+13.996	+488.719
C16	+0.300	+27.992	+880.588	+0.300	+27.992	+977.438
C17	+2.486	+12.034	+378.574	+2.486	+12.034	+420.210
C18	+0.269	+24.067	+757.148	+0.269	+24.067	+840.420
Barra 10						
C 1	-486.251	-180.522	-550.167	-498.876	-191.322	-750.956
C 2	+21.184	-398.122	-1152.202	+35.235	-419.722	-1593.866
C 3	-552.107	-196.741	-591.316	-564.731	-207.541	-809.613
C 4	-61.089	-440.591	-1166.491	-62.456	-462.191	-1653.991
C 5	-564.040	-219.098	-550.627	-599.939	-232.058	-794.245
C 6	-61.087	-438.196	-1101.255	-64.975	-464.116	-1588.489
C 7	-335.876	-190.520	-1736.467	-371.775	-203.480	-1949.233
C 8	-36.376	-381.040	-3472.934	-40.264	-406.960	-3898.466
C 9	+48.777	-43.500	-1518.070	+48.777	-43.500	-1565.031
C10	+5.287	-87.000	-3036.141	+5.287	-87.000	-3130.063
C11	+40.082	-42.516	-1483.281	+40.082	-42.516	-1529.156
C12	+4.341	-85.031	-2966.563	+4.341	-85.031	-3058.313
C13	+8.540	+5.365	+187.433	+8.540	+5.365	+193.230
C14	+0.925	+10.730	+374.865	+0.925	+10.730	+386.461
C15	+2.772	+14.000	+488.717	+2.772	+14.000	+503.836
C16	+0.300	+28.000	+977.434	+0.300	+28.000	+1007.672
C17	+2.486	+12.043	+420.211	+2.486	+12.043	+433.211
C18	+0.269	+24.086	+840.422	+0.269	+24.086	+866.422

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 11						
C 1	+69.172	+16.540	-750.972	+66.180	+15.460	-733.664
C 2	+12.565	+35.830	-1593.882	+12.241	+33.670	-1556.339
C 3	+65.429	+18.274	-809.613	+62.438	+17.194	-790.457
C 4	+7.013	+37.627	-1654.007	+6.689	+35.467	-1614.542
C 5	+63.428	+17.853	-794.277	+60.437	+16.772	-775.558
C 6	+6.869	+35.705	-1588.554	+6.545	+33.545	-1551.116
C 7	+670.752	+272.683	-1949.205	+634.853	+259.723	-1661.745
C 8	+72.644	+545.366	-3898.411	+68.756	+519.446	-3323.489
C 9	+740.049	+274.746	-1565.026	+704.150	+261.786	-1275.284
C10	+80.217	+549.491	-3130.052	+76.329	+523.571	-2550.567
C11	+608.123	+224.406	-1529.141	+608.123	+224.406	-1286.797
C12	+65.862	+448.813	-3058.281	+65.862	+448.813	-2573.594
C13	+129.563	-15.934	+193.229	+129.563	-15.934	+176.022
C14	+14.032	-31.867	+386.457	+14.032	-31.867	+352.045
C15	+42.061	-44.984	+503.828	+42.061	-44.984	+455.232
C16	+4.555	-89.969	+1007.656	+4.555	-89.969	+910.465
C17	+37.725	-38.695	+433.207	+37.725	-38.695	+391.414
C18	+4.086	-77.391	+866.414	+4.086	-77.391	+782.828
Barra 12						
C 1	+66.180	+15.507	-733.666	+56.596	+12.047	-685.998
C 2	+12.241	+33.720	-1556.343	+11.203	+26.800	-1451.648
C 3	+62.437	+17.234	-790.459	+52.853	+13.774	-736.814
C 4	+6.689	+35.491	-1614.569	+5.651	+28.571	-1503.737
C 5	+60.436	+16.781	-775.584	+50.852	+13.321	-723.505
C 6	+6.546	+33.562	-1551.167	+5.508	+26.642	-1447.011
C 7	+634.853	+259.707	-1661.722	+519.843	+218.187	-834.964
C 8	+68.757	+519.415	-3323.443	+56.301	+436.375	-1669.928
C 9	+704.150	+261.781	-1275.276	+589.140	+220.261	-441.339
C10	+76.329	+523.563	-2550.552	+63.873	+440.523	-882.678
C11	+608.123	+224.398	-1286.777	+608.123	+224.398	-510.359
C12	+65.862	+448.797	-2573.555	+65.862	+448.797	-1020.719
C13	+129.563	-15.929	+176.021	+129.563	-15.929	+120.904
C14	+14.032	-31.859	+352.041	+14.032	-31.859	+241.808
C15	+42.061	-44.992	+455.232	+42.061	-44.992	+299.561
C16	+4.555	-89.984	+910.465	+4.555	-89.984	+599.121
C17	+37.725	-38.690	+391.414	+37.725	-38.690	+257.545
C18	+4.086	-77.381	+782.828	+4.086	-77.381	+515.090

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 13						
C 1	+56.596	+12.042	-686.021	+52.552	+10.583	-669.490
C 2	+11.203	+26.804	-1451.699	+10.765	+23.884	-1414.668
C 3	+52.853	+13.761	-736.849	+48.809	+12.301	-717.756
C 4	+5.651	+28.554	-1503.808	+5.213	+25.634	-1464.183
C 5	+50.852	+13.324	-723.537	+46.808	+11.864	-705.131
C 6	+5.507	+26.647	-1447.074	+5.069	+23.728	-1410.261
C 7	+519.843	+218.166	-834.960	+471.312	+200.646	-529.194
C 8	+56.301	+436.332	-1669.919	+51.045	+401.293	-1058.388
C 9	+589.139	+220.229	-441.350	+540.609	+202.709	-132.538
C10	+63.873	+440.457	-882.701	+58.617	+405.418	-265.076
C11	+608.123	+224.416	-510.319	+559.592	+206.896	-195.507
C12	+65.862	+448.832	-1020.638	+60.606	+413.793	-391.013
C13	+129.563	-15.926	+120.898	+129.563	-15.926	+97.641
C14	+14.032	-31.852	+241.797	+14.032	-31.852	+195.281
C15	+42.060	-44.984	+299.547	+42.060	-44.984	+233.859
C16	+4.555	-89.969	+599.094	+4.555	-89.969	+467.719
C17	+37.725	-38.680	+257.523	+37.725	-38.680	+201.063
C18	+4.086	-77.359	+515.047	+4.086	-77.359	+402.125
Barra 14						
C 1	+52.552	+10.578	-669.474	+47.012	+8.578	-650.333
C 2	+10.765	+23.875	-1414.667	+10.165	+19.875	-1370.932
C 3	+48.809	+12.313	-717.771	+43.269	+10.313	-695.161
C 4	+5.213	+25.656	-1464.182	+4.613	+21.656	-1416.901
C 5	+46.808	+11.859	-705.130	+41.268	+9.859	-683.427
C 6	+5.070	+23.719	-1410.260	+4.470	+19.719	-1366.854
C 7	+471.312	+200.688	-529.203	+404.832	+176.688	-151.828
C 8	+51.045	+401.375	-1058.406	+43.845	+353.375	-303.656
C 9	+540.609	+202.750	-132.563	+474.129	+178.750	+248.938
C10	+58.617	+405.500	-265.125	+51.417	+357.500	+497.875
C11	+559.593	+206.875	-195.516	+493.113	+182.875	+194.250
C12	+60.606	+413.750	-391.031	+53.406	+365.750	+388.500
C13	+129.563	-15.930	+97.641	+129.563	-15.930	+65.785
C14	+14.032	-31.859	+195.281	+14.032	-31.859	+131.570
C15	+42.060	-44.988	+233.859	+42.060	-44.988	+143.879
C16	+4.555	-89.977	+467.719	+4.555	-89.977	+287.758
C17	+37.725	-38.695	+201.063	+37.725	-38.695	+123.672
C18	+4.086	-77.391	+402.125	+4.086	-77.391	+247.344

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 13						
C 1	+56.596	+12.042	-686.021	+52.552	+10.583	-669.490
C 2	+11.203	+26.804	-1451.699	+10.765	+23.884	-1414.668
C 3	+52.853	+13.761	-736.849	+48.809	+12.301	-717.756
C 4	+5.651	+28.554	-1503.808	+5.213	+25.634	-1464.183
C 5	+50.852	+13.324	-723.537	+46.808	+11.864	-705.131
C 6	+5.507	+26.647	-1447.074	+5.069	+23.728	-1410.261
C 7	+519.843	+218.166	-834.960	+471.312	+200.646	-529.194
C 8	+56.301	+436.332	-1669.919	+51.045	+401.293	-1058.388
C 9	+589.139	+220.229	-441.350	+540.609	+202.709	-132.538
C10	+63.873	+440.457	-882.701	+58.617	+405.418	-265.076
C11	+608.123	+224.416	-510.319	+559.592	+206.896	-195.507
C12	+65.862	+448.832	-1020.638	+60.606	+413.793	-391.013
C13	+129.563	-15.926	+120.898	+129.563	-15.926	+97.641
C14	+14.032	-31.852	+241.797	+14.032	-31.852	+195.281
C15	+42.060	-44.984	+299.547	+42.060	-44.984	+233.859
C16	+4.555	-89.969	+599.094	+4.555	-89.969	+467.719
C17	+37.725	-38.680	+257.523	+37.725	-38.680	+201.063
C18	+4.086	-77.359	+515.047	+4.086	-77.359	+402.125
Barra 14						
C 1	+52.552	+10.578	-669.474	+47.012	+8.578	-650.333
C 2	+10.765	+23.875	-1414.667	+10.165	+19.875	-1370.932
C 3	+48.809	+12.313	-717.771	+43.269	+10.313	-695.161
C 4	+5.213	+25.656	-1464.182	+4.613	+21.656	-1416.901
C 5	+46.808	+11.859	-705.130	+41.268	+9.859	-683.427
C 6	+5.070	+23.719	-1410.260	+4.470	+19.719	-1366.854
C 7	+471.312	+200.688	-529.203	+404.832	+176.688	-151.828
C 8	+51.045	+401.375	-1058.406	+43.845	+353.375	-303.656
C 9	+540.609	+202.750	-132.563	+474.129	+178.750	+248.938
C10	+58.617	+405.500	-265.125	+51.417	+357.500	+497.875
C11	+559.593	+206.875	-195.516	+493.113	+182.875	+194.250
C12	+60.606	+413.750	-391.031	+53.406	+365.750	+388.500
C13	+129.563	-15.930	+97.641	+129.563	-15.930	+65.785
C14	+14.032	-31.859	+195.281	+14.032	-31.859	+131.570
C15	+42.060	-44.988	+233.859	+42.060	-44.988	+143.879
C16	+4.555	-89.977	+467.719	+4.555	-89.977	+287.758
C17	+37.725	-38.695	+201.063	+37.725	-38.695	+123.672
C18	+4.086	-77.391	+402.125	+4.086	-77.391	+247.344

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 15						
C 1	+47.012	+8.375	-650.208	+44.242	+7.375	-642.458
C 2	+10.165	+19.500	-1370.729	+9.865	+17.500	-1352.417
C 3	+43.269	+10.000	-695.021	+40.499	+9.000	-685.521
C 4	+4.613	+21.125	-1416.667	+4.313	+19.125	-1396.604
C 5	+41.268	+9.750	-683.396	+38.498	+8.750	-674.208
C 6	+4.469	+19.500	-1366.792	+4.169	+17.500	-1348.417
C 7	+404.832	+177.000	-151.938	+371.592	+165.000	+19.063
C 8	+43.844	+354.000	-303.875	+40.244	+330.000	+38.125
C 9	+474.130	+179.000	+249.000	+440.890	+167.000	+421.875
C10	+51.417	+358.000	+498.000	+47.817	+334.000	+843.750
C11	+493.113	+183.125	+194.250	+459.873	+171.125	+371.438
C12	+53.406	+366.250	+388.500	+49.806	+342.250	+742.875
C13	+129.563	-15.969	+65.797	+129.563	-15.969	+49.813
C14	+14.032	-31.938	+131.594	+14.032	-31.938	+99.625
C15	+42.061	-45.125	+143.906	+42.061	-45.125	+98.813
C16	+4.555	-90.250	+287.813	+4.555	-90.250	+197.625
C17	+37.725	-38.750	+123.688	+37.725	-38.750	+84.906
C18	+4.086	-77.500	+247.375	+4.086	-77.500	+169.813
Barra 16						
C 1	+44.242	+7.430	-642.336	+31.777	+2.930	-619.016
C 2	+9.865	+17.557	-1352.254	+8.515	+8.557	-1293.477
C 3	+40.499	+9.152	-685.445	+28.034	+4.652	-654.383
C 4	+4.313	+19.322	-1396.469	+2.963	+10.322	-1329.762
C 5	+38.498	+8.697	-674.172	+26.033	+4.197	-645.148
C 6	+4.169	+17.395	-1348.344	+2.819	+8.395	-1290.297
C 7	+371.593	+164.817	+18.934	+222.013	+110.817	+639.105
C 8	+40.245	+329.635	+37.867	+24.045	+221.635	+1278.211
C 9	+440.889	+166.967	+421.840	+291.309	+112.967	+1051.691
C10	+47.817	+333.934	+843.680	+31.617	+225.934	+2103.383
C11	+459.873	+171.104	+371.289	+310.293	+117.104	+1019.750
C12	+49.806	+342.207	+742.578	+33.606	+234.207	+2039.500
C13	+129.563	-15.959	+49.833	+129.563	-15.959	-21.983
C14	+14.032	-31.918	+99.666	+14.032	-31.918	-43.967
C15	+42.061	-45.069	+98.832	+42.061	-45.069	-103.977
C16	+4.555	-90.139	+197.664	+4.555	-90.139	-207.953
C17	+37.725	-38.755	+84.939	+37.725	-38.755	-89.459
C18	+4.086	-77.510	+169.879	+4.086	-77.510	-178.918

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 17						
C 1	+31.777	+2.934	-619.016	+19.312	-1.566	-615.945
C 2	+8.515	+8.561	-1293.480	+7.165	-0.439	-1275.207
C 3	+28.034	+4.652	-654.379	+15.569	+0.152	-643.566
C 4	+2.963	+10.322	-1329.754	+1.613	+1.322	-1303.559
C 5	+26.033	+4.199	-645.145	+13.568	-0.301	-636.375
C 6	+2.819	+8.398	-1290.289	+1.469	-0.602	-1272.750
C 7	+222.013	+110.819	+639.102	+94.596	+64.820	+1032.292
C 8	+24.045	+221.639	+1278.205	+10.245	+129.641	+2064.583
C 9	+291.309	+112.969	+1051.703	+141.729	+58.969	+1438.539
C10	+31.617	+225.938	+2103.406	+15.417	+117.938	+2877.078
C11	+310.293	+117.104	+1019.742	+160.713	+63.104	+1425.219
C12	+33.606	+234.207	+2039.484	+17.406	+126.207	+2850.438
C13	+129.563	-15.959	-21.983	+129.563	-15.959	-93.800
C14	+14.032	-31.919	-43.967	+14.032	-31.919	-187.600
C15	+42.061	-45.070	-103.975	+42.061	-45.070	-306.785
C16	+4.555	-90.141	-207.949	+4.555	-90.141	-613.570
C17	+37.725	-38.756	-89.459	+37.725	-38.756	-263.857
C18	+4.086	-77.512	-178.918	+4.086	-77.512	-527.715
Barra 18						
C 1	+19.312	-1.566	-615.945	+6.847	-6.066	-633.125
C 2	+7.165	-0.434	-1275.211	+5.815	-9.434	-1297.418
C 3	+15.569	+0.154	-643.570	+3.104	-4.346	-652.996
C 4	+1.613	+1.326	-1303.566	+0.263	-7.674	-1317.840
C 5	+13.568	-0.299	-636.371	+1.103	-4.799	-647.844
C 6	+1.469	-0.598	-1272.742	+0.119	-9.598	-1295.688
C 7	+94.596	+64.816	+1032.293	-30.054	+19.816	+1222.711
C 8	+10.245	+129.633	+2064.586	-3.255	+39.633	+2445.422
C 9	+141.730	+58.961	+1438.555	-7.850	+4.961	+1582.383
C10	+15.417	+117.922	+2877.109	-0.783	+9.922	+3164.766
C11	+160.713	+63.098	+1425.227	+11.133	+9.098	+1587.664
C12	+17.405	+126.195	+2850.453	+1.205	+18.195	+3175.328
C13	+129.563	-15.958	-93.801	+129.563	-15.958	-165.613
C14	+14.032	-31.917	-187.602	+14.032	-31.917	-331.227
C15	+42.061	-45.065	-306.789	+42.061	-45.065	-509.586
C16	+4.555	-90.131	-613.578	+4.555	-90.131	-1019.172
C17	+37.725	-38.753	-263.861	+37.725	-38.753	-438.248
C18	+4.086	-77.506	-527.723	+4.086	-77.506	-876.496

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 19						
C 1	+6.847	-6.063	-633.118	-3.194	-9.688	-661.673
C 2	+5.815	-9.426	-1297.409	+4.727	-16.676	-1344.753
C 3	+3.104	-4.340	-652.993	-6.937	-7.965	-675.314
C 4	+0.263	-7.668	-1317.839	-0.825	-14.918	-1358.776
C 5	+1.103	-4.793	-647.845	-8.938	-8.418	-671.790
C 6	+0.119	-9.586	-1295.690	-0.968	-16.836	-1343.581
C 7	-30.054	+19.813	+1222.706	-130.467	-16.438	+1228.831
C 8	-3.255	+39.625	+2445.411	-14.130	-32.875	+2457.661
C 9	-7.851	+4.953	+1582.391	-128.346	-38.547	+1521.523
C10	-0.783	+9.906	+3164.781	-13.833	-77.094	+3043.047
C11	+11.133	+9.086	+1587.664	-109.362	-34.414	+1541.781
C12	+1.206	+18.172	+3175.328	-11.844	-68.828	+3083.563
C13	+129.563	-15.958	-165.613	+129.563	-15.958	-223.461
C14	+14.032	-31.916	-331.227	+14.032	-31.916	-446.922
C15	+42.061	-45.063	-509.594	+42.061	-45.063	-672.949
C16	+4.555	-90.125	-1019.188	+4.555	-90.125	-1345.898
C17	+37.725	-38.752	-438.250	+37.725	-38.752	-578.727
C18	+4.086	-77.504	-876.500	+4.086	-77.504	-1157.453
Barra 20						
C 1	-3.194	-9.691	-661.673	-13.236	-13.316	-703.368
C 2	+4.727	-16.684	-1344.737	+3.640	-23.934	-1418.370
C 3	-6.937	-7.969	-675.314	-16.978	-11.594	-710.775
C 4	-0.825	-14.918	-1358.784	-1.912	-22.168	-1426.018
C 5	-8.938	-8.422	-671.798	-18.979	-12.047	-708.900
C 6	-0.968	-16.844	-1343.596	-2.056	-24.094	-1417.799
C 7	-130.467	-16.430	+1228.823	-230.880	-52.680	+1103.549
C 8	-14.130	-32.859	+2457.646	-25.005	-105.359	+2207.099
C 9	-128.346	-38.531	+1521.516	-248.841	-82.031	+1302.969
C10	-13.833	-77.063	+3043.031	-26.883	-164.063	+2605.938
C11	-109.362	-34.398	+1541.781	-229.857	-77.898	+1338.242
C12	-11.844	-68.797	+3083.563	-24.894	-155.797	+2676.484
C13	+129.563	-15.957	-223.463	+129.563	-15.957	-281.309
C14	+14.032	-31.914	-446.926	+14.032	-31.914	-562.617
C15	+42.061	-45.070	-672.941	+42.061	-45.070	-836.320
C16	+4.555	-90.141	-1345.883	+4.555	-90.141	-1672.641
C17	+37.725	-38.756	-578.730	+37.725	-38.756	-719.207
C18	+4.086	-77.512	-1157.461	+4.086	-77.512	-1438.414

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 21						
C 1	-13.236	-13.313	-703.372	-23.277	-16.938	-758.201
C 2	+3.640	-23.934	-1418.374	+2.552	-31.184	-1518.249
C 3	-16.978	-11.598	-710.767	-27.020	-15.223	-759.361
C 4	-1.912	-22.176	-1426.006	-3.000	-29.426	-1519.518
C 5	-18.979	-12.043	-708.904	-29.021	-15.668	-759.126
C 6	-2.056	-24.086	-1417.807	-3.143	-31.336	-1518.253
C 7	-230.880	-52.684	+1103.549	-331.292	-88.934	+846.854
C 8	-25.005	-105.367	+2207.099	-35.880	-177.867	+1693.708
C 9	-248.841	-82.041	+1302.993	-350.639	-118.791	+938.125
C10	-26.883	-164.082	+2605.985	-37.908	-237.583	+1876.250
C11	-229.857	-77.906	+1338.234	-350.352	-121.406	+976.984
C12	-24.894	-155.813	+2676.469	-37.944	-242.813	+1953.969
C13	+129.563	-15.958	-281.313	+9.068	-59.458	-418.000
C14	+14.032	-31.916	-562.625	+0.982	-118.916	-836.000
C15	+42.061	-45.063	-836.316	+42.061	-45.063	-999.676
C16	+4.555	-90.125	-1672.633	+4.555	-90.125	-1999.352
C17	+37.725	-38.752	-719.211	+37.725	-38.752	-859.691
C18	+4.086	-77.504	-1438.422	+4.086	-77.504	-1719.383
Barra 22						
C 1	-23.277	-16.939	-758.201	-33.318	-20.564	-826.181
C 2	+2.552	-31.182	-1518.253	+1.465	-38.432	-1644.436
C 3	-27.020	-15.219	-759.361	-37.061	-18.844	-821.107
C 4	-3.000	-29.420	-1519.506	-4.087	-36.670	-1639.307
C 5	-29.021	-15.672	-759.138	-39.062	-19.297	-822.513
C 6	-3.143	-31.344	-1518.276	-4.230	-38.594	-1645.026
C 7	-331.292	-88.938	+846.854	-431.705	-125.188	+458.760
C 8	-35.880	-177.875	+1693.708	-46.755	-250.375	+917.521
C 9	-350.639	-118.785	+938.128	-451.051	-155.035	+441.815
C10	-37.908	-237.570	+1876.255	-48.783	-310.070	+883.630
C11	-350.352	-121.401	+976.979	-457.211	-159.979	+464.126
C12	-37.944	-242.803	+1953.957	-49.517	-319.957	+928.253
C13	+9.068	-59.458	-418.000	-111.427	-102.958	-712.383
C14	+0.982	-118.916	-836.000	-12.068	-205.916	-1424.766
C15	+42.061	-45.066	-999.676	+42.061	-45.066	-1163.047
C16	+4.555	-90.133	-1999.352	+4.555	-90.133	-2326.094
C17	+37.725	-38.754	-859.688	+37.725	-38.754	-1000.168
C18	+4.086	-77.508	-1719.375	+4.086	-77.508	-2000.336

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 23						
C 1	-33.318	-20.567	-826.177	-42.902	-24.027	-903.322
C 2	+1.465	-38.435	-1644.429	+0.427	-45.355	-1789.390
C 3	-37.061	-18.844	-821.107	-46.645	-22.304	-892.291
C 4	-4.087	-36.673	-1639.316	-5.125	-43.593	-1778.163
C 5	-39.062	-19.295	-822.517	-48.646	-22.755	-895.271
C 6	-4.231	-38.591	-1645.034	-5.269	-45.511	-1790.542
C 7	-431.705	-125.188	+458.766	-527.547	-159.788	-34.238
C 8	-46.755	-250.377	+917.532	-57.135	-319.577	-68.476
C 9	-451.051	-155.036	+441.813	-546.893	-189.636	-154.469
C10	-48.783	-310.072	+883.625	-59.163	-379.272	-308.937
C11	-457.211	-159.977	+464.117	-553.053	-194.577	-149.258
C12	-49.517	-319.955	+928.235	-59.897	-389.155	-298.515
C13	-111.427	-102.958	-712.386	-226.438	-144.478	-1140.452
C14	-12.068	-205.916	-1424.771	-24.524	-288.956	-2280.904
C15	+42.060	-45.066	-1163.043	+42.060	-45.066	-1318.977
C16	+4.555	-90.133	-2326.086	+4.555	-90.133	-2637.953
C17	+37.725	-38.756	-1000.164	+37.725	-38.756	-1134.258
C18	+4.086	-77.512	-2000.328	+4.086	-77.512	-2268.516
Barra 24						
C 1	-42.902	-24.026	-903.337	-52.487	-27.486	-992.443
C 2	+0.427	-45.358	-1789.421	-0.611	-52.278	-1958.296
C 3	-46.645	-22.305	-892.306	-56.229	-25.765	-975.451
C 4	-5.125	-43.595	-1778.191	-6.163	-50.515	-1940.964
C 5	-48.646	-22.756	-895.279	-58.231	-26.216	-980.005
C 6	-5.269	-45.513	-1790.558	-6.307	-52.433	-1960.011
C 7	-527.547	-159.784	-34.230	-623.389	-194.384	-646.945
C 8	-57.135	-319.568	-68.460	-67.515	-388.768	-1293.890
C 9	-546.894	-189.632	-154.457	-642.736	-224.232	-870.469
C10	-59.163	-379.263	-308.914	-69.543	-448.463	-1740.937
C11	-553.053	-194.579	-149.254	-648.896	-229.179	-882.355
C12	-59.898	-389.158	-298.507	-70.278	-458.358	-1764.710
C13	-226.438	-144.479	-1140.454	-341.448	-185.999	-1712.175
C14	-24.524	-288.959	-2280.908	-36.980	-371.999	-3424.349
C15	+42.060	-45.068	-1318.988	+42.060	-45.068	-1474.910
C16	+4.555	-90.137	-2637.977	+4.555	-90.137	-2949.820
C17	+37.725	-38.756	-1134.266	+37.725	-38.756	-1268.352
C18	+4.086	-77.512	-2268.531	+4.086	-77.512	-2536.703

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 25						
C 1	-52.486	-27.460	-992.453	-55.478	-28.540	-1022.660
C 2	-0.611	-52.232	-1958.300	-0.935	-54.393	-2015.851
C 3	-56.229	-25.741	-975.449	-59.221	-26.821	-1003.832
C 4	-6.163	-50.467	-1940.968	-6.487	-52.627	-1996.616
C 5	-58.230	-26.194	-980.003	-61.222	-27.274	-1008.863
C 6	-6.306	-52.389	-1960.007	-6.630	-54.549	-2017.726
C 7	-623.388	-194.412	-646.949	-653.304	-205.213	-862.738
C 8	-67.515	-388.825	-1293.897	-70.755	-410.425	-1725.475
C 9	-642.736	-224.256	-870.456	-672.652	-235.056	-1118.535
C10	-69.543	-448.512	-1740.913	-72.783	-470.113	-2237.069
C11	-648.895	-229.225	-882.363	-678.811	-240.025	-1135.753
C12	-70.277	-458.450	-1764.725	-73.517	-480.050	-2271.507
C13	-341.448	-186.004	-1712.168	-377.348	-198.964	-1920.049
C14	-36.980	-372.009	-3424.337	-40.868	-397.929	-3840.098
C15	+42.061	-45.031	-1474.914	+42.061	-45.031	-1523.531
C16	+4.555	-90.063	-2949.828	+4.555	-90.063	-3047.063
C17	+37.725	-38.766	-1268.328	+37.725	-38.766	-1310.188
C18	+4.086	-77.531	-2536.656	+4.086	-77.531	-2620.375
Barra 26						
C 1	+618.683	+218.666	-1022.675	+588.767	+207.866	-792.331
C 2	+67.294	+436.456	-2015.835	+64.054	+414.856	-1556.100
C 3	+618.470	+218.103	-1003.816	+588.554	+207.303	-774.089
C 4	+66.978	+435.894	-1996.600	+63.738	+414.294	-1537.483
C 5	+618.356	+218.259	-1008.863	+588.440	+207.459	-778.972
C 6	+66.970	+436.519	-2017.725	+63.730	+414.919	-1557.944
C 7	+57.841	+22.181	-862.753	+54.849	+21.101	-839.371
C 8	+6.265	+44.361	-1725.507	+5.941	+42.201	-1678.741
C 9	+59.296	+27.243	-1118.503	+56.304	+26.163	-1089.675
C10	+7.603	+54.486	-2237.007	+7.279	+52.326	-2179.351
C11	+58.946	+27.790	-1135.785	+55.954	+26.710	-1106.347
C12	+6.384	+55.580	-2271.569	+6.060	+53.420	-2212.694
C13	+673.419	+273.589	-1920.026	+637.520	+260.629	-1631.518
C14	+72.934	+547.179	-3840.052	+69.046	+521.259	-3263.036
C15	+739.668	+273.730	-1523.541	+703.769	+260.770	-1234.924
C16	+80.109	+547.460	-3047.083	+76.221	+521.540	-2469.848
C17	+663.432	+253.168	-1310.166	+627.533	+240.207	-1043.745
C18	+71.852	+506.335	-2620.333	+67.964	+480.415	-2087.489

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 27						
C 1	+588.767	+207.841	-792.340	+492.925	+173.241	-133.054
C 2	+64.054	+414.817	-1556.105	+53.674	+345.617	-240.546
C 3	+588.554	+207.282	-774.094	+492.712	+172.682	-116.746
C 4	+63.738	+414.245	-1537.492	+53.358	+345.045	-223.910
C 5	+588.440	+207.439	-778.969	+492.598	+172.839	-121.094
C 6	+63.730	+414.877	-1557.937	+53.350	+345.677	-242.187
C 7	+54.849	+21.140	-839.361	+45.265	+17.680	-772.201
C 8	+5.940	+42.280	-1678.722	+4.902	+35.360	-1544.401
C 9	+56.304	+26.191	-1089.685	+46.720	+22.731	-1005.037
C10	+7.279	+52.382	-2179.370	+6.241	+45.462	-2010.073
C11	+55.954	+26.699	-1106.365	+46.370	+23.239	-1019.974
C12	+6.060	+53.397	-2212.730	+5.022	+46.478	-2039.948
C13	+637.520	+260.635	-1631.522	+522.509	+219.115	-801.558
C14	+69.045	+521.270	-3263.045	+56.589	+438.230	-1603.115
C15	+703.769	+260.725	-1234.932	+588.758	+219.205	-404.643
C16	+76.221	+521.450	-2469.865	+63.765	+438.410	-809.287
C17	+627.533	+240.182	-1043.749	+512.522	+198.662	-284.546
C18	+67.964	+480.364	-2087.498	+55.508	+397.324	-569.092
Barra 28						
C 1	+492.925	+173.237	-132.995	+452.483	+158.638	+109.255
C 2	+53.674	+345.662	-240.459	+49.294	+316.463	+242.854
C 3	+492.712	+172.706	-116.683	+452.270	+158.106	+124.817
C 4	+53.358	+345.069	-223.803	+48.978	+315.869	+258.729
C 5	+492.598	+172.831	-121.058	+452.156	+158.231	+120.661
C 6	+53.350	+345.662	-242.115	+48.970	+316.463	+241.322
C 7	+45.265	+17.667	-772.224	+41.220	+16.208	-747.474
C 8	+4.902	+35.335	-1544.449	+4.464	+32.415	-1494.949
C 9	+46.720	+22.730	-1005.084	+42.676	+21.270	-972.959
C10	+6.241	+45.460	-2010.168	+5.803	+42.540	-1945.918
C11	+46.370	+23.230	-1019.990	+42.326	+21.770	-987.115
C12	+5.022	+46.460	-2039.980	+4.584	+43.540	-1974.230
C13	+522.510	+219.135	-801.553	+473.979	+201.615	-494.382
C14	+56.589	+438.270	-1603.107	+51.333	+403.230	-988.763
C15	+588.758	+219.229	-404.632	+540.228	+201.709	-97.288
C16	+63.764	+438.457	-809.263	+58.508	+403.418	-194.576
C17	+512.522	+198.666	-284.475	+463.992	+181.146	-7.257
C18	+55.508	+397.332	-568.951	+50.252	+362.293	-14.513

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 29						
C 1	+452.483	+158.641	+109.307	+397.083	+138.641	+406.573
C 2	+49.294	+316.422	+242.911	+43.294	+276.422	+835.740
C 3	+452.270	+158.109	+124.792	+396.870	+138.109	+421.026
C 4	+48.978	+315.891	+258.693	+42.978	+275.891	+850.490
C 5	+452.156	+158.250	+120.651	+396.756	+138.250	+417.135
C 6	+48.970	+316.500	+241.302	+42.970	+276.500	+834.271
C 7	+41.221	+16.203	-747.490	+35.681	+14.203	-717.068
C 8	+4.464	+32.406	-1494.979	+3.864	+28.406	-1434.135
C 9	+42.676	+21.266	-972.974	+37.136	+19.266	-932.443
C10	+5.803	+42.531	-1945.948	+5.203	+38.531	-1864.885
C11	+42.325	+21.766	-987.161	+36.785	+19.766	-945.630
C12	+4.584	+43.531	-1974.323	+3.984	+39.531	-1891.260
C13	+473.979	+201.602	-494.391	+407.499	+177.602	-115.188
C14	+51.334	+403.203	-988.781	+44.134	+355.203	-230.375
C15	+540.228	+201.703	-97.297	+473.748	+177.703	+282.078
C16	+58.509	+403.406	-194.594	+51.309	+355.406	+564.156
C17	+463.992	+181.141	-7.219	+397.512	+157.141	+331.063
C18	+50.252	+362.281	-14.437	+43.052	+314.281	+662.125
Barra 30						
C 1	+397.082	+138.500	+406.667	+369.382	+128.500	+540.167
C 2	+43.293	+276.250	+835.833	+40.293	+256.250	+1102.146
C 3	+396.870	+138.125	+420.979	+369.170	+128.125	+554.229
C 4	+42.978	+275.750	+850.521	+39.978	+255.750	+1116.458
C 5	+396.756	+138.375	+417.104	+369.056	+128.375	+550.479
C 6	+42.970	+276.750	+834.208	+39.970	+256.750	+1100.958
C 7	+35.681	+14.125	-717.021	+32.911	+13.125	-703.396
C 8	+3.865	+28.250	-1434.042	+3.565	+26.250	-1406.792
C 9	+37.136	+19.125	-932.396	+34.366	+18.125	-913.771
C10	+5.203	+38.250	-1864.792	+4.903	+36.250	-1827.542
C11	+36.785	+19.750	-945.708	+34.015	+18.750	-926.333
C12	+3.984	+39.500	-1891.417	+3.684	+37.500	-1852.667
C13	+407.499	+177.625	-115.188	+374.259	+165.625	+56.500
C14	+44.134	+355.250	-230.375	+40.534	+331.250	+113.000
C15	+473.747	+177.500	+282.250	+440.507	+165.500	+453.750
C16	+51.308	+355.000	+564.500	+47.708	+331.000	+907.500
C17	+397.512	+157.000	+331.125	+364.272	+145.000	+482.188
C18	+43.052	+314.000	+662.250	+39.452	+290.000	+964.375

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 31						
C 1	+369.383	+128.641	+540.227	+244.733	+83.641	+1017.859
C 2	+40.294	+256.416	+1102.148	+26.794	+166.416	+2053.523
C 3	+369.170	+128.090	+554.086	+244.520	+83.090	+1029.234
C 4	+39.978	+255.854	+1116.293	+26.478	+165.854	+2065.129
C 5	+369.056	+128.234	+550.387	+244.406	+83.234	+1026.191
C 6	+39.970	+256.469	+1100.773	+26.470	+166.469	+2052.383
C 7	+32.910	+13.223	-703.340	+20.445	+8.723	-653.953
C 8	+3.564	+26.445	-1406.680	+2.214	+17.445	-1307.906
C 9	+34.366	+18.277	-913.656	+21.901	+13.777	-841.539
C10	+4.903	+36.555	-1827.313	+3.553	+27.555	-1683.078
C11	+34.015	+18.783	-926.336	+21.550	+14.283	-851.938
C12	+3.684	+37.566	-1852.672	+2.334	+28.566	-1703.875
C13	+374.259	+165.592	+56.402	+224.679	+111.592	+680.074
C14	+40.533	+331.184	+112.805	+24.333	+223.184	+1360.148
C15	+440.508	+165.686	+453.773	+290.928	+111.686	+1077.859
C16	+47.709	+331.371	+907.547	+31.509	+223.371	+2155.719
C17	+364.272	+145.139	+482.211	+214.692	+91.139	+1013.844
C18	+39.452	+290.277	+964.422	+23.252	+182.277	+2027.688
Barra 32						
C 1	+244.733	+83.639	+1017.859	+120.083	+38.639	+1292.984
C 2	+26.794	+166.410	+2053.523	+13.294	+76.410	+2599.871
C 3	+244.520	+83.086	+1029.227	+119.870	+38.086	+1301.867
C 4	+26.478	+165.846	+2065.117	+12.978	+75.846	+2608.930
C 5	+244.406	+83.232	+1026.203	+119.756	+38.232	+1299.492
C 6	+26.470	+166.465	+2052.406	+12.970	+76.465	+2598.984
C 7	+20.445	+8.727	-653.953	+7.980	+4.227	-624.809
C 8	+2.214	+17.453	-1307.906	+0.864	+8.453	-1249.617
C 9	+21.901	+13.775	-841.539	+9.436	+9.275	-789.664
C10	+3.553	+27.551	-1683.078	+2.203	+18.551	-1579.328
C11	+21.550	+14.283	-851.938	+9.085	+9.783	-797.785
C12	+2.334	+28.566	-1703.875	+0.984	+19.566	-1595.570
C13	+224.679	+111.593	+680.072	+93.098	+64.091	+1071.290
C14	+24.334	+223.187	+1360.144	+10.083	+128.183	+2142.580
C15	+290.928	+111.684	+1077.867	+141.348	+57.684	+1458.938
C16	+31.508	+223.367	+2155.734	+15.308	+115.367	+2917.875
C17	+214.692	+91.137	+1013.844	+65.112	+37.137	+1302.465
C18	+23.252	+182.273	+2027.688	+7.052	+74.273	+2604.930

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 33						
C 1	+120.083	+38.641	+1293.000	-4.567	-6.359	+1365.633
C 2	+13.294	+76.416	+2599.898	-0.206	-13.584	+2741.250
C 3	+119.870	+38.084	+1301.891	-4.780	-6.916	+1372.008
C 4	+12.978	+75.848	+2608.969	-0.522	-14.152	+2747.766
C 5	+119.756	+38.234	+1299.492	-4.894	-6.766	+1370.313
C 6	+12.970	+76.469	+2598.984	-0.530	-13.531	+2740.625
C 7	+7.980	+4.223	-624.816	-4.485	-0.277	-615.938
C 8	+0.864	+8.445	-1249.633	-0.486	-0.555	-1231.875
C 9	+9.436	+9.277	-789.668	-3.029	+4.777	-758.047
C10	+2.203	+18.555	-1579.336	+0.853	+9.555	-1516.094
C11	+9.085	+9.785	-797.793	-3.380	+5.285	-763.887
C12	+0.984	+19.570	-1595.586	-0.366	+10.570	-1527.773
C13	+93.098	+64.092	+1071.293	-31.552	+19.092	+1258.457
C14	+10.083	+128.184	+2142.586	-3.417	+38.184	+2516.914
C15	+141.348	+57.688	+1458.945	-8.232	+3.688	+1597.031
C16	+15.308	+115.375	+2917.891	-0.892	+7.375	+3194.063
C17	+65.112	+37.141	+1302.477	-84.468	-16.859	+1348.102
C18	+7.052	+74.281	+2604.953	-9.148	-33.719	+2696.203
Barra 34						
C 1	-4.568	-6.363	+1365.612	-104.980	-42.613	+1276.846
C 2	-0.206	-13.590	+2741.232	-11.081	-86.090	+2560.552
C 3	-4.780	-6.910	+1372.003	-105.193	-43.160	+1281.237
C 4	-0.522	-14.152	+2747.763	-11.397	-86.652	+2565.021
C 5	-4.894	-6.770	+1370.299	-105.306	-43.020	+1280.057
C 6	-0.530	-13.539	+2740.599	-11.405	-86.039	+2560.115
C 7	-4.485	-0.270	-615.931	-14.526	-3.895	-623.493
C 8	-0.486	-0.539	-1231.862	-1.573	-7.789	-1246.987
C 9	-3.029	+4.781	-758.040	-13.071	+1.156	-747.283
C10	+0.853	+9.563	-1516.081	-0.235	+2.313	-1494.565
C11	-3.380	+5.285	-763.892	-13.421	+1.660	-751.290
C12	-0.366	+10.570	-1527.784	-1.453	+3.320	-1502.581
C13	-31.552	+19.090	+1258.440	-131.964	-17.160	+1261.940
C14	-3.417	+38.180	+2516.880	-14.292	-34.320	+2523.880
C15	-8.232	+3.680	+1597.016	-128.727	-39.820	+1531.516
C16	-0.892	+7.359	+3194.031	-13.942	-79.641	+3063.031
C17	-84.468	-16.867	+1348.102	-204.963	-60.367	+1208.117
C18	-9.148	-33.734	+2696.203	-22.198	-120.734	+2416.234

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 35						
C 1	-104.980	-42.617	+1276.854	-205.393	-78.867	+1056.667
C 2	-11.082	-86.105	+2560.568	-21.957	-158.605	+2117.036
C 3	-105.193	-43.172	+1281.237	-205.605	-79.422	+1059.026
C 4	-11.397	-86.672	+2565.044	-22.272	-159.172	+2119.443
C 5	-105.306	-43.027	+1280.065	-205.719	-79.277	+1058.393
C 6	-11.405	-86.055	+2560.130	-22.280	-158.555	+2116.786
C 7	-14.526	-3.895	-623.486	-24.567	-7.520	-644.181
C 8	-1.573	-7.789	-1246.971	-2.661	-15.039	-1288.362
C 9	-13.071	+1.160	-747.306	-23.112	-2.465	-749.650
C10	-0.235	+2.320	-1494.612	-1.322	-4.930	-1499.299
C11	-13.421	+1.664	-751.298	-23.462	-1.961	-751.837
C12	-1.454	+3.328	-1502.596	-2.541	-3.922	-1503.674
C13	-131.964	-17.168	+1261.948	-232.377	-53.418	+1134.003
C14	-14.292	-34.336	+2523.896	-25.167	-106.836	+2268.005
C15	-128.727	-39.820	+1531.531	-249.222	-83.320	+1308.328
C16	-13.941	-79.641	+3063.063	-26.991	-166.641	+2616.656
C17	-204.963	-60.375	+1208.133	-325.458	-103.875	+910.430
C18	-22.198	-120.750	+2416.266	-35.248	-207.750	+1820.859
Barra 36						
C 1	-205.393	-78.867	+1056.667	-305.805	-115.117	+705.065
C 2	-21.956	-158.609	+2117.052	-32.831	-231.109	+1410.701
C 3	-205.606	-79.426	+1059.034	-306.018	-115.676	+705.440
C 4	-22.272	-159.176	+2119.458	-33.147	-231.676	+1411.076
C 5	-205.719	-79.273	+1058.409	-306.132	-115.523	+705.331
C 6	-22.280	-158.547	+2116.818	-33.155	-231.047	+1410.661
C 7	-24.567	-7.523	-644.189	-34.608	-11.148	-678.013
C 8	-2.661	-15.047	-1288.378	-3.748	-22.297	-1356.026
C 9	-23.112	-2.469	-749.658	-33.153	-6.094	-765.173
C10	-1.322	-4.938	-1499.315	-2.410	-12.188	-1530.346
C11	-23.462	-1.957	-751.845	-33.503	-5.582	-765.501
C12	-2.541	-3.914	-1503.690	-3.628	-11.164	-1531.003
C13	-232.377	-53.418	+1134.026	-332.789	-89.668	+874.674
C14	-25.167	-106.836	+2268.052	-36.042	-179.336	+1749.349
C15	-249.223	-83.322	+1308.328	-351.021	-120.073	+938.812
C16	-26.992	-166.645	+2616.657	-38.017	-240.145	+1877.625
C17	-325.458	-103.867	+910.445	-325.458	-103.867	+533.922
C18	-35.248	-207.734	+1820.891	-35.248	-207.734	+1067.844

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 37						
C 1	-305.805	-115.121	+705.069	-406.218	-151.371	+222.057
C 2	-32.831	-231.105	+1410.697	-43.706	-303.605	+441.544
C 3	-306.018	-115.672	+705.428	-406.430	-151.922	+220.409
C 4	-33.147	-231.668	+1411.072	-44.022	-304.168	+439.857
C 5	-306.132	-115.527	+705.335	-406.544	-151.777	+220.854
C 6	-33.155	-231.055	+1410.669	-44.030	-303.555	+441.708
C 7	-34.608	-11.143	-678.013	-44.650	-14.768	-724.982
C 8	-3.748	-22.285	-1356.026	-4.836	-29.535	-1449.964
C 9	-33.153	-6.090	-765.169	-43.195	-9.715	-793.814
C10	-2.410	-12.180	-1530.339	-3.497	-19.430	-1587.628
C11	-33.503	-5.584	-765.505	-43.545	-9.209	-792.333
C12	-3.629	-11.168	-1531.010	-4.716	-18.418	-1584.667
C13	-332.789	-89.668	+874.674	-433.202	-125.918	+483.932
C14	-36.042	-179.336	+1749.349	-46.917	-251.836	+967.865
C15	-351.021	-120.074	+938.823	-451.433	-156.324	+437.846
C16	-38.017	-240.148	+1877.646	-48.892	-312.648	+875.693
C17	-325.458	-103.869	+533.922	-325.458	-103.869	+157.398
C18	-35.248	-207.738	+1067.844	-35.248	-207.738	+314.797
Barra 38						
C 1	-406.218	-151.362	+222.055	-502.060	-185.962	-361.523
C 2	-43.706	-303.593	+441.532	-54.086	-372.793	-728.617
C 3	-406.430	-151.917	+220.410	-502.272	-186.517	-365.086
C 4	-44.022	-304.160	+439.852	-54.402	-373.360	-732.253
C 5	-406.544	-151.770	+220.848	-502.386	-186.370	-364.133
C 6	-44.030	-303.541	+441.696	-54.410	-372.741	-728.265
C 7	-44.650	-14.774	-724.974	-54.234	-18.234	-782.080
C 8	-4.836	-29.548	-1449.948	-5.874	-36.468	-1564.159
C 9	-43.195	-9.719	-793.818	-52.779	-13.179	-833.435
C10	-3.497	-19.438	-1587.636	-4.535	-26.358	-1666.870
C11	-43.545	-9.213	-792.322	-53.129	-12.673	-830.189
C12	-4.716	-18.427	-1584.644	-5.754	-25.347	-1660.378
C13	-433.202	-125.911	+483.918	-529.044	-160.511	-11.582
C14	-46.917	-251.822	+967.836	-57.297	-321.022	-23.164
C15	-451.433	-156.317	+437.844	-547.275	-190.917	-162.883
C16	-48.892	-312.634	+875.688	-59.272	-381.834	-325.765
C17	-325.458	-103.865	+157.391	-325.458	-103.865	-201.977
C18	-35.248	-207.730	+314.781	-35.248	-207.730	-403.953

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 39						
C 1	-502.060	-185.962	-361.519	-597.902	-220.562	-1064.828
C 2	-54.086	-372.795	-728.609	-64.466	-441.995	-2138.222
C 3	-502.273	-186.520	-365.070	-598.115	-221.120	-1070.308
C 4	-54.402	-373.363	-732.238	-64.782	-442.563	-2143.816
C 5	-502.386	-186.372	-364.129	-598.228	-220.972	-1068.836
C 6	-54.410	-372.744	-728.257	-64.790	-441.944	-2137.671
C 7	-54.234	-18.235	-782.084	-63.818	-21.695	-851.146
C 8	-5.874	-36.470	-1564.167	-6.912	-43.390	-1702.292
C 9	-52.779	-13.178	-833.439	-62.363	-16.638	-885.013
C10	-4.536	-26.356	-1666.878	-5.574	-33.276	-1770.026
C11	-53.129	-12.672	-830.193	-62.713	-16.132	-880.017
C12	-5.754	-25.345	-1660.386	-6.792	-32.265	-1760.034
C13	-529.044	-160.513	-11.586	-624.886	-195.112	-626.828
C14	-57.297	-321.025	-23.171	-67.677	-390.225	-1253.656
C15	-547.275	-190.923	-162.875	-643.117	-225.523	-883.332
C16	-59.272	-381.845	-325.750	-69.652	-451.045	-1766.664
C17	-325.459	-103.867	-201.975	-325.459	-103.867	-561.359
C18	-35.248	-207.734	-403.949	-35.248	-207.734	-1122.719
Barra 40						
C 1	-597.902	-220.553	-1064.839	-627.818	-231.353	-1308.894
C 2	-64.467	-441.981	-2138.257	-67.707	-463.581	-2627.288
C 3	-598.114	-221.131	-1070.308	-628.030	-231.931	-1314.988
C 4	-64.782	-442.575	-2143.843	-68.022	-464.175	-2633.507
C 5	-598.228	-220.975	-1068.863	-628.144	-231.775	-1313.347
C 6	-64.790	-441.950	-2137.725	-68.030	-463.550	-2626.694
C 7	-63.818	-21.710	-851.128	-66.810	-22.790	-875.128
C 8	-6.911	-43.420	-1702.257	-7.235	-45.580	-1750.257
C 9	-62.363	-16.632	-885.003	-65.354	-17.712	-903.550
C10	-5.574	-33.264	-1770.007	-5.898	-35.424	-1807.101
C11	-62.713	-16.116	-880.003	-65.705	-17.196	-898.003
C12	-6.792	-32.232	-1760.007	-7.116	-34.393	-1796.007
C13	-624.886	-195.131	-626.839	-654.802	-205.931	-843.409
C14	-67.677	-390.262	-1253.678	-70.917	-411.863	-1686.819
C15	-643.117	-225.537	-883.331	-673.033	-236.338	-1132.753
C16	-69.651	-451.075	-1766.663	-72.891	-472.675	-2265.507
C17	-325.458	-103.875	-561.359	-325.458	-103.875	-673.563
C18	-35.248	-207.750	-1122.719	-35.248	-207.750	-1347.125

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 41						
C 1	-35.681	+38.500	-1308.883	-35.681	+38.500	-1267.316
C 2	-3.848	+77.297	-2627.297	-3.848	+77.297	-2543.824
C 3	-35.693	+38.672	-1314.945	-35.693	+38.672	-1273.211
C 4	-3.866	+77.453	-2633.461	-3.866	+77.453	-2549.852
C 5	-35.700	+38.609	-1313.336	-35.700	+38.609	-1271.625
C 6	-3.866	+77.219	-2626.672	-3.866	+77.219	-2543.250
C 7	+573.092	+206.275	-875.128	+543.176	+195.475	-658.175
C 8	+62.068	+412.550	-1750.256	+58.828	+390.950	-1316.350
C 9	+618.123	+215.056	-903.534	+588.207	+204.256	-677.113
C10	+87.719	+430.113	-1807.069	+84.479	+408.512	-1354.225
C11	+618.103	+214.900	-897.988	+588.187	+204.100	-671.738
C12	+66.942	+429.800	-1795.975	+63.702	+408.200	-1343.475
C13	+60.311	+19.228	-843.378	+57.319	+18.147	-823.218
C14	+6.532	+38.455	-1686.757	+6.208	+36.295	-1646.437
C15	+59.274	+27.743	-1132.738	+56.283	+26.663	-1103.378
C16	+6.419	+55.486	-2265.476	+6.095	+53.326	-2206.757
C17	+63.669	+1.953	-673.547	+63.669	+1.953	-671.473
C18	+6.896	+3.906	-1347.094	+6.896	+3.906	-1342.945
Barra 42						
C 1	-35.682	+38.486	-1267.293	-35.682	+38.486	-1134.133
C 2	-3.848	+77.248	-2543.793	-3.848	+77.248	-2276.516
C 3	-35.694	+38.664	-1273.176	-35.694	+38.664	-1139.408
C 4	-3.866	+77.434	-2549.797	-3.866	+77.434	-2281.887
C 5	-35.700	+38.615	-1271.605	-35.700	+38.615	-1137.996
C 6	-3.867	+77.230	-2543.211	-3.867	+77.230	-2275.992
C 7	+543.175	+195.507	-658.203	+447.333	+160.907	-41.578
C 8	+58.828	+391.014	-1316.406	+48.448	+321.814	-83.156
C 9	+588.206	+204.290	-677.125	+492.364	+169.690	-30.129
C10	+84.479	+408.581	-1354.250	+74.099	+339.380	-60.257
C11	+588.186	+204.128	-671.758	+492.344	+169.528	-25.308
C12	+63.703	+408.256	-1343.515	+53.323	+339.056	-50.617
C13	+57.319	+18.148	-823.185	+47.734	+14.688	-766.386
C14	+6.208	+36.296	-1646.370	+5.170	+29.376	-1532.773
C15	+56.282	+26.656	-1103.338	+46.698	+23.196	-1017.107
C16	+6.096	+53.312	-2206.675	+5.058	+46.392	-2034.214
C17	+63.669	+1.916	-671.449	+63.669	+1.916	-664.824
C18	+6.895	+3.832	-1342.898	+6.895	+3.832	-1329.648

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 43						
C 1	-35.682	+38.500	-1134.156	-35.682	+38.500	-1077.953
C 2	-3.848	+77.250	-2276.563	-3.848	+77.250	-2163.734
C 3	-35.694	+38.656	-1139.391	-35.694	+38.656	-1082.969
C 4	-3.866	+77.438	-2281.859	-3.866	+77.438	-2168.891
C 5	-35.700	+38.625	-1138.000	-35.700	+38.625	-1081.625
C 6	-3.866	+77.250	-2276.000	-3.866	+77.250	-2163.250
C 7	+447.333	+160.894	-41.558	+406.891	+146.294	+182.692
C 8	+48.448	+321.788	-83.115	+44.068	+292.587	+365.385
C 9	+492.364	+169.738	-30.120	+451.922	+155.137	+206.974
C10	+74.099	+339.475	-60.240	+69.719	+310.275	+413.947
C11	+492.344	+169.550	-25.308	+451.902	+154.950	+211.505
C12	+53.322	+339.100	-50.615	+48.942	+309.900	+423.010
C13	+47.734	+14.668	-766.396	+43.690	+13.207	-746.037
C14	+5.170	+29.335	-1532.793	+4.732	+26.415	-1492.074
C15	+46.698	+23.199	-1017.115	+42.654	+21.739	-984.303
C16	+5.058	+46.398	-2034.230	+4.620	+43.477	-1968.605
C17	+63.669	+1.906	-664.828	+63.669	+1.906	-662.063
C18	+6.896	+3.813	-1329.656	+6.896	+3.813	-1324.125
Barra 44						
C 1	-35.682	+38.477	-1077.969	-35.682	+38.477	-1001.023
C 2	-3.848	+77.227	-2163.766	-3.848	+77.227	-2009.320
C 3	-35.694	+38.641	-1082.969	-35.694	+38.641	-1005.688
C 4	-3.866	+77.391	-2168.875	-3.866	+77.391	-2014.078
C 5	-35.700	+38.594	-1081.625	-35.700	+38.594	-1004.438
C 6	-3.866	+77.188	-2163.250	-3.866	+77.188	-2008.875
C 7	+406.891	+146.359	+182.698	+351.491	+126.359	+455.401
C 8	+44.068	+292.719	+365.396	+38.068	+252.719	+910.802
C 9	+451.921	+155.125	+206.979	+396.521	+135.125	+497.214
C10	+69.719	+310.250	+413.958	+63.719	+270.250	+994.427
C11	+451.902	+154.953	+211.542	+396.502	+134.953	+501.464
C12	+48.942	+309.906	+423.083	+42.942	+269.906	+1002.927
C13	+43.690	+13.188	-746.021	+38.150	+11.188	-721.630
C14	+4.732	+26.375	-1492.042	+4.132	+22.375	-1443.260
C15	+42.654	+21.703	-984.333	+37.114	+19.703	-942.896
C16	+4.620	+43.406	-1968.667	+4.020	+39.406	-1885.792
C17	+63.669	+1.891	-662.047	+63.669	+1.891	-658.273
C18	+6.896	+3.781	-1324.094	+6.896	+3.781	-1316.547

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 45						
C 1	-35.682	+38.375	-1001.000	-35.682	+38.375	-962.563
C 2	-3.848	+77.000	-2009.250	-3.848	+77.000	-1932.188
C 3	-35.694	+38.625	-1005.688	-35.694	+38.625	-967.000
C 4	-3.866	+77.375	-2014.063	-3.866	+77.375	-1936.625
C 5	-35.700	+38.625	-1004.438	-35.700	+38.625	-965.813
C 6	-3.866	+77.250	-2008.875	-3.866	+77.250	-1931.625
C 7	+351.491	+126.500	+455.292	+323.791	+116.500	+576.729
C 8	+38.067	+253.000	+910.583	+35.067	+233.000	+1153.458
C 9	+396.521	+135.125	+497.167	+368.821	+125.125	+627.354
C10	+63.719	+270.250	+994.333	+60.719	+250.250	+1254.708
C11	+396.502	+134.750	+501.542	+368.802	+124.750	+631.354
C12	+42.943	+269.500	+1003.083	+39.943	+249.500	+1262.708
C13	+38.150	+11.250	-721.646	+35.380	+10.250	-710.833
C14	+4.132	+22.500	-1443.292	+3.832	+20.500	-1421.667
C15	+37.114	+19.625	-942.833	+34.344	+18.625	-923.646
C16	+4.020	+39.250	-1885.667	+3.720	+37.250	-1847.292
C17	+63.669	+1.875	-658.250	+63.669	+1.875	-656.375
C18	+6.896	+3.750	-1316.500	+6.896	+3.750	-1312.750
Barra 46						
C 1	-35.682	+38.439	-962.549	-35.682	+38.439	-789.568
C 2	-3.848	+77.157	-1932.090	-3.848	+77.157	-1584.871
C 3	-35.694	+38.619	-967.016	-35.694	+38.619	-793.230
C 4	-3.866	+77.342	-1936.645	-3.866	+77.342	-1588.609
C 5	-35.700	+38.569	-965.820	-35.700	+38.569	-792.252
C 6	-3.866	+77.139	-1931.641	-3.866	+77.139	-1584.504
C 7	+323.790	+116.371	+576.684	+199.140	+71.371	+999.094
C 8	+35.068	+232.742	+1153.367	+21.568	+142.742	+1998.188
C 9	+368.821	+125.160	+627.309	+244.171	+80.160	+1089.281
C10	+60.719	+250.320	+1254.617	+47.219	+160.320	+2178.563
C11	+368.801	+125.000	+631.379	+244.151	+80.000	+1092.621
C12	+39.942	+250.000	+1262.758	+26.442	+160.000	+2185.242
C13	+35.380	+10.174	-710.891	+22.915	+5.674	-675.227
C14	+3.832	+20.348	-1421.781	+2.482	+11.348	-1350.453
C15	+34.344	+18.674	-923.664	+21.879	+14.174	-849.750
C16	+3.719	+37.348	-1847.328	+2.369	+28.348	-1699.500
C17	+63.669	+1.867	-656.348	+63.669	+1.867	-647.945
C18	+6.896	+3.734	-1312.695	+6.896	+3.734	-1295.891

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 47						
C 1	-35.682	+38.441	-789.570	-35.682	+38.441	-616.578
C 2	-3.848	+77.162	-1584.875	-3.848	+77.162	-1237.645
C 3	-35.694	+38.619	-793.234	-35.694	+38.619	-619.441
C 4	-3.866	+77.344	-1588.613	-3.866	+77.344	-1240.559
C 5	-35.700	+38.572	-792.254	-35.700	+38.572	-618.680
C 6	-3.866	+77.145	-1584.508	-3.866	+77.145	-1237.359
C 7	+199.140	+71.369	+999.102	+74.490	+26.369	+1219.000
C 8	+21.568	+142.738	+1998.203	+8.068	+52.738	+2438.000
C 9	+244.171	+80.160	+1089.273	+119.521	+35.160	+1348.742
C10	+47.219	+160.320	+2178.547	+33.719	+70.320	+2697.484
C11	+244.151	+79.996	+1092.617	+119.501	+34.996	+1351.359
C12	+26.442	+159.992	+2185.234	+12.942	+69.992	+2702.719
C13	+22.915	+5.676	-675.227	+10.450	+1.176	-659.816
C14	+2.482	+11.352	-1350.453	+1.132	+2.352	-1319.633
C15	+21.879	+14.176	-849.750	+9.414	+9.676	-796.086
C16	+2.370	+28.352	-1699.500	+1.020	+19.352	-1592.172
C17	+63.669	+1.867	-647.949	+63.669	+1.867	-639.539
C18	+6.895	+3.734	-1295.898	+6.895	+3.734	-1279.078
Barra 48						
C 1	-35.682	+38.440	-616.586	-35.682	+38.440	-443.605
C 2	-3.848	+77.160	-1237.652	-3.848	+77.160	-890.430
C 3	-35.694	+38.619	-619.445	-35.694	+38.619	-445.664
C 4	-3.866	+77.343	-1240.570	-3.866	+77.343	-892.531
C 5	-35.700	+38.571	-618.680	-35.700	+38.571	-445.117
C 6	-3.866	+77.143	-1237.359	-3.866	+77.143	-890.234
C 7	+74.490	+26.371	+1219.000	-50.160	-18.629	+1236.422
C 8	+8.068	+52.742	+2438.000	-5.432	-37.258	+2472.844
C 9	+119.521	+35.160	+1348.742	-5.129	-9.840	+1405.727
C10	+33.719	+70.320	+2697.484	+20.219	-19.680	+2811.453
C11	+119.501	+34.996	+1351.352	-5.149	-10.004	+1407.594
C12	+12.942	+69.992	+2702.703	-0.558	-20.008	+2815.188
C13	+10.450	+1.174	-659.813	-2.015	-3.326	-664.645
C14	+1.132	+2.348	-1319.625	-0.218	-6.652	-1329.289
C15	+9.414	+9.674	-796.086	-3.051	+5.174	-762.680
C16	+1.020	+19.348	-1592.172	-0.330	+10.348	-1525.359
C17	+63.669	+1.869	-639.543	+63.669	+1.869	-631.145
C18	+6.896	+3.738	-1279.086	+6.896	+3.738	-1262.289

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 49						
C 1	-35.682	+38.443	-443.605	-35.682	+38.443	-304.254
C 2	-3.848	+77.166	-890.430	-3.848	+77.166	-610.711
C 3	-35.694	+38.623	-445.668	-35.694	+38.623	-305.656
C 4	-3.866	+77.354	-892.539	-3.866	+77.354	-612.141
C 5	-35.700	+38.574	-445.117	-35.700	+38.574	-305.281
C 6	-3.866	+77.148	-890.234	-3.866	+77.148	-610.563
C 7	-50.160	-18.637	+1236.417	-150.572	-54.887	+1103.167
C 8	-5.432	-37.273	+2472.833	-16.307	-109.773	+2206.333
C 9	-5.129	-9.852	+1405.721	-105.542	-46.102	+1304.315
C10	+20.219	-19.703	+2811.443	+9.344	-92.203	+2608.630
C11	-5.149	-10.012	+1407.604	-105.562	-46.262	+1305.604
C12	-0.558	-20.023	+2815.208	-11.433	-92.523	+2611.208
C13	-2.015	-3.320	-664.658	-12.056	-6.945	-683.243
C14	-0.218	-6.641	-1329.315	-1.306	-13.891	-1366.487
C15	-3.051	+5.180	-762.681	-13.093	+1.555	-750.462
C16	-0.330	+10.359	-1525.362	-1.418	+3.109	-1500.924
C17	+63.668	+1.871	-631.141	+63.668	+1.871	-624.367
C18	+6.895	+3.742	-1262.281	+6.895	+3.742	-1248.734
Barra 50						
C 1	-35.682	+38.439	-304.250	-35.682	+38.439	-164.898
C 2	-3.848	+77.156	-610.707	-3.848	+77.156	-330.996
C 3	-35.694	+38.619	-305.656	-35.694	+38.619	-165.664
C 4	-3.866	+77.340	-612.141	-3.866	+77.340	-331.781
C 5	-35.700	+38.570	-305.277	-35.700	+38.570	-165.461
C 6	-3.866	+77.141	-610.555	-3.866	+77.141	-330.922
C 7	-150.573	-54.879	+1103.151	-250.985	-91.129	+838.526
C 8	-16.307	-109.758	+2206.302	-27.182	-182.258	+1677.052
C 9	-105.542	-46.086	+1304.315	-205.954	-82.336	+1071.542
C10	+9.344	-92.172	+2608.630	-1.531	-164.672	+2143.083
C11	-105.561	-46.254	+1305.596	-205.974	-82.504	+1072.237
C12	-11.433	-92.508	+2611.193	-22.308	-165.008	+2144.474
C13	-12.056	-6.949	-683.251	-22.098	-10.574	-715.017
C14	-1.306	-13.898	-1366.503	-2.393	-21.148	-1430.034
C15	-13.093	+1.555	-750.478	-23.134	-2.070	-751.423
C16	-1.418	+3.109	-1500.956	-2.505	-4.141	-1502.846
C17	+63.668	+1.867	-624.367	+63.668	+1.867	-617.594
C18	+6.896	+3.734	-1248.734	+6.896	+3.734	-1235.188

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 51						
C 1	-35.682	+38.438	-164.900	-35.682	+38.438	-25.557
C 2	-3.848	+77.154	-330.994	-3.848	+77.154	-51.299
C 3	-35.694	+38.617	-165.666	-35.694	+38.617	-25.676
C 4	-3.866	+77.340	-331.779	-3.866	+77.340	-51.418
C 5	-35.700	+38.568	-165.457	-35.700	+38.568	-25.645
C 6	-3.866	+77.137	-330.914	-3.866	+77.137	-51.289
C 7	-250.985	-91.133	+838.518	-351.397	-127.383	+442.471
C 8	-27.182	-182.266	+1677.036	-38.057	-254.766	+884.943
C 9	-205.954	-82.336	+1071.526	-306.367	-118.586	+707.354
C10	-1.531	-164.672	+2143.052	-12.406	-237.172	+1414.708
C11	-205.974	-82.500	+1072.229	-306.387	-118.750	+707.464
C12	-22.308	-165.000	+2144.458	-33.183	-237.500	+1414.927
C13	-22.098	-10.578	-715.017	-32.139	-14.203	-759.931
C14	-2.393	-21.156	-1430.034	-3.481	-28.406	-1519.862
C15	-23.134	-2.078	-751.423	-33.175	-5.703	-765.525
C16	-2.506	-4.156	-1502.846	-3.593	-11.406	-1531.049
C17	+63.668	+1.863	-617.598	+63.668	+1.863	-610.828
C18	+6.896	+3.727	-1235.195	+6.896	+3.727	-1221.656
Barra 52						
C 1	-35.682	+38.438	-25.557	-35.682	+38.438	+113.781
C 2	-3.848	+77.157	-51.301	-3.848	+77.157	+228.393
C 3	-35.694	+38.618	-25.678	-35.694	+38.618	+114.313
C 4	-3.866	+77.340	-51.424	-3.866	+77.340	+228.936
C 5	-35.700	+38.568	-25.645	-35.700	+38.568	+114.168
C 6	-3.866	+77.137	-51.289	-3.866	+77.137	+228.336
C 7	-351.398	-127.375	+442.477	-351.398	-127.375	-19.262
C 8	-38.058	-254.750	+884.953	-38.058	-254.750	-38.523
C 9	-306.367	-118.586	+707.362	-406.779	-154.836	+211.792
C10	-12.406	-237.172	+1414.724	-112.819	-309.672	+423.583
C11	-306.387	-118.746	+707.467	-406.799	-154.996	+211.299
C12	-33.183	-237.492	+1414.935	-44.058	-309.992	+422.599
C13	-32.139	-14.199	-759.935	-42.180	-17.824	-817.986
C14	-3.481	-28.398	-1519.870	-4.568	-35.648	-1635.971
C15	-33.175	-5.701	-765.533	-43.216	-9.326	-792.771
C16	-3.593	-11.402	-1531.065	-4.680	-18.652	-1585.542
C17	+63.668	+1.866	-610.842	-43.191	-36.711	-676.866
C18	+6.895	+3.732	-1221.683	-4.678	-73.422	-1353.732

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 53						
C 1	-35.682	+38.438	+113.781	-35.682	+38.438	+246.779
C 2	-3.848	+77.154	+228.393	-3.848	+77.154	+495.354
C 3	-35.694	+38.617	+114.310	-35.694	+38.617	+247.924
C 4	-3.866	+77.339	+228.931	-3.866	+77.339	+496.520
C 5	-35.700	+38.570	+114.170	-35.700	+38.570	+247.617
C 6	-3.866	+77.141	+228.340	-3.866	+77.141	+495.234
C 7	-351.398	-127.377	-19.270	-351.398	-127.377	-459.984
C 8	-38.057	-254.754	-38.539	-38.057	-254.754	-919.969
C 9	-406.779	-154.835	+211.785	-502.621	-189.435	-383.801
C10	-112.819	-309.669	+423.571	-123.199	-378.870	-767.601
C11	-406.799	-154.997	+211.293	-502.641	-189.597	-384.836
C12	-44.058	-309.994	+422.586	-54.438	-379.194	-769.672
C13	-42.180	-17.827	-817.994	-51.764	-21.287	-885.666
C14	-4.568	-35.653	-1635.987	-5.606	-42.573	-1771.331
C15	-43.216	-9.329	-792.783	-52.801	-12.789	-831.044
C16	-4.680	-18.657	-1585.566	-5.718	-25.577	-1662.089
C17	-43.191	-36.714	-676.867	-139.033	-71.314	-863.762
C18	-4.678	-73.427	-1353.734	-15.058	-142.627	-1727.523
Barra 54						
C 1	-35.682	+38.438	+246.777	-35.682	+38.438	+379.774
C 2	-3.848	+77.156	+495.350	-3.848	+77.156	+762.311
C 3	-35.694	+38.617	+247.923	-35.694	+38.617	+381.539
C 4	-3.866	+77.338	+496.519	-3.866	+77.338	+764.111
C 5	-35.700	+38.570	+247.615	-35.700	+38.570	+381.069
C 6	-3.866	+77.140	+495.230	-3.866	+77.140	+762.139
C 7	-351.398	-127.379	-459.977	-351.398	-127.379	-900.707
C 8	-38.058	-254.758	-919.953	-38.058	-254.758	-1801.414
C 9	-502.621	-189.434	-383.797	-598.463	-224.034	-1099.097
C10	-123.199	-378.869	-767.593	-219.041	-448.069	-2198.195
C11	-502.641	-189.598	-384.844	-598.483	-224.198	-1100.711
C12	-54.437	-379.197	-769.687	-64.817	-448.397	-2201.421
C13	-51.764	-21.286	-885.677	-61.349	-24.746	-965.310
C14	-5.606	-42.571	-1771.355	-6.644	-49.491	-1930.620
C15	-52.800	-12.788	-831.052	-62.385	-16.248	-881.287
C16	-5.718	-25.575	-1662.105	-6.756	-32.495	-1762.573
C17	-139.033	-71.313	-863.765	-234.875	-105.913	-1170.367
C18	-15.058	-142.626	-1727.531	-25.438	-211.827	-2340.734

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 55						
C 1	-35.682	+38.422	+379.781	-35.682	+38.422	+421.277
C 2	-3.848	+77.125	+762.322	-3.848	+77.125	+845.621
C 3	-35.694	+38.602	+381.545	-35.694	+38.602	+423.234
C 4	-3.866	+77.313	+764.127	-3.866	+77.313	+847.609
C 5	-35.700	+38.563	+381.072	-35.700	+38.563	+422.711
C 6	-3.866	+77.125	+762.145	-3.866	+77.125	+845.422
C 7	-351.397	-127.328	-900.730	-351.397	-127.328	-1038.234
C 8	-38.057	-254.656	-1801.461	-38.057	-254.656	-2076.469
C 9	-598.463	-224.022	-1099.097	-628.379	-234.822	-1346.863
C10	-219.041	-448.044	-2198.194	-222.281	-469.644	-2693.725
C11	-598.483	-224.147	-1100.738	-628.399	-234.947	-1348.628
C12	-64.818	-448.294	-2201.475	-68.058	-469.894	-2697.257
C13	-61.348	-24.772	-965.300	-64.340	-25.853	-992.660
C14	-6.644	-49.545	-1930.601	-6.968	-51.705	-1985.319
C15	-62.385	-16.288	-881.269	-65.376	-17.368	-899.441
C16	-6.756	-32.576	-1762.538	-7.080	-34.736	-1798.882
C17	-234.875	-105.959	-1170.343	-264.791	-116.759	-1290.613
C18	-25.438	-211.919	-2340.686	-28.678	-233.519	-2581.225
Barra 56						
C 1	-2.028	-12.379	+421.273	-2.028	-12.379	+407.902
C 2	-0.219	-24.859	+845.613	-0.219	-24.859	+818.771
C 3	-2.029	-12.449	+423.230	-2.029	-12.449	+409.799
C 4	-0.220	-24.918	+847.609	-0.220	-24.918	+820.705
C 5	-2.029	-12.430	+422.711	-2.029	-12.430	+409.291
C 6	-0.220	-24.859	+845.422	-0.220	-24.859	+818.582
C 7	-19.971	+30.516	-1038.250	-19.971	+30.516	-1005.277
C 8	-2.163	+61.031	-2076.500	-2.163	+61.031	-2010.555
C 9	-35.714	+39.578	-1346.859	-35.714	+39.578	-1304.094
C10	-114.796	+79.156	-2693.719	-114.796	+79.156	-2608.188
C11	-35.715	+39.672	-1348.656	-35.715	+39.672	-1305.824
C12	-3.868	+79.344	-2697.313	-3.868	+79.344	-2611.648
C13	+618.180	+217.759	-992.659	+588.264	+206.959	-763.331
C14	+66.951	+435.519	-1985.319	+63.711	+413.919	-1526.663
C15	+618.121	+214.978	-899.441	+588.205	+204.178	-673.097
C16	+66.945	+429.956	-1798.881	+63.705	+408.356	-1346.194
C17	+612.330	+231.931	-1290.613	+582.414	+221.131	-1045.988
C18	+66.318	+463.863	-2581.225	+63.078	+442.262	-2091.975

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 57						
C 1	-2.028	-12.386	+407.902	-2.028	-12.386	+365.045
C 2	-0.219	-24.863	+818.771	-0.219	-24.863	+732.746
C 3	-2.029	-12.445	+409.798	-2.029	-12.445	+366.741
C 4	-0.220	-24.921	+820.706	-0.220	-24.921	+734.478
C 5	-2.029	-12.428	+409.289	-2.029	-12.428	+366.291
C 6	-0.220	-24.856	+818.578	-0.220	-24.856	+732.582
C 7	-19.971	+30.521	-1005.281	-19.971	+30.521	-899.674
C 8	-2.163	+61.043	-2010.563	-2.163	+61.043	-1799.348
C 9	-35.714	+39.592	-1304.105	-35.714	+39.592	-1167.123
C10	-114.795	+79.184	-2608.211	-114.795	+79.184	-2334.246
C11	-35.715	+39.641	-1305.828	-35.715	+39.641	-1168.674
C12	-3.868	+79.281	-2611.656	-3.868	+79.281	-2337.348
C13	+588.264	+206.935	-763.336	+492.422	+172.335	-107.199
C14	+63.711	+413.870	-1526.672	+53.331	+344.669	-214.398
C15	+588.205	+204.193	-673.086	+492.363	+169.593	-26.429
C16	+63.705	+408.385	-1346.172	+53.325	+339.185	-52.859
C17	+582.414	+221.107	-1045.984	+486.572	+186.507	-340.808
C18	+63.078	+442.213	-2091.968	+52.698	+373.013	-681.617
Barra 58						
C 1	-2.028	-12.383	+365.047	-2.028	-12.383	+346.953
C 2	-0.219	-24.867	+732.758	-0.219	-24.867	+696.438
C 3	-2.029	-12.445	+366.750	-2.029	-12.445	+348.578
C 4	-0.220	-24.914	+734.492	-0.220	-24.914	+698.102
C 5	-2.029	-12.430	+366.297	-2.029	-12.430	+348.141
C 6	-0.220	-24.859	+732.594	-0.220	-24.859	+696.281
C 7	-19.971	+30.531	-899.688	-19.971	+30.531	-855.109
C 8	-2.163	+61.063	-1799.375	-2.163	+61.063	-1710.219
C 9	-35.714	+39.594	-1167.141	-35.714	+39.594	-1109.313
C10	-114.795	+79.188	-2334.281	-114.795	+79.188	-2218.625
C11	-35.715	+39.625	-1168.672	-35.715	+39.625	-1110.813
C12	-3.868	+79.250	-2337.344	-3.868	+79.250	-2221.625
C13	+492.422	+172.331	-107.183	+451.980	+157.731	+133.755
C14	+53.331	+344.663	-214.365	+48.951	+315.462	+267.510
C15	+492.363	+169.550	-26.401	+451.921	+154.950	+210.505
C16	+53.325	+339.100	-52.803	+48.945	+309.900	+421.010
C17	+486.572	+186.550	-340.808	+446.130	+171.950	-79.151
C18	+52.697	+373.100	-681.615	+48.317	+343.900	-158.303

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 59						
C 1	-2.028	-12.391	+346.969	-2.028	-12.391	+322.195
C 2	-0.219	-24.867	+696.461	-0.219	-24.867	+646.734
C 3	-2.029	-12.445	+348.578	-2.029	-12.445	+323.688
C 4	-0.220	-24.926	+698.109	-0.220	-24.926	+648.258
C 5	-2.029	-12.426	+348.148	-2.029	-12.426	+323.293
C 6	-0.220	-24.852	+696.297	-0.220	-24.852	+646.586
C 7	-19.972	+30.523	-855.125	-19.972	+30.523	-794.070
C 8	-2.163	+61.047	-1710.250	-2.163	+61.047	-1588.141
C 9	-35.714	+39.594	-1109.344	-35.714	+39.594	-1030.141
C10	-114.795	+79.188	-2218.688	-114.795	+79.188	-2060.281
C11	-35.715	+39.641	-1110.797	-35.715	+39.641	-1031.523
C12	-3.868	+79.281	-2221.594	-3.868	+79.281	-2063.047
C13	+451.979	+157.750	+133.760	+396.579	+137.750	+429.229
C14	+48.951	+315.500	+267.521	+42.951	+275.500	+858.458
C15	+451.920	+155.000	+210.510	+396.520	+135.000	+500.526
C16	+48.944	+310.000	+421.021	+42.944	+270.000	+1001.052
C17	+446.129	+171.891	-79.146	+390.729	+151.891	+244.635
C18	+48.317	+343.781	-158.292	+42.317	+303.781	+489.271
Barra 60						
C 1	-2.028	-12.406	+322.219	-2.028	-12.406	+309.828
C 2	-0.219	-24.844	+646.750	-0.219	-24.844	+621.938
C 3	-2.029	-12.406	+323.672	-2.029	-12.406	+311.297
C 4	-0.220	-24.844	+648.219	-0.220	-24.844	+623.406
C 5	-2.029	-12.406	+323.313	-2.029	-12.406	+310.891
C 6	-0.220	-24.813	+646.625	-0.220	-24.813	+621.781
C 7	-19.972	+30.375	-794.063	-19.972	+30.375	-763.625
C 8	-2.163	+60.750	-1588.125	-2.163	+60.750	-1527.250
C 9	-35.714	+39.500	-1030.188	-35.714	+39.500	-990.625
C10	-114.795	+79.000	-2060.375	-114.795	+79.000	-1981.250
C11	-35.715	+39.625	-1031.500	-35.715	+39.625	-991.938
C12	-3.868	+79.250	-2063.000	-3.868	+79.250	-1983.875
C13	+396.579	+137.625	+429.354	+368.879	+127.625	+561.979
C14	+42.951	+275.250	+858.708	+39.951	+255.250	+1123.958
C15	+396.520	+135.125	+500.542	+368.820	+125.125	+630.667
C16	+42.944	+270.250	+1001.083	+39.944	+250.250	+1261.333
C17	+390.729	+152.125	+244.667	+363.029	+142.125	+391.729
C18	+42.317	+304.250	+489.333	+39.317	+284.250	+783.458

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 61						
C 1	-2.028	-12.375	+309.830	-2.028	-12.375	+254.140
C 2	-0.219	-24.841	+621.912	-0.219	-24.841	+510.127
C 3	-2.029	-12.433	+311.270	-2.029	-12.433	+255.320
C 4	-0.220	-24.900	+623.382	-0.220	-24.900	+511.332
C 5	-2.029	-12.418	+310.886	-2.029	-12.418	+255.004
C 6	-0.220	-24.836	+621.771	-0.220	-24.836	+510.008
C 7	-19.972	+30.496	-763.602	-19.972	+30.496	-626.365
C 8	-2.163	+60.992	-1527.203	-2.163	+60.992	-1252.730
C 9	-35.714	+39.557	-990.625	-35.714	+39.557	-812.621
C10	-114.795	+79.113	-1981.250	-114.795	+79.113	-1625.242
C11	-35.715	+39.609	-991.943	-35.715	+39.609	-813.693
C12	-3.868	+79.219	-1983.887	-3.868	+79.219	-1627.387
C13	+368.879	+127.781	+562.059	+244.229	+82.781	+1035.809
C14	+39.951	+255.563	+1124.117	+26.451	+165.563	+2071.617
C15	+368.820	+125.039	+630.605	+244.170	+80.039	+1092.031
C16	+39.945	+250.078	+1261.211	+26.445	+160.078	+2184.063
C17	+363.029	+141.949	+391.656	+238.379	+96.949	+929.184
C18	+39.317	+283.898	+783.313	+25.817	+193.898	+1858.367
Barra 62						
C 1	-2.028	-12.376	+254.139	-2.028	-12.376	+198.447
C 2	-0.219	-24.842	+510.125	-0.219	-24.842	+398.338
C 3	-2.029	-12.433	+255.320	-2.029	-12.433	+199.368
C 4	-0.220	-24.900	+511.330	-0.220	-24.900	+399.277
C 5	-2.029	-12.418	+255.005	-2.029	-12.418	+199.122
C 6	-0.220	-24.836	+510.010	-0.220	-24.836	+398.244
C 7	-19.972	+30.498	-626.363	-19.972	+30.498	-489.119
C 8	-2.163	+60.996	-1252.727	-2.163	+60.996	-978.238
C 9	-35.714	+39.559	-812.621	-35.714	+39.559	-634.605
C10	-114.795	+79.117	-1625.242	-114.795	+79.117	-1269.211
C11	-35.715	+39.612	-813.695	-35.715	+39.612	-635.445
C12	-3.868	+79.225	-1627.391	-3.868	+79.225	-1270.891
C13	+244.229	+82.775	+1035.805	+119.579	+37.775	+1307.055
C14	+26.451	+165.551	+2071.609	+12.951	+75.551	+2614.109
C15	+244.170	+80.037	+1092.031	+119.520	+35.037	+1350.953
C16	+26.444	+160.074	+2184.063	+12.944	+70.074	+2701.906
C17	+238.379	+96.949	+929.180	+113.729	+51.949	+1264.195
C18	+25.817	+193.898	+1858.359	+12.317	+103.898	+2528.391

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 63						
C 1	-2.028	-12.377	+198.447	-2.028	-12.377	+142.753
C 2	-0.219	-24.843	+398.339	-0.219	-24.843	+286.544
C 3	-2.029	-12.434	+199.367	-2.029	-12.434	+143.417
C 4	-0.220	-24.901	+399.275	-0.220	-24.901	+287.223
C 5	-2.029	-12.418	+199.123	-2.029	-12.418	+143.239
C 6	-0.220	-24.837	+398.246	-0.220	-24.837	+286.479
C 7	-19.972	+30.499	-489.121	-19.972	+30.499	-351.875
C 8	-2.163	+60.998	-978.242	-2.163	+60.998	-703.750
C 9	-35.714	+39.560	-634.609	-35.714	+39.560	-456.590
C10	-114.795	+79.119	-1269.219	-3.645	+79.119	-913.180
C11	-35.715	+39.612	-635.449	-35.715	+39.612	-457.195
C12	-3.868	+79.225	-1270.898	-3.868	+79.225	-914.391
C13	+119.579	+37.775	+1307.055	-5.071	-7.225	+1375.781
C14	+12.951	+75.551	+2614.109	-0.549	-14.449	+2751.563
C15	+119.520	+35.035	+1350.961	-5.130	-9.965	+1407.375
C16	+12.944	+70.070	+2701.922	-0.556	-19.930	+2814.750
C17	+113.729	+51.943	+1264.203	-10.921	+6.943	+1396.703
C18	+12.317	+103.887	+2528.406	-1.183	+13.887	+2793.406
Barra 64						
C 1	-2.028	-12.376	+142.753	-2.028	-12.376	+97.889
C 2	-0.219	-24.843	+286.544	-0.219	-24.843	+196.488
C 3	-2.029	-12.435	+143.416	-2.029	-12.435	+98.343
C 4	-0.220	-24.901	+287.221	-0.220	-24.901	+196.952
C 5	-2.029	-12.419	+143.240	-2.029	-12.419	+98.221
C 6	-0.220	-24.838	+286.480	-0.220	-24.838	+196.441
C 7	-19.972	+30.500	-351.871	-19.972	+30.500	-241.309
C 8	-2.163	+61.000	-703.742	-2.163	+61.000	-482.617
C 9	-35.714	+39.559	-456.586	-35.714	+39.559	-313.184
C10	-3.645	+79.117	-913.172	+85.892	+79.117	-626.367
C11	-35.715	+39.611	-457.191	-35.715	+39.611	-313.598
C12	-3.868	+79.223	-914.383	-3.868	+79.223	-627.195
C13	-5.071	-7.227	+1375.792	-105.484	-43.477	+1283.878
C14	-0.549	-14.453	+2751.583	-11.424	-86.953	+2567.755
C15	-5.130	-9.969	+1407.370	-105.543	-46.219	+1305.534
C16	-0.556	-19.938	+2814.740	-11.431	-92.438	+2611.068
C17	-10.921	+6.941	+1396.706	-111.334	-29.309	+1356.167
C18	-1.183	+13.883	+2793.411	-12.058	-58.617	+2712.333

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 65						
C 1	-2.028	-12.376	+97.887	-2.028	-12.376	+53.022
C 2	-0.219	-24.843	+196.486	-0.219	-24.843	+106.431
C 3	-2.029	-12.434	+98.341	-2.029	-12.434	+53.270
C 4	-0.220	-24.901	+196.949	-0.220	-24.901	+106.683
C 5	-2.029	-12.418	+98.221	-2.029	-12.418	+53.202
C 6	-0.220	-24.837	+196.441	-0.220	-24.837	+106.404
C 7	-19.972	+30.498	-241.309	-19.972	+30.498	-130.752
C 8	-2.163	+60.996	-482.617	-2.163	+60.996	-261.504
C 9	-35.714	+39.561	-313.180	-35.714	+39.561	-169.781
C10	+85.892	+79.121	-626.359	+85.892	+79.121	-339.563
C11	-35.715	+39.611	-313.598	-35.715	+39.611	-170.000
C12	-3.868	+79.223	-627.195	-3.868	+79.223	-340.000
C13	-105.484	-43.480	+1283.878	-205.897	-79.730	+1060.581
C14	-11.424	-86.961	+2567.755	-22.299	-159.461	+2121.161
C15	-105.543	-46.211	+1305.526	-205.956	-82.461	+1072.323
C16	-11.431	-92.422	+2611.052	-22.306	-164.922	+2144.646
C17	-111.334	-29.305	+1356.167	-211.746	-65.555	+1184.245
C18	-12.058	-58.609	+2712.333	-22.933	-131.109	+2368.490
Barra 66						
C 1	-2.028	-12.377	+53.022	-2.028	-12.377	+8.155
C 2	-0.219	-24.845	+106.432	-0.219	-24.845	+16.368
C 3	-2.029	-12.435	+53.268	-2.029	-12.435	+8.192
C 4	-0.220	-24.904	+106.680	-0.220	-24.904	+16.407
C 5	-2.029	-12.419	+53.203	-2.029	-12.419	+8.182
C 6	-0.220	-24.839	+106.406	-0.220	-24.839	+16.363
C 7	-19.972	+30.502	-130.750	-19.972	+30.502	-20.182
C 8	-2.163	+61.004	-261.500	-2.163	+61.004	-40.363
C 9	-35.714	+39.563	-169.775	-35.714	+39.563	-26.359
C10	+85.892	+79.125	-339.551	+85.892	+79.125	-52.719
C11	-35.715	+39.615	-170.002	-35.715	+39.615	-26.395
C12	-3.868	+79.230	-340.004	-3.868	+79.230	-52.789
C13	-205.896	-79.734	+1060.565	-306.309	-115.984	+705.839
C14	-22.299	-159.469	+2121.130	-33.174	-231.969	+1411.677
C15	-205.955	-82.469	+1072.299	-306.368	-118.719	+707.643
C16	-22.306	-164.938	+2144.599	-33.181	-237.438	+1415.286
C17	-211.746	-65.566	+1184.229	-312.159	-101.816	+880.862
C18	-22.933	-131.133	+2368.458	-33.808	-203.633	+1761.724

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 67						
C 1	-2.028	-12.377	+8.155	-2.028	-12.377	-36.712
C 2	-0.219	-24.844	+16.368	-0.219	-24.844	-73.691
C 3	-2.029	-12.434	+8.193	-2.029	-12.434	-36.883
C 4	-0.220	-24.902	+16.408	-0.220	-24.902	-73.866
C 5	-2.029	-12.419	+8.183	-2.029	-12.419	-36.837
C 6	-0.220	-24.838	+16.365	-0.220	-24.838	-73.675
C 7	-19.972	+30.500	-20.180	-19.972	+30.500	+90.383
C 8	-2.163	+61.000	-40.359	-2.163	+61.000	+180.766
C 9	-35.714	+39.563	-26.365	-35.714	+39.563	+117.051
C10	+85.892	+79.125	-52.730	+85.892	+79.125	+234.102
C11	-35.715	+39.613	-26.398	-35.715	+39.613	+117.205
C12	-3.868	+79.227	-52.797	-3.868	+79.227	+234.410
C13	-306.309	-115.980	+705.842	-406.721	-152.230	+219.706
C14	-33.174	-231.961	+1411.685	-44.049	-304.461	+439.411
C15	-306.368	-118.719	+707.647	-406.780	-154.969	+211.581
C16	-33.181	-237.438	+1415.294	-44.056	-309.938	+423.161
C17	-312.159	-101.809	+880.870	-412.571	-138.059	+446.112
C18	-33.808	-203.617	+1761.740	-44.683	-276.117	+892.224
Barra 68						
C 1	-2.028	-12.378	-36.712	-2.028	-12.378	-79.539
C 2	-0.219	-24.845	-73.692	-0.219	-24.845	-159.656
C 3	-2.029	-12.435	-36.884	-2.029	-12.435	-79.908
C 4	-0.220	-24.904	-73.867	-0.220	-24.904	-160.033
C 5	-2.029	-12.420	-36.837	-2.029	-12.420	-79.810
C 6	-0.220	-24.839	-73.675	-0.220	-24.839	-159.619
C 7	-19.972	+30.501	+90.386	-19.972	+30.501	+195.918
C 8	-2.163	+61.003	+180.771	-2.163	+61.003	+391.836
C 9	-35.714	+39.563	+117.050	-35.714	+39.563	+253.938
C10	+85.892	+79.125	+234.100	+85.892	+79.125	+507.875
C11	-35.715	+39.616	+117.206	-35.715	+39.616	+254.273
C12	-3.868	+79.232	+234.412	-3.868	+79.232	+508.547
C13	-406.722	-152.235	+219.703	-502.564	-186.835	-366.887
C14	-44.049	-304.470	+439.407	-54.429	-373.670	-733.773
C15	-406.781	-154.975	+211.582	-502.623	-189.575	-384.488
C16	-44.056	-309.951	+423.164	-54.436	-379.151	-768.976
C17	-412.571	-138.067	+446.106	-508.414	-172.667	-91.461
C18	-44.683	-276.134	+892.211	-55.063	-345.334	-182.921

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 69						
C 1	-2.028	-12.377	-79.539	-2.028	-12.377	-122.365
C 2	-0.219	-24.845	-159.656	-0.219	-24.845	-245.621
C 3	-2.029	-12.435	-79.908	-2.029	-12.435	-122.933
C 4	-0.220	-24.904	-160.033	-0.220	-24.904	-246.200
C 5	-2.029	-12.419	-79.810	-2.029	-12.419	-122.782
C 6	-0.220	-24.839	-159.620	-0.220	-24.839	-245.563
C 7	-19.972	+30.502	+195.920	-19.972	+30.502	+301.459
C 8	-2.163	+61.005	+391.840	-2.163	+61.005	+602.918
C 9	-35.714	+39.563	+253.938	-35.714	+39.563	+390.826
C10	+85.892	+79.126	+507.877	+85.892	+79.126	+781.652
C11	-35.715	+39.615	+254.276	-35.715	+39.615	+391.346
C12	-3.868	+79.230	+508.553	-3.868	+79.230	+782.691
C13	-502.564	-186.833	-366.894	-598.406	-221.433	-1073.191
C14	-54.429	-373.666	-733.789	-64.809	-442.866	-2146.382
C15	-502.622	-189.579	-384.480	-598.465	-224.179	-1100.273
C16	-54.436	-379.158	-768.961	-64.816	-448.358	-2200.546
C17	-508.413	-172.663	-91.461	-604.255	-207.263	-748.734
C18	-55.063	-345.326	-182.921	-65.443	-414.526	-1497.468
Barra 70						
C 1	-2.028	-12.375	-122.365	-2.028	-12.375	-135.734
C 2	-0.219	-24.842	-245.622	-0.219	-24.842	-272.454
C 3	-2.029	-12.432	-122.936	-2.029	-12.432	-136.362
C 4	-0.220	-24.900	-246.203	-0.220	-24.900	-273.094
C 5	-2.029	-12.422	-122.780	-2.029	-12.422	-136.195
C 6	-0.220	-24.844	-245.561	-0.220	-24.844	-272.391
C 7	-19.972	+30.500	+301.459	-19.972	+30.500	+334.402
C 8	-2.163	+61.000	+602.918	-2.163	+61.000	+668.805
C 9	-35.714	+39.547	+390.838	-35.714	+39.547	+433.551
C10	+85.892	+79.094	+781.676	+85.892	+79.094	+867.102
C11	-35.715	+39.625	+391.344	-35.715	+39.625	+434.133
C12	-3.868	+79.250	+782.688	-3.868	+79.250	+868.266
C13	-598.406	-221.444	-1073.206	-628.322	-232.244	-1318.191
C14	-64.809	-442.887	-2146.413	-68.049	-464.488	-2636.382
C15	-598.465	-224.162	-1100.269	-628.381	-234.963	-1348.206
C16	-64.816	-448.325	-2200.538	-68.056	-469.925	-2696.413
C17	-604.256	-207.272	-748.738	-634.172	-218.072	-978.441
C18	-65.443	-414.544	-1497.475	-68.683	-436.144	-1956.881

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 71						
C 1	-0.115	+3.988	-135.735	-0.115	+3.988	-131.432
C 2	-0.012	+8.002	-272.455	-0.012	+8.002	-263.821
C 3	-0.115	+4.002	-136.367	-0.115	+4.002	-132.041
C 4	-0.012	+8.018	-273.103	-0.012	+8.018	-264.439
C 5	-0.115	+3.998	-136.195	-0.115	+3.998	-131.880
C 6	-0.012	+7.996	-272.391	-0.012	+7.996	-263.760
C 7	-1.135	-9.820	+334.410	-1.135	-9.820	+323.803
C 8	-0.123	-19.641	+668.820	-0.123	-19.641	+647.605
C 9	-2.030	-12.730	+433.566	-2.030	-12.730	+419.814
C10	+4.882	-25.461	+867.133	+4.882	-25.461	+839.629
C11	-2.030	-12.738	+434.133	-2.030	-12.738	+420.375
C12	-0.220	-25.477	+868.266	-0.220	-25.477	+840.750
C13	-35.710	+38.703	-1318.219	-35.710	+38.703	-1276.410
C14	-3.868	+77.406	-2636.438	-3.868	+77.406	-2552.820
C15	-35.714	+39.578	-1348.234	-35.714	+39.578	-1305.496
C16	-3.868	+79.156	-2696.469	-3.868	+79.156	-2610.992
C17	+61.483	+23.118	-978.441	+58.491	+22.038	-954.050
C18	+6.659	+46.236	-1956.882	+6.335	+44.076	-1908.101
Barra 72						
C 1	-0.115	+3.985	-131.432	-0.115	+3.985	-117.643
C 2	-0.012	+7.999	-263.819	-0.012	+7.999	-236.142
C 3	-0.115	+4.003	-132.042	-0.115	+4.003	-118.190
C 4	-0.012	+8.018	-264.442	-0.012	+8.018	-236.699
C 5	-0.115	+3.999	-131.879	-0.115	+3.999	-118.043
C 6	-0.012	+7.998	-263.759	-0.012	+7.998	-236.086
C 7	-1.135	-9.818	+323.804	-1.135	-9.818	+289.833
C 8	-0.123	-19.636	+647.607	-0.123	-19.636	+579.665
C 9	-2.030	-12.729	+419.816	-2.030	-12.729	+375.772
C10	+4.882	-25.459	+839.633	+4.882	-25.459	+751.545
C11	-2.030	-12.747	+420.373	-2.030	-12.747	+376.270
C12	-0.220	-25.494	+840.746	-0.220	-25.494	+752.539
C13	-35.710	+38.695	-1276.422	-35.710	+38.695	-1142.543
C14	-3.868	+77.391	-2552.844	-3.868	+77.391	-2285.086
C15	-35.714	+39.576	-1305.500	-35.714	+39.576	-1168.570
C16	-3.868	+79.152	-2611.000	-3.868	+79.152	-2337.141
C17	+58.491	+22.044	-954.052	+48.907	+18.584	-883.763
C18	+6.335	+44.089	-1908.105	+5.297	+37.169	-1767.526

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 73						
C 1	-0.115	+3.980	-117.645	-0.115	+3.980	-111.828
C 2	-0.012	+7.992	-236.145	-0.012	+7.992	-224.469
C 3	-0.115	+4.000	-118.191	-0.115	+4.000	-112.346
C 4	-0.012	+8.018	-236.703	-0.012	+8.018	-224.998
C 5	-0.115	+3.998	-118.047	-0.115	+3.998	-112.207
C 6	-0.012	+7.996	-236.094	-0.012	+7.996	-224.414
C 7	-1.135	-9.813	+289.840	-1.135	-9.813	+275.508
C 8	-0.123	-19.625	+579.680	-0.123	-19.625	+551.016
C 9	-2.030	-12.727	+375.773	-2.030	-12.727	+357.203
C10	+4.882	-25.453	+751.547	+4.882	-25.453	+714.406
C11	-2.030	-12.734	+376.273	-2.030	-12.734	+357.680
C12	-0.220	-25.469	+752.547	-0.220	-25.469	+715.359
C13	-35.710	+38.688	-1142.563	-35.710	+38.688	-1086.094
C14	-3.868	+77.375	-2285.125	-3.868	+77.375	-2172.188
C15	-35.714	+39.563	-1168.578	-35.714	+39.563	-1110.813
C16	-3.868	+79.125	-2337.156	-3.868	+79.125	-2221.625
C17	+48.907	+18.574	-883.771	+44.863	+17.114	-857.740
C18	+5.297	+37.148	-1767.543	+4.859	+34.227	-1715.480
Barra 74						
C 1	-0.115	+3.985	-111.828	-0.115	+3.985	-103.854
C 2	-0.012	+8.001	-224.468	-0.012	+8.001	-208.463
C 3	-0.115	+4.006	-112.348	-0.115	+4.006	-104.335
C 4	-0.012	+8.022	-224.999	-0.012	+8.022	-208.954
C 5	-0.115	+4.001	-112.209	-0.115	+4.001	-104.207
C 6	-0.012	+8.002	-224.418	-0.012	+8.002	-208.414
C 7	-1.135	-9.824	+275.512	-1.135	-9.824	+255.861
C 8	-0.123	-19.648	+551.023	-0.123	-19.648	+511.723
C 9	-2.030	-12.734	+357.199	-2.030	-12.734	+331.730
C10	+4.882	-25.469	+714.398	+4.882	-25.469	+663.461
C11	-2.030	-12.754	+357.676	-2.030	-12.754	+332.164
C12	-0.220	-25.508	+715.352	-0.220	-25.508	+664.328
C13	-35.710	+38.703	-1086.078	-35.710	+38.703	-1008.664
C14	-3.867	+77.406	-2172.156	-3.867	+77.406	-2017.328
C15	-35.714	+39.594	-1110.813	-35.714	+39.594	-1031.633
C16	-3.868	+79.188	-2221.625	-3.868	+79.188	-2063.266
C17	+44.863	+17.156	-857.740	+39.323	+15.156	-825.443
C18	+4.859	+34.313	-1715.479	+4.259	+30.313	-1650.885

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 75						
C 1	-0.115	+3.984	-103.859	-0.115	+3.984	-99.867
C 2	-0.012	+8.016	-208.469	-0.012	+8.016	-200.461
C 3	-0.115	+4.016	-104.344	-0.115	+4.016	-100.328
C 4	-0.012	+8.031	-208.969	-0.012	+8.031	-200.930
C 5	-0.115	+4.000	-104.211	-0.115	+4.000	-100.203
C 6	-0.012	+8.000	-208.422	-0.012	+8.000	-200.406
C 7	-1.135	-9.813	+255.859	-1.135	-9.813	+246.031
C 8	-0.123	-19.625	+511.719	-0.123	-19.625	+492.063
C 9	-2.030	-12.750	+331.734	-2.030	-12.750	+319.000
C10	+4.882	-25.500	+663.469	+4.882	-25.500	+638.000
C11	-2.030	-12.750	+332.172	-2.030	-12.750	+319.422
C12	-0.220	-25.500	+664.344	-0.220	-25.500	+638.844
C13	-35.710	+38.875	-1008.688	-35.710	+38.875	-969.875
C14	-3.867	+77.750	-2017.375	-3.867	+77.750	-1939.750
C15	-35.714	+39.750	-1031.688	-35.714	+39.750	-992.000
C16	-3.868	+79.500	-2063.375	-3.868	+79.500	-1984.000
C17	+39.322	+15.250	-825.458	+36.553	+14.250	-810.771
C18	+4.259	+30.500	-1650.917	+3.959	+28.500	-1621.542
Barra 76						
C 1	-0.115	+3.989	-99.864	-0.115	+3.989	-81.911
C 2	-0.012	+8.008	-200.454	-0.012	+8.008	-164.418
C 3	-0.115	+4.008	-100.327	-0.115	+4.008	-82.292
C 4	-0.012	+8.027	-200.927	-0.012	+8.027	-164.806
C 5	-0.115	+4.003	-100.204	-0.115	+4.003	-82.190
C 6	-0.012	+8.006	-200.407	-0.012	+8.006	-164.380
C 7	-1.135	-9.829	+246.031	-1.135	-9.829	+201.802
C 8	-0.123	-19.657	+492.063	-0.123	-19.657	+403.604
C 9	-2.030	-12.743	+318.982	-2.030	-12.743	+261.639
C10	+4.882	-25.486	+637.965	+4.882	-25.486	+523.277
C11	-2.030	-12.760	+319.406	-2.030	-12.760	+261.985
C12	-0.220	-25.520	+638.813	-0.220	-25.520	+523.971
C13	-35.711	+38.735	-969.914	-35.711	+38.735	-795.604
C14	-3.868	+77.471	-1939.828	-3.868	+77.471	-1591.207
C15	-35.714	+39.617	-992.004	-35.714	+39.617	-813.729
C16	-3.868	+79.234	-1984.008	-3.868	+79.234	-1627.457
C17	+36.552	+14.176	-810.762	+24.087	+9.676	-757.086
C18	+3.959	+28.352	-1621.523	+2.609	+19.352	-1514.172

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 77						
C 1	-0.115	+3.990	-81.911	-0.115	+3.990	-63.958
C 2	-0.012	+8.008	-164.418	-0.012	+8.008	-128.381
C 3	-0.115	+4.008	-82.291	-0.115	+4.008	-64.255
C 4	-0.012	+8.027	-164.806	-0.012	+8.027	-128.685
C 5	-0.115	+4.003	-82.190	-0.115	+4.003	-64.176
C 6	-0.012	+8.006	-164.379	-0.012	+8.006	-128.352
C 7	-1.135	-9.829	+201.803	-1.135	-9.829	+157.570
C 8	-0.123	-19.659	+403.605	-0.123	-19.659	+315.141
C 9	-2.030	-12.744	+261.640	-2.030	-12.744	+204.293
C10	+4.882	-25.487	+523.279	+4.882	-25.487	+408.586
C11	-2.030	-12.760	+261.986	-2.030	-12.760	+204.564
C12	-0.220	-25.521	+523.973	-0.220	-25.521	+409.129
C13	-35.710	+38.735	-795.602	-35.710	+38.735	-621.293
C14	-3.868	+77.471	-1591.203	-3.868	+77.471	-1242.586
C15	-35.714	+39.620	-813.727	-35.714	+39.620	-635.441
C16	-3.868	+79.240	-1627.453	-3.868	+79.240	-1270.883
C17	+24.087	+9.678	-757.094	+11.622	+5.178	-723.668
C18	+2.609	+19.355	-1514.188	+1.259	+10.355	-1447.336
Barra 78						
C 1	-0.115	+3.990	-63.958	-0.115	+3.990	-46.006
C 2	-0.012	+8.008	-128.382	-0.012	+8.008	-92.346
C 3	-0.115	+4.008	-64.255	-0.115	+4.008	-46.219
C 4	-0.012	+8.027	-128.684	-0.012	+8.027	-92.564
C 5	-0.115	+4.003	-64.176	-0.115	+4.003	-46.163
C 6	-0.012	+8.006	-128.352	-0.012	+8.006	-92.325
C 7	-1.135	-9.829	+157.571	-1.135	-9.829	+113.344
C 8	-0.123	-19.657	+315.143	-0.123	-19.657	+226.688
C 9	-2.030	-12.743	+204.293	-2.030	-12.743	+146.950
C10	+4.882	-25.485	+408.586	+4.882	-25.485	+293.900
C11	-2.030	-12.760	+204.564	-2.030	-12.760	+147.145
C12	-0.220	-25.520	+409.129	-0.220	-25.520	+294.289
C13	-35.711	+38.734	-621.293	-35.711	+38.734	-446.984
C14	-3.868	+77.469	-1242.586	-3.868	+77.469	-893.969
C15	-35.714	+39.616	-635.445	-35.714	+39.616	-457.164
C16	-3.868	+79.232	-1270.891	-3.868	+79.232	-914.328
C17	+11.622	+5.176	-723.668	-0.843	+0.676	-710.504
C18	+1.259	+10.352	-1447.336	-0.091	+1.352	-1421.008

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 79						
C 1	-0.115	+3.990	-46.006	-0.115	+3.990	-31.544
C 2	-0.012	+8.008	-92.346	-0.012	+8.008	-63.317
C 3	-0.115	+4.008	-46.220	-0.115	+4.008	-31.690
C 4	-0.012	+8.027	-92.564	-0.012	+8.027	-63.466
C 5	-0.115	+4.003	-46.162	-0.115	+4.003	-31.651
C 6	-0.012	+8.006	-92.324	-0.012	+8.006	-63.303
C 7	-1.135	-9.829	+113.343	-1.135	-9.829	+77.713
C 8	-0.123	-19.657	+226.686	-0.123	-19.657	+155.426
C 9	-2.030	-12.745	+146.952	-2.030	-12.745	+100.756
C10	+4.882	-25.490	+293.904	+4.882	-25.490	+201.512
C11	-2.030	-12.761	+147.146	-2.030	-12.761	+100.889
C12	-0.220	-25.521	+294.293	-0.220	-25.521	+201.777
C13	-35.711	+38.734	-446.984	-35.711	+38.734	-306.566
C14	-3.868	+77.469	-893.969	-3.868	+77.469	-613.133
C15	-35.714	+39.619	-457.160	-35.714	+39.619	-313.547
C16	-3.868	+79.238	-914.320	-3.868	+79.238	-627.094
C17	-0.843	+0.680	-710.501	-10.884	-2.945	-714.611
C18	-0.091	+1.359	-1421.003	-1.179	-5.891	-1429.221
Barra 80						
C 1	-0.115	+3.990	-31.544	-0.115	+3.990	-17.082
C 2	-0.012	+8.008	-63.318	-0.012	+8.008	-34.289
C 3	-0.115	+4.008	-31.690	-0.115	+4.008	-17.162
C 4	-0.012	+8.027	-63.467	-0.012	+8.027	-34.370
C 5	-0.115	+4.003	-31.651	-0.115	+4.003	-17.141
C 6	-0.012	+8.006	-63.303	-0.012	+8.006	-34.281
C 7	-1.135	-9.829	+77.715	-1.135	-9.829	+42.086
C 8	-0.123	-19.658	+155.430	-0.123	-19.658	+84.172
C 9	-2.030	-12.743	+100.758	-2.030	-12.743	+54.563
C10	+4.882	-25.485	+201.516	+4.882	-25.485	+109.127
C11	-2.030	-12.760	+100.892	-2.030	-12.760	+54.636
C12	-0.220	-25.521	+201.783	-0.220	-25.521	+109.271
C13	-35.711	+38.734	-306.570	-35.711	+38.734	-166.160
C14	-3.868	+77.469	-613.141	-3.868	+77.469	-332.320
C15	-35.714	+39.617	-313.551	-35.714	+39.617	-169.938
C16	-3.868	+79.234	-627.102	-3.868	+79.234	-339.875
C17	-10.884	-2.949	-714.618	-20.925	-6.574	-731.892
C18	-1.179	-5.898	-1429.237	-2.266	-13.148	-1463.784

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 81						
C 1	-0.115	+3.990	-17.082	-0.115	+3.990	-2.620
C 2	-0.012	+8.008	-34.289	-0.012	+8.008	-5.259
C 3	-0.115	+4.008	-17.162	-0.115	+4.008	-2.632
C 4	-0.012	+8.027	-34.370	-0.012	+8.027	-5.271
C 5	-0.115	+4.003	-17.140	-0.115	+4.003	-2.629
C 6	-0.012	+8.006	-34.281	-0.012	+8.006	-5.259
C 7	-1.135	-9.829	+42.085	-1.135	-9.829	+6.455
C 8	-0.123	-19.658	+84.170	-0.123	-19.658	+12.910
C 9	-2.030	-12.744	+54.563	-2.030	-12.744	+8.370
C10	+4.882	-25.487	+109.127	+4.882	-25.487	+16.740
C11	-2.030	-12.760	+54.637	-2.030	-12.760	+8.381
C12	-0.220	-25.521	+109.273	-0.220	-25.521	+16.762
C13	-35.711	+38.738	-166.156	-35.711	+38.738	-25.736
C14	-3.868	+77.477	-332.313	-3.868	+77.477	-51.473
C15	-35.714	+39.619	-169.934	-35.714	+39.619	-26.316
C16	-3.868	+79.238	-339.867	-3.868	+79.238	-52.633
C17	-20.925	-6.566	-731.892	-30.966	-10.191	-762.267
C18	-2.266	-13.133	-1463.784	-3.354	-20.383	-1524.534
Barra 82						
C 1	-0.115	+3.990	-2.620	-0.115	+3.990	+11.843
C 2	-0.012	+8.009	-5.259	-0.012	+8.009	+23.771
C 3	-0.115	+4.008	-2.632	-0.115	+4.008	+11.897
C 4	-0.012	+8.027	-5.271	-0.012	+8.027	+23.827
C 5	-0.115	+4.003	-2.629	-0.115	+4.003	+11.883
C 6	-0.012	+8.007	-5.257	-0.012	+8.007	+23.766
C 7	-1.135	-9.829	+6.454	-1.135	-9.829	-29.176
C 8	-0.123	-19.658	+12.908	-0.123	-19.658	-58.353
C 9	-2.030	-12.743	+8.369	-2.030	-12.743	-37.828
C10	+4.882	-25.487	+16.738	+4.882	-25.487	-75.655
C11	-2.030	-12.760	+8.380	-2.030	-12.760	-37.877
C12	-0.220	-25.521	+16.760	-0.220	-25.521	-75.755
C13	-35.711	+38.737	-25.738	-35.711	+38.737	+114.688
C14	-3.868	+77.475	-51.477	-3.868	+77.475	+229.375
C15	-35.714	+39.620	-26.314	-35.714	+39.620	+117.305
C16	-3.868	+79.240	-52.629	-3.868	+79.240	+234.609
C17	-30.967	-10.195	-762.279	-41.008	-13.820	-805.794
C18	-3.354	-20.391	-1524.557	-4.441	-27.641	-1611.589

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 83						
C 1	-0.115	+3.990	+11.843	-0.115	+3.990	+25.647
C 2	-0.012	+8.009	+23.771	-0.012	+8.009	+51.480
C 3	-0.115	+4.008	+11.897	-0.115	+4.008	+25.766
C 4	-0.012	+8.027	+23.827	-0.012	+8.027	+51.602
C 5	-0.115	+4.003	+11.883	-0.115	+4.003	+25.734
C 6	-0.012	+8.007	+23.765	-0.012	+8.007	+51.469
C 7	-1.135	-9.829	-29.176	-1.135	-9.829	-63.186
C 8	-0.123	-19.658	-58.352	-0.123	-19.658	-126.371
C 9	-2.030	-12.744	-37.827	-2.030	-12.744	-81.921
C10	+4.882	-25.488	-75.654	+4.882	-25.488	-163.843
C11	-2.030	-12.761	-37.876	-2.030	-12.761	-82.030
C12	-0.220	-25.521	-75.753	-0.220	-25.521	-164.060
C13	-35.711	+38.738	+114.683	-35.711	+38.738	+248.721
C14	-3.868	+77.477	+229.365	-3.868	+77.477	+497.441
C15	-35.714	+39.620	+117.305	-35.714	+39.620	+254.393
C16	-3.868	+79.240	+234.609	-3.868	+79.240	+508.785
C17	-41.008	-13.817	-805.810	-50.592	-17.277	-859.591
C18	-4.441	-27.634	-1611.620	-5.479	-34.554	-1719.183
Barra 84						
C 1	-0.115	+3.990	+25.647	-0.115	+3.990	+39.451
C 2	-0.012	+8.008	+51.481	-0.012	+8.008	+79.189
C 3	-0.115	+4.008	+25.766	-0.115	+4.008	+39.635
C 4	-0.012	+8.027	+51.602	-0.012	+8.027	+79.376
C 5	-0.115	+4.003	+25.734	-0.115	+4.003	+39.586
C 6	-0.012	+8.007	+51.469	-0.012	+8.007	+79.171
C 7	-1.135	-9.829	-63.187	-1.135	-9.829	-97.194
C 8	-0.123	-19.658	-126.374	-0.123	-19.658	-194.389
C 9	-2.030	-12.744	-81.921	-2.030	-12.744	-126.015
C10	+4.882	-25.489	-163.843	+4.882	-25.489	-252.029
C11	-2.030	-12.761	-82.030	-2.030	-12.761	-126.182
C12	-0.220	-25.522	-164.059	-0.220	-25.522	-252.364
C13	-35.711	+38.737	+248.720	-35.711	+38.737	+382.752
C14	-3.868	+77.475	+497.439	-3.868	+77.475	+765.504
C15	-35.714	+39.620	+254.396	-35.714	+39.620	+391.479
C16	-3.868	+79.240	+508.791	-3.868	+79.240	+782.957
C17	-50.592	-17.278	-859.591	-60.176	-20.738	-925.365
C18	-5.479	-34.556	-1719.183	-6.517	-41.476	-1850.730

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 85						
C 1	-0.115	+3.990	+39.452	-0.115	+3.990	+43.761
C 2	-0.012	+8.010	+79.191	-0.012	+8.010	+87.841
C 3	-0.115	+4.008	+39.635	-0.115	+4.008	+43.965
C 4	-0.012	+8.028	+79.378	-0.012	+8.028	+88.049
C 5	-0.115	+4.004	+39.586	-0.115	+4.004	+43.911
C 6	-0.012	+8.009	+79.172	-0.012	+8.009	+87.822
C 7	-1.135	-9.832	-97.195	-1.135	-9.832	-107.815
C 8	-0.123	-19.664	-194.390	-0.123	-19.664	-215.631
C 9	-2.030	-12.748	-126.015	-2.030	-12.748	-139.784
C10	+4.882	-25.496	-252.029	+4.882	-25.496	-279.568
C11	-2.030	-12.762	-126.183	-2.030	-12.762	-139.969
C12	-0.220	-25.523	-252.365	-0.220	-25.523	-279.938
C13	-35.711	+38.750	+382.758	-35.711	+38.750	+424.605
C14	-3.868	+77.500	+765.516	-3.868	+77.500	+849.211
C15	-35.714	+39.633	+391.480	-35.714	+39.633	+434.289
C16	-3.868	+79.266	+782.961	-3.868	+79.266	+868.578
C17	-60.176	-20.726	-925.332	-63.168	-21.806	-948.300
C18	-6.517	-41.451	-1850.663	-6.841	-43.611	-1896.601
Barra 86						
C 1	-0.007	-1.288	+43.762	-0.007	-1.288	+42.372
C 2	-0.001	-2.584	+87.842	-0.001	-2.584	+85.052
C 3	-0.007	-1.292	+43.964	-0.007	-1.292	+42.569
C 4	-0.001	-2.589	+88.048	-0.001	-2.589	+85.253
C 5	-0.007	-1.292	+43.911	-0.007	-1.292	+42.516
C 6	-0.001	-2.584	+87.821	-0.001	-2.584	+85.033
C 7	-0.065	+3.173	-107.814	-0.065	+3.173	-104.390
C 8	-0.007	+6.346	-215.629	-0.007	+6.346	-208.780
C 9	-0.115	+4.113	-139.783	-0.115	+4.113	-135.343
C10	+0.277	+8.227	-279.566	+0.277	+8.227	-270.686
C11	-0.115	+4.117	-139.969	-0.115	+4.117	-135.522
C12	-0.012	+8.234	-279.938	-0.012	+8.234	-271.045
C13	-2.030	-12.496	+424.609	-2.030	-12.496	+411.117
C14	-0.220	-24.992	+849.219	-0.220	-24.992	+822.234
C15	-2.030	-12.770	+434.281	-2.030	-12.770	+420.496
C16	-0.220	-25.539	+868.563	-0.220	-25.539	+840.992
C17	+618.245	+216.322	-948.269	+588.330	+205.522	-720.441
C18	+66.959	+432.644	-1896.538	+63.719	+411.044	-1440.881

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 87						
C 1	-0.007	-1.288	+42.372	-0.007	-1.288	+37.915
C 2	-0.001	-2.585	+85.052	-0.001	-2.585	+76.107
C 3	-0.007	-1.294	+42.568	-0.007	-1.294	+38.092
C 4	-0.001	-2.591	+85.252	-0.001	-2.591	+76.287
C 5	-0.007	-1.292	+42.516	-0.007	-1.292	+38.045
C 6	-0.001	-2.584	+85.032	-0.001	-2.584	+76.090
C 7	-0.065	+3.173	-104.390	-0.065	+3.173	-93.412
C 8	-0.007	+6.346	-208.779	-0.007	+6.346	-186.823
C 9	-0.115	+4.114	-135.342	-0.115	+4.114	-121.108
C10	+0.277	+8.228	-270.685	+0.277	+8.228	-242.217
C11	-0.115	+4.119	-135.522	-0.115	+4.119	-121.269
C12	-0.012	+8.239	-271.045	-0.012	+8.239	-242.538
C13	-2.030	-12.496	+411.115	-2.030	-12.496	+367.877
C14	-0.220	-24.992	+822.230	-0.220	-24.992	+735.754
C15	-2.030	-12.782	+420.490	-2.030	-12.782	+376.265
C16	-0.220	-25.564	+840.980	-0.220	-25.564	+752.529
C17	+588.329	+205.560	-720.437	+492.487	+170.960	-69.051
C18	+63.718	+411.119	-1440.874	+53.338	+341.920	-138.101
Barra 88						
C 1	-0.007	-1.288	+37.915	-0.007	-1.288	+36.036
C 2	-0.001	-2.586	+76.106	-0.001	-2.586	+72.333
C 3	-0.007	-1.293	+38.091	-0.007	-1.293	+36.203
C 4	-0.001	-2.591	+76.286	-0.001	-2.591	+72.504
C 5	-0.007	-1.292	+38.044	-0.007	-1.292	+36.158
C 6	-0.001	-2.584	+76.088	-0.001	-2.584	+72.316
C 7	-0.065	+3.174	-93.410	-0.065	+3.174	-88.779
C 8	-0.007	+6.348	-186.820	-0.007	+6.348	-177.559
C 9	-0.115	+4.113	-121.109	-0.115	+4.113	-115.104
C10	+0.277	+8.227	-242.219	+0.277	+8.227	-230.207
C11	-0.115	+4.121	-121.271	-0.115	+4.121	-115.256
C12	-0.012	+8.242	-242.543	-0.012	+8.242	-230.512
C13	-2.030	-12.492	+367.883	-2.030	-12.492	+349.633
C14	-0.220	-24.984	+735.766	-0.220	-24.984	+699.266
C15	-2.030	-12.773	+376.266	-2.030	-12.773	+357.609
C16	-0.220	-25.547	+752.531	-0.220	-25.547	+715.219
C17	+492.488	+170.956	-69.058	+452.046	+156.356	+169.911
C18	+53.338	+341.912	-138.115	+48.958	+312.713	+339.822

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 89						
C 1	-0.007	-1.287	+36.036	-0.007	-1.287	+33.461
C 2	-0.001	-2.583	+72.333	-0.001	-2.583	+67.167
C 3	-0.007	-1.292	+36.202	-0.007	-1.292	+33.617
C 4	-0.001	-2.588	+72.503	-0.001	-2.588	+67.325
C 5	-0.007	-1.292	+36.158	-0.007	-1.292	+33.575
C 6	-0.001	-2.583	+72.316	-0.001	-2.583	+67.150
C 7	-0.065	+3.172	-88.780	-0.065	+3.172	-82.438
C 8	-0.007	+6.344	-177.561	-0.007	+6.344	-164.875
C 9	-0.115	+4.111	-115.104	-0.115	+4.111	-106.881
C10	+0.277	+8.223	-230.207	+0.277	+8.223	-213.762
C11	-0.115	+4.116	-115.256	-0.115	+4.116	-107.024
C12	-0.012	+8.232	-230.512	-0.012	+8.232	-214.049
C13	-2.030	-12.488	+349.637	-2.030	-12.488	+324.664
C14	-0.220	-24.977	+699.273	-0.220	-24.977	+649.328
C15	-2.030	-12.773	+357.609	-2.030	-12.773	+332.066
C16	-0.220	-25.547	+715.219	-0.220	-25.547	+664.133
C17	+452.046	+156.406	+169.885	+396.646	+136.406	+462.714
C18	+48.958	+312.813	+339.771	+42.958	+272.813	+925.427
Barra 90						
C 1	-0.007	-1.289	+33.463	-0.007	-1.289	+32.176
C 2	-0.001	-2.582	+67.168	-0.001	-2.582	+64.588
C 3	-0.007	-1.293	+33.617	-0.007	-1.293	+32.328
C 4	-0.001	-2.586	+67.324	-0.001	-2.586	+64.742
C 5	-0.007	-1.285	+33.574	-0.007	-1.285	+32.289
C 6	-0.001	-2.570	+67.148	-0.001	-2.570	+64.578
C 7	-0.065	+3.156	-82.438	-0.065	+3.156	-79.277
C 8	-0.007	+6.313	-164.875	-0.007	+6.313	-158.555
C 9	-0.115	+4.094	-106.883	-0.115	+4.094	-102.781
C10	+0.277	+8.188	-213.766	+0.277	+8.188	-205.563
C11	-0.115	+4.109	-107.031	-0.115	+4.109	-102.914
C12	-0.012	+8.219	-214.063	-0.012	+8.219	-205.828
C13	-2.030	-12.469	+324.672	-2.030	-12.469	+312.188
C14	-0.220	-24.938	+649.344	-0.220	-24.938	+624.375
C15	-2.030	-12.719	+332.063	-2.030	-12.719	+319.344
C16	-0.220	-25.438	+664.125	-0.220	-25.438	+638.688
C17	+396.646	+136.500	+462.729	+368.946	+126.500	+594.229
C18	+42.958	+273.000	+925.458	+39.958	+253.000	+1188.458

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 91						
C 1	-0.007	-1.286	+32.177	-0.007	-1.286	+26.392
C 2	-0.001	-2.581	+64.588	-0.001	-2.581	+52.975
C 3	-0.007	-1.292	+32.327	-0.007	-1.292	+26.514
C 4	-0.001	-2.587	+64.741	-0.001	-2.587	+53.100
C 5	-0.007	-1.290	+32.287	-0.007	-1.290	+26.482
C 6	-0.001	-2.580	+64.573	-0.001	-2.580	+52.963
C 7	-0.065	+3.167	-79.274	-0.065	+3.167	-65.020
C 8	-0.007	+6.335	-158.547	-0.007	+6.335	-130.041
C 9	-0.115	+4.107	-102.779	-0.115	+4.107	-84.300
C10	+0.277	+8.213	-205.559	+0.277	+8.213	-168.600
C11	-0.115	+4.112	-102.916	-0.115	+4.112	-84.412
C12	-0.012	+8.224	-205.832	-0.012	+8.224	-168.824
C13	-2.030	-12.474	+312.202	-2.030	-12.474	+256.068
C14	-0.220	-24.947	+624.404	-0.220	-24.947	+512.137
C15	-2.030	-12.758	+319.320	-2.030	-12.758	+261.906
C16	-0.220	-25.517	+638.641	-0.220	-25.517	+523.813
C17	+368.946	+126.459	+594.223	+244.296	+81.459	+1062.039
C18	+39.958	+252.918	+1188.445	+26.458	+162.918	+2124.078
Barra 92						
C 1	-0.007	-1.286	+26.392	-0.007	-1.286	+20.606
C 2	-0.001	-2.581	+52.975	-0.001	-2.581	+41.362
C 3	-0.007	-1.292	+26.514	-0.007	-1.292	+20.702
C 4	-0.001	-2.587	+53.100	-0.001	-2.587	+41.460
C 5	-0.007	-1.290	+26.481	-0.007	-1.290	+20.676
C 6	-0.001	-2.580	+52.963	-0.001	-2.580	+41.353
C 7	-0.065	+3.167	-65.020	-0.065	+3.167	-50.767
C 8	-0.007	+6.335	-130.041	-0.007	+6.335	-101.534
C 9	-0.115	+4.107	-84.300	-0.115	+4.107	-65.820
C10	+0.277	+8.213	-168.600	+0.277	+8.213	-131.639
C11	-0.115	+4.112	-84.411	-0.115	+4.112	-65.907
C12	-0.012	+8.224	-168.823	-0.012	+8.224	-131.814
C13	-2.030	-12.474	+256.067	-2.030	-12.474	+199.933
C14	-0.220	-24.948	+512.135	-0.220	-24.948	+399.865
C15	-2.030	-12.759	+261.907	-2.030	-12.759	+204.492
C16	-0.220	-25.518	+523.814	-0.220	-25.518	+408.984
C17	+244.296	+81.459	+1062.039	+119.646	+36.459	+1327.340
C18	+26.458	+162.918	+2124.078	+12.958	+72.918	+2654.680

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 93						
C 1	-0.007	-1.286	+20.606	-0.007	-1.286	+14.820
C 2	-0.001	-2.581	+41.362	-0.001	-2.581	+29.749
C 3	-0.007	-1.292	+20.702	-0.007	-1.292	+14.889
C 4	-0.001	-2.587	+41.460	-0.001	-2.587	+29.819
C 5	-0.007	-1.290	+20.676	-0.007	-1.290	+14.871
C 6	-0.001	-2.580	+41.353	-0.001	-2.580	+29.742
C 7	-0.065	+3.168	-50.766	-0.065	+3.168	-36.513
C 8	-0.007	+6.335	-101.533	-0.007	+6.335	-73.025
C 9	-0.115	+4.107	-65.820	-0.115	+4.107	-47.339
C10	+0.277	+8.214	-131.640	+0.277	+8.214	-94.677
C11	-0.115	+4.112	-65.907	-0.115	+4.112	-47.402
C12	-0.012	+8.225	-131.814	-0.012	+8.225	-94.804
C13	-2.030	-12.475	+199.933	-2.030	-12.475	+143.796
C14	-0.220	-24.949	+399.865	-0.220	-24.949	+287.592
C15	-2.030	-12.759	+204.492	-2.030	-12.759	+147.075
C16	-0.220	-25.518	+408.984	-0.220	-25.518	+294.150
C17	+119.646	+36.453	+1327.336	-5.004	-8.547	+1390.141
C18	+12.958	+72.906	+2654.672	-0.542	-17.094	+2780.281
Barra 94						
C 1	-0.007	-1.286	+14.820	-0.007	-1.286	+10.160
C 2	-0.001	-2.581	+29.749	-0.001	-2.581	+20.393
C 3	-0.007	-1.292	+14.889	-0.007	-1.292	+10.207
C 4	-0.001	-2.587	+29.819	-0.001	-2.587	+20.441
C 5	-0.007	-1.290	+14.871	-0.007	-1.290	+10.194
C 6	-0.001	-2.580	+29.742	-0.001	-2.580	+20.388
C 7	-0.065	+3.168	-36.513	-0.065	+3.168	-25.030
C 8	-0.007	+6.335	-73.025	-0.007	+6.335	-50.060
C 9	-0.115	+4.107	-47.339	-0.115	+4.107	-32.451
C10	+0.277	+8.214	-94.679	+0.277	+8.214	-64.902
C11	-0.115	+4.112	-47.402	-0.115	+4.112	-32.494
C12	-0.012	+8.225	-94.805	-0.012	+8.225	-64.987
C13	-2.030	-12.476	+143.797	-2.030	-12.476	+98.574
C14	-0.220	-24.951	+287.594	-0.220	-24.951	+197.148
C15	-2.030	-12.761	+147.077	-2.030	-12.761	+100.819
C16	-0.220	-25.521	+294.154	-0.220	-25.521	+201.639
C17	-5.005	-8.547	+1390.143	-105.417	-44.797	+1293.440
C18	-0.542	-17.094	+2780.286	-11.417	-89.594	+2586.880

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 95						
C 1	-0.007	-1.286	+10.160	-0.007	-1.286	+5.499
C 2	-0.001	-2.581	+20.393	-0.001	-2.581	+11.038
C 3	-0.007	-1.292	+10.207	-0.007	-1.292	+5.524
C 4	-0.001	-2.587	+20.441	-0.001	-2.587	+11.064
C 5	-0.007	-1.290	+10.194	-0.007	-1.290	+5.518
C 6	-0.001	-2.580	+20.388	-0.001	-2.580	+11.035
C 7	-0.065	+3.167	-25.030	-0.065	+3.167	-13.548
C 8	-0.007	+6.335	-50.059	-0.007	+6.335	-27.095
C 9	-0.115	+4.107	-32.451	-0.115	+4.107	-17.565
C10	+0.277	+8.213	-64.902	+0.277	+8.213	-35.130
C11	-0.115	+4.112	-32.494	-0.115	+4.112	-17.588
C12	-0.012	+8.224	-64.988	-0.012	+8.224	-35.176
C13	-2.030	-12.475	+98.573	-2.030	-12.475	+53.354
C14	-0.220	-24.949	+197.146	-0.220	-24.949	+106.709
C15	-2.030	-12.759	+100.821	-2.030	-12.759	+54.569
C16	-0.220	-25.518	+201.643	-0.220	-25.518	+109.139
C17	-105.417	-44.793	+1293.432	-205.830	-81.043	+1065.370
C18	-11.417	-89.586	+2586.865	-22.292	-162.086	+2130.740
Barra 96						
C 1	-0.007	-1.286	+5.499	-0.007	-1.286	+0.838
C 2	-0.001	-2.581	+11.038	-0.001	-2.581	+1.683
C 3	-0.007	-1.292	+5.524	-0.007	-1.292	+0.842
C 4	-0.001	-2.587	+11.064	-0.001	-2.587	+1.687
C 5	-0.007	-1.290	+5.518	-0.007	-1.290	+0.841
C 6	-0.001	-2.580	+11.035	-0.001	-2.580	+1.682
C 7	-0.065	+3.167	-13.547	-0.065	+3.167	-2.065
C 8	-0.007	+6.335	-27.095	-0.007	+6.335	-4.131
C 9	-0.115	+4.107	-17.564	-0.115	+4.107	-2.678
C10	+0.277	+8.213	-35.128	+0.277	+8.213	-5.355
C11	-0.115	+4.112	-17.587	-0.115	+4.112	-2.681
C12	-0.012	+8.224	-35.174	-0.012	+8.224	-5.363
C13	-2.030	-12.474	+53.353	-2.030	-12.474	+8.133
C14	-0.220	-24.948	+106.705	-0.220	-24.948	+16.266
C15	-2.030	-12.757	+54.568	-2.030	-12.757	+8.320
C16	-0.220	-25.515	+109.137	-0.220	-25.515	+16.641
C17	-205.830	-81.035	+1065.354	-306.242	-117.285	+705.885
C18	-22.292	-162.070	+2130.708	-33.167	-234.570	+1411.771

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 97						
C 1	-0.007	-1.286	+0.838	-0.007	-1.286	-3.822
C 2	-0.001	-2.581	+1.683	-0.001	-2.581	-7.672
C 3	-0.007	-1.292	+0.842	-0.007	-1.292	-3.840
C 4	-0.001	-2.587	+1.687	-0.001	-2.587	-7.690
C 5	-0.007	-1.290	+0.841	-0.007	-1.290	-3.835
C 6	-0.001	-2.580	+1.682	-0.001	-2.580	-7.670
C 7	-0.065	+3.167	-2.065	-0.065	+3.167	+9.417
C 8	-0.007	+6.335	-4.131	-0.007	+6.335	+18.833
C 9	-0.115	+4.106	-2.678	-0.115	+4.106	+12.208
C10	+0.277	+8.213	-5.355	+0.277	+8.213	+24.417
C11	-0.115	+4.112	-2.681	-0.115	+4.112	+12.225
C12	-0.012	+8.224	-5.362	-0.012	+8.224	+24.450
C13	-2.030	-12.474	+8.133	-2.030	-12.474	-37.084
C14	-0.220	-24.948	+16.267	-0.220	-24.948	-74.168
C15	-2.030	-12.759	+8.320	-2.030	-12.759	-37.931
C16	-0.220	-25.518	+16.640	-0.220	-25.518	-75.861
C17	-306.242	-117.289	+705.878	-406.655	-153.539	+215.010
C18	-33.167	-234.578	+1411.755	-44.042	-307.078	+430.021
Barra 98						
C 1	-0.007	-1.286	-3.822	-0.007	-1.286	-8.270
C 2	-0.001	-2.581	-7.672	-0.001	-2.581	-16.601
C 3	-0.007	-1.292	-3.840	-0.007	-1.292	-8.309
C 4	-0.001	-2.587	-7.690	-0.001	-2.587	-16.640
C 5	-0.007	-1.290	-3.835	-0.007	-1.290	-8.299
C 6	-0.001	-2.580	-7.670	-0.001	-2.580	-16.597
C 7	-0.065	+3.167	+9.417	-0.065	+3.167	+20.375
C 8	-0.007	+6.335	+18.833	-0.007	+6.335	+40.751
C 9	-0.115	+4.107	+12.208	-0.115	+4.107	+26.417
C10	+0.277	+8.213	+24.417	+0.277	+8.213	+52.834
C11	-0.115	+4.112	+12.225	-0.115	+4.112	+26.452
C12	-0.012	+8.224	+24.449	-0.012	+8.224	+52.904
C13	-2.030	-12.474	-37.084	-2.030	-12.474	-80.244
C14	-0.220	-24.949	-74.169	-0.220	-24.949	-160.487
C15	-2.030	-12.758	-37.931	-2.030	-12.758	-82.074
C16	-0.220	-25.517	-75.861	-0.220	-25.517	-164.147
C17	-406.655	-153.540	+215.008	-502.497	-188.140	-376.090
C18	-44.042	-307.080	+430.016	-54.422	-376.280	-752.179

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 99						
C 1	-0.007	-1.286	-8.270	-0.007	-1.286	-12.719
C 2	-0.001	-2.581	-16.601	-0.001	-2.581	-25.530
C 3	-0.007	-1.292	-8.309	-0.007	-1.292	-12.778
C 4	-0.001	-2.587	-16.640	-0.001	-2.587	-25.590
C 5	-0.007	-1.290	-8.299	-0.007	-1.290	-12.762
C 6	-0.001	-2.580	-16.597	-0.001	-2.580	-25.524
C 7	-0.065	+3.167	+20.376	-0.065	+3.167	+31.335
C 8	-0.007	+6.335	+40.751	-0.007	+6.335	+62.669
C 9	-0.115	+4.107	+26.417	-0.115	+4.107	+40.626
C10	+0.277	+8.213	+52.834	+0.277	+8.213	+81.252
C11	-0.115	+4.112	+26.452	-0.115	+4.112	+40.680
C12	-0.012	+8.224	+52.905	-0.012	+8.224	+81.359
C13	-2.030	-12.474	-80.245	-2.030	-12.474	-123.404
C14	-0.220	-24.948	-160.490	-0.220	-24.948	-246.809
C15	-2.030	-12.759	-82.074	-2.030	-12.759	-126.219
C16	-0.220	-25.518	-164.148	-0.220	-25.518	-252.438
C17	-502.497	-188.141	-376.086	-598.339	-222.741	-1086.918
C18	-54.422	-376.283	-752.171	-64.802	-445.483	-2173.835
Barra 100						
C 1	-0.007	-1.286	-12.719	-0.007	-1.286	-14.107
C 2	-0.001	-2.581	-25.530	-0.001	-2.581	-28.317
C 3	-0.007	-1.292	-12.778	-0.007	-1.292	-14.173
C 4	-0.001	-2.587	-25.590	-0.001	-2.587	-28.385
C 5	-0.007	-1.290	-12.762	-0.007	-1.290	-14.156
C 6	-0.001	-2.580	-25.524	-0.001	-2.580	-28.311
C 7	-0.065	+3.168	+31.334	-0.065	+3.168	+34.756
C 8	-0.007	+6.336	+62.669	-0.007	+6.336	+69.512
C 9	-0.115	+4.107	+40.626	-0.115	+4.107	+45.062
C10	+0.277	+8.214	+81.252	+0.277	+8.214	+90.123
C11	-0.115	+4.113	+40.680	-0.115	+4.113	+45.122
C12	-0.012	+8.226	+81.360	-0.012	+8.226	+90.243
C13	-2.030	-12.475	-123.403	-2.030	-12.475	-136.880
C14	-0.220	-24.949	-246.807	-0.220	-24.949	-273.760
C15	-2.030	-12.760	-126.220	-2.030	-12.760	-140.001
C16	-0.220	-25.520	-252.439	-0.220	-25.520	-280.002
C17	-598.339	-222.741	-1086.925	-628.254	-233.541	-1333.316
C18	-64.802	-445.481	-2173.850	-68.042	-467.081	-2666.631

Hipotesis y/o Combinaciones de carga consideradas
Hipotesis: C 1 = +1.00*(Hip: 1)
Hipotesis: C 2 = +1.00*(Hip: 1)+1.00*(Hip: 2)
Hipotesis: C 3 = +1.00*(Hip: 3)
Hipotesis: C 4 = +1.00*(Hip: 3)+1.00*(Hip: 4)
Hipotesis: C 5 = +1.00*(Hip: 5)
Hipotesis: C 6 = +1.00*(Hip: 5)+1.00*(Hip: 6)
Hipotesis: C 7 = +1.00*(Hip: 7)
Hipotesis: C 8 = +1.00*(Hip: 7)+1.00*(Hip: 8)
Hipotesis: C 9 = +1.00*(Hip: 9)
Hipotesis: C10 = +1.00*(Hip: 9)+1.00*(Hip:10)
Hipotesis: C11 = +1.00*(Hip:11)
Hipotesis: C12 = +1.00*(Hip:11)+1.00*(Hip:12)
Hipotesis: C13 = +1.00*(Hip:13)
Hipotesis: C14 = +1.00*(Hip:13)+1.00*(Hip:14)
Hipotesis: C15 = +1.00*(Hip:15)
Hipotesis: C16 = +1.00*(Hip:15)+1.00*(Hip:16)
Hipotesis: C17 = +1.00*(Hip:17)
Hipotesis: C18 = +1.00*(Hip:17)+1.00*(Hip:18)

Reacciones

Hipot	Nudo	MX	RZ	MY
C 1	1	+0.004	+188.220	+551.390
C 2	1	+0.004	+379.806	+48.102
C 3	1	+0.004	+146.976	+447.827
C 4	1	+0.004	+295.049	+49.655
C 5	1	+0.002	+127.938	+397.261
C 6	1	+0.004	+255.876	+43.025
C 7	1	-0.000	-11.479	+160.065
C 8	1	-0.000	-22.957	+17.336
C 9	1	+0.000	-43.473	+48.777
C10	1	+0.000	-86.946	+5.287
C11	1	-0.002	-42.477	+40.082
C12	1	-0.004	-84.953	+4.341
C13	1	+0.000	+5.367	+8.540
C14	1	+0.000	+10.735	+0.925
C15	1	-0.000	+13.995	+2.772
C16	1	-0.000	+27.991	+0.300
C17	1	+0.000	+12.034	+2.486
C18	1	+0.000	+24.067	+0.269

Reacciones

Hipot	Nudo	MX	RZ	MY
C 1	11	+0.016	+207.862	+568.048
C 2	11	+0.016	+455.552	-22.670
C 3	11	+0.000	+225.815	+630.160
C 4	11	+0.016	+499.818	+69.469
C 5	11	+0.032	+249.911	+663.367
C 6	11	+0.065	+499.821	+71.845
C 7	11	-0.027	+476.163	+1042.528
C 8	11	-0.055	+952.326	+112.909
C 9	11	-0.005	+318.246	+691.273
C10	11	-0.011	+636.491	+74.930
C11	11	-0.016	+266.922	+568.042
C12	11	-0.031	+533.844	+61.521
C13	11	+0.002	-21.299	+121.023
C14	11	+0.004	-42.598	+13.107
C15	11	+0.008	-58.984	+39.288
C16	11	+0.016	-117.969	+4.255
C17	11	+0.004	-50.738	+35.239
C18	11	+0.008	-101.477	+3.816
C 1	26	+0.015	+247.206	+674.161
C 2	26	-0.016	+490.849	+68.229
C 3	26	-0.016	+244.924	+677.691
C 4	26	-0.016	+488.521	+73.465
C 5	26	-0.000	+245.534	+679.578
C 6	26	-0.000	+491.068	+73.600
C 7	26	+0.016	+227.393	+711.145
C 8	26	+0.032	+454.786	+77.020
C 9	26	-0.031	+262.299	+731.947
C10	26	-0.062	+524.599	+80.386
C11	26	+0.031	+267.815	+737.757
C12	26	+0.063	+535.630	+79.902
C13	26	-0.023	+472.554	+1050.767
C14	26	-0.047	+945.108	+113.802
C15	26	+0.010	+318.761	+697.607
C16	26	+0.020	+637.523	+75.553
C17	26	-0.021	+291.933	+625.707
C18	26	-0.042	+583.866	+67.766

Reacciones

Hipot	Nudo	MX	RZ	MY
C 1	41	-0.011	+269.853	+592.136
C 2	41	+0.009	+540.878	+63.859
C 3	41	-0.042	+270.603	+592.337
C 4	41	-0.046	+541.628	+64.156
C 5	41	-0.011	+270.384	+592.444
C 6	41	-0.022	+540.769	+64.164
C 7	41	-0.000	+229.065	+639.901
C 8	41	-0.000	+458.130	+69.303
C 9	41	-0.016	+232.768	+683.477
C10	41	-0.032	+465.536	+93.617
C11	41	-0.016	+232.096	+683.807
C12	41	-0.032	+464.193	+74.058
C13	41	-0.031	+225.159	+715.112
C14	41	-0.062	+450.318	+77.449
C15	41	-0.016	+264.081	+732.307
C16	41	-0.031	+528.161	+79.311
C17	41	-0.016	+105.828	+389.127
C18	41	-0.031	+211.656	+42.144
C 1	56	+0.004	-50.801	+33.654
C 2	56	+0.008	-101.984	+3.629
C 3	56	+0.004	-51.051	+33.665
C 4	56	+0.000	-102.230	+3.646
C 5	56	+0.000	-50.992	+33.671
C 6	56	+0.000	-101.984	+3.647
C 7	56	+0.016	+157.844	+331.426
C 8	56	+0.031	+315.688	+35.894
C 9	56	-0.003	+274.400	+592.666
C10	56	-0.007	+548.800	+107.485
C11	56	+0.028	+274.619	+592.685
C12	56	+0.056	+549.238	+64.190
C13	56	-0.000	+243.612	+682.520
C14	56	-0.000	+487.224	+73.919
C15	56	-0.000	+232.346	+683.497
C16	56	-0.000	+464.693	+74.025
C17	56	+0.000	+348.691	+877.121
C18	56	+0.000	+697.381	+94.996

Reacciones

Hipot	Nudo	MX	RZ	MY
C 1	71	+0.001	+16.363	+1.913
C 2	71	+0.001	+32.844	+0.206
C 3	71	+0.005	+16.434	+1.913
C 4	71	+0.009	+32.918	+0.207
C 5	71	+0.000	+16.420	+1.914
C 6	71	+0.000	+32.840	+0.207
C 7	71	-0.008	-40.320	+18.837
C 8	71	-0.016	-80.641	+2.040
C 9	71	-0.016	-52.277	+33.684
C10	71	-0.031	-104.555	-81.011
C11	71	+0.000	-52.363	+33.685
C12	71	+0.000	-104.727	+3.648
C13	71	+0.028	+270.947	+592.611
C14	71	+0.056	+541.894	+64.181
C15	71	+0.028	+274.541	+592.667
C16	71	+0.056	+549.081	+64.188
C17	71	+0.000	+241.190	+695.654
C18	71	+0.000	+482.380	+75.342
C 1	86	-0.001	-5.278	+0.109
C 2	86	-0.001	-10.594	+0.012
C 3	86	+0.000	-5.300	+0.109
C 4	86	+0.000	-10.617	+0.012
C 5	86	+0.000	-5.296	+0.109
C 6	86	+0.001	-10.593	+0.012
C 7	86	-0.001	+13.005	+1.071
C 8	86	-0.002	+26.010	+0.116
C 9	86	-0.001	+16.861	+1.914
C10	86	-0.002	+33.723	-4.604
C11	86	+0.000	+16.879	+1.914
C12	86	+0.000	+33.758	+0.207
C13	86	-0.004	-51.246	+33.681
C14	86	-0.008	-102.492	+3.648
C15	86	+0.008	-52.402	+33.684
C16	86	+0.016	-104.805	+3.648
C17	86	-0.031	+238.127	+681.413
C18	86	-0.063	+476.255	+73.800

1.1.21.- ENVOLVENTES DE ESFUERZOS DE SC SW 2 DOS VÍAS.

Nombre del fichero llbn

SW2

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
1	1	2	0.00	4.00	8.93	18.99	0.00	0	0.00
2	2	3	0.00	4.00	8.93	18.99	0.00	0	0.00
3	3	4	0.00	4.00	8.93	18.99	0.00	0	0.00
4	4	5	0.00	4.00	8.93	18.99	0.00	0	0.00
5	5	6	0.00	4.00	8.93	18.99	0.00	0	0.00
6	6	7	0.00	4.00	8.93	18.99	0.00	0	0.00
7	7	8	0.00	4.00	8.93	18.99	0.00	0	0.00
8	8	9	0.00	3.46	10.67	22.06	0.00	0	0.00
9	9	10	0.00	3.46	19.42	34.45	0.00	0	0.00
10	10	11	0.00	1.08	26.43	43.77	0.00	0	0.00
11	11	12	0.00	1.08	26.43	43.77	0.00	0	0.00
12	12	13	0.00	3.46	19.41	34.44	0.00	0	0.00
13	13	14	0.00	1.46	11.87	23.01	0.00	0	0.00
14	14	15	0.00	2.00	10.13	19.97	0.00	0	0.00
15	15	16	0.00	1.00	11.40	23.88	0.00	0	0.00
16	16	17	0.00	4.50	8.93	18.99	0.00	0	0.00
17	17	18	0.00	4.50	8.93	18.99	0.00	0	0.00
18	18	19	0.00	4.50	8.93	18.99	0.00	0	0.00
19	19	20	0.00	3.63	8.93	18.99	0.00	0	0.00
20	20	21	0.00	3.63	8.93	18.99	0.00	0	0.00
21	21	22	0.00	3.63	8.93	18.99	0.00	0	0.00
22	22	23	0.00	3.63	8.93	18.99	0.00	0	0.00
23	23	24	0.00	3.46	10.67	22.06	0.00	0	0.00
24	24	25	0.00	3.46	19.42	34.45	0.00	0	0.00
25	25	26	0.00	1.08	26.43	43.77	0.00	0	0.00
26	26	27	0.00	1.08	26.43	43.77	0.00	0	0.00
27	27	28	0.00	3.46	19.41	34.44	0.00	0	0.00
28	28	29	0.00	1.46	11.87	23.01	0.00	0	0.00
29	29	30	0.00	2.00	10.13	19.97	0.00	0	0.00
30	30	31	0.00	1.00	11.40	23.88	0.00	0	0.00
31	31	32	0.00	4.50	8.93	18.99	0.00	0	0.00
32	32	33	0.00	4.50	8.93	18.99	0.00	0	0.00
33	33	34	0.00	4.50	8.93	18.99	0.00	0	0.00
34	34	35	0.00	3.63	8.93	18.99	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
35	35	36	0.00	3.63	8.93	18.99	0.00	0	0.00
36	36	37	0.00	3.63	8.93	18.99	0.00	0	0.00
37	37	38	0.00	3.63	8.93	18.99	0.00	0	0.00
38	38	39	0.00	3.46	10.67	22.06	0.00	0	0.00
39	39	40	0.00	3.46	19.42	34.45	0.00	0	0.00
40	40	41	0.00	1.08	26.43	43.77	0.00	0	0.00
41	41	42	0.00	1.08	26.43	43.77	0.00	0	0.00
42	42	43	0.00	3.46	19.41	34.44	0.00	0	0.00
43	43	44	0.00	1.46	11.87	23.01	0.00	0	0.00
44	44	45	0.00	2.00	10.13	19.97	0.00	0	0.00
45	45	46	0.00	1.00	11.40	23.88	0.00	0	0.00
46	46	47	0.00	4.50	8.93	18.99	0.00	0	0.00
47	47	48	0.00	4.50	8.93	18.99	0.00	0	0.00
48	48	49	0.00	4.50	8.93	18.99	0.00	0	0.00
49	49	50	0.00	3.63	8.93	18.99	0.00	0	0.00
50	50	51	0.00	3.63	8.93	18.99	0.00	0	0.00
51	51	52	0.00	3.63	8.93	18.99	0.00	0	0.00
52	52	53	0.00	3.63	8.93	18.99	0.00	0	0.00
53	53	54	0.00	3.46	10.67	22.06	0.00	0	0.00
54	54	55	0.00	3.46	19.42	34.45	0.00	0	0.00
55	55	56	0.00	1.08	26.43	43.77	0.00	0	0.00
56	56	57	0.00	1.08	26.43	43.77	0.00	0	0.00
57	57	58	0.00	3.46	19.41	34.44	0.00	0	0.00
58	58	59	0.00	1.46	11.87	23.01	0.00	0	0.00
59	59	60	0.00	2.00	10.13	19.97	0.00	0	0.00
60	60	61	0.00	1.00	11.40	23.88	0.00	0	0.00
61	61	62	0.00	4.50	8.93	18.99	0.00	0	0.00
62	62	63	0.00	4.50	8.93	18.99	0.00	0	0.00
63	63	64	0.00	4.50	8.93	18.99	0.00	0	0.00
64	64	65	0.00	3.63	8.93	18.99	0.00	0	0.00
65	65	66	0.00	3.63	8.93	18.99	0.00	0	0.00
66	66	67	0.00	3.63	8.93	18.99	0.00	0	0.00
67	67	68	0.00	3.63	8.93	18.99	0.00	0	0.00
68	68	69	0.00	3.46	10.67	22.06	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
69	69	70	0.00	3.46	19.42	34.45	0.00	0	0.00
70	70	71	0.00	1.08	26.43	43.77	0.00	0	0.00
71	71	72	0.00	1.08	26.43	43.77	0.00	0	0.00
72	72	73	0.00	3.46	19.41	34.44	0.00	0	0.00
73	73	74	0.00	1.46	11.87	23.01	0.00	0	0.00
74	74	75	0.00	2.00	10.13	19.97	0.00	0	0.00
75	75	76	0.00	1.00	11.40	23.88	0.00	0	0.00
76	76	77	0.00	4.50	8.93	18.99	0.00	0	0.00
77	77	78	0.00	4.50	8.93	18.99	0.00	0	0.00
78	78	79	0.00	4.50	8.93	18.99	0.00	0	0.00
79	79	80	0.00	3.63	8.93	18.99	0.00	0	0.00
80	80	81	0.00	3.63	8.93	18.99	0.00	0	0.00
81	81	82	0.00	3.63	8.93	18.99	0.00	0	0.00
82	82	83	0.00	3.63	8.93	18.99	0.00	0	0.00
83	83	84	0.00	3.46	10.67	22.06	0.00	0	0.00
84	84	85	0.00	3.46	19.42	34.45	0.00	0	0.00
85	85	86	0.00	1.08	26.43	43.77	0.00	0	0.00
86	86	87	0.00	1.08	26.43	43.77	0.00	0	0.00
87	87	88	0.00	3.46	19.41	34.44	0.00	0	0.00
88	88	89	0.00	1.46	11.87	23.01	0.00	0	0.00
89	89	90	0.00	2.00	10.13	19.97	0.00	0	0.00
90	90	91	0.00	1.00	11.40	23.88	0.00	0	0.00
91	91	92	0.00	4.50	8.93	18.99	0.00	0	0.00
92	92	93	0.00	4.50	8.93	18.99	0.00	0	0.00
93	93	94	0.00	4.50	8.93	18.99	0.00	0	0.00
94	94	95	0.00	3.63	8.93	18.99	0.00	0	0.00
95	95	96	0.00	3.63	8.93	18.99	0.00	0	0.00
96	96	97	0.00	3.63	8.93	18.99	0.00	0	0.00
97	97	98	0.00	3.63	8.93	18.99	0.00	0	0.00
98	98	99	0.00	3.46	10.67	22.06	0.00	0	0.00
99	99	100	0.00	3.46	19.42	34.45	0.00	0	0.00
100	100	101	0.00	1.08	26.43	43.77	0.00	0	0.00
101	101	102	0.00	1.08	26.43	43.77	0.00	0	0.00
102	102	103	0.00	3.46	19.41	34.44	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
103	103	104	0.00	1.46	11.87	23.01	0.00	0	0.00
104	104	105	0.00	2.00	10.13	19.97	0.00	0	0.00
105	105	106	0.00	1.00	11.40	23.88	0.00	0	0.00
106	106	107	0.00	4.50	8.93	18.99	0.00	0	0.00
107	107	108	0.00	4.50	8.93	18.99	0.00	0	0.00
108	108	109	0.00	4.50	8.93	18.99	0.00	0	0.00
109	109	110	0.00	3.63	8.93	18.99	0.00	0	0.00
110	110	111	0.00	3.63	8.93	18.99	0.00	0	0.00
111	111	112	0.00	3.63	8.93	18.99	0.00	0	0.00
112	112	113	0.00	3.63	8.93	18.99	0.00	0	0.00
113	113	114	0.00	3.46	10.67	22.06	0.00	0	0.00
114	114	115	0.00	3.46	19.42	34.45	0.00	0	0.00
115	115	116	0.00	1.08	26.43	43.77	0.00	0	0.00
116	116	117	0.00	1.08	26.43	43.77	0.00	0	0.00
117	117	118	0.00	3.46	19.41	34.44	0.00	0	0.00
118	118	119	0.00	1.46	11.87	23.01	0.00	0	0.00
119	119	120	0.00	2.00	10.13	19.97	0.00	0	0.00
120	120	121	0.00	1.00	11.40	23.88	0.00	0	0.00
121	121	122	0.00	4.50	8.93	18.99	0.00	0	0.00
122	122	123	0.00	4.50	8.93	18.99	0.00	0	0.00
123	123	124	0.00	4.50	8.93	18.99	0.00	0	0.00
124	124	125	0.00	3.63	8.93	18.99	0.00	0	0.00
125	125	126	0.00	3.63	8.93	18.99	0.00	0	0.00
126	126	127	0.00	3.63	8.93	18.99	0.00	0	0.00
127	127	128	0.00	3.63	8.93	18.99	0.00	0	0.00
128	128	129	0.00	3.46	10.67	22.06	0.00	0	0.00
129	129	130	0.00	3.46	19.42	34.45	0.00	0	0.00
130	130	131	0.00	1.08	26.43	43.77	0.00	0	0.00
131	131	132	0.00	1.08	26.43	43.77	0.00	0	0.00
132	132	133	0.00	3.46	19.41	34.44	0.00	0	0.00
133	133	134	0.00	1.46	11.87	23.01	0.00	0	0.00
134	134	135	0.00	2.00	10.13	19.97	0.00	0	0.00
135	135	136	0.00	1.00	11.40	23.88	0.00	0	0.00
136	136	137	0.00	4.50	8.93	18.99	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
Módulo de elasticidad: 3500000
Módulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
137	137	138	0.00	4.50	8.93	18.99	0.00	0	0.00
138	138	139	0.00	4.50	8.93	18.99	0.00	0	0.00
139	139	140	0.00	3.63	8.93	18.99	0.00	0	0.00
140	140	141	0.00	3.63	8.93	18.99	0.00	0	0.00
141	141	142	0.00	3.63	8.93	18.99	0.00	0	0.00
142	142	143	0.00	3.63	8.93	18.99	0.00	0	0.00
143	143	144	0.00	3.46	10.67	22.06	0.00	0	0.00
144	144	145	0.00	3.46	19.42	34.45	0.00	0	0.00
145	145	146	0.00	1.08	26.43	43.77	0.00	0	0.00
146	146	147	0.00	1.08	26.43	43.77	0.00	0	0.00
147	147	148	0.00	3.46	19.41	34.44	0.00	0	0.00
148	148	149	0.00	1.46	11.87	23.01	0.00	0	0.00
149	149	150	0.00	2.00	10.13	19.97	0.00	0	0.00
150	150	151	0.00	1.00	11.40	23.88	0.00	0	0.00
151	151	152	0.00	3.38	8.93	18.99	0.00	0	0.00
152	152	153	0.00	3.38	8.93	18.99	0.00	0	0.00
153	153	154	0.00	3.38	8.93	18.99	0.00	0	0.00
154	154	155	0.00	3.38	8.93	18.99	0.00	0	0.00
155	155	156	0.00	3.38	8.93	18.99	0.00	0	0.00
156	156	157	0.00	3.38	8.93	18.99	0.00	0	0.00
157	157	158	0.00	3.38	8.93	18.99	0.00	0	0.00
158	158	159	0.00	3.38	8.93	18.99	0.00	0	0.00

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
1	0.00	0.00
2	0.00	4.00
3	0.00	8.00
4	0.00	12.00
5	0.00	16.00
6	0.00	20.00
7	0.00	24.00
8	0.00	28.00
9	0.00	31.46
10	0.00	34.92
11	0.00	36.00
12	0.00	37.08
13	0.00	40.54
14	0.00	42.00
15	0.00	44.00
16	0.00	45.00
17	0.00	49.50
18	0.00	54.00
19	0.00	58.50
20	0.00	62.13
21	0.00	65.75
22	0.00	69.38
23	0.00	73.00
24	0.00	76.46
25	0.00	79.92
26	0.00	81.00
27	0.00	82.08
28	0.00	85.54
29	0.00	87.00
30	0.00	89.00
31	0.00	90.00
32	0.00	94.50
33	0.00	99.00
34	0.00	103.50
35	0.00	107.13
36	0.00	110.75
37	0.00	114.38
38	0.00	118.00
39	0.00	121.46
40	0.00	124.92
41	0.00	126.00
42	0.00	127.08
43	0.00	130.54
44	0.00	132.00
45	0.00	134.00
46	0.00	135.00
47	0.00	139.50
48	0.00	144.00
49	0.00	148.50
50	0.00	152.13

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
51	0.00	155.75
52	0.00	159.38
53	0.00	163.00
54	0.00	166.46
55	0.00	169.92
56	0.00	171.00
57	0.00	172.08
58	0.00	175.54
59	0.00	177.00
60	0.00	179.00
61	0.00	180.00
62	0.00	184.50
63	0.00	189.00
64	0.00	193.50
65	0.00	197.13
66	0.00	200.75
67	0.00	204.38
68	0.00	208.00
69	0.00	211.46
70	0.00	214.92
71	0.00	216.00
72	0.00	217.08
73	0.00	220.54
74	0.00	222.00
75	0.00	224.00
76	0.00	225.00
77	0.00	229.50
78	0.00	234.00
79	0.00	238.50
80	0.00	242.13
81	0.00	245.75
82	0.00	249.38
83	0.00	253.00
84	0.00	256.46
85	0.00	259.92
86	0.00	261.00
87	0.00	262.08
88	0.00	265.54
89	0.00	267.00
90	0.00	269.00
91	0.00	270.00
92	0.00	274.50
93	0.00	279.00
94	0.00	283.50
95	0.00	287.13
96	0.00	290.75
97	0.00	294.38
98	0.00	298.00
99	0.00	301.46
100	0.00	304.92

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
101	0.00	306.00
102	0.00	307.08
103	0.00	310.54
104	0.00	312.00
105	0.00	314.00
106	0.00	315.00
107	0.00	319.50
108	0.00	324.00
109	0.00	328.50
110	0.00	332.12
111	0.00	335.75
112	0.00	339.37
113	0.00	343.00
114	0.00	346.46
115	0.00	349.92
116	0.00	351.00
117	0.00	352.08
118	0.00	355.54
119	0.00	357.00
120	0.00	359.00
121	0.00	360.00
122	0.00	364.50
123	0.00	369.00
124	0.00	373.50
125	0.00	377.12
126	0.00	380.75
127	0.00	384.37
128	0.00	388.00
129	0.00	391.46
130	0.00	394.92
131	0.00	396.00
132	0.00	397.08
133	0.00	400.54
134	0.00	402.00
135	0.00	404.00
136	0.00	405.00
137	0.00	409.50
138	0.00	414.00
139	0.00	418.50
140	0.00	422.12
141	0.00	425.75
142	0.00	429.37
143	0.00	433.00
144	0.00	436.46
145	0.00	439.92
146	0.00	441.00
147	0.00	442.08
148	0.00	445.54
149	0.00	447.00
150	0.00	449.00

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
151	0.00	450.00
152	0.00	453.37
153	0.00	456.75
154	0.00	460.12
155	0.00	463.50
156	0.00	466.87
157	0.00	470.25
158	0.00	473.62
159	0.00	477.00

Condiciones de contorno

Nudo	KgiroX	KgiroY	KdeltaZ	Angcoa
1	0.00E+00	1.00E+19	1.00E+19	0.0
11	0.00E+00	1.00E+19	1.00E+19	0.0
26	0.00E+00	1.00E+19	1.00E+19	0.0
41	0.00E+00	1.00E+19	1.00E+19	0.0
56	0.00E+00	1.00E+19	1.00E+19	0.0
71	0.00E+00	1.00E+19	1.00E+19	0.0
86	0.00E+00	1.00E+19	1.00E+19	0.0
101	0.00E+00	1.00E+19	1.00E+19	0.0
116	0.00E+00	1.00E+19	1.00E+19	0.0
131	0.00E+00	1.00E+19	1.00E+19	0.0
146	0.00E+00	1.00E+19	1.00E+19	0.0
159	0.00E+00	1.00E+19	1.00E+19	0.0

Hip¢tesis de carga consideradas

Combinaci¢n: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85
87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102
104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119
121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153
155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170
172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187
189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204
206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221
223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255
257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272
274

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+193.316	+387.715	-0.007	+160.110	+273.606	+1094.420
C 1	-193.316	+387.715	-0.007	-160.110	+273.606	+1094.420
C 1	+193.316	+387.715	-0.007	+160.110	+273.606	+1094.420
C 1	+14.928	-81.505	+0.002	+14.928	-81.505	-326.019
C 1	+15.687	-80.047	+0.004	+146.437	+265.315	+1306.053
C 1	+193.316	+387.715	-0.007	+14.928	-81.505	-326.019
Barra 2						
C 1	+160.110	+273.604	+1094.423	+128.598	+177.227	+1417.816
C 1	-160.110	+273.604	+1094.423	-128.598	+177.227	+1417.816
C 1	+160.110	+273.604	+1094.423	+128.598	+177.227	+1417.816
C 1	+14.928	-81.502	-326.020	+14.928	-81.502	-652.031
C 1	+146.437	+265.315	+1306.052	+99.558	+142.915	+2122.505
C 1	+14.928	-81.502	-326.020	+14.928	-81.502	-652.031
Barra 3						
C 1	+128.598	+177.223	+1417.813	+99.126	+100.078	+1200.924
C 1	-128.598	+177.223	+1417.813	-99.126	+100.078	+1200.924
C 1	+128.598	+177.223	+1417.813	+99.126	+100.078	+1200.924
C 1	+14.928	-81.502	-652.035	+14.928	-81.502	-978.035
C 1	+99.558	+142.907	+2122.505	+52.678	+20.507	+2449.333
C 1	+14.928	-81.502	-652.035	+14.928	-81.502	-978.035
Barra 4						
C 1	+99.126	+100.075	+1200.927	+73.586	+39.606	+633.724
C 1	-99.126	+100.075	+1200.927	-73.586	+39.606	+633.724
C 1	+99.126	+100.075	+1200.927	+73.586	+39.606	+633.724
C 1	+14.928	-81.500	-978.047	+5.799	-101.895	+2286.567
C 1	+52.678	+20.505	+2449.333	+5.799	-101.895	+2286.567
C 1	+14.928	-81.500	-978.047	+14.928	-81.500	-1304.039

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 5						
C 1	+73.586	+39.607	+633.726	+53.698	-10.859	-217.213
C 1	-73.586	+39.607	+633.726	-53.698	-10.859	-217.213
C 1	+73.586	+39.607	+633.726	+0.848	+26.232	+524.668
C 1	+5.799	-101.894	+2286.559	-41.080	-224.294	+1634.200
C 1	+5.799	-101.894	+2286.559	-41.080	-224.294	+1634.200
C 1	+14.928	-81.504	-1304.031	+14.928	-81.504	-1630.055
Barra 6						
C 1	+53.698	-10.861	-217.214	+87.959	-346.690	+492.247
C 1	-53.698	-10.861	-217.214	-87.959	-346.690	+492.247
C 1	+0.848	+26.233	+524.670	+0.848	+26.233	+629.604
C 1	-41.080	-224.290	+1634.200	-87.959	-346.690	+492.247
C 1	-41.080	-224.290	+1634.200	+0.848	+26.233	+629.604
C 1	+14.928	-81.504	-1630.047	+14.928	-81.504	-1956.070
Barra 7						
C 1	+87.959	-346.687	+492.244	+121.166	-460.796	-1151.921
C 1	-87.959	-346.687	+492.244	-121.166	-460.796	-1151.921
C 1	+0.848	+26.235	+629.605	+0.848	+26.235	+734.545
C 1	-87.959	-346.687	+492.244	-121.166	-460.796	-1151.921
C 1	+0.848	+26.235	+629.605	+0.848	+26.235	+734.545
C 1	+14.928	-81.512	-1956.055	+14.928	-81.512	-2282.109
Barra 8						
C 1	+121.166	-460.795	-1151.916	+146.349	-540.649	-2845.156
C 1	-121.166	-460.795	-1151.916	-146.349	-540.649	-2845.156
C 1	+0.848	+26.236	+734.553	+0.848	+26.236	+825.322
C 1	-121.166	-460.795	-1151.916	-146.349	-540.649	-2845.156
C 1	+0.848	+26.236	+734.553	+0.848	+26.236	+825.322
C 1	+14.928	-81.504	-2282.117	-146.349	-540.649	-2845.156
Barra 9						
C 1	+146.349	-540.647	-2845.156	+169.492	-601.274	-4542.805
C 1	-146.349	-540.647	-2845.156	-169.492	-601.274	-4542.805
C 1	+0.848	+26.238	+825.318	+0.848	+26.238	+916.098
C 1	-146.349	-540.647	-2845.156	-169.492	-601.274	-4542.805
C 1	+0.848	+26.238	+825.318	+0.848	+26.238	+916.098
C 1	-146.349	-540.647	-2845.156	-164.397	-587.771	-4842.561
Barra 10						
C 1	+169.492	-601.271	-4542.804	+182.150	-634.319	-5210.026
C 1	-169.492	-601.271	-4542.804	-182.150	-634.319	-5210.026
C 1	+0.848	+26.242	+916.109	+0.848	+26.242	+944.430
C 1	-169.492	-601.271	-4542.804	-182.150	-634.319	-5210.026
C 1	+0.848	+26.242	+916.109	+0.848	+26.242	+944.430
C 1	-164.397	-587.778	-4842.558	-117.518	-465.378	-5407.533

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 11						
C 1	+238.007	+590.118	-2881.662	+226.490	+564.000	-2325.031
C 1	-238.007	+590.118	-2881.662	-226.490	+564.000	-2325.031
C 1	+212.406	+669.430	-5407.537	+199.749	+636.382	-4702.404
C 1	+12.872	-84.359	+944.430	+12.872	-84.359	+853.320
C 1	+12.872	-84.359	+944.430	+12.872	-84.359	+853.320
C 1	+212.406	+669.430	-5407.537	+199.749	+636.382	-4702.404
Barra 12						
C 1	+226.489	+563.985	-2325.004	+198.659	+461.641	-619.895
C 1	-226.489	+563.985	-2325.004	-198.659	+461.641	-619.895
C 1	+199.749	+636.362	-4702.406	+176.673	+566.409	-2920.726
C 1	+12.872	-84.350	+853.313	+12.872	-84.350	+561.459
C 1	+12.872	-84.350	+853.313	+12.872	-84.350	+561.459
C 1	+199.749	+636.362	-4702.406	+176.673	+566.409	-2920.726
Barra 13						
C 1	+198.659	+461.650	-619.873	+187.710	+439.625	-155.063
C 1	-198.659	+461.650	-619.873	-187.710	+439.625	-155.063
C 1	+176.673	+566.432	-2920.701	+159.562	+521.756	-2126.373
C 1	+12.872	-84.313	+561.438	+12.872	-84.313	+438.297
C 1	+12.872	-84.313	+561.438	+12.872	-84.313	+438.297
C 1	+176.673	+566.432	-2920.701	+159.562	+521.756	-2126.373
Barra 14						
C 1	+187.710	+439.663	-155.106	+172.609	+362.281	+559.563
C 1	-187.710	+439.663	-155.106	-172.609	+362.281	+559.563
C 1	+159.562	+521.741	-2126.372	+153.832	+488.309	-1261.959
C 1	+12.872	-84.359	+438.305	+12.872	-84.359	+269.586
C 1	+12.872	-84.359	+438.305	+143.162	+338.712	+861.269
C 1	+159.562	+521.741	-2126.372	+153.832	+488.309	-1261.959
Barra 15						
C 1	+172.610	+362.800	+559.325	+166.697	+351.000	+772.750
C 1	-172.610	+362.800	+559.325	-166.697	+351.000	+772.750
C 1	+153.832	+488.550	-1262.050	+142.112	+457.950	-788.800
C 1	+12.872	-84.625	+269.688	+12.872	-84.625	+185.125
C 1	+143.162	+339.300	+861.075	+132.529	+315.200	+1190.700
C 1	+153.832	+488.550	-1262.050	+142.112	+457.950	-788.800
Barra 16						
C 1	+166.697	+350.733	+772.745	+134.093	+243.457	+1451.465
C 1	-166.697	+350.733	+772.745	-134.093	+243.457	+1451.465
C 1	+142.112	+457.922	-788.813	+89.373	+320.222	+961.995
C 1	+12.872	-84.492	+185.152	+12.872	-84.492	-195.063
C 1	+132.529	+315.147	+1190.644	+80.930	+184.345	+2321.745
C 1	+142.112	+457.922	-788.813	+12.872	-84.492	-195.063

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 17						
C 1	+134.093	+243.459	+1451.456	+105.347	+130.453	+1354.340
C 1	-134.093	+243.459	+1451.456	-105.347	+130.453	+1354.340
C 1	+89.373	+320.221	+961.987	+66.032	+229.941	+2108.499
C 1	+12.872	-84.492	-195.063	+12.872	-84.492	-575.273
C 1	+80.930	+184.358	+2321.738	+47.073	+72.834	+2921.183
C 1	+12.872	-84.492	-195.063	+12.872	-84.492	-575.273
Barra 18						
C 1	+105.347	+130.450	+1354.339	+77.509	+63.400	+930.951
C 1	-105.347	+130.450	+1354.339	-77.509	+63.400	+930.951
C 1	+66.032	+229.936	+2108.519	+32.179	+103.418	+2569.363
C 1	+12.872	-84.490	-575.281	-26.775	-104.596	+2561.425
C 1	+47.073	+72.819	+2921.191	-5.666	-64.881	+2939.081
C 1	+12.872	-84.490	-575.281	+12.872	-84.490	-955.477
Barra 19						
C 1	+77.509	+63.396	+930.956	+93.774	-129.888	+1640.749
C 1	-77.509	+63.396	+930.956	-93.774	-129.888	+1640.749
C 1	+32.179	+103.416	+2569.351	+0.732	+27.197	+405.926
C 1	-26.775	-104.597	+2561.427	-66.505	-200.609	+2210.444
C 1	-5.667	-64.889	+2939.085	-29.192	-18.705	+2966.648
C 1	+12.872	-84.488	-955.469	+12.872	-84.488	-1261.750
Barra 20						
C 1	+93.774	-129.880	+1640.763	+118.783	-204.837	+1638.491
C 1	-93.774	-129.880	+1640.763	-118.783	-204.837	+1638.491
C 1	+0.732	+27.197	+405.930	+0.732	+27.197	+504.523
C 1	-66.506	-200.616	+2210.456	-94.336	-302.979	+1303.287
C 1	-29.192	-18.686	+2966.663	-71.676	-129.611	+2697.851
C 1	+12.872	-84.496	-1261.734	+12.872	-84.496	-1568.023
Barra 21						
C 1	+118.783	-204.845	+1638.493	+143.558	-287.962	+1282.507
C 1	-118.783	-204.845	+1638.493	-143.558	-287.962	+1282.507
C 1	+0.732	+27.199	+504.527	+0.732	+27.199	+603.121
C 1	-94.336	-302.977	+1303.292	-120.385	-402.373	-88.119
C 1	-71.676	-129.616	+2697.851	-114.160	-240.541	+2026.929
C 1	+12.872	-84.488	-1568.008	+12.872	-84.488	-1874.273
Barra 22						
C 1	+143.558	-287.957	+1282.492	+156.645	-351.462	+953.898
C 1	-143.558	-287.957	+1282.492	-156.645	-351.462	+953.898
C 1	+0.732	+27.197	+603.119	+0.732	+27.197	+701.717
C 1	-120.385	-402.373	-88.101	-141.322	-475.646	-1276.837
C 1	-114.160	-240.538	+2026.906	-156.645	-351.462	+953.898
C 1	+12.872	-84.492	-1874.266	+12.872	-84.492	-2180.555

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 23						
C 1	+156.645	-351.476	+953.910	+197.195	-457.352	-445.356
C 1	-156.645	-351.476	+953.910	-197.195	-457.352	-445.356
C 1	+0.732	+27.199	+701.721	+0.732	+27.199	+795.824
C 1	-141.322	-475.646	-1276.839	-157.880	-556.829	-3433.919
C 1	-156.645	-351.476	+953.910	+0.732	+27.199	+795.824
C 1	+12.872	-84.484	-2180.555	-157.880	-556.829	-3433.919
Barra 24						
C 1	+197.195	-457.339	-445.329	+231.417	-546.691	-2206.440
C 1	-197.195	-457.339	-445.329	-231.417	-546.691	-2206.440
C 1	+0.732	+27.200	+795.838	+0.732	+27.200	+889.938
C 1	-157.880	-556.828	-3433.918	-187.648	-634.552	-5530.759
C 1	+0.732	+27.200	+795.838	+0.732	+27.200	+889.938
C 1	-157.880	-556.828	-3433.918	-187.648	-634.552	-5530.759
Barra 25						
C 1	+231.417	-546.719	-2206.469	+231.517	-585.087	-2849.506
C 1	-231.417	-546.719	-2206.469	-231.517	-585.087	-2849.506
C 1	+0.732	+27.180	+889.938	+0.732	+27.180	+919.297
C 1	-187.648	-634.545	-5530.758	-186.187	-625.094	-5388.181
C 1	+0.732	+27.180	+889.938	+0.732	+27.180	+919.297
C 1	-187.648	-634.545	-5530.758	-129.049	-481.545	-6129.290
Barra 26						
C 1	+237.884	+588.274	-2805.256	+226.373	+562.063	-2249.375
C 1	-237.884	+588.274	-2805.256	-226.373	+562.063	-2249.375
C 1	+235.989	+731.712	-6129.302	+223.332	+698.663	-5356.888
C 1	+12.866	-83.734	+919.297	+12.866	-83.734	+828.859
C 1	+12.866	-83.734	+919.297	+12.866	-83.734	+828.859
C 1	+235.989	+731.712	-6129.302	+223.332	+698.663	-5356.888
Barra 27						
C 1	+226.373	+562.008	-2249.348	+198.556	+459.824	-556.219
C 1	-226.373	+562.008	-2249.348	-198.556	+459.824	-556.219
C 1	+223.332	+698.635	-5356.895	+182.782	+592.759	-3122.778
C 1	+12.866	-83.707	+828.867	+12.866	-83.707	+539.246
C 1	+12.866	-83.707	+828.867	+12.866	-83.707	+539.246
C 1	+223.332	+698.635	-5356.895	+138.282	+460.064	-3203.854
Barra 28						
C 1	+198.556	+459.900	-556.186	+187.613	+437.813	-92.250
C 1	-198.556	+459.900	-556.186	-187.613	+437.813	-92.250
C 1	+182.782	+592.807	-3122.748	+179.301	+567.171	-2446.125
C 1	+12.866	-83.719	+539.219	+12.866	-83.719	+417.000
C 1	+12.866	-83.719	+539.219	+12.866	-83.719	+417.000
C 1	+138.282	+460.071	-3203.865	+179.301	+567.171	-2446.125

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 29						
C 1	+187.613	+437.788	-92.262	+172.521	+360.750	+609.031
C 1	-187.613	+437.788	-92.262	-172.521	+360.750	+609.031
C 1	+179.301	+567.162	-2446.106	+155.861	+505.962	-1372.997
C 1	+12.866	-83.711	+416.992	+12.866	-83.711	+249.563
C 1	+12.866	-83.711	+416.992	+144.126	+343.400	+921.300
C 1	+179.301	+567.162	-2446.106	-13.106	+83.625	-2178.750
Barra 30						
C 1	+172.521	+360.800	+609.325	+166.611	+348.500	+821.375
C 1	-172.521	+360.800	+609.325	-166.611	+348.500	+821.375
C 1	+155.861	+505.800	-1373.050	+157.457	+488.256	-905.657
C 1	+12.866	-83.625	+249.500	+12.866	-83.625	+165.875
C 1	+144.126	+343.050	+921.575	+132.406	+312.450	+1249.450
C 1	-13.106	+83.250	-2178.625	-13.106	+83.250	-2095.125
Barra 31						
C 1	+166.611	+348.791	+821.308	+134.024	+241.965	+1482.121
C 1	-166.611	+348.791	+821.308	-134.024	+241.965	+1482.121
C 1	+157.457	+488.377	-905.692	+104.718	+350.677	+982.159
C 1	+12.866	-83.705	+165.848	+12.866	-83.705	-210.816
C 1	+132.406	+312.791	+1249.425	+80.813	+181.951	+2370.792
C 1	-13.106	+83.658	-2095.047	-13.106	+83.658	-1718.586
Barra 32						
C 1	+134.024	+241.959	+1482.136	+105.292	+129.650	+1367.359
C 1	-134.024	+241.959	+1482.136	-105.292	+129.650	+1367.359
C 1	+104.718	+350.674	+982.159	+66.658	+229.889	+2083.908
C 1	+12.866	-83.703	-210.816	+12.866	-83.703	-587.488
C 1	+80.813	+181.948	+2370.800	+46.976	+70.552	+2957.605
C 1	-13.106	+83.656	-1718.578	-13.106	+83.656	-1342.109
Barra 33						
C 1	+105.292	+129.651	+1367.370	+77.469	+63.008	+935.715
C 1	-105.292	+129.651	+1367.370	-77.469	+63.008	+935.715
C 1	+66.658	+229.893	+2083.917	+31.976	+101.508	+2591.206
C 1	+12.866	-83.703	-587.500	-26.904	-106.881	+2587.769
C 1	+46.976	+70.549	+2957.628	-5.763	-67.151	+2965.269
C 1	-13.106	+83.662	-1342.109	-13.106	+83.662	-965.656
Barra 34						
C 1	+77.469	+63.005	+935.714	+80.109	-79.314	+858.503
C 1	-77.469	+63.005	+935.714	-80.109	-79.314	+858.503
C 1	+31.976	+101.494	+2591.226	-13.106	+83.664	-662.367
C 1	-26.904	-106.894	+2587.755	-66.622	-203.008	+2229.225
C 1	-5.763	-67.162	+2965.241	-43.245	-35.658	+2970.726
C 1	-13.106	+83.664	-965.641	+12.866	-83.699	-1267.578

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 35						
C 1	+80.109	-79.316	+858.504	+112.675	-178.673	+2096.741
C 1	-80.109	-79.316	+858.504	-112.675	-178.673	+2096.741
C 1	-13.106	+83.664	-662.359	-13.106	+83.664	-359.078
C 1	-66.622	-203.007	+2229.253	-94.439	-305.198	+1312.678
C 1	-43.245	-35.670	+2970.757	-63.192	-131.423	+2679.148
C 1	+12.866	-83.691	-1267.586	+12.866	-83.691	-1570.977
Barra 36						
C 1	+112.675	-178.690	+2096.744	+152.229	-281.965	+1248.909
C 1	-112.675	-178.690	+2096.744	-152.229	-281.965	+1248.909
C 1	-13.106	+83.664	-359.074	-13.106	+83.664	-55.797
C 1	-94.439	-305.203	+1312.698	-120.474	-404.284	-86.869
C 1	-63.192	-131.428	+2679.148	-105.676	-242.353	+2001.695
C 1	+12.866	-83.695	-1571.000	+12.866	-83.695	-1874.375
Barra 37						
C 1	+152.229	-281.961	+1248.906	+170.828	-347.034	+451.510
C 1	-152.229	-281.961	+1248.906	-170.828	-347.034	+451.510
C 1	-13.106	+83.670	-55.793	-13.106	+83.670	+247.516
C 1	-120.475	-404.283	-86.855	-141.392	-477.146	-1281.235
C 1	-105.676	-242.334	+2001.710	-156.018	-351.533	+928.335
C 1	+12.866	-83.699	-1874.383	+12.866	-83.699	-2177.781
Barra 38						
C 1	+170.828	-347.023	+451.492	+198.063	-439.885	-665.183
C 1	-170.828	-347.023	+451.492	-198.063	-439.885	-665.183
C 1	-13.106	+83.664	+247.520	-13.106	+83.664	+536.984
C 1	-141.392	-477.142	-1281.242	-157.934	-557.629	-3438.872
C 1	-156.018	-351.519	+928.340	+0.731	+26.947	+794.123
C 1	+12.866	-83.699	-2177.781	-157.934	-557.629	-3438.872
Barra 39						
C 1	+198.063	-439.891	-665.156	+229.262	-565.012	-2255.067
C 1	-198.063	-439.891	-665.156	-229.262	-565.012	-2255.067
C 1	-13.106	+83.666	+536.984	-13.106	+83.666	+826.473
C 1	-157.934	-557.630	-3438.872	-187.703	-635.354	-5538.486
C 1	+0.731	+26.947	+794.127	+0.731	+26.947	+887.357
C 1	-157.934	-557.630	-3438.872	-187.703	-635.354	-5538.486
Barra 40						
C 1	+229.262	-565.007	-2255.099	+241.919	-598.055	-2883.162
C 1	-229.262	-565.007	-2255.099	-241.919	-598.055	-2883.162
C 1	-13.106	+83.656	+826.480	-13.106	+83.656	+916.852
C 1	-187.702	-635.361	-5538.483	-186.227	-625.501	-5392.298
C 1	+0.731	+26.930	+887.344	-13.106	+83.656	+916.852
C 1	-187.702	-635.361	-5538.483	-129.103	-482.361	-6137.893

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 41						
C 1	+237.884	+587.774	-2796.381	+226.373	+561.625	-2240.844
C 1	-237.884	+587.774	-2796.381	-226.373	+561.625	-2240.844
C 1	+235.987	+731.883	-6137.880	+223.329	+698.835	-5365.318
C 1	+12.866	-83.578	+916.453	+12.866	-83.578	+826.172
C 1	-0.745	-26.984	+916.836	-0.745	-26.984	+887.723
C 1	+235.987	+731.883	-6137.880	+223.329	+698.835	-5365.318
Barra 42						
C 1	+226.373	+561.641	-2240.848	+198.556	+459.480	-549.516
C 1	-226.373	+561.641	-2240.848	-198.556	+459.480	-549.516
C 1	+223.329	+698.839	-5365.325	+182.779	+592.962	-3130.510
C 1	+12.866	-83.592	+826.195	+12.866	-83.592	+536.955
C 1	-0.745	-26.963	+887.701	-0.745	-26.963	+794.406
C 1	+223.329	+698.839	-5365.325	+138.280	+460.123	-3207.741
Barra 43						
C 1	+198.556	+459.526	-549.498	+187.613	+437.375	-86.000
C 1	-198.556	+459.526	-549.498	-187.613	+437.375	-86.000
C 1	+182.779	+592.963	-3130.498	+179.299	+567.202	-2449.953
C 1	+12.866	-83.594	+536.953	+12.866	-83.594	+414.891
C 1	-0.745	-26.953	+794.406	-0.745	-26.953	+755.063
C 1	+138.280	+460.102	-3207.740	+179.299	+567.202	-2449.953
Barra 44						
C 1	+187.613	+437.413	-85.919	+172.520	+360.500	+613.813
C 1	-187.613	+437.413	-85.919	-172.520	+360.500	+613.813
C 1	+179.299	+567.256	-2449.966	+155.859	+506.056	-1376.637
C 1	+12.866	-83.617	+414.891	+12.866	-83.617	+247.672
C 1	-0.745	-26.945	+755.047	+144.125	+343.087	+927.175
C 1	+179.299	+567.256	-2449.966	-14.247	+84.469	-2199.281
Barra 45						
C 1	+172.520	+360.800	+613.700	+166.611	+348.500	+825.750
C 1	-172.520	+360.800	+613.700	-166.611	+348.500	+825.750
C 1	+155.859	+506.050	-1376.800	+157.455	+488.506	-906.407
C 1	+12.866	-83.875	+247.750	+12.866	-83.875	+163.938
C 1	+144.125	+343.050	+927.075	+132.405	+312.450	+1255.075
C 1	-14.247	+84.500	-2199.375	-14.247	+84.500	-2114.750
Barra 46						
C 1	+166.611	+348.608	+825.831	+134.024	+241.816	+1484.961
C 1	-166.611	+348.608	+825.831	-134.024	+241.816	+1484.961
C 1	+157.455	+488.407	-906.614	+104.716	+350.707	+981.386
C 1	+12.866	-83.639	+164.078	+12.866	-83.639	-212.293
C 1	+132.406	+312.565	+1254.925	+80.812	+181.720	+2375.363
C 1	-14.247	+84.443	-2114.758	-14.247	+84.443	-1734.762

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 47						
C 1	+134.024	+241.815	+1484.972	+105.292	+129.564	+1368.492
C 1	-134.024	+241.815	+1484.972	-105.292	+129.564	+1368.492
C 1	+104.716	+350.709	+981.394	+66.657	+229.834	+2084.666
C 1	+12.866	-83.641	-212.305	+12.866	-83.641	-588.668
C 1	+80.812	+181.721	+2375.363	+46.975	+70.330	+2960.964
C 1	-14.247	+84.441	-1734.766	-14.247	+84.441	-1354.758
Barra 48						
C 1	+105.292	+129.567	+1368.499	+77.469	+62.959	+936.029
C 1	-105.292	+129.567	+1368.499	-77.469	+62.959	+936.029
C 1	+66.657	+229.838	+2084.683	+31.975	+101.324	+2593.175
C 1	+12.866	-83.639	-588.664	-26.905	-107.104	+2590.159
C 1	+46.975	+70.334	+2960.972	-5.764	-67.366	+2967.628
C 1	-14.247	+84.445	-1354.766	-14.247	+84.445	-974.781
Barra 49						
C 1	+77.469	+62.955	+936.034	+80.113	-78.836	+854.660
C 1	-77.469	+62.955	+936.034	-80.113	-78.836	+854.660
C 1	+31.976	+101.314	+2593.210	-14.247	+84.453	-668.648
C 1	-26.905	-107.121	+2590.177	-66.623	-203.249	+2230.913
C 1	-5.764	-67.381	+2967.679	-43.246	-35.634	+2970.351
C 1	-14.247	+84.453	-974.789	+12.866	-83.633	-1268.211
Barra 50						
C 1	+80.113	-78.830	+854.660	+112.678	-178.400	+2095.554
C 1	-80.113	-78.830	+854.660	-112.678	-178.400	+2095.554
C 1	-14.247	+84.445	-668.648	-14.247	+84.445	-362.539
C 1	-66.623	-203.225	+2230.894	-94.439	-305.393	+1313.475
C 1	-43.247	-35.608	+2970.335	-63.193	-131.517	+2679.632
C 1	+12.866	-83.641	-1268.211	+12.866	-83.641	-1571.414
Barra 51						
C 1	+112.678	-178.401	+2095.541	+152.232	-281.676	+1248.737
C 1	-112.678	-178.401	+2095.541	-152.232	-281.676	+1248.737
C 1	-14.247	+84.438	-362.539	-14.247	+84.438	-56.438
C 1	-94.439	-305.399	+1313.487	-120.475	-404.448	-86.845
C 1	-63.193	-131.530	+2679.632	-105.677	-242.455	+2001.788
C 1	+12.866	-83.641	-1571.406	+12.866	-83.641	-1874.625
Barra 52						
C 1	+152.232	-281.668	+1248.750	+170.831	-346.882	+452.033
C 1	-152.232	-281.668	+1248.750	-170.831	-346.882	+452.033
C 1	-14.247	+84.441	-56.449	-14.247	+84.441	+249.656
C 1	-120.475	-404.443	-86.843	-141.392	-477.279	-1281.735
C 1	-105.677	-242.444	+2001.820	-156.019	-351.548	+928.320
C 1	+12.866	-83.645	-1874.617	+12.866	-83.645	-2177.836

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 53						
C 1	+170.831	-346.863	+452.023	+198.065	-439.831	-664.785
C 1	-170.831	-346.863	+452.023	-198.065	-439.831	-664.785
C 1	-14.247	+84.439	+249.648	-14.247	+84.439	+541.809
C 1	-141.392	-477.277	-1281.730	-157.935	-557.708	-3439.591
C 1	-156.019	-351.554	+928.300	+0.731	+26.934	+794.207
C 1	+12.866	-83.645	-2177.836	-157.935	-557.708	-3439.591
Barra 54						
C 1	+198.065	-439.836	-664.758	+229.263	-565.118	-2256.028
C 1	-198.065	-439.836	-664.758	-229.263	-565.118	-2256.028
C 1	-14.247	+84.439	+541.805	-14.247	+84.439	+833.969
C 1	-157.935	-557.709	-3439.592	-187.703	-635.432	-5539.483
C 1	+0.731	+26.933	+794.209	+0.731	+26.933	+887.398
C 1	-157.935	-557.709	-3439.592	-187.703	-635.432	-5539.483
Barra 55						
C 1	+229.263	-565.101	-2256.021	+241.920	-598.149	-2884.162
C 1	-229.263	-565.101	-2256.021	-241.920	-598.149	-2884.162
C 1	-14.247	+84.438	+833.973	-14.247	+84.438	+925.148
C 1	-187.703	-635.443	-5539.481	-186.227	-625.555	-5393.025
C 1	+0.731	+26.953	+887.391	-14.247	+84.438	+925.148
C 1	-187.703	-635.443	-5539.481	-129.104	-482.444	-6138.979
Barra 56						
C 1	+237.884	+587.930	-2796.131	+226.373	+561.719	-2240.422
C 1	-237.884	+587.930	-2796.131	-226.373	+561.719	-2240.422
C 1	+235.987	+731.946	-6138.990	+223.329	+698.898	-5366.318
C 1	+12.866	-83.625	+916.516	+12.866	-83.625	+826.203
C 1	-0.810	-27.195	+925.133	-0.810	-27.195	+895.770
C 1	+235.987	+731.946	-6138.990	+223.329	+698.898	-5366.318
Barra 57						
C 1	+226.373	+561.672	-2240.449	+198.556	+459.500	-549.047
C 1	-226.373	+561.672	-2240.449	-198.556	+459.500	-549.047
C 1	+223.329	+698.893	-5366.321	+182.779	+593.017	-3131.299
C 1	+12.866	-83.619	+826.203	+12.866	-83.619	+536.879
C 1	-0.810	-27.201	+895.766	-0.810	-27.201	+801.654
C 1	+223.329	+698.893	-5366.321	+138.280	+460.177	-3208.190
Barra 58						
C 1	+198.556	+459.526	-549.061	+187.613	+437.375	-85.438
C 1	-198.556	+459.526	-549.061	-187.613	+437.375	-85.438
C 1	+182.779	+593.057	-3131.279	+179.299	+567.264	-2450.328
C 1	+12.866	-83.594	+536.875	+12.866	-83.594	+414.766
C 1	-0.810	-27.203	+801.672	-0.810	-27.203	+761.953
C 1	+138.280	+460.165	-3208.208	+179.299	+567.264	-2450.328

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 59						
C 1	+187.613	+437.413	-85.387	+172.520	+360.438	+614.219
C 1	-187.613	+437.413	-85.387	-172.520	+360.438	+614.219
C 1	+179.299	+567.272	-2450.325	+155.859	+506.072	-1376.981
C 1	+12.866	-83.609	+414.773	+12.866	-83.609	+247.563
C 1	-0.810	-27.195	+761.961	+144.125	+343.056	+927.675
C 1	+179.299	+567.272	-2450.325	-14.247	+84.531	-2200.219
Barra 60						
C 1	+172.520	+360.800	+614.075	+166.611	+348.500	+826.500
C 1	-172.520	+360.800	+614.075	-166.611	+348.500	+826.500
C 1	+155.859	+506.300	-1377.050	+157.455	+488.756	-906.407
C 1	+12.866	-83.750	+247.563	+12.866	-83.750	+163.813
C 1	+144.125	+343.550	+927.700	+132.405	+312.950	+1255.700
C 1	-14.247	+84.500	-2200.375	-14.247	+84.500	-2115.875
Barra 61						
C 1	+166.611	+348.592	+826.448	+134.024	+241.811	+1485.391
C 1	-166.611	+348.592	+826.448	-134.024	+241.811	+1485.391
C 1	+157.455	+488.426	-906.544	+104.716	+350.726	+981.550
C 1	+12.866	-83.650	+163.859	+12.866	-83.650	-212.566
C 1	+132.406	+312.561	+1255.644	+80.812	+181.716	+2376.058
C 1	-14.247	+84.475	-2115.797	-14.247	+84.475	-1735.668
Barra 62						
C 1	+134.024	+241.803	+1485.394	+105.292	+129.557	+1368.672
C 1	-134.024	+241.803	+1485.394	-105.292	+129.557	+1368.672
C 1	+104.716	+350.725	+981.550	+66.657	+229.849	+2085.056
C 1	+12.866	-83.646	-212.559	+12.866	-83.646	-588.984
C 1	+80.812	+181.709	+2376.050	+46.975	+70.314	+2961.558
C 1	-14.247	+84.477	-1735.664	-14.247	+84.477	-1355.516
Barra 63						
C 1	+105.292	+129.553	+1368.675	+77.469	+62.953	+936.084
C 1	-105.292	+129.553	+1368.675	-77.469	+62.953	+936.084
C 1	+66.657	+229.838	+2085.058	+31.976	+101.316	+2593.753
C 1	+12.866	-83.648	-588.977	-26.905	-107.116	+2590.691
C 1	+46.975	+70.315	+2961.566	-5.764	-67.385	+2968.159
C 1	-14.247	+84.477	-1355.508	-14.247	+84.477	-975.367
Barra 64						
C 1	+77.469	+62.951	+936.081	+80.113	-78.785	+854.425
C 1	-77.469	+62.951	+936.081	-80.113	-78.785	+854.425
C 1	+31.975	+101.322	+2593.741	-14.247	+84.480	-669.117
C 1	-26.905	-107.121	+2590.693	-66.623	-203.249	+2231.459
C 1	-5.764	-67.389	+2968.148	-43.246	-35.611	+2970.726
C 1	-14.247	+84.480	-975.359	+12.866	-83.645	-1268.602

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 65						
C 1	+80.113	-78.789	+854.430	+112.678	-178.361	+2095.757
C 1	-80.113	-78.789	+854.430	-112.678	-178.361	+2095.757
C 1	-14.247	+84.480	-669.117	-14.247	+84.480	-362.875
C 1	-66.623	-203.249	+2231.456	-94.439	-305.417	+1313.850
C 1	-43.247	-35.608	+2970.726	-63.193	-131.525	+2680.132
C 1	+12.866	-83.645	-1268.609	+12.866	-83.645	-1571.813
Barra 66						
C 1	+112.678	-178.385	+2095.783	+152.233	-281.661	+1249.034
C 1	-112.678	-178.385	+2095.783	-152.233	-281.661	+1249.034
C 1	-14.247	+84.484	-362.867	-14.247	+84.484	-56.609
C 1	-94.439	-305.430	+1313.862	-120.475	-404.487	-86.697
C 1	-63.193	-131.553	+2680.132	-105.677	-242.478	+2002.210
C 1	+12.866	-83.637	-1571.797	+12.866	-83.637	-1875.000
Barra 67						
C 1	+152.233	-281.656	+1249.031	+170.831	-346.871	+452.376
C 1	-152.233	-281.656	+1249.031	-170.831	-346.871	+452.376
C 1	-14.247	+84.484	-56.613	-14.247	+84.484	+249.645
C 1	-120.475	-404.482	-86.695	-141.392	-477.302	-1281.719
C 1	-105.677	-242.467	+2002.241	-156.019	-351.572	+928.663
C 1	+12.866	-83.645	-1874.992	+12.866	-83.645	-2178.195
Barra 68						
C 1	+170.831	-346.875	+452.375	+198.066	-439.847	-664.481
C 1	-170.831	-346.875	+452.375	-198.066	-439.847	-664.481
C 1	-14.247	+84.486	+249.648	-14.247	+84.486	+541.969
C 1	-141.392	-477.310	-1281.718	-157.935	-557.727	-3439.723
C 1	-156.019	-351.578	+928.652	+0.731	+26.918	+794.002
C 1	+12.866	-83.633	-2178.195	-157.935	-557.727	-3439.723
Barra 69						
C 1	+198.065	-439.848	-664.484	+229.263	-565.153	-2255.918
C 1	-198.065	-439.848	-664.484	-229.263	-565.153	-2255.918
C 1	-14.247	+84.486	+541.971	-14.247	+84.486	+834.293
C 1	-157.935	-557.727	-3439.723	-187.703	-635.451	-5539.679
C 1	+0.731	+26.920	+793.998	+0.731	+26.920	+887.148
C 1	-157.935	-557.727	-3439.723	-187.703	-635.451	-5539.679
Barra 70						
C 1	+229.263	-565.257	-2255.881	+241.920	-598.305	-2884.193
C 1	-229.263	-565.257	-2255.881	-241.920	-598.305	-2884.193
C 1	-14.247	+84.484	+834.293	-14.247	+84.484	+925.555
C 1	-187.703	-635.451	-5539.678	-186.227	-625.547	-5393.150
C 1	+0.731	+26.930	+887.137	-14.247	+84.484	+925.555
C 1	-187.703	-635.451	-5539.678	-129.104	-482.452	-6139.186

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 71						
C 1	+237.884	+588.087	-2796.287	+226.373	+561.813	-2240.438
C 1	-237.884	+588.087	-2796.287	-226.373	+561.813	-2240.438
C 1	+235.987	+732.024	-6139.193	+223.329	+698.976	-5366.443
C 1	+12.866	-83.625	+916.203	+12.866	-83.625	+825.879
C 1	-0.810	-27.172	+925.555	-0.810	-27.172	+896.207
C 1	+235.987	+732.024	-6139.193	+223.329	+698.976	-5366.443
Barra 72						
C 1	+226.373	+561.833	-2240.434	+198.556	+459.656	-548.563
C 1	-226.373	+561.833	-2240.434	-198.556	+459.656	-548.563
C 1	+223.329	+698.964	-5366.450	+182.779	+593.087	-3131.199
C 1	+12.866	-83.641	+825.871	+12.866	-83.641	+536.480
C 1	-0.810	-27.174	+896.211	-0.810	-27.174	+802.195
C 1	+223.329	+698.964	-5366.450	+138.280	+460.242	-3208.005
Barra 73						
C 1	+198.556	+459.651	-548.498	+191.223	+402.125	+91.406
C 1	-198.556	+459.651	-548.498	-191.223	+402.125	+91.406
C 1	+182.779	+593.088	-3131.139	+179.299	+567.327	-2450.047
C 1	+12.866	-83.656	+536.469	+12.866	-83.656	+414.344
C 1	-0.810	-27.172	+802.219	-0.810	-27.172	+762.516
C 1	+138.280	+460.227	-3207.958	+179.299	+567.327	-2450.047
Barra 74						
C 1	+191.223	+402.038	+91.425	+172.520	+360.563	+615.000
C 1	-191.223	+402.038	+91.425	-172.520	+360.563	+615.000
C 1	+179.299	+567.319	-2450.012	+155.859	+506.119	-1376.575
C 1	+12.866	-83.602	+414.336	+12.866	-83.602	+247.125
C 1	-0.810	-27.188	+762.539	+144.125	+343.181	+928.737
C 1	+179.299	+567.319	-2450.012	-14.247	+84.438	-2201.156
Barra 75						
C 1	+172.520	+360.300	+615.075	+166.611	+348.250	+827.125
C 1	-172.520	+360.300	+615.075	-166.611	+348.250	+827.125
C 1	+155.859	+506.050	-1376.550	+157.455	+488.256	-906.157
C 1	+12.866	-83.625	+247.063	+12.866	-83.625	+163.500
C 1	+144.125	+343.300	+928.700	+132.405	+312.700	+1256.575
C 1	-14.247	+85.000	-2201.375	-14.247	+85.000	-2116.375
Barra 76						
C 1	+166.611	+348.561	+827.128	+134.024	+241.787	+1485.809
C 1	-166.611	+348.561	+827.128	-134.024	+241.787	+1485.809
C 1	+157.455	+488.383	-906.122	+104.716	+350.683	+981.773
C 1	+12.866	-83.600	+163.516	+12.866	-83.600	-212.676
C 1	+132.405	+312.498	+1256.488	+80.812	+181.654	+2376.659
C 1	-14.247	+84.518	-2116.617	-14.247	+84.518	-1736.281

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 77						
C 1	+134.024	+241.788	+1485.816	+105.292	+129.564	+1368.996
C 1	-134.024	+241.788	+1485.816	-105.292	+129.564	+1368.996
C 1	+104.716	+350.686	+981.769	+66.657	+229.791	+2085.134
C 1	+12.866	-83.598	-212.672	+12.866	-83.598	-588.863
C 1	+80.812	+181.651	+2376.659	+28.073	+43.951	+2884.261
C 1	-14.247	+84.520	-1736.281	-14.247	+84.520	-1355.938
Barra 78						
C 1	+105.292	+129.565	+1368.995	+77.469	+62.972	+936.434
C 1	-105.292	+129.565	+1368.995	-77.469	+62.972	+936.434
C 1	+66.657	+229.803	+2085.128	+31.975	+101.269	+2593.737
C 1	+12.866	-83.600	-588.867	-26.905	-107.162	+2590.831
C 1	+28.073	+43.959	+2884.269	-0.762	+75.283	+2898.620
C 1	-14.247	+84.516	-1355.938	-14.247	+84.516	-975.602
Barra 79						
C 1	+77.469	+62.970	+936.437	+80.113	-78.783	+854.265
C 1	-77.469	+62.970	+936.437	-80.113	-78.783	+854.265
C 1	+31.975	+101.267	+2593.726	-14.247	+84.523	-669.219
C 1	-26.905	-107.160	+2590.833	-44.638	-213.837	+1984.757
C 1	-0.762	+75.283	+2898.632	-43.246	-35.642	+2970.445
C 1	-14.247	+84.523	-975.594	+12.866	-83.598	-1268.086
Barra 80						
C 1	+80.113	-78.781	+854.266	+112.678	-178.392	+2095.460
C 1	-80.113	-78.781	+854.266	-112.678	-178.392	+2095.460
C 1	-14.247	+84.520	-669.234	-14.247	+84.520	-362.852
C 1	-44.638	-213.842	+1984.765	-87.123	-324.767	+1008.538
C 1	-43.247	-35.647	+2970.460	-63.193	-131.580	+2679.773
C 1	+12.866	-83.590	-1268.109	+12.866	-83.590	-1571.133
Barra 81						
C 1	+112.678	-178.393	+2095.455	+152.233	-281.669	+1248.659
C 1	-112.678	-178.393	+2095.455	-152.233	-281.669	+1248.659
C 1	-14.247	+84.523	-362.848	-14.247	+84.523	-56.461
C 1	-87.123	-324.764	+1008.547	-120.475	-404.502	-86.634
C 1	-63.193	-131.592	+2679.757	-105.678	-242.517	+2001.710
C 1	+12.866	-83.598	-1571.148	+12.866	-83.598	-1874.172
Barra 82						
C 1	+152.233	-281.684	+1248.656	+170.831	-346.906	+451.829
C 1	-152.233	-281.684	+1248.656	-170.831	-346.906	+451.829
C 1	-14.247	+84.523	-56.457	-14.247	+84.523	+249.941
C 1	-120.475	-404.505	-86.636	-141.392	-477.314	-1281.634
C 1	-105.678	-242.506	+2001.702	-156.019	-351.611	+927.976
C 1	+12.866	-83.590	-1874.164	+12.866	-83.590	-2177.180

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 83						
C 1	+170.831	-346.906	+451.828	+198.066	-439.882	-665.231
C 1	-170.831	-346.906	+451.828	-198.066	-439.882	-665.231
C 1	-14.247	+84.527	+249.938	-14.247	+84.527	+542.398
C 1	-141.392	-477.318	-1281.632	-157.935	-557.714	-3439.102
C 1	-156.020	-351.617	+927.988	+0.731	+26.889	+793.107
C 1	+12.866	-83.586	-2177.188	-157.935	-557.714	-3439.102
Barra 84						
C 1	+198.066	-439.883	-665.242	+229.263	-565.192	-2256.926
C 1	-198.066	-439.883	-665.242	-229.263	-565.192	-2256.926
C 1	-14.247	+84.523	+542.402	-14.247	+84.523	+834.848
C 1	-157.935	-557.714	-3439.103	-187.703	-635.437	-5539.002
C 1	+0.731	+26.889	+793.102	+0.731	+26.889	+886.141
C 1	-157.935	-557.714	-3439.103	-187.703	-635.437	-5539.002
Barra 85						
C 1	+229.263	-565.195	-2256.974	+241.920	-598.243	-2885.256
C 1	-229.263	-565.195	-2256.974	-241.920	-598.243	-2885.256
C 1	-14.247	+84.516	+834.879	-14.247	+84.516	+926.156
C 1	-187.703	-635.431	-5538.997	-186.227	-625.516	-5392.291
C 1	+0.731	+26.875	+886.117	-14.247	+84.516	+926.156
C 1	-187.703	-635.431	-5538.997	-129.104	-482.431	-6138.471
Barra 86						
C 1	+237.884	+587.680	-2794.849	+226.372	+561.531	-2239.313
C 1	-237.884	+587.680	-2794.849	-226.372	+561.531	-2239.313
C 1	+235.986	+731.836	-6138.458	+223.328	+698.789	-5365.919
C 1	+12.866	-83.500	+915.141	+12.866	-83.500	+824.969
C 1	-0.810	-27.258	+926.172	-0.810	-27.258	+896.746
C 1	+235.986	+731.836	-6138.458	+223.328	+698.789	-5365.919
Barra 87						
C 1	+226.372	+561.500	-2239.309	+198.556	+459.363	-548.656
C 1	-226.372	+561.500	-2239.309	-198.556	+459.363	-548.656
C 1	+223.329	+698.807	-5365.914	+182.778	+592.931	-3131.211
C 1	+12.866	-83.479	+824.977	+12.866	-83.479	+536.135
C 1	-0.810	-27.260	+896.750	-0.810	-27.260	+802.434
C 1	+223.329	+698.807	-5365.914	+138.279	+460.069	-3207.943
Barra 88						
C 1	+198.556	+459.338	-548.560	+191.223	+401.938	+90.906
C 1	-198.556	+459.338	-548.560	-191.223	+401.938	+90.906
C 1	+182.778	+592.963	-3131.217	+179.299	+567.171	-2450.265
C 1	+12.866	-83.500	+536.141	+12.866	-83.500	+414.234
C 1	-0.810	-27.234	+802.438	-0.810	-27.234	+762.641
C 1	+138.279	+460.070	-3207.927	+179.299	+567.171	-2450.265

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 89						
C 1	+191.223	+401.944	+90.863	+172.520	+360.438	+614.219
C 1	-191.223	+401.944	+90.863	-172.520	+360.438	+614.219
C 1	+179.299	+567.225	-2450.262	+155.859	+506.025	-1377.012
C 1	+12.866	-83.516	+414.250	+12.866	-83.516	+247.227
C 1	-0.810	-27.242	+762.648	+144.125	+342.994	+927.831
C 1	+179.299	+567.225	-2450.262	-14.247	+84.563	-2200.594
Barra 90						
C 1	+172.521	+360.550	+614.200	+166.611	+348.750	+826.500
C 1	-172.521	+360.550	+614.200	-166.611	+348.750	+826.500
C 1	+155.859	+506.300	-1377.050	+157.455	+488.506	-906.532
C 1	+12.866	-83.625	+247.250	+12.866	-83.625	+163.625
C 1	+144.126	+343.300	+927.950	+132.406	+312.700	+1255.700
C 1	-14.247	+84.000	-2200.500	-14.247	+84.000	-2116.250
Barra 91						
C 1	+166.611	+348.577	+826.480	+134.024	+241.813	+1485.406
C 1	-166.611	+348.577	+826.480	-134.024	+241.813	+1485.406
C 1	+157.455	+488.360	-906.552	+104.716	+350.660	+981.237
C 1	+12.866	-83.543	+163.652	+12.866	-83.543	-212.293
C 1	+132.406	+312.502	+1255.753	+80.812	+181.650	+2375.902
C 1	-14.247	+84.512	-2116.148	-14.247	+84.512	-1735.836
Barra 92						
C 1	+134.024	+241.811	+1485.417	+105.292	+129.604	+1369.020
C 1	-134.024	+241.811	+1485.417	-105.292	+129.604	+1369.020
C 1	+104.716	+350.655	+981.237	+66.657	+229.769	+2084.433
C 1	+12.866	-83.543	-212.297	+12.866	-83.543	-588.227
C 1	+80.812	+181.655	+2375.894	+28.073	+43.955	+2883.519
C 1	-14.247	+84.512	-1735.836	-14.247	+84.512	-1355.516
Barra 93						
C 1	+105.292	+129.604	+1369.015	+78.138	-70.469	+1017.618
C 1	-105.292	+129.604	+1369.015	-78.138	-70.469	+1017.618
C 1	+66.657	+229.772	+2084.425	+31.976	+101.239	+2592.801
C 1	+12.866	-83.541	-588.219	-26.905	-107.174	+2590.113
C 1	+28.073	+43.944	+2883.503	-0.762	+75.252	+2897.808
C 1	-14.247	+84.516	-1355.523	-14.247	+84.516	-975.180
Barra 94						
C 1	+78.138	-70.473	+1017.621	+80.112	-78.791	+854.000
C 1	-78.138	-70.473	+1017.621	-80.112	-78.791	+854.000
C 1	+31.975	+101.236	+2592.820	-14.247	+84.527	-668.789
C 1	-26.905	-107.182	+2590.114	-44.638	-213.814	+1984.538
C 1	-0.762	+75.236	+2897.835	-43.246	-35.689	+2969.523
C 1	-14.247	+84.527	-975.195	+12.866	-83.535	-1266.977

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 95						
C 1	+80.112	-78.785	+854.004	+112.678	-178.416	+2094.616
C 1	-80.112	-78.785	+854.004	-112.678	-178.416	+2094.616
C 1	-14.247	+84.512	-668.789	-14.247	+84.512	-362.422
C 1	-44.638	-213.819	+1984.546	-87.122	-324.744	+1008.413
C 1	-43.247	-35.662	+2969.523	-63.193	-131.595	+2678.616
C 1	+12.866	-83.551	-1266.969	+12.866	-83.551	-1569.828
Barra 96						
C 1	+112.678	-178.409	+2094.619	+152.232	-281.682	+1247.815
C 1	-112.678	-178.409	+2094.619	-152.232	-281.682	+1247.815
C 1	-14.247	+84.512	-362.414	-14.247	+84.512	-56.063
C 1	-87.122	-324.733	+1008.429	-120.475	-404.471	-86.767
C 1	-63.193	-131.600	+2678.616	-105.677	-242.525	+2000.507
C 1	+12.866	-83.551	-1569.805	+12.866	-83.551	-1872.680
Barra 97						
C 1	+152.232	-281.680	+1247.805	+170.830	-346.904	+450.839
C 1	-152.232	-281.680	+1247.805	-170.830	-346.904	+450.839
C 1	-14.247	+84.512	-56.051	-14.247	+84.512	+250.301
C 1	-120.475	-404.470	-86.769	-141.392	-477.287	-1281.493
C 1	-105.677	-242.522	+2000.523	-156.019	-351.619	+926.788
C 1	+12.866	-83.547	-1872.656	+12.866	-83.547	-2175.539
Barra 98						
C 1	+170.830	-346.902	+450.844	+198.064	-439.888	-666.362
C 1	-170.830	-346.902	+450.844	-198.064	-439.888	-666.362
C 1	-14.247	+84.512	+250.309	-14.247	+84.512	+542.711
C 1	-141.392	-477.283	-1281.484	-157.935	-557.670	-3438.186
C 1	-156.019	-351.617	+926.793	+0.731	+26.877	+792.553
C 1	+12.866	-83.551	-2175.539	-157.935	-557.670	-3438.186
Barra 99						
C 1	+198.065	-439.891	-666.367	+229.263	-565.196	-2258.129
C 1	-198.065	-439.891	-666.367	-229.263	-565.196	-2258.129
C 1	-14.247	+84.516	+542.713	-14.247	+84.516	+835.137
C 1	-157.935	-557.670	-3438.188	-187.703	-635.394	-5537.937
C 1	+0.731	+26.873	+792.557	+0.731	+26.873	+885.539
C 1	-157.935	-557.670	-3438.188	-187.703	-635.394	-5537.937
Barra 100						
C 1	+229.263	-565.257	-2258.131	+241.920	-598.305	-2886.474
C 1	-229.263	-565.257	-2258.131	-241.920	-598.305	-2886.474
C 1	-14.247	+84.500	+835.141	-14.247	+84.500	+926.422
C 1	-187.703	-635.388	-5537.942	-186.227	-625.477	-5391.189
C 1	+0.731	+26.898	+885.520	-14.247	+84.500	+926.422
C 1	-187.703	-635.388	-5537.942	-129.104	-482.388	-6137.361

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 101						
C 1	+237.883	+587.180	-2793.006	+226.372	+561.031	-2238.000
C 1	-237.883	+587.180	-2793.006	-226.372	+561.031	-2238.000
C 1	+235.986	+731.618	-6137.396	+223.329	+698.570	-5365.083
C 1	+12.866	-83.313	+914.555	+12.866	-83.313	+824.582
C 1	-0.810	-27.375	+926.406	-0.810	-27.375	+896.859
C 1	+235.986	+731.618	-6137.396	+223.329	+698.570	-5365.083
Barra 102						
C 1	+226.372	+560.969	-2238.020	+198.556	+458.863	-549.109
C 1	-226.372	+560.969	-2238.020	-198.556	+458.863	-549.109
C 1	+223.328	+698.539	-5365.094	+182.778	+592.664	-3131.313
C 1	+12.866	-83.301	+824.586	+12.866	-83.301	+536.357
C 1	-0.810	-27.378	+896.855	-0.810	-27.378	+802.131
C 1	+223.328	+698.539	-5365.094	+138.279	+459.780	-3208.154
Barra 103						
C 1	+198.556	+458.963	-549.123	+191.223	+401.438	+89.719
C 1	-198.556	+458.963	-549.123	-191.223	+401.438	+89.719
C 1	+182.778	+592.650	-3131.311	+179.299	+566.890	-2450.844
C 1	+12.866	-83.313	+536.375	+12.866	-83.313	+414.734
C 1	-0.810	-27.375	+802.141	-0.810	-27.375	+762.172
C 1	+138.279	+459.788	-3208.146	+179.299	+566.890	-2450.844
Barra 104						
C 1	+191.223	+401.506	+89.800	+172.520	+359.969	+612.344
C 1	-191.223	+401.506	+89.800	-172.520	+359.969	+612.344
C 1	+179.299	+566.912	-2450.856	+155.859	+505.712	-1378.216
C 1	+12.866	-83.336	+414.711	+12.866	-83.336	+248.063
C 1	-0.810	-27.359	+762.188	+144.125	+342.494	+925.581
C 1	+179.299	+566.912	-2450.856	-14.247	+84.938	-2198.719
Barra 105						
C 1	+172.521	+360.550	+612.325	+166.611	+348.500	+824.250
C 1	-172.521	+360.550	+612.325	-166.611	+348.500	+824.250
C 1	+155.859	+505.800	-1378.175	+157.455	+488.256	-908.282
C 1	+12.866	-83.375	+248.000	+12.866	-83.375	+164.688
C 1	+144.126	+343.050	+925.450	+132.406	+312.450	+1252.950
C 1	-14.247	+84.750	-2198.750	-14.247	+84.750	-2114.000
Barra 106						
C 1	+166.611	+348.663	+824.175	+134.024	+241.887	+1483.922
C 1	-166.611	+348.663	+824.175	-134.024	+241.887	+1483.922
C 1	+157.455	+488.436	-908.223	+104.716	+350.736	+979.905
C 1	+12.866	-83.589	+164.625	+12.866	-83.589	-211.523
C 1	+132.406	+312.616	+1253.011	+80.812	+181.767	+2373.620
C 1	-14.247	+84.428	-2113.961	-14.247	+84.428	-1734.039

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 107						
C 1	+134.024	+241.885	+1483.925	+105.292	+129.666	+1368.535
C 1	-134.024	+241.885	+1483.925	-105.292	+129.666	+1368.535
C 1	+104.716	+350.733	+979.894	+66.657	+229.863	+2083.339
C 1	+12.866	-83.588	-211.523	+12.866	-83.588	-587.668
C 1	+80.812	+181.768	+2373.613	+28.073	+44.068	+2881.738
C 1	-14.247	+84.430	-1734.039	-14.247	+84.430	-1354.117
Barra 108						
C 1	+105.292	+129.666	+1368.531	+78.138	-70.464	+1017.671
C 1	-105.292	+129.666	+1368.531	-78.138	-70.464	+1017.671
C 1	+66.657	+229.866	+2083.347	+31.975	+101.364	+2591.863
C 1	+12.866	-83.592	-587.664	-26.905	-107.049	+2588.956
C 1	+28.073	+44.073	+2881.753	-0.762	+75.338	+2897.253
C 1	-14.247	+84.422	-1354.117	-14.247	+84.422	-974.211
Barra 109						
C 1	+78.138	-70.465	+1017.672	+80.112	-78.775	+854.062
C 1	-78.138	-70.465	+1017.672	-80.112	-78.775	+854.062
C 1	+31.975	+101.369	+2591.882	-14.247	+84.422	-668.188
C 1	-26.905	-107.049	+2588.973	-44.638	-213.712	+1983.929
C 1	-0.762	+75.345	+2897.257	-43.247	-35.580	+2969.335
C 1	-14.247	+84.422	-974.219	+12.866	-83.594	-1266.852
Barra 110						
C 1	+80.112	-78.773	+854.063	+112.678	-178.337	+2094.757
C 1	-80.112	-78.773	+854.063	-112.678	-178.337	+2094.757
C 1	-14.247	+84.418	-668.195	-14.247	+84.418	-362.180
C 1	-44.638	-213.702	+1983.929	-87.122	-324.627	+1008.210
C 1	-43.247	-35.561	+2969.335	-63.193	-131.486	+2678.710
C 1	+12.866	-83.602	-1266.844	+12.866	-83.602	-1569.914
Barra 111						
C 1	+112.678	-178.338	+2094.768	+152.232	-281.611	+1248.206
C 1	-112.678	-178.338	+2094.768	-152.232	-281.611	+1248.206
C 1	-14.247	+84.414	-362.180	-14.247	+84.414	-56.180
C 1	-87.122	-324.623	+1008.219	-120.475	-404.362	-86.595
C 1	-63.193	-131.475	+2678.741	-105.677	-242.400	+2001.085
C 1	+12.866	-83.602	-1569.898	+12.866	-83.602	-1872.961
Barra 112						
C 1	+152.232	-281.602	+1248.211	+170.830	-346.818	+451.636
C 1	-152.232	-281.602	+1248.211	-170.830	-346.818	+451.636
C 1	-14.247	+84.412	-56.184	-14.247	+84.412	+249.813
C 1	-120.475	-404.357	-86.613	-141.392	-477.193	-1280.930
C 1	-105.677	-242.397	+2001.070	-156.019	-351.494	+927.773
C 1	+12.866	-83.605	-1872.961	+12.866	-83.605	-2176.031

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 113						
C 1	+170.830	-346.809	+451.617	+198.064	-439.782	-665.112
C 1	-170.830	-346.809	+451.617	-198.064	-439.782	-665.112
C 1	-14.247	+84.412	+249.809	-14.247	+84.412	+541.875
C 1	-141.392	-477.193	-1280.929	-157.935	-557.601	-3437.148
C 1	-156.019	-351.504	+927.754	+0.766	+26.629	+784.936
C 1	+12.866	-83.605	-2176.031	-157.935	-557.601	-3437.148
Barra 114						
C 1	+198.064	-439.781	-665.109	+229.263	-565.071	-2256.246
C 1	-198.064	-439.781	-665.109	-229.263	-565.071	-2256.246
C 1	-14.247	+84.412	+541.879	-14.247	+84.412	+833.934
C 1	-157.935	-557.601	-3437.148	-187.703	-635.326	-5536.659
C 1	+0.766	+26.627	+784.932	+0.766	+26.627	+877.059
C 1	-157.935	-557.601	-3437.148	-187.703	-635.326	-5536.659
Barra 115						
C 1	+229.263	-565.039	-2256.271	+241.920	-598.086	-2884.412
C 1	-229.263	-565.039	-2256.271	-241.920	-598.086	-2884.412
C 1	-14.247	+84.406	+833.938	-14.247	+84.406	+925.125
C 1	-187.703	-635.314	-5536.663	-186.227	-625.430	-5389.833
C 1	+0.766	+26.625	+877.055	-14.247	+84.406	+925.125
C 1	-187.703	-635.314	-5536.663	-129.104	-482.313	-6136.002
Barra 116						
C 1	+237.883	+587.805	-2794.068	+226.371	+561.625	-2238.266
C 1	-237.883	+587.805	-2794.068	-226.371	+561.625	-2238.266
C 1	+235.986	+731.758	-6136.005	+223.328	+698.711	-5363.560
C 1	+13.473	-82.688	+905.805	+13.473	-82.688	+816.484
C 1	-0.810	-27.164	+925.117	-0.810	-27.164	+895.781
C 1	+235.986	+731.758	-6136.005	+223.328	+698.711	-5363.560
Barra 117						
C 1	+226.371	+561.516	-2238.277	+198.555	+459.484	-548.313
C 1	-226.371	+561.516	-2238.277	-198.555	+459.484	-548.313
C 1	+223.328	+698.676	-5363.570	+182.778	+592.800	-3129.328
C 1	+13.473	-82.666	+816.492	+13.473	-82.666	+530.469
C 1	-0.810	-27.204	+895.770	-0.810	-27.204	+801.648
C 1	+223.328	+698.676	-5363.570	+138.278	+459.923	-3206.117
Barra 118						
C 1	+198.555	+459.525	-548.310	+191.221	+402.188	+90.188
C 1	-198.555	+459.525	-548.310	-191.221	+402.188	+90.188
C 1	+182.778	+592.869	-3129.357	+179.298	+567.015	-2448.640
C 1	+13.473	-82.688	+530.469	+13.473	-82.688	+409.781
C 1	-0.810	-27.188	+801.641	-0.810	-27.188	+761.953
C 1	+138.278	+459.913	-3206.114	+179.298	+567.015	-2448.640

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 119						
C 1	+191.221	+402.163	+90.144	+172.518	+360.563	+614.125
C 1	-191.221	+402.163	+90.144	-172.518	+360.563	+614.125
C 1	+179.298	+567.006	-2448.653	+155.859	+505.806	-1375.809
C 1	+13.473	-82.656	+409.781	+13.473	-82.656	+244.461
C 1	-0.810	-27.227	+761.945	+144.125	+342.837	+928.550
C 1	+179.298	+567.006	-2448.653	-14.247	+84.625	-2200.313
Barra 120						
C 1	+172.519	+360.800	+614.075	+166.609	+348.750	+826.500
C 1	-172.519	+360.800	+614.075	-166.609	+348.750	+826.500
C 1	+155.859	+506.050	-1375.925	+157.455	+488.256	-905.657
C 1	+13.473	-82.875	+244.563	+13.473	-82.875	+161.688
C 1	+144.125	+343.300	+928.450	+132.405	+312.700	+1256.450
C 1	-14.247	+84.500	-2200.250	-14.247	+84.500	-2115.875
Barra 121						
C 1	+166.609	+348.620	+826.402	+134.021	+241.984	+1485.840
C 1	-166.609	+348.620	+826.402	-134.021	+241.984	+1485.840
C 1	+157.455	+488.092	-905.786	+104.716	+350.392	+980.800
C 1	+13.473	-82.660	+161.836	+13.473	-82.660	-210.137
C 1	+132.405	+312.315	+1256.128	+80.812	+181.451	+2375.394
C 1	-14.247	+84.580	-2115.695	-14.247	+84.580	-1735.078
Barra 122						
C 1	+134.021	+241.983	+1485.855	+105.288	+130.180	+1373.063
C 1	-134.021	+241.983	+1485.855	-105.288	+130.180	+1373.063
C 1	+104.716	+350.385	+980.800	+66.657	+229.500	+2082.652
C 1	+13.473	-82.658	-210.137	+13.473	-82.658	-582.094
C 1	+80.812	+181.448	+2375.378	+28.072	+43.748	+2882.073
C 1	-14.247	+84.586	-1735.086	-14.247	+84.586	-1354.461
Barra 123						
C 1	+105.288	+130.182	+1373.062	+78.138	-70.560	+1017.448
C 1	-105.288	+130.182	+1373.062	-78.138	-70.560	+1017.448
C 1	+66.657	+229.506	+2082.652	+31.975	+100.981	+2589.722
C 1	+13.473	-82.664	-582.102	-26.906	-107.319	+2588.269
C 1	+28.073	+43.760	+2882.050	-0.762	+74.998	+2895.019
C 1	-14.247	+84.578	-1354.461	-14.247	+84.578	-973.852
Barra 124						
C 1	+78.138	-70.563	+1017.453	+80.112	-78.877	+853.343
C 1	-78.138	-70.563	+1017.453	-80.112	-78.877	+853.343
C 1	+31.975	+100.978	+2589.726	-14.247	+84.574	-667.266
C 1	-26.906	-107.331	+2588.270	-44.640	-213.658	+1986.945
C 1	-0.763	+74.994	+2895.023	-43.247	-35.931	+2965.820
C 1	-14.247	+84.574	-973.844	+13.473	-82.660	-1253.742

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 125						
C 1	+80.112	-78.875	+853.355	+112.678	-178.611	+2091.179
C 1	-80.112	-78.875	+853.355	-112.678	-178.611	+2091.179
C 1	-14.247	+84.578	-667.266	-14.247	+84.578	-360.680
C 1	-44.641	-213.647	+1986.960	-87.125	-324.572	+1011.429
C 1	-43.247	-35.920	+2965.820	-63.194	-131.869	+2673.601
C 1	+13.473	-82.664	-1253.750	+13.473	-82.664	-1553.414
Barra 126						
C 1	+112.678	-178.612	+2091.189	+152.232	-281.885	+1243.612
C 1	-112.678	-178.612	+2091.189	-152.232	-281.885	+1243.612
C 1	-14.247	+84.570	-360.688	-14.247	+84.570	-54.125
C 1	-87.125	-324.565	+1011.453	-120.477	-404.366	-84.634
C 1	-63.194	-131.850	+2673.585	-113.535	-240.939	+1994.648
C 1	+13.473	-82.676	-1553.414	+13.473	-82.676	-1853.109
Barra 127						
C 1	+152.232	-281.891	+1243.633	+170.830	-347.138	+445.214
C 1	-152.232	-281.891	+1243.633	-170.830	-347.138	+445.214
C 1	-14.247	+84.572	-54.125	-14.247	+84.572	+252.445
C 1	-120.477	-404.369	-84.633	-141.394	-477.103	-1276.759
C 1	-113.535	-240.952	+1994.640	-156.020	-351.877	+920.148
C 1	+13.473	-82.672	-1853.125	+13.473	-82.672	-2152.805
Barra 128						
C 1	+170.830	-347.129	+445.234	+198.065	-440.137	-673.643
C 1	-170.830	-347.129	+445.234	-198.065	-440.137	-673.643
C 1	-14.247	+84.572	+252.441	-14.247	+84.572	+545.055
C 1	-141.394	-477.103	-1276.749	-157.939	-557.087	-3421.047
C 1	-156.020	-351.882	+920.144	-14.247	+84.572	+545.055
C 1	+13.473	-82.672	-2152.805	-157.939	-557.087	-3421.047
Barra 129						
C 1	+198.065	-440.133	-673.648	+229.263	-565.453	-2266.840
C 1	-198.065	-440.133	-673.648	-229.263	-565.453	-2266.840
C 1	-14.247	+84.570	+545.055	-14.247	+84.570	+837.664
C 1	-157.939	-557.087	-3421.044	-187.708	-634.811	-5518.776
C 1	-14.247	+84.570	+545.055	-14.247	+84.570	+837.664
C 1	-157.939	-557.087	-3421.044	-187.708	-634.811	-5518.776
Barra 130						
C 1	+229.263	-565.507	-2266.881	+241.920	-598.555	-2895.443
C 1	-229.263	-565.507	-2266.881	-241.920	-598.555	-2895.443
C 1	-14.247	+84.563	+837.660	-14.247	+84.563	+929.016
C 1	-187.708	-634.814	-5518.778	-186.232	-624.821	-5368.507
C 1	-14.247	+84.563	+837.660	-14.247	+84.563	+929.016
C 1	-187.708	-634.814	-5518.778	-129.108	-481.813	-6117.574

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 131						
C 1	+237.064	+589.149	-2814.162	+228.719	+539.875	-2029.109
C 1	-237.064	+589.149	-2814.162	-228.719	+539.875	-2029.109
C 1	+235.906	+729.805	-6117.568	+223.249	+696.757	-5347.263
C 1	-0.810	-27.641	+929.016	-0.810	-27.641	+899.160
C 1	-0.810	-27.641	+929.016	-0.810	-27.641	+899.160
C 1	+235.906	+729.805	-6117.568	+223.249	+696.757	-5347.263
Barra 132						
C 1	+228.719	+539.879	-2029.059	+199.456	+446.199	-467.359
C 1	-228.719	+539.879	-2029.059	-199.456	+446.199	-467.359
C 1	+223.249	+696.745	-5347.246	+182.698	+590.869	-3119.678
C 1	-0.810	-27.628	+899.172	-0.810	-27.628	+803.582
C 1	-0.810	-27.628	+899.172	-0.810	-27.628	+803.582
C 1	+223.249	+696.745	-5347.246	+138.189	+457.726	-3194.800
Barra 133						
C 1	+199.456	+446.213	-467.311	+188.652	+423.625	-20.781
C 1	-199.456	+446.213	-467.311	-188.652	+423.625	-20.781
C 1	+182.698	+590.900	-3119.686	+179.209	+564.859	-2440.515
C 1	-0.810	-27.609	+803.578	-0.810	-27.609	+763.250
C 1	-0.810	-27.609	+803.578	-0.810	-27.609	+763.250
C 1	+138.189	+457.757	-3194.833	+179.209	+564.859	-2440.515
Barra 134						
C 1	+188.653	+423.663	-20.731	+172.247	+358.156	+617.844
C 1	-188.653	+423.663	-20.731	-172.247	+358.156	+617.844
C 1	+179.209	+564.881	-2440.544	+155.769	+503.681	-1371.981
C 1	-0.810	-27.602	+763.258	-0.810	-27.602	+708.047
C 1	-0.810	-27.602	+763.258	+147.619	+328.212	+974.394
C 1	+179.209	+564.881	-2440.544	-14.255	+85.813	-2201.188
Barra 135						
C 1	+172.247	+358.300	+617.825	+166.408	+345.500	+829.125
C 1	-172.247	+358.300	+617.825	-166.408	+345.500	+829.125
C 1	+155.770	+503.675	-1371.925	+157.351	+485.756	-903.657
C 1	-0.810	-27.500	+708.000	-0.810	-27.500	+680.500
C 1	+147.619	+328.050	+974.575	+135.899	+297.450	+1287.450
C 1	-14.255	+85.750	-2201.250	-14.255	+85.750	-2115.500
Barra 136						
C 1	+166.408	+346.096	+829.237	+133.216	+245.986	+1494.254
C 1	-166.408	+346.096	+829.237	-133.216	+245.986	+1494.254
C 1	+157.351	+486.061	-903.497	+104.612	+348.361	+973.956
C 1	-0.810	-27.434	+680.502	-0.810	-27.434	+557.045
C 1	+135.899	+298.288	+1287.589	+78.847	+176.845	+2354.870
C 1	-14.255	+85.254	-2115.609	-14.255	+85.254	-1731.969

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 137						
C 1	+133.215	+245.987	+1494.261	+80.476	+108.287	+2291.355
C 1	-133.215	+245.987	+1494.261	-80.476	+108.287	+2291.355
C 1	+104.612	+348.370	+973.956	+66.540	+227.391	+2066.003
C 1	-0.810	-27.435	+557.047	-0.810	-27.435	+433.592
C 1	+78.847	+176.850	+2354.878	+48.015	+57.166	+2866.613
C 1	-14.255	+85.250	-1731.961	-14.255	+85.250	-1348.352
Barra 138						
C 1	+80.476	+108.291	+2291.370	+78.179	-70.972	+1011.868
C 1	-80.476	+108.291	+2291.370	-78.179	-70.972	+1011.868
C 1	+66.540	+227.397	+2065.980	+31.842	+98.840	+2562.816
C 1	-0.810	-27.433	+433.592	-22.319	-114.811	+2526.042
C 1	+48.015	+57.166	+2866.605	-0.866	+72.970	+2869.956
C 1	-14.255	+85.248	-1348.344	-14.255	+85.248	-964.727
Barra 139						
C 1	+78.179	-70.971	+1011.871	+80.154	-79.342	+845.539
C 1	-78.179	-70.971	+1011.871	-80.154	-79.342	+845.539
C 1	+31.842	+98.845	+2562.835	-14.255	+85.250	-655.727
C 1	-22.319	-114.811	+2526.070	-64.276	-224.360	+1908.866
C 1	-0.866	+72.978	+2869.960	-43.351	-37.947	+2933.460
C 1	-14.255	+85.250	-964.750	-14.255	+85.250	-655.727
Barra 140						
C 1	+80.154	-79.338	+845.543	+112.758	-180.142	+2060.945
C 1	-80.154	-79.338	+845.543	-112.758	-180.142	+2060.945
C 1	-14.255	+85.234	-655.727	-14.255	+85.234	-346.734
C 1	-64.276	-224.335	+1908.878	-93.539	-318.034	+1073.974
C 1	-43.351	-37.936	+2933.445	-63.325	-134.048	+2630.632
C 1	-14.255	+85.234	-655.727	-14.255	+85.234	-346.734
Barra 141						
C 1	+112.758	-180.143	+2060.932	+152.312	-283.416	+1207.831
C 1	-112.758	-180.143	+2060.932	-152.312	-283.416	+1207.831
C 1	-14.255	+85.234	-346.727	-14.255	+85.234	-37.742
C 1	-93.539	-318.047	+1073.956	-120.748	-406.221	-128.181
C 1	-63.325	-134.038	+2630.616	-113.652	-243.064	+1945.523
C 1	-14.255	+85.234	-346.727	-120.748	-406.221	-128.181
Barra 142						
C 1	+152.312	-283.414	+1207.820	+170.920	-348.888	+397.792
C 1	-152.312	-283.414	+1207.820	-170.920	-348.888	+397.792
C 1	-14.255	+85.236	-37.742	-14.255	+85.236	+271.234
C 1	-120.748	-406.220	-128.183	-142.200	-473.091	-1174.235
C 1	-113.652	-243.053	+1945.515	-156.136	-353.978	+863.398
C 1	-120.748	-406.220	-128.183	-85.589	-314.420	-1405.644

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 143						
C 1	+170.920	-348.887	+397.797	+198.168	-442.157	-734.995
C 1	-170.920	-348.887	+397.797	-198.168	-442.157	-734.995
C 1	-14.255	+85.238	+271.230	-14.255	+85.238	+566.145
C 1	-142.200	-473.091	-1174.245	-159.780	-518.991	-2935.515
C 1	-156.136	-353.984	+863.394	-14.255	+85.238	+566.145
C 1	-85.589	-314.414	-1405.645	-159.780	-518.991	-2935.515
Barra 144						
C 1	+198.168	-442.148	-735.023	+229.394	-567.633	-2340.684
C 1	-198.168	-442.148	-735.023	-229.394	-567.633	-2340.684
C 1	-14.255	+85.233	+566.152	-14.255	+85.233	+861.055
C 1	-159.780	-518.992	-2935.523	-229.394	-567.633	-2340.684
C 1	-14.255	+85.233	+566.152	-14.255	+85.233	+861.055
C 1	-159.780	-518.992	-2935.523	-141.262	-470.644	-4602.136
Barra 145						
C 1	+229.394	-567.664	-2340.693	+242.052	-600.711	-2971.599
C 1	-229.394	-567.664	-2340.693	-242.052	-600.711	-2971.599
C 1	-14.255	+85.203	+861.086	-14.255	+85.203	+953.125
C 1	-229.394	-567.664	-2340.693	-242.052	-600.711	-2971.599
C 1	-14.255	+85.203	+861.086	-14.255	+85.203	+953.125
C 1	-141.262	-470.632	-4602.138	-153.920	-503.680	-5128.287
Barra 146						
C 1	+176.689	+620.028	-5128.292	+164.032	+586.980	-4476.511
C 1	-176.689	+620.028	-5128.292	-164.032	+586.980	-4476.511
C 1	-0.941	-26.477	+953.125	-0.941	-26.477	+924.547
C 1	-0.941	-26.477	+953.125	-0.941	-26.477	+924.547
C 1	+176.689	+620.028	-5128.292	+164.032	+586.980	-4476.511
Barra 147						
C 1	+164.032	+586.984	-4476.513	+123.482	+481.108	-2628.718
C 1	-164.032	+586.984	-4476.513	-123.482	+481.108	-2628.718
C 1	+164.032	+586.984	-4476.513	+123.482	+481.108	-2628.718
C 1	-0.941	-26.506	+924.531	-0.941	-26.506	+832.830
C 1	-0.941	-26.506	+924.531	-0.941	-26.506	+832.830
C 1	+164.032	+586.984	-4476.513	+123.482	+481.108	-2628.718
Barra 148						
C 1	+123.482	+481.109	-2628.715	+106.371	+436.434	-1958.918
C 1	-123.482	+481.109	-2628.715	-106.371	+436.434	-1958.918
C 1	+123.482	+481.109	-2628.715	+106.371	+436.434	-1958.918
C 1	-0.941	-26.516	+832.844	-0.941	-26.516	+794.125
C 1	-0.941	-26.516	+832.844	-0.941	-26.516	+794.125
C 1	+123.482	+481.109	-2628.715	-16.564	+82.438	-2469.594

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 149						
C 1	+106.371	+436.434	-1958.915	+82.931	+375.233	-1147.247
C 1	-106.371	+436.434	-1958.915	-82.931	+375.233	-1147.247
C 1	+106.371	+436.434	-1958.915	+82.931	+375.233	-1147.247
C 1	-0.941	-26.516	+794.125	-0.941	-26.516	+741.102
C 1	-0.941	-26.516	+794.125	-0.941	-26.516	+741.102
C 1	-16.564	+82.469	-2469.594	-16.564	+82.469	-2304.625
Barra 150						
C 1	+82.931	+375.253	-1147.261	+71.212	+344.653	-787.300
C 1	-82.931	+375.253	-1147.261	-71.212	+344.653	-787.300
C 1	+82.931	+375.253	-1147.261	+71.212	+344.653	-787.300
C 1	-0.941	-26.438	+741.063	-0.941	-26.438	+714.625
C 1	-0.941	-26.438	+741.063	-0.941	-26.438	+714.625
C 1	-16.564	+82.250	-2304.500	-16.564	+82.250	-2222.375
Barra 151						
C 1	+71.212	+344.645	-787.316	+32.516	+53.233	-1257.775
C 1	-71.212	+344.645	-787.316	-32.516	+53.233	-1257.775
C 1	+71.212	+344.645	-787.316	+31.657	+241.370	+201.585
C 1	-0.941	-26.463	+714.590	-0.941	-26.463	+625.281
C 1	-0.941	-26.463	+714.590	-0.941	-26.463	+625.281
C 1	-16.564	+82.297	-2222.219	-16.564	+82.297	-1944.477
Barra 152						
C 1	+32.516	+53.234	-1257.773	+49.781	+18.515	-374.908
C 1	-32.516	+53.234	-1257.773	-49.781	+18.515	-374.908
C 1	+31.657	+241.368	+201.587	-7.897	+138.093	+841.927
C 1	-0.941	-26.467	+625.277	-0.941	-26.467	+535.957
C 1	-0.941	-26.467	+625.277	-7.897	+138.093	+841.927
C 1	-16.564	+82.297	-1944.469	-16.564	+82.297	-1666.711
Barra 153						
C 1	+49.781	+18.512	-374.922	+65.629	-17.315	+292.196
C 1	-49.781	+18.512	-374.922	-65.629	-17.315	+292.196
C 1	-7.897	+138.093	+841.934	-16.564	+82.289	-1388.953
C 1	-0.941	-26.469	+535.965	-0.941	-26.469	+446.633
C 1	-7.897	+138.093	+841.934	-47.451	+34.818	+1133.716
C 1	-16.564	+82.289	-1666.734	-16.564	+82.289	-1388.953
Barra 154						
C 1	+65.629	-17.315	+292.196	+87.006	-68.458	+1076.950
C 1	-65.629	-17.315	+292.196	-87.006	-68.458	+1076.950
C 1	-16.564	+82.305	-1388.945	-16.564	+82.305	-1111.180
C 1	-0.941	-26.467	+446.641	-87.006	-68.458	+1076.950
C 1	-47.451	+34.817	+1133.712	-87.006	-68.458	+1076.950
C 1	-16.564	+82.305	-1388.945	-16.564	+82.305	-1111.180

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 155						
C 1	+87.006	-68.457	+1076.943	+91.400	-79.931	+809.323
C 1	-87.006	-68.457	+1076.943	-91.400	-79.931	+809.323
C 1	-16.564	+82.301	-1111.156	-16.564	+82.301	-833.391
C 1	-87.006	-68.457	+1076.943	-91.400	-79.931	+809.323
C 1	-87.006	-68.457	+1076.943	-91.400	-79.931	+809.323
C 1	-16.564	+82.301	-1111.156	-16.564	+82.301	-833.391
Barra 156						
C 1	+91.400	-79.934	+809.322	+91.400	-79.934	+539.551
C 1	-91.400	-79.934	+809.322	-91.400	-79.934	+539.551
C 1	-16.564	+82.309	-833.375	-16.564	+82.309	-555.578
C 1	-91.400	-79.934	+809.322	-91.400	-79.934	+539.551
C 1	-91.400	-79.934	+809.322	-91.400	-79.934	+539.551
C 1	-16.564	+82.309	-833.375	-16.564	+82.309	-555.578
Barra 157						
C 1	+91.400	-79.932	+539.547	+91.400	-79.932	+269.773
C 1	-91.400	-79.932	+539.547	-91.400	-79.932	+269.773
C 1	-16.564	+82.311	-555.586	-16.564	+82.311	-277.797
C 1	-91.400	-79.932	+539.547	-91.400	-79.932	+269.773
C 1	-91.400	-79.932	+539.547	-91.400	-79.932	+269.773
C 1	-16.564	+82.311	-555.586	-16.564	+82.311	-277.797
Barra 158						
C 1	+91.400	-79.932	+269.774	+91.400	-79.932	+0.002
C 1	-91.400	-79.932	+269.774	-91.400	-79.932	+0.002
C 1	-16.564	+82.309	-277.793	-16.564	+82.309	-0.002
C 1	-91.400	-79.932	+269.774	-91.400	-79.932	+0.002
C 1	-16.564	+82.309	-277.793	-13.087	+76.153	-0.004

Hipótesis de carga consideradas

Combinación: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85
87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102
104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119
121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
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172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187
189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204
206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221
223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255
257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272
274

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	1	+0.007	+387.715	+193.316
C 1	1	-0.004	-80.047	+15.687
C 1	1	+0.007	+387.715	+193.316
C 1	1	-0.002	-81.505	+14.928
C 1	1	+0.007	+387.715	+193.316
C 1	1	+0.007	+387.715	-193.316
C 1	11	+0.016	-69.133	+7.119
C 1	11	-0.063	+887.048	+281.662
C 1	11	+0.003	+1134.808	+329.924
C 1	11	+0.000	-110.602	+12.024
C 1	11	-0.001	+1125.439	+329.992
C 1	11	-0.001	+1125.439	-329.992
C 1	26	+0.047	+797.923	+261.445
C 1	26	-0.063	+695.517	+235.198
C 1	26	+0.013	+1213.256	+365.039
C 1	26	+0.000	-110.914	+12.134
C 1	26	+0.013	+1213.256	+365.039
C 1	26	+0.013	+1213.256	-365.039
C 1	41	+0.069	+704.217	+235.934
C 1	41	-0.063	+645.344	+213.507
C 1	41	-0.013	+1214.245	+365.090
C 1	41	+0.016	-110.641	+12.361
C 1	41	-0.013	+1214.245	+365.090
C 1	41	-0.013	+1214.245	-365.090
C 1	56	+0.078	+967.423	+308.656
C 1	56	-0.094	+605.469	+209.385
C 1	56	+0.011	+1214.390	+365.091
C 1	56	+0.016	-111.633	+13.438
C 1	56	+0.011	+1214.390	+365.091
C 1	56	+0.011	+1214.390	-365.091
C 1	71	+0.063	+605.406	+209.385
C 1	71	-0.078	+887.111	+285.041
C 1	71	+0.007	+1214.476	+365.091
C 1	71	+0.000	-111.656	+13.438
C 1	71	+0.007	+1214.476	+365.091
C 1	71	+0.007	+1214.476	-365.091

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	86	+0.078	+518.250	+186.809
C 1	86	-0.094	+796.548	+261.453
C 1	86	-0.012	+1214.267	+365.090
C 1	86	-0.016	-111.773	+13.438
C 1	86	-0.002	+1195.259	+369.368
C 1	86	-0.002	+1195.259	-369.368
C 1	101	+0.063	+644.500	+213.506
C 1	101	-0.094	+720.579	+236.302
C 1	101	+0.035	+1214.005	+365.090
C 1	101	+0.016	-111.875	+13.438
C 1	101	-0.016	+1195.184	+369.367
C 1	101	-0.016	+1195.184	-369.367
C 1	116	+0.078	+796.548	+261.453
C 1	116	-0.063	+645.281	+213.506
C 1	116	+0.003	+1214.072	+365.089
C 1	116	+0.008	-111.570	+13.438
C 1	116	+0.008	+1195.032	+369.367
C 1	116	+0.008	+1195.032	-369.367
C 1	131	+0.047	+882.923	+284.915
C 1	131	-0.056	+705.997	+235.927
C 1	131	-0.006	+1211.618	+365.014
C 1	131	+0.000	-112.203	+13.437
C 1	131	-0.011	+1194.473	+369.329
C 1	131	-0.011	+1194.473	-369.329
C 1	146	+0.069	+704.654	+233.749
C 1	146	-0.031	-96.383	+18.601
C 1	146	+0.004	+1158.337	+348.136
C 1	146	+0.000	-111.680	+13.313
C 1	146	+0.004	+1158.337	+348.136
C 1	146	+0.004	+1158.337	-348.136
C 1	159	+0.002	+79.932	+91.400
C 1	159	-0.004	-76.153	+13.087
C 1	159	+0.002	+79.932	+91.400
C 1	159	-0.002	-82.309	+16.564
C 1	159	+0.002	+79.932	+91.400
C 1	159	+0.002	+79.932	-91.400

1.1.22.- RESUMEN DE COEFICIENTES DE IMPACTO.

Coeficientes de impacto Þ

Flexión

		Flector positivo					Flector negativo				
	Sección	Mdinamico	sw2	UIC71	Þ	sw2/UIC/71	Mdinamico	sw2	UIC71	Þ	sw2/UIC/71
Fase inicial	5	4681,0	2286,0	3503,3	1,34	0,65	-630,0	-1304,0	-1485,7	1,00	0,88
	11	557,2	944,0	996,0	1,00	0,95	-5048,0	-5407,0	-5218,8	1,00	1,04
	13	554,0	561,0	829,8	1,00	0,68	-3343,0	-2920,0	-2560,5	1,31	1,14
Fases intermedias	19	3181,0	2939,0	3635,0	1,00	0,81	-1192,0	-955,5	-1724,0	1,00	0,55
	26	1303,0	919,0	1587,8	1,00	0,58	-4743,0	-6129,0	-5682,0	1,00	1,08
	29	603,5	417,0	1309,0	1,00	0,32	-2196,0	-2446,0	-2979,0	1,00	0,82
	34	3031,0	2965,0	3805,0	1,00	0,78	-1119,0	-965,6	-1920,0	1,00	0,50
	41	1279,0	917,0	1826,0	1,00	0,50	-4836,0	-6137,0	-5891,0	1,00	1,04
	44	588,6	755,0	1468,0	1,00	0,51	-2200,0	-2450,0	-3156,0	1,00	0,78
Fase final	146	1009,0	953,0	1086,0	1,00	0,88	-5185,0	-5128,0	-5224,0	1,00	0,98
	154	3691,0	1133,7	3510,0	1,05	0,32	-839,0	-1389,0	-1580,0	1,00	0,88

Cortante

	Sección	Vdinamico	sw2	UIC71	Þ
Fase inicial	1	555,2	387,7	436,0	1,27
	11-	821,6	634,3	596,3	1,38
	11+	704,6	669,4	627,7	1,12
Fases intermedias	26-	630,8	625,1	650,0	1,00
	26+	655,6	698,0	653,0	1,00
	41-	685,0	625,0	632,0	1,08
	41+	660,0	698,0	618,0	1,07
Fase final	146-	714,2	600,7	639,0	1,12
	146-	676,3	599,0	577,0	1,17
	159	439,7		434,1	1,01

De acuerdo con el apartado B.2.3, consideraremos tan sólo este efecto en una de las vías, por lo cual podemos adoptar un coeficiente de 1,15 para la flexión positiva de los vanos extremos y 1,20 para cortante. Para el resto de vanos, tomaremos un coeficiente 1,05 para cortante y 1,00 para flectores.

1.3.11 ESTRUCTURAS (MEMORIA DEL M1 MODIFICADA

Debido a la modificación del trazado ha sido necesario diseñar un viaducto doble sobre el río Llobregat. Se trata de una estructura formada por dos puentes, de 14,00 m. de ancho, y once y doce vanos respectivamente, los vanos centrales de 45 m de luz y los extremos de 36 m, que discurren en una recta prácticamente en toda su longitud.

Los tableros se organizan en secciones cajón de hormigón pretensado, con tramos de canto variable, en una longitud de 8 m a un lado y otro de la pila, con transición parabólica de segundo grado. El canto máximo de la sección, en el tramo de canto constante, es de 2,89 m, que llegan a 4,14 m. sobre las pilas.

La sección transversal de cada tablero se organiza mediante un cajón, de 14,00 m de ancho, con sendas almas de 50 cm de espesor, rematado con voladizos de 3,123 m de luz, de espesor variable, alcanzando los 21 cm en la punta.

El tablero se construye por vanos sucesivos, hormigonando cada vano y el quinto de la luz del siguiente sobre la cimbra, tesando los cordones de pretensado del vano en cuestión y descimbrando, para continuar con el siguiente vano.

Las pilas son de hormigón armado, de sección constante, con forma de decagonal inscrita en una circunferencia de 300 cm de diámetro. Sus alturas varían entre 11,50 y 16,60 m. Sus cimientos son bien encepados, de 3,00 m de canto, sustentados sobre cuatro pilotes de 2,00 m. de diámetro.

Los estribos lado Barcelona se constituirán sobre muros de hormigón armado de 15 y 12 m. de altura respectivamente, que se cimentarán también sobre pilotes, en número de 9 para cada estribo, de idénticas características a los mencionados, con encepados de 3,00 m de canto.

Tratando de aprovechar al máximo la tipología definida en el Proyecto Modificado Nº 1, se propone proyectar una pila estribo situada en el entorno del estribo nº 1 de los viaductos de dicho proyecto, que sirva para absorber los esfuerzos horizontales generados en los tableros y permita construir los viaductos y sus prolongaciones con independencia del tramo de obra en que estén ubicados.

De esta manera las dos partes en que quedarían subdivididos los dos viaductos, podrán ser realizadas por cada uno de los adjudicatarios de las obras actualmente en ejecución.

Por lo tanto, en primer lugar es necesario incrementar la longitud del tablero y el número de pilas y sustituir los estribos lado Martorell (nº 1) en los viaductos definidos en el Proyecto Modificado Nº 1.

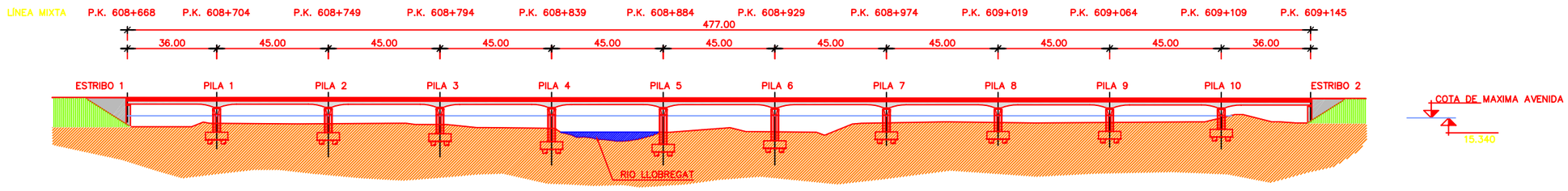
La tipología de los viaductos seguirá siendo la misma del Proyecto vigente. Será preciso sustituir el estribo nº 1 (margen derecha del río) por una pila especial que sirva para absorber los esfuerzos de frenado de los viaductos previstos inicialmente y de su prolongación hasta la riera de Can Soler.

En el tramo que nos ocupa el tablero del viaducto izquierdo (vía mixta de 3 hilos) no sufre variación alguna en sus características.

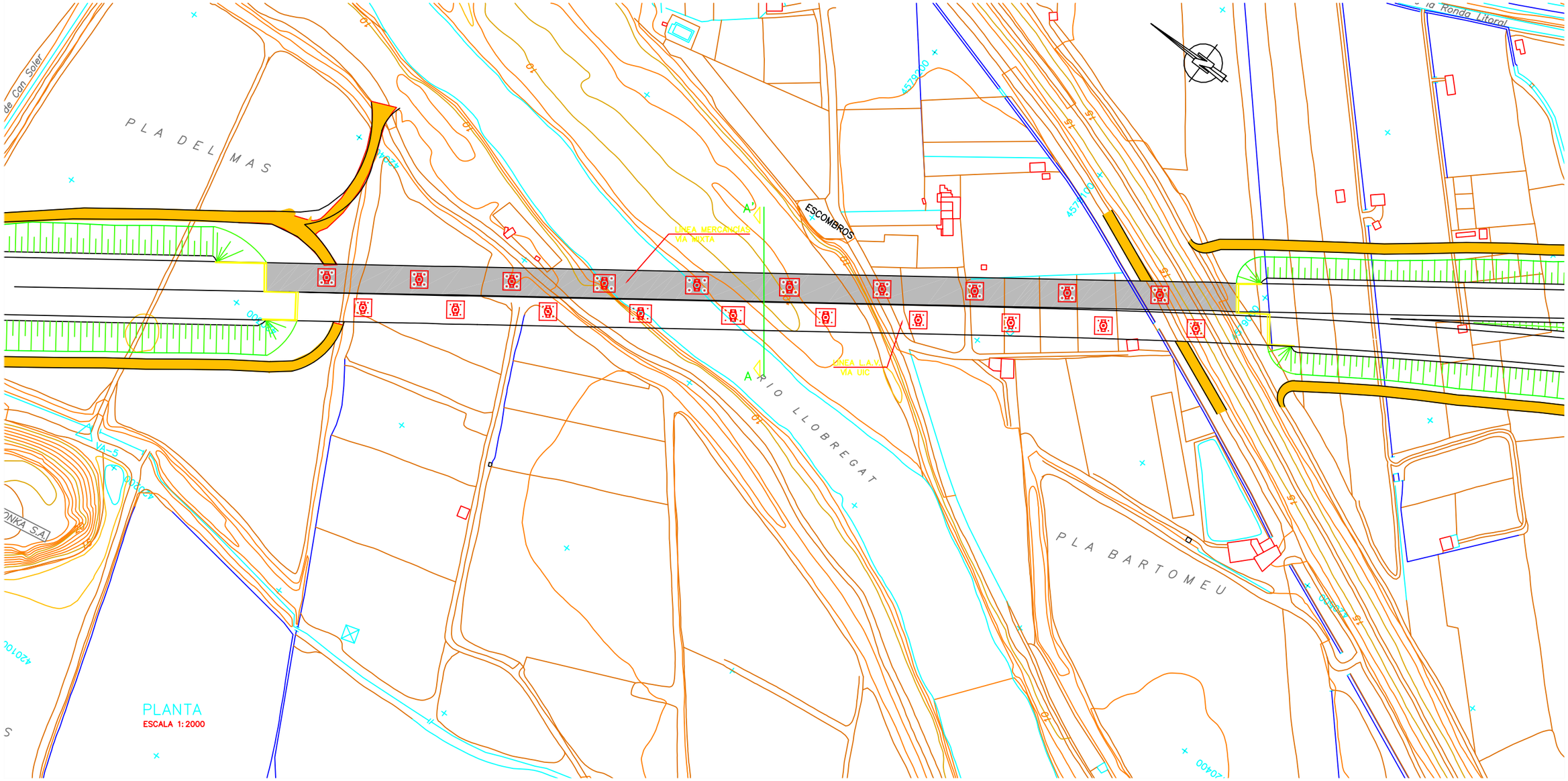
El tablero del viaducto derecho (vía UIC), se incrementa en un vano de 45 m, que hace necesaria la inclusión de una pila adicional entre el estribo nº 1 y la pila nº 1 del viaducto según al Proyecto vigente.

Desaparecen de este tramo los estribos nº 1 y los rellenos de trasdós de los mismos.

La longitud de los pilotes proyectados se ha incrementado, a la vista del terreno que se encontró al llevar a cabo su excavación, para garantizar el empotramiento adecuado en el sustrato de gravas en que se apoyan.

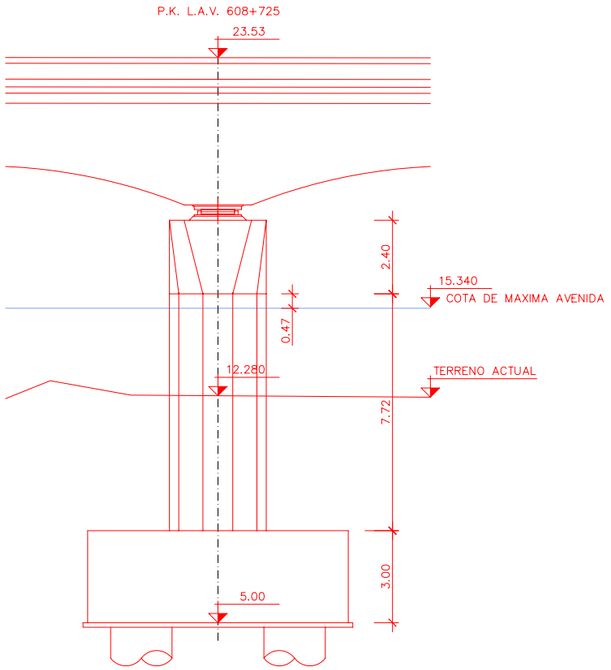


ALZADO
ESCALA 1:2000

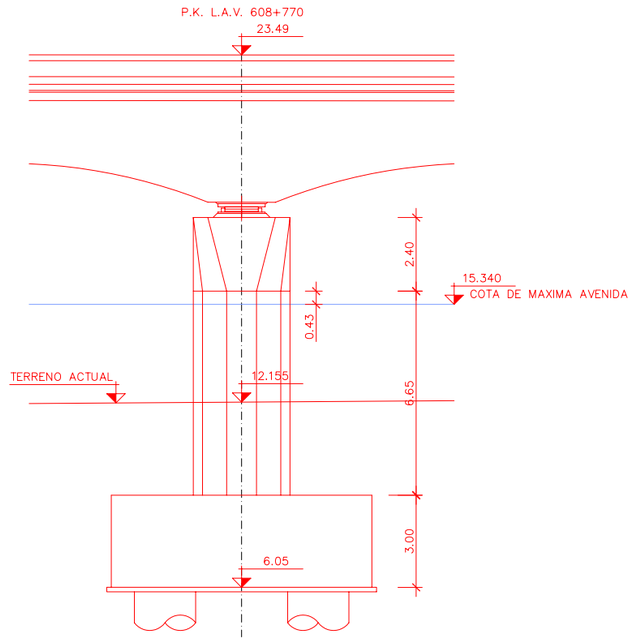


PLANTA
ESCALA 1:2000

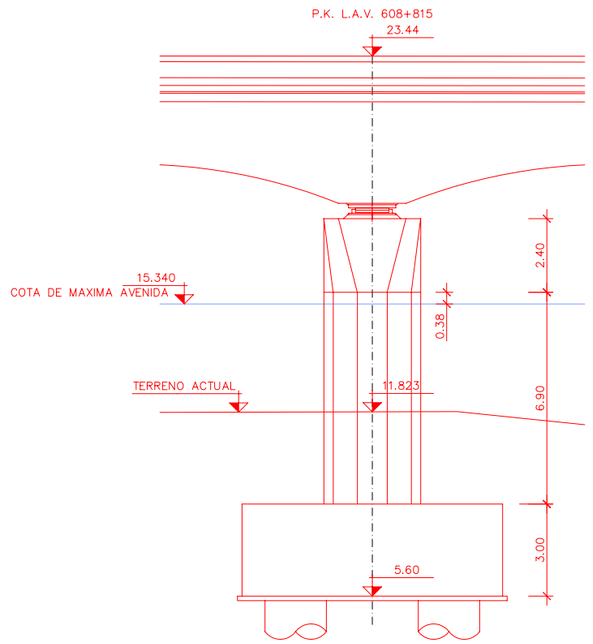
ADMINISTRADOR DE INFRAESTRUCTURAS FERROVIARIAS	TÍTULO: PROYECTO MODIFICADO CONSTRUCCIÓN DE PLATAFORMA LÍNEA DE ALTA VELOCIDAD MADRID–ZARAGOZA–BARCELONA–FRONTERA FRANCESA TRAMO: SANTA COLOMA DE CERVELLÓ–SANT JOAN DESPÍ	AUTOR: ALFREDO ALBA RODRÍGUEZ I.C.C.P.	CONFORME EL CONTRATISTA: SENÉN MERINO CARRILES I.C.C.P.	ESCALA NORMAL: 1/2.000 0 20 40 60 80 Numérica Gráfica	FECHA: ABRIL–2005	TITULO DEL PLANO: VIADUCTO DOBLE VIA ANCHO MIXTO DESCRIPCIÓN GENERAL PLANTA Y ALZADO-TOPOGRAFÍA	Nº DE PLANO: 2.9.2.1 HOJA 1 DE 9



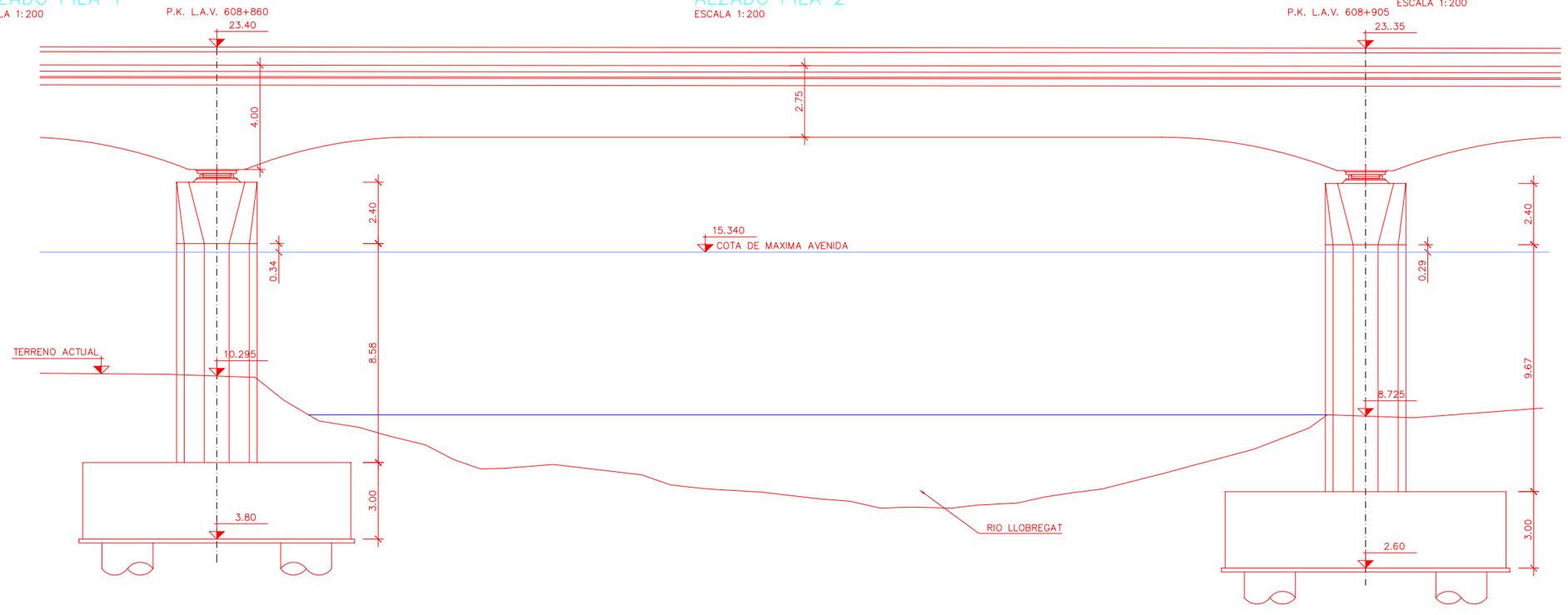
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ESCALA 1:200



ALZADO PILA 2
ESCALA 1:200



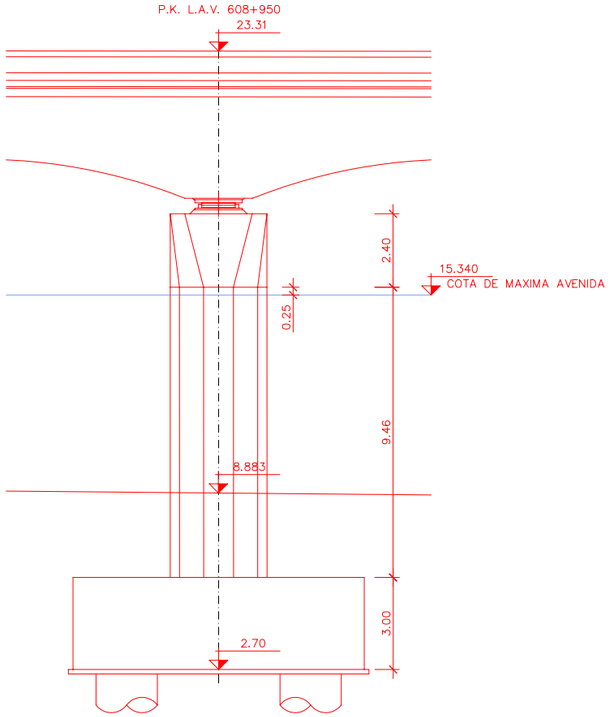
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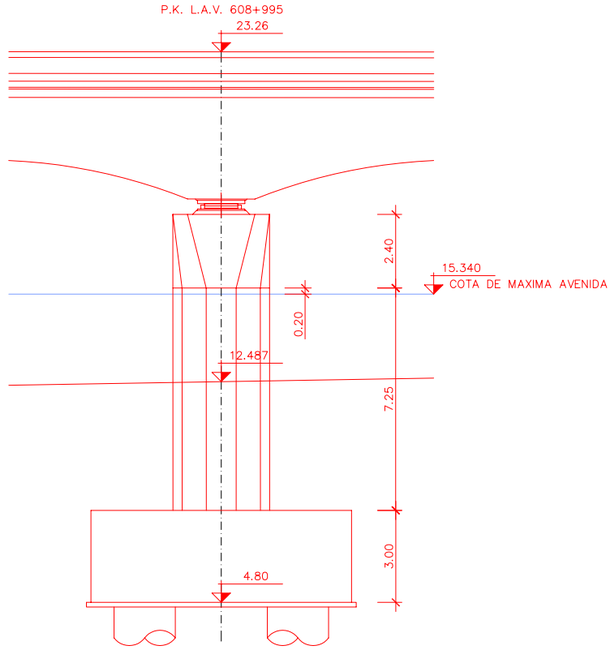
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ALZADO PILA 5
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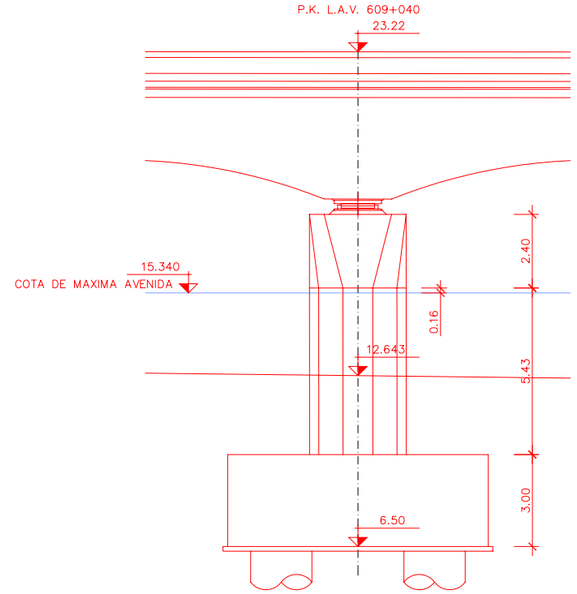
ADMINISTRADOR DE INFRAESTRUCTURAS FERROVIARIAS	TÍTULO: PROYECTO MODIFICADO CONSTRUCCIÓN DE PLATAFORMA LÍNEA DE ALTA VELOCIDAD MADRID–ZARAGOZA–BARCELONA–FRONTERA FRANCESA TRAMO: SANTA COLOMA DE CERVELLÓ–SANT JOAN DESPÍ	AUTOR: ALFREDO ALBA RODRÍGUEZ I.C.C.P.	CONFORME EL CONTRATISTA: SENÉN MERINO CARRILES I.C.C.P.	ESCALA NORMAL: 1/200 0 2 4 6 8 Numérica Gráfica	FECHA: ABRIL–2005	TITULO DEL PLANO: VIADUCTO DOBLE VIA UIC DESCRIPCIÓN GENERAL ALZADO PILAS (I)	Nº DE PLANO: 2.9.1.1 HOJA 6 DE 9



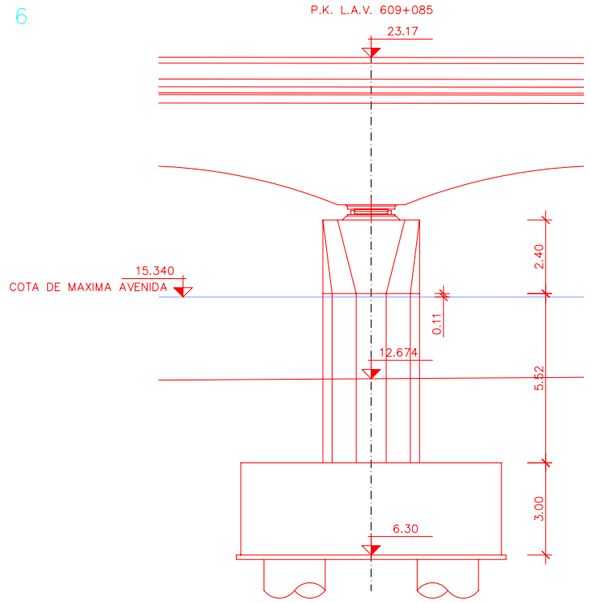
ALZADO PILA 6
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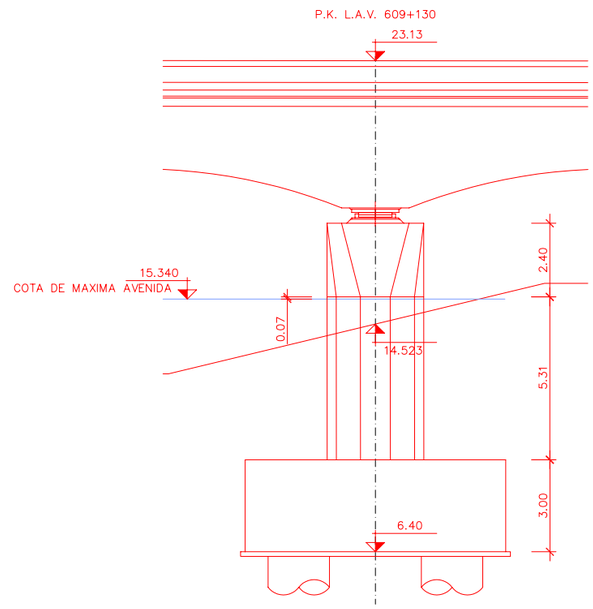
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ALZADO PILA 8
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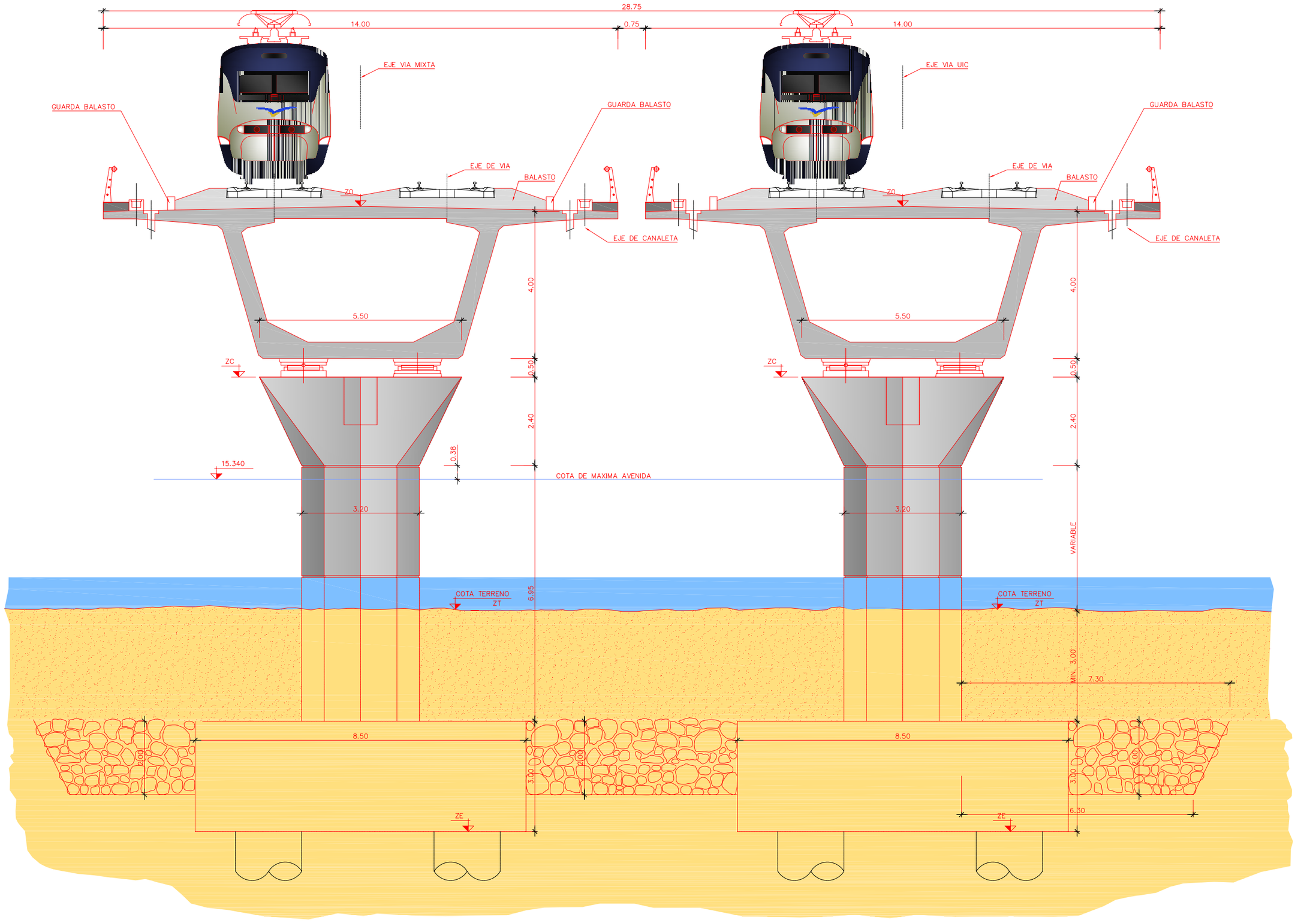


ALZADO PILA 9
ESCALA 1:200



ALZADO PILA 10
ESCALA 1:200

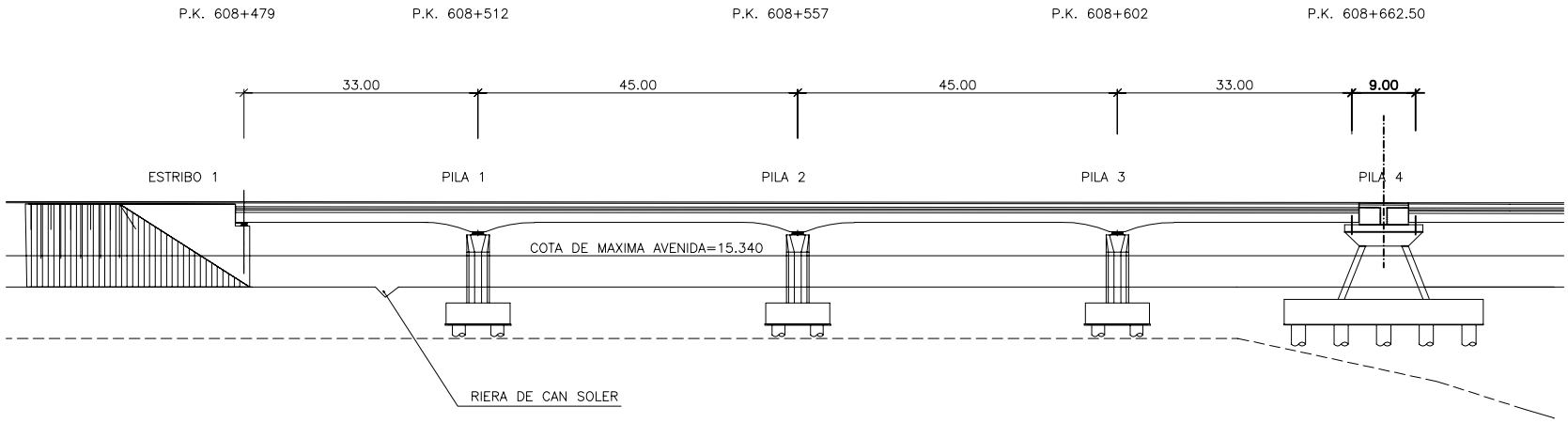
ADMINISTRADOR DE INFRAESTRUCTURAS FERROVIARIAS	TÍTULO: PROYECTO MODIFICADO CONSTRUCCIÓN DE PLATAFORMA LÍNEA DE ALTA VELOCIDAD MADRID–ZARAGOZA–BARCELONA–FRONTERA FRANCESA TRAMO: SANTA COLOMA DE CERVELLÓ–SANT JOAN DESPÍ	AUTOR: ALFREDO ALBA RODRÍGUEZ I.C.C.P.	CONFORME EL CONTRATISTA: SENÉN MERINO CARRILES I.C.C.P.	ESCALA NORMAL: 1/200 Numérica 0 2 4 6 8 Gráfica	FECHA: ABRIL–2005	TITULO DEL PLANO: VIADUCTO DOBLE VIA UIC DESCRIPCIÓN GENERAL ALZADO PILAS (II)	Nº DE PLANO: 2.9.1.1 HOJA 7 DE 9



SECCIÓN A–A'

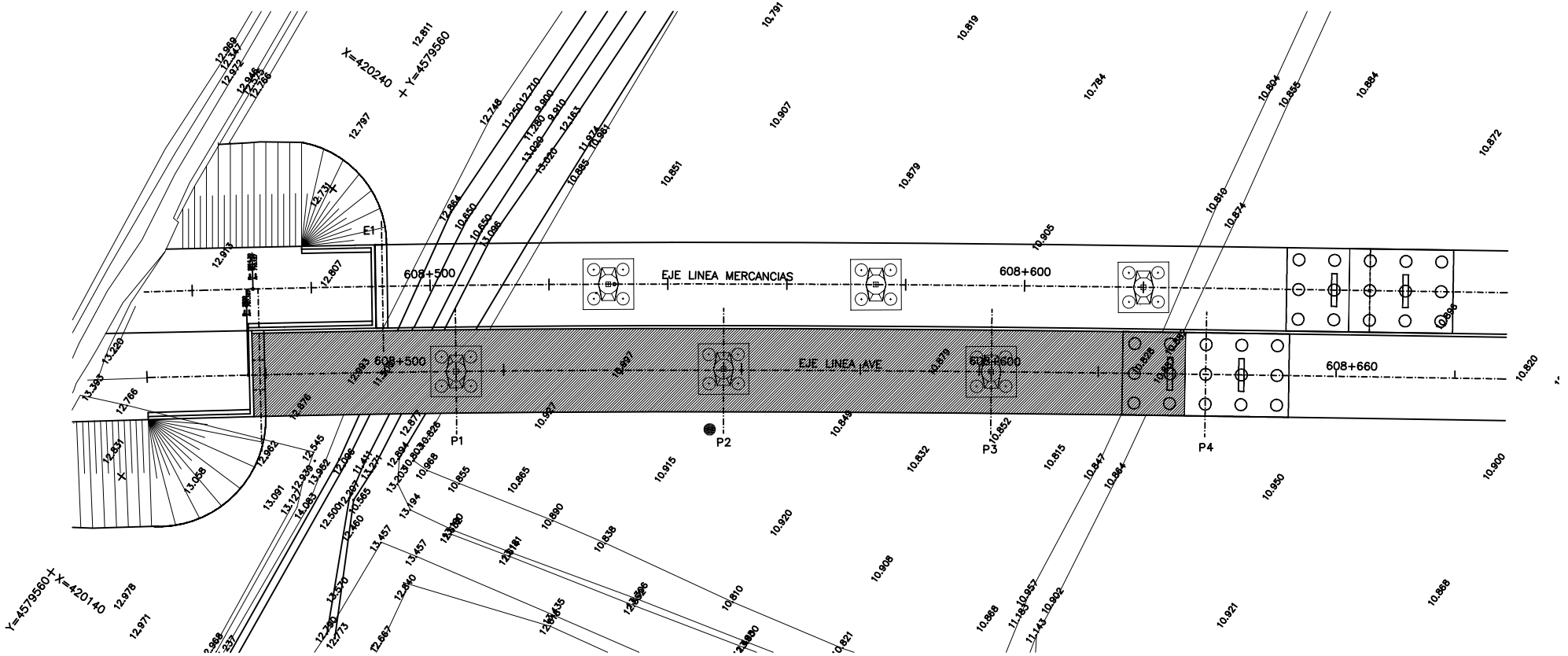
ESCALA 1:100

ADMINISTRADOR DE INFRAESTRUCTURAS FERROVIARIAS	TÍTULO: PROYECTO MODIFICADO CONSTRUCCIÓN DE PLATAFORMA LÍNEA DE ALTA VELOCIDAD MADRID–ZARAGOZA–BARCELONA–FRONTERA FRANCESA TRAMO: SANTA COLOMA DE CERVELLÓ–SANT JOAN DESPÍ	AUTOR: ALFREDO ALBA RODRÍGUEZ I.C.C.P.	CONFORME EL CONTRATISTA: SENÉN MERINO CARRILES I.C.C.P.	ESCALA NORMAL: 1/100 0 1 2 3 4 Numérica Gráfica	FECHA: ABRIL–2005	TITULO DEL PLANO: VIADUCTO DOBLE VIA UIC DESCRIPCIÓN GENERAL SECCIÓN DE CONJUNTO	Nº DE PLANO: 2.9.1.1 HOJA 3 DE 9



ALZADO LONGITUDINAL

ESCALA 1:1000



INFORME DE RESULTADOS
PRUEBA DE CARGA DE LA ESTRUCTURA
VIADUCTO LAV MIXTA (63RMVI01)

II. PROYECTO DE PRUEBA DE CARGA

CONTRATO DE CONSULTORÍA Y ASISTENCIA
PARA LA REALIZACIÓN DE PRUEBAS DE CARGA
PARA LA RECEPCIÓN DE PUENTES DE LA
LINEA DE ALTA VELOCIDAD
MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA.
TRAMO: VILAFRANCA DEL PENEDÉS- BARCELONA



PROYECTO **DE PRUEBA DE CARGA**

TRAMO: SANTA COLOMA DE CERVELLÓ - SANT JOAN DESPÍ.
VIADUCTO LAV (mixta)
63RMVI01
P.K. OBRA: 608+492 A 609+144; LÍNEA:606+797

NORMALIZADO POR

Diciembre de 2006

UNIDAD DE CONSTRUCCIÓN

PROYECTO DE PRUEBA DE CARGA DE LA ESTRUCTURA 63RMVI 01 VIADUCTO DE LLOBREGAT MIXTA

PC/LL/07.10

UNIDAD DE CONSTRUCCIÓN

PROYECTO DE PRUEBA DE CARGA DE LA ESTRUCTURA 63RMVI 01 VIADUCTO DE LLOBREGAT MIXTA

PC/LL/07.10

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3. JUSTIFICACION DE LA CARGA DE LA PRUEBA. 9
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1. INTRODUCCIÓN.

A instancias del ADIF, se redacta el presente documento, "Proyecto de Prueba de Carga del Viaducto de Llobregat de la línea de alta velocidad Madrid-Zaragoza-Barcelona-Frontera Francesa, Tramo: Santa Coloma de Cervelló - Sant Joan Despí", de acuerdo con las especificaciones del Contrato AV 004/06 suscrito con dicho Organismo, cuyo alcance es la realización de las preceptivas pruebas de carga en los puentes y estructuras a recibir por el ADIF, previamente a su puesta en servicio.

La redacción del presente proyecto, así como el desarrollo de las actividades incluidas en el mismo, atiende a las especificaciones de la "Instrucción relativa a las acciones a considerar en el Proyecto de Puentes de Ferrocarril", y se ha realizado siguiendo las directrices recogidas en la publicación del Ministerio de Fomento "Instrucción sobre las inspecciones técnicas en los puentes de ferrocarril (ITPF-05); capítulo 4: Pruebas de carga". Así como las indicadas en el Plan de Actuación de dichas pruebas, redactado por el ADIF, e incluido en el Pliego de Bases, con objeto de desarrollar las especificaciones del Contrato.

2. DATOS SOBRE LA ESTRUCTURA.

Debido a la modificación del trazado ha sido necesario diseñar un viaducto doble sobre el río Llobregat. Se trata de una estructura formada por dos puentes casi gemelos, de 14,00 m. de ancho, y once (vía mixta de 3 hilos) y doce (vía UIC) vanos respectivamente, los vanos centrales de 45 m de luz y los extremos de 36 m, que discurren en una recta prácticamente en toda su longitud.

Los tableros se organizan en secciones cajón de hormigón pretensado, con tramos de canto variable, en una longitud de 8 m a un lado y otro de la pila, con transición parabólica de segundo grado. El canto máximo de la sección, en el tramo de canto constante, es de 2,89 m, que llegan a 4,14 m. sobre las pilas.

La modificación del trazado únicamente afecta a la parte final del tramo, concretamente a partir del P.K. 607+765.417. y hasta el P.K. 608+644. Esta modificación conlleva la aparición de dos nuevas estructuras consistentes de dos viaductos sobre el río Llobregat.

Sendos viaductos se componen de 4 vanos de longitudes 33+45+45+33 para la vía del AVE (UIC) y 38+45+45+38 para la vía de mercancías (MIXTA). El tablero está formado por secciones de cajón de hormigón pretensado, con tramos de canto variable, en una longitud de 8 metros, a un lado y otro de la pila, con transición parabólica de segundo grado. El canto máximo de la sección, en el tramo de canto constante es de 2,89 m, que llegan a 4,14 sobre las pilas.

La configuración de vanos es la siguiente:

(38+2*45+38) PILA ESTRIBO (36+9*45+36)

Vano	Luz de cálculo (m)	Ancho del Tablero (m)	Sección Transversal
V-1	38,00	14,00	Cajón
V-2	45,00	14,00	Cajón
V-3	45,00	14,00	Cajón
V-4	38,00	14,00	Cajón
V-1	36,00	14,00	Cajón
V-2	45,00	14,00	Cajón
V-3	45,00	14,00	Cajón
V-4	45,00	14,00	Cajón
V-5	45,00	14,00	Cajón
V-6	45,00	14,00	Cajón
V-7	45,00	14,00	Cajón
V-8	45,00	14,00	Cajón
V-9	45,00	14,00	Cajón
V-10	45,00	14,00	Cajón
V-11	36,00	14,00	Cajón

La documentación facilitada por el ADIF comprende:

a) Planos del Viaducto de Llobregat del Proyecto Modificado de Plataforma. Línea de Alta Velocidad Madrid – Zaragoza – Barcelona – Frontera francesa. Tramo: Santa Coloma de Cervelló - Sant Joan Despí.

b) Anejo de Cálculo del Viaducto de Llobregat del Proyecto Modificado de Plataforma. Línea de Alta Velocidad Madrid – Zaragoza – Barcelona – Frontera francesa. Tramo: Santa Coloma de Cervelló - Sant Joan Despí (Anejo Nº 11).

A partir de dicha documentación, se ha realizado una evaluación del proyecto de la estructura, con resultados favorables en base a los siguientes conceptos:

- Las acciones a considerar son acordes con las especificaciones de la ***"Instrucción relativa a las acciones a considerar en el proyecto de puentes de ferrocarril IPF-75"y el "Eurocódigo 1: Bases de proyecto y acciones. Parte 3- Cargas de trafico en Puentes".***

- Las hipótesis y combinaciones de cálculo y sus correspondientes coeficientes de ponderación, son acordes con lo especificado en la ***"Instrucción de hormigón estructural EHE".***

- El proceso de dimensionamiento y comprobación de secciones respeta las prescripciones de la normativa vigente ***"Instrucción de hormigón estructural EHE".***

Como elemento fundamental de comprobación del Proyecto de la estructura se han contrastado algunos valores de los momentos flectores debidos a la acción de la sobrecarga.

Los resultados de dicha comparación se muestran en el siguiente cuadro:

SC	Momento Valores Proyecto (m.t)	Momento Valores Comparación (m.t)	Variación (%)
Pila 4	-5412,38	-5695,76	-5,23
Centro de vano 4	3120,78	3200,52	-2,55

Tal y como se observa en el cuadro anterior, las diferencias que se aprecian entre los valores de Proyecto y los de comprobación se consideran perfectamente admisibles.

3. JUSTIFICACION DE LA CARGA DE LA PRUEBA.

Para la realización de la prueba de carga se ha solicitado a través del A.D.I.F., la prestación de un total de dos (2) locomotoras y ocho (8) tolvas cargadas con balasto, distribuidas en las vías de la línea mixta. Las características y dimensiones de los elementos de carga son las siguientes:

- **Locomotora S/316:**
  - Peso total: 109.5 t
  - Seis (6) ejes, transmitiendo cada eje 18.25 t, divididos en dos (2) bogies con tres (3) ejes cada uno.
  - Separación entre ejes de un mismo bogie: 2.07/2.12m.
  - Separación entre el tercer eje del primer bogie y el primer eje del segundo bogie es de: 5.01m
  - Longitud total de la locomotora entre topes: 17.87m
  - Distancia entre pivotes de bogies: 13.39
  - Distancia entre bogies: 4.40
- **Tolva cargada con balasto :**
  - Peso total de 80 T
  - Dos (2) bogies de dos (2) ejes, transmitiendo cada eje 20 T
  - Separación entre ejes intermedios de los dos (2) bogies: 7.4 m
  - Separación entre ejes de un mismo bogie: 1.80 m

En el Anejo nº IV se adjuntan esquemas del tren de cargas.

En la prueba de carga, según se detalla en el Anejo III, se obtienen frente a los valores de proyecto los siguientes porcentajes de esfuerzo (momento Flector):

HIPÓTESIS H 1 (VANOS 1 Y 2)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 1	-2663,08	-	-

HIPÓTESIS H 2 (VANOS 2 Y 3)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 2	-3170,82	-	-

HIPÓTESIS H 3 (VANOS 3 Y 4)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 3		-	-

HIPÓTESIS H 4 (VANOS 1 Y 3)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
CDV 1	1878,24	-	-

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
CDV 3	1906,40	-	-

HIPÓTESIS H 5 (VANOS 2 Y 4)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
CDV 2	1585,00	-	-
CDV 4		-	-

HIPÓTESIS H 1 (PILA 1)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 1	-2536.25	-4665.57	54,36 %

HIPÓTESIS H 2 (PILA 2)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 2	-2691.24	-5145.52	52,30 %

HIPÓTESIS H 3 (PILA 3)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 3	-2698.93	-5353.95	50,04 %

HIPÓTESIS H 4 (PILA 4)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 4	-2699.51	-5412.38	49,88 %

HIPÓTESIS H 5 (PILA 5)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 5	-2699.59	-5432.51	49,69 %

HIPÓTESIS H 6 (PILA 6)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 6	-2699.99	-5432.27	49,70 %

HIPÓTESIS H 7 (PILA 7)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 7	-2700.25	-5411.81	49,90 %

HIPÓTESIS H 8 (PILA 8)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 8	-2699.40	-5353.55	50,42 %

HIPÓTESIS H 9 (PILA 9)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 9	-2691.21	-5148.44	52,27 %

HIPÓTESIS H 10 (PILA 10)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
PILA 10	-2357.13	-4675.79	50,41 %

HIPÓTESIS H 11 (VANOS 1 Y 3)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
VANO 1	1657.53	2617.80	63,32 %
VANO 3	1497.92	3057.94	48,98 %

HIPÓTESIS H 12 (VANOS 2 Y 4)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
VANO 2	1653.61	2827.45	58,48 %
VANO 4	1520.46	3120.78	48,72 %

HIPÓTESIS H 13 (VANOS 3 Y 5)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
VANO 3	1667.02	3057.94	54,51 %
VANO 5	1521.44	3144.25	48,39 %

HIPÓTESIS H 14 (VANOS 4 Y 6)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
VANO 4	1667.99	3120.78	53,45 %
VANO 6	1521.72	3148.16	48,34 %

HIPÓTESIS H 15 (VANOS 5 Y 7)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
VANO 5	1667.83	3144.25	53,04 %
VANO 7	1522.71	3143.23	48,44 %

HIPÓTESIS H 16 (VANOS 6 Y 8)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
VANO 6	1668.12	3148.16	52,99 %
VANO 8	1522.63	3199.26	47,59 %

HIPÓTESIS H 17 (VANOS 7 Y 9)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
VANO 7	1668.95	3143.23	53,10 %
VANO 9	1521.33	3057.81	49,75 %

HIPÓTESIS H 18 (VANOS 8 Y 10)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
VANO 8	1667.54	3199.26	52,12 %
VANO 10	1507.70	2829.85	53,28 %

HIPÓTESIS H 19 (VANOS 9 Y 11)

Sección	Momento PC (mt)	Momento de proyecto (mt)	Porcentaje alcanzado
VANO 9	1625.68	3057.81	53,16 %
VANO 11	1487.53	2618.42	56,81 %

4. MEDIDAS A REALIZAR

Se exponen a continuación las medidas que se realizarán durante el ensayo de Prueba de Carga.

4.1. FLECHAS.

En cada vano se medirán flechas verticales en la sección de centro de vano y en los puntos de apoyo.

Para el control de flechas verticales en secciones que no sean de apoyo del tablero se utilizarán flexímetros equipados con sensores de desplazamientos lineales potenciométricos y salida 4:20 mA, utilizando como elemento de transmisión de flechas un hilo de acero inoxidable de 2 mm de diámetro fijado a la cara inferior del tablero. El rango de medida será de 50 mm con una precisión del 0.1%

Para el control de flechas verticales en los apoyos del tablero se utilizarán los mismos sensores potenciométricos de desplazamientos lineales y salida 4:20 mA, montados sobre unos angulares metálicos y palpando directamente sobre las vigas. El rango de medida será también de 50 mm con una precisión del 0.1%.

4.2. DEFORMACIONES UNITARIAS.

En cada vano se medirán deformaciones unitarias en la sección de centro de vano. La medición de las deformaciones unitarias se realizará mediante bandas extensométricas directamente adheridas al hormigón, en la fibra interior de la losa y según la dirección longitudinal de la misma, tanto en pruebas estáticas como dinámicas.

4.3. OTRAS MEDIDAS.

Durante las pruebas dinámicas, se realizará un registro continuo de vibraciones, mediante once (11) geófonos verticales situados en el centro de cada uno de los vanos, con objeto de determinar en dichas pruebas la frecuencia propia de oscilación de la estructura.

Por otro lado, se realizará un control continuo de los parámetros meteorológicos más significativos: Temperatura, presión atmosférica, dirección y velocidad del viento, humedad relativa y pluviometría.

5. PLAN DE CARGA Y PROGRAMACION DEL ENSAYO.

5.1. PRUEBAS ESTÁTICAS.

Se realizará una (1) prueba estática para cada hipótesis de carga, resultando un total de veinte una (21) pruebas estáticas, cargando dos vanos alternos para obtener los máximos momentos flectores positivos en centros de vano y cargando dos vanos consecutivos para obtener los máximos momentos flectores negativos en pilas.

Hipótesis	Vano	Vías	Sobrecargas
H-1	V-1	1 y 2	2 Locom. + 2 Tolva
	V-2	1 y 2	6 Tolvas
H-2	V-2	1 y 2	2 Locom. + 2 Tolva
	V-3	1 y 2	6 Tolvas
H-3	V-3	1 y 2	2 Locom. + 2 Tolva
	V-4	1 y 2	6 Tolvas
H-4	V-1	1 y 2	2 Locom. + 2 Tolva
	V-3	1 y 2	6 Tolvas
H-5	V-2	1 y 2	2 Locom. + 2 Tolva
	V-4	1 y 2	4 Tolvas

Hipótesis	Vano	Vías	Sobrecargas
H-1	V-1	1 y 2	2 Locom. + 2 Tolva
	V-2	1 y 2	6 Tolvas
H-2	V-2	1 y 2	2 Locom. + 2 Tolva
	V-3	1 y 2	6 Tolvas
H-3	V-3	1 y 2	2 Locom. + 2 Tolva
	V-4	1 y 2	6 Tolvas
H-4	V-4	1 y 2	2 Locom. + 2 Tolva
	V-5	1 y 2	6 Tolvas
H-5	V-5	1 y 2	2 Locom. + 2 Tolva
	V-6	1 y 2	6 Tolvas
H-6	V-6	1 y 2	2 Locom. + 2 Tolva
	V-7	1 y 2	6 Tolvas
H-7	V-7	1 y 2	2 Locom. + 2 Tolva
	V-8	1 y 2	6 Tolvas
H-8	V-8	1 y 2	2 Locom. + 2 Tolva
	V-9	1 y 2	6 Tolvas
H-9	V-9	1 y 2	2 Locom. + 2 Tolva
	V-10	1 y 2	6 Tolvas
H-10	V-10	1 y 2	2 Locom. + 2 Tolva
	V-11	1 y 2	4 Tolvas

Hipótesis	Vano	Vías	Sobrecargas
H-11	V-1	1 y 2	2 Locom. + 2 Tolva
	V-3	1 y 2	6 Tolvas
H-12	V-2	1 y 2	2 Locom. + 2 Tolva
	V-4	1 y 2	6 Tolvas
H-13	V-3	1 y 2	2 Locom. + 2 Tolva
	V-5	1 y 2	6 Tolvas
H-14	V-4	1 y 2	2 Locom. + 2 Tolva
	V-6	1 y 2	6 Tolvas
H-15	V-5	1 y 2	2 Locom. + 2 Tolva
	V-7	1 y 2	6 Tolvas
H-16	V-6	1 y 2	2 Locom. + 2 Tolva
	V-8	1 y 2	6 Tolvas
H-17	V-7	1 y 2	2 Locom. + 2 Tolva
	V-9	1 y 2	6 Tolvas
H-18	V-8	1 y 2	2 Locom. + 2 Tolva
	V-10	1 y 2	6 Tolvas
H-19	V-9	1 y 2	2 Locom. + 2 Tolva
	V-11	1 y 2	6 Tolvas

En el Anejo nº IV se adjuntan las mencionadas posiciones de las sobrecargas para cada vano.

Para cada vano, el ensayo de prueba de carga estática se realizará atendiendo a los siguientes escalones:

- Escalón 0: Verificación de conexión y funcionamiento de todos los instrumentos de medida, equilibrado y puesta a cero.

- Escalón 1: Determinación de las lecturas origen estabilizadas de todos los sensores, sin carga en la estructura.

- Escalón 2: Situación o posicionamiento de la carga de prueba, realizándose medidas continuas en intervalos de tiempo entre 5-15 seg.

- Escalón 3: Estabilización de las medidas con la carga de prueba situada, realizándose la medida continua de todos los equipos en intervalos de tiempo entre 5-15 seg hasta su total estabilización, durante un tiempo no inferior a 10 minutos.

- Escalón 4: Descarga de la estructura retirando los vehículos que constituyen el tren de carga. Se realizarán lecturas de forma continua, cada 5-15 seg, de todos los sensores.

- Escalón 5: Estabilización final de las medidas, con la estructura totalmente descargada, realizándose la medida continua de todos los sensores, cada 5-15 seg, hasta alcanzar una recuperación no inferior al 85%, en un intervalo de tiempo no superior al de mantenimiento de la carga de prueba.

En los escalones de estabilización de carga (Escalón 3) y estabilización de descarga (Escalón 5), aparte de los tiempos indicados, y simultáneamente, se seguirán los siguientes criterios de estabilización:

- En 10 minutos no habrá variaciones superiores al 5% de la medida anterior.

- Se esperará a obtener recuperaciones finales superiores al 85 % y sirviendo los criterios anteriores. En caso de no alcanzarse dicho tanto por ciento se procederá a realizar un segundo ciclo de carga.

5.2. PRUEBAS DINÁMICAS.

En cada vano, a continuación de la correspondiente prueba estática, se realizarán cuatro (4) pruebas de carácter dinámico, realizándose cargando dos (2) vías, con el mismo tren de cargas que el utilizado en la prueba estática en dicha vía. Dichas pruebas dinámicas serán las siguientes:

- **Prueba D-1:** Prueba cuasi-estática (V = 5 Km/h).
- **Prueba D-2:** Prueba a velocidad media (V = 30 Km/h).
- **Prueba D-3:** Prueba a máxima velocidad.
- **Prueba D-4:** Prueba de frenado a máxima velocidad.

En el Anejo nº III se adjuntan también los cálculos correspondientes a la estimación de la frecuencia fundamental de vibración de la estructura, dando como resultado los once primeros modos de vibración.

6. PREVISIÓN DE RESULTADOS.

6.1. PRUEBA ESTÁTICA

H-1: VANOS 1 Y 2

Sección	Zona	Flecha (mm)	Deformación (με)
V-1	1/2	-2,7	45
	P-1	-	-141
V-2	1/4	-2,5	6
	1/2	-4,7	52
	3/4	-3,9	46

H-2: VANOS 2 Y 3

Sección	Zona	Flecha (mm)	Deformación (με)
V-2	1/4	-2,3	31
	1/2	-2,5	38
	3/4	-0,7	-11
	P-2	-	-167
V-3	1/4	-4,2	1
	1/2	-8,2	64
	3/4	-8,5	75

H-3: VANOS 3 Y 4

Sección	Zona	Flecha (mm)	Deformación (με)
V-3	1/4	-7,3	32
	1/2	-11,6	86
	3/4	-11,0	85
	P-3	-	-11
V-4	1/2	0,9	-16

H-4: VANOS 1 Y 3

Vano	Sección	Flecha (mm)	Deformación (με)
V-1	1/2	-0,80	99
	P-1	-	-32
V-2	1/4	6,10	-47
	1/2	8,30	-58
	3/4	7,00	-70
	P-2	-	-85
V-3	1/4	-9,60	57
	1/2	-14,40	101
	3/4	-13,30	93

H-5: VANOS 2 Y 4

Sección	Zona	Flecha (mm)	Deformación (με)
V-2	1/4	-5,80	45
	1/2	-8,10	84
	3/4	-5,90	46
	P-2	-	-60
V-3	1/4	4,30	-43
	1/2	5,00	-29
	3/4	4,10	-16
	P-3	-	0
V-4	1/2	-2,5	46

H-1: VANOS 1 Y 2

Sección	Zona	Flecha (mm)	Deformación (με)
V-1	1/2	-2,0	41
	P-1	-	-134
V-2	1/4	-2,6	9
	1/2	-4,7	52
	3/4	-4,2	43

H-2: VANOS 2 Y 3

Sección	Zona	Flecha (mm)	Deformación (με)
V-2	1/4	-3,5	41
	1/2	-4,1	55
	3/4	-1,9	-6
	P-2	-	-142
V-3	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-3: VANOS 3 Y 4

Sección	Zona	Flecha (mm)	Deformación (με)
V-3	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-3	-	-142
V-4	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-4: VANOS 4 Y 5

Sección	Zona	Flecha (mm)	Deformación (με)
V-4	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-4	-	-143
V-5	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-5: VANOS 5 Y 6

Sección	Zona	Flecha (mm)	Deformación (με)
V-5	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-5	-	-143
V-6	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-6: VANOS 6 Y 7

Sección	Zona	Flecha (mm)	Deformación (με)
V-6	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-6	-	-143
V-7	1/4	-2,2	3
	1/2	-4,2	49
	3/4	-3,6	44

H-7: VANOS 7 Y 8

Sección	Zona	Flecha (mm)	Deformación (με)
V-7	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-7	-	-143
V-8	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-8: VANOS 8 Y 9

Sección	Zona	Flecha (mm)	Deformación (με)
V-8	1/4	-3,5	42
	1/2	-4,2	56
	3/4	-1,9	-6
	P-8	-	-143
V-9	1/4	-2,2	3
	1/2	-4,3	49
	3/4	-3,6	44

H-9: VANOS 9 Y 10

Sección	Zona	Flecha (mm)	Deformación (με)
V-9	1/4	-3,6	42
	1/2	-4,2	56
	3/4	-2,0	-6
	P-9	-	-142
V-10	1/4	-2,1	3
	1/2	-4,2	49
	3/4	-3,5	43

H-10: VANOS 10 Y 11

Sección	Zona	Flecha (mm)	Deformación (με)
V-10	1/4	-4,0	43
	1/2	-5,0	62
	3/4	-2,8	6
	P-10	-	-124
V-11	1/2	-1,5	35

H-11: VANOS 1 Y 3

Vano	Sección	Flecha (mm)	Deformación (με)
V-1	1/2	-6,3	88
	P-1	-	-35
V-2	1/4	4,8	-40
	1/2	6,2	-44
	3/4	5,1	-48
	P-2	-	-54
V-3	1/4	-6,4	59
	1/2	-8,5	79
	3/4	-6,0	48

H-12: VANOS 2 Y 4

Sección	Zona	Flecha (mm)	Deformación (με)
V-2	1/4	-6,1	44
	1/2	-8,6	87
	3/4	-6,5	55
	P-2	-	-46
V-3	1/4	5,3	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-3	-	-50
V-4	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-13: VANOS 3 Y 5

Sección	Zona	Flecha (mm)	Deformación (με)
V-3	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-3	-	-46
V-4	1/4	5,3	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-4	-	-50
V-5	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-14: VANOS 4 Y 6

Sección	Zona	Flecha (mm)	Deformación (με)
V-4	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-4	-	-46
V-5	1/4	5,3	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-5	-	-50
V-6	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-15: VANOS 5 Y 7

Sección	Zona	Flecha (mm)	Deformación (με)
V-5	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-5	-	-46
V-6	1/4	5,3	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-6	-	-50
V-7	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-16: VANOS 6 Y 8

Sección	Zona	Flecha (mm)	Deformación (με)
V-6	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-6	-	-46
V-7	1/4	5,4	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-7	-	-50
V-8	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-17: VANOS 7 Y 9

Sección	Zona	Flecha (mm)	Deformación (με)
V-7	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-7	-	-46
V-8	1/4	5,4	-47
	1/2	6,8	-48
	3/4	5,4	-49
	P-8	-	-50
V-9	1/4	-6,6	61
	1/2	-8,7	80
	3/4	-6,1	48

H-18: VANOS 8 Y 10

Sección	Zona	Flecha (mm)	Deformación (με)
V-8	1/4	-6,2	46
	1/2	-8,7	88
	3/4	-6,5	55
	P-8	-	-47
V-9	1/4	5,3	-47
	1/2	6,8	-48
	3/4	5,4	-48
	P-9	-	-49
V-10	1/4	-6,6	61
	1/2	-8,6	80
	3/4	-6,0	46

H-19: VANOS 9 Y 11

Sección	Zona	Flecha (mm)	Deformación (με)
V-9	1/4	-6,0	46
	1/2	-8,4	86
	3/4	-6,2	51
	P-9	-	-53
V-10	1/4	4,8	-46
	1/2	5,8	-41
	3/4	4,4	-36
	P-10		-29
V-11	1/2	-5,6	79

6.2. FRECUENCIAS

La frecuencia natural de vibración, en el tablero de cuatro vanos de los cuatro (4) primeros modos de vibración y en el tablero largo de los doce (12) primeros modos de vibración, son los siguientes:

Modo 1: 2.5Hz

Modo 2: 3.3 Hz

Modo 3: 4.2 Hz

Modo 4: 4.8Hz

Modo 1: 2.3 Hz

Modo 2: 2.4 Hz

Modo 3: 2.7Hz

Modo 4: 2.9 Hz

Modo 5: 3.3 Hz

Modo 6: 3.6Hz

Modo 7: 4.0 Hz

Modo 8: 4.3 Hz

Modo 9: 4.6 Hz

7. CONCLUSIÓN.

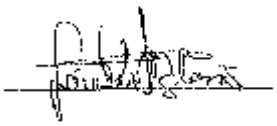
El presente documento consta de 32 hojas correlativamente numeradas, así como de tres Anejos sin numerar titulados:

I. DOCUMENTACION FACILITADA

II. ANÁLISIS DEL PROYECTO DE LA ESTRUCTURA

III. ESQUEMAS DE INSTRUMENTACIÓN PREVISTA Y TREN DE CARGAS.

Madrid, Noviembre de 2006



Jesús María Sánchez Iglesias

PROYECTO DE PRUEBA DE CARGA DE LA ESTRUCTURA 63RMVI 01 VIADUCTO DE LLOBREGAT MIXTA

ANEJOS

I. DOCUMENTACION FACILITADA

1.1.17.- ENVOLVENTES DE ESFUERZOS DE SC EN ANDENES.

Hipótesis de carga consideradas SC 2.5 kN/m2 en andenes

Combinación: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+46.120	+4.859	-0.000	+36.129	+3.329	+16.376
C 1	-42.164	+4.859	-0.000	-33.030	+3.329	+16.377
C 1	+3.636	+12.718	-0.000	+2.779	+9.658	+44.750
C 1	+0.319	-2.999	+0.000	+0.319	-2.999	-11.997
C 1	+0.151	-1.317	+0.000	+2.779	+9.658	+44.750
C 1	+2.491	+7.418	-0.000	+0.319	-2.999	-11.997
Barra 2						
C 1	+36.129	+3.329	+16.377	+26.138	+1.799	+26.633
C 1	-33.030	+3.329	+16.377	-23.896	+1.799	+26.633
C 1	+2.779	+9.657	+44.750	+1.922	+6.597	+77.260
C 1	+0.319	-2.999	-11.997	+0.319	-2.999	-23.994
C 1	+2.779	+9.657	+44.750	+1.922	+6.597	+77.260
C 1	+0.319	-2.999	-11.997	+0.319	-2.999	-23.994
Barra 3						
C 1	+26.138	+1.799	+26.633	+28.937	+0.269	+30.769
C 1	-23.896	+1.799	+26.633	-27.552	+0.269	+30.769
C 1	+1.922	+6.597	+77.260	+1.639	+5.504	+66.049
C 1	+0.319	-2.999	-23.994	-0.254	-4.966	-4.510
C 1	+1.922	+6.597	+77.260	+1.066	+3.537	+97.529
C 1	+0.319	-2.999	-23.994	+0.319	-2.999	-35.991
Barra 4						
C 1	+28.937	+0.269	+30.769	+18.946	-1.261	+28.785
C 1	-27.552	+0.269	+30.769	-18.418	-1.261	+28.785
C 1	+1.639	+5.504	+66.049	+0.782	+2.444	+81.944
C 1	-0.254	-4.966	-4.510	-0.254	-4.966	-24.373
C 1	+1.066	+3.537	+97.529	+0.209	+0.477	+105.557
C 1	+0.319	-2.999	-35.991	+0.319	-2.999	-47.987
Barra 5						
C 1	+18.946	-1.261	+28.785	+20.607	-2.791	+20.682
C 1	-18.418	-1.261	+28.785	-20.936	-2.791	+20.682
C 1	+0.782	+2.444	+81.944	+0.447	+1.901	+38.018
C 1	-0.254	-4.966	-24.374	-0.776	-7.483	+3.345
C 1	+0.209	+0.477	+105.558	-0.648	-2.583	+101.347
C 1	+0.319	-2.999	-47.987	+0.319	-2.999	-59.984
Barra 6						
C 1	+20.607	-2.791	+20.682	+29.742	-4.321	+6.458
C 1	-20.936	-2.791	+20.682	-30.927	-4.321	+6.458
C 1	+0.447	+1.901	+38.018	+0.447	+1.901	+45.622
C 1	-0.776	-7.483	+3.345	-1.633	-10.543	-32.706
C 1	-0.648	-2.583	+101.347	-1.505	-5.643	+84.897
C 1	+0.319	-2.999	-59.984	+0.319	-2.999	-71.981

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 7						
C 1	+29.742	-4.321	+6.458	+29.303	-5.851	-13.886
C 1	-30.927	-4.321	+6.458	-31.346	-5.851	-13.885
C 1	+0.447	+1.901	+45.622	+0.018	+0.966	+27.037
C 1	-1.633	-10.543	-32.706	-2.061	-12.668	-54.808
C 1	-1.505	-5.642	+84.897	-2.362	-8.702	+56.208
C 1	+0.319	-3.000	-71.981	+0.319	-3.000	-83.979
Barra 8						
C 1	+29.303	-5.851	-13.885	+37.204	-7.174	-36.419
C 1	-31.346	-5.851	-13.885	-39.988	-7.174	-36.419
C 1	+0.018	+0.966	+27.037	+0.018	+0.966	+30.378
C 1	-2.061	-12.667	-54.808	-2.802	-15.314	-103.216
C 1	-2.362	-8.702	+56.208	-1.151	-3.806	+38.518
C 1	+0.319	-2.999	-83.979	-1.633	-10.543	-111.355
Barra 9						
C 1	+37.204	-7.174	-36.419	+45.105	-8.498	-63.532
C 1	-39.988	-7.174	-36.419	-48.630	-8.498	-63.532
C 1	+0.018	+0.966	+30.378	+0.018	+0.966	+33.719
C 1	-2.802	-15.314	-103.215	-3.543	-17.961	-160.782
C 1	-1.151	-3.806	+38.517	+0.018	+0.966	+33.719
C 1	-1.633	-10.543	-111.355	-3.543	-17.961	-160.782
Barra 10						
C 1	+45.105	-8.497	-63.532	+47.571	-8.910	-72.932
C 1	-48.630	-8.497	-63.532	-51.327	-8.910	-72.932
C 1	+0.018	+0.966	+33.719	+0.018	+0.966	+34.762
C 1	-3.543	-17.959	-160.783	-3.774	-18.786	-180.626
C 1	+0.018	+0.966	+33.719	+0.018	+0.966	+34.762
C 1	-3.543	-17.959	-160.783	-3.774	-18.786	-180.626
Barra 11						
C 1	+62.154	+8.649	-72.933	+59.456	+8.236	-63.815
C 1	-57.269	+8.649	-72.933	-54.803	+8.236	-63.815
C 1	+4.610	+20.403	-180.627	+4.378	+19.576	-159.039
C 1	+0.275	-3.104	+34.762	+0.275	-3.104	+31.409
C 1	+0.275	-3.104	+34.762	+0.275	-3.104	+31.409
C 1	+4.610	+20.403	-180.627	+4.378	+19.576	-159.039
Barra 12						
C 1	+59.456	+8.235	-63.815	+50.814	+6.911	-37.612
C 1	-54.803	+8.235	-63.815	-46.902	+6.911	-37.612
C 1	+4.378	+19.574	-159.039	+3.637	+16.927	-95.893
C 1	+0.275	-3.104	+31.409	+0.275	-3.104	+20.669
C 1	+0.275	-3.104	+31.409	+1.010	-0.200	+28.047
C 1	+4.378	+19.574	-159.039	+2.903	+14.023	-103.271

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 13						
C 1	+50.814	+6.911	-37.613	+47.167	+6.352	-27.928
C 1	-46.902	+6.911	-37.613	-43.568	+6.352	-27.928
C 1	+3.637	+16.925	-95.893	+3.324	+15.808	-71.993
C 1	+0.275	-3.104	+20.668	+0.275	-3.104	+16.136
C 1	+1.010	-0.200	+28.047	+0.697	-1.317	+26.940
C 1	+2.903	+14.021	-103.272	+2.903	+14.021	-82.796
Barra 14						
C 1	+47.167	+6.353	-27.929	+42.320	+5.588	-15.988
C 1	-43.568	+6.353	-27.929	-39.149	+5.588	-15.988
C 1	+3.324	+15.810	-71.994	+2.896	+14.280	-41.904
C 1	+0.275	-3.104	+16.136	+0.275	-3.104	+9.928
C 1	+0.697	-1.317	+26.940	+2.157	+4.173	+33.770
C 1	+2.903	+14.023	-82.798	+1.014	+7.002	-65.746
Barra 15						
C 1	+42.320	+5.587	-15.987	+44.603	+5.204	-10.589
C 1	-39.149	+5.587	-15.987	-41.646	+5.204	-10.589
C 1	+2.896	+14.284	-41.904	+2.903	+14.025	-40.722
C 1	+0.275	-3.111	+9.930	+0.054	-3.616	+19.544
C 1	+2.157	+4.176	+33.767	+1.943	+3.411	+37.562
C 1	+1.014	+6.998	-65.742	+1.014	+6.998	-58.740
Barra 16						
C 1	+44.603	+5.207	-10.590	+33.364	+3.486	+8.968
C 1	-41.646	+5.207	-10.590	-31.370	+3.486	+8.968
C 1	+2.903	+14.029	-40.726	+1.939	+10.586	+14.658
C 1	+0.054	-3.615	+19.545	+0.054	-3.615	+3.278
C 1	+1.943	+3.411	+37.562	+1.951	+7.948	+68.912
C 1	+1.014	+7.003	-58.742	+0.043	-0.977	-50.977
Barra 17						
C 1	+33.364	+3.486	+8.968	+22.994	+1.764	+20.780
C 1	-31.370	+3.486	+8.968	-21.965	+1.764	+20.780
C 1	+1.939	+10.586	+14.658	+0.975	+7.144	+54.550
C 1	+0.054	-3.615	+3.278	+0.054	-3.615	-12.990
C 1	+1.951	+7.948	+68.912	+0.987	+4.506	+96.934
C 1	+0.043	-0.977	-50.977	+0.043	-0.977	-55.374
Barra 18						
C 1	+22.994	+1.764	+20.780	+33.270	+0.043	+24.846
C 1	-21.965	+1.764	+20.780	-33.204	+0.043	+24.846
C 1	+0.975	+7.143	+54.550	+1.014	+7.002	+35.791
C 1	+0.054	-3.615	-12.990	-0.948	-6.916	+13.902
C 1	+0.987	+4.506	+96.935	+0.023	+1.063	+109.463
C 1	+0.043	-0.977	-55.374	+0.043	-0.977	-59.771

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 19						
C 1	+33.270	+0.043	+24.846	+24.216	-1.344	+22.489
C 1	-33.204	+0.043	+24.846	-24.927	-1.344	+22.489
C 1	+1.014	+7.002	+35.791	+0.237	+4.229	+56.149
C 1	-0.948	-6.916	+13.902	-0.948	-6.916	-11.170
C 1	+0.023	+1.063	+109.464	-0.754	-1.710	+108.290
C 1	+0.043	-0.977	-59.771	+0.043	-0.977	-63.312
Barra 20						
C 1	+24.216	-1.344	+22.489	+30.139	-2.730	+15.106
C 1	-24.927	-1.343	+22.489	-31.626	-2.730	+15.106
C 1	+0.237	+4.229	+56.148	+0.132	+4.029	+26.285
C 1	-0.948	-6.916	-11.170	-1.619	-9.489	+3.927
C 1	-0.754	-1.710	+108.289	-1.530	-4.483	+97.065
C 1	+0.043	-0.977	-63.311	+0.043	-0.977	-66.853
Barra 21						
C 1	+30.139	-2.730	+15.105	+38.416	-4.117	+2.696
C 1	-31.626	-2.730	+15.105	-40.681	-4.117	+2.696
C 1	+0.132	+4.029	+26.285	+0.132	+4.029	+40.889
C 1	-1.619	-9.489	+3.926	-2.396	-12.262	-35.497
C 1	-1.530	-4.483	+97.064	-2.307	-7.256	+75.786
C 1	+0.043	-0.977	-66.853	+0.043	-0.977	-70.394
Barra 22						
C 1	+38.416	-4.117	+2.696	+38.907	-5.503	-14.740
C 1	-40.681	-4.117	+2.696	-41.947	-5.503	-14.740
C 1	+0.132	+4.029	+40.889	-0.217	+3.133	+32.128
C 1	-2.396	-12.262	-35.497	-2.824	-14.140	-61.609
C 1	-2.307	-7.256	+75.786	-2.092	-4.090	+56.905
C 1	+0.043	-0.977	-70.394	-0.948	-6.916	-86.386
Barra 23						
C 1	+38.907	-5.503	-14.740	+46.808	-6.827	-36.071
C 1	-41.947	-5.503	-14.740	-50.589	-6.827	-36.071
C 1	-0.217	+3.133	+32.128	-0.217	+3.133	+42.969
C 1	-2.824	-14.140	-61.609	-3.565	-16.787	-115.111
C 1	-2.092	-4.090	+56.905	-1.386	-1.391	+50.232
C 1	-0.948	-6.917	-86.386	-2.396	-12.262	-122.373
Barra 24						
C 1	+46.808	-6.827	-36.071	+54.709	-8.150	-61.981
C 1	-50.589	-6.827	-36.071	-59.231	-8.150	-61.981
C 1	-0.217	+3.133	+42.969	-0.217	+3.133	+53.811
C 1	-3.565	-16.787	-115.111	-4.306	-19.433	-177.772
C 1	-1.386	-1.391	+50.232	-0.217	+3.133	+53.811
C 1	-2.396	-12.262	-122.374	-4.306	-19.433	-177.772

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 25						
C 1	+54.709	-8.150	-61.981	+57.175	-8.564	-71.006
C 1	-59.231	-8.150	-61.981	-61.929	-8.564	-71.006
C 1	-0.217	+3.134	+53.811	-0.217	+3.134	+57.195
C 1	-4.306	-19.435	-177.772	-4.537	-20.261	-199.207
C 1	-0.217	+3.134	+53.811	-0.217	+3.134	+57.195
C 1	-4.306	-19.435	-177.772	-4.537	-20.261	-199.207
Barra 26						
C 1	+62.700	+8.593	-71.007	+60.002	+8.180	-61.949
C 1	-57.872	+8.593	-71.007	-55.405	+8.180	-61.949
C 1	+4.566	+20.953	-199.208	+4.335	+20.127	-177.023
C 1	+0.262	-3.767	+57.194	+0.262	-3.767	+53.126
C 1	+0.262	-3.767	+57.194	+0.262	-3.767	+53.126
C 1	+4.566	+20.953	-199.208	+4.335	+20.127	-177.023
Barra 27						
C 1	+60.002	+8.179	-61.949	+51.360	+6.856	-35.938
C 1	-55.405	+8.179	-61.949	-47.504	+6.856	-35.938
C 1	+4.335	+20.126	-177.024	+3.594	+17.479	-111.969
C 1	+0.262	-3.767	+53.126	+0.262	-3.767	+40.093
C 1	+0.262	-3.767	+53.126	+0.995	-0.872	+47.794
C 1	+4.335	+20.126	-177.024	+2.860	+14.584	-119.669
Barra 28						
C 1	+51.360	+6.857	-35.938	+47.713	+6.298	-26.336
C 1	-47.504	+6.857	-35.938	-44.170	+6.298	-26.336
C 1	+3.594	+17.480	-111.969	+3.281	+16.363	-87.265
C 1	+0.262	-3.766	+40.093	+0.262	-3.766	+34.594
C 1	+0.995	-0.871	+47.794	+0.683	-1.988	+45.706
C 1	+2.860	+14.584	-119.670	+2.860	+14.584	-98.377
Barra 29						
C 1	+47.713	+6.298	-26.335	+42.885	+5.533	-14.505
C 1	-44.170	+6.298	-26.335	-39.771	+5.533	-14.505
C 1	+3.281	+16.362	-87.264	+2.853	+14.832	-56.071
C 1	+0.262	-3.767	+34.593	+0.262	-3.767	+27.060
C 1	+0.683	-1.989	+45.706	+2.142	+3.471	+52.148
C 1	+2.860	+14.584	-98.377	+0.972	+7.594	-81.158
Barra 30						
C 1	+42.885	+5.534	-14.506	+45.169	+5.151	-9.162
C 1	-39.771	+5.534	-14.506	-42.269	+5.151	-9.162
C 1	+2.853	+14.833	-56.072	+2.860	+14.586	-54.622
C 1	+0.262	-3.766	+27.060	+0.040	-4.283	+36.298
C 1	+2.142	+3.470	+52.151	+1.928	+2.705	+55.237
C 1	+0.972	+7.597	-81.163	+0.972	+7.597	-73.562

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 31						
C 1	+45.169	+5.150	-9.164	+33.929	+3.429	+10.138
C 1	-42.269	+5.150	-9.164	-31.993	+3.429	+10.138
C 1	+2.860	+14.583	-54.626	+1.896	+11.141	+3.253
C 1	+0.040	-4.283	+36.298	+0.040	-4.283	+17.022
C 1	+1.928	+2.706	+55.236	+1.935	+7.173	+84.812
C 1	+0.972	+7.594	-73.564	+0.002	-0.316	-64.536
Barra 32						
C 1	+33.929	+3.429	+10.138	+23.581	+1.707	+21.694
C 1	-31.993	+3.429	+10.138	-22.609	+1.707	+21.694
C 1	+1.896	+11.141	+3.254	+0.932	+7.698	+45.642
C 1	+0.040	-4.283	+17.022	+0.040	-4.283	-2.253
C 1	+1.935	+7.173	+84.812	+0.971	+3.730	+109.345
C 1	+0.002	-0.316	-64.536	+0.002	-0.316	-65.956
Barra 33						
C 1	+23.581	+1.707	+21.695	+33.857	-0.014	+25.505
C 1	-22.609	+1.707	+21.695	-33.848	-0.014	+25.505
C 1	+0.932	+7.698	+45.642	+0.972	+7.594	+28.957
C 1	+0.040	-4.283	-2.253	-0.964	-7.622	+22.053
C 1	+0.971	+3.730	+109.346	+0.007	+0.288	+118.387
C 1	+0.002	-0.316	-65.956	+0.002	-0.316	-67.377
Barra 34						
C 1	+33.857	-0.014	+25.505	+24.803	-1.400	+22.942
C 1	-33.848	-0.014	+25.505	-25.571	-1.400	+22.942
C 1	+0.972	+7.594	+28.957	+0.196	+4.821	+51.459
C 1	-0.964	-7.622	+22.053	-0.964	-7.622	-5.576
C 1	+0.007	+0.288	+118.387	-0.769	-2.485	+114.404
C 1	+0.002	-0.315	-67.377	+0.002	-0.315	-68.520
Barra 35						
C 1	+24.803	-1.400	+22.942	+30.736	-2.787	+15.352
C 1	-25.571	-1.400	+22.942	-32.280	-2.787	+15.352
C 1	+0.196	+4.821	+51.459	+0.091	+4.643	+23.645
C 1	-0.964	-7.622	-5.576	-1.635	-10.217	+7.060
C 1	-0.769	-2.486	+114.404	-1.546	-5.259	+100.367
C 1	+0.002	-0.315	-68.520	+0.002	-0.315	-69.662
Barra 36						
C 1	+30.736	-2.787	+15.352	+39.014	-4.174	+2.736
C 1	-32.280	-2.787	+15.352	-41.335	-4.174	+2.736
C 1	+0.091	+4.643	+23.645	+0.091	+4.643	+40.478
C 1	-1.635	-10.218	+7.059	-2.412	-12.991	-35.005
C 1	-1.546	-5.259	+100.367	-2.322	-8.032	+76.278
C 1	+0.002	-0.315	-69.663	+0.002	-0.315	-70.805

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 37						
C 1	+39.014	-4.173	+2.736	+39.508	-5.560	-14.906
C 1	-41.335	-4.173	+2.736	-42.605	-5.560	-14.906
C 1	+0.091	+4.643	+40.478	-0.258	+3.756	+33.972
C 1	-2.412	-12.990	-35.005	-2.839	-14.876	-63.784
C 1	-2.322	-8.032	+76.278	-2.134	-3.499	+58.650
C 1	+0.002	-0.315	-70.805	-0.964	-7.622	-88.462
Barra 38						
C 1	+39.508	-5.560	-14.906	+47.409	-6.884	-36.434
C 1	-42.605	-5.560	-14.906	-51.247	-6.884	-36.434
C 1	-0.258	+3.756	+33.972	-0.258	+3.756	+46.968
C 1	-2.839	-14.876	-63.784	-3.581	-17.523	-119.836
C 1	-2.134	-3.498	+58.650	-1.427	-0.776	+54.177
C 1	-0.964	-7.622	-88.462	-2.412	-12.991	-127.044
Barra 39						
C 1	+47.409	-6.884	-36.434	+55.310	-8.207	-62.540
C 1	-51.247	-6.884	-36.434	-59.890	-8.207	-62.540
C 1	-0.258	+3.756	+46.968	-0.258	+3.756	+59.964
C 1	-3.581	-17.523	-119.835	-4.322	-20.170	-185.045
C 1	-1.427	-0.777	+54.176	-0.258	+3.756	+59.964
C 1	-2.412	-12.991	-127.044	-4.322	-20.170	-185.045
Barra 40						
C 1	+55.310	-8.207	-62.540	+57.776	-8.620	-71.627
C 1	-59.890	-8.207	-62.540	-62.587	-8.620	-71.627
C 1	-0.258	+3.756	+59.965	-0.258	+3.756	+64.021
C 1	-4.322	-20.171	-185.045	-4.553	-20.997	-207.275
C 1	-0.258	+3.756	+59.965	-0.258	+3.756	+64.021
C 1	-4.322	-20.171	-185.045	-4.553	-20.997	-207.275
Barra 41						
C 1	+62.734	+8.610	-71.627	+60.036	+8.197	-62.551
C 1	-57.909	+8.610	-71.627	-55.443	+8.197	-62.551
C 1	+4.565	+21.186	-207.275	+4.334	+20.360	-184.839
C 1	+0.260	-3.966	+64.021	+0.260	-3.966	+59.737
C 1	+0.260	-3.966	+64.021	+0.260	-3.966	+59.737
C 1	+4.565	+21.186	-207.275	+4.334	+20.360	-184.839
Barra 42						
C 1	+60.036	+8.197	-62.551	+51.394	+6.874	-36.478
C 1	-55.443	+8.197	-62.551	-47.542	+6.874	-36.478
C 1	+4.334	+20.361	-184.840	+3.593	+17.714	-118.971
C 1	+0.260	-3.966	+59.738	+0.260	-3.966	+46.014
C 1	+0.260	-3.966	+59.738	+0.993	-1.073	+53.748
C 1	+4.334	+20.361	-184.840	+2.859	+14.820	-126.705

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 43						
C 1	+51.394	+6.873	-36.478	+47.747	+6.315	-26.850
C 1	-47.542	+6.873	-36.478	-44.208	+6.315	-26.850
C 1	+3.593	+17.713	-118.971	+3.280	+16.596	-93.922
C 1	+0.260	-3.966	+46.014	+0.260	-3.966	+40.222
C 1	+0.993	-1.073	+53.748	+0.680	-2.190	+51.366
C 1	+2.859	+14.820	-126.705	+2.859	+14.820	-105.065
Barra 44						
C 1	+47.747	+6.315	-26.850	+42.920	+5.550	-14.985
C 1	-44.208	+6.315	-26.850	-39.808	+5.550	-14.985
C 1	+3.280	+16.597	-93.922	+2.852	+15.067	-62.259
C 1	+0.260	-3.967	+40.223	+0.260	-3.967	+32.289
C 1	+0.680	-2.190	+51.366	+2.140	+3.265	+57.496
C 1	+2.859	+14.820	-105.065	+0.971	+7.835	-87.466
Barra 45						
C 1	+42.920	+5.555	-14.983	+45.203	+5.172	-9.624
C 1	-39.808	+5.555	-14.983	-42.306	+5.172	-9.624
C 1	+2.852	+15.078	-62.258	+2.859	+14.832	-60.601
C 1	+0.260	-3.969	+32.292	+0.038	-4.488	+41.353
C 1	+2.140	+3.265	+57.498	+1.926	+2.500	+60.379
C 1	+0.971	+7.844	-87.465	+0.971	+7.844	-79.626
Barra 46						
C 1	+45.203	+5.168	-9.625	+33.963	+3.447	+9.759
C 1	-42.306	+5.168	-9.625	-32.030	+3.447	+9.759
C 1	+2.859	+14.821	-60.604	+1.895	+11.379	-1.654
C 1	+0.038	-4.485	+41.354	+0.038	-4.485	+21.172
C 1	+1.926	+2.501	+60.378	+1.933	+6.960	+89.157
C 1	+0.971	+7.836	-79.628	+0.001	-0.066	-69.639
Barra 47						
C 1	+33.963	+3.447	+9.759	+23.616	+1.726	+21.398
C 1	-32.030	+3.447	+9.759	-22.646	+1.726	+21.398
C 1	+1.895	+11.379	-1.653	+0.931	+7.936	+41.806
C 1	+0.038	-4.485	+21.172	+0.038	-4.485	+0.990
C 1	+1.933	+6.960	+89.158	+0.969	+3.518	+112.734
C 1	+0.001	-0.066	-69.639	+0.001	-0.066	-69.938
Barra 48						
C 1	+23.616	+1.726	+21.398	+33.891	+0.004	+25.291
C 1	-22.646	+1.726	+21.398	-33.886	+0.005	+25.291
C 1	+0.931	+7.936	+41.807	+0.971	+7.836	+26.154
C 1	+0.038	-4.485	+0.990	-0.966	-7.827	+24.428
C 1	+0.969	+3.518	+112.734	+0.005	+0.075	+120.819
C 1	+0.001	-0.066	-69.938	+0.001	-0.066	-70.237

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 49						
C 1	+33.891	+0.004	+25.291	+24.837	-1.382	+22.794
C 1	-33.886	+0.004	+25.291	-25.608	-1.382	+22.794
C 1	+0.971	+7.836	+26.154	+0.195	+5.063	+49.532
C 1	-0.966	-7.827	+24.428	-0.966	-7.827	-3.944
C 1	+0.005	+0.075	+120.820	-0.772	-2.699	+116.064
C 1	+0.001	-0.066	-70.237	+0.001	-0.066	-70.476
Barra 50						
C 1	+24.837	-1.382	+22.794	+30.770	-2.769	+15.271
C 1	-25.608	-1.382	+22.794	-32.318	-2.769	+15.271
C 1	+0.195	+5.063	+49.532	+0.090	+4.887	+22.585
C 1	-0.966	-7.827	-3.944	-1.637	-10.424	+7.956
C 1	-0.772	-2.698	+116.064	-1.548	-5.471	+101.258
C 1	+0.001	-0.066	-70.476	+0.001	-0.066	-70.716
Barra 51						
C 1	+30.770	-2.768	+15.271	+39.048	-4.155	+2.722
C 1	-32.318	-2.768	+15.271	-41.372	-4.155	+2.722
C 1	+0.090	+4.887	+22.585	+0.090	+4.887	+40.301
C 1	-1.637	-10.424	+7.956	-2.414	-13.197	-34.858
C 1	-1.548	-5.470	+101.258	-2.325	-8.243	+76.401
C 1	+0.001	-0.067	-70.716	+0.001	-0.067	-70.958
Barra 52						
C 1	+39.048	-4.155	+2.722	+39.542	-5.542	-14.854
C 1	-41.372	-4.155	+2.722	-42.643	-5.542	-14.854
C 1	+0.090	+4.887	+40.301	-0.259	+4.000	+34.680
C 1	-2.414	-13.197	-34.858	-2.842	-15.084	-64.389
C 1	-2.325	-8.244	+76.402	-2.134	-3.257	+59.352
C 1	+0.001	-0.067	-70.958	-0.966	-7.827	-89.061
Barra 53						
C 1	+39.542	-5.542	-14.854	+47.443	-6.865	-36.318
C 1	-42.643	-5.542	-14.854	-51.285	-6.865	-36.318
C 1	-0.259	+4.000	+34.680	-0.259	+4.000	+48.522
C 1	-2.842	-15.084	-64.388	-3.583	-17.731	-121.157
C 1	-2.134	-3.257	+59.353	-1.428	-0.533	+55.727
C 1	-0.966	-7.827	-89.061	-2.414	-13.197	-128.362
Barra 54						
C 1	+47.443	-6.865	-36.318	+55.344	-8.189	-62.361
C 1	-51.285	-6.865	-36.318	-59.927	-8.189	-62.361
C 1	-0.259	+4.001	+48.522	-0.259	+4.001	+62.364
C 1	-3.583	-17.731	-121.157	-4.324	-20.378	-187.085
C 1	-1.428	-0.533	+55.727	-0.259	+4.001	+62.364
C 1	-2.414	-13.197	-128.362	-4.324	-20.378	-187.085

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 55						
C 1	+55.344	-8.188	-62.361	+57.811	-8.601	-71.427
C 1	-59.927	-8.188	-62.361	-62.625	-8.601	-71.427
C 1	-0.259	+4.000	+62.364	-0.259	+4.000	+66.684
C 1	-4.324	-20.376	-187.086	-4.555	-21.202	-209.538
C 1	-0.259	+4.000	+62.364	-0.259	+4.000	+66.684
C 1	-4.324	-20.376	-187.086	-4.555	-21.202	-209.538
Barra 56						
C 1	+62.736	+8.604	-71.428	+60.038	+8.191	-62.357
C 1	-57.911	+8.604	-71.428	-55.445	+8.191	-62.357
C 1	+4.565	+21.252	-209.540	+4.334	+20.426	-187.032
C 1	+0.259	-4.043	+66.684	+0.259	-4.043	+62.317
C 1	+0.259	-4.043	+66.684	+0.259	-4.043	+62.317
C 1	+4.565	+21.252	-209.540	+4.334	+20.426	-187.032
Barra 57						
C 1	+60.038	+8.192	-62.357	+51.396	+6.868	-36.304
C 1	-55.445	+8.192	-62.357	-47.544	+6.868	-36.304
C 1	+4.334	+20.427	-187.032	+3.593	+17.780	-120.935
C 1	+0.259	-4.043	+62.317	+0.259	-4.043	+48.328
C 1	+0.259	-4.043	+62.317	+0.993	-1.150	+56.064
C 1	+4.334	+20.427	-187.032	+2.859	+14.886	-128.672
Barra 58						
C 1	+51.396	+6.868	-36.304	+47.749	+6.310	-26.684
C 1	-47.544	+6.868	-36.304	-44.210	+6.310	-26.684
C 1	+3.593	+17.779	-120.936	+3.280	+16.662	-95.792
C 1	+0.259	-4.043	+48.327	+0.259	-4.043	+42.424
C 1	+0.993	-1.149	+56.064	+0.680	-2.266	+53.570
C 1	+2.859	+14.886	-128.672	+2.859	+14.886	-106.937
Barra 59						
C 1	+47.749	+6.310	-26.684	+42.922	+5.545	-14.830
C 1	-44.210	+6.310	-26.684	-39.810	+5.545	-14.830
C 1	+3.280	+16.663	-95.793	+2.852	+15.133	-63.998
C 1	+0.259	-4.043	+42.425	+0.259	-4.043	+34.338
C 1	+0.680	-2.266	+53.570	+2.140	+3.188	+59.555
C 1	+2.859	+14.886	-106.939	+0.971	+7.902	-89.214
Barra 60						
C 1	+42.922	+5.547	-14.830	+45.205	+5.164	-9.475
C 1	-39.810	+5.547	-14.830	-42.308	+5.164	-9.475
C 1	+2.852	+15.137	-63.999	+2.859	+14.892	-62.279
C 1	+0.259	-4.043	+34.338	+0.038	-4.563	+43.328
C 1	+2.140	+3.195	+59.553	+1.926	+2.430	+62.365
C 1	+0.971	+7.899	-89.213	+0.971	+7.899	-81.316

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 61						
C 1	+45.205	+5.162	-9.475	+33.965	+3.441	+9.883
C 1	-42.308	+5.163	-9.475	-32.032	+3.441	+9.883
C 1	+2.859	+14.887	-62.279	+1.895	+11.444	-3.035
C 1	+0.038	-4.562	+43.328	+0.038	-4.562	+22.801
C 1	+1.926	+2.424	+62.363	+1.932	+6.879	+90.806
C 1	+0.971	+7.901	-81.314	+0.001	+0.004	-71.040
Barra 62						
C 1	+33.965	+3.441	+9.883	+23.617	+1.720	+21.496
C 1	-32.032	+3.441	+9.883	-22.648	+1.720	+21.496
C 1	+1.895	+11.444	-3.035	+0.931	+8.002	+40.717
C 1	+0.038	-4.562	+22.801	+0.038	-4.562	+2.274
C 1	+1.932	+6.878	+90.806	+0.969	+3.436	+114.013
C 1	+0.001	+0.004	-71.040	+0.001	+0.004	-71.022
Barra 63						
C 1	+23.617	+1.720	+21.495	+33.893	-0.001	+25.363
C 1	-22.648	+1.720	+21.495	-33.888	-0.001	+25.363
C 1	+0.931	+8.001	+40.717	+0.971	+7.901	+25.349
C 1	+0.038	-4.561	+2.274	-0.966	-7.904	+25.377
C 1	+0.969	+3.436	+114.013	+0.005	-0.007	+121.729
C 1	+0.001	+0.004	-71.022	+0.001	+0.004	-71.003
Barra 64						
C 1	+33.893	-0.001	+25.363	+24.839	-1.388	+22.845
C 1	-33.888	-0.001	+25.363	-25.610	-1.388	+22.845
C 1	+0.971	+7.901	+25.349	+0.195	+5.128	+48.963
C 1	-0.966	-7.904	+25.377	-0.966	-7.904	-3.274
C 1	+0.005	-0.007	+121.728	-0.772	-2.780	+116.677
C 1	+0.001	+0.004	-71.003	+0.001	+0.004	-70.987
Barra 65						
C 1	+24.839	-1.388	+22.845	+30.772	-2.775	+15.301
C 1	-25.610	-1.388	+22.845	-32.320	-2.775	+15.301
C 1	+0.195	+5.128	+48.964	+0.090	+4.952	+22.246
C 1	-0.966	-7.904	-3.274	-1.638	-10.502	+8.355
C 1	-0.772	-2.780	+116.677	-1.548	-5.553	+101.573
C 1	+0.001	+0.004	-70.987	+0.001	+0.004	-70.972
Barra 66						
C 1	+30.772	-2.774	+15.301	+39.050	-4.161	+2.730
C 1	-32.320	-2.774	+15.301	-41.374	-4.161	+2.730
C 1	+0.090	+4.953	+22.246	+0.090	+4.953	+40.199
C 1	-1.638	-10.501	+8.355	-2.414	-13.275	-34.740
C 1	-1.548	-5.554	+101.573	-2.325	-8.327	+76.414
C 1	+0.001	+0.005	-70.972	+0.001	+0.005	-70.954

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 67						
C 1	+39.050	-4.161	+2.730	+39.544	-5.548	-14.867
C 1	-41.374	-4.161	+2.730	-42.645	-5.548	-14.867
C 1	+0.090	+4.953	+40.199	-0.259	+4.066	+34.812
C 1	-2.414	-13.275	-34.739	-2.842	-15.161	-64.547
C 1	-2.325	-8.327	+76.414	-2.135	-3.192	+59.491
C 1	+0.001	+0.005	-70.954	-0.966	-7.904	-89.226
Barra 68						
C 1	+39.544	-5.548	-14.867	+47.445	-6.871	-36.352
C 1	-42.645	-5.548	-14.867	-51.287	-6.871	-36.352
C 1	-0.259	+4.066	+34.812	-0.259	+4.066	+48.880
C 1	-2.842	-15.161	-64.547	-3.583	-17.808	-121.584
C 1	-2.135	-3.192	+59.491	-1.428	-0.468	+56.087
C 1	-0.966	-7.903	-89.226	-2.414	-13.274	-128.791
Barra 69						
C 1	+47.445	-6.871	-36.352	+55.346	-8.194	-62.415
C 1	-51.287	-6.871	-36.352	-59.929	-8.194	-62.415
C 1	-0.259	+4.066	+48.880	-0.259	+4.066	+62.948
C 1	-3.583	-17.808	-121.584	-4.324	-20.455	-187.779
C 1	-1.428	-0.468	+56.087	-0.259	+4.066	+62.948
C 1	-2.414	-13.274	-128.791	-4.324	-20.455	-187.779
Barra 70						
C 1	+55.346	-8.194	-62.416	+57.813	-8.607	-71.488
C 1	-59.929	-8.194	-62.416	-62.627	-8.607	-71.488
C 1	-0.259	+4.066	+62.949	-0.259	+4.066	+67.339
C 1	-4.324	-20.454	-187.780	-4.555	-21.280	-210.316
C 1	-0.259	+4.066	+62.949	-0.259	+4.066	+67.339
C 1	-4.324	-20.454	-187.780	-4.555	-21.280	-210.316
Barra 71						
C 1	+62.736	+8.607	-71.489	+60.038	+8.194	-62.417
C 1	-57.911	+8.607	-71.489	-55.445	+8.194	-62.417
C 1	+4.565	+21.271	-210.317	+4.334	+20.445	-187.791
C 1	+0.259	-4.057	+67.339	+0.259	-4.057	+62.958
C 1	+0.259	-4.057	+67.339	+0.259	-4.057	+62.958
C 1	+4.565	+21.271	-210.317	+4.334	+20.445	-187.791
Barra 72						
C 1	+60.038	+8.193	-62.416	+51.396	+6.870	-36.357
C 1	-55.445	+8.194	-62.416	-47.544	+6.870	-36.356
C 1	+4.334	+20.444	-187.790	+3.593	+17.797	-121.632
C 1	+0.259	-4.057	+62.958	+0.259	-4.057	+48.919
C 1	+0.259	-4.057	+62.958	+0.993	-1.163	+56.658
C 1	+4.334	+20.444	-187.790	+2.859	+14.903	-129.371

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 73						
C 1	+51.396	+6.870	-36.355	+47.750	+6.311	-26.734
C 1	-47.544	+6.870	-36.355	-44.210	+6.311	-26.734
C 1	+3.593	+17.796	-121.630	+3.280	+16.679	-96.464
C 1	+0.259	-4.056	+48.920	+0.259	-4.056	+42.995
C 1	+0.993	-1.163	+56.659	+0.680	-2.279	+54.145
C 1	+2.859	+14.902	-129.370	+2.859	+14.902	-107.613
Barra 74						
C 1	+47.749	+6.311	-26.733	+42.922	+5.546	-14.876
C 1	-44.210	+6.312	-26.733	-39.811	+5.547	-14.876
C 1	+3.280	+16.680	-96.462	+2.852	+15.150	-64.634
C 1	+0.259	-4.057	+42.995	+0.259	-4.057	+34.881
C 1	+0.680	-2.280	+54.145	+2.140	+3.175	+60.118
C 1	+2.859	+14.903	-107.612	+0.971	+7.918	-89.871
Barra 75						
C 1	+42.922	+5.543	-14.875	+45.205	+5.160	-9.524
C 1	-39.811	+5.543	-14.874	-42.308	+5.160	-9.524
C 1	+2.852	+15.140	-64.628	+2.859	+14.892	-62.911
C 1	+0.259	-4.054	+34.879	+0.038	-4.571	+43.863
C 1	+2.140	+3.174	+60.119	+1.926	+2.409	+62.912
C 1	+0.971	+7.912	-89.868	+0.971	+7.912	-81.959
Barra 76						
C 1	+45.205	+5.164	-9.521	+33.965	+3.442	+9.843
C 1	-42.308	+5.164	-9.521	-32.032	+3.442	+9.843
C 1	+2.859	+14.902	-62.904	+1.895	+11.460	-3.589
C 1	+0.038	-4.575	+43.862	+0.038	-4.575	+23.274
C 1	+1.926	+2.410	+62.911	+1.932	+6.845	+91.261
C 1	+0.971	+7.918	-81.953	+0.001	+0.040	-71.576
Barra 77						
C 1	+33.965	+3.442	+9.843	+23.618	+1.721	+21.460
C 1	-32.032	+3.442	+9.843	-22.648	+1.721	+21.460
C 1	+1.895	+11.460	-3.589	+0.931	+8.017	+40.235
C 1	+0.038	-4.575	+23.274	+0.038	-4.575	+2.686
C 1	+1.932	+6.845	+91.261	+0.969	+3.402	+114.315
C 1	+0.001	+0.040	-71.576	+0.001	+0.040	-71.394
Barra 78						
C 1	+23.618	+1.721	+21.461	+33.893	-0.000	+25.333
C 1	-22.648	+1.721	+21.461	-33.888	-0.000	+25.333
C 1	+0.931	+8.018	+40.235	+0.971	+7.918	+24.937
C 1	+0.038	-4.575	+2.686	-0.966	-7.918	+25.729
C 1	+0.969	+3.402	+114.315	+0.005	-0.040	+121.880
C 1	+0.001	+0.040	-71.394	+0.001	+0.040	-71.214

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 79						
C 1	+33.893	-0.000	+25.333	+24.839	-1.387	+22.820
C 1	-33.888	-0.000	+25.333	-25.610	-1.387	+22.820
C 1	+0.971	+7.918	+24.937	+0.195	+5.145	+48.613
C 1	-0.966	-7.918	+25.728	-0.966	-7.918	-2.974
C 1	+0.005	-0.040	+121.880	-0.772	-2.814	+116.707
C 1	+0.001	+0.040	-71.214	+0.001	+0.040	-71.068
Barra 80						
C 1	+24.839	-1.387	+22.820	+30.772	-2.773	+15.280
C 1	-25.610	-1.387	+22.820	-32.320	-2.773	+15.280
C 1	+0.195	+5.145	+48.613	+0.090	+4.970	+21.962
C 1	-0.966	-7.918	-2.974	-1.638	-10.517	+8.598
C 1	-0.772	-2.814	+116.708	-1.548	-5.587	+101.483
C 1	+0.001	+0.040	-71.068	+0.001	+0.040	-70.922
Barra 81						
C 1	+30.772	-2.773	+15.280	+39.050	-4.160	+2.714
C 1	-32.320	-2.773	+15.280	-41.375	-4.160	+2.714
C 1	+0.090	+4.970	+21.962	+0.090	+4.970	+39.978
C 1	-1.638	-10.516	+8.598	-2.414	-13.289	-34.551
C 1	-1.548	-5.587	+101.483	-2.325	-8.360	+76.204
C 1	+0.001	+0.040	-70.922	+0.001	+0.040	-70.776
Barra 82						
C 1	+39.050	-4.160	+2.714	+39.545	-5.546	-14.878
C 1	-41.375	-4.160	+2.714	-42.645	-5.546	-14.878
C 1	+0.090	+4.970	+39.978	-0.259	+4.084	+34.660
C 1	-2.414	-13.290	-34.551	-2.842	-15.177	-64.416
C 1	-2.325	-8.360	+76.204	-2.135	-3.175	+59.325
C 1	+0.001	+0.041	-70.776	-0.966	-7.918	-89.081
Barra 83						
C 1	+39.545	-5.546	-14.878	+47.446	-6.870	-36.359
C 1	-42.645	-5.546	-14.878	-51.287	-6.870	-36.359
C 1	-0.259	+4.084	+34.660	-0.259	+4.084	+48.789
C 1	-2.842	-15.177	-64.416	-3.583	-17.823	-121.506
C 1	-2.135	-3.175	+59.325	-1.428	-0.450	+55.990
C 1	-0.966	-7.918	-89.082	-2.414	-13.290	-128.707
Barra 84						
C 1	+47.446	-6.870	-36.359	+55.347	-8.193	-62.418
C 1	-51.287	-6.870	-36.359	-59.929	-8.193	-62.418
C 1	-0.259	+4.084	+48.789	-0.259	+4.084	+62.919
C 1	-3.583	-17.823	-121.507	-4.324	-20.470	-187.754
C 1	-1.428	-0.450	+55.990	-0.259	+4.084	+62.919
C 1	-2.414	-13.290	-128.707	-4.324	-20.470	-187.754

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 85						
C 1	+55.346	-8.194	-62.418	+57.813	-8.607	-71.490
C 1	-59.929	-8.194	-62.417	-62.627	-8.607	-71.490
C 1	-0.259	+4.085	+62.918	-0.259	+4.085	+67.329
C 1	-4.324	-20.472	-187.753	-4.555	-21.298	-210.309
C 1	-0.259	+4.085	+62.918	-0.259	+4.085	+67.329
C 1	-4.324	-20.472	-187.753	-4.555	-21.298	-210.309
Barra 86						
C 1	+62.736	+8.607	-71.490	+60.038	+8.194	-62.417
C 1	-57.911	+8.607	-71.490	-55.445	+8.194	-62.417
C 1	+4.565	+21.252	-210.309	+4.334	+20.426	-187.802
C 1	+0.259	-4.038	+67.329	+0.259	-4.038	+62.968
C 1	+0.259	-4.038	+67.329	+0.259	-4.038	+62.968
C 1	+4.565	+21.252	-210.309	+4.334	+20.426	-187.802
Barra 87						
C 1	+60.038	+8.194	-62.417	+51.396	+6.871	-36.354
C 1	-55.445	+8.194	-62.417	-47.544	+6.871	-36.354
C 1	+4.334	+20.426	-187.802	+3.593	+17.779	-121.706
C 1	+0.259	-4.038	+62.968	+0.259	-4.038	+48.998
C 1	+0.259	-4.038	+62.968	+0.993	-1.145	+56.737
C 1	+4.334	+20.426	-187.802	+2.859	+14.886	-129.445
Barra 88						
C 1	+51.396	+6.872	-36.355	+47.749	+6.314	-26.730
C 1	-47.544	+6.872	-36.355	-44.210	+6.314	-26.730
C 1	+3.593	+17.782	-121.707	+3.280	+16.665	-96.563
C 1	+0.259	-4.038	+48.998	+0.259	-4.038	+43.103
C 1	+0.993	-1.145	+56.737	+0.680	-2.262	+54.250
C 1	+2.859	+14.889	-129.446	+2.859	+14.889	-107.711
Barra 89						
C 1	+47.749	+6.313	-26.731	+42.922	+5.548	-14.870
C 1	-44.210	+6.313	-26.731	-39.810	+5.548	-14.870
C 1	+3.280	+16.663	-96.565	+2.852	+15.133	-64.767
C 1	+0.259	-4.038	+43.103	+0.259	-4.038	+35.027
C 1	+0.680	-2.262	+54.250	+2.140	+3.192	+60.247
C 1	+2.859	+14.887	-107.711	+0.971	+7.904	-89.987
Barra 90						
C 1	+42.921	+5.545	-14.870	+45.205	+5.163	-9.517
C 1	-39.810	+5.545	-14.870	-42.308	+5.163	-9.517
C 1	+2.852	+15.129	-64.765	+2.859	+14.881	-63.056
C 1	+0.259	-4.039	+35.025	+0.038	-4.556	+44.021
C 1	+2.140	+3.189	+60.247	+1.926	+2.424	+63.057
C 1	+0.971	+7.901	-89.987	+0.971	+7.901	-82.091

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 91						
C 1	+45.205	+5.165	-9.513	+33.965	+3.444	+9.859
C 1	-42.308	+5.165	-9.513	-32.032	+3.444	+9.859
C 1	+2.859	+14.887	-63.048	+1.895	+11.445	-3.801
C 1	+0.038	-4.556	+44.023	+0.038	-4.556	+23.519
C 1	+1.926	+2.428	+63.060	+1.932	+6.814	+91.348
C 1	+0.971	+7.903	-82.086	+0.001	+0.074	-71.630
Barra 92						
C 1	+33.965	+3.444	+9.858	+23.617	+1.723	+21.485
C 1	-32.032	+3.444	+9.859	-22.648	+1.723	+21.485
C 1	+1.895	+11.445	-3.801	+0.931	+8.002	+39.955
C 1	+0.038	-4.556	+23.518	+0.038	-4.556	+3.015
C 1	+1.932	+6.814	+91.347	+0.969	+3.371	+114.264
C 1	+0.001	+0.074	-71.630	+0.001	+0.074	-71.295
Barra 93						
C 1	+23.617	+1.723	+21.485	+33.893	+0.002	+25.365
C 1	-22.648	+1.723	+21.485	-33.888	+0.002	+25.365
C 1	+0.931	+8.002	+39.955	+0.971	+7.903	+24.600
C 1	+0.038	-4.556	+3.015	-0.966	-7.899	+26.130
C 1	+0.969	+3.371	+114.264	+0.005	-0.071	+121.689
C 1	+0.001	+0.075	-71.295	+0.001	+0.075	-70.959
Barra 94						
C 1	+33.893	+0.001	+25.365	+24.839	-1.385	+22.857
C 1	-33.888	+0.002	+25.365	-25.610	-1.385	+22.857
C 1	+0.971	+7.903	+24.600	+0.195	+5.130	+48.221
C 1	-0.966	-7.900	+26.130	-0.966	-7.900	-2.506
C 1	+0.005	-0.072	+121.689	-0.772	-2.845	+116.402
C 1	+0.001	+0.075	-70.959	+0.001	+0.075	-70.687
Barra 95						
C 1	+24.839	-1.385	+22.858	+30.772	-2.771	+15.324
C 1	-25.610	-1.385	+22.858	-32.320	-2.771	+15.324
C 1	+0.195	+5.130	+48.221	+0.090	+4.955	+21.530
C 1	-0.966	-7.899	-2.506	-1.638	-10.498	+9.119
C 1	-0.772	-2.844	+116.402	-1.548	-5.617	+101.066
C 1	+0.001	+0.074	-70.687	+0.001	+0.074	-70.418
Barra 96						
C 1	+30.772	-2.772	+15.324	+39.050	-4.158	+2.764
C 1	-32.320	-2.772	+15.324	-41.374	-4.158	+2.764
C 1	+0.090	+4.955	+21.530	+0.090	+4.955	+39.492
C 1	-1.638	-10.498	+9.119	-2.414	-13.271	-33.963
C 1	-1.548	-5.617	+101.066	-2.325	-8.390	+75.677
C 1	+0.001	+0.074	-70.417	+0.001	+0.074	-70.148

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 97						
C 1	+39.050	-4.158	+2.764	+39.544	-5.545	-14.821
C 1	-41.374	-4.158	+2.764	-42.645	-5.545	-14.821
C 1	+0.090	+4.955	+39.492	-0.259	+4.069	+34.129
C 1	-2.414	-13.271	-33.963	-2.842	-15.158	-63.771
C 1	-2.325	-8.390	+75.677	-2.135	-3.190	+58.769
C 1	+0.001	+0.074	-70.148	-0.966	-7.899	-88.412
Barra 98						
C 1	+39.544	-5.545	-14.821	+47.445	-6.868	-36.295
C 1	-42.645	-5.544	-14.821	-51.287	-6.868	-36.295
C 1	-0.259	+4.069	+34.129	-0.259	+4.069	+48.208
C 1	-2.842	-15.158	-63.772	-3.583	-17.805	-120.797
C 1	-2.135	-3.190	+58.769	-1.428	-0.465	+55.399
C 1	-0.966	-7.899	-88.412	-2.414	-13.271	-127.989
Barra 99						
C 1	+47.445	-6.868	-36.295	+55.346	-8.191	-62.348
C 1	-51.287	-6.868	-36.295	-59.929	-8.191	-62.348
C 1	-0.259	+4.069	+48.208	-0.259	+4.069	+62.287
C 1	-3.583	-17.805	-120.797	-4.324	-20.452	-186.982
C 1	-1.428	-0.465	+55.399	-0.259	+4.069	+62.287
C 1	-2.414	-13.271	-127.989	-4.324	-20.452	-186.982
Barra 100						
C 1	+55.346	-8.192	-62.347	+57.812	-8.605	-71.417
C 1	-59.929	-8.192	-62.347	-62.627	-8.605	-71.417
C 1	-0.259	+4.069	+62.287	-0.259	+4.069	+66.681
C 1	-4.324	-20.453	-186.981	-4.555	-21.279	-209.515
C 1	-0.259	+4.069	+62.287	-0.259	+4.069	+66.681
C 1	-4.324	-20.453	-186.981	-4.555	-21.279	-209.515
Barra 101						
C 1	+62.734	+8.599	-71.417	+60.036	+8.186	-62.353
C 1	-57.909	+8.599	-71.417	-55.443	+8.186	-62.353
C 1	+4.565	+21.171	-209.516	+4.334	+20.345	-187.096
C 1	+0.259	-3.973	+66.681	+0.259	-3.973	+62.390
C 1	+0.259	-3.973	+66.681	+0.259	-3.973	+62.390
C 1	+4.565	+21.171	-209.516	+4.334	+20.345	-187.096
Barra 102						
C 1	+60.036	+8.186	-62.353	+51.394	+6.863	-36.318
C 1	-55.443	+8.186	-62.353	-47.542	+6.863	-36.318
C 1	+4.334	+20.345	-187.097	+3.593	+17.699	-121.281
C 1	+0.259	-3.973	+62.390	+0.259	-3.973	+48.644
C 1	+0.259	-3.973	+62.390	+0.993	-1.082	+56.380
C 1	+4.334	+20.345	-187.097	+2.859	+14.808	-129.017

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 103						
C 1	+51.394	+6.864	-36.319	+47.747	+6.305	-26.706
C 1	-47.542	+6.864	-36.319	-44.208	+6.305	-26.706
C 1	+3.593	+17.700	-121.283	+3.280	+16.583	-96.256
C 1	+0.259	-3.973	+48.644	+0.259	-3.973	+42.844
C 1	+0.993	-1.082	+56.380	+0.680	-2.199	+53.986
C 1	+2.859	+14.810	-129.019	+2.859	+14.810	-107.397
Barra 104						
C 1	+47.747	+6.304	-26.707	+42.919	+5.539	-14.862
C 1	-44.208	+6.304	-26.707	-39.808	+5.539	-14.862
C 1	+3.280	+16.582	-96.257	+2.852	+15.052	-64.622
C 1	+0.259	-3.973	+42.844	+0.259	-3.973	+34.897
C 1	+0.680	-2.199	+53.985	+2.140	+3.246	+60.072
C 1	+2.859	+14.808	-107.399	+0.971	+7.833	-89.797
Barra 105						
C 1	+42.919	+5.539	-14.862	+45.203	+5.156	-9.515
C 1	-39.808	+5.539	-14.862	-42.306	+5.156	-9.515
C 1	+2.852	+15.054	-64.623	+2.859	+14.810	-62.975
C 1	+0.259	-3.976	+34.898	+0.038	-4.497	+43.944
C 1	+2.140	+3.248	+60.069	+1.925	+2.483	+62.936
C 1	+0.971	+7.830	-89.794	+0.971	+7.830	-81.967
Barra 106						
C 1	+45.203	+5.160	-9.513	+33.963	+3.438	+9.832
C 1	-42.306	+5.160	-9.513	-32.030	+3.438	+9.832
C 1	+2.859	+14.813	-62.973	+1.895	+11.370	-4.062
C 1	+0.038	-4.494	+43.946	+0.038	-4.494	+23.725
C 1	+1.925	+2.493	+62.939	+1.932	+6.739	+91.089
C 1	+0.971	+7.826	-81.966	+0.000	+0.138	-71.425
Barra 107						
C 1	+33.963	+3.438	+9.832	+23.615	+1.717	+21.431
C 1	-32.030	+3.438	+9.832	-22.646	+1.717	+21.431
C 1	+1.895	+11.370	-4.062	+0.931	+7.928	+39.359
C 1	+0.038	-4.494	+23.725	+0.038	-4.494	+3.504
C 1	+1.932	+6.739	+91.088	+0.969	+3.297	+113.670
C 1	+0.000	+0.137	-71.425	+0.000	+0.137	-70.807
Barra 108						
C 1	+23.615	+1.717	+21.431	+33.891	-0.004	+25.285
C 1	-22.646	+1.717	+21.431	-33.886	-0.004	+25.285
C 1	+0.931	+7.928	+39.358	+0.971	+7.826	+23.687
C 1	+0.038	-4.494	+3.504	-0.966	-7.834	+26.884
C 1	+0.969	+3.297	+113.669	+0.005	-0.145	+120.760
C 1	+0.000	+0.137	-70.806	+0.000	+0.137	-70.189

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 109						
C 1	+33.891	-0.004	+25.286	+24.837	-1.391	+22.757
C 1	-33.886	-0.004	+25.286	-25.608	-1.391	+22.757
C 1	+0.971	+7.826	+23.688	+0.195	+5.053	+47.031
C 1	-0.966	-7.834	+26.884	-0.966	-7.834	-1.516
C 1	+0.005	-0.145	+120.761	-0.772	-2.919	+115.207
C 1	+0.000	+0.137	-70.190	+0.000	+0.137	-69.693
Barra 110						
C 1	+24.837	-1.391	+22.758	+30.770	-2.777	+15.203
C 1	-25.608	-1.391	+22.758	-32.318	-2.777	+15.203
C 1	+0.195	+5.053	+47.031	+0.090	+4.877	+20.061
C 1	-0.966	-7.835	-1.516	-1.638	-10.432	+10.346
C 1	-0.772	-2.918	+115.208	-1.548	-5.691	+99.605
C 1	+0.000	+0.137	-69.693	+0.000	+0.137	-69.198
Barra 111						
C 1	+30.770	-2.777	+15.203	+39.048	-4.164	+2.623
C 1	-32.318	-2.777	+15.203	-41.372	-4.164	+2.623
C 1	+0.090	+4.877	+20.061	+0.090	+4.877	+37.741
C 1	-1.638	-10.431	+10.345	-2.414	-13.205	-32.495
C 1	-1.548	-5.691	+99.604	-2.325	-8.464	+73.949
C 1	+0.000	+0.136	-69.198	+0.000	+0.136	-68.703
Barra 112						
C 1	+39.048	-4.164	+2.623	+39.542	-5.550	-14.984
C 1	-41.372	-4.164	+2.623	-42.643	-5.550	-14.984
C 1	+0.090	+4.877	+37.741	-0.259	+3.990	+32.088
C 1	-2.414	-13.205	-32.495	-2.842	-15.091	-62.055
C 1	-2.325	-8.464	+73.949	-2.135	-3.266	+56.748
C 1	+0.000	+0.136	-68.703	-0.966	-7.834	-86.716
Barra 113						
C 1	+39.542	-5.550	-14.983	+47.443	-6.874	-36.477
C 1	-42.643	-5.550	-14.983	-51.285	-6.874	-36.477
C 1	-0.259	+3.990	+32.088	-0.259	+3.990	+45.895
C 1	-2.842	-15.091	-62.055	-3.583	-17.738	-118.848
C 1	-2.135	-3.266	+56.748	-1.428	-0.543	+53.095
C 1	-0.966	-7.834	-86.715	-2.414	-13.205	-126.049
Barra 114						
C 1	+47.443	-6.874	-36.477	+55.344	-8.197	-62.549
C 1	-51.285	-6.874	-36.477	-59.927	-8.197	-62.549
C 1	-0.259	+3.990	+45.895	-0.259	+3.990	+59.701
C 1	-3.583	-17.738	-118.848	-4.324	-20.385	-184.800
C 1	-1.428	-0.543	+53.095	-0.259	+3.990	+59.701
C 1	-2.414	-13.205	-126.049	-4.324	-20.385	-184.800

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 115						
C 1	+55.344	-8.197	-62.549	+57.810	-8.610	-71.625
C 1	-59.927	-8.197	-62.549	-62.625	-8.610	-71.625
C 1	-0.259	+3.990	+59.702	-0.259	+3.990	+64.010
C 1	-4.324	-20.384	-184.800	-4.556	-21.210	-207.261
C 1	-0.259	+3.990	+59.702	-0.259	+3.990	+64.010
C 1	-4.324	-20.384	-184.800	-4.556	-21.210	-207.261
Barra 116						
C 1	+62.696	+8.621	-71.625	+59.998	+8.208	-62.538
C 1	-57.874	+8.621	-71.625	-55.408	+8.208	-62.538
C 1	+4.563	+20.973	-207.261	+4.331	+20.147	-185.057
C 1	+0.258	-3.731	+64.011	+0.258	-3.731	+59.981
C 1	+0.258	-3.731	+64.011	+0.258	-3.731	+59.981
C 1	+4.563	+20.973	-207.261	+4.332	+20.147	-185.057
Barra 117						
C 1	+59.998	+8.207	-62.538	+51.356	+6.884	-36.431
C 1	-55.408	+8.207	-62.538	-47.507	+6.884	-36.431
C 1	+4.331	+20.145	-185.058	+3.590	+17.498	-119.934
C 1	+0.258	-3.731	+59.981	+0.258	-3.731	+47.071
C 1	+0.258	-3.731	+59.981	+0.992	-0.838	+54.812
C 1	+4.332	+20.145	-185.058	+2.857	+14.605	-127.675
Barra 118						
C 1	+51.356	+6.883	-36.431	+47.709	+6.324	-26.789
C 1	-47.507	+6.883	-36.431	-44.173	+6.324	-26.789
C 1	+3.590	+17.498	-119.934	+3.278	+16.381	-95.202
C 1	+0.258	-3.732	+47.071	+0.258	-3.732	+41.624
C 1	+0.992	-0.839	+54.812	+0.679	-1.955	+52.773
C 1	+2.857	+14.604	-127.675	+2.857	+14.604	-106.351
Barra 119						
C 1	+47.709	+6.325	-26.789	+42.882	+5.560	-14.904
C 1	-44.173	+6.325	-26.789	-39.774	+5.560	-14.904
C 1	+3.278	+16.381	-95.202	+2.849	+14.851	-63.970
C 1	+0.258	-3.731	+41.624	+0.258	-3.731	+34.162
C 1	+0.679	-1.955	+52.774	+2.139	+3.496	+59.397
C 1	+2.857	+14.605	-106.352	+0.969	+7.624	-89.204
Barra 120						
C 1	+42.882	+5.563	-14.906	+45.165	+5.181	-9.534
C 1	-39.774	+5.563	-14.906	-42.272	+5.181	-9.534
C 1	+2.849	+14.858	-63.973	+2.857	+14.610	-62.535
C 1	+0.258	-3.731	+34.162	+0.037	-4.248	+43.467
C 1	+2.139	+3.501	+59.394	+1.925	+2.736	+62.514
C 1	+0.969	+7.626	-89.206	+0.969	+7.626	-81.581

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 121						
C 1	+45.165	+5.178	-9.535	+33.925	+3.456	+9.891
C 1	-42.272	+5.178	-9.535	-31.996	+3.456	+9.891
C 1	+2.857	+14.605	-62.537	+1.893	+11.163	-4.560
C 1	+0.037	-4.250	+43.466	+0.037	-4.250	+24.342
C 1	+1.925	+2.732	+62.510	+1.930	+6.523	+90.657
C 1	+0.969	+7.624	-81.581	-0.000	+0.390	-70.875
Barra 122						
C 1	+33.925	+3.456	+9.891	+23.577	+1.735	+21.572
C 1	-31.996	+3.456	+9.891	-22.612	+1.735	+21.572
C 1	+1.893	+11.163	-4.559	+0.929	+7.720	+37.927
C 1	+0.037	-4.250	+24.342	+0.037	-4.250	+5.217
C 1	+1.930	+6.523	+90.658	+0.966	+3.080	+112.264
C 1	-0.000	+0.390	-70.875	-0.000	+0.390	-69.120
Barra 123						
C 1	+23.577	+1.735	+21.572	+33.853	+0.014	+25.508
C 1	-22.612	+1.735	+21.572	-33.852	+0.014	+25.508
C 1	+0.929	+7.720	+37.927	+0.969	+7.624	+21.339
C 1	+0.037	-4.250	+5.217	-0.967	-7.596	+29.676
C 1	+0.966	+3.081	+112.263	+0.002	-0.362	+118.382
C 1	-0.000	+0.390	-69.119	-0.000	+0.390	-67.366
Barra 124						
C 1	+33.853	+0.014	+25.508	+24.799	-1.373	+23.045
C 1	-33.852	+0.014	+25.508	-25.574	-1.373	+23.045
C 1	+0.969	+7.623	+21.340	+0.192	+4.850	+43.949
C 1	-0.967	-7.596	+29.676	-0.967	-7.596	+2.141
C 1	+0.002	-0.362	+118.381	-0.774	-3.135	+112.043
C 1	-0.000	+0.390	-67.366	-0.000	+0.390	-65.953
Barra 125						
C 1	+24.799	-1.373	+23.045	+30.732	-2.759	+15.556
C 1	-25.574	-1.373	+23.045	-32.284	-2.759	+15.556
C 1	+0.192	+4.851	+43.949	+0.087	+4.679	+16.311
C 1	-0.967	-7.596	+2.141	-1.639	-10.198	+14.802
C 1	-0.774	-3.135	+112.044	-1.551	-5.908	+95.655
C 1	-0.000	+0.389	-65.954	-0.000	+0.389	-64.542
Barra 126						
C 1	+30.732	-2.759	+15.557	+39.010	-4.146	+3.042
C 1	-32.284	-2.759	+15.557	-41.338	-4.146	+3.042
C 1	+0.087	+4.680	+16.311	+0.087	+4.680	+33.274
C 1	-1.639	-10.198	+14.803	-2.415	-12.971	-27.190
C 1	-1.551	-5.907	+95.655	-2.327	-8.680	+69.215
C 1	-0.000	+0.389	-64.542	-0.000	+0.389	-63.132

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 127						
C 1	+39.010	-4.146	+3.042	+39.505	-5.532	-14.499
C 1	-41.338	-4.146	+3.042	-42.609	-5.532	-14.499
C 1	+0.087	+4.679	+33.274	-0.261	+3.795	+26.962
C 1	-2.415	-12.971	-27.191	-2.843	-14.860	-55.961
C 1	-2.327	-8.681	+69.216	-2.137	-3.469	+51.464
C 1	-0.000	+0.389	-63.132	-0.967	-7.596	-80.463
Barra 128						
C 1	+39.505	-5.532	-14.500	+47.406	-6.856	-35.930
C 1	-42.609	-5.532	-14.500	-51.251	-6.856	-35.930
C 1	-0.261	+3.795	+26.962	-0.261	+3.795	+40.094
C 1	-2.843	-14.860	-55.961	-3.584	-17.507	-111.954
C 1	-2.137	-3.469	+51.464	-1.430	-0.741	+47.228
C 1	-0.967	-7.596	-80.463	-2.415	-12.971	-119.088
Barra 129						
C 1	+47.406	-6.856	-35.930	+55.307	-8.179	-61.941
C 1	-51.251	-6.856	-35.930	-59.893	-8.179	-61.941
C 1	-0.261	+3.795	+40.094	-0.261	+3.795	+53.225
C 1	-3.584	-17.507	-111.954	-4.325	-20.154	-177.106
C 1	-1.430	-0.741	+47.228	-0.261	+3.795	+53.225
C 1	-2.415	-12.971	-119.088	-4.325	-20.154	-177.106
Barra 130						
C 1	+55.307	-8.179	-61.940	+57.773	-8.592	-70.997
C 1	-59.893	-8.179	-61.940	-62.590	-8.592	-70.997
C 1	-0.261	+3.796	+53.225	-0.261	+3.796	+57.324
C 1	-4.325	-20.154	-177.106	-4.556	-20.980	-199.318
C 1	-0.261	+3.796	+53.225	-0.261	+3.796	+57.324
C 1	-4.325	-20.154	-177.106	-4.556	-20.980	-199.318
Barra 131						
C 1	+62.034	+8.560	-70.996	+59.336	+8.147	-61.975
C 1	-57.269	+8.560	-70.996	-54.803	+8.147	-61.975
C 1	+4.547	+20.241	-199.317	+4.316	+19.415	-177.904
C 1	+0.217	-3.120	+57.324	+0.217	-3.120	+53.954
C 1	+0.217	-3.120	+57.324	+0.217	-3.120	+53.954
C 1	+4.547	+20.241	-199.317	+4.316	+19.415	-177.904
Barra 132						
C 1	+59.336	+8.148	-61.974	+50.694	+6.824	-36.072
C 1	-54.803	+8.148	-61.974	-46.902	+6.825	-36.072
C 1	+4.316	+19.416	-177.903	+3.574	+16.769	-115.303
C 1	+0.217	-3.120	+53.954	+0.217	-3.120	+43.158
C 1	+0.217	-3.120	+53.954	+0.951	-0.235	+50.927
C 1	+4.316	+19.416	-177.903	+2.841	+13.884	-123.071

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 133						
C 1	+50.694	+6.825	-36.073	+47.047	+6.266	-26.516
C 1	-46.902	+6.825	-36.073	-43.568	+6.266	-26.516
C 1	+3.574	+16.769	-115.304	+3.262	+15.653	-91.634
C 1	+0.217	-3.120	+43.158	+0.217	-3.120	+38.603
C 1	+0.951	-0.234	+50.926	+0.638	-1.351	+49.770
C 1	+2.841	+13.884	-123.073	+2.841	+13.884	-102.801
Barra 134						
C 1	+47.047	+6.266	-26.516	+42.222	+5.501	-14.749
C 1	-43.568	+6.266	-26.516	-39.171	+5.501	-14.749
C 1	+3.262	+15.653	-91.635	+2.833	+14.123	-61.860
C 1	+0.217	-3.120	+38.603	+0.217	-3.120	+32.362
C 1	+0.638	-1.351	+49.769	+2.097	+4.066	+57.635
C 1	+2.841	+13.883	-102.802	+0.954	+6.937	-87.133
Barra 135						
C 1	+42.222	+5.496	-14.747	+44.506	+5.114	-9.440
C 1	-39.171	+5.496	-14.747	-41.669	+5.114	-9.440
C 1	+2.833	+14.112	-61.857	+2.841	+13.872	-61.156
C 1	+0.217	-3.119	+32.363	-0.005	-3.644	+42.275
C 1	+2.097	+4.066	+57.638	+1.883	+3.301	+61.320
C 1	+0.954	+6.926	-87.132	+0.954	+6.926	-80.201
Barra 136						
C 1	+44.506	+5.121	-9.438	+33.266	+3.400	+9.734
C 1	-41.669	+5.121	-9.438	-31.393	+3.400	+9.734
C 1	+2.841	+13.885	-61.151	+1.877	+10.443	-6.413
C 1	-0.005	-3.643	+42.275	-0.005	-3.643	+25.881
C 1	+1.883	+3.315	+61.324	+1.914	+5.765	+88.648
C 1	+0.954	+6.927	-80.200	-0.042	+1.034	-69.180
Barra 137						
C 1	+33.266	+3.400	+9.734	+22.930	+1.679	+21.161
C 1	-31.393	+3.400	+9.734	-22.021	+1.679	+21.161
C 1	+1.877	+10.443	-6.413	+0.913	+7.000	+32.833
C 1	-0.005	-3.643	+25.881	-0.005	-3.643	+9.488
C 1	+1.914	+5.765	+88.648	+0.950	+2.323	+106.847
C 1	-0.042	+1.034	-69.180	-0.042	+1.034	-64.525
Barra 138						
C 1	+22.930	+1.679	+21.161	+33.206	-0.043	+24.842
C 1	-22.021	+1.679	+21.161	-33.261	-0.043	+24.842
C 1	+0.913	+7.000	+32.833	+0.954	+6.927	+13.312
C 1	-0.005	-3.643	+9.488	-1.009	-7.012	+36.371
C 1	+0.950	+2.323	+106.847	-0.014	-1.119	+109.555
C 1	-0.042	+1.034	-64.526	-0.042	+1.034	-59.872

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 139						
C 1	+33.206	-0.043	+24.842	+24.151	-1.429	+22.174
C 1	-33.261	-0.043	+24.842	-24.983	-1.429	+22.174
C 1	+0.954	+6.927	+13.312	+0.177	+4.154	+33.396
C 1	-1.009	-7.012	+36.372	-1.009	-7.012	+10.953
C 1	-0.014	-1.119	+109.556	-0.790	-3.892	+100.473
C 1	-0.042	+1.034	-59.872	-0.042	+1.034	-56.124
Barra 140						
C 1	+24.151	-1.429	+22.174	+30.102	-2.816	+14.481
C 1	-24.983	-1.429	+22.174	-31.710	-2.816	+14.481
C 1	+0.177	+4.154	+33.395	+0.073	+4.010	+3.777
C 1	-1.009	-7.012	+10.953	-1.681	-9.641	+25.185
C 1	-0.790	-3.892	+100.472	-1.566	-6.665	+81.338
C 1	-0.042	+1.034	-56.124	-0.042	+1.034	-52.377
Barra 141						
C 1	+30.102	-2.816	+14.481	+38.379	-4.202	+1.761
C 1	-31.710	-2.816	+14.481	-40.764	-4.202	+1.761
C 1	+0.073	+4.010	+3.777	+0.073	+4.010	+18.314
C 1	-1.681	-9.641	+25.185	-2.458	-12.415	-14.792
C 1	-1.566	-6.665	+81.339	-2.343	-9.438	+52.152
C 1	-0.042	+1.034	-52.377	-0.042	+1.034	-48.631
Barra 142						
C 1	+38.379	-4.202	+1.761	+38.899	-5.589	-15.985
C 1	-40.764	-4.202	+1.761	-42.060	-5.589	-15.985
C 1	+0.073	+4.010	+18.314	-0.275	+3.142	+10.012
C 1	-2.458	-12.415	-14.792	-2.887	-14.320	-41.982
C 1	-2.343	-9.438	+52.152	-2.152	-4.166	+33.331
C 1	-0.042	+1.033	-48.630	-1.009	-7.012	-65.301
Barra 143						
C 1	+38.899	-5.589	-15.985	+46.800	-6.912	-37.612
C 1	-42.060	-5.589	-15.985	-50.702	-6.912	-37.612
C 1	-0.275	+3.142	+10.012	-0.275	+3.142	+20.885
C 1	-2.887	-14.320	-41.982	-3.628	-16.967	-96.108
C 1	-2.152	-4.166	+33.330	-1.445	-1.410	+27.526
C 1	-1.009	-7.012	-65.301	-2.458	-12.415	-102.749
Barra 144						
C 1	+46.800	-6.912	-37.612	+54.701	-8.236	-63.817
C 1	-50.702	-6.912	-37.612	-59.344	-8.236	-63.817
C 1	-0.275	+3.142	+20.885	-0.275	+3.142	+31.757
C 1	-3.628	-16.967	-96.108	-4.369	-19.614	-159.391
C 1	-1.445	-1.410	+27.526	-0.275	+3.142	+31.757
C 1	-2.458	-12.415	-102.749	-4.369	-19.614	-159.391

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 145						
C 1	+54.701	-8.236	-63.817	+57.167	-8.649	-72.935
C 1	-59.344	-8.236	-63.817	-62.042	-8.649	-72.935
C 1	-0.275	+3.142	+31.758	-0.275	+3.142	+35.151
C 1	-4.369	-19.614	-159.391	-4.600	-20.440	-181.020
C 1	-0.275	+3.142	+31.758	-0.275	+3.142	+35.151
C 1	-4.369	-19.614	-159.391	-4.600	-20.440	-181.020
Barra 146						
C 1	+51.374	+8.911	-72.935	+48.676	+8.498	-63.534
C 1	-47.614	+8.911	-72.935	-45.147	+8.498	-63.534
C 1	+3.778	+18.799	-181.021	+3.547	+17.972	-161.166
C 1	-0.018	-0.977	+35.152	-0.018	-0.977	+34.097
C 1	-0.018	-0.977	+35.152	-0.018	-0.977	+34.097
C 1	+3.778	+18.799	-181.021	+3.547	+17.973	-161.166
Barra 147						
C 1	+48.676	+8.497	-63.534	+40.034	+7.174	-36.423
C 1	-45.147	+8.497	-63.534	-37.246	+7.174	-36.423
C 1	+3.547	+17.972	-161.165	+2.806	+15.325	-103.561
C 1	-0.018	-0.978	+34.097	-0.018	-0.978	+30.715
C 1	-0.018	-0.978	+34.097	+0.679	+1.927	+39.050
C 1	+3.547	+17.972	-161.165	+2.108	+12.421	-111.896
Barra 148						
C 1	+40.034	+7.175	-36.423	+36.387	+6.616	-26.357
C 1	-37.247	+7.175	-36.423	-33.913	+6.616	-26.357
C 1	+2.806	+15.327	-103.561	+2.493	+14.210	-82.002
C 1	-0.018	-0.977	+30.715	-0.018	-0.977	+29.288
C 1	+0.679	+1.928	+39.050	+2.091	+7.720	+42.867
C 1	+2.108	+12.421	-111.896	+0.383	+5.513	-95.581
Barra 149						
C 1	+36.387	+6.615	-26.356	+32.364	+5.850	-13.892
C 1	-33.913	+6.615	-26.356	-30.318	+5.850	-13.892
C 1	+2.493	+14.208	-82.001	+2.065	+12.678	-55.115
C 1	-0.018	-0.978	+29.288	-0.018	-0.978	+27.332
C 1	+2.091	+7.717	+42.867	+2.366	+8.661	+57.165
C 1	+0.384	+5.513	-95.580	-0.319	+3.039	-84.949
Barra 150						
C 1	+32.364	+5.848	-13.891	+34.648	+5.465	-8.233
C 1	-30.318	+5.848	-13.891	-32.816	+5.465	-8.233
C 1	+2.065	+12.673	-55.113	+2.108	+12.416	-56.502
C 1	-0.018	-0.977	+27.331	-0.276	-1.485	+40.035
C 1	+2.366	+8.665	+57.165	+2.151	+7.900	+65.448
C 1	-0.319	+3.031	-84.947	-0.319	+3.031	-81.915

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 151						
C 1	+34.648	+5.469	-8.232	+26.218	+4.178	+8.046
C 1	-32.815	+5.469	-8.232	-25.109	+4.178	+8.046
C 1	+2.108	+12.420	-56.499	+1.385	+9.838	-18.938
C 1	-0.276	-1.483	+40.034	-0.276	-1.483	+35.031
C 1	+2.151	+7.904	+65.445	+1.428	+5.322	+87.765
C 1	-0.319	+3.033	-81.910	-0.319	+3.033	-71.672
Barra 152						
C 1	+26.218	+4.178	+8.046	+17.788	+2.887	+19.968
C 1	-25.109	+4.178	+8.046	-17.402	+2.887	+19.968
C 1	+1.385	+9.838	-18.938	+0.662	+7.257	+9.909
C 1	-0.276	-1.483	+35.031	-0.276	-1.483	+30.027
C 1	+1.428	+5.322	+87.765	+0.706	+2.740	+101.370
C 1	-0.319	+3.034	-71.672	-0.319	+3.034	-61.434
Barra 153						
C 1	+17.788	+2.887	+19.968	+19.273	+1.596	+27.533
C 1	-17.402	+2.887	+19.968	-19.609	+1.596	+27.533
C 1	+0.662	+7.256	+9.909	+0.383	+5.509	-23.260
C 1	-0.276	-1.483	+30.027	-0.720	-2.318	+78.325
C 1	+0.706	+2.740	+101.371	-0.017	+0.158	+106.261
C 1	-0.319	+3.034	-61.435	-0.319	+3.034	-51.196
Barra 154						
C 1	+19.273	+1.596	+27.532	+26.979	+0.305	+30.740
C 1	-19.609	+1.596	+27.532	-28.039	+0.305	+30.740
C 1	+0.383	+5.509	-23.260	+0.383	+5.509	-4.666
C 1	-0.720	-2.318	+78.325	-1.443	-4.900	+66.146
C 1	-0.017	+0.158	+106.261	-0.740	-2.424	+102.437
C 1	-0.319	+3.034	-51.196	-0.319	+3.034	-40.957
Barra 155						
C 1	+26.979	+0.305	+30.740	+19.002	-0.986	+29.590
C 1	-28.039	+0.305	+30.740	-20.784	-0.986	+29.590
C 1	+0.383	+5.509	-4.666	-0.319	+3.034	-30.718
C 1	-1.443	-4.899	+66.146	-1.463	-5.006	+89.899
C 1	-0.740	-2.424	+102.437	-1.463	-5.006	+89.899
C 1	-0.319	+3.034	-40.957	-0.319	+3.034	-30.718
Barra 156						
C 1	+19.002	-0.986	+29.590	+26.709	-2.277	+24.084
C 1	-20.784	-0.986	+29.590	-29.214	-2.277	+24.084
C 1	-0.319	+3.034	-30.718	-0.319	+3.034	-20.479
C 1	-1.463	-5.006	+89.899	-2.186	-7.588	+68.647
C 1	-1.463	-5.006	+89.899	-2.186	-7.588	+68.647
C 1	-0.319	+3.034	-30.718	-0.319	+3.034	-20.479

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 157						
C 1	+26.709	-2.277	+24.084	+34.416	-3.568	+14.220
C 1	-29.214	-2.277	+24.084	-37.644	-3.568	+14.220
C 1	-0.319	+3.034	-20.479	-0.319	+3.034	-10.239
C 1	-2.186	-7.588	+68.646	-2.909	-10.170	+38.680
C 1	-2.186	-7.588	+68.646	-2.909	-10.170	+38.680
C 1	-0.319	+3.034	-20.479	-0.319	+3.034	-10.239
Barra 158						
C 1	+34.416	-3.568	+14.220	+42.123	-4.859	+0.000
C 1	-37.644	-3.568	+14.220	-46.074	-4.859	+0.000
C 1	-0.319	+3.034	-10.239	-0.319	+3.034	-0.000
C 1	-2.909	-10.170	+38.680	-3.632	-12.752	+0.000
C 1	-2.909	-10.170	+38.680	-2.309	-7.415	+0.000
C 1	-0.319	+3.034	-10.239	-0.466	+1.143	-0.000

Hipótesis de carga consideradas

Combinación: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	1	+0.000	+7.418	+2.491
C 1	1	-0.000	-1.317	+0.151
C 1	1	+0.000	+12.718	+3.636
C 1	1	-0.000	-2.999	+0.319
C 1	1	+0.000	+4.859	+46.120
C 1	1	+0.000	+4.859	-42.164
C 1	11	+0.002	+24.561	+5.729
C 1	11	-0.001	+5.861	+1.739
C 1	11	+0.001	+39.188	+8.384
C 1	11	+0.000	-4.070	+0.257
C 1	11	+0.001	+17.559	+100.759
C 1	11	+0.001	+17.559	-92.118
C 1	26	+0.002	+24.013	+6.354
C 1	26	-0.001	+11.924	+3.033
C 1	26	+0.001	+41.214	+9.103
C 1	26	+0.000	-6.900	+0.479
C 1	26	+0.001	+17.157	+111.736
C 1	26	+0.001	+17.157	-102.154
C 1	41	+0.001	+22.181	+4.997
C 1	41	-0.002	+9.934	+3.187
C 1	41	-0.000	+42.183	+9.118
C 1	41	-0.001	-7.722	+0.517
C 1	41	-0.000	+17.230	+112.360
C 1	41	-0.000	+17.230	-102.724
C 1	56	+0.002	+26.389	+6.000
C 1	56	-0.001	+3.887	+2.596
C 1	56	+0.002	+42.454	+9.121
C 1	56	-0.000	-8.043	+0.518
C 1	56	+0.001	+17.205	+112.396
C 1	56	+0.001	+17.205	-102.757
C 1	71	+0.002	+21.929	+5.573
C 1	71	-0.001	+14.382	+3.850
C 1	71	+0.001	+42.551	+9.121
C 1	71	-0.000	-8.122	+0.518
C 1	71	+0.000	+17.214	+112.398
C 1	71	+0.000	+17.214	-102.759
C 1	86	+0.001	+14.865	+4.052
C 1	86	-0.002	+19.391	+5.317
C 1	86	-0.001	+42.551	+9.121
C 1	86	-0.000	-8.123	+0.518
C 1	86	-0.001	+17.214	+112.398
C 1	86	-0.000	+17.214	-102.758
C 1	101	+0.002	+18.259	+4.993
C 1	101	-0.001	+3.734	+1.835
C 1	101	+0.001	+42.450	+9.121
C 1	101	-0.000	-8.042	+0.518
C 1	101	+0.000	+17.204	+112.395
C 1	101	+0.000	+17.204	-102.757

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	116	+0.001	+11.764	+2.901
C 1	116	-0.002	+22.253	+6.705
C 1	116	-0.000	+42.183	+9.118
C 1	116	-0.000	-7.721	+0.517
C 1	116	-0.000	+17.231	+112.360
C 1	116	-0.000	+17.231	-102.724
C 1	131	+0.000	-3.048	+0.625
C 1	131	-0.002	+25.303	+6.246
C 1	131	-0.001	+41.221	+9.103
C 1	131	+0.000	-6.916	+0.479
C 1	131	-0.001	+17.153	+111.732
C 1	131	-0.001	+17.153	-102.150
C 1	146	+0.001	+7.726	+1.368
C 1	146	-0.001	+15.272	+4.702
C 1	146	+0.000	+39.239	+8.378
C 1	146	-0.001	-4.119	+0.257
C 1	146	-0.000	+17.560	+100.688
C 1	146	-0.000	+17.560	-92.053
C 1	159	+0.000	+7.415	+2.309
C 1	159	-0.000	-1.143	+0.466
C 1	159	+0.000	+12.752	+3.632
C 1	159	+0.000	-3.034	+0.319
C 1	159	+0.000	+4.859	+46.074
C 1	159	+0.000	+4.859	-42.123

1.1.18.- ENVOLVENTES DE ESFUERZOS DE LOCOMOTORA UIC 71 UNA VÍA.

Hip¢tesis de carga consideradas

Combinaci¢n: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85
87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102
104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119
121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153
155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170
172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187
189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204
206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221
223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255
257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272
274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289
291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306
308 309 310 311 312 313 314 315 316

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+141.924	+53.303	-0.000	+124.480	+44.738	+178.953
C 1	-141.924	+53.303	-0.000	-124.480	+44.738	+178.953
C 1	+141.924	+53.303	-0.000	+124.480	+44.738	+178.953
C 1	+6.951	-7.652	-0.000	+6.951	-7.652	-30.606
C 1	+89.591	+28.605	+0.000	+124.480	+44.738	+178.953
C 1	+54.703	+14.841	-0.000	+6.951	-7.652	-30.606
Barra 2						
C 1	+124.480	+44.739	+178.953	+107.036	+36.454	+291.629
C 1	-124.480	+44.739	+178.953	-107.036	+36.454	+291.629
C 1	+6.951	-7.652	-30.606	-22.602	-8.359	+288.755
C 1	+124.480	+44.739	+178.953	+107.036	+36.454	+291.629
C 1	+6.951	-7.652	-30.606	+6.951	-7.652	-61.213
Barra 3						
C 1	+107.035	+36.453	+291.629	+89.591	+28.605	+343.263
C 1	-107.035	+36.453	+291.629	-89.591	+28.605	+343.263
C 1	+107.035	+36.453	+291.629	+89.591	+28.605	+343.263
C 1	-22.602	-8.360	+288.753	-40.046	-16.645	+368.292
C 1	+107.035	+36.453	+291.629	-40.046	-16.645	+368.292
C 1	+6.951	-7.652	-61.212	+6.951	-7.652	-91.818
Barra 4						
C 1	+89.591	+28.605	+343.263	+72.147	+21.348	+341.580
C 1	-89.591	+28.605	+343.263	-72.147	+21.348	+341.580
C 1	+89.591	+28.605	+343.263	+72.147	+21.348	+341.580
C 1	-40.046	-16.645	+368.290	-57.490	-24.493	+388.529
C 1	-40.046	-16.645	+368.290	-57.490	-24.493	+388.529
C 1	+6.951	-7.651	-91.818	+6.951	-7.651	-122.423

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 5						
C 1	+72.147	+21.349	+341.581	+77.331	-31.656	+282.849
C 1	-72.147	+21.349	+341.581	-77.331	-31.656	+282.849
C 1	+72.147	+21.349	+341.581	+54.703	+14.840	+296.811
C 1	-57.490	-24.493	+388.528	-74.934	-31.749	+357.825
C 1	-57.490	-24.493	+388.528	-74.934	-31.749	+357.825
C 1	+6.951	-7.651	-122.423	+6.951	-7.651	-153.027
Barra 6						
C 1	+77.331	-31.656	+282.849	+94.775	-38.912	+223.120
C 1	-77.331	-31.656	+282.849	-94.775	-38.912	+223.120
C 1	+54.703	+14.841	+296.811	+37.470	+9.233	+221.590
C 1	-74.934	-31.749	+357.823	-94.775	-38.912	+223.120
C 1	-74.934	-31.749	+357.823	-92.378	-38.257	+287.023
C 1	+6.951	-7.651	-153.028	+6.951	-7.651	-183.635
Barra 7						
C 1	+94.775	-38.911	+223.121	+112.219	-45.419	+126.287
C 1	-94.775	-38.911	+223.121	-112.219	-45.419	+126.287
C 1	+37.470	+9.233	+221.591	+22.652	+4.598	+128.728
C 1	-94.775	-38.911	+223.121	-112.219	-45.419	+126.287
C 1	-92.378	-38.257	+287.023	-109.612	-43.865	+189.372
C 1	+6.951	-7.652	-183.635	+6.951	-7.652	-214.242
Barra 8						
C 1	+112.219	-45.419	+126.289	+129.453	-51.027	+33.762
C 1	-112.219	-45.419	+126.289	-129.453	-51.027	+33.762
C 1	+22.652	+4.598	+128.728	+0.395	+2.464	+77.525
C 1	-112.219	-45.419	+126.289	-129.453	-51.027	+33.762
C 1	-109.612	-43.865	+189.373	-53.695	-22.964	+88.928
C 1	+6.951	-7.652	-214.243	+6.951	-7.652	-240.719
Barra 9						
C 1	+129.453	-51.027	+33.761	+144.270	-55.663	-63.626
C 1	-129.453	-51.027	+33.761	-144.270	-55.663	-63.626
C 1	+0.395	+2.464	+77.525	+0.395	+2.464	+86.051
C 1	-129.453	-51.027	+33.761	-144.270	-55.663	-63.626
C 1	-53.695	-22.964	+88.927	+0.395	+2.464	+86.051
C 1	+6.951	-7.653	-240.718	+6.951	-7.653	-267.195
Barra 10						
C 1	+144.270	-55.664	-63.626	+144.270	-55.664	-123.742
C 1	-144.270	-55.664	-63.626	-144.270	-55.664	-123.742
C 1	+0.395	+2.462	+86.052	+0.395	+2.462	+88.713
C 1	-144.270	-55.664	-63.626	-144.270	-55.664	-123.742
C 1	+0.395	+2.462	+86.052	+0.395	+2.462	+88.713
C 1	+6.951	-7.648	-267.195	+6.951	-7.648	-275.457

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 11						
C 1	+136.298	-50.339	+64.684	+122.381	+46.418	-203.697
C 1	-136.298	-50.339	+64.684	-122.381	+46.418	-203.697
C 1	+122.381	+46.418	-253.824	+122.381	+46.418	-203.697
C 1	-136.298	-50.339	+64.684	-106.747	-39.671	+16.079
C 1	+5.994	-7.922	+88.713	+5.994	-7.922	+80.158
C 1	+105.459	+39.656	-275.457	-5.387	+7.176	-236.061
Barra 12						
C 1	+122.381	+46.407	-203.696	+122.381	+46.407	-43.130
C 1	-122.381	+46.407	-203.696	-122.381	+46.407	-43.130
C 1	+122.381	+46.407	-203.696	+122.381	+46.407	-43.130
C 1	-106.747	-39.670	+16.078	-55.409	-18.616	+24.027
C 1	+5.994	-7.920	+80.157	+5.994	-7.920	+52.754
C 1	-5.387	+7.182	-236.060	-5.387	+7.182	-211.208
Barra 13						
C 1	+122.381	+46.406	-43.137	+122.381	+46.406	+24.629
C 1	-122.381	+46.406	-43.137	-122.381	+46.406	+24.629
C 1	+122.381	+46.406	-43.137	+122.381	+46.406	+24.629
C 1	-55.409	-18.616	+24.027	-43.349	-15.750	+28.915
C 1	+5.994	-7.922	+52.754	+66.130	+25.041	+43.465
C 1	-5.387	+7.180	-211.207	-5.387	+7.180	-200.723
Barra 14						
C 1	+122.381	+46.410	+24.623	+122.381	+46.410	+117.441
C 1	-122.381	+46.410	+24.623	-122.381	+46.410	+117.441
C 1	+122.381	+46.410	+24.623	+122.381	+46.410	+117.441
C 1	-43.349	-15.750	+28.916	-74.135	-26.864	-15.551
C 1	+66.130	+25.040	+43.464	+122.381	+46.410	+117.441
C 1	-5.387	+7.184	-200.723	-5.387	+7.184	-186.355
Barra 15						
C 1	+122.381	+46.438	+117.438	+122.381	+46.438	+163.875
C 1	-122.381	+46.438	+117.438	-122.381	+46.438	+163.875
C 1	+122.381	+46.438	+117.438	+122.381	+46.438	+163.875
C 1	-74.135	-26.869	-15.550	-86.418	-31.251	-4.064
C 1	+122.381	+46.438	+117.438	+122.381	+46.438	+163.875
C 1	-5.387	+7.141	-186.352	-5.387	+7.141	-179.203
Barra 16						
C 1	+122.381	+46.443	+163.871	+105.459	+39.693	+260.066
C 1	-122.381	+46.443	+163.871	-105.459	+39.693	+260.066
C 1	+122.381	+46.443	+163.871	+105.459	+39.693	+260.066
C 1	-86.418	-31.246	-4.063	-39.908	-13.226	+93.652
C 1	+122.381	+46.443	+163.871	-11.019	-1.716	+278.396
C 1	-5.387	+7.156	-179.193	-5.387	+7.156	-146.990

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 17						
C 1	+105.459	+39.693	+260.064	+88.537	+32.443	+319.081
C 1	-105.459	+39.693	+260.064	-88.537	+32.443	+319.081
C 1	+105.459	+39.693	+260.064	+88.537	+32.443	+319.081
C 1	-39.908	-13.227	+93.652	-44.541	-13.818	+232.342
C 1	-11.019	-1.716	+278.394	-27.941	-8.466	+344.218
C 1	-5.387	+7.156	-146.990	-5.387	+7.156	-114.787
Barra 18						
C 1	+88.537	+32.443	+319.082	+71.614	+25.066	+334.090
C 1	-88.537	+32.443	+319.082	-71.614	+25.066	+334.090
C 1	+88.537	+32.443	+319.082	+71.614	+25.066	+334.090
C 1	-44.541	-13.819	+232.343	-61.463	-20.569	+267.784
C 1	-27.941	-8.467	+344.216	-44.864	-15.716	+370.609
C 1	-5.387	+7.156	-114.788	+5.994	-7.933	-89.678
Barra 19						
C 1	+71.614	+25.067	+334.090	+78.386	-27.819	+285.895
C 1	-71.614	+25.067	+334.090	-78.386	-27.819	+285.895
C 1	+71.614	+25.067	+334.090	+57.982	+19.285	+313.867
C 1	-61.464	-20.570	+267.785	-78.386	-27.819	+285.895
C 1	-44.864	-15.717	+370.609	-0.218	-0.865	+364.833
C 1	+5.994	-7.933	-89.679	+5.994	-7.933	-118.435
Barra 20						
C 1	+78.386	-27.818	+285.895	+95.308	-35.193	+271.766
C 1	-78.386	-27.818	+285.895	-95.308	-35.193	+271.766
C 1	+57.982	+19.286	+313.864	+44.350	+13.856	+267.966
C 1	-78.386	-27.818	+285.895	-95.308	-35.193	+271.766
C 1	-0.218	-0.865	+364.833	-13.850	-6.646	+323.656
C 1	+5.994	-7.933	-118.434	+5.994	-7.933	-147.191
Barra 21						
C 1	+95.308	-35.194	+271.764	+108.940	-40.977	+209.626
C 1	-95.308	-35.194	+271.764	-108.940	-40.977	+209.626
C 1	+44.350	+13.857	+267.966	+31.018	+8.972	+202.175
C 1	-95.308	-35.194	+271.764	-108.940	-40.977	+209.626
C 1	-13.850	-6.648	+323.655	-27.482	-12.075	+258.077
C 1	+5.994	-7.933	-147.193	+5.994	-7.933	-175.947
Barra 22						
C 1	+108.940	-40.975	+209.627	+122.572	-46.404	+124.375
C 1	-108.940	-40.975	+209.627	-122.572	-46.404	+124.375
C 1	+31.018	+8.972	+202.174	-5.387	+7.156	+21.188
C 1	-108.940	-40.975	+209.627	-122.572	-46.404	+124.375
C 1	-27.482	-12.075	+258.077	-40.815	-16.960	+174.576
C 1	+5.994	-7.933	-175.948	+5.994	-7.933	-204.705

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 23						
C 1	+122.572	-46.403	+124.374	+135.905	-51.289	+31.628
C 1	-122.572	-46.403	+124.374	-135.905	-51.289	+31.628
C 1	-5.387	+7.156	+21.189	-5.387	+7.156	+45.951
C 1	-122.572	-46.403	+124.374	-135.905	-51.289	+31.628
C 1	-40.815	-16.960	+174.576	-56.814	-22.810	+83.764
C 1	+5.994	-7.933	-204.706	+5.994	-7.933	-232.154
Barra 24						
C 1	+135.905	-51.289	+31.630	+147.389	-55.508	-68.253
C 1	-135.905	-51.289	+31.630	-147.389	-55.508	-68.253
C 1	-5.387	+7.157	+45.950	-5.387	+7.157	+70.713
C 1	-135.905	-51.289	+31.630	-147.389	-55.508	-68.253
C 1	-56.814	-22.810	+83.764	+0.341	+2.555	+83.594
C 1	+5.994	-7.933	-232.155	+5.994	-7.933	-259.603
Barra 25						
C 1	+147.389	-55.506	-68.255	+147.389	-55.506	-128.207
C 1	-147.389	-55.506	-68.255	-147.389	-55.506	-128.207
C 1	-5.387	+7.158	+70.713	-5.387	+7.158	+78.443
C 1	-147.389	-55.506	-68.255	-147.389	-55.506	-128.207
C 1	+0.341	+2.554	+83.594	+0.341	+2.554	+86.352
C 1	+5.994	-7.930	-259.604	+5.994	-7.930	-268.162
Barra 26						
C 1	+136.257	-50.292	+62.883	+122.318	+46.242	-197.152
C 1	-136.257	-50.292	+62.883	-122.318	+46.242	-197.152
C 1	+122.318	+46.242	-247.094	+122.318	+46.242	-197.152
C 1	-136.257	-50.292	+62.883	-106.706	-39.624	+14.329
C 1	+5.991	-7.860	+86.350	+5.991	-7.860	+77.862
C 1	+105.405	+39.473	-268.162	-6.192	+7.832	-258.260
Barra 27						
C 1	+122.318	+46.236	-197.155	+122.318	+46.236	-37.177
C 1	-122.318	+46.236	-197.155	-122.318	+46.236	-37.177
C 1	+122.318	+46.236	-197.155	+122.318	+46.236	-37.177
C 1	-106.706	-39.623	+14.328	-55.448	-18.625	+24.314
C 1	+5.991	-7.859	+77.861	-0.306	-2.305	+67.981
C 1	-6.192	+7.836	-258.260	-6.192	+7.836	-231.147
Barra 28						
C 1	+122.318	+46.242	-37.176	+122.318	+46.242	+30.336
C 1	-122.318	+46.242	-37.176	-122.318	+46.242	+30.336
C 1	+122.318	+46.242	-37.176	+122.318	+46.242	+30.336
C 1	-55.448	-18.625	+24.314	-43.351	-15.726	+28.139
C 1	-0.306	-2.305	+67.982	-0.306	-2.305	+64.617
C 1	-6.192	+7.832	-231.152	-6.192	+7.832	-219.711

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 29						
C 1	+122.318	+46.236	+30.344	+122.318	+46.236	+122.813
C 1	-122.318	+46.236	+30.344	-122.318	+46.236	+122.813
C 1	+122.318	+46.236	+30.344	+122.318	+46.236	+122.813
C 1	-43.351	-15.727	+28.139	-74.136	-26.841	-16.283
C 1	-0.306	-2.304	+64.618	+122.318	+46.236	+122.813
C 1	-6.192	+7.836	-219.717	-6.192	+7.836	-204.047
Barra 30						
C 1	+122.318	+46.250	+122.797	+122.318	+46.250	+169.063
C 1	-122.318	+46.250	+122.797	-122.318	+46.250	+169.063
C 1	+122.318	+46.250	+122.797	+122.318	+46.250	+169.063
C 1	-74.136	-26.841	-16.286	-86.420	-31.220	-4.679
C 1	+122.318	+46.250	+122.797	+122.318	+46.250	+169.063
C 1	-6.192	+7.813	-204.031	-6.192	+7.813	-196.219
Barra 31						
C 1	+122.318	+46.235	+169.046	+105.405	+39.468	+264.672
C 1	-122.318	+46.235	+169.046	-105.405	+39.468	+264.672
C 1	+122.318	+46.235	+169.046	+105.405	+39.468	+264.672
C 1	-86.420	-31.221	-4.678	-39.942	-13.314	+95.436
C 1	+122.318	+46.235	+169.046	-11.082	-1.924	+282.639
C 1	-6.192	+7.836	-196.210	-6.192	+7.836	-160.947
Barra 32						
C 1	+105.405	+39.467	+264.671	+88.491	+32.227	+322.530
C 1	-105.405	+39.467	+264.671	-88.491	+32.227	+322.530
C 1	-39.942	-13.314	+95.437	-44.604	-14.026	+235.649
C 1	-11.082	-1.924	+282.639	-27.996	-8.692	+347.807
C 1	-6.192	+7.836	-160.946	-6.192	+7.836	-125.683
Barra 33						
C 1	+88.491	+32.227	+322.531	+71.577	+24.879	+336.238
C 1	-88.491	+32.227	+322.531	-71.577	+24.879	+336.238
C 1	+88.491	+32.227	+322.531	+71.577	+24.879	+336.238
C 1	-44.604	-14.025	+235.652	-61.518	-20.793	+270.365
C 1	-27.996	-8.691	+347.807	-44.910	-15.932	+373.086
C 1	-6.192	+7.836	-125.684	+5.991	-7.859	-90.493
Barra 34						
C 1	+71.577	+24.879	+336.237	+78.432	-28.034	+287.586
C 1	-71.577	+24.879	+336.237	-78.432	-28.034	+287.586
C 1	+71.577	+24.879	+336.237	+57.952	+19.129	+315.072
C 1	-61.518	-20.794	+270.365	-78.432	-28.034	+287.586
C 1	-44.910	-15.932	+373.085	-0.255	-1.053	+366.298
C 1	+5.991	-7.859	-90.492	+5.991	-7.859	-118.983

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 35						
C 1	+78.432	-28.037	+287.588	+95.345	-35.383	+272.546
C 1	-78.432	-28.037	+287.588	-95.345	-35.383	+272.546
C 1	+57.952	+19.129	+315.075	+44.327	+13.737	+268.452
C 1	-78.432	-28.037	+287.588	-95.345	-35.383	+272.546
C 1	-0.255	-1.054	+366.301	-13.880	-6.803	+324.296
C 1	+5.991	-7.858	-118.984	+5.991	-7.858	-147.470
Barra 36						
C 1	+95.345	-35.383	+272.549	+108.970	-41.132	+209.704
C 1	-95.345	-35.383	+272.549	-108.970	-41.132	+209.704
C 1	+44.327	+13.738	+268.452	+31.002	+8.892	+202.207
C 1	-95.345	-35.383	+272.549	-108.970	-41.132	+209.704
C 1	-13.880	-6.803	+324.298	-27.505	-12.194	+258.129
C 1	+5.991	-7.858	-147.470	+5.991	-7.858	-175.959
Barra 37						
C 1	+108.970	-41.132	+209.704	+122.595	-46.523	+123.997
C 1	-108.970	-41.132	+209.704	-122.595	-46.523	+123.997
C 1	+31.002	+8.892	+202.205	-6.192	+7.837	+23.215
C 1	-108.970	-41.132	+209.704	-122.595	-46.523	+123.997
C 1	-27.505	-12.194	+258.130	-40.831	-17.041	+174.317
C 1	+5.991	-7.858	-175.958	+5.991	-7.858	-204.445
Barra 38						
C 1	+122.595	-46.522	+123.994	+135.921	-51.369	+31.090
C 1	-122.595	-46.522	+123.994	-135.921	-51.369	+31.090
C 1	-6.192	+7.837	+23.216	-6.192	+7.837	+50.330
C 1	-122.595	-46.522	+123.994	-135.921	-51.369	+31.090
C 1	-40.831	-17.041	+174.317	-56.824	-22.853	+83.469
C 1	+5.991	-7.859	-204.444	+5.991	-7.859	-231.637
Barra 39						
C 1	+135.921	-51.369	+31.092	+147.399	-55.552	-68.699
C 1	-135.921	-51.369	+31.092	-147.399	-55.552	-68.699
C 1	-6.192	+7.837	+50.330	-6.192	+7.837	+77.446
C 1	-135.921	-51.369	+31.092	-147.399	-55.552	-68.699
C 1	-56.824	-22.853	+83.470	+0.340	+2.531	+83.352
C 1	+5.991	-7.859	-231.638	+5.991	-7.859	-258.829
Barra 40						
C 1	+147.399	-55.555	-68.700	+147.399	-55.555	-128.697
C 1	-147.399	-55.555	-68.700	-147.399	-55.555	-128.697
C 1	-6.192	+7.837	+77.447	-6.192	+7.837	+85.911
C 1	-147.399	-55.555	-68.700	-147.399	-55.555	-128.697
C 1	+0.340	+2.532	+83.350	+0.340	+2.532	+86.085
C 1	+5.991	-7.859	-258.828	-108.970	-41.137	-268.457

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 41						
C 1	+136.257	-50.282	+62.678	+122.318	+46.195	-196.418
C 1	-136.257	-50.282	+62.678	-122.318	+46.195	-196.418
C 1	+122.318	+46.195	-246.313	+122.318	+46.195	-196.418
C 1	-136.257	-50.282	+62.678	-106.706	-39.614	+14.134
C 1	+5.991	-7.848	+86.085	-0.352	-2.526	+83.181
C 1	-6.193	+7.895	-268.457	-6.193	+7.895	-259.928
Barra 42						
C 1	+122.318	+46.204	-196.420	+122.318	+46.204	-36.551
C 1	-122.318	+46.204	-196.420	-122.318	+46.204	-36.551
C 1	+122.318	+46.204	-196.420	+122.318	+46.204	-36.551
C 1	-106.706	-39.615	+14.135	-55.448	-18.626	+24.342
C 1	-0.352	-2.527	+83.180	-0.352	-2.527	+74.438
C 1	-6.193	+7.894	-259.924	-6.193	+7.894	-232.611
Barra 43						
C 1	+122.318	+46.211	-36.551	+122.318	+46.211	+30.910
C 1	-122.318	+46.211	-36.551	-122.318	+46.211	+30.910
C 1	+122.318	+46.211	-36.551	+122.318	+46.211	+30.910
C 1	-55.448	-18.626	+24.342	-43.350	-15.722	+28.060
C 1	-0.352	-2.527	+74.439	-0.352	-2.527	+70.752
C 1	-6.193	+7.895	-232.617	-6.193	+7.895	-221.086
Barra 44						
C 1	+122.318	+46.209	+30.906	+122.318	+46.209	+123.328
C 1	-122.318	+46.209	+30.906	-122.318	+46.209	+123.328
C 1	-43.350	-15.723	+28.060	-74.136	-26.837	-16.353
C 1	-0.352	-2.524	+70.750	+122.318	+46.209	+123.328
C 1	-6.193	+7.891	-221.090	-6.193	+7.891	-205.311
Barra 45						
C 1	+122.318	+46.188	+123.328	+122.318	+46.188	+169.531
C 1	-122.318	+46.188	+123.328	-122.318	+46.188	+169.531
C 1	+122.318	+46.188	+123.328	+122.318	+46.188	+169.531
C 1	-74.136	-26.837	-16.355	-86.420	-31.216	-4.736
C 1	+122.318	+46.188	+123.328	+122.318	+46.188	+169.531
C 1	-6.193	+7.875	-205.297	-6.193	+7.875	-197.438
Barra 46						
C 1	+122.318	+46.216	+169.530	+105.404	+39.446	+265.100
C 1	-122.318	+46.216	+169.530	-105.404	+39.446	+265.100
C 1	+122.318	+46.216	+169.530	+105.404	+39.446	+265.100
C 1	-86.420	-31.219	-4.735	-39.942	-13.322	+95.603
C 1	+122.318	+46.216	+169.530	-11.083	-1.943	+283.034
C 1	-6.193	+7.885	-197.416	-6.193	+7.885	-161.936

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 47						
C 1	+105.404	+39.446	+265.099	+88.491	+32.206	+322.847
C 1	-105.404	+39.446	+265.099	-88.491	+32.206	+322.847
C 1	+105.404	+39.446	+265.099	+88.491	+32.206	+322.847
C 1	-39.942	-13.322	+95.603	-44.604	-14.045	+235.957
C 1	-11.082	-1.943	+283.034	-27.996	-8.713	+348.139
C 1	-6.193	+7.885	-161.935	-6.193	+7.885	-126.454
Barra 48						
C 1	+88.491	+32.206	+322.848	+71.577	+24.861	+336.432
C 1	-88.491	+32.206	+322.848	-71.577	+24.861	+336.432
C 1	+88.491	+32.206	+322.848	+71.577	+24.861	+336.432
C 1	-44.604	-14.045	+235.958	-61.518	-20.815	+270.601
C 1	-27.996	-8.713	+348.139	-44.910	-15.953	+373.313
C 1	-6.193	+7.885	-126.454	-6.193	+7.885	-90.973
Barra 49						
C 1	+71.577	+24.859	+336.434	+78.432	-28.054	+287.738
C 1	-71.577	+24.859	+336.434	-78.432	-28.054	+287.738
C 1	+71.577	+24.859	+336.434	+57.952	+19.113	+315.180
C 1	-61.518	-20.817	+270.604	-78.432	-28.054	+287.738
C 1	-44.910	-15.953	+373.312	-0.255	-1.073	+366.429
C 1	-6.193	+7.885	-90.974	+5.991	-7.853	-119.042
Barra 50						
C 1	+78.432	-28.055	+287.736	+95.345	-35.400	+272.616
C 1	-78.432	-28.055	+287.736	-95.345	-35.400	+272.616
C 1	+57.952	+19.116	+315.182	+44.327	+13.729	+268.495
C 1	-78.432	-28.055	+287.736	-95.345	-35.400	+272.616
C 1	-0.255	-1.071	+366.428	-13.880	-6.816	+324.353
C 1	+5.991	-7.854	-119.042	+5.991	-7.854	-147.511
Barra 51						
C 1	+95.345	-35.398	+272.617	+108.970	-41.145	+209.713
C 1	-95.345	-35.398	+272.617	-108.970	-41.145	+209.713
C 1	+44.327	+13.728	+268.495	+31.002	+8.885	+202.214
C 1	-95.345	-35.398	+272.617	-108.970	-41.145	+209.713
C 1	-13.880	-6.816	+324.352	-27.505	-12.204	+258.141
C 1	+5.991	-7.854	-147.511	+5.991	-7.854	-175.979
Barra 52						
C 1	+108.970	-41.144	+209.715	+122.595	-46.532	+123.973
C 1	-108.970	-41.144	+209.715	-122.595	-46.532	+123.973
C 1	+31.002	+8.886	+202.216	-6.193	+7.885	+23.355
C 1	-108.970	-41.144	+209.715	-122.595	-46.532	+123.973
C 1	-27.505	-12.204	+258.143	-40.831	-17.047	+174.303
C 1	+5.991	-7.854	-175.981	+5.991	-7.854	-204.450

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 53						
C 1	+122.595	-46.532	+123.975	+135.921	-51.375	+31.057
C 1	-122.595	-46.532	+123.975	-135.921	-51.375	+31.057
C 1	-6.193	+7.884	+23.355	-6.193	+7.884	+50.635
C 1	-122.595	-46.532	+123.975	-135.921	-51.375	+31.057
C 1	-40.831	-17.047	+174.304	-56.824	-22.856	+83.452
C 1	+5.991	-7.854	-204.450	+5.991	-7.854	-231.626
Barra 54						
C 1	+135.921	-51.375	+31.057	+147.399	-55.556	-68.729
C 1	-135.921	-51.375	+31.057	-147.399	-55.556	-68.729
C 1	-6.193	+7.884	+50.635	-6.193	+7.884	+77.915
C 1	-135.921	-51.375	+31.057	-147.399	-55.556	-68.729
C 1	-56.824	-22.857	+83.453	+0.340	+2.530	+83.356
C 1	+5.991	-7.854	-231.627	+5.991	-7.854	-258.800
Barra 55						
C 1	+147.399	-55.551	-68.729	+147.399	-55.551	-128.729
C 1	-147.399	-55.551	-68.729	-147.399	-55.551	-128.729
C 1	-6.193	+7.882	+77.914	-6.193	+7.882	+86.428
C 1	-147.399	-55.551	-68.729	-147.399	-55.551	-128.729
C 1	+0.340	+2.534	+83.355	-6.193	+7.882	+86.428
C 1	+5.991	-7.859	-258.801	-108.970	-41.145	-268.578
Barra 56						
C 1	+136.257	-50.286	+62.670	+122.318	+46.207	-196.382
C 1	-136.257	-50.286	+62.670	-122.318	+46.207	-196.382
C 1	+122.318	+46.207	-246.291	+122.318	+46.207	-196.382
C 1	-136.257	-50.286	+62.670	-106.706	-39.618	+14.122
C 1	-0.352	-2.541	+86.428	-0.352	-2.541	+83.683
C 1	-6.193	+7.895	-268.574	-6.193	+7.895	-260.049
Barra 57						
C 1	+122.318	+46.206	-196.383	+122.318	+46.206	-36.507
C 1	-122.318	+46.206	-196.383	-122.318	+46.206	-36.507
C 1	+122.318	+46.206	-196.383	+122.318	+46.206	-36.507
C 1	-106.706	-39.615	+14.123	-55.448	-18.626	+24.345
C 1	-0.352	-2.541	+83.683	-0.352	-2.541	+74.891
C 1	-6.193	+7.896	-260.051	-6.193	+7.896	-232.733
Barra 58						
C 1	+122.318	+46.203	-36.504	+122.318	+46.203	+30.949
C 1	-122.318	+46.203	-36.504	-122.318	+46.203	+30.949
C 1	+122.318	+46.203	-36.504	+122.318	+46.203	+30.949
C 1	-55.448	-18.626	+24.345	-43.350	-15.723	+28.054
C 1	-0.352	-2.543	+74.894	-0.352	-2.543	+71.182
C 1	-6.193	+7.891	-232.734	-6.193	+7.891	-221.207

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 59						
C 1	+122.318	+46.207	+30.953	+122.318	+46.207	+123.371
C 1	-122.318	+46.207	+30.953	-122.318	+46.207	+123.371
C 1	+122.318	+46.207	+30.953	+122.318	+46.207	+123.371
C 1	-43.350	-15.723	+28.054	-74.136	-26.837	-16.359
C 1	-0.352	-2.541	+71.183	+122.318	+46.207	+123.371
C 1	-6.193	+7.896	-221.211	-6.193	+7.896	-205.418
Barra 60						
C 1	+122.318	+46.219	+123.375	+122.318	+46.219	+169.594
C 1	-122.318	+46.219	+123.375	-122.318	+46.219	+169.594
C 1	+122.318	+46.219	+123.375	+122.318	+46.219	+169.594
C 1	-74.136	-26.845	-16.357	-86.420	-31.220	-4.746
C 1	+122.318	+46.219	+123.375	+122.318	+46.219	+169.594
C 1	-6.193	+7.875	-205.422	-6.193	+7.875	-197.547
Barra 61						
C 1	+122.318	+46.214	+169.595	+105.404	+39.445	+265.165
C 1	-122.318	+46.214	+169.595	-105.404	+39.445	+265.165
C 1	+122.318	+46.214	+169.595	+105.404	+39.445	+265.165
C 1	-86.420	-31.219	-4.743	-39.942	-13.323	+95.627
C 1	+122.318	+46.214	+169.595	-11.083	-1.945	+283.092
C 1	-6.193	+7.889	-197.537	-6.193	+7.889	-162.038
Barra 62						
C 1	+105.404	+39.445	+265.167	+88.491	+32.206	+322.910
C 1	-105.404	+39.445	+265.167	-88.491	+32.206	+322.910
C 1	+105.404	+39.445	+265.167	+88.491	+32.206	+322.910
C 1	-39.942	-13.323	+95.628	-44.604	-14.047	+236.010
C 1	-11.082	-1.945	+283.093	-27.996	-8.714	+348.199
C 1	-6.193	+7.889	-162.038	-6.193	+7.889	-126.539
Barra 63						
C 1	+88.491	+32.205	+322.910	+71.577	+24.861	+336.486
C 1	-88.491	+32.205	+322.910	-71.577	+24.861	+336.486
C 1	+88.491	+32.205	+322.910	+71.577	+24.861	+336.486
C 1	-44.604	-14.046	+236.010	-61.518	-20.816	+270.654
C 1	-27.996	-8.714	+348.201	-44.910	-15.954	+373.366
C 1	-6.193	+7.889	-126.539	-6.193	+7.889	-91.038
Barra 64						
C 1	+71.577	+24.861	+336.485	+78.432	-28.056	+287.789
C 1	-71.577	+24.861	+336.485	-78.432	-28.056	+287.789
C 1	+71.577	+24.861	+336.485	+57.952	+19.115	+315.230
C 1	-61.518	-20.815	+270.650	-78.432	-28.056	+287.789
C 1	-44.910	-15.955	+373.370	-0.255	-1.071	+366.484
C 1	-6.193	+7.889	-91.039	+5.991	-7.854	-119.078

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 65						
C 1	+78.432	-28.056	+287.789	+95.345	-35.400	+272.667
C 1	-78.432	-28.056	+287.789	-95.345	-35.400	+272.667
C 1	+57.952	+19.116	+315.231	+44.327	+13.729	+268.537
C 1	-78.432	-28.056	+287.789	-95.345	-35.400	+272.667
C 1	-0.255	-1.071	+366.483	-13.880	-6.816	+324.402
C 1	+5.991	-7.854	-119.079	+5.991	-7.854	-147.548
Barra 66						
C 1	+95.345	-35.401	+272.670	+108.970	-41.148	+209.754
C 1	-95.345	-35.401	+272.670	-108.970	-41.148	+209.754
C 1	+44.327	+13.727	+268.538	+31.002	+8.884	+202.242
C 1	-95.345	-35.401	+272.670	-108.970	-41.148	+209.754
C 1	-13.880	-6.819	+324.403	-27.505	-12.206	+258.175
C 1	+5.991	-7.853	-147.549	+5.991	-7.853	-176.016
Barra 67						
C 1	+108.970	-41.146	+209.756	+122.595	-46.533	+124.004
C 1	-108.970	-41.146	+209.756	-122.595	-46.533	+124.004
C 1	+31.002	+8.884	+202.243	-6.193	+7.889	+23.357
C 1	-108.970	-41.146	+209.756	-122.595	-46.533	+124.004
C 1	-27.505	-12.205	+258.176	-40.831	-17.048	+174.329
C 1	+5.991	-7.854	-176.017	+5.991	-7.854	-204.483
Barra 68						
C 1	+122.595	-46.535	+124.003	+135.921	-51.377	+31.075
C 1	-122.595	-46.535	+124.003	-135.921	-51.377	+31.075
C 1	-6.193	+7.890	+23.357	-6.193	+7.890	+50.656
C 1	-122.595	-46.535	+124.003	-135.921	-51.377	+31.075
C 1	-40.831	-17.048	+174.328	-56.824	-22.857	+83.464
C 1	+5.991	-7.853	-204.485	+5.991	-7.853	-231.655
Barra 69						
C 1	+135.921	-51.377	+31.075	+147.399	-55.556	-68.720
C 1	-135.921	-51.377	+31.075	-147.399	-55.556	-68.720
C 1	-6.193	+7.890	+50.656	-6.193	+7.890	+77.954
C 1	-135.921	-51.377	+31.075	-147.399	-55.556	-68.720
C 1	-56.824	-22.857	+83.464	+0.340	+2.529	+83.332
C 1	+5.991	-7.853	-231.654	+5.991	-7.853	-258.825
Barra 70						
C 1	+147.399	-55.555	-68.722	+147.399	-55.555	-128.721
C 1	-147.399	-55.555	-68.722	-147.399	-55.555	-128.721
C 1	-6.193	+7.891	+77.954	-6.193	+7.891	+86.476
C 1	-147.399	-55.555	-68.722	-147.399	-55.555	-128.721
C 1	+0.340	+2.527	+83.332	-6.193	+7.891	+86.476
C 1	+5.991	-7.852	-258.825	-108.970	-41.148	-268.582

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 71						
C 1	+136.257	-50.287	+62.673	+122.318	+46.227	-196.384
C 1	-136.257	-50.287	+62.673	-122.318	+46.227	-196.384
C 1	+122.318	+46.227	-246.305	+122.318	+46.227	-196.384
C 1	-136.257	-50.287	+62.673	-106.706	-39.619	+14.124
C 1	-0.352	-2.539	+86.476	-0.352	-2.539	+83.735
C 1	-6.193	+7.883	-268.586	-6.193	+7.883	-260.068
Barra 72						
C 1	+122.318	+46.221	-196.384	+122.318	+46.221	-36.459
C 1	-122.318	+46.221	-196.384	-122.318	+46.221	-36.459
C 1	+122.318	+46.221	-196.384	+122.318	+46.221	-36.459
C 1	-106.706	-39.619	+14.124	-55.448	-18.625	+24.346
C 1	-0.352	-2.539	+83.735	-0.352	-2.539	+74.950
C 1	-6.193	+7.885	-260.069	-6.193	+7.885	-232.790
Barra 73						
C 1	+122.318	+46.219	-36.453	+122.318	+46.219	+31.027
C 1	-122.318	+46.219	-36.453	-122.318	+46.219	+31.027
C 1	+122.318	+46.219	-36.453	+122.318	+46.219	+31.027
C 1	-55.448	-18.626	+24.346	-43.350	-15.725	+28.045
C 1	-0.352	-2.537	+74.951	-0.352	-2.537	+71.245
C 1	-6.193	+7.879	-232.789	-6.193	+7.879	-221.289
Barra 74						
C 1	+122.318	+46.215	+31.027	+122.318	+46.215	+123.461
C 1	-122.318	+46.215	+31.027	-122.318	+46.215	+123.461
C 1	+122.318	+46.215	+31.027	+122.318	+46.215	+123.461
C 1	-43.350	-15.725	+28.044	-74.136	-26.839	-16.372
C 1	-0.352	-2.541	+71.245	+122.318	+46.215	+123.461
C 1	-6.193	+7.889	-221.285	-6.193	+7.889	-205.508
Barra 75						
C 1	+122.318	+46.219	+123.469	+122.318	+46.219	+169.656
C 1	-122.318	+46.219	+123.469	-122.318	+46.219	+169.656
C 1	+122.318	+46.219	+123.469	+122.318	+46.219	+169.656
C 1	-74.136	-26.837	-16.374	-86.420	-31.216	-4.754
C 1	+122.318	+46.219	+123.469	+122.318	+46.219	+169.656
C 1	-6.193	+7.906	-205.516	-6.193	+7.906	-197.609
Barra 76						
C 1	+122.318	+46.210	+169.668	+105.404	+39.439	+265.222
C 1	-122.318	+46.210	+169.668	-105.404	+39.439	+265.222
C 1	+122.318	+46.210	+169.668	+105.404	+39.439	+265.222
C 1	-86.420	-31.218	-4.753	-39.942	-13.324	+95.650
C 1	+122.318	+46.210	+169.668	-11.082	-1.949	+283.147
C 1	-6.193	+7.893	-197.616	-6.193	+7.893	-162.098

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 77						
C 1	+105.404	+39.439	+265.221	+88.491	+32.200	+322.938
C 1	-105.404	+39.439	+265.221	-88.491	+32.200	+322.938
C 1	+105.404	+39.439	+265.221	+88.491	+32.200	+322.938
C 1	-39.942	-13.324	+95.650	-44.604	-14.051	+236.042
C 1	-11.082	-1.949	+283.146	-27.996	-8.720	+348.233
C 1	-6.193	+7.893	-162.098	-6.193	+7.893	-126.579
Barra 78						
C 1	+88.491	+32.200	+322.937	+71.577	+24.856	+336.484
C 1	-88.491	+32.200	+322.937	-71.577	+24.856	+336.484
C 1	+88.491	+32.200	+322.937	+71.577	+24.856	+336.484
C 1	-44.604	-14.051	+236.043	-61.518	-20.821	+270.664
C 1	-27.996	-8.719	+348.231	-44.910	-15.959	+373.370
C 1	-6.193	+7.893	-126.579	-6.193	+7.893	-91.063
Barra 79						
C 1	+71.577	+24.854	+336.485	+78.432	-28.061	+287.779
C 1	-71.577	+24.854	+336.485	-78.432	-28.061	+287.779
C 1	+71.577	+24.854	+336.485	+57.952	+19.110	+315.207
C 1	-61.518	-20.821	+270.662	-78.432	-28.061	+287.779
C 1	-44.910	-15.959	+373.372	-0.255	-1.078	+366.462
C 1	-6.193	+7.893	-91.063	+5.991	-7.849	-119.030
Barra 80						
C 1	+78.432	-28.063	+287.781	+95.345	-35.404	+272.633
C 1	-78.432	-28.063	+287.781	-95.345	-35.404	+272.633
C 1	+57.952	+19.110	+315.211	+44.327	+13.724	+268.503
C 1	-78.432	-28.063	+287.781	-95.345	-35.404	+272.633
C 1	-0.255	-1.076	+366.467	-13.880	-6.822	+324.369
C 1	+5.991	-7.850	-119.031	+5.991	-7.850	-147.485
Barra 81						
C 1	+95.345	-35.405	+272.633	+108.970	-41.150	+209.708
C 1	-95.345	-35.405	+272.633	-108.970	-41.150	+209.708
C 1	+44.327	+13.725	+268.503	+31.002	+8.882	+202.206
C 1	-95.345	-35.405	+272.633	-108.970	-41.150	+209.708
C 1	-13.880	-6.821	+324.366	-27.505	-12.208	+258.130
C 1	+5.991	-7.849	-147.486	+5.991	-7.849	-175.938
Barra 82						
C 1	+108.970	-41.151	+209.706	+122.595	-46.538	+123.944
C 1	-108.970	-41.151	+209.706	-122.595	-46.538	+123.944
C 1	+31.002	+8.881	+202.206	-6.193	+7.893	+23.385
C 1	-108.970	-41.151	+209.706	-122.595	-46.538	+123.944
C 1	-27.505	-12.209	+258.131	-40.831	-17.051	+174.278
C 1	+5.991	-7.849	-175.938	+5.991	-7.849	-204.389

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 83						
C 1	+122.595	-46.538	+123.944	+135.921	-51.380	+31.017
C 1	-122.595	-46.538	+123.944	-135.921	-51.380	+31.017
C 1	-6.193	+7.893	+23.385	-6.193	+7.893	+50.696
C 1	-122.595	-46.538	+123.944	-135.921	-51.380	+31.017
C 1	-40.831	-17.051	+174.281	-56.824	-22.859	+83.427
C 1	+5.991	-7.849	-204.389	+5.991	-7.849	-231.544
Barra 84						
C 1	+135.921	-51.380	+31.017	+147.399	-55.558	-68.760
C 1	-135.921	-51.380	+31.017	-147.399	-55.558	-68.760
C 1	-6.193	+7.893	+50.696	-6.193	+7.893	+78.007
C 1	-135.921	-51.380	+31.017	-147.399	-55.558	-68.760
C 1	-56.824	-22.859	+83.427	+0.340	+2.526	+83.236
C 1	+5.991	-7.848	-231.544	+5.991	-7.848	-258.700
Barra 85						
C 1	+147.399	-55.563	-68.761	+147.399	-55.563	-128.768
C 1	-147.399	-55.563	-68.761	-147.399	-55.563	-128.768
C 1	-6.193	+7.895	+78.008	-6.193	+7.895	+86.534
C 1	-147.399	-55.563	-68.761	-147.399	-55.563	-128.768
C 1	+0.340	+2.525	+83.234	-6.193	+7.895	+86.534
C 1	+5.991	-7.848	-258.693	-108.970	-41.156	-268.684
Barra 86						
C 1	+136.257	-50.281	+62.647	+122.318	+46.199	-196.295
C 1	-136.257	-50.281	+62.647	-122.318	+46.199	-196.295
C 1	+122.318	+46.199	-246.184	+122.318	+46.199	-196.295
C 1	-136.257	-50.281	+62.647	-106.707	-39.613	+14.104
C 1	-0.352	-2.546	+86.535	-0.352	-2.546	+83.786
C 1	-6.193	+7.906	-268.688	-6.193	+7.906	-260.151
Barra 87						
C 1	+122.318	+46.193	-196.294	+122.318	+46.193	-36.463
C 1	-122.318	+46.193	-196.294	-122.318	+46.193	-36.463
C 1	+122.318	+46.193	-196.294	+122.318	+46.193	-36.463
C 1	-106.707	-39.613	+14.104	-55.449	-18.627	+24.347
C 1	-0.352	-2.547	+83.785	-0.352	-2.547	+74.973
C 1	-6.193	+7.906	-260.152	-6.193	+7.906	-232.796
Barra 88						
C 1	+122.318	+46.195	-36.465	+122.318	+46.195	+30.980
C 1	-122.318	+46.195	-36.465	-122.318	+46.195	+30.980
C 1	+122.318	+46.195	-36.465	+122.318	+46.195	+30.980
C 1	-55.449	-18.626	+24.347	-43.351	-15.723	+28.051
C 1	-0.352	-2.545	+74.974	-0.352	-2.545	+71.257
C 1	-6.193	+7.902	-232.797	-6.193	+7.902	-221.258

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 89						
C 1	+122.318	+46.205	+30.977	+122.318	+46.205	+123.383
C 1	-122.318	+46.205	+30.977	-122.318	+46.205	+123.383
C 1	+122.318	+46.205	+30.977	+122.318	+46.205	+123.383
C 1	-43.351	-15.723	+28.051	-74.137	-26.837	-16.361
C 1	-0.352	-2.545	+71.256	+122.318	+46.205	+123.383
C 1	-6.193	+7.898	-221.256	-6.193	+7.898	-205.455
Barra 90						
C 1	+122.318	+46.219	+123.391	+122.318	+46.219	+169.609
C 1	-122.318	+46.219	+123.391	-122.318	+46.219	+169.609
C 1	+122.318	+46.219	+123.391	+122.318	+46.219	+169.609
C 1	-74.137	-26.841	-16.358	-86.420	-31.220	-4.744
C 1	+122.318	+46.219	+123.391	+122.318	+46.219	+169.609
C 1	-6.193	+7.875	-205.453	-6.193	+7.875	-197.578
Barra 91						
C 1	+122.318	+46.210	+169.602	+105.404	+39.439	+265.151
C 1	-122.318	+46.210	+169.602	-105.404	+39.439	+265.151
C 1	+122.318	+46.210	+169.602	+105.404	+39.439	+265.151
C 1	-86.420	-31.218	-4.745	-39.942	-13.324	+95.624
C 1	+122.318	+46.210	+169.602	-11.082	-1.949	+283.082
C 1	-6.193	+7.892	-197.571	-6.193	+7.892	-162.056
Barra 92						
C 1	+105.404	+39.439	+265.151	+88.491	+32.198	+322.860
C 1	-105.404	+39.439	+265.151	-88.491	+32.198	+322.860
C 1	-39.942	-13.324	+95.624	-44.604	-14.051	+235.982
C 1	-11.082	-1.949	+283.083	-27.996	-8.720	+348.160
C 1	-6.193	+7.893	-162.056	-6.193	+7.893	-126.540
Barra 93						
C 1	+88.491	+32.198	+322.861	+71.577	+24.853	+336.398
C 1	-88.491	+32.198	+322.861	-71.577	+24.853	+336.398
C 1	+88.491	+32.198	+322.861	+71.577	+24.853	+336.398
C 1	-44.604	-14.051	+235.981	-61.518	-20.822	+270.589
C 1	-27.996	-8.720	+348.161	-44.910	-15.961	+373.286
C 1	-6.193	+7.893	-126.540	-6.193	+7.893	-91.022
Barra 94						
C 1	+71.577	+24.853	+336.399	+78.432	-28.063	+287.684
C 1	-71.577	+24.853	+336.399	-78.432	-28.063	+287.684
C 1	+71.577	+24.853	+336.399	+57.952	+19.106	+315.113
C 1	-61.518	-20.821	+270.586	-78.432	-28.063	+287.684
C 1	-44.910	-15.961	+373.288	-0.255	-1.080	+366.367
C 1	-6.193	+7.894	-91.023	+5.991	-7.843	-118.924

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 95						
C 1	+78.432	-28.063	+287.686	+95.345	-35.406	+272.526
C 1	-78.432	-28.063	+287.686	-95.345	-35.406	+272.526
C 1	+57.952	+19.108	+315.116	+44.327	+13.721	+268.408
C 1	-78.432	-28.063	+287.686	-95.345	-35.406	+272.526
C 1	-0.255	-1.078	+366.366	-13.880	-6.824	+324.259
C 1	+5.991	-7.844	-118.924	+5.991	-7.844	-147.358
Barra 96						
C 1	+95.345	-35.407	+272.523	+108.970	-41.152	+209.594
C 1	-95.345	-35.407	+272.523	-108.970	-41.152	+209.594
C 1	+44.327	+13.723	+268.407	+31.002	+8.880	+202.124
C 1	-95.345	-35.407	+272.523	-108.970	-41.152	+209.594
C 1	-13.880	-6.824	+324.260	-27.505	-12.210	+258.030
C 1	+5.991	-7.844	-147.358	+5.991	-7.844	-175.793
Barra 97						
C 1	+108.970	-41.152	+209.595	+122.595	-46.538	+123.837
C 1	-108.970	-41.152	+209.595	-122.595	-46.538	+123.837
C 1	+31.002	+8.880	+202.123	-6.193	+7.892	+23.418
C 1	-108.970	-41.152	+209.595	-122.595	-46.538	+123.837
C 1	-27.505	-12.210	+258.028	-40.831	-17.052	+174.192
C 1	+5.991	-7.845	-175.793	+5.991	-7.845	-204.230
Barra 98						
C 1	+122.595	-46.539	+123.838	+135.921	-51.380	+30.929
C 1	-122.595	-46.539	+123.838	-135.921	-51.380	+30.929
C 1	-6.193	+7.892	+23.419	-6.193	+7.892	+50.725
C 1	-122.595	-46.539	+123.838	-135.921	-51.380	+30.929
C 1	-40.831	-17.051	+174.193	-56.824	-22.860	+83.371
C 1	+5.991	-7.845	-204.229	+5.991	-7.845	-231.373
Barra 99						
C 1	+135.921	-51.381	+30.929	+147.399	-55.559	-68.819
C 1	-135.921	-51.381	+30.929	-147.399	-55.559	-68.819
C 1	-6.193	+7.892	+50.726	-6.193	+7.892	+78.032
C 1	-135.921	-51.381	+30.929	-147.399	-55.559	-68.819
C 1	-56.824	-22.860	+83.371	+0.340	+2.525	+83.180
C 1	+5.991	-7.844	-231.372	+5.991	-7.844	-258.515
Barra 100						
C 1	+147.399	-55.557	-68.821	+147.399	-55.557	-128.824
C 1	-147.399	-55.557	-68.821	-147.399	-55.557	-128.824
C 1	-6.193	+7.894	+78.032	-6.193	+7.894	+86.559
C 1	-147.399	-55.557	-68.821	-147.399	-55.557	-128.824
C 1	+0.340	+2.523	+83.180	-6.193	+7.894	+86.559
C 1	+5.991	-7.840	-258.515	-108.970	-41.148	-268.797

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 101						
C 1	+136.257	-50.271	+62.611	+122.318	+46.152	-196.178
C 1	-136.257	-50.271	+62.611	-122.318	+46.152	-196.178
C 1	+122.318	+46.152	-246.023	+122.318	+46.152	-196.178
C 1	-136.257	-50.271	+62.611	-106.707	-39.602	+14.079
C 1	-0.352	-2.559	+86.559	-0.352	-2.559	+83.795
C 1	-6.193	+7.938	-268.793	-6.193	+7.938	-260.224
Barra 102						
C 1	+122.318	+46.147	-196.179	+122.318	+46.147	-36.510
C 1	-122.318	+46.147	-196.179	-122.318	+46.147	-36.510
C 1	+122.318	+46.147	-196.179	+122.318	+46.147	-36.510
C 1	-106.707	-39.602	+14.079	-55.449	-18.628	+24.345
C 1	-0.352	-2.558	+83.796	-0.352	-2.558	+74.946
C 1	-6.193	+7.942	-260.222	-6.193	+7.942	-232.744
Barra 103						
C 1	+122.318	+46.148	-36.508	+122.318	+46.148	+30.871
C 1	-122.318	+46.148	-36.508	-122.318	+46.148	+30.871
C 1	+122.318	+46.148	-36.508	+122.318	+46.148	+30.871
C 1	-55.449	-18.628	+24.345	-43.351	-15.715	+28.068
C 1	-0.352	-2.559	+74.946	-0.352	-2.559	+71.213
C 1	-6.193	+7.938	-232.746	-6.193	+7.938	-221.148
Barra 104						
C 1	+122.318	+46.156	+30.871	+122.318	+46.156	+123.180
C 1	-122.318	+46.156	+30.871	-122.318	+46.156	+123.180
C 1	-43.351	-15.716	+28.067	-74.137	-26.830	-16.330
C 1	-0.352	-2.555	+71.212	+122.318	+46.156	+123.180
C 1	-6.193	+7.934	-221.152	-6.193	+7.934	-205.285
Barra 105						
C 1	+122.318	+46.219	+123.172	+122.318	+46.219	+169.375
C 1	-122.318	+46.219	+123.172	-122.318	+46.219	+169.375
C 1	+122.318	+46.219	+123.172	+122.318	+46.219	+169.375
C 1	-74.137	-26.834	-16.331	-86.420	-31.216	-4.713
C 1	+122.318	+46.219	+123.172	+122.318	+46.219	+169.375
C 1	-6.193	+7.906	-205.266	-6.193	+7.906	-197.359
Barra 106						
C 1	+122.318	+46.220	+169.363	+105.404	+39.450	+264.930
C 1	-122.318	+46.220	+169.363	-105.404	+39.450	+264.930
C 1	+122.318	+46.220	+169.363	+105.404	+39.450	+264.930
C 1	-86.420	-31.219	-4.712	-39.942	-13.320	+95.544
C 1	+122.318	+46.220	+169.363	-11.082	-1.939	+282.885
C 1	-6.193	+7.884	-197.368	-6.193	+7.884	-161.889

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 107						
C 1	+105.404	+39.450	+264.930	+88.491	+32.210	+322.697
C 1	-105.404	+39.450	+264.930	-88.491	+32.210	+322.697
C 1	+105.404	+39.450	+264.930	+88.491	+32.210	+322.697
C 1	-39.942	-13.320	+95.544	-44.604	-14.041	+235.828
C 1	-11.082	-1.939	+282.885	-27.996	-8.709	+347.990
C 1	-6.193	+7.884	-161.889	-6.193	+7.884	-126.410
Barra 108						
C 1	+88.491	+32.211	+322.699	+71.577	+24.865	+336.311
C 1	-88.491	+32.211	+322.699	-71.577	+24.865	+336.311
C 1	+88.491	+32.211	+322.699	+71.577	+24.865	+336.311
C 1	-44.604	-14.040	+235.827	-61.518	-20.809	+270.474
C 1	-27.996	-8.708	+347.991	-44.910	-15.948	+373.180
C 1	-6.193	+7.884	-126.410	-6.193	+7.884	-90.933
Barra 109						
C 1	+71.577	+24.864	+336.311	+78.432	-28.050	+287.629
C 1	-71.577	+24.864	+336.311	-78.432	-28.050	+287.629
C 1	+71.577	+24.864	+336.311	+57.952	+19.118	+315.088
C 1	-61.518	-20.811	+270.475	-78.432	-28.050	+287.629
C 1	-44.910	-15.949	+373.183	-0.255	-1.068	+366.326
C 1	-6.193	+7.884	-90.935	+5.991	-7.849	-118.914
Barra 110						
C 1	+78.432	-28.050	+287.631	+95.345	-35.396	+272.530
C 1	-78.432	-28.050	+287.631	-95.345	-35.396	+272.530
C 1	+57.952	+19.118	+315.088	+44.327	+13.730	+268.429
C 1	-78.432	-28.050	+287.631	-95.345	-35.396	+272.530
C 1	-0.255	-1.067	+366.327	-13.880	-6.814	+324.275
C 1	+5.991	-7.849	-118.913	+5.991	-7.849	-147.367
Barra 111						
C 1	+95.345	-35.394	+272.531	+108.970	-41.141	+209.649
C 1	-95.345	-35.394	+272.531	-108.970	-41.141	+209.649
C 1	+44.327	+13.730	+268.427	+31.002	+8.886	+202.166
C 1	-95.345	-35.394	+272.531	-108.970	-41.141	+209.649
C 1	-13.880	-6.812	+324.276	-27.505	-12.202	+258.079
C 1	+5.991	-7.850	-147.367	+5.991	-7.850	-175.821
Barra 112						
C 1	+108.970	-41.140	+209.647	+122.595	-46.529	+123.921
C 1	-108.970	-41.140	+209.647	-122.595	-46.529	+123.921
C 1	+31.002	+8.886	+202.165	-6.193	+7.883	+23.373
C 1	-108.970	-41.140	+209.647	-122.595	-46.529	+123.921
C 1	-27.505	-12.201	+258.080	-40.831	-17.046	+174.259
C 1	+5.991	-7.850	-175.821	+5.991	-7.850	-204.277

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 113						
C 1	+122.595	-46.529	+123.921	+135.921	-51.374	+31.017
C 1	-122.595	-46.529	+123.921	-135.921	-51.374	+31.017
C 1	-6.193	+7.883	+23.373	-6.193	+7.883	+50.647
C 1	-122.595	-46.529	+123.921	-135.921	-51.374	+31.017
C 1	-40.831	-17.046	+174.259	-56.824	-22.856	+83.425
C 1	+5.991	-7.850	-204.279	+5.991	-7.850	-231.439
Barra 114						
C 1	+135.921	-51.374	+31.016	+147.399	-55.555	-68.754
C 1	-135.921	-51.374	+31.016	-147.399	-55.555	-68.754
C 1	-6.193	+7.883	+50.648	-6.193	+7.883	+77.921
C 1	-135.921	-51.374	+31.016	-147.399	-55.555	-68.754
C 1	-56.824	-22.856	+83.424	+0.340	+2.510	+82.663
C 1	+5.991	-7.850	-231.438	+5.991	-7.850	-258.600
Barra 115						
C 1	+147.399	-55.555	-68.757	+147.399	-55.555	-128.754
C 1	-147.399	-55.555	-68.757	-147.399	-55.555	-128.754
C 1	-6.193	+7.883	+77.922	-6.193	+7.883	+86.438
C 1	-147.399	-55.555	-68.757	-147.399	-55.555	-128.754
C 1	+0.340	+2.511	+82.663	-6.193	+7.883	+86.438
C 1	+5.991	-7.852	-258.598	-108.970	-41.145	-268.617
Barra 116						
C 1	+136.257	-50.284	+62.648	+122.318	+46.211	-196.234
C 1	-136.257	-50.284	+62.648	-122.318	+46.211	-196.234
C 1	+122.318	+46.211	-246.143	+122.318	+46.211	-196.234
C 1	-136.257	-50.284	+62.648	-106.707	-39.616	+14.101
C 1	-0.352	-2.539	+86.436	-0.352	-2.539	+83.696
C 1	-6.193	+7.895	-268.613	-6.193	+7.895	-260.094
Barra 117						
C 1	+122.318	+46.198	-196.238	+122.318	+46.198	-36.395
C 1	-122.318	+46.198	-196.238	-122.318	+46.198	-36.395
C 1	+122.318	+46.198	-196.238	+122.318	+46.198	-36.395
C 1	-106.707	-39.615	+14.102	-55.449	-18.626	+24.348
C 1	-0.352	-2.542	+83.694	-0.352	-2.542	+74.901
C 1	-6.193	+7.897	-260.092	-6.193	+7.897	-232.768
Barra 118						
C 1	+122.318	+46.203	-36.391	+122.318	+46.203	+31.051
C 1	-122.318	+46.203	-36.391	-122.318	+46.203	+31.051
C 1	+122.318	+46.203	-36.391	+122.318	+46.203	+31.051
C 1	-55.449	-18.626	+24.348	-43.351	-15.723	+28.038
C 1	-0.352	-2.541	+74.900	-0.352	-2.541	+71.190
C 1	-6.193	+7.898	-232.766	-6.193	+7.898	-221.246

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 119						
C 1	+122.318	+46.193	+31.051	+122.318	+46.193	+123.439
C 1	-122.318	+46.193	+31.051	-122.318	+46.193	+123.439
C 1	+122.318	+46.193	+31.051	+122.318	+46.193	+123.439
C 1	-43.351	-15.721	+28.039	-74.136	-26.835	-16.369
C 1	-0.352	-2.543	+71.189	+122.318	+46.193	+123.439
C 1	-6.193	+7.898	-221.238	-6.193	+7.898	-205.439
Barra 120						
C 1	+122.318	+46.188	+123.453	+122.318	+46.188	+169.641
C 1	-122.318	+46.188	+123.453	-122.318	+46.188	+169.641
C 1	+122.318	+46.188	+123.453	+122.318	+46.188	+169.641
C 1	-74.137	-26.837	-16.370	-86.420	-31.220	-4.754
C 1	+122.318	+46.188	+123.453	+122.318	+46.188	+169.641
C 1	-6.193	+7.906	-205.438	-6.193	+7.906	-197.547
Barra 121						
C 1	+122.318	+46.196	+169.632	+105.404	+39.420	+265.102
C 1	-122.318	+46.196	+169.632	-105.404	+39.420	+265.102
C 1	+122.318	+46.196	+169.632	+105.404	+39.420	+265.102
C 1	-86.420	-31.216	-4.749	-39.942	-13.329	+95.612
C 1	+122.318	+46.196	+169.632	-11.082	-1.963	+283.047
C 1	-6.193	+7.899	-197.534	-6.193	+7.899	-161.990
Barra 122						
C 1	+105.404	+39.419	+265.101	+88.491	+32.175	+322.693
C 1	-105.404	+39.419	+265.101	-88.491	+32.175	+322.693
C 1	+105.404	+39.419	+265.101	+88.491	+32.175	+322.693
C 1	-39.942	-13.329	+95.613	-44.604	-14.065	+235.881
C 1	-11.082	-1.963	+283.048	-27.996	-8.740	+348.024
C 1	-6.193	+7.899	-161.990	-6.193	+7.899	-126.444
Barra 123						
C 1	+88.491	+32.176	+322.694	+71.577	+24.829	+336.104
C 1	-88.491	+32.176	+322.694	-71.577	+24.829	+336.104
C 1	+88.491	+32.176	+322.694	+71.577	+24.829	+336.104
C 1	-44.604	-14.064	+235.882	-61.518	-20.841	+270.369
C 1	-27.996	-8.739	+348.022	-44.910	-15.983	+373.019
C 1	-6.193	+7.898	-126.444	-6.193	+7.898	-90.901
Barra 124						
C 1	+71.577	+24.828	+336.102	+78.432	-28.085	+287.338
C 1	-71.577	+24.828	+336.102	-78.432	-28.085	+287.338
C 1	+71.577	+24.828	+336.102	+57.952	+19.083	+314.734
C 1	-61.518	-20.840	+270.367	-78.432	-28.085	+287.338
C 1	-44.910	-15.983	+373.019	-0.255	-1.104	+365.988
C 1	-6.193	+7.898	-90.901	+5.989	-7.787	-118.062

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 125						
C 1	+78.432	-28.084	+287.340	+95.346	-35.433	+272.055
C 1	-78.432	-28.084	+287.340	-95.346	-35.433	+272.055
C 1	+57.952	+19.084	+314.731	+44.327	+13.698	+267.975
C 1	-78.432	-28.084	+287.340	-95.346	-35.433	+272.055
C 1	-0.255	-1.104	+365.989	-13.880	-6.848	+323.792
C 1	+5.989	-7.788	-118.062	+5.989	-7.788	-146.294
Barra 126						
C 1	+95.346	-35.431	+272.057	+108.971	-41.176	+209.038
C 1	-95.346	-35.431	+272.057	-108.971	-41.176	+209.038
C 1	+44.327	+13.700	+267.976	+31.001	+8.862	+201.706
C 1	-95.346	-35.431	+272.057	-108.971	-41.176	+209.038
C 1	-13.880	-6.847	+323.790	-27.505	-12.232	+257.516
C 1	+5.989	-7.789	-146.293	+5.989	-7.789	-174.523
Barra 127						
C 1	+108.970	-41.176	+209.041	+122.595	-46.561	+123.244
C 1	-108.970	-41.176	+209.041	-122.595	-46.561	+123.244
C 1	+31.001	+8.862	+201.708	-6.193	+7.898	+23.620
C 1	-108.970	-41.176	+209.041	-122.595	-46.561	+123.244
C 1	-27.505	-12.233	+257.516	-40.831	-17.070	+173.708
C 1	+5.989	-7.788	-174.525	+5.989	-7.788	-202.756
Barra 128						
C 1	+122.595	-46.561	+123.245	+135.921	-51.399	+30.380
C 1	-122.595	-46.561	+123.245	-135.921	-51.399	+30.380
C 1	-6.193	+7.898	+23.619	-6.193	+7.898	+50.945
C 1	-122.595	-46.561	+123.245	-135.921	-51.399	+30.380
C 1	-40.831	-17.070	+173.710	-56.825	-22.872	+83.023
C 1	+5.989	-7.787	-202.757	+5.989	-7.787	-229.702
Barra 129						
C 1	+135.921	-51.399	+30.381	+147.400	-55.570	-69.208
C 1	-135.921	-51.399	+30.381	-147.400	-55.570	-69.208
C 1	-6.193	+7.898	+50.946	-6.193	+7.898	+78.271
C 1	-135.921	-51.399	+30.381	-147.400	-55.570	-69.208
C 1	-56.825	-22.872	+83.022	-6.193	+7.898	+78.271
C 1	+5.989	-7.788	-229.703	+5.989	-7.788	-256.649
Barra 130						
C 1	+147.400	-55.572	-69.208	+147.400	-55.572	-129.225
C 1	-147.400	-55.572	-69.208	-147.400	-55.572	-129.225
C 1	-6.193	+7.899	+78.272	-6.193	+7.899	+86.802
C 1	-147.400	-55.572	-69.208	-147.400	-55.572	-129.225
C 1	-6.193	+7.899	+78.272	-6.193	+7.899	+86.802
C 1	+5.989	-7.789	-256.650	-108.971	-41.176	-269.635

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 131						
C 1	+136.253	-50.248	+62.369	+122.295	+46.016	-194.924
C 1	-136.253	-50.248	+62.369	-122.295	+46.016	-194.924
C 1	+122.295	+46.016	-244.625	+122.295	+46.016	-194.924
C 1	-136.253	-50.248	+62.369	-106.702	-39.580	+13.862
C 1	-0.352	-2.581	+86.801	-0.352	-2.581	+84.014
C 1	-6.197	+8.016	-269.635	-6.197	+8.016	-260.974
Barra 132						
C 1	+122.295	+46.021	-194.921	+122.295	+46.021	-35.687
C 1	-122.295	+46.021	-194.921	-122.295	+46.021	-35.687
C 1	+122.295	+46.021	-194.921	+122.295	+46.021	-35.687
C 1	-106.702	-39.581	+13.862	-55.452	-18.631	+24.362
C 1	-0.352	-2.582	+84.015	-0.352	-2.582	+75.083
C 1	-6.197	+8.017	-260.975	-6.197	+8.017	-233.237
Barra 133						
C 1	+122.295	+46.023	-35.684	+122.295	+46.023	+31.504
C 1	-122.295	+46.023	-35.684	-122.295	+46.023	+31.504
C 1	+122.295	+46.023	-35.684	+122.295	+46.023	+31.504
C 1	-55.452	-18.631	+24.362	-43.347	-15.695	+27.968
C 1	-0.352	-2.582	+75.084	-0.352	-2.582	+71.313
C 1	-6.197	+8.016	-233.234	-6.197	+8.016	-221.535
Barra 134						
C 1	+122.295	+46.027	+31.512	+122.295	+46.027	+123.561
C 1	-122.295	+46.027	+31.512	-122.295	+46.027	+123.561
C 1	+122.295	+46.027	+31.512	+122.295	+46.027	+123.561
C 1	-43.347	-15.695	+27.967	-74.133	-26.809	-16.389
C 1	-0.352	-2.579	+71.315	+122.295	+46.027	+123.561
C 1	-6.197	+8.012	-221.533	-6.197	+8.012	-205.512
Barra 135						
C 1	+122.295	+46.031	+123.563	+122.295	+46.031	+169.594
C 1	-122.295	+46.031	+123.563	-122.295	+46.031	+169.594
C 1	+122.295	+46.031	+123.563	+122.295	+46.031	+169.594
C 1	-74.133	-26.810	-16.392	-86.416	-31.189	-4.752
C 1	+122.295	+46.031	+123.563	+122.295	+46.031	+169.594
C 1	-6.197	+8.000	-205.516	-6.197	+8.000	-197.516
Barra 136						
C 1	+122.295	+46.093	+169.616	+105.372	+39.274	+264.487
C 1	-122.295	+46.093	+169.616	-105.372	+39.274	+264.487
C 1	+122.295	+46.093	+169.616	+105.372	+39.274	+264.487
C 1	-86.416	-31.199	-4.754	-39.950	-13.363	+95.437
C 1	+122.295	+46.093	+169.616	-11.106	-2.066	+282.566
C 1	-6.197	+7.961	-197.519	-6.197	+7.961	-161.694

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 137						
C 1	+105.372	+39.275	+264.489	+88.450	+31.996	+321.189
C 1	-105.372	+39.275	+264.489	-88.450	+31.996	+321.189
C 1	+105.372	+39.275	+264.489	+88.450	+31.996	+321.189
C 1	-39.950	-13.363	+95.437	-44.628	-14.168	+234.936
C 1	-11.106	-2.066	+282.563	-28.028	-8.884	+346.758
C 1	-6.197	+7.961	-161.693	-6.197	+7.961	-125.869
Barra 138						
C 1	+88.450	+31.996	+321.189	+71.527	+24.627	+333.571
C 1	-88.450	+31.996	+321.189	-71.527	+24.627	+333.571
C 1	+88.450	+31.996	+321.189	+71.527	+24.627	+333.571
C 1	-44.628	-14.168	+234.935	-61.550	-20.986	+268.447
C 1	-28.028	-8.884	+346.757	-44.951	-16.163	+370.702
C 1	-6.197	+7.961	-125.869	-6.197	+7.961	-90.046
Barra 139						
C 1	+71.527	+24.627	+333.573	+78.473	-28.265	+284.369
C 1	-71.527	+24.627	+333.573	-78.473	-28.265	+284.369
C 1	+71.527	+24.627	+333.573	+57.895	+18.880	+311.467
C 1	-61.550	-20.985	+268.447	-78.473	-28.265	+284.369
C 1	-44.951	-16.163	+370.704	-0.305	-1.305	+362.722
C 1	-6.197	+7.960	-90.045	+5.702	-7.113	-107.779
Barra 140						
C 1	+78.473	-28.264	+284.371	+95.396	-35.631	+268.067
C 1	-78.473	-28.264	+284.371	-95.396	-35.631	+268.067
C 1	+57.895	+18.880	+311.467	+44.263	+13.510	+264.277
C 1	-78.473	-28.264	+284.371	-95.396	-35.631	+268.067
C 1	-0.305	-1.302	+362.723	-13.937	-7.052	+319.785
C 1	+5.702	-7.113	-107.780	+5.702	-7.113	-133.565
Barra 141						
C 1	+95.395	-35.631	+268.066	+109.028	-41.381	+204.294
C 1	-95.395	-35.631	+268.066	-109.028	-41.381	+204.294
C 1	+44.263	+13.509	+264.277	+30.930	+8.706	+198.130
C 1	-95.395	-35.631	+268.066	-109.028	-41.381	+204.294
C 1	-13.937	-7.052	+319.784	-27.569	-12.423	+253.125
C 1	+5.702	-7.114	-133.565	+5.702	-7.114	-159.354
Barra 142						
C 1	+109.028	-41.379	+204.292	+122.660	-46.751	+118.167
C 1	-109.028	-41.379	+204.292	-122.660	-46.751	+118.167
C 1	+30.930	+8.706	+198.129	-6.197	+7.959	+25.375
C 1	-109.028	-41.379	+204.292	-122.660	-46.751	+118.167
C 1	-27.569	-12.423	+253.125	-40.902	-17.226	+169.569
C 1	+5.702	-7.114	-159.353	+5.702	-7.114	-185.142

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 143						
C 1	+122.660	-46.751	+118.166	+135.992	-51.554	+25.704
C 1	-122.660	-46.751	+118.166	-135.992	-51.554	+25.704
C 1	-6.197	+7.959	+25.374	-6.197	+7.959	+52.915
C 1	-122.660	-46.751	+118.166	-135.992	-51.554	+25.704
C 1	-40.902	-17.226	+169.568	-56.902	-22.971	+80.035
C 1	+5.702	-7.114	-185.142	+5.702	-7.114	-209.757
Barra 144						
C 1	+135.992	-51.554	+25.702	+147.477	-55.670	-72.541
C 1	-135.992	-51.554	+25.702	-147.477	-55.670	-72.541
C 1	-6.197	+7.960	+52.915	-6.197	+7.960	+80.455
C 1	-135.992	-51.554	+25.702	-147.477	-55.670	-72.541
C 1	-56.902	-22.971	+80.034	-6.197	+7.960	+80.455
C 1	+5.702	-7.114	-209.755	-95.396	-35.631	-236.831
Barra 145						
C 1	+147.477	-55.670	-72.544	+147.477	-55.670	-132.666
C 1	-147.477	-55.670	-72.544	-147.477	-55.670	-132.666
C 1	-6.197	+7.960	+80.457	-6.197	+7.960	+89.053
C 1	-147.477	-55.670	-72.544	-147.477	-55.670	-132.666
C 1	-6.197	+7.960	+80.457	-6.197	+7.960	+89.053
C 1	-95.396	-35.629	-236.833	-109.028	-41.379	-276.748
Barra 146						
C 1	+134.744	-50.344	+60.313	+115.065	+46.230	-180.218
C 1	-134.744	-50.344	+60.313	-115.065	+46.230	-180.218
C 1	+115.065	+46.230	-230.148	+115.065	+46.230	-180.218
C 1	-134.744	-50.344	+60.313	-105.193	-39.676	+11.702
C 1	-0.409	-2.476	+89.053	-0.409	-2.476	+86.381
C 1	-7.200	+7.684	-276.752	-7.200	+7.684	-268.448
Barra 147						
C 1	+115.065	+46.221	-180.222	+115.065	+46.221	-20.296
C 1	-115.065	+46.221	-180.222	-115.065	+46.221	-20.296
C 1	+115.065	+46.221	-180.222	+115.065	+46.221	-20.296
C 1	-105.193	-39.673	+11.703	-56.190	-18.614	+24.638
C 1	-0.409	-2.476	+86.381	-0.409	-2.476	+77.813
C 1	-7.200	+7.696	-268.448	-7.200	+7.696	-241.819
Barra 148						
C 1	+115.065	+46.219	-20.301	+115.065	+46.219	+47.191
C 1	-115.065	+46.219	-20.301	-115.065	+46.219	+47.191
C 1	+115.065	+46.219	-20.301	+115.065	+46.219	+47.191
C 1	-56.190	-18.613	+24.638	-42.325	-15.727	+25.509
C 1	-0.409	-2.477	+77.813	-0.409	-2.477	+74.197
C 1	-7.200	+7.691	-241.816	-7.200	+7.691	-230.590

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 149						
C 1	+115.065	+46.219	+47.186	+115.065	+46.219	+139.623
C 1	-115.065	+46.219	+47.186	-115.065	+46.219	+139.623
C 1	+115.065	+46.219	+47.186	+115.065	+46.219	+139.623
C 1	-42.325	-15.725	+25.509	-73.111	-26.839	-18.906
C 1	-0.409	-2.478	+74.197	+115.065	+46.219	+139.623
C 1	-7.200	+7.701	-230.586	-7.200	+7.701	-215.184
Barra 150						
C 1	+115.065	+46.219	+139.641	+115.065	+46.219	+185.844
C 1	-115.065	+46.219	+139.641	-115.065	+46.219	+185.844
C 1	+115.065	+46.219	+139.641	+115.065	+46.219	+185.844
C 1	-73.111	-26.845	-18.905	-85.345	-31.197	-7.373
C 1	+115.065	+46.219	+139.641	+115.065	+46.219	+185.844
C 1	-7.200	+7.703	-215.195	-7.200	+7.703	-207.484
Barra 151						
C 1	+115.065	+46.238	+185.842	+100.317	+40.920	+264.164
C 1	-115.065	+46.238	+185.842	-100.317	+40.920	+264.164
C 1	+115.065	+46.238	+185.842	+100.317	+40.920	+264.164
C 1	-85.345	-31.198	-7.371	-73.215	-24.340	+122.714
C 1	+115.065	+46.238	+185.842	+36.392	+17.836	+288.563
C 1	-7.200	+7.683	-207.488	-7.200	+7.683	-181.555
Barra 152						
C 1	+100.317	+40.917	+264.165	+85.569	+35.034	+318.055
C 1	-100.317	+40.917	+264.165	-85.569	+35.034	+318.055
C 1	-73.215	-24.340	+122.715	-51.857	-14.025	+284.014
C 1	+36.392	+17.834	+288.564	+21.645	+12.515	+348.934
C 1	-7.200	+7.685	-181.556	-7.200	+7.685	-155.619
Barra 153						
C 1	+85.569	+35.032	+318.056	+70.822	+28.673	+340.191
C 1	-85.569	+35.032	+318.056	-70.822	+28.673	+340.191
C 1	+85.569	+35.032	+318.056	+70.822	+28.673	+340.191
C 1	-51.857	-14.024	+284.016	-66.605	-19.343	+326.437
C 1	+21.645	+12.516	+348.936	+6.897	+6.630	+382.958
C 1	-7.200	+7.685	-155.623	-7.200	+7.685	-129.687
Barra 154						
C 1	+70.822	+28.673	+340.196	+81.353	-25.229	+340.597
C 1	-70.822	+28.673	+340.196	-81.353	-25.229	+340.597
C 1	+70.822	+28.673	+340.196	+56.074	+21.938	+324.537
C 1	-66.605	-19.345	+326.438	-81.353	-25.229	+340.597
C 1	+6.897	+6.630	+382.960	-7.851	+0.272	+383.639
C 1	-7.200	+7.685	-129.687	-7.200	+7.685	-103.750

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 155						
C 1	+81.353	-25.229	+340.598	+96.101	-31.586	+319.820
C 1	-81.353	-25.229	+340.598	-96.101	-31.586	+319.820
C 1	+56.074	+21.939	+324.533	+41.326	+14.916	+266.292
C 1	-81.353	-25.229	+340.598	-96.101	-31.586	+319.820
C 1	-7.851	+0.273	+383.638	-22.599	-6.463	+345.243
C 1	-7.200	+7.685	-103.749	-7.200	+7.685	-77.812
Barra 156						
C 1	+96.101	-31.587	+319.818	+110.849	-38.323	+258.684
C 1	-96.101	-31.587	+319.818	-110.849	-38.323	+258.684
C 1	+41.326	+14.915	+266.291	+26.578	+7.701	+161.944
C 1	-96.101	-31.587	+319.818	-110.849	-38.323	+258.684
C 1	-22.599	-6.464	+345.242	-37.347	-13.487	+263.299
C 1	-7.200	+7.685	-77.813	-7.200	+7.685	-51.875
Barra 157						
C 1	+110.849	-38.323	+258.685	+125.597	-45.345	+153.042
C 1	-110.849	-38.323	+258.685	-125.597	-45.345	+153.042
C 1	+26.578	+7.701	+161.944	-7.200	+7.685	-25.937
C 1	-110.849	-38.323	+258.685	-125.597	-45.345	+153.042
C 1	-37.347	-13.486	+263.299	-125.597	-45.345	+153.042
C 1	-7.200	+7.685	-51.875	-7.200	+7.685	-25.937
Barra 158						
C 1	+125.597	-45.346	+153.042	+233.882	-26.474	+0.000
C 1	-125.597	-45.346	+153.042	-140.344	-52.560	-0.000
C 1	-7.200	+7.685	-25.938	-7.200	+7.685	-0.000
C 1	-125.597	-45.346	+153.042	-140.344	-52.560	-0.000
C 1	-125.597	-45.346	+153.042	-96.101	-31.587	+0.001
C 1	-7.200	+7.685	-25.938	-4.065	+5.656	-0.000

Hip¢tesis de carga consideradas

Combinaci¢n: C 1 =

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	
53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	
70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	
87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	
104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	
138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	
155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	
172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	
189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	
206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	
223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	
240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	
257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	
274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	
291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	
308	309	310	311	312	313	314	315	316								

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	1	+0.000	+14.841	+54.703
C 1	1	-0.000	+28.605	+89.591
C 1	1	+0.000	+53.303	+141.924
C 1	1	+0.000	-7.652	+6.951
C 1	1	+0.000	+53.303	+141.924
C 1	1	+0.000	+53.303	-141.924
C 1	11	+0.006	+52.404	+105.841
C 1	11	-0.003	+28.011	+61.772
C 1	11	-0.001	+59.306	+136.071
C 1	11	+0.000	-32.015	-75.134
C 1	11	-0.001	+59.306	+136.071
C 1	11	-0.001	+59.306	-136.071
C 1	26	+0.006	+53.648	+115.606
C 1	26	-0.002	+34.848	+73.931
C 1	26	+0.001	+59.269	+139.013
C 1	26	+0.001	-32.033	-75.810
C 1	26	+0.001	+59.269	+139.013
C 1	26	+0.001	+59.269	-139.013
C 1	41	+0.002	+26.611	+58.022
C 1	41	-0.004	+35.143	+73.974
C 1	41	+0.000	+59.337	+139.022
C 1	41	+0.000	-32.008	-75.812
C 1	41	+0.000	+59.337	+139.022
C 1	41	+0.000	+59.337	-139.022
C 1	56	+0.006	+47.301	+99.414
C 1	56	-0.004	+43.250	+89.926
C 1	56	-0.004	+59.333	+139.022
C 1	56	-0.002	-32.010	-75.812
C 1	56	-0.004	+59.333	+139.022
C 1	56	-0.004	+59.333	-139.022
C 1	71	+0.004	+35.158	+73.974
C 1	71	-0.004	+53.465	+115.366
C 1	71	+0.002	+59.327	+139.022
C 1	71	+0.000	-32.010	-75.812
C 1	71	+0.002	+59.327	+139.022
C 1	71	+0.002	+59.327	-139.022

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	86	+0.005	+18.270	+42.069
C 1	86	-0.004	+53.428	+115.366
C 1	86	+0.000	+59.349	+139.022
C 1	86	+0.001	-32.001	-75.812
C 1	86	+0.000	+59.349	+139.022
C 1	86	+0.000	+59.349	-139.022
C 1	101	+0.008	+53.379	+115.366
C 1	101	-0.004	+35.213	+73.974
C 1	101	-0.001	+59.359	+139.022
C 1	101	+0.000	-31.991	-75.812
C 1	101	-0.001	+59.359	+139.022
C 1	101	-0.001	+59.359	-139.022
C 1	116	+0.004	+53.824	+115.628
C 1	116	-0.004	+49.039	+102.777
C 1	116	-0.001	+59.334	+139.022
C 1	116	+0.001	-32.006	-75.812
C 1	116	-0.001	+59.334	+139.022
C 1	116	-0.001	+59.334	-139.022
C 1	131	+0.004	+31.025	+67.462
C 1	131	-0.004	+35.301	+73.972
C 1	131	+0.000	+59.412	+139.018
C 1	131	-0.000	-31.962	-75.808
C 1	131	+0.000	+59.412	+139.018
C 1	131	+0.000	+59.412	-139.018
C 1	146	+0.004	+35.176	+73.290
C 1	146	-0.004	+48.027	+94.616
C 1	146	+0.000	+59.356	+137.737
C 1	146	-0.000	-31.997	-74.385
C 1	146	+0.000	+59.356	+137.737
C 1	146	+0.000	+59.356	-137.737
C 1	159	+0.001	+31.587	+96.101
C 1	159	-0.000	-5.656	+4.065
C 1	159	-0.000	+52.560	+140.344
C 1	159	-0.000	-7.685	+7.200
C 1	159	-0.000	+52.560	+140.344
C 1	159	+0.000	+26.474	-233.882

1.1.19.- ENVOLVENTES DE ESFUERZOS DE SC UIC 71 DOS VÍAS.

Nombre del fichero llbn

SC 2 locomotoras UIC 71 con carga negativa 96.8 kN/m por vía en 6.40 m

Hipótesis de carga consideradas

Combinación: C 1 =
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85
87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102
104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119
121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153
155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170
172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187
189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204
206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221
223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255
257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272
274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289
291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306
308 309 310 311 312 313 314 315 316

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+39.229	+106.559	-0.000	+34.408	+89.437	+357.747
C 1	-39.229	+106.559	-0.000	-34.408	+89.437	+357.747
C 1	+39.229	+106.559	-0.000	+34.408	+89.437	+357.747
C 1	+1.921	-15.296	+0.000	+1.921	-15.296	-61.185
C 1	+15.121	+29.668	+0.000	+34.408	+89.437	+357.747
C 1	+29.586	+72.875	-0.001	+1.921	-15.296	-61.185
Barra 2						
C 1	+34.408	+89.437	+357.746	+29.586	+72.875	+583.001
C 1	-34.408	+89.437	+357.746	-29.586	+72.875	+583.001
C 1	+34.408	+89.437	+357.746	+29.586	+72.875	+583.001
C 1	+1.921	-15.296	-61.185	-6.250	-16.718	+577.254
C 1	+34.408	+89.437	+357.746	+29.586	+72.875	+583.001
C 1	+1.921	-15.296	-61.185	+1.921	-15.296	-122.371
Barra 3						
C 1	+29.586	+72.873	+582.999	+24.764	+57.184	+686.221
C 1	-29.586	+72.873	+582.999	-24.764	+57.184	+686.221
C 1	+29.586	+72.873	+582.999	+24.764	+57.184	+686.221
C 1	-6.250	-16.719	+577.252	-11.072	-33.282	+736.255
C 1	+29.586	+72.873	+582.999	-11.072	-33.282	+736.255
C 1	+1.921	-15.296	-122.371	+1.921	-15.296	-183.554

Barra 4

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
C 1	+24.764	+57.182	+686.222	+19.942	+42.678	+682.857
C 1	-24.764	+57.182	+686.222	-19.942	+42.678	+682.857
C 1	+24.764	+57.182	+686.222	+19.942	+42.678	+682.857
C 1	-11.072	-33.282	+736.256	-15.893	-48.973	+776.712
C 1	-11.072	-33.282	+736.256	-15.893	-48.973	+776.712
C 1	+1.921	-15.295	-183.555	+1.921	-15.295	-244.736

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 5						
C 1	+19.942	+42.679	+682.859	+21.375	-63.283	+565.445
C 1	-19.942	+42.679	+682.859	-21.375	-63.283	+565.445
C 1	+19.942	+42.679	+682.859	+15.121	+29.668	+593.357
C 1	-15.893	-48.970	+776.715	-20.715	-63.476	+715.333
C 1	-15.893	-48.970	+776.715	-20.715	-63.476	+715.333
C 1	+1.921	-15.296	-244.736	+1.921	-15.296	-305.921
Barra 6						
C 1	+21.375	-63.283	+565.445	+26.197	-77.790	+446.039
C 1	-21.375	-63.283	+565.445	-26.197	-77.790	+446.039
C 1	+15.121	+29.668	+593.357	+10.357	+18.458	+442.984
C 1	-20.715	-63.477	+715.334	-26.197	-77.790	+446.039
C 1	-20.715	-63.477	+715.334	-25.537	-76.487	+573.790
C 1	+1.921	-15.297	-305.918	+1.921	-15.297	-367.106
Barra 7						
C 1	+26.197	-77.787	+446.043	+31.019	-90.798	+252.465
C 1	-26.197	-77.787	+446.043	-31.019	-90.798	+252.465
C 1	+10.357	+18.458	+442.985	+6.261	+9.191	+257.341
C 1	-26.197	-77.787	+446.043	-31.019	-90.798	+252.465
C 1	-25.537	-76.485	+573.793	-30.300	-87.697	+378.579
C 1	+1.921	-15.296	-367.106	+1.921	-15.296	-428.294
Barra 8						
C 1	+31.019	-90.798	+252.465	+35.782	-102.009	+67.494
C 1	-31.019	-90.798	+252.465	-35.782	-102.009	+67.494
C 1	+6.261	+9.191	+257.342	+0.109	+4.927	+154.981
C 1	-31.019	-90.798	+252.465	-35.782	-102.009	+67.494
C 1	-30.300	-87.696	+378.581	-14.841	-45.906	+177.777
C 1	+1.921	-15.297	-428.295	+1.921	-15.297	-481.223
Barra 9						
C 1	+35.782	-102.010	+67.496	+39.878	-111.277	-127.198
C 1	-35.782	-102.010	+67.496	-39.878	-111.277	-127.198
C 1	+0.109	+4.927	+154.980	+0.109	+4.927	+172.026
C 1	-35.782	-102.010	+67.496	-39.878	-111.277	-127.198
C 1	-14.841	-45.906	+177.775	+0.109	+4.927	+172.026
C 1	+1.921	-15.297	-481.223	+1.921	-15.297	-534.150
Barra 10						
C 1	+39.878	-111.270	-127.199	+39.878	-111.270	-247.371
C 1	-39.878	-111.270	-127.199	-39.878	-111.270	-247.371
C 1	+0.109	+4.924	+172.028	+0.109	+4.924	+177.344
C 1	-39.878	-111.270	-127.199	-39.878	-111.270	-247.371
C 1	+0.109	+4.924	+172.028	+0.109	+4.924	+177.344
C 1	+1.921	-15.297	-534.152	+1.921	-15.297	-550.672

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 11						
C 1	+37.689	-100.672	+129.364	+33.828	+92.781	-407.217
C 1	-40.148	+1.709	+60.354	-40.148	+1.709	+62.199
C 1	+33.828	+92.781	-507.418	+33.828	+92.781	-407.217
C 1	-37.689	-100.672	+129.364	-29.517	-79.336	+32.157
C 1	+1.657	-15.834	+177.346	+1.657	-15.834	+160.243
C 1	+29.150	+79.258	-550.668	-1.489	+14.359	-471.908
Barra 12						
C 1	+33.828	+92.771	-407.213	+33.828	+92.771	-86.224
C 1	-40.148	+1.709	+62.200	-40.148	+1.709	+68.114
C 1	+33.828	+92.771	-407.213	+33.828	+92.771	-86.224
C 1	-29.517	-79.336	+32.157	-15.321	-37.229	+48.013
C 1	+1.657	-15.833	+160.244	+1.657	-15.833	+105.460
C 1	-1.489	+14.359	-471.908	-1.489	+14.359	-422.230
Barra 13						
C 1	+33.828	+92.781	-86.227	+33.828	+92.781	+49.234
C 1	-40.148	+1.709	+68.113	-40.148	+1.709	+70.608
C 1	+33.828	+92.781	-86.227	+33.828	+92.781	+49.234
C 1	-15.321	-37.228	+48.014	-11.990	-31.508	+57.773
C 1	+1.657	-15.832	+105.461	+18.276	+50.043	+86.887
C 1	-1.489	+14.367	-422.234	-1.489	+14.367	-401.266
Barra 14						
C 1	+33.828	+92.773	+49.227	+33.828	+92.773	+234.773
C 1	-40.148	+1.709	+70.608	-33.828	+92.773	+234.773
C 1	+33.828	+92.773	+49.227	+33.828	+92.773	+234.773
C 1	-11.990	-31.509	+57.774	-20.499	-53.724	-31.163
C 1	+18.276	+50.051	+86.887	+33.828	+92.773	+234.773
C 1	-1.489	+14.355	-401.262	-1.489	+14.355	-372.555
Barra 15						
C 1	+33.828	+92.875	+234.750	+33.828	+92.875	+327.594
C 1	-33.828	+92.875	+234.750	-33.828	+92.875	+327.594
C 1	+33.828	+92.875	+234.750	+33.828	+92.875	+327.594
C 1	-20.499	-53.729	-31.162	-23.895	-62.490	-8.209
C 1	+33.828	+92.875	+234.750	+33.828	+92.875	+327.594
C 1	-1.489	+14.281	-372.516	-1.489	+14.281	-358.234
Barra 16						
C 1	+33.828	+92.845	+327.593	+29.150	+79.350	+519.900
C 1	-33.828	+92.845	+327.593	-29.150	+79.350	+519.900
C 1	+33.828	+92.845	+327.593	+29.150	+79.350	+519.900
C 1	-23.895	-62.485	-8.203	-11.032	-26.445	+187.154
C 1	+33.828	+92.845	+327.593	-3.047	-3.433	+556.543
C 1	-1.489	+14.306	-358.226	-1.489	+14.306	-293.849

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 17						
C 1	+29.150	+79.350	+519.897	+24.473	+64.858	+637.877
C 1	-29.150	+79.350	+519.897	-24.473	+64.858	+637.877
C 1	+29.150	+79.350	+519.897	+24.473	+64.858	+637.877
C 1	-11.032	-26.445	+187.153	-12.312	-27.624	+464.477
C 1	-3.047	-3.433	+556.543	-7.724	-16.928	+688.129
C 1	-1.489	+14.306	-293.849	-1.489	+14.306	-229.471
Barra 18						
C 1	+24.472	+64.857	+637.880	+19.795	+50.111	+667.883
C 1	-24.472	+64.857	+637.880	-19.795	+50.111	+667.883
C 1	+24.472	+64.857	+637.880	+19.795	+50.111	+667.883
C 1	-12.312	-27.624	+464.475	-16.989	-41.120	+535.330
C 1	-7.724	-16.929	+688.129	-12.402	-31.421	+740.888
C 1	-1.489	+14.307	-229.472	+1.657	-15.859	-179.276
Barra 19						
C 1	+19.795	+50.110	+667.886	+21.667	-55.612	+571.531
C 1	-19.795	+50.110	+667.886	-21.667	-55.612	+571.531
C 1	+19.795	+50.110	+667.886	+16.027	+38.553	+627.453
C 1	-16.989	-41.119	+535.332	-21.667	-55.612	+571.531
C 1	-12.402	-31.421	+740.893	-0.059	-1.728	+729.340
C 1	+1.657	-15.858	-179.277	+1.657	-15.858	-236.764
Barra 20						
C 1	+21.667	-55.611	+571.535	+26.344	-70.358	+543.297
C 1	-21.667	-55.611	+571.535	-26.344	-70.358	+543.297
C 1	+16.027	+38.551	+627.452	+12.259	+27.701	+535.695
C 1	-21.667	-55.611	+571.535	-26.344	-70.358	+543.297
C 1	-0.059	-1.728	+729.339	-3.827	-13.287	+647.020
C 1	+1.657	-15.859	-236.764	+1.657	-15.859	-294.254
Barra 21						
C 1	+26.344	-70.357	+543.289	+30.112	-81.916	+419.071
C 1	-26.344	-70.357	+543.289	-30.112	-81.916	+419.071
C 1	+12.259	+27.702	+535.697	+8.574	+17.937	+404.168
C 1	-26.344	-70.357	+543.289	-30.112	-81.916	+419.071
C 1	-3.827	-13.286	+647.023	-7.595	-24.136	+515.924
C 1	+1.657	-15.859	-294.252	+1.657	-15.859	-351.738
Barra 22						
C 1	+30.112	-81.914	+419.068	+33.880	-92.766	+248.639
C 1	-30.112	-81.914	+419.068	-33.880	-92.766	+248.639
C 1	+8.574	+17.936	+404.169	-1.489	+14.307	+42.358
C 1	-30.112	-81.914	+419.068	-33.880	-92.766	+248.639
C 1	-7.595	-24.136	+515.927	-11.280	-33.902	+348.996
C 1	+1.657	-15.858	-351.738	+1.657	-15.858	-409.229

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 23						
C 1	+33.880	-92.766	+248.639	+37.566	-102.532	+63.229
C 1	-33.880	-92.766	+248.639	-37.566	-102.532	+63.229
C 1	-1.489	+14.307	+42.359	-1.489	+14.307	+91.861
C 1	-33.880	-92.766	+248.639	-37.566	-102.532	+63.229
C 1	-11.280	-33.902	+348.997	-15.703	-45.597	+167.454
C 1	+1.657	-15.858	-409.227	+1.657	-15.858	-464.102
Barra 24						
C 1	+37.566	-102.532	+63.232	+40.740	-110.967	-136.447
C 1	-37.566	-102.532	+63.232	-40.740	-110.967	-136.447
C 1	-1.489	+14.307	+91.860	-1.489	+14.307	+141.362
C 1	-37.566	-102.532	+63.232	-40.740	-110.967	-136.447
C 1	-15.703	-45.597	+167.455	+0.094	+5.108	+167.114
C 1	+1.657	-15.857	-464.107	+1.657	-15.857	-518.973
Barra 25						
C 1	+40.740	-110.973	-136.443	+40.740	-110.973	-256.301
C 1	-40.740	-110.973	-136.443	-40.740	-110.973	-256.301
C 1	-1.489	+14.307	+141.364	-1.489	+14.307	+156.816
C 1	-40.740	-110.973	-136.443	-40.740	-110.973	-256.301
C 1	+0.094	+5.102	+167.114	+0.094	+5.102	+172.627
C 1	+1.657	-15.852	-518.971	+1.657	-15.852	-536.094
Barra 26						
C 1	+37.678	-100.578	+125.762	+33.810	+92.438	-394.131
C 1	-40.127	+1.748	+58.763	-40.127	+1.748	+60.649
C 1	+33.810	+92.438	-493.977	+33.810	+92.438	-394.131
C 1	-37.678	-100.578	+125.762	-29.506	-79.242	+28.656
C 1	+1.656	-15.717	+172.627	+1.656	-15.717	+155.653
C 1	+29.135	+78.922	-536.090	-1.711	+15.656	-516.293
Barra 27						
C 1	+33.810	+92.432	-394.135	+33.810	+92.432	-74.323
C 1	-40.127	+1.749	+60.650	-40.127	+1.749	+66.701
C 1	+33.810	+92.432	-394.135	+33.810	+92.432	-74.323
C 1	-29.506	-79.242	+28.657	-15.332	-37.246	+48.585
C 1	+1.656	-15.712	+155.653	-0.085	-4.608	+135.901
C 1	-1.711	+15.666	-516.291	-1.711	+15.666	-462.088
Barra 28						
C 1	+33.810	+92.453	-74.320	+33.810	+92.453	+60.648
C 1	-40.127	+1.750	+66.699	-40.127	+1.750	+69.252
C 1	+33.810	+92.453	-74.320	+33.810	+92.453	+60.648
C 1	-15.332	-37.245	+48.585	-11.991	-31.465	+56.215
C 1	-0.085	-4.605	+135.902	-0.085	-4.605	+129.178
C 1	-1.711	+15.656	-462.094	-1.711	+15.656	-439.242

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 29						
C 1	+33.810	+92.430	+60.656	+33.810	+92.430	+245.508
C 1	-40.127	+1.749	+69.252	-33.810	+92.430	+245.508
C 1	+33.810	+92.430	+60.656	+33.810	+92.430	+245.508
C 1	-11.991	-31.463	+56.216	-20.499	-53.678	-32.628
C 1	-0.085	-4.605	+129.178	+33.810	+92.430	+245.508
C 1	-1.711	+15.656	-439.230	-1.711	+15.656	-407.918
Barra 30						
C 1	+33.810	+92.375	+245.531	+33.810	+92.375	+337.969
C 1	-33.810	+92.375	+245.531	-33.810	+92.375	+337.969
C 1	+33.810	+92.375	+245.531	+33.810	+92.375	+337.969
C 1	-20.499	-53.690	-32.627	-23.895	-62.428	-9.436
C 1	+33.810	+92.375	+245.531	+33.810	+92.375	+337.969
C 1	-1.711	+15.688	-407.906	-1.711	+15.688	-392.281
Barra 31						
C 1	+33.810	+92.430	+337.940	+29.135	+78.900	+529.107
C 1	-33.810	+92.430	+337.940	-29.135	+78.900	+529.107
C 1	+33.810	+92.430	+337.940	+29.135	+78.900	+529.107
C 1	-23.895	-62.436	-9.435	-11.042	-26.619	+190.721
C 1	+33.810	+92.430	+337.940	-3.064	-3.847	+565.027
C 1	-1.711	+15.666	-392.246	-1.711	+15.666	-321.751
Barra 32						
C 1	+29.135	+78.900	+529.104	+24.460	+64.424	+644.771
C 1	-29.135	+78.900	+529.104	-24.460	+64.424	+644.771
C 1	+29.135	+78.900	+529.104	+24.460	+64.424	+644.771
C 1	-11.042	-26.619	+190.721	-12.329	-28.039	+471.090
C 1	-3.064	-3.848	+565.025	-7.739	-17.378	+695.304
C 1	-1.711	+15.666	-321.751	-1.711	+15.666	-251.255
Barra 33						
C 1	+24.460	+64.425	+644.776	+19.785	+49.735	+672.176
C 1	-24.460	+64.425	+644.776	-19.785	+49.735	+672.176
C 1	+24.460	+64.425	+644.776	+19.785	+49.735	+672.176
C 1	-12.329	-28.039	+471.094	-17.004	-41.569	+540.488
C 1	-7.739	-17.378	+695.310	-12.414	-31.852	+745.841
C 1	-1.711	+15.666	-251.256	+1.656	-15.711	-180.907
Barra 34						
C 1	+19.785	+49.735	+672.179	+21.679	-56.043	+574.914
C 1	-19.785	+49.735	+672.179	-21.679	-56.043	+574.914
C 1	+19.785	+49.735	+672.179	+16.019	+38.240	+629.871
C 1	-17.004	-41.572	+540.484	-21.679	-56.043	+574.914
C 1	-12.414	-31.853	+745.838	-0.069	-2.103	+732.274
C 1	+1.656	-15.712	-180.906	+1.656	-15.712	-237.857

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 35						
C 1	+21.679	-56.043	+574.918	+26.354	-70.733	+544.848
C 1	-21.679	-56.043	+574.918	-26.354	-70.733	+544.848
C 1	+16.019	+38.239	+629.867	+12.253	+27.463	+536.662
C 1	-21.679	-56.043	+574.918	-26.354	-70.733	+544.848
C 1	-0.069	-2.103	+732.277	-3.835	-13.600	+648.305
C 1	+1.656	-15.710	-237.859	+1.656	-15.710	-294.811
Barra 36						
C 1	+26.354	-70.736	+544.855	+30.121	-82.229	+419.219
C 1	-26.354	-70.736	+544.855	-30.121	-82.229	+419.219
C 1	+12.253	+27.463	+536.667	+8.569	+17.774	+404.232
C 1	-26.354	-70.736	+544.855	-30.121	-82.229	+419.219
C 1	-3.835	-13.599	+648.308	-7.601	-24.375	+516.029
C 1	+1.656	-15.710	-294.813	+1.656	-15.710	-351.760
Barra 37						
C 1	+30.121	-82.229	+419.223	+33.887	-93.005	+247.879
C 1	-30.121	-82.229	+419.223	-33.887	-93.005	+247.879
C 1	+8.569	+17.775	+404.232	-1.711	+15.667	+46.410
C 1	-30.121	-82.229	+419.223	-33.887	-93.005	+247.879
C 1	-7.601	-24.375	+516.033	-11.285	-34.063	+348.479
C 1	+1.656	-15.710	-351.760	+1.656	-15.710	-408.709
Barra 38						
C 1	+33.887	-93.002	+247.883	+37.570	-102.692	+62.155
C 1	-33.887	-93.002	+247.883	-37.570	-102.692	+62.155
C 1	-1.711	+15.667	+46.411	-1.711	+15.667	+100.616
C 1	-33.887	-93.002	+247.883	-37.570	-102.692	+62.155
C 1	-11.285	-34.062	+348.477	-15.706	-45.684	+166.864
C 1	+1.656	-15.711	-408.708	+1.656	-15.711	-463.068
Barra 39						
C 1	+37.570	-102.690	+62.153	+40.743	-111.054	-137.338
C 1	-37.570	-102.690	+62.153	-40.743	-111.054	-137.338
C 1	-1.711	+15.667	+100.616	-1.711	+15.667	+154.823
C 1	-37.570	-102.690	+62.153	-40.743	-111.054	-137.338
C 1	-15.706	-45.684	+166.867	+0.094	+5.061	+166.630
C 1	+1.656	-15.710	-463.072	+1.656	-15.710	-517.428
Barra 40						
C 1	+40.743	-111.055	-137.340	+40.743	-111.055	-257.285
C 1	-40.743	-111.055	-137.340	-40.743	-111.055	-257.285
C 1	-1.711	+15.666	+154.826	-1.711	+15.666	+171.744
C 1	-40.743	-111.055	-137.340	-40.743	-111.055	-257.285
C 1	+0.094	+5.059	+166.629	+0.094	+5.059	+172.094
C 1	+1.656	-15.711	-517.422	-30.121	-82.227	-536.672

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 41						
C 1	+37.678	-100.558	+125.352	+33.810	+92.352	-392.656
C 1	-40.127	+1.757	+58.575	-40.127	+1.757	+60.472
C 1	+33.810	+92.352	-492.406	+33.810	+92.352	-392.656
C 1	-37.678	-100.558	+125.352	-29.506	-79.223	+28.267
C 1	+1.656	-15.689	+172.094	-0.097	-5.053	+166.289
C 1	-1.712	+15.773	-536.672	-1.712	+15.773	-519.625
Barra 42						
C 1	+33.810	+92.368	-392.662	+33.810	+92.368	-73.073
C 1	-40.127	+1.757	+60.474	-40.127	+1.757	+66.552
C 1	+33.810	+92.368	-392.662	+33.810	+92.368	-73.073
C 1	-29.506	-79.226	+28.270	-15.331	-37.249	+48.642
C 1	-0.097	-5.052	+166.288	-0.097	-5.052	+148.810
C 1	-1.712	+15.782	-519.617	-1.712	+15.782	-465.016
Barra 43						
C 1	+33.810	+92.375	-73.086	+33.810	+92.375	+61.797
C 1	-40.127	+1.758	+66.552	-40.127	+1.758	+69.115
C 1	+33.810	+92.375	-73.086	+33.810	+92.375	+61.797
C 1	-15.331	-37.249	+48.642	-11.991	-31.454	+56.061
C 1	-0.097	-5.051	+148.811	-0.097	-5.051	+141.439
C 1	-1.712	+15.781	-465.008	-1.712	+15.781	-441.984
Barra 44						
C 1	+33.810	+92.375	+61.789	+33.810	+92.375	+246.539
C 1	-40.127	+1.755	+69.116	-33.810	+92.375	+246.539
C 1	+33.810	+92.375	+61.789	+33.810	+92.375	+246.539
C 1	-11.991	-31.455	+56.060	-20.499	-53.670	-32.768
C 1	-0.097	-5.049	+141.439	+33.810	+92.375	+246.539
C 1	-1.712	+15.773	-441.980	-1.712	+15.773	-410.434
Barra 45						
C 1	+33.810	+92.438	+246.531	+33.810	+92.438	+338.938
C 1	-33.810	+92.438	+246.531	-33.810	+92.438	+338.938
C 1	+33.810	+92.438	+246.531	+33.810	+92.438	+338.938
C 1	-20.499	-53.674	-32.764	-23.895	-62.436	-9.549
C 1	+33.810	+92.438	+246.531	+33.810	+92.438	+338.938
C 1	-1.712	+15.813	-410.469	-1.712	+15.813	-394.656
Barra 46						
C 1	+33.810	+92.390	+338.909	+29.135	+78.857	+529.963
C 1	-33.810	+92.390	+338.909	-29.135	+78.857	+529.963
C 1	+33.810	+92.390	+338.909	+29.135	+78.857	+529.963
C 1	-23.895	-62.431	-9.549	-11.042	-26.636	+191.053
C 1	+33.810	+92.390	+338.909	-3.064	-3.888	+565.816
C 1	-1.712	+15.763	-394.658	-1.712	+15.763	-323.727

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 47						
C 1	+29.135	+78.857	+529.964	+24.460	+64.384	+645.410
C 1	-29.135	+78.857	+529.964	-24.460	+64.384	+645.410
C 1	+29.135	+78.857	+529.964	+24.460	+64.384	+645.410
C 1	-11.042	-26.636	+191.054	-12.329	-28.077	+471.705
C 1	-3.064	-3.886	+565.816	-7.739	-17.421	+695.970
C 1	-1.712	+15.763	-323.727	-1.712	+15.763	-252.794
Barra 48						
C 1	+24.460	+64.386	+645.407	+19.785	+49.700	+672.564
C 1	-24.460	+64.386	+645.407	-19.785	+49.700	+672.564
C 1	+24.460	+64.386	+645.407	+19.785	+49.700	+672.564
C 1	-12.329	-28.077	+471.705	-17.004	-41.611	+540.959
C 1	-7.739	-17.420	+695.971	-12.414	-31.891	+746.291
C 1	-1.712	+15.762	-252.796	-1.712	+15.762	-181.865
Barra 49						
C 1	+19.785	+49.700	+672.566	+21.679	-56.088	+575.214
C 1	-19.785	+49.700	+672.566	-21.679	-56.088	+575.214
C 1	+19.785	+49.700	+672.566	+16.019	+38.213	+630.082
C 1	-17.004	-41.611	+540.957	-21.679	-56.088	+575.214
C 1	-12.414	-31.898	+746.295	-0.069	-2.139	+732.535
C 1	-1.712	+15.763	-181.865	+1.656	-15.698	-237.979
Barra 50						
C 1	+21.679	-56.082	+575.215	+26.355	-70.766	+544.993
C 1	-21.679	-56.082	+575.215	-26.355	-70.766	+544.993
C 1	+16.019	+38.213	+630.081	+12.253	+27.443	+536.754
C 1	-21.679	-56.082	+575.215	-26.355	-70.766	+544.993
C 1	-0.069	-2.136	+732.531	-3.835	-13.625	+648.422
C 1	+1.656	-15.700	-237.977	+1.656	-15.700	-294.893
Barra 51						
C 1	+26.355	-70.766	+544.984	+30.121	-82.252	+419.246
C 1	-26.355	-70.766	+544.984	-30.121	-82.252	+419.246
C 1	+12.253	+27.444	+536.753	+8.569	+17.764	+404.252
C 1	-26.355	-70.766	+544.984	-30.121	-82.252	+419.246
C 1	-3.835	-13.622	+648.417	-7.601	-24.394	+516.051
C 1	+1.656	-15.700	-294.891	+1.656	-15.700	-351.801
Barra 52						
C 1	+30.121	-82.250	+419.244	+33.887	-93.023	+247.838
C 1	-30.121	-82.250	+419.244	-33.887	-93.023	+247.838
C 1	+8.569	+17.762	+404.251	-1.712	+15.762	+46.690
C 1	-30.121	-82.250	+419.244	-33.887	-93.023	+247.838
C 1	-7.601	-24.393	+516.054	-11.285	-34.076	+348.453
C 1	+1.656	-15.700	-351.805	+1.656	-15.700	-408.721

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 47						
C 1	+29.135	+78.857	+529.964	+24.460	+64.384	+645.410
C 1	-29.135	+78.857	+529.964	-24.460	+64.384	+645.410
C 1	+29.135	+78.857	+529.964	+24.460	+64.384	+645.410
C 1	-11.042	-26.636	+191.054	-12.329	-28.077	+471.705
C 1	-3.064	-3.886	+565.816	-7.739	-17.421	+695.970
C 1	-1.712	+15.763	-323.727	-1.712	+15.763	-252.794
Barra 48						
C 1	+24.460	+64.386	+645.407	+19.785	+49.700	+672.564
C 1	-24.460	+64.386	+645.407	-19.785	+49.700	+672.564
C 1	+24.460	+64.386	+645.407	+19.785	+49.700	+672.564
C 1	-12.329	-28.077	+471.705	-17.004	-41.611	+540.959
C 1	-7.739	-17.420	+695.971	-12.414	-31.891	+746.291
C 1	-1.712	+15.762	-252.796	-1.712	+15.762	-181.865
Barra 49						
C 1	+19.785	+49.700	+672.566	+21.679	-56.088	+575.214
C 1	-19.785	+49.700	+672.566	-21.679	-56.088	+575.214
C 1	+19.785	+49.700	+672.566	+16.019	+38.213	+630.082
C 1	-17.004	-41.611	+540.957	-21.679	-56.088	+575.214
C 1	-12.414	-31.898	+746.295	-0.069	-2.139	+732.535
C 1	-1.712	+15.763	-181.865	+1.656	-15.698	-237.979
Barra 50						
C 1	+21.679	-56.082	+575.215	+26.355	-70.766	+544.993
C 1	-21.679	-56.082	+575.215	-26.355	-70.766	+544.993
C 1	+16.019	+38.213	+630.081	+12.253	+27.443	+536.754
C 1	-21.679	-56.082	+575.215	-26.355	-70.766	+544.993
C 1	-0.069	-2.136	+732.531	-3.835	-13.625	+648.422
C 1	+1.656	-15.700	-237.977	+1.656	-15.700	-294.893
Barra 51						
C 1	+26.355	-70.766	+544.984	+30.121	-82.252	+419.246
C 1	-26.355	-70.766	+544.984	-30.121	-82.252	+419.246
C 1	+12.253	+27.444	+536.753	+8.569	+17.764	+404.252
C 1	-26.355	-70.766	+544.984	-30.121	-82.252	+419.246
C 1	-3.835	-13.622	+648.417	-7.601	-24.394	+516.051
C 1	+1.656	-15.700	-294.891	+1.656	-15.700	-351.801
Barra 52						
C 1	+30.121	-82.250	+419.244	+33.887	-93.023	+247.838
C 1	-30.121	-82.250	+419.244	-33.887	-93.023	+247.838
C 1	+8.569	+17.762	+404.251	-1.712	+15.762	+46.690
C 1	-30.121	-82.250	+419.244	-33.887	-93.023	+247.838
C 1	-7.601	-24.393	+516.054	-11.285	-34.076	+348.453
C 1	+1.656	-15.700	-351.805	+1.656	-15.700	-408.721

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 53						
C 1	+33.887	-93.022	+247.838	+37.570	-102.704	+62.086
C 1	-33.887	-93.022	+247.838	-37.570	-102.704	+62.086
C 1	-1.712	+15.762	+46.690	-1.712	+15.762	+101.225
C 1	-33.887	-93.022	+247.838	-37.570	-102.704	+62.086
C 1	-11.285	-34.075	+348.450	-15.706	-45.692	+166.829
C 1	+1.656	-15.700	-408.721	+1.656	-15.700	-463.045
Barra 54						
C 1	+37.570	-102.704	+62.086	+40.743	-111.062	-137.398
C 1	-37.570	-102.704	+62.086	-40.743	-111.062	-137.398
C 1	-1.712	+15.762	+101.224	-1.712	+15.762	+155.760
C 1	-37.570	-102.704	+62.086	-40.743	-111.062	-137.398
C 1	-15.706	-45.691	+166.831	+0.094	+5.058	+166.638
C 1	+1.656	-15.700	-463.046	+1.656	-15.700	-517.371
Barra 55						
C 1	+40.743	-111.051	-137.404	+40.743	-111.051	-257.336
C 1	-40.743	-111.051	-137.404	-40.743	-111.051	-257.336
C 1	-1.712	+15.760	+155.758	-1.712	+15.760	+172.779
C 1	-40.743	-111.051	-137.404	-40.743	-111.051	-257.336
C 1	+0.094	+5.063	+166.637	-1.712	+15.760	+172.779
C 1	+1.656	-15.711	-517.369	-30.121	-82.250	-536.918
Barra 56						
C 1	+37.678	-100.562	+125.336	+33.810	+92.375	-392.592
C 1	-40.127	+1.755	+58.571	-40.127	+1.755	+60.466
C 1	+33.810	+92.375	-492.355	+33.810	+92.375	-392.592
C 1	-37.678	-100.562	+125.336	-29.506	-79.227	+28.245
C 1	-0.097	-5.080	+172.775	-0.097	-5.080	+167.292
C 1	-1.712	+15.789	-536.918	-1.712	+15.789	-519.863
Barra 57						
C 1	+33.810	+92.372	-392.590	+33.810	+92.372	-72.984
C 1	-40.127	+1.756	+60.467	-40.127	+1.756	+66.542
C 1	+33.810	+92.372	-392.590	+33.810	+92.372	-72.984
C 1	-29.506	-79.227	+28.245	-15.331	-37.249	+48.647
C 1	-0.097	-5.080	+167.292	-0.097	-5.080	+149.716
C 1	-1.712	+15.784	-519.869	-1.712	+15.784	-465.260
Barra 58						
C 1	+33.810	+92.375	-72.984	+33.810	+92.375	+61.883
C 1	-40.127	+1.756	+66.540	-40.127	+1.756	+69.105
C 1	+33.810	+92.375	-72.984	+33.810	+92.375	+61.883
C 1	-15.331	-37.248	+48.647	-11.991	-31.453	+56.047
C 1	-0.097	-5.086	+149.717	-0.097	-5.086	+142.301
C 1	-1.712	+15.773	-465.258	-1.712	+15.773	-442.227

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 59						
C 1	+33.810	+92.375	+61.883	+33.810	+92.375	+246.637
C 1	-40.127	+1.756	+69.104	-33.810	+92.375	+246.637
C 1	+33.810	+92.375	+61.883	+33.810	+92.375	+246.637
C 1	-11.991	-31.454	+56.047	-20.499	-53.669	-32.779
C 1	-0.097	-5.080	+142.303	+33.810	+92.375	+246.637
C 1	-1.712	+15.785	-442.227	-1.712	+15.785	-410.652
Barra 60						
C 1	+33.810	+92.438	+246.625	+33.810	+92.438	+339.063
C 1	-33.810	+92.438	+246.625	-33.810	+92.438	+339.063
C 1	+33.810	+92.438	+246.625	+33.810	+92.438	+339.063
C 1	-20.499	-53.674	-32.780	-23.895	-62.436	-9.568
C 1	+33.810	+92.438	+246.625	+33.810	+92.438	+339.063
C 1	-1.712	+15.813	-410.656	-1.712	+15.813	-394.875
Barra 61						
C 1	+33.810	+92.388	+339.036	+29.135	+78.854	+530.096
C 1	-33.810	+92.388	+339.036	-29.135	+78.854	+530.096
C 1	+33.810	+92.388	+339.036	+29.135	+78.854	+530.096
C 1	-23.895	-62.431	-9.565	-11.042	-26.637	+191.101
C 1	+33.810	+92.388	+339.036	-3.064	-3.890	+565.935
C 1	-1.712	+15.770	-394.898	-1.712	+15.770	-323.932
Barra 62						
C 1	+29.135	+78.854	+530.097	+24.460	+64.382	+645.531
C 1	-29.135	+78.854	+530.097	-24.460	+64.382	+645.531
C 1	+29.135	+78.854	+530.097	+24.460	+64.382	+645.531
C 1	-11.042	-26.637	+191.102	-12.329	-28.081	+471.811
C 1	-3.064	-3.890	+565.935	-7.739	-17.424	+696.090
C 1	-1.712	+15.771	-323.933	-1.712	+15.771	-252.964
Barra 63						
C 1	+24.460	+64.381	+645.532	+19.785	+49.700	+672.672
C 1	-24.460	+64.381	+645.532	-19.785	+49.700	+672.672
C 1	+24.460	+64.381	+645.532	+19.785	+49.700	+672.672
C 1	-12.329	-28.080	+471.811	-17.004	-41.615	+541.065
C 1	-7.739	-17.424	+696.092	-12.414	-31.896	+746.402
C 1	-1.712	+15.771	-252.966	-1.712	+15.771	-181.996
Barra 64						
C 1	+19.785	+49.696	+672.679	+21.679	-56.088	+575.332
C 1	-19.785	+49.696	+672.679	-21.679	-56.088	+575.332
C 1	+19.785	+49.696	+672.679	+16.019	+38.213	+630.184
C 1	-17.004	-41.617	+541.066	-21.679	-56.088	+575.332
C 1	-12.414	-31.898	+746.397	-0.069	-2.143	+732.637
C 1	-1.712	+15.772	-181.998	+1.656	-15.700	-238.051

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 65						
C 1	+21.679	-56.084	+575.328	+26.355	-70.772	+545.090
C 1	-21.679	-56.084	+575.328	-26.355	-70.772	+545.090
C 1	+16.019	+38.211	+630.183	+12.253	+27.445	+536.836
C 1	-21.679	-56.084	+575.328	-26.355	-70.772	+545.090
C 1	-0.069	-2.142	+732.644	-3.835	-13.627	+648.520
C 1	+1.656	-15.700	-238.053	+1.656	-15.700	-294.967
Barra 66						
C 1	+26.355	-70.773	+545.094	+30.121	-82.258	+419.321
C 1	-26.355	-70.773	+545.094	-30.121	-82.258	+419.321
C 1	+12.253	+27.442	+536.837	+8.569	+17.760	+404.303
C 1	-26.355	-70.773	+545.094	-30.121	-82.258	+419.321
C 1	-3.835	-13.628	+648.519	-7.601	-24.396	+516.123
C 1	+1.656	-15.700	-294.963	+1.656	-15.700	-351.875
Barra 67						
C 1	+30.121	-82.257	+419.326	+33.887	-93.025	+247.897
C 1	-30.121	-82.257	+419.326	-33.887	-93.025	+247.897
C 1	+8.569	+17.760	+404.308	-1.712	+15.772	+46.692
C 1	-30.121	-82.257	+419.326	-33.887	-93.025	+247.897
C 1	-7.601	-24.396	+516.124	-11.285	-34.078	+348.498
C 1	+1.656	-15.699	-351.875	+1.656	-15.699	-408.787
Barra 68						
C 1	+33.887	-93.027	+247.898	+37.570	-102.707	+62.121
C 1	-33.887	-93.027	+247.898	-37.570	-102.707	+62.121
C 1	-1.712	+15.772	+46.693	-1.712	+15.772	+101.267
C 1	-33.887	-93.027	+247.898	-37.570	-102.707	+62.121
C 1	-11.285	-34.077	+348.501	-15.706	-45.693	+166.855
C 1	+1.656	-15.698	-408.787	+1.656	-15.698	-463.104
Barra 69						
C 1	+37.570	-102.708	+62.121	+40.743	-111.062	-137.378
C 1	-37.570	-102.708	+62.121	-40.743	-111.062	-137.378
C 1	-1.712	+15.772	+101.266	-1.712	+15.772	+155.839
C 1	-37.570	-102.708	+62.121	-40.743	-111.062	-137.378
C 1	-15.706	-45.692	+166.853	+0.094	+5.055	+166.589
C 1	+1.656	-15.697	-463.104	+1.656	-15.697	-517.420
Barra 70						
C 1	+40.743	-111.066	-137.379	+40.743	-111.066	-257.328
C 1	-40.743	-111.066	-137.379	-40.743	-111.066	-257.328
C 1	-1.712	+15.771	+155.839	-1.712	+15.771	+172.875
C 1	-40.743	-111.066	-137.379	-40.743	-111.066	-257.328
C 1	+0.094	+5.057	+166.590	-1.712	+15.771	+172.875
C 1	+1.656	-15.711	-517.418	-30.121	-82.266	-536.926

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 71						
C 1	+37.678	-100.570	+125.344	+33.810	+92.414	-392.586
C 1	-40.127	+1.752	+58.574	-40.127	+1.752	+60.466
C 1	+33.810	+92.414	-492.398	+33.810	+92.414	-392.586
C 1	-37.678	-100.570	+125.344	-29.506	-79.235	+28.246
C 1	-0.097	-5.074	+172.875	-0.097	-5.074	+167.396
C 1	-1.712	+15.742	-536.922	-1.712	+15.742	-519.910
Barra 72						
C 1	+33.810	+92.400	-392.594	+33.810	+92.400	-72.889
C 1	-40.127	+1.752	+60.466	-40.127	+1.752	+66.529
C 1	+33.810	+92.400	-392.594	+33.810	+92.400	-72.889
C 1	-29.506	-79.233	+28.247	-15.331	-37.248	+48.650
C 1	-0.097	-5.075	+167.395	-0.097	-5.075	+149.834
C 1	-1.712	+15.763	-519.904	-1.712	+15.763	-465.370
Barra 73						
C 1	+33.810	+92.406	-72.883	+33.810	+92.406	+62.031
C 1	-40.127	+1.752	+66.528	-40.127	+1.752	+69.087
C 1	+33.810	+92.406	-72.883	+33.810	+92.406	+62.031
C 1	-15.331	-37.247	+48.651	-11.991	-31.458	+56.027
C 1	-0.097	-5.074	+149.838	-0.097	-5.074	+142.426
C 1	-1.712	+15.758	-465.391	-1.712	+15.758	-442.367
Barra 74						
C 1	+33.810	+92.383	+62.039	+33.810	+92.383	+246.809
C 1	-40.127	+1.754	+69.087	-33.810	+92.383	+246.809
C 1	+33.810	+92.383	+62.039	+33.810	+92.383	+246.809
C 1	-11.991	-31.458	+56.028	-20.499	-53.673	-32.807
C 1	-0.097	-5.078	+142.426	+33.810	+92.383	+246.809
C 1	-1.712	+15.766	-442.371	-1.712	+15.766	-410.832
Barra 75						
C 1	+33.810	+92.375	+246.781	+33.810	+92.375	+339.188
C 1	-33.810	+92.375	+246.781	-33.810	+92.375	+339.188
C 1	+33.810	+92.375	+246.781	+33.810	+92.375	+339.188
C 1	-20.499	-53.682	-32.803	-23.895	-62.428	-9.588
C 1	+33.810	+92.375	+246.781	+33.810	+92.375	+339.188
C 1	-1.712	+15.750	-410.813	-1.712	+15.750	-395.094
Barra 76						
C 1	+33.810	+92.379	+339.186	+29.135	+78.845	+530.207
C 1	-33.810	+92.379	+339.186	-29.135	+78.845	+530.207
C 1	+33.810	+92.379	+339.186	+29.135	+78.845	+530.207
C 1	-23.895	-62.430	-9.584	-11.042	-26.640	+191.146
C 1	+33.810	+92.379	+339.186	-3.064	-3.898	+566.041
C 1	-1.712	+15.778	-395.055	-1.712	+15.778	-324.051

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 77						
C 1	+29.135	+78.843	+530.206	+24.460	+64.370	+645.586
C 1	-29.135	+78.843	+530.206	-24.460	+64.370	+645.586
C 1	+29.135	+78.843	+530.206	+24.460	+64.370	+645.586
C 1	-11.042	-26.641	+191.146	-12.329	-28.090	+471.875
C 1	-3.064	-3.900	+566.041	-7.739	-17.434	+696.158
C 1	-1.712	+15.779	-324.052	-1.712	+15.779	-253.046
Barra 78						
C 1	+24.460	+64.371	+645.585	+19.785	+49.690	+672.672
C 1	-24.460	+64.371	+645.585	-19.785	+49.690	+672.672
C 1	+24.460	+64.371	+645.585	+19.785	+49.690	+672.672
C 1	-12.329	-28.089	+471.873	-17.004	-41.624	+541.086
C 1	-7.739	-17.433	+696.152	-12.414	-31.906	+746.414
C 1	-1.712	+15.778	-253.045	-1.712	+15.778	-182.044
Barra 79						
C 1	+19.785	+49.688	+672.671	+21.679	-56.094	+575.304
C 1	-19.785	+49.688	+672.671	-21.679	-56.094	+575.304
C 1	+19.785	+49.688	+672.671	+16.019	+38.203	+630.137
C 1	-17.004	-41.625	+541.090	-21.679	-56.094	+575.304
C 1	-12.414	-31.904	+746.408	-0.069	-2.150	+732.602
C 1	-1.712	+15.778	-182.045	+1.656	-15.691	-237.953
Barra 80						
C 1	+21.679	-56.098	+575.305	+26.355	-70.777	+545.028
C 1	-21.679	-56.098	+575.305	-26.355	-70.777	+545.028
C 1	+16.019	+38.207	+630.136	+12.253	+27.436	+536.770
C 1	-21.679	-56.098	+575.305	-26.355	-70.777	+545.028
C 1	-0.069	-2.148	+732.605	-3.835	-13.631	+648.445
C 1	+1.656	-15.691	-237.959	+1.656	-15.691	-294.838
Barra 81						
C 1	+26.355	-70.779	+545.023	+30.121	-82.264	+419.227
C 1	-26.355	-70.779	+545.023	-30.121	-82.264	+419.227
C 1	+12.253	+27.436	+536.771	+8.569	+17.756	+404.234
C 1	-26.355	-70.779	+545.023	-30.121	-82.264	+419.227
C 1	-3.835	-13.634	+648.445	-7.601	-24.402	+516.031
C 1	+1.656	-15.691	-294.840	+1.656	-15.691	-351.719
Barra 82						
C 1	+30.121	-82.268	+419.229	+33.887	-93.034	+247.776
C 1	-30.121	-82.268	+419.229	-33.887	-93.034	+247.776
C 1	+8.569	+17.756	+404.230	-1.712	+15.780	+46.750
C 1	-30.121	-82.268	+419.229	-33.887	-93.034	+247.776
C 1	-7.601	-24.404	+516.034	-11.285	-34.082	+348.404
C 1	+1.656	-15.689	-351.719	+1.656	-15.689	-408.596

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 83						
C 1	+33.887	-93.035	+247.779	+37.570	-102.713	+62.006
C 1	-33.887	-93.035	+247.779	-37.570	-102.713	+62.006
C 1	-1.712	+15.780	+46.749	-1.712	+15.780	+101.347
C 1	-33.887	-93.035	+247.779	-37.570	-102.713	+62.006
C 1	-11.285	-34.083	+348.404	-15.706	-45.696	+166.782
C 1	+1.656	-15.688	-408.596	+1.656	-15.688	-462.883
Barra 84						
C 1	+37.570	-102.714	+62.008	+40.743	-111.066	-137.459
C 1	-37.570	-102.714	+62.008	-40.743	-111.066	-137.459
C 1	-1.712	+15.780	+101.347	-1.712	+15.780	+155.943
C 1	-37.570	-102.714	+62.008	-40.743	-111.066	-137.459
C 1	-15.706	-45.695	+166.780	+0.094	+5.049	+166.397
C 1	+1.656	-15.689	-462.883	+1.656	-15.689	-517.170
Barra 85						
C 1	+40.743	-111.070	-137.467	+40.743	-111.070	-257.418
C 1	-40.743	-111.070	-137.467	-40.743	-111.070	-257.418
C 1	-1.712	+15.785	+155.944	-1.712	+15.785	+172.992
C 1	-40.743	-111.070	-137.467	-40.743	-111.070	-257.418
C 1	+0.094	+5.047	+166.396	-1.712	+15.785	+172.992
C 1	+1.656	-15.680	-517.168	-30.121	-82.273	-537.137
Barra 86						
C 1	+37.678	-100.556	+125.291	+33.810	+92.352	-392.412
C 1	-40.127	+1.759	+58.542	-40.127	+1.759	+60.442
C 1	+33.810	+92.352	-492.152	+33.810	+92.352	-392.412
C 1	-37.678	-100.556	+125.291	-29.506	-79.221	+28.209
C 1	-0.097	-5.090	+172.992	-0.097	-5.090	+167.495
C 1	-1.712	+15.797	-537.133	-1.712	+15.797	-520.080
Barra 87						
C 1	+33.810	+92.345	-392.412	+33.810	+92.345	-72.898
C 1	-40.127	+1.759	+60.442	-40.127	+1.759	+66.529
C 1	+33.810	+92.345	-392.412	+33.810	+92.345	-72.898
C 1	-29.506	-79.221	+28.209	-15.332	-37.250	+48.651
C 1	-0.097	-5.091	+167.497	-0.097	-5.091	+149.881
C 1	-1.712	+15.805	-520.068	-1.712	+15.805	-465.388
Barra 88						
C 1	+33.810	+92.359	-72.891	+33.810	+92.359	+61.930
C 1	-40.127	+1.758	+66.530	-40.127	+1.758	+69.096
C 1	+33.810	+92.359	-72.891	+33.810	+92.359	+61.930
C 1	-15.332	-37.250	+48.650	-11.991	-31.449	+56.040
C 1	-0.097	-5.090	+149.883	-0.097	-5.090	+142.451
C 1	-1.712	+15.797	-465.391	-1.712	+15.797	-442.313

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 89						
C 1	+33.810	+92.359	+61.938	+33.810	+92.359	+246.652
C 1	-40.127	+1.758	+69.097	-33.810	+92.359	+246.652
C 1	+33.810	+92.359	+61.938	+33.810	+92.359	+246.652
C 1	-11.991	-31.453	+56.042	-20.499	-53.668	-32.783
C 1	-0.097	-5.088	+142.449	+33.810	+92.359	+246.652
C 1	-1.712	+15.793	-442.313	-1.712	+15.793	-410.727
Barra 90						
C 1	+33.810	+92.375	+246.656	+33.810	+92.375	+339.063
C 1	-33.810	+92.375	+246.656	-33.810	+92.375	+339.063
C 1	+33.810	+92.375	+246.656	+33.810	+92.375	+339.063
C 1	-20.499	-53.682	-32.780	-23.895	-62.436	-9.568
C 1	+33.810	+92.375	+246.656	+33.810	+92.375	+339.063
C 1	-1.712	+15.688	-410.719	-1.712	+15.688	-395.000
Barra 91						
C 1	+33.810	+92.379	+339.054	+29.135	+78.844	+530.064
C 1	-33.810	+92.379	+339.054	-29.135	+78.844	+530.064
C 1	+33.810	+92.379	+339.054	+29.135	+78.844	+530.064
C 1	-23.895	-62.430	-9.568	-11.042	-26.640	+191.095
C 1	+33.810	+92.379	+339.054	-3.064	-3.898	+565.914
C 1	-1.712	+15.778	-394.966	-1.712	+15.778	-323.966
Barra 92						
C 1	+29.135	+78.843	+530.067	+24.460	+64.370	+645.436
C 1	-29.135	+78.843	+530.067	-24.460	+64.370	+645.436
C 1	+29.135	+78.843	+530.067	+24.460	+64.370	+645.436
C 1	-11.042	-26.640	+191.095	-12.329	-28.089	+471.756
C 1	-3.064	-3.899	+565.914	-7.739	-17.434	+696.009
C 1	-1.712	+15.778	-323.967	-1.712	+15.778	-252.967
Barra 93						
C 1	+24.460	+64.369	+645.435	+19.785	+49.685	+672.496
C 1	-24.460	+64.369	+645.435	-19.785	+49.685	+672.496
C 1	+24.460	+64.369	+645.435	+19.785	+49.685	+672.496
C 1	-12.329	-28.091	+471.752	-17.004	-41.625	+540.936
C 1	-7.739	-17.435	+696.014	-12.414	-31.909	+746.244
C 1	-1.712	+15.779	-252.968	-1.712	+15.779	-181.964
Barra 94						
C 1	+19.785	+49.682	+672.499	+21.679	-56.102	+575.113
C 1	-19.785	+49.682	+672.499	-21.679	-56.102	+575.113
C 1	+19.785	+49.682	+672.499	+16.019	+38.197	+629.953
C 1	-17.004	-41.631	+540.934	-21.679	-56.102	+575.113
C 1	-12.414	-31.911	+746.244	-0.069	-2.156	+732.406
C 1	-1.712	+15.779	-181.967	+1.656	-15.681	-237.744

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 95						
C 1	+21.679	-56.098	+575.113	+26.355	-70.781	+544.809
C 1	-21.679	-56.098	+575.113	-26.355	-70.781	+544.809
C 1	+16.019	+38.201	+629.945	+12.253	+27.432	+536.578
C 1	-21.679	-56.098	+575.113	-26.355	-70.781	+544.809
C 1	-0.069	-2.151	+732.402	-3.835	-13.637	+648.231
C 1	+1.656	-15.680	-237.744	+1.656	-15.680	-294.582
Barra 96						
C 1	+26.355	-70.781	+544.813	+30.121	-82.268	+419.004
C 1	-26.355	-70.781	+544.813	-30.121	-82.268	+419.004
C 1	+12.253	+27.432	+536.576	+8.569	+17.752	+404.066
C 1	-26.355	-70.781	+544.813	-30.121	-82.268	+419.004
C 1	-3.835	-13.638	+648.234	-7.601	-24.406	+515.828
C 1	+1.656	-15.683	-294.586	+1.656	-15.683	-351.432
Barra 97						
C 1	+30.121	-82.267	+419.002	+33.887	-93.035	+247.567
C 1	-30.121	-82.267	+419.002	-33.887	-93.035	+247.567
C 1	+8.569	+17.753	+404.066	-1.712	+15.778	+46.817
C 1	-30.121	-82.267	+419.002	-33.887	-93.035	+247.567
C 1	-7.601	-24.405	+515.827	-11.285	-34.085	+348.231
C 1	+1.656	-15.683	-351.430	+1.656	-15.683	-408.279
Barra 98						
C 1	+33.887	-93.035	+247.564	+37.570	-102.715	+61.830
C 1	-33.887	-93.035	+247.564	-37.570	-102.715	+61.830
C 1	-1.712	+15.778	+46.817	-1.712	+15.778	+101.405
C 1	-33.887	-93.035	+247.564	-37.570	-102.715	+61.830
C 1	-11.285	-34.085	+348.231	-15.706	-45.697	+166.668
C 1	+1.656	-15.684	-408.277	+1.656	-15.684	-462.541
Barra 99						
C 1	+37.570	-102.715	+61.828	+40.743	-111.067	-137.579
C 1	-37.570	-102.715	+61.828	-40.743	-111.067	-137.579
C 1	-1.712	+15.778	+101.405	-1.712	+15.778	+155.996
C 1	-37.570	-102.715	+61.828	-40.743	-111.067	-137.579
C 1	-15.706	-45.697	+166.666	+0.094	+5.047	+166.286
C 1	+1.656	-15.681	-462.538	+1.656	-15.681	-516.799
Barra 100						
C 1	+40.743	-111.070	-137.584	+40.743	-111.070	-257.535
C 1	-40.743	-111.070	-137.584	-40.743	-111.070	-257.535
C 1	-1.712	+15.779	+155.995	-1.712	+15.779	+173.039
C 1	-40.743	-111.070	-137.584	-40.743	-111.070	-257.535
C 1	+0.094	+5.047	+166.284	-1.712	+15.779	+173.039
C 1	+1.656	-15.680	-516.797	-30.121	-82.273	-537.355

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 101						
C 1	+37.678	-100.537	+125.217	+33.810	+92.258	-392.186
C 1	-40.127	+1.772	+58.497	-40.127	+1.772	+60.410
C 1	+33.810	+92.258	-491.816	+33.810	+92.258	-392.186
C 1	-37.678	-100.537	+125.217	-29.506	-79.202	+28.157
C 1	-0.097	-5.117	+173.039	-0.097	-5.117	+167.515
C 1	-1.712	+15.875	-537.352	-1.712	+15.875	-520.209
Barra 102						
C 1	+33.810	+92.255	-392.184	+33.810	+92.255	-72.983
C 1	-40.127	+1.772	+60.410	-40.127	+1.772	+66.541
C 1	+33.810	+92.255	-392.184	+33.810	+92.255	-72.983
C 1	-29.506	-79.201	+28.157	-15.332	-37.253	+48.648
C 1	-0.097	-5.113	+167.517	-0.097	-5.113	+149.824
C 1	-1.712	+15.875	-520.211	-1.712	+15.875	-465.283
Barra 103						
C 1	+33.810	+92.250	-72.977	+33.810	+92.250	+61.703
C 1	-40.127	+1.771	+66.540	-40.127	+1.771	+69.128
C 1	+33.810	+92.250	-72.977	+33.810	+92.250	+61.703
C 1	-15.332	-37.253	+48.648	-11.991	-31.438	+56.075
C 1	-0.097	-5.109	+149.824	-0.097	-5.109	+142.361
C 1	-1.712	+15.875	-465.273	-1.712	+15.875	-442.117
Barra 104						
C 1	+33.810	+92.273	+61.711	+33.810	+92.273	+246.258
C 1	-40.127	+1.770	+69.127	-33.810	+92.273	+246.258
C 1	+33.810	+92.273	+61.711	+33.810	+92.273	+246.258
C 1	-11.991	-31.439	+56.075	-20.499	-53.654	-32.723
C 1	-0.097	-5.107	+142.361	+33.810	+92.273	+246.258
C 1	-1.712	+15.859	-442.105	-1.712	+15.859	-410.387
Barra 105						
C 1	+33.810	+92.375	+246.219	+33.810	+92.375	+338.563
C 1	-33.810	+92.375	+246.219	-33.810	+92.375	+338.563
C 1	+33.810	+92.375	+246.219	+33.810	+92.375	+338.563
C 1	-20.499	-53.659	-32.721	-23.895	-62.420	-9.498
C 1	+33.810	+92.375	+246.219	+33.810	+92.375	+338.563
C 1	-1.712	+15.875	-410.375	-1.712	+15.875	-394.531
Barra 106						
C 1	+33.810	+92.399	+338.577	+29.135	+78.865	+529.627
C 1	-33.810	+92.399	+338.577	-29.135	+78.865	+529.627
C 1	+33.810	+92.399	+338.577	+29.135	+78.865	+529.627
C 1	-23.895	-62.432	-9.502	-11.042	-26.632	+190.935
C 1	+33.810	+92.399	+338.577	-3.064	-3.879	+565.518
C 1	-1.712	+15.762	-394.562	-1.712	+15.762	-323.634

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 107						
C 1	+29.135	+78.867	+529.628	+24.460	+64.393	+645.111
C 1	-29.135	+78.867	+529.628	-24.460	+64.393	+645.111
C 1	+29.135	+78.867	+529.628	+24.460	+64.393	+645.111
C 1	-11.042	-26.632	+190.935	-12.329	-28.070	+471.447
C 1	-3.064	-3.879	+565.519	-7.739	-17.411	+695.672
C 1	-1.712	+15.761	-323.634	-1.712	+15.761	-252.708
Barra 108						
C 1	+24.460	+64.392	+645.108	+19.785	+49.707	+672.324
C 1	-24.460	+64.392	+645.108	-19.785	+49.707	+672.324
C 1	+24.460	+64.392	+645.108	+19.785	+49.707	+672.324
C 1	-12.329	-28.069	+471.447	-17.004	-41.601	+540.707
C 1	-7.739	-17.411	+695.674	-12.414	-31.886	+746.029
C 1	-1.712	+15.761	-252.706	-1.712	+15.761	-181.784
Barra 109						
C 1	+19.785	+49.709	+672.320	+21.679	-56.073	+575.000
C 1	-19.785	+49.709	+672.320	-21.679	-56.073	+575.000
C 1	+19.785	+49.709	+672.320	+16.019	+38.219	+629.895
C 1	-17.004	-41.602	+540.707	-21.679	-56.073	+575.000
C 1	-12.414	-31.882	+746.033	-0.069	-2.129	+732.328
C 1	-1.712	+15.760	-181.785	+1.656	-15.690	-237.721
Barra 110						
C 1	+21.679	-56.072	+575.004	+26.355	-70.760	+544.825
C 1	-21.679	-56.072	+575.004	-26.355	-70.760	+544.825
C 1	+16.019	+38.221	+629.894	+12.253	+27.449	+536.615
C 1	-21.679	-56.072	+575.004	-26.355	-70.760	+544.825
C 1	-0.069	-2.130	+732.327	-3.835	-13.617	+648.262
C 1	+1.656	-15.691	-237.719	+1.656	-15.691	-294.604
Barra 111						
C 1	+26.355	-70.758	+544.816	+30.121	-82.244	+419.118
C 1	-26.355	-70.758	+544.816	-30.121	-82.244	+419.118
C 1	+12.253	+27.450	+536.615	+8.569	+17.766	+404.152
C 1	-26.355	-70.758	+544.816	-30.121	-82.244	+419.118
C 1	-3.835	-13.614	+648.257	-7.601	-24.389	+515.930
C 1	+1.656	-15.691	-294.605	+1.656	-15.691	-351.486
Barra 112						
C 1	+30.121	-82.244	+419.113	+33.887	-93.017	+247.735
C 1	-30.121	-82.244	+419.113	-33.887	-93.017	+247.735
C 1	+8.569	+17.766	+404.152	-1.712	+15.758	+46.725
C 1	-30.121	-82.244	+419.113	-33.887	-93.017	+247.735
C 1	-7.601	-24.387	+515.929	-11.285	-34.072	+348.363
C 1	+1.656	-15.692	-351.484	+1.656	-15.692	-408.375

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 113						
C 1	+33.887	-93.018	+247.734	+37.570	-102.704	+62.006
C 1	-33.887	-93.018	+247.734	-37.570	-102.704	+62.006
C 1	-1.712	+15.758	+46.726	-1.712	+15.758	+101.249
C 1	-33.887	-93.018	+247.734	-37.570	-102.704	+62.006
C 1	-11.285	-34.074	+348.363	-15.706	-45.690	+166.774
C 1	+1.656	-15.693	-408.373	+1.656	-15.693	-462.674
Barra 114						
C 1	+37.570	-102.703	+62.005	+40.743	-111.060	-137.446
C 1	-37.570	-102.703	+62.005	-40.743	-111.060	-137.446
C 1	-1.712	+15.759	+101.250	-1.712	+15.759	+155.774
C 1	-37.570	-102.703	+62.005	-40.743	-111.060	-137.446
C 1	-15.706	-45.690	+166.772	+0.094	+5.018	+165.254
C 1	+1.656	-15.693	-462.671	+1.656	-15.693	-516.971
Barra 115						
C 1	+40.743	-111.059	-137.451	+40.743	-111.059	-257.395
C 1	-40.743	-111.059	-137.451	-40.743	-111.059	-257.395
C 1	-1.712	+15.754	+155.777	-1.712	+15.754	+172.797
C 1	-40.743	-111.059	-137.451	-40.743	-111.059	-257.395
C 1	+0.094	+5.018	+165.252	-1.712	+15.754	+172.797
C 1	+1.656	-15.688	-516.961	-30.121	-82.234	-536.984
Barra 116						
C 1	+37.678	-100.564	+125.291	+33.810	+92.383	-392.295
C 1	-40.127	+1.760	+58.518	-40.127	+1.760	+60.417
C 1	+33.810	+92.383	-492.066	+33.810	+92.383	-392.295
C 1	-37.678	-100.564	+125.291	-29.506	-79.229	+28.201
C 1	-0.097	-5.078	+172.799	-0.097	-5.078	+167.314
C 1	-1.712	+15.773	-536.984	-1.712	+15.773	-519.961
Barra 117						
C 1	+33.810	+92.355	-392.303	+33.810	+92.355	-72.754
C 1	-40.127	+1.760	+60.417	-40.127	+1.760	+66.505
C 1	+33.810	+92.355	-392.303	+33.810	+92.355	-72.754
C 1	-29.506	-79.226	+28.203	-15.332	-37.249	+48.653
C 1	-0.097	-5.081	+167.315	-0.097	-5.081	+149.734
C 1	-1.712	+15.787	-519.953	-1.712	+15.787	-465.331
Barra 118						
C 1	+33.810	+92.375	-72.758	+33.810	+92.375	+62.078
C 1	-40.127	+1.758	+66.505	-40.127	+1.758	+69.073
C 1	+33.810	+92.375	-72.758	+33.810	+92.375	+62.078
C 1	-15.332	-37.249	+48.653	-11.991	-31.451	+56.016
C 1	-0.097	-5.082	+149.734	-0.097	-5.082	+142.316
C 1	-1.712	+15.773	-465.320	-1.712	+15.773	-442.289

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 119						
C 1	+33.810	+92.352	+62.078	+33.810	+92.352	+246.777
C 1	-40.127	+1.761	+69.073	-33.810	+92.352	+246.777
C 1	+33.810	+92.352	+62.078	+33.810	+92.352	+246.777
C 1	-11.991	-31.451	+56.018	-20.499	-53.666	-32.802
C 1	-0.097	-5.084	+142.316	+33.810	+92.352	+246.777
C 1	-1.712	+15.793	-442.285	-1.712	+15.793	-410.695
Barra 120						
C 1	+33.810	+92.375	+246.750	+33.810	+92.375	+339.125
C 1	-33.810	+92.375	+246.750	-33.810	+92.375	+339.125
C 1	+33.810	+92.375	+246.750	+33.810	+92.375	+339.125
C 1	-20.499	-53.682	-32.795	-23.895	-62.420	-9.580
C 1	+33.810	+92.375	+246.750	+33.810	+92.375	+339.125
C 1	-1.712	+15.750	-410.656	-1.712	+15.750	-394.906
Barra 121						
C 1	+33.810	+92.351	+339.108	+29.135	+78.805	+529.967
C 1	-33.810	+92.351	+339.108	-29.135	+78.805	+529.967
C 1	+33.810	+92.351	+339.108	+29.135	+78.805	+529.967
C 1	-23.895	-62.425	-9.577	-11.042	-26.650	+191.072
C 1	+33.810	+92.351	+339.108	-3.064	-3.927	+565.843
C 1	-1.712	+15.791	-394.893	-1.712	+15.791	-323.837
Barra 122						
C 1	+29.135	+78.804	+529.970	+24.460	+64.322	+645.100
C 1	-29.135	+78.804	+529.970	-24.460	+64.322	+645.100
C 1	+29.135	+78.804	+529.970	+24.460	+64.322	+645.100
C 1	-11.042	-26.650	+191.072	-12.329	-28.117	+471.555
C 1	-3.064	-3.926	+565.846	-7.739	-17.473	+695.734
C 1	-1.712	+15.791	-323.835	-1.712	+15.791	-252.777
Barra 123						
C 1	+24.460	+64.325	+645.095	+19.785	+49.636	+671.908
C 1	-24.460	+64.325	+645.095	-19.785	+49.636	+671.908
C 1	+24.460	+64.325	+645.095	+19.785	+49.636	+671.908
C 1	-12.329	-28.116	+471.551	-17.004	-41.663	+540.496
C 1	-7.739	-17.472	+695.734	-12.414	-31.953	+745.709
C 1	-1.712	+15.789	-252.776	-1.712	+15.789	-181.723
Barra 124						
C 1	+19.785	+49.635	+671.906	+21.679	-56.147	+574.417
C 1	-19.785	+49.635	+671.906	-21.679	-56.147	+574.417
C 1	+19.785	+49.635	+671.906	+16.019	+38.148	+629.188
C 1	-17.004	-41.662	+540.496	-21.679	-56.147	+574.417
C 1	-12.414	-31.956	+745.709	-0.069	-2.203	+731.641
C 1	-1.712	+15.789	-181.723	+1.655	-15.567	-236.018

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 125						
C 1	+21.679	-56.143	+574.422	+26.355	-70.832	+543.875
C 1	-21.679	-56.143	+574.422	-26.355	-70.832	+543.875
C 1	+16.019	+38.151	+629.183	+12.252	+27.385	+535.711
C 1	-21.679	-56.143	+574.422	-26.355	-70.832	+543.875
C 1	-0.069	-2.202	+731.644	-3.835	-13.687	+647.297
C 1	+1.655	-15.567	-236.021	+1.655	-15.567	-292.455
Barra 126						
C 1	+26.355	-70.828	+543.871	+30.121	-82.315	+417.895
C 1	-26.355	-70.828	+543.871	-30.121	-82.315	+417.895
C 1	+12.252	+27.389	+535.714	+8.569	+17.716	+403.234
C 1	-26.355	-70.828	+543.871	-30.121	-82.315	+417.895
C 1	-3.835	-13.685	+647.292	-7.602	-24.449	+514.803
C 1	+1.655	-15.568	-292.457	+1.655	-15.568	-348.891
Barra 127						
C 1	+30.121	-82.316	+417.896	+33.887	-93.082	+246.375
C 1	-30.121	-82.316	+417.896	-33.887	-93.082	+246.375
C 1	+8.569	+17.715	+403.236	-1.712	+15.789	+47.218
C 1	-30.121	-82.316	+417.896	-33.887	-93.082	+246.375
C 1	-7.602	-24.452	+514.808	-11.285	-34.123	+347.264
C 1	+1.655	-15.568	-348.896	+1.655	-15.568	-405.330
Barra 128						
C 1	+33.887	-93.081	+246.379	+37.570	-102.751	+60.735
C 1	-33.887	-93.081	+246.379	-37.570	-102.751	+60.735
C 1	-11.285	-34.122	+347.263	-15.706	-45.721	+165.971
C 1	+1.655	-15.568	-405.334	+1.655	-15.568	-459.201
Barra 129						
C 1	+37.570	-102.751	+60.734	+40.743	-111.091	-138.356
C 1	-37.570	-102.751	+60.734	-40.743	-111.091	-138.356
C 1	-1.712	+15.788	+101.847	-1.712	+15.788	+156.473
C 1	-37.570	-102.751	+60.734	-40.743	-111.091	-138.356
C 1	-15.706	-45.721	+165.971	-1.712	+15.788	+156.473
C 1	+1.655	-15.568	-459.200	+1.655	-15.568	-513.070
Barra 130						
C 1	+40.743	-111.094	-138.361	+40.743	-111.094	-258.336
C 1	-40.743	-111.094	-138.361	-40.743	-111.094	-258.336
C 1	-1.712	+15.789	+156.475	-1.712	+15.789	+173.527
C 1	-40.743	-111.094	-138.361	-40.743	-111.094	-258.336
C 1	-1.712	+15.789	+156.475	-1.712	+15.789	+173.527
C 1	+1.655	-15.555	-513.078	-30.121	-82.297	-539.020

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 131						
C 1	+37.676	-100.490	+124.731	+33.804	+92.000	-389.676
C 1	-40.122	+1.814	+58.042	-40.122	+1.814	+60.000
C 1	+33.804	+92.000	-489.031	+33.804	+92.000	-389.676
C 1	-37.676	-100.490	+124.731	-29.505	-79.155	+27.727
C 1	-0.097	-5.158	+173.525	-0.097	-5.158	+167.953
C 1	-1.713	+16.031	-539.020	-1.713	+16.031	-521.717
Barra 132						
C 1	+33.804	+92.002	-389.670	+33.804	+92.002	-71.341
C 1	-40.122	+1.813	+60.000	-40.122	+1.813	+66.273
C 1	+33.804	+92.002	-389.670	+33.804	+92.002	-71.341
C 1	-29.505	-79.157	+27.723	-15.332	-37.258	+48.682
C 1	-0.097	-5.161	+167.955	-0.097	-5.161	+150.100
C 1	-1.713	+16.027	-521.717	-1.713	+16.027	-466.267
Barra 133						
C 1	+33.804	+92.000	-71.336	+33.804	+92.000	+62.984
C 1	-40.122	+1.814	+66.272	-40.122	+1.814	+68.920
C 1	+33.804	+92.000	-71.336	+33.804	+92.000	+62.984
C 1	-15.332	-37.258	+48.681	-11.990	-31.398	+55.876
C 1	-0.097	-5.160	+150.100	-0.097	-5.160	+142.566
C 1	-1.713	+16.023	-466.273	-1.713	+16.023	-442.867
Barra 134						
C 1	+33.804	+92.012	+62.984	+33.804	+92.012	+247.016
C 1	-40.122	+1.812	+68.921	-33.804	+92.012	+247.016
C 1	+33.804	+92.012	+62.984	+33.804	+92.012	+247.016
C 1	-11.990	-31.399	+55.875	-20.498	-53.614	-32.841
C 1	-0.097	-5.158	+142.568	+33.804	+92.012	+247.016
C 1	-1.713	+16.016	-442.871	-1.713	+16.016	-410.840
Barra 135						
C 1	+33.804	+92.063	+247.000	+33.804	+92.063	+339.094
C 1	-33.804	+92.063	+247.000	-33.804	+92.063	+339.094
C 1	+33.804	+92.063	+247.000	+33.804	+92.063	+339.094
C 1	-20.498	-53.620	-32.838	-23.894	-62.389	-9.584
C 1	+33.804	+92.063	+247.000	+33.804	+92.063	+339.094
C 1	-1.713	+15.938	-410.844	-1.713	+15.938	-394.844
Barra 136						
C 1	+33.804	+92.143	+339.081	+29.126	+78.514	+528.744
C 1	-33.804	+92.143	+339.081	-29.126	+78.514	+528.744
C 1	+33.804	+92.143	+339.081	+29.126	+78.514	+528.744
C 1	-23.894	-62.391	-9.585	-11.044	-26.717	+190.721
C 1	+33.804	+92.143	+339.081	-3.071	-4.134	+564.880
C 1	-1.713	+15.916	-394.863	-1.713	+15.916	-323.243

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 137						
C 1	+29.126	+78.515	+528.743	+24.448	+63.962	+642.092
C 1	-29.126	+78.515	+528.743	-24.448	+63.962	+642.092
C 1	+29.126	+78.515	+528.743	+24.448	+63.962	+642.092
C 1	-11.044	-26.717	+190.721	-12.336	-28.324	+469.660
C 1	-3.071	-4.133	+564.877	-7.748	-17.762	+693.207
C 1	-1.713	+15.915	-323.244	-1.713	+15.915	-251.626
Barra 138						
C 1	+24.448	+63.962	+642.091	+19.771	+49.230	+666.846
C 1	-24.448	+63.962	+642.091	-19.771	+49.230	+666.846
C 1	+24.448	+63.962	+642.091	+19.771	+49.230	+666.846
C 1	-12.336	-28.322	+469.660	-17.013	-41.953	+536.658
C 1	-7.748	-17.762	+693.203	-12.426	-32.315	+741.076
C 1	-1.713	+15.915	-251.627	-1.713	+15.915	-180.011
Barra 139						
C 1	+19.771	+49.233	+666.847	+21.691	-56.504	+568.488
C 1	-19.771	+49.233	+666.847	-21.691	-56.504	+568.488
C 1	+19.771	+49.233	+666.847	+16.003	+37.742	+622.660
C 1	-17.013	-41.953	+536.664	-21.691	-56.504	+568.488
C 1	-12.426	-32.314	+741.080	-0.083	-2.605	+725.125
C 1	-1.713	+15.914	-180.014	+1.576	-14.221	-215.463
Barra 140						
C 1	+21.691	-56.500	+568.492	+26.368	-71.234	+535.895
C 1	-21.691	-56.500	+568.492	-26.368	-71.234	+535.895
C 1	+16.003	+37.744	+622.656	+12.235	+27.006	+528.316
C 1	-21.691	-56.500	+568.492	-26.368	-71.234	+535.895
C 1	-0.083	-2.605	+725.128	-3.851	-14.094	+639.285
C 1	+1.576	-14.221	-215.465	+1.576	-14.221	-267.014
Barra 141						
C 1	+26.368	-71.232	+535.898	+30.136	-82.723	+408.407
C 1	-26.368	-71.232	+535.898	-30.136	-82.723	+408.407
C 1	+12.235	+27.007	+528.318	+8.549	+17.403	+396.080
C 1	-26.368	-71.232	+535.898	-30.136	-82.723	+408.407
C 1	-3.851	-14.093	+639.286	-7.619	-24.831	+506.029
C 1	+1.576	-14.221	-267.014	+1.576	-14.221	-318.564
Barra 142						
C 1	+30.136	-82.724	+408.402	+33.904	-93.459	+236.227
C 1	-30.136	-82.724	+408.402	-33.904	-93.459	+236.227
C 1	+8.549	+17.405	+396.081	-1.713	+15.913	+50.726
C 1	-30.136	-82.724	+408.402	-33.904	-93.459	+236.227
C 1	-7.619	-24.829	+506.025	-11.305	-34.434	+338.988
C 1	+1.576	-14.222	-318.563	+1.576	-14.222	-370.121

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 143						
C 1	+33.904	-93.461	+236.229	+37.590	-103.063	+51.383
C 1	-33.904	-93.461	+236.229	-37.590	-103.063	+51.383
C 1	-1.713	+15.912	+50.727	-1.713	+15.912	+105.782
C 1	-33.904	-93.461	+236.229	-37.590	-103.063	+51.383
C 1	-11.305	-34.433	+338.986	-15.728	-45.920	+159.998
C 1	+1.576	-14.222	-370.118	+1.576	-14.222	-419.330
Barra 144						
C 1	+37.590	-103.063	+51.384	+40.764	-111.290	-145.017
C 1	-37.590	-103.063	+51.384	-40.764	-111.290	-145.017
C 1	-1.713	+15.912	+105.783	-1.713	+15.912	+160.838
C 1	-37.590	-103.063	+51.384	-40.764	-111.290	-145.017
C 1	-15.728	-45.920	+159.997	-1.713	+15.912	+160.838
C 1	+1.576	-14.222	-419.325	-26.368	-71.230	-473.451
Barra 145						
C 1	+40.764	-111.289	-145.023	+40.764	-111.289	-265.215
C 1	-40.764	-111.289	-145.023	-40.764	-111.289	-265.215
C 1	-1.713	+15.912	+160.840	-1.713	+15.912	+178.027
C 1	-40.764	-111.289	-145.023	-40.764	-111.289	-265.215
C 1	-1.713	+15.912	+160.840	-1.713	+15.912	+178.027
C 1	-26.368	-71.219	-473.451	-30.136	-82.711	-553.254
Barra 146						
C 1	+37.259	-100.685	+120.623	+31.805	+92.414	-360.287
C 1	-39.249	+57.326	-52.311	-39.249	+57.326	+9.602
C 1	+31.805	+92.414	-460.082	+31.805	+92.414	-360.287
C 1	-37.259	-100.685	+120.623	-29.088	-79.350	+23.404
C 1	-0.113	-4.943	+178.025	-0.113	-4.943	+172.688
C 1	-1.990	+15.367	-553.254	-1.990	+15.367	-536.658
Barra 147						
C 1	+31.805	+92.402	-360.283	+31.805	+92.402	-40.572
C 1	-39.249	+57.325	+9.602	-37.749	+50.064	+29.623
C 1	+31.805	+92.402	-360.283	+31.805	+92.402	-40.572
C 1	-29.088	-79.342	+23.406	-15.536	-37.224	+49.232
C 1	-0.113	-4.951	+172.686	-0.113	-4.951	+155.557
C 1	-1.990	+15.386	-536.652	-1.990	+15.386	-483.421
Barra 148						
C 1	+31.805	+92.422	-40.578	+31.805	+92.422	+94.336
C 1	-37.749	+50.066	+29.625	-37.749	+50.066	+102.723
C 1	+31.805	+92.422	-40.578	+31.805	+92.422	+94.336
C 1	-15.536	-37.224	+49.231	-11.707	-31.459	+50.954
C 1	-0.113	-4.945	+155.555	-0.113	-4.945	+148.330
C 1	-1.990	+15.383	-483.414	-1.990	+15.383	-460.969

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 149						
C 1	+31.805	+92.387	+94.336	+31.805	+92.387	+279.117
C 1	-37.749	+50.059	+102.721	-37.749	+50.059	+202.840
C 1	+31.805	+92.387	+94.336	+31.805	+92.387	+279.117
C 1	-11.707	-31.457	+50.955	-20.215	-53.672	-37.878
C 1	-0.113	-4.951	+148.326	+31.805	+92.387	+279.117
C 1	-1.990	+15.391	-460.965	-1.990	+15.391	-430.176
Barra 150						
C 1	+31.805	+92.438	+279.094	+31.805	+92.438	+371.531
C 1	-37.749	+50.073	+202.843	-31.805	+92.438	+371.531
C 1	+31.805	+92.438	+279.094	+31.805	+92.438	+371.531
C 1	-20.215	-53.682	-37.873	-23.598	-62.397	-14.830
C 1	+31.805	+92.438	+279.094	+31.805	+92.438	+371.531
C 1	-1.990	+15.344	-430.172	-1.990	+15.344	-414.828
Barra 151						
C 1	+31.805	+92.434	+371.517	+27.729	+81.801	+528.096
C 1	-31.805	+92.434	+371.517	-27.729	+81.801	+528.096
C 1	+31.805	+92.434	+371.517	+27.729	+81.801	+528.096
C 1	-23.598	-62.389	-14.823	-20.242	-48.670	+245.258
C 1	+31.805	+92.434	+371.517	+10.060	+35.657	+576.869
C 1	-1.990	+15.360	-414.791	-1.990	+15.360	-362.949
Barra 152						
C 1	+27.729	+81.799	+528.097	+23.652	+70.033	+635.824
C 1	-27.729	+81.799	+528.097	-23.652	+70.033	+635.824
C 1	+10.060	+35.655	+576.870	+5.983	+25.022	+697.557
C 1	-20.242	-48.670	+245.258	-14.334	-28.036	+567.778
C 1	+10.060	+35.655	+576.870	+5.983	+25.022	+697.557
C 1	-1.990	+15.360	-362.949	-1.990	+15.360	-311.105
Barra 153						
C 1	+23.652	+70.034	+635.827	+19.576	+57.324	+680.086
C 1	-23.652	+70.034	+635.827	-19.576	+57.324	+680.086
C 1	+23.652	+70.034	+635.827	+19.576	+57.324	+680.086
C 1	-14.334	-28.039	+567.777	-18.410	-38.671	+652.581
C 1	+5.983	+25.020	+697.562	+1.907	+13.257	+765.576
C 1	-1.990	+15.363	-311.105	-1.990	+15.363	-259.256
Barra 154						
C 1	+19.576	+57.323	+680.089	+22.487	-50.435	+680.894
C 1	-19.576	+57.323	+680.089	-22.487	-50.435	+680.894
C 1	+19.576	+57.323	+680.089	+15.499	+43.855	+648.781
C 1	-18.410	-38.672	+652.582	-22.487	-50.435	+680.894
C 1	+1.907	+13.256	+765.581	-2.170	+0.546	+766.936
C 1	-1.990	+15.363	-259.256	-1.990	+15.363	-207.408

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 155						
C 1	+22.487	-50.434	+680.887	+26.563	-63.146	+639.351
C 1	-22.487	-50.434	+680.887	-26.563	-63.146	+639.351
C 1	+15.499	+43.856	+648.779	+11.423	+29.817	+532.344
C 1	-22.487	-50.434	+680.887	-26.563	-63.146	+639.351
C 1	-2.170	+0.545	+766.940	-6.246	-12.921	+690.178
C 1	-1.990	+15.363	-207.406	-1.990	+15.363	-155.557
Barra 156						
C 1	+26.563	-63.146	+639.350	+30.640	-76.611	+517.138
C 1	-26.563	-63.146	+639.350	-30.640	-76.611	+517.138
C 1	+11.423	+29.817	+532.345	+7.346	+15.396	+323.745
C 1	-26.563	-63.146	+639.350	-30.640	-76.611	+517.138
C 1	-6.246	-12.920	+690.175	-10.323	-26.960	+526.367
C 1	-1.990	+15.363	-155.555	-1.990	+15.363	-103.704
Barra 157						
C 1	+30.640	-76.612	+517.139	+34.716	-90.650	+305.948
C 1	-30.640	-76.612	+517.139	-34.716	-90.650	+305.948
C 1	+7.346	+15.396	+323.743	-1.990	+15.364	-51.853
C 1	-30.640	-76.612	+517.139	-34.716	-90.650	+305.948
C 1	-10.323	-26.958	+526.364	-34.716	-90.650	+305.948
C 1	-1.990	+15.364	-103.705	-1.990	+15.364	-51.853
Barra 158						
C 1	+34.716	-90.651	+305.948	+38.793	-105.073	+0.000
C 1	-34.716	-90.651	+305.948	-38.793	-105.073	+0.000
C 1	-1.990	+15.363	-51.852	-1.990	+15.363	+0.000
C 1	-34.716	-90.651	+305.948	-18.410	-38.671	+0.001
C 1	-1.990	+15.363	-51.852	-30.640	-76.614	-0.001

Hipótesis de carga consideradas

Combinación: C 1 =

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	
53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	
70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	
87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	
104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	
138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	
155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	
172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	
189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	
206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	
223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	
240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	
257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	
274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	
291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	
308	309	310	311	312	313	314	315	316								

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	1	+0.001	+72.875	+29.586
C 1	1	-0.000	+29.668	+15.121
C 1	1	+0.000	+106.559	+39.229
C 1	1	+0.000	-15.296	+1.921
C 1	1	+0.000	+106.559	+39.229
C 1	1	+0.000	+106.559	-39.229
C 1	11	+0.016	+113.664	+33.749
C 1	11	-0.004	+94.555	+27.229
C 1	11	+0.004	+118.549	+37.611
C 1	11	-0.001	-64.036	-20.780
C 1	11	+0.004	+118.549	+37.611
C 1	11	+0.004	+118.549	-37.611
C 1	26	+0.008	+69.672	+20.435
C 1	26	-0.008	+49.188	+15.108
C 1	26	+0.002	+118.496	+38.425
C 1	26	+0.001	-64.072	-20.967
C 1	26	+0.002	+118.496	+38.425
C 1	26	+0.002	+118.496	-38.425
C 1	41	+0.012	+53.184	+16.038
C 1	41	-0.008	+86.438	+24.857
C 1	41	+0.000	+118.621	+38.427
C 1	41	+0.000	-64.022	-20.968
C 1	41	+0.000	+118.621	+38.427
C 1	41	+0.000	+118.621	-38.427
C 1	56	+0.012	+106.852	+31.889
C 1	56	-0.012	+86.438	+24.857
C 1	56	-0.002	+118.605	+38.427
C 1	56	-0.006	-64.021	-20.968
C 1	56	-0.002	+118.605	+38.427
C 1	56	-0.002	+118.605	-38.427

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	71	+0.016	+106.863	+31.889
C 1	71	-0.008	+55.973	+17.228
C 1	71	+0.004	+118.609	+38.427
C 1	71	-0.002	-64.029	-20.968
C 1	71	+0.004	+118.609	+38.427
C 1	71	+0.004	+118.609	-38.427
C 1	86	+0.008	+36.520	+11.628
C 1	86	-0.016	+79.398	+23.070
C 1	86	+0.004	+118.641	+38.427
C 1	86	+0.001	-64.015	-20.968
C 1	86	+0.004	+118.641	+38.427
C 1	86	+0.004	+118.641	-38.427
C 1	101	+0.008	+79.305	+23.070
C 1	101	-0.012	+114.668	+35.435
C 1	101	+0.000	+118.676	+38.427
C 1	101	-0.000	-63.991	-20.968
C 1	101	+0.000	+118.676	+38.427
C 1	101	+0.000	+118.676	-38.427
C 1	116	+0.012	+70.273	+20.447
C 1	116	-0.012	+79.406	+23.070
C 1	116	+0.002	+118.613	+38.427
C 1	116	+0.001	-64.022	-20.968
C 1	116	+0.002	+118.613	+38.427
C 1	116	+0.002	+118.613	-38.427
C 1	131	+0.008	+36.672	+11.628
C 1	131	-0.012	+70.578	+20.447
C 1	131	+0.000	+118.770	+38.426
C 1	131	+0.001	-63.932	-20.966
C 1	131	+0.000	+118.770	+38.426
C 1	131	+0.000	+118.770	-38.426
C 1	146	+0.008	+107.680	+31.665
C 1	146	-0.016	+105.930	+29.998
C 1	146	+0.000	+118.660	+38.072
C 1	146	-0.002	-64.007	-20.573
C 1	146	+0.000	+118.660	+38.072
C 1	146	+0.000	+118.660	-38.072
C 1	159	+0.001	+38.671	+18.410
C 1	159	-0.001	+76.614	+30.640
C 1	159	+0.000	+105.073	+38.793
C 1	159	+0.000	-15.363	+1.990
C 1	159	+0.000	+105.073	+38.793
C 1	159	+0.000	+105.073	-38.793

Hipótesis de carga consideradas SC 96.80 kN/m por vía

Combinación: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+501.684	+125.512	-0.001	+393.004	+85.992	+423.006
C 1	-399.523	+125.512	-0.001	-312.974	+85.992	+423.006
C 1	+93.917	+328.495	-0.001	+71.786	+249.454	+1155.895
C 1	+8.244	-77.471	-0.000	+8.244	-77.471	-309.884
C 1	+52.215	+172.999	+0.000	+71.786	+249.454	+1155.895
C 1	+34.211	+74.303	-0.002	+8.244	-77.471	-309.884
Barra 2						
C 1	+393.004	+85.991	+423.007	+284.324	+46.471	+687.932
C 1	-312.975	+85.991	+423.007	-226.426	+46.471	+687.932
C 1	+71.786	+249.453	+1155.898	+49.655	+170.413	+1995.628
C 1	+8.244	-77.471	-309.885	+8.244	-77.471	-619.765
C 1	+71.786	+249.453	+1155.898	+49.655	+170.413	+1995.628
C 1	+8.244	-77.471	-309.885	+8.244	-77.471	-619.765
Barra 3						
C 1	+284.324	+46.470	+687.927	+306.203	+6.950	+794.771
C 1	-226.426	+46.470	+687.927	-270.435	+6.950	+794.771
C 1	+49.655	+170.410	+1995.619	+42.324	+142.168	+1706.043
C 1	+8.244	-77.470	-619.766	-6.556	-128.268	-116.503
C 1	+49.655	+170.410	+1995.619	+27.524	+91.370	+2519.187
C 1	+8.244	-77.470	-619.766	+8.244	-77.470	-929.644
Barra 4						
C 1	+306.203	+6.948	+794.772	+197.523	-32.572	+743.527
C 1	-270.435	+6.948	+794.772	-183.886	-32.572	+743.527
C 1	+42.324	+142.162	+1706.044	+20.193	+63.122	+2116.619
C 1	-6.556	-128.266	-116.499	-6.556	-128.266	-629.566
C 1	+27.524	+91.363	+2519.189	+5.393	+12.323	+2726.560
C 1	+8.244	-77.466	-929.644	+8.244	-77.466	-1239.507
Barra 5						
C 1	+197.523	-32.569	+743.526	+207.793	-72.089	+534.209
C 1	-183.886	-32.569	+743.526	-216.287	-72.089	+534.209
C 1	+20.193	+63.128	+2116.624	+11.546	+49.100	+982.017
C 1	-6.556	-128.266	-629.573	-20.040	-193.279	+86.402
C 1	+5.393	+12.328	+2726.569	-16.739	-66.712	+2617.805
C 1	+8.244	-77.467	-1239.519	+8.244	-77.467	-1549.386
Barra 6						
C 1	+207.793	-72.089	+534.210	+294.341	-111.609	+166.813
C 1	-216.287	-72.089	+534.210	-324.967	-111.609	+166.813
C 1	+11.546	+49.102	+982.017	+11.546	+49.102	+1178.423
C 1	-20.040	-193.280	+86.404	-42.172	-272.320	-844.796
C 1	-16.739	-66.707	+2617.800	-38.870	-145.747	+2192.896
C 1	+8.244	-77.471	-1549.378	+8.244	-77.471	-1859.270

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 7						
C 1	+294.341	-111.608	+166.812	+283.174	-151.128	-358.661
C 1	-324.967	-111.608	+166.812	-335.931	-151.128	-358.661
C 1	+11.546	+49.104	+1178.425	+0.469	+24.943	+698.359
C 1	-42.172	-272.321	-844.800	-53.226	-327.200	-1415.681
C 1	-38.870	-145.741	+2192.897	-61.001	-224.781	+1451.850
C 1	+8.244	-77.476	-1859.273	+8.244	-77.476	-2169.173
Barra 8						
C 1	+283.174	-151.128	-358.660	+358.039	-185.313	-940.707
C 1	-335.931	-151.128	-358.660	-429.939	-185.313	-940.707
C 1	+0.469	+24.943	+698.360	+0.469	+24.943	+784.663
C 1	-53.226	-327.200	-1415.680	-72.369	-395.569	-2666.077
C 1	-61.001	-224.782	+1451.862	-29.729	-98.305	+994.913
C 1	+8.244	-77.475	-2169.183	-42.172	-272.322	-2876.326
Barra 9						
C 1	+358.039	-185.315	-940.702	+432.903	-219.499	-1641.030
C 1	-429.939	-185.315	-940.702	-523.948	-219.499	-1641.030
C 1	+0.469	+24.944	+784.661	+0.469	+24.944	+870.962
C 1	-72.369	-395.573	-2666.064	-91.513	-463.943	-4153.020
C 1	-29.729	-98.303	+994.908	+0.469	+24.944	+870.962
C 1	-42.172	-272.326	-2876.311	-91.513	-463.943	-4153.020
Barra 10						
C 1	+432.904	-219.472	-1641.022	+456.272	-230.143	-1883.841
C 1	-523.948	-219.472	-1641.022	-553.291	-230.143	-1883.841
C 1	+0.469	+24.949	+870.961	+0.469	+24.949	+897.906
C 1	-91.513	-463.894	-4153.004	-97.488	-485.234	-4665.589
C 1	+0.469	+24.949	+870.961	+0.469	+24.949	+897.906
C 1	-91.513	-463.894	-4153.004	-97.488	-485.234	-4665.589
Barra 11						
C 1	+672.624	+223.379	-1883.839	+643.280	+212.708	-1648.362
C 1	-546.448	+223.379	-1883.839	-523.080	+212.708	-1648.362
C 1	+119.067	+526.939	-4665.575	+113.092	+505.598	-4108.021
C 1	+7.109	-80.182	+897.897	+7.109	-80.182	+811.297
C 1	+7.109	-80.182	+897.897	+7.109	-80.182	+811.297
C 1	+119.067	+526.939	-4665.575	+113.092	+505.598	-4108.021
Barra 12						
C 1	+643.280	+212.711	-1648.358	+549.272	+178.526	-971.516
C 1	-523.080	+212.711	-1648.358	-448.215	+178.526	-971.516
C 1	+113.092	+505.600	-4108.003	+93.948	+437.230	-2476.903
C 1	+7.109	-80.177	+811.287	+7.109	-80.177	+533.871
C 1	+7.109	-80.177	+811.287	+26.081	-5.156	+724.454
C 1	+113.092	+505.600	-4108.003	+74.976	+362.209	-2667.487

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 13						
C 1	+549.272	+178.536	-971.500	+509.604	+164.111	-721.425
C 1	-448.215	+178.536	-971.500	-416.625	+164.111	-721.425
C 1	+93.948	+437.254	-2476.863	+85.871	+408.405	-1859.653
C 1	+7.109	-80.182	+533.863	+7.109	-80.182	+416.802
C 1	+26.081	-5.164	+724.447	+18.003	-34.013	+695.855
C 1	+74.976	+362.236	-2667.447	+74.976	+362.236	-2138.706
Barra 14						
C 1	+509.604	+164.095	-721.404	+456.773	+144.335	-412.981
C 1	-416.625	+164.095	-721.404	-374.860	+144.335	-412.981
C 1	+85.870	+408.370	-1859.612	+74.805	+368.850	-1082.406
C 1	+7.109	-80.179	+416.804	+7.109	-80.179	+256.445
C 1	+18.003	-34.009	+695.866	+55.726	+107.783	+872.245
C 1	+74.976	+362.200	-2138.673	+26.188	+180.887	-1698.207
Barra 15						
C 1	+456.774	+144.333	-412.922	+478.411	+134.452	-273.545
C 1	-374.860	+144.333	-412.922	-402.030	+134.453	-273.545
C 1	+74.805	+368.979	-1082.341	+74.976	+362.255	-1051.934
C 1	+7.109	-80.314	+256.498	+1.405	-93.350	+504.844
C 1	+55.726	+107.785	+872.351	+50.193	+88.025	+970.219
C 1	+26.188	+180.880	-1698.194	+26.188	+180.880	-1517.309
Barra 16						
C 1	+478.411	+134.492	-273.544	+356.146	+90.032	+231.634
C 1	-402.030	+134.492	-273.544	-304.663	+90.032	+231.634
C 1	+74.976	+362.360	-1051.946	+50.078	+273.440	+378.605
C 1	+1.405	-93.377	+504.858	+1.405	-93.377	+84.663
C 1	+50.193	+88.109	+970.228	+50.384	+205.305	+1780.001
C 1	+26.188	+180.875	-1517.316	+1.099	-25.242	-1316.734
Barra 17						
C 1	+356.146	+90.033	+231.637	+242.763	+45.573	+536.750
C 1	-304.663	+90.033	+231.637	-216.177	+45.573	+536.750
C 1	+50.078	+273.444	+378.610	+25.181	+184.524	+1409.026
C 1	+1.405	-93.377	+84.665	+1.405	-93.377	-335.525
C 1	+50.384	+205.310	+1780.000	+25.486	+116.390	+2503.817
C 1	+1.099	-25.243	-1316.726	+1.099	-25.243	-1430.316
Barra 18						
C 1	+242.763	+45.571	+536.749	+340.130	+1.111	+641.788
C 1	-216.177	+45.571	+536.749	-338.442	+1.111	+641.788
C 1	+25.181	+184.515	+1409.028	+26.188	+180.872	+924.493
C 1	+1.405	-93.374	-335.531	-24.500	-178.650	+359.082
C 1	+25.486	+116.377	+2503.824	+0.589	+27.457	+2827.460
C 1	+1.099	-25.235	-1430.325	+1.099	-25.235	-1543.885

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 19						
C 1	+340.130	+1.113	+641.786	+241.639	-34.702	+580.899
C 1	-338.442	+1.113	+641.786	-260.007	-34.702	+580.899
C 1	+26.188	+180.875	+924.484	+6.131	+109.245	+1450.330
C 1	-24.500	-178.649	+359.087	-24.500	-178.649	-288.533
C 1	+0.589	+27.455	+2827.456	-19.468	-44.175	+2797.136
C 1	+1.099	-25.229	-1543.885	+1.099	-25.229	-1635.338
Barra 20						
C 1	+241.639	-34.706	+580.900	+296.037	-70.521	+390.183
C 1	-260.008	-34.706	+580.900	-334.462	-70.521	+390.183
C 1	+6.131	+109.244	+1450.323	+3.406	+104.062	+678.950
C 1	-24.500	-178.655	-288.523	-41.831	-245.103	+101.416
C 1	-19.468	-44.176	+2797.147	-39.524	-115.806	+2507.187
C 1	+1.099	-25.236	-1635.347	+1.099	-25.236	-1726.821
Barra 21						
C 1	+296.037	-70.516	+390.179	+374.472	-106.331	+69.635
C 1	-334.462	-70.516	+390.179	-432.954	-106.331	+69.635
C 1	+3.406	+104.064	+678.939	+3.406	+104.064	+1056.165
C 1	-41.831	-245.096	+101.419	-61.888	-316.726	-916.894
C 1	-39.524	-115.803	+2507.178	-59.581	-187.433	+1957.550
C 1	+1.099	-25.229	-1726.820	+1.099	-25.229	-1818.280
Barra 22						
C 1	+374.472	-106.335	+69.632	+373.411	-142.150	-380.740
C 1	-432.954	-106.335	+69.632	-451.949	-142.150	-380.740
C 1	+3.406	+104.061	+1056.163	-5.605	+80.933	+829.877
C 1	-61.888	-316.731	-916.898	-72.932	-365.233	-1591.357
C 1	-59.581	-187.431	+1957.547	-54.038	-105.645	+1469.873
C 1	+1.099	-25.239	-1818.282	-24.500	-178.655	-2231.354
Barra 23						
C 1	+373.411	-142.145	-380.745	+448.276	-176.330	-931.710
C 1	-451.949	-142.145	-380.745	-545.957	-176.330	-931.710
C 1	-5.605	+80.933	+829.874	-5.605	+80.933	+1109.904
C 1	-72.932	-365.223	-1591.364	-92.076	-433.593	-2973.324
C 1	-54.038	-105.644	+1469.863	-35.793	-35.937	+1297.491
C 1	-24.500	-178.646	-2231.354	-61.888	-316.722	-3160.912
Barra 24						
C 1	+448.276	-176.331	-931.712	+523.141	-210.516	-1600.967
C 1	-545.957	-176.331	-931.712	-639.965	-210.516	-1600.967
C 1	-5.605	+80.933	+1109.906	-5.605	+80.933	+1389.933
C 1	-92.076	-433.595	-2973.330	-111.219	-501.965	-4591.866
C 1	-35.793	-35.937	+1297.501	-5.605	+80.933	+1389.933
C 1	-61.888	-316.726	-3160.924	-111.219	-501.965	-4591.866

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 25						
C 1	+523.141	-210.537	-1600.957	+546.509	-221.208	-1834.099
C 1	-639.965	-210.537	-1600.957	-669.309	-221.208	-1834.099
C 1	-5.605	+80.936	+1389.938	-5.605	+80.936	+1477.335
C 1	-111.219	-502.011	-4591.852	-117.195	-523.352	-5145.533
C 1	-5.605	+80.936	+1389.938	-5.605	+80.936	+1477.335
C 1	-111.219	-502.011	-4591.852	-117.195	-523.352	-5145.533
Barra 26						
C 1	+677.753	+221.936	-1834.094	+648.409	+211.265	-1600.147
C 1	-553.043	+221.936	-1834.094	-529.674	+211.265	-1600.147
C 1	+117.947	+541.175	-5145.520	+111.972	+519.834	-4572.544
C 1	+6.764	-97.303	+1477.331	+6.764	-97.303	+1372.250
C 1	+6.763	-97.303	+1477.331	+6.763	-97.303	+1372.250
C 1	+117.947	+541.175	-5145.520	+111.972	+519.834	-4572.544
Barra 27						
C 1	+648.410	+211.276	-1600.149	+554.401	+177.091	-928.271
C 1	-529.674	+211.276	-1600.149	-454.809	+177.091	-928.271
C 1	+111.972	+519.846	-4572.552	+92.828	+451.476	-2892.160
C 1	+6.764	-97.294	+1372.255	+6.764	-97.294	+1035.619
C 1	+6.764	-97.294	+1372.255	+25.713	-22.515	+1234.519
C 1	+111.972	+519.846	-4572.552	+73.879	+376.697	-3091.061
Barra 28						
C 1	+554.401	+177.098	-928.267	+514.733	+162.674	-680.250
C 1	-454.809	+177.098	-928.267	-423.219	+162.674	-680.250
C 1	+92.829	+451.486	-2892.131	+84.751	+422.636	-2254.063
C 1	+6.764	-97.289	+1035.597	+6.764	-97.289	+893.564
C 1	+25.713	-22.513	+1234.501	+17.635	-51.362	+1180.594
C 1	+73.879	+376.710	-3091.035	+73.879	+376.710	-2541.092
Barra 29						
C 1	+514.733	+162.665	-680.245	+462.103	+142.905	-374.670
C 1	-423.219	+162.665	-680.245	-381.655	+142.905	-374.670
C 1	+84.751	+422.626	-2254.043	+73.685	+383.106	-1448.306
C 1	+6.764	-97.295	+893.554	+6.764	-97.295	+698.966
C 1	+17.635	-51.368	+1180.589	+55.333	+89.659	+1346.977
C 1	+73.879	+376.698	-2541.078	+25.116	+196.151	-2096.318
Barra 30						
C 1	+462.103	+142.887	-374.707	+483.740	+133.007	-236.711
C 1	-381.655	+142.887	-374.707	-408.825	+133.007	-236.711
C 1	+73.685	+383.051	-1448.387	+73.879	+376.640	-1410.976
C 1	+6.764	-97.277	+698.972	+1.037	-110.625	+937.553
C 1	+55.333	+89.510	+1347.044	+49.800	+69.750	+1426.678
C 1	+25.115	+196.265	-2096.458	+25.115	+196.265	-1900.101

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 31						
C 1	+483.740	+133.023	-236.711	+361.475	+88.563	+261.863
C 1	-408.825	+133.023	-236.711	-311.457	+88.563	+261.863
C 1	+73.879	+376.689	-1411.002	+48.981	+287.769	+84.037
C 1	+1.037	-110.643	+937.581	+1.037	-110.643	+439.689
C 1	+49.800	+69.890	+1426.744	+49.978	+185.283	+2190.691
C 1	+25.116	+196.156	-1900.165	+0.040	-8.157	-1666.964
Barra 32						
C 1	+361.475	+88.564	+261.865	+248.314	+44.104	+560.363
C 1	-311.457	+88.564	+261.865	-223.194	+44.104	+560.363
C 1	+48.981	+287.769	+84.041	+24.084	+198.849	+1178.923
C 1	+1.037	-110.641	+439.689	+1.037	-110.641	-58.197
C 1	+49.978	+185.282	+2190.692	+25.080	+96.362	+2824.377
C 1	+0.040	-8.153	-1666.962	+0.040	-8.153	-1703.651
Barra 33						
C 1	+248.314	+44.105	+560.366	+345.682	-0.355	+658.802
C 1	-223.194	+44.105	+560.366	-345.459	-0.355	+658.802
C 1	+24.083	+198.853	+1178.934	+25.116	+196.160	+747.965
C 1	+1.037	-110.642	-58.203	-24.893	-196.870	+569.639
C 1	+25.080	+96.362	+2824.396	+0.182	+7.442	+3057.952
C 1	+0.040	-8.152	-1703.666	+0.040	-8.152	-1740.349
Barra 34						
C 1	+345.682	-0.359	+658.799	+247.190	-36.174	+592.589
C 1	-345.459	-0.359	+658.799	-267.024	-36.174	+592.589
C 1	+25.116	+196.152	+747.963	+5.059	+124.522	+1329.197
C 1	-24.893	-196.870	+569.636	-24.893	-196.870	-144.020
C 1	+0.182	+7.435	+3057.940	-19.874	-64.195	+2955.049
C 1	+0.040	-8.153	-1740.341	+0.040	-8.153	-1769.873
Barra 35						
C 1	+247.190	-36.173	+592.593	+301.693	-71.988	+396.545
C 1	-267.024	-36.173	+592.593	-341.583	-71.988	+396.545
C 1	+5.059	+124.525	+1329.200	+2.346	+119.940	+610.755
C 1	-24.893	-196.870	-144.015	-42.236	-263.915	+182.334
C 1	-19.874	-64.206	+2955.068	-39.930	-135.836	+2592.476
C 1	+0.040	-8.139	-1769.884	+0.040	-8.139	-1799.387
Barra 36						
C 1	+301.693	-71.985	+396.548	+380.127	-107.800	+70.674
C 1	-341.583	-71.985	+396.548	-440.074	-107.800	+70.674
C 1	+2.346	+119.941	+610.750	+2.346	+119.941	+1045.542
C 1	-42.236	-263.912	+182.347	-62.293	-335.542	-904.195
C 1	-39.930	-135.834	+2592.489	-59.987	-207.464	+1970.246
C 1	+0.040	-8.137	-1799.391	+0.040	-8.137	-1828.899

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 37						
C 1	+380.127	-107.805	+70.674	+379.107	-143.619	-385.022
C 1	-440.074	-107.804	+70.674	-459.110	-143.619	-385.022
C 1	+2.346	+119.940	+1045.538	-6.661	+97.022	+877.491
C 1	-62.293	-335.549	-904.191	-73.342	-384.261	-1647.536
C 1	-59.987	-207.471	+1970.244	-55.110	-90.369	+1514.939
C 1	+0.040	-8.138	-1828.896	-24.893	-196.870	-2284.984
Barra 38						
C 1	+379.107	-143.618	-385.026	+453.972	-177.803	-941.085
C 1	-459.110	-143.618	-385.026	-553.118	-177.803	-941.085
C 1	-6.661	+97.021	+877.495	-6.661	+97.021	+1213.187
C 1	-73.342	-384.258	-1647.546	-92.485	-452.627	-3095.357
C 1	-55.110	-90.362	+1514.940	-36.854	-20.058	+1399.379
C 1	-24.893	-196.874	-2284.991	-62.293	-335.548	-3281.551
Barra 39						
C 1	+453.972	-177.802	-941.080	+528.836	-211.987	-1615.424
C 1	-553.118	-177.802	-941.080	-647.127	-211.987	-1615.424
C 1	-6.661	+97.021	+1213.189	-6.661	+97.021	+1548.880
C 1	-92.486	-452.624	-3095.348	-111.629	-520.994	-4779.729
C 1	-36.854	-20.058	+1399.386	-6.661	+97.021	+1548.880
C 1	-62.293	-335.545	-3281.545	-111.629	-520.994	-4779.729
Barra 40						
C 1	+528.837	-212.008	-1615.416	+552.205	-222.679	-1850.136
C 1	-647.127	-212.008	-1615.416	-676.470	-222.679	-1850.136
C 1	-6.661	+97.025	+1548.882	-6.661	+97.025	+1653.667
C 1	-111.629	-521.042	-4779.714	-117.604	-542.383	-5353.938
C 1	-6.661	+97.025	+1548.882	-6.661	+97.025	+1653.667
C 1	-111.629	-521.042	-4779.714	-117.604	-542.383	-5353.938
Barra 41						
C 1	+678.078	+222.423	-1850.145	+648.734	+211.753	-1615.696
C 1	-553.450	+222.423	-1850.145	-530.082	+211.753	-1615.696
C 1	+117.924	+547.291	-5353.946	+111.949	+525.950	-4774.419
C 1	+6.704	-102.445	+1653.658	+6.704	-102.445	+1543.027
C 1	+6.703	-102.445	+1653.658	+6.703	-102.445	+1543.027
C 1	+117.924	+547.291	-5353.946	+111.949	+525.950	-4774.419
Barra 42						
C 1	+648.734	+211.734	-1615.700	+554.725	+177.549	-942.243
C 1	-530.082	+211.734	-1615.700	-455.217	+177.549	-942.243
C 1	+111.949	+525.920	-4774.426	+92.805	+457.550	-3073.024
C 1	+6.704	-102.452	+1543.024	+6.704	-102.452	+1188.537
C 1	+6.704	-102.452	+1543.024	+25.653	-27.716	+1388.306
C 1	+111.949	+525.920	-4774.426	+73.856	+382.814	-3272.793

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 43						
C 1	+554.725	+177.563	-942.218	+515.057	+163.139	-693.562
C 1	-455.217	+177.563	-942.218	-423.626	+163.139	-693.562
C 1	+92.805	+457.567	-3072.981	+84.727	+428.717	-2426.070
C 1	+6.704	-102.440	+1188.546	+6.704	-102.440	+1038.947
C 1	+25.653	-27.703	+1388.317	+17.575	-56.552	+1326.781
C 1	+73.856	+382.829	-3272.752	+73.856	+382.829	-2713.904
Barra 44						
C 1	+515.057	+163.134	-693.550	+462.427	+143.374	-387.034
C 1	-423.626	+163.134	-693.550	-382.062	+143.374	-387.034
C 1	+84.727	+428.726	-2426.055	+73.662	+389.206	-1608.112
C 1	+6.704	-102.458	+1038.955	+6.704	-102.458	+834.044
C 1	+17.575	-56.569	+1326.790	+55.273	+84.333	+1485.149
C 1	+73.856	+382.837	-2713.890	+25.092	+202.415	-2259.217
Barra 45						
C 1	+462.428	+143.361	-387.015	+484.065	+133.481	-248.616
C 1	-382.062	+143.361	-387.015	-409.232	+133.481	-248.616
C 1	+73.662	+389.289	-1608.125	+73.856	+382.909	-1565.354
C 1	+6.704	-102.567	+834.095	+0.977	-115.947	+1068.121
C 1	+55.273	+84.438	+1485.120	+49.740	+64.678	+1559.621
C 1	+25.092	+202.284	-2259.150	+25.092	+202.284	-2056.853
Barra 46						
C 1	+484.065	+133.496	-248.619	+361.800	+89.036	+252.081
C 1	-409.232	+133.496	-248.619	-311.865	+89.036	+252.081
C 1	+73.855	+382.839	-1565.413	+48.958	+293.919	-42.706
C 1	+0.977	-115.847	+1068.175	+0.977	-115.847	+546.868
C 1	+49.740	+64.596	+1559.560	+49.917	+179.789	+2302.951
C 1	+25.092	+202.397	-2056.798	+0.017	-1.717	-1798.789
Barra 47						
C 1	+361.800	+89.035	+252.082	+248.639	+44.575	+552.710
C 1	-311.865	+89.035	+252.082	-223.602	+44.575	+552.710
C 1	+48.958	+293.917	-42.702	+24.060	+204.997	+1079.857
C 1	+0.977	-115.846	+546.866	+0.977	-115.846	+25.562
C 1	+49.917	+179.785	+2302.955	+25.020	+90.865	+2911.917
C 1	+0.017	-1.714	-1798.791	+0.017	-1.714	-1806.498
Barra 48						
C 1	+248.640	+44.578	+552.706	+346.007	+0.118	+653.269
C 1	-223.602	+44.578	+552.706	-345.867	+0.118	+653.269
C 1	+24.060	+205.003	+1079.856	+25.092	+202.398	+675.562
C 1	+0.977	-115.847	+25.557	-24.953	-202.162	+630.976
C 1	+25.020	+90.871	+2911.918	+0.122	+1.951	+3120.763
C 1	+0.017	-1.715	-1806.506	+0.017	-1.715	-1814.225

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 49						
C 1	+346.007	+0.113	+653.276	+247.516	-35.702	+588.768
C 1	-345.867	+0.113	+653.276	-267.433	-35.702	+588.768
C 1	+25.092	+202.397	+675.568	+5.036	+130.767	+1279.417
C 1	-24.953	-202.170	+630.984	-24.953	-202.170	-101.880
C 1	+0.122	+1.929	+3120.781	-19.934	-69.701	+2997.936
C 1	+0.017	-1.703	-1814.230	+0.017	-1.703	-1820.400
Barra 50						
C 1	+247.515	-35.701	+588.767	+302.018	-71.516	+394.442
C 1	-267.433	-35.701	+588.767	-341.992	-71.516	+394.442
C 1	+5.036	+130.766	+1279.413	+2.323	+126.237	+583.383
C 1	-24.953	-202.167	-101.879	-42.296	-269.268	+205.501
C 1	-19.934	-69.684	+2997.926	-39.991	-141.314	+2615.498
C 1	+0.017	-1.717	-1820.392	+0.017	-1.717	-1826.614
Barra 51						
C 1	+302.018	-71.509	+394.443	+380.453	-107.324	+70.295
C 1	-341.991	-71.509	+394.443	-440.483	-107.324	+70.295
C 1	+2.323	+126.239	+583.378	+2.323	+126.239	+1040.988
C 1	-42.296	-269.256	+205.508	-62.353	-340.886	-900.398
C 1	-39.990	-141.293	+2615.495	-60.047	-212.923	+1973.446
C 1	+0.017	-1.724	-1826.609	+0.017	-1.724	-1832.856
Barra 52						
C 1	+380.453	-107.327	+70.296	+379.433	-143.142	-383.679
C 1	-440.483	-107.327	+70.296	-459.519	-143.142	-383.679
C 1	+2.323	+126.238	+1040.987	-6.684	+103.334	+895.792
C 1	-62.353	-340.892	-900.395	-73.402	-389.618	-1663.150
C 1	-60.047	-212.929	+1973.449	-55.133	-84.117	+1533.082
C 1	+0.017	-1.725	-1832.858	-24.953	-202.167	-2300.439
Barra 53						
C 1	+379.433	-143.143	-383.678	+454.298	-177.328	-938.093
C 1	-459.519	-143.143	-383.678	-553.528	-177.328	-938.093
C 1	-6.684	+103.333	+895.793	-6.684	+103.333	+1253.323
C 1	-73.402	-389.620	-1663.149	-92.546	-457.989	-3129.510
C 1	-55.133	-84.120	+1533.085	-36.877	-13.763	+1439.426
C 1	-24.953	-202.167	-2300.441	-62.353	-340.893	-3315.613
Barra 54						
C 1	+454.298	-177.329	-938.088	+529.162	-211.514	-1610.788
C 1	-553.527	-177.329	-938.088	-647.536	-211.514	-1610.788
C 1	-6.684	+103.333	+1253.324	-6.684	+103.333	+1610.853
C 1	-92.546	-457.990	-3129.501	-111.689	-526.360	-4832.431
C 1	-36.877	-13.765	+1439.432	-6.684	+103.333	+1610.853
C 1	-62.353	-340.893	-3315.609	-111.689	-526.360	-4832.431

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 55						
C 1	+529.163	-211.505	-1610.790	+552.531	-222.176	-1844.977
C 1	-647.536	-211.505	-1610.790	-676.879	-222.176	-1844.977
C 1	-6.684	+103.341	+1610.848	-6.684	+103.341	+1722.463
C 1	-111.689	-526.351	-4832.430	-117.664	-547.692	-5412.417
C 1	-6.684	+103.341	+1610.848	-6.684	+103.341	+1722.463
C 1	-111.689	-526.351	-4832.430	-117.664	-547.692	-5412.417
Barra 56						
C 1	+678.096	+222.253	-1844.967	+648.753	+211.582	-1610.703
C 1	-553.473	+222.253	-1844.967	-530.105	+211.582	-1610.703
C 1	+117.921	+548.936	-5412.387	+111.946	+527.596	-4831.071
C 1	+6.702	-104.431	+1722.452	+6.702	-104.431	+1609.665
C 1	+6.702	-104.431	+1722.452	+6.702	-104.431	+1609.665
C 1	+117.921	+548.936	-5412.387	+111.946	+527.596	-4831.071
Barra 57						
C 1	+648.752	+211.588	-1610.693	+554.744	+177.403	-937.739
C 1	-530.105	+211.588	-1610.693	-455.240	+177.403	-937.739
C 1	+111.945	+527.612	-4831.050	+92.802	+459.242	-3123.785
C 1	+6.702	-104.436	+1609.663	+6.702	-104.436	+1248.308
C 1	+6.702	-104.436	+1609.663	+25.652	-29.698	+1448.145
C 1	+111.945	+527.612	-4831.050	+73.852	+384.504	-3323.623
Barra 58						
C 1	+554.744	+177.402	-937.719	+515.076	+162.977	-689.264
C 1	-455.240	+177.402	-937.719	-423.650	+162.977	-689.264
C 1	+92.802	+459.229	-3123.743	+84.724	+430.379	-2474.353
C 1	+6.702	-104.424	+1248.305	+6.702	-104.424	+1095.826
C 1	+25.652	-29.687	+1448.146	+17.574	-58.537	+1383.722
C 1	+73.852	+384.491	-3323.584	+73.852	+384.491	-2762.249
Barra 59						
C 1	+515.075	+162.990	-689.252	+462.446	+143.230	-383.036
C 1	-423.649	+162.990	-689.252	-382.086	+143.230	-383.036
C 1	+84.724	+430.419	-2474.330	+73.658	+390.899	-1653.025
C 1	+6.702	-104.438	+1095.826	+6.702	-104.438	+886.953
C 1	+17.574	-58.550	+1383.728	+55.271	+82.337	+1538.316
C 1	+73.852	+384.530	-2762.231	+25.089	+204.124	-2304.388
Barra 60						
C 1	+462.446	+143.231	-383.019	+484.084	+133.351	-244.764
C 1	-382.086	+143.231	-383.019	-409.256	+133.351	-244.764
C 1	+73.659	+390.973	-1653.012	+73.853	+384.593	-1608.679
C 1	+6.702	-104.511	+886.973	+0.976	-117.891	+1119.152
C 1	+55.272	+82.369	+1538.311	+49.739	+62.609	+1610.840
C 1	+25.089	+204.093	-2304.350	+25.089	+204.093	-2100.367

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 61						
C 1	+484.083	+133.347	-244.747	+361.818	+88.887	+255.280
C 1	-409.256	+133.347	-244.747	-311.888	+88.887	+255.280
C 1	+73.852	+384.521	-1608.658	+48.954	+295.601	-78.389
C 1	+0.975	-117.827	+1119.164	+0.975	-117.827	+588.950
C 1	+49.738	+62.612	+1610.851	+49.916	+177.673	+2345.533
C 1	+25.089	+204.083	-2100.344	+0.014	+0.101	-1834.971
Barra 62						
C 1	+361.818	+88.887	+255.278	+248.658	+44.427	+555.234
C 1	-311.888	+88.887	+255.278	-223.626	+44.427	+555.234
C 1	+48.954	+295.600	-78.395	+24.057	+206.680	+1051.729
C 1	+0.975	-117.825	+588.951	+0.975	-117.825	+58.738
C 1	+49.916	+177.670	+2345.525	+25.019	+88.750	+2944.968
C 1	+0.014	+0.104	-1834.969	+0.014	+0.104	-1834.502
Barra 63						
C 1	+248.658	+44.426	+555.237	+346.026	-0.034	+655.118
C 1	-223.626	+44.426	+555.237	-345.891	-0.034	+655.118
C 1	+24.057	+206.676	+1051.738	+25.089	+204.081	+654.761
C 1	+0.975	-117.824	+58.737	-24.954	-204.149	+655.475
C 1	+25.019	+88.744	+2944.976	+0.121	-0.176	+3144.251
C 1	+0.014	+0.108	-1834.502	+0.014	+0.108	-1834.015
Barra 64						
C 1	+346.025	-0.034	+655.122	+247.534	-35.849	+590.081
C 1	-345.891	-0.034	+655.122	-267.456	-35.849	+590.081
C 1	+25.089	+204.084	+654.768	+5.033	+132.454	+1264.726
C 1	-24.954	-204.153	+655.476	-24.954	-204.153	-84.564
C 1	+0.121	-0.181	+3144.254	-19.935	-71.811	+3013.764
C 1	+0.014	+0.113	-1834.010	+0.014	+0.113	-1833.602
Barra 65						
C 1	+247.534	-35.845	+590.078	+302.037	-71.660	+395.216
C 1	-267.456	-35.845	+590.078	-342.015	-71.660	+395.216
C 1	+5.033	+132.455	+1264.731	+2.320	+127.925	+574.627
C 1	-24.954	-204.145	-84.576	-42.298	-271.245	+215.805
C 1	-19.936	-71.805	+3013.761	-39.992	-143.435	+2623.641
C 1	+0.014	+0.115	-1833.606	+0.014	+0.115	-1833.209
Barra 66						
C 1	+302.037	-71.661	+395.210	+380.472	-107.476	+70.511
C 1	-342.015	-71.661	+395.210	-440.506	-107.476	+70.511
C 1	+2.320	+127.924	+574.626	+2.320	+127.924	+1038.345
C 1	-42.298	-271.246	+215.795	-62.354	-342.876	-897.323
C 1	-39.992	-143.451	+2623.626	-60.048	-215.081	+1973.772
C 1	+0.014	+0.130	-1833.207	+0.014	+0.130	-1832.749

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 67						
C 1	+380.471	-107.477	+70.506	+379.451	-143.292	-384.021
C 1	-440.506	-107.477	+70.506	-459.542	-143.292	-384.021
C 1	+2.320	+127.922	+1038.348	-6.687	+105.021	+899.196
C 1	-62.354	-342.876	-897.337	-73.404	-391.605	-1667.239
C 1	-60.048	-215.074	+1973.776	-55.137	-82.439	+1536.659
C 1	+0.014	+0.120	-1832.765	-24.954	-204.145	-2304.702
Barra 68						
C 1	+379.451	-143.297	-384.018	+454.316	-177.482	-938.969
C 1	-459.542	-143.297	-384.018	-553.551	-177.482	-938.969
C 1	-6.687	+105.024	+899.198	-6.687	+105.024	+1262.580
C 1	-73.404	-391.619	-1667.234	-92.547	-459.988	-3140.518
C 1	-55.137	-82.443	+1536.658	-36.880	-12.077	+1448.732
C 1	-24.954	-204.151	-2304.695	-62.354	-342.888	-3326.669
Barra 69						
C 1	+454.316	-177.482	-938.966	+529.181	-211.667	-1612.192
C 1	-553.551	-177.482	-938.966	-647.559	-211.667	-1612.192
C 1	-6.687	+105.023	+1262.577	-6.687	+105.023	+1625.958
C 1	-92.547	-459.987	-3140.511	-111.691	-528.357	-4850.342
C 1	-36.880	-12.077	+1448.734	-6.687	+105.023	+1625.958
C 1	-62.354	-342.887	-3326.667	-111.691	-528.357	-4850.342
Barra 70						
C 1	+529.181	-211.653	-1612.183	+552.549	-222.323	-1846.562
C 1	-647.559	-211.653	-1612.183	-676.903	-222.323	-1846.562
C 1	-6.687	+105.019	+1625.957	-6.687	+105.019	+1739.385
C 1	-111.690	-528.324	-4850.324	-117.666	-549.665	-5432.508
C 1	-6.687	+105.019	+1625.957	-6.687	+105.019	+1739.385
C 1	-111.690	-528.324	-4850.324	-117.666	-549.665	-5432.508
Barra 71						
C 1	+678.097	+222.301	-1846.566	+648.753	+211.631	-1612.219
C 1	-553.474	+222.301	-1846.566	-530.106	+211.631	-1612.219
C 1	+117.921	+549.398	-5432.512	+111.945	+528.057	-4850.642
C 1	+6.702	-104.796	+1739.380	+6.702	-104.796	+1626.203
C 1	+6.702	-104.796	+1739.380	+6.702	-104.796	+1626.203
C 1	+117.921	+549.398	-5432.512	+111.945	+528.057	-4850.642
Barra 72						
C 1	+648.753	+211.637	-1612.215	+554.745	+177.452	-939.091
C 1	-530.106	+211.637	-1612.215	-455.241	+177.452	-939.091
C 1	+111.945	+528.074	-4850.629	+92.802	+459.704	-3141.771
C 1	+6.702	-104.800	+1626.199	+6.702	-104.800	+1263.589
C 1	+6.702	-104.800	+1626.199	+25.652	-30.044	+1463.484
C 1	+111.945	+528.074	-4850.629	+73.852	+384.948	-3341.666

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 73						
C 1	+554.745	+177.458	-939.122	+515.076	+163.033	-690.507
C 1	-455.241	+177.458	-939.122	-423.650	+163.033	-690.507
C 1	+92.802	+459.713	-3141.817	+84.724	+430.863	-2491.589
C 1	+6.702	-104.797	+1263.572	+6.702	-104.797	+1110.575
C 1	+25.652	-30.036	+1463.476	+17.574	-58.886	+1398.573
C 1	+73.852	+384.952	-3341.721	+73.852	+384.952	-2779.586
Barra 74						
C 1	+515.076	+163.021	-690.541	+462.447	+143.261	-384.247
C 1	-423.650	+163.022	-690.541	-382.087	+143.262	-384.247
C 1	+84.724	+430.838	-2491.657	+73.658	+391.318	-1669.476
C 1	+6.702	-104.795	+1110.575	+6.702	-104.795	+900.982
C 1	+17.574	-58.895	+1398.567	+55.271	+82.023	+1552.879
C 1	+73.852	+384.938	-2779.648	+25.089	+204.500	-2321.374
Barra 75						
C 1	+462.446	+143.201	-384.243	+484.084	+133.321	-245.945
C 1	-382.086	+143.201	-384.243	-409.256	+133.321	-245.945
C 1	+73.658	+391.242	-1669.479	+73.852	+384.893	-1624.833
C 1	+6.702	-104.840	+900.993	+0.975	-118.252	+1132.943
C 1	+55.271	+81.758	+1552.955	+49.738	+61.998	+1624.943
C 1	+25.089	+204.643	-2321.441	+25.089	+204.643	-2116.833
Barra 76						
C 1	+484.084	+133.377	-245.931	+361.819	+88.917	+254.230
C 1	-409.257	+133.377	-245.931	-311.889	+88.917	+254.230
C 1	+73.852	+384.930	-1624.822	+48.954	+296.010	-92.709
C 1	+0.975	-118.176	+1132.960	+0.975	-118.176	+601.169
C 1	+49.738	+62.237	+1624.990	+49.916	+176.796	+2357.265
C 1	+25.089	+204.517	-2116.853	+0.014	+1.037	-1848.805
Barra 77						
C 1	+361.819	+88.918	+254.233	+248.659	+44.458	+554.329
C 1	-311.889	+88.918	+254.233	-223.627	+44.458	+554.329
C 1	+48.954	+296.011	-92.700	+24.057	+207.091	+1039.282
C 1	+0.975	-118.174	+601.166	+0.975	-118.174	+69.375
C 1	+49.916	+176.794	+2357.271	+25.018	+87.874	+2952.779
C 1	+0.014	+1.043	-1848.804	+0.014	+1.043	-1844.121
Barra 78						
C 1	+248.659	+44.459	+554.324	+346.026	-0.001	+654.357
C 1	-223.627	+44.459	+554.324	-345.892	-0.001	+654.357
C 1	+24.057	+207.095	+1039.274	+25.089	+204.518	+644.136
C 1	+0.975	-118.176	+69.374	-24.954	-204.519	+664.578
C 1	+25.018	+87.883	+2952.766	+0.121	-1.037	+3148.162
C 1	+0.014	+1.036	-1844.117	+0.014	+1.036	-1839.448

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 79						
C 1	+346.026	-0.005	+654.356	+247.535	-35.820	+589.429
C 1	-345.892	-0.005	+654.356	-267.457	-35.820	+589.429
C 1	+25.089	+204.511	+644.139	+5.032	+132.881	+1255.672
C 1	-24.954	-204.521	+664.572	-24.954	-204.521	-76.814
C 1	+0.121	-1.051	+3148.161	-19.936	-72.681	+3014.535
C 1	+0.014	+1.041	-1839.449	+0.014	+1.041	-1835.677
Barra 80						
C 1	+247.535	-35.817	+589.440	+302.038	-71.632	+394.682
C 1	-267.457	-35.817	+589.440	-342.016	-71.632	+394.682
C 1	+5.032	+132.885	+1255.689	+2.319	+128.375	+567.284
C 1	-24.955	-204.519	-76.809	-42.298	-271.639	+222.080
C 1	-19.936	-72.672	+3014.572	-39.992	-144.302	+2621.303
C 1	+0.014	+1.038	-1835.692	+0.014	+1.038	-1831.938
Barra 81						
C 1	+302.038	-71.635	+394.685	+380.472	-107.450	+70.099
C 1	-342.016	-71.635	+394.685	-440.507	-107.450	+70.099
C 1	+2.319	+128.375	+567.284	+2.319	+128.375	+1032.645
C 1	-42.298	-271.644	+222.085	-62.354	-343.274	-892.447
C 1	-39.992	-144.308	+2621.298	-60.049	-215.938	+1968.349
C 1	+0.014	+1.039	-1831.928	+0.014	+1.039	-1828.150
Barra 82						
C 1	+380.472	-107.447	+70.099	+379.453	-143.262	-384.312
C 1	-440.507	-107.447	+70.099	-459.544	-143.262	-384.312
C 1	+2.319	+128.374	+1032.643	-6.688	+105.480	+895.262
C 1	-62.354	-343.267	-892.444	-73.404	-392.004	-1663.885
C 1	-60.049	-215.945	+1968.349	-55.137	-82.006	+1532.360
C 1	+0.014	+1.052	-1828.150	-24.955	-204.517	-2300.983
Barra 83						
C 1	+379.453	-143.262	-384.315	+454.317	-177.447	-939.144
C 1	-459.544	-143.262	-384.315	-553.552	-177.447	-939.144
C 1	-6.688	+105.482	+895.260	-6.688	+105.482	+1260.227
C 1	-73.404	-392.006	-1663.890	-92.547	-460.376	-3138.514
C 1	-55.137	-82.007	+1532.359	-36.880	-11.625	+1446.226
C 1	-24.955	-204.516	-2300.989	-62.354	-343.268	-3324.513
Barra 84						
C 1	+454.317	-177.448	-939.144	+529.182	-211.633	-1612.258
C 1	-553.552	-177.448	-939.144	-647.560	-211.633	-1612.258
C 1	-6.688	+105.483	+1260.226	-6.688	+105.483	+1625.193
C 1	-92.547	-460.379	-3138.513	-111.691	-528.749	-4849.711
C 1	-36.880	-11.623	+1446.225	-6.688	+105.483	+1625.193
C 1	-62.354	-343.273	-3324.512	-111.691	-528.749	-4849.711

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 85						
C 1	+529.182	-211.642	-1612.255	+552.549	-222.312	-1846.580
C 1	-647.560	-211.642	-1612.255	-676.904	-222.312	-1846.580
C 1	-6.688	+105.482	+1625.195	-6.688	+105.482	+1739.121
C 1	-111.691	-528.766	-4849.705	-117.666	-550.107	-5432.281
C 1	-6.688	+105.482	+1625.195	-6.688	+105.482	+1739.121
C 1	-111.691	-528.766	-4849.705	-117.666	-550.107	-5432.281
Barra 86						
C 1	+678.094	+222.327	-1846.579	+648.751	+211.657	-1612.217
C 1	-553.472	+222.327	-1846.579	-530.104	+211.657	-1612.217
C 1	+117.920	+548.951	-5432.271	+111.945	+527.611	-4850.910
C 1	+6.702	-104.296	+1739.113	+6.702	-104.296	+1626.477
C 1	+6.702	-104.296	+1739.113	+6.702	-104.296	+1626.477
C 1	+117.920	+548.951	-5432.271	+111.945	+527.611	-4850.909
Barra 87						
C 1	+648.751	+211.660	-1612.229	+554.743	+177.476	-939.023
C 1	-530.104	+211.660	-1612.229	-455.240	+177.476	-939.023
C 1	+111.945	+527.615	-4850.936	+92.801	+459.246	-3143.662
C 1	+6.702	-104.295	+1626.479	+6.702	-104.295	+1265.616
C 1	+6.702	-104.295	+1626.479	+25.651	-29.572	+1465.504
C 1	+111.945	+527.615	-4850.936	+73.852	+384.523	-3343.550
Barra 88						
C 1	+554.743	+177.455	-939.017	+515.075	+163.030	-690.471
C 1	-455.240	+177.455	-939.017	-423.650	+163.030	-690.471
C 1	+92.802	+459.203	-3143.647	+84.724	+430.353	-2494.280
C 1	+6.702	-104.293	+1265.614	+6.702	-104.293	+1113.339
C 1	+25.652	-29.571	+1465.503	+17.574	-58.421	+1401.259
C 1	+73.852	+384.481	-3343.536	+73.852	+384.481	-2782.200
Barra 89						
C 1	+515.075	+163.058	-690.450	+462.445	+143.298	-384.095
C 1	-423.650	+163.058	-690.450	-382.086	+143.298	-384.095
C 1	+84.724	+430.418	-2494.253	+73.658	+390.898	-1672.933
C 1	+6.702	-104.301	+1113.352	+6.702	-104.301	+904.744
C 1	+17.574	-58.416	+1401.273	+55.271	+82.439	+1556.180
C 1	+73.852	+384.533	-2782.174	+25.089	+204.158	-2324.370
Barra 90						
C 1	+462.446	+143.458	-384.087	+484.083	+133.578	-245.677
C 1	-382.086	+143.458	-384.087	-409.256	+133.578	-245.677
C 1	+73.658	+391.176	-1672.960	+73.852	+384.796	-1628.474
C 1	+6.702	-104.260	+904.787	+0.975	-117.640	+1137.121
C 1	+55.271	+82.620	+1556.281	+49.738	+62.860	+1628.871
C 1	+25.089	+204.296	-2324.454	+25.089	+204.296	-2120.225

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 91						
C 1	+484.083	+133.425	-245.724	+361.818	+88.965	+254.651
C 1	-409.256	+133.425	-245.724	-311.888	+88.965	+254.651
C 1	+73.852	+384.542	-1628.553	+48.954	+295.622	-98.185
C 1	+0.975	-117.693	+1137.105	+0.975	-117.693	+607.487
C 1	+49.738	+62.724	+1628.830	+49.916	+176.009	+2359.507
C 1	+25.089	+204.125	-2120.279	+0.014	+1.921	-1850.205
Barra 92						
C 1	+361.817	+88.963	+254.651	+248.657	+44.503	+554.949
C 1	-311.888	+88.963	+254.651	-223.626	+44.503	+554.949
C 1	+48.954	+295.618	-98.179	+24.057	+206.698	+1032.029
C 1	+0.975	-117.691	+607.482	+0.975	-117.691	+77.869
C 1	+49.916	+176.002	+2359.516	+25.018	+87.082	+2951.450
C 1	+0.014	+1.925	-1850.213	+0.014	+1.925	-1841.551
Barra 93						
C 1	+248.657	+44.503	+554.946	+346.025	+0.043	+655.177
C 1	-223.625	+44.503	+554.946	-345.891	+0.043	+655.177
C 1	+24.057	+206.697	+1032.025	+25.089	+204.126	+635.425
C 1	+0.975	-117.691	+77.867	-24.955	-204.040	+674.928
C 1	+25.018	+87.076	+2951.441	+0.121	-1.844	+3143.227
C 1	+0.014	+1.930	-1841.549	+0.014	+1.930	-1832.874
Barra 94						
C 1	+346.025	+0.040	+655.172	+247.533	-35.775	+590.411
C 1	-345.891	+0.040	+655.172	-267.456	-35.775	+590.411
C 1	+25.089	+204.127	+635.424	+5.032	+132.497	+1245.550
C 1	-24.955	-204.047	+674.920	-24.955	-204.047	-64.728
C 1	+0.121	-1.857	+3143.228	-19.936	-73.487	+3006.680
C 1	+0.014	+1.938	-1832.885	+0.014	+1.938	-1825.859
Barra 95						
C 1	+247.533	-35.771	+590.412	+302.036	-71.586	+395.824
C 1	-267.456	-35.771	+590.412	-342.015	-71.586	+395.824
C 1	+5.032	+132.498	+1245.552	+2.319	+127.992	+556.104
C 1	-24.954	-204.040	-64.729	-42.298	-271.164	+235.543
C 1	-19.936	-73.462	+3006.685	-39.992	-145.092	+2610.534
C 1	+0.014	+1.920	-1825.861	+0.014	+1.920	-1818.887
Barra 96						
C 1	+302.036	-71.587	+395.826	+380.471	-107.402	+71.409
C 1	-342.015	-71.587	+395.826	-440.506	-107.402	+71.409
C 1	+2.319	+127.993	+556.110	+2.319	+127.993	+1020.082
C 1	-42.298	-271.166	+235.543	-62.354	-342.796	-877.264
C 1	-39.992	-145.091	+2610.529	-60.049	-216.721	+1954.756
C 1	+0.014	+1.917	-1818.876	+0.014	+1.917	-1811.938

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 97						
C 1	+380.471	-107.400	+71.411	+379.451	-143.215	-382.833
C 1	-440.506	-107.400	+71.411	-459.543	-143.215	-382.833
C 1	+2.319	+127.994	+1020.085	-6.688	+105.104	+881.554
C 1	-62.354	-342.794	-877.264	-73.404	-391.534	-1647.220
C 1	-60.049	-216.712	+1954.742	-55.137	-82.386	+1518.019
C 1	+0.014	+1.911	-1811.921	-24.955	-204.044	-2283.686
Barra 98						
C 1	+379.451	-143.216	-382.832	+454.316	-177.401	-937.494
C 1	-459.543	-143.216	-382.832	-553.551	-177.401	-937.494
C 1	-6.688	+105.102	+881.556	-6.688	+105.102	+1245.208
C 1	-73.404	-391.534	-1647.219	-92.547	-459.904	-3120.196
C 1	-55.137	-82.390	+1518.016	-36.881	-12.008	+1430.967
C 1	-24.955	-204.042	-2283.681	-62.354	-342.794	-3305.956
Barra 99						
C 1	+454.316	-177.402	-937.496	+529.180	-211.586	-1610.436
C 1	-553.551	-177.402	-937.496	-647.558	-211.586	-1610.436
C 1	-6.688	+105.104	+1245.209	-6.688	+105.104	+1608.868
C 1	-92.547	-459.908	-3120.200	-111.691	-528.277	-4829.739
C 1	-36.881	-12.007	+1430.966	-6.688	+105.104	+1608.868
C 1	-62.354	-342.796	-3305.958	-111.691	-528.277	-4829.739
Barra 100						
C 1	+529.180	-211.589	-1610.437	+552.548	-222.260	-1844.705
C 1	-647.559	-211.589	-1610.437	-676.902	-222.260	-1844.705
C 1	-6.688	+105.118	+1608.864	-6.688	+105.118	+1722.384
C 1	-111.691	-528.297	-4829.737	-117.666	-549.638	-5411.793
C 1	-6.688	+105.118	+1608.864	-6.688	+105.118	+1722.384
C 1	-111.691	-528.297	-4829.737	-117.666	-549.638	-5411.793
Barra 101						
C 1	+678.071	+222.116	-1844.718	+648.728	+211.445	-1610.589
C 1	-553.453	+222.116	-1844.718	-530.085	+211.445	-1610.589
C 1	+117.919	+546.862	-5411.812	+111.944	+525.521	-4832.725
C 1	+6.698	-102.631	+1722.377	+6.698	-102.631	+1611.546
C 1	+6.698	-102.631	+1722.377	+6.698	-102.631	+1611.546
C 1	+117.919	+546.862	-5411.812	+111.944	+525.521	-4832.725
Barra 102						
C 1	+648.727	+211.449	-1610.588	+554.719	+177.264	-938.115
C 1	-530.086	+211.449	-1610.588	-455.221	+177.264	-938.115
C 1	+111.943	+525.518	-4832.721	+92.800	+457.148	-3132.712
C 1	+6.698	-102.620	+1611.546	+6.698	-102.620	+1256.483
C 1	+6.698	-102.620	+1611.546	+25.648	-27.957	+1456.306
C 1	+111.943	+525.518	-4832.721	+73.850	+382.485	-3332.535

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 103						
C 1	+554.720	+177.264	-938.085	+515.052	+162.839	-689.832
C 1	-455.221	+177.264	-938.085	-423.631	+162.839	-689.832
C 1	+92.800	+457.165	-3132.653	+84.722	+428.315	-2486.319
C 1	+6.698	-102.637	+1256.484	+6.698	-102.637	+1106.655
C 1	+25.648	-27.978	+1456.317	+17.570	-56.828	+1394.442
C 1	+73.851	+382.506	-3332.487	+73.851	+382.506	-2774.106
Barra 104						
C 1	+515.052	+162.852	-689.849	+462.422	+143.092	-383.901
C 1	-423.631	+162.852	-689.849	-382.067	+143.092	-383.901
C 1	+84.722	+428.329	-2486.352	+73.657	+388.809	-1669.203
C 1	+6.698	-102.625	+1106.653	+6.698	-102.625	+901.401
C 1	+17.570	-56.803	+1394.442	+55.268	+83.849	+1551.659
C 1	+73.851	+382.507	-2774.140	+25.087	+202.335	-2319.460
Barra 105						
C 1	+462.422	+143.167	-383.891	+484.060	+133.287	-245.740
C 1	-382.067	+143.167	-383.891	-409.237	+133.287	-245.740
C 1	+73.657	+388.942	-1669.206	+73.851	+382.625	-1626.563
C 1	+6.698	-102.609	+901.424	+0.972	-116.051	+1135.083
C 1	+55.268	+84.084	+1551.683	+49.735	+64.324	+1625.708
C 1	+25.087	+202.250	-2319.465	+25.087	+202.250	-2117.188
Barra 106						
C 1	+484.059	+133.272	-245.733	+361.794	+88.812	+253.955
C 1	-409.237	+133.272	-245.733	-311.870	+88.812	+253.955
C 1	+73.851	+382.612	-1626.587	+48.953	+293.692	-104.914
C 1	+0.972	-116.067	+1135.121	+0.972	-116.067	+612.825
C 1	+49.735	+64.391	+1625.721	+49.915	+174.071	+2352.824
C 1	+25.087	+202.154	-2117.187	+0.010	+3.554	-1844.913
Barra 107						
C 1	+361.794	+88.812	+253.954	+248.634	+44.352	+553.576
C 1	-311.870	+88.812	+253.954	-223.607	+44.352	+553.576
C 1	+48.953	+293.692	-104.914	+24.055	+204.772	+1016.635
C 1	+0.972	-116.067	+612.821	+0.972	-116.067	+90.516
C 1	+49.914	+174.077	+2352.818	+25.017	+85.157	+2936.097
C 1	+0.010	+3.548	-1844.911	+0.010	+3.548	-1828.944
Barra 108						
C 1	+248.634	+44.352	+553.576	+346.001	-0.108	+653.126
C 1	-223.607	+44.352	+553.577	-345.872	-0.108	+653.126
C 1	+24.055	+204.770	+1016.636	+25.087	+202.148	+611.847
C 1	+0.972	-116.067	+90.517	-24.958	-202.365	+694.405
C 1	+25.017	+85.159	+2936.094	+0.119	-3.761	+3119.242
C 1	+0.010	+3.544	-1828.941	+0.010	+3.544	-1812.990

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 109						
C 1	+346.001	-0.109	+653.130	+247.510	-35.924	+587.837
C 1	-345.872	-0.109	+653.130	-267.437	-35.924	+587.837
C 1	+25.087	+202.148	+611.849	+5.031	+130.518	+1214.831
C 1	-24.958	-202.366	+694.412	-24.958	-202.366	-39.157
C 1	+0.119	-3.756	+3119.264	-19.937	-75.386	+2975.834
C 1	+0.010	+3.539	-1813.002	+0.010	+3.539	-1800.161
Barra 110						
C 1	+247.510	-35.922	+587.833	+302.013	-71.737	+392.698
C 1	-267.437	-35.922	+587.833	-341.996	-71.737	+392.698
C 1	+5.031	+130.521	+1214.826	+2.318	+125.975	+518.183
C 1	-24.958	-202.365	-39.159	-42.301	-269.450	+267.213
C 1	-19.937	-75.371	+2975.834	-39.994	-147.001	+2572.775
C 1	+0.010	+3.527	-1800.168	+0.010	+3.527	-1787.380
Barra 111						
C 1	+302.012	-71.735	+392.702	+380.447	-107.550	+67.753
C 1	-341.996	-71.735	+392.702	-440.487	-107.550	+67.753
C 1	+2.318	+125.979	+518.181	+2.318	+125.979	+974.861
C 1	-42.301	-269.450	+267.224	-62.358	-341.080	-839.355
C 1	-39.994	-146.995	+2572.788	-60.050	-218.625	+1910.103
C 1	+0.010	+3.524	-1787.384	+0.010	+3.524	-1774.598
Barra 112						
C 1	+380.447	-107.550	+67.756	+379.428	-143.365	-387.021
C 1	-440.487	-107.550	+67.756	-459.524	-143.365	-387.021
C 1	+2.318	+125.977	+974.857	-6.689	+103.070	+828.844
C 1	-62.358	-341.077	-839.344	-73.407	-389.800	-1602.887
C 1	-60.050	-218.610	+1910.101	-55.138	-84.362	+1465.825
C 1	+0.010	+3.510	-1774.589	-24.958	-202.368	-2239.867
Barra 113						
C 1	+379.428	-143.364	-387.027	+454.292	-177.549	-942.193
C 1	-459.524	-143.364	-387.027	-553.532	-177.549	-942.193
C 1	-6.689	+103.070	+828.842	-6.689	+103.070	+1185.463
C 1	-73.407	-389.798	-1602.895	-92.551	-458.167	-3069.849
C 1	-55.138	-84.362	+1465.820	-36.882	-14.022	+1371.457
C 1	-24.958	-202.366	-2239.873	-62.358	-341.075	-3255.843
Barra 114						
C 1	+454.292	-177.548	-942.195	+529.157	-211.733	-1615.652
C 1	-553.532	-177.548	-942.195	-647.540	-211.733	-1615.652
C 1	-6.689	+103.070	+1185.466	-6.689	+103.070	+1542.084
C 1	-92.551	-458.167	-3069.855	-111.694	-526.536	-4773.390
C 1	-36.882	-14.020	+1371.455	-6.689	+103.070	+1542.084
C 1	-62.358	-341.076	-3255.845	-111.694	-526.536	-4773.390

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 115						
C 1	+529.157	-211.744	-1615.653	+552.525	-222.415	-1850.084
C 1	-647.540	-211.744	-1615.653	-676.883	-222.415	-1850.084
C 1	-6.689	+103.065	+1542.091	-6.689	+103.065	+1653.401
C 1	-111.694	-526.553	-4773.397	-117.670	-547.894	-5353.569
C 1	-6.689	+103.065	+1542.091	-6.689	+103.065	+1653.401
C 1	-111.694	-526.553	-4773.397	-117.670	-547.894	-5353.569
Barra 116						
C 1	+677.660	+222.675	-1850.080	+648.316	+212.005	-1615.368
C 1	-553.126	+222.675	-1850.080	-529.758	+212.005	-1615.368
C 1	+117.859	+541.727	-5353.551	+111.883	+520.387	-4780.059
C 1	+6.675	-96.377	+1653.393	+6.675	-96.377	+1549.324
C 1	+6.675	-96.378	+1653.393	+6.675	-96.378	+1549.324
C 1	+117.859	+541.727	-5353.551	+111.883	+520.387	-4780.059
Barra 117						
C 1	+648.316	+211.988	-1615.366	+554.308	+177.804	-941.025
C 1	-529.758	+211.988	-1615.366	-454.893	+177.804	-941.025
C 1	+111.883	+520.352	-4780.053	+92.739	+451.983	-3097.907
C 1	+6.675	-96.375	+1549.321	+6.675	-96.375	+1215.858
C 1	+6.675	-96.375	+1549.321	+25.625	-21.644	+1415.808
C 1	+111.883	+520.352	-4780.053	+73.790	+377.251	-3297.857
Barra 118						
C 1	+554.308	+177.806	-941.011	+514.640	+163.382	-691.977
C 1	-454.894	+177.806	-941.011	-423.304	+163.382	-691.977
C 1	+92.739	+451.984	-3097.881	+84.661	+423.134	-2459.101
C 1	+6.675	-96.371	+1215.858	+6.675	-96.371	+1075.147
C 1	+25.625	-21.634	+1415.802	+17.547	-50.483	+1363.153
C 1	+73.790	+377.247	-3297.824	+73.790	+377.247	-2747.106
Barra 119						
C 1	+514.640	+163.372	-691.970	+462.011	+143.612	-384.966
C 1	-423.304	+163.372	-691.970	-381.740	+143.612	-384.966
C 1	+84.661	+423.118	-2459.091	+73.596	+383.598	-1652.338
C 1	+6.675	-96.374	+1075.151	+6.675	-96.374	+882.406
C 1	+17.547	-50.497	+1363.150	+55.244	+90.296	+1534.230
C 1	+73.790	+377.240	-2747.090	+25.027	+196.928	-2304.162
Barra 120						
C 1	+462.011	+143.714	-385.013	+483.648	+133.834	-246.294
C 1	-381.739	+143.714	-385.013	-408.909	+133.834	-246.294
C 1	+73.596	+383.834	-1652.485	+73.790	+377.486	-1615.292
C 1	+6.675	-96.406	+882.459	+0.949	-109.818	+1122.704
C 1	+55.245	+90.442	+1534.203	+49.712	+70.682	+1614.641
C 1	+25.027	+196.986	-2304.229	+25.027	+196.986	-2107.229

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 121						
C 1	+483.648	+133.740	-246.303	+361.383	+89.280	+255.489
C 1	-408.909	+133.740	-246.303	-311.542	+89.280	+255.489
C 1	+73.790	+377.255	-1615.347	+48.892	+288.335	-117.772
C 1	+0.949	-109.776	+1122.740	+0.949	-109.776	+628.751
C 1	+49.712	+70.557	+1614.630	+49.854	+168.488	+2341.681
C 1	+25.027	+196.922	-2107.237	-0.013	+10.072	-1830.703
Barra 122						
C 1	+361.383	+89.281	+255.486	+248.223	+44.821	+557.211
C 1	-311.542	+89.281	+255.486	-223.280	+44.821	+557.211
C 1	+48.892	+288.337	-117.780	+23.995	+199.417	+979.660
C 1	+0.949	-109.774	+628.751	+0.949	-109.774	+134.761
C 1	+49.854	+168.486	+2341.684	+24.956	+79.566	+2899.791
C 1	-0.013	+10.077	-1830.713	-0.013	+10.077	-1785.370
Barra 123						
C 1	+248.223	+44.821	+557.207	+345.590	+0.361	+658.865
C 1	-223.280	+44.821	+557.207	-345.545	+0.361	+658.865
C 1	+23.995	+199.419	+979.653	+25.027	+196.922	+551.196
C 1	+0.949	-109.777	+134.761	-24.981	-196.200	+766.533
C 1	+24.956	+79.578	+2899.775	+0.059	-9.342	+3057.804
C 1	-0.013	+10.064	-1785.361	-0.013	+10.064	-1740.075
Barra 124						
C 1	+345.590	+0.361	+658.865	+247.099	-35.454	+595.253
C 1	-345.545	+0.361	+658.865	-267.110	-35.454	+595.253
C 1	+25.027	+196.926	+551.195	+4.970	+125.296	+1135.215
C 1	-24.981	-196.204	+766.536	-24.981	-196.204	+55.291
C 1	+0.059	-9.346	+3057.807	-19.998	-80.976	+2894.077
C 1	-0.013	+10.068	-1740.076	-0.013	+10.068	-1703.571
Barra 125						
C 1	+247.099	-35.453	+595.254	+301.602	-71.268	+401.826
C 1	-267.110	-35.453	+595.254	-341.669	-71.268	+401.826
C 1	+4.970	+125.294	+1135.195	+2.257	+120.873	+421.306
C 1	-24.981	-196.200	+55.312	-42.325	-263.409	+382.345
C 1	-19.998	-80.965	+2894.094	-40.054	-152.595	+2470.773
C 1	-0.013	+10.059	-1703.587	-0.013	+10.059	-1667.121
Barra 126						
C 1	+301.602	-71.268	+401.822	+380.037	-107.083	+78.564
C 1	-341.669	-71.268	+401.822	-440.161	-107.083	+78.564
C 1	+2.257	+120.873	+421.298	+2.257	+120.873	+859.466
C 1	-42.325	-263.409	+382.346	-62.381	-335.039	-702.338
C 1	-40.054	-152.584	+2470.773	-60.111	-224.214	+1787.827
C 1	-0.013	+10.049	-1667.129	-0.013	+10.049	-1630.699

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 127						
C 1	+380.037	-107.084	+78.564	+379.018	-142.899	-374.521
C 1	-440.161	-107.084	+78.565	-459.198	-142.899	-374.521
C 1	+2.257	+120.873	+859.461	-6.749	+98.035	+696.433
C 1	-62.381	-335.041	-702.332	-73.431	-383.832	-1445.475
C 1	-60.111	-224.222	+1787.848	-55.199	-89.597	+1329.314
C 1	-0.013	+10.054	-1630.719	-24.981	-196.201	-2078.356
Barra 128						
C 1	+379.018	-142.898	-374.521	+453.883	-177.083	-928.081
C 1	-459.198	-142.898	-374.521	-553.206	-177.083	-928.081
C 1	-6.749	+98.035	+696.429	-6.749	+98.035	+1035.621
C 1	-73.431	-383.831	-1445.471	-92.574	-452.201	-2891.784
C 1	-55.199	-89.596	+1329.321	-36.942	-19.125	+1219.895
C 1	-24.981	-196.200	-2078.364	-62.381	-335.040	-3076.057
Barra 129						
C 1	+453.883	-177.081	-928.085	+528.747	-211.266	-1599.921
C 1	-553.206	-177.081	-928.085	-647.214	-211.266	-1599.921
C 1	-6.749	+98.033	+1035.621	-6.749	+98.033	+1374.811
C 1	-92.574	-452.195	-2891.791	-111.717	-520.564	-4574.653
C 1	-36.942	-19.125	+1219.890	-6.749	+98.033	+1374.811
C 1	-62.381	-335.037	-3076.060	-111.717	-520.564	-4574.653
Barra 130						
C 1	+528.747	-211.264	-1599.916	+552.115	-221.935	-1833.858
C 1	-647.214	-211.264	-1599.916	-676.558	-221.935	-1833.858
C 1	-6.749	+98.027	+1374.817	-6.749	+98.027	+1480.687
C 1	-111.718	-520.555	-4574.649	-117.693	-541.896	-5148.403
C 1	-6.749	+98.027	+1374.817	-6.749	+98.027	+1480.687
C 1	-111.718	-520.555	-4574.649	-117.693	-541.896	-5148.403
Barra 131						
C 1	+670.455	+221.143	-1833.874	+641.111	+210.473	-1600.790
C 1	-547.395	+221.143	-1833.874	-524.027	+210.473	-1600.790
C 1	+117.447	+522.888	-5148.436	+111.472	+501.547	-4595.223
C 1	+5.612	-80.601	+1480.688	+5.612	-80.601	+1393.644
C 1	+5.612	-80.601	+1480.688	+5.612	-80.601	+1393.644
C 1	+117.447	+522.888	-5148.436	+111.472	+501.547	-4595.223
Barra 132						
C 1	+641.111	+210.459	-1600.797	+547.103	+176.274	-931.748
C 1	-524.027	+210.459	-1600.797	-449.163	+176.274	-931.748
C 1	+111.472	+501.515	-4595.239	+92.329	+433.146	-2978.280
C 1	+5.612	-80.597	+1393.646	+5.612	-80.597	+1114.784
C 1	+5.612	-80.597	+1393.646	+24.558	-6.061	+1315.443
C 1	+111.472	+501.515	-4595.239	+73.382	+358.610	-3178.939

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 133						
C 1	+547.103	+176.266	-931.748	+507.436	+161.841	-684.907
C 1	-449.163	+176.266	-931.748	-417.573	+161.841	-684.907
C 1	+92.329	+433.130	-2978.277	+84.251	+404.280	-2366.933
C 1	+5.612	-80.598	+1114.781	+5.612	-80.598	+997.118
C 1	+24.558	-6.064	+1315.435	+16.480	-34.913	+1285.545
C 1	+73.382	+358.596	-3178.931	+73.382	+358.596	-2655.360
Barra 134						
C 1	+507.436	+161.855	-684.916	+454.832	+142.095	-380.967
C 1	-417.573	+161.855	-684.916	-376.035	+142.095	-380.967
C 1	+84.251	+404.294	-2366.934	+73.185	+364.774	-1597.869
C 1	+5.612	-80.585	+997.102	+5.612	-80.585	+835.936
C 1	+16.480	-34.883	+1285.527	+54.164	+105.019	+1488.724
C 1	+73.382	+358.592	-2655.358	+24.633	+179.171	-2250.658
Barra 135						
C 1	+454.833	+142.114	-380.954	+476.470	+132.234	-243.807
C 1	-376.035	+142.114	-380.954	-403.205	+132.234	-243.807
C 1	+73.186	+364.813	-1597.821	+73.382	+358.620	-1579.543
C 1	+5.612	-80.585	+835.914	-0.118	-94.152	+1091.931
C 1	+54.165	+105.108	+1488.783	+48.632	+85.348	+1583.931
C 1	+24.633	+179.120	-2250.690	+24.633	+179.120	-2071.543
Barra 136						
C 1	+476.470	+132.278	-243.782	+354.205	+87.818	+251.433
C 1	-403.205	+132.278	-243.782	-305.838	+87.818	+251.433
C 1	+73.382	+358.653	-1579.522	+48.485	+269.733	-165.652
C 1	-0.118	-94.098	+1091.959	-0.118	-94.098	+668.517
C 1	+48.632	+85.636	+1584.004	+49.447	+148.917	+2289.792
C 1	+24.633	+178.920	-2071.568	-1.080	+26.719	-1786.926
Barra 137						
C 1	+354.204	+87.821	+251.429	+241.164	+43.361	+546.585
C 1	-305.838	+87.821	+251.429	-217.695	+43.361	+546.585
C 1	+48.484	+269.740	-165.661	+23.587	+180.820	+848.093
C 1	-0.118	-94.098	+668.518	-0.118	-94.098	+245.077
C 1	+49.447	+148.925	+2289.782	+24.549	+60.005	+2759.871
C 1	-1.080	+26.717	-1786.925	-1.080	+26.717	-1666.701
Barra 138						
C 1	+241.164	+43.362	+546.581	+338.532	-1.098	+641.661
C 1	-217.695	+43.362	+546.581	-339.960	-1.098	+641.661
C 1	+23.587	+180.821	+848.082	+24.633	+178.922	+343.847
C 1	-0.118	-94.097	+245.080	-26.061	-181.118	+939.474
C 1	+24.549	+60.012	+2759.861	-0.349	-28.908	+2829.820
C 1	-1.080	+26.712	-1666.698	-1.080	+26.712	-1546.498

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 139						
C 1	+338.532	-1.103	+641.671	+240.041	-36.918	+572.764
C 1	-339.960	-1.103	+641.671	-261.525	-36.918	+572.764
C 1	+24.633	+178.915	+343.849	+4.576	+107.285	+862.605
C 1	-26.061	-181.120	+939.493	-26.061	-181.120	+282.923
C 1	-0.349	-28.912	+2829.846	-20.405	-100.542	+2595.212
C 1	-1.080	+26.707	-1546.504	-1.080	+26.707	-1449.684
Barra 140						
C 1	+240.041	-36.912	+572.765	+294.716	-72.727	+374.039
C 1	-261.526	-36.912	+572.765	-336.258	-72.727	+374.039
C 1	+4.576	+107.292	+862.611	+1.883	+103.586	+97.547
C 1	-26.061	-181.116	+282.918	-43.424	-249.040	+650.532
C 1	-20.405	-100.522	+2595.217	-40.461	-172.152	+2100.990
C 1	-1.080	+26.699	-1449.688	-1.080	+26.699	-1352.912
Barra 141						
C 1	+294.716	-72.730	+374.034	+373.151	-108.545	+45.486
C 1	-336.258	-72.730	+374.034	-434.749	-108.545	+45.486
C 1	+1.883	+103.584	+97.544	+1.883	+103.584	+473.049
C 1	-43.424	-249.045	+650.523	-63.481	-320.675	-382.077
C 1	-40.461	-172.155	+2100.981	-60.518	-243.785	+1347.105
C 1	-1.080	+26.695	-1352.914	-1.080	+26.695	-1256.134
Barra 142						
C 1	+373.151	-108.542	+45.484	+372.388	-144.357	-412.893
C 1	-434.749	-108.542	+45.484	-454.042	-144.357	-412.893
C 1	+1.883	+103.585	+473.051	-7.095	+81.168	+258.613
C 1	-63.481	-320.669	-382.083	-74.559	-369.882	-1084.399
C 1	-60.518	-243.773	+1347.098	-55.593	-107.596	+860.932
C 1	-1.080	+26.690	-1256.130	-26.061	-181.118	-1686.718
Barra 143						
C 1	+372.388	-144.360	-412.893	+447.252	-178.544	-971.508
C 1	-454.042	-144.360	-412.893	-548.050	-178.544	-971.507
C 1	-7.095	+81.167	+258.612	-7.095	+81.167	+539.450
C 1	-74.559	-369.886	-1084.398	-93.703	-438.256	-2482.465
C 1	-55.593	-107.600	+860.932	-37.317	-36.416	+710.993
C 1	-26.061	-181.120	-1686.718	-63.481	-320.673	-2654.008
Barra 144						
C 1	+447.252	-178.540	-971.512	+522.117	-212.724	-1648.396
C 1	-548.050	-178.539	-971.512	-642.058	-212.724	-1648.396
C 1	-7.095	+81.166	+539.454	-7.095	+81.166	+820.287
C 1	-93.703	-438.245	-2482.477	-112.846	-506.615	-4117.080
C 1	-37.317	-36.416	+710.996	-7.095	+81.166	+820.287
C 1	-63.481	-320.663	-2654.019	-112.846	-506.615	-4117.080

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 145						
C 1	+522.117	-212.745	-1648.411	+545.485	-223.415	-1883.897
C 1	-642.058	-212.745	-1648.410	-671.401	-223.415	-1883.897
C 1	-7.095	+81.160	+820.299	-7.095	+81.160	+907.966
C 1	-112.846	-506.650	-4117.120	-118.821	-527.991	-4675.760
C 1	-7.095	+81.160	+820.299	-7.095	+81.160	+907.966
C 1	-112.846	-506.650	-4117.120	-118.821	-527.991	-4675.760
Barra 146						
C 1	+553.794	+230.183	-1883.906	+524.450	+219.513	-1641.088
C 1	-456.673	+230.183	-1883.906	-433.305	+219.513	-1641.088
C 1	+97.589	+485.588	-4675.787	+91.614	+464.248	-4162.904
C 1	-0.469	-25.222	+907.976	-0.469	-25.222	+880.728
C 1	-0.469	-25.222	+907.976	-0.469	-25.222	+880.728
C 1	+97.589	+485.588	-4675.787	+91.614	+464.248	-4162.904
Barra 147						
C 1	+524.451	+219.485	-1641.094	+430.443	+185.300	-940.813
C 1	-433.305	+219.485	-1641.094	-358.441	+185.300	-940.813
C 1	+91.614	+464.221	-4162.915	+72.471	+395.852	-2674.990
C 1	-0.469	-25.251	+880.726	-0.469	-25.251	+793.365
C 1	-0.469	-25.251	+880.726	+17.550	+49.772	+1008.666
C 1	+91.614	+464.221	-4162.914	+54.452	+320.828	-2890.291
Barra 148						
C 1	+430.443	+185.296	-940.807	+390.775	+170.872	-680.801
C 1	-358.440	+185.296	-940.807	-326.850	+170.872	-680.801
C 1	+72.471	+395.846	-2674.977	+64.393	+366.996	-2118.109
C 1	-0.469	-25.253	+793.364	-0.469	-25.253	+756.507
C 1	+17.550	+49.774	+1008.674	+54.019	+199.393	+1107.263
C 1	+54.452	+320.819	-2890.287	+9.906	+142.351	-2468.865
Barra 149						
C 1	+390.775	+170.878	-680.814	+346.359	+151.118	-358.808
C 1	-326.850	+170.878	-680.814	-293.501	+151.118	-358.808
C 1	+64.393	+367.015	-2118.127	+53.327	+327.495	-1423.601
C 1	-0.469	-25.260	+756.499	-0.469	-25.260	+705.984
C 1	+54.019	+199.328	+1107.228	+61.103	+223.707	+1476.593
C 1	+9.906	+142.427	-2468.857	-8.244	+78.529	-2194.209
Barra 150						
C 1	+346.359	+151.110	-358.788	+367.996	+141.230	-212.632
C 1	-293.501	+151.110	-358.788	-320.671	+141.230	-212.632
C 1	+53.327	+327.438	-1423.547	+54.452	+320.777	-1459.377
C 1	-0.469	-25.218	+705.972	-7.126	-38.317	+1034.114
C 1	+61.103	+223.881	+1476.560	+55.570	+204.121	+1690.551
C 1	-8.244	+78.340	-2194.135	-8.244	+78.340	-2115.814

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 151						
C 1	+367.997	+141.257	-212.634	+276.298	+107.912	+207.838
C 1	-320.671	+141.257	-212.634	-247.645	+107.912	+207.838
C 1	+54.452	+320.810	-1459.360	+35.779	+254.120	-489.172
C 1	-7.126	-38.296	+1034.093	-7.126	-38.296	+904.848
C 1	+55.570	+204.166	+1690.461	+36.897	+137.476	+2266.980
C 1	-8.244	+78.348	-2115.728	-8.244	+78.348	-1851.304
Barra 152						
C 1	+276.298	+107.912	+207.837	+184.599	+74.567	+515.775
C 1	-247.645	+107.912	+207.837	-174.620	+74.567	+515.775
C 1	+35.779	+254.121	-489.175	+17.106	+187.431	+255.958
C 1	-7.126	-38.298	+904.850	-7.126	-38.298	+775.591
C 1	+36.897	+137.467	+2266.984	+18.224	+70.777	+2618.397
C 1	-8.244	+78.356	-1851.309	-8.244	+78.356	-1586.847
Barra 153						
C 1	+184.599	+74.566	+515.776	+194.106	+41.221	+711.168
C 1	-174.620	+74.566	+515.776	-202.800	+41.221	+711.168
C 1	+17.106	+187.433	+255.949	+9.905	+142.306	-600.809
C 1	-7.126	-38.301	+775.602	-18.599	-59.865	+2023.145
C 1	+18.224	+70.770	+2618.420	-0.449	+4.080	+2744.731
C 1	-8.244	+78.361	-1586.868	-8.244	+78.361	-1322.395
Barra 154						
C 1	+194.106	+41.218	+711.163	+267.132	+7.873	+794.011
C 1	-202.800	+41.218	+711.163	-294.499	+7.873	+794.011
C 1	+9.905	+142.305	-600.822	+9.905	+142.305	-120.531
C 1	-18.599	-59.870	+2023.148	-37.272	-126.560	+1708.552
C 1	-0.449	+4.074	+2744.729	-19.123	-62.616	+2645.951
C 1	-8.244	+78.362	-1322.404	-8.244	+78.362	-1057.929
Barra 155						
C 1	+267.132	+7.873	+794.018	+180.050	-25.472	+764.321
C 1	-294.499	+7.873	+794.018	-226.090	-25.472	+764.321
C 1	+9.906	+142.305	-120.522	-8.244	+78.360	-793.453
C 1	-37.272	-126.558	+1708.557	-37.796	-129.304	+2322.096
C 1	-19.122	-62.614	+2645.957	-37.796	-129.304	+2322.096
C 1	-8.244	+78.360	-1057.921	-8.244	+78.360	-793.453
Barra 156						
C 1	+180.050	-25.468	+764.318	+253.075	-58.813	+622.088
C 1	-226.090	-25.468	+764.318	-317.788	-58.813	+622.088
C 1	-8.244	+78.366	-793.451	-8.244	+78.366	-528.968
C 1	-37.796	-129.303	+2322.087	-56.469	-195.993	+1773.145
C 1	-37.796	-129.303	+2322.087	-56.469	-195.993	+1773.145
C 1	-8.244	+78.366	-793.451	-8.244	+78.366	-528.968

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 157						
C 1	+253.075	-58.816	+622.088	+326.101	-92.161	+367.314
C 1	-317.788	-58.816	+622.088	-409.487	-92.161	+367.314
C 1	-8.244	+78.364	-528.963	-8.244	+78.364	-264.486
C 1	-56.469	-195.996	+1773.138	-75.142	-262.686	+999.114
C 1	-56.469	-195.996	+1773.138	-75.142	-262.686	+999.114
C 1	-8.244	+78.364	-528.963	-8.244	+78.364	-264.486
Barra 158						
C 1	+326.101	-92.160	+367.313	+399.126	-125.505	+0.002
C 1	-409.487	-92.160	+367.313	-501.186	-125.505	+0.002
C 1	-8.244	+78.364	-264.482	-8.244	+78.364	-0.001
C 1	-75.142	-262.685	+999.109	-93.815	-329.375	+0.004
C 1	-75.142	-262.685	+999.109	-86.919	-299.212	+0.004
C 1	-8.244	+78.364	-264.482	-4.053	+24.403	-0.001

Hipótesis de carga consideradas

Combinación: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	1	+0.002	+74.303	+34.211
C 1	1	-0.000	+172.999	+52.215
C 1	1	+0.001	+328.495	+93.917
C 1	1	+0.000	-77.471	+8.244
C 1	1	+0.001	+125.512	+501.684
C 1	1	+0.001	+125.512	-399.523
C 1	11	+0.031	+419.926	+103.828
C 1	11	-0.034	+324.376	+71.192
C 1	11	-0.012	+1012.174	+216.555
C 1	11	+0.010	-105.131	+6.640
C 1	11	-0.001	+453.521	+1096.050
C 1	11	-0.001	+453.521	-872.854
C 1	26	+0.022	+441.920	+124.276
C 1	26	-0.033	+228.273	+60.095
C 1	26	-0.014	+1064.527	+235.142
C 1	26	+0.003	-178.239	+12.369
C 1	26	-0.005	+443.144	+1215.455
C 1	26	-0.005	+443.144	-967.945
C 1	41	+0.033	+485.967	+126.428
C 1	41	-0.016	+283.976	+67.682
C 1	41	+0.008	+1089.674	+235.529
C 1	41	+0.009	-199.470	+13.364
C 1	41	+0.009	+445.102	+1222.243
C 1	41	+0.009	+445.102	-973.350
C 1	56	+0.035	+111.322	+55.107
C 1	56	-0.054	+492.305	+127.024
C 1	56	-0.030	+1096.629	+235.586
C 1	56	+0.011	-207.772	+13.386
C 1	56	-0.010	+444.428	+1222.629
C 1	56	-0.010	+444.428	-973.657
C 1	71	+0.030	+152.911	+56.766
C 1	71	-0.021	+188.634	+60.800
C 1	71	+0.004	+1099.063	+235.587
C 1	71	+0.005	-209.815	+13.389
C 1	71	+0.004	+444.624	+1222.650
C 1	71	+0.004	+444.624	-973.674
C 1	86	+0.060	+359.888	+107.133
C 1	86	-0.061	+555.233	+137.929
C 1	86	-0.010	+1099.058	+235.587
C 1	86	+0.008	-209.779	+13.389
C 1	86	-0.001	+444.640	+1222.649
C 1	86	-0.001	+444.640	-973.673
C 1	101	+0.053	+669.968	+184.929
C 1	101	-0.027	+160.662	+37.442
C 1	101	+0.018	+1096.500	+235.585
C 1	101	+0.007	-207.749	+13.386
C 1	101	+0.013	+444.375	+1222.627
C 1	101	+0.013	+444.375	-973.655

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	116	+0.036	+259.141	+83.912
C 1	116	-0.045	+423.856	+111.331
C 1	116	-0.017	+1089.621	+235.528
C 1	116	+0.008	-199.442	+13.364
C 1	116	-0.005	+445.089	+1222.238
C 1	116	-0.005	+445.089	-973.346
C 1	131	+0.060	+440.958	+110.407
C 1	131	-0.028	+346.184	+91.356
C 1	131	+0.033	+1064.783	+235.140
C 1	131	-0.001	-178.628	+12.361
C 1	131	+0.016	+443.078	+1215.411
C 1	131	+0.016	+443.078	-967.909
C 1	146	+0.030	+609.695	+129.257
C 1	146	-0.012	+90.954	+47.079
C 1	146	+0.027	+1013.579	+216.411
C 1	146	-0.009	-106.382	+6.627
C 1	146	+0.009	+453.599	+1095.273
C 1	146	+0.009	+453.599	-872.236
C 1	159	+0.004	+299.212	+86.919
C 1	159	-0.001	-24.403	+4.053
C 1	159	+0.004	+329.375	+93.815
C 1	159	-0.001	-78.364	+8.244
C 1	159	+0.002	+125.505	+501.186
C 1	159	+0.002	+125.505	-399.126

1.1.20.- ENVOLVENTES DE ESFUERZOS DE SC IPF 75 DOS VÍAS.

Nombre del fichero llbn

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
1	1	2	0.00	4.00	8.93	18.99	0.00	0	0.00
2	2	3	0.00	4.00	8.93	18.99	0.00	0	0.00
3	3	4	0.00	4.00	8.93	18.99	0.00	0	0.00
4	4	5	0.00	4.00	8.93	18.99	0.00	0	0.00
5	5	6	0.00	4.00	8.93	18.99	0.00	0	0.00
6	6	7	0.00	4.00	8.93	18.99	0.00	0	0.00
7	7	8	0.00	4.00	8.93	18.99	0.00	0	0.00
8	8	9	0.00	3.46	10.67	22.06	0.00	0	0.00
9	9	10	0.00	3.46	19.42	34.45	0.00	0	0.00
10	10	11	0.00	1.08	26.43	43.77	0.00	0	0.00
11	11	12	0.00	1.08	26.43	43.77	0.00	0	0.00
12	12	13	0.00	3.46	19.41	34.44	0.00	0	0.00
13	13	14	0.00	1.46	11.87	23.01	0.00	0	0.00
14	14	15	0.00	2.00	10.13	19.97	0.00	0	0.00
15	15	16	0.00	1.00	11.40	23.88	0.00	0	0.00
16	16	17	0.00	4.50	8.93	18.99	0.00	0	0.00
17	17	18	0.00	4.50	8.93	18.99	0.00	0	0.00
18	18	19	0.00	4.50	8.93	18.99	0.00	0	0.00
19	19	20	0.00	3.63	8.93	18.99	0.00	0	0.00
20	20	21	0.00	3.63	8.93	18.99	0.00	0	0.00
21	21	22	0.00	3.63	8.93	18.99	0.00	0	0.00
22	22	23	0.00	3.63	8.93	18.99	0.00	0	0.00
23	23	24	0.00	3.46	10.67	22.06	0.00	0	0.00
24	24	25	0.00	3.46	19.42	34.45	0.00	0	0.00
25	25	26	0.00	1.08	26.43	43.77	0.00	0	0.00
26	26	27	0.00	1.08	26.43	43.77	0.00	0	0.00
27	27	28	0.00	3.46	19.41	34.44	0.00	0	0.00
28	28	29	0.00	1.46	11.87	23.01	0.00	0	0.00
29	29	30	0.00	2.00	10.13	19.97	0.00	0	0.00
30	30	31	0.00	1.00	11.40	23.88	0.00	0	0.00
31	31	32	0.00	4.50	8.93	18.99	0.00	0	0.00
32	32	33	0.00	4.50	8.93	18.99	0.00	0	0.00
33	33	34	0.00	4.50	8.93	18.99	0.00	0	0.00
34	34	35	0.00	3.63	8.93	18.99	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
35	35	36	0.00	3.63	8.93	18.99	0.00	0	0.00
36	36	37	0.00	3.63	8.93	18.99	0.00	0	0.00
37	37	38	0.00	3.63	8.93	18.99	0.00	0	0.00
38	38	39	0.00	3.46	10.67	22.06	0.00	0	0.00
39	39	40	0.00	3.46	19.42	34.45	0.00	0	0.00
40	40	41	0.00	1.08	26.43	43.77	0.00	0	0.00
41	41	42	0.00	1.08	26.43	43.77	0.00	0	0.00
42	42	43	0.00	3.46	19.41	34.44	0.00	0	0.00
43	43	44	0.00	1.46	11.87	23.01	0.00	0	0.00
44	44	45	0.00	2.00	10.13	19.97	0.00	0	0.00
45	45	46	0.00	1.00	11.40	23.88	0.00	0	0.00
46	46	47	0.00	4.50	8.93	18.99	0.00	0	0.00
47	47	48	0.00	4.50	8.93	18.99	0.00	0	0.00
48	48	49	0.00	4.50	8.93	18.99	0.00	0	0.00
49	49	50	0.00	3.63	8.93	18.99	0.00	0	0.00
50	50	51	0.00	3.63	8.93	18.99	0.00	0	0.00
51	51	52	0.00	3.63	8.93	18.99	0.00	0	0.00
52	52	53	0.00	3.63	8.93	18.99	0.00	0	0.00
53	53	54	0.00	3.46	10.67	22.06	0.00	0	0.00
54	54	55	0.00	3.46	19.42	34.45	0.00	0	0.00
55	55	56	0.00	1.08	26.43	43.77	0.00	0	0.00
56	56	57	0.00	1.08	26.43	43.77	0.00	0	0.00
57	57	58	0.00	3.46	19.41	34.44	0.00	0	0.00
58	58	59	0.00	1.46	11.87	23.01	0.00	0	0.00
59	59	60	0.00	2.00	10.13	19.97	0.00	0	0.00
60	60	61	0.00	1.00	11.40	23.88	0.00	0	0.00
61	61	62	0.00	4.50	8.93	18.99	0.00	0	0.00
62	62	63	0.00	4.50	8.93	18.99	0.00	0	0.00
63	63	64	0.00	4.50	8.93	18.99	0.00	0	0.00
64	64	65	0.00	3.63	8.93	18.99	0.00	0	0.00
65	65	66	0.00	3.63	8.93	18.99	0.00	0	0.00
66	66	67	0.00	3.63	8.93	18.99	0.00	0	0.00
67	67	68	0.00	3.63	8.93	18.99	0.00	0	0.00
68	68	69	0.00	3.46	10.67	22.06	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
69	69	70	0.00	3.46	19.42	34.45	0.00	0	0.00
70	70	71	0.00	1.08	26.43	43.77	0.00	0	0.00
71	71	72	0.00	1.08	26.43	43.77	0.00	0	0.00
72	72	73	0.00	3.46	19.41	34.44	0.00	0	0.00
73	73	74	0.00	1.46	11.87	23.01	0.00	0	0.00
74	74	75	0.00	2.00	10.13	19.97	0.00	0	0.00
75	75	76	0.00	1.00	11.40	23.88	0.00	0	0.00
76	76	77	0.00	4.50	8.93	18.99	0.00	0	0.00
77	77	78	0.00	4.50	8.93	18.99	0.00	0	0.00
78	78	79	0.00	4.50	8.93	18.99	0.00	0	0.00
79	79	80	0.00	3.63	8.93	18.99	0.00	0	0.00
80	80	81	0.00	3.63	8.93	18.99	0.00	0	0.00
81	81	82	0.00	3.63	8.93	18.99	0.00	0	0.00
82	82	83	0.00	3.63	8.93	18.99	0.00	0	0.00
83	83	84	0.00	3.46	10.67	22.06	0.00	0	0.00
84	84	85	0.00	3.46	19.42	34.45	0.00	0	0.00
85	85	86	0.00	1.08	26.43	43.77	0.00	0	0.00
86	86	87	0.00	1.08	26.43	43.77	0.00	0	0.00
87	87	88	0.00	3.46	19.41	34.44	0.00	0	0.00
88	88	89	0.00	1.46	11.87	23.01	0.00	0	0.00
89	89	90	0.00	2.00	10.13	19.97	0.00	0	0.00
90	90	91	0.00	1.00	11.40	23.88	0.00	0	0.00
91	91	92	0.00	4.50	8.93	18.99	0.00	0	0.00
92	92	93	0.00	4.50	8.93	18.99	0.00	0	0.00
93	93	94	0.00	4.50	8.93	18.99	0.00	0	0.00
94	94	95	0.00	3.63	8.93	18.99	0.00	0	0.00
95	95	96	0.00	3.63	8.93	18.99	0.00	0	0.00
96	96	97	0.00	3.63	8.93	18.99	0.00	0	0.00
97	97	98	0.00	3.63	8.93	18.99	0.00	0	0.00
98	98	99	0.00	3.46	10.67	22.06	0.00	0	0.00
99	99	100	0.00	3.46	19.42	34.45	0.00	0	0.00
100	100	101	0.00	1.08	26.43	43.77	0.00	0	0.00
101	101	102	0.00	1.08	26.43	43.77	0.00	0	0.00
102	102	103	0.00	3.46	19.41	34.44	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
103	103	104	0.00	1.46	11.87	23.01	0.00	0	0.00
104	104	105	0.00	2.00	10.13	19.97	0.00	0	0.00
105	105	106	0.00	1.00	11.40	23.88	0.00	0	0.00
106	106	107	0.00	4.50	8.93	18.99	0.00	0	0.00
107	107	108	0.00	4.50	8.93	18.99	0.00	0	0.00
108	108	109	0.00	4.50	8.93	18.99	0.00	0	0.00
109	109	110	0.00	3.63	8.93	18.99	0.00	0	0.00
110	110	111	0.00	3.63	8.93	18.99	0.00	0	0.00
111	111	112	0.00	3.63	8.93	18.99	0.00	0	0.00
112	112	113	0.00	3.63	8.93	18.99	0.00	0	0.00
113	113	114	0.00	3.46	10.67	22.06	0.00	0	0.00
114	114	115	0.00	3.46	19.42	34.45	0.00	0	0.00
115	115	116	0.00	1.08	26.43	43.77	0.00	0	0.00
116	116	117	0.00	1.08	26.43	43.77	0.00	0	0.00
117	117	118	0.00	3.46	19.41	34.44	0.00	0	0.00
118	118	119	0.00	1.46	11.87	23.01	0.00	0	0.00
119	119	120	0.00	2.00	10.13	19.97	0.00	0	0.00
120	120	121	0.00	1.00	11.40	23.88	0.00	0	0.00
121	121	122	0.00	4.50	8.93	18.99	0.00	0	0.00
122	122	123	0.00	4.50	8.93	18.99	0.00	0	0.00
123	123	124	0.00	4.50	8.93	18.99	0.00	0	0.00
124	124	125	0.00	3.63	8.93	18.99	0.00	0	0.00
125	125	126	0.00	3.63	8.93	18.99	0.00	0	0.00
126	126	127	0.00	3.63	8.93	18.99	0.00	0	0.00
127	127	128	0.00	3.63	8.93	18.99	0.00	0	0.00
128	128	129	0.00	3.46	10.67	22.06	0.00	0	0.00
129	129	130	0.00	3.46	19.42	34.45	0.00	0	0.00
130	130	131	0.00	1.08	26.43	43.77	0.00	0	0.00
131	131	132	0.00	1.08	26.43	43.77	0.00	0	0.00
132	132	133	0.00	3.46	19.41	34.44	0.00	0	0.00
133	133	134	0.00	1.46	11.87	23.01	0.00	0	0.00
134	134	135	0.00	2.00	10.13	19.97	0.00	0	0.00
135	135	136	0.00	1.00	11.40	23.88	0.00	0	0.00
136	136	137	0.00	4.50	8.93	18.99	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
Módulo de elasticidad: 3500000
Módulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
137	137	138	0.00	4.50	8.93	18.99	0.00	0	0.00
138	138	139	0.00	4.50	8.93	18.99	0.00	0	0.00
139	139	140	0.00	3.63	8.93	18.99	0.00	0	0.00
140	140	141	0.00	3.63	8.93	18.99	0.00	0	0.00
141	141	142	0.00	3.63	8.93	18.99	0.00	0	0.00
142	142	143	0.00	3.63	8.93	18.99	0.00	0	0.00
143	143	144	0.00	3.46	10.67	22.06	0.00	0	0.00
144	144	145	0.00	3.46	19.42	34.45	0.00	0	0.00
145	145	146	0.00	1.08	26.43	43.77	0.00	0	0.00
146	146	147	0.00	1.08	26.43	43.77	0.00	0	0.00
147	147	148	0.00	3.46	19.41	34.44	0.00	0	0.00
148	148	149	0.00	1.46	11.87	23.01	0.00	0	0.00
149	149	150	0.00	2.00	10.13	19.97	0.00	0	0.00
150	150	151	0.00	1.00	11.40	23.88	0.00	0	0.00
151	151	152	0.00	3.38	8.93	18.99	0.00	0	0.00
152	152	153	0.00	3.38	8.93	18.99	0.00	0	0.00
153	153	154	0.00	3.38	8.93	18.99	0.00	0	0.00
154	154	155	0.00	3.38	8.93	18.99	0.00	0	0.00
155	155	156	0.00	3.38	8.93	18.99	0.00	0	0.00
156	156	157	0.00	3.38	8.93	18.99	0.00	0	0.00
157	157	158	0.00	3.38	8.93	18.99	0.00	0	0.00
158	158	159	0.00	3.38	8.93	18.99	0.00	0	0.00

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
1	0.00	0.00
2	0.00	4.00
3	0.00	8.00
4	0.00	12.00
5	0.00	16.00
6	0.00	20.00
7	0.00	24.00
8	0.00	28.00
9	0.00	31.46
10	0.00	34.92
11	0.00	36.00
12	0.00	37.08
13	0.00	40.54
14	0.00	42.00
15	0.00	44.00
16	0.00	45.00
17	0.00	49.50
18	0.00	54.00
19	0.00	58.50
20	0.00	62.13
21	0.00	65.75
22	0.00	69.38
23	0.00	73.00
24	0.00	76.46
25	0.00	79.92
26	0.00	81.00
27	0.00	82.08
28	0.00	85.54
29	0.00	87.00
30	0.00	89.00
31	0.00	90.00
32	0.00	94.50
33	0.00	99.00
34	0.00	103.50
35	0.00	107.13
36	0.00	110.75
37	0.00	114.38
38	0.00	118.00
39	0.00	121.46
40	0.00	124.92
41	0.00	126.00
42	0.00	127.08
43	0.00	130.54
44	0.00	132.00
45	0.00	134.00
46	0.00	135.00
47	0.00	139.50
48	0.00	144.00
49	0.00	148.50
50	0.00	152.13

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
51	0.00	155.75
52	0.00	159.38
53	0.00	163.00
54	0.00	166.46
55	0.00	169.92
56	0.00	171.00
57	0.00	172.08
58	0.00	175.54
59	0.00	177.00
60	0.00	179.00
61	0.00	180.00
62	0.00	184.50
63	0.00	189.00
64	0.00	193.50
65	0.00	197.13
66	0.00	200.75
67	0.00	204.38
68	0.00	208.00
69	0.00	211.46
70	0.00	214.92
71	0.00	216.00
72	0.00	217.08
73	0.00	220.54
74	0.00	222.00
75	0.00	224.00
76	0.00	225.00
77	0.00	229.50
78	0.00	234.00
79	0.00	238.50
80	0.00	242.13
81	0.00	245.75
82	0.00	249.38
83	0.00	253.00
84	0.00	256.46
85	0.00	259.92
86	0.00	261.00
87	0.00	262.08
88	0.00	265.54
89	0.00	267.00
90	0.00	269.00
91	0.00	270.00
92	0.00	274.50
93	0.00	279.00
94	0.00	283.50
95	0.00	287.13
96	0.00	290.75
97	0.00	294.38
98	0.00	298.00
99	0.00	301.46
100	0.00	304.92

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
101	0.00	306.00
102	0.00	307.08
103	0.00	310.54
104	0.00	312.00
105	0.00	314.00
106	0.00	315.00
107	0.00	319.50
108	0.00	324.00
109	0.00	328.50
110	0.00	332.12
111	0.00	335.75
112	0.00	339.37
113	0.00	343.00
114	0.00	346.46
115	0.00	349.92
116	0.00	351.00
117	0.00	352.08
118	0.00	355.54
119	0.00	357.00
120	0.00	359.00
121	0.00	360.00
122	0.00	364.50
123	0.00	369.00
124	0.00	373.50
125	0.00	377.12
126	0.00	380.75
127	0.00	384.37
128	0.00	388.00
129	0.00	391.46
130	0.00	394.92
131	0.00	396.00
132	0.00	397.08
133	0.00	400.54
134	0.00	402.00
135	0.00	404.00
136	0.00	405.00
137	0.00	409.50
138	0.00	414.00
139	0.00	418.50
140	0.00	422.12
141	0.00	425.75
142	0.00	429.37
143	0.00	433.00
144	0.00	436.46
145	0.00	439.92
146	0.00	441.00
147	0.00	442.08
148	0.00	445.54
149	0.00	447.00
150	0.00	449.00

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
151	0.00	450.00
152	0.00	453.37
153	0.00	456.75
154	0.00	460.12
155	0.00	463.50
156	0.00	466.87
157	0.00	470.25
158	0.00	473.62
159	0.00	477.00

Condiciones de contorno

Nudo	KgiroX	KgiroY	KdeltaZ	Angcoa
1	0.00E+00	1.00E+19	1.00E+19	0.0
11	0.00E+00	1.00E+19	1.00E+19	0.0
26	0.00E+00	1.00E+19	1.00E+19	0.0
41	0.00E+00	1.00E+19	1.00E+19	0.0
56	0.00E+00	1.00E+19	1.00E+19	0.0
71	0.00E+00	1.00E+19	1.00E+19	0.0
86	0.00E+00	1.00E+19	1.00E+19	0.0
101	0.00E+00	1.00E+19	1.00E+19	0.0
116	0.00E+00	1.00E+19	1.00E+19	0.0
131	0.00E+00	1.00E+19	1.00E+19	0.0
146	0.00E+00	1.00E+19	1.00E+19	0.0
159	0.00E+00	1.00E+19	1.00E+19	0.0

Nombre del fichero: i75

Carga en barras (tipos de carga)

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Repartida Uniforme    :  Tipo (0) , P       , A , B ,Vertical
Torsor uniforme       :  Tipo (1) , mt      , A , B
Concentrada           :  Tipo (2) , F       , A ,     Vertical
Torsor concentrado    :  Tipo (3) , MT      , A , B
Pretensado            :  Tipo (4) , Binic, Bfin , v1, v2, Paso
Gradiente termico     :  Tipo (5) , Grad. Temp. øC , Coef. dilat.
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Hip¢tesis de carga No. 1: ipf75 1

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	1,2,3,4,5,6,7
1	33.24		0.00	1.00	1,2,3,4,5,6,7
0	-12.00		0.00	0.58	8
1	33.24		0.00	0.58	8
0	-10.00		0.58	1.00	8
0	27.70		0.58	1.00	8
0	-10.00		0.00	1.00	9,10
1	27.70		0.58	1.00	9,10
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	2.77		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	27.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

Hip¢tesis de carga No. 2: ipf752

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	1,2,3,4,5,6,7
1	-29.64		0.00	1.00	1,2,3,4,5,6,7
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	-2.47		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-24.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	9,10
1	-24.70		0.00	1.00	9,10
0	-12.00		0.00	0.58	8
1	-29.64		0.00	0.58	8
0	-10.00		0.58	1.00	8
1	-24.70		0.58	1.00	8

Hip¢tesis de carga No. 3: ipf75 3

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	2,3,4,5,6,7,8
1	33.34		0.00	1.00	2,3,4,5,6,7,8
0	-12.00		0.00	0.73	9
1	33.24		0.00	0.73	9
0	-10.00		0.73	1.00	9
0	27.70		0.73	1.00	9
0	-10.00		0.00	1.00	10
1	27.70		0.58	1.00	10
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	2.77		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	27.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

Hip¢tesis de carga No. 4: ipf75 4

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	2,3,4,5,6,7,8
1	-29.64		0.00	1.00	2,3,4,5,6,7,8
0	-12.00		0.00	0.73	9
1	-29.64		0.00	0.73	9
0	-10.00		0.73	1.00	9
0	-24.70		0.73	1.00	9
0	-10.00		0.00	1.00	10
1	-24.70		0.58	1.00	10
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	-2.47		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-24.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

Hip¢tesis de carga No. 5: ipf75 5

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.50	1.00	2
1	33.24		0.50	1.00	2
0	-12.00		0.00	1.00	3,4,5,6,7,8,9,10
1	33.24		0.00	1.00	3,4,5,6,7,8,9,10
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	2.77		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	27.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

Hip¢tesis de carga No. 6: ipf75 6

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.50	1.00	2
1	-29.64		0.50	1.00	2
0	-12.00		0.00	1.00	3,4,5,6,7,8,9,10
1	-29.64		0.00	1.00	3,4,5,6,7,8,9,10
0	-1.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
1	-2.47		0.00	1.00	11,12,13,14,15,16,17,18,19,20,21,22,23,24,25
0	-10.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-24.70		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40

Hip¢tesis de carga No. 7: ipf75 7

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	6,7,8,9,10,11,12,13,14,15,16
1	33.24		0.00	1.00	6,7,8,9,10,11,12,13,14,15,16
0	-12.00		0.00	0.11	17
1	33.24		0.00	0.11	17
0	-10.00		0.11	1.00	17
1	27.70		0.11	1.00	17
0	-10.00		0.00	1.00	18,19,20,21,22,23,24,25
1	27.70		0.00	1.00	18,19,20,21,22,23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	2.77		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51
1	27.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51

Hip¢tesis de carga No. 8: ipf75 8

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	6,7,8,9,10,11,12,13,14,15,16
1	-29.64		0.00	1.00	6,7,8,9,10,11,12,13,14,15,16
0	-12.00		0.00	0.11	17
1	-29.64		0.00	0.11	17
0	-10.00		0.11	1.00	17
1	-24.70		0.11	1.00	17
0	-10.00		0.00	1.00	18,19,20,21,22,23,24,25
1	-24.70		0.00	1.00	18,19,20,21,22,23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-2.47		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51
1	-24.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51

Hip¢tesis de carga No. 9: ipf75 9

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20
1	33.24		0.00	1.00	11,12,13,14,15,16,17,18,19,20
0	-12.00		0.00	0.07	21
1	33.24		0.00	0.07	21
0	-10.00		0.07	1.00	21
1	27.70		0.07	1.00	21
0	-10.00		0.00	1.00	22,23,24,25
1	27.70		0.00	1.00	22,23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	2.77		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	27.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55

Hip¢tesis de carga No. 10: ipf75 10

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	11,12,13,14,15,16,17,18,19,20
1	-29.64		0.00	1.00	11,12,13,14,15,16,17,18,19,20
0	-12.00		0.00	0.07	21
1	-29.64		0.00	0.07	21
0	-10.00		0.07	1.00	21
1	-24.70		0.07	1.00	21
0	-10.00		0.00	1.00	22,23,24,25
1	-24.70		0.00	1.00	22,23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-2.47		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	-24.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,53,63,64,55

Hip¢tesis de carga No. 11: ipf75 11

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	13,14,15,16,17,18,19,20,21
1	33.24		0.00	1.00	13,14,15,16,17,18,19,20,21
0	-12.00		0.00	0.32	22
1	33.24		0.00	0.32	22
0	-10.00		0.32	1.00	22
1	27.70		0.32	1.00	22
0	-10.00		0.00	1.00	23,24,25
1	27.70		0.00	1.00	23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	2.77		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	27.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55

Hip¢tesis de carga No. 12: ipf75 12

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	13,14,15,16,17,18,19,20,21
1	-29.64		0.00	1.00	13,14,15,16,17,18,19,20,21
0	-12.00		0.00	0.32	22
1	-29.64		0.00	0.32	22
0	-10.00		0.32	1.00	22
1	-24.70		0.32	1.00	22
0	-10.00		0.00	1.00	23,24,25
1	-24.70		0.00	1.00	23,24,25
0	-1.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
1	-2.47		0.00	1.00	26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
0	-10.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	-24.70		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55

Hip¢tesis de carga No. 13: ipf75 13

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	21,22,23,24,25,26,27,28,29,30,31
1	33.24		0.00	1.00	21,22,23,24,25,26,27,28,29,30,31
0	-12.00		0.00	0.28	32
1	33.24		0.00	0.28	32
0	-10.00		0.28	1.00	32
1	27.70		0.28	1.00	32
0	-10.00		0.00	1.00	33,34,35,36,37,38,39,40
1	27.70		0.00	1.00	33,34,35,36,37,38,39,40
0	-1.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	2.77		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
0	-10.00		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	27.70		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70

Hip¢tesis de carga No. 14: ipf75 14

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	21,22,23,24,25,26,27,28,29,30,31
1	-29.64		0.00	1.00	21,22,23,24,25,26,27,28,29,30,31
0	-12.00		0.00	0.28	32
1	-29.64		0.00	0.28	32
0	-10.00		0.28	1.00	32
1	-24.70		0.28	1.00	32
0	-10.00		0.00	1.00	33,34,35,36,37,38,39,40
1	-24.70		0.00	1.00	33,34,35,36,37,38,39,40
0	-1.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	-2.47		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
0	-10.00		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	-24.70		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70

Hip¢tesis de carga No. 15: ipf75 15

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35
1	33.24		0.00	1.00	26,27,28,29,30,31,32,33,34,35
0	-12.00		0.00	0.07	36
1	33.24		0.00	0.07	36
0	-10.00		0.07	1.00	36
1	27.70		0.07	1.00	36
0	-10.00		0.00	1.00	37,38,39,40
1	27.70		0.00	1.00	37,38,39,40
0	-1.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	2.77		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
0	-10.00		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	27.70		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70

Hip¢tesis de carga No. 16: ipf75 16

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35
1	-29.64		0.00	1.00	26,27,28,29,30,31,32,33,34,35
0	-12.00		0.00	0.07	36
1	-29.64		0.00	0.07	36
0	-10.00		0.07	1.00	36
1	-24.70		0.07	1.00	36
0	-10.00		0.00	1.00	37,38,39,40
1	-24.70		0.00	1.00	37,38,39,40
0	-1.00		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
1	-2.47		0.00	1.00	41,42,43,44,45,46,47,48,49,50,51,52,53,54,55
0	-10.00		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	-24.70		0.00	1.00	56,57,58,59,60,61,62,63,64,65,66,67,68,69,70

Hip¢tesis de carga No. 17: ipf75 17

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35
1	33.24		0.00	1.00	26,27,28,29,30,31,32,33,34,35
0	-12.00		0.00	0.32	52
1	33.24		0.00	0.32	52
0	-10.00		0.32	1.00	52
1	27.70		0.32	1.00	52
0	-10.00		0.00	1.00	53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	27.70		0.00	1.00	53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
0	-1.00		0.00	1.00	71,72,73,74,75,76,77,78,79,80,81,82,83,84,85
1	2.77		0.00	1.00	71,72,73,74,75,76,77,78,79,80,81,82,83,84,85
0	-10.00		0.00	1.00	86,87,88,89,90,91,92,93,94,95,96,97,98,99,100
1	27.70		0.00	1.00	86,87,88,89,90,91,92,93,94,95,96,97,98,99,100

Hip¢tesis de carga No. 18: ipf75 18

Tipocarga	D1	D2	D3	D4	Barras
0	-12.00		0.00	1.00	26,27,28,29,30,31,32,33,34,35
1	-29.64		0.00	1.00	26,27,28,29,30,31,32,33,34,35
0	-12.00		0.00	0.32	52
1	-29.64		0.00	0.32	52
0	-10.00		0.32	1.00	52
1	-24.70		0.32	1.00	52
0	-10.00		0.00	1.00	53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
1	-24.70		0.00	1.00	53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70
0	-1.00		0.00	1.00	71,72,73,74,75,76,77,78,79,80,81,82,83,84,85
1	-2.47		0.00	1.00	71,72,73,74,75,76,77,78,79,80,81,82,83,84,85
0	-10.00		0.00	1.00	86,87,88,89,90,91,92,93,94,95,96,97,98,99,100
1	-24.70		0.00	1.00	86,87,88,89,90,91,92,93,94,95,96,97,98,99,100

Hipotesis y/o Combinaciones de carga consideradas
Hipotesis: C 1 = +1.00*(Hip: 1)
Hipotesis: C 2 = +1.00*(Hip: 1)+1.00*(Hip: 2)
Hipotesis: C 3 = +1.00*(Hip: 3)
Hipotesis: C 4 = +1.00*(Hip: 3)+1.00*(Hip: 4)
Hipotesis: C 5 = +1.00*(Hip: 5)
Hipotesis: C 6 = +1.00*(Hip: 5)+1.00*(Hip: 6)
Hipotesis: C 7 = +1.00*(Hip: 7)
Hipotesis: C 8 = +1.00*(Hip: 7)+1.00*(Hip: 8)
Hipotesis: C 9 = +1.00*(Hip: 9)
Hipotesis: C10 = +1.00*(Hip: 9)+1.00*(Hip:10)
Hipotesis: C11 = +1.00*(Hip:11)
Hipotesis: C12 = +1.00*(Hip:11)+1.00*(Hip:12)
Hipotesis: C13 = +1.00*(Hip:13)
Hipotesis: C14 = +1.00*(Hip:13)+1.00*(Hip:14)
Hipotesis: C15 = +1.00*(Hip:15)
Hipotesis: C16 = +1.00*(Hip:15)+1.00*(Hip:16)
Hipotesis: C17 = +1.00*(Hip:17)
Hipotesis: C18 = +1.00*(Hip:17)+1.00*(Hip:18)

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+551.390	+188.220	-0.004	+418.430	+140.220	+656.877
C 2	+48.102	+379.806	-0.004	+33.702	+283.806	+1327.220
C 3	+447.827	+146.976	-0.004	+447.827	+146.976	+587.901
C 4	+49.655	+295.049	-0.004	+49.655	+295.049	+1180.194
C 5	+397.261	+127.938	-0.002	+397.261	+127.938	+511.751
C 6	+43.025	+255.876	-0.004	+43.025	+255.876	+1023.502
C 7	+160.065	-11.479	+0.000	+160.065	-11.479	-45.914
C 8	+17.3 36	-22.957	+0.000	+17.336	-22.957	-91.828
C 9	+48.777	-43.473	+0.000	+48.777	-43.473	-173.892
C10	+5.287	-86.946	+0.000	+5.287	-86.946	-347.783
C11	+40.082	-42.477	+0.002	+40.082	-42.477	-169.906
C12	+4.341	-84.953	+0.004	+4.341	-84.953	-339.813
C13	+8.540	+5.367	+0.000	+8.540	+5.367	+21.470
C14	+0.925	+10.735	+0.000	+0.925	+10.735	+42.939
C15	+2.772	+13.995	+0.000	+2.772	+13.995	+55.981
C16	+0.300	+27.991	+0.000	+0.300	+27.991	+111.963
C17	+2.486	+12.034	-0.000	+2.486	+12.034	+48.134
C18	+0.269	+24.067	-0.000	+0.269	+24.067	+96.268
Barra 2						
C 1	+418.430	+140.219	+656.875	+285.470	+92.219	+1121.754
C 2	+33.702	+283.805	+1327.223	+19.302	+187.805	+2270.441
C 3	+447.827	+146.977	+587.902	+314.467	+98.977	+1079.805
C 4	+49.655	+295.053	+1180.191	+34.855	+199.053	+2168.395
C 5	+397.261	+127.938	+511.746	+330.781	+103.938	+999.498
C 6	+43.025	+255.875	+1023.492	+35.825	+207.875	+1998.996
C 7	+160.065	-11.478	-45.914	+160.065	-11.478	-91.827
C 8	+17.336	-22.957	-91.828	+17.336	-22.957	-183.653
C 9	+48.777	-43.472	-173.893	+48.777	-43.472	-347.781
C10	+5.287	-86.943	-347.785	+5.287	-86.943	-695.563
C11	+40.082	-42.477	-169.906	+40.082	-42.477	-339.813
C12	+4.341	-84.953	-339.813	+4.341	-84.953	-679.625
C13	+8.540	+5.368	+21.470	+8.540	+5.368	+42.940
C14	+0.925	+10.735	+42.939	+0.925	+10.735	+85.879
C15	+2.772	+13.996	+55.981	+2.772	+13.996	+111.963
C16	+0.300	+27.991	+111.963	+0.300	+27.991	+223.926
C17	+2.486	+12.033	+48.134	+2.486	+12.033	+96.268
C18	+0.269	+24.066	+96.269	+0.269	+24.066	+192.535

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 3						
C 1	+285.470	+92.219	+1121.746	+152.510	+44.219	+1394.625
C 2	+19.302	+187.805	+2270.434	+4.902	+91.805	+2829.648
C 3	+314.467	+98.975	+1079.801	+181.107	+50.975	+1379.695
C 4	+34.855	+199.047	+2168.387	+20.055	+103.047	+2772.563
C 5	+330.781	+103.938	+999.496	+197.821	+55.938	+1319.246
C 6	+35.825	+207.875	+1998.992	+21.425	+111.875	+2638.492
C 7	+160.065	-11.478	-91.828	+160.065	-11.478	-137.739
C 8	+17.336	-22.956	-183.656	+17.336	-22.956	-275.479
C 9	+48.777	-43.472	-347.781	+48.777	-43.472	-521.670
C10	+5.287	-86.943	-695.563	+5.287	-86.943	-1043.340
C11	+40.082	-42.476	-339.809	+40.082	-42.476	-509.711
C12	+4.341	-84.951	-679.617	+4.341	-84.951	-1019.422
C13	+8.540	+5.367	+42.940	+8.540	+5.367	+64.408
C14	+0.925	+10.734	+85.879	+0.925	+10.734	+128.817
C15	+2.772	+13.995	+111.963	+2.772	+13.995	+167.941
C16	+0.300	+27.989	+223.926	+0.300	+27.989	+335.883
C17	+2.486	+12.034	+96.268	+2.486	+12.034	+144.400
C18	+0.269	+24.067	+192.535	+0.269	+24.067	+288.801
Barra 4						
C 1	+152.510	+44.211	+1394.633	+19.550	-3.789	+1475.469
C 2	+4.902	+91.793	+2829.656	-9.498	-4.207	+3004.813
C 3	+181.107	+50.969	+1379.695	+47.747	+2.969	+1487.570
C 4	+20.055	+103.031	+2772.570	+5.255	+7.031	+2992.711
C 5	+197.821	+55.930	+1319.242	+64.861	+7.930	+1446.965
C 6	+21.425	+111.859	+2638.484	+7.025	+15.859	+2893.930
C 7	+160.065	-11.478	-137.740	+160.065	-11.478	-183.650
C 8	+17.336	-22.955	-275.480	+17.336	-22.955	-367.301
C 9	+48.777	-43.473	-521.668	+48.777	-43.473	-695.555
C10	+5.287	-86.945	-1043.336	+5.287	-86.945	-1391.109
C11	+40.082	-42.473	-509.711	+40.082	-42.473	-679.605
C12	+4.341	-84.945	-1019.422	+4.341	-84.945	-1359.211
C13	+8.540	+5.367	+64.409	+8.540	+5.367	+85.877
C14	+0.925	+10.734	+128.817	+0.925	+10.734	+171.754
C15	+2.772	+13.994	+167.943	+2.772	+13.994	+223.920
C16	+0.300	+27.988	+335.887	+0.300	+27.988	+447.840
C17	+2.486	+12.033	+144.400	+2.486	+12.033	+192.530
C18	+0.269	+24.065	+288.801	+0.269	+24.065	+385.061

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 5						
C 1	+19.550	-3.777	+1475.469	-113.410	-51.777	+1364.344
C 2	-9.498	-4.195	+3004.828	-23.898	-100.195	+2796.023
C 3	+47.748	+2.973	+1487.578	-85.612	-45.027	+1403.477
C 4	+5.256	+7.043	+2992.727	-9.544	-88.957	+2828.914
C 5	+64.861	+7.934	+1446.977	-68.099	-40.066	+1382.711
C 6	+7.025	+15.867	+2893.953	-7.375	-80.133	+2765.422
C 7	+160.065	-11.478	-183.652	+160.065	-11.478	-229.562
C 8	+17.335	-22.955	-367.305	+17.335	-22.955	-459.123
C 9	+48.777	-43.471	-695.555	+48.777	-43.471	-869.438
C10	+5.287	-86.941	-1391.109	+5.287	-86.941	-1738.875
C11	+40.082	-42.475	-679.609	+40.082	-42.475	-849.508
C12	+4.341	-84.949	-1359.219	+4.341	-84.949	-1699.016
C13	+8.540	+5.367	+85.877	+8.540	+5.367	+107.346
C14	+0.925	+10.734	+171.755	+0.925	+10.734	+214.692
C15	+2.772	+13.994	+223.923	+2.772	+13.994	+279.899
C16	+0.300	+27.988	+447.846	+0.300	+27.988	+559.799
C17	+2.486	+12.033	+192.531	+2.486	+12.033	+240.664
C18	+0.269	+24.066	+385.063	+0.269	+24.066	+481.328
Barra 6						
C 1	-113.410	-51.781	+1364.340	-246.370	-99.781	+1061.215
C 2	-23.898	-100.195	+2796.020	-38.298	-196.195	+2203.246
C 3	-85.613	-45.023	+1403.469	-218.973	-93.023	+1127.375
C 4	-9.545	-88.949	+2828.898	-24.345	-184.949	+2281.094
C 5	-68.099	-40.061	+1382.703	-201.059	-88.061	+1126.465
C 6	-7.375	-80.121	+2765.406	-21.775	-176.121	+2252.930
C 7	+160.065	-11.479	-229.561	+27.105	-59.479	-371.479
C 8	+17.336	-22.957	-459.121	+2.936	-118.957	-742.957
C 9	+48.777	-43.473	-869.438	+48.777	-43.473	-1043.328
C10	+5.287	-86.945	-1738.875	+5.287	-86.945	-2086.656
C11	+40.082	-42.477	-849.512	+40.082	-42.477	-1019.418
C12	+4.341	-84.953	-1699.023	+4.341	-84.953	-2038.836
C13	+8.540	+5.368	+107.346	+8.540	+5.368	+128.816
C14	+0.925	+10.735	+214.692	+0.925	+10.735	+257.633
C15	+2.772	+13.996	+279.899	+2.772	+13.996	+335.882
C16	+0.300	+27.991	+559.799	+0.300	+27.991	+671.764
C17	+2.486	+12.033	+240.664	+2.486	+12.033	+288.798
C18	+0.269	+24.066	+481.328	+0.269	+24.066	+577.596

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 7						
C 1	-246.370	-99.779	+1061.223	-379.330	-147.779	+566.102
C 2	-38.298	-196.191	+2203.250	-52.698	-292.191	+1226.484
C 3	-218.973	-93.020	+1127.367	-352.333	-141.020	+659.289
C 4	-24.345	-184.943	+2281.082	-39.145	-280.943	+1349.316
C 5	-201.059	-88.057	+1126.453	-334.019	-136.057	+678.230
C 6	-21.775	-176.113	+2252.906	-36.175	-272.113	+1356.461
C 7	+27.105	-59.479	-371.477	-105.855	-107.479	-705.395
C 8	+2.936	-118.959	-742.953	-11.464	-214.959	-1410.789
C 9	+48.777	-43.475	-1043.328	+48.777	-43.475	-1217.230
C10	+5.287	-86.949	-2086.656	+5.287	-86.949	-2434.461
C11	+40.082	-42.477	-1019.418	+40.082	-42.477	-1189.328
C12	+4.341	-84.953	-2038.836	+4.341	-84.953	-2378.656
C13	+8.540	+5.368	+128.816	+8.540	+5.368	+150.287
C14	+0.925	+10.735	+257.633	+0.925	+10.735	+300.573
C15	+2.772	+13.997	+335.882	+2.772	+13.997	+391.868
C16	+0.300	+27.993	+671.764	+0.300	+27.993	+783.736
C17	+2.486	+12.034	+288.798	+2.486	+12.034	+336.936
C18	+0.269	+24.068	+577.596	+0.269	+24.068	+673.871
Barra 8						
C 1	-379.330	-147.779	+566.112	-445.806	-145.933	+14.623
C 2	-52.698	-292.191	+1226.504	-23.833	-328.945	+105.648
C 3	-352.333	-141.021	+659.294	-467.689	-182.541	+99.524
C 4	-39.145	-280.945	+1349.322	-51.947	-363.985	+233.596
C 5	-334.019	-136.058	+678.228	-449.029	-177.578	+135.630
C 6	-36.175	-272.117	+1356.455	-48.631	-355.157	+271.260
C 7	-105.855	-107.479	-705.399	-220.866	-148.999	-1149.106
C 8	-11.464	-214.959	-1410.799	-23.920	-297.999	-2298.213
C 9	+48.777	-43.473	-1217.238	+48.777	-43.473	-1367.656
C10	+5.287	-86.945	-2434.477	+5.287	-86.945	-2735.313
C11	+40.082	-42.479	-1189.332	+40.082	-42.479	-1336.316
C12	+4.341	-84.957	-2378.664	+4.341	-84.957	-2672.633
C13	+8.540	+5.368	+150.287	+8.540	+5.368	+168.861
C14	+0.925	+10.736	+300.574	+0.925	+10.736	+337.722
C15	+2.772	+13.997	+391.867	+2.772	+13.997	+440.295
C16	+0.300	+27.994	+783.734	+0.300	+27.994	+880.590
C17	+2.486	+12.034	+336.935	+2.486	+12.034	+378.575
C18	+0.269	+24.068	+673.869	+0.269	+24.068	+757.150

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 9						
C 1	-445.806	-145.930	+14.623	-486.251	-180.530	-550.164
C 2	-23.833	-328.939	+105.643	+21.184	-398.139	-1152.214
C 3	-467.689	-182.542	+99.521	-552.107	-196.727	-591.327
C 4	-51.947	-363.987	+233.579	-61.089	-440.584	-1166.507
C 5	-449.030	-177.580	+135.626	-564.040	-219.100	-550.632
C 6	-48.631	-355.160	+271.252	-61.087	-438.200	-1101.264
C 7	-220.866	-149.000	-1149.106	-335.876	-190.520	-1736.470
C 8	-23.921	-298.000	-2298.213	-36.377	-381.040	-3472.939
C 9	+48.777	-43.477	-1367.652	+48.777	-43.477	-1518.078
C10	+5.287	-86.953	-2735.305	+5.287	-86.953	-3036.156
C11	+40.082	-42.482	-1336.305	+40.082	-42.482	-1483.285
C12	+4.341	-84.965	-2672.609	+4.341	-84.965	-2966.570
C13	+8.540	+5.368	+168.859	+8.540	+5.368	+187.432
C14	+0.925	+10.736	+337.719	+0.925	+10.736	+374.863
C15	+2.772	+13.996	+440.294	+2.772	+13.996	+488.719
C16	+0.300	+27.992	+880.588	+0.300	+27.992	+977.438
C17	+2.486	+12.034	+378.574	+2.486	+12.034	+420.210
C18	+0.269	+24.067	+757.148	+0.269	+24.067	+840.420
Barra 10						
C 1	-486.251	-180.522	-550.167	-498.876	-191.322	-750.956
C 2	+21.184	-398.122	-1152.202	+35.235	-419.722	-1593.866
C 3	-552.107	-196.741	-591.316	-564.731	-207.541	-809.613
C 4	-61.089	-440.591	-1166.491	-62.456	-462.191	-1653.991
C 5	-564.040	-219.098	-550.627	-599.939	-232.058	-794.245
C 6	-61.087	-438.196	-1101.255	-64.975	-464.116	-1588.489
C 7	-335.876	-190.520	-1736.467	-371.775	-203.480	-1949.233
C 8	-36.376	-381.040	-3472.934	-40.264	-406.960	-3898.466
C 9	+48.777	-43.500	-1518.070	+48.777	-43.500	-1565.031
C10	+5.287	-87.000	-3036.141	+5.287	-87.000	-3130.063
C11	+40.082	-42.516	-1483.281	+40.082	-42.516	-1529.156
C12	+4.341	-85.031	-2966.563	+4.341	-85.031	-3058.313
C13	+8.540	+5.365	+187.433	+8.540	+5.365	+193.230
C14	+0.925	+10.730	+374.865	+0.925	+10.730	+386.461
C15	+2.772	+14.000	+488.717	+2.772	+14.000	+503.836
C16	+0.300	+28.000	+977.434	+0.300	+28.000	+1007.672
C17	+2.486	+12.043	+420.211	+2.486	+12.043	+433.211
C18	+0.269	+24.086	+840.422	+0.269	+24.086	+866.422

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 11						
C 1	+69.172	+16.540	-750.972	+66.180	+15.460	-733.664
C 2	+12.565	+35.830	-1593.882	+12.241	+33.670	-1556.339
C 3	+65.429	+18.274	-809.613	+62.438	+17.194	-790.457
C 4	+7.013	+37.627	-1654.007	+6.689	+35.467	-1614.542
C 5	+63.428	+17.853	-794.277	+60.437	+16.772	-775.558
C 6	+6.869	+35.705	-1588.554	+6.545	+33.545	-1551.116
C 7	+670.752	+272.683	-1949.205	+634.853	+259.723	-1661.745
C 8	+72.644	+545.366	-3898.411	+68.756	+519.446	-3323.489
C 9	+740.049	+274.746	-1565.026	+704.150	+261.786	-1275.284
C10	+80.217	+549.491	-3130.052	+76.329	+523.571	-2550.567
C11	+608.123	+224.406	-1529.141	+608.123	+224.406	-1286.797
C12	+65.862	+448.813	-3058.281	+65.862	+448.813	-2573.594
C13	+129.563	-15.934	+193.229	+129.563	-15.934	+176.022
C14	+14.032	-31.867	+386.457	+14.032	-31.867	+352.045
C15	+42.061	-44.984	+503.828	+42.061	-44.984	+455.232
C16	+4.555	-89.969	+1007.656	+4.555	-89.969	+910.465
C17	+37.725	-38.695	+433.207	+37.725	-38.695	+391.414
C18	+4.086	-77.391	+866.414	+4.086	-77.391	+782.828
Barra 12						
C 1	+66.180	+15.507	-733.666	+56.596	+12.047	-685.998
C 2	+12.241	+33.720	-1556.343	+11.203	+26.800	-1451.648
C 3	+62.437	+17.234	-790.459	+52.853	+13.774	-736.814
C 4	+6.689	+35.491	-1614.569	+5.651	+28.571	-1503.737
C 5	+60.436	+16.781	-775.584	+50.852	+13.321	-723.505
C 6	+6.546	+33.562	-1551.167	+5.508	+26.642	-1447.011
C 7	+634.853	+259.707	-1661.722	+519.843	+218.187	-834.964
C 8	+68.757	+519.415	-3323.443	+56.301	+436.375	-1669.928
C 9	+704.150	+261.781	-1275.276	+589.140	+220.261	-441.339
C10	+76.329	+523.563	-2550.552	+63.873	+440.523	-882.678
C11	+608.123	+224.398	-1286.777	+608.123	+224.398	-510.359
C12	+65.862	+448.797	-2573.555	+65.862	+448.797	-1020.719
C13	+129.563	-15.929	+176.021	+129.563	-15.929	+120.904
C14	+14.032	-31.859	+352.041	+14.032	-31.859	+241.808
C15	+42.061	-44.992	+455.232	+42.061	-44.992	+299.561
C16	+4.555	-89.984	+910.465	+4.555	-89.984	+599.121
C17	+37.725	-38.690	+391.414	+37.725	-38.690	+257.545
C18	+4.086	-77.381	+782.828	+4.086	-77.381	+515.090

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 13						
C 1	+56.596	+12.042	-686.021	+52.552	+10.583	-669.490
C 2	+11.203	+26.804	-1451.699	+10.765	+23.884	-1414.668
C 3	+52.853	+13.761	-736.849	+48.809	+12.301	-717.756
C 4	+5.651	+28.554	-1503.808	+5.213	+25.634	-1464.183
C 5	+50.852	+13.324	-723.537	+46.808	+11.864	-705.131
C 6	+5.507	+26.647	-1447.074	+5.069	+23.728	-1410.261
C 7	+519.843	+218.166	-834.960	+471.312	+200.646	-529.194
C 8	+56.301	+436.332	-1669.919	+51.045	+401.293	-1058.388
C 9	+589.139	+220.229	-441.350	+540.609	+202.709	-132.538
C10	+63.873	+440.457	-882.701	+58.617	+405.418	-265.076
C11	+608.123	+224.416	-510.319	+559.592	+206.896	-195.507
C12	+65.862	+448.832	-1020.638	+60.606	+413.793	-391.013
C13	+129.563	-15.926	+120.898	+129.563	-15.926	+97.641
C14	+14.032	-31.852	+241.797	+14.032	-31.852	+195.281
C15	+42.060	-44.984	+299.547	+42.060	-44.984	+233.859
C16	+4.555	-89.969	+599.094	+4.555	-89.969	+467.719
C17	+37.725	-38.680	+257.523	+37.725	-38.680	+201.063
C18	+4.086	-77.359	+515.047	+4.086	-77.359	+402.125
Barra 14						
C 1	+52.552	+10.578	-669.474	+47.012	+8.578	-650.333
C 2	+10.765	+23.875	-1414.667	+10.165	+19.875	-1370.932
C 3	+48.809	+12.313	-717.771	+43.269	+10.313	-695.161
C 4	+5.213	+25.656	-1464.182	+4.613	+21.656	-1416.901
C 5	+46.808	+11.859	-705.130	+41.268	+9.859	-683.427
C 6	+5.070	+23.719	-1410.260	+4.470	+19.719	-1366.854
C 7	+471.312	+200.688	-529.203	+404.832	+176.688	-151.828
C 8	+51.045	+401.375	-1058.406	+43.845	+353.375	-303.656
C 9	+540.609	+202.750	-132.563	+474.129	+178.750	+248.938
C10	+58.617	+405.500	-265.125	+51.417	+357.500	+497.875
C11	+559.593	+206.875	-195.516	+493.113	+182.875	+194.250
C12	+60.606	+413.750	-391.031	+53.406	+365.750	+388.500
C13	+129.563	-15.930	+97.641	+129.563	-15.930	+65.785
C14	+14.032	-31.859	+195.281	+14.032	-31.859	+131.570
C15	+42.060	-44.988	+233.859	+42.060	-44.988	+143.879
C16	+4.555	-89.977	+467.719	+4.555	-89.977	+287.758
C17	+37.725	-38.695	+201.063	+37.725	-38.695	+123.672
C18	+4.086	-77.391	+402.125	+4.086	-77.391	+247.344

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 13						
C 1	+56.596	+12.042	-686.021	+52.552	+10.583	-669.490
C 2	+11.203	+26.804	-1451.699	+10.765	+23.884	-1414.668
C 3	+52.853	+13.761	-736.849	+48.809	+12.301	-717.756
C 4	+5.651	+28.554	-1503.808	+5.213	+25.634	-1464.183
C 5	+50.852	+13.324	-723.537	+46.808	+11.864	-705.131
C 6	+5.507	+26.647	-1447.074	+5.069	+23.728	-1410.261
C 7	+519.843	+218.166	-834.960	+471.312	+200.646	-529.194
C 8	+56.301	+436.332	-1669.919	+51.045	+401.293	-1058.388
C 9	+589.139	+220.229	-441.350	+540.609	+202.709	-132.538
C10	+63.873	+440.457	-882.701	+58.617	+405.418	-265.076
C11	+608.123	+224.416	-510.319	+559.592	+206.896	-195.507
C12	+65.862	+448.832	-1020.638	+60.606	+413.793	-391.013
C13	+129.563	-15.926	+120.898	+129.563	-15.926	+97.641
C14	+14.032	-31.852	+241.797	+14.032	-31.852	+195.281
C15	+42.060	-44.984	+299.547	+42.060	-44.984	+233.859
C16	+4.555	-89.969	+599.094	+4.555	-89.969	+467.719
C17	+37.725	-38.680	+257.523	+37.725	-38.680	+201.063
C18	+4.086	-77.359	+515.047	+4.086	-77.359	+402.125
Barra 14						
C 1	+52.552	+10.578	-669.474	+47.012	+8.578	-650.333
C 2	+10.765	+23.875	-1414.667	+10.165	+19.875	-1370.932
C 3	+48.809	+12.313	-717.771	+43.269	+10.313	-695.161
C 4	+5.213	+25.656	-1464.182	+4.613	+21.656	-1416.901
C 5	+46.808	+11.859	-705.130	+41.268	+9.859	-683.427
C 6	+5.070	+23.719	-1410.260	+4.470	+19.719	-1366.854
C 7	+471.312	+200.688	-529.203	+404.832	+176.688	-151.828
C 8	+51.045	+401.375	-1058.406	+43.845	+353.375	-303.656
C 9	+540.609	+202.750	-132.563	+474.129	+178.750	+248.938
C10	+58.617	+405.500	-265.125	+51.417	+357.500	+497.875
C11	+559.593	+206.875	-195.516	+493.113	+182.875	+194.250
C12	+60.606	+413.750	-391.031	+53.406	+365.750	+388.500
C13	+129.563	-15.930	+97.641	+129.563	-15.930	+65.785
C14	+14.032	-31.859	+195.281	+14.032	-31.859	+131.570
C15	+42.060	-44.988	+233.859	+42.060	-44.988	+143.879
C16	+4.555	-89.977	+467.719	+4.555	-89.977	+287.758
C17	+37.725	-38.695	+201.063	+37.725	-38.695	+123.672
C18	+4.086	-77.391	+402.125	+4.086	-77.391	+247.344

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 15						
C 1	+47.012	+8.375	-650.208	+44.242	+7.375	-642.458
C 2	+10.165	+19.500	-1370.729	+9.865	+17.500	-1352.417
C 3	+43.269	+10.000	-695.021	+40.499	+9.000	-685.521
C 4	+4.613	+21.125	-1416.667	+4.313	+19.125	-1396.604
C 5	+41.268	+9.750	-683.396	+38.498	+8.750	-674.208
C 6	+4.469	+19.500	-1366.792	+4.169	+17.500	-1348.417
C 7	+404.832	+177.000	-151.938	+371.592	+165.000	+19.063
C 8	+43.844	+354.000	-303.875	+40.244	+330.000	+38.125
C 9	+474.130	+179.000	+249.000	+440.890	+167.000	+421.875
C10	+51.417	+358.000	+498.000	+47.817	+334.000	+843.750
C11	+493.113	+183.125	+194.250	+459.873	+171.125	+371.438
C12	+53.406	+366.250	+388.500	+49.806	+342.250	+742.875
C13	+129.563	-15.969	+65.797	+129.563	-15.969	+49.813
C14	+14.032	-31.938	+131.594	+14.032	-31.938	+99.625
C15	+42.061	-45.125	+143.906	+42.061	-45.125	+98.813
C16	+4.555	-90.250	+287.813	+4.555	-90.250	+197.625
C17	+37.725	-38.750	+123.688	+37.725	-38.750	+84.906
C18	+4.086	-77.500	+247.375	+4.086	-77.500	+169.813
Barra 16						
C 1	+44.242	+7.430	-642.336	+31.777	+2.930	-619.016
C 2	+9.865	+17.557	-1352.254	+8.515	+8.557	-1293.477
C 3	+40.499	+9.152	-685.445	+28.034	+4.652	-654.383
C 4	+4.313	+19.322	-1396.469	+2.963	+10.322	-1329.762
C 5	+38.498	+8.697	-674.172	+26.033	+4.197	-645.148
C 6	+4.169	+17.395	-1348.344	+2.819	+8.395	-1290.297
C 7	+371.593	+164.817	+18.934	+222.013	+110.817	+639.105
C 8	+40.245	+329.635	+37.867	+24.045	+221.635	+1278.211
C 9	+440.889	+166.967	+421.840	+291.309	+112.967	+1051.691
C10	+47.817	+333.934	+843.680	+31.617	+225.934	+2103.383
C11	+459.873	+171.104	+371.289	+310.293	+117.104	+1019.750
C12	+49.806	+342.207	+742.578	+33.606	+234.207	+2039.500
C13	+129.563	-15.959	+49.833	+129.563	-15.959	-21.983
C14	+14.032	-31.918	+99.666	+14.032	-31.918	-43.967
C15	+42.061	-45.069	+98.832	+42.061	-45.069	-103.977
C16	+4.555	-90.139	+197.664	+4.555	-90.139	-207.953
C17	+37.725	-38.755	+84.939	+37.725	-38.755	-89.459
C18	+4.086	-77.510	+169.879	+4.086	-77.510	-178.918

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 17						
C 1	+31.777	+2.934	-619.016	+19.312	-1.566	-615.945
C 2	+8.515	+8.561	-1293.480	+7.165	-0.439	-1275.207
C 3	+28.034	+4.652	-654.379	+15.569	+0.152	-643.566
C 4	+2.963	+10.322	-1329.754	+1.613	+1.322	-1303.559
C 5	+26.033	+4.199	-645.145	+13.568	-0.301	-636.375
C 6	+2.819	+8.398	-1290.289	+1.469	-0.602	-1272.750
C 7	+222.013	+110.819	+639.102	+94.596	+64.820	+1032.292
C 8	+24.045	+221.639	+1278.205	+10.245	+129.641	+2064.583
C 9	+291.309	+112.969	+1051.703	+141.729	+58.969	+1438.539
C10	+31.617	+225.938	+2103.406	+15.417	+117.938	+2877.078
C11	+310.293	+117.104	+1019.742	+160.713	+63.104	+1425.219
C12	+33.606	+234.207	+2039.484	+17.406	+126.207	+2850.438
C13	+129.563	-15.959	-21.983	+129.563	-15.959	-93.800
C14	+14.032	-31.919	-43.967	+14.032	-31.919	-187.600
C15	+42.061	-45.070	-103.975	+42.061	-45.070	-306.785
C16	+4.555	-90.141	-207.949	+4.555	-90.141	-613.570
C17	+37.725	-38.756	-89.459	+37.725	-38.756	-263.857
C18	+4.086	-77.512	-178.918	+4.086	-77.512	-527.715
Barra 18						
C 1	+19.312	-1.566	-615.945	+6.847	-6.066	-633.125
C 2	+7.165	-0.434	-1275.211	+5.815	-9.434	-1297.418
C 3	+15.569	+0.154	-643.570	+3.104	-4.346	-652.996
C 4	+1.613	+1.326	-1303.566	+0.263	-7.674	-1317.840
C 5	+13.568	-0.299	-636.371	+1.103	-4.799	-647.844
C 6	+1.469	-0.598	-1272.742	+0.119	-9.598	-1295.688
C 7	+94.596	+64.816	+1032.293	-30.054	+19.816	+1222.711
C 8	+10.245	+129.633	+2064.586	-3.255	+39.633	+2445.422
C 9	+141.730	+58.961	+1438.555	-7.850	+4.961	+1582.383
C10	+15.417	+117.922	+2877.109	-0.783	+9.922	+3164.766
C11	+160.713	+63.098	+1425.227	+11.133	+9.098	+1587.664
C12	+17.405	+126.195	+2850.453	+1.205	+18.195	+3175.328
C13	+129.563	-15.958	-93.801	+129.563	-15.958	-165.613
C14	+14.032	-31.917	-187.602	+14.032	-31.917	-331.227
C15	+42.061	-45.065	-306.789	+42.061	-45.065	-509.586
C16	+4.555	-90.131	-613.578	+4.555	-90.131	-1019.172
C17	+37.725	-38.753	-263.861	+37.725	-38.753	-438.248
C18	+4.086	-77.506	-527.723	+4.086	-77.506	-876.496

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 19						
C 1	+6.847	-6.063	-633.118	-3.194	-9.688	-661.673
C 2	+5.815	-9.426	-1297.409	+4.727	-16.676	-1344.753
C 3	+3.104	-4.340	-652.993	-6.937	-7.965	-675.314
C 4	+0.263	-7.668	-1317.839	-0.825	-14.918	-1358.776
C 5	+1.103	-4.793	-647.845	-8.938	-8.418	-671.790
C 6	+0.119	-9.586	-1295.690	-0.968	-16.836	-1343.581
C 7	-30.054	+19.813	+1222.706	-130.467	-16.438	+1228.831
C 8	-3.255	+39.625	+2445.411	-14.130	-32.875	+2457.661
C 9	-7.851	+4.953	+1582.391	-128.346	-38.547	+1521.523
C10	-0.783	+9.906	+3164.781	-13.833	-77.094	+3043.047
C11	+11.133	+9.086	+1587.664	-109.362	-34.414	+1541.781
C12	+1.206	+18.172	+3175.328	-11.844	-68.828	+3083.563
C13	+129.563	-15.958	-165.613	+129.563	-15.958	-223.461
C14	+14.032	-31.916	-331.227	+14.032	-31.916	-446.922
C15	+42.061	-45.063	-509.594	+42.061	-45.063	-672.949
C16	+4.555	-90.125	-1019.188	+4.555	-90.125	-1345.898
C17	+37.725	-38.752	-438.250	+37.725	-38.752	-578.727
C18	+4.086	-77.504	-876.500	+4.086	-77.504	-1157.453
Barra 20						
C 1	-3.194	-9.691	-661.673	-13.236	-13.316	-703.368
C 2	+4.727	-16.684	-1344.737	+3.640	-23.934	-1418.370
C 3	-6.937	-7.969	-675.314	-16.978	-11.594	-710.775
C 4	-0.825	-14.918	-1358.784	-1.912	-22.168	-1426.018
C 5	-8.938	-8.422	-671.798	-18.979	-12.047	-708.900
C 6	-0.968	-16.844	-1343.596	-2.056	-24.094	-1417.799
C 7	-130.467	-16.430	+1228.823	-230.880	-52.680	+1103.549
C 8	-14.130	-32.859	+2457.646	-25.005	-105.359	+2207.099
C 9	-128.346	-38.531	+1521.516	-248.841	-82.031	+1302.969
C10	-13.833	-77.063	+3043.031	-26.883	-164.063	+2605.938
C11	-109.362	-34.398	+1541.781	-229.857	-77.898	+1338.242
C12	-11.844	-68.797	+3083.563	-24.894	-155.797	+2676.484
C13	+129.563	-15.957	-223.463	+129.563	-15.957	-281.309
C14	+14.032	-31.914	-446.926	+14.032	-31.914	-562.617
C15	+42.061	-45.070	-672.941	+42.061	-45.070	-836.320
C16	+4.555	-90.141	-1345.883	+4.555	-90.141	-1672.641
C17	+37.725	-38.756	-578.730	+37.725	-38.756	-719.207
C18	+4.086	-77.512	-1157.461	+4.086	-77.512	-1438.414

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 21						
C 1	-13.236	-13.313	-703.372	-23.277	-16.938	-758.201
C 2	+3.640	-23.934	-1418.374	+2.552	-31.184	-1518.249
C 3	-16.978	-11.598	-710.767	-27.020	-15.223	-759.361
C 4	-1.912	-22.176	-1426.006	-3.000	-29.426	-1519.518
C 5	-18.979	-12.043	-708.904	-29.021	-15.668	-759.126
C 6	-2.056	-24.086	-1417.807	-3.143	-31.336	-1518.253
C 7	-230.880	-52.684	+1103.549	-331.292	-88.934	+846.854
C 8	-25.005	-105.367	+2207.099	-35.880	-177.867	+1693.708
C 9	-248.841	-82.041	+1302.993	-350.639	-118.791	+938.125
C10	-26.883	-164.082	+2605.985	-37.908	-237.583	+1876.250
C11	-229.857	-77.906	+1338.234	-350.352	-121.406	+976.984
C12	-24.894	-155.813	+2676.469	-37.944	-242.813	+1953.969
C13	+129.563	-15.958	-281.313	+9.068	-59.458	-418.000
C14	+14.032	-31.916	-562.625	+0.982	-118.916	-836.000
C15	+42.061	-45.063	-836.316	+42.061	-45.063	-999.676
C16	+4.555	-90.125	-1672.633	+4.555	-90.125	-1999.352
C17	+37.725	-38.752	-719.211	+37.725	-38.752	-859.691
C18	+4.086	-77.504	-1438.422	+4.086	-77.504	-1719.383
Barra 22						
C 1	-23.277	-16.939	-758.201	-33.318	-20.564	-826.181
C 2	+2.552	-31.182	-1518.253	+1.465	-38.432	-1644.436
C 3	-27.020	-15.219	-759.361	-37.061	-18.844	-821.107
C 4	-3.000	-29.420	-1519.506	-4.087	-36.670	-1639.307
C 5	-29.021	-15.672	-759.138	-39.062	-19.297	-822.513
C 6	-3.143	-31.344	-1518.276	-4.230	-38.594	-1645.026
C 7	-331.292	-88.938	+846.854	-431.705	-125.188	+458.760
C 8	-35.880	-177.875	+1693.708	-46.755	-250.375	+917.521
C 9	-350.639	-118.785	+938.128	-451.051	-155.035	+441.815
C10	-37.908	-237.570	+1876.255	-48.783	-310.070	+883.630
C11	-350.352	-121.401	+976.979	-457.211	-159.979	+464.126
C12	-37.944	-242.803	+1953.957	-49.517	-319.957	+928.253
C13	+9.068	-59.458	-418.000	-111.427	-102.958	-712.383
C14	+0.982	-118.916	-836.000	-12.068	-205.916	-1424.766
C15	+42.061	-45.066	-999.676	+42.061	-45.066	-1163.047
C16	+4.555	-90.133	-1999.352	+4.555	-90.133	-2326.094
C17	+37.725	-38.754	-859.688	+37.725	-38.754	-1000.168
C18	+4.086	-77.508	-1719.375	+4.086	-77.508	-2000.336

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 23						
C 1	-33.318	-20.567	-826.177	-42.902	-24.027	-903.322
C 2	+1.465	-38.435	-1644.429	+0.427	-45.355	-1789.390
C 3	-37.061	-18.844	-821.107	-46.645	-22.304	-892.291
C 4	-4.087	-36.673	-1639.316	-5.125	-43.593	-1778.163
C 5	-39.062	-19.295	-822.517	-48.646	-22.755	-895.271
C 6	-4.231	-38.591	-1645.034	-5.269	-45.511	-1790.542
C 7	-431.705	-125.188	+458.766	-527.547	-159.788	-34.238
C 8	-46.755	-250.377	+917.532	-57.135	-319.577	-68.476
C 9	-451.051	-155.036	+441.813	-546.893	-189.636	-154.469
C10	-48.783	-310.072	+883.625	-59.163	-379.272	-308.937
C11	-457.211	-159.977	+464.117	-553.053	-194.577	-149.258
C12	-49.517	-319.955	+928.235	-59.897	-389.155	-298.515
C13	-111.427	-102.958	-712.386	-226.438	-144.478	-1140.452
C14	-12.068	-205.916	-1424.771	-24.524	-288.956	-2280.904
C15	+42.060	-45.066	-1163.043	+42.060	-45.066	-1318.977
C16	+4.555	-90.133	-2326.086	+4.555	-90.133	-2637.953
C17	+37.725	-38.756	-1000.164	+37.725	-38.756	-1134.258
C18	+4.086	-77.512	-2000.328	+4.086	-77.512	-2268.516
Barra 24						
C 1	-42.902	-24.026	-903.337	-52.487	-27.486	-992.443
C 2	+0.427	-45.358	-1789.421	-0.611	-52.278	-1958.296
C 3	-46.645	-22.305	-892.306	-56.229	-25.765	-975.451
C 4	-5.125	-43.595	-1778.191	-6.163	-50.515	-1940.964
C 5	-48.646	-22.756	-895.279	-58.231	-26.216	-980.005
C 6	-5.269	-45.513	-1790.558	-6.307	-52.433	-1960.011
C 7	-527.547	-159.784	-34.230	-623.389	-194.384	-646.945
C 8	-57.135	-319.568	-68.460	-67.515	-388.768	-1293.890
C 9	-546.894	-189.632	-154.457	-642.736	-224.232	-870.469
C10	-59.163	-379.263	-308.914	-69.543	-448.463	-1740.937
C11	-553.053	-194.579	-149.254	-648.896	-229.179	-882.355
C12	-59.898	-389.158	-298.507	-70.278	-458.358	-1764.710
C13	-226.438	-144.479	-1140.454	-341.448	-185.999	-1712.175
C14	-24.524	-288.959	-2280.908	-36.980	-371.999	-3424.349
C15	+42.060	-45.068	-1318.988	+42.060	-45.068	-1474.910
C16	+4.555	-90.137	-2637.977	+4.555	-90.137	-2949.820
C17	+37.725	-38.756	-1134.266	+37.725	-38.756	-1268.352
C18	+4.086	-77.512	-2268.531	+4.086	-77.512	-2536.703

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 25						
C 1	-52.486	-27.460	-992.453	-55.478	-28.540	-1022.660
C 2	-0.611	-52.232	-1958.300	-0.935	-54.393	-2015.851
C 3	-56.229	-25.741	-975.449	-59.221	-26.821	-1003.832
C 4	-6.163	-50.467	-1940.968	-6.487	-52.627	-1996.616
C 5	-58.230	-26.194	-980.003	-61.222	-27.274	-1008.863
C 6	-6.306	-52.389	-1960.007	-6.630	-54.549	-2017.726
C 7	-623.388	-194.412	-646.949	-653.304	-205.213	-862.738
C 8	-67.515	-388.825	-1293.897	-70.755	-410.425	-1725.475
C 9	-642.736	-224.256	-870.456	-672.652	-235.056	-1118.535
C10	-69.543	-448.512	-1740.913	-72.783	-470.113	-2237.069
C11	-648.895	-229.225	-882.363	-678.811	-240.025	-1135.753
C12	-70.277	-458.450	-1764.725	-73.517	-480.050	-2271.507
C13	-341.448	-186.004	-1712.168	-377.348	-198.964	-1920.049
C14	-36.980	-372.009	-3424.337	-40.868	-397.929	-3840.098
C15	+42.061	-45.031	-1474.914	+42.061	-45.031	-1523.531
C16	+4.555	-90.063	-2949.828	+4.555	-90.063	-3047.063
C17	+37.725	-38.766	-1268.328	+37.725	-38.766	-1310.188
C18	+4.086	-77.531	-2536.656	+4.086	-77.531	-2620.375
Barra 26						
C 1	+618.683	+218.666	-1022.675	+588.767	+207.866	-792.331
C 2	+67.294	+436.456	-2015.835	+64.054	+414.856	-1556.100
C 3	+618.470	+218.103	-1003.816	+588.554	+207.303	-774.089
C 4	+66.978	+435.894	-1996.600	+63.738	+414.294	-1537.483
C 5	+618.356	+218.259	-1008.863	+588.440	+207.459	-778.972
C 6	+66.970	+436.519	-2017.725	+63.730	+414.919	-1557.944
C 7	+57.841	+22.181	-862.753	+54.849	+21.101	-839.371
C 8	+6.265	+44.361	-1725.507	+5.941	+42.201	-1678.741
C 9	+59.296	+27.243	-1118.503	+56.304	+26.163	-1089.675
C10	+7.603	+54.486	-2237.007	+7.279	+52.326	-2179.351
C11	+58.946	+27.790	-1135.785	+55.954	+26.710	-1106.347
C12	+6.384	+55.580	-2271.569	+6.060	+53.420	-2212.694
C13	+673.419	+273.589	-1920.026	+637.520	+260.629	-1631.518
C14	+72.934	+547.179	-3840.052	+69.046	+521.259	-3263.036
C15	+739.668	+273.730	-1523.541	+703.769	+260.770	-1234.924
C16	+80.109	+547.460	-3047.083	+76.221	+521.540	-2469.848
C17	+663.432	+253.168	-1310.166	+627.533	+240.207	-1043.745
C18	+71.852	+506.335	-2620.333	+67.964	+480.415	-2087.489

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 27						
C 1	+588.767	+207.841	-792.340	+492.925	+173.241	-133.054
C 2	+64.054	+414.817	-1556.105	+53.674	+345.617	-240.546
C 3	+588.554	+207.282	-774.094	+492.712	+172.682	-116.746
C 4	+63.738	+414.245	-1537.492	+53.358	+345.045	-223.910
C 5	+588.440	+207.439	-778.969	+492.598	+172.839	-121.094
C 6	+63.730	+414.877	-1557.937	+53.350	+345.677	-242.187
C 7	+54.849	+21.140	-839.361	+45.265	+17.680	-772.201
C 8	+5.940	+42.280	-1678.722	+4.902	+35.360	-1544.401
C 9	+56.304	+26.191	-1089.685	+46.720	+22.731	-1005.037
C10	+7.279	+52.382	-2179.370	+6.241	+45.462	-2010.073
C11	+55.954	+26.699	-1106.365	+46.370	+23.239	-1019.974
C12	+6.060	+53.397	-2212.730	+5.022	+46.478	-2039.948
C13	+637.520	+260.635	-1631.522	+522.509	+219.115	-801.558
C14	+69.045	+521.270	-3263.045	+56.589	+438.230	-1603.115
C15	+703.769	+260.725	-1234.932	+588.758	+219.205	-404.643
C16	+76.221	+521.450	-2469.865	+63.765	+438.410	-809.287
C17	+627.533	+240.182	-1043.749	+512.522	+198.662	-284.546
C18	+67.964	+480.364	-2087.498	+55.508	+397.324	-569.092
Barra 28						
C 1	+492.925	+173.237	-132.995	+452.483	+158.638	+109.255
C 2	+53.674	+345.662	-240.459	+49.294	+316.463	+242.854
C 3	+492.712	+172.706	-116.683	+452.270	+158.106	+124.817
C 4	+53.358	+345.069	-223.803	+48.978	+315.869	+258.729
C 5	+492.598	+172.831	-121.058	+452.156	+158.231	+120.661
C 6	+53.350	+345.662	-242.115	+48.970	+316.463	+241.322
C 7	+45.265	+17.667	-772.224	+41.220	+16.208	-747.474
C 8	+4.902	+35.335	-1544.449	+4.464	+32.415	-1494.949
C 9	+46.720	+22.730	-1005.084	+42.676	+21.270	-972.959
C10	+6.241	+45.460	-2010.168	+5.803	+42.540	-1945.918
C11	+46.370	+23.230	-1019.990	+42.326	+21.770	-987.115
C12	+5.022	+46.460	-2039.980	+4.584	+43.540	-1974.230
C13	+522.510	+219.135	-801.553	+473.979	+201.615	-494.382
C14	+56.589	+438.270	-1603.107	+51.333	+403.230	-988.763
C15	+588.758	+219.229	-404.632	+540.228	+201.709	-97.288
C16	+63.764	+438.457	-809.263	+58.508	+403.418	-194.576
C17	+512.522	+198.666	-284.475	+463.992	+181.146	-7.257
C18	+55.508	+397.332	-568.951	+50.252	+362.293	-14.513

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 29						
C 1	+452.483	+158.641	+109.307	+397.083	+138.641	+406.573
C 2	+49.294	+316.422	+242.911	+43.294	+276.422	+835.740
C 3	+452.270	+158.109	+124.792	+396.870	+138.109	+421.026
C 4	+48.978	+315.891	+258.693	+42.978	+275.891	+850.490
C 5	+452.156	+158.250	+120.651	+396.756	+138.250	+417.135
C 6	+48.970	+316.500	+241.302	+42.970	+276.500	+834.271
C 7	+41.221	+16.203	-747.490	+35.681	+14.203	-717.068
C 8	+4.464	+32.406	-1494.979	+3.864	+28.406	-1434.135
C 9	+42.676	+21.266	-972.974	+37.136	+19.266	-932.443
C10	+5.803	+42.531	-1945.948	+5.203	+38.531	-1864.885
C11	+42.325	+21.766	-987.161	+36.785	+19.766	-945.630
C12	+4.584	+43.531	-1974.323	+3.984	+39.531	-1891.260
C13	+473.979	+201.602	-494.391	+407.499	+177.602	-115.188
C14	+51.334	+403.203	-988.781	+44.134	+355.203	-230.375
C15	+540.228	+201.703	-97.297	+473.748	+177.703	+282.078
C16	+58.509	+403.406	-194.594	+51.309	+355.406	+564.156
C17	+463.992	+181.141	-7.219	+397.512	+157.141	+331.063
C18	+50.252	+362.281	-14.437	+43.052	+314.281	+662.125
Barra 30						
C 1	+397.082	+138.500	+406.667	+369.382	+128.500	+540.167
C 2	+43.293	+276.250	+835.833	+40.293	+256.250	+1102.146
C 3	+396.870	+138.125	+420.979	+369.170	+128.125	+554.229
C 4	+42.978	+275.750	+850.521	+39.978	+255.750	+1116.458
C 5	+396.756	+138.375	+417.104	+369.056	+128.375	+550.479
C 6	+42.970	+276.750	+834.208	+39.970	+256.750	+1100.958
C 7	+35.681	+14.125	-717.021	+32.911	+13.125	-703.396
C 8	+3.865	+28.250	-1434.042	+3.565	+26.250	-1406.792
C 9	+37.136	+19.125	-932.396	+34.366	+18.125	-913.771
C10	+5.203	+38.250	-1864.792	+4.903	+36.250	-1827.542
C11	+36.785	+19.750	-945.708	+34.015	+18.750	-926.333
C12	+3.984	+39.500	-1891.417	+3.684	+37.500	-1852.667
C13	+407.499	+177.625	-115.188	+374.259	+165.625	+56.500
C14	+44.134	+355.250	-230.375	+40.534	+331.250	+113.000
C15	+473.747	+177.500	+282.250	+440.507	+165.500	+453.750
C16	+51.308	+355.000	+564.500	+47.708	+331.000	+907.500
C17	+397.512	+157.000	+331.125	+364.272	+145.000	+482.188
C18	+43.052	+314.000	+662.250	+39.452	+290.000	+964.375

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 31						
C 1	+369.383	+128.641	+540.227	+244.733	+83.641	+1017.859
C 2	+40.294	+256.416	+1102.148	+26.794	+166.416	+2053.523
C 3	+369.170	+128.090	+554.086	+244.520	+83.090	+1029.234
C 4	+39.978	+255.854	+1116.293	+26.478	+165.854	+2065.129
C 5	+369.056	+128.234	+550.387	+244.406	+83.234	+1026.191
C 6	+39.970	+256.469	+1100.773	+26.470	+166.469	+2052.383
C 7	+32.910	+13.223	-703.340	+20.445	+8.723	-653.953
C 8	+3.564	+26.445	-1406.680	+2.214	+17.445	-1307.906
C 9	+34.366	+18.277	-913.656	+21.901	+13.777	-841.539
C10	+4.903	+36.555	-1827.313	+3.553	+27.555	-1683.078
C11	+34.015	+18.783	-926.336	+21.550	+14.283	-851.938
C12	+3.684	+37.566	-1852.672	+2.334	+28.566	-1703.875
C13	+374.259	+165.592	+56.402	+224.679	+111.592	+680.074
C14	+40.533	+331.184	+112.805	+24.333	+223.184	+1360.148
C15	+440.508	+165.686	+453.773	+290.928	+111.686	+1077.859
C16	+47.709	+331.371	+907.547	+31.509	+223.371	+2155.719
C17	+364.272	+145.139	+482.211	+214.692	+91.139	+1013.844
C18	+39.452	+290.277	+964.422	+23.252	+182.277	+2027.688
Barra 32						
C 1	+244.733	+83.639	+1017.859	+120.083	+38.639	+1292.984
C 2	+26.794	+166.410	+2053.523	+13.294	+76.410	+2599.871
C 3	+244.520	+83.086	+1029.227	+119.870	+38.086	+1301.867
C 4	+26.478	+165.846	+2065.117	+12.978	+75.846	+2608.930
C 5	+244.406	+83.232	+1026.203	+119.756	+38.232	+1299.492
C 6	+26.470	+166.465	+2052.406	+12.970	+76.465	+2598.984
C 7	+20.445	+8.727	-653.953	+7.980	+4.227	-624.809
C 8	+2.214	+17.453	-1307.906	+0.864	+8.453	-1249.617
C 9	+21.901	+13.775	-841.539	+9.436	+9.275	-789.664
C10	+3.553	+27.551	-1683.078	+2.203	+18.551	-1579.328
C11	+21.550	+14.283	-851.938	+9.085	+9.783	-797.785
C12	+2.334	+28.566	-1703.875	+0.984	+19.566	-1595.570
C13	+224.679	+111.593	+680.072	+93.098	+64.091	+1071.290
C14	+24.334	+223.187	+1360.144	+10.083	+128.183	+2142.580
C15	+290.928	+111.684	+1077.867	+141.348	+57.684	+1458.938
C16	+31.508	+223.367	+2155.734	+15.308	+115.367	+2917.875
C17	+214.692	+91.137	+1013.844	+65.112	+37.137	+1302.465
C18	+23.252	+182.273	+2027.688	+7.052	+74.273	+2604.930

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 33						
C 1	+120.083	+38.641	+1293.000	-4.567	-6.359	+1365.633
C 2	+13.294	+76.416	+2599.898	-0.206	-13.584	+2741.250
C 3	+119.870	+38.084	+1301.891	-4.780	-6.916	+1372.008
C 4	+12.978	+75.848	+2608.969	-0.522	-14.152	+2747.766
C 5	+119.756	+38.234	+1299.492	-4.894	-6.766	+1370.313
C 6	+12.970	+76.469	+2598.984	-0.530	-13.531	+2740.625
C 7	+7.980	+4.223	-624.816	-4.485	-0.277	-615.938
C 8	+0.864	+8.445	-1249.633	-0.486	-0.555	-1231.875
C 9	+9.436	+9.277	-789.668	-3.029	+4.777	-758.047
C10	+2.203	+18.555	-1579.336	+0.853	+9.555	-1516.094
C11	+9.085	+9.785	-797.793	-3.380	+5.285	-763.887
C12	+0.984	+19.570	-1595.586	-0.366	+10.570	-1527.773
C13	+93.098	+64.092	+1071.293	-31.552	+19.092	+1258.457
C14	+10.083	+128.184	+2142.586	-3.417	+38.184	+2516.914
C15	+141.348	+57.688	+1458.945	-8.232	+3.688	+1597.031
C16	+15.308	+115.375	+2917.891	-0.892	+7.375	+3194.063
C17	+65.112	+37.141	+1302.477	-84.468	-16.859	+1348.102
C18	+7.052	+74.281	+2604.953	-9.148	-33.719	+2696.203
Barra 34						
C 1	-4.568	-6.363	+1365.612	-104.980	-42.613	+1276.846
C 2	-0.206	-13.590	+2741.232	-11.081	-86.090	+2560.552
C 3	-4.780	-6.910	+1372.003	-105.193	-43.160	+1281.237
C 4	-0.522	-14.152	+2747.763	-11.397	-86.652	+2565.021
C 5	-4.894	-6.770	+1370.299	-105.306	-43.020	+1280.057
C 6	-0.530	-13.539	+2740.599	-11.405	-86.039	+2560.115
C 7	-4.485	-0.270	-615.931	-14.526	-3.895	-623.493
C 8	-0.486	-0.539	-1231.862	-1.573	-7.789	-1246.987
C 9	-3.029	+4.781	-758.040	-13.071	+1.156	-747.283
C10	+0.853	+9.563	-1516.081	-0.235	+2.313	-1494.565
C11	-3.380	+5.285	-763.892	-13.421	+1.660	-751.290
C12	-0.366	+10.570	-1527.784	-1.453	+3.320	-1502.581
C13	-31.552	+19.090	+1258.440	-131.964	-17.160	+1261.940
C14	-3.417	+38.180	+2516.880	-14.292	-34.320	+2523.880
C15	-8.232	+3.680	+1597.016	-128.727	-39.820	+1531.516
C16	-0.892	+7.359	+3194.031	-13.942	-79.641	+3063.031
C17	-84.468	-16.867	+1348.102	-204.963	-60.367	+1208.117
C18	-9.148	-33.734	+2696.203	-22.198	-120.734	+2416.234

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 35						
C 1	-104.980	-42.617	+1276.854	-205.393	-78.867	+1056.667
C 2	-11.082	-86.105	+2560.568	-21.957	-158.605	+2117.036
C 3	-105.193	-43.172	+1281.237	-205.605	-79.422	+1059.026
C 4	-11.397	-86.672	+2565.044	-22.272	-159.172	+2119.443
C 5	-105.306	-43.027	+1280.065	-205.719	-79.277	+1058.393
C 6	-11.405	-86.055	+2560.130	-22.280	-158.555	+2116.786
C 7	-14.526	-3.895	-623.486	-24.567	-7.520	-644.181
C 8	-1.573	-7.789	-1246.971	-2.661	-15.039	-1288.362
C 9	-13.071	+1.160	-747.306	-23.112	-2.465	-749.650
C10	-0.235	+2.320	-1494.612	-1.322	-4.930	-1499.299
C11	-13.421	+1.664	-751.298	-23.462	-1.961	-751.837
C12	-1.454	+3.328	-1502.596	-2.541	-3.922	-1503.674
C13	-131.964	-17.168	+1261.948	-232.377	-53.418	+1134.003
C14	-14.292	-34.336	+2523.896	-25.167	-106.836	+2268.005
C15	-128.727	-39.820	+1531.531	-249.222	-83.320	+1308.328
C16	-13.941	-79.641	+3063.063	-26.991	-166.641	+2616.656
C17	-204.963	-60.375	+1208.133	-325.458	-103.875	+910.430
C18	-22.198	-120.750	+2416.266	-35.248	-207.750	+1820.859
Barra 36						
C 1	-205.393	-78.867	+1056.667	-305.805	-115.117	+705.065
C 2	-21.956	-158.609	+2117.052	-32.831	-231.109	+1410.701
C 3	-205.606	-79.426	+1059.034	-306.018	-115.676	+705.440
C 4	-22.272	-159.176	+2119.458	-33.147	-231.676	+1411.076
C 5	-205.719	-79.273	+1058.409	-306.132	-115.523	+705.331
C 6	-22.280	-158.547	+2116.818	-33.155	-231.047	+1410.661
C 7	-24.567	-7.523	-644.189	-34.608	-11.148	-678.013
C 8	-2.661	-15.047	-1288.378	-3.748	-22.297	-1356.026
C 9	-23.112	-2.469	-749.658	-33.153	-6.094	-765.173
C10	-1.322	-4.938	-1499.315	-2.410	-12.188	-1530.346
C11	-23.462	-1.957	-751.845	-33.503	-5.582	-765.501
C12	-2.541	-3.914	-1503.690	-3.628	-11.164	-1531.003
C13	-232.377	-53.418	+1134.026	-332.789	-89.668	+874.674
C14	-25.167	-106.836	+2268.052	-36.042	-179.336	+1749.349
C15	-249.223	-83.322	+1308.328	-351.021	-120.073	+938.812
C16	-26.992	-166.645	+2616.657	-38.017	-240.145	+1877.625
C17	-325.458	-103.867	+910.445	-325.458	-103.867	+533.922
C18	-35.248	-207.734	+1820.891	-35.248	-207.734	+1067.844

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 37						
C 1	-305.805	-115.121	+705.069	-406.218	-151.371	+222.057
C 2	-32.831	-231.105	+1410.697	-43.706	-303.605	+441.544
C 3	-306.018	-115.672	+705.428	-406.430	-151.922	+220.409
C 4	-33.147	-231.668	+1411.072	-44.022	-304.168	+439.857
C 5	-306.132	-115.527	+705.335	-406.544	-151.777	+220.854
C 6	-33.155	-231.055	+1410.669	-44.030	-303.555	+441.708
C 7	-34.608	-11.143	-678.013	-44.650	-14.768	-724.982
C 8	-3.748	-22.285	-1356.026	-4.836	-29.535	-1449.964
C 9	-33.153	-6.090	-765.169	-43.195	-9.715	-793.814
C10	-2.410	-12.180	-1530.339	-3.497	-19.430	-1587.628
C11	-33.503	-5.584	-765.505	-43.545	-9.209	-792.333
C12	-3.629	-11.168	-1531.010	-4.716	-18.418	-1584.667
C13	-332.789	-89.668	+874.674	-433.202	-125.918	+483.932
C14	-36.042	-179.336	+1749.349	-46.917	-251.836	+967.865
C15	-351.021	-120.074	+938.823	-451.433	-156.324	+437.846
C16	-38.017	-240.148	+1877.646	-48.892	-312.648	+875.693
C17	-325.458	-103.869	+533.922	-325.458	-103.869	+157.398
C18	-35.248	-207.738	+1067.844	-35.248	-207.738	+314.797
Barra 38						
C 1	-406.218	-151.362	+222.055	-502.060	-185.962	-361.523
C 2	-43.706	-303.593	+441.532	-54.086	-372.793	-728.617
C 3	-406.430	-151.917	+220.410	-502.272	-186.517	-365.086
C 4	-44.022	-304.160	+439.852	-54.402	-373.360	-732.253
C 5	-406.544	-151.770	+220.848	-502.386	-186.370	-364.133
C 6	-44.030	-303.541	+441.696	-54.410	-372.741	-728.265
C 7	-44.650	-14.774	-724.974	-54.234	-18.234	-782.080
C 8	-4.836	-29.548	-1449.948	-5.874	-36.468	-1564.159
C 9	-43.195	-9.719	-793.818	-52.779	-13.179	-833.435
C10	-3.497	-19.438	-1587.636	-4.535	-26.358	-1666.870
C11	-43.545	-9.213	-792.322	-53.129	-12.673	-830.189
C12	-4.716	-18.427	-1584.644	-5.754	-25.347	-1660.378
C13	-433.202	-125.911	+483.918	-529.044	-160.511	-11.582
C14	-46.917	-251.822	+967.836	-57.297	-321.022	-23.164
C15	-451.433	-156.317	+437.844	-547.275	-190.917	-162.883
C16	-48.892	-312.634	+875.688	-59.272	-381.834	-325.765
C17	-325.458	-103.865	+157.391	-325.458	-103.865	-201.977
C18	-35.248	-207.730	+314.781	-35.248	-207.730	-403.953

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 39						
C 1	-502.060	-185.962	-361.519	-597.902	-220.562	-1064.828
C 2	-54.086	-372.795	-728.609	-64.466	-441.995	-2138.222
C 3	-502.273	-186.520	-365.070	-598.115	-221.120	-1070.308
C 4	-54.402	-373.363	-732.238	-64.782	-442.563	-2143.816
C 5	-502.386	-186.372	-364.129	-598.228	-220.972	-1068.836
C 6	-54.410	-372.744	-728.257	-64.790	-441.944	-2137.671
C 7	-54.234	-18.235	-782.084	-63.818	-21.695	-851.146
C 8	-5.874	-36.470	-1564.167	-6.912	-43.390	-1702.292
C 9	-52.779	-13.178	-833.439	-62.363	-16.638	-885.013
C10	-4.536	-26.356	-1666.878	-5.574	-33.276	-1770.026
C11	-53.129	-12.672	-830.193	-62.713	-16.132	-880.017
C12	-5.754	-25.345	-1660.386	-6.792	-32.265	-1760.034
C13	-529.044	-160.513	-11.586	-624.886	-195.112	-626.828
C14	-57.297	-321.025	-23.171	-67.677	-390.225	-1253.656
C15	-547.275	-190.923	-162.875	-643.117	-225.523	-883.332
C16	-59.272	-381.845	-325.750	-69.652	-451.045	-1766.664
C17	-325.459	-103.867	-201.975	-325.459	-103.867	-561.359
C18	-35.248	-207.734	-403.949	-35.248	-207.734	-1122.719
Barra 40						
C 1	-597.902	-220.553	-1064.839	-627.818	-231.353	-1308.894
C 2	-64.467	-441.981	-2138.257	-67.707	-463.581	-2627.288
C 3	-598.114	-221.131	-1070.308	-628.030	-231.931	-1314.988
C 4	-64.782	-442.575	-2143.843	-68.022	-464.175	-2633.507
C 5	-598.228	-220.975	-1068.863	-628.144	-231.775	-1313.347
C 6	-64.790	-441.950	-2137.725	-68.030	-463.550	-2626.694
C 7	-63.818	-21.710	-851.128	-66.810	-22.790	-875.128
C 8	-6.911	-43.420	-1702.257	-7.235	-45.580	-1750.257
C 9	-62.363	-16.632	-885.003	-65.354	-17.712	-903.550
C10	-5.574	-33.264	-1770.007	-5.898	-35.424	-1807.101
C11	-62.713	-16.116	-880.003	-65.705	-17.196	-898.003
C12	-6.792	-32.232	-1760.007	-7.116	-34.393	-1796.007
C13	-624.886	-195.131	-626.839	-654.802	-205.931	-843.409
C14	-67.677	-390.262	-1253.678	-70.917	-411.863	-1686.819
C15	-643.117	-225.537	-883.331	-673.033	-236.338	-1132.753
C16	-69.651	-451.075	-1766.663	-72.891	-472.675	-2265.507
C17	-325.458	-103.875	-561.359	-325.458	-103.875	-673.563
C18	-35.248	-207.750	-1122.719	-35.248	-207.750	-1347.125

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 41						
C 1	-35.681	+38.500	-1308.883	-35.681	+38.500	-1267.316
C 2	-3.848	+77.297	-2627.297	-3.848	+77.297	-2543.824
C 3	-35.693	+38.672	-1314.945	-35.693	+38.672	-1273.211
C 4	-3.866	+77.453	-2633.461	-3.866	+77.453	-2549.852
C 5	-35.700	+38.609	-1313.336	-35.700	+38.609	-1271.625
C 6	-3.866	+77.219	-2626.672	-3.866	+77.219	-2543.250
C 7	+573.092	+206.275	-875.128	+543.176	+195.475	-658.175
C 8	+62.068	+412.550	-1750.256	+58.828	+390.950	-1316.350
C 9	+618.123	+215.056	-903.534	+588.207	+204.256	-677.113
C10	+87.719	+430.113	-1807.069	+84.479	+408.512	-1354.225
C11	+618.103	+214.900	-897.988	+588.187	+204.100	-671.738
C12	+66.942	+429.800	-1795.975	+63.702	+408.200	-1343.475
C13	+60.311	+19.228	-843.378	+57.319	+18.147	-823.218
C14	+6.532	+38.455	-1686.757	+6.208	+36.295	-1646.437
C15	+59.274	+27.743	-1132.738	+56.283	+26.663	-1103.378
C16	+6.419	+55.486	-2265.476	+6.095	+53.326	-2206.757
C17	+63.669	+1.953	-673.547	+63.669	+1.953	-671.473
C18	+6.896	+3.906	-1347.094	+6.896	+3.906	-1342.945
Barra 42						
C 1	-35.682	+38.486	-1267.293	-35.682	+38.486	-1134.133
C 2	-3.848	+77.248	-2543.793	-3.848	+77.248	-2276.516
C 3	-35.694	+38.664	-1273.176	-35.694	+38.664	-1139.408
C 4	-3.866	+77.434	-2549.797	-3.866	+77.434	-2281.887
C 5	-35.700	+38.615	-1271.605	-35.700	+38.615	-1137.996
C 6	-3.867	+77.230	-2543.211	-3.867	+77.230	-2275.992
C 7	+543.175	+195.507	-658.203	+447.333	+160.907	-41.578
C 8	+58.828	+391.014	-1316.406	+48.448	+321.814	-83.156
C 9	+588.206	+204.290	-677.125	+492.364	+169.690	-30.129
C10	+84.479	+408.581	-1354.250	+74.099	+339.380	-60.257
C11	+588.186	+204.128	-671.758	+492.344	+169.528	-25.308
C12	+63.703	+408.256	-1343.515	+53.323	+339.056	-50.617
C13	+57.319	+18.148	-823.185	+47.734	+14.688	-766.386
C14	+6.208	+36.296	-1646.370	+5.170	+29.376	-1532.773
C15	+56.282	+26.656	-1103.338	+46.698	+23.196	-1017.107
C16	+6.096	+53.312	-2206.675	+5.058	+46.392	-2034.214
C17	+63.669	+1.916	-671.449	+63.669	+1.916	-664.824
C18	+6.895	+3.832	-1342.898	+6.895	+3.832	-1329.648

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 43						
C 1	-35.682	+38.500	-1134.156	-35.682	+38.500	-1077.953
C 2	-3.848	+77.250	-2276.563	-3.848	+77.250	-2163.734
C 3	-35.694	+38.656	-1139.391	-35.694	+38.656	-1082.969
C 4	-3.866	+77.438	-2281.859	-3.866	+77.438	-2168.891
C 5	-35.700	+38.625	-1138.000	-35.700	+38.625	-1081.625
C 6	-3.866	+77.250	-2276.000	-3.866	+77.250	-2163.250
C 7	+447.333	+160.894	-41.558	+406.891	+146.294	+182.692
C 8	+48.448	+321.788	-83.115	+44.068	+292.587	+365.385
C 9	+492.364	+169.738	-30.120	+451.922	+155.137	+206.974
C10	+74.099	+339.475	-60.240	+69.719	+310.275	+413.947
C11	+492.344	+169.550	-25.308	+451.902	+154.950	+211.505
C12	+53.322	+339.100	-50.615	+48.942	+309.900	+423.010
C13	+47.734	+14.668	-766.396	+43.690	+13.207	-746.037
C14	+5.170	+29.335	-1532.793	+4.732	+26.415	-1492.074
C15	+46.698	+23.199	-1017.115	+42.654	+21.739	-984.303
C16	+5.058	+46.398	-2034.230	+4.620	+43.477	-1968.605
C17	+63.669	+1.906	-664.828	+63.669	+1.906	-662.063
C18	+6.896	+3.813	-1329.656	+6.896	+3.813	-1324.125
Barra 44						
C 1	-35.682	+38.477	-1077.969	-35.682	+38.477	-1001.023
C 2	-3.848	+77.227	-2163.766	-3.848	+77.227	-2009.320
C 3	-35.694	+38.641	-1082.969	-35.694	+38.641	-1005.688
C 4	-3.866	+77.391	-2168.875	-3.866	+77.391	-2014.078
C 5	-35.700	+38.594	-1081.625	-35.700	+38.594	-1004.438
C 6	-3.866	+77.188	-2163.250	-3.866	+77.188	-2008.875
C 7	+406.891	+146.359	+182.698	+351.491	+126.359	+455.401
C 8	+44.068	+292.719	+365.396	+38.068	+252.719	+910.802
C 9	+451.921	+155.125	+206.979	+396.521	+135.125	+497.214
C10	+69.719	+310.250	+413.958	+63.719	+270.250	+994.427
C11	+451.902	+154.953	+211.542	+396.502	+134.953	+501.464
C12	+48.942	+309.906	+423.083	+42.942	+269.906	+1002.927
C13	+43.690	+13.188	-746.021	+38.150	+11.188	-721.630
C14	+4.732	+26.375	-1492.042	+4.132	+22.375	-1443.260
C15	+42.654	+21.703	-984.333	+37.114	+19.703	-942.896
C16	+4.620	+43.406	-1968.667	+4.020	+39.406	-1885.792
C17	+63.669	+1.891	-662.047	+63.669	+1.891	-658.273
C18	+6.896	+3.781	-1324.094	+6.896	+3.781	-1316.547

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 45						
C 1	-35.682	+38.375	-1001.000	-35.682	+38.375	-962.563
C 2	-3.848	+77.000	-2009.250	-3.848	+77.000	-1932.188
C 3	-35.694	+38.625	-1005.688	-35.694	+38.625	-967.000
C 4	-3.866	+77.375	-2014.063	-3.866	+77.375	-1936.625
C 5	-35.700	+38.625	-1004.438	-35.700	+38.625	-965.813
C 6	-3.866	+77.250	-2008.875	-3.866	+77.250	-1931.625
C 7	+351.491	+126.500	+455.292	+323.791	+116.500	+576.729
C 8	+38.067	+253.000	+910.583	+35.067	+233.000	+1153.458
C 9	+396.521	+135.125	+497.167	+368.821	+125.125	+627.354
C10	+63.719	+270.250	+994.333	+60.719	+250.250	+1254.708
C11	+396.502	+134.750	+501.542	+368.802	+124.750	+631.354
C12	+42.943	+269.500	+1003.083	+39.943	+249.500	+1262.708
C13	+38.150	+11.250	-721.646	+35.380	+10.250	-710.833
C14	+4.132	+22.500	-1443.292	+3.832	+20.500	-1421.667
C15	+37.114	+19.625	-942.833	+34.344	+18.625	-923.646
C16	+4.020	+39.250	-1885.667	+3.720	+37.250	-1847.292
C17	+63.669	+1.875	-658.250	+63.669	+1.875	-656.375
C18	+6.896	+3.750	-1316.500	+6.896	+3.750	-1312.750
Barra 46						
C 1	-35.682	+38.439	-962.549	-35.682	+38.439	-789.568
C 2	-3.848	+77.157	-1932.090	-3.848	+77.157	-1584.871
C 3	-35.694	+38.619	-967.016	-35.694	+38.619	-793.230
C 4	-3.866	+77.342	-1936.645	-3.866	+77.342	-1588.609
C 5	-35.700	+38.569	-965.820	-35.700	+38.569	-792.252
C 6	-3.866	+77.139	-1931.641	-3.866	+77.139	-1584.504
C 7	+323.790	+116.371	+576.684	+199.140	+71.371	+999.094
C 8	+35.068	+232.742	+1153.367	+21.568	+142.742	+1998.188
C 9	+368.821	+125.160	+627.309	+244.171	+80.160	+1089.281
C10	+60.719	+250.320	+1254.617	+47.219	+160.320	+2178.563
C11	+368.801	+125.000	+631.379	+244.151	+80.000	+1092.621
C12	+39.942	+250.000	+1262.758	+26.442	+160.000	+2185.242
C13	+35.380	+10.174	-710.891	+22.915	+5.674	-675.227
C14	+3.832	+20.348	-1421.781	+2.482	+11.348	-1350.453
C15	+34.344	+18.674	-923.664	+21.879	+14.174	-849.750
C16	+3.719	+37.348	-1847.328	+2.369	+28.348	-1699.500
C17	+63.669	+1.867	-656.348	+63.669	+1.867	-647.945
C18	+6.896	+3.734	-1312.695	+6.896	+3.734	-1295.891

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 47						
C 1	-35.682	+38.441	-789.570	-35.682	+38.441	-616.578
C 2	-3.848	+77.162	-1584.875	-3.848	+77.162	-1237.645
C 3	-35.694	+38.619	-793.234	-35.694	+38.619	-619.441
C 4	-3.866	+77.344	-1588.613	-3.866	+77.344	-1240.559
C 5	-35.700	+38.572	-792.254	-35.700	+38.572	-618.680
C 6	-3.866	+77.145	-1584.508	-3.866	+77.145	-1237.359
C 7	+199.140	+71.369	+999.102	+74.490	+26.369	+1219.000
C 8	+21.568	+142.738	+1998.203	+8.068	+52.738	+2438.000
C 9	+244.171	+80.160	+1089.273	+119.521	+35.160	+1348.742
C10	+47.219	+160.320	+2178.547	+33.719	+70.320	+2697.484
C11	+244.151	+79.996	+1092.617	+119.501	+34.996	+1351.359
C12	+26.442	+159.992	+2185.234	+12.942	+69.992	+2702.719
C13	+22.915	+5.676	-675.227	+10.450	+1.176	-659.816
C14	+2.482	+11.352	-1350.453	+1.132	+2.352	-1319.633
C15	+21.879	+14.176	-849.750	+9.414	+9.676	-796.086
C16	+2.370	+28.352	-1699.500	+1.020	+19.352	-1592.172
C17	+63.669	+1.867	-647.949	+63.669	+1.867	-639.539
C18	+6.895	+3.734	-1295.898	+6.895	+3.734	-1279.078
Barra 48						
C 1	-35.682	+38.440	-616.586	-35.682	+38.440	-443.605
C 2	-3.848	+77.160	-1237.652	-3.848	+77.160	-890.430
C 3	-35.694	+38.619	-619.445	-35.694	+38.619	-445.664
C 4	-3.866	+77.343	-1240.570	-3.866	+77.343	-892.531
C 5	-35.700	+38.571	-618.680	-35.700	+38.571	-445.117
C 6	-3.866	+77.143	-1237.359	-3.866	+77.143	-890.234
C 7	+74.490	+26.371	+1219.000	-50.160	-18.629	+1236.422
C 8	+8.068	+52.742	+2438.000	-5.432	-37.258	+2472.844
C 9	+119.521	+35.160	+1348.742	-5.129	-9.840	+1405.727
C10	+33.719	+70.320	+2697.484	+20.219	-19.680	+2811.453
C11	+119.501	+34.996	+1351.352	-5.149	-10.004	+1407.594
C12	+12.942	+69.992	+2702.703	-0.558	-20.008	+2815.188
C13	+10.450	+1.174	-659.813	-2.015	-3.326	-664.645
C14	+1.132	+2.348	-1319.625	-0.218	-6.652	-1329.289
C15	+9.414	+9.674	-796.086	-3.051	+5.174	-762.680
C16	+1.020	+19.348	-1592.172	-0.330	+10.348	-1525.359
C17	+63.669	+1.869	-639.543	+63.669	+1.869	-631.145
C18	+6.896	+3.738	-1279.086	+6.896	+3.738	-1262.289

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 49						
C 1	-35.682	+38.443	-443.605	-35.682	+38.443	-304.254
C 2	-3.848	+77.166	-890.430	-3.848	+77.166	-610.711
C 3	-35.694	+38.623	-445.668	-35.694	+38.623	-305.656
C 4	-3.866	+77.354	-892.539	-3.866	+77.354	-612.141
C 5	-35.700	+38.574	-445.117	-35.700	+38.574	-305.281
C 6	-3.866	+77.148	-890.234	-3.866	+77.148	-610.563
C 7	-50.160	-18.637	+1236.417	-150.572	-54.887	+1103.167
C 8	-5.432	-37.273	+2472.833	-16.307	-109.773	+2206.333
C 9	-5.129	-9.852	+1405.721	-105.542	-46.102	+1304.315
C10	+20.219	-19.703	+2811.443	+9.344	-92.203	+2608.630
C11	-5.149	-10.012	+1407.604	-105.562	-46.262	+1305.604
C12	-0.558	-20.023	+2815.208	-11.433	-92.523	+2611.208
C13	-2.015	-3.320	-664.658	-12.056	-6.945	-683.243
C14	-0.218	-6.641	-1329.315	-1.306	-13.891	-1366.487
C15	-3.051	+5.180	-762.681	-13.093	+1.555	-750.462
C16	-0.330	+10.359	-1525.362	-1.418	+3.109	-1500.924
C17	+63.668	+1.871	-631.141	+63.668	+1.871	-624.367
C18	+6.895	+3.742	-1262.281	+6.895	+3.742	-1248.734
Barra 50						
C 1	-35.682	+38.439	-304.250	-35.682	+38.439	-164.898
C 2	-3.848	+77.156	-610.707	-3.848	+77.156	-330.996
C 3	-35.694	+38.619	-305.656	-35.694	+38.619	-165.664
C 4	-3.866	+77.340	-612.141	-3.866	+77.340	-331.781
C 5	-35.700	+38.570	-305.277	-35.700	+38.570	-165.461
C 6	-3.866	+77.141	-610.555	-3.866	+77.141	-330.922
C 7	-150.573	-54.879	+1103.151	-250.985	-91.129	+838.526
C 8	-16.307	-109.758	+2206.302	-27.182	-182.258	+1677.052
C 9	-105.542	-46.086	+1304.315	-205.954	-82.336	+1071.542
C10	+9.344	-92.172	+2608.630	-1.531	-164.672	+2143.083
C11	-105.561	-46.254	+1305.596	-205.974	-82.504	+1072.237
C12	-11.433	-92.508	+2611.193	-22.308	-165.008	+2144.474
C13	-12.056	-6.949	-683.251	-22.098	-10.574	-715.017
C14	-1.306	-13.898	-1366.503	-2.393	-21.148	-1430.034
C15	-13.093	+1.555	-750.478	-23.134	-2.070	-751.423
C16	-1.418	+3.109	-1500.956	-2.505	-4.141	-1502.846
C17	+63.668	+1.867	-624.367	+63.668	+1.867	-617.594
C18	+6.896	+3.734	-1248.734	+6.896	+3.734	-1235.188

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 51						
C 1	-35.682	+38.438	-164.900	-35.682	+38.438	-25.557
C 2	-3.848	+77.154	-330.994	-3.848	+77.154	-51.299
C 3	-35.694	+38.617	-165.666	-35.694	+38.617	-25.676
C 4	-3.866	+77.340	-331.779	-3.866	+77.340	-51.418
C 5	-35.700	+38.568	-165.457	-35.700	+38.568	-25.645
C 6	-3.866	+77.137	-330.914	-3.866	+77.137	-51.289
C 7	-250.985	-91.133	+838.518	-351.397	-127.383	+442.471
C 8	-27.182	-182.266	+1677.036	-38.057	-254.766	+884.943
C 9	-205.954	-82.336	+1071.526	-306.367	-118.586	+707.354
C10	-1.531	-164.672	+2143.052	-12.406	-237.172	+1414.708
C11	-205.974	-82.500	+1072.229	-306.387	-118.750	+707.464
C12	-22.308	-165.000	+2144.458	-33.183	-237.500	+1414.927
C13	-22.098	-10.578	-715.017	-32.139	-14.203	-759.931
C14	-2.393	-21.156	-1430.034	-3.481	-28.406	-1519.862
C15	-23.134	-2.078	-751.423	-33.175	-5.703	-765.525
C16	-2.506	-4.156	-1502.846	-3.593	-11.406	-1531.049
C17	+63.668	+1.863	-617.598	+63.668	+1.863	-610.828
C18	+6.896	+3.727	-1235.195	+6.896	+3.727	-1221.656
Barra 52						
C 1	-35.682	+38.438	-25.557	-35.682	+38.438	+113.781
C 2	-3.848	+77.157	-51.301	-3.848	+77.157	+228.393
C 3	-35.694	+38.618	-25.678	-35.694	+38.618	+114.313
C 4	-3.866	+77.340	-51.424	-3.866	+77.340	+228.936
C 5	-35.700	+38.568	-25.645	-35.700	+38.568	+114.168
C 6	-3.866	+77.137	-51.289	-3.866	+77.137	+228.336
C 7	-351.398	-127.375	+442.477	-351.398	-127.375	-19.262
C 8	-38.058	-254.750	+884.953	-38.058	-254.750	-38.523
C 9	-306.367	-118.586	+707.362	-406.779	-154.836	+211.792
C10	-12.406	-237.172	+1414.724	-112.819	-309.672	+423.583
C11	-306.387	-118.746	+707.467	-406.799	-154.996	+211.299
C12	-33.183	-237.492	+1414.935	-44.058	-309.992	+422.599
C13	-32.139	-14.199	-759.935	-42.180	-17.824	-817.986
C14	-3.481	-28.398	-1519.870	-4.568	-35.648	-1635.971
C15	-33.175	-5.701	-765.533	-43.216	-9.326	-792.771
C16	-3.593	-11.402	-1531.065	-4.680	-18.652	-1585.542
C17	+63.668	+1.866	-610.842	-43.191	-36.711	-676.866
C18	+6.895	+3.732	-1221.683	-4.678	-73.422	-1353.732

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 53						
C 1	-35.682	+38.438	+113.781	-35.682	+38.438	+246.779
C 2	-3.848	+77.154	+228.393	-3.848	+77.154	+495.354
C 3	-35.694	+38.617	+114.310	-35.694	+38.617	+247.924
C 4	-3.866	+77.339	+228.931	-3.866	+77.339	+496.520
C 5	-35.700	+38.570	+114.170	-35.700	+38.570	+247.617
C 6	-3.866	+77.141	+228.340	-3.866	+77.141	+495.234
C 7	-351.398	-127.377	-19.270	-351.398	-127.377	-459.984
C 8	-38.057	-254.754	-38.539	-38.057	-254.754	-919.969
C 9	-406.779	-154.835	+211.785	-502.621	-189.435	-383.801
C10	-112.819	-309.669	+423.571	-123.199	-378.870	-767.601
C11	-406.799	-154.997	+211.293	-502.641	-189.597	-384.836
C12	-44.058	-309.994	+422.586	-54.438	-379.194	-769.672
C13	-42.180	-17.827	-817.994	-51.764	-21.287	-885.666
C14	-4.568	-35.653	-1635.987	-5.606	-42.573	-1771.331
C15	-43.216	-9.329	-792.783	-52.801	-12.789	-831.044
C16	-4.680	-18.657	-1585.566	-5.718	-25.577	-1662.089
C17	-43.191	-36.714	-676.867	-139.033	-71.314	-863.762
C18	-4.678	-73.427	-1353.734	-15.058	-142.627	-1727.523
Barra 54						
C 1	-35.682	+38.438	+246.777	-35.682	+38.438	+379.774
C 2	-3.848	+77.156	+495.350	-3.848	+77.156	+762.311
C 3	-35.694	+38.617	+247.923	-35.694	+38.617	+381.539
C 4	-3.866	+77.338	+496.519	-3.866	+77.338	+764.111
C 5	-35.700	+38.570	+247.615	-35.700	+38.570	+381.069
C 6	-3.866	+77.140	+495.230	-3.866	+77.140	+762.139
C 7	-351.398	-127.379	-459.977	-351.398	-127.379	-900.707
C 8	-38.058	-254.758	-919.953	-38.058	-254.758	-1801.414
C 9	-502.621	-189.434	-383.797	-598.463	-224.034	-1099.097
C10	-123.199	-378.869	-767.593	-219.041	-448.069	-2198.195
C11	-502.641	-189.598	-384.844	-598.483	-224.198	-1100.711
C12	-54.437	-379.197	-769.687	-64.817	-448.397	-2201.421
C13	-51.764	-21.286	-885.677	-61.349	-24.746	-965.310
C14	-5.606	-42.571	-1771.355	-6.644	-49.491	-1930.620
C15	-52.800	-12.788	-831.052	-62.385	-16.248	-881.287
C16	-5.718	-25.575	-1662.105	-6.756	-32.495	-1762.573
C17	-139.033	-71.313	-863.765	-234.875	-105.913	-1170.367
C18	-15.058	-142.626	-1727.531	-25.438	-211.827	-2340.734

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 55						
C 1	-35.682	+38.422	+379.781	-35.682	+38.422	+421.277
C 2	-3.848	+77.125	+762.322	-3.848	+77.125	+845.621
C 3	-35.694	+38.602	+381.545	-35.694	+38.602	+423.234
C 4	-3.866	+77.313	+764.127	-3.866	+77.313	+847.609
C 5	-35.700	+38.563	+381.072	-35.700	+38.563	+422.711
C 6	-3.866	+77.125	+762.145	-3.866	+77.125	+845.422
C 7	-351.397	-127.328	-900.730	-351.397	-127.328	-1038.234
C 8	-38.057	-254.656	-1801.461	-38.057	-254.656	-2076.469
C 9	-598.463	-224.022	-1099.097	-628.379	-234.822	-1346.863
C10	-219.041	-448.044	-2198.194	-222.281	-469.644	-2693.725
C11	-598.483	-224.147	-1100.738	-628.399	-234.947	-1348.628
C12	-64.818	-448.294	-2201.475	-68.058	-469.894	-2697.257
C13	-61.348	-24.772	-965.300	-64.340	-25.853	-992.660
C14	-6.644	-49.545	-1930.601	-6.968	-51.705	-1985.319
C15	-62.385	-16.288	-881.269	-65.376	-17.368	-899.441
C16	-6.756	-32.576	-1762.538	-7.080	-34.736	-1798.882
C17	-234.875	-105.959	-1170.343	-264.791	-116.759	-1290.613
C18	-25.438	-211.919	-2340.686	-28.678	-233.519	-2581.225
Barra 56						
C 1	-2.028	-12.379	+421.273	-2.028	-12.379	+407.902
C 2	-0.219	-24.859	+845.613	-0.219	-24.859	+818.771
C 3	-2.029	-12.449	+423.230	-2.029	-12.449	+409.799
C 4	-0.220	-24.918	+847.609	-0.220	-24.918	+820.705
C 5	-2.029	-12.430	+422.711	-2.029	-12.430	+409.291
C 6	-0.220	-24.859	+845.422	-0.220	-24.859	+818.582
C 7	-19.971	+30.516	-1038.250	-19.971	+30.516	-1005.277
C 8	-2.163	+61.031	-2076.500	-2.163	+61.031	-2010.555
C 9	-35.714	+39.578	-1346.859	-35.714	+39.578	-1304.094
C10	-114.796	+79.156	-2693.719	-114.796	+79.156	-2608.188
C11	-35.715	+39.672	-1348.656	-35.715	+39.672	-1305.824
C12	-3.868	+79.344	-2697.313	-3.868	+79.344	-2611.648
C13	+618.180	+217.759	-992.659	+588.264	+206.959	-763.331
C14	+66.951	+435.519	-1985.319	+63.711	+413.919	-1526.663
C15	+618.121	+214.978	-899.441	+588.205	+204.178	-673.097
C16	+66.945	+429.956	-1798.881	+63.705	+408.356	-1346.194
C17	+612.330	+231.931	-1290.613	+582.414	+221.131	-1045.988
C18	+66.318	+463.863	-2581.225	+63.078	+442.262	-2091.975

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 57						
C 1	-2.028	-12.386	+407.902	-2.028	-12.386	+365.045
C 2	-0.219	-24.863	+818.771	-0.219	-24.863	+732.746
C 3	-2.029	-12.445	+409.798	-2.029	-12.445	+366.741
C 4	-0.220	-24.921	+820.706	-0.220	-24.921	+734.478
C 5	-2.029	-12.428	+409.289	-2.029	-12.428	+366.291
C 6	-0.220	-24.856	+818.578	-0.220	-24.856	+732.582
C 7	-19.971	+30.521	-1005.281	-19.971	+30.521	-899.674
C 8	-2.163	+61.043	-2010.563	-2.163	+61.043	-1799.348
C 9	-35.714	+39.592	-1304.105	-35.714	+39.592	-1167.123
C10	-114.795	+79.184	-2608.211	-114.795	+79.184	-2334.246
C11	-35.715	+39.641	-1305.828	-35.715	+39.641	-1168.674
C12	-3.868	+79.281	-2611.656	-3.868	+79.281	-2337.348
C13	+588.264	+206.935	-763.336	+492.422	+172.335	-107.199
C14	+63.711	+413.870	-1526.672	+53.331	+344.669	-214.398
C15	+588.205	+204.193	-673.086	+492.363	+169.593	-26.429
C16	+63.705	+408.385	-1346.172	+53.325	+339.185	-52.859
C17	+582.414	+221.107	-1045.984	+486.572	+186.507	-340.808
C18	+63.078	+442.213	-2091.968	+52.698	+373.013	-681.617
Barra 58						
C 1	-2.028	-12.383	+365.047	-2.028	-12.383	+346.953
C 2	-0.219	-24.867	+732.758	-0.219	-24.867	+696.438
C 3	-2.029	-12.445	+366.750	-2.029	-12.445	+348.578
C 4	-0.220	-24.914	+734.492	-0.220	-24.914	+698.102
C 5	-2.029	-12.430	+366.297	-2.029	-12.430	+348.141
C 6	-0.220	-24.859	+732.594	-0.220	-24.859	+696.281
C 7	-19.971	+30.531	-899.688	-19.971	+30.531	-855.109
C 8	-2.163	+61.063	-1799.375	-2.163	+61.063	-1710.219
C 9	-35.714	+39.594	-1167.141	-35.714	+39.594	-1109.313
C10	-114.795	+79.188	-2334.281	-114.795	+79.188	-2218.625
C11	-35.715	+39.625	-1168.672	-35.715	+39.625	-1110.813
C12	-3.868	+79.250	-2337.344	-3.868	+79.250	-2221.625
C13	+492.422	+172.331	-107.183	+451.980	+157.731	+133.755
C14	+53.331	+344.663	-214.365	+48.951	+315.462	+267.510
C15	+492.363	+169.550	-26.401	+451.921	+154.950	+210.505
C16	+53.325	+339.100	-52.803	+48.945	+309.900	+421.010
C17	+486.572	+186.550	-340.808	+446.130	+171.950	-79.151
C18	+52.697	+373.100	-681.615	+48.317	+343.900	-158.303

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 59						
C 1	-2.028	-12.391	+346.969	-2.028	-12.391	+322.195
C 2	-0.219	-24.867	+696.461	-0.219	-24.867	+646.734
C 3	-2.029	-12.445	+348.578	-2.029	-12.445	+323.688
C 4	-0.220	-24.926	+698.109	-0.220	-24.926	+648.258
C 5	-2.029	-12.426	+348.148	-2.029	-12.426	+323.293
C 6	-0.220	-24.852	+696.297	-0.220	-24.852	+646.586
C 7	-19.972	+30.523	-855.125	-19.972	+30.523	-794.070
C 8	-2.163	+61.047	-1710.250	-2.163	+61.047	-1588.141
C 9	-35.714	+39.594	-1109.344	-35.714	+39.594	-1030.141
C10	-114.795	+79.188	-2218.688	-114.795	+79.188	-2060.281
C11	-35.715	+39.641	-1110.797	-35.715	+39.641	-1031.523
C12	-3.868	+79.281	-2221.594	-3.868	+79.281	-2063.047
C13	+451.979	+157.750	+133.760	+396.579	+137.750	+429.229
C14	+48.951	+315.500	+267.521	+42.951	+275.500	+858.458
C15	+451.920	+155.000	+210.510	+396.520	+135.000	+500.526
C16	+48.944	+310.000	+421.021	+42.944	+270.000	+1001.052
C17	+446.129	+171.891	-79.146	+390.729	+151.891	+244.635
C18	+48.317	+343.781	-158.292	+42.317	+303.781	+489.271
Barra 60						
C 1	-2.028	-12.406	+322.219	-2.028	-12.406	+309.828
C 2	-0.219	-24.844	+646.750	-0.219	-24.844	+621.938
C 3	-2.029	-12.406	+323.672	-2.029	-12.406	+311.297
C 4	-0.220	-24.844	+648.219	-0.220	-24.844	+623.406
C 5	-2.029	-12.406	+323.313	-2.029	-12.406	+310.891
C 6	-0.220	-24.813	+646.625	-0.220	-24.813	+621.781
C 7	-19.972	+30.375	-794.063	-19.972	+30.375	-763.625
C 8	-2.163	+60.750	-1588.125	-2.163	+60.750	-1527.250
C 9	-35.714	+39.500	-1030.188	-35.714	+39.500	-990.625
C10	-114.795	+79.000	-2060.375	-114.795	+79.000	-1981.250
C11	-35.715	+39.625	-1031.500	-35.715	+39.625	-991.938
C12	-3.868	+79.250	-2063.000	-3.868	+79.250	-1983.875
C13	+396.579	+137.625	+429.354	+368.879	+127.625	+561.979
C14	+42.951	+275.250	+858.708	+39.951	+255.250	+1123.958
C15	+396.520	+135.125	+500.542	+368.820	+125.125	+630.667
C16	+42.944	+270.250	+1001.083	+39.944	+250.250	+1261.333
C17	+390.729	+152.125	+244.667	+363.029	+142.125	+391.729
C18	+42.317	+304.250	+489.333	+39.317	+284.250	+783.458

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 61						
C 1	-2.028	-12.375	+309.830	-2.028	-12.375	+254.140
C 2	-0.219	-24.841	+621.912	-0.219	-24.841	+510.127
C 3	-2.029	-12.433	+311.270	-2.029	-12.433	+255.320
C 4	-0.220	-24.900	+623.382	-0.220	-24.900	+511.332
C 5	-2.029	-12.418	+310.886	-2.029	-12.418	+255.004
C 6	-0.220	-24.836	+621.771	-0.220	-24.836	+510.008
C 7	-19.972	+30.496	-763.602	-19.972	+30.496	-626.365
C 8	-2.163	+60.992	-1527.203	-2.163	+60.992	-1252.730
C 9	-35.714	+39.557	-990.625	-35.714	+39.557	-812.621
C10	-114.795	+79.113	-1981.250	-114.795	+79.113	-1625.242
C11	-35.715	+39.609	-991.943	-35.715	+39.609	-813.693
C12	-3.868	+79.219	-1983.887	-3.868	+79.219	-1627.387
C13	+368.879	+127.781	+562.059	+244.229	+82.781	+1035.809
C14	+39.951	+255.563	+1124.117	+26.451	+165.563	+2071.617
C15	+368.820	+125.039	+630.605	+244.170	+80.039	+1092.031
C16	+39.945	+250.078	+1261.211	+26.445	+160.078	+2184.063
C17	+363.029	+141.949	+391.656	+238.379	+96.949	+929.184
C18	+39.317	+283.898	+783.313	+25.817	+193.898	+1858.367
Barra 62						
C 1	-2.028	-12.376	+254.139	-2.028	-12.376	+198.447
C 2	-0.219	-24.842	+510.125	-0.219	-24.842	+398.338
C 3	-2.029	-12.433	+255.320	-2.029	-12.433	+199.368
C 4	-0.220	-24.900	+511.330	-0.220	-24.900	+399.277
C 5	-2.029	-12.418	+255.005	-2.029	-12.418	+199.122
C 6	-0.220	-24.836	+510.010	-0.220	-24.836	+398.244
C 7	-19.972	+30.498	-626.363	-19.972	+30.498	-489.119
C 8	-2.163	+60.996	-1252.727	-2.163	+60.996	-978.238
C 9	-35.714	+39.559	-812.621	-35.714	+39.559	-634.605
C10	-114.795	+79.117	-1625.242	-114.795	+79.117	-1269.211
C11	-35.715	+39.612	-813.695	-35.715	+39.612	-635.445
C12	-3.868	+79.225	-1627.391	-3.868	+79.225	-1270.891
C13	+244.229	+82.775	+1035.805	+119.579	+37.775	+1307.055
C14	+26.451	+165.551	+2071.609	+12.951	+75.551	+2614.109
C15	+244.170	+80.037	+1092.031	+119.520	+35.037	+1350.953
C16	+26.444	+160.074	+2184.063	+12.944	+70.074	+2701.906
C17	+238.379	+96.949	+929.180	+113.729	+51.949	+1264.195
C18	+25.817	+193.898	+1858.359	+12.317	+103.898	+2528.391

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 63						
C 1	-2.028	-12.377	+198.447	-2.028	-12.377	+142.753
C 2	-0.219	-24.843	+398.339	-0.219	-24.843	+286.544
C 3	-2.029	-12.434	+199.367	-2.029	-12.434	+143.417
C 4	-0.220	-24.901	+399.275	-0.220	-24.901	+287.223
C 5	-2.029	-12.418	+199.123	-2.029	-12.418	+143.239
C 6	-0.220	-24.837	+398.246	-0.220	-24.837	+286.479
C 7	-19.972	+30.499	-489.121	-19.972	+30.499	-351.875
C 8	-2.163	+60.998	-978.242	-2.163	+60.998	-703.750
C 9	-35.714	+39.560	-634.609	-35.714	+39.560	-456.590
C10	-114.795	+79.119	-1269.219	-3.645	+79.119	-913.180
C11	-35.715	+39.612	-635.449	-35.715	+39.612	-457.195
C12	-3.868	+79.225	-1270.898	-3.868	+79.225	-914.391
C13	+119.579	+37.775	+1307.055	-5.071	-7.225	+1375.781
C14	+12.951	+75.551	+2614.109	-0.549	-14.449	+2751.563
C15	+119.520	+35.035	+1350.961	-5.130	-9.965	+1407.375
C16	+12.944	+70.070	+2701.922	-0.556	-19.930	+2814.750
C17	+113.729	+51.943	+1264.203	-10.921	+6.943	+1396.703
C18	+12.317	+103.887	+2528.406	-1.183	+13.887	+2793.406
Barra 64						
C 1	-2.028	-12.376	+142.753	-2.028	-12.376	+97.889
C 2	-0.219	-24.843	+286.544	-0.219	-24.843	+196.488
C 3	-2.029	-12.435	+143.416	-2.029	-12.435	+98.343
C 4	-0.220	-24.901	+287.221	-0.220	-24.901	+196.952
C 5	-2.029	-12.419	+143.240	-2.029	-12.419	+98.221
C 6	-0.220	-24.838	+286.480	-0.220	-24.838	+196.441
C 7	-19.972	+30.500	-351.871	-19.972	+30.500	-241.309
C 8	-2.163	+61.000	-703.742	-2.163	+61.000	-482.617
C 9	-35.714	+39.559	-456.586	-35.714	+39.559	-313.184
C10	-3.645	+79.117	-913.172	+85.892	+79.117	-626.367
C11	-35.715	+39.611	-457.191	-35.715	+39.611	-313.598
C12	-3.868	+79.223	-914.383	-3.868	+79.223	-627.195
C13	-5.071	-7.227	+1375.792	-105.484	-43.477	+1283.878
C14	-0.549	-14.453	+2751.583	-11.424	-86.953	+2567.755
C15	-5.130	-9.969	+1407.370	-105.543	-46.219	+1305.534
C16	-0.556	-19.938	+2814.740	-11.431	-92.438	+2611.068
C17	-10.921	+6.941	+1396.706	-111.334	-29.309	+1356.167
C18	-1.183	+13.883	+2793.411	-12.058	-58.617	+2712.333

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 65						
C 1	-2.028	-12.376	+97.887	-2.028	-12.376	+53.022
C 2	-0.219	-24.843	+196.486	-0.219	-24.843	+106.431
C 3	-2.029	-12.434	+98.341	-2.029	-12.434	+53.270
C 4	-0.220	-24.901	+196.949	-0.220	-24.901	+106.683
C 5	-2.029	-12.418	+98.221	-2.029	-12.418	+53.202
C 6	-0.220	-24.837	+196.441	-0.220	-24.837	+106.404
C 7	-19.972	+30.498	-241.309	-19.972	+30.498	-130.752
C 8	-2.163	+60.996	-482.617	-2.163	+60.996	-261.504
C 9	-35.714	+39.561	-313.180	-35.714	+39.561	-169.781
C10	+85.892	+79.121	-626.359	+85.892	+79.121	-339.563
C11	-35.715	+39.611	-313.598	-35.715	+39.611	-170.000
C12	-3.868	+79.223	-627.195	-3.868	+79.223	-340.000
C13	-105.484	-43.480	+1283.878	-205.897	-79.730	+1060.581
C14	-11.424	-86.961	+2567.755	-22.299	-159.461	+2121.161
C15	-105.543	-46.211	+1305.526	-205.956	-82.461	+1072.323
C16	-11.431	-92.422	+2611.052	-22.306	-164.922	+2144.646
C17	-111.334	-29.305	+1356.167	-211.746	-65.555	+1184.245
C18	-12.058	-58.609	+2712.333	-22.933	-131.109	+2368.490
Barra 66						
C 1	-2.028	-12.377	+53.022	-2.028	-12.377	+8.155
C 2	-0.219	-24.845	+106.432	-0.219	-24.845	+16.368
C 3	-2.029	-12.435	+53.268	-2.029	-12.435	+8.192
C 4	-0.220	-24.904	+106.680	-0.220	-24.904	+16.407
C 5	-2.029	-12.419	+53.203	-2.029	-12.419	+8.182
C 6	-0.220	-24.839	+106.406	-0.220	-24.839	+16.363
C 7	-19.972	+30.502	-130.750	-19.972	+30.502	-20.182
C 8	-2.163	+61.004	-261.500	-2.163	+61.004	-40.363
C 9	-35.714	+39.563	-169.775	-35.714	+39.563	-26.359
C10	+85.892	+79.125	-339.551	+85.892	+79.125	-52.719
C11	-35.715	+39.615	-170.002	-35.715	+39.615	-26.395
C12	-3.868	+79.230	-340.004	-3.868	+79.230	-52.789
C13	-205.896	-79.734	+1060.565	-306.309	-115.984	+705.839
C14	-22.299	-159.469	+2121.130	-33.174	-231.969	+1411.677
C15	-205.955	-82.469	+1072.299	-306.368	-118.719	+707.643
C16	-22.306	-164.938	+2144.599	-33.181	-237.438	+1415.286
C17	-211.746	-65.566	+1184.229	-312.159	-101.816	+880.862
C18	-22.933	-131.133	+2368.458	-33.808	-203.633	+1761.724

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 67						
C 1	-2.028	-12.377	+8.155	-2.028	-12.377	-36.712
C 2	-0.219	-24.844	+16.368	-0.219	-24.844	-73.691
C 3	-2.029	-12.434	+8.193	-2.029	-12.434	-36.883
C 4	-0.220	-24.902	+16.408	-0.220	-24.902	-73.866
C 5	-2.029	-12.419	+8.183	-2.029	-12.419	-36.837
C 6	-0.220	-24.838	+16.365	-0.220	-24.838	-73.675
C 7	-19.972	+30.500	-20.180	-19.972	+30.500	+90.383
C 8	-2.163	+61.000	-40.359	-2.163	+61.000	+180.766
C 9	-35.714	+39.563	-26.365	-35.714	+39.563	+117.051
C10	+85.892	+79.125	-52.730	+85.892	+79.125	+234.102
C11	-35.715	+39.613	-26.398	-35.715	+39.613	+117.205
C12	-3.868	+79.227	-52.797	-3.868	+79.227	+234.410
C13	-306.309	-115.980	+705.842	-406.721	-152.230	+219.706
C14	-33.174	-231.961	+1411.685	-44.049	-304.461	+439.411
C15	-306.368	-118.719	+707.647	-406.780	-154.969	+211.581
C16	-33.181	-237.438	+1415.294	-44.056	-309.938	+423.161
C17	-312.159	-101.809	+880.870	-412.571	-138.059	+446.112
C18	-33.808	-203.617	+1761.740	-44.683	-276.117	+892.224
Barra 68						
C 1	-2.028	-12.378	-36.712	-2.028	-12.378	-79.539
C 2	-0.219	-24.845	-73.692	-0.219	-24.845	-159.656
C 3	-2.029	-12.435	-36.884	-2.029	-12.435	-79.908
C 4	-0.220	-24.904	-73.867	-0.220	-24.904	-160.033
C 5	-2.029	-12.420	-36.837	-2.029	-12.420	-79.810
C 6	-0.220	-24.839	-73.675	-0.220	-24.839	-159.619
C 7	-19.972	+30.501	+90.386	-19.972	+30.501	+195.918
C 8	-2.163	+61.003	+180.771	-2.163	+61.003	+391.836
C 9	-35.714	+39.563	+117.050	-35.714	+39.563	+253.938
C10	+85.892	+79.125	+234.100	+85.892	+79.125	+507.875
C11	-35.715	+39.616	+117.206	-35.715	+39.616	+254.273
C12	-3.868	+79.232	+234.412	-3.868	+79.232	+508.547
C13	-406.722	-152.235	+219.703	-502.564	-186.835	-366.887
C14	-44.049	-304.470	+439.407	-54.429	-373.670	-733.773
C15	-406.781	-154.975	+211.582	-502.623	-189.575	-384.488
C16	-44.056	-309.951	+423.164	-54.436	-379.151	-768.976
C17	-412.571	-138.067	+446.106	-508.414	-172.667	-91.461
C18	-44.683	-276.134	+892.211	-55.063	-345.334	-182.921

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 69						
C 1	-2.028	-12.377	-79.539	-2.028	-12.377	-122.365
C 2	-0.219	-24.845	-159.656	-0.219	-24.845	-245.621
C 3	-2.029	-12.435	-79.908	-2.029	-12.435	-122.933
C 4	-0.220	-24.904	-160.033	-0.220	-24.904	-246.200
C 5	-2.029	-12.419	-79.810	-2.029	-12.419	-122.782
C 6	-0.220	-24.839	-159.620	-0.220	-24.839	-245.563
C 7	-19.972	+30.502	+195.920	-19.972	+30.502	+301.459
C 8	-2.163	+61.005	+391.840	-2.163	+61.005	+602.918
C 9	-35.714	+39.563	+253.938	-35.714	+39.563	+390.826
C10	+85.892	+79.126	+507.877	+85.892	+79.126	+781.652
C11	-35.715	+39.615	+254.276	-35.715	+39.615	+391.346
C12	-3.868	+79.230	+508.553	-3.868	+79.230	+782.691
C13	-502.564	-186.833	-366.894	-598.406	-221.433	-1073.191
C14	-54.429	-373.666	-733.789	-64.809	-442.866	-2146.382
C15	-502.622	-189.579	-384.480	-598.465	-224.179	-1100.273
C16	-54.436	-379.158	-768.961	-64.816	-448.358	-2200.546
C17	-508.413	-172.663	-91.461	-604.255	-207.263	-748.734
C18	-55.063	-345.326	-182.921	-65.443	-414.526	-1497.468
Barra 70						
C 1	-2.028	-12.375	-122.365	-2.028	-12.375	-135.734
C 2	-0.219	-24.842	-245.622	-0.219	-24.842	-272.454
C 3	-2.029	-12.432	-122.936	-2.029	-12.432	-136.362
C 4	-0.220	-24.900	-246.203	-0.220	-24.900	-273.094
C 5	-2.029	-12.422	-122.780	-2.029	-12.422	-136.195
C 6	-0.220	-24.844	-245.561	-0.220	-24.844	-272.391
C 7	-19.972	+30.500	+301.459	-19.972	+30.500	+334.402
C 8	-2.163	+61.000	+602.918	-2.163	+61.000	+668.805
C 9	-35.714	+39.547	+390.838	-35.714	+39.547	+433.551
C10	+85.892	+79.094	+781.676	+85.892	+79.094	+867.102
C11	-35.715	+39.625	+391.344	-35.715	+39.625	+434.133
C12	-3.868	+79.250	+782.688	-3.868	+79.250	+868.266
C13	-598.406	-221.444	-1073.206	-628.322	-232.244	-1318.191
C14	-64.809	-442.887	-2146.413	-68.049	-464.488	-2636.382
C15	-598.465	-224.162	-1100.269	-628.381	-234.963	-1348.206
C16	-64.816	-448.325	-2200.538	-68.056	-469.925	-2696.413
C17	-604.256	-207.272	-748.738	-634.172	-218.072	-978.441
C18	-65.443	-414.544	-1497.475	-68.683	-436.144	-1956.881

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 71						
C 1	-0.115	+3.988	-135.735	-0.115	+3.988	-131.432
C 2	-0.012	+8.002	-272.455	-0.012	+8.002	-263.821
C 3	-0.115	+4.002	-136.367	-0.115	+4.002	-132.041
C 4	-0.012	+8.018	-273.103	-0.012	+8.018	-264.439
C 5	-0.115	+3.998	-136.195	-0.115	+3.998	-131.880
C 6	-0.012	+7.996	-272.391	-0.012	+7.996	-263.760
C 7	-1.135	-9.820	+334.410	-1.135	-9.820	+323.803
C 8	-0.123	-19.641	+668.820	-0.123	-19.641	+647.605
C 9	-2.030	-12.730	+433.566	-2.030	-12.730	+419.814
C10	+4.882	-25.461	+867.133	+4.882	-25.461	+839.629
C11	-2.030	-12.738	+434.133	-2.030	-12.738	+420.375
C12	-0.220	-25.477	+868.266	-0.220	-25.477	+840.750
C13	-35.710	+38.703	-1318.219	-35.710	+38.703	-1276.410
C14	-3.868	+77.406	-2636.438	-3.868	+77.406	-2552.820
C15	-35.714	+39.578	-1348.234	-35.714	+39.578	-1305.496
C16	-3.868	+79.156	-2696.469	-3.868	+79.156	-2610.992
C17	+61.483	+23.118	-978.441	+58.491	+22.038	-954.050
C18	+6.659	+46.236	-1956.882	+6.335	+44.076	-1908.101
Barra 72						
C 1	-0.115	+3.985	-131.432	-0.115	+3.985	-117.643
C 2	-0.012	+7.999	-263.819	-0.012	+7.999	-236.142
C 3	-0.115	+4.003	-132.042	-0.115	+4.003	-118.190
C 4	-0.012	+8.018	-264.442	-0.012	+8.018	-236.699
C 5	-0.115	+3.999	-131.879	-0.115	+3.999	-118.043
C 6	-0.012	+7.998	-263.759	-0.012	+7.998	-236.086
C 7	-1.135	-9.818	+323.804	-1.135	-9.818	+289.833
C 8	-0.123	-19.636	+647.607	-0.123	-19.636	+579.665
C 9	-2.030	-12.729	+419.816	-2.030	-12.729	+375.772
C10	+4.882	-25.459	+839.633	+4.882	-25.459	+751.545
C11	-2.030	-12.747	+420.373	-2.030	-12.747	+376.270
C12	-0.220	-25.494	+840.746	-0.220	-25.494	+752.539
C13	-35.710	+38.695	-1276.422	-35.710	+38.695	-1142.543
C14	-3.868	+77.391	-2552.844	-3.868	+77.391	-2285.086
C15	-35.714	+39.576	-1305.500	-35.714	+39.576	-1168.570
C16	-3.868	+79.152	-2611.000	-3.868	+79.152	-2337.141
C17	+58.491	+22.044	-954.052	+48.907	+18.584	-883.763
C18	+6.335	+44.089	-1908.105	+5.297	+37.169	-1767.526

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 73						
C 1	-0.115	+3.980	-117.645	-0.115	+3.980	-111.828
C 2	-0.012	+7.992	-236.145	-0.012	+7.992	-224.469
C 3	-0.115	+4.000	-118.191	-0.115	+4.000	-112.346
C 4	-0.012	+8.018	-236.703	-0.012	+8.018	-224.998
C 5	-0.115	+3.998	-118.047	-0.115	+3.998	-112.207
C 6	-0.012	+7.996	-236.094	-0.012	+7.996	-224.414
C 7	-1.135	-9.813	+289.840	-1.135	-9.813	+275.508
C 8	-0.123	-19.625	+579.680	-0.123	-19.625	+551.016
C 9	-2.030	-12.727	+375.773	-2.030	-12.727	+357.203
C10	+4.882	-25.453	+751.547	+4.882	-25.453	+714.406
C11	-2.030	-12.734	+376.273	-2.030	-12.734	+357.680
C12	-0.220	-25.469	+752.547	-0.220	-25.469	+715.359
C13	-35.710	+38.688	-1142.563	-35.710	+38.688	-1086.094
C14	-3.868	+77.375	-2285.125	-3.868	+77.375	-2172.188
C15	-35.714	+39.563	-1168.578	-35.714	+39.563	-1110.813
C16	-3.868	+79.125	-2337.156	-3.868	+79.125	-2221.625
C17	+48.907	+18.574	-883.771	+44.863	+17.114	-857.740
C18	+5.297	+37.148	-1767.543	+4.859	+34.227	-1715.480
Barra 74						
C 1	-0.115	+3.985	-111.828	-0.115	+3.985	-103.854
C 2	-0.012	+8.001	-224.468	-0.012	+8.001	-208.463
C 3	-0.115	+4.006	-112.348	-0.115	+4.006	-104.335
C 4	-0.012	+8.022	-224.999	-0.012	+8.022	-208.954
C 5	-0.115	+4.001	-112.209	-0.115	+4.001	-104.207
C 6	-0.012	+8.002	-224.418	-0.012	+8.002	-208.414
C 7	-1.135	-9.824	+275.512	-1.135	-9.824	+255.861
C 8	-0.123	-19.648	+551.023	-0.123	-19.648	+511.723
C 9	-2.030	-12.734	+357.199	-2.030	-12.734	+331.730
C10	+4.882	-25.469	+714.398	+4.882	-25.469	+663.461
C11	-2.030	-12.754	+357.676	-2.030	-12.754	+332.164
C12	-0.220	-25.508	+715.352	-0.220	-25.508	+664.328
C13	-35.710	+38.703	-1086.078	-35.710	+38.703	-1008.664
C14	-3.867	+77.406	-2172.156	-3.867	+77.406	-2017.328
C15	-35.714	+39.594	-1110.813	-35.714	+39.594	-1031.633
C16	-3.868	+79.188	-2221.625	-3.868	+79.188	-2063.266
C17	+44.863	+17.156	-857.740	+39.323	+15.156	-825.443
C18	+4.859	+34.313	-1715.479	+4.259	+30.313	-1650.885

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 75						
C 1	-0.115	+3.984	-103.859	-0.115	+3.984	-99.867
C 2	-0.012	+8.016	-208.469	-0.012	+8.016	-200.461
C 3	-0.115	+4.016	-104.344	-0.115	+4.016	-100.328
C 4	-0.012	+8.031	-208.969	-0.012	+8.031	-200.930
C 5	-0.115	+4.000	-104.211	-0.115	+4.000	-100.203
C 6	-0.012	+8.000	-208.422	-0.012	+8.000	-200.406
C 7	-1.135	-9.813	+255.859	-1.135	-9.813	+246.031
C 8	-0.123	-19.625	+511.719	-0.123	-19.625	+492.063
C 9	-2.030	-12.750	+331.734	-2.030	-12.750	+319.000
C10	+4.882	-25.500	+663.469	+4.882	-25.500	+638.000
C11	-2.030	-12.750	+332.172	-2.030	-12.750	+319.422
C12	-0.220	-25.500	+664.344	-0.220	-25.500	+638.844
C13	-35.710	+38.875	-1008.688	-35.710	+38.875	-969.875
C14	-3.867	+77.750	-2017.375	-3.867	+77.750	-1939.750
C15	-35.714	+39.750	-1031.688	-35.714	+39.750	-992.000
C16	-3.868	+79.500	-2063.375	-3.868	+79.500	-1984.000
C17	+39.322	+15.250	-825.458	+36.553	+14.250	-810.771
C18	+4.259	+30.500	-1650.917	+3.959	+28.500	-1621.542
Barra 76						
C 1	-0.115	+3.989	-99.864	-0.115	+3.989	-81.911
C 2	-0.012	+8.008	-200.454	-0.012	+8.008	-164.418
C 3	-0.115	+4.008	-100.327	-0.115	+4.008	-82.292
C 4	-0.012	+8.027	-200.927	-0.012	+8.027	-164.806
C 5	-0.115	+4.003	-100.204	-0.115	+4.003	-82.190
C 6	-0.012	+8.006	-200.407	-0.012	+8.006	-164.380
C 7	-1.135	-9.829	+246.031	-1.135	-9.829	+201.802
C 8	-0.123	-19.657	+492.063	-0.123	-19.657	+403.604
C 9	-2.030	-12.743	+318.982	-2.030	-12.743	+261.639
C10	+4.882	-25.486	+637.965	+4.882	-25.486	+523.277
C11	-2.030	-12.760	+319.406	-2.030	-12.760	+261.985
C12	-0.220	-25.520	+638.813	-0.220	-25.520	+523.971
C13	-35.711	+38.735	-969.914	-35.711	+38.735	-795.604
C14	-3.868	+77.471	-1939.828	-3.868	+77.471	-1591.207
C15	-35.714	+39.617	-992.004	-35.714	+39.617	-813.729
C16	-3.868	+79.234	-1984.008	-3.868	+79.234	-1627.457
C17	+36.552	+14.176	-810.762	+24.087	+9.676	-757.086
C18	+3.959	+28.352	-1621.523	+2.609	+19.352	-1514.172

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 77						
C 1	-0.115	+3.990	-81.911	-0.115	+3.990	-63.958
C 2	-0.012	+8.008	-164.418	-0.012	+8.008	-128.381
C 3	-0.115	+4.008	-82.291	-0.115	+4.008	-64.255
C 4	-0.012	+8.027	-164.806	-0.012	+8.027	-128.685
C 5	-0.115	+4.003	-82.190	-0.115	+4.003	-64.176
C 6	-0.012	+8.006	-164.379	-0.012	+8.006	-128.352
C 7	-1.135	-9.829	+201.803	-1.135	-9.829	+157.570
C 8	-0.123	-19.659	+403.605	-0.123	-19.659	+315.141
C 9	-2.030	-12.744	+261.640	-2.030	-12.744	+204.293
C10	+4.882	-25.487	+523.279	+4.882	-25.487	+408.586
C11	-2.030	-12.760	+261.986	-2.030	-12.760	+204.564
C12	-0.220	-25.521	+523.973	-0.220	-25.521	+409.129
C13	-35.710	+38.735	-795.602	-35.710	+38.735	-621.293
C14	-3.868	+77.471	-1591.203	-3.868	+77.471	-1242.586
C15	-35.714	+39.620	-813.727	-35.714	+39.620	-635.441
C16	-3.868	+79.240	-1627.453	-3.868	+79.240	-1270.883
C17	+24.087	+9.678	-757.094	+11.622	+5.178	-723.668
C18	+2.609	+19.355	-1514.188	+1.259	+10.355	-1447.336
Barra 78						
C 1	-0.115	+3.990	-63.958	-0.115	+3.990	-46.006
C 2	-0.012	+8.008	-128.382	-0.012	+8.008	-92.346
C 3	-0.115	+4.008	-64.255	-0.115	+4.008	-46.219
C 4	-0.012	+8.027	-128.684	-0.012	+8.027	-92.564
C 5	-0.115	+4.003	-64.176	-0.115	+4.003	-46.163
C 6	-0.012	+8.006	-128.352	-0.012	+8.006	-92.325
C 7	-1.135	-9.829	+157.571	-1.135	-9.829	+113.344
C 8	-0.123	-19.657	+315.143	-0.123	-19.657	+226.688
C 9	-2.030	-12.743	+204.293	-2.030	-12.743	+146.950
C10	+4.882	-25.485	+408.586	+4.882	-25.485	+293.900
C11	-2.030	-12.760	+204.564	-2.030	-12.760	+147.145
C12	-0.220	-25.520	+409.129	-0.220	-25.520	+294.289
C13	-35.711	+38.734	-621.293	-35.711	+38.734	-446.984
C14	-3.868	+77.469	-1242.586	-3.868	+77.469	-893.969
C15	-35.714	+39.616	-635.445	-35.714	+39.616	-457.164
C16	-3.868	+79.232	-1270.891	-3.868	+79.232	-914.328
C17	+11.622	+5.176	-723.668	-0.843	+0.676	-710.504
C18	+1.259	+10.352	-1447.336	-0.091	+1.352	-1421.008

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 79						
C 1	-0.115	+3.990	-46.006	-0.115	+3.990	-31.544
C 2	-0.012	+8.008	-92.346	-0.012	+8.008	-63.317
C 3	-0.115	+4.008	-46.220	-0.115	+4.008	-31.690
C 4	-0.012	+8.027	-92.564	-0.012	+8.027	-63.466
C 5	-0.115	+4.003	-46.162	-0.115	+4.003	-31.651
C 6	-0.012	+8.006	-92.324	-0.012	+8.006	-63.303
C 7	-1.135	-9.829	+113.343	-1.135	-9.829	+77.713
C 8	-0.123	-19.657	+226.686	-0.123	-19.657	+155.426
C 9	-2.030	-12.745	+146.952	-2.030	-12.745	+100.756
C10	+4.882	-25.490	+293.904	+4.882	-25.490	+201.512
C11	-2.030	-12.761	+147.146	-2.030	-12.761	+100.889
C12	-0.220	-25.521	+294.293	-0.220	-25.521	+201.777
C13	-35.711	+38.734	-446.984	-35.711	+38.734	-306.566
C14	-3.868	+77.469	-893.969	-3.868	+77.469	-613.133
C15	-35.714	+39.619	-457.160	-35.714	+39.619	-313.547
C16	-3.868	+79.238	-914.320	-3.868	+79.238	-627.094
C17	-0.843	+0.680	-710.501	-10.884	-2.945	-714.611
C18	-0.091	+1.359	-1421.003	-1.179	-5.891	-1429.221
Barra 80						
C 1	-0.115	+3.990	-31.544	-0.115	+3.990	-17.082
C 2	-0.012	+8.008	-63.318	-0.012	+8.008	-34.289
C 3	-0.115	+4.008	-31.690	-0.115	+4.008	-17.162
C 4	-0.012	+8.027	-63.467	-0.012	+8.027	-34.370
C 5	-0.115	+4.003	-31.651	-0.115	+4.003	-17.141
C 6	-0.012	+8.006	-63.303	-0.012	+8.006	-34.281
C 7	-1.135	-9.829	+77.715	-1.135	-9.829	+42.086
C 8	-0.123	-19.658	+155.430	-0.123	-19.658	+84.172
C 9	-2.030	-12.743	+100.758	-2.030	-12.743	+54.563
C10	+4.882	-25.485	+201.516	+4.882	-25.485	+109.127
C11	-2.030	-12.760	+100.892	-2.030	-12.760	+54.636
C12	-0.220	-25.521	+201.783	-0.220	-25.521	+109.271
C13	-35.711	+38.734	-306.570	-35.711	+38.734	-166.160
C14	-3.868	+77.469	-613.141	-3.868	+77.469	-332.320
C15	-35.714	+39.617	-313.551	-35.714	+39.617	-169.938
C16	-3.868	+79.234	-627.102	-3.868	+79.234	-339.875
C17	-10.884	-2.949	-714.618	-20.925	-6.574	-731.892
C18	-1.179	-5.898	-1429.237	-2.266	-13.148	-1463.784

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 81						
C 1	-0.115	+3.990	-17.082	-0.115	+3.990	-2.620
C 2	-0.012	+8.008	-34.289	-0.012	+8.008	-5.259
C 3	-0.115	+4.008	-17.162	-0.115	+4.008	-2.632
C 4	-0.012	+8.027	-34.370	-0.012	+8.027	-5.271
C 5	-0.115	+4.003	-17.140	-0.115	+4.003	-2.629
C 6	-0.012	+8.006	-34.281	-0.012	+8.006	-5.259
C 7	-1.135	-9.829	+42.085	-1.135	-9.829	+6.455
C 8	-0.123	-19.658	+84.170	-0.123	-19.658	+12.910
C 9	-2.030	-12.744	+54.563	-2.030	-12.744	+8.370
C10	+4.882	-25.487	+109.127	+4.882	-25.487	+16.740
C11	-2.030	-12.760	+54.637	-2.030	-12.760	+8.381
C12	-0.220	-25.521	+109.273	-0.220	-25.521	+16.762
C13	-35.711	+38.738	-166.156	-35.711	+38.738	-25.736
C14	-3.868	+77.477	-332.313	-3.868	+77.477	-51.473
C15	-35.714	+39.619	-169.934	-35.714	+39.619	-26.316
C16	-3.868	+79.238	-339.867	-3.868	+79.238	-52.633
C17	-20.925	-6.566	-731.892	-30.966	-10.191	-762.267
C18	-2.266	-13.133	-1463.784	-3.354	-20.383	-1524.534
Barra 82						
C 1	-0.115	+3.990	-2.620	-0.115	+3.990	+11.843
C 2	-0.012	+8.009	-5.259	-0.012	+8.009	+23.771
C 3	-0.115	+4.008	-2.632	-0.115	+4.008	+11.897
C 4	-0.012	+8.027	-5.271	-0.012	+8.027	+23.827
C 5	-0.115	+4.003	-2.629	-0.115	+4.003	+11.883
C 6	-0.012	+8.007	-5.257	-0.012	+8.007	+23.766
C 7	-1.135	-9.829	+6.454	-1.135	-9.829	-29.176
C 8	-0.123	-19.658	+12.908	-0.123	-19.658	-58.353
C 9	-2.030	-12.743	+8.369	-2.030	-12.743	-37.828
C10	+4.882	-25.487	+16.738	+4.882	-25.487	-75.655
C11	-2.030	-12.760	+8.380	-2.030	-12.760	-37.877
C12	-0.220	-25.521	+16.760	-0.220	-25.521	-75.755
C13	-35.711	+38.737	-25.738	-35.711	+38.737	+114.688
C14	-3.868	+77.475	-51.477	-3.868	+77.475	+229.375
C15	-35.714	+39.620	-26.314	-35.714	+39.620	+117.305
C16	-3.868	+79.240	-52.629	-3.868	+79.240	+234.609
C17	-30.967	-10.195	-762.279	-41.008	-13.820	-805.794
C18	-3.354	-20.391	-1524.557	-4.441	-27.641	-1611.589

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 83						
C 1	-0.115	+3.990	+11.843	-0.115	+3.990	+25.647
C 2	-0.012	+8.009	+23.771	-0.012	+8.009	+51.480
C 3	-0.115	+4.008	+11.897	-0.115	+4.008	+25.766
C 4	-0.012	+8.027	+23.827	-0.012	+8.027	+51.602
C 5	-0.115	+4.003	+11.883	-0.115	+4.003	+25.734
C 6	-0.012	+8.007	+23.765	-0.012	+8.007	+51.469
C 7	-1.135	-9.829	-29.176	-1.135	-9.829	-63.186
C 8	-0.123	-19.658	-58.352	-0.123	-19.658	-126.371
C 9	-2.030	-12.744	-37.827	-2.030	-12.744	-81.921
C10	+4.882	-25.488	-75.654	+4.882	-25.488	-163.843
C11	-2.030	-12.761	-37.876	-2.030	-12.761	-82.030
C12	-0.220	-25.521	-75.753	-0.220	-25.521	-164.060
C13	-35.711	+38.738	+114.683	-35.711	+38.738	+248.721
C14	-3.868	+77.477	+229.365	-3.868	+77.477	+497.441
C15	-35.714	+39.620	+117.305	-35.714	+39.620	+254.393
C16	-3.868	+79.240	+234.609	-3.868	+79.240	+508.785
C17	-41.008	-13.817	-805.810	-50.592	-17.277	-859.591
C18	-4.441	-27.634	-1611.620	-5.479	-34.554	-1719.183
Barra 84						
C 1	-0.115	+3.990	+25.647	-0.115	+3.990	+39.451
C 2	-0.012	+8.008	+51.481	-0.012	+8.008	+79.189
C 3	-0.115	+4.008	+25.766	-0.115	+4.008	+39.635
C 4	-0.012	+8.027	+51.602	-0.012	+8.027	+79.376
C 5	-0.115	+4.003	+25.734	-0.115	+4.003	+39.586
C 6	-0.012	+8.007	+51.469	-0.012	+8.007	+79.171
C 7	-1.135	-9.829	-63.187	-1.135	-9.829	-97.194
C 8	-0.123	-19.658	-126.374	-0.123	-19.658	-194.389
C 9	-2.030	-12.744	-81.921	-2.030	-12.744	-126.015
C10	+4.882	-25.489	-163.843	+4.882	-25.489	-252.029
C11	-2.030	-12.761	-82.030	-2.030	-12.761	-126.182
C12	-0.220	-25.522	-164.059	-0.220	-25.522	-252.364
C13	-35.711	+38.737	+248.720	-35.711	+38.737	+382.752
C14	-3.868	+77.475	+497.439	-3.868	+77.475	+765.504
C15	-35.714	+39.620	+254.396	-35.714	+39.620	+391.479
C16	-3.868	+79.240	+508.791	-3.868	+79.240	+782.957
C17	-50.592	-17.278	-859.591	-60.176	-20.738	-925.365
C18	-5.479	-34.556	-1719.183	-6.517	-41.476	-1850.730

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 85						
C 1	-0.115	+3.990	+39.452	-0.115	+3.990	+43.761
C 2	-0.012	+8.010	+79.191	-0.012	+8.010	+87.841
C 3	-0.115	+4.008	+39.635	-0.115	+4.008	+43.965
C 4	-0.012	+8.028	+79.378	-0.012	+8.028	+88.049
C 5	-0.115	+4.004	+39.586	-0.115	+4.004	+43.911
C 6	-0.012	+8.009	+79.172	-0.012	+8.009	+87.822
C 7	-1.135	-9.832	-97.195	-1.135	-9.832	-107.815
C 8	-0.123	-19.664	-194.390	-0.123	-19.664	-215.631
C 9	-2.030	-12.748	-126.015	-2.030	-12.748	-139.784
C10	+4.882	-25.496	-252.029	+4.882	-25.496	-279.568
C11	-2.030	-12.762	-126.183	-2.030	-12.762	-139.969
C12	-0.220	-25.523	-252.365	-0.220	-25.523	-279.938
C13	-35.711	+38.750	+382.758	-35.711	+38.750	+424.605
C14	-3.868	+77.500	+765.516	-3.868	+77.500	+849.211
C15	-35.714	+39.633	+391.480	-35.714	+39.633	+434.289
C16	-3.868	+79.266	+782.961	-3.868	+79.266	+868.578
C17	-60.176	-20.726	-925.332	-63.168	-21.806	-948.300
C18	-6.517	-41.451	-1850.663	-6.841	-43.611	-1896.601
Barra 86						
C 1	-0.007	-1.288	+43.762	-0.007	-1.288	+42.372
C 2	-0.001	-2.584	+87.842	-0.001	-2.584	+85.052
C 3	-0.007	-1.292	+43.964	-0.007	-1.292	+42.569
C 4	-0.001	-2.589	+88.048	-0.001	-2.589	+85.253
C 5	-0.007	-1.292	+43.911	-0.007	-1.292	+42.516
C 6	-0.001	-2.584	+87.821	-0.001	-2.584	+85.033
C 7	-0.065	+3.173	-107.814	-0.065	+3.173	-104.390
C 8	-0.007	+6.346	-215.629	-0.007	+6.346	-208.780
C 9	-0.115	+4.113	-139.783	-0.115	+4.113	-135.343
C10	+0.277	+8.227	-279.566	+0.277	+8.227	-270.686
C11	-0.115	+4.117	-139.969	-0.115	+4.117	-135.522
C12	-0.012	+8.234	-279.938	-0.012	+8.234	-271.045
C13	-2.030	-12.496	+424.609	-2.030	-12.496	+411.117
C14	-0.220	-24.992	+849.219	-0.220	-24.992	+822.234
C15	-2.030	-12.770	+434.281	-2.030	-12.770	+420.496
C16	-0.220	-25.539	+868.563	-0.220	-25.539	+840.992
C17	+618.245	+216.322	-948.269	+588.330	+205.522	-720.441
C18	+66.959	+432.644	-1896.538	+63.719	+411.044	-1440.881

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 87						
C 1	-0.007	-1.288	+42.372	-0.007	-1.288	+37.915
C 2	-0.001	-2.585	+85.052	-0.001	-2.585	+76.107
C 3	-0.007	-1.294	+42.568	-0.007	-1.294	+38.092
C 4	-0.001	-2.591	+85.252	-0.001	-2.591	+76.287
C 5	-0.007	-1.292	+42.516	-0.007	-1.292	+38.045
C 6	-0.001	-2.584	+85.032	-0.001	-2.584	+76.090
C 7	-0.065	+3.173	-104.390	-0.065	+3.173	-93.412
C 8	-0.007	+6.346	-208.779	-0.007	+6.346	-186.823
C 9	-0.115	+4.114	-135.342	-0.115	+4.114	-121.108
C10	+0.277	+8.228	-270.685	+0.277	+8.228	-242.217
C11	-0.115	+4.119	-135.522	-0.115	+4.119	-121.269
C12	-0.012	+8.239	-271.045	-0.012	+8.239	-242.538
C13	-2.030	-12.496	+411.115	-2.030	-12.496	+367.877
C14	-0.220	-24.992	+822.230	-0.220	-24.992	+735.754
C15	-2.030	-12.782	+420.490	-2.030	-12.782	+376.265
C16	-0.220	-25.564	+840.980	-0.220	-25.564	+752.529
C17	+588.329	+205.560	-720.437	+492.487	+170.960	-69.051
C18	+63.718	+411.119	-1440.874	+53.338	+341.920	-138.101
Barra 88						
C 1	-0.007	-1.288	+37.915	-0.007	-1.288	+36.036
C 2	-0.001	-2.586	+76.106	-0.001	-2.586	+72.333
C 3	-0.007	-1.293	+38.091	-0.007	-1.293	+36.203
C 4	-0.001	-2.591	+76.286	-0.001	-2.591	+72.504
C 5	-0.007	-1.292	+38.044	-0.007	-1.292	+36.158
C 6	-0.001	-2.584	+76.088	-0.001	-2.584	+72.316
C 7	-0.065	+3.174	-93.410	-0.065	+3.174	-88.779
C 8	-0.007	+6.348	-186.820	-0.007	+6.348	-177.559
C 9	-0.115	+4.113	-121.109	-0.115	+4.113	-115.104
C10	+0.277	+8.227	-242.219	+0.277	+8.227	-230.207
C11	-0.115	+4.121	-121.271	-0.115	+4.121	-115.256
C12	-0.012	+8.242	-242.543	-0.012	+8.242	-230.512
C13	-2.030	-12.492	+367.883	-2.030	-12.492	+349.633
C14	-0.220	-24.984	+735.766	-0.220	-24.984	+699.266
C15	-2.030	-12.773	+376.266	-2.030	-12.773	+357.609
C16	-0.220	-25.547	+752.531	-0.220	-25.547	+715.219
C17	+492.488	+170.956	-69.058	+452.046	+156.356	+169.911
C18	+53.338	+341.912	-138.115	+48.958	+312.713	+339.822

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 89						
C 1	-0.007	-1.287	+36.036	-0.007	-1.287	+33.461
C 2	-0.001	-2.583	+72.333	-0.001	-2.583	+67.167
C 3	-0.007	-1.292	+36.202	-0.007	-1.292	+33.617
C 4	-0.001	-2.588	+72.503	-0.001	-2.588	+67.325
C 5	-0.007	-1.292	+36.158	-0.007	-1.292	+33.575
C 6	-0.001	-2.583	+72.316	-0.001	-2.583	+67.150
C 7	-0.065	+3.172	-88.780	-0.065	+3.172	-82.438
C 8	-0.007	+6.344	-177.561	-0.007	+6.344	-164.875
C 9	-0.115	+4.111	-115.104	-0.115	+4.111	-106.881
C10	+0.277	+8.223	-230.207	+0.277	+8.223	-213.762
C11	-0.115	+4.116	-115.256	-0.115	+4.116	-107.024
C12	-0.012	+8.232	-230.512	-0.012	+8.232	-214.049
C13	-2.030	-12.488	+349.637	-2.030	-12.488	+324.664
C14	-0.220	-24.977	+699.273	-0.220	-24.977	+649.328
C15	-2.030	-12.773	+357.609	-2.030	-12.773	+332.066
C16	-0.220	-25.547	+715.219	-0.220	-25.547	+664.133
C17	+452.046	+156.406	+169.885	+396.646	+136.406	+462.714
C18	+48.958	+312.813	+339.771	+42.958	+272.813	+925.427
Barra 90						
C 1	-0.007	-1.289	+33.463	-0.007	-1.289	+32.176
C 2	-0.001	-2.582	+67.168	-0.001	-2.582	+64.588
C 3	-0.007	-1.293	+33.617	-0.007	-1.293	+32.328
C 4	-0.001	-2.586	+67.324	-0.001	-2.586	+64.742
C 5	-0.007	-1.285	+33.574	-0.007	-1.285	+32.289
C 6	-0.001	-2.570	+67.148	-0.001	-2.570	+64.578
C 7	-0.065	+3.156	-82.438	-0.065	+3.156	-79.277
C 8	-0.007	+6.313	-164.875	-0.007	+6.313	-158.555
C 9	-0.115	+4.094	-106.883	-0.115	+4.094	-102.781
C10	+0.277	+8.188	-213.766	+0.277	+8.188	-205.563
C11	-0.115	+4.109	-107.031	-0.115	+4.109	-102.914
C12	-0.012	+8.219	-214.063	-0.012	+8.219	-205.828
C13	-2.030	-12.469	+324.672	-2.030	-12.469	+312.188
C14	-0.220	-24.938	+649.344	-0.220	-24.938	+624.375
C15	-2.030	-12.719	+332.063	-2.030	-12.719	+319.344
C16	-0.220	-25.438	+664.125	-0.220	-25.438	+638.688
C17	+396.646	+136.500	+462.729	+368.946	+126.500	+594.229
C18	+42.958	+273.000	+925.458	+39.958	+253.000	+1188.458

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 91						
C 1	-0.007	-1.286	+32.177	-0.007	-1.286	+26.392
C 2	-0.001	-2.581	+64.588	-0.001	-2.581	+52.975
C 3	-0.007	-1.292	+32.327	-0.007	-1.292	+26.514
C 4	-0.001	-2.587	+64.741	-0.001	-2.587	+53.100
C 5	-0.007	-1.290	+32.287	-0.007	-1.290	+26.482
C 6	-0.001	-2.580	+64.573	-0.001	-2.580	+52.963
C 7	-0.065	+3.167	-79.274	-0.065	+3.167	-65.020
C 8	-0.007	+6.335	-158.547	-0.007	+6.335	-130.041
C 9	-0.115	+4.107	-102.779	-0.115	+4.107	-84.300
C10	+0.277	+8.213	-205.559	+0.277	+8.213	-168.600
C11	-0.115	+4.112	-102.916	-0.115	+4.112	-84.412
C12	-0.012	+8.224	-205.832	-0.012	+8.224	-168.824
C13	-2.030	-12.474	+312.202	-2.030	-12.474	+256.068
C14	-0.220	-24.947	+624.404	-0.220	-24.947	+512.137
C15	-2.030	-12.758	+319.320	-2.030	-12.758	+261.906
C16	-0.220	-25.517	+638.641	-0.220	-25.517	+523.813
C17	+368.946	+126.459	+594.223	+244.296	+81.459	+1062.039
C18	+39.958	+252.918	+1188.445	+26.458	+162.918	+2124.078
Barra 92						
C 1	-0.007	-1.286	+26.392	-0.007	-1.286	+20.606
C 2	-0.001	-2.581	+52.975	-0.001	-2.581	+41.362
C 3	-0.007	-1.292	+26.514	-0.007	-1.292	+20.702
C 4	-0.001	-2.587	+53.100	-0.001	-2.587	+41.460
C 5	-0.007	-1.290	+26.481	-0.007	-1.290	+20.676
C 6	-0.001	-2.580	+52.963	-0.001	-2.580	+41.353
C 7	-0.065	+3.167	-65.020	-0.065	+3.167	-50.767
C 8	-0.007	+6.335	-130.041	-0.007	+6.335	-101.534
C 9	-0.115	+4.107	-84.300	-0.115	+4.107	-65.820
C10	+0.277	+8.213	-168.600	+0.277	+8.213	-131.639
C11	-0.115	+4.112	-84.411	-0.115	+4.112	-65.907
C12	-0.012	+8.224	-168.823	-0.012	+8.224	-131.814
C13	-2.030	-12.474	+256.067	-2.030	-12.474	+199.933
C14	-0.220	-24.948	+512.135	-0.220	-24.948	+399.865
C15	-2.030	-12.759	+261.907	-2.030	-12.759	+204.492
C16	-0.220	-25.518	+523.814	-0.220	-25.518	+408.984
C17	+244.296	+81.459	+1062.039	+119.646	+36.459	+1327.340
C18	+26.458	+162.918	+2124.078	+12.958	+72.918	+2654.680

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 93						
C 1	-0.007	-1.286	+20.606	-0.007	-1.286	+14.820
C 2	-0.001	-2.581	+41.362	-0.001	-2.581	+29.749
C 3	-0.007	-1.292	+20.702	-0.007	-1.292	+14.889
C 4	-0.001	-2.587	+41.460	-0.001	-2.587	+29.819
C 5	-0.007	-1.290	+20.676	-0.007	-1.290	+14.871
C 6	-0.001	-2.580	+41.353	-0.001	-2.580	+29.742
C 7	-0.065	+3.168	-50.766	-0.065	+3.168	-36.513
C 8	-0.007	+6.335	-101.533	-0.007	+6.335	-73.025
C 9	-0.115	+4.107	-65.820	-0.115	+4.107	-47.339
C10	+0.277	+8.214	-131.640	+0.277	+8.214	-94.677
C11	-0.115	+4.112	-65.907	-0.115	+4.112	-47.402
C12	-0.012	+8.225	-131.814	-0.012	+8.225	-94.804
C13	-2.030	-12.475	+199.933	-2.030	-12.475	+143.796
C14	-0.220	-24.949	+399.865	-0.220	-24.949	+287.592
C15	-2.030	-12.759	+204.492	-2.030	-12.759	+147.075
C16	-0.220	-25.518	+408.984	-0.220	-25.518	+294.150
C17	+119.646	+36.453	+1327.336	-5.004	-8.547	+1390.141
C18	+12.958	+72.906	+2654.672	-0.542	-17.094	+2780.281
Barra 94						
C 1	-0.007	-1.286	+14.820	-0.007	-1.286	+10.160
C 2	-0.001	-2.581	+29.749	-0.001	-2.581	+20.393
C 3	-0.007	-1.292	+14.889	-0.007	-1.292	+10.207
C 4	-0.001	-2.587	+29.819	-0.001	-2.587	+20.441
C 5	-0.007	-1.290	+14.871	-0.007	-1.290	+10.194
C 6	-0.001	-2.580	+29.742	-0.001	-2.580	+20.388
C 7	-0.065	+3.168	-36.513	-0.065	+3.168	-25.030
C 8	-0.007	+6.335	-73.025	-0.007	+6.335	-50.060
C 9	-0.115	+4.107	-47.339	-0.115	+4.107	-32.451
C10	+0.277	+8.214	-94.679	+0.277	+8.214	-64.902
C11	-0.115	+4.112	-47.402	-0.115	+4.112	-32.494
C12	-0.012	+8.225	-94.805	-0.012	+8.225	-64.987
C13	-2.030	-12.476	+143.797	-2.030	-12.476	+98.574
C14	-0.220	-24.951	+287.594	-0.220	-24.951	+197.148
C15	-2.030	-12.761	+147.077	-2.030	-12.761	+100.819
C16	-0.220	-25.521	+294.154	-0.220	-25.521	+201.639
C17	-5.005	-8.547	+1390.143	-105.417	-44.797	+1293.440
C18	-0.542	-17.094	+2780.286	-11.417	-89.594	+2586.880

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 95						
C 1	-0.007	-1.286	+10.160	-0.007	-1.286	+5.499
C 2	-0.001	-2.581	+20.393	-0.001	-2.581	+11.038
C 3	-0.007	-1.292	+10.207	-0.007	-1.292	+5.524
C 4	-0.001	-2.587	+20.441	-0.001	-2.587	+11.064
C 5	-0.007	-1.290	+10.194	-0.007	-1.290	+5.518
C 6	-0.001	-2.580	+20.388	-0.001	-2.580	+11.035
C 7	-0.065	+3.167	-25.030	-0.065	+3.167	-13.548
C 8	-0.007	+6.335	-50.059	-0.007	+6.335	-27.095
C 9	-0.115	+4.107	-32.451	-0.115	+4.107	-17.565
C10	+0.277	+8.213	-64.902	+0.277	+8.213	-35.130
C11	-0.115	+4.112	-32.494	-0.115	+4.112	-17.588
C12	-0.012	+8.224	-64.988	-0.012	+8.224	-35.176
C13	-2.030	-12.475	+98.573	-2.030	-12.475	+53.354
C14	-0.220	-24.949	+197.146	-0.220	-24.949	+106.709
C15	-2.030	-12.759	+100.821	-2.030	-12.759	+54.569
C16	-0.220	-25.518	+201.643	-0.220	-25.518	+109.139
C17	-105.417	-44.793	+1293.432	-205.830	-81.043	+1065.370
C18	-11.417	-89.586	+2586.865	-22.292	-162.086	+2130.740
Barra 96						
C 1	-0.007	-1.286	+5.499	-0.007	-1.286	+0.838
C 2	-0.001	-2.581	+11.038	-0.001	-2.581	+1.683
C 3	-0.007	-1.292	+5.524	-0.007	-1.292	+0.842
C 4	-0.001	-2.587	+11.064	-0.001	-2.587	+1.687
C 5	-0.007	-1.290	+5.518	-0.007	-1.290	+0.841
C 6	-0.001	-2.580	+11.035	-0.001	-2.580	+1.682
C 7	-0.065	+3.167	-13.547	-0.065	+3.167	-2.065
C 8	-0.007	+6.335	-27.095	-0.007	+6.335	-4.131
C 9	-0.115	+4.107	-17.564	-0.115	+4.107	-2.678
C10	+0.277	+8.213	-35.128	+0.277	+8.213	-5.355
C11	-0.115	+4.112	-17.587	-0.115	+4.112	-2.681
C12	-0.012	+8.224	-35.174	-0.012	+8.224	-5.363
C13	-2.030	-12.474	+53.353	-2.030	-12.474	+8.133
C14	-0.220	-24.948	+106.705	-0.220	-24.948	+16.266
C15	-2.030	-12.757	+54.568	-2.030	-12.757	+8.320
C16	-0.220	-25.515	+109.137	-0.220	-25.515	+16.641
C17	-205.830	-81.035	+1065.354	-306.242	-117.285	+705.885
C18	-22.292	-162.070	+2130.708	-33.167	-234.570	+1411.771

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 97						
C 1	-0.007	-1.286	+0.838	-0.007	-1.286	-3.822
C 2	-0.001	-2.581	+1.683	-0.001	-2.581	-7.672
C 3	-0.007	-1.292	+0.842	-0.007	-1.292	-3.840
C 4	-0.001	-2.587	+1.687	-0.001	-2.587	-7.690
C 5	-0.007	-1.290	+0.841	-0.007	-1.290	-3.835
C 6	-0.001	-2.580	+1.682	-0.001	-2.580	-7.670
C 7	-0.065	+3.167	-2.065	-0.065	+3.167	+9.417
C 8	-0.007	+6.335	-4.131	-0.007	+6.335	+18.833
C 9	-0.115	+4.106	-2.678	-0.115	+4.106	+12.208
C10	+0.277	+8.213	-5.355	+0.277	+8.213	+24.417
C11	-0.115	+4.112	-2.681	-0.115	+4.112	+12.225
C12	-0.012	+8.224	-5.362	-0.012	+8.224	+24.450
C13	-2.030	-12.474	+8.133	-2.030	-12.474	-37.084
C14	-0.220	-24.948	+16.267	-0.220	-24.948	-74.168
C15	-2.030	-12.759	+8.320	-2.030	-12.759	-37.931
C16	-0.220	-25.518	+16.640	-0.220	-25.518	-75.861
C17	-306.242	-117.289	+705.878	-406.655	-153.539	+215.010
C18	-33.167	-234.578	+1411.755	-44.042	-307.078	+430.021
Barra 98						
C 1	-0.007	-1.286	-3.822	-0.007	-1.286	-8.270
C 2	-0.001	-2.581	-7.672	-0.001	-2.581	-16.601
C 3	-0.007	-1.292	-3.840	-0.007	-1.292	-8.309
C 4	-0.001	-2.587	-7.690	-0.001	-2.587	-16.640
C 5	-0.007	-1.290	-3.835	-0.007	-1.290	-8.299
C 6	-0.001	-2.580	-7.670	-0.001	-2.580	-16.597
C 7	-0.065	+3.167	+9.417	-0.065	+3.167	+20.375
C 8	-0.007	+6.335	+18.833	-0.007	+6.335	+40.751
C 9	-0.115	+4.107	+12.208	-0.115	+4.107	+26.417
C10	+0.277	+8.213	+24.417	+0.277	+8.213	+52.834
C11	-0.115	+4.112	+12.225	-0.115	+4.112	+26.452
C12	-0.012	+8.224	+24.449	-0.012	+8.224	+52.904
C13	-2.030	-12.474	-37.084	-2.030	-12.474	-80.244
C14	-0.220	-24.949	-74.169	-0.220	-24.949	-160.487
C15	-2.030	-12.758	-37.931	-2.030	-12.758	-82.074
C16	-0.220	-25.517	-75.861	-0.220	-25.517	-164.147
C17	-406.655	-153.540	+215.008	-502.497	-188.140	-376.090
C18	-44.042	-307.080	+430.016	-54.422	-376.280	-752.179

Hipot.	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 99						
C 1	-0.007	-1.286	-8.270	-0.007	-1.286	-12.719
C 2	-0.001	-2.581	-16.601	-0.001	-2.581	-25.530
C 3	-0.007	-1.292	-8.309	-0.007	-1.292	-12.778
C 4	-0.001	-2.587	-16.640	-0.001	-2.587	-25.590
C 5	-0.007	-1.290	-8.299	-0.007	-1.290	-12.762
C 6	-0.001	-2.580	-16.597	-0.001	-2.580	-25.524
C 7	-0.065	+3.167	+20.376	-0.065	+3.167	+31.335
C 8	-0.007	+6.335	+40.751	-0.007	+6.335	+62.669
C 9	-0.115	+4.107	+26.417	-0.115	+4.107	+40.626
C10	+0.277	+8.213	+52.834	+0.277	+8.213	+81.252
C11	-0.115	+4.112	+26.452	-0.115	+4.112	+40.680
C12	-0.012	+8.224	+52.905	-0.012	+8.224	+81.359
C13	-2.030	-12.474	-80.245	-2.030	-12.474	-123.404
C14	-0.220	-24.948	-160.490	-0.220	-24.948	-246.809
C15	-2.030	-12.759	-82.074	-2.030	-12.759	-126.219
C16	-0.220	-25.518	-164.148	-0.220	-25.518	-252.438
C17	-502.497	-188.141	-376.086	-598.339	-222.741	-1086.918
C18	-54.422	-376.283	-752.171	-64.802	-445.483	-2173.835
Barra 100						
C 1	-0.007	-1.286	-12.719	-0.007	-1.286	-14.107
C 2	-0.001	-2.581	-25.530	-0.001	-2.581	-28.317
C 3	-0.007	-1.292	-12.778	-0.007	-1.292	-14.173
C 4	-0.001	-2.587	-25.590	-0.001	-2.587	-28.385
C 5	-0.007	-1.290	-12.762	-0.007	-1.290	-14.156
C 6	-0.001	-2.580	-25.524	-0.001	-2.580	-28.311
C 7	-0.065	+3.168	+31.334	-0.065	+3.168	+34.756
C 8	-0.007	+6.336	+62.669	-0.007	+6.336	+69.512
C 9	-0.115	+4.107	+40.626	-0.115	+4.107	+45.062
C10	+0.277	+8.214	+81.252	+0.277	+8.214	+90.123
C11	-0.115	+4.113	+40.680	-0.115	+4.113	+45.122
C12	-0.012	+8.226	+81.360	-0.012	+8.226	+90.243
C13	-2.030	-12.475	-123.403	-2.030	-12.475	-136.880
C14	-0.220	-24.949	-246.807	-0.220	-24.949	-273.760
C15	-2.030	-12.760	-126.220	-2.030	-12.760	-140.001
C16	-0.220	-25.520	-252.439	-0.220	-25.520	-280.002
C17	-598.339	-222.741	-1086.925	-628.254	-233.541	-1333.316
C18	-64.802	-445.481	-2173.850	-68.042	-467.081	-2666.631

Hipotesis y/o Combinaciones de carga consideradas
Hipotesis: C 1 = +1.00*(Hip: 1)
Hipotesis: C 2 = +1.00*(Hip: 1)+1.00*(Hip: 2)
Hipotesis: C 3 = +1.00*(Hip: 3)
Hipotesis: C 4 = +1.00*(Hip: 3)+1.00*(Hip: 4)
Hipotesis: C 5 = +1.00*(Hip: 5)
Hipotesis: C 6 = +1.00*(Hip: 5)+1.00*(Hip: 6)
Hipotesis: C 7 = +1.00*(Hip: 7)
Hipotesis: C 8 = +1.00*(Hip: 7)+1.00*(Hip: 8)
Hipotesis: C 9 = +1.00*(Hip: 9)
Hipotesis: C10 = +1.00*(Hip: 9)+1.00*(Hip:10)
Hipotesis: C11 = +1.00*(Hip:11)
Hipotesis: C12 = +1.00*(Hip:11)+1.00*(Hip:12)
Hipotesis: C13 = +1.00*(Hip:13)
Hipotesis: C14 = +1.00*(Hip:13)+1.00*(Hip:14)
Hipotesis: C15 = +1.00*(Hip:15)
Hipotesis: C16 = +1.00*(Hip:15)+1.00*(Hip:16)
Hipotesis: C17 = +1.00*(Hip:17)
Hipotesis: C18 = +1.00*(Hip:17)+1.00*(Hip:18)

Reacciones

Hipot	Nudo	MX	RZ	MY
C 1	1	+0.004	+188.220	+551.390
C 2	1	+0.004	+379.806	+48.102
C 3	1	+0.004	+146.976	+447.827
C 4	1	+0.004	+295.049	+49.655
C 5	1	+0.002	+127.938	+397.261
C 6	1	+0.004	+255.876	+43.025
C 7	1	-0.000	-11.479	+160.065
C 8	1	-0.000	-22.957	+17.336
C 9	1	+0.000	-43.473	+48.777
C10	1	+0.000	-86.946	+5.287
C11	1	-0.002	-42.477	+40.082
C12	1	-0.004	-84.953	+4.341
C13	1	+0.000	+5.367	+8.540
C14	1	+0.000	+10.735	+0.925
C15	1	-0.000	+13.995	+2.772
C16	1	-0.000	+27.991	+0.300
C17	1	+0.000	+12.034	+2.486
C18	1	+0.000	+24.067	+0.269

Reacciones

Hipot	Nudo	MX	RZ	MY
C 1	11	+0.016	+207.862	+568.048
C 2	11	+0.016	+455.552	-22.670
C 3	11	+0.000	+225.815	+630.160
C 4	11	+0.016	+499.818	+69.469
C 5	11	+0.032	+249.911	+663.367
C 6	11	+0.065	+499.821	+71.845
C 7	11	-0.027	+476.163	+1042.528
C 8	11	-0.055	+952.326	+112.909
C 9	11	-0.005	+318.246	+691.273
C10	11	-0.011	+636.491	+74.930
C11	11	-0.016	+266.922	+568.042
C12	11	-0.031	+533.844	+61.521
C13	11	+0.002	-21.299	+121.023
C14	11	+0.004	-42.598	+13.107
C15	11	+0.008	-58.984	+39.288
C16	11	+0.016	-117.969	+4.255
C17	11	+0.004	-50.738	+35.239
C18	11	+0.008	-101.477	+3.816
C 1	26	+0.015	+247.206	+674.161
C 2	26	-0.016	+490.849	+68.229
C 3	26	-0.016	+244.924	+677.691
C 4	26	-0.016	+488.521	+73.465
C 5	26	-0.000	+245.534	+679.578
C 6	26	-0.000	+491.068	+73.600
C 7	26	+0.016	+227.393	+711.145
C 8	26	+0.032	+454.786	+77.020
C 9	26	-0.031	+262.299	+731.947
C10	26	-0.062	+524.599	+80.386
C11	26	+0.031	+267.815	+737.757
C12	26	+0.063	+535.630	+79.902
C13	26	-0.023	+472.554	+1050.767
C14	26	-0.047	+945.108	+113.802
C15	26	+0.010	+318.761	+697.607
C16	26	+0.020	+637.523	+75.553
C17	26	-0.021	+291.933	+625.707
C18	26	-0.042	+583.866	+67.766

Reacciones

Hipot	Nudo	MX	RZ	MY
C 1	41	-0.011	+269.853	+592.136
C 2	41	+0.009	+540.878	+63.859
C 3	41	-0.042	+270.603	+592.337
C 4	41	-0.046	+541.628	+64.156
C 5	41	-0.011	+270.384	+592.444
C 6	41	-0.022	+540.769	+64.164
C 7	41	-0.000	+229.065	+639.901
C 8	41	-0.000	+458.130	+69.303
C 9	41	-0.016	+232.768	+683.477
C10	41	-0.032	+465.536	+93.617
C11	41	-0.016	+232.096	+683.807
C12	41	-0.032	+464.193	+74.058
C13	41	-0.031	+225.159	+715.112
C14	41	-0.062	+450.318	+77.449
C15	41	-0.016	+264.081	+732.307
C16	41	-0.031	+528.161	+79.311
C17	41	-0.016	+105.828	+389.127
C18	41	-0.031	+211.656	+42.144
C 1	56	+0.004	-50.801	+33.654
C 2	56	+0.008	-101.984	+3.629
C 3	56	+0.004	-51.051	+33.665
C 4	56	+0.000	-102.230	+3.646
C 5	56	+0.000	-50.992	+33.671
C 6	56	+0.000	-101.984	+3.647
C 7	56	+0.016	+157.844	+331.426
C 8	56	+0.031	+315.688	+35.894
C 9	56	-0.003	+274.400	+592.666
C10	56	-0.007	+548.800	+107.485
C11	56	+0.028	+274.619	+592.685
C12	56	+0.056	+549.238	+64.190
C13	56	-0.000	+243.612	+682.520
C14	56	-0.000	+487.224	+73.919
C15	56	-0.000	+232.346	+683.497
C16	56	-0.000	+464.693	+74.025
C17	56	+0.000	+348.691	+877.121
C18	56	+0.000	+697.381	+94.996

Reacciones

Hipot	Nudo	MX	RZ	MY
C 1	71	+0.001	+16.363	+1.913
C 2	71	+0.001	+32.844	+0.206
C 3	71	+0.005	+16.434	+1.913
C 4	71	+0.009	+32.918	+0.207
C 5	71	+0.000	+16.420	+1.914
C 6	71	+0.000	+32.840	+0.207
C 7	71	-0.008	-40.320	+18.837
C 8	71	-0.016	-80.641	+2.040
C 9	71	-0.016	-52.277	+33.684
C10	71	-0.031	-104.555	-81.011
C11	71	+0.000	-52.363	+33.685
C12	71	+0.000	-104.727	+3.648
C13	71	+0.028	+270.947	+592.611
C14	71	+0.056	+541.894	+64.181
C15	71	+0.028	+274.541	+592.667
C16	71	+0.056	+549.081	+64.188
C17	71	+0.000	+241.190	+695.654
C18	71	+0.000	+482.380	+75.342
C 1	86	-0.001	-5.278	+0.109
C 2	86	-0.001	-10.594	+0.012
C 3	86	+0.000	-5.300	+0.109
C 4	86	+0.000	-10.617	+0.012
C 5	86	+0.000	-5.296	+0.109
C 6	86	+0.001	-10.593	+0.012
C 7	86	-0.001	+13.005	+1.071
C 8	86	-0.002	+26.010	+0.116
C 9	86	-0.001	+16.861	+1.914
C10	86	-0.002	+33.723	-4.604
C11	86	+0.000	+16.879	+1.914
C12	86	+0.000	+33.758	+0.207
C13	86	-0.004	-51.246	+33.681
C14	86	-0.008	-102.492	+3.648
C15	86	+0.008	-52.402	+33.684
C16	86	+0.016	-104.805	+3.648
C17	86	-0.031	+238.127	+681.413
C18	86	-0.063	+476.255	+73.800

1.1.21.- ENVOLVENTES DE ESFUERZOS DE SC SW 2 DOS VÍAS.

Nombre del fichero llbn

SW2

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
M¢dulo de elasticidad: 3500000
M¢dulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
1	1	2	0.00	4.00	8.93	18.99	0.00	0	0.00
2	2	3	0.00	4.00	8.93	18.99	0.00	0	0.00
3	3	4	0.00	4.00	8.93	18.99	0.00	0	0.00
4	4	5	0.00	4.00	8.93	18.99	0.00	0	0.00
5	5	6	0.00	4.00	8.93	18.99	0.00	0	0.00
6	6	7	0.00	4.00	8.93	18.99	0.00	0	0.00
7	7	8	0.00	4.00	8.93	18.99	0.00	0	0.00
8	8	9	0.00	3.46	10.67	22.06	0.00	0	0.00
9	9	10	0.00	3.46	19.42	34.45	0.00	0	0.00
10	10	11	0.00	1.08	26.43	43.77	0.00	0	0.00
11	11	12	0.00	1.08	26.43	43.77	0.00	0	0.00
12	12	13	0.00	3.46	19.41	34.44	0.00	0	0.00
13	13	14	0.00	1.46	11.87	23.01	0.00	0	0.00
14	14	15	0.00	2.00	10.13	19.97	0.00	0	0.00
15	15	16	0.00	1.00	11.40	23.88	0.00	0	0.00
16	16	17	0.00	4.50	8.93	18.99	0.00	0	0.00
17	17	18	0.00	4.50	8.93	18.99	0.00	0	0.00
18	18	19	0.00	4.50	8.93	18.99	0.00	0	0.00
19	19	20	0.00	3.63	8.93	18.99	0.00	0	0.00
20	20	21	0.00	3.63	8.93	18.99	0.00	0	0.00
21	21	22	0.00	3.63	8.93	18.99	0.00	0	0.00
22	22	23	0.00	3.63	8.93	18.99	0.00	0	0.00
23	23	24	0.00	3.46	10.67	22.06	0.00	0	0.00
24	24	25	0.00	3.46	19.42	34.45	0.00	0	0.00
25	25	26	0.00	1.08	26.43	43.77	0.00	0	0.00
26	26	27	0.00	1.08	26.43	43.77	0.00	0	0.00
27	27	28	0.00	3.46	19.41	34.44	0.00	0	0.00
28	28	29	0.00	1.46	11.87	23.01	0.00	0	0.00
29	29	30	0.00	2.00	10.13	19.97	0.00	0	0.00
30	30	31	0.00	1.00	11.40	23.88	0.00	0	0.00
31	31	32	0.00	4.50	8.93	18.99	0.00	0	0.00
32	32	33	0.00	4.50	8.93	18.99	0.00	0	0.00
33	33	34	0.00	4.50	8.93	18.99	0.00	0	0.00
34	34	35	0.00	3.63	8.93	18.99	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
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M¢dulo transversal: 1200000
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Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
35	35	36	0.00	3.63	8.93	18.99	0.00	0	0.00
36	36	37	0.00	3.63	8.93	18.99	0.00	0	0.00
37	37	38	0.00	3.63	8.93	18.99	0.00	0	0.00
38	38	39	0.00	3.46	10.67	22.06	0.00	0	0.00
39	39	40	0.00	3.46	19.42	34.45	0.00	0	0.00
40	40	41	0.00	1.08	26.43	43.77	0.00	0	0.00
41	41	42	0.00	1.08	26.43	43.77	0.00	0	0.00
42	42	43	0.00	3.46	19.41	34.44	0.00	0	0.00
43	43	44	0.00	1.46	11.87	23.01	0.00	0	0.00
44	44	45	0.00	2.00	10.13	19.97	0.00	0	0.00
45	45	46	0.00	1.00	11.40	23.88	0.00	0	0.00
46	46	47	0.00	4.50	8.93	18.99	0.00	0	0.00
47	47	48	0.00	4.50	8.93	18.99	0.00	0	0.00
48	48	49	0.00	4.50	8.93	18.99	0.00	0	0.00
49	49	50	0.00	3.63	8.93	18.99	0.00	0	0.00
50	50	51	0.00	3.63	8.93	18.99	0.00	0	0.00
51	51	52	0.00	3.63	8.93	18.99	0.00	0	0.00
52	52	53	0.00	3.63	8.93	18.99	0.00	0	0.00
53	53	54	0.00	3.46	10.67	22.06	0.00	0	0.00
54	54	55	0.00	3.46	19.42	34.45	0.00	0	0.00
55	55	56	0.00	1.08	26.43	43.77	0.00	0	0.00
56	56	57	0.00	1.08	26.43	43.77	0.00	0	0.00
57	57	58	0.00	3.46	19.41	34.44	0.00	0	0.00
58	58	59	0.00	1.46	11.87	23.01	0.00	0	0.00
59	59	60	0.00	2.00	10.13	19.97	0.00	0	0.00
60	60	61	0.00	1.00	11.40	23.88	0.00	0	0.00
61	61	62	0.00	4.50	8.93	18.99	0.00	0	0.00
62	62	63	0.00	4.50	8.93	18.99	0.00	0	0.00
63	63	64	0.00	4.50	8.93	18.99	0.00	0	0.00
64	64	65	0.00	3.63	8.93	18.99	0.00	0	0.00
65	65	66	0.00	3.63	8.93	18.99	0.00	0	0.00
66	66	67	0.00	3.63	8.93	18.99	0.00	0	0.00
67	67	68	0.00	3.63	8.93	18.99	0.00	0	0.00
68	68	69	0.00	3.46	10.67	22.06	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
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Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
69	69	70	0.00	3.46	19.42	34.45	0.00	0	0.00
70	70	71	0.00	1.08	26.43	43.77	0.00	0	0.00
71	71	72	0.00	1.08	26.43	43.77	0.00	0	0.00
72	72	73	0.00	3.46	19.41	34.44	0.00	0	0.00
73	73	74	0.00	1.46	11.87	23.01	0.00	0	0.00
74	74	75	0.00	2.00	10.13	19.97	0.00	0	0.00
75	75	76	0.00	1.00	11.40	23.88	0.00	0	0.00
76	76	77	0.00	4.50	8.93	18.99	0.00	0	0.00
77	77	78	0.00	4.50	8.93	18.99	0.00	0	0.00
78	78	79	0.00	4.50	8.93	18.99	0.00	0	0.00
79	79	80	0.00	3.63	8.93	18.99	0.00	0	0.00
80	80	81	0.00	3.63	8.93	18.99	0.00	0	0.00
81	81	82	0.00	3.63	8.93	18.99	0.00	0	0.00
82	82	83	0.00	3.63	8.93	18.99	0.00	0	0.00
83	83	84	0.00	3.46	10.67	22.06	0.00	0	0.00
84	84	85	0.00	3.46	19.42	34.45	0.00	0	0.00
85	85	86	0.00	1.08	26.43	43.77	0.00	0	0.00
86	86	87	0.00	1.08	26.43	43.77	0.00	0	0.00
87	87	88	0.00	3.46	19.41	34.44	0.00	0	0.00
88	88	89	0.00	1.46	11.87	23.01	0.00	0	0.00
89	89	90	0.00	2.00	10.13	19.97	0.00	0	0.00
90	90	91	0.00	1.00	11.40	23.88	0.00	0	0.00
91	91	92	0.00	4.50	8.93	18.99	0.00	0	0.00
92	92	93	0.00	4.50	8.93	18.99	0.00	0	0.00
93	93	94	0.00	4.50	8.93	18.99	0.00	0	0.00
94	94	95	0.00	3.63	8.93	18.99	0.00	0	0.00
95	95	96	0.00	3.63	8.93	18.99	0.00	0	0.00
96	96	97	0.00	3.63	8.93	18.99	0.00	0	0.00
97	97	98	0.00	3.63	8.93	18.99	0.00	0	0.00
98	98	99	0.00	3.46	10.67	22.06	0.00	0	0.00
99	99	100	0.00	3.46	19.42	34.45	0.00	0	0.00
100	100	101	0.00	1.08	26.43	43.77	0.00	0	0.00
101	101	102	0.00	1.08	26.43	43.77	0.00	0	0.00
102	102	103	0.00	3.46	19.41	34.44	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
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Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
103	103	104	0.00	1.46	11.87	23.01	0.00	0	0.00
104	104	105	0.00	2.00	10.13	19.97	0.00	0	0.00
105	105	106	0.00	1.00	11.40	23.88	0.00	0	0.00
106	106	107	0.00	4.50	8.93	18.99	0.00	0	0.00
107	107	108	0.00	4.50	8.93	18.99	0.00	0	0.00
108	108	109	0.00	4.50	8.93	18.99	0.00	0	0.00
109	109	110	0.00	3.63	8.93	18.99	0.00	0	0.00
110	110	111	0.00	3.63	8.93	18.99	0.00	0	0.00
111	111	112	0.00	3.63	8.93	18.99	0.00	0	0.00
112	112	113	0.00	3.63	8.93	18.99	0.00	0	0.00
113	113	114	0.00	3.46	10.67	22.06	0.00	0	0.00
114	114	115	0.00	3.46	19.42	34.45	0.00	0	0.00
115	115	116	0.00	1.08	26.43	43.77	0.00	0	0.00
116	116	117	0.00	1.08	26.43	43.77	0.00	0	0.00
117	117	118	0.00	3.46	19.41	34.44	0.00	0	0.00
118	118	119	0.00	1.46	11.87	23.01	0.00	0	0.00
119	119	120	0.00	2.00	10.13	19.97	0.00	0	0.00
120	120	121	0.00	1.00	11.40	23.88	0.00	0	0.00
121	121	122	0.00	4.50	8.93	18.99	0.00	0	0.00
122	122	123	0.00	4.50	8.93	18.99	0.00	0	0.00
123	123	124	0.00	4.50	8.93	18.99	0.00	0	0.00
124	124	125	0.00	3.63	8.93	18.99	0.00	0	0.00
125	125	126	0.00	3.63	8.93	18.99	0.00	0	0.00
126	126	127	0.00	3.63	8.93	18.99	0.00	0	0.00
127	127	128	0.00	3.63	8.93	18.99	0.00	0	0.00
128	128	129	0.00	3.46	10.67	22.06	0.00	0	0.00
129	129	130	0.00	3.46	19.42	34.45	0.00	0	0.00
130	130	131	0.00	1.08	26.43	43.77	0.00	0	0.00
131	131	132	0.00	1.08	26.43	43.77	0.00	0	0.00
132	132	133	0.00	3.46	19.41	34.44	0.00	0	0.00
133	133	134	0.00	1.46	11.87	23.01	0.00	0	0.00
134	134	135	0.00	2.00	10.13	19.97	0.00	0	0.00
135	135	136	0.00	1.00	11.40	23.88	0.00	0	0.00
136	136	137	0.00	4.50	8.93	18.99	0.00	0	0.00

Datos generales del emparrillado

Num. de Nudos: 159
Num. de Barras: 158
Módulo de elasticidad: 3500000
Módulo transversal: 1200000
Inercia de referencia de las barras: 1
Jnercia de referencia de las barras: 1
Area de referencia de las barras: 1

Datos geometricos de las barras

Barra	Ninic	Nfin	Lx	Ly	In	Jt	Sa	Tipo	Radio
137	137	138	0.00	4.50	8.93	18.99	0.00	0	0.00
138	138	139	0.00	4.50	8.93	18.99	0.00	0	0.00
139	139	140	0.00	3.63	8.93	18.99	0.00	0	0.00
140	140	141	0.00	3.63	8.93	18.99	0.00	0	0.00
141	141	142	0.00	3.63	8.93	18.99	0.00	0	0.00
142	142	143	0.00	3.63	8.93	18.99	0.00	0	0.00
143	143	144	0.00	3.46	10.67	22.06	0.00	0	0.00
144	144	145	0.00	3.46	19.42	34.45	0.00	0	0.00
145	145	146	0.00	1.08	26.43	43.77	0.00	0	0.00
146	146	147	0.00	1.08	26.43	43.77	0.00	0	0.00
147	147	148	0.00	3.46	19.41	34.44	0.00	0	0.00
148	148	149	0.00	1.46	11.87	23.01	0.00	0	0.00
149	149	150	0.00	2.00	10.13	19.97	0.00	0	0.00
150	150	151	0.00	1.00	11.40	23.88	0.00	0	0.00
151	151	152	0.00	3.38	8.93	18.99	0.00	0	0.00
152	152	153	0.00	3.38	8.93	18.99	0.00	0	0.00
153	153	154	0.00	3.38	8.93	18.99	0.00	0	0.00
154	154	155	0.00	3.38	8.93	18.99	0.00	0	0.00
155	155	156	0.00	3.38	8.93	18.99	0.00	0	0.00
156	156	157	0.00	3.38	8.93	18.99	0.00	0	0.00
157	157	158	0.00	3.38	8.93	18.99	0.00	0	0.00
158	158	159	0.00	3.38	8.93	18.99	0.00	0	0.00

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
1	0.00	0.00
2	0.00	4.00
3	0.00	8.00
4	0.00	12.00
5	0.00	16.00
6	0.00	20.00
7	0.00	24.00
8	0.00	28.00
9	0.00	31.46
10	0.00	34.92
11	0.00	36.00
12	0.00	37.08
13	0.00	40.54
14	0.00	42.00
15	0.00	44.00
16	0.00	45.00
17	0.00	49.50
18	0.00	54.00
19	0.00	58.50
20	0.00	62.13
21	0.00	65.75
22	0.00	69.38
23	0.00	73.00
24	0.00	76.46
25	0.00	79.92
26	0.00	81.00
27	0.00	82.08
28	0.00	85.54
29	0.00	87.00
30	0.00	89.00
31	0.00	90.00
32	0.00	94.50
33	0.00	99.00
34	0.00	103.50
35	0.00	107.13
36	0.00	110.75
37	0.00	114.38
38	0.00	118.00
39	0.00	121.46
40	0.00	124.92
41	0.00	126.00
42	0.00	127.08
43	0.00	130.54
44	0.00	132.00
45	0.00	134.00
46	0.00	135.00
47	0.00	139.50
48	0.00	144.00
49	0.00	148.50
50	0.00	152.13

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
51	0.00	155.75
52	0.00	159.38
53	0.00	163.00
54	0.00	166.46
55	0.00	169.92
56	0.00	171.00
57	0.00	172.08
58	0.00	175.54
59	0.00	177.00
60	0.00	179.00
61	0.00	180.00
62	0.00	184.50
63	0.00	189.00
64	0.00	193.50
65	0.00	197.13
66	0.00	200.75
67	0.00	204.38
68	0.00	208.00
69	0.00	211.46
70	0.00	214.92
71	0.00	216.00
72	0.00	217.08
73	0.00	220.54
74	0.00	222.00
75	0.00	224.00
76	0.00	225.00
77	0.00	229.50
78	0.00	234.00
79	0.00	238.50
80	0.00	242.13
81	0.00	245.75
82	0.00	249.38
83	0.00	253.00
84	0.00	256.46
85	0.00	259.92
86	0.00	261.00
87	0.00	262.08
88	0.00	265.54
89	0.00	267.00
90	0.00	269.00
91	0.00	270.00
92	0.00	274.50
93	0.00	279.00
94	0.00	283.50
95	0.00	287.13
96	0.00	290.75
97	0.00	294.38
98	0.00	298.00
99	0.00	301.46
100	0.00	304.92

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
101	0.00	306.00
102	0.00	307.08
103	0.00	310.54
104	0.00	312.00
105	0.00	314.00
106	0.00	315.00
107	0.00	319.50
108	0.00	324.00
109	0.00	328.50
110	0.00	332.12
111	0.00	335.75
112	0.00	339.37
113	0.00	343.00
114	0.00	346.46
115	0.00	349.92
116	0.00	351.00
117	0.00	352.08
118	0.00	355.54
119	0.00	357.00
120	0.00	359.00
121	0.00	360.00
122	0.00	364.50
123	0.00	369.00
124	0.00	373.50
125	0.00	377.12
126	0.00	380.75
127	0.00	384.37
128	0.00	388.00
129	0.00	391.46
130	0.00	394.92
131	0.00	396.00
132	0.00	397.08
133	0.00	400.54
134	0.00	402.00
135	0.00	404.00
136	0.00	405.00
137	0.00	409.50
138	0.00	414.00
139	0.00	418.50
140	0.00	422.12
141	0.00	425.75
142	0.00	429.37
143	0.00	433.00
144	0.00	436.46
145	0.00	439.92
146	0.00	441.00
147	0.00	442.08
148	0.00	445.54
149	0.00	447.00
150	0.00	449.00

Coordenadas de los Nudos

Nudo	Coord X	Coord Y
151	0.00	450.00
152	0.00	453.37
153	0.00	456.75
154	0.00	460.12
155	0.00	463.50
156	0.00	466.87
157	0.00	470.25
158	0.00	473.62
159	0.00	477.00

Condiciones de contorno

Nudo	KgiroX	KgiroY	KdeltaZ	Angcoa
1	0.00E+00	1.00E+19	1.00E+19	0.0
11	0.00E+00	1.00E+19	1.00E+19	0.0
26	0.00E+00	1.00E+19	1.00E+19	0.0
41	0.00E+00	1.00E+19	1.00E+19	0.0
56	0.00E+00	1.00E+19	1.00E+19	0.0
71	0.00E+00	1.00E+19	1.00E+19	0.0
86	0.00E+00	1.00E+19	1.00E+19	0.0
101	0.00E+00	1.00E+19	1.00E+19	0.0
116	0.00E+00	1.00E+19	1.00E+19	0.0
131	0.00E+00	1.00E+19	1.00E+19	0.0
146	0.00E+00	1.00E+19	1.00E+19	0.0
159	0.00E+00	1.00E+19	1.00E+19	0.0

Hip¢tesis de carga consideradas

Combinaci¢n: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85
87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102
104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119
121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136
138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153
155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170
172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187
189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204
206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221
223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255
257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272
274

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 1						
C 1	+193.316	+387.715	-0.007	+160.110	+273.606	+1094.420
C 1	-193.316	+387.715	-0.007	-160.110	+273.606	+1094.420
C 1	+193.316	+387.715	-0.007	+160.110	+273.606	+1094.420
C 1	+14.928	-81.505	+0.002	+14.928	-81.505	-326.019
C 1	+15.687	-80.047	+0.004	+146.437	+265.315	+1306.053
C 1	+193.316	+387.715	-0.007	+14.928	-81.505	-326.019
Barra 2						
C 1	+160.110	+273.604	+1094.423	+128.598	+177.227	+1417.816
C 1	-160.110	+273.604	+1094.423	-128.598	+177.227	+1417.816
C 1	+160.110	+273.604	+1094.423	+128.598	+177.227	+1417.816
C 1	+14.928	-81.502	-326.020	+14.928	-81.502	-652.031
C 1	+146.437	+265.315	+1306.052	+99.558	+142.915	+2122.505
C 1	+14.928	-81.502	-326.020	+14.928	-81.502	-652.031
Barra 3						
C 1	+128.598	+177.223	+1417.813	+99.126	+100.078	+1200.924
C 1	-128.598	+177.223	+1417.813	-99.126	+100.078	+1200.924
C 1	+128.598	+177.223	+1417.813	+99.126	+100.078	+1200.924
C 1	+14.928	-81.502	-652.035	+14.928	-81.502	-978.035
C 1	+99.558	+142.907	+2122.505	+52.678	+20.507	+2449.333
C 1	+14.928	-81.502	-652.035	+14.928	-81.502	-978.035
Barra 4						
C 1	+99.126	+100.075	+1200.927	+73.586	+39.606	+633.724
C 1	-99.126	+100.075	+1200.927	-73.586	+39.606	+633.724
C 1	+99.126	+100.075	+1200.927	+73.586	+39.606	+633.724
C 1	+14.928	-81.500	-978.047	+5.799	-101.895	+2286.567
C 1	+52.678	+20.505	+2449.333	+5.799	-101.895	+2286.567
C 1	+14.928	-81.500	-978.047	+14.928	-81.500	-1304.039

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 5						
C 1	+73.586	+39.607	+633.726	+53.698	-10.859	-217.213
C 1	-73.586	+39.607	+633.726	-53.698	-10.859	-217.213
C 1	+73.586	+39.607	+633.726	+0.848	+26.232	+524.668
C 1	+5.799	-101.894	+2286.559	-41.080	-224.294	+1634.200
C 1	+5.799	-101.894	+2286.559	-41.080	-224.294	+1634.200
C 1	+14.928	-81.504	-1304.031	+14.928	-81.504	-1630.055
Barra 6						
C 1	+53.698	-10.861	-217.214	+87.959	-346.690	+492.247
C 1	-53.698	-10.861	-217.214	-87.959	-346.690	+492.247
C 1	+0.848	+26.233	+524.670	+0.848	+26.233	+629.604
C 1	-41.080	-224.290	+1634.200	-87.959	-346.690	+492.247
C 1	-41.080	-224.290	+1634.200	+0.848	+26.233	+629.604
C 1	+14.928	-81.504	-1630.047	+14.928	-81.504	-1956.070
Barra 7						
C 1	+87.959	-346.687	+492.244	+121.166	-460.796	-1151.921
C 1	-87.959	-346.687	+492.244	-121.166	-460.796	-1151.921
C 1	+0.848	+26.235	+629.605	+0.848	+26.235	+734.545
C 1	-87.959	-346.687	+492.244	-121.166	-460.796	-1151.921
C 1	+0.848	+26.235	+629.605	+0.848	+26.235	+734.545
C 1	+14.928	-81.512	-1956.055	+14.928	-81.512	-2282.109
Barra 8						
C 1	+121.166	-460.795	-1151.916	+146.349	-540.649	-2845.156
C 1	-121.166	-460.795	-1151.916	-146.349	-540.649	-2845.156
C 1	+0.848	+26.236	+734.553	+0.848	+26.236	+825.322
C 1	-121.166	-460.795	-1151.916	-146.349	-540.649	-2845.156
C 1	+0.848	+26.236	+734.553	+0.848	+26.236	+825.322
C 1	+14.928	-81.504	-2282.117	-146.349	-540.649	-2845.156
Barra 9						
C 1	+146.349	-540.647	-2845.156	+169.492	-601.274	-4542.805
C 1	-146.349	-540.647	-2845.156	-169.492	-601.274	-4542.805
C 1	+0.848	+26.238	+825.318	+0.848	+26.238	+916.098
C 1	-146.349	-540.647	-2845.156	-169.492	-601.274	-4542.805
C 1	+0.848	+26.238	+825.318	+0.848	+26.238	+916.098
C 1	-146.349	-540.647	-2845.156	-164.397	-587.771	-4842.561
Barra 10						
C 1	+169.492	-601.271	-4542.804	+182.150	-634.319	-5210.026
C 1	-169.492	-601.271	-4542.804	-182.150	-634.319	-5210.026
C 1	+0.848	+26.242	+916.109	+0.848	+26.242	+944.430
C 1	-169.492	-601.271	-4542.804	-182.150	-634.319	-5210.026
C 1	+0.848	+26.242	+916.109	+0.848	+26.242	+944.430
C 1	-164.397	-587.778	-4842.558	-117.518	-465.378	-5407.533

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 11						
C 1	+238.007	+590.118	-2881.662	+226.490	+564.000	-2325.031
C 1	-238.007	+590.118	-2881.662	-226.490	+564.000	-2325.031
C 1	+212.406	+669.430	-5407.537	+199.749	+636.382	-4702.404
C 1	+12.872	-84.359	+944.430	+12.872	-84.359	+853.320
C 1	+12.872	-84.359	+944.430	+12.872	-84.359	+853.320
C 1	+212.406	+669.430	-5407.537	+199.749	+636.382	-4702.404
Barra 12						
C 1	+226.489	+563.985	-2325.004	+198.659	+461.641	-619.895
C 1	-226.489	+563.985	-2325.004	-198.659	+461.641	-619.895
C 1	+199.749	+636.362	-4702.406	+176.673	+566.409	-2920.726
C 1	+12.872	-84.350	+853.313	+12.872	-84.350	+561.459
C 1	+12.872	-84.350	+853.313	+12.872	-84.350	+561.459
C 1	+199.749	+636.362	-4702.406	+176.673	+566.409	-2920.726
Barra 13						
C 1	+198.659	+461.650	-619.873	+187.710	+439.625	-155.063
C 1	-198.659	+461.650	-619.873	-187.710	+439.625	-155.063
C 1	+176.673	+566.432	-2920.701	+159.562	+521.756	-2126.373
C 1	+12.872	-84.313	+561.438	+12.872	-84.313	+438.297
C 1	+12.872	-84.313	+561.438	+12.872	-84.313	+438.297
C 1	+176.673	+566.432	-2920.701	+159.562	+521.756	-2126.373
Barra 14						
C 1	+187.710	+439.663	-155.106	+172.609	+362.281	+559.563
C 1	-187.710	+439.663	-155.106	-172.609	+362.281	+559.563
C 1	+159.562	+521.741	-2126.372	+153.832	+488.309	-1261.959
C 1	+12.872	-84.359	+438.305	+12.872	-84.359	+269.586
C 1	+12.872	-84.359	+438.305	+143.162	+338.712	+861.269
C 1	+159.562	+521.741	-2126.372	+153.832	+488.309	-1261.959
Barra 15						
C 1	+172.610	+362.800	+559.325	+166.697	+351.000	+772.750
C 1	-172.610	+362.800	+559.325	-166.697	+351.000	+772.750
C 1	+153.832	+488.550	-1262.050	+142.112	+457.950	-788.800
C 1	+12.872	-84.625	+269.688	+12.872	-84.625	+185.125
C 1	+143.162	+339.300	+861.075	+132.529	+315.200	+1190.700
C 1	+153.832	+488.550	-1262.050	+142.112	+457.950	-788.800
Barra 16						
C 1	+166.697	+350.733	+772.745	+134.093	+243.457	+1451.465
C 1	-166.697	+350.733	+772.745	-134.093	+243.457	+1451.465
C 1	+142.112	+457.922	-788.813	+89.373	+320.222	+961.995
C 1	+12.872	-84.492	+185.152	+12.872	-84.492	-195.063
C 1	+132.529	+315.147	+1190.644	+80.930	+184.345	+2321.745
C 1	+142.112	+457.922	-788.813	+12.872	-84.492	-195.063

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 17						
C 1	+134.093	+243.459	+1451.456	+105.347	+130.453	+1354.340
C 1	-134.093	+243.459	+1451.456	-105.347	+130.453	+1354.340
C 1	+89.373	+320.221	+961.987	+66.032	+229.941	+2108.499
C 1	+12.872	-84.492	-195.063	+12.872	-84.492	-575.273
C 1	+80.930	+184.358	+2321.738	+47.073	+72.834	+2921.183
C 1	+12.872	-84.492	-195.063	+12.872	-84.492	-575.273
Barra 18						
C 1	+105.347	+130.450	+1354.339	+77.509	+63.400	+930.951
C 1	-105.347	+130.450	+1354.339	-77.509	+63.400	+930.951
C 1	+66.032	+229.936	+2108.519	+32.179	+103.418	+2569.363
C 1	+12.872	-84.490	-575.281	-26.775	-104.596	+2561.425
C 1	+47.073	+72.819	+2921.191	-5.666	-64.881	+2939.081
C 1	+12.872	-84.490	-575.281	+12.872	-84.490	-955.477
Barra 19						
C 1	+77.509	+63.396	+930.956	+93.774	-129.888	+1640.749
C 1	-77.509	+63.396	+930.956	-93.774	-129.888	+1640.749
C 1	+32.179	+103.416	+2569.351	+0.732	+27.197	+405.926
C 1	-26.775	-104.597	+2561.427	-66.505	-200.609	+2210.444
C 1	-5.667	-64.889	+2939.085	-29.192	-18.705	+2966.648
C 1	+12.872	-84.488	-955.469	+12.872	-84.488	-1261.750
Barra 20						
C 1	+93.774	-129.880	+1640.763	+118.783	-204.837	+1638.491
C 1	-93.774	-129.880	+1640.763	-118.783	-204.837	+1638.491
C 1	+0.732	+27.197	+405.930	+0.732	+27.197	+504.523
C 1	-66.506	-200.616	+2210.456	-94.336	-302.979	+1303.287
C 1	-29.192	-18.686	+2966.663	-71.676	-129.611	+2697.851
C 1	+12.872	-84.496	-1261.734	+12.872	-84.496	-1568.023
Barra 21						
C 1	+118.783	-204.845	+1638.493	+143.558	-287.962	+1282.507
C 1	-118.783	-204.845	+1638.493	-143.558	-287.962	+1282.507
C 1	+0.732	+27.199	+504.527	+0.732	+27.199	+603.121
C 1	-94.336	-302.977	+1303.292	-120.385	-402.373	-88.119
C 1	-71.676	-129.616	+2697.851	-114.160	-240.541	+2026.929
C 1	+12.872	-84.488	-1568.008	+12.872	-84.488	-1874.273
Barra 22						
C 1	+143.558	-287.957	+1282.492	+156.645	-351.462	+953.898
C 1	-143.558	-287.957	+1282.492	-156.645	-351.462	+953.898
C 1	+0.732	+27.197	+603.119	+0.732	+27.197	+701.717
C 1	-120.385	-402.373	-88.101	-141.322	-475.646	-1276.837
C 1	-114.160	-240.538	+2026.906	-156.645	-351.462	+953.898
C 1	+12.872	-84.492	-1874.266	+12.872	-84.492	-2180.555

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 23						
C 1	+156.645	-351.476	+953.910	+197.195	-457.352	-445.356
C 1	-156.645	-351.476	+953.910	-197.195	-457.352	-445.356
C 1	+0.732	+27.199	+701.721	+0.732	+27.199	+795.824
C 1	-141.322	-475.646	-1276.839	-157.880	-556.829	-3433.919
C 1	-156.645	-351.476	+953.910	+0.732	+27.199	+795.824
C 1	+12.872	-84.484	-2180.555	-157.880	-556.829	-3433.919
Barra 24						
C 1	+197.195	-457.339	-445.329	+231.417	-546.691	-2206.440
C 1	-197.195	-457.339	-445.329	-231.417	-546.691	-2206.440
C 1	+0.732	+27.200	+795.838	+0.732	+27.200	+889.938
C 1	-157.880	-556.828	-3433.918	-187.648	-634.552	-5530.759
C 1	+0.732	+27.200	+795.838	+0.732	+27.200	+889.938
C 1	-157.880	-556.828	-3433.918	-187.648	-634.552	-5530.759
Barra 25						
C 1	+231.417	-546.719	-2206.469	+231.517	-585.087	-2849.506
C 1	-231.417	-546.719	-2206.469	-231.517	-585.087	-2849.506
C 1	+0.732	+27.180	+889.938	+0.732	+27.180	+919.297
C 1	-187.648	-634.545	-5530.758	-186.187	-625.094	-5388.181
C 1	+0.732	+27.180	+889.938	+0.732	+27.180	+919.297
C 1	-187.648	-634.545	-5530.758	-129.049	-481.545	-6129.290
Barra 26						
C 1	+237.884	+588.274	-2805.256	+226.373	+562.063	-2249.375
C 1	-237.884	+588.274	-2805.256	-226.373	+562.063	-2249.375
C 1	+235.989	+731.712	-6129.302	+223.332	+698.663	-5356.888
C 1	+12.866	-83.734	+919.297	+12.866	-83.734	+828.859
C 1	+12.866	-83.734	+919.297	+12.866	-83.734	+828.859
C 1	+235.989	+731.712	-6129.302	+223.332	+698.663	-5356.888
Barra 27						
C 1	+226.373	+562.008	-2249.348	+198.556	+459.824	-556.219
C 1	-226.373	+562.008	-2249.348	-198.556	+459.824	-556.219
C 1	+223.332	+698.635	-5356.895	+182.782	+592.759	-3122.778
C 1	+12.866	-83.707	+828.867	+12.866	-83.707	+539.246
C 1	+12.866	-83.707	+828.867	+12.866	-83.707	+539.246
C 1	+223.332	+698.635	-5356.895	+138.282	+460.064	-3203.854
Barra 28						
C 1	+198.556	+459.900	-556.186	+187.613	+437.813	-92.250
C 1	-198.556	+459.900	-556.186	-187.613	+437.813	-92.250
C 1	+182.782	+592.807	-3122.748	+179.301	+567.171	-2446.125
C 1	+12.866	-83.719	+539.219	+12.866	-83.719	+417.000
C 1	+12.866	-83.719	+539.219	+12.866	-83.719	+417.000
C 1	+138.282	+460.071	-3203.865	+179.301	+567.171	-2446.125

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 29						
C 1	+187.613	+437.788	-92.262	+172.521	+360.750	+609.031
C 1	-187.613	+437.788	-92.262	-172.521	+360.750	+609.031
C 1	+179.301	+567.162	-2446.106	+155.861	+505.962	-1372.997
C 1	+12.866	-83.711	+416.992	+12.866	-83.711	+249.563
C 1	+12.866	-83.711	+416.992	+144.126	+343.400	+921.300
C 1	+179.301	+567.162	-2446.106	-13.106	+83.625	-2178.750
Barra 30						
C 1	+172.521	+360.800	+609.325	+166.611	+348.500	+821.375
C 1	-172.521	+360.800	+609.325	-166.611	+348.500	+821.375
C 1	+155.861	+505.800	-1373.050	+157.457	+488.256	-905.657
C 1	+12.866	-83.625	+249.500	+12.866	-83.625	+165.875
C 1	+144.126	+343.050	+921.575	+132.406	+312.450	+1249.450
C 1	-13.106	+83.250	-2178.625	-13.106	+83.250	-2095.125
Barra 31						
C 1	+166.611	+348.791	+821.308	+134.024	+241.965	+1482.121
C 1	-166.611	+348.791	+821.308	-134.024	+241.965	+1482.121
C 1	+157.457	+488.377	-905.692	+104.718	+350.677	+982.159
C 1	+12.866	-83.705	+165.848	+12.866	-83.705	-210.816
C 1	+132.406	+312.791	+1249.425	+80.813	+181.951	+2370.792
C 1	-13.106	+83.658	-2095.047	-13.106	+83.658	-1718.586
Barra 32						
C 1	+134.024	+241.959	+1482.136	+105.292	+129.650	+1367.359
C 1	-134.024	+241.959	+1482.136	-105.292	+129.650	+1367.359
C 1	+104.718	+350.674	+982.159	+66.658	+229.889	+2083.908
C 1	+12.866	-83.703	-210.816	+12.866	-83.703	-587.488
C 1	+80.813	+181.948	+2370.800	+46.976	+70.552	+2957.605
C 1	-13.106	+83.656	-1718.578	-13.106	+83.656	-1342.109
Barra 33						
C 1	+105.292	+129.651	+1367.370	+77.469	+63.008	+935.715
C 1	-105.292	+129.651	+1367.370	-77.469	+63.008	+935.715
C 1	+66.658	+229.893	+2083.917	+31.976	+101.508	+2591.206
C 1	+12.866	-83.703	-587.500	-26.904	-106.881	+2587.769
C 1	+46.976	+70.549	+2957.628	-5.763	-67.151	+2965.269
C 1	-13.106	+83.662	-1342.109	-13.106	+83.662	-965.656
Barra 34						
C 1	+77.469	+63.005	+935.714	+80.109	-79.314	+858.503
C 1	-77.469	+63.005	+935.714	-80.109	-79.314	+858.503
C 1	+31.976	+101.494	+2591.226	-13.106	+83.664	-662.367
C 1	-26.904	-106.894	+2587.755	-66.622	-203.008	+2229.225
C 1	-5.763	-67.162	+2965.241	-43.245	-35.658	+2970.726
C 1	-13.106	+83.664	-965.641	+12.866	-83.699	-1267.578

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 35						
C 1	+80.109	-79.316	+858.504	+112.675	-178.673	+2096.741
C 1	-80.109	-79.316	+858.504	-112.675	-178.673	+2096.741
C 1	-13.106	+83.664	-662.359	-13.106	+83.664	-359.078
C 1	-66.622	-203.007	+2229.253	-94.439	-305.198	+1312.678
C 1	-43.245	-35.670	+2970.757	-63.192	-131.423	+2679.148
C 1	+12.866	-83.691	-1267.586	+12.866	-83.691	-1570.977
Barra 36						
C 1	+112.675	-178.690	+2096.744	+152.229	-281.965	+1248.909
C 1	-112.675	-178.690	+2096.744	-152.229	-281.965	+1248.909
C 1	-13.106	+83.664	-359.074	-13.106	+83.664	-55.797
C 1	-94.439	-305.203	+1312.698	-120.474	-404.284	-86.869
C 1	-63.192	-131.428	+2679.148	-105.676	-242.353	+2001.695
C 1	+12.866	-83.695	-1571.000	+12.866	-83.695	-1874.375
Barra 37						
C 1	+152.229	-281.961	+1248.906	+170.828	-347.034	+451.510
C 1	-152.229	-281.961	+1248.906	-170.828	-347.034	+451.510
C 1	-13.106	+83.670	-55.793	-13.106	+83.670	+247.516
C 1	-120.475	-404.283	-86.855	-141.392	-477.146	-1281.235
C 1	-105.676	-242.334	+2001.710	-156.018	-351.533	+928.335
C 1	+12.866	-83.699	-1874.383	+12.866	-83.699	-2177.781
Barra 38						
C 1	+170.828	-347.023	+451.492	+198.063	-439.885	-665.183
C 1	-170.828	-347.023	+451.492	-198.063	-439.885	-665.183
C 1	-13.106	+83.664	+247.520	-13.106	+83.664	+536.984
C 1	-141.392	-477.142	-1281.242	-157.934	-557.629	-3438.872
C 1	-156.018	-351.519	+928.340	+0.731	+26.947	+794.123
C 1	+12.866	-83.699	-2177.781	-157.934	-557.629	-3438.872
Barra 39						
C 1	+198.063	-439.891	-665.156	+229.262	-565.012	-2255.067
C 1	-198.063	-439.891	-665.156	-229.262	-565.012	-2255.067
C 1	-13.106	+83.666	+536.984	-13.106	+83.666	+826.473
C 1	-157.934	-557.630	-3438.872	-187.703	-635.354	-5538.486
C 1	+0.731	+26.947	+794.127	+0.731	+26.947	+887.357
C 1	-157.934	-557.630	-3438.872	-187.703	-635.354	-5538.486
Barra 40						
C 1	+229.262	-565.007	-2255.099	+241.919	-598.055	-2883.162
C 1	-229.262	-565.007	-2255.099	-241.919	-598.055	-2883.162
C 1	-13.106	+83.656	+826.480	-13.106	+83.656	+916.852
C 1	-187.702	-635.361	-5538.483	-186.227	-625.501	-5392.298
C 1	+0.731	+26.930	+887.344	-13.106	+83.656	+916.852
C 1	-187.702	-635.361	-5538.483	-129.103	-482.361	-6137.893

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 41						
C 1	+237.884	+587.774	-2796.381	+226.373	+561.625	-2240.844
C 1	-237.884	+587.774	-2796.381	-226.373	+561.625	-2240.844
C 1	+235.987	+731.883	-6137.880	+223.329	+698.835	-5365.318
C 1	+12.866	-83.578	+916.453	+12.866	-83.578	+826.172
C 1	-0.745	-26.984	+916.836	-0.745	-26.984	+887.723
C 1	+235.987	+731.883	-6137.880	+223.329	+698.835	-5365.318
Barra 42						
C 1	+226.373	+561.641	-2240.848	+198.556	+459.480	-549.516
C 1	-226.373	+561.641	-2240.848	-198.556	+459.480	-549.516
C 1	+223.329	+698.839	-5365.325	+182.779	+592.962	-3130.510
C 1	+12.866	-83.592	+826.195	+12.866	-83.592	+536.955
C 1	-0.745	-26.963	+887.701	-0.745	-26.963	+794.406
C 1	+223.329	+698.839	-5365.325	+138.280	+460.123	-3207.741
Barra 43						
C 1	+198.556	+459.526	-549.498	+187.613	+437.375	-86.000
C 1	-198.556	+459.526	-549.498	-187.613	+437.375	-86.000
C 1	+182.779	+592.963	-3130.498	+179.299	+567.202	-2449.953
C 1	+12.866	-83.594	+536.953	+12.866	-83.594	+414.891
C 1	-0.745	-26.953	+794.406	-0.745	-26.953	+755.063
C 1	+138.280	+460.102	-3207.740	+179.299	+567.202	-2449.953
Barra 44						
C 1	+187.613	+437.413	-85.919	+172.520	+360.500	+613.813
C 1	-187.613	+437.413	-85.919	-172.520	+360.500	+613.813
C 1	+179.299	+567.256	-2449.966	+155.859	+506.056	-1376.637
C 1	+12.866	-83.617	+414.891	+12.866	-83.617	+247.672
C 1	-0.745	-26.945	+755.047	+144.125	+343.087	+927.175
C 1	+179.299	+567.256	-2449.966	-14.247	+84.469	-2199.281
Barra 45						
C 1	+172.520	+360.800	+613.700	+166.611	+348.500	+825.750
C 1	-172.520	+360.800	+613.700	-166.611	+348.500	+825.750
C 1	+155.859	+506.050	-1376.800	+157.455	+488.506	-906.407
C 1	+12.866	-83.875	+247.750	+12.866	-83.875	+163.938
C 1	+144.125	+343.050	+927.075	+132.405	+312.450	+1255.075
C 1	-14.247	+84.500	-2199.375	-14.247	+84.500	-2114.750
Barra 46						
C 1	+166.611	+348.608	+825.831	+134.024	+241.816	+1484.961
C 1	-166.611	+348.608	+825.831	-134.024	+241.816	+1484.961
C 1	+157.455	+488.407	-906.614	+104.716	+350.707	+981.386
C 1	+12.866	-83.639	+164.078	+12.866	-83.639	-212.293
C 1	+132.406	+312.565	+1254.925	+80.812	+181.720	+2375.363
C 1	-14.247	+84.443	-2114.758	-14.247	+84.443	-1734.762

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 47						
C 1	+134.024	+241.815	+1484.972	+105.292	+129.564	+1368.492
C 1	-134.024	+241.815	+1484.972	-105.292	+129.564	+1368.492
C 1	+104.716	+350.709	+981.394	+66.657	+229.834	+2084.666
C 1	+12.866	-83.641	-212.305	+12.866	-83.641	-588.668
C 1	+80.812	+181.721	+2375.363	+46.975	+70.330	+2960.964
C 1	-14.247	+84.441	-1734.766	-14.247	+84.441	-1354.758
Barra 48						
C 1	+105.292	+129.567	+1368.499	+77.469	+62.959	+936.029
C 1	-105.292	+129.567	+1368.499	-77.469	+62.959	+936.029
C 1	+66.657	+229.838	+2084.683	+31.975	+101.324	+2593.175
C 1	+12.866	-83.639	-588.664	-26.905	-107.104	+2590.159
C 1	+46.975	+70.334	+2960.972	-5.764	-67.366	+2967.628
C 1	-14.247	+84.445	-1354.766	-14.247	+84.445	-974.781
Barra 49						
C 1	+77.469	+62.955	+936.034	+80.113	-78.836	+854.660
C 1	-77.469	+62.955	+936.034	-80.113	-78.836	+854.660
C 1	+31.976	+101.314	+2593.210	-14.247	+84.453	-668.648
C 1	-26.905	-107.121	+2590.177	-66.623	-203.249	+2230.913
C 1	-5.764	-67.381	+2967.679	-43.246	-35.634	+2970.351
C 1	-14.247	+84.453	-974.789	+12.866	-83.633	-1268.211
Barra 50						
C 1	+80.113	-78.830	+854.660	+112.678	-178.400	+2095.554
C 1	-80.113	-78.830	+854.660	-112.678	-178.400	+2095.554
C 1	-14.247	+84.445	-668.648	-14.247	+84.445	-362.539
C 1	-66.623	-203.225	+2230.894	-94.439	-305.393	+1313.475
C 1	-43.247	-35.608	+2970.335	-63.193	-131.517	+2679.632
C 1	+12.866	-83.641	-1268.211	+12.866	-83.641	-1571.414
Barra 51						
C 1	+112.678	-178.401	+2095.541	+152.232	-281.676	+1248.737
C 1	-112.678	-178.401	+2095.541	-152.232	-281.676	+1248.737
C 1	-14.247	+84.438	-362.539	-14.247	+84.438	-56.438
C 1	-94.439	-305.399	+1313.487	-120.475	-404.448	-86.845
C 1	-63.193	-131.530	+2679.632	-105.677	-242.455	+2001.788
C 1	+12.866	-83.641	-1571.406	+12.866	-83.641	-1874.625
Barra 52						
C 1	+152.232	-281.668	+1248.750	+170.831	-346.882	+452.033
C 1	-152.232	-281.668	+1248.750	-170.831	-346.882	+452.033
C 1	-14.247	+84.441	-56.449	-14.247	+84.441	+249.656
C 1	-120.475	-404.443	-86.843	-141.392	-477.279	-1281.735
C 1	-105.677	-242.444	+2001.820	-156.019	-351.548	+928.320
C 1	+12.866	-83.645	-1874.617	+12.866	-83.645	-2177.836

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 53						
C 1	+170.831	-346.863	+452.023	+198.065	-439.831	-664.785
C 1	-170.831	-346.863	+452.023	-198.065	-439.831	-664.785
C 1	-14.247	+84.439	+249.648	-14.247	+84.439	+541.809
C 1	-141.392	-477.277	-1281.730	-157.935	-557.708	-3439.591
C 1	-156.019	-351.554	+928.300	+0.731	+26.934	+794.207
C 1	+12.866	-83.645	-2177.836	-157.935	-557.708	-3439.591
Barra 54						
C 1	+198.065	-439.836	-664.758	+229.263	-565.118	-2256.028
C 1	-198.065	-439.836	-664.758	-229.263	-565.118	-2256.028
C 1	-14.247	+84.439	+541.805	-14.247	+84.439	+833.969
C 1	-157.935	-557.709	-3439.592	-187.703	-635.432	-5539.483
C 1	+0.731	+26.933	+794.209	+0.731	+26.933	+887.398
C 1	-157.935	-557.709	-3439.592	-187.703	-635.432	-5539.483
Barra 55						
C 1	+229.263	-565.101	-2256.021	+241.920	-598.149	-2884.162
C 1	-229.263	-565.101	-2256.021	-241.920	-598.149	-2884.162
C 1	-14.247	+84.438	+833.973	-14.247	+84.438	+925.148
C 1	-187.703	-635.443	-5539.481	-186.227	-625.555	-5393.025
C 1	+0.731	+26.953	+887.391	-14.247	+84.438	+925.148
C 1	-187.703	-635.443	-5539.481	-129.104	-482.444	-6138.979
Barra 56						
C 1	+237.884	+587.930	-2796.131	+226.373	+561.719	-2240.422
C 1	-237.884	+587.930	-2796.131	-226.373	+561.719	-2240.422
C 1	+235.987	+731.946	-6138.990	+223.329	+698.898	-5366.318
C 1	+12.866	-83.625	+916.516	+12.866	-83.625	+826.203
C 1	-0.810	-27.195	+925.133	-0.810	-27.195	+895.770
C 1	+235.987	+731.946	-6138.990	+223.329	+698.898	-5366.318
Barra 57						
C 1	+226.373	+561.672	-2240.449	+198.556	+459.500	-549.047
C 1	-226.373	+561.672	-2240.449	-198.556	+459.500	-549.047
C 1	+223.329	+698.893	-5366.321	+182.779	+593.017	-3131.299
C 1	+12.866	-83.619	+826.203	+12.866	-83.619	+536.879
C 1	-0.810	-27.201	+895.766	-0.810	-27.201	+801.654
C 1	+223.329	+698.893	-5366.321	+138.280	+460.177	-3208.190
Barra 58						
C 1	+198.556	+459.526	-549.061	+187.613	+437.375	-85.438
C 1	-198.556	+459.526	-549.061	-187.613	+437.375	-85.438
C 1	+182.779	+593.057	-3131.279	+179.299	+567.264	-2450.328
C 1	+12.866	-83.594	+536.875	+12.866	-83.594	+414.766
C 1	-0.810	-27.203	+801.672	-0.810	-27.203	+761.953
C 1	+138.280	+460.165	-3208.208	+179.299	+567.264	-2450.328

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 59						
C 1	+187.613	+437.413	-85.387	+172.520	+360.438	+614.219
C 1	-187.613	+437.413	-85.387	-172.520	+360.438	+614.219
C 1	+179.299	+567.272	-2450.325	+155.859	+506.072	-1376.981
C 1	+12.866	-83.609	+414.773	+12.866	-83.609	+247.563
C 1	-0.810	-27.195	+761.961	+144.125	+343.056	+927.675
C 1	+179.299	+567.272	-2450.325	-14.247	+84.531	-2200.219
Barra 60						
C 1	+172.520	+360.800	+614.075	+166.611	+348.500	+826.500
C 1	-172.520	+360.800	+614.075	-166.611	+348.500	+826.500
C 1	+155.859	+506.300	-1377.050	+157.455	+488.756	-906.407
C 1	+12.866	-83.750	+247.563	+12.866	-83.750	+163.813
C 1	+144.125	+343.550	+927.700	+132.405	+312.950	+1255.700
C 1	-14.247	+84.500	-2200.375	-14.247	+84.500	-2115.875
Barra 61						
C 1	+166.611	+348.592	+826.448	+134.024	+241.811	+1485.391
C 1	-166.611	+348.592	+826.448	-134.024	+241.811	+1485.391
C 1	+157.455	+488.426	-906.544	+104.716	+350.726	+981.550
C 1	+12.866	-83.650	+163.859	+12.866	-83.650	-212.566
C 1	+132.406	+312.561	+1255.644	+80.812	+181.716	+2376.058
C 1	-14.247	+84.475	-2115.797	-14.247	+84.475	-1735.668
Barra 62						
C 1	+134.024	+241.803	+1485.394	+105.292	+129.557	+1368.672
C 1	-134.024	+241.803	+1485.394	-105.292	+129.557	+1368.672
C 1	+104.716	+350.725	+981.550	+66.657	+229.849	+2085.056
C 1	+12.866	-83.646	-212.559	+12.866	-83.646	-588.984
C 1	+80.812	+181.709	+2376.050	+46.975	+70.314	+2961.558
C 1	-14.247	+84.477	-1735.664	-14.247	+84.477	-1355.516
Barra 63						
C 1	+105.292	+129.553	+1368.675	+77.469	+62.953	+936.084
C 1	-105.292	+129.553	+1368.675	-77.469	+62.953	+936.084
C 1	+66.657	+229.838	+2085.058	+31.976	+101.316	+2593.753
C 1	+12.866	-83.648	-588.977	-26.905	-107.116	+2590.691
C 1	+46.975	+70.315	+2961.566	-5.764	-67.385	+2968.159
C 1	-14.247	+84.477	-1355.508	-14.247	+84.477	-975.367
Barra 64						
C 1	+77.469	+62.951	+936.081	+80.113	-78.785	+854.425
C 1	-77.469	+62.951	+936.081	-80.113	-78.785	+854.425
C 1	+31.975	+101.322	+2593.741	-14.247	+84.480	-669.117
C 1	-26.905	-107.121	+2590.693	-66.623	-203.249	+2231.459
C 1	-5.764	-67.389	+2968.148	-43.246	-35.611	+2970.726
C 1	-14.247	+84.480	-975.359	+12.866	-83.645	-1268.602

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 65						
C 1	+80.113	-78.789	+854.430	+112.678	-178.361	+2095.757
C 1	-80.113	-78.789	+854.430	-112.678	-178.361	+2095.757
C 1	-14.247	+84.480	-669.117	-14.247	+84.480	-362.875
C 1	-66.623	-203.249	+2231.456	-94.439	-305.417	+1313.850
C 1	-43.247	-35.608	+2970.726	-63.193	-131.525	+2680.132
C 1	+12.866	-83.645	-1268.609	+12.866	-83.645	-1571.813
Barra 66						
C 1	+112.678	-178.385	+2095.783	+152.233	-281.661	+1249.034
C 1	-112.678	-178.385	+2095.783	-152.233	-281.661	+1249.034
C 1	-14.247	+84.484	-362.867	-14.247	+84.484	-56.609
C 1	-94.439	-305.430	+1313.862	-120.475	-404.487	-86.697
C 1	-63.193	-131.553	+2680.132	-105.677	-242.478	+2002.210
C 1	+12.866	-83.637	-1571.797	+12.866	-83.637	-1875.000
Barra 67						
C 1	+152.233	-281.656	+1249.031	+170.831	-346.871	+452.376
C 1	-152.233	-281.656	+1249.031	-170.831	-346.871	+452.376
C 1	-14.247	+84.484	-56.613	-14.247	+84.484	+249.645
C 1	-120.475	-404.482	-86.695	-141.392	-477.302	-1281.719
C 1	-105.677	-242.467	+2002.241	-156.019	-351.572	+928.663
C 1	+12.866	-83.645	-1874.992	+12.866	-83.645	-2178.195
Barra 68						
C 1	+170.831	-346.875	+452.375	+198.066	-439.847	-664.481
C 1	-170.831	-346.875	+452.375	-198.066	-439.847	-664.481
C 1	-14.247	+84.486	+249.648	-14.247	+84.486	+541.969
C 1	-141.392	-477.310	-1281.718	-157.935	-557.727	-3439.723
C 1	-156.019	-351.578	+928.652	+0.731	+26.918	+794.002
C 1	+12.866	-83.633	-2178.195	-157.935	-557.727	-3439.723
Barra 69						
C 1	+198.065	-439.848	-664.484	+229.263	-565.153	-2255.918
C 1	-198.065	-439.848	-664.484	-229.263	-565.153	-2255.918
C 1	-14.247	+84.486	+541.971	-14.247	+84.486	+834.293
C 1	-157.935	-557.727	-3439.723	-187.703	-635.451	-5539.679
C 1	+0.731	+26.920	+793.998	+0.731	+26.920	+887.148
C 1	-157.935	-557.727	-3439.723	-187.703	-635.451	-5539.679
Barra 70						
C 1	+229.263	-565.257	-2255.881	+241.920	-598.305	-2884.193
C 1	-229.263	-565.257	-2255.881	-241.920	-598.305	-2884.193
C 1	-14.247	+84.484	+834.293	-14.247	+84.484	+925.555
C 1	-187.703	-635.451	-5539.678	-186.227	-625.547	-5393.150
C 1	+0.731	+26.930	+887.137	-14.247	+84.484	+925.555
C 1	-187.703	-635.451	-5539.678	-129.104	-482.452	-6139.186

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 71						
C 1	+237.884	+588.087	-2796.287	+226.373	+561.813	-2240.438
C 1	-237.884	+588.087	-2796.287	-226.373	+561.813	-2240.438
C 1	+235.987	+732.024	-6139.193	+223.329	+698.976	-5366.443
C 1	+12.866	-83.625	+916.203	+12.866	-83.625	+825.879
C 1	-0.810	-27.172	+925.555	-0.810	-27.172	+896.207
C 1	+235.987	+732.024	-6139.193	+223.329	+698.976	-5366.443
Barra 72						
C 1	+226.373	+561.833	-2240.434	+198.556	+459.656	-548.563
C 1	-226.373	+561.833	-2240.434	-198.556	+459.656	-548.563
C 1	+223.329	+698.964	-5366.450	+182.779	+593.087	-3131.199
C 1	+12.866	-83.641	+825.871	+12.866	-83.641	+536.480
C 1	-0.810	-27.174	+896.211	-0.810	-27.174	+802.195
C 1	+223.329	+698.964	-5366.450	+138.280	+460.242	-3208.005
Barra 73						
C 1	+198.556	+459.651	-548.498	+191.223	+402.125	+91.406
C 1	-198.556	+459.651	-548.498	-191.223	+402.125	+91.406
C 1	+182.779	+593.088	-3131.139	+179.299	+567.327	-2450.047
C 1	+12.866	-83.656	+536.469	+12.866	-83.656	+414.344
C 1	-0.810	-27.172	+802.219	-0.810	-27.172	+762.516
C 1	+138.280	+460.227	-3207.958	+179.299	+567.327	-2450.047
Barra 74						
C 1	+191.223	+402.038	+91.425	+172.520	+360.563	+615.000
C 1	-191.223	+402.038	+91.425	-172.520	+360.563	+615.000
C 1	+179.299	+567.319	-2450.012	+155.859	+506.119	-1376.575
C 1	+12.866	-83.602	+414.336	+12.866	-83.602	+247.125
C 1	-0.810	-27.188	+762.539	+144.125	+343.181	+928.737
C 1	+179.299	+567.319	-2450.012	-14.247	+84.438	-2201.156
Barra 75						
C 1	+172.520	+360.300	+615.075	+166.611	+348.250	+827.125
C 1	-172.520	+360.300	+615.075	-166.611	+348.250	+827.125
C 1	+155.859	+506.050	-1376.550	+157.455	+488.256	-906.157
C 1	+12.866	-83.625	+247.063	+12.866	-83.625	+163.500
C 1	+144.125	+343.300	+928.700	+132.405	+312.700	+1256.575
C 1	-14.247	+85.000	-2201.375	-14.247	+85.000	-2116.375
Barra 76						
C 1	+166.611	+348.561	+827.128	+134.024	+241.787	+1485.809
C 1	-166.611	+348.561	+827.128	-134.024	+241.787	+1485.809
C 1	+157.455	+488.383	-906.122	+104.716	+350.683	+981.773
C 1	+12.866	-83.600	+163.516	+12.866	-83.600	-212.676
C 1	+132.405	+312.498	+1256.488	+80.812	+181.654	+2376.659
C 1	-14.247	+84.518	-2116.617	-14.247	+84.518	-1736.281

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 77						
C 1	+134.024	+241.788	+1485.816	+105.292	+129.564	+1368.996
C 1	-134.024	+241.788	+1485.816	-105.292	+129.564	+1368.996
C 1	+104.716	+350.686	+981.769	+66.657	+229.791	+2085.134
C 1	+12.866	-83.598	-212.672	+12.866	-83.598	-588.863
C 1	+80.812	+181.651	+2376.659	+28.073	+43.951	+2884.261
C 1	-14.247	+84.520	-1736.281	-14.247	+84.520	-1355.938
Barra 78						
C 1	+105.292	+129.565	+1368.995	+77.469	+62.972	+936.434
C 1	-105.292	+129.565	+1368.995	-77.469	+62.972	+936.434
C 1	+66.657	+229.803	+2085.128	+31.975	+101.269	+2593.737
C 1	+12.866	-83.600	-588.867	-26.905	-107.162	+2590.831
C 1	+28.073	+43.959	+2884.269	-0.762	+75.283	+2898.620
C 1	-14.247	+84.516	-1355.938	-14.247	+84.516	-975.602
Barra 79						
C 1	+77.469	+62.970	+936.437	+80.113	-78.783	+854.265
C 1	-77.469	+62.970	+936.437	-80.113	-78.783	+854.265
C 1	+31.975	+101.267	+2593.726	-14.247	+84.523	-669.219
C 1	-26.905	-107.160	+2590.833	-44.638	-213.837	+1984.757
C 1	-0.762	+75.283	+2898.632	-43.246	-35.642	+2970.445
C 1	-14.247	+84.523	-975.594	+12.866	-83.598	-1268.086
Barra 80						
C 1	+80.113	-78.781	+854.266	+112.678	-178.392	+2095.460
C 1	-80.113	-78.781	+854.266	-112.678	-178.392	+2095.460
C 1	-14.247	+84.520	-669.234	-14.247	+84.520	-362.852
C 1	-44.638	-213.842	+1984.765	-87.123	-324.767	+1008.538
C 1	-43.247	-35.647	+2970.460	-63.193	-131.580	+2679.773
C 1	+12.866	-83.590	-1268.109	+12.866	-83.590	-1571.133
Barra 81						
C 1	+112.678	-178.393	+2095.455	+152.233	-281.669	+1248.659
C 1	-112.678	-178.393	+2095.455	-152.233	-281.669	+1248.659
C 1	-14.247	+84.523	-362.848	-14.247	+84.523	-56.461
C 1	-87.123	-324.764	+1008.547	-120.475	-404.502	-86.634
C 1	-63.193	-131.592	+2679.757	-105.678	-242.517	+2001.710
C 1	+12.866	-83.598	-1571.148	+12.866	-83.598	-1874.172
Barra 82						
C 1	+152.233	-281.684	+1248.656	+170.831	-346.906	+451.829
C 1	-152.233	-281.684	+1248.656	-170.831	-346.906	+451.829
C 1	-14.247	+84.523	-56.457	-14.247	+84.523	+249.941
C 1	-120.475	-404.505	-86.636	-141.392	-477.314	-1281.634
C 1	-105.678	-242.506	+2001.702	-156.019	-351.611	+927.976
C 1	+12.866	-83.590	-1874.164	+12.866	-83.590	-2177.180

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 83						
C 1	+170.831	-346.906	+451.828	+198.066	-439.882	-665.231
C 1	-170.831	-346.906	+451.828	-198.066	-439.882	-665.231
C 1	-14.247	+84.527	+249.938	-14.247	+84.527	+542.398
C 1	-141.392	-477.318	-1281.632	-157.935	-557.714	-3439.102
C 1	-156.020	-351.617	+927.988	+0.731	+26.889	+793.107
C 1	+12.866	-83.586	-2177.188	-157.935	-557.714	-3439.102
Barra 84						
C 1	+198.066	-439.883	-665.242	+229.263	-565.192	-2256.926
C 1	-198.066	-439.883	-665.242	-229.263	-565.192	-2256.926
C 1	-14.247	+84.523	+542.402	-14.247	+84.523	+834.848
C 1	-157.935	-557.714	-3439.103	-187.703	-635.437	-5539.002
C 1	+0.731	+26.889	+793.102	+0.731	+26.889	+886.141
C 1	-157.935	-557.714	-3439.103	-187.703	-635.437	-5539.002
Barra 85						
C 1	+229.263	-565.195	-2256.974	+241.920	-598.243	-2885.256
C 1	-229.263	-565.195	-2256.974	-241.920	-598.243	-2885.256
C 1	-14.247	+84.516	+834.879	-14.247	+84.516	+926.156
C 1	-187.703	-635.431	-5538.997	-186.227	-625.516	-5392.291
C 1	+0.731	+26.875	+886.117	-14.247	+84.516	+926.156
C 1	-187.703	-635.431	-5538.997	-129.104	-482.431	-6138.471
Barra 86						
C 1	+237.884	+587.680	-2794.849	+226.372	+561.531	-2239.313
C 1	-237.884	+587.680	-2794.849	-226.372	+561.531	-2239.313
C 1	+235.986	+731.836	-6138.458	+223.328	+698.789	-5365.919
C 1	+12.866	-83.500	+915.141	+12.866	-83.500	+824.969
C 1	-0.810	-27.258	+926.172	-0.810	-27.258	+896.746
C 1	+235.986	+731.836	-6138.458	+223.328	+698.789	-5365.919
Barra 87						
C 1	+226.372	+561.500	-2239.309	+198.556	+459.363	-548.656
C 1	-226.372	+561.500	-2239.309	-198.556	+459.363	-548.656
C 1	+223.329	+698.807	-5365.914	+182.778	+592.931	-3131.211
C 1	+12.866	-83.479	+824.977	+12.866	-83.479	+536.135
C 1	-0.810	-27.260	+896.750	-0.810	-27.260	+802.434
C 1	+223.329	+698.807	-5365.914	+138.279	+460.069	-3207.943
Barra 88						
C 1	+198.556	+459.338	-548.560	+191.223	+401.938	+90.906
C 1	-198.556	+459.338	-548.560	-191.223	+401.938	+90.906
C 1	+182.778	+592.963	-3131.217	+179.299	+567.171	-2450.265
C 1	+12.866	-83.500	+536.141	+12.866	-83.500	+414.234
C 1	-0.810	-27.234	+802.438	-0.810	-27.234	+762.641
C 1	+138.279	+460.070	-3207.927	+179.299	+567.171	-2450.265

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 89						
C 1	+191.223	+401.944	+90.863	+172.520	+360.438	+614.219
C 1	-191.223	+401.944	+90.863	-172.520	+360.438	+614.219
C 1	+179.299	+567.225	-2450.262	+155.859	+506.025	-1377.012
C 1	+12.866	-83.516	+414.250	+12.866	-83.516	+247.227
C 1	-0.810	-27.242	+762.648	+144.125	+342.994	+927.831
C 1	+179.299	+567.225	-2450.262	-14.247	+84.563	-2200.594
Barra 90						
C 1	+172.521	+360.550	+614.200	+166.611	+348.750	+826.500
C 1	-172.521	+360.550	+614.200	-166.611	+348.750	+826.500
C 1	+155.859	+506.300	-1377.050	+157.455	+488.506	-906.532
C 1	+12.866	-83.625	+247.250	+12.866	-83.625	+163.625
C 1	+144.126	+343.300	+927.950	+132.406	+312.700	+1255.700
C 1	-14.247	+84.000	-2200.500	-14.247	+84.000	-2116.250
Barra 91						
C 1	+166.611	+348.577	+826.480	+134.024	+241.813	+1485.406
C 1	-166.611	+348.577	+826.480	-134.024	+241.813	+1485.406
C 1	+157.455	+488.360	-906.552	+104.716	+350.660	+981.237
C 1	+12.866	-83.543	+163.652	+12.866	-83.543	-212.293
C 1	+132.406	+312.502	+1255.753	+80.812	+181.650	+2375.902
C 1	-14.247	+84.512	-2116.148	-14.247	+84.512	-1735.836
Barra 92						
C 1	+134.024	+241.811	+1485.417	+105.292	+129.604	+1369.020
C 1	-134.024	+241.811	+1485.417	-105.292	+129.604	+1369.020
C 1	+104.716	+350.655	+981.237	+66.657	+229.769	+2084.433
C 1	+12.866	-83.543	-212.297	+12.866	-83.543	-588.227
C 1	+80.812	+181.655	+2375.894	+28.073	+43.955	+2883.519
C 1	-14.247	+84.512	-1735.836	-14.247	+84.512	-1355.516
Barra 93						
C 1	+105.292	+129.604	+1369.015	+78.138	-70.469	+1017.618
C 1	-105.292	+129.604	+1369.015	-78.138	-70.469	+1017.618
C 1	+66.657	+229.772	+2084.425	+31.976	+101.239	+2592.801
C 1	+12.866	-83.541	-588.219	-26.905	-107.174	+2590.113
C 1	+28.073	+43.944	+2883.503	-0.762	+75.252	+2897.808
C 1	-14.247	+84.516	-1355.523	-14.247	+84.516	-975.180
Barra 94						
C 1	+78.138	-70.473	+1017.621	+80.112	-78.791	+854.000
C 1	-78.138	-70.473	+1017.621	-80.112	-78.791	+854.000
C 1	+31.975	+101.236	+2592.820	-14.247	+84.527	-668.789
C 1	-26.905	-107.182	+2590.114	-44.638	-213.814	+1984.538
C 1	-0.762	+75.236	+2897.835	-43.246	-35.689	+2969.523
C 1	-14.247	+84.527	-975.195	+12.866	-83.535	-1266.977

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 95						
C 1	+80.112	-78.785	+854.004	+112.678	-178.416	+2094.616
C 1	-80.112	-78.785	+854.004	-112.678	-178.416	+2094.616
C 1	-14.247	+84.512	-668.789	-14.247	+84.512	-362.422
C 1	-44.638	-213.819	+1984.546	-87.122	-324.744	+1008.413
C 1	-43.247	-35.662	+2969.523	-63.193	-131.595	+2678.616
C 1	+12.866	-83.551	-1266.969	+12.866	-83.551	-1569.828
Barra 96						
C 1	+112.678	-178.409	+2094.619	+152.232	-281.682	+1247.815
C 1	-112.678	-178.409	+2094.619	-152.232	-281.682	+1247.815
C 1	-14.247	+84.512	-362.414	-14.247	+84.512	-56.063
C 1	-87.122	-324.733	+1008.429	-120.475	-404.471	-86.767
C 1	-63.193	-131.600	+2678.616	-105.677	-242.525	+2000.507
C 1	+12.866	-83.551	-1569.805	+12.866	-83.551	-1872.680
Barra 97						
C 1	+152.232	-281.680	+1247.805	+170.830	-346.904	+450.839
C 1	-152.232	-281.680	+1247.805	-170.830	-346.904	+450.839
C 1	-14.247	+84.512	-56.051	-14.247	+84.512	+250.301
C 1	-120.475	-404.470	-86.769	-141.392	-477.287	-1281.493
C 1	-105.677	-242.522	+2000.523	-156.019	-351.619	+926.788
C 1	+12.866	-83.547	-1872.656	+12.866	-83.547	-2175.539
Barra 98						
C 1	+170.830	-346.902	+450.844	+198.064	-439.888	-666.362
C 1	-170.830	-346.902	+450.844	-198.064	-439.888	-666.362
C 1	-14.247	+84.512	+250.309	-14.247	+84.512	+542.711
C 1	-141.392	-477.283	-1281.484	-157.935	-557.670	-3438.186
C 1	-156.019	-351.617	+926.793	+0.731	+26.877	+792.553
C 1	+12.866	-83.551	-2175.539	-157.935	-557.670	-3438.186
Barra 99						
C 1	+198.065	-439.891	-666.367	+229.263	-565.196	-2258.129
C 1	-198.065	-439.891	-666.367	-229.263	-565.196	-2258.129
C 1	-14.247	+84.516	+542.713	-14.247	+84.516	+835.137
C 1	-157.935	-557.670	-3438.188	-187.703	-635.394	-5537.937
C 1	+0.731	+26.873	+792.557	+0.731	+26.873	+885.539
C 1	-157.935	-557.670	-3438.188	-187.703	-635.394	-5537.937
Barra 100						
C 1	+229.263	-565.257	-2258.131	+241.920	-598.305	-2886.474
C 1	-229.263	-565.257	-2258.131	-241.920	-598.305	-2886.474
C 1	-14.247	+84.500	+835.141	-14.247	+84.500	+926.422
C 1	-187.703	-635.388	-5537.942	-186.227	-625.477	-5391.189
C 1	+0.731	+26.898	+885.520	-14.247	+84.500	+926.422
C 1	-187.703	-635.388	-5537.942	-129.104	-482.388	-6137.361

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 101						
C 1	+237.883	+587.180	-2793.006	+226.372	+561.031	-2238.000
C 1	-237.883	+587.180	-2793.006	-226.372	+561.031	-2238.000
C 1	+235.986	+731.618	-6137.396	+223.329	+698.570	-5365.083
C 1	+12.866	-83.313	+914.555	+12.866	-83.313	+824.582
C 1	-0.810	-27.375	+926.406	-0.810	-27.375	+896.859
C 1	+235.986	+731.618	-6137.396	+223.329	+698.570	-5365.083
Barra 102						
C 1	+226.372	+560.969	-2238.020	+198.556	+458.863	-549.109
C 1	-226.372	+560.969	-2238.020	-198.556	+458.863	-549.109
C 1	+223.328	+698.539	-5365.094	+182.778	+592.664	-3131.313
C 1	+12.866	-83.301	+824.586	+12.866	-83.301	+536.357
C 1	-0.810	-27.378	+896.855	-0.810	-27.378	+802.131
C 1	+223.328	+698.539	-5365.094	+138.279	+459.780	-3208.154
Barra 103						
C 1	+198.556	+458.963	-549.123	+191.223	+401.438	+89.719
C 1	-198.556	+458.963	-549.123	-191.223	+401.438	+89.719
C 1	+182.778	+592.650	-3131.311	+179.299	+566.890	-2450.844
C 1	+12.866	-83.313	+536.375	+12.866	-83.313	+414.734
C 1	-0.810	-27.375	+802.141	-0.810	-27.375	+762.172
C 1	+138.279	+459.788	-3208.146	+179.299	+566.890	-2450.844
Barra 104						
C 1	+191.223	+401.506	+89.800	+172.520	+359.969	+612.344
C 1	-191.223	+401.506	+89.800	-172.520	+359.969	+612.344
C 1	+179.299	+566.912	-2450.856	+155.859	+505.712	-1378.216
C 1	+12.866	-83.336	+414.711	+12.866	-83.336	+248.063
C 1	-0.810	-27.359	+762.188	+144.125	+342.494	+925.581
C 1	+179.299	+566.912	-2450.856	-14.247	+84.938	-2198.719
Barra 105						
C 1	+172.521	+360.550	+612.325	+166.611	+348.500	+824.250
C 1	-172.521	+360.550	+612.325	-166.611	+348.500	+824.250
C 1	+155.859	+505.800	-1378.175	+157.455	+488.256	-908.282
C 1	+12.866	-83.375	+248.000	+12.866	-83.375	+164.688
C 1	+144.126	+343.050	+925.450	+132.406	+312.450	+1252.950
C 1	-14.247	+84.750	-2198.750	-14.247	+84.750	-2114.000
Barra 106						
C 1	+166.611	+348.663	+824.175	+134.024	+241.887	+1483.922
C 1	-166.611	+348.663	+824.175	-134.024	+241.887	+1483.922
C 1	+157.455	+488.436	-908.223	+104.716	+350.736	+979.905
C 1	+12.866	-83.589	+164.625	+12.866	-83.589	-211.523
C 1	+132.406	+312.616	+1253.011	+80.812	+181.767	+2373.620
C 1	-14.247	+84.428	-2113.961	-14.247	+84.428	-1734.039

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 107						
C 1	+134.024	+241.885	+1483.925	+105.292	+129.666	+1368.535
C 1	-134.024	+241.885	+1483.925	-105.292	+129.666	+1368.535
C 1	+104.716	+350.733	+979.894	+66.657	+229.863	+2083.339
C 1	+12.866	-83.588	-211.523	+12.866	-83.588	-587.668
C 1	+80.812	+181.768	+2373.613	+28.073	+44.068	+2881.738
C 1	-14.247	+84.430	-1734.039	-14.247	+84.430	-1354.117
Barra 108						
C 1	+105.292	+129.666	+1368.531	+78.138	-70.464	+1017.671
C 1	-105.292	+129.666	+1368.531	-78.138	-70.464	+1017.671
C 1	+66.657	+229.866	+2083.347	+31.975	+101.364	+2591.863
C 1	+12.866	-83.592	-587.664	-26.905	-107.049	+2588.956
C 1	+28.073	+44.073	+2881.753	-0.762	+75.338	+2897.253
C 1	-14.247	+84.422	-1354.117	-14.247	+84.422	-974.211
Barra 109						
C 1	+78.138	-70.465	+1017.672	+80.112	-78.775	+854.062
C 1	-78.138	-70.465	+1017.672	-80.112	-78.775	+854.062
C 1	+31.975	+101.369	+2591.882	-14.247	+84.422	-668.188
C 1	-26.905	-107.049	+2588.973	-44.638	-213.712	+1983.929
C 1	-0.762	+75.345	+2897.257	-43.247	-35.580	+2969.335
C 1	-14.247	+84.422	-974.219	+12.866	-83.594	-1266.852
Barra 110						
C 1	+80.112	-78.773	+854.063	+112.678	-178.337	+2094.757
C 1	-80.112	-78.773	+854.063	-112.678	-178.337	+2094.757
C 1	-14.247	+84.418	-668.195	-14.247	+84.418	-362.180
C 1	-44.638	-213.702	+1983.929	-87.122	-324.627	+1008.210
C 1	-43.247	-35.561	+2969.335	-63.193	-131.486	+2678.710
C 1	+12.866	-83.602	-1266.844	+12.866	-83.602	-1569.914
Barra 111						
C 1	+112.678	-178.338	+2094.768	+152.232	-281.611	+1248.206
C 1	-112.678	-178.338	+2094.768	-152.232	-281.611	+1248.206
C 1	-14.247	+84.414	-362.180	-14.247	+84.414	-56.180
C 1	-87.122	-324.623	+1008.219	-120.475	-404.362	-86.595
C 1	-63.193	-131.475	+2678.741	-105.677	-242.400	+2001.085
C 1	+12.866	-83.602	-1569.898	+12.866	-83.602	-1872.961
Barra 112						
C 1	+152.232	-281.602	+1248.211	+170.830	-346.818	+451.636
C 1	-152.232	-281.602	+1248.211	-170.830	-346.818	+451.636
C 1	-14.247	+84.412	-56.184	-14.247	+84.412	+249.813
C 1	-120.475	-404.357	-86.613	-141.392	-477.193	-1280.930
C 1	-105.677	-242.397	+2001.070	-156.019	-351.494	+927.773
C 1	+12.866	-83.605	-1872.961	+12.866	-83.605	-2176.031

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 113						
C 1	+170.830	-346.809	+451.617	+198.064	-439.782	-665.112
C 1	-170.830	-346.809	+451.617	-198.064	-439.782	-665.112
C 1	-14.247	+84.412	+249.809	-14.247	+84.412	+541.875
C 1	-141.392	-477.193	-1280.929	-157.935	-557.601	-3437.148
C 1	-156.019	-351.504	+927.754	+0.766	+26.629	+784.936
C 1	+12.866	-83.605	-2176.031	-157.935	-557.601	-3437.148
Barra 114						
C 1	+198.064	-439.781	-665.109	+229.263	-565.071	-2256.246
C 1	-198.064	-439.781	-665.109	-229.263	-565.071	-2256.246
C 1	-14.247	+84.412	+541.879	-14.247	+84.412	+833.934
C 1	-157.935	-557.601	-3437.148	-187.703	-635.326	-5536.659
C 1	+0.766	+26.627	+784.932	+0.766	+26.627	+877.059
C 1	-157.935	-557.601	-3437.148	-187.703	-635.326	-5536.659
Barra 115						
C 1	+229.263	-565.039	-2256.271	+241.920	-598.086	-2884.412
C 1	-229.263	-565.039	-2256.271	-241.920	-598.086	-2884.412
C 1	-14.247	+84.406	+833.938	-14.247	+84.406	+925.125
C 1	-187.703	-635.314	-5536.663	-186.227	-625.430	-5389.833
C 1	+0.766	+26.625	+877.055	-14.247	+84.406	+925.125
C 1	-187.703	-635.314	-5536.663	-129.104	-482.313	-6136.002
Barra 116						
C 1	+237.883	+587.805	-2794.068	+226.371	+561.625	-2238.266
C 1	-237.883	+587.805	-2794.068	-226.371	+561.625	-2238.266
C 1	+235.986	+731.758	-6136.005	+223.328	+698.711	-5363.560
C 1	+13.473	-82.688	+905.805	+13.473	-82.688	+816.484
C 1	-0.810	-27.164	+925.117	-0.810	-27.164	+895.781
C 1	+235.986	+731.758	-6136.005	+223.328	+698.711	-5363.560
Barra 117						
C 1	+226.371	+561.516	-2238.277	+198.555	+459.484	-548.313
C 1	-226.371	+561.516	-2238.277	-198.555	+459.484	-548.313
C 1	+223.328	+698.676	-5363.570	+182.778	+592.800	-3129.328
C 1	+13.473	-82.666	+816.492	+13.473	-82.666	+530.469
C 1	-0.810	-27.204	+895.770	-0.810	-27.204	+801.648
C 1	+223.328	+698.676	-5363.570	+138.278	+459.923	-3206.117
Barra 118						
C 1	+198.555	+459.525	-548.310	+191.221	+402.188	+90.188
C 1	-198.555	+459.525	-548.310	-191.221	+402.188	+90.188
C 1	+182.778	+592.869	-3129.357	+179.298	+567.015	-2448.640
C 1	+13.473	-82.688	+530.469	+13.473	-82.688	+409.781
C 1	-0.810	-27.188	+801.641	-0.810	-27.188	+761.953
C 1	+138.278	+459.913	-3206.114	+179.298	+567.015	-2448.640

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 119						
C 1	+191.221	+402.163	+90.144	+172.518	+360.563	+614.125
C 1	-191.221	+402.163	+90.144	-172.518	+360.563	+614.125
C 1	+179.298	+567.006	-2448.653	+155.859	+505.806	-1375.809
C 1	+13.473	-82.656	+409.781	+13.473	-82.656	+244.461
C 1	-0.810	-27.227	+761.945	+144.125	+342.837	+928.550
C 1	+179.298	+567.006	-2448.653	-14.247	+84.625	-2200.313
Barra 120						
C 1	+172.519	+360.800	+614.075	+166.609	+348.750	+826.500
C 1	-172.519	+360.800	+614.075	-166.609	+348.750	+826.500
C 1	+155.859	+506.050	-1375.925	+157.455	+488.256	-905.657
C 1	+13.473	-82.875	+244.563	+13.473	-82.875	+161.688
C 1	+144.125	+343.300	+928.450	+132.405	+312.700	+1256.450
C 1	-14.247	+84.500	-2200.250	-14.247	+84.500	-2115.875
Barra 121						
C 1	+166.609	+348.620	+826.402	+134.021	+241.984	+1485.840
C 1	-166.609	+348.620	+826.402	-134.021	+241.984	+1485.840
C 1	+157.455	+488.092	-905.786	+104.716	+350.392	+980.800
C 1	+13.473	-82.660	+161.836	+13.473	-82.660	-210.137
C 1	+132.405	+312.315	+1256.128	+80.812	+181.451	+2375.394
C 1	-14.247	+84.580	-2115.695	-14.247	+84.580	-1735.078
Barra 122						
C 1	+134.021	+241.983	+1485.855	+105.288	+130.180	+1373.063
C 1	-134.021	+241.983	+1485.855	-105.288	+130.180	+1373.063
C 1	+104.716	+350.385	+980.800	+66.657	+229.500	+2082.652
C 1	+13.473	-82.658	-210.137	+13.473	-82.658	-582.094
C 1	+80.812	+181.448	+2375.378	+28.072	+43.748	+2882.073
C 1	-14.247	+84.586	-1735.086	-14.247	+84.586	-1354.461
Barra 123						
C 1	+105.288	+130.182	+1373.062	+78.138	-70.560	+1017.448
C 1	-105.288	+130.182	+1373.062	-78.138	-70.560	+1017.448
C 1	+66.657	+229.506	+2082.652	+31.975	+100.981	+2589.722
C 1	+13.473	-82.664	-582.102	-26.906	-107.319	+2588.269
C 1	+28.073	+43.760	+2882.050	-0.762	+74.998	+2895.019
C 1	-14.247	+84.578	-1354.461	-14.247	+84.578	-973.852
Barra 124						
C 1	+78.138	-70.563	+1017.453	+80.112	-78.877	+853.343
C 1	-78.138	-70.563	+1017.453	-80.112	-78.877	+853.343
C 1	+31.975	+100.978	+2589.726	-14.247	+84.574	-667.266
C 1	-26.906	-107.331	+2588.270	-44.640	-213.658	+1986.945
C 1	-0.763	+74.994	+2895.023	-43.247	-35.931	+2965.820
C 1	-14.247	+84.574	-973.844	+13.473	-82.660	-1253.742

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 125						
C 1	+80.112	-78.875	+853.355	+112.678	-178.611	+2091.179
C 1	-80.112	-78.875	+853.355	-112.678	-178.611	+2091.179
C 1	-14.247	+84.578	-667.266	-14.247	+84.578	-360.680
C 1	-44.641	-213.647	+1986.960	-87.125	-324.572	+1011.429
C 1	-43.247	-35.920	+2965.820	-63.194	-131.869	+2673.601
C 1	+13.473	-82.664	-1253.750	+13.473	-82.664	-1553.414
Barra 126						
C 1	+112.678	-178.612	+2091.189	+152.232	-281.885	+1243.612
C 1	-112.678	-178.612	+2091.189	-152.232	-281.885	+1243.612
C 1	-14.247	+84.570	-360.688	-14.247	+84.570	-54.125
C 1	-87.125	-324.565	+1011.453	-120.477	-404.366	-84.634
C 1	-63.194	-131.850	+2673.585	-113.535	-240.939	+1994.648
C 1	+13.473	-82.676	-1553.414	+13.473	-82.676	-1853.109
Barra 127						
C 1	+152.232	-281.891	+1243.633	+170.830	-347.138	+445.214
C 1	-152.232	-281.891	+1243.633	-170.830	-347.138	+445.214
C 1	-14.247	+84.572	-54.125	-14.247	+84.572	+252.445
C 1	-120.477	-404.369	-84.633	-141.394	-477.103	-1276.759
C 1	-113.535	-240.952	+1994.640	-156.020	-351.877	+920.148
C 1	+13.473	-82.672	-1853.125	+13.473	-82.672	-2152.805
Barra 128						
C 1	+170.830	-347.129	+445.234	+198.065	-440.137	-673.643
C 1	-170.830	-347.129	+445.234	-198.065	-440.137	-673.643
C 1	-14.247	+84.572	+252.441	-14.247	+84.572	+545.055
C 1	-141.394	-477.103	-1276.749	-157.939	-557.087	-3421.047
C 1	-156.020	-351.882	+920.144	-14.247	+84.572	+545.055
C 1	+13.473	-82.672	-2152.805	-157.939	-557.087	-3421.047
Barra 129						
C 1	+198.065	-440.133	-673.648	+229.263	-565.453	-2266.840
C 1	-198.065	-440.133	-673.648	-229.263	-565.453	-2266.840
C 1	-14.247	+84.570	+545.055	-14.247	+84.570	+837.664
C 1	-157.939	-557.087	-3421.044	-187.708	-634.811	-5518.776
C 1	-14.247	+84.570	+545.055	-14.247	+84.570	+837.664
C 1	-157.939	-557.087	-3421.044	-187.708	-634.811	-5518.776
Barra 130						
C 1	+229.263	-565.507	-2266.881	+241.920	-598.555	-2895.443
C 1	-229.263	-565.507	-2266.881	-241.920	-598.555	-2895.443
C 1	-14.247	+84.563	+837.660	-14.247	+84.563	+929.016
C 1	-187.708	-634.814	-5518.778	-186.232	-624.821	-5368.507
C 1	-14.247	+84.563	+837.660	-14.247	+84.563	+929.016
C 1	-187.708	-634.814	-5518.778	-129.108	-481.813	-6117.574

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 131						
C 1	+237.064	+589.149	-2814.162	+228.719	+539.875	-2029.109
C 1	-237.064	+589.149	-2814.162	-228.719	+539.875	-2029.109
C 1	+235.906	+729.805	-6117.568	+223.249	+696.757	-5347.263
C 1	-0.810	-27.641	+929.016	-0.810	-27.641	+899.160
C 1	-0.810	-27.641	+929.016	-0.810	-27.641	+899.160
C 1	+235.906	+729.805	-6117.568	+223.249	+696.757	-5347.263
Barra 132						
C 1	+228.719	+539.879	-2029.059	+199.456	+446.199	-467.359
C 1	-228.719	+539.879	-2029.059	-199.456	+446.199	-467.359
C 1	+223.249	+696.745	-5347.246	+182.698	+590.869	-3119.678
C 1	-0.810	-27.628	+899.172	-0.810	-27.628	+803.582
C 1	-0.810	-27.628	+899.172	-0.810	-27.628	+803.582
C 1	+223.249	+696.745	-5347.246	+138.189	+457.726	-3194.800
Barra 133						
C 1	+199.456	+446.213	-467.311	+188.652	+423.625	-20.781
C 1	-199.456	+446.213	-467.311	-188.652	+423.625	-20.781
C 1	+182.698	+590.900	-3119.686	+179.209	+564.859	-2440.515
C 1	-0.810	-27.609	+803.578	-0.810	-27.609	+763.250
C 1	-0.810	-27.609	+803.578	-0.810	-27.609	+763.250
C 1	+138.189	+457.757	-3194.833	+179.209	+564.859	-2440.515
Barra 134						
C 1	+188.653	+423.663	-20.731	+172.247	+358.156	+617.844
C 1	-188.653	+423.663	-20.731	-172.247	+358.156	+617.844
C 1	+179.209	+564.881	-2440.544	+155.769	+503.681	-1371.981
C 1	-0.810	-27.602	+763.258	-0.810	-27.602	+708.047
C 1	-0.810	-27.602	+763.258	+147.619	+328.212	+974.394
C 1	+179.209	+564.881	-2440.544	-14.255	+85.813	-2201.188
Barra 135						
C 1	+172.247	+358.300	+617.825	+166.408	+345.500	+829.125
C 1	-172.247	+358.300	+617.825	-166.408	+345.500	+829.125
C 1	+155.770	+503.675	-1371.925	+157.351	+485.756	-903.657
C 1	-0.810	-27.500	+708.000	-0.810	-27.500	+680.500
C 1	+147.619	+328.050	+974.575	+135.899	+297.450	+1287.450
C 1	-14.255	+85.750	-2201.250	-14.255	+85.750	-2115.500
Barra 136						
C 1	+166.408	+346.096	+829.237	+133.216	+245.986	+1494.254
C 1	-166.408	+346.096	+829.237	-133.216	+245.986	+1494.254
C 1	+157.351	+486.061	-903.497	+104.612	+348.361	+973.956
C 1	-0.810	-27.434	+680.502	-0.810	-27.434	+557.045
C 1	+135.899	+298.288	+1287.589	+78.847	+176.845	+2354.870
C 1	-14.255	+85.254	-2115.609	-14.255	+85.254	-1731.969

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 137						
C 1	+133.215	+245.987	+1494.261	+80.476	+108.287	+2291.355
C 1	-133.215	+245.987	+1494.261	-80.476	+108.287	+2291.355
C 1	+104.612	+348.370	+973.956	+66.540	+227.391	+2066.003
C 1	-0.810	-27.435	+557.047	-0.810	-27.435	+433.592
C 1	+78.847	+176.850	+2354.878	+48.015	+57.166	+2866.613
C 1	-14.255	+85.250	-1731.961	-14.255	+85.250	-1348.352
Barra 138						
C 1	+80.476	+108.291	+2291.370	+78.179	-70.972	+1011.868
C 1	-80.476	+108.291	+2291.370	-78.179	-70.972	+1011.868
C 1	+66.540	+227.397	+2065.980	+31.842	+98.840	+2562.816
C 1	-0.810	-27.433	+433.592	-22.319	-114.811	+2526.042
C 1	+48.015	+57.166	+2866.605	-0.866	+72.970	+2869.956
C 1	-14.255	+85.248	-1348.344	-14.255	+85.248	-964.727
Barra 139						
C 1	+78.179	-70.971	+1011.871	+80.154	-79.342	+845.539
C 1	-78.179	-70.971	+1011.871	-80.154	-79.342	+845.539
C 1	+31.842	+98.845	+2562.835	-14.255	+85.250	-655.727
C 1	-22.319	-114.811	+2526.070	-64.276	-224.360	+1908.866
C 1	-0.866	+72.978	+2869.960	-43.351	-37.947	+2933.460
C 1	-14.255	+85.250	-964.750	-14.255	+85.250	-655.727
Barra 140						
C 1	+80.154	-79.338	+845.543	+112.758	-180.142	+2060.945
C 1	-80.154	-79.338	+845.543	-112.758	-180.142	+2060.945
C 1	-14.255	+85.234	-655.727	-14.255	+85.234	-346.734
C 1	-64.276	-224.335	+1908.878	-93.539	-318.034	+1073.974
C 1	-43.351	-37.936	+2933.445	-63.325	-134.048	+2630.632
C 1	-14.255	+85.234	-655.727	-14.255	+85.234	-346.734
Barra 141						
C 1	+112.758	-180.143	+2060.932	+152.312	-283.416	+1207.831
C 1	-112.758	-180.143	+2060.932	-152.312	-283.416	+1207.831
C 1	-14.255	+85.234	-346.727	-14.255	+85.234	-37.742
C 1	-93.539	-318.047	+1073.956	-120.748	-406.221	-128.181
C 1	-63.325	-134.038	+2630.616	-113.652	-243.064	+1945.523
C 1	-14.255	+85.234	-346.727	-120.748	-406.221	-128.181
Barra 142						
C 1	+152.312	-283.414	+1207.820	+170.920	-348.888	+397.792
C 1	-152.312	-283.414	+1207.820	-170.920	-348.888	+397.792
C 1	-14.255	+85.236	-37.742	-14.255	+85.236	+271.234
C 1	-120.748	-406.220	-128.183	-142.200	-473.091	-1174.235
C 1	-113.652	-243.053	+1945.515	-156.136	-353.978	+863.398
C 1	-120.748	-406.220	-128.183	-85.589	-314.420	-1405.644

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 143						
C 1	+170.920	-348.887	+397.797	+198.168	-442.157	-734.995
C 1	-170.920	-348.887	+397.797	-198.168	-442.157	-734.995
C 1	-14.255	+85.238	+271.230	-14.255	+85.238	+566.145
C 1	-142.200	-473.091	-1174.245	-159.780	-518.991	-2935.515
C 1	-156.136	-353.984	+863.394	-14.255	+85.238	+566.145
C 1	-85.589	-314.414	-1405.645	-159.780	-518.991	-2935.515
Barra 144						
C 1	+198.168	-442.148	-735.023	+229.394	-567.633	-2340.684
C 1	-198.168	-442.148	-735.023	-229.394	-567.633	-2340.684
C 1	-14.255	+85.233	+566.152	-14.255	+85.233	+861.055
C 1	-159.780	-518.992	-2935.523	-229.394	-567.633	-2340.684
C 1	-14.255	+85.233	+566.152	-14.255	+85.233	+861.055
C 1	-159.780	-518.992	-2935.523	-141.262	-470.644	-4602.136
Barra 145						
C 1	+229.394	-567.664	-2340.693	+242.052	-600.711	-2971.599
C 1	-229.394	-567.664	-2340.693	-242.052	-600.711	-2971.599
C 1	-14.255	+85.203	+861.086	-14.255	+85.203	+953.125
C 1	-229.394	-567.664	-2340.693	-242.052	-600.711	-2971.599
C 1	-14.255	+85.203	+861.086	-14.255	+85.203	+953.125
C 1	-141.262	-470.632	-4602.138	-153.920	-503.680	-5128.287
Barra 146						
C 1	+176.689	+620.028	-5128.292	+164.032	+586.980	-4476.511
C 1	-176.689	+620.028	-5128.292	-164.032	+586.980	-4476.511
C 1	-0.941	-26.477	+953.125	-0.941	-26.477	+924.547
C 1	-0.941	-26.477	+953.125	-0.941	-26.477	+924.547
C 1	+176.689	+620.028	-5128.292	+164.032	+586.980	-4476.511
Barra 147						
C 1	+164.032	+586.984	-4476.513	+123.482	+481.108	-2628.718
C 1	-164.032	+586.984	-4476.513	-123.482	+481.108	-2628.718
C 1	+164.032	+586.984	-4476.513	+123.482	+481.108	-2628.718
C 1	-0.941	-26.506	+924.531	-0.941	-26.506	+832.830
C 1	-0.941	-26.506	+924.531	-0.941	-26.506	+832.830
C 1	+164.032	+586.984	-4476.513	+123.482	+481.108	-2628.718
Barra 148						
C 1	+123.482	+481.109	-2628.715	+106.371	+436.434	-1958.918
C 1	-123.482	+481.109	-2628.715	-106.371	+436.434	-1958.918
C 1	+123.482	+481.109	-2628.715	+106.371	+436.434	-1958.918
C 1	-0.941	-26.516	+832.844	-0.941	-26.516	+794.125
C 1	-0.941	-26.516	+832.844	-0.941	-26.516	+794.125
C 1	+123.482	+481.109	-2628.715	-16.564	+82.438	-2469.594

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 149						
C 1	+106.371	+436.434	-1958.915	+82.931	+375.233	-1147.247
C 1	-106.371	+436.434	-1958.915	-82.931	+375.233	-1147.247
C 1	+106.371	+436.434	-1958.915	+82.931	+375.233	-1147.247
C 1	-0.941	-26.516	+794.125	-0.941	-26.516	+741.102
C 1	-0.941	-26.516	+794.125	-0.941	-26.516	+741.102
C 1	-16.564	+82.469	-2469.594	-16.564	+82.469	-2304.625
Barra 150						
C 1	+82.931	+375.253	-1147.261	+71.212	+344.653	-787.300
C 1	-82.931	+375.253	-1147.261	-71.212	+344.653	-787.300
C 1	+82.931	+375.253	-1147.261	+71.212	+344.653	-787.300
C 1	-0.941	-26.438	+741.063	-0.941	-26.438	+714.625
C 1	-0.941	-26.438	+741.063	-0.941	-26.438	+714.625
C 1	-16.564	+82.250	-2304.500	-16.564	+82.250	-2222.375
Barra 151						
C 1	+71.212	+344.645	-787.316	+32.516	+53.233	-1257.775
C 1	-71.212	+344.645	-787.316	-32.516	+53.233	-1257.775
C 1	+71.212	+344.645	-787.316	+31.657	+241.370	+201.585
C 1	-0.941	-26.463	+714.590	-0.941	-26.463	+625.281
C 1	-0.941	-26.463	+714.590	-0.941	-26.463	+625.281
C 1	-16.564	+82.297	-2222.219	-16.564	+82.297	-1944.477
Barra 152						
C 1	+32.516	+53.234	-1257.773	+49.781	+18.515	-374.908
C 1	-32.516	+53.234	-1257.773	-49.781	+18.515	-374.908
C 1	+31.657	+241.368	+201.587	-7.897	+138.093	+841.927
C 1	-0.941	-26.467	+625.277	-0.941	-26.467	+535.957
C 1	-0.941	-26.467	+625.277	-7.897	+138.093	+841.927
C 1	-16.564	+82.297	-1944.469	-16.564	+82.297	-1666.711
Barra 153						
C 1	+49.781	+18.512	-374.922	+65.629	-17.315	+292.196
C 1	-49.781	+18.512	-374.922	-65.629	-17.315	+292.196
C 1	-7.897	+138.093	+841.934	-16.564	+82.289	-1388.953
C 1	-0.941	-26.469	+535.965	-0.941	-26.469	+446.633
C 1	-7.897	+138.093	+841.934	-47.451	+34.818	+1133.716
C 1	-16.564	+82.289	-1666.734	-16.564	+82.289	-1388.953
Barra 154						
C 1	+65.629	-17.315	+292.196	+87.006	-68.458	+1076.950
C 1	-65.629	-17.315	+292.196	-87.006	-68.458	+1076.950
C 1	-16.564	+82.305	-1388.945	-16.564	+82.305	-1111.180
C 1	-0.941	-26.467	+446.641	-87.006	-68.458	+1076.950
C 1	-47.451	+34.817	+1133.712	-87.006	-68.458	+1076.950
C 1	-16.564	+82.305	-1388.945	-16.564	+82.305	-1111.180

Comb	Torsor	Cortante	Flector	Torsor	Cortante	Flector
Barra 155						
C 1	+87.006	-68.457	+1076.943	+91.400	-79.931	+809.323
C 1	-87.006	-68.457	+1076.943	-91.400	-79.931	+809.323
C 1	-16.564	+82.301	-1111.156	-16.564	+82.301	-833.391
C 1	-87.006	-68.457	+1076.943	-91.400	-79.931	+809.323
C 1	-87.006	-68.457	+1076.943	-91.400	-79.931	+809.323
C 1	-16.564	+82.301	-1111.156	-16.564	+82.301	-833.391
Barra 156						
C 1	+91.400	-79.934	+809.322	+91.400	-79.934	+539.551
C 1	-91.400	-79.934	+809.322	-91.400	-79.934	+539.551
C 1	-16.564	+82.309	-833.375	-16.564	+82.309	-555.578
C 1	-91.400	-79.934	+809.322	-91.400	-79.934	+539.551
C 1	-91.400	-79.934	+809.322	-91.400	-79.934	+539.551
C 1	-16.564	+82.309	-833.375	-16.564	+82.309	-555.578
Barra 157						
C 1	+91.400	-79.932	+539.547	+91.400	-79.932	+269.773
C 1	-91.400	-79.932	+539.547	-91.400	-79.932	+269.773
C 1	-16.564	+82.311	-555.586	-16.564	+82.311	-277.797
C 1	-91.400	-79.932	+539.547	-91.400	-79.932	+269.773
C 1	-91.400	-79.932	+539.547	-91.400	-79.932	+269.773
C 1	-16.564	+82.311	-555.586	-16.564	+82.311	-277.797
Barra 158						
C 1	+91.400	-79.932	+269.774	+91.400	-79.932	+0.002
C 1	-91.400	-79.932	+269.774	-91.400	-79.932	+0.002
C 1	-16.564	+82.309	-277.793	-16.564	+82.309	-0.002
C 1	-91.400	-79.932	+269.774	-91.400	-79.932	+0.002
C 1	-16.564	+82.309	-277.793	-13.087	+76.153	-0.004

Hipótesis de carga consideradas

Combinación: C 1 = 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34
36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
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223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238
240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255
257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272
274

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	1	+0.007	+387.715	+193.316
C 1	1	-0.004	-80.047	+15.687
C 1	1	+0.007	+387.715	+193.316
C 1	1	-0.002	-81.505	+14.928
C 1	1	+0.007	+387.715	+193.316
C 1	1	+0.007	+387.715	-193.316
C 1	11	+0.016	-69.133	+7.119
C 1	11	-0.063	+887.048	+281.662
C 1	11	+0.003	+1134.808	+329.924
C 1	11	+0.000	-110.602	+12.024
C 1	11	-0.001	+1125.439	+329.992
C 1	11	-0.001	+1125.439	-329.992
C 1	26	+0.047	+797.923	+261.445
C 1	26	-0.063	+695.517	+235.198
C 1	26	+0.013	+1213.256	+365.039
C 1	26	+0.000	-110.914	+12.134
C 1	26	+0.013	+1213.256	+365.039
C 1	26	+0.013	+1213.256	-365.039
C 1	41	+0.069	+704.217	+235.934
C 1	41	-0.063	+645.344	+213.507
C 1	41	-0.013	+1214.245	+365.090
C 1	41	+0.016	-110.641	+12.361
C 1	41	-0.013	+1214.245	+365.090
C 1	41	-0.013	+1214.245	-365.090
C 1	56	+0.078	+967.423	+308.656
C 1	56	-0.094	+605.469	+209.385
C 1	56	+0.011	+1214.390	+365.091
C 1	56	+0.016	-111.633	+13.438
C 1	56	+0.011	+1214.390	+365.091
C 1	56	+0.011	+1214.390	-365.091
C 1	71	+0.063	+605.406	+209.385
C 1	71	-0.078	+887.111	+285.041
C 1	71	+0.007	+1214.476	+365.091
C 1	71	+0.000	-111.656	+13.438
C 1	71	+0.007	+1214.476	+365.091
C 1	71	+0.007	+1214.476	-365.091

Reacciones

Comb	Nudo	MX	RZ	MY
C 1	86	+0.078	+518.250	+186.809
C 1	86	-0.094	+796.548	+261.453
C 1	86	-0.012	+1214.267	+365.090
C 1	86	-0.016	-111.773	+13.438
C 1	86	-0.002	+1195.259	+369.368
C 1	86	-0.002	+1195.259	-369.368
C 1	101	+0.063	+644.500	+213.506
C 1	101	-0.094	+720.579	+236.302
C 1	101	+0.035	+1214.005	+365.090
C 1	101	+0.016	-111.875	+13.438
C 1	101	-0.016	+1195.184	+369.367
C 1	101	-0.016	+1195.184	-369.367
C 1	116	+0.078	+796.548	+261.453
C 1	116	-0.063	+645.281	+213.506
C 1	116	+0.003	+1214.072	+365.089
C 1	116	+0.008	-111.570	+13.438
C 1	116	+0.008	+1195.032	+369.367
C 1	116	+0.008	+1195.032	-369.367
C 1	131	+0.047	+882.923	+284.915
C 1	131	-0.056	+705.997	+235.927
C 1	131	-0.006	+1211.618	+365.014
C 1	131	+0.000	-112.203	+13.437
C 1	131	-0.011	+1194.473	+369.329
C 1	131	-0.011	+1194.473	-369.329
C 1	146	+0.069	+704.654	+233.749
C 1	146	-0.031	-96.383	+18.601
C 1	146	+0.004	+1158.337	+348.136
C 1	146	+0.000	-111.680	+13.313
C 1	146	+0.004	+1158.337	+348.136
C 1	146	+0.004	+1158.337	-348.136
C 1	159	+0.002	+79.932	+91.400
C 1	159	-0.004	-76.153	+13.087
C 1	159	+0.002	+79.932	+91.400
C 1	159	-0.002	-82.309	+16.564
C 1	159	+0.002	+79.932	+91.400
C 1	159	+0.002	+79.932	-91.400

1.1.22.- RESUMEN DE COEFICIENTES DE IMPACTO.

Coeficientes de impacto Þ

Flexión

		Flector positivo					Flector negativo				
	Sección	Mdinamico	sw2	UIC71	Þ	sw2/UIC/71	Mdinamico	sw2	UIC71	Þ	sw2/UIC/71
Fase inicial	5	4681,0	2286,0	3503,3	1,34	0,65	-630,0	-1304,0	-1485,7	1,00	0,88
	11	557,2	944,0	996,0	1,00	0,95	-5048,0	-5407,0	-5218,8	1,00	1,04
	13	554,0	561,0	829,8	1,00	0,68	-3343,0	-2920,0	-2560,5	1,31	1,14
Fases intermedias	19	3181,0	2939,0	3635,0	1,00	0,81	-1192,0	-955,5	-1724,0	1,00	0,55
	26	1303,0	919,0	1587,8	1,00	0,58	-4743,0	-6129,0	-5682,0	1,00	1,08
	29	603,5	417,0	1309,0	1,00	0,32	-2196,0	-2446,0	-2979,0	1,00	0,82
	34	3031,0	2965,0	3805,0	1,00	0,78	-1119,0	-965,6	-1920,0	1,00	0,50
	41	1279,0	917,0	1826,0	1,00	0,50	-4836,0	-6137,0	-5891,0	1,00	1,04
	44	588,6	755,0	1468,0	1,00	0,51	-2200,0	-2450,0	-3156,0	1,00	0,78
Fase final	146	1009,0	953,0	1086,0	1,00	0,88	-5185,0	-5128,0	-5224,0	1,00	0,98
	154	3691,0	1133,7	3510,0	1,05	0,32	-839,0	-1389,0	-1580,0	1,00	0,88

Cortante

	Sección	Vdinamico	sw2	UIC71	Þ
Fase inicial	1	555,2	387,7	436,0	1,27
	11-	821,6	634,3	596,3	1,38
	11+	704,6	669,4	627,7	1,12
Fases intermedias	26-	630,8	625,1	650,0	1,00
	26+	655,6	698,0	653,0	1,00
	41-	685,0	625,0	632,0	1,08
	41+	660,0	698,0	618,0	1,07
Fase final	146-	714,2	600,7	639,0	1,12
	146-	676,3	599,0	577,0	1,17
	159	439,7		434,1	1,01

De acuerdo con el apartado B.2.3, consideraremos tan sólo este efecto en una de las vías, por lo cual podemos adoptar un coeficiente de 1,15 para la flexión positiva de los vanos extremos y 1,20 para cortante. Para el resto de vanos, tomaremos un coeficiente 1,05 para cortante y 1,00 para flectores.

1.3.11 ESTRUCTURAS (MEMORIA DEL M1 MODIFICADA

Debido a la modificación del trazado ha sido necesario diseñar un viaducto doble sobre el río Llobregat. Se trata de una estructura formada por dos puentes, de 14,00 m. de ancho, y once y doce vanos respectivamente, los vanos centrales de 45 m de luz y los extremos de 36 m, que discurren en una recta prácticamente en toda su longitud.

Los tableros se organizan en secciones cajón de hormigón pretensado, con tramos de canto variable, en una longitud de 8 m a un lado y otro de la pila, con transición parabólica de segundo grado. El canto máximo de la sección, en el tramo de canto constante, es de 2,89 m, que llegan a 4,14 m. sobre las pilas.

La sección transversal de cada tablero se organiza mediante un cajón, de 14,00 m de ancho, con sendas almas de 50 cm de espesor, rematado con voladizos de 3,123 m de luz, de espesor variable, alcanzando los 21 cm en la punta.

El tablero se construye por vanos sucesivos, hormigonando cada vano y el quinto de la luz del siguiente sobre la cimbra, tesando los cordones de pretensado del vano en cuestión y descimbrando, para continuar con el siguiente vano.

Las pilas son de hormigón armado, de sección constante, con forma de decagonal inscrita en una circunferencia de 300 cm de diámetro. Sus alturas varían entre 11,50 y 16,60 m. Sus cimientos son bien encepados, de 3,00 m de canto, sustentados sobre cuatro pilotes de 2,00 m. de diámetro.

Los estribos lado Barcelona se constituirán sobre muros de hormigón armado de 15 y 12 m. de altura respectivamente, que se cimentarán también sobre pilotes, en número de 9 para cada estribo, de idénticas características a los mencionados, con encepados de 3,00 m de canto.

Tratando de aprovechar al máximo la tipología definida en el Proyecto Modificado Nº 1, se propone proyectar una pila estribo situada en el entorno del estribo nº 1 de los viaductos de dicho proyecto, que sirva para absorber los esfuerzos horizontales generados en los tableros y permita construir los viaductos y sus prolongaciones con independencia del tramo de obra en que estén ubicados.

De esta manera las dos partes en que quedarían subdivididos los dos viaductos, podrán ser realizadas por cada uno de los adjudicatarios de las obras actualmente en ejecución.

Por lo tanto, en primer lugar es necesario incrementar la longitud del tablero y el número de pilas y sustituir los estribos lado Martorell (nº 1) en los viaductos definidos en el Proyecto Modificado Nº 1.

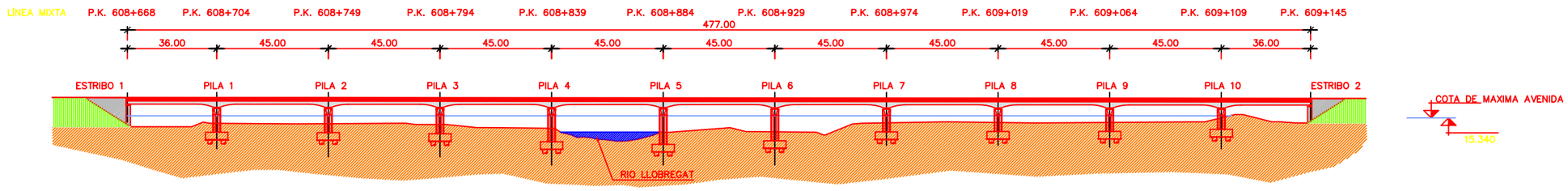
La tipología de los viaductos seguirá siendo la misma del Proyecto vigente. Será preciso sustituir el estribo nº 1 (margen derecha del río) por una pila especial que sirva para absorber los esfuerzos de frenado de los viaductos previstos inicialmente y de su prolongación hasta la riera de Can Soler.

En el tramo que nos ocupa el tablero del viaducto izquierdo (vía mixta de 3 hilos) no sufre variación alguna en sus características.

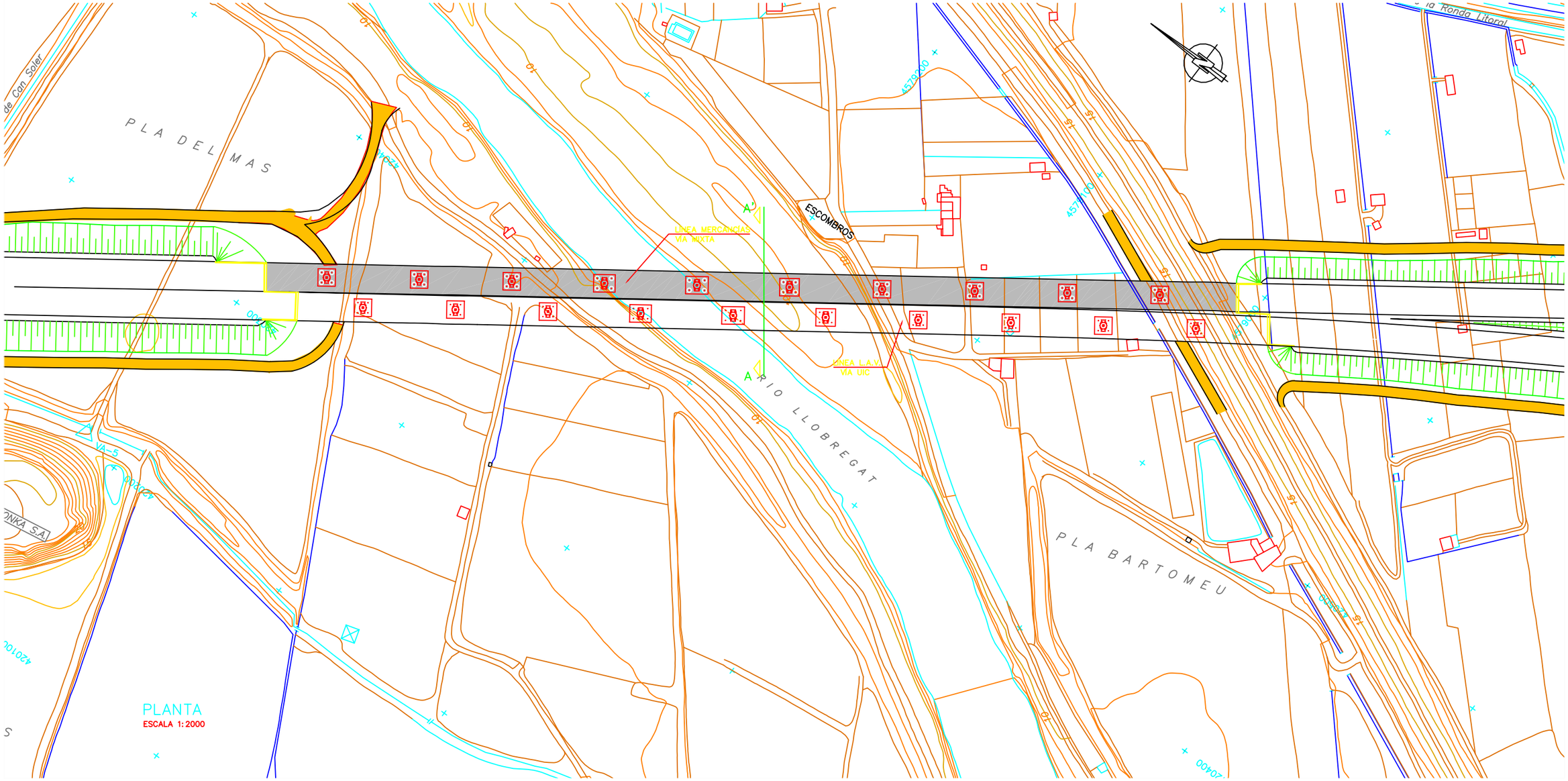
El tablero del viaducto derecho (vía UIC), se incrementa en un vano de 45 m, que hace necesaria la inclusión de una pila adicional entre el estribo nº 1 y la pila nº 1 del viaducto según al Proyecto vigente.

Desaparecen de este tramo los estribos nº 1 y los rellenos de trasdós de los mismos.

La longitud de los pilotes proyectados se ha incrementado, a la vista del terreno que se encontró al llevar a cabo su excavación, para garantizar el empotramiento adecuado en el sustrato de gravas en que se apoyan.

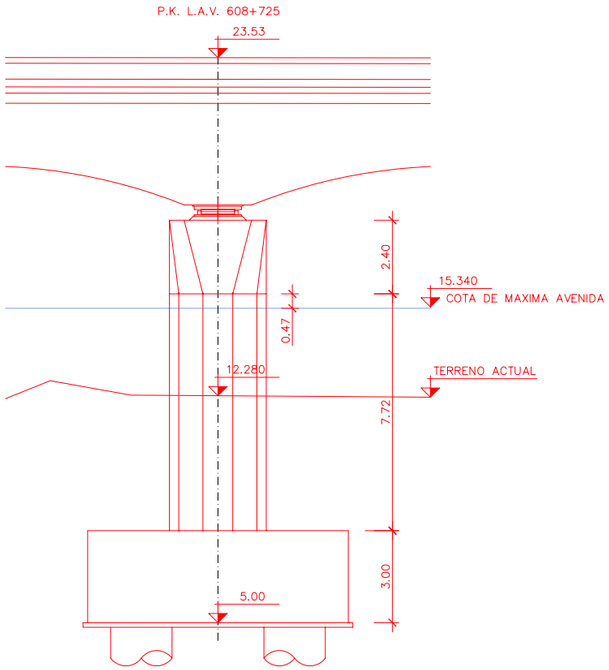


ALZADO
ESCALA 1:2000

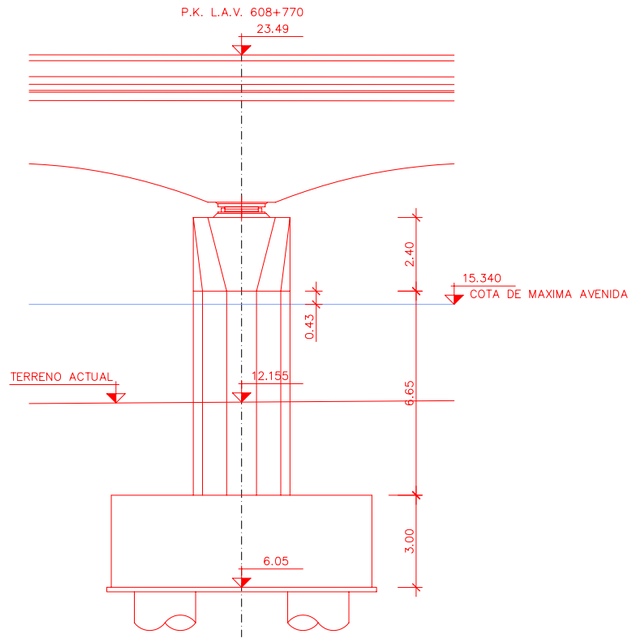


PLANTA
ESCALA 1:2000

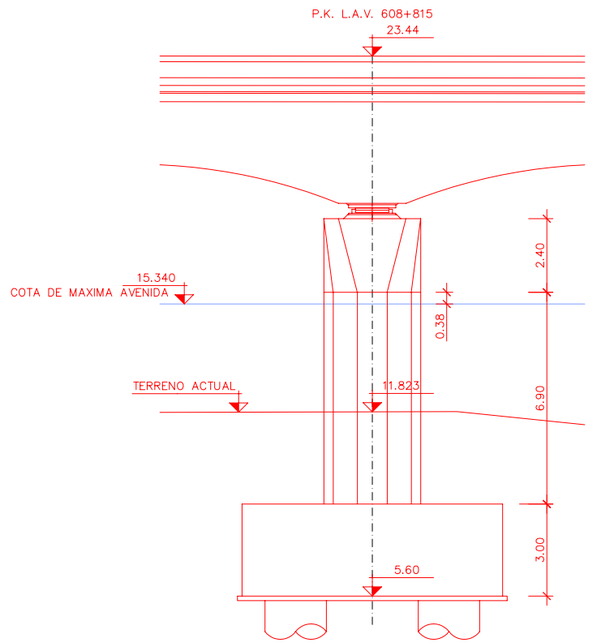
ADMINISTRADOR DE INFRAESTRUCTURAS FERROVIARIAS	TÍTULO: PROYECTO MODIFICADO CONSTRUCCIÓN DE PLATAFORMA LÍNEA DE ALTA VELOCIDAD MADRID–ZARAGOZA–BARCELONA–FRONTERA FRANCESA TRAMO: SANTA COLOMA DE CERVELLÓ–SANT JOAN DESPÍ	AUTOR: ALFREDO ALBA RODRÍGUEZ I.C.C.P.	CONFORME EL CONTRATISTA: SENÉN MERINO CARRILES I.C.C.P.	ESCALA NORMAL: 1/2.000 0 20 40 60 80 Numérica Gráfica	FECHA: ABRIL–2005	TITULO DEL PLANO: VIADUCTO DOBLE VIA ANCHO MIXTO DESCRIPCIÓN GENERAL PLANTA Y ALZADO-TOPOGRAFÍA	Nº DE PLANO: 2.9.2.1 HOJA 1 DE 9



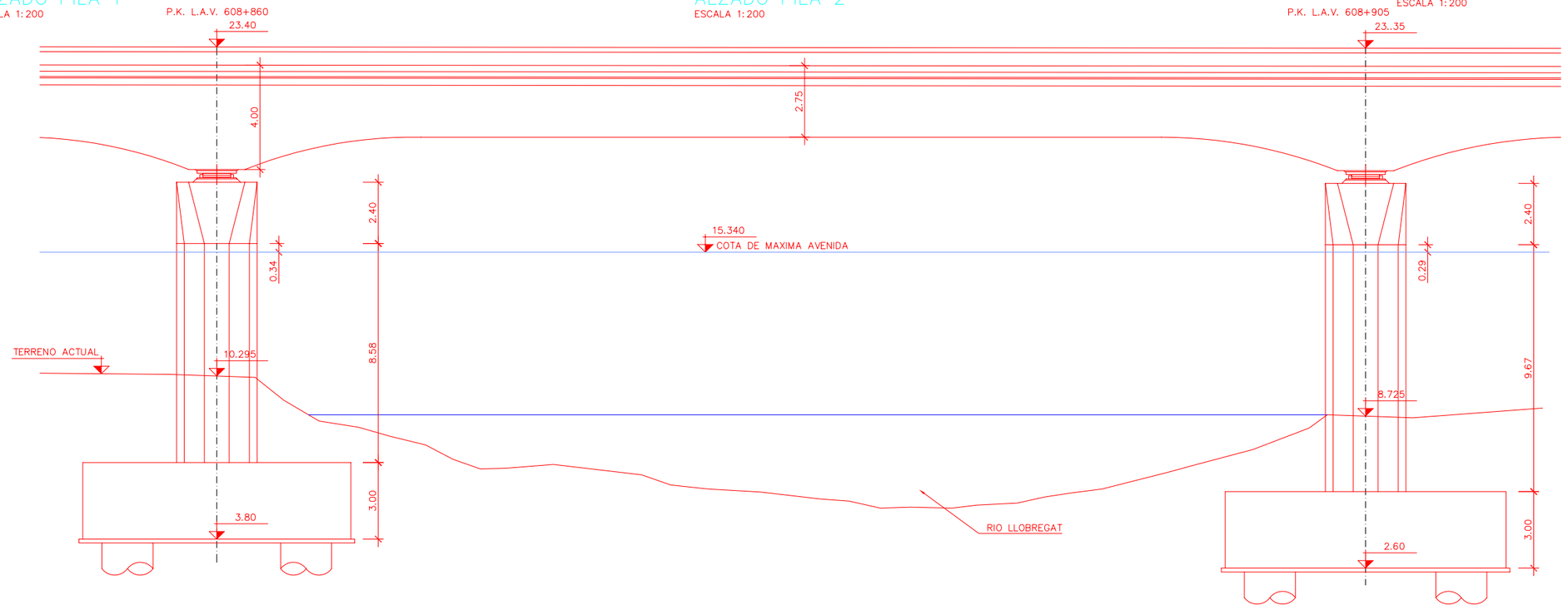
ALZADO PILA 1
ESCALA 1:200



ALZADO PILA 2
ESCALA 1:200



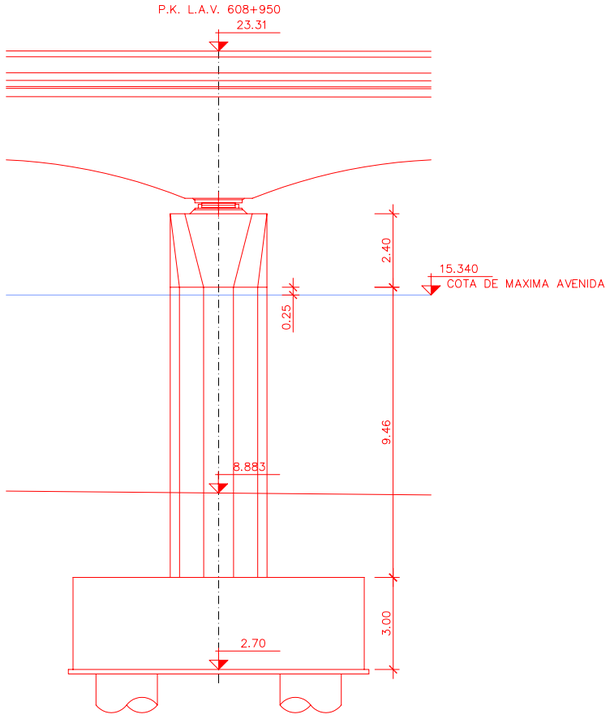
ALZADO PILA 3
ESCALA 1:200



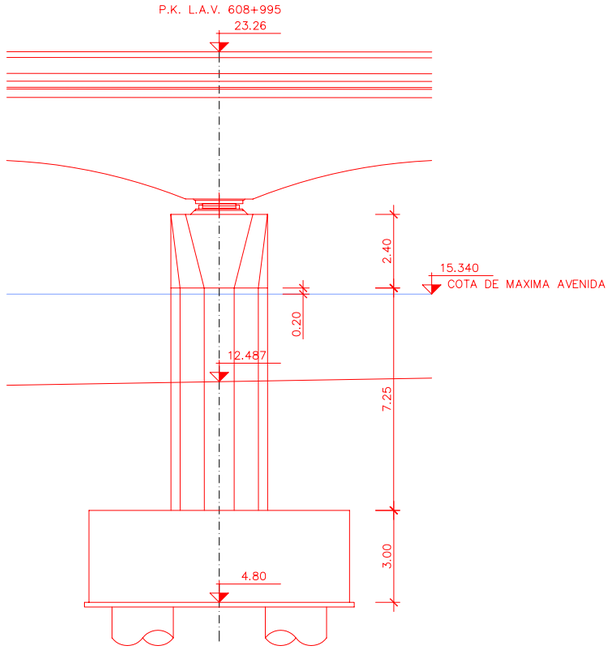
ALZADO PILA 4
ESCALA 1:200

ALZADO PILA 5
ESCALA 1:200

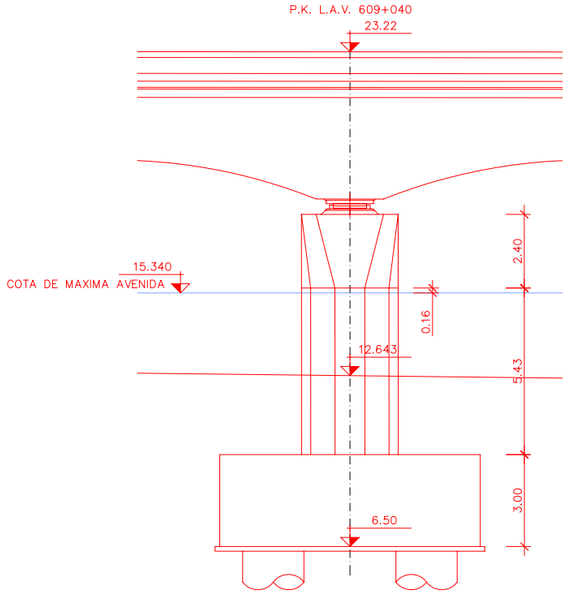
ADMINISTRADOR DE INFRAESTRUCTURAS FERROVIARIAS	TÍTULO: PROYECTO MODIFICADO CONSTRUCCIÓN DE PLATAFORMA LÍNEA DE ALTA VELOCIDAD MADRID–ZARAGOZA–BARCELONA–FRONTERA FRANCESA TRAMO: SANTA COLOMA DE CERVELLÓ–SANT JOAN DESPÍ	AUTOR: ALFREDO ALBA RODRÍGUEZ I.C.C.P.	CONFORME EL CONTRATISTA: SENÉN MERINO CARRILES I.C.C.P.	ESCALA NORMAL: 1/200 0 2 4 6 8 Numérica Gráfica	FECHA: ABRIL–2005	TITULO DEL PLANO: VIADUCTO DOBLE VIA UIC DESCRIPCIÓN GENERAL ALZADO PILAS (I)	Nº DE PLANO: 2.9.1.1 HOJA 6 DE 9



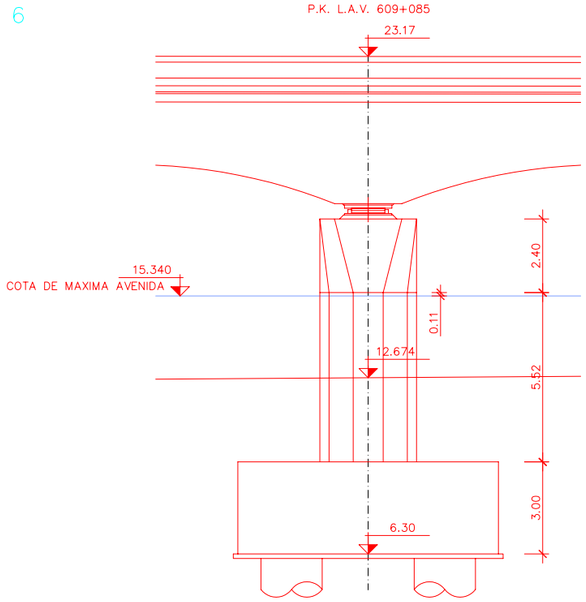
ALZADO PILA 6
ESCALA 1:200



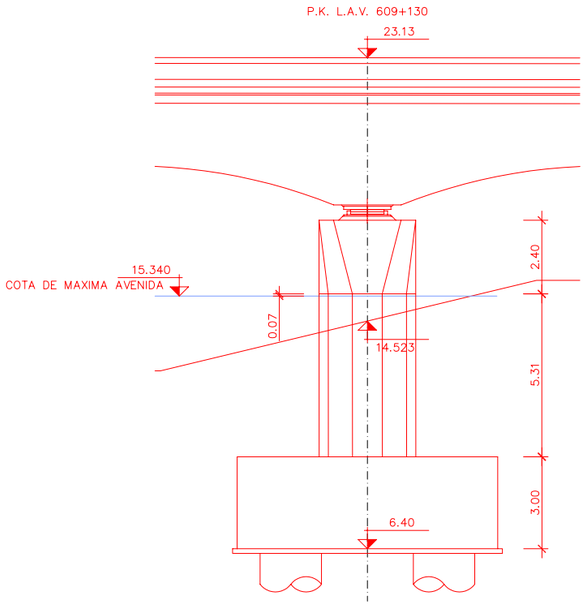
ALZADO PILA 7
ESCALA 1:200



ALZADO PILA 8
ESCALA 1:200

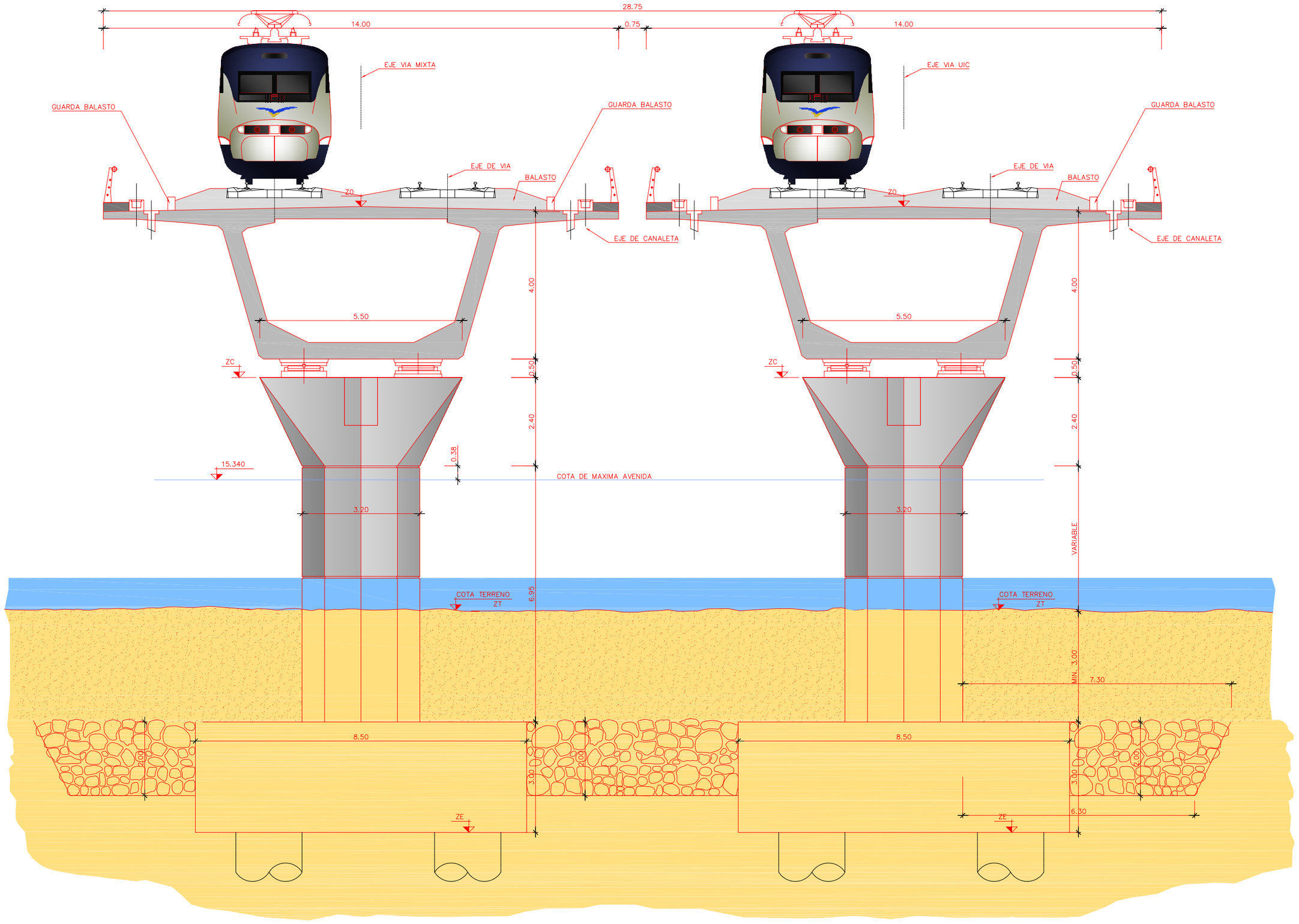


ALZADO PILA 9
ESCALA 1:200



ALZADO PILA 10
ESCALA 1:200

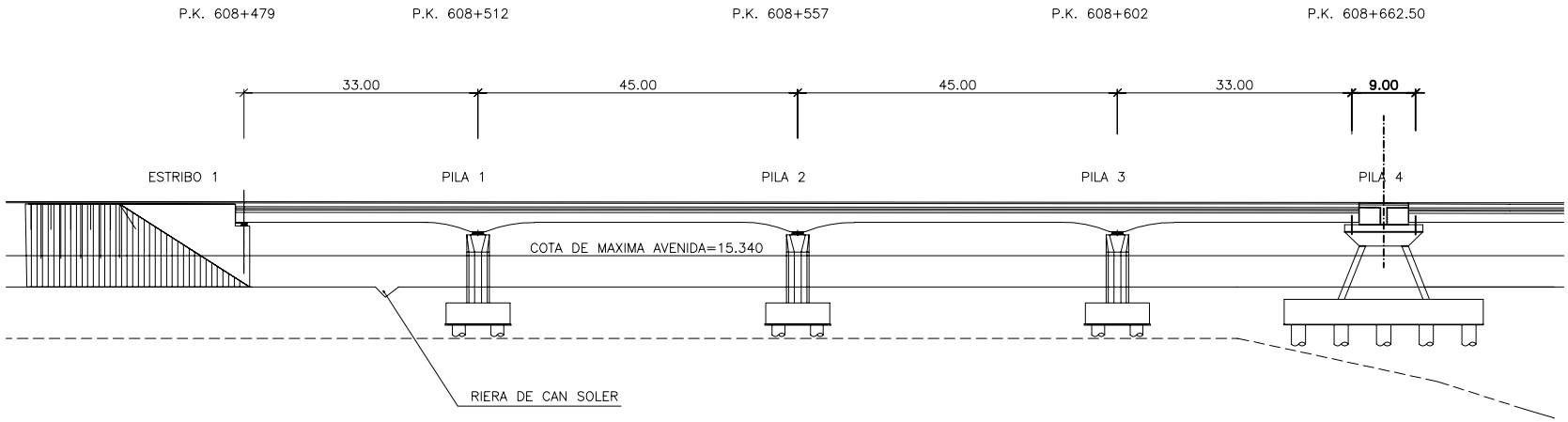
ADMINISTRADOR DE INFRAESTRUCTURAS FERROVIARIAS	TÍTULO: PROYECTO MODIFICADO CONSTRUCCIÓN DE PLATAFORMA LÍNEA DE ALTA VELOCIDAD MADRID–ZARAGOZA–BARCELONA–FRONTERA FRANCESA TRAMO: SANTA COLOMA DE CERVELLÓ–SANT JOAN DESPÍ	AUTOR: ALFREDO ALBA RODRÍGUEZ I.C.C.P.	CONFORME EL CONTRATISTA: SENÉN MERINO CARRILES I.C.C.P.	ESCALA NORMAL: 1/200 Numérica 0 2 4 6 8 Gráfica	FECHA: ABRIL–2005	TITULO DEL PLANO: VIADUCTO DOBLE VIA UIC DESCRIPCIÓN GENERAL ALZADO PILAS (II)	Nº DE PLANO: 2.9.1.1 HOJA 7 DE 9



SECCIÓN A–A'

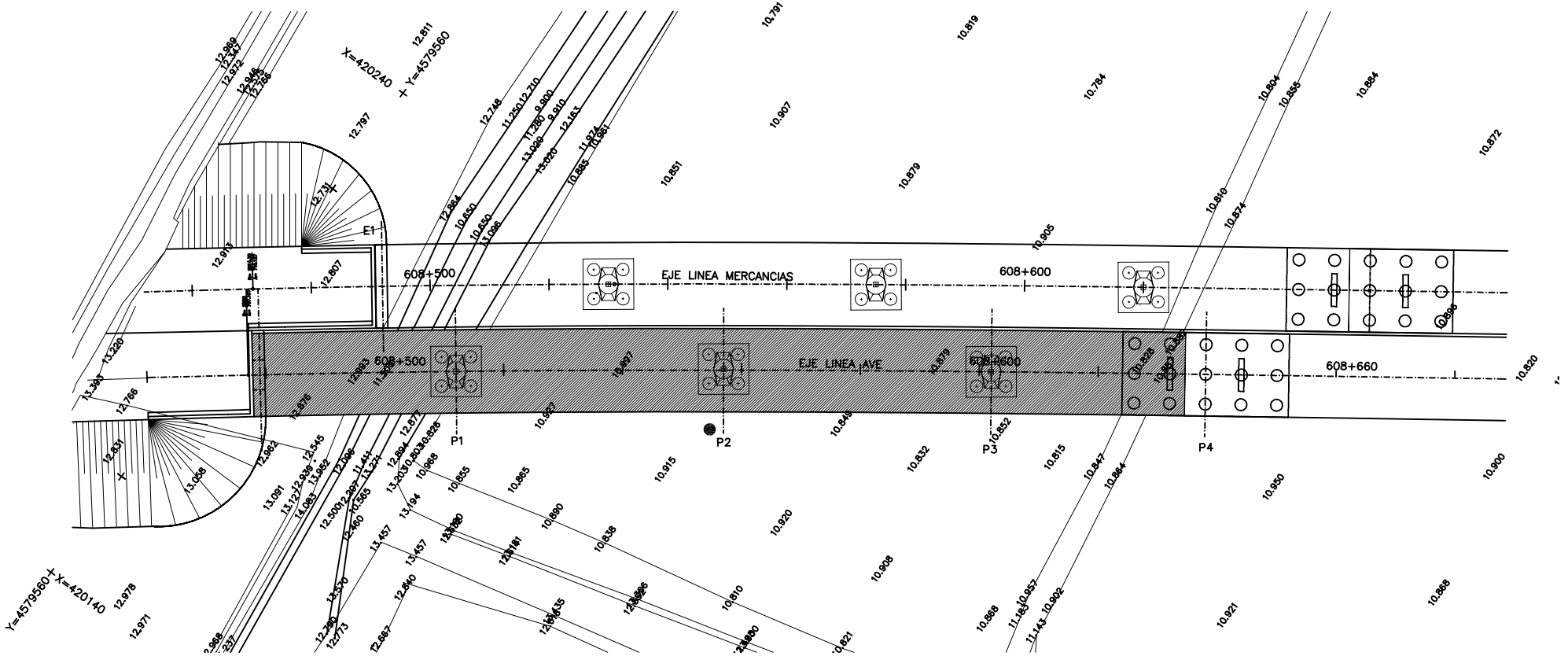
ESCALA 1:100

ADMINISTRADOR DE INFRAESTRUCTURAS FERROVIARIAS	TÍTULO: PROYECTO MODIFICADO CONSTRUCCIÓN DE PLATAFORMA LÍNEA DE ALTA VELOCIDAD MADRID–ZARAGOZA–BARCELONA–FRONTERA FRANCESA TRAMO: SANTA COLOMA DE CERVELLÓ–SANT JOAN DESPÍ	AUTOR: ALFREDO ALBA RODRÍGUEZ I.C.C.P.	CONFORME EL CONTRATISTA: SENÉN MERINO CARRILES I.C.C.P.	ESCALA NORMAL: 1/100 0 1 2 3 4 Numérica Gráfica	FECHA: ABRIL–2005	TITULO DEL PLANO: VIADUCTO DOBLE VIA UIC DESCRIPCIÓN GENERAL SECCIÓN DE CONJUNTO	Nº DE PLANO: 2.9.1.1 HOJA 3 DE 9



ALZADO LONGITUDINAL

ESCALA 1:1000



II. ANÁLISIS DEL PROYECTO DE LA ESTRUCTURA

CALCULOS DE ESFUERZOS DE SOBRECARGA

NOMBRE DE LA OBRA : VTO. LLOBREGAT UIC (B)
DESCRIPCION DE LA OBRA : 36+9x45+36

Envolvente de momentos por ferrocarril (E71) por via

	SE		N(t)	V(t)	Mz(mt)	Ts(kg/cm2)	Ti(kg/cm2)
V 1	1	M(+)	0.00	-98.19	2.13	0.02	-0.04
		M(-)	0.00	-7.97	-2.13	-0.02	0.04
	2	M(+)	0.00	-163.73	315.70	3.67	-6.05
		M(-)	0.00	44.81	-71.96	-0.84	1.38
	3	M(+)	0.00	-164.66	580.11	6.74	-11.12
		M(-)	0.00	44.81	-143.92	-1.67	2.76
	4	M(+)	0.00	-129.77	826.08	9.60	-15.83
		M(-)	0.00	44.81	-215.89	-2.51	4.14
	5	M(+)	0.00	-98.74	1021.19	11.87	-19.57
		M(-)	0.00	44.81	-287.85	-3.34	5.52
	6	M(+)	0.00	-95.97	1197.32	13.91	-22.95
		M(-)	0.00	44.81	-359.77	-4.18	6.89
	7	M(+)	0.00	-64.93	1325.40	15.40	-25.40
		M(-)	0.00	44.81	-431.73	-5.02	8.27
	8	M(+)	0.00	-62.38	1431.78	16.64	-27.44
		M(-)	0.00	44.81	-503.69	-5.85	9.65
	9	M(+)	0.00	-31.34	1493.13	17.35	-28.62
		M(-)	0.00	44.81	-575.66	-6.69	11.03
	10	M(+)	0.00	1.99	1530.44	17.78	-29.33
		M(-)	0.00	44.81	-647.62	-7.53	12.41
	11	M(+)	0.00	33.02	1525.23	17.72	-29.23
		M(-)	0.00	44.81	-719.58	-8.36	13.79
	12	M(+)	0.00	35.03	1487.75	17.29	-28.51
		M(-)	0.00	44.81	-791.54	-9.20	15.17
	13	M(+)	0.00	66.07	1416.83	16.46	-27.15
		M(-)	0.00	44.81	-863.50	-10.03	16.55
	14	M(+)	0.00	67.58	1319.21	15.33	-25.28
		M(-)	0.00	44.81	-935.42	-10.87	17.93
	15	M(+)	0.00	98.62	1183.14	13.75	-22.67
		M(-)	0.00	44.81	-1007.39	-11.71	19.31
	16	M(+)	0.00	99.73	1030.01	11.97	-19.74
		M(-)	0.00	44.81	-1079.35	-12.54	20.69
	17	M(+)	0.00	131.38	836.79	9.72	-16.04
		M(-)	0.00	44.81	-1151.31	-13.38	22.06
	18	M(+)	0.00	162.42	622.54	6.06	-9.99
		M(-)	0.00	44.81	-1223.27	-11.90	19.63
	19	M(+)	0.00	-15.32	473.45	2.53	-4.18
		M(-)	0.00	182.84	-1450.08	-7.75	12.79
	20	M(+)	0.00	-15.32	528.61	2.08	-3.42
		M(-)	0.00	243.92	-2245.89	-8.82	14.55
	21	M(+)	0.00	-15.32	551.60	2.17	-3.57
		M(-)	0.00	243.92	-2611.78	-10.26	16.92
V 2	1	M(+)	0.00	46.87	551.60	2.17	-3.57
		M(-)	0.00	-295.07	-2613.64	-10.27	16.93
	2	M(+)	0.00	46.87	481.29	1.89	-3.12
		M(-)	0.00	-247.25	-2202.09	-8.65	14.27
	3	M(+)	0.00	46.87	312.54	1.67	-2.76
		M(-)	0.00	-211.49	-1376.35	-7.36	12.14

CALCULOS DE ESFUERZOS DE SOBRECARGA

Envolvente de momentos por ferrocarril (E71) por via

	SE		N(t)	V(t)	Mz(mt)	Ts(kg/cm2)	Ti(kg/cm2)
	4	M(+)	0.00	-139.34	436.19	4.24	-7.00
		M(-)	0.00	-37.65	-935.04	-9.10	15.01
	5	M(+)	0.00	-128.90	743.76	8.64	-14.25
		M(-)	0.00	-37.65	-859.33	-9.99	16.47
	6	M(+)	0.00	-97.87	986.57	11.46	-18.91
		M(-)	0.00	-37.65	-783.61	-9.11	15.02
	7	M(+)	0.00	-86.77	1209.87	14.06	-23.19
		M(-)	0.00	-37.65	-707.89	-8.23	13.57
	8	M(+)	0.00	-75.18	1363.17	15.84	-26.13
		M(-)	0.00	-37.65	-632.17	-7.35	12.12
	9	M(+)	0.00	-44.14	1490.81	17.32	-28.57
		M(-)	0.00	-37.65	-556.45	-6.47	10.66
	10	M(+)	0.00	-32.29	1549.22	18.00	-29.69
		M(-)	0.00	-37.65	-480.73	-5.59	9.21
	11	M(+)	0.00	-1.25	1580.63	18.37	-30.29
		M(-)	0.00	46.87	-516.04	-6.00	9.89
	12	M(+)	0.00	10.62	1542.03	17.92	-29.55
		M(-)	0.00	46.87	-610.30	-7.09	11.70
	13	M(+)	0.00	41.65	1477.18	17.16	-28.31
		M(-)	0.00	46.87	-704.56	-8.19	13.50
	14	M(+)	0.00	53.30	1342.80	15.60	-25.73
		M(-)	0.00	46.87	-798.82	-9.28	15.31
	15	M(+)	0.00	115.38	1178.21	13.69	-22.58
		M(-)	0.00	46.87	-893.09	-10.38	17.12
	16	M(+)	0.00	126.57	955.50	11.10	-18.31
		M(-)	0.00	46.87	-987.35	-11.47	18.92
	17	M(+)	0.00	157.61	687.08	7.98	-13.17
		M(-)	0.00	46.87	-1081.61	-12.57	20.73
	18	M(+)	0.00	-16.03	402.09	3.91	-6.45
		M(-)	0.00	46.87	-1175.87	-11.44	18.87
	19	M(+)	0.00	-16.03	459.79	2.46	-4.05
		M(-)	0.00	206.32	-1701.15	-9.10	15.00
	20	M(+)	0.00	-16.03	517.49	2.03	-3.35
		M(-)	0.00	264.65	-2582.60	-10.14	16.73
	21	M(+)	0.00	-16.03	532.65	2.09	-3.45
		M(-)	0.00	297.53	-2833.57	-11.13	18.36
V 3	1	M(+)	0.00	46.31	532.65	2.09	-3.45
		M(-)	0.00	-298.02	-2833.70	-11.13	18.36
	2	M(+)	0.00	46.31	463.19	1.82	-3.00
		M(-)	0.00	-254.69	-2440.37	-9.59	15.81
	3	M(+)	0.00	12.88	366.09	1.96	-3.23
		M(-)	0.00	-218.93	-1587.85	-8.49	14.00
	4	M(+)	0.00	-137.78	474.81	4.62	-7.62
		M(-)	0.00	-46.45	-1153.44	-11.23	18.51
	5	M(+)	0.00	-127.29	780.66	9.07	-14.96
		M(-)	0.00	-46.45	-1060.03	-12.32	20.32
	6	M(+)	0.00	-116.16	1020.83	11.86	-19.56
		M(-)	0.00	-46.45	-966.63	-11.23	18.53
	7	M(+)	0.00	-85.12	1240.86	14.42	-23.78
		M(-)	0.00	-46.45	-873.22	-10.15	16.74

CALCULOS DE ESFUERZOS DE SOBRECARGA

Envolvente de momentos por ferrocarril (E71) por via

	SE		N(t)	V(t)	Mz(mt)	Ts(kg/cm2)	Ti(kg/cm2)
	8	M(+)	0.00	-73.53	1390.91	16.16	-26.66
		M(-)	0.00	-46.45	-779.82	-9.06	14.95
	9	M(+)	0.00	-42.49	1515.23	17.61	-29.04
		M(-)	0.00	-46.45	-686.41	-7.98	13.16
	10	M(+)	0.00	-30.66	1570.07	18.24	-30.09
		M(-)	0.00	-46.45	-593.01	-6.89	11.36
	11	M(+)	0.00	0.38	1598.20	18.57	-30.63
		M(-)	0.00	46.31	-522.11	-6.07	10.01
	12	M(+)	0.00	12.21	1556.01	18.08	-29.82
		M(-)	0.00	46.31	-615.24	-7.15	11.79
	13	M(+)	0.00	43.25	1487.94	17.29	-28.52
		M(-)	0.00	46.31	-708.37	-8.23	13.58
	14	M(+)	0.00	54.86	1350.14	15.69	-25.88
		M(-)	0.00	46.31	-801.49	-9.31	15.36
	15	M(+)	0.00	116.93	1182.43	13.74	-22.66
		M(-)	0.00	46.31	-894.62	-10.40	17.15
	16	M(+)	0.00	128.07	956.55	11.12	-18.33
		M(-)	0.00	46.31	-987.74	-11.48	18.93
	17	M(+)	0.00	159.11	685.11	7.96	-13.13
		M(-)	0.00	46.31	-1080.87	-12.56	20.71
	18	M(+)	0.00	-15.84	401.45	3.91	-6.44
		M(-)	0.00	46.31	-1174.00	-11.43	18.84
	19	M(+)	0.00	-15.84	458.45	2.45	-4.04
		M(-)	0.00	207.11	-1706.60	-9.13	15.05
	20	M(+)	0.00	-15.84	515.46	2.02	-3.34
		M(-)	0.00	265.44	-2590.89	-10.18	16.78
	21	M(+)	0.00	-46.45	532.59	2.09	-3.45
		M(-)	0.00	298.66	-2846.56	-11.18	18.44
V 4	1	M(+)	0.00	15.88	532.59	2.09	-3.45
		M(-)	0.00	-269.97	-2846.56	-11.18	18.44
	2	M(+)	0.00	15.88	508.77	2.00	-3.30
		M(-)	0.00	-255.07	-2452.78	-9.63	15.89
	3	M(+)	0.00	15.88	451.59	2.41	-3.98
		M(-)	0.00	-219.32	-1598.87	-8.55	14.10
	4	M(+)	0.00	-137.60	479.33	4.66	-7.69
		M(-)	0.00	-46.99	-1167.01	-11.36	18.73
	5	M(+)	0.00	-127.10	784.98	9.12	-15.04
		M(-)	0.00	-46.99	-1072.51	-12.46	20.55
	6	M(+)	0.00	-115.97	1024.84	11.91	-19.64
		M(-)	0.00	-46.99	-978.00	-11.36	18.74
	7	M(+)	0.00	-84.93	1244.49	14.46	-23.85
		M(-)	0.00	-46.99	-883.50	-10.27	16.93
	8	M(+)	0.00	-73.33	1394.15	16.20	-26.72
		M(-)	0.00	-46.99	-788.99	-9.17	15.12
	9	M(+)	0.00	-42.30	1518.08	17.64	-29.09
		M(-)	0.00	-46.99	-694.49	-8.07	13.31
	10	M(+)	0.00	-30.47	1572.51	18.27	-30.14
		M(-)	0.00	-46.99	-599.98	-6.97	11.50
	11	M(+)	0.00	0.57	1600.26	18.59	-30.67
		M(-)	0.00	46.24	-522.82	-6.08	10.02

CALCULOS DE ESFUERZOS DE SOBRECARGA

Envolvente de momentos por ferrocarril (E71) por via

	SE		N(t)	V(t)	Mz(mt)	Ts(kg/cm2)	Ti(kg/cm2)
	12	M(+)	0.00	12.40	1557.64	18.10	-29.85
		M(-)	0.00	46.24	-615.82	-7.16	11.80
	13	M(+)	0.00	43.44	1489.20	17.30	-28.54
		M(-)	0.00	46.24	-708.81	-8.24	13.58
	14	M(+)	0.00	55.04	1350.99	15.70	-25.89
		M(-)	0.00	46.24	-801.80	-9.32	15.37
	15	M(+)	0.00	117.11	1182.92	13.75	-22.67
		M(-)	0.00	46.24	-894.80	-10.40	17.15
	16	M(+)	0.00	128.25	956.68	11.12	-18.33
		M(-)	0.00	46.24	-987.79	-11.48	18.93
	17	M(+)	0.00	159.28	684.89	7.96	-13.13
		M(-)	0.00	46.24	-1080.78	-12.56	20.71
	18	M(+)	0.00	-15.81	401.37	3.91	-6.44
		M(-)	0.00	46.24	-1173.78	-11.42	18.84
	19	M(+)	0.00	-15.81	458.30	2.45	-4.04
		M(-)	0.00	207.20	-1707.24	-9.13	15.06
	20	M(+)	0.00	-15.81	515.22	2.02	-3.34
		M(-)	0.00	265.53	-2591.86	-10.18	16.79
	21	M(+)	0.00	-46.99	538.86	2.12	-3.49
		M(-)	0.00	298.05	-2847.88	-11.19	18.45
V 5	1	M(+)	0.00	16.07	538.86	2.12	-3.49
		M(-)	0.00	-270.02	-2848.08	-11.19	18.45
	2	M(+)	0.00	16.07	514.76	2.02	-3.33
		M(-)	0.00	-267.24	-2458.47	-9.66	15.93
	3	M(+)	0.00	16.07	456.91	2.44	-4.03
		M(-)	0.00	-219.37	-1600.16	-8.56	14.11
	4	M(+)	0.00	-137.58	479.86	4.67	-7.70
		M(-)	0.00	-47.06	-1168.60	-11.37	18.76
	5	M(+)	0.00	-127.08	785.49	9.13	-15.05
		M(-)	0.00	-47.06	-1073.97	-12.48	20.58
	6	M(+)	0.00	-115.94	1025.31	11.91	-19.65
		M(-)	0.00	-47.06	-979.33	-11.38	18.77
	7	M(+)	0.00	-84.91	1244.91	14.47	-23.86
		M(-)	0.00	-47.06	-884.70	-10.28	16.96
	8	M(+)	0.00	-73.31	1394.53	16.20	-26.73
		M(-)	0.00	-47.06	-790.07	-9.18	15.14
	9	M(+)	0.00	-42.27	1518.42	17.64	-29.10
		M(-)	0.00	-47.06	-695.43	-8.08	13.33
	10	M(+)	0.00	-30.44	1572.80	18.28	-30.14
		M(-)	0.00	-47.06	-600.80	-6.98	11.51
	11	M(+)	0.00	0.59	1600.49	18.60	-30.67
		M(-)	0.00	46.23	-522.91	-6.08	10.02
	12	M(+)	0.00	12.42	1557.83	18.10	-29.86
		M(-)	0.00	46.23	-615.88	-7.16	11.80
	13	M(+)	0.00	43.46	1489.34	17.31	-28.54
		M(-)	0.00	46.23	-708.86	-8.24	13.59
	14	M(+)	0.00	55.06	1351.09	15.70	-25.89
		M(-)	0.00	46.23	-801.84	-9.32	15.37
	15	M(+)	0.00	117.13	1182.97	13.75	-22.67
		M(-)	0.00	46.23	-894.82	-10.40	17.15

Envolvente de momentos por ferrocarril (E71) por via

	SE		N(t)	V(t)	Mz(mt)	Ts(kg/cm2)	Ti(kg/cm2)
	16	M(+)	0.00	128.27	956.69	11.12	-18.33
		M(-)	0.00	46.23	-987.80	-11.48	18.93
	17	M(+)	0.00	159.30	684.86	7.96	-13.13
		M(-)	0.00	46.23	-1080.77	-12.56	20.71
	18	M(+)	0.00	-15.81	401.36	3.91	-6.44
		M(-)	0.00	46.23	-1173.75	-11.42	18.84
	19	M(+)	0.00	-15.81	458.27	2.45	-4.04
		M(-)	0.00	207.21	-1707.31	-9.13	15.06
	20	M(+)	0.00	-15.81	515.19	2.02	-3.34
		M(-)	0.00	265.54	-2591.97	-10.18	16.79
	21	M(+)	0.00	-47.06	539.59	2.12	-3.50
		M(-)	0.00	296.02	-2848.08	-11.19	18.45
V 6	1	M(+)	0.00	16.09	539.59	2.12	-3.50
		M(-)	0.00	-276.72	-2851.85	-11.20	18.48
	2	M(+)	0.00	16.09	515.46	2.02	-3.34
		M(-)	0.00	-267.39	-2463.15	-9.68	15.96
	3	M(+)	0.00	16.09	457.53	2.45	-4.03
		M(-)	0.00	-198.01	-1608.87	-8.60	14.19
	4	M(+)	0.00	-137.58	479.92	4.67	-7.70
		M(-)	0.00	-47.06	-1168.78	-11.37	18.76
	5	M(+)	0.00	-127.07	785.54	9.13	-15.05
		M(-)	0.00	-47.06	-1074.14	-12.48	20.59
	6	M(+)	0.00	-115.94	1025.36	11.91	-19.65
		M(-)	0.00	-47.06	-979.49	-11.38	18.77
	7	M(+)	0.00	-84.90	1244.96	14.47	-23.86
		M(-)	0.00	-47.06	-884.84	-10.28	16.96
	8	M(+)	0.00	-73.31	1394.58	16.20	-26.73
		M(-)	0.00	-47.06	-790.19	-9.18	15.14
	9	M(+)	0.00	-42.27	1518.46	17.64	-29.10
		M(-)	0.00	-47.06	-695.54	-8.08	13.33
	10	M(+)	0.00	-30.44	1572.83	18.28	-30.14
		M(-)	0.00	-47.06	-600.90	-6.98	11.52
	11	M(+)	0.00	0.60	1600.52	18.60	-30.67
		M(-)	0.00	46.23	-522.91	-6.08	10.02
	12	M(+)	0.00	12.43	1557.85	18.10	-29.86
		M(-)	0.00	46.23	-615.89	-7.16	11.80
	13	M(+)	0.00	43.46	1489.36	17.31	-28.54
		M(-)	0.00	46.23	-708.86	-8.24	13.59
	14	M(+)	0.00	55.06	1351.10	15.70	-25.89
		M(-)	0.00	46.23	-801.84	-9.32	15.37
	15	M(+)	0.00	117.13	1182.98	13.75	-22.67
		M(-)	0.00	46.23	-894.81	-10.40	17.15
	16	M(+)	0.00	128.27	956.69	11.12	-18.33
		M(-)	0.00	46.23	-987.79	-11.48	18.93
	17	M(+)	0.00	159.31	684.85	7.96	-13.13
		M(-)	0.00	46.23	-1080.76	-12.56	20.71
	18	M(+)	0.00	-15.81	401.32	3.91	-6.44
		M(-)	0.00	46.23	-1173.74	-11.42	18.84
	19	M(+)	0.00	-15.81	458.22	2.45	-4.04
		M(-)	0.00	207.21	-1707.31	-9.13	15.06

Envolvente de momentos por ferrocarril (E71) por via

	SE		N(t)	V(t)	Mz(mt)	Ts(kg/cm2)	Ti(kg/cm2)
	20	M(+)	0.00	-15.81	515.13	2.02	-3.34
		M(-)	0.00	265.54	-2591.97	-10.18	16.79
	21	M(+)	0.00	-47.06	539.68	2.12	-3.50
		M(-)	0.00	298.81	-2848.27	-11.19	18.45
V 7	1	M(+)	0.00	16.09	539.68	2.12	-3.50
		M(-)	0.00	-268.60	-2847.89	-11.19	18.45
	2	M(+)	0.00	16.09	515.54	2.03	-3.34
		M(-)	0.00	-260.22	-2462.55	-9.67	15.95
	3	M(+)	0.00	16.09	457.60	2.45	-4.04
		M(-)	0.00	-198.15	-1612.89	-8.62	14.22
	4	M(+)	0.00	-137.57	479.93	4.67	-7.70
		M(-)	0.00	-47.07	-1168.81	-11.37	18.76
	5	M(+)	0.00	-127.07	785.55	9.13	-15.06
		M(-)	0.00	-47.07	-1074.16	-12.48	20.59
	6	M(+)	0.00	-115.94	1025.37	11.91	-19.65
		M(-)	0.00	-47.07	-979.51	-11.38	18.77
	7	M(+)	0.00	-84.90	1244.96	14.47	-23.86
		M(-)	0.00	-47.07	-884.86	-10.28	16.96
	8	M(+)	0.00	-73.31	1394.57	16.20	-26.73
		M(-)	0.00	-47.07	-790.20	-9.18	15.14
	9	M(+)	0.00	-42.27	1518.45	17.64	-29.10
		M(-)	0.00	-47.07	-695.55	-8.08	13.33
	10	M(+)	0.00	-30.44	1572.82	18.28	-30.14
		M(-)	0.00	-47.07	-600.90	-6.98	11.52
	11	M(+)	0.00	0.60	1600.51	18.60	-30.67
		M(-)	0.00	46.23	-522.86	-6.08	10.02
	12	M(+)	0.00	12.43	1557.83	18.10	-29.86
		M(-)	0.00	46.23	-615.82	-7.16	11.80
	13	M(+)	0.00	43.46	1489.33	17.31	-28.54
		M(-)	0.00	46.23	-708.79	-8.24	13.58
	14	M(+)	0.00	55.06	1351.07	15.70	-25.89
		M(-)	0.00	46.23	-801.75	-9.32	15.37
	15	M(+)	0.00	117.14	1182.94	13.75	-22.67
		M(-)	0.00	46.23	-894.72	-10.40	17.15
	16	M(+)	0.00	128.27	956.65	11.12	-18.33
		M(-)	0.00	46.23	-987.68	-11.48	18.93
	17	M(+)	0.00	159.31	684.81	7.96	-13.12
		M(-)	0.00	46.23	-1080.65	-12.56	20.71
	18	M(+)	0.00	-15.79	400.96	3.90	-6.44
		M(-)	0.00	46.23	-1173.61	-11.42	18.84
	19	M(+)	0.00	-15.79	457.82	2.45	-4.04
		M(-)	0.00	207.21	-1707.21	-9.13	15.06
	20	M(+)	0.00	-15.79	514.68	2.02	-3.33
		M(-)	0.00	265.54	-2591.86	-10.18	16.79
	21	M(+)	0.00	-47.07	539.71	2.12	-3.50
		M(-)	0.00	298.81	-2848.19	-11.19	18.45
V 8	1	M(+)	0.00	16.10	539.71	2.12	-3.50
		M(-)	0.00	-270.01	-2848.19	-11.19	18.45
	2	M(+)	0.00	16.10	515.57	2.03	-3.34
		M(-)	0.00	-255.12	-2454.34	-9.64	15.90
	3	M(+)	0.00	16.10	457.62	2.45	-4.04
		M(-)	0.00	-222.54	-1607.29	-8.59	14.17

Envolvente de momentos por ferrocarril (E71) por via

	SE		N(t)	V(t)	Mz(mt)	Ts(kg/cm2)	Ti(kg/cm2)
	4	M(+)	0.00	-137.56	479.96	4.67	-7.70
		M(-)	0.00	-47.07	-1168.82	-11.37	18.76
	5	M(+)	0.00	-127.06	785.56	9.13	-15.06
		M(-)	0.00	-47.07	-1074.16	-12.48	20.59
	6	M(+)	0.00	-115.93	1025.35	11.91	-19.65
		M(-)	0.00	-47.07	-979.50	-11.38	18.77
	7	M(+)	0.00	-84.89	1244.92	14.47	-23.86
		M(-)	0.00	-47.07	-884.84	-10.28	16.96
	8	M(+)	0.00	-73.29	1394.50	16.20	-26.73
		M(-)	0.00	-47.07	-790.18	-9.18	15.14
	9	M(+)	0.00	-42.26	1518.35	17.64	-29.10
		M(-)	0.00	-47.07	-695.52	-8.08	13.33
	10	M(+)	0.00	-30.42	1572.69	18.27	-30.14
		M(-)	0.00	-47.07	-600.86	-6.98	11.52
	11	M(+)	0.00	0.61	1600.35	18.60	-30.67
		M(-)	0.00	46.19	-522.40	-6.07	10.01
	12	M(+)	0.00	12.44	1557.64	18.10	-29.85
		M(-)	0.00	46.19	-615.29	-7.15	11.79
	13	M(+)	0.00	43.48	1489.12	17.30	-28.54
		M(-)	0.00	46.19	-708.17	-8.23	13.57
	14	M(+)	0.00	55.08	1350.82	15.70	-25.89
		M(-)	0.00	46.19	-801.05	-9.31	15.35
	15	M(+)	0.00	117.15	1182.67	13.74	-22.67
		M(-)	0.00	46.19	-893.94	-10.39	17.13
	16	M(+)	0.00	128.29	956.35	11.11	-18.33
		M(-)	0.00	46.19	-986.82	-11.47	18.91
	17	M(+)	0.00	159.32	684.48	7.95	-13.12
		M(-)	0.00	46.19	-1079.71	-12.55	20.69
	18	M(+)	0.00	-15.68	397.97	3.87	-6.39
		M(-)	0.00	46.19	-1172.59	-11.41	18.82
	19	M(+)	0.00	-15.68	454.40	2.43	-4.01
		M(-)	0.00	207.18	-1706.39	-9.12	15.05
	20	M(+)	0.00	-15.68	510.84	2.01	-3.31
		M(-)	0.00	265.51	-2590.93	-10.18	16.79
	21	M(+)	0.00	-47.07	539.88	2.12	-3.50
		M(-)	0.00	298.79	-2847.52	-11.18	18.45
V 9	1	M(+)	0.00	16.11	539.88	2.12	-3.50
		M(-)	0.00	-269.96	-2847.52	-11.18	18.45
	2	M(+)	0.00	16.11	515.71	2.03	-3.34
		M(-)	0.00	-255.06	-2453.76	-9.64	15.90
	3	M(+)	0.00	16.11	457.71	2.45	-4.04
		M(-)	0.00	-219.30	-1599.90	-8.55	14.11
	4	M(+)	0.00	-137.46	480.26	4.67	-7.71
		M(-)	0.00	-47.11	-1168.94	-11.38	18.76
	5	M(+)	0.00	-126.95	785.65	9.13	-15.06
		M(-)	0.00	-47.11	-1074.20	-12.48	20.59
	6	M(+)	0.00	-115.81	1025.21	11.91	-19.65
		M(-)	0.00	-47.11	-979.45	-11.38	18.77
	7	M(+)	0.00	-84.77	1244.55	14.46	-23.85
		M(-)	0.00	-47.11	-884.71	-10.28	16.96

Envolvente de momentos por ferrocarril (E71) por via

	SE		N(t)	V(t)	Mz(mt)	Ts(kg/cm2)	Ti(kg/cm2)
	8	M(+)	0.00	-73.17	1393.88	16.20	-26.71
		M(-)	0.00	-47.11	-789.96	-9.18	15.14
	9	M(+)	0.00	-42.14	1517.49	17.63	-29.08
		M(-)	0.00	-47.11	-695.22	-8.08	13.32
	10	M(+)	0.00	-30.30	1571.57	18.26	-30.12
		M(-)	0.00	-47.11	-600.47	-6.98	11.51
	11	M(+)	0.00	0.73	1598.99	18.58	-30.64
		M(-)	0.00	45.84	-518.50	-6.02	9.94
	12	M(+)	0.00	12.56	1556.02	18.08	-29.82
		M(-)	0.00	45.84	-610.69	-7.10	11.70
	13	M(+)	0.00	43.60	1487.25	17.28	-28.50
		M(-)	0.00	45.84	-702.88	-8.17	13.47
	14	M(+)	0.00	55.20	1348.71	15.67	-25.85
		M(-)	0.00	45.84	-795.07	-9.24	15.24
	15	M(+)	0.00	117.27	1180.31	13.72	-22.62
		M(-)	0.00	45.84	-887.26	-10.31	17.00
	16	M(+)	0.00	128.40	953.80	11.08	-18.28
		M(-)	0.00	45.84	-979.45	-11.38	18.77
	17	M(+)	0.00	159.44	681.69	7.92	-13.06
		M(-)	0.00	45.84	-1071.64	-12.45	20.54
	18	M(+)	0.00	169.92	370.87	3.61	-5.95
		M(-)	0.00	45.84	-1163.83	-11.33	18.68
	19	M(+)	0.00	-12.69	367.70	1.97	-3.24
		M(-)	0.00	206.93	-1699.30	-9.09	14.99
	20	M(+)	0.00	-47.11	496.71	1.95	-3.22
		M(-)	0.00	265.26	-2582.97	-10.15	16.73
	21	M(+)	0.00	-47.11	541.28	2.13	-3.51
		M(-)	0.00	298.62	-2841.81	-11.16	18.41
V10	1	M(+)	0.00	16.23	541.28	2.13	-3.51
		M(-)	0.00	-269.46	-2841.81	-11.16	18.41
	2	M(+)	0.00	16.23	516.93	2.03	-3.35
		M(-)	0.00	-254.56	-2448.80	-9.62	15.86
	3	M(+)	0.00	16.23	458.49	2.45	-4.04
		M(-)	0.00	-218.81	-1596.73	-8.54	14.08
	4	M(+)	0.00	-136.54	482.79	4.70	-7.75
		M(-)	0.00	-47.47	-1169.93	-11.39	18.78
	5	M(+)	0.00	-126.00	786.36	9.14	-15.07
		M(-)	0.00	-47.47	-1074.46	-12.49	20.59
	6	M(+)	0.00	-114.83	1023.98	11.90	-19.62
		M(-)	0.00	-47.47	-979.00	-11.38	18.76
	7	M(+)	0.00	-83.79	1241.35	14.42	-23.79
		M(-)	0.00	-47.47	-883.54	-10.27	16.93
	8	M(+)	0.00	-72.17	1388.56	16.13	-26.61
		M(-)	0.00	-47.47	-788.08	-9.16	15.10
	9	M(+)	0.00	-41.13	1510.14	17.55	-28.94
		M(-)	0.00	-47.47	-692.62	-8.05	13.27
	10	M(+)	0.00	-29.27	1561.98	18.15	-29.94
		M(-)	0.00	-47.47	-597.15	-6.94	11.44
	11	M(+)	0.00	1.76	1587.33	18.44	-30.42
		M(-)	0.00	-47.47	-501.69	-5.83	9.61

Envolvente de momentos por ferrocarril (E71) por via

	SE		N(t)	V(t)	Mz(mt)	Ts(kg/cm2)	Ti(kg/cm2)
	12	M(+)	0.00	13.61	1542.12	17.92	-29.55
		M(-)	0.00	37.10	-494.16	-5.74	9.47
	13	M(+)	0.00	44.64	1471.25	17.10	-28.20
		M(-)	0.00	37.10	-568.76	-6.61	10.90
	14	M(+)	0.00	56.24	1330.65	15.46	-25.50
		M(-)	0.00	37.10	-643.36	-7.48	12.33
	15	M(+)	0.00	118.31	1160.16	13.48	-22.23
		M(-)	0.00	37.10	-717.96	-8.34	13.76
	16	M(+)	0.00	129.43	931.96	10.83	-17.86
		M(-)	0.00	37.10	-792.56	-9.21	15.19
	17	M(+)	0.00	160.46	657.79	7.64	-12.61
		M(-)	0.00	37.10	-867.16	-10.08	16.62
	18	M(+)	0.00	170.91	345.90	3.37	-5.55
		M(-)	0.00	37.10	-941.76	-9.17	15.12
	19	M(+)	0.00	-47.47	337.44	1.80	-2.98
		M(-)	0.00	211.87	-1486.67	-7.95	13.11
	20	M(+)	0.00	-47.47	508.33	2.00	-3.29
		M(-)	0.00	256.32	-2333.65	-9.17	15.12
	21	M(+)	0.00	-47.47	553.24	2.17	-3.58
		M(-)	0.00	295.13	-2604.07	-10.23	16.87
V11	1	M(+)	0.00	15.37	553.24	2.17	-3.58
		M(-)	0.00	-251.10	-2604.07	-10.23	16.87
	2	M(+)	0.00	15.37	530.18	2.08	-3.43
		M(-)	0.00	-236.21	-2238.58	-8.79	14.50
	3	M(+)	0.00	15.37	474.86	2.54	-4.19
		M(-)	0.00	-200.45	-1452.60	-7.77	12.81
	4	M(+)	0.00	-161.94	636.37	6.19	-10.21
		M(-)	0.00	-44.94	-1226.90	-11.94	19.69
	5	M(+)	0.00	-130.91	849.58	9.87	-16.28
		M(-)	0.00	-44.94	-1154.73	-13.42	22.13
	6	M(+)	0.00	-99.25	1042.27	12.11	-19.98
		M(-)	0.00	-44.94	-1082.55	-12.58	20.75
	7	M(+)	0.00	-98.13	1194.94	13.89	-22.90
		M(-)	0.00	-44.94	-1010.38	-11.74	19.36
	8	M(+)	0.00	-67.10	1329.96	15.45	-25.49
		M(-)	0.00	-44.94	-938.20	-10.90	17.98
	9	M(+)	0.00	-65.53	1426.93	16.58	-27.35
		M(-)	0.00	-44.94	-866.07	-10.06	16.60
	10	M(+)	0.00	-34.50	1496.85	17.39	-28.69
		M(-)	0.00	-44.94	-793.89	-9.22	15.21
	11	M(+)	0.00	-32.55	1533.69	17.82	-29.39
		M(-)	0.00	-44.94	-721.72	-8.39	13.83
	12	M(+)	0.00	-1.51	1537.87	17.87	-29.47
		M(-)	0.00	-44.94	-649.54	-7.55	12.45
	13	M(+)	0.00	31.80	1499.61	17.43	-28.74
		M(-)	0.00	-44.94	-577.36	-6.71	11.07
	14	M(+)	0.00	62.84	1437.24	16.70	-27.54
		M(-)	0.00	-44.94	-505.19	-5.87	9.68
	15	M(+)	0.00	65.38	1330.23	15.46	-25.49
		M(-)	0.00	-44.94	-433.01	-5.03	8.30

Envolvente de momentos por ferrocarril (E71) por via

SE		N(t)	V(t)	Mz(mt)	Ts(kg/cm2)	Ti(kg/cm2)
16	M(+)	0.00	96.42	1201.17	13.96	-23.02
	M(-)	0.00	-44.94	-360.84	-4.19	6.92
17	M(+)	0.00	99.16	1024.46	11.90	-19.63
	M(-)	0.00	-44.94	-288.70	-3.35	5.53
18	M(+)	0.00	130.20	828.39	9.63	-15.88
	M(-)	0.00	-44.94	-216.53	-2.52	4.15
19	M(+)	0.00	165.08	581.47	6.76	-11.14
	M(-)	0.00	-44.94	-144.35	-1.68	2.77
20	M(+)	0.00	195.17	316.61	3.68	-6.07
	M(-)	0.00	-44.94	-72.18	-0.84	1.38
21	M(+)	0.00	121.54	2.13	0.02	-0.04
	M(-)	0.00	-22.82	-2.13	-0.02	0.04

CALCULOS DE PRUEBA DE CARGA
VTO LLOBREGAT MIXTA (A)

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VTO LLOBREGAT MIXTA (A) PRUEBA DE CARGA
CONTROL
    81   80    1    5
:
NUDOS
     1    0.000     0.0000
     2    1.740     0.0000
     3    3.480     0.0000
     4    5.220     0.0000
     5    6.960     0.0000
     6    8.700     0.0000
     7   10.440     0.0000
     8   12.180     0.0000
     9   13.920     0.0000
    10   15.660     0.0000
    11   17.400     0.0000
    12   19.140     0.0000
    13   20.880     0.0000
    14   22.620     0.0000
    15   24.360     0.0000
    16   26.100     0.0000
    17   27.840     0.0000
    18   29.580     0.0000
    19   33.040     0.0000
    20   36.500     0.0000
    21   38.000     0.0000
    22   39.500     0.0000
    23   42.960     0.0000
    24   46.420     0.0000
    25   48.431     0.0000
    26   50.443     0.0000
    27   52.454     0.0000
    28   54.466     0.0000
    29   56.477     0.0000
    30   58.489     0.0000
    31   60.500     0.0000
    32   62.511     0.0000
    33   64.523     0.0000
    34   66.534     0.0000
    35   68.546     0.0000
    36   70.557     0.0000
    37   72.569     0.0000
    38   74.580     0.0000
    39   78.040     0.0000
    40   81.500     0.0000
    41   83.000     0.0000
    42   84.500     0.0000
    43   87.960     0.0000
    44   91.420     0.0000
    45   93.431     0.0000
    46   95.443     0.0000
    47   97.454     0.0000
    48   99.466     0.0000
    49  101.477     0.0000
    50  103.489     0.0000
    51  105.500     0.0000
    52  107.511     0.0000
    53  109.523     0.0000
    54  111.534     0.0000
    55  113.546     0.0000
    56  115.557     0.0000
    57  117.569     0.0000
    58  119.580     0.0000
    59  123.040     0.0000
    60  126.500     0.0000
    61  128.000     0.0000
    62  129.500     0.0000
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    63  132.960     0.0000
    64  136.420     0.0000
    65  138.160     0.0000
    66  139.900     0.0000
    67  141.640     0.0000
    68  143.380     0.0000
    69  145.120     0.0000
    70  146.860     0.0000
    71  148.600     0.0000
    72  150.340     0.0000
    73  152.080     0.0000
    74  153.820     0.0000
    75  155.560     0.0000
    76  157.300     0.0000
    77  159.040     0.0000
    78  160.780     0.0000
    79  162.520     0.0000
    80  164.260     0.0000
    81  166.000     0.0000
:
BARRAS TIPO
     4
8.383   8.933   3630000
8.681   10.666  3630000
9.82    19.4125 3630000
10.661  26.426  3630000
:
BARRAS
     1    1    2    1
     2    2    3    1
     3    3    4    1
     4    4    5    1
     5    5    6    1
     6    6    7    1
     7    7    8    1
     8    8    9    1
     9    9   10    1
    10   10   11    1
    11   11   12    1
    12   12   13    1
    13   13   14    1
    14   14   15    1
    15   15   16    1
    16   16   17    1
    17   17   18    1
    18   18   19    2
    19   19   20    3
    20   20   21    4
    21   21   22    4
    22   22   23    3
    23   23   24    2
    24   24   25    1
    25   25   26    1
    26   26   27    1
    27   27   28    1
    28   28   29    1
    29   29   30    1
    30   30   31    1
    31   31   32    1
    32   32   33    1
    33   33   34    1
    34   34   35    1
    35   35   36    1
    36   36   37    1
    37   37   38    1
    38   38   39    2
    39   39   40    3
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    40   40   41    4
    41   41   42    4
    42   42   43    3
    43   43   44    2
    44   44   45    1
    45   45   46    1
    46   46   47    1
    47   47   48    1
    48   48   49    1
    49   49   50    1
    50   50   51    1
    51   51   52    1
    52   52   53    1
    53   53   54    1
    54   54   55    1
    55   55   56    1
    56   56   57    1
    57   57   58    1
    58   58   59    2
    59   59   60    3
    60   60   61    4
    61   61   62    4
    62   62   63    3
    63   63   64    2
    64   64   65    1
    65   65   66    1
    66   66   67    1
    67   67   68    1
    68   68   69    1
    69   69   70    1
    70   70   71    1
    71   71   72    1
    72   72   73    1
    73   73   74    1
    74   74   75    1
    75   75   76    1
    76   76   77    1
    77   77   78    1
    78   78   79    1
    79   79   80    1
    80   80   81    1
:
APOYOS
     5
1       1       1       0
21      0       1       0
41      0       1       0
64      0       1       0
81      0       1       0
:
CARGAS
ESTADO DE CARGAS  1
     0
    22
  4   1     40.000      1.440  270
  6   1     40.000      0.020  270
  7   1     40.000      0.340  270
 11   1     40.000      0.590  270
 12   1     40.000      0.910  270
 13   1     40.000      1.230  270
 15   1     40.000      1.020  270
 16   1     40.000      1.080  270
 19   1     40.000      1.540  270
 19   1     40.000      3.340  270
 22   1     40.000      0.120  270
 22   1     40.000      1.920  270
 25   1     40.000      0.389  270
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 26   1     40.000      0.177  270
 27   1     40.000      1.406  270
 28   1     40.000      1.194  270
 32   1     40.000      0.549  270
 33   1     40.000      0.337  270
 34   1     40.000      1.566  270
 35   1     40.000      1.354  270
 38   1     40.000      2.720  270
 39   1     40.000      1.060  270
ESTADO DE CARGAS  2
     0
    22
 26   1     40.000      1.217  270
 27   1     40.000      1.266  270
 28   1     40.000      1.314  270
 32   1     40.000      0.479  270
 33   1     40.000      0.527  270
 34   1     40.000      0.576  270
 35   1     40.000      1.834  270
 36   1     40.000      1.623  270
 39   1     40.000      1.540  270
 39   1     40.000      3.340  270
 42   1     40.000      0.120  270
 42   1     40.000      1.920  270
 45   1     40.000      0.389  270
 46   1     40.000      0.177  270
 47   1     40.000      1.406  270
 48   1     40.000      1.194  270
 52   1     40.000      0.549  270
 53   1     40.000      0.337  270
 54   1     40.000      1.566  270
 55   1     40.000      1.354  270
 58   1     40.000      2.720  270
 59   1     40.000      1.060  270
ESTADO DE CARGAS  3
     0
    20
 46   1     40.000      1.217  270
 47   1     40.000      1.266  270
 48   1     40.000      1.314  270
 52   1     40.000      0.479  270
 53   1     40.000      0.527  270
 54   1     40.000      0.576  270
 55   1     40.000      1.834  270
 56   1     40.000      1.623  270
 59   1     40.000      1.540  270
 59   1     40.000      3.340  270
 62   1     40.000      0.120  270
 62   1     40.000      1.920  270
 65   1     40.000      0.660  270
 66   1     40.000      0.720  270
 68   1     40.000      0.480  270
 69   1     40.000      0.540  270
 73   1     40.000      0.980  270
 74   1     40.000      1.040  270
 76   1     40.000      0.800  270
 77   1     40.000      0.860  270
ESTADO DE CARGAS  4
     0
    22
  3   1     40.000      0.070  270
  4   1     40.000      0.390  270
  5   1     40.000      0.710  270
  9   1     40.000      0.960  270
 10   1     40.000      1.280  270
 11   1     40.000      1.600  270
 13   1     40.000      1.390  270
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 14   1     40.000      1.450  270
 18   1     40.000      1.890  270
 19   1     40.000      0.230  270
 42   1     40.000      1.260  270
 42   1     40.000      3.060  270
 45   1     40.000      1.529  270
 46   1     40.000      1.317  270
 48   1     40.000      0.534  270
 49   1     40.000      0.323  270
 52   1     40.000      1.689  270
 53   1     40.000      1.477  270
 55   1     40.000      0.694  270
 56   1     40.000      0.483  270
 59   1     40.000      0.400  270
 59   1     40.000      2.200  270
ESTADO DE CARGAS  5
     0
    21
 23   1     40.000      2.090  270
 24   1     40.000      0.690  270
 25   1     40.000      0.739  270
 28   1     40.000      1.914  270
 29   1     40.000      1.963  270
 31   1     40.000      0.000  270
 32   1     40.000      1.259  270
 33   1     40.000      1.047  270
 37   1     40.000      0.401  270
 38   1     40.000      0.190  270
 60   1     40.000      0.760  270
 61   1     40.000      1.060  270
 64   1     40.000      0.040  270
 65   1     40.000      0.100  270
 66   1     40.000      1.600  270
 67   1     40.000      1.660  270
 72   1     40.000      0.360  270
 73   1     40.000      0.420  270
 75   1     40.000      0.180  270
 76   1     40.000      0.240  270
 80   1     40.000      0.680  270
:
```

VTO LLOBREGAT MIXTA (A) PRUEBA DE CARGA

Hip. nº 1 ESTADO DE CARGAS 1

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000297
2	0.000000	-0.000513	-0.000292
3	0.000000	-0.001009	-0.000276
4	0.000000	-0.001469	-0.000251
5	0.000000	-0.001876	-0.000215
6	0.000000	-0.002214	-0.000172
7	0.000000	-0.002472	-0.000124
8	0.000000	-0.002645	-0.000075
9	0.000000	-0.002733	-0.000026
10	0.000000	-0.002736	0.000021
11	0.000000	-0.002659	0.000068
12	0.000000	-0.002501	0.000112
13	0.000000	-0.002270	0.000152
14	0.000000	-0.001977	0.000184
15	0.000000	-0.001638	0.000204
16	0.000000	-0.001274	0.000212
17	0.000000	-0.000911	0.000204
18	0.000000	-0.000577	0.000177
19	0.000000	-0.000109	0.000083
20	0.000000	0.000036	-0.000006
21	0.000000	-0.000000	-0.000044
22	0.000000	-0.000095	-0.000082
23	0.000000	-0.000543	-0.000170
24	0.000000	-0.001312	-0.000263
25	0.000000	-0.001875	-0.000292
26	0.000000	-0.002471	-0.000296
27	0.000000	-0.003053	-0.000280
28	0.000000	-0.003587	-0.000248
29	0.000000	-0.004043	-0.000204
30	0.000000	-0.004402	-0.000152
31	0.000000	-0.004651	-0.000094
32	0.000000	-0.004776	-0.000029
33	0.000000	-0.004765	0.000041
34	0.000000	-0.004613	0.000110
35	0.000000	-0.004323	0.000177
36	0.000000	-0.003907	0.000236
37	0.000000	-0.003382	0.000283
38	0.000000	-0.002777	0.000316
39	0.000000	-0.001636	0.000338
40	0.000000	-0.000480	0.000325
41	0.000000	-0.000000	0.000314
42	0.000000	0.000461	0.000301
43	0.000000	0.001433	0.000262
44	0.000000	0.002227	0.000198
45	0.000000	0.002584	0.000157
46	0.000000	0.002862	0.000119
47	0.000000	0.003066	0.000084
48	0.000000	0.003203	0.000052
49	0.000000	0.003276	0.000022
50	0.000000	0.003292	-0.000005
51	0.000000	0.003257	-0.000030
52	0.000000	0.003175	-0.000051
53	0.000000	0.003052	-0.000070
54	0.000000	0.002893	-0.000087
55	0.000000	0.002705	-0.000100
56	0.000000	0.002491	-0.000111
57	0.000000	0.002259	-0.000120
58	0.000000	0.002012	-0.000125
59	0.000000	0.001573	-0.000128
60	0.000000	0.001133	-0.000126

61	0.000000	0.000946	-0.000124
62	0.000000	0.000761	-0.000122
63	0.000000	0.000353	-0.000113
64	0.000000	0.000000	-0.000090
65	0.000000	-0.000143	-0.000075
66	0.000000	-0.000260	-0.000060
67	0.000000	-0.000353	-0.000047
68	0.000000	-0.000423	-0.000034
69	0.000000	-0.000471	-0.000022
70	0.000000	-0.000501	-0.000012
71	0.000000	-0.000512	-0.000002
72	0.000000	-0.000507	0.000007
73	0.000000	-0.000488	0.000015
74	0.000000	-0.000455	0.000022
75	0.000000	-0.000411	0.000028
76	0.000000	-0.000358	0.000033
77	0.000000	-0.000296	0.000038
78	0.000000	-0.000228	0.000041
79	0.000000	-0.000154	0.000043
80	0.000000	-0.000078	0.000045
81	0.000000	-0.000000	0.000045

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	109.09	-0.00
21	0.00	583.13	0.00
41	0.00	209.38	0.01
64	-0.00	-31.58	0.00
81	0.00	10.01	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	0.00	-109.09
	2	0.00	189.82	-109.09
2	2	0.00	189.82	-109.09
	3	0.00	379.64	-109.09
3	3	0.00	379.64	-109.08
	4	0.00	569.45	-109.08
4	4	0.00	569.45	-109.10
	5	0.00	747.29	-69.10
5	5	0.00	747.29	-69.09
	6	0.00	867.50	-69.09
6	6	0.00	867.49	-69.10
	7	0.00	918.92	-29.10
7	7	0.00	918.91	-29.07
	8	0.00	913.49	10.93
8	8	0.00	913.47	10.94
	9	0.00	894.44	10.94
9	9	0.00	894.44	10.94
	10	0.00	875.40	10.94
10	10	0.00	875.40	10.94
	11	0.00	856.37	10.94
11	11	0.00	856.36	10.94
	12	0.00	791.32	50.94
12	12	0.00	791.32	50.95
	13	0.00	669.47	90.95
13	13	0.00	669.47	90.98
	14	0.00	490.75	130.98
14	14	0.00	490.77	131.00
	15	0.00	262.83	131.00
15	15	0.00	262.83	131.00
	16	0.00	6.10	171.00
16	16	0.00	6.11	171.00
	17	0.00	-317.83	211.00
17	17	0.00	-317.82	210.99

	18	0.00	-684.95	210.99
18	18	0.00	-684.95	210.99
	19	0.00	-1414.97	210.99
19	19	0.00	-1414.97	210.99
	20	0.00	-2226.60	290.99
20	20	0.00	-2226.60	290.99
	21	0.00	-2663.08	290.99
21	21	0.00	-2663.08	-292.15
	22	0.00	-2224.87	-292.15
22	22	0.00	-2224.87	-292.14
	23	0.00	-1409.25	-212.14
23	23	0.00	-1409.25	-212.15
	24	0.00	-675.22	-212.15
24	24	0.00	-675.23	-212.15
	25	0.00	-248.59	-212.15
25	25	0.00	-248.59	-212.15
	26	0.00	113.34	-172.15
26	26	0.00	113.35	-172.16
	27	0.00	386.19	-132.16
27	27	0.00	386.18	-132.17
	28	0.00	627.86	-92.17
28	28	0.00	627.84	-92.20
	29	0.00	780.57	-52.20
29	29	0.00	780.57	-52.22
	30	0.00	885.63	-52.22
30	30	0.00	885.65	-52.24
	31	0.00	990.71	-52.24
31	31	0.00	990.71	-52.25
	32	0.00	1095.77	-52.25
32	32	0.00	1095.74	-52.26
	33	0.00	1142.36	-12.26
33	33	0.00	1142.35	-12.25
	34	0.00	1100.03	27.75
34	34	0.00	1100.06	27.74
	35	0.00	1026.41	67.74
35	35	0.00	1026.40	67.72
	36	0.00	863.94	107.72
36	36	0.00	863.95	107.70
	37	0.00	647.27	107.70
37	37	0.00	647.29	107.69
	38	0.00	430.74	107.69
38	38	0.00	430.75	107.68
	39	0.00	28.59	147.68
39	39	0.00	28.59	147.67
	40	-0.00	-578.36	187.67
40	40	-0.00	-578.37	187.67
	41	-0.00	-859.86	187.67
41	41	-0.00	-859.87	-21.71
	42	-0.00	-827.29	-21.71
42	42	-0.00	-827.29	-21.71
	43	-0.00	-752.18	-21.71
43	43	-0.00	-752.18	-21.71
	44	-0.00	-677.08	-21.71
44	44	-0.00	-677.08	-21.70
	45	-0.00	-633.43	-21.70
45	45	-0.00	-633.42	-21.70
	46	-0.00	-589.77	-21.70
46	46	-0.00	-589.78	-21.68
	47	-0.00	-546.19	-21.68
47	47	-0.00	-546.20	-21.67
	48	-0.00	-502.61	-21.67
48	48	-0.00	-502.63	-21.67
	49	-0.00	-459.05	-21.67
49	49	-0.00	-459.08	-21.66
	50	-0.00	-415.51	-21.66
50	50	-0.00	-415.52	-21.65
	51	-0.00	-371.99	-21.65

51	51	-0.00	-371.98	-21.63
	52	-0.00	-328.48	-21.63
52	52	-0.00	-328.48	-21.64
	53	-0.00	-284.95	-21.64
53	53	-0.00	-284.95	-21.62
	54	-0.00	-241.47	-21.62
54	54	-0.00	-241.46	-21.61
	55	-0.00	-197.98	-21.61
55	55	-0.00	-197.98	-21.59
	56	-0.00	-154.57	-21.59
56	56	-0.00	-154.57	-21.58
	57	-0.00	-111.16	-21.58
57	57	-0.00	-111.16	-21.58
	58	-0.00	-67.75	-21.58
58	58	-0.00	-67.76	-21.58
	59	-0.00	6.89	-21.58
59	59	-0.00	6.90	-21.57
	60	-0.00	81.54	-21.57
60	60	-0.00	81.55	-21.57
	61	-0.00	113.91	-21.57
61	61	-0.00	113.92	-21.60
	62	-0.00	146.32	-21.60
62	62	-0.00	146.32	-21.60
	63	-0.00	221.05	-21.60
63	63	-0.00	221.05	-21.60
	64	-0.00	295.78	-21.60
64	64	-0.00	295.78	9.98
	65	-0.00	278.40	9.98
65	65	-0.00	278.40	9.98
	66	-0.00	261.03	9.98
66	66	-0.00	261.03	9.99
	67	-0.00	243.65	9.99
67	67	-0.00	243.65	9.99
	68	-0.00	226.27	9.99
68	68	-0.00	226.27	9.99
	69	-0.00	208.89	9.99
69	69	-0.00	208.89	9.99
	70	-0.00	191.50	9.99
70	70	-0.00	191.50	9.99
	71	-0.00	174.11	9.99
71	71	-0.00	174.12	10.00
	72	-0.00	156.72	10.00
72	72	-0.00	156.72	10.00
	73	-0.00	139.33	10.00
73	73	-0.00	139.33	10.00
	74	-0.00	121.93	10.00
74	74	-0.00	121.93	10.00
	75	-0.00	104.52	10.00
75	75	-0.00	104.52	10.01
	76	-0.00	87.11	10.01
76	76	-0.00	87.11	10.01
	77	-0.00	69.70	10.01
77	77	-0.00	69.69	10.01
	78	-0.00	52.27	10.01
78	78	-0.00	52.27	10.01
	79	-0.00	34.85	10.01
79	79	-0.00	34.85	10.01
	80	-0.00	17.43	10.01
80	80	0.00	17.43	10.01
	81	0.00	0.00	10.01

VTO LLOBREGAT MIXTA (A) PRUEBA DE CARGA

Hip. nº 2 ESTADO DE CARGAS 2

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	0.000000	0.000108
2	0.000000	0.000188	0.000108
3	0.000000	0.000374	0.000105
4	0.000000	0.000554	0.000102
5	0.000000	0.000727	0.000097
6	0.000000	0.000891	0.000091
7	0.000000	0.001042	0.000083
8	0.000000	0.001178	0.000074
9	0.000000	0.001297	0.000063
10	0.000000	0.001396	0.000051
11	0.000000	0.001473	0.000037
12	0.000000	0.001526	0.000023
13	0.000000	0.001551	0.000006
14	0.000000	0.001547	-0.000011
15	0.000000	0.001510	-0.000031
16	0.000000	0.001439	-0.000051
17	0.000000	0.001331	-0.000073
18	0.000000	0.001184	-0.000096
19	0.000000	0.000778	-0.000139
20	0.000000	0.000254	-0.000165
21	0.000000	-0.000000	-0.000174
22	0.000000	-0.000267	-0.000182
23	0.000000	-0.000923	-0.000195
24	0.000000	-0.001598	-0.000191
25	0.000000	-0.001964	-0.000172
26	0.000000	-0.002280	-0.000141
27	0.000000	-0.002523	-0.000099
28	0.000000	-0.002674	-0.000050
29	0.000000	-0.002722	0.000002
30	0.000000	-0.002668	0.000051
31	0.000000	-0.002519	0.000097
32	0.000000	-0.002280	0.000140
33	0.000000	-0.001959	0.000178
34	0.000000	-0.001571	0.000206
35	0.000000	-0.001139	0.000220
36	0.000000	-0.000696	0.000217
37	0.000000	-0.000282	0.000191
38	0.000000	0.000055	0.000139
39	0.000000	0.000333	0.000009
40	0.000000	0.000186	-0.000102
41	0.000000	-0.000000	-0.000147
42	0.000000	-0.000257	-0.000193
43	0.000000	-0.001125	-0.000301
44	0.000000	-0.002396	-0.000420
45	0.000000	-0.003288	-0.000462
46	0.000000	-0.004233	-0.000474
47	0.000000	-0.005178	-0.000463
48	0.000000	-0.006080	-0.000431
49	0.000000	-0.006901	-0.000383
50	0.000000	-0.007614	-0.000324
51	0.000000	-0.008196	-0.000254
52	0.000000	-0.008626	-0.000173
53	0.000000	-0.008885	-0.000083
54	0.000000	-0.008958	0.000011
55	0.000000	-0.008842	0.000105
56	0.000000	-0.008538	0.000196
57	0.000000	-0.008057	0.000279
58	0.000000	-0.007420	0.000353
59	0.000000	-0.006040	0.000441
60	0.000000	-0.004458	0.000469

61	0.000000	-0.003751	0.000473
62	0.000000	-0.003042	0.000472
63	0.000000	-0.001434	0.000453
64	0.000000	-0.000000	0.000368
65	0.000000	0.000585	0.000305
66	0.000000	0.001065	0.000246
67	0.000000	0.001444	0.000191
68	0.000000	0.001730	0.000139
69	0.000000	0.001930	0.000091
70	0.000000	0.002050	0.000047
71	0.000000	0.002096	0.000007
72	0.000000	0.002076	-0.000029
73	0.000000	0.001997	-0.000062
74	0.000000	0.001864	-0.000090
75	0.000000	0.001684	-0.000115
76	0.000000	0.001464	-0.000136
77	0.000000	0.001211	-0.000154
78	0.000000	0.000932	-0.000167
79	0.000000	0.000632	-0.000177
80	0.000000	0.000319	-0.000182
81	0.000000	0.000000	-0.000184

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	-15.19	0.00
21	0.00	108.69	0.00
41	0.00	630.96	-0.00
64	-0.00	196.04	-0.00
81	0.00	-41.00	-0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	15.19
	2	0.00	-26.42	15.19
2	2	0.00	-26.42	15.19
	3	0.00	-52.85	15.19
3	3	0.00	-52.85	15.18
	4	0.00	-79.27	15.18
4	4	0.00	-79.27	15.19
	5	0.00	-105.70	15.19
5	5	0.00	-105.70	15.19
	6	0.00	-132.12	15.19
6	6	0.00	-132.12	15.19
	7	0.00	-158.54	15.19
7	7	0.00	-158.54	15.18
	8	0.00	-184.94	15.18
8	8	0.00	-184.94	15.16
	9	0.00	-211.33	15.16
9	9	0.00	-211.33	15.18
	10	0.00	-237.74	15.18
10	10	0.00	-237.74	15.17
	11	0.00	-264.13	15.17
11	11	0.00	-264.14	15.17
	12	0.00	-290.53	15.17
12	12	0.00	-290.53	15.16
	13	0.00	-316.92	15.16
13	13	0.00	-316.91	15.15
	14	0.00	-343.27	15.15
14	14	0.00	-343.27	15.14
	15	0.00	-369.61	15.14
15	15	0.00	-369.60	15.14
	16	0.00	-395.95	15.14
16	16	0.00	-395.95	15.13
	17	0.00	-422.28	15.13
17	17	0.00	-422.28	15.14

	18	0.00	-448.63	15.14
18	18	0.00	-448.63	15.14
	19	0.00	-501.01	15.14
19	19	0.00	-501.01	15.14
	20	0.00	-553.40	15.14
20	20	0.00	-553.39	15.14
	21	0.00	-576.10	15.14
21	21	0.00	-576.10	-93.55
	22	0.00	-435.79	-93.55
22	22	0.00	-435.78	-93.55
	23	0.00	-112.11	-93.55
23	23	0.00	-112.10	-93.55
	24	0.00	211.58	-93.55
24	24	0.00	211.58	-93.55
	25	0.00	399.71	-93.55
25	25	0.00	399.71	-93.57
	26	0.00	587.97	-93.57
26	26	0.00	587.97	-93.56
	27	0.00	744.35	-53.56
27	27	0.00	744.35	-53.57
	28	0.00	822.30	-13.57
28	28	0.00	822.29	-13.58
	29	0.00	821.72	26.42
29	29	0.00	821.74	26.40
	30	0.00	768.62	26.40
30	30	0.00	768.64	26.38
	31	0.00	715.59	26.38
31	31	0.00	715.60	26.39
	32	0.00	662.54	26.39
32	32	0.00	662.53	26.37
	33	0.00	548.15	66.37
33	33	0.00	548.14	66.37
	34	0.00	355.31	106.37
34	34	0.00	355.32	106.37
	35	0.00	83.86	146.37
35	35	0.00	83.86	146.36
	36	0.00	-217.56	186.36
36	36	0.00	-217.56	186.36
	37	0.00	-608.08	226.36
37	37	0.00	-608.08	226.36
	38	0.00	-1063.29	226.36
38	38	0.00	-1063.28	226.36
	39	0.00	-1846.48	226.36
39	39	0.00	-1846.49	226.36
	40	0.00	-2711.28	306.36
40	40	0.00	-2711.28	306.36
	41	0.00	-3170.82	306.36
41	41	0.00	-3170.82	-324.60
	42	0.00	-2683.92	-324.60
42	42	0.00	-2683.92	-324.60
	43	0.00	-1755.99	-244.60
43	43	0.00	-1755.99	-244.61
	44	0.00	-909.65	-244.61
44	44	0.00	-909.65	-244.61
	45	0.00	-417.74	-244.61
45	45	0.00	-417.76	-244.62
	46	0.00	9.50	-204.62
46	46	0.00	9.51	-204.66
	47	0.00	347.71	-164.66
47	47	0.00	347.70	-164.69
	48	0.00	654.82	-124.69
48	48	0.00	654.81	-124.67
	49	0.00	872.85	-84.67
49	49	0.00	872.86	-84.71
	50	0.00	1043.30	-84.71
50	50	0.00	1043.29	-84.70
	51	0.00	1213.63	-84.70

51	51	0.00	1213.61	-84.74
	52	0.00	1384.03	-84.74
52	52	0.00	1383.99	-84.78
	53	0.00	1496.04	-44.78
53	53	0.00	1495.98	-44.77
	54	0.00	1519.04	-4.77
54	54	0.00	1519.01	-4.83
	55	0.00	1510.87	35.17
55	55	0.00	1510.87	35.13
	56	0.00	1413.93	75.13
56	56	0.00	1413.94	75.06
	57	0.00	1262.92	75.06
57	57	0.00	1262.88	75.08
	58	0.00	1111.88	75.08
58	58	0.00	1111.89	75.09
	59	0.00	822.49	115.09
59	59	0.00	822.50	115.07
	60	-0.00	328.35	155.07
60	60	-0.00	328.31	155.09
	61	-0.00	95.69	155.09
61	61	-0.00	95.63	155.12
	62	-0.00	-137.04	155.12
62	62	-0.00	-137.08	155.17
	63	-0.00	-673.97	155.17
63	63	-0.00	-673.97	155.17
	64	-0.00	-1210.85	155.17
64	64	-0.00	-1210.85	-40.87
	65	-0.00	-1139.73	-40.87
65	65	-0.00	-1139.73	-40.88
	66	-0.00	-1068.60	-40.88
66	66	-0.00	-1068.59	-40.88
	67	-0.00	-997.47	-40.88
67	67	-0.00	-997.46	-40.89
	68	-0.00	-926.30	-40.89
68	68	-0.00	-926.31	-40.91
	69	-0.00	-855.13	-40.91
69	69	-0.00	-855.13	-40.90
	70	-0.00	-783.96	-40.90
70	70	-0.00	-783.95	-40.89
	71	-0.00	-712.79	-40.89
71	71	-0.00	-712.79	-40.92
	72	-0.00	-641.59	-40.92
72	72	-0.00	-641.60	-40.93
	73	-0.00	-570.37	-40.93
73	73	-0.00	-570.37	-40.93
	74	-0.00	-499.15	-40.93
74	74	-0.00	-499.15	-40.96
	75	-0.00	-427.88	-40.96
75	75	-0.00	-427.89	-40.97
	76	-0.00	-356.61	-40.97
76	76	-0.00	-356.61	-40.98
	77	-0.00	-285.31	-40.98
77	77	-0.00	-285.31	-40.99
	78	-0.00	-213.99	-40.99
78	78	-0.00	-213.99	-40.99
	79	-0.00	-142.67	-40.99
79	79	-0.00	-142.67	-41.00
	80	-0.00	-71.34	-41.00
80	80	0.00	-71.34	-41.00
	81	0.00	-0.00	-41.00

VTO LLOBREGAT MIXTA (A) PRUEBA DE CARGA

Hip. nº 3 ESTADO DE CARGAS 3

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000103
2	0.000000	-0.000179	-0.000103
3	0.000000	-0.000356	-0.000100
4	0.000000	-0.000528	-0.000097
5	0.000000	-0.000693	-0.000092
6	0.000000	-0.000849	-0.000086
7	0.000000	-0.000993	-0.000079
8	0.000000	-0.001123	-0.000070
9	0.000000	-0.001236	-0.000060
10	0.000000	-0.001330	-0.000048
11	0.000000	-0.001404	-0.000036
12	0.000000	-0.001454	-0.000021
13	0.000000	-0.001478	-0.000006
14	0.000000	-0.001474	0.000011
15	0.000000	-0.001439	0.000029
16	0.000000	-0.001371	0.000049
17	0.000000	-0.001269	0.000070
18	0.000000	-0.001128	0.000092
19	0.000000	-0.000742	0.000132
20	0.000000	-0.000242	0.000157
21	0.000000	0.000000	0.000165
22	0.000000	0.000254	0.000173
23	0.000000	0.000890	0.000192
24	0.000000	0.001594	0.000212
25	0.000000	0.002026	0.000217
26	0.000000	0.002462	0.000216
27	0.000000	0.002889	0.000208
28	0.000000	0.003295	0.000195
29	0.000000	0.003668	0.000175
30	0.000000	0.003995	0.000149
31	0.000000	0.004262	0.000117
32	0.000000	0.004459	0.000078
33	0.000000	0.004573	0.000034
34	0.000000	0.004590	-0.000017
35	0.000000	0.004499	-0.000074
36	0.000000	0.004286	-0.000138
37	0.000000	0.003940	-0.000207
38	0.000000	0.003449	-0.000283
39	0.000000	0.002264	-0.000404
40	0.000000	0.000738	-0.000479
41	0.000000	-0.000000	-0.000505
42	0.000000	-0.000777	-0.000529
43	0.000000	-0.002711	-0.000583
44	0.000000	-0.004817	-0.000625
45	0.000000	-0.006074	-0.000622
46	0.000000	-0.007303	-0.000596
47	0.000000	-0.008458	-0.000548
48	0.000000	-0.009497	-0.000482
49	0.000000	-0.010386	-0.000401
50	0.000000	-0.011106	-0.000312
51	0.000000	-0.011637	-0.000215
52	0.000000	-0.011964	-0.000109
53	0.000000	-0.012072	0.000002
54	0.000000	-0.011953	0.000116
55	0.000000	-0.011607	0.000227
56	0.000000	-0.011046	0.000330
57	0.000000	-0.010285	0.000424
58	0.000000	-0.009350	0.000503
59	0.000000	-0.007460	0.000583
60	0.000000	-0.005403	0.000602

61	0.000000	-0.004499	0.000602
62	0.000000	-0.003601	0.000596
63	0.000000	-0.001611	0.000547
64	0.000000	-0.000000	0.000369
65	0.000000	0.000532	0.000247
66	0.000000	0.000873	0.000149
67	0.000000	0.001062	0.000071
68	0.000000	0.001131	0.000011
69	0.000000	0.001111	-0.000032
70	0.000000	0.001027	-0.000063
71	0.000000	0.000898	-0.000084
72	0.000000	0.000740	-0.000095
73	0.000000	0.000572	-0.000096
74	0.000000	0.000410	-0.000088
75	0.000000	0.000268	-0.000074
76	0.000000	0.000154	-0.000057
77	0.000000	0.000072	-0.000038
78	0.000000	0.000023	-0.000020
79	0.000000	0.000000	-0.000007
80	0.000000	-0.000004	0.000001
81	0.000000	-0.000000	0.000003

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	14.47	0.00
21	0.00	-64.11	0.00
41	0.00	233.69	0.00
64	-0.00	560.48	0.00
81	0.00	55.30	-0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	-14.47
	2	0.00	25.18	-14.47
2	2	0.00	25.18	-14.47
	3	0.00	50.35	-14.47
3	3	0.00	50.35	-14.47
	4	0.00	75.53	-14.47
4	4	0.00	75.53	-14.47
	5	0.00	100.71	-14.47
5	5	0.00	100.71	-14.47
	6	0.00	125.89	-14.47
6	6	0.00	125.89	-14.47
	7	0.00	151.06	-14.47
7	7	0.00	151.07	-14.45
	8	0.00	176.21	-14.45
8	8	0.00	176.21	-14.46
	9	0.00	201.36	-14.46
9	9	0.00	201.36	-14.46
	10	0.00	226.52	-14.46
10	10	0.00	226.52	-14.45
	11	0.00	251.67	-14.45
11	11	0.00	251.67	-14.45
	12	0.00	276.82	-14.45
12	12	0.00	276.82	-14.46
	13	0.00	301.97	-14.46
13	13	0.00	301.96	-14.44
	14	0.00	327.08	-14.44
14	14	0.00	327.08	-14.42
	15	0.00	352.17	-14.42
15	15	0.00	352.17	-14.42
	16	0.00	377.27	-14.42
16	16	0.00	377.26	-14.43
	17	0.00	402.37	-14.43
17	17	0.00	402.36	-14.43

	18	0.00	427.46	-14.43
18	18	0.00	427.46	-14.43
	19	0.00	477.38	-14.43
19	19	0.00	477.38	-14.43
	20	0.00	527.29	-14.43
20	20	0.00	527.28	-14.43
	21	0.00	548.92	-14.43
21	21	0.00	548.92	49.68
	22	0.00	474.40	49.68
22	22	0.00	474.40	49.68
	23	0.00	302.49	49.68
23	23	0.00	302.48	49.69
	24	0.00	130.56	49.69
24	24	0.00	130.56	49.69
	25	0.00	30.64	49.69
25	25	0.00	30.64	49.70
	26	0.00	-69.36	49.70
26	26	0.00	-69.36	49.70
	27	0.00	-169.31	49.70
27	27	0.00	-169.29	49.72
	28	0.00	-269.32	49.72
28	28	0.00	-269.31	49.73
	29	0.00	-369.31	49.73
29	29	0.00	-369.32	49.76
	30	0.00	-469.43	49.76
30	30	0.00	-469.43	49.79
	31	0.00	-569.56	49.79
31	31	0.00	-569.55	49.78
	32	0.00	-669.66	49.78
32	32	0.00	-669.64	49.78
	33	0.00	-769.79	49.78
33	33	0.00	-769.79	49.80
	34	0.00	-869.93	49.80
34	34	0.00	-869.94	49.80
	35	0.00	-970.15	49.80
35	35	0.00	-970.14	49.82
	36	0.00	-1070.32	49.82
36	36	0.00	-1070.34	49.84
	37	0.00	-1170.61	49.84
37	37	0.00	-1170.62	49.88
	38	0.00	-1270.93	49.88
38	38	0.00	-1270.91	49.87
	39	0.00	-1443.45	49.87
39	39	0.00	-1443.45	49.87
	40	0.00	-1616.00	49.87
40	40	0.00	-1615.99	49.86
	41	0.00	-1690.80	49.86
41	41	0.00	-1690.80	-183.83
	42	0.00	-1415.07	-183.83
42	42	0.00	-1415.08	-183.83
	43	0.00	-779.01	-183.83
43	43	0.00	-779.02	-183.83
	44	0.00	-142.94	-183.83
44	44	0.00	-142.94	-183.83
	45	0.00	226.75	-183.83
45	45	0.00	226.70	-183.89
	46	0.00	596.69	-183.89
46	46	0.00	596.69	-183.91
	47	0.00	934.77	-143.91
47	47	0.00	934.77	-143.97
	48	0.00	1194.60	-103.97
48	48	0.00	1194.59	-103.95
	49	0.00	1375.75	-63.95
49	49	0.00	1375.79	-63.99
	50	0.00	1504.53	-63.99
50	50	0.00	1504.52	-64.02
	51	0.00	1633.26	-64.02

51	51	0.00	1633.29	-63.98
	52	0.00	1761.95	-63.98
52	52	0.00	1761.97	-64.09
	53	0.00	1829.61	-24.09
53	53	0.00	1829.52	-24.09
	54	0.00	1818.61	15.91
54	54	0.00	1818.55	15.83
	55	0.00	1729.25	55.83
55	55	0.00	1729.25	55.80
	56	0.00	1609.96	95.80
56	56	0.00	1610.05	95.75
	57	0.00	1401.84	135.75
57	57	0.00	1401.87	135.75
	58	0.00	1128.88	135.75
58	58	0.00	1128.91	135.71
	59	0.00	659.33	135.71
59	59	0.00	659.33	135.71
	60	0.00	108.18	215.71
60	60	0.00	108.19	215.79
	61	0.00	-215.48	215.79
61	61	0.00	-215.42	215.87
	62	0.00	-539.22	215.87
62	62	0.00	-539.18	215.83
	63	0.00	-1481.15	295.83
63	63	0.00	-1481.14	295.82
	64	0.00	-2504.68	295.82
64	64	0.00	-2504.69	-264.66
	65	0.00	-2044.17	-264.66
65	65	0.00	-2044.17	-264.66
	66	0.00	-1626.85	-224.66
66	66	0.00	-1626.86	-224.67
	67	0.00	-1276.73	-184.67
67	67	0.00	-1276.72	-184.67
	68	0.00	-955.39	-184.67
68	68	0.00	-955.39	-184.68
	69	0.00	-684.45	-144.68
69	69	0.00	-684.45	-144.68
	70	0.00	-480.70	-104.68
70	70	0.00	-480.69	-104.68
	71	0.00	-298.55	-104.68
71	71	0.00	-298.55	-104.69
	72	0.00	-116.40	-104.69
72	72	0.00	-116.40	-104.69
	73	0.00	65.77	-104.69
73	73	0.00	65.77	-104.69
	74	0.00	217.54	-64.69
74	74	0.00	217.54	-64.70
	75	0.00	302.11	-24.70
75	75	0.00	302.11	-24.70
	76	0.00	345.09	-24.70
76	76	0.00	345.09	-24.70
	77	0.00	350.47	15.30
77	77	0.00	350.47	15.30
	78	-0.00	288.65	55.30
78	78	-0.00	288.65	55.30
	79	-0.00	192.44	55.30
79	79	-0.00	192.44	55.30
	80	-0.00	96.22	55.30
80	80	0.00	96.22	55.30
	81	0.00	-0.00	55.30

VTO LLOBREGAT MIXTA (A) PRUEBA DE CARGA

Hip. nº 4 ESTADO DE CARGAS 4

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000705
2	0.000000	-0.001221	-0.000696
3	0.000000	-0.002410	-0.000668
4	0.000000	-0.003536	-0.000624
5	0.000000	-0.004573	-0.000566
6	0.000000	-0.005501	-0.000499
7	0.000000	-0.006305	-0.000423
8	0.000000	-0.006971	-0.000341
9	0.000000	-0.007487	-0.000252
10	0.000000	-0.007843	-0.000156
11	0.000000	-0.008027	-0.000056
12	0.000000	-0.008036	0.000045
13	0.000000	-0.007871	0.000143
14	0.000000	-0.007540	0.000237
15	0.000000	-0.007051	0.000324
16	0.000000	-0.006418	0.000401
17	0.000000	-0.005662	0.000466
18	0.000000	-0.004802	0.000520
19	0.000000	-0.002888	0.000579
20	0.000000	-0.000868	0.000582
21	0.000000	-0.000000	0.000575
22	0.000000	0.000855	0.000565
23	0.000000	0.002755	0.000532
24	0.000000	0.004483	0.000465
25	0.000000	0.005367	0.000415
26	0.000000	0.006148	0.000361
27	0.000000	0.006819	0.000305
28	0.000000	0.007374	0.000246
29	0.000000	0.007808	0.000185
30	0.000000	0.008115	0.000120
31	0.000000	0.008290	0.000053
32	0.000000	0.008326	-0.000017
33	0.000000	0.008218	-0.000090
34	0.000000	0.007961	-0.000166
35	0.000000	0.007549	-0.000245
36	0.000000	0.006976	-0.000326
37	0.000000	0.006236	-0.000410
38	0.000000	0.005324	-0.000497
39	0.000000	0.003379	-0.000628
40	0.000000	0.001075	-0.000704
41	0.000000	-0.000000	-0.000729
42	0.000000	-0.001111	-0.000751
43	0.000000	-0.003787	-0.000789
44	0.000000	-0.006537	-0.000791
45	0.000000	-0.008100	-0.000760
46	0.000000	-0.009577	-0.000704
47	0.000000	-0.010920	-0.000628
48	0.000000	-0.012095	-0.000537
49	0.000000	-0.013073	-0.000433
50	0.000000	-0.013833	-0.000321
51	0.000000	-0.014363	-0.000205
52	0.000000	-0.014656	-0.000085
53	0.000000	-0.014702	0.000040
54	0.000000	-0.014496	0.000165
55	0.000000	-0.014041	0.000286
56	0.000000	-0.013348	0.000401
57	0.000000	-0.012436	0.000504
58	0.000000	-0.011333	0.000591
59	0.000000	-0.009114	0.000686
60	0.000000	-0.006684	0.000714

61	0.000000	-0.005612	0.000715
62	0.000000	-0.004542	0.000711
63	0.000000	-0.002133	0.000676
64	0.000000	-0.000000	0.000547
65	0.000000	0.000869	0.000453
66	0.000000	0.001580	0.000365
67	0.000000	0.002143	0.000283
68	0.000000	0.002568	0.000206
69	0.000000	0.002864	0.000135
70	0.000000	0.003042	0.000070
71	0.000000	0.003111	0.000010
72	0.000000	0.003082	-0.000043
73	0.000000	0.002963	-0.000092
74	0.000000	0.002766	-0.000134
75	0.000000	0.002499	-0.000171
76	0.000000	0.002173	-0.000202
77	0.000000	0.001798	-0.000228
78	0.000000	0.001383	-0.000248
79	0.000000	0.000938	-0.000262
80	0.000000	0.000474	-0.000271
81	0.000000	0.000000	-0.000273

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	196.15	0.00
21	0.00	181.72	-0.01
41	0.00	296.89	-0.01
64	-0.00	266.05	0.01
81	0.00	-60.85	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	-196.15
	2	0.00	341.31	-196.15
2	2	0.00	341.30	-196.14
	3	0.00	682.57	-196.14
3	3	0.00	682.57	-196.15
	4	0.00	957.06	-156.15
4	4	0.00	957.06	-156.16
	5	0.00	1174.78	-116.16
5	5	0.00	1174.77	-116.15
	6	0.00	1335.67	-76.15
6	6	0.00	1335.66	-76.13
	7	0.00	1468.13	-76.13
7	7	0.00	1468.11	-76.09
	8	0.00	1600.50	-76.09
8	8	0.00	1600.43	-76.09
	9	0.00	1732.82	-76.09
9	9	0.00	1732.79	-76.08
	10	0.00	1833.96	-36.08
10	10	0.00	1833.93	-36.10
	11	0.00	1878.34	3.90
11	11	0.00	1878.27	3.92
	12	0.00	1865.84	43.92
12	12	0.00	1865.81	43.95
	13	0.00	1789.33	43.95
13	13	0.00	1789.28	44.05
	14	0.00	1698.64	84.05
14	14	0.00	1698.67	84.16
	15	0.00	1540.63	124.16
15	15	0.00	1540.64	124.12
	16	0.00	1324.66	124.12
16	16	0.00	1324.68	124.12
	17	0.00	1108.71	124.12
17	17	0.00	1108.69	124.08

	18	0.00	892.79	124.08
18	18	0.00	892.76	124.10
	19	0.00	400.57	164.10
19	19	0.00	400.57	164.11
	20	0.00	-296.44	204.11
20	20	0.00	-296.46	204.12
	21	0.00	-602.62	204.12
21	21	0.00	-602.60	22.39
	22	0.00	-636.18	22.39
22	22	0.00	-636.18	22.39
	23	0.00	-713.66	22.39
23	23	0.00	-713.66	22.39
	24	0.00	-791.16	22.39
24	24	0.00	-791.16	22.40
	25	0.00	-836.20	22.40
25	25	0.00	-836.20	22.43
	26	0.00	-881.34	22.43
26	26	0.00	-881.36	22.40
	27	0.00	-926.41	22.40
27	27	0.00	-926.40	22.46
	28	0.00	-971.60	22.46
28	28	0.00	-971.59	22.47
	29	0.00	-1016.78	22.47
29	29	0.00	-1016.82	22.55
	30	0.00	-1062.19	22.55
30	30	0.00	-1062.24	22.58
	31	0.00	-1107.64	22.58
31	31	0.00	-1107.66	22.61
	32	0.00	-1153.13	22.61
32	32	0.00	-1153.10	22.59
	33	0.00	-1198.54	22.59
33	33	0.00	-1198.58	22.60
	34	0.00	-1244.02	22.60
34	34	0.00	-1244.09	22.63
	35	0.00	-1289.62	22.63
35	35	0.00	-1289.60	22.69
	36	0.00	-1335.22	22.69
36	36	0.00	-1335.21	22.71
	37	0.00	-1380.91	22.71
37	37	0.00	-1380.93	22.73
	38	0.00	-1426.65	22.73
38	38	0.00	-1426.66	22.74
	39	0.00	-1505.35	22.74
39	39	0.00	-1505.35	22.75
	40	0.00	-1584.06	22.75
40	40	0.00	-1584.06	22.73
	41	0.00	-1618.17	22.73
41	41	0.00	-1618.16	-274.16
	42	0.00	-1206.93	-274.16
42	42	0.00	-1206.93	-274.18
	43	0.00	-362.28	-194.18
43	43	0.00	-362.27	-194.19
	44	0.00	309.63	-194.19
44	44	0.00	309.60	-194.21
	45	0.00	700.16	-194.21
45	45	0.00	700.11	-194.22
	46	0.00	1071.57	-154.22
46	46	0.00	1071.59	-154.30
	47	0.00	1354.13	-114.30
47	47	0.00	1354.10	-114.37
	48	0.00	1584.22	-114.37
48	48	0.00	1584.17	-114.37
	49	0.00	1755.08	-74.37
49	49	0.00	1755.11	-74.37
	50	0.00	1837.20	-34.37
50	50	0.00	1837.21	-34.41
	51	0.00	1906.40	-34.41

51	51	0.00	1906.43	-34.39
	52	0.00	1975.59	-34.39
52	52	0.00	1975.62	-34.50
	53	0.00	2032.11	5.50
53	53	0.00	2032.07	5.53
	54	0.00	1999.58	45.53
54	54	0.00	1999.62	45.46
	55	0.00	1908.15	45.46
55	55	0.00	1908.22	45.35
	56	0.00	1764.34	85.35
56	56	0.00	1764.41	85.27
	57	0.00	1531.69	125.27
57	57	0.00	1531.66	125.25
	58	0.00	1279.78	125.25
58	58	0.00	1279.78	125.26
	59	0.00	846.38	125.26
59	59	0.00	846.40	125.25
	60	-0.00	240.24	205.25
60	60	-0.00	240.17	205.23
	61	-0.00	-67.66	205.23
61	61	-0.00	-67.66	205.47
	62	-0.00	-375.85	205.47
62	62	-0.00	-375.80	205.38
	63	-0.00	-1086.43	205.38
63	63	-0.00	-1086.43	205.38
	64	-0.00	-1797.07	205.38
64	64	-0.00	-1797.08	-60.67
	65	-0.00	-1691.51	-60.67
65	65	-0.00	-1691.51	-60.67
	66	-0.00	-1585.94	-60.67
66	66	-0.00	-1585.93	-60.67
	67	-0.00	-1480.37	-60.67
67	67	-0.00	-1480.36	-60.69
	68	-0.00	-1374.76	-60.69
68	68	-0.00	-1374.75	-60.70
	69	-0.00	-1269.14	-60.70
69	69	-0.00	-1269.15	-60.72
	70	-0.00	-1163.48	-60.72
70	70	-0.00	-1163.49	-60.70
	71	-0.00	-1057.87	-60.70
71	71	-0.00	-1057.87	-60.72
	72	-0.00	-952.21	-60.72
72	72	-0.00	-952.21	-60.75
	73	-0.00	-846.51	-60.75
73	73	-0.00	-846.51	-60.75
	74	-0.00	-740.80	-60.75
74	74	-0.00	-740.79	-60.78
	75	-0.00	-635.04	-60.78
75	75	-0.00	-635.04	-60.79
	76	-0.00	-529.26	-60.79
76	76	-0.00	-529.25	-60.81
	77	-0.00	-423.44	-60.81
77	77	-0.00	-423.44	-60.83
	78	-0.00	-317.59	-60.83
78	78	-0.00	-317.60	-60.84
	79	-0.00	-211.74	-60.84
79	79	-0.00	-211.74	-60.85
	80	-0.00	-105.87	-60.85
80	80	0.00	-105.87	-60.85
	81	0.00	0.00	-60.85

VTO LLOBREGAT MIXTA (A) PRUEBA DE CARGA

Hip. nº 5 ESTADO DE CARGAS 5

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	0.000000	0.000269
2	0.000000	0.000468	0.000268
3	0.000000	0.000929	0.000262
4	0.000000	0.001379	0.000254
5	0.000000	0.001810	0.000241
6	0.000000	0.002216	0.000225
7	0.000000	0.002592	0.000206
8	0.000000	0.002931	0.000183
9	0.000000	0.003227	0.000157
10	0.000000	0.003473	0.000127
11	0.000000	0.003665	0.000093
12	0.000000	0.003795	0.000056
13	0.000000	0.003858	0.000016
14	0.000000	0.003847	-0.000029
15	0.000000	0.003757	-0.000076
16	0.000000	0.003580	-0.000127
17	0.000000	0.003312	-0.000182
18	0.000000	0.002946	-0.000240
19	0.000000	0.001936	-0.000345
20	0.000000	0.000631	-0.000410
21	0.000000	-0.000000	-0.000432
22	0.000000	-0.000663	-0.000452
23	0.000000	-0.002299	-0.000488
24	0.000000	-0.004004	-0.000487
25	0.000000	-0.004957	-0.000457
26	0.000000	-0.005830	-0.000410
27	0.000000	-0.006596	-0.000350
28	0.000000	-0.007231	-0.000279
29	0.000000	-0.007710	-0.000195
30	0.000000	-0.008011	-0.000102
31	0.000000	-0.008119	-0.000005
32	0.000000	-0.008032	0.000092
33	0.000000	-0.007752	0.000185
34	0.000000	-0.007291	0.000271
35	0.000000	-0.006669	0.000345
36	0.000000	-0.005911	0.000406
37	0.000000	-0.005043	0.000454
38	0.000000	-0.004092	0.000488
39	0.000000	-0.002373	0.000496
40	0.000000	-0.000693	0.000470
41	0.000000	-0.000000	0.000454
42	0.000000	0.000668	0.000437
43	0.000000	0.002088	0.000385
44	0.000000	0.003268	0.000299
45	0.000000	0.003813	0.000244
46	0.000000	0.004251	0.000192
47	0.000000	0.004586	0.000143
48	0.000000	0.004827	0.000097
49	0.000000	0.004978	0.000055
50	0.000000	0.005048	0.000015
51	0.000000	0.005042	-0.000021
52	0.000000	0.004966	-0.000054
53	0.000000	0.004828	-0.000083
54	0.000000	0.004633	-0.000110
55	0.000000	0.004388	-0.000133
56	0.000000	0.004100	-0.000153
57	0.000000	0.003775	-0.000170
58	0.000000	0.003419	-0.000184
59	0.000000	0.002758	-0.000197
60	0.000000	0.002069	-0.000200

61	0.000000	0.001769	-0.000200
62	0.000000	0.001468	-0.000201
63	0.000000	0.000765	-0.000208
64	0.000000	-0.000000	-0.000237
65	0.000000	-0.000427	-0.000251
66	0.000000	-0.000866	-0.000250
67	0.000000	-0.001291	-0.000236
68	0.000000	-0.001681	-0.000211
69	0.000000	-0.002020	-0.000178
70	0.000000	-0.002298	-0.000140
71	0.000000	-0.002503	-0.000095
72	0.000000	-0.002626	-0.000046
73	0.000000	-0.002659	0.000009
74	0.000000	-0.002595	0.000064
75	0.000000	-0.002436	0.000118
76	0.000000	-0.002185	0.000169
77	0.000000	-0.001852	0.000212
78	0.000000	-0.001451	0.000247
79	0.000000	-0.000998	0.000272
80	0.000000	-0.000509	0.000288
81	0.000000	-0.000000	0.000295

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	-37.78	0.00
21	0.00	254.14	0.02
41	0.00	208.98	0.00
64	-0.00	275.79	-0.00
81	-0.00	138.76	-0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	37.78
	2	0.00	-65.74	37.78
2	2	0.00	-65.73	37.77
	3	0.00	-131.46	37.77
3	3	0.00	-131.46	37.78
	4	0.00	-197.19	37.78
4	4	0.00	-197.19	37.78
	5	0.00	-262.93	37.78
5	5	0.00	-262.94	37.77
	6	0.00	-328.65	37.77
6	6	0.00	-328.66	37.77
	7	0.00	-394.38	37.77
7	7	0.00	-394.39	37.74
	8	0.00	-460.04	37.74
8	8	0.00	-460.03	37.75
	9	0.00	-525.72	37.75
9	9	0.00	-525.70	37.76
	10	0.00	-591.40	37.76
10	10	0.00	-591.40	37.73
	11	0.00	-657.05	37.73
11	11	0.00	-657.06	37.73
	12	0.00	-722.71	37.73
12	12	0.00	-722.72	37.73
	13	0.00	-788.36	37.73
13	13	0.00	-788.37	37.66
	14	0.00	-853.90	37.66
14	14	0.00	-853.92	37.66
	15	0.00	-919.45	37.66
15	15	0.00	-919.44	37.64
	16	0.00	-984.93	37.64
16	16	0.00	-984.93	37.68
	17	0.00	-1050.49	37.68
17	17	0.00	-1050.47	37.66

	18	0.00	-1116.00	37.66
18	18	0.00	-1115.99	37.67
	19	0.00	-1246.32	37.67
19	19	0.00	-1246.32	37.66
	20	0.00	-1376.62	37.66
20	20	0.00	-1376.62	37.64
	21	0.00	-1433.10	37.64
21	21	0.00	-1433.12	-216.49
	22	0.00	-1108.39	-216.49
22	22	0.00	-1108.40	-216.49
	23	0.00	-359.35	-216.49
23	23	0.00	-359.35	-216.49
	24	0.00	334.91	-176.49
24	24	0.00	334.90	-176.49
	25	0.00	637.00	-136.49
25	25	0.00	637.01	-136.51
	26	0.00	860.74	-96.51
26	26	0.00	860.77	-96.51
	27	0.00	1054.83	-96.51
27	27	0.00	1054.81	-96.56
	28	0.00	1249.09	-96.56
28	28	0.00	1249.06	-96.57
	29	0.00	1439.39	-56.57
29	29	0.00	1439.41	-56.65
	30	0.00	1551.42	-16.65
30	30	0.00	1551.44	-16.69
	31	0.00	1585.00	-16.69
31	31	0.00	1585.05	-16.65
	32	0.00	1538.08	23.35
32	32	0.00	1538.08	23.30
	33	0.00	1461.08	63.30
33	33	0.00	1461.07	63.30
	34	0.00	1295.21	103.30
34	34	0.00	1295.23	103.26
	35	0.00	1087.48	103.26
35	35	0.00	1087.44	103.24
	36	0.00	879.82	103.24
36	36	0.00	879.80	103.19
	37	0.00	672.17	103.19
37	37	0.00	672.16	103.18
	38	0.00	400.26	143.18
38	38	0.00	400.25	143.18
	39	0.00	-225.97	183.18
39	39	0.00	-225.97	183.18
	40	0.00	-859.79	183.18
40	40	0.00	-859.79	183.20
	41	0.00	-1134.58	183.20
41	41	0.00	-1134.58	-25.78
	42	0.00	-1095.89	-25.78
42	42	0.00	-1095.89	-25.77
	43	0.00	-1006.72	-25.77
43	43	0.00	-1006.71	-25.77
	44	0.00	-917.56	-25.77
44	44	0.00	-917.56	-25.77
	45	0.00	-865.73	-25.77
45	45	0.00	-865.72	-25.76
	46	0.00	-813.90	-25.76
46	46	0.00	-813.92	-25.72
	47	0.00	-762.19	-25.72
47	47	0.00	-762.21	-25.71
	48	0.00	-710.47	-25.71
48	48	0.00	-710.47	-25.68
	49	0.00	-658.82	-25.68
49	49	0.00	-658.83	-25.69
	50	0.00	-607.14	-25.69
50	50	0.00	-607.14	-25.67
	51	0.00	-555.52	-25.67

51	51	0.00	-555.50	-25.66
	52	0.00	-503.90	-25.66
52	52	0.00	-503.88	-25.64
	53	0.00	-452.29	-25.64
53	53	0.00	-452.25	-25.63
	54	0.00	-400.71	-25.63
54	54	0.00	-400.69	-25.63
	55	0.00	-349.12	-25.63
55	55	0.00	-349.13	-25.59
	56	0.00	-297.67	-25.59
56	56	0.00	-297.70	-25.58
	57	0.00	-246.22	-25.58
57	57	0.00	-246.23	-25.57
	58	0.00	-194.81	-25.57
58	58	0.00	-194.81	-25.57
	59	0.00	-106.34	-25.57
59	59	0.00	-106.34	-25.56
	60	0.00	-17.89	-25.56
60	60	0.00	-17.90	-25.61
	61	0.00	-9.09	14.39
61	61	0.00	-9.11	14.39
	62	0.00	-48.30	54.39
62	62	0.00	-48.30	54.39
	63	0.00	-236.48	54.39
63	63	0.00	-236.49	54.39
	64	0.00	-424.68	54.39
64	64	0.00	-424.68	-221.40
	65	0.00	-107.43	-181.40
65	65	0.00	-107.43	-181.40
	66	0.00	142.60	-141.40
66	66	0.00	142.61	-141.39
	67	0.00	383.03	-101.39
67	67	0.00	383.03	-101.39
	68	0.00	556.25	-61.39
68	68	0.00	556.25	-61.38
	69	0.00	663.05	-61.38
69	69	0.00	663.07	-61.36
	70	0.00	769.83	-61.36
70	70	0.00	769.84	-61.38
	71	0.00	876.64	-61.38
71	71	0.00	876.63	-61.38
	72	0.00	983.44	-61.38
72	72	0.00	983.42	-61.35
	73	0.00	1034.96	-21.35
73	73	0.00	1034.96	-21.35
	74	0.00	1019.30	18.65
74	74	0.00	1019.29	18.69
	75	0.00	986.77	18.69
75	75	0.00	986.77	18.70
	76	0.00	891.84	58.70
76	76	0.00	891.83	58.72
	77	0.00	729.67	98.72
77	77	0.00	729.66	98.74
	78	0.00	557.86	98.74
78	78	0.00	557.86	98.74
	79	0.00	386.05	98.74
79	79	0.00	386.06	98.76
	80	0.00	214.23	98.76
80	80	0.00	214.23	98.76
	81	-0.00	-0.00	138.76

CALCULOS DE PRUEBA DE CARGA
VTO LLOBREGAT MIXTA (B)

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VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA
CONTROL
   221  220    1   19
:
NUDOS
     1    0.000     0.0000
     2    1.622     0.0000
     3    3.245     0.0000
     4    4.867     0.0000
     5    6.489     0.0000
     6    8.112     0.0000
     7    9.734     0.0000
     8   11.356     0.0000
     9   12.979     0.0000
    10   14.601     0.0000
    11   16.224     0.0000
    12   17.846     0.0000
    13   19.468     0.0000
    14   21.091     0.0000
    15   22.713     0.0000
    16   24.335     0.0000
    17   25.958     0.0000
    18   27.580     0.0000
    19   31.040     0.0000
    20   34.500     0.0000
    21   36.000     0.0000
    22   37.500     0.0000
    23   40.960     0.0000
    24   44.420     0.0000
    25   46.431     0.0000
    26   48.443     0.0000
    27   50.454     0.0000
    28   52.466     0.0000
    29   54.477     0.0000
    30   56.489     0.0000
    31   58.500     0.0000
    32   60.511     0.0000
    33   62.523     0.0000
    34   64.534     0.0000
    35   66.546     0.0000
    36   68.557     0.0000
    37   70.569     0.0000
    38   72.580     0.0000
    39   76.040     0.0000
    40   79.500     0.0000
    41   81.000     0.0000
    42   82.500     0.0000
    43   85.960     0.0000
    44   89.420     0.0000
    45   91.431     0.0000
    46   93.443     0.0000
    47   95.454     0.0000
    48   97.466     0.0000
    49   99.477     0.0000
    50  101.489     0.0000
    51  103.500     0.0000
    52  105.511     0.0000
    53  107.523     0.0000
    54  109.534     0.0000
    55  111.546     0.0000
    56  113.557     0.0000
    57  115.569     0.0000
    58  117.580     0.0000
    59  121.040     0.0000
    60  124.500     0.0000
    61  126.000     0.0000
    62  127.500     0.0000
    63  130.960     0.0000
    64  134.420     0.0000
    65  136.431     0.0000
    66  138.443     0.0000
    67  140.454     0.0000
    68  142.466     0.0000
    69  144.477     0.0000
    70  146.489     0.0000
    71  148.500     0.0000
    72  150.511     0.0000
    73  152.523     0.0000
    74  154.534     0.0000
    75  156.546     0.0000
    76  158.557     0.0000
    77  160.569     0.0000
    78  162.580     0.0000
    79  166.040     0.0000
    80  169.500     0.0000
    81  171.000     0.0000
    82  172.500     0.0000
    83  175.960     0.0000
    84  179.420     0.0000
    85  181.431     0.0000
    86  183.443     0.0000
    87  185.454     0.0000
    88  187.466     0.0000
    89  189.477     0.0000
    90  191.489     0.0000
    91  193.500     0.0000
    92  195.511     0.0000
    93  197.523     0.0000
    94  199.534     0.0000
    95  201.546     0.0000
    96  203.557     0.0000
    97  205.569     0.0000
    98  207.580     0.0000
    99  211.040     0.0000
   100  214.500     0.0000
   101  216.000     0.0000
   102  217.500     0.0000
   103  220.960     0.0000
   104  224.420     0.0000
   105  226.431     0.0000
   106  228.443     0.0000
   107  230.454     0.0000
   108  232.466     0.0000
   109  234.477     0.0000
   110  236.489     0.0000
   111  238.500     0.0000
   112  240.511     0.0000
   113  242.523     0.0000
   114  244.534     0.0000
   115  246.546     0.0000
   116  248.557     0.0000
   117  250.569     0.0000
   118  252.580     0.0000
   119  256.040     0.0000
   120  259.500     0.0000
   121  261.000     0.0000
   122  262.500     0.0000
   123  265.960     0.0000
   124  269.420     0.0000
   125  271.431     0.0000
   126  273.443     0.0000
   127  275.454     0.0000
   128  277.466     0.0000
   129  279.477     0.0000
   130  281.489     0.0000
   131  283.500     0.0000
   132  285.511     0.0000
   133  287.523     0.0000
   134  289.534     0.0000
   135  291.546     0.0000
   136  293.557     0.0000
   137  295.569     0.0000
   138  297.580     0.0000
   139  301.040     0.0000
   140  304.500     0.0000
   141  306.000     0.0000
   142  307.500     0.0000
   143  310.960     0.0000
   144  314.420     0.0000
   145  316.431     0.0000
   146  318.443     0.0000
   147  320.454     0.0000
   148  322.466     0.0000
   149  324.477     0.0000
   150  326.489     0.0000
   151  328.500     0.0000
   152  330.511     0.0000
   153  332.523     0.0000
   154  334.534     0.0000
   155  336.546     0.0000
   156  338.557     0.0000
   157  340.569     0.0000
   158  342.580     0.0000
   159  346.040     0.0000
   160  349.500     0.0000
   161  351.000     0.0000
   162  352.500     0.0000
   163  355.960     0.0000
   164  359.420     0.0000
   165  361.431     0.0000
   166  363.443     0.0000
   167  365.454     0.0000
   168  367.466     0.0000
   169  369.477     0.0000
```

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   170  371.489     0.0000
   171  373.500     0.0000
   172  375.511     0.0000
   173  377.523     0.0000
   174  379.534     0.0000
   175  381.546     0.0000
   176  383.557     0.0000
   177  385.569     0.0000
   178  387.580     0.0000
   179  391.040     0.0000
   180  394.500     0.0000
   181  396.000     0.0000
   182  397.500     0.0000
   183  400.960     0.0000
   184  404.420     0.0000
   185  406.431     0.0000
   186  408.443     0.0000
   187  410.454     0.0000
   188  412.466     0.0000
   189  414.477     0.0000
   190  416.489     0.0000
   191  418.500     0.0000
   192  420.511     0.0000
   193  422.523     0.0000
   194  424.534     0.0000
   195  426.546     0.0000
   196  428.557     0.0000
   197  430.569     0.0000
   198  432.580     0.0000
   199  436.040     0.0000
   200  439.500     0.0000
   201  441.000     0.0000
   202  442.500     0.0000
   203  445.960     0.0000
   204  449.420     0.0000
   205  451.042     0.0000
   206  452.665     0.0000
   207  454.287     0.0000
   208  455.909     0.0000
   209  457.532     0.0000
   210  459.154     0.0000
   211  460.776     0.0000
   212  462.399     0.0000
   213  464.021     0.0000
   214  465.644     0.0000
   215  467.266     0.0000
   216  468.888     0.0000
   217  470.511     0.0000
   218  472.133     0.0000
   219  473.755     0.0000
   220  475.378     0.0000
   221  477.000     0.0000
:
BARRAS TIPO
     4
8.383   8.933   3630000
8.681   10.666  3630000
9.82    19.4125 3630000
10.661  26.426  3630000
:
BARRAS
     1    1    2    1
     2    2    3    1
     3    3    4    1
     4    4    5    1
     5    5    6    1
     6    6    7    1
     7    7    8    1
     8    8    9    1
     9    9   10    1
    10   10   11    1
    11   11   12    1
    12   12   13    1
    13   13   14    1
    14   14   15    1
    15   15   16    1
    16   16   17    1
    17   17   18    1
    18   18   19    2
    19   19   20    3
    20   20   21    4
    21   21   22    4
    22   22   23    3
    23   23   24    2
    24   24   25    1
    25   25   26    1
    26   26   27    1
    27   27   28    1
    28   28   29    1
    29   29   30    1
    30   30   31    1
    31   31   32    1
    32   32   33    1
    33   33   34    1
    34   34   35    1
    35   35   36    1
    36   36   37    1
    37   37   38    1
    38   38   39    2
    39   39   40    3
    40   40   41    4
    41   41   42    4
    42   42   43    3
    43   43   44    2
    44   44   45    1
    45   45   46    1
    46   46   47    1
    47   47   48    1
    48   48   49    1
    49   49   50    1
    50   50   51    1
    51   51   52    1
    52   52   53    1
    53   53   54    1
    54   54   55    1
    55   55   56    1
    56   56   57    1
    57   57   58    1
    58   58   59    2
    59   59   60    3
    60   60   61    4
    61   61   62    4
    62   62   63    3
    63   63   64    2
    64   64   65    1
    65   65   66    1
    66   66   67    1
    67   67   68    1
    68   68   69    1
    69   69   70    1
    70   70   71    1
    71   71   72    1
    72   72   73    1
    73   73   74    1
    74   74   75    1
    75   75   76    1
    76   76   77    1
    77   77   78    1
    78   78   79    2
    79   79   80    3
    80   80   81    4
    81   81   82    4
    82   82   83    3
    83   83   84    2
    84   84   85    1
    85   85   86    1
    86   86   87    1
    87   87   88    1
    88   88   89    1
    89   89   90    1
    90   90   91    1
    91   91   92    1
    92   92   93    1
    93   93   94    1
    94   94   95    1
    95   95   96    1
    96   96   97    1
    97   97   98    1
    98   98   99    2
    99   99  100    3
   100  100  101    4
   101  101  102    4
   102  102  103    3
   103  103  104    2
   104  104  105    1
   105  105  106    1
   106  106  107    1
   107  107  108    1
   108  108  109    1
   109  109  110    1
   110  110  111    1
   111  111  112    1
   112  112  113    1
   113  113  114    1
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114  114  115    1
115  115  116    1
116  116  117    1
117  117  118    1
118  118  119    2
119  119  120    3
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121  121  122    4
122  122  123    3
123  123  124    2
124  124  125    1
125  125  126    1
126  126  127    1
127  127  128    1
128  128  129    1
129  129  130    1
130  130  131    1
131  131  132    1
132  132  133    1
133  133  134    1
134  134  135    1
135  135  136    1
136  136  137    1
137  137  138    1
138  138  139    2
139  139  140    3
140  140  141    4
141  141  142    4
142  142  143    3
143  143  144    2
144  144  145    1
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146  146  147    1
147  147  148    1
148  148  149    1
149  149  150    1
150  150  151    1
151  151  152    1
152  152  153    1
153  153  154    1
154  154  155    1
155  155  156    1
156  156  157    1
157  157  158    1
158  158  159    2
159  159  160    3
160  160  161    4
161  161  162    4
162  162  163    3
163  163  164    2
164  164  165    1
165  165  166    1
166  166  167    1
167  167  168    1
168  168  169    1
169  169  170    1
170  170  171    1
171  171  172    1
172  172  173    1
173  173  174    1
174  174  175    1
175  175  176    1
176  176  177    1
177  177  178    1
178  178  179    2
179  179  180    3
180  180  181    4
181  181  182    4
182  182  183    3
183  183  184    2
184  184  185    1
185  185  186    1
186  186  187    1
187  187  188    1
188  188  189    1
189  189  190    1
190  190  191    1
191  191  192    1
192  192  193    1
193  193  194    1
194  194  195    1
195  195  196    1
196  196  197    1
197  197  198    1
198  198  199    2
199  199  200    3
200  200  201    4
201  201  202    4
202  202  203    3
203  203  204    2
204  204  205    1
205  205  206    1
206  206  207    1
207  207  208    1
208  208  209    1
209  209  210    1
210  210  211    1
211  211  212    1
212  212  213    1
213  213  214    1
214  214  215    1
215  215  216    1
216  216  217    1
217  217  218    1
218  218  219    1
219  219  220    1
220  220  221    1
:
APOYOS
   12
1       1       1       0
21      0       1       0
41      0       1       0
61      0       1       0
81      0       1       0
101     0       1       0
121     0       1       0
141     0       1       0
161     0       1       0
181     0       1       0
201     0       1       0
221     0       1       0
:
CARGAS
ESTADO DE CARGAS  1
    0
   22
  3   1     40.000      1.415  270
  5   1     40.000      0.231  270
  6   1     40.000      0.668  270
 10   1     40.000      1.389  270
 12   1     40.000      0.204  270
 13   1     40.000      0.642  270
 15   1     40.000      0.667  270
 16   1     40.000      0.845  270
 19   1     40.000      1.540  270
 19   1     40.000      3.340  270
 22   1     40.000      0.120  270
 22   1     40.000      1.920  270
 25   1     40.000      0.389  270
 26   1     40.000      0.177  270
 27   1     40.000      1.406  270
 28   1     40.000      1.194  270
 32   1     40.000      0.549  270
 33   1     40.000      0.337  270
 34   1     40.000      1.566  270
 35   1     40.000      1.354  270
 38   1     40.000      2.720  270
 39   1     40.000      1.060  270
ESTADO DE CARGAS  2
    0
   22
 23   1     40.000      2.090  270
 24   1     40.000      0.690  270
 25   1     40.000      0.739  270
 28   1     40.000      1.914  270
 29   1     40.000      1.963  270
 31   1     40.000      0.000  270
 32   1     40.000      1.259  270
 33   1     40.000      1.047  270
 37   1     40.000      0.401  270
 38   1     40.000      0.190  270
 42   1     40.000      1.260  270
 42   1     40.000      3.060  270
 45   1     40.000      1.529  270
 46   1     40.000      1.317  270
 48   1     40.000      0.534  270
 49   1     40.000      0.323  270
 52   1     40.000      1.689  270
 53   1     40.000      1.477  270
 55   1     40.000      0.694  270
 56   1     40.000      0.483  270
 59   1     40.000      0.400  270
 59   1     40.000      2.200  270
```

CALCULOS DE PRUEBA DE CARGA
VTO LLOBREGAT MIXTA (B)

```
ESTADO DE CARGAS  3
     0
    22
 43   1     40.000      2.090  270
 44   1     40.000      0.690  270
 45   1     40.000      0.739  270
 48   1     40.000      1.914  270
 49   1     40.000      1.963  270
 50   1     40.000      2.011  270
 52   1     40.000      1.259  270
 53   1     40.000      1.047  270
 57   1     40.000      0.401  270
 58   1     40.000      0.190  270
 62   1     40.000      1.260  270
 62   1     40.000      3.060  270
 65   1     40.000      1.529  270
 66   1     40.000      1.317  270
 68   1     40.000      0.534  270
 69   1     40.000      0.323  270
 72   1     40.000      1.689  270
 73   1     40.000      1.477  270
 75   1     40.000      0.694  270
 76   1     40.000      0.483  270
 79   1     40.000      0.400  270
 79   1     40.000      2.200  270
ESTADO DE CARGAS  4
     0
    22
 63   1     40.000      2.090  270
 64   1     40.000      0.690  270
 65   1     40.000      0.739  270
 68   1     40.000      1.914  270
 69   1     40.000      1.963  270
 70   1     40.000      2.011  270
 72   1     40.000      1.259  270
 73   1     40.000      1.047  270
 77   1     40.000      0.401  270
 78   1     40.000      0.190  270
 82   1     40.000      1.260  270
 82   1     40.000      3.060  270
 85   1     40.000      1.529  270
 86   1     40.000      1.317  270
 88   1     40.000      0.534  270
 89   1     40.000      0.323  270
 92   1     40.000      1.689  270
 93   1     40.000      1.477  270
 95   1     40.000      0.694  270
 96   1     40.000      0.483  270
 99   1     40.000      0.400  270
 99   1     40.000      2.200  270
ESTADO DE CARGAS  5
     0
    22
 83   1     40.000      2.090  270
 84   1     40.000      0.690  270
 85   1     40.000      0.739  270
 88   1     40.000      1.914  270
 89   1     40.000      1.963  270
 90   1     40.000      2.011  270
 92   1     40.000      1.259  270
 93   1     40.000      1.047  270
 97   1     40.000      0.401  270
 98   1     40.000      0.190  270
102   1     40.000      1.260  270
102   1     40.000      3.060  270
105   1     40.000      1.529  270
106   1     40.000      1.317  270
108   1     40.000      0.534  270
109   1     40.000      0.323  270
112   1     40.000      1.689  270
113   1     40.000      1.477  270
115   1     40.000      0.694  270
116   1     40.000      0.483  270
119   1     40.000      0.400  270
119   1     40.000      2.200  270
ESTADO DE CARGAS  6
     0
    22
103   1     40.000      2.090  270
104   1     40.000      0.690  270
105   1     40.000      0.739  270
108   1     40.000      1.914  270
109   1     40.000      1.963  270
110   1     40.000      2.011  270
112   1     40.000      1.259  270
113   1     40.000      1.047  270
117   1     40.000      0.401  270
118   1     40.000      0.190  270
122   1     40.000      1.260  270
122   1     40.000      3.060  270
125   1     40.000      1.529  270
126   1     40.000      1.317  270
128   1     40.000      0.534  270
129   1     40.000      0.323  270
132   1     40.000      1.689  270
133   1     40.000      1.477  270
135   1     40.000      0.694  270
136   1     40.000      0.483  270
139   1     40.000      0.400  270
139   1     40.000      2.200  270
ESTADO DE CARGAS  7
     0
    22
123   1     40.000      2.090  270
124   1     40.000      0.690  270
125   1     40.000      0.739  270
128   1     40.000      1.914  270
129   1     40.000      1.963  270
130   1     40.000      2.011  270
132   1     40.000      1.259  270
133   1     40.000      1.047  270
137   1     40.000      0.401  270
138   1     40.000      0.190  270
142   1     40.000      1.260  270
142   1     40.000      3.060  270
145   1     40.000      1.529  270
146   1     40.000      1.317  270
148   1     40.000      0.534  270
149   1     40.000      0.323  270
152   1     40.000      1.689  270
153   1     40.000      1.477  270
155   1     40.000      0.694  270
156   1     40.000      0.483  270
159   1     40.000      0.400  270
159   1     40.000      2.200  270
ESTADO DE CARGAS  8
     0
    22
143   1     40.000      2.090  270
144   1     40.000      0.690  270
145   1     40.000      0.739  270
148   1     40.000      1.914  270
149   1     40.000      1.963  270
150   1     40.000      2.011  270
152   1     40.000      1.259  270
153   1     40.000      1.047  270
157   1     40.000      0.401  270
158   1     40.000      0.190  270
162   1     40.000      1.260  270
162   1     40.000      3.060  270
165   1     40.000      1.529  270
166   1     40.000      1.317  270
168   1     40.000      0.534  270
169   1     40.000      0.323  270
172   1     40.000      1.689  270
173   1     40.000      1.477  270
175   1     40.000      0.694  270
176   1     40.000      0.483  270
179   1     40.000      0.400  270
179   1     40.000      2.200  270
ESTADO DE CARGAS  9
     0
    22
163   1     40.000      2.090  270
164   1     40.000      0.690  270
165   1     40.000      0.739  270
168   1     40.000      1.914  270
169   1     40.000      1.963  270
170   1     40.000      2.011  270
172   1     40.000      1.259  270
173   1     40.000      1.047  270
177   1     40.000      0.401  270
178   1     40.000      0.190  270
182   1     40.000      1.260  270
182   1     40.000      3.060  270
185   1     40.000      1.529  270
186   1     40.000      1.317  270
188   1     40.000      0.534  270
189   1     40.000      0.323  270
192   1     40.000      1.689  270
193   1     40.000      1.477  270
195   1     40.000      0.694  270
196   1     40.000      0.483  270
199   1     40.000      0.400  270
```

```
199   1     40.000      2.200  270
ESTADO DE CARGAS  10
     0
    18
183   1     40.000      2.090  270
184   1     40.000      0.690  270
185   1     40.000      0.739  270
188   1     40.000      1.914  270
189   1     40.000      1.963  270
190   1     40.000      2.011  270
192   1     40.000      1.259  270
193   1     40.000      1.047  270
197   1     40.000      0.401  270
198   1     40.000      0.190  270
203   1     40.000      0.420  270
203   1     40.000      2.220  270
207   1     40.000      1.293  270
208   1     40.000      1.471  270
210   1     40.000      1.466  270
212   1     40.000      0.021  270
216   1     40.000      0.932  270
217   1     40.000      1.109  270
ESTADO DE CARGAS  11
     0
    22
  2   1     40.000      0.928  270
  3   1     40.000      1.365  270
  5   1     40.000      0.181  270
  9   1     40.000      0.901  270
 10   1     40.000      1.339  270
 12   1     40.000      0.154  270
 14   1     40.000      0.179  270
 15   1     40.000      0.357  270
 18   1     40.000      2.890  270
 19   1     40.000      1.230  270
 42   1     40.000      1.260  270
 42   1     40.000      3.060  270
 45   1     40.000      1.529  270
 46   1     40.000      1.317  270
 48   1     40.000      0.534  270
 49   1     40.000      0.323  270
 52   1     40.000      1.689  270
 53   1     40.000      1.477  270
 55   1     40.000      0.694  270
 56   1     40.000      0.483  270
 59   1     40.000      0.400  270
 59   1     40.000      2.200  270
ESTADO DE CARGAS  12
     0
    22
 23   1     40.000      2.090  270
 24   1     40.000      0.690  270
 25   1     40.000      0.739  270
 28   1     40.000      1.914  270
 29   1     40.000      1.963  270
 31   1     40.000      0.000  270
 32   1     40.000      1.259  270
 33   1     40.000      1.047  270
 37   1     40.000      0.401  270
 38   1     40.000      0.190  270
 62   1     40.000      1.260  270
 62   1     40.000      3.060  270
 65   1     40.000      1.529  270
 66   1     40.000      1.317  270
 68   1     40.000      0.534  270
 69   1     40.000      0.323  270
 72   1     40.000      1.689  270
 73   1     40.000      1.477  270
 75   1     40.000      0.694  270
 76   1     40.000      0.483  270
 79   1     40.000      0.400  270
 79   1     40.000      2.200  270
ESTADO DE CARGAS  13
     0
    22
 43   1     40.000      2.090  270
 44   1     40.000      0.690  270
 45   1     40.000      0.739  270
 48   1     40.000      1.914  270
 49   1     40.000      1.963  270
 50   1     40.000      2.011  270
 52   1     40.000      1.259  270
 53   1     40.000      1.047  270
 57   1     40.000      0.401  270
 58   1     40.000      0.190  270
 82   1     40.000      1.260  270
 82   1     40.000      3.060  270
 85   1     40.000      1.529  270
 86   1     40.000      1.317  270
 88   1     40.000      0.534  270
 89   1     40.000      0.323  270
 92   1     40.000      1.689  270
 93   1     40.000      1.477  270
 95   1     40.000      0.694  270
 96   1     40.000      0.483  270
 99   1     40.000      0.400  270
 99   1     40.000      2.200  270
ESTADO DE CARGAS  14
     0
    22
 63   1     40.000      2.090  270
 64   1     40.000      0.690  270
 65   1     40.000      0.739  270
 68   1     40.000      1.914  270
 69   1     40.000      1.963  270
 70   1     40.000      2.011  270
 72   1     40.000      1.259  270
 73   1     40.000      1.047  270
 77   1     40.000      0.401  270
 78   1     40.000      0.190  270
102   1     40.000      1.260  270
102   1     40.000      3.060  270
105   1     40.000      1.529  270
106   1     40.000      1.317  270
108   1     40.000      0.534  270
109   1     40.000      0.323  270
112   1     40.000      1.689  270
113   1     40.000      1.477  270
115   1     40.000      0.694  270
116   1     40.000      0.483  270
119   1     40.000      0.400  270
119   1     40.000      2.200  270
ESTADO DE CARGAS  15
     0
    22
 83   1     40.000      2.090  270
 84   1     40.000      0.690  270
 85   1     40.000      0.739  270
 88   1     40.000      1.914  270
 89   1     40.000      1.963  270
 90   1     40.000      2.011  270
 92   1     40.000      1.259  270
 93   1     40.000      1.047  270
 97   1     40.000      0.401  270
 98   1     40.000      0.190  270
122   1     40.000      1.260  270
122   1     40.000      3.060  270
125   1     40.000      1.529  270
126   1     40.000      1.317  270
128   1     40.000      0.534  270
129   1     40.000      0.323  270
132   1     40.000      1.689  270
133   1     40.000      1.477  270
135   1     40.000      0.694  270
136   1     40.000      0.483  270
139   1     40.000      0.400  270
139   1     40.000      2.200  270
ESTADO DE CARGAS  16
     0
    22
103   1     40.000      2.090  270
104   1     40.000      0.690  270
105   1     40.000      0.739  270
108   1     40.000      1.914  270
109   1     40.000      1.963  270
110   1     40.000      2.011  270
112   1     40.000      1.259  270
113   1     40.000      1.047  270
117   1     40.000      0.401  270
118   1     40.000      0.190  270
142   1     40.000      1.260  270
142   1     40.000      3.060  270
145   1     40.000      1.529  270
146   1     40.000      1.317  270
148   1     40.000      0.534  270
149   1     40.000      0.323  270
152   1     40.000      1.689  270
153   1     40.000      1.477  270
155   1     40.000      0.694  270
156   1     40.000      0.483  270
159   1     40.000      0.400  270
159   1     40.000      2.200  270
ESTADO DE CARGAS  17
     0
```

```
    22
123   1     40.000      2.090  270
124   1     40.000      0.690  270
125   1     40.000      0.739  270
128   1     40.000      1.914  270
129   1     40.000      1.963  270
130   1     40.000      2.011  270
132   1     40.000      1.259  270
133   1     40.000      1.047  270
137   1     40.000      0.401  270
138   1     40.000      0.190  270
162   1     40.000      1.260  270
162   1     40.000      3.060  270
165   1     40.000      1.529  270
166   1     40.000      1.317  270
168   1     40.000      0.534  270
169   1     40.000      0.323  270
172   1     40.000      1.689  270
173   1     40.000      1.477  270
175   1     40.000      0.694  270
176   1     40.000      0.483  270
179   1     40.000      0.400  270
179   1     40.000      2.200  270
ESTADO DE CARGAS  18
     0
    22
143   1     40.000      2.090  270
144   1     40.000      0.690  270
145   1     40.000      0.739  270
148   1     40.000      1.914  270
149   1     40.000      1.963  270
150   1     40.000      2.011  270
152   1     40.000      1.259  270
153   1     40.000      1.047  270
157   1     40.000      0.401  270
158   1     40.000      0.190  270
182   1     40.000      1.260  270
182   1     40.000      3.060  270
185   1     40.000      1.529  270
186   1     40.000      1.317  270
188   1     40.000      0.534  270
189   1     40.000      0.323  270
192   1     40.000      1.689  270
193   1     40.000      1.477  270
195   1     40.000      0.694  270
196   1     40.000      0.483  270
199   1     40.000      0.400  270
199   1     40.000      2.200  270
ESTADO DE CARGAS  19
     0
    18
163   1     40.000      2.090  270
164   1     40.000      0.690  270
165   1     40.000      0.739  270
168   1     40.000      1.914  270
169   1     40.000      1.963  270
170   1     40.000      2.011  270
172   1     40.000      1.259  270
173   1     40.000      1.047  270
177   1     40.000      0.401  270
178   1     40.000      0.190  270
203   1     40.000      0.420  270
203   1     40.000      2.220  270
207   1     40.000      1.293  270
208   1     40.000      1.471  270
210   1     40.000      1.466  270
212   1     40.000      0.021  270
216   1     40.000      0.932  270
217   1     40.000      1.109  270
:
```

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 1 ESTADO DE CARGAS 1

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000248
2	0.000000	-0.000400	-0.000244
3	0.000000	-0.000785	-0.000229
4	0.000000	-0.001139	-0.000205
5	0.000000	-0.001447	-0.000173
6	0.000000	-0.001699	-0.000137
7	0.000000	-0.001889	-0.000097
8	0.000000	-0.002014	-0.000057
9	0.000000	-0.002075	-0.000018
10	0.000000	-0.002072	0.000022
11	0.000000	-0.002005	0.000061
12	0.000000	-0.001876	0.000098
13	0.000000	-0.001690	0.000130
14	0.000000	-0.001456	0.000156
15	0.000000	-0.001189	0.000172
16	0.000000	-0.000905	0.000177
17	0.000000	-0.000622	0.000169
18	0.000000	-0.000365	0.000145
19	0.000000	0.000003	0.000057
20	0.000000	0.000066	-0.000027
21	0.000000	-0.000000	-0.000063
22	0.000000	-0.000123	-0.000099
23	0.000000	-0.000621	-0.000182
24	0.000000	-0.001417	-0.000267
25	0.000000	-0.001984	-0.000291
26	0.000000	-0.002574	-0.000291
27	0.000000	-0.003143	-0.000273
28	0.000000	-0.003660	-0.000238
29	0.000000	-0.004094	-0.000192
30	0.000000	-0.004428	-0.000139
31	0.000000	-0.004651	-0.000081
32	0.000000	-0.004749	-0.000016
33	0.000000	-0.004714	0.000052
34	0.000000	-0.004539	0.000120
35	0.000000	-0.004231	0.000184
36	0.000000	-0.003803	0.000240
37	0.000000	-0.003273	0.000283
38	0.000000	-0.002672	0.000312
39	0.000000	-0.001557	0.000326
40	0.000000	-0.000452	0.000308
41	0.000000	-0.000000	0.000295
42	0.000000	0.000430	0.000279
43	0.000000	0.001320	0.000236
44	0.000000	0.002011	0.000165
45	0.000000	0.002297	0.000121
46	0.000000	0.002499	0.000080
47	0.000000	0.002622	0.000043
48	0.000000	0.002675	0.000010
49	0.000000	0.002665	-0.000020
50	0.000000	0.002598	-0.000046
51	0.000000	0.002483	-0.000068
52	0.000000	0.002327	-0.000087
53	0.000000	0.002136	-0.000102
54	0.000000	0.001919	-0.000114
55	0.000000	0.001682	-0.000121
56	0.000000	0.001433	-0.000126
57	0.000000	0.001178	-0.000126
58	0.000000	0.000927	-0.000123
59	0.000000	0.000517	-0.000112
60	0.000000	0.000148	-0.000101
61	0.000000	0.000000	-0.000096
62	0.000000	-0.000140	-0.000091
63	0.000000	-0.000430	-0.000077
64	0.000000	-0.000656	-0.000054
65	0.000000	-0.000749	-0.000039
66	0.000000	-0.000815	-0.000026
67	0.000000	-0.000855	-0.000014
68	0.000000	-0.000872	-0.000003
69	0.000000	-0.000869	0.000006
70	0.000000	-0.000847	0.000015
71	0.000000	-0.000810	0.000022
72	0.000000	-0.000759	0.000028
73	0.000000	-0.000696	0.000033
74	0.000000	-0.000625	0.000037
75	0.000000	-0.000548	0.000040
76	0.000000	-0.000467	0.000041
77	0.000000	-0.000384	0.000041
78	0.000000	-0.000302	0.000040
79	0.000000	-0.000169	0.000036
80	0.000000	-0.000048	0.000033
81	0.000000	-0.000000	0.000031
82	0.000000	0.000046	0.000030
83	0.000000	0.000140	0.000025
84	0.000000	0.000214	0.000018
85	0.000000	0.000244	0.000013
86	0.000000	0.000266	0.000009
87	0.000000	0.000279	0.000005
88	0.000000	0.000284	0.000001
89	0.000000	0.000283	-0.000002
90	0.000000	0.000276	-0.000005
91	0.000000	0.000264	-0.000007
92	0.000000	0.000247	-0.000009
93	0.000000	0.000227	-0.000011
94	0.000000	0.000204	-0.000012
95	0.000000	0.000179	-0.000013
96	0.000000	0.000152	-0.000013
97	0.000000	0.000125	-0.000013
98	0.000000	0.000098	-0.000013
99	0.000000	0.000055	-0.000012
100	0.000000	0.000016	-0.000011
101	0.000000	0.000000	-0.000010
102	0.000000	-0.000015	-0.000010
103	0.000000	-0.000046	-0.000008
104	0.000000	-0.000070	-0.000006
105	0.000000	-0.000080	-0.000004
106	0.000000	-0.000087	-0.000003
107	0.000000	-0.000091	-0.000001
108	0.000000	-0.000093	-0.000000
109	0.000000	-0.000092	0.000001
110	0.000000	-0.000090	0.000002
111	0.000000	-0.000086	0.000002
112	0.000000	-0.000081	0.000003
113	0.000000	-0.000074	0.000004
114	0.000000	-0.000066	0.000004
115	0.000000	-0.000058	0.000004
116	0.000000	-0.000050	0.000004
117	0.000000	-0.000041	0.000004
118	0.000000	-0.000032	0.000004
119	0.000000	-0.000018	0.000004
120	0.000000	-0.000005	0.000003
121	0.000000	-0.000000	0.000003
122	0.000000	0.000005	0.000003
123	0.000000	0.000015	0.000003
124	0.000000	0.000023	0.000002
125	0.000000	0.000026	0.000001
126	0.000000	0.000028	0.000001
127	0.000000	0.000030	0.000000
128	0.000000	0.000030	0.000000
129	0.000000	0.000030	-0.000000
130	0.000000	0.000029	-0.000001
131	0.000000	0.000028	-0.000001
132	0.000000	0.000026	-0.000001
133	0.000000	0.000024	-0.000001
134	0.000000	0.000022	-0.000001
135	0.000000	0.000019	-0.000001
136	0.000000	0.000016	-0.000001
137	0.000000	0.000013	-0.000001
138	0.000000	0.000010	-0.000001
139	0.000000	0.000006	-0.000001
140	0.000000	0.000002	-0.000001
141	0.000000	0.000000	-0.000001
142	0.000000	-0.000002	-0.000001
143	0.000000	-0.000005	-0.000001
144	0.000000	-0.000007	-0.000001
145	0.000000	-0.000008	-0.000000
146	0.000000	-0.000009	-0.000000
147	0.000000	-0.000010	-0.000000
148	0.000000	-0.000010	-0.000000
149	0.000000	-0.000010	0.000000
150	0.000000	-0.000010	0.000000
151	0.000000	-0.000009	0.000000
152	0.000000	-0.000009	0.000000
153	0.000000	-0.000008	0.000000
154	0.000000	-0.000007	0.000000
155	0.000000	-0.000006	0.000000
156	0.000000	-0.000005	0.000000
157	0.000000	-0.000004	0.000000
158	0.000000	-0.000003	0.000000
159	0.000000	-0.000002	0.000000
160	0.000000	-0.000001	0.000000
161	0.000000	-0.000000	0.000000
162	0.000000	0.000001	0.000000
163	0.000000	0.000002	0.000000
164	0.000000	0.000002	0.000000
165	0.000000	0.000003	0.000000
166	0.000000	0.000003	0.000000
167	0.000000	0.000003	0.000000

168	0.000000	0.000003	0.000000	
169	0.000000	0.000003	-0.000000	
170	0.000000	0.000003	-0.000000	
171	0.000000	0.000003	-0.000000	
172	0.000000	0.000003	-0.000000	
173	0.000000	0.000003	-0.000000	
174	0.000000	0.000002	-0.000000	
175	0.000000	0.000002	-0.000000	
176	0.000000	0.000002	-0.000000	
177	0.000000	0.000001	-0.000000	
178	0.000000	0.000001	-0.000000	
179	0.000000	0.000001	-0.000000	
180	0.000000	0.000000	-0.000000	
181	0.000000	0.000000	-0.000000	
182	0.000000	-0.000000	-0.000000	
183	0.000000	-0.000001	-0.000000	
184	0.000000	-0.000001	-0.000000	
185	0.000000	-0.000001	-0.000000	
186	0.000000	-0.000001	-0.000000	
187	0.000000	-0.000001	-0.000000	
188	0.000000	-0.000001	-0.000000	
189	0.000000	-0.000001	0.000000	
190	0.000000	-0.000001	0.000000	
191	0.000000	-0.000001	0.000000	
192	0.000000	-0.000001	0.000000	
193	0.000000	-0.000001	0.000000	
194	0.000000	-0.000001	0.000000	
195	0.000000	-0.000001	0.000000	
196	0.000000	-0.000001	0.000000	
197	0.000000	-0.000000	0.000000	
198	0.000000	-0.000000	0.000000	
199	0.000000	-0.000000	0.000000	
200	0.000000	-0.000000	0.000000	
201	0.000000	-0.000000	0.000000	
202	0.000000	0.000000	0.000000	
203	0.000000	0.000000	0.000000	
204	0.000000	0.000000	0.000000	
205	0.000000	0.000000	0.000000	
206	0.000000	0.000000	0.000000	
207	0.000000	0.000000	0.000000	
208	0.000000	0.000000	0.000000	
209	0.000000	0.000000	-0.000000	
210	0.000000	0.000000	-0.000000	
211	0.000000	0.000000	-0.000000	
212	0.000000	0.000000	-0.000000	
213	0.000000	0.000000	-0.000000	
214	0.000000	0.000000	-0.000000	
215	0.000000	0.000000	-0.000000	
216	0.000000	0.000000	-0.000000	
217	0.000000	0.000000	-0.000000	
218	0.000000	0.000000	-0.000000	
219	0.000000	0.000000	-0.000000	
220	0.000000	0.000000	-0.000000	
221	0.000000	0.000000	-0.000000	

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	118.69	0.00
21	-0.00	567.94	-0.00
41	0.00	222.42	-0.01
61	0.00	-38.55	-0.00
81	0.00	12.56	0.00
101	0.00	-4.10	0.00
121	0.00	1.33	0.00
141	0.00	-0.44	-0.00
161	0.00	0.14	0.00
181	0.00	-0.05	-0.00
201	-0.00	0.02	0.00
221	0.00	-0.00	-0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	-118.69
	2	0.00	192.51	-118.69
2	2	0.00	192.51	-118.68
	3	0.00	385.14	-118.68
3	3	0.00	385.14	-118.69
	4	0.00	569.37	-78.69
4	4	0.00	569.36	-78.68
	5	0.00	696.99	-78.68
5	5	0.00	696.99	-78.69
	6	0.00	769.03	-38.69
6	6	0.00	769.02	-38.71
	7	0.00	793.65	1.29
7	7	0.00	793.63	1.30
	8	0.00	791.51	1.30
8	8	0.00	791.50	1.30
	9	0.00	789.39	1.30
9	9	0.00	789.37	1.34
	10	0.00	787.20	1.34
10	10	0.00	787.18	1.35
	11	0.00	775.63	41.35
11	11	0.00	775.63	41.38
	12	0.00	708.51	41.38
12	12	0.00	708.51	41.37
	13	0.00	584.68	81.37
13	13	0.00	584.68	81.40
	14	0.00	413.33	121.40
14	14	0.00	413.32	121.41
	15	0.00	216.39	121.41
15	15	0.00	216.38	121.42
	16	0.00	-18.76	161.42
16	16	0.00	-18.76	161.43
	17	0.00	-311.88	201.43
17	17	0.00	-311.88	201.44
	18	0.00	-638.61	201.44
18	18	0.00	-638.60	201.43
	19	0.00	-1335.55	201.43
19	19	0.00	-1335.55	201.43
	20	0.00	-2114.10	281.43
20	20	0.00	-2114.10	281.43
	21	0.00	-2536.25	281.43
21	21	0.00	-2536.25	-286.51
	22	0.00	-2106.49	-286.51
22	22	0.00	-2106.49	-286.51
	23	0.00	-1310.38	-206.51
23	23	0.00	-1310.38	-206.51
	24	0.00	-595.86	-206.51
24	24	0.00	-595.86	-206.51
	25	0.00	-180.56	-206.51
25	25	0.00	-180.56	-206.52
	26	0.00	170.03	-166.52
26	26	0.00	170.03	-166.53
	27	0.00	431.56	-126.53
27	27	0.00	431.56	-126.53
	28	0.00	661.90	-86.53
28	28	0.00	661.91	-86.54
	29	0.00	803.27	-46.54
29	29	0.00	803.27	-46.57
	30	0.00	896.96	-46.57
30	30	0.00	896.95	-46.57
	31	0.00	990.60	-46.57
31	31	0.00	990.60	-46.59
	32	0.00	1084.30	-46.59
32	32	0.00	1084.28	-46.60
	33	0.00	1119.53	-6.60
33	33	0.00	1119.54	-6.61
	34	0.00	1065.89	33.39
34	34	0.00	1065.87	33.38
	35	0.00	980.87	73.38
35	35	0.00	980.85	73.34
	36	0.00	807.09	113.34
36	36	0.00	807.09	113.33
	37	0.00	579.08	113.33
37	37	0.00	579.06	113.30
	38	0.00	351.21	113.30
38	38	0.00	351.21	113.31
	39	0.00	-70.44	153.31
39	39	0.00	-70.43	153.30
	40	0.00	-696.87	193.30
40	40	0.00	-696.87	193.30
	41	0.00	-986.81	193.30
41	41	0.00	-986.81	-29.12
	42	0.00	-943.12	-29.12
42	42	0.00	-943.11	-29.13
	43	0.00	-842.32	-29.13
43	43	0.00	-842.31	-29.13
	44	0.00	-741.52	-29.13
44	44	0.00	-741.51	-29.13
	45	0.00	-682.94	-29.13
45	45	0.00	-682.93	-29.11
	46	0.00	-624.36	-29.11
46	46	0.00	-624.36	-29.11
	47	0.00	-565.82	-29.11
47	47	0.00	-565.83	-29.10
	48	0.00	-507.28	-29.10
48	48	0.00	-507.27	-29.09
	49	0.00	-448.78	-29.09
49	49	0.00	-448.79	-29.09
	50	0.00	-390.27	-29.09
50	50	0.00	-390.27	-29.07
	51	0.00	-331.81	-29.07

CALCULOS DE PRUEBA DE CARGA
VTO LLOBREGAT MIXTA (B)

51	51	0.00	-331.81	-29.07		95	0.00	-10.40	-3.09
	52	0.00	-273.35	-29.07	95	95	0.00	-10.40	-3.09
52	52	0.00	-273.35	-29.06		96	0.00	-4.19	-3.09
	53	0.00	-214.87	-29.06	96	96	0.00	-4.19	-3.09
53	53	0.00	-214.87	-29.06		97	0.00	2.02	-3.09
	54	0.00	-156.44	-29.06	97	97	0.00	2.02	-3.09
54	54	0.00	-156.44	-29.06		98	0.00	8.22	-3.09
	55	0.00	-97.97	-29.06	98	98	0.00	8.22	-3.09
55	55	0.00	-97.97	-29.05		99	0.00	18.90	-3.09
	56	0.00	-39.55	-29.05	99	99	0.00	18.90	-3.09
56	56	0.00	-39.55	-29.06		100	0.00	29.57	-3.09
	57	0.00	18.92	-29.06	100	100	0.00	29.57	-3.09
57	57	0.00	18.92	-29.05		101	0.00	34.20	-3.09
	58	0.00	77.33	-29.05	101	101	0.00	34.20	1.01
58	58	0.00	77.33	-29.05		102	0.00	32.69	1.01
	59	0.00	177.83	-29.05	102	102	0.00	32.69	1.01
59	59	0.00	177.83	-29.04		103	0.00	29.19	1.01
	60	0.00	278.32	-29.04	103	103	0.00	29.19	1.01
60	60	0.00	278.32	-29.04		104	0.00	25.70	1.01
	61	0.00	321.88	-29.04	104	104	0.00	25.70	1.01
61	61	0.00	321.89	9.51		105	0.00	23.67	1.01
	62	0.00	307.62	9.51	105	105	0.00	23.67	1.01
62	62	0.00	307.62	9.51		106	0.00	21.63	1.01
	63	0.00	274.72	9.51	106	106	0.00	21.63	1.01
63	63	0.00	274.72	9.51		107	0.00	19.60	1.01
	64	0.00	241.83	9.51	107	107	0.00	19.60	1.01
64	64	0.00	241.83	9.51		108	0.00	17.57	1.01
	65	0.00	222.71	9.51	108	108	0.00	17.57	1.01
65	65	0.00	222.71	9.50		109	0.00	15.55	1.01
	66	0.00	203.59	9.50	109	109	0.00	15.55	1.01
66	66	0.00	203.59	9.50		110	0.00	13.52	1.01
	67	0.00	184.49	9.50	110	110	0.00	13.52	1.01
67	67	0.00	184.49	9.49		111	0.00	11.49	1.01
	68	0.00	165.40	9.49	111	111	0.00	11.49	1.01
68	68	0.00	165.40	9.49		112	0.00	9.47	1.01
	69	0.00	146.32	9.49	112	112	0.00	9.47	1.01
69	69	0.00	146.32	9.49		113	0.00	7.44	1.01
	70	0.00	127.23	9.49	113	113	0.00	7.44	1.01
70	70	0.00	127.24	9.48		114	0.00	5.42	1.01
	71	0.00	108.17	9.48	114	114	0.00	5.42	1.01
71	71	0.00	108.17	9.48		115	0.00	3.39	1.01
	72	0.00	89.10	9.48	115	115	0.00	3.39	1.01
72	72	0.00	89.10	9.48		116	0.00	1.37	1.01
	73	0.00	70.03	9.48	116	116	0.00	1.37	1.01
73	73	0.00	70.02	9.48		117	0.00	-0.65	1.01
	74	0.00	50.97	9.48	117	117	0.00	-0.65	1.01
74	74	0.00	50.96	9.47		118	0.00	-2.68	1.01
	75	0.00	31.91	9.47	118	118	0.00	-2.68	1.01
75	75	0.00	31.91	9.47		119	0.00	-6.16	1.01
	76	0.00	12.86	9.47	119	119	0.00	-6.16	1.01
76	76	0.00	12.86	9.47		120	0.00	-9.64	1.01
	77	0.00	-6.19	9.47	120	120	0.00	-9.64	1.01
77	77	0.00	-6.19	9.47		121	0.00	-11.15	1.01
	78	0.00	-25.23	9.47	121	121	0.00	-11.15	-0.33
78	78	0.00	-25.23	9.47		122	0.00	-10.65	-0.33
	79	0.00	-57.98	9.47	122	122	0.00	-10.65	-0.33
79	79	0.00	-57.98	9.47		123	0.00	-9.51	-0.33
	80	0.00	-90.73	9.47	123	123	0.00	-9.51	-0.33
80	80	0.00	-90.73	9.47		124	0.00	-8.38	-0.33
	81	0.00	-104.93	9.47	124	124	0.00	-8.38	-0.33
81	81	0.00	-104.93	-3.10		125	0.00	-7.72	-0.33
	82	0.00	-100.28	-3.10	125	125	0.00	-7.72	-0.33
82	82	0.00	-100.28	-3.10		126	0.00	-7.05	-0.33
	83	0.00	-89.56	-3.10	126	126	0.00	-7.05	-0.33
83	83	0.00	-89.56	-3.10		127	0.00	-6.39	-0.33
	84	0.00	-78.84	-3.10	127	127	0.00	-6.39	-0.33
84	84	0.00	-78.84	-3.10		128	0.00	-5.73	-0.33
	85	0.00	-72.60	-3.10	128	128	0.00	-5.73	-0.33
85	85	0.00	-72.61	-3.10		129	0.00	-5.07	-0.33
	86	0.00	-66.37	-3.10	129	129	0.00	-5.07	-0.33
86	86	0.00	-66.37	-3.10		130	0.00	-4.41	-0.33
	87	0.00	-60.14	-3.10	130	130	0.00	-4.41	-0.33
87	87	0.00	-60.14	-3.09		131	0.00	-3.75	-0.33
	88	0.00	-53.92	-3.09	131	131	0.00	-3.75	-0.33
88	88	0.00	-53.91	-3.09		132	0.00	-3.09	-0.33
	89	0.00	-47.69	-3.09	132	132	0.00	-3.09	-0.33
89	89	0.00	-47.69	-3.09		133	0.00	-2.43	-0.33
	90	0.00	-41.47	-3.09	133	133	0.00	-2.43	-0.33
90	90	0.00	-41.47	-3.09		134	0.00	-1.77	-0.33
	91	0.00	-35.25	-3.09	134	134	0.00	-1.77	-0.33
91	91	0.00	-35.25	-3.09		135	0.00	-1.11	-0.33
	92	0.00	-29.04	-3.09	135	135	0.00	-1.11	-0.33
92	92	0.00	-29.04	-3.09		136	0.00	-0.45	-0.33
	93	0.00	-22.82	-3.09	136	136	0.00	-0.45	-0.33
93	93	0.00	-22.82	-3.09		137	0.00	0.21	-0.33
	94	0.00	-16.61	-3.09	137	137	0.00	0.21	-0.33
94	94	0.00	-16.61	-3.09		138	0.00	0.87	-0.33

138	138	0.00	0.87	-0.33
	139	0.00	2.01	-0.33
139	139	0.00	2.01	-0.33
	140	0.00	3.14	-0.33
140	140	0.00	3.14	-0.33
	141	0.00	3.64	-0.33
141	141	0.00	3.64	0.11
	142	0.00	3.48	0.11
142	142	0.00	3.48	0.11
	143	0.00	3.10	0.11
143	143	0.00	3.10	0.11
	144	0.00	2.73	0.11
144	144	0.00	2.73	0.11
	145	0.00	2.52	0.11
145	145	0.00	2.52	0.11
	146	0.00	2.30	0.11
146	146	0.00	2.30	0.11
	147	0.00	2.09	0.11
147	147	0.00	2.09	0.11
	148	0.00	1.87	0.11
148	148	0.00	1.87	0.11
	149	0.00	1.65	0.11
149	149	0.00	1.65	0.11
	150	0.00	1.44	0.11
150	150	0.00	1.44	0.11
	151	0.00	1.22	0.11
151	151	0.00	1.22	0.11
	152	0.00	1.01	0.11
152	152	0.00	1.01	0.11
	153	0.00	0.79	0.11
153	153	0.00	0.79	0.11
	154	0.00	0.58	0.11
154	154	0.00	0.58	0.11
	155	0.00	0.36	0.11
155	155	0.00	0.36	0.11
	156	0.00	0.15	0.11
156	156	0.00	0.15	0.11
	157	0.00	-0.07	0.11
157	157	0.00	-0.07	0.11
	158	0.00	-0.28	0.11
158	158	0.00	-0.28	0.11
	159	0.00	-0.66	0.11
159	159	0.00	-0.66	0.11
	160	0.00	-1.03	0.11
160	160	0.00	-1.03	0.11
	161	0.00	-1.19	0.11
161	161	0.00	-1.19	-0.04
	162	0.00	-1.13	-0.04
162	162	0.00	-1.13	-0.04
	163	0.00	-1.01	-0.04
163	163	0.00	-1.01	-0.04
	164	0.00	-0.89	-0.04
164	164	0.00	-0.89	-0.04
	165	0.00	-0.82	-0.04
165	165	0.00	-0.82	-0.04
	166	0.00	-0.75	-0.04
166	166	0.00	-0.75	-0.04
	167	0.00	-0.68	-0.04
167	167	0.00	-0.68	-0.04
	168	0.00	-0.61	-0.04
168	168	0.00	-0.61	-0.04
	169	0.00	-0.54	-0.04
169	169	0.00	-0.54	-0.03
	170	0.00	-0.47	-0.03
170	170	0.00	-0.47	-0.03
	171	0.00	-0.40	-0.03
171	171	0.00	-0.40	-0.03
	172	0.00	-0.33	-0.03
172	172	0.00	-0.33	-0.03
	173	0.00	-0.26	-0.03
173	173	0.00	-0.26	-0.03
	174	0.00	-0.19	-0.03
174	174	0.00	-0.19	-0.03
	175	0.00	-0.12	-0.03
175	175	0.00	-0.12	-0.03
	176	0.00	-0.05	-0.03
176	176	0.00	-0.05	-0.03
	177	0.00	0.02	-0.03
177	177	0.00	0.02	-0.03
	178	0.00	0.09	-0.03
178	178	0.00	0.09	-0.03
	179	0.00	0.21	-0.03
179	179	0.00	0.21	-0.03
	180	0.00	0.34	-0.03
180	180	0.00	0.34	-0.03
	181	0.00	0.39	-0.03
181	181	0.00	0.39	0.01
	182	0.00	0.37	0.01
182	182	0.00	0.37	0.01
	183	0.00	0.33	0.01
183	183	0.00	0.33	0.01
	184	0.00	0.29	0.01
184	184	0.00	0.29	0.01
	185	0.00	0.27	0.01
185	185	0.00	0.27	0.01
	186	0.00	0.24	0.01
186	186	0.00	0.24	0.01
	187	0.00	0.22	0.01
187	187	0.00	0.22	0.01
	188	0.00	0.20	0.01
188	188	0.00	0.20	0.01
	189	0.00	0.18	0.01
189	189	0.00	0.18	0.01
	190	0.00	0.15	0.01
190	190	0.00	0.15	0.01
	191	0.00	0.13	0.01
191	191	0.00	0.13	0.01
	192	0.00	0.11	0.01
192	192	0.00	0.11	0.01
	193	0.00	0.08	0.01
193	193	0.00	0.08	0.01
	194	0.00	0.06	0.01
194	194	0.00	0.06	0.01
	195	0.00	0.04	0.01
195	195	0.00	0.04	0.01
	196	0.00	0.01	0.01
196	196	0.00	0.01	0.01
	197	0.00	-0.01	0.01
197	197	0.00	-0.01	0.01
	198	0.00	-0.03	0.01
198	198	0.00	-0.03	0.01
	199	0.00	-0.07	0.01
199	199	0.00	-0.07	0.01
	200	0.00	-0.11	0.01
200	200	0.00	-0.11	0.01
	201	0.00	-0.13	0.01
201	201	0.00	-0.13	-0.00
	202	0.00	-0.12	-0.00
202	202	0.00	-0.12	-0.00
	203	0.00	-0.11	-0.00
203	203	0.00	-0.11	-0.00
	204	0.00	-0.10	-0.00
204	204	0.00	-0.10	-0.00
	205	0.00	-0.09	-0.00
205	205	0.00	-0.09	-0.00
	206	0.00	-0.09	-0.00
206	206	0.00	-0.09	-0.00
	207	0.00	-0.08	-0.00
207	207	0.00	-0.08	-0.00
	208	0.00	-0.08	-0.00
208	208	0.00	-0.08	-0.00
	209	0.00	-0.07	-0.00
209	209	0.00	-0.07	-0.00
	210	0.00	-0.06	-0.00
210	210	0.00	-0.06	-0.00
	211	0.00	-0.06	-0.00
211	211	0.00	-0.06	-0.00
	212	0.00	-0.05	-0.00
212	212	0.00	-0.05	-0.00
	213	0.00	-0.05	-0.00
213	213	0.00	-0.05	-0.00
	214	0.00	-0.04	-0.00
214	214	0.00	-0.04	-0.00
	215	0.00	-0.04	-0.00
215	215	0.00	-0.04	-0.00
	216	0.00	-0.03	-0.00
216	216	0.00	-0.03	-0.00
	217	0.00	-0.02	-0.00
217	217	0.00	-0.02	-0.00
	218	0.00	-0.02	-0.00
218	218	0.00	-0.02	-0.00
	219	0.00	-0.01	-0.00
219	219	0.00	-0.01	-0.00
	220	0.00	-0.01	-0.00
220	220	0.00	-0.01	-0.00
	221	0.00	-0.00	-0.00

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 2 ESTADO DE CARGAS 2

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	0.000000	0.000170
2	0.000000	0.000275	0.000169
3	0.000000	0.000546	0.000165
4	0.000000	0.000810	0.000160
5	0.000000	0.001063	0.000152
6	0.000000	0.001303	0.000143
7	0.000000	0.001525	0.000131
8	0.000000	0.001726	0.000117
9	0.000000	0.001903	0.000100
10	0.000000	0.002051	0.000082
11	0.000000	0.002168	0.000062
12	0.000000	0.002250	0.000039
13	0.000000	0.002293	0.000014
14	0.000000	0.002294	-0.000013
15	0.000000	0.002250	-0.000042
16	0.000000	0.002157	-0.000073
17	0.000000	0.002011	-0.000107
18	0.000000	0.001809	-0.000142
19	0.000000	0.001199	-0.000212
20	0.000000	0.000393	-0.000255
21	0.000000	-0.000000	-0.000269
22	0.000000	-0.000414	-0.000282
23	0.000000	-0.001433	-0.000302
24	0.000000	-0.002464	-0.000286
25	0.000000	-0.003007	-0.000252
26	0.000000	-0.003470	-0.000207
27	0.000000	-0.003837	-0.000156
28	0.000000	-0.004093	-0.000098
29	0.000000	-0.004227	-0.000034
30	0.000000	-0.004227	0.000034
31	0.000000	-0.004091	0.000101
32	0.000000	-0.003826	0.000161
33	0.000000	-0.003448	0.000213
34	0.000000	-0.002978	0.000252
35	0.000000	-0.002447	0.000273
36	0.000000	-0.001894	0.000275
37	0.000000	-0.001354	0.000258
38	0.000000	-0.000867	0.000222
39	0.000000	-0.000258	0.000118
40	0.000000	-0.000004	0.000022
41	0.000000	-0.000000	-0.000017
42	0.000000	-0.000056	-0.000056
43	0.000000	-0.000416	-0.000145
44	0.000000	-0.001102	-0.000241
45	0.000000	-0.001624	-0.000273
46	0.000000	-0.002186	-0.000281
47	0.000000	-0.002742	-0.000268
48	0.000000	-0.003255	-0.000239
49	0.000000	-0.003696	-0.000197
50	0.000000	-0.004042	-0.000146
51	0.000000	-0.004282	-0.000091
52	0.000000	-0.004405	-0.000031
53	0.000000	-0.004401	0.000035
54	0.000000	-0.004264	0.000101
55	0.000000	-0.003997	0.000164
56	0.000000	-0.003608	0.000221
57	0.000000	-0.003116	0.000266
58	0.000000	-0.002548	0.000296
59	0.000000	-0.001488	0.000310
60	0.000000	-0.000433	0.000295
61	0.000000	-0.000000	0.000282
62	0.000000	0.000412	0.000268
63	0.000000	0.001264	0.000226
64	0.000000	0.001925	0.000158
65	0.000000	0.002200	0.000116
66	0.000000	0.002392	0.000077
67	0.000000	0.002511	0.000041
68	0.000000	0.002561	0.000010
69	0.000000	0.002551	-0.000019
70	0.000000	0.002488	-0.000044
71	0.000000	0.002377	-0.000065
72	0.000000	0.002227	-0.000083
73	0.000000	0.002045	-0.000098
74	0.000000	0.001837	-0.000109
75	0.000000	0.001610	-0.000116
76	0.000000	0.001371	-0.000120
77	0.000000	0.001128	-0.000121
78	0.000000	0.000887	-0.000118
79	0.000000	0.000495	-0.000107
80	0.000000	0.000141	-0.000096
81	0.000000	0.000000	-0.000092
82	0.000000	-0.000134	-0.000087
83	0.000000	-0.000412	-0.000074
84	0.000000	-0.000628	-0.000051
85	0.000000	-0.000717	-0.000038
86	0.000000	-0.000780	-0.000025
87	0.000000	-0.000818	-0.000013
88	0.000000	-0.000835	-0.000003
89	0.000000	-0.000832	0.000006
90	0.000000	-0.000811	0.000014
91	0.000000	-0.000775	0.000021
92	0.000000	-0.000726	0.000027
93	0.000000	-0.000667	0.000032
94	0.000000	-0.000599	0.000035
95	0.000000	-0.000525	0.000038
96	0.000000	-0.000447	0.000039
97	0.000000	-0.000368	0.000039
98	0.000000	-0.000289	0.000038
99	0.000000	-0.000161	0.000035
100	0.000000	-0.000046	0.000031
101	0.000000	-0.000000	0.000030
102	0.000000	0.000044	0.000028
103	0.000000	0.000134	0.000024
104	0.000000	0.000205	0.000017
105	0.000000	0.000234	0.000012
106	0.000000	0.000254	0.000008
107	0.000000	0.000267	0.000004
108	0.000000	0.000272	0.000001
109	0.000000	0.000271	-0.000002
110	0.000000	0.000264	-0.000005
111	0.000000	0.000253	-0.000007
112	0.000000	0.000237	-0.000009
113	0.000000	0.000217	-0.000010
114	0.000000	0.000195	-0.000012
115	0.000000	0.000171	-0.000012
116	0.000000	0.000146	-0.000013
117	0.000000	0.000120	-0.000013
118	0.000000	0.000094	-0.000013
119	0.000000	0.000053	-0.000011
120	0.000000	0.000015	-0.000010
121	0.000000	0.000000	-0.000010
122	0.000000	-0.000014	-0.000009
123	0.000000	-0.000044	-0.000008
124	0.000000	-0.000067	-0.000005
125	0.000000	-0.000076	-0.000004
126	0.000000	-0.000083	-0.000003
127	0.000000	-0.000087	-0.000001
128	0.000000	-0.000089	-0.000000
129	0.000000	-0.000088	0.000001
130	0.000000	-0.000086	0.000002
131	0.000000	-0.000082	0.000002
132	0.000000	-0.000077	0.000003
133	0.000000	-0.000071	0.000003
134	0.000000	-0.000064	0.000004
135	0.000000	-0.000056	0.000004
136	0.000000	-0.000048	0.000004
137	0.000000	-0.000039	0.000004
138	0.000000	-0.000031	0.000004
139	0.000000	-0.000017	0.000004
140	0.000000	-0.000005	0.000003
141	0.000000	-0.000000	0.000003
142	0.000000	0.000005	0.000003
143	0.000000	0.000014	0.000003
144	0.000000	0.000022	0.000002
145	0.000000	0.000025	0.000001
146	0.000000	0.000027	0.000001
147	0.000000	0.000028	0.000000
148	0.000000	0.000029	0.000000
149	0.000000	0.000029	-0.000000
150	0.000000	0.000028	-0.000000
151	0.000000	0.000027	-0.000001
152	0.000000	0.000025	-0.000001
153	0.000000	0.000023	-0.000001
154	0.000000	0.000021	-0.000001
155	0.000000	0.000018	-0.000001
156	0.000000	0.000016	-0.000001
157	0.000000	0.000013	-0.000001
158	0.000000	0.000010	-0.000001
159	0.000000	0.000006	-0.000001
160	0.000000	0.000002	-0.000001
161	0.000000	0.000000	-0.000001
162	0.000000	-0.000002	-0.000001
163	0.000000	-0.000005	-0.000001
164	0.000000	-0.000007	-0.000001
165	0.000000	-0.000008	-0.000000
166	0.000000	-0.000009	-0.000000

167	0.000000	-0.000009	-0.000000
168	0.000000	-0.000009	-0.000000
169	0.000000	-0.000009	0.000000
170	0.000000	-0.000009	0.000000
171	0.000000	-0.000009	0.000000
172	0.000000	-0.000008	0.000000
173	0.000000	-0.000008	0.000000
174	0.000000	-0.000007	0.000000
175	0.000000	-0.000006	0.000000
176	0.000000	-0.000005	0.000000
177	0.000000	-0.000004	0.000000
178	0.000000	-0.000003	0.000000
179	0.000000	-0.000002	0.000000
180	0.000000	-0.000001	0.000000
181	0.000000	-0.000000	0.000000
182	0.000000	0.000000	0.000000
183	0.000000	0.000002	0.000000
184	0.000000	0.000002	0.000000
185	0.000000	0.000003	0.000000
186	0.000000	0.000003	0.000000
187	0.000000	0.000003	0.000000
188	0.000000	0.000003	0.000000
189	0.000000	0.000003	-0.000000
190	0.000000	0.000003	-0.000000
191	0.000000	0.000003	-0.000000
192	0.000000	0.000003	-0.000000
193	0.000000	0.000002	-0.000000
194	0.000000	0.000002	-0.000000
195	0.000000	0.000002	-0.000000
196	0.000000	0.000002	-0.000000
197	0.000000	0.000001	-0.000000
198	0.000000	0.000001	-0.000000
199	0.000000	0.000001	-0.000000
200	0.000000	0.000000	-0.000000
201	0.000000	0.000000	-0.000000
202	0.000000	-0.000000	-0.000000
203	0.000000	-0.000000	-0.000000
204	0.000000	-0.000001	-0.000000
205	0.000000	-0.000001	-0.000000
206	0.000000	-0.000001	-0.000000
207	0.000000	-0.000001	-0.000000
208	0.000000	-0.000001	-0.000000
209	0.000000	-0.000001	0.000000
210	0.000000	-0.000001	0.000000
211	0.000000	-0.000001	0.000000
212	0.000000	-0.000001	0.000000
213	0.000000	-0.000001	0.000000
214	0.000000	-0.000001	0.000000
215	0.000000	-0.000001	0.000000
216	0.000000	-0.000001	0.000000
217	0.000000	-0.000000	0.000000
218	0.000000	-0.000000	0.000000
219	0.000000	-0.000000	0.000000
220	0.000000	-0.000000	0.000000
221	0.000000	-0.000000	0.000000

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	-26.62	0.00
21	0.00	197.85	-0.01
41	-0.00	507.21	-0.00
61	-0.00	229.06	-0.01
81	0.00	-36.90	0.00
101	0.00	12.03	0.00
121	0.00	-3.92	-0.00
141	0.00	1.28	0.00
161	0.00	-0.42	-0.00
181	0.00	0.14	0.00
201	-0.00	-0.04	-0.00
221	0.00	0.01	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	26.62
	2	0.00	-43.18	26.62
2	2	0.00	-43.18	26.62
	3	0.00	-86.38	26.62
3	3	0.00	-86.38	26.62
	4	0.00	-129.55	26.62
4	4	0.00	-129.55	26.62
	5	0.00	-172.72	26.62
5	5	0.00	-172.72	26.62
	6	0.00	-215.93	26.62
6	6	0.00	-215.93	26.63
	7	0.00	-259.13	26.63
7	7	0.00	-259.12	26.62
	8	0.00	-302.30	26.62
8	8	0.00	-302.31	26.61
	9	0.00	-345.50	26.61
9	9	0.00	-345.49	26.59
	10	0.00	-388.63	26.59
10	10	0.00	-388.62	26.58
	11	0.00	-431.76	26.58
11	11	0.00	-431.76	26.55
	12	0.00	-474.83	26.55
12	12	0.00	-474.85	26.54
	13	0.00	-517.90	26.54
13	13	0.00	-517.91	26.53
	14	0.00	-560.96	26.53
14	14	0.00	-560.96	26.50
	15	0.00	-603.93	26.50
15	15	0.00	-603.91	26.52
	16	0.00	-646.92	26.52
16	16	0.00	-646.91	26.46
	17	0.00	-689.86	26.46
17	17	0.00	-689.88	26.44
	18	0.00	-732.77	26.44
18	18	0.00	-732.78	26.47
	19	0.00	-824.36	26.47
19	19	0.00	-824.37	26.47
	20	0.00	-915.94	26.47
20	20	0.00	-915.93	26.48
	21	0.00	-955.66	26.48
21	21	0.00	-955.65	-171.37
	22	0.00	-698.60	-171.37
22	22	0.00	-698.60	-171.37
	23	0.00	-105.66	-171.37
23	23	0.00	-105.66	-171.37
	24	0.00	432.49	-131.37
24	24	0.00	432.50	-131.37
	25	0.00	643.83	-91.37
25	25	0.00	643.85	-91.38
	26	0.00	776.79	-51.38
26	26	0.00	776.80	-51.39
	27	0.00	880.16	-51.39
27	27	0.00	880.15	-51.42
	28	0.00	983.60	-51.42
28	28	0.00	983.59	-51.42
	29	0.00	1083.12	-11.42
29	29	0.00	1083.11	-11.45
	30	0.00	1104.19	28.55
30	30	0.00	1104.15	28.54
	31	0.00	1046.76	28.54
31	31	0.00	1046.76	28.55
	32	0.00	908.90	68.55
32	32	0.00	908.90	68.52
	33	0.00	740.92	108.52
33	33	0.00	740.93	108.52
	34	0.00	484.13	148.52
34	34	0.00	484.11	148.50
	35	0.00	185.33	148.50
35	35	0.00	185.31	148.50
	36	0.00	-113.32	148.50
36	36	0.00	-113.31	148.49
	37	0.00	-412.07	148.49
37	37	0.00	-412.07	148.48
	38	0.00	-775.06	188.48
38	38	0.00	-775.06	188.48
	39	0.00	-1558.00	228.48
39	39	0.00	-1558.00	228.48
	40	0.00	-2348.53	228.48
40	40	0.00	-2348.53	228.48
	41	0.00	-2691.24	228.48
41	41	0.00	-2691.24	-278.74
	42	0.00	-2273.14	-278.74
42	42	0.00	-2273.14	-278.74
	43	0.00	-1412.71	-198.74
43	43	0.00	-1412.71	-198.74
	44	0.00	-725.08	-198.74
44	44	0.00	-725.08	-198.74
	45	0.00	-325.41	-198.74
45	45	0.00	-325.42	-198.75
	46	0.00	55.15	-158.75
46	46	0.00	55.16	-158.75
	47	0.00	346.65	-118.75
47	47	0.00	346.65	-118.78
	48	0.00	585.63	-118.78
48	48	0.00	585.61	-118.77
	49	0.00	765.38	-78.77
49	49	0.00	765.38	-78.80
	50	0.00	856.37	-38.80
50	50	0.00	856.35	-38.81

	51	0.00	934.39	-38.81	94	94	0.00	48.79	9.07
51	51	0.00	934.38	-38.81		95	0.00	30.54	9.07
	52	0.00	1012.42	-38.81	95	95	0.00	30.54	9.07
52	52	0.00	1012.43	-38.81		96	0.00	12.31	9.07
	53	0.00	1077.60	1.19	96	96	0.00	12.31	9.06
53	53	0.00	1077.60	1.16		97	0.00	-5.92	9.06
	54	0.00	1053.90	41.16	97	97	0.00	-5.92	9.06
54	54	0.00	1053.87	41.15		98	0.00	-24.15	9.06
	55	0.00	971.06	41.15	98	98	0.00	-24.14	9.06
55	55	0.00	971.06	41.15		99	0.00	-55.50	9.06
	56	0.00	835.61	81.15	99	99	0.00	-55.50	9.06
56	56	0.00	835.58	81.15		100	0.00	-86.85	9.06
	57	0.00	611.15	121.15	100	100	0.00	-86.85	9.06
57	57	0.00	611.12	121.14		101	0.00	-100.44	9.06
	58	0.00	367.51	121.14	101	101	0.00	-100.44	-2.97
58	58	0.00	367.51	121.14		102	0.00	-95.99	-2.97
	59	0.00	-51.63	121.14	102	102	0.00	-95.99	-2.97
59	59	0.00	-51.63	121.14		103	0.00	-85.73	-2.97
	60	0.00	-643.57	201.14	103	103	0.00	-85.73	-2.97
60	60	0.00	-643.56	201.15		104	0.00	-75.46	-2.97
	61	0.00	-945.26	201.15	104	104	0.00	-75.46	-2.97
61	61	0.00	-945.25	-27.91		105	0.00	-69.50	-2.97
	62	0.00	-903.37	-27.91	105	105	0.00	-69.50	-2.97
62	62	0.00	-903.36	-27.92		106	0.00	-63.53	-2.97
	63	0.00	-806.76	-27.92	106	106	0.00	-63.53	-2.96
63	63	0.00	-806.76	-27.92		107	0.00	-57.57	-2.96
	64	0.00	-710.16	-27.92	107	107	0.00	-57.57	-2.96
64	64	0.00	-710.16	-27.92		108	0.00	-51.61	-2.96
	65	0.00	-654.01	-27.92	108	108	0.00	-51.61	-2.96
65	65	0.00	-654.01	-27.90		109	0.00	-45.65	-2.96
	66	0.00	-597.87	-27.90	109	109	0.00	-45.65	-2.96
66	66	0.00	-597.87	-27.88		110	0.00	-39.70	-2.96
	67	0.00	-541.79	-27.88	110	110	0.00	-39.70	-2.96
67	67	0.00	-541.79	-27.88		111	0.00	-33.75	-2.96
	68	0.00	-485.70	-27.88	111	111	0.00	-33.75	-2.96
68	68	0.00	-485.71	-27.86		112	0.00	-27.80	-2.96
	69	0.00	-429.69	-27.86	112	112	0.00	-27.80	-2.96
69	69	0.00	-429.68	-27.85		113	0.00	-21.85	-2.96
	70	0.00	-373.64	-27.85	113	113	0.00	-21.85	-2.96
70	70	0.00	-373.66	-27.85		114	0.00	-15.91	-2.96
	71	0.00	-317.64	-27.85	114	114	0.00	-15.91	-2.95
71	71	0.00	-317.65	-27.85		115	0.00	-9.96	-2.95
	72	0.00	-261.65	-27.85	115	115	0.00	-9.96	-2.96
72	72	0.00	-261.67	-27.84		116	0.00	-4.02	-2.96
	73	0.00	-205.65	-27.84	116	116	0.00	-4.02	-2.95
73	73	0.00	-205.64	-27.83		117	0.00	1.92	-2.95
	74	0.00	-149.67	-27.83	117	117	0.00	1.92	-2.95
74	74	0.00	-149.66	-27.82		118	0.00	7.86	-2.95
	75	0.00	-93.69	-27.82	118	118	0.00	7.86	-2.95
75	75	0.00	-93.69	-27.81		119	0.00	18.08	-2.95
	76	0.00	-37.77	-27.81	119	119	0.00	18.08	-2.95
76	76	0.00	-37.77	-27.80		120	0.00	28.30	-2.95
	77	0.00	18.18	-27.80	120	120	0.00	28.30	-2.95
77	77	0.00	18.18	-27.79		121	0.00	32.73	-2.95
	78	0.00	74.08	-27.79	121	121	0.00	32.73	0.97
78	78	0.00	74.08	-27.80		122	0.00	31.28	0.97
	79	0.00	170.27	-27.80	122	122	0.00	31.28	0.97
79	79	0.00	170.27	-27.80		123	0.00	27.94	0.97
	80	0.00	266.46	-27.80	123	123	0.00	27.94	0.97
80	80	0.00	266.45	-27.80		124	0.00	24.60	0.97
	81	0.00	308.15	-27.80	124	124	0.00	24.60	0.97
81	81	0.00	308.15	9.10		125	0.00	22.66	0.97
	82	0.00	294.49	9.10	125	125	0.00	22.66	0.97
82	82	0.00	294.49	9.10		126	0.00	20.72	0.97
	83	0.00	263.00	9.10	126	126	0.00	20.72	0.96
83	83	0.00	263.00	9.10		127	0.00	18.78	0.96
	84	0.00	231.52	9.10	127	127	0.00	18.78	0.96
84	84	0.00	231.52	9.10		128	0.00	16.83	0.96
	85	0.00	213.21	9.10	128	128	0.00	16.83	0.97
85	85	0.00	213.21	9.10		129	0.00	14.89	0.97
	86	0.00	194.91	9.10	129	129	0.00	14.89	0.96
86	86	0.00	194.91	9.10		130	0.00	12.95	0.96
	87	0.00	176.61	9.10	130	130	0.00	12.95	0.96
87	87	0.00	176.62	9.09		131	0.00	11.01	0.96
	88	0.00	158.32	9.09	131	131	0.00	11.01	0.96
88	88	0.00	158.32	9.08		132	0.00	9.07	0.96
	89	0.00	140.06	9.08	132	132	0.00	9.07	0.96
89	89	0.00	140.05	9.08		133	0.00	7.13	0.96
	90	0.00	121.78	9.08	133	133	0.00	7.13	0.96
90	90	0.00	121.78	9.08		134	0.00	5.19	0.96
	91	0.00	103.52	9.08	134	134	0.00	5.19	0.96
91	91	0.00	103.52	9.08		135	0.00	3.25	0.96
	92	0.00	85.27	9.08	135	135	0.00	3.25	0.96
92	92	0.00	85.28	9.07		136	0.00	1.32	0.96
	93	0.00	67.02	9.07	136	136	0.00	1.31	0.96
93	93	0.00	67.02	9.07		137	0.00	-0.62	0.96
	94	0.00	48.78	9.07	137	137	0.00	-0.62	0.96

	138	0.00	-2.56	0.96	181	181	0.00	-1.14	-0.03
138	138	0.00	-2.56	0.96		182	0.00	-1.09	-0.03
	139	0.00	-5.90	0.96	182	182	0.00	-1.09	-0.03
139	139	0.00	-5.90	0.96		183	0.00	-0.97	-0.03
	140	0.00	-9.23	0.96	183	183	0.00	-0.97	-0.03
140	140	0.00	-9.23	0.96		184	0.00	-0.85	-0.03
	141	0.00	-10.68	0.96	184	184	0.00	-0.85	-0.03
141	141	0.00	-10.68	-0.31		185	0.00	-0.79	-0.03
	142	0.00	-10.21	-0.31	185	185	0.00	-0.79	-0.03
142	142	0.00	-10.21	-0.32		186	0.00	-0.72	-0.03
	143	0.00	-9.12	-0.32	186	186	0.00	-0.72	-0.03
143	143	0.00	-9.12	-0.32		187	0.00	-0.65	-0.03
	144	0.00	-8.03	-0.32	187	187	0.00	-0.65	-0.03
144	144	0.00	-8.03	-0.32		188	0.00	-0.58	-0.03
	145	0.00	-7.39	-0.32	188	188	0.00	-0.58	-0.03
145	145	0.00	-7.39	-0.32		189	0.00	-0.51	-0.03
	146	0.00	-6.76	-0.32	189	189	0.00	-0.51	-0.03
146	146	0.00	-6.76	-0.32		190	0.00	-0.45	-0.03
	147	0.00	-6.12	-0.32	190	190	0.00	-0.45	-0.03
147	147	0.00	-6.12	-0.32		191	0.00	-0.38	-0.03
	148	0.00	-5.49	-0.32	191	191	0.00	-0.38	-0.03
148	148	0.00	-5.49	-0.32		192	0.00	-0.31	-0.03
	149	0.00	-4.86	-0.32	192	192	0.00	-0.31	-0.03
149	149	0.00	-4.86	-0.31		193	0.00	-0.24	-0.03
	150	0.00	-4.22	-0.31	193	193	0.00	-0.24	-0.03
150	150	0.00	-4.22	-0.31		194	0.00	-0.17	-0.03
	151	0.00	-3.59	-0.31	194	194	0.00	-0.17	-0.03
151	151	0.00	-3.59	-0.31		195	0.00	-0.11	-0.03
	152	0.00	-2.96	-0.31	195	195	0.00	-0.11	-0.03
152	152	0.00	-2.96	-0.31		196	0.00	-0.04	-0.03
	153	0.00	-2.33	-0.31	196	196	0.00	-0.04	-0.03
153	153	0.00	-2.33	-0.31		197	0.00	0.03	-0.03
	154	0.00	-1.69	-0.31	197	197	0.00	0.03	-0.03
154	154	0.00	-1.69	-0.31		198	0.00	0.10	-0.03
	155	0.00	-1.06	-0.31	198	198	0.00	0.10	-0.03
155	155	0.00	-1.06	-0.31		199	0.00	0.21	-0.03
	156	0.00	-0.43	-0.31	199	199	0.00	0.21	-0.03
156	156	0.00	-0.43	-0.31		200	0.00	0.33	-0.03
	157	0.00	0.20	-0.31	200	200	0.00	0.33	-0.03
157	157	0.00	0.20	-0.31		201	0.00	0.38	-0.03
	158	0.00	0.84	-0.31	201	201	0.00	0.38	0.01
158	158	0.00	0.84	-0.31		202	0.00	0.37	0.01
	159	0.00	1.92	-0.31	202	202	0.00	0.37	0.01
159	159	0.00	1.92	-0.31		203	0.00	0.33	0.01
	160	0.00	3.01	-0.31	203	203	0.00	0.33	0.01
160	160	0.00	3.01	-0.31		204	0.00	0.29	0.01
	161	0.00	3.48	-0.31	204	204	0.00	0.29	0.01
161	161	0.00	3.48	0.10		205	0.00	0.28	0.01
	162	0.00	3.33	0.10	205	205	0.00	0.28	0.01
162	162	0.00	3.33	0.10		206	0.00	0.26	0.01
	163	0.00	2.97	0.10	206	206	0.00	0.26	0.01
163	163	0.00	2.97	0.10		207	0.00	0.24	0.01
	164	0.00	2.62	0.10	207	207	0.00	0.24	0.01
164	164	0.00	2.62	0.10		208	0.00	0.22	0.01
	165	0.00	2.41	0.10	208	208	0.00	0.22	0.01
165	165	0.00	2.41	0.10		209	0.00	0.21	0.01
	166	0.00	2.20	0.10	209	209	0.00	0.21	0.01
166	166	0.00	2.20	0.10		210	0.00	0.19	0.01
	167	0.00	2.00	0.10	210	210	0.00	0.19	0.01
167	167	0.00	2.00	0.10		211	0.00	0.17	0.01
	168	0.00	1.79	0.10	211	211	0.00	0.17	0.01
168	168	0.00	1.79	0.10		212	0.00	0.15	0.01
	169	0.00	1.58	0.10	212	212	0.00	0.15	0.01
169	169	0.00	1.58	0.10		213	0.00	0.14	0.01
	170	0.00	1.38	0.10	213	213	0.00	0.14	0.01
170	170	0.00	1.38	0.10		214	0.00	0.12	0.01
	171	0.00	1.17	0.10	214	214	0.00	0.12	0.01
171	171	0.00	1.17	0.10		215	0.00	0.10	0.01
	172	0.00	0.96	0.10	215	215	0.00	0.10	0.01
172	172	0.00	0.96	0.10		216	0.00	0.09	0.01
	173	0.00	0.76	0.10	216	216	0.00	0.09	0.01
173	173	0.00	0.76	0.10		217	0.00	0.07	0.01
	174	0.00	0.55	0.10	217	217	0.00	0.07	0.01
174	174	0.00	0.55	0.10		218	0.00	0.05	0.01
	175	0.00	0.34	0.10	218	218	0.00	0.05	0.01
175	175	0.00	0.34	0.10		219	0.00	0.03	0.01
	176	0.00	0.14	0.10	219	219	0.00	0.03	0.01
176	176	0.00	0.14	0.10		220	0.00	0.02	0.01
	177	0.00	-0.07	0.10	220	220	0.00	0.02	0.01
177	177	0.00	-0.07	0.10		221	0.00	0.00	0.01
	178	0.00	-0.28	0.10					
178	178	0.00	-0.28	0.10					
	179	0.00	-0.63	0.10					
179	179	0.00	-0.63	0.10					
	180	0.00	-0.99	0.10					
180	180	0.00	-0.99	0.10					
	181	0.00	-1.14	0.10					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 3 ESTADO DE CARGAS 3

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000055
2	0.000000	-0.000090	-0.000055
3	0.000000	-0.000178	-0.000054
4	0.000000	-0.000264	-0.000052
5	0.000000	-0.000347	-0.000050
6	0.000000	-0.000425	-0.000047
7	0.000000	-0.000497	-0.000043
8	0.000000	-0.000563	-0.000038
9	0.000000	-0.000620	-0.000033
10	0.000000	-0.000669	-0.000027
11	0.000000	-0.000707	-0.000020
12	0.000000	-0.000734	-0.000013
13	0.000000	-0.000748	-0.000005
14	0.000000	-0.000748	0.000004
15	0.000000	-0.000734	0.000014
16	0.000000	-0.000703	0.000024
17	0.000000	-0.000656	0.000035
18	0.000000	-0.000590	0.000046
19	0.000000	-0.000391	0.000069
20	0.000000	-0.000128	0.000083
21	0.000000	0.000000	0.000088
22	0.000000	0.000135	0.000092
23	0.000000	0.000475	0.000103
24	0.000000	0.000855	0.000115
25	0.000000	0.001089	0.000118
26	0.000000	0.001326	0.000118
27	0.000000	0.001560	0.000114
28	0.000000	0.001782	0.000107
29	0.000000	0.001987	0.000096
30	0.000000	0.002167	0.000082
31	0.000000	0.002315	0.000065
32	0.000000	0.002425	0.000044
33	0.000000	0.002489	0.000019
34	0.000000	0.002501	-0.000008
35	0.000000	0.002453	-0.000040
36	0.000000	0.002339	-0.000074
37	0.000000	0.002152	-0.000113
38	0.000000	0.001884	-0.000154
39	0.000000	0.001238	-0.000221
40	0.000000	0.000404	-0.000262
41	0.000000	-0.000000	-0.000276
42	0.000000	-0.000425	-0.000289
43	0.000000	-0.001465	-0.000308
44	0.000000	-0.002513	-0.000290
45	0.000000	-0.003063	-0.000255
46	0.000000	-0.003531	-0.000209
47	0.000000	-0.003901	-0.000157
48	0.000000	-0.004159	-0.000098
49	0.000000	-0.004292	-0.000033
50	0.000000	-0.004291	0.000035
51	0.000000	-0.004152	0.000102
52	0.000000	-0.003884	0.000163
53	0.000000	-0.003500	0.000216
54	0.000000	-0.003025	0.000255
55	0.000000	-0.002489	0.000275
56	0.000000	-0.001929	0.000278
57	0.000000	-0.001384	0.000262
58	0.000000	-0.000890	0.000225
59	0.000000	-0.000271	0.000121
60	0.000000	-0.000008	0.000025
61	0.000000	-0.000000	-0.000015
62	0.000000	-0.000052	-0.000054
63	0.000000	-0.000405	-0.000143
64	0.000000	-0.001086	-0.000239
65	0.000000	-0.001604	-0.000272
66	0.000000	-0.002165	-0.000281
67	0.000000	-0.002720	-0.000268
68	0.000000	-0.003232	-0.000239
69	0.000000	-0.003673	-0.000197
70	0.000000	-0.004020	-0.000147
71	0.000000	-0.004260	-0.000091
72	0.000000	-0.004384	-0.000031
73	0.000000	-0.004383	0.000034
74	0.000000	-0.004248	0.000100
75	0.000000	-0.003982	0.000163
76	0.000000	-0.003596	0.000220
77	0.000000	-0.003106	0.000265
78	0.000000	-0.002540	0.000295
79	0.000000	-0.001483	0.000309
80	0.000000	-0.000432	0.000294
81	0.000000	-0.000000	0.000281
82	0.000000	0.000411	0.000267
83	0.000000	0.001260	0.000225
84	0.000000	0.001919	0.000157
85	0.000000	0.002193	0.000115
86	0.000000	0.002385	0.000076
87	0.000000	0.002503	0.000041
88	0.000000	0.002553	0.000009
89	0.000000	0.002543	-0.000019
90	0.000000	0.002480	-0.000044
91	0.000000	0.002370	-0.000065
92	0.000000	0.002221	-0.000083
93	0.000000	0.002039	-0.000097
94	0.000000	0.001831	-0.000108
95	0.000000	0.001605	-0.000116
96	0.000000	0.001367	-0.000120
97	0.000000	0.001125	-0.000121
98	0.000000	0.000884	-0.000118
99	0.000000	0.000493	-0.000107
100	0.000000	0.000141	-0.000096
101	0.000000	0.000000	-0.000092
102	0.000000	-0.000134	-0.000087
103	0.000000	-0.000411	-0.000073
104	0.000000	-0.000626	-0.000051
105	0.000000	-0.000715	-0.000038
106	0.000000	-0.000777	-0.000025
107	0.000000	-0.000816	-0.000013
108	0.000000	-0.000832	-0.000003
109	0.000000	-0.000829	0.000006
110	0.000000	-0.000808	0.000014
111	0.000000	-0.000773	0.000021
112	0.000000	-0.000724	0.000027
113	0.000000	-0.000665	0.000032
114	0.000000	-0.000597	0.000035
115	0.000000	-0.000523	0.000038
116	0.000000	-0.000446	0.000039
117	0.000000	-0.000367	0.000039
118	0.000000	-0.000288	0.000038
119	0.000000	-0.000161	0.000035
120	0.000000	-0.000046	0.000031
121	0.000000	-0.000000	0.000030
122	0.000000	0.000044	0.000028
123	0.000000	0.000134	0.000024
124	0.000000	0.000204	0.000017
125	0.000000	0.000233	0.000012
126	0.000000	0.000254	0.000008
127	0.000000	0.000266	0.000004
128	0.000000	0.000271	0.000001
129	0.000000	0.000270	-0.000002
130	0.000000	0.000264	-0.000005
131	0.000000	0.000252	-0.000007
132	0.000000	0.000236	-0.000009
133	0.000000	0.000217	-0.000010
134	0.000000	0.000195	-0.000012
135	0.000000	0.000171	-0.000012
136	0.000000	0.000145	-0.000013
137	0.000000	0.000120	-0.000013
138	0.000000	0.000094	-0.000013
139	0.000000	0.000052	-0.000011
140	0.000000	0.000015	-0.000010
141	0.000000	0.000000	-0.000010
142	0.000000	-0.000014	-0.000009
143	0.000000	-0.000044	-0.000008
144	0.000000	-0.000067	-0.000005
145	0.000000	-0.000076	-0.000004
146	0.000000	-0.000083	-0.000003
147	0.000000	-0.000087	-0.000001
148	0.000000	-0.000089	-0.000000
149	0.000000	-0.000088	0.000001
150	0.000000	-0.000086	0.000002
151	0.000000	-0.000082	0.000002
152	0.000000	-0.000077	0.000003
153	0.000000	-0.000071	0.000003
154	0.000000	-0.000064	0.000004
155	0.000000	-0.000056	0.000004
156	0.000000	-0.000047	0.000004
157	0.000000	-0.000039	0.000004
158	0.000000	-0.000031	0.000004
159	0.000000	-0.000017	0.000004
160	0.000000	-0.000005	0.000003
161	0.000000	-0.000000	0.000003
162	0.000000	0.000005	0.000003
163	0.000000	0.000014	0.000003
164	0.000000	0.000022	0.000002
165	0.000000	0.000025	0.000001
166	0.000000	0.000027	0.000001

167	0.000000	0.000028	0.000000
168	0.000000	0.000029	0.000000
169	0.000000	0.000029	-0.000000
170	0.000000	0.000028	-0.000000
171	0.000000	0.000027	-0.000001
172	0.000000	0.000025	-0.000001
173	0.000000	0.000023	-0.000001
174	0.000000	0.000021	-0.000001
175	0.000000	0.000018	-0.000001
176	0.000000	0.000015	-0.000001
177	0.000000	0.000013	-0.000001
178	0.000000	0.000010	-0.000001
179	0.000000	0.000006	-0.000001
180	0.000000	0.000002	-0.000001
181	0.000000	0.000000	-0.000001
182	0.000000	-0.000002	-0.000001
183	0.000000	-0.000005	-0.000001
184	0.000000	-0.000007	-0.000001
185	0.000000	-0.000008	-0.000000
186	0.000000	-0.000009	-0.000000
187	0.000000	-0.000009	-0.000000
188	0.000000	-0.000009	-0.000000
189	0.000000	-0.000009	0.000000
190	0.000000	-0.000009	0.000000
191	0.000000	-0.000009	0.000000
192	0.000000	-0.000008	0.000000
193	0.000000	-0.000007	0.000000
194	0.000000	-0.000007	0.000000
195	0.000000	-0.000006	0.000000
196	0.000000	-0.000005	0.000000
197	0.000000	-0.000004	0.000000
198	0.000000	-0.000003	0.000000
199	0.000000	-0.000002	0.000000
200	0.000000	-0.000001	0.000000
201	0.000000	-0.000000	0.000000
202	0.000000	0.000000	0.000000
203	0.000000	0.000001	0.000000
204	0.000000	0.000002	0.000000
205	0.000000	0.000002	0.000000
206	0.000000	0.000003	0.000000
207	0.000000	0.000003	0.000000
208	0.000000	0.000003	0.000000
209	0.000000	0.000003	-0.000000
210	0.000000	0.000003	-0.000000
211	0.000000	0.000003	-0.000000
212	0.000000	0.000002	-0.000000
213	0.000000	0.000002	-0.000000
214	0.000000	0.000002	-0.000000
215	0.000000	0.000002	-0.000000
216	0.000000	0.000002	-0.000000
217	0.000000	0.000001	-0.000000
218	0.000000	0.000001	-0.000000
219	0.000000	0.000001	-0.000000
220	0.000000	0.000000	-0.000000
221	0.000000	0.000000	-0.000000

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	8.68	-0.00
21	0.00	-36.21	0.00
41	-0.00	198.39	0.01
61	-0.00	508.14	-0.00
81	0.00	228.71	0.01
101	0.00	-36.78	0.00
121	-0.00	11.98	0.00
141	0.00	-3.91	-0.00
161	0.00	1.28	0.00
181	0.00	-0.42	0.00
201	-0.00	0.14	0.00
221	0.00	-0.03	-0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	0.00	-8.68
	2	0.00	14.08	-8.68
2	2	0.00	14.08	-8.68
	3	0.00	28.17	-8.68
3	3	0.00	28.17	-8.68
	4	0.00	42.25	-8.68
4	4	0.00	42.25	-8.68
	5	0.00	56.33	-8.68
5	5	0.00	56.32	-8.68
	6	0.00	70.42	-8.68
6	6	0.00	70.42	-8.68
	7	0.00	84.50	-8.68
7	7	0.00	84.50	-8.68
	8	0.00	98.58	-8.68
8	8	0.00	98.59	-8.68
	9	0.00	112.67	-8.68
9	9	0.00	112.67	-8.67
	10	0.00	126.73	-8.67
10	10	0.00	126.73	-8.67
	11	0.00	140.80	-8.67
11	11	0.00	140.79	-8.66
	12	0.00	154.85	-8.66
12	12	0.00	154.84	-8.67
	13	0.00	168.90	-8.67
13	13	0.00	168.89	-8.65
	14	0.00	182.93	-8.65
14	14	0.00	182.93	-8.64
	15	0.00	196.94	-8.64
15	15	0.00	196.94	-8.64
	16	0.00	210.95	-8.64
16	16	0.00	210.96	-8.63
	17	0.00	224.96	-8.63
17	17	0.00	224.96	-8.63
	18	0.00	238.96	-8.63
18	18	0.00	238.96	-8.63
	19	0.00	268.82	-8.63
19	19	0.00	268.82	-8.63
	20	0.00	298.69	-8.63
20	20	0.00	298.69	-8.63
	21	0.00	311.64	-8.63
21	21	0.00	311.63	27.58
	22	0.00	270.26	27.58
22	22	0.00	270.25	27.59
	23	0.00	174.79	27.59
23	23	0.00	174.79	27.59
	24	0.00	79.33	27.59
24	24	0.00	79.33	27.59
	25	0.00	23.84	27.59
25	25	0.00	23.84	27.59
	26	0.00	-31.68	27.59
26	26	0.00	-31.68	27.60
	27	0.00	-87.19	27.60
27	27	0.00	-87.18	27.60
	28	0.00	-142.72	27.60
28	28	0.00	-142.72	27.61
	29	0.00	-198.25	27.61
29	29	0.00	-198.25	27.62
	30	0.00	-253.81	27.62
30	30	0.00	-253.80	27.63
	31	0.00	-309.36	27.63
31	31	0.00	-309.35	27.63
	32	0.00	-364.93	27.63
32	32	0.00	-364.92	27.64
	33	0.00	-420.53	27.64
33	33	0.00	-420.53	27.65
	34	0.00	-476.13	27.65
34	34	0.00	-476.11	27.65
	35	0.00	-531.74	27.65
35	35	0.00	-531.74	27.67
	36	0.00	-587.37	27.67
36	36	0.00	-587.39	27.67
	37	0.00	-643.07	27.67
37	37	0.00	-643.07	27.69
	38	0.00	-698.75	27.69
38	38	0.00	-698.75	27.69
	39	0.00	-794.57	27.69
39	39	0.00	-794.57	27.70
	40	0.00	-890.40	27.70
40	40	0.00	-890.39	27.70
	41	0.00	-931.94	27.70
41	41	0.00	-931.95	-170.69
	42	0.00	-675.92	-170.69
42	42	0.00	-675.92	-170.68
	43	0.00	-85.38	-170.68
43	43	0.00	-85.38	-170.68
	44	0.00	450.36	-130.68
44	44	0.00	450.35	-130.69
	45	0.00	660.33	-90.69
45	45	0.00	660.30	-90.72
	46	0.00	791.91	-50.72
46	46	0.00	791.89	-50.71
	47	0.00	893.87	-50.71
47	47	0.00	893.89	-50.72
	48	0.00	995.93	-50.72
48	48	0.00	995.93	-50.74
	49	0.00	1094.08	-10.74
49	49	0.00	1094.11	-10.73
	50	0.00	1113.75	29.27
50	50	0.00	1113.76	29.22

	51	0.00	1054.99	69.22	94	94	0.00	-149.21	-27.74
51	51	0.00	1054.98	69.24		95	0.00	-93.40	-27.74
	52	0.00	915.75	69.24	95	95	0.00	-93.41	-27.73
52	52	0.00	915.76	69.22		96	0.00	-37.64	-27.73
	53	0.00	746.37	109.22	96	96	0.00	-37.65	-27.71
53	53	0.00	746.37	109.21		97	0.00	18.11	-27.71
	54	0.00	488.19	149.21	97	97	0.00	18.11	-27.71
54	54	0.00	488.18	149.20		98	0.00	73.84	-27.71
	55	0.00	187.98	149.20	98	98	0.00	73.84	-27.71
55	55	0.00	187.98	149.20		99	0.00	169.73	-27.71
	56	0.00	-112.06	149.20	99	99	0.00	169.73	-27.71
56	56	0.00	-112.07	149.21		100	0.00	265.61	-27.71
	57	0.00	-412.28	149.21	100	100	0.00	265.61	-27.71
57	57	0.00	-412.28	149.19		101	0.00	307.17	-27.71
	58	0.00	-776.71	189.19	101	101	0.00	307.17	9.07
58	58	0.00	-776.71	189.19		102	0.00	293.57	9.07
	59	0.00	-1562.12	229.19	102	102	0.00	293.57	9.07
59	59	0.00	-1562.12	229.19		103	0.00	262.18	9.07
	60	0.00	-2355.13	229.19	103	103	0.00	262.18	9.07
60	60	0.00	-2355.14	229.19		104	0.00	230.80	9.07
	61	0.00	-2698.93	229.19	104	104	0.00	230.80	9.07
61	61	0.00	-2698.93	-278.94		105	0.00	212.55	9.07
	62	0.00	-2280.51	-278.94	105	105	0.00	212.55	9.07
62	62	0.00	-2280.51	-278.94		106	0.00	194.30	9.07
	63	0.00	-1419.37	-198.94	106	106	0.00	194.30	9.07
63	63	0.00	-1419.37	-198.94		107	0.00	176.07	9.07
	64	0.00	-731.03	-198.94	107	107	0.00	176.07	9.06
64	64	0.00	-731.02	-198.94		108	0.00	157.84	9.06
	65	0.00	-330.96	-198.94	108	108	0.00	157.84	9.06
65	65	0.00	-330.96	-198.96		109	0.00	139.63	9.06
	66	0.00	50.03	-158.96	109	109	0.00	139.63	9.05
66	66	0.00	50.01	-158.98		110	0.00	121.41	9.05
	67	0.00	341.95	-118.98	110	110	0.00	121.41	9.05
67	67	0.00	341.94	-118.99		111	0.00	103.22	9.05
	68	0.00	581.35	-118.99	111	111	0.00	103.21	9.05
68	68	0.00	581.36	-118.99		112	0.00	85.02	9.05
	69	0.00	761.58	-78.99	112	112	0.00	85.02	9.04
69	69	0.00	761.59	-79.01		113	0.00	66.83	9.04
	70	0.00	852.99	-39.01	113	113	0.00	66.83	9.04
70	70	0.00	853.00	-39.03		114	0.00	48.65	9.04
	71	0.00	931.48	-39.03	114	114	0.00	48.65	9.04
71	71	0.00	931.48	-39.02		115	0.00	30.46	9.04
	72	0.00	1009.95	-39.02	115	115	0.00	30.46	9.04
72	72	0.00	1009.98	-39.03		116	0.00	12.29	9.04
	73	0.00	1075.58	0.97	116	116	0.00	12.29	9.03
73	73	0.00	1075.59	0.97		117	0.00	-5.88	9.03
	74	0.00	1052.27	40.97	117	117	0.00	-5.88	9.03
74	74	0.00	1052.29	40.92		118	0.00	-24.04	9.03
	75	0.00	969.96	40.92	118	118	0.00	-24.04	9.03
75	75	0.00	969.95	40.88		119	0.00	-55.30	9.03
	76	0.00	835.05	80.88	119	119	0.00	-55.30	9.03
76	76	0.00	835.03	80.88		120	0.00	-86.55	9.03
	77	0.00	611.15	120.88	120	120	0.00	-86.55	9.03
77	77	0.00	611.13	120.86		121	0.00	-100.10	9.03
	78	0.00	368.09	120.86	121	121	0.00	-100.10	-2.95
78	78	0.00	368.08	120.87		122	0.00	-95.67	-2.95
	79	0.00	-50.13	120.87	122	122	0.00	-95.67	-2.95
79	79	0.00	-50.13	120.87		123	0.00	-85.45	-2.95
	80	0.00	-641.13	200.87	123	123	0.00	-85.45	-2.95
80	80	0.00	-641.13	200.86		124	0.00	-75.24	-2.95
	81	0.00	-942.42	200.86	124	124	0.00	-75.24	-2.95
81	81	0.00	-942.43	-27.85		125	0.00	-69.30	-2.95
	82	0.00	-900.65	-27.85	125	125	0.00	-69.30	-2.95
82	82	0.00	-900.66	-27.83		126	0.00	-63.36	-2.95
	83	0.00	-804.36	-27.83	126	126	0.00	-63.36	-2.95
83	83	0.00	-804.35	-27.83		127	0.00	-57.42	-2.95
	84	0.00	-708.06	-27.83	127	127	0.00	-57.42	-2.95
84	84	0.00	-708.07	-27.84		128	0.00	-51.48	-2.95
	85	0.00	-652.07	-27.84	128	128	0.00	-51.48	-2.95
85	85	0.00	-652.08	-27.83		129	0.00	-45.55	-2.95
	86	0.00	-596.09	-27.83	129	129	0.00	-45.55	-2.95
86	86	0.00	-596.10	-27.83		130	0.00	-39.61	-2.95
	87	0.00	-540.14	-27.83	130	130	0.00	-39.61	-2.95
87	87	0.00	-540.15	-27.81		131	0.00	-33.68	-2.95
	88	0.00	-484.21	-27.81	131	131	0.00	-33.68	-2.95
88	88	0.00	-484.21	-27.78		132	0.00	-27.74	-2.95
	89	0.00	-428.34	-27.78	132	132	0.00	-27.74	-2.95
89	89	0.00	-428.32	-27.77		133	0.00	-21.81	-2.95
	90	0.00	-372.46	-27.77	133	133	0.00	-21.81	-2.95
90	90	0.00	-372.45	-27.76		134	0.00	-15.88	-2.95
	91	0.00	-316.61	-27.76	134	134	0.00	-15.88	-2.95
91	91	0.00	-316.62	-27.76		135	0.00	-9.95	-2.95
	92	0.00	-260.78	-27.76	135	135	0.00	-9.95	-2.95
92	92	0.00	-260.80	-27.75		136	0.00	-4.02	-2.95
	93	0.00	-204.97	-27.75	136	136	0.00	-4.02	-2.95
93	93	0.00	-204.98	-27.74		137	0.00	1.91	-2.95
	94	0.00	-149.20	-27.74	137	137	0.00	1.91	-2.95

	138	0.00	7.84	-2.95	181	181	0.00	3.49	0.10
138	138	0.00	7.84	-2.95		182	0.00	3.33	0.10
	139	0.00	18.04	-2.95	182	182	0.00	3.33	0.10
139	139	0.00	18.04	-2.95		183	0.00	2.97	0.10
	140	0.00	28.24	-2.95	183	183	0.00	2.97	0.10
140	140	0.00	28.24	-2.95		184	0.00	2.61	0.10
	141	0.00	32.66	-2.95	184	184	0.00	2.61	0.10
141	141	0.00	32.66	0.96		185	0.00	2.41	0.10
	142	0.00	31.21	0.96	185	185	0.00	2.41	0.10
142	142	0.00	31.21	0.96		186	0.00	2.20	0.10
	143	0.00	27.88	0.96	186	186	0.00	2.20	0.10
143	143	0.00	27.88	0.96		187	0.00	1.99	0.10
	144	0.00	24.55	0.96	187	187	0.00	1.99	0.10
144	144	0.00	24.54	0.96		188	0.00	1.78	0.10
	145	0.00	22.61	0.96	188	188	0.00	1.78	0.10
145	145	0.00	22.61	0.96		189	0.00	1.57	0.10
	146	0.00	20.67	0.96	189	189	0.00	1.57	0.10
146	146	0.00	20.67	0.96		190	0.00	1.37	0.10
	147	0.00	18.73	0.96	190	190	0.00	1.37	0.10
147	147	0.00	18.73	0.96		191	0.00	1.16	0.10
	148	0.00	16.79	0.96	191	191	0.00	1.16	0.10
148	148	0.00	16.79	0.96		192	0.00	0.95	0.10
	149	0.00	14.86	0.96	192	192	0.00	0.95	0.10
149	149	0.00	14.86	0.96		193	0.00	0.74	0.10
	150	0.00	12.92	0.96	193	193	0.00	0.74	0.10
150	150	0.00	12.92	0.96		194	0.00	0.53	0.10
	151	0.00	10.98	0.96	194	194	0.00	0.53	0.10
151	151	0.00	10.98	0.96		195	0.00	0.33	0.10
	152	0.00	9.05	0.96	195	195	0.00	0.33	0.10
152	152	0.00	9.05	0.96		196	0.00	0.12	0.10
	153	0.00	7.11	0.96	196	196	0.00	0.12	0.10
153	153	0.00	7.11	0.96		197	0.00	-0.09	0.10
	154	0.00	5.18	0.96	197	197	0.00	-0.09	0.10
154	154	0.00	5.18	0.96		198	0.00	-0.30	0.10
	155	0.00	3.24	0.96	198	198	0.00	-0.30	0.10
155	155	0.00	3.24	0.96		199	0.00	-0.65	0.10
	156	0.00	1.31	0.96	199	199	0.00	-0.65	0.10
156	156	0.00	1.31	0.96		200	0.00	-1.01	0.10
	157	0.00	-0.63	0.96	200	200	0.00	-1.01	0.10
157	157	0.00	-0.63	0.96		201	0.00	-1.17	0.10
	158	0.00	-2.56	0.96	201	201	0.00	-1.17	-0.03
158	158	0.00	-2.56	0.96		202	0.00	-1.12	-0.03
	159	0.00	-5.89	0.96	202	202	0.00	-1.12	-0.03
159	159	0.00	-5.89	0.96		203	0.00	-1.01	-0.03
	160	0.00	-9.21	0.96	203	203	0.00	-1.01	-0.03
160	160	0.00	-9.21	0.96		204	0.00	-0.89	-0.03
	161	0.00	-10.66	0.96	204	204	0.00	-0.89	-0.03
161	161	0.00	-10.66	-0.31		205	0.00	-0.84	-0.03
	162	0.00	-10.18	-0.31	205	205	0.00	-0.84	-0.03
162	162	0.00	-10.18	-0.31		206	0.00	-0.79	-0.03
	163	0.00	-9.10	-0.31	206	206	0.00	-0.79	-0.03
163	163	0.00	-9.10	-0.31		207	0.00	-0.74	-0.03
	164	0.00	-8.01	-0.31	207	207	0.00	-0.74	-0.03
164	164	0.00	-8.01	-0.31		208	0.00	-0.68	-0.03
	165	0.00	-7.37	-0.31	208	208	0.00	-0.68	-0.03
165	165	0.00	-7.37	-0.31		209	0.00	-0.63	-0.03
	166	0.00	-6.74	-0.31	209	209	0.00	-0.63	-0.03
166	166	0.00	-6.74	-0.31		210	0.00	-0.58	-0.03
	167	0.00	-6.11	-0.31	210	210	0.00	-0.58	-0.03
167	167	0.00	-6.11	-0.31		211	0.00	-0.53	-0.03
	168	0.00	-5.48	-0.31	211	211	0.00	-0.53	-0.03
168	168	0.00	-5.48	-0.31		212	0.00	-0.47	-0.03
	169	0.00	-4.84	-0.31	212	212	0.00	-0.47	-0.03
169	169	0.00	-4.84	-0.31		213	0.00	-0.42	-0.03
	170	0.00	-4.21	-0.31	213	213	0.00	-0.42	-0.03
170	170	0.00	-4.21	-0.31		214	0.00	-0.37	-0.03
	171	0.00	-3.58	-0.31	214	214	0.00	-0.37	-0.03
171	171	0.00	-3.58	-0.31		215	0.00	-0.32	-0.03
	172	0.00	-2.95	-0.31	215	215	0.00	-0.32	-0.03
172	172	0.00	-2.95	-0.31		216	0.00	-0.26	-0.03
	173	0.00	-2.32	-0.31	216	216	0.00	-0.26	-0.03
173	173	0.00	-2.32	-0.31		217	0.00	-0.21	-0.03
	174	0.00	-1.68	-0.31	217	217	0.00	-0.21	-0.03
174	174	0.00	-1.68	-0.31		218	0.00	-0.16	-0.03
	175	0.00	-1.05	-0.31	218	218	0.00	-0.16	-0.03
175	175	0.00	-1.05	-0.31		219	0.00	-0.11	-0.03
	176	0.00	-0.42	-0.31	219	219	0.00	-0.11	-0.03
176	176	0.00	-0.42	-0.31		220	0.00	-0.05	-0.03
	177	0.00	0.21	-0.31	220	220	0.00	-0.05	-0.03
177	177	0.00	0.21	-0.31		221	0.00	-0.00	-0.03
	178	0.00	0.84	-0.31					
178	178	0.00	0.84	-0.31					
	179	0.00	1.93	-0.31					
179	179	0.00	1.93	-0.31					
	180	0.00	3.02	-0.31					
180	180	0.00	3.02	-0.31					
	181	0.00	3.49	-0.31					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 4 ESTADO DE CARGAS 4

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	0.000000	0.000018
2	0.000000	0.000029	0.000018
3	0.000000	0.000058	0.000018
4	0.000000	0.000086	0.000017
5	0.000000	0.000113	0.000016
6	0.000000	0.000139	0.000015
7	0.000000	0.000162	0.000014
8	0.000000	0.000184	0.000012
9	0.000000	0.000202	0.000011
10	0.000000	0.000218	0.000009
11	0.000000	0.000231	0.000007
12	0.000000	0.000239	0.000004
13	0.000000	0.000244	0.000001
14	0.000000	0.000244	-0.000001
15	0.000000	0.000239	-0.000004
16	0.000000	0.000229	-0.000008
17	0.000000	0.000214	-0.000011
18	0.000000	0.000192	-0.000015
19	0.000000	0.000127	-0.000023
20	0.000000	0.000042	-0.000027
21	0.000000	-0.000000	-0.000029
22	0.000000	-0.000044	-0.000030
23	0.000000	-0.000155	-0.000034
24	0.000000	-0.000279	-0.000037
25	0.000000	-0.000355	-0.000038
26	0.000000	-0.000432	-0.000038
27	0.000000	-0.000509	-0.000037
28	0.000000	-0.000581	-0.000035
29	0.000000	-0.000648	-0.000031
30	0.000000	-0.000707	-0.000027
31	0.000000	-0.000755	-0.000021
32	0.000000	-0.000791	-0.000014
33	0.000000	-0.000812	-0.000006
34	0.000000	-0.000815	0.000003
35	0.000000	-0.000800	0.000013
36	0.000000	-0.000763	0.000024
37	0.000000	-0.000702	0.000037
38	0.000000	-0.000614	0.000050
39	0.000000	-0.000404	0.000072
40	0.000000	-0.000132	0.000085
41	0.000000	0.000000	0.000090
42	0.000000	0.000139	0.000095
43	0.000000	0.000485	0.000105
44	0.000000	0.000870	0.000116
45	0.000000	0.001107	0.000119
46	0.000000	0.001346	0.000118
47	0.000000	0.001580	0.000114
48	0.000000	0.001803	0.000107
49	0.000000	0.002008	0.000096
50	0.000000	0.002188	0.000082
51	0.000000	0.002335	0.000064
52	0.000000	0.002443	0.000043
53	0.000000	0.002506	0.000019
54	0.000000	0.002516	-0.000009
55	0.000000	0.002467	-0.000041
56	0.000000	0.002351	-0.000075
57	0.000000	0.002161	-0.000114
58	0.000000	0.001892	-0.000155
59	0.000000	0.001242	-0.000222
60	0.000000	0.000405	-0.000263
61	0.000000	-0.000000	-0.000277
62	0.000000	-0.000426	-0.000290
63	0.000000	-0.001469	-0.000308
64	0.000000	-0.002518	-0.000290
65	0.000000	-0.003069	-0.000255
66	0.000000	-0.003537	-0.000209
67	0.000000	-0.003907	-0.000157
68	0.000000	-0.004165	-0.000098
69	0.000000	-0.004299	-0.000033
70	0.000000	-0.004297	0.000035
71	0.000000	-0.004158	0.000103
72	0.000000	-0.003889	0.000164
73	0.000000	-0.003505	0.000216
74	0.000000	-0.003029	0.000255
75	0.000000	-0.002493	0.000276
76	0.000000	-0.001932	0.000278
77	0.000000	-0.001386	0.000262
78	0.000000	-0.000892	0.000225
79	0.000000	-0.000272	0.000121
80	0.000000	-0.000008	0.000025
81	0.000000	-0.000000	-0.000015
82	0.000000	-0.000052	-0.000053
83	0.000000	-0.000404	-0.000143
84	0.000000	-0.001084	-0.000239
85	0.000000	-0.001603	-0.000272
86	0.000000	-0.002163	-0.000281
87	0.000000	-0.002718	-0.000268
88	0.000000	-0.003230	-0.000239
89	0.000000	-0.003671	-0.000197
90	0.000000	-0.004018	-0.000147
91	0.000000	-0.004258	-0.000091
92	0.000000	-0.004383	-0.000031
93	0.000000	-0.004381	0.000034
94	0.000000	-0.004246	0.000100
95	0.000000	-0.003981	0.000163
96	0.000000	-0.003595	0.000219
97	0.000000	-0.003105	0.000265
98	0.000000	-0.002540	0.000295
99	0.000000	-0.001483	0.000309
100	0.000000	-0.000432	0.000294
101	0.000000	-0.000000	0.000281
102	0.000000	0.000411	0.000267
103	0.000000	0.001260	0.000225
104	0.000000	0.001919	0.000157
105	0.000000	0.002192	0.000115
106	0.000000	0.002385	0.000076
107	0.000000	0.002502	0.000041
108	0.000000	0.002553	0.000009
109	0.000000	0.002543	-0.000019
110	0.000000	0.002479	-0.000044
111	0.000000	0.002370	-0.000065
112	0.000000	0.002220	-0.000083
113	0.000000	0.002038	-0.000097
114	0.000000	0.001831	-0.000108
115	0.000000	0.001605	-0.000116
116	0.000000	0.001367	-0.000120
117	0.000000	0.001125	-0.000121
118	0.000000	0.000884	-0.000118
119	0.000000	0.000493	-0.000107
120	0.000000	0.000141	-0.000096
121	0.000000	0.000000	-0.000092
122	0.000000	-0.000134	-0.000087
123	0.000000	-0.000411	-0.000073
124	0.000000	-0.000626	-0.000051
125	0.000000	-0.000715	-0.000038
126	0.000000	-0.000778	-0.000025
127	0.000000	-0.000816	-0.000013
128	0.000000	-0.000833	-0.000003
129	0.000000	-0.000829	0.000006
130	0.000000	-0.000809	0.000014
131	0.000000	-0.000773	0.000021
132	0.000000	-0.000724	0.000027
133	0.000000	-0.000665	0.000032
134	0.000000	-0.000597	0.000035
135	0.000000	-0.000523	0.000038
136	0.000000	-0.000446	0.000039
137	0.000000	-0.000367	0.000039
138	0.000000	-0.000288	0.000038
139	0.000000	-0.000161	0.000035
140	0.000000	-0.000046	0.000031
141	0.000000	-0.000000	0.000030
142	0.000000	0.000044	0.000028
143	0.000000	0.000134	0.000024
144	0.000000	0.000204	0.000017
145	0.000000	0.000233	0.000012
146	0.000000	0.000254	0.000008
147	0.000000	0.000266	0.000004
148	0.000000	0.000272	0.000001
149	0.000000	0.000271	-0.000002
150	0.000000	0.000264	-0.000005
151	0.000000	0.000252	-0.000007
152	0.000000	0.000236	-0.000009
153	0.000000	0.000217	-0.000010
154	0.000000	0.000195	-0.000012
155	0.000000	0.000171	-0.000012
156	0.000000	0.000145	-0.000013
157	0.000000	0.000120	-0.000013
158	0.000000	0.000094	-0.000013
159	0.000000	0.000052	-0.000011
160	0.000000	0.000015	-0.000010
161	0.000000	0.000000	-0.000010
162	0.000000	-0.000014	-0.000009
163	0.000000	-0.000044	-0.000008
164	0.000000	-0.000067	-0.000005
165	0.000000	-0.000076	-0.000004
166	0.000000	-0.000083	-0.000003

167	0.000000	-0.000087	-0.000001
168	0.000000	-0.000089	-0.000000
169	0.000000	-0.000088	0.000001
170	0.000000	-0.000086	0.000002
171	0.000000	-0.000082	0.000002
172	0.000000	-0.000077	0.000003
173	0.000000	-0.000071	0.000003
174	0.000000	-0.000063	0.000004
175	0.000000	-0.000056	0.000004
176	0.000000	-0.000047	0.000004
177	0.000000	-0.000039	0.000004
178	0.000000	-0.000031	0.000004
179	0.000000	-0.000017	0.000004
180	0.000000	-0.000005	0.000003
181	0.000000	-0.000000	0.000003
182	0.000000	0.000005	0.000003
183	0.000000	0.000014	0.000003
184	0.000000	0.000022	0.000002
185	0.000000	0.000025	0.000001
186	0.000000	0.000027	0.000001
187	0.000000	0.000028	0.000000
188	0.000000	0.000029	0.000000
189	0.000000	0.000029	-0.000000
190	0.000000	0.000028	-0.000001
191	0.000000	0.000027	-0.000001
192	0.000000	0.000025	-0.000001
193	0.000000	0.000023	-0.000001
194	0.000000	0.000020	-0.000001
195	0.000000	0.000018	-0.000001
196	0.000000	0.000015	-0.000001
197	0.000000	0.000012	-0.000001
198	0.000000	0.000010	-0.000001
199	0.000000	0.000005	-0.000001
200	0.000000	0.000002	-0.000001
201	0.000000	0.000000	-0.000001
202	0.000000	-0.000001	-0.000001
203	0.000000	-0.000004	-0.000001
204	0.000000	-0.000007	-0.000001
205	0.000000	-0.000008	-0.000000
206	0.000000	-0.000008	-0.000000
207	0.000000	-0.000008	-0.000000
208	0.000000	-0.000009	-0.000000
209	0.000000	-0.000009	0.000000
210	0.000000	-0.000008	0.000000
211	0.000000	-0.000008	0.000000
212	0.000000	-0.000008	0.000000
213	0.000000	-0.000007	0.000000
214	0.000000	-0.000006	0.000000
215	0.000000	-0.000006	0.000000
216	0.000000	-0.000005	0.000001
217	0.000000	-0.000004	0.000001
218	0.000000	-0.000003	0.000001
219	0.000000	-0.000002	0.000001
220	0.000000	-0.000001	0.000001
221	0.000000	-0.000000	0.000001

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	-2.83	-0.00
21	0.00	11.81	-0.00
41	0.00	-36.39	0.00
61	0.00	198.01	0.01
81	0.00	508.20	0.00
101	0.00	228.65	0.00
121	0.00	-36.76	-0.00
141	0.00	12.00	0.00
161	0.00	-3.91	0.00
181	0.00	1.28	0.00
201	-0.00	-0.42	-0.00
221	0.00	0.10	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	0.00	2.83
	2	0.00	-4.59	2.83
2	2	0.00	-4.59	2.83
	3	0.00	-9.18	2.83
3	3	0.00	-9.18	2.83
	4	0.00	-13.78	2.83
4	4	0.00	-13.77	2.83
	5	0.00	-18.37	2.83
5	5	0.00	-18.37	2.83
	6	0.00	-22.96	2.83
6	6	0.00	-22.96	2.83
	7	0.00	-27.55	2.83
7	7	0.00	-27.55	2.83
	8	0.00	-32.14	2.83
8	8	0.00	-32.15	2.83
	9	0.00	-36.74	2.83
9	9	0.00	-36.74	2.83
	10	0.00	-41.32	2.83
10	10	0.00	-41.32	2.83
	11	0.00	-45.91	2.83
11	11	0.00	-45.91	2.82
	12	0.00	-50.49	2.82
12	12	0.00	-50.49	2.82
	13	0.00	-55.07	2.82
13	13	0.00	-55.07	2.82
	14	0.00	-59.65	2.82
14	14	0.00	-59.65	2.82
	15	0.00	-64.22	2.82
15	15	0.00	-64.22	2.82
	16	0.00	-68.79	2.82
16	16	0.00	-68.79	2.81
	17	0.00	-73.35	2.81
17	17	0.00	-73.36	2.81
	18	0.00	-77.92	2.81
18	18	0.00	-77.92	2.81
	19	0.00	-87.66	2.81
19	19	0.00	-87.65	2.81
	20	0.00	-97.39	2.81
20	20	0.00	-97.39	2.81
	21	0.00	-101.61	2.81
21	21	0.00	-101.61	-8.99
	22	0.00	-88.12	-8.99
22	22	0.00	-88.12	-9.00
	23	0.00	-56.99	-9.00
23	23	0.00	-56.99	-9.00
	24	0.00	-25.87	-9.00
24	24	0.00	-25.87	-9.00
	25	0.00	-7.78	-9.00
25	25	0.00	-7.77	-9.00
	26	0.00	10.33	-9.00
26	26	0.00	10.33	-9.00
	27	0.00	28.43	-9.00
27	27	0.00	28.43	-9.00
	28	0.00	46.54	-9.00
28	28	0.00	46.54	-9.00
	29	0.00	64.64	-9.00
29	29	0.00	64.64	-9.00
	30	0.00	82.76	-9.00
30	30	0.00	82.76	-9.00
	31	0.00	100.87	-9.00
31	31	0.00	100.87	-9.01
	32	0.00	118.99	-9.01
32	32	0.00	118.99	-9.01
	33	0.00	137.12	-9.01
33	33	0.00	137.12	-9.02
	34	0.00	155.25	-9.02
34	34	0.00	155.25	-9.02
	35	0.00	173.38	-9.02
35	35	0.00	173.38	-9.02
	36	0.00	191.52	-9.02
36	36	0.00	191.53	-9.03
	37	0.00	209.69	-9.03
37	37	0.00	209.68	-9.03
	38	0.00	227.84	-9.03
38	38	0.00	227.84	-9.03
	39	0.00	259.08	-9.03
39	39	0.00	259.08	-9.03
	40	0.00	290.33	-9.03
40	40	0.00	290.33	-9.03
	41	0.00	303.88	-9.03
41	41	0.00	303.87	27.36
	42	0.00	262.84	27.36
42	42	0.00	262.83	27.36
	43	0.00	168.16	27.36
43	43	0.00	168.16	27.36
	44	0.00	73.49	27.36
44	44	0.00	73.50	27.37
	45	0.00	18.46	27.37
45	45	0.00	18.47	27.38
	46	0.00	-36.61	27.38
46	46	0.00	-36.60	27.38
	47	0.00	-91.65	27.38
47	47	0.00	-91.65	27.38
	48	0.00	-146.75	27.38
48	48	0.00	-146.74	27.39
	49	0.00	-201.81	27.39
49	49	0.00	-201.83	27.38
	50	0.00	-256.92	27.38
50	50	0.00	-256.93	27.40

	51	0.00	-312.02	27.40	94	94	0.00	1052.19	40.90
51	51	0.00	-312.02	27.40		95	0.00	969.91	40.90
	52	0.00	-367.13	27.40	95	95	0.00	969.91	40.87
52	52	0.00	-367.14	27.40		96	0.00	835.03	80.87
	53	0.00	-422.27	27.40	96	96	0.00	835.04	80.85
53	53	0.00	-422.28	27.41		97	0.00	611.21	120.85
	54	0.00	-477.41	27.41	97	97	0.00	611.20	120.84
54	54	0.00	-477.40	27.42		98	0.00	368.18	120.84
	55	0.00	-532.57	27.42	98	98	0.00	368.19	120.84
55	55	0.00	-532.57	27.42		99	0.00	-49.94	120.84
	56	0.00	-587.72	27.42	99	99	0.00	-49.94	120.84
56	56	0.00	-587.71	27.41		100	0.00	-640.86	200.84
	57	0.00	-642.87	27.41	100	100	0.00	-640.86	200.83
57	57	0.00	-642.86	27.44		101	0.00	-942.10	200.83
	58	0.00	-698.04	27.44	101	101	0.00	-942.10	-27.81
58	58	0.00	-698.04	27.44		102	0.00	-900.37	-27.81
	59	0.00	-792.97	27.44	102	102	0.00	-900.37	-27.82
59	59	0.00	-792.97	27.44		103	0.00	-804.11	-27.82
	60	0.00	-887.90	27.44	103	103	0.00	-804.11	-27.82
60	60	0.00	-887.91	27.44		104	0.00	-707.85	-27.82
	61	0.00	-929.07	27.44	104	104	0.00	-707.85	-27.82
61	61	0.00	-929.08	-170.57		105	0.00	-651.91	-27.82
	62	0.00	-673.23	-170.57	105	105	0.00	-651.91	-27.82
62	62	0.00	-673.23	-170.57		106	0.00	-595.93	-27.82
	63	0.00	-83.05	-170.57	106	106	0.00	-595.93	-27.81
63	63	0.00	-83.05	-170.57		107	0.00	-540.01	-27.81
	64	0.00	452.33	-130.57	107	107	0.00	-540.01	-27.79
64	64	0.00	452.33	-130.57		108	0.00	-484.09	-27.79
	65	0.00	662.07	-90.57	108	108	0.00	-484.10	-27.78
65	65	0.00	662.08	-90.59		109	0.00	-428.23	-27.78
	66	0.00	793.42	-50.59	109	109	0.00	-428.23	-27.77
66	66	0.00	793.43	-50.61		110	0.00	-372.37	-27.77
	67	0.00	895.21	-50.61	110	110	0.00	-372.37	-27.75
67	67	0.00	895.21	-50.64		111	0.00	-316.56	-27.75
	68	0.00	997.11	-50.64	111	111	0.00	-316.56	-27.75
68	68	0.00	997.11	-50.67		112	0.00	-260.75	-27.75
	69	0.00	1095.13	-10.67	112	112	0.00	-260.77	-27.74
69	69	0.00	1095.12	-10.67		113	0.00	-204.95	-27.74
	70	0.00	1114.62	29.33	113	113	0.00	-204.97	-27.73
70	70	0.00	1114.64	29.32		114	0.00	-149.21	-27.73
	71	0.00	1055.68	69.32	114	114	0.00	-149.22	-27.73
71	71	0.00	1055.68	69.31		115	0.00	-93.43	-27.73
	72	0.00	916.31	69.31	115	115	0.00	-93.44	-27.72
72	72	0.00	916.31	69.30		116	0.00	-37.70	-27.72
	73	0.00	746.77	109.30	116	116	0.00	-37.71	-27.70
73	73	0.00	746.74	109.29		117	0.00	18.03	-27.70
	74	0.00	488.39	149.29	117	117	0.00	18.03	-27.70
74	74	0.00	488.39	149.27		118	0.00	73.75	-27.70
	75	0.00	188.05	149.27	118	118	0.00	73.74	-27.70
75	75	0.00	188.07	149.26		119	0.00	169.59	-27.70
	76	0.00	-112.10	149.26	119	119	0.00	169.59	-27.70
76	76	0.00	-112.09	149.25		120	0.00	265.44	-27.70
	77	0.00	-412.38	149.25	120	120	0.00	265.44	-27.70
77	77	0.00	-412.38	149.24		121	0.00	307.00	-27.70
	78	0.00	-776.91	189.24	121	121	0.00	307.00	9.05
78	78	0.00	-776.90	189.24		122	0.00	293.42	9.05
	79	0.00	-1562.48	229.24	122	122	0.00	293.42	9.06
79	79	0.00	-1562.48	229.24		123	0.00	262.09	9.06
	80	0.00	-2355.65	229.24	123	123	0.00	262.09	9.06
80	80	0.00	-2355.65	229.24		124	0.00	230.75	9.06
	81	0.00	-2699.51	229.24	124	124	0.00	230.75	9.06
81	81	0.00	-2699.51	-278.96		125	0.00	212.54	9.06
	82	0.00	-2281.08	-278.96	125	125	0.00	212.55	9.06
82	82	0.00	-2281.08	-278.96		126	0.00	194.32	9.06
	83	0.00	-1419.89	-198.96	126	126	0.00	194.32	9.05
83	83	0.00	-1419.89	-198.96		127	0.00	176.12	9.05
	84	0.00	-731.49	-198.96	127	127	0.00	176.12	9.05
84	84	0.00	-731.49	-198.95		128	0.00	157.90	9.05
	85	0.00	-331.40	-198.95	128	128	0.00	157.90	9.06
85	85	0.00	-331.40	-198.96		129	0.00	139.69	9.06
	86	0.00	49.59	-158.96	129	129	0.00	139.69	9.05
86	86	0.00	49.58	-158.98		130	0.00	121.48	9.05
	87	0.00	341.52	-118.98	130	130	0.00	121.48	9.05
87	87	0.00	341.51	-118.99		131	0.00	103.29	9.05
	88	0.00	580.93	-118.99	131	131	0.00	103.28	9.04
88	88	0.00	580.93	-119.00		132	0.00	85.09	9.04
	89	0.00	761.16	-79.00	132	132	0.00	85.09	9.05
89	89	0.00	761.16	-79.03		133	0.00	66.89	9.05
	90	0.00	852.60	-39.03	133	133	0.00	66.89	9.04
90	90	0.00	852.59	-39.05		134	0.00	48.71	9.04
	91	0.00	931.11	-39.05	134	134	0.00	48.70	9.04
91	91	0.00	931.11	-39.05		135	0.00	30.52	9.04
	92	0.00	1009.64	-39.05	135	135	0.00	30.52	9.04
92	92	0.00	1009.66	-39.08		136	0.00	12.33	9.04
	93	0.00	1075.36	0.92	136	136	0.00	12.33	9.04
93	93	0.00	1075.37	0.91		137	0.00	-5.86	9.04
	94	0.00	1052.18	40.91	137	137	0.00	-5.86	9.04

	138	0.00	-24.04	9.04	181	181	0.00	-10.69	-0.32
138	138	0.00	-24.04	9.04		182	0.00	-10.22	-0.32
	139	0.00	-55.32	9.04	182	182	0.00	-10.22	-0.32
139	139	0.00	-55.32	9.04		183	0.00	-9.12	-0.32
	140	0.00	-86.60	9.04	183	183	0.00	-9.12	-0.32
140	140	0.00	-86.60	9.04		184	0.00	-8.02	-0.32
	141	0.00	-100.16	9.04	184	184	0.00	-8.02	-0.32
141	141	0.00	-100.16	-2.95		185	0.00	-7.38	-0.32
	142	0.00	-95.73	-2.95	185	185	0.00	-7.38	-0.32
142	142	0.00	-95.73	-2.96		186	0.00	-6.74	-0.32
	143	0.00	-85.51	-2.96	186	186	0.00	-6.74	-0.32
143	143	0.00	-85.51	-2.96		187	0.00	-6.10	-0.32
	144	0.00	-75.28	-2.96	187	187	0.00	-6.10	-0.32
144	144	0.00	-75.28	-2.95		188	0.00	-5.46	-0.32
	145	0.00	-69.34	-2.95	188	188	0.00	-5.46	-0.32
145	145	0.00	-69.34	-2.96		189	0.00	-4.83	-0.32
	146	0.00	-63.39	-2.96	189	189	0.00	-4.83	-0.32
146	146	0.00	-63.39	-2.96		190	0.00	-4.19	-0.32
	147	0.00	-57.45	-2.96	190	190	0.00	-4.19	-0.32
147	147	0.00	-57.45	-2.96		191	0.00	-3.55	-0.32
	148	0.00	-51.50	-2.96	191	191	0.00	-3.55	-0.32
148	148	0.00	-51.50	-2.96		192	0.00	-2.91	-0.32
	149	0.00	-45.56	-2.96	192	192	0.00	-2.91	-0.32
149	149	0.00	-45.56	-2.95		193	0.00	-2.27	-0.32
	150	0.00	-39.62	-2.95	193	193	0.00	-2.27	-0.32
150	150	0.00	-39.62	-2.95		194	0.00	-1.64	-0.32
	151	0.00	-33.69	-2.95	194	194	0.00	-1.64	-0.32
151	151	0.00	-33.69	-2.95		195	0.00	-1.00	-0.32
	152	0.00	-27.75	-2.95	195	195	0.00	-1.00	-0.32
152	152	0.00	-27.75	-2.95		196	0.00	-0.36	-0.32
	153	0.00	-21.82	-2.95	196	196	0.00	-0.36	-0.32
153	153	0.00	-21.81	-2.95		197	0.00	0.28	-0.32
	154	0.00	-15.88	-2.95	197	197	0.00	0.28	-0.32
154	154	0.00	-15.88	-2.95		198	0.00	0.91	-0.32
	155	0.00	-9.95	-2.95	198	198	0.00	0.91	-0.32
155	155	0.00	-9.95	-2.95		199	0.00	2.01	-0.32
	156	0.00	-4.02	-2.95	199	199	0.00	2.01	-0.32
156	156	0.00	-4.02	-2.95		200	0.00	3.11	-0.32
	157	0.00	1.92	-2.95	200	200	0.00	3.11	-0.32
157	157	0.00	1.92	-2.95		201	0.00	3.58	-0.32
	158	0.00	7.85	-2.95	201	201	0.00	3.58	0.10
158	158	0.00	7.85	-2.95		202	0.00	3.43	0.10
	159	0.00	18.05	-2.95	202	202	0.00	3.43	0.10
159	159	0.00	18.05	-2.95		203	0.00	3.09	0.10
	160	0.00	28.26	-2.95	203	203	0.00	3.09	0.10
160	160	0.00	28.26	-2.95		204	0.00	2.74	0.10
	161	0.00	32.68	-2.95	204	204	0.00	2.74	0.10
161	161	0.00	32.68	0.96		205	0.00	2.58	0.10
	162	0.00	31.24	0.96	205	205	0.00	2.58	0.10
162	162	0.00	31.24	0.96		206	0.00	2.42	0.10
	163	0.00	27.90	0.96	206	206	0.00	2.42	0.10
163	163	0.00	27.90	0.97		207	0.00	2.26	0.10
	164	0.00	24.56	0.97	207	207	0.00	2.26	0.10
164	164	0.00	24.56	0.97		208	0.00	2.10	0.10
	165	0.00	22.62	0.97	208	208	0.00	2.10	0.10
165	165	0.00	22.62	0.96		209	0.00	1.93	0.10
	166	0.00	20.68	0.96	209	209	0.00	1.93	0.10
166	166	0.00	20.68	0.97		210	0.00	1.77	0.10
	167	0.00	18.74	0.97	210	210	0.00	1.77	0.10
167	167	0.00	18.74	0.96		211	0.00	1.61	0.10
	168	0.00	16.80	0.96	211	211	0.00	1.61	0.10
168	168	0.00	16.80	0.96		212	0.00	1.45	0.10
	169	0.00	14.86	0.96	212	212	0.00	1.45	0.10
169	169	0.00	14.86	0.96		213	0.00	1.29	0.10
	170	0.00	12.92	0.96	213	213	0.00	1.29	0.10
170	170	0.00	12.92	0.96		214	0.00	1.13	0.10
	171	0.00	10.98	0.96	214	214	0.00	1.13	0.10
171	171	0.00	10.98	0.96		215	0.00	0.97	0.10
	172	0.00	9.04	0.96	215	215	0.00	0.97	0.10
172	172	0.00	9.04	0.96		216	0.00	0.81	0.10
	173	0.00	7.10	0.96	216	216	0.00	0.81	0.10
173	173	0.00	7.10	0.96		217	0.00	0.64	0.10
	174	0.00	5.17	0.96	217	217	0.00	0.64	0.10
174	174	0.00	5.17	0.96		218	0.00	0.48	0.10
	175	0.00	3.23	0.96	218	218	0.00	0.48	0.10
175	175	0.00	3.23	0.96		219	0.00	0.32	0.10
	176	0.00	1.29	0.96	219	219	0.00	0.32	0.10
176	176	0.00	1.29	0.96		220	0.00	0.16	0.10
	177	0.00	-0.65	0.96	220	220	0.00	0.16	0.10
177	177	0.00	-0.65	0.96		221	0.00	0.00	0.10
	178	0.00	-2.58	0.96					
178	178	0.00	-2.58	0.96					
	179	0.00	-5.92	0.96					
179	179	0.00	-5.92	0.96					
	180	0.00	-9.25	0.96					
180	180	0.00	-9.25	0.96					
	181	0.00	-10.69	0.96					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 5 ESTADO DE CARGAS 5

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000006
2	0.000000	-0.000010	-0.000006
3	0.000000	-0.000019	-0.000006
4	0.000000	-0.000028	-0.000006
5	0.000000	-0.000037	-0.000005
6	0.000000	-0.000045	-0.000005
7	0.000000	-0.000053	-0.000005
8	0.000000	-0.000060	-0.000004
9	0.000000	-0.000066	-0.000003
10	0.000000	-0.000071	-0.000003
11	0.000000	-0.000075	-0.000002
12	0.000000	-0.000078	-0.000001
13	0.000000	-0.000079	-0.000000
14	0.000000	-0.000080	0.000000
15	0.000000	-0.000078	0.000001
16	0.000000	-0.000075	0.000003
17	0.000000	-0.000070	0.000004
18	0.000000	-0.000063	0.000005
19	0.000000	-0.000042	0.000007
20	0.000000	-0.000014	0.000009
21	0.000000	0.000000	0.000009
22	0.000000	0.000014	0.000010
23	0.000000	0.000050	0.000011
24	0.000000	0.000091	0.000012
25	0.000000	0.000116	0.000013
26	0.000000	0.000141	0.000012
27	0.000000	0.000166	0.000012
28	0.000000	0.000189	0.000011
29	0.000000	0.000211	0.000010
30	0.000000	0.000230	0.000009
31	0.000000	0.000246	0.000007
32	0.000000	0.000258	0.000005
33	0.000000	0.000265	0.000002
34	0.000000	0.000266	-0.000001
35	0.000000	0.000261	-0.000004
36	0.000000	0.000249	-0.000008
37	0.000000	0.000229	-0.000012
38	0.000000	0.000200	-0.000016
39	0.000000	0.000132	-0.000023
40	0.000000	0.000043	-0.000028
41	0.000000	-0.000000	-0.000029
42	0.000000	-0.000045	-0.000031
43	0.000000	-0.000158	-0.000034
44	0.000000	-0.000284	-0.000038
45	0.000000	-0.000361	-0.000039
46	0.000000	-0.000439	-0.000039
47	0.000000	-0.000515	-0.000037
48	0.000000	-0.000588	-0.000035
49	0.000000	-0.000655	-0.000031
50	0.000000	-0.000713	-0.000027
51	0.000000	-0.000761	-0.000021
52	0.000000	-0.000796	-0.000014
53	0.000000	-0.000817	-0.000006
54	0.000000	-0.000820	0.000003
55	0.000000	-0.000804	0.000013
56	0.000000	-0.000766	0.000025
57	0.000000	-0.000704	0.000037
58	0.000000	-0.000617	0.000051
59	0.000000	-0.000405	0.000072
60	0.000000	-0.000132	0.000086
61	0.000000	0.000000	0.000090
62	0.000000	0.000139	0.000095
63	0.000000	0.000486	0.000105
64	0.000000	0.000872	0.000116
65	0.000000	0.001108	0.000119
66	0.000000	0.001348	0.000118
67	0.000000	0.001582	0.000114
68	0.000000	0.001805	0.000107
69	0.000000	0.002009	0.000096
70	0.000000	0.002189	0.000082
71	0.000000	0.002336	0.000064
72	0.000000	0.002444	0.000043
73	0.000000	0.002507	0.000019
74	0.000000	0.002517	-0.000009
75	0.000000	0.002467	-0.000041
76	0.000000	0.002351	-0.000075
77	0.000000	0.002161	-0.000114
78	0.000000	0.001892	-0.000155
79	0.000000	0.001242	-0.000222
80	0.000000	0.000405	-0.000263
81	0.000000	-0.000000	-0.000277
82	0.000000	-0.000426	-0.000290
83	0.000000	-0.001469	-0.000308
84	0.000000	-0.002518	-0.000290
85	0.000000	-0.003069	-0.000255
86	0.000000	-0.003537	-0.000209
87	0.000000	-0.003907	-0.000157
88	0.000000	-0.004165	-0.000098
89	0.000000	-0.004298	-0.000033
90	0.000000	-0.004297	0.000035
91	0.000000	-0.004157	0.000103
92	0.000000	-0.003888	0.000164
93	0.000000	-0.003505	0.000216
94	0.000000	-0.003029	0.000255
95	0.000000	-0.002492	0.000276
96	0.000000	-0.001932	0.000278
97	0.000000	-0.001386	0.000262
98	0.000000	-0.000892	0.000225
99	0.000000	-0.000272	0.000121
100	0.000000	-0.000008	0.000025
101	0.000000	-0.000000	-0.000015
102	0.000000	-0.000052	-0.000054
103	0.000000	-0.000405	-0.000143
104	0.000000	-0.001084	-0.000239
105	0.000000	-0.001603	-0.000272
106	0.000000	-0.002163	-0.000281
107	0.000000	-0.002718	-0.000268
108	0.000000	-0.003231	-0.000239
109	0.000000	-0.003672	-0.000197
110	0.000000	-0.004019	-0.000147
111	0.000000	-0.004259	-0.000091
112	0.000000	-0.004383	-0.000031
113	0.000000	-0.004382	0.000034
114	0.000000	-0.004247	0.000100
115	0.000000	-0.003981	0.000163
116	0.000000	-0.003595	0.000219
117	0.000000	-0.003106	0.000265
118	0.000000	-0.002540	0.000295
119	0.000000	-0.001483	0.000309
120	0.000000	-0.000432	0.000294
121	0.000000	-0.000000	0.000281
122	0.000000	0.000411	0.000267
123	0.000000	0.001261	0.000225
124	0.000000	0.001920	0.000157
125	0.000000	0.002193	0.000115
126	0.000000	0.002386	0.000077
127	0.000000	0.002504	0.000041
128	0.000000	0.002554	0.000010
129	0.000000	0.002544	-0.000019
130	0.000000	0.002481	-0.000044
131	0.000000	0.002371	-0.000065
132	0.000000	0.002222	-0.000083
133	0.000000	0.002040	-0.000097
134	0.000000	0.001832	-0.000108
135	0.000000	0.001606	-0.000116
136	0.000000	0.001368	-0.000120
137	0.000000	0.001125	-0.000121
138	0.000000	0.000885	-0.000118
139	0.000000	0.000494	-0.000107
140	0.000000	0.000141	-0.000096
141	0.000000	0.000000	-0.000092
142	0.000000	-0.000134	-0.000087
143	0.000000	-0.000411	-0.000073
144	0.000000	-0.000626	-0.000051
145	0.000000	-0.000715	-0.000038
146	0.000000	-0.000778	-0.000025
147	0.000000	-0.000817	-0.000013
148	0.000000	-0.000833	-0.000003
149	0.000000	-0.000830	0.000006
150	0.000000	-0.000809	0.000014
151	0.000000	-0.000773	0.000021
152	0.000000	-0.000725	0.000027
153	0.000000	-0.000665	0.000032
154	0.000000	-0.000598	0.000035
155	0.000000	-0.000524	0.000038
156	0.000000	-0.000446	0.000039
157	0.000000	-0.000367	0.000039
158	0.000000	-0.000289	0.000038
159	0.000000	-0.000161	0.000035
160	0.000000	-0.000046	0.000031
161	0.000000	-0.000000	0.000030
162	0.000000	0.000044	0.000028
163	0.000000	0.000134	0.000024
164	0.000000	0.000204	0.000017
165	0.000000	0.000233	0.000012
166	0.000000	0.000254	0.000008

167	0.000000	0.000266	0.000004
168	0.000000	0.000272	0.000001
169	0.000000	0.000271	-0.000002
170	0.000000	0.000264	-0.000005
171	0.000000	0.000252	-0.000007
172	0.000000	0.000236	-0.000009
173	0.000000	0.000217	-0.000010
174	0.000000	0.000195	-0.000012
175	0.000000	0.000171	-0.000012
176	0.000000	0.000145	-0.000013
177	0.000000	0.000120	-0.000013
178	0.000000	0.000094	-0.000013
179	0.000000	0.000052	-0.000011
180	0.000000	0.000015	-0.000010
181	0.000000	0.000000	-0.000010
182	0.000000	-0.000014	-0.000009
183	0.000000	-0.000044	-0.000008
184	0.000000	-0.000066	-0.000005
185	0.000000	-0.000076	-0.000004
186	0.000000	-0.000082	-0.000003
187	0.000000	-0.000086	-0.000001
188	0.000000	-0.000088	-0.000000
189	0.000000	-0.000088	0.000001
190	0.000000	-0.000085	0.000002
191	0.000000	-0.000082	0.000002
192	0.000000	-0.000076	0.000003
193	0.000000	-0.000070	0.000003
194	0.000000	-0.000063	0.000004
195	0.000000	-0.000055	0.000004
196	0.000000	-0.000047	0.000004
197	0.000000	-0.000038	0.000004
198	0.000000	-0.000030	0.000004
199	0.000000	-0.000017	0.000004
200	0.000000	-0.000005	0.000003
201	0.000000	-0.000000	0.000003
202	0.000000	0.000005	0.000003
203	0.000000	0.000014	0.000002
204	0.000000	0.000021	0.000002
205	0.000000	0.000023	0.000001
206	0.000000	0.000025	0.000001
207	0.000000	0.000026	0.000000
208	0.000000	0.000026	0.000000
209	0.000000	0.000026	-0.000000
210	0.000000	0.000026	-0.000000
211	0.000000	0.000025	-0.000001
212	0.000000	0.000024	-0.000001
213	0.000000	0.000022	-0.000001
214	0.000000	0.000020	-0.000001
215	0.000000	0.000017	-0.000001
216	0.000000	0.000015	-0.000002
217	0.000000	0.000012	-0.000002
218	0.000000	0.000009	-0.000002
219	0.000000	0.000006	-0.000002
220	0.000000	0.000003	-0.000002
221	0.000000	0.000000	-0.000002

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	0.92	0.00
21	-0.00	-3.85	0.00
41	-0.00	11.86	0.00
61	0.00	-36.26	-0.00
81	0.00	198.00	0.01
101	0.00	508.21	0.00
121	0.00	228.64	0.01
141	-0.00	-36.80	-0.01
161	0.00	12.01	0.00
181	0.00	-3.93	0.00
201	0.00	1.28	0.00
221	0.00	-0.30	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	-0.92
	2	0.00	1.50	-0.92
2	2	0.00	1.50	-0.92
	3	0.00	2.99	-0.92
3	3	0.00	2.99	-0.92
	4	0.00	4.49	-0.92
4	4	0.00	4.49	-0.92
	5	0.00	5.99	-0.92
5	5	0.00	5.99	-0.92
	6	0.00	7.48	-0.92
6	6	0.00	7.48	-0.92
	7	0.00	8.98	-0.92
7	7	0.00	8.98	-0.92
	8	0.00	10.48	-0.92
8	8	0.00	10.48	-0.92
	9	0.00	11.97	-0.92
9	9	0.00	11.97	-0.92
	10	0.00	13.47	-0.92
10	10	0.00	13.47	-0.92
	11	0.00	14.96	-0.92
11	11	0.00	14.96	-0.92
	12	0.00	16.46	-0.92
12	12	0.00	16.46	-0.92
	13	0.00	17.95	-0.92
13	13	0.00	17.95	-0.92
	14	0.00	19.44	-0.92
14	14	0.00	19.44	-0.92
	15	0.00	20.93	-0.92
15	15	0.00	20.93	-0.92
	16	0.00	22.42	-0.92
16	16	0.00	22.42	-0.92
	17	0.00	23.91	-0.92
17	17	0.00	23.91	-0.92
	18	0.00	25.40	-0.92
18	18	0.00	25.40	-0.92
	19	0.00	28.57	-0.92
19	19	0.00	28.57	-0.92
	20	0.00	31.75	-0.92
20	20	0.00	31.75	-0.92
	21	0.00	33.12	-0.92
21	21	0.00	33.12	2.93
	22	0.00	28.72	2.93
22	22	0.00	28.72	2.93
	23	0.00	18.58	2.93
23	23	0.00	18.58	2.93
	24	0.00	8.43	2.93
24	24	0.00	8.43	2.93
	25	0.00	2.53	2.93
25	25	0.00	2.53	2.93
	26	0.00	-3.37	2.93
26	26	0.00	-3.37	2.93
	27	0.00	-9.27	2.93
27	27	0.00	-9.27	2.93
	28	0.00	-15.17	2.93
28	28	0.00	-15.17	2.94
	29	0.00	-21.07	2.94
29	29	0.00	-21.07	2.94
	30	0.00	-26.98	2.94
30	30	0.00	-26.98	2.94
	31	0.00	-32.88	2.94
31	31	0.00	-32.88	2.94
	32	0.00	-38.78	2.94
32	32	0.00	-38.78	2.94
	33	0.00	-44.70	2.94
33	33	0.00	-44.70	2.94
	34	0.00	-50.60	2.94
34	34	0.00	-50.60	2.94
	35	0.00	-56.52	2.94
35	35	0.00	-56.52	2.94
	36	0.00	-62.43	2.94
36	36	0.00	-62.43	2.94
	37	0.00	-68.35	2.94
37	37	0.00	-68.35	2.94
	38	0.00	-74.27	2.94
38	38	0.00	-74.27	2.94
	39	0.00	-84.45	2.94
39	39	0.00	-84.45	2.94
	40	0.00	-94.63	2.94
40	40	0.00	-94.63	2.94
	41	0.00	-99.05	2.94
41	41	0.00	-99.05	-8.92
	42	0.00	-85.67	-8.92
42	42	0.00	-85.67	-8.92
	43	0.00	-54.81	-8.92
43	43	0.00	-54.81	-8.92
	44	0.00	-23.95	-8.92
44	44	0.00	-23.96	-8.92
	45	0.00	-6.02	-8.92
45	45	0.00	-6.02	-8.92
	46	0.00	11.93	-8.92
46	46	0.00	11.93	-8.92
	47	0.00	29.88	-8.92
47	47	0.00	29.88	-8.93
	48	0.00	47.83	-8.93
48	48	0.00	47.83	-8.93
	49	0.00	65.78	-8.93
49	49	0.00	65.78	-8.93
	50	0.00	83.75	-8.93
50	50	0.00	83.75	-8.93

	51	0.00	101.71	-8.93	94	94	0.00	488.32	149.28
51	51	0.00	101.71	-8.93		95	0.00	187.96	149.28
	52	0.00	119.67	-8.93	95	95	0.00	187.98	149.26
52	52	0.00	119.67	-8.93		96	0.00	-112.19	149.26
	53	0.00	137.64	-8.93	96	96	0.00	-112.17	149.25
53	53	0.00	137.64	-8.94		97	0.00	-412.46	149.25
	54	0.00	155.62	-8.94	97	97	0.00	-412.46	149.24
54	54	0.00	155.61	-8.94		98	0.00	-776.98	189.24
	55	0.00	173.59	-8.94	98	98	0.00	-776.98	189.24
55	55	0.00	173.60	-8.94		99	0.00	-1562.55	229.24
	56	0.00	191.57	-8.94	99	99	0.00	-1562.55	229.24
56	56	0.00	191.57	-8.94		100	0.00	-2355.73	229.24
	57	0.00	209.55	-8.94	100	100	0.00	-2355.73	229.24
57	57	0.00	209.54	-8.94		101	0.00	-2699.59	229.24
	58	0.00	227.53	-8.94	101	101	0.00	-2699.59	-278.97
58	58	0.00	227.53	-8.94		102	0.00	-2281.14	-278.97
	59	0.00	258.47	-8.94	102	102	0.00	-2281.14	-278.97
59	59	0.00	258.47	-8.94		103	0.00	-1419.92	-198.97
	60	0.00	289.42	-8.94	103	103	0.00	-1419.92	-198.96
60	60	0.00	289.42	-8.95		104	0.00	-731.50	-198.96
	61	0.00	302.84	-8.95	104	104	0.00	-731.49	-198.96
61	61	0.00	302.84	27.32		105	0.00	-331.38	-198.96
	62	0.00	261.87	27.32	105	105	0.00	-331.37	-198.97
62	62	0.00	261.87	27.32		106	0.00	49.63	-158.97
	63	0.00	167.35	27.32	106	106	0.00	49.62	-158.98
63	63	0.00	167.35	27.32		107	0.00	341.57	-118.98
	64	0.00	72.83	27.32	107	107	0.00	341.57	-118.99
64	64	0.00	72.83	27.31		108	0.00	580.98	-118.99
	65	0.00	17.90	27.31	108	108	0.00	581.00	-119.01
65	65	0.00	17.90	27.32		109	0.00	761.25	-79.01
	66	0.00	-37.07	27.32	109	109	0.00	761.25	-79.03
66	66	0.00	-37.07	27.33		110	0.00	852.70	-39.03
	67	0.00	-92.04	27.33	110	110	0.00	852.70	-39.05
67	67	0.00	-92.04	27.35		111	0.00	931.22	-39.05
	68	0.00	-147.06	27.35	111	111	0.00	931.23	-39.05
68	68	0.00	-147.07	27.35		112	0.00	1009.76	-39.05
	69	0.00	-202.06	27.35	112	112	0.00	1009.79	-39.08
69	69	0.00	-202.08	27.35		113	0.00	1075.51	0.92
	70	0.00	-257.10	27.35	113	113	0.00	1075.51	0.89
70	70	0.00	-257.11	27.36		114	0.00	1052.36	40.89
	71	0.00	-312.14	27.36	114	114	0.00	1052.37	40.90
71	71	0.00	-312.14	27.37		115	0.00	970.08	40.90
	72	0.00	-367.18	27.37	115	115	0.00	970.08	40.86
72	72	0.00	-367.19	27.36		116	0.00	835.24	80.86
	73	0.00	-422.25	27.36	116	116	0.00	835.25	80.86
73	73	0.00	-422.24	27.38		117	0.00	611.41	120.86
	74	0.00	-477.30	27.38	117	117	0.00	611.42	120.84
74	74	0.00	-477.30	27.39		118	0.00	368.41	120.84
	75	0.00	-532.41	27.39	118	118	0.00	368.41	120.84
75	75	0.00	-532.42	27.41		119	0.00	-49.68	120.84
	76	0.00	-587.54	27.41	119	119	0.00	-49.68	120.84
76	76	0.00	-587.55	27.42		120	0.00	-640.58	200.84
	77	0.00	-642.72	27.42	120	120	0.00	-640.58	200.85
77	77	0.00	-642.72	27.43		121	0.00	-941.85	200.85
	78	0.00	-697.88	27.43	121	121	0.00	-941.86	-27.79
78	78	0.00	-697.89	27.43		122	0.00	-900.17	-27.79
	79	0.00	-792.79	27.43	122	122	0.00	-900.19	-27.78
79	79	0.00	-792.79	27.43		123	0.00	-804.07	-27.78
	80	0.00	-887.70	27.43	123	123	0.00	-804.06	-27.78
80	80	0.00	-887.71	27.43		124	0.00	-707.94	-27.78
	81	0.00	-928.86	27.43	124	124	0.00	-707.94	-27.79
81	81	0.00	-928.87	-170.57		125	0.00	-652.06	-27.79
	82	0.00	-673.02	-170.57	125	125	0.00	-652.07	-27.78
82	82	0.00	-673.02	-170.56		126	0.00	-596.17	-27.78
	83	0.00	-82.87	-170.56	126	126	0.00	-596.17	-27.78
83	83	0.00	-82.87	-170.57		127	0.00	-540.31	-27.78
	84	0.00	452.49	-130.57	127	127	0.00	-540.31	-27.77
84	84	0.00	452.49	-130.56		128	0.00	-484.43	-27.77
	85	0.00	662.20	-90.56	128	128	0.00	-484.42	-27.78
85	85	0.00	662.19	-90.58		129	0.00	-428.56	-27.78
	86	0.00	793.53	-50.58	129	129	0.00	-428.56	-27.78
86	86	0.00	793.52	-50.59		130	0.00	-372.67	-27.78
	87	0.00	895.25	-50.59	130	130	0.00	-372.69	-27.76
87	87	0.00	895.25	-50.61		131	0.00	-316.86	-27.76
	88	0.00	997.07	-50.61	131	131	0.00	-316.86	-27.76
88	88	0.00	997.09	-50.63		132	0.00	-261.05	-27.76
	89	0.00	1095.02	-10.63	132	132	0.00	-261.03	-27.74
89	89	0.00	1095.02	-10.66		133	0.00	-205.21	-27.74
	90	0.00	1114.51	29.34	133	133	0.00	-205.21	-27.74
90	90	0.00	1114.50	29.32		134	0.00	-149.43	-27.74
	91	0.00	1055.53	69.32	134	134	0.00	-149.42	-27.74
91	91	0.00	1055.55	69.33		135	0.00	-93.62	-27.74
	92	0.00	916.12	69.33	135	135	0.00	-93.62	-27.73
92	92	0.00	916.17	69.31		136	0.00	-37.84	-27.73
	93	0.00	746.60	109.31	136	136	0.00	-37.84	-27.74
93	93	0.00	746.62	109.28		137	0.00	17.97	-27.74
	94	0.00	488.31	149.28	137	137	0.00	17.98	-27.74

	138	0.00	73.76	-27.74	181	181	0.00	32.80	0.97
138	138	0.00	73.75	-27.74		182	0.00	31.34	0.97
	139	0.00	169.72	-27.74	182	182	0.00	31.34	0.97
139	139	0.00	169.72	-27.74		183	0.00	27.97	0.97
	140	0.00	265.69	-27.74	183	183	0.00	27.97	0.97
140	140	0.00	265.69	-27.73		184	0.00	24.60	0.97
	141	0.00	307.29	-27.73	184	184	0.00	24.60	0.97
141	141	0.00	307.30	9.07		185	0.00	22.64	0.97
	142	0.00	293.69	9.07	185	185	0.00	22.64	0.97
142	142	0.00	293.70	9.07		186	0.00	20.68	0.97
	143	0.00	262.33	9.07	186	186	0.00	20.68	0.97
143	143	0.00	262.33	9.07		187	0.00	18.72	0.97
	144	0.00	230.96	9.07	187	187	0.00	18.72	0.97
144	144	0.00	230.95	9.07		188	0.00	16.76	0.97
	145	0.00	212.72	9.07	188	188	0.00	16.76	0.97
145	145	0.00	212.72	9.07		189	0.00	14.80	0.97
	146	0.00	194.48	9.07	189	189	0.00	14.80	0.97
146	146	0.00	194.48	9.07		190	0.00	12.85	0.97
	147	0.00	176.25	9.07	190	190	0.00	12.85	0.97
147	147	0.00	176.25	9.07		191	0.00	10.89	0.97
	148	0.00	158.00	9.07	191	191	0.00	10.89	0.97
148	148	0.00	158.01	9.06		192	0.00	8.94	0.97
	149	0.00	139.78	9.06	192	192	0.00	8.93	0.97
149	149	0.00	139.78	9.06		193	0.00	6.98	0.97
	150	0.00	121.56	9.06	193	193	0.00	6.98	0.97
150	150	0.00	121.56	9.06		194	0.00	5.02	0.97
	151	0.00	103.34	9.06	194	194	0.00	5.02	0.97
151	151	0.00	103.35	9.06		195	0.00	3.07	0.97
	152	0.00	85.14	9.06	195	195	0.00	3.07	0.97
152	152	0.00	85.14	9.05		196	0.00	1.11	0.97
	153	0.00	66.92	9.05	196	196	0.00	1.11	0.97
153	153	0.00	66.92	9.05		197	0.00	-0.84	0.97
	154	0.00	48.73	9.05	197	197	0.00	-0.84	0.97
154	154	0.00	48.73	9.05		198	0.00	-2.80	0.97
	155	0.00	30.52	9.05	198	198	0.00	-2.80	0.97
155	155	0.00	30.52	9.05		199	0.00	-6.16	0.97
	156	0.00	12.33	9.05	199	199	0.00	-6.16	0.97
156	156	0.00	12.32	9.05		200	0.00	-9.53	0.97
	157	0.00	-5.89	9.05	200	200	0.00	-9.53	0.97
157	157	0.00	-5.89	9.05		201	0.00	-10.98	0.97
	158	0.00	-24.08	9.05	201	201	0.00	-10.98	-0.31
158	158	0.00	-24.08	9.05		202	0.00	-10.53	-0.31
	159	0.00	-55.39	9.05	202	202	0.00	-10.53	-0.31
159	159	0.00	-55.39	9.05		203	0.00	-9.47	-0.31
	160	0.00	-86.70	9.05	203	203	0.00	-9.47	-0.31
160	160	0.00	-86.70	9.05		204	0.00	-8.41	-0.31
	161	0.00	-100.27	9.05	204	204	0.00	-8.41	-0.31
161	161	0.00	-100.27	-2.96		205	0.00	-7.92	-0.31
	162	0.00	-95.83	-2.96	205	205	0.00	-7.92	-0.31
162	162	0.00	-95.83	-2.96		206	0.00	-7.42	-0.31
	163	0.00	-85.59	-2.96	206	206	0.00	-7.42	-0.31
163	163	0.00	-85.59	-2.96		207	0.00	-6.92	-0.31
	164	0.00	-75.35	-2.96	207	207	0.00	-6.92	-0.31
164	164	0.00	-75.35	-2.96		208	0.00	-6.43	-0.31
	165	0.00	-69.39	-2.96	208	208	0.00	-6.43	-0.30
165	165	0.00	-69.39	-2.96		209	0.00	-5.93	-0.30
	166	0.00	-63.44	-2.96	209	209	0.00	-5.93	-0.30
166	166	0.00	-63.44	-2.96		210	0.00	-5.44	-0.30
	167	0.00	-57.48	-2.96	210	210	0.00	-5.44	-0.30
167	167	0.00	-57.48	-2.96		211	0.00	-4.95	-0.30
	168	0.00	-51.53	-2.96	211	211	0.00	-4.95	-0.30
168	168	0.00	-51.53	-2.96		212	0.00	-4.45	-0.30
	169	0.00	-45.58	-2.96	212	212	0.00	-4.45	-0.30
169	169	0.00	-45.58	-2.96		213	0.00	-3.96	-0.30
	170	0.00	-39.63	-2.96	213	213	0.00	-3.96	-0.30
170	170	0.00	-39.63	-2.96		214	0.00	-3.46	-0.30
	171	0.00	-33.68	-2.96	214	214	0.00	-3.46	-0.30
171	171	0.00	-33.68	-2.96		215	0.00	-2.97	-0.30
	172	0.00	-27.74	-2.96	215	215	0.00	-2.97	-0.30
172	172	0.00	-27.74	-2.96		216	0.00	-2.47	-0.30
	173	0.00	-21.79	-2.96	216	216	0.00	-2.47	-0.30
173	173	0.00	-21.79	-2.95		217	0.00	-1.98	-0.30
	174	0.00	-15.85	-2.95	217	217	0.00	-1.98	-0.30
174	174	0.00	-15.85	-2.95		218	0.00	-1.48	-0.30
	175	0.00	-9.90	-2.95	218	218	0.00	-1.48	-0.30
175	175	0.00	-9.90	-2.95		219	0.00	-0.99	-0.30
	176	0.00	-3.96	-2.95	219	219	0.00	-0.99	-0.30
176	176	0.00	-3.96	-2.95		220	0.00	-0.49	-0.30
	177	0.00	1.98	-2.95	220	220	0.00	-0.49	-0.30
177	177	0.00	1.98	-2.95		221	0.00	0.00	-0.30
	178	0.00	7.93	-2.95					
178	178	0.00	7.93	-2.95					
	179	0.00	18.15	-2.95					
179	179	0.00	18.15	-2.95					
	180	0.00	28.37	-2.95					
180	180	0.00	28.37	-2.95					
	181	0.00	32.80	-2.95					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 6 ESTADO DE CARGAS 6

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	0.000000	0.000002
2	0.000000	0.000003	0.000002
3	0.000000	0.000006	0.000002
4	0.000000	0.000009	0.000002
5	0.000000	0.000012	0.000002
6	0.000000	0.000015	0.000002
7	0.000000	0.000017	0.000001
8	0.000000	0.000019	0.000001
9	0.000000	0.000021	0.000001
10	0.000000	0.000023	0.000001
11	0.000000	0.000024	0.000001
12	0.000000	0.000025	0.000000
13	0.000000	0.000026	0.000000
14	0.000000	0.000026	-0.000000
15	0.000000	0.000025	-0.000000
16	0.000000	0.000024	-0.000001
17	0.000000	0.000023	-0.000001
18	0.000000	0.000020	-0.000002
19	0.000000	0.000014	-0.000002
20	0.000000	0.000004	-0.000003
21	0.000000	-0.000000	-0.000003
22	0.000000	-0.000005	-0.000003
23	0.000000	-0.000016	-0.000004
24	0.000000	-0.000030	-0.000004
25	0.000000	-0.000038	-0.000004
26	0.000000	-0.000046	-0.000004
27	0.000000	-0.000054	-0.000004
28	0.000000	-0.000062	-0.000004
29	0.000000	-0.000069	-0.000003
30	0.000000	-0.000075	-0.000003
31	0.000000	-0.000080	-0.000002
32	0.000000	-0.000084	-0.000002
33	0.000000	-0.000086	-0.000001
34	0.000000	-0.000087	0.000000
35	0.000000	-0.000085	0.000001
36	0.000000	-0.000081	0.000003
37	0.000000	-0.000075	0.000004
38	0.000000	-0.000065	0.000005
39	0.000000	-0.000043	0.000008
40	0.000000	-0.000014	0.000009
41	0.000000	0.000000	0.000010
42	0.000000	0.000015	0.000010
43	0.000000	0.000052	0.000011
44	0.000000	0.000092	0.000012
45	0.000000	0.000118	0.000013
46	0.000000	0.000143	0.000013
47	0.000000	0.000168	0.000012
48	0.000000	0.000192	0.000011
49	0.000000	0.000213	0.000010
50	0.000000	0.000232	0.000009
51	0.000000	0.000248	0.000007
52	0.000000	0.000260	0.000005
53	0.000000	0.000266	0.000002
54	0.000000	0.000267	-0.000001
55	0.000000	0.000262	-0.000004
56	0.000000	0.000250	-0.000008
57	0.000000	0.000230	-0.000012
58	0.000000	0.000201	-0.000016
59	0.000000	0.000132	-0.000024
60	0.000000	0.000043	-0.000028
61	0.000000	-0.000000	-0.000029
62	0.000000	-0.000045	-0.000031
63	0.000000	-0.000159	-0.000034
64	0.000000	-0.000284	-0.000038
65	0.000000	-0.000361	-0.000039
66	0.000000	-0.000439	-0.000039
67	0.000000	-0.000516	-0.000037
68	0.000000	-0.000588	-0.000035
69	0.000000	-0.000655	-0.000031
70	0.000000	-0.000713	-0.000027
71	0.000000	-0.000761	-0.000021
72	0.000000	-0.000797	-0.000014
73	0.000000	-0.000817	-0.000006
74	0.000000	-0.000820	0.000003
75	0.000000	-0.000804	0.000013
76	0.000000	-0.000766	0.000025
77	0.000000	-0.000704	0.000037
78	0.000000	-0.000617	0.000051
79	0.000000	-0.000405	0.000072
80	0.000000	-0.000132	0.000086
81	0.000000	0.000000	0.000090
82	0.000000	0.000139	0.000095
83	0.000000	0.000486	0.000105
84	0.000000	0.000872	0.000116
85	0.000000	0.001108	0.000119
86	0.000000	0.001347	0.000118
87	0.000000	0.001582	0.000114
88	0.000000	0.001805	0.000107
89	0.000000	0.002009	0.000096
90	0.000000	0.002188	0.000082
91	0.000000	0.002336	0.000064
92	0.000000	0.002444	0.000043
93	0.000000	0.002507	0.000019
94	0.000000	0.002516	-0.000009
95	0.000000	0.002467	-0.000041
96	0.000000	0.002351	-0.000075
97	0.000000	0.002161	-0.000114
98	0.000000	0.001892	-0.000155
99	0.000000	0.001242	-0.000222
100	0.000000	0.000405	-0.000263
101	0.000000	-0.000000	-0.000277
102	0.000000	-0.000426	-0.000290
103	0.000000	-0.001468	-0.000308
104	0.000000	-0.002518	-0.000290
105	0.000000	-0.003068	-0.000255
106	0.000000	-0.003537	-0.000209
107	0.000000	-0.003906	-0.000157
108	0.000000	-0.004164	-0.000098
109	0.000000	-0.004297	-0.000033
110	0.000000	-0.004296	0.000035
111	0.000000	-0.004156	0.000103
112	0.000000	-0.003887	0.000164
113	0.000000	-0.003504	0.000216
114	0.000000	-0.003028	0.000255
115	0.000000	-0.002491	0.000276
116	0.000000	-0.001931	0.000278
117	0.000000	-0.001385	0.000262
118	0.000000	-0.000891	0.000225
119	0.000000	-0.000272	0.000121
120	0.000000	-0.000008	0.000025
121	0.000000	-0.000000	-0.000015
122	0.000000	-0.000052	-0.000054
123	0.000000	-0.000405	-0.000143
124	0.000000	-0.001086	-0.000240
125	0.000000	-0.001605	-0.000272
126	0.000000	-0.002165	-0.000281
127	0.000000	-0.002720	-0.000268
128	0.000000	-0.003233	-0.000239
129	0.000000	-0.003674	-0.000197
130	0.000000	-0.004021	-0.000147
131	0.000000	-0.004261	-0.000091
132	0.000000	-0.004386	-0.000031
133	0.000000	-0.004384	0.000034
134	0.000000	-0.004249	0.000100
135	0.000000	-0.003983	0.000163
136	0.000000	-0.003597	0.000220
137	0.000000	-0.003107	0.000265
138	0.000000	-0.002541	0.000295
139	0.000000	-0.001484	0.000310
140	0.000000	-0.000432	0.000294
141	0.000000	-0.000000	0.000281
142	0.000000	0.000411	0.000267
143	0.000000	0.001261	0.000225
144	0.000000	0.001920	0.000157
145	0.000000	0.002194	0.000115
146	0.000000	0.002387	0.000077
147	0.000000	0.002504	0.000041
148	0.000000	0.002555	0.000010
149	0.000000	0.002545	-0.000019
150	0.000000	0.002482	-0.000044
151	0.000000	0.002372	-0.000065
152	0.000000	0.002222	-0.000083
153	0.000000	0.002040	-0.000097
154	0.000000	0.001833	-0.000108
155	0.000000	0.001606	-0.000116
156	0.000000	0.001368	-0.000120
157	0.000000	0.001126	-0.000121
158	0.000000	0.000885	-0.000118
159	0.000000	0.000494	-0.000107
160	0.000000	0.000141	-0.000096
161	0.000000	0.000000	-0.000092
162	0.000000	-0.000134	-0.000087
163	0.000000	-0.000411	-0.000073
164	0.000000	-0.000626	-0.000051
165	0.000000	-0.000715	-0.000038
166	0.000000	-0.000778	-0.000025

167	0.000000	-0.000816	-0.000013
168	0.000000	-0.000833	-0.000003
169	0.000000	-0.000830	0.000006
170	0.000000	-0.000809	0.000014
171	0.000000	-0.000773	0.000021
172	0.000000	-0.000724	0.000027
173	0.000000	-0.000665	0.000032
174	0.000000	-0.000597	0.000035
175	0.000000	-0.000523	0.000038
176	0.000000	-0.000446	0.000039
177	0.000000	-0.000367	0.000039
178	0.000000	-0.000288	0.000038
179	0.000000	-0.000161	0.000035
180	0.000000	-0.000046	0.000031
181	0.000000	-0.000000	0.000030
182	0.000000	0.000044	0.000028
183	0.000000	0.000134	0.000024
184	0.000000	0.000203	0.000017
185	0.000000	0.000232	0.000012
186	0.000000	0.000253	0.000008
187	0.000000	0.000265	0.000004
188	0.000000	0.000270	0.000001
189	0.000000	0.000269	-0.000002
190	0.000000	0.000262	-0.000005
191	0.000000	0.000250	-0.000007
192	0.000000	0.000234	-0.000009
193	0.000000	0.000214	-0.000010
194	0.000000	0.000192	-0.000012
195	0.000000	0.000168	-0.000012
196	0.000000	0.000143	-0.000013
197	0.000000	0.000118	-0.000013
198	0.000000	0.000092	-0.000012
199	0.000000	0.000051	-0.000011
200	0.000000	0.000015	-0.000010
201	0.000000	0.000000	-0.000009
202	0.000000	-0.000014	-0.000009
203	0.000000	-0.000042	-0.000007
204	0.000000	-0.000064	-0.000005
205	0.000000	-0.000071	-0.000004
206	0.000000	-0.000076	-0.000003
207	0.000000	-0.000079	-0.000001
208	0.000000	-0.000081	-0.000000
209	0.000000	-0.000081	0.000000
210	0.000000	-0.000079	0.000001
211	0.000000	-0.000076	0.000002
212	0.000000	-0.000072	0.000003
213	0.000000	-0.000067	0.000004
214	0.000000	-0.000061	0.000004
215	0.000000	-0.000054	0.000005
216	0.000000	-0.000046	0.000005
217	0.000000	-0.000037	0.000005
218	0.000000	-0.000028	0.000006
219	0.000000	-0.000019	0.000006
220	0.000000	-0.000010	0.000006
221	0.000000	-0.000000	0.000006

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	-0.30	-0.00
21	0.00	1.25	-0.00
41	0.00	-3.87	0.00
61	0.00	11.82	0.00
81	0.00	-36.25	0.00
101	-0.00	198.00	0.00
121	0.00	508.27	0.00
141	0.00	228.71	0.00
161	0.00	-36.82	0.00
181	0.00	12.05	0.00
201	0.00	-3.92	-0.00
221	0.00	0.94	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	0.00	0.30
	2	0.00	-0.49	0.30
2	2	0.00	-0.49	0.30
	3	0.00	-0.98	0.30
3	3	0.00	-0.98	0.30
	4	0.00	-1.46	0.30
4	4	0.00	-1.46	0.30
	5	0.00	-1.95	0.30
5	5	0.00	-1.95	0.30
	6	0.00	-2.44	0.30
6	6	0.00	-2.44	0.30
	7	0.00	-2.93	0.30
7	7	0.00	-2.93	0.30
	8	0.00	-3.41	0.30
8	8	0.00	-3.41	0.30
	9	0.00	-3.90	0.30
9	9	0.00	-3.90	0.30
	10	0.00	-4.39	0.30
10	10	0.00	-4.39	0.30
	11	0.00	-4.88	0.30
11	11	0.00	-4.88	0.30
	12	0.00	-5.36	0.30
12	12	0.00	-5.36	0.30
	13	0.00	-5.85	0.30
13	13	0.00	-5.85	0.30
	14	0.00	-6.34	0.30
14	14	0.00	-6.34	0.30
	15	0.00	-6.82	0.30
15	15	0.00	-6.82	0.30
	16	0.00	-7.31	0.30
16	16	0.00	-7.31	0.30
	17	0.00	-7.79	0.30
17	17	0.00	-7.79	0.30
	18	0.00	-8.28	0.30
18	18	0.00	-8.28	0.30
	19	0.00	-9.31	0.30
19	19	0.00	-9.31	0.30
	20	0.00	-10.35	0.30
20	20	0.00	-10.35	0.30
	21	0.00	-10.79	0.30
21	21	0.00	-10.79	-0.96
	22	0.00	-9.36	-0.96
22	22	0.00	-9.36	-0.96
	23	0.00	-6.05	-0.96
23	23	0.00	-6.05	-0.96
	24	0.00	-2.75	-0.96
24	24	0.00	-2.75	-0.96
	25	0.00	-0.83	-0.96
25	25	0.00	-0.83	-0.96
	26	0.00	1.10	-0.96
26	26	0.00	1.10	-0.96
	27	0.00	3.02	-0.96
27	27	0.00	3.02	-0.96
	28	0.00	4.94	-0.96
28	28	0.00	4.94	-0.96
	29	0.00	6.87	-0.96
29	29	0.00	6.87	-0.96
	30	0.00	8.79	-0.96
30	30	0.00	8.79	-0.96
	31	0.00	10.72	-0.96
31	31	0.00	10.72	-0.96
	32	0.00	12.64	-0.96
32	32	0.00	12.64	-0.96
	33	0.00	14.57	-0.96
33	33	0.00	14.57	-0.96
	34	0.00	16.49	-0.96
34	34	0.00	16.49	-0.96
	35	0.00	18.42	-0.96
35	35	0.00	18.42	-0.96
	36	0.00	20.35	-0.96
36	36	0.00	20.35	-0.96
	37	0.00	22.28	-0.96
37	37	0.00	22.28	-0.96
	38	0.00	24.20	-0.96
38	38	0.00	24.20	-0.96
	39	0.00	27.52	-0.96
39	39	0.00	27.52	-0.96
	40	0.00	30.84	-0.96
40	40	0.00	30.84	-0.96
	41	0.00	32.28	-0.96
41	41	0.00	32.28	2.91
	42	0.00	27.92	2.91
42	42	0.00	27.92	2.91
	43	0.00	17.86	2.91
43	43	0.00	17.86	2.91
	44	0.00	7.81	2.91
44	44	0.00	7.81	2.91
	45	0.00	1.96	2.91
45	45	0.00	1.96	2.91
	46	0.00	-3.89	2.91
46	46	0.00	-3.89	2.91
	47	0.00	-9.74	2.91
47	47	0.00	-9.74	2.91
	48	0.00	-15.59	2.91
48	48	0.00	-15.59	2.91
	49	0.00	-21.44	2.91
49	49	0.00	-21.44	2.91
	50	0.00	-27.29	2.91
50	50	0.00	-27.30	2.91

	51	0.00	-33.15	2.91	94	94	0.00	-477.25	27.39
51	51	0.00	-33.15	2.91		95	0.00	-532.35	27.39
	52	0.00	-39.00	2.91	95	95	0.00	-532.35	27.41
52	52	0.00	-39.00	2.91		96	0.00	-587.48	27.41
	53	0.00	-44.86	2.91	96	96	0.00	-587.48	27.42
53	53	0.00	-44.86	2.91		97	0.00	-642.65	27.42
	54	0.00	-50.72	2.91	97	97	0.00	-642.64	27.43
54	54	0.00	-50.72	2.91		98	0.00	-697.80	27.43
	55	0.00	-56.58	2.91	98	98	0.00	-697.80	27.43
55	55	0.00	-56.58	2.91		99	0.00	-792.70	27.43
	56	0.00	-62.44	2.91	99	99	0.00	-792.69	27.43
56	56	0.00	-62.43	2.91		100	0.00	-887.60	27.43
	57	0.00	-68.30	2.91	100	100	0.00	-887.59	27.44
57	57	0.00	-68.29	2.91		101	0.00	-928.75	27.44
	58	0.00	-74.15	2.91	101	101	0.00	-928.75	-170.56
58	58	0.00	-74.16	2.91		102	0.00	-672.92	-170.56
	59	0.00	-84.24	2.91	102	102	0.00	-672.93	-170.56
59	59	0.00	-84.24	2.91		103	0.00	-82.81	-170.56
	60	0.00	-94.33	2.91	103	103	0.00	-82.81	-170.56
60	60	0.00	-94.32	2.92		104	0.00	452.52	-130.56
	61	0.00	-98.70	2.92	104	104	0.00	452.51	-130.56
61	61	0.00	-98.70	-8.90		105	0.00	662.22	-90.56
	62	0.00	-85.35	-8.90	105	105	0.00	662.22	-90.56
62	62	0.00	-85.35	-8.90		106	0.00	793.50	-50.56
	63	0.00	-54.54	-8.90	106	106	0.00	793.49	-50.58
63	63	0.00	-54.54	-8.90		107	0.00	895.21	-50.58
	64	0.00	-23.74	-8.90	107	107	0.00	895.20	-50.60
64	64	0.00	-23.74	-8.90		108	0.00	997.01	-50.60
	65	0.00	-5.83	-8.90	108	108	0.00	997.03	-50.62
65	65	0.00	-5.83	-8.91		109	0.00	1094.93	-10.62
	66	0.00	12.08	-8.91	109	109	0.00	1094.94	-10.64
66	66	0.00	12.08	-8.91		110	0.00	1114.39	29.36
	67	0.00	30.00	-8.91	110	110	0.00	1114.40	29.34
67	67	0.00	30.00	-8.91		111	0.00	1055.39	69.34
	68	0.00	47.93	-8.91	111	111	0.00	1055.39	69.32
68	68	0.00	47.93	-8.91		112	0.00	915.98	69.32
	69	0.00	65.86	-8.91	112	112	0.00	916.01	69.32
69	69	0.00	65.85	-8.92		113	0.00	746.42	109.32
	70	0.00	83.80	-8.92	113	113	0.00	746.44	109.29
70	70	0.00	83.80	-8.92		114	0.00	488.10	149.29
	71	0.00	101.73	-8.92	114	114	0.00	488.12	149.30
71	71	0.00	101.73	-8.92		115	0.00	187.73	149.30
	72	0.00	119.67	-8.92	115	115	0.00	187.75	149.27
72	72	0.00	119.67	-8.92		116	0.00	-112.44	149.27
	73	0.00	137.62	-8.92	116	116	0.00	-112.42	149.26
73	73	0.00	137.61	-8.92		117	0.00	-412.74	149.26
	74	0.00	155.55	-8.92	117	117	0.00	-412.73	149.25
74	74	0.00	155.56	-8.93		118	0.00	-777.28	189.25
	75	0.00	173.52	-8.93	118	118	0.00	-777.28	189.25
75	75	0.00	173.52	-8.93		119	0.00	-1562.90	229.25
	76	0.00	191.49	-8.93	119	119	0.00	-1562.89	229.25
76	76	0.00	191.49	-8.94		120	0.00	-2356.11	229.25
	77	0.00	209.47	-8.94	120	120	0.00	-2356.11	229.25
77	77	0.00	209.47	-8.94		121	0.00	-2699.99	229.25
	78	0.00	227.45	-8.94	121	121	0.00	-2699.99	-279.02
78	78	0.00	227.45	-8.94		122	0.00	-2281.46	-279.02
	79	0.00	258.38	-8.94	122	122	0.00	-2281.46	-279.02
79	79	0.00	258.38	-8.94		123	0.00	-1420.05	-199.02
	80	0.00	289.31	-8.94	123	123	0.00	-1420.05	-199.02
80	80	0.00	289.31	-8.94		124	0.00	-731.44	-199.02
	81	0.00	302.73	-8.94	124	124	0.00	-731.43	-199.01
81	81	0.00	302.73	27.31		125	0.00	-331.22	-199.01
	82	0.00	261.77	27.31	125	125	0.00	-331.22	-199.03
82	82	0.00	261.77	27.31		126	0.00	49.90	-159.03
	83	0.00	167.27	27.31	126	126	0.00	49.90	-159.02
83	83	0.00	167.27	27.31		127	0.00	341.94	-119.02
	84	0.00	72.78	27.31	127	127	0.00	341.93	-119.03
84	84	0.00	72.78	27.31		128	0.00	581.41	-119.03
	85	0.00	17.86	27.31	128	128	0.00	581.42	-119.01
85	85	0.00	17.86	27.31		129	0.00	761.68	-79.01
	86	0.00	-37.09	27.31	129	129	0.00	761.68	-79.03
86	86	0.00	-37.10	27.31		130	0.00	853.13	-39.03
	87	0.00	-92.02	27.31	130	130	0.00	853.13	-39.07
87	87	0.00	-92.03	27.33		131	0.00	931.69	-39.07
	88	0.00	-147.01	27.33	131	131	0.00	931.67	-39.06
88	88	0.00	-147.02	27.34		132	0.00	1010.22	-39.06
	89	0.00	-201.99	27.34	132	132	0.00	1010.20	-39.08
89	89	0.00	-202.00	27.34		133	0.00	1075.91	0.92
	90	0.00	-257.01	27.34	133	133	0.00	1075.90	0.90
90	90	0.00	-257.02	27.36		134	0.00	1052.73	40.90
	91	0.00	-312.03	27.36	134	134	0.00	1052.71	40.89
91	91	0.00	-312.03	27.37		135	0.00	970.43	40.89
	92	0.00	-367.06	27.37	135	135	0.00	970.42	40.89
92	92	0.00	-367.07	27.38		136	0.00	835.50	80.89
	93	0.00	-422.16	27.38	136	136	0.00	835.48	80.90
93	93	0.00	-422.16	27.39		137	0.00	611.55	120.90
	94	0.00	-477.24	27.39	137	137	0.00	611.53	120.89

	138	0.00	368.41	120.89	181	181	0.00	-100.59	-2.99
138	138	0.00	368.41	120.90		182	0.00	-96.11	-2.99
	139	0.00	-49.89	120.90	182	182	0.00	-96.11	-2.99
139	139	0.00	-49.89	120.90		183	0.00	-85.78	-2.99
	140	0.00	-641.01	200.90	183	183	0.00	-85.78	-2.99
140	140	0.00	-641.01	200.91		184	0.00	-75.44	-2.99
	141	0.00	-942.36	200.91	184	184	0.00	-75.44	-2.99
141	141	0.00	-942.36	-27.80		185	0.00	-69.43	-2.99
	142	0.00	-900.65	-27.80	185	185	0.00	-69.43	-2.99
142	142	0.00	-900.66	-27.80		186	0.00	-63.42	-2.99
	143	0.00	-804.47	-27.80	186	186	0.00	-63.42	-2.99
143	143	0.00	-804.47	-27.80		187	0.00	-57.42	-2.99
	144	0.00	-708.26	-27.80	187	187	0.00	-57.42	-2.99
144	144	0.00	-708.26	-27.80		188	0.00	-51.41	-2.99
	145	0.00	-652.34	-27.80	188	188	0.00	-51.41	-2.99
145	145	0.00	-652.35	-27.80		189	0.00	-45.40	-2.99
	146	0.00	-596.41	-27.80	189	189	0.00	-45.40	-2.98
146	146	0.00	-596.41	-27.81		190	0.00	-39.40	-2.98
	147	0.00	-540.49	-27.81	190	190	0.00	-39.40	-2.98
147	147	0.00	-540.49	-27.80		191	0.00	-33.40	-2.98
	148	0.00	-484.55	-27.80	191	191	0.00	-33.40	-2.98
148	148	0.00	-484.54	-27.79		192	0.00	-27.40	-2.98
	149	0.00	-428.65	-27.79	192	192	0.00	-27.40	-2.98
149	149	0.00	-428.65	-27.78		193	0.00	-21.40	-2.98
	150	0.00	-372.77	-27.78	193	193	0.00	-21.40	-2.98
150	150	0.00	-372.77	-27.77		194	0.00	-15.40	-2.98
	151	0.00	-316.93	-27.77	194	194	0.00	-15.40	-2.98
151	151	0.00	-316.93	-27.77		195	0.00	-9.41	-2.98
	152	0.00	-261.09	-27.77	195	195	0.00	-9.41	-2.98
152	152	0.00	-261.09	-27.76		196	0.00	-3.41	-2.98
	153	0.00	-205.24	-27.76	196	196	0.00	-3.41	-2.98
153	153	0.00	-205.24	-27.75		197	0.00	2.59	-2.98
	154	0.00	-149.43	-27.75	197	197	0.00	2.59	-2.98
154	154	0.00	-149.42	-27.75		198	0.00	8.58	-2.98
	155	0.00	-93.60	-27.75	198	198	0.00	8.58	-2.98
155	155	0.00	-93.60	-27.75		199	0.00	18.90	-2.98
	156	0.00	-37.79	-27.75	199	199	0.00	18.90	-2.98
156	156	0.00	-37.79	-27.75		200	0.00	29.21	-2.98
	157	0.00	18.05	-27.75	200	200	0.00	29.21	-2.98
157	157	0.00	18.05	-27.75		201	0.00	33.68	-2.98
	158	0.00	73.85	-27.75	201	201	0.00	33.68	0.94
158	158	0.00	73.85	-27.75		202	0.00	32.28	0.94
	159	0.00	169.86	-27.75	202	202	0.00	32.28	0.94
159	159	0.00	169.86	-27.75		203	0.00	29.04	0.94
	160	0.00	265.87	-27.75	203	203	0.00	29.04	0.94
160	160	0.00	265.87	-27.75		204	0.00	25.80	0.94
	161	0.00	307.49	-27.75	204	204	0.00	25.80	0.94
161	161	0.00	307.49	9.07		205	0.00	24.28	0.94
	162	0.00	293.88	9.07	205	205	0.00	24.28	0.94
162	162	0.00	293.88	9.08		206	0.00	22.76	0.94
	163	0.00	262.47	9.08	206	206	0.00	22.76	0.94
163	163	0.00	262.47	9.08		207	0.00	21.24	0.94
	164	0.00	231.06	9.08	207	207	0.00	21.24	0.94
164	164	0.00	231.06	9.08		208	0.00	19.72	0.94
	165	0.00	212.80	9.08	208	208	0.00	19.72	0.93
165	165	0.00	212.80	9.08		209	0.00	18.20	0.93
	166	0.00	194.54	9.08	209	209	0.00	18.20	0.93
166	166	0.00	194.54	9.08		210	0.00	16.68	0.93
	167	0.00	176.28	9.08	210	210	0.00	16.68	0.93
167	167	0.00	176.28	9.08		211	0.00	15.17	0.93
	168	0.00	158.01	9.08	211	211	0.00	15.17	0.93
168	168	0.00	158.01	9.07		212	0.00	13.65	0.93
	169	0.00	139.77	9.07	212	212	0.00	13.65	0.94
169	169	0.00	139.77	9.07		213	0.00	12.13	0.94
	170	0.00	121.52	9.07	213	213	0.00	12.13	0.94
170	170	0.00	121.52	9.07		214	0.00	10.62	0.94
	171	0.00	103.29	9.07	214	214	0.00	10.62	0.94
171	171	0.00	103.29	9.07		215	0.00	9.10	0.94
	172	0.00	85.06	9.07	215	215	0.00	9.10	0.93
172	172	0.00	85.05	9.06		216	0.00	7.58	0.93
	173	0.00	66.82	9.06	216	216	0.00	7.58	0.93
173	173	0.00	66.82	9.06		217	0.00	6.07	0.93
	174	0.00	48.60	9.06	217	217	0.00	6.07	0.94
174	174	0.00	48.60	9.06		218	0.00	4.55	0.94
	175	0.00	30.37	9.06	218	218	0.00	4.55	0.93
175	175	0.00	30.37	9.06		219	0.00	3.03	0.93
	176	0.00	12.15	9.06	219	219	0.00	3.03	0.94
176	176	0.00	12.15	9.06		220	0.00	1.52	0.94
	177	0.00	-6.08	9.06	220	220	0.00	1.52	0.94
177	177	0.00	-6.09	9.06		221	0.00	0.00	0.94
	178	0.00	-24.30	9.06					
178	178	0.00	-24.30	9.06					
	179	0.00	-55.65	9.06					
179	179	0.00	-55.65	9.06					
	180	0.00	-87.00	9.06					
180	180	0.00	-87.00	9.06					
	181	0.00	-100.59	9.06					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 7 ESTADO DE CARGAS 7

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000001
2	0.000000	-0.000001	-0.000001
3	0.000000	-0.000002	-0.000001
4	0.000000	-0.000003	-0.000001
5	0.000000	-0.000004	-0.000001
6	0.000000	-0.000005	-0.000001
7	0.000000	-0.000006	-0.000000
8	0.000000	-0.000006	-0.000000
9	0.000000	-0.000007	-0.000000
10	0.000000	-0.000008	-0.000000
11	0.000000	-0.000008	-0.000000
12	0.000000	-0.000008	-0.000000
13	0.000000	-0.000008	-0.000000
14	0.000000	-0.000008	0.000000
15	0.000000	-0.000008	0.000000
16	0.000000	-0.000008	0.000000
17	0.000000	-0.000007	0.000000
18	0.000000	-0.000007	0.000001
19	0.000000	-0.000004	0.000001
20	0.000000	-0.000001	0.000001
21	0.000000	0.000000	0.000001
22	0.000000	0.000002	0.000001
23	0.000000	0.000005	0.000001
24	0.000000	0.000010	0.000001
25	0.000000	0.000012	0.000001
26	0.000000	0.000015	0.000001
27	0.000000	0.000018	0.000001
28	0.000000	0.000020	0.000001
29	0.000000	0.000022	0.000001
30	0.000000	0.000024	0.000001
31	0.000000	0.000026	0.000001
32	0.000000	0.000027	0.000000
33	0.000000	0.000028	0.000000
34	0.000000	0.000028	-0.000000
35	0.000000	0.000028	-0.000000
36	0.000000	0.000026	-0.000001
37	0.000000	0.000024	-0.000001
38	0.000000	0.000021	-0.000002
39	0.000000	0.000014	-0.000002
40	0.000000	0.000005	-0.000003
41	0.000000	-0.000000	-0.000003
42	0.000000	-0.000005	-0.000003
43	0.000000	-0.000017	-0.000004
44	0.000000	-0.000030	-0.000004
45	0.000000	-0.000038	-0.000004
46	0.000000	-0.000047	-0.000004
47	0.000000	-0.000055	-0.000004
48	0.000000	-0.000062	-0.000004
49	0.000000	-0.000070	-0.000003
50	0.000000	-0.000076	-0.000003
51	0.000000	-0.000081	-0.000002
52	0.000000	-0.000085	-0.000001
53	0.000000	-0.000087	-0.000001
54	0.000000	-0.000087	0.000000
55	0.000000	-0.000085	0.000001
56	0.000000	-0.000081	0.000003
57	0.000000	-0.000075	0.000004
58	0.000000	-0.000066	0.000005
59	0.000000	-0.000043	0.000008
60	0.000000	-0.000014	0.000009
61	0.000000	0.000000	0.000010
62	0.000000	0.000015	0.000010
63	0.000000	0.000052	0.000011
64	0.000000	0.000093	0.000012
65	0.000000	0.000118	0.000013
66	0.000000	0.000143	0.000013
67	0.000000	0.000168	0.000012
68	0.000000	0.000192	0.000011
69	0.000000	0.000214	0.000010
70	0.000000	0.000233	0.000009
71	0.000000	0.000248	0.000007
72	0.000000	0.000260	0.000005
73	0.000000	0.000266	0.000002
74	0.000000	0.000268	-0.000001
75	0.000000	0.000262	-0.000004
76	0.000000	0.000250	-0.000008
77	0.000000	0.000230	-0.000012
78	0.000000	0.000201	-0.000016
79	0.000000	0.000132	-0.000024
80	0.000000	0.000043	-0.000028
81	0.000000	-0.000000	-0.000029
82	0.000000	-0.000045	-0.000031
83	0.000000	-0.000159	-0.000034
84	0.000000	-0.000284	-0.000038
85	0.000000	-0.000361	-0.000039
86	0.000000	-0.000439	-0.000039
87	0.000000	-0.000516	-0.000037
88	0.000000	-0.000589	-0.000035
89	0.000000	-0.000655	-0.000031
90	0.000000	-0.000714	-0.000027
91	0.000000	-0.000762	-0.000021
92	0.000000	-0.000797	-0.000014
93	0.000000	-0.000817	-0.000006
94	0.000000	-0.000821	0.000003
95	0.000000	-0.000804	0.000013
96	0.000000	-0.000767	0.000025
97	0.000000	-0.000705	0.000037
98	0.000000	-0.000617	0.000051
99	0.000000	-0.000405	0.000072
100	0.000000	-0.000132	0.000086
101	0.000000	0.000000	0.000090
102	0.000000	0.000139	0.000095
103	0.000000	0.000487	0.000105
104	0.000000	0.000872	0.000116
105	0.000000	0.001109	0.000119
106	0.000000	0.001348	0.000118
107	0.000000	0.001583	0.000114
108	0.000000	0.001806	0.000107
109	0.000000	0.002010	0.000096
110	0.000000	0.002190	0.000082
111	0.000000	0.002337	0.000064
112	0.000000	0.002445	0.000043
113	0.000000	0.002508	0.000019
114	0.000000	0.002518	-0.000009
115	0.000000	0.002468	-0.000041
116	0.000000	0.002352	-0.000075
117	0.000000	0.002162	-0.000114
118	0.000000	0.001893	-0.000155
119	0.000000	0.001243	-0.000222
120	0.000000	0.000405	-0.000263
121	0.000000	-0.000000	-0.000277
122	0.000000	-0.000426	-0.000290
123	0.000000	-0.001469	-0.000308
124	0.000000	-0.002519	-0.000290
125	0.000000	-0.003070	-0.000255
126	0.000000	-0.003539	-0.000210
127	0.000000	-0.003909	-0.000157
128	0.000000	-0.004167	-0.000098
129	0.000000	-0.004300	-0.000033
130	0.000000	-0.004299	0.000035
131	0.000000	-0.004159	0.000103
132	0.000000	-0.003890	0.000164
133	0.000000	-0.003506	0.000216
134	0.000000	-0.003030	0.000255
135	0.000000	-0.002493	0.000276
136	0.000000	-0.001933	0.000278
137	0.000000	-0.001387	0.000262
138	0.000000	-0.000893	0.000225
139	0.000000	-0.000273	0.000121
140	0.000000	-0.000009	0.000025
141	0.000000	-0.000000	-0.000015
142	0.000000	-0.000052	-0.000054
143	0.000000	-0.000404	-0.000143
144	0.000000	-0.001084	-0.000239
145	0.000000	-0.001603	-0.000272
146	0.000000	-0.002163	-0.000281
147	0.000000	-0.002718	-0.000268
148	0.000000	-0.003231	-0.000239
149	0.000000	-0.003672	-0.000197
150	0.000000	-0.004019	-0.000147
151	0.000000	-0.004259	-0.000092
152	0.000000	-0.004384	-0.000031
153	0.000000	-0.004382	0.000034
154	0.000000	-0.004247	0.000100
155	0.000000	-0.003982	0.000163
156	0.000000	-0.003596	0.000220
157	0.000000	-0.003106	0.000265
158	0.000000	-0.002540	0.000295
159	0.000000	-0.001483	0.000309
160	0.000000	-0.000432	0.000294
161	0.000000	-0.000000	0.000281
162	0.000000	0.000411	0.000267
163	0.000000	0.001260	0.000225
164	0.000000	0.001919	0.000157
165	0.000000	0.002193	0.000115
166	0.000000	0.002385	0.000076

167	0.000000	0.002503	0.000041
168	0.000000	0.002553	0.000009
169	0.000000	0.002543	-0.000019
170	0.000000	0.002479	-0.000044
171	0.000000	0.002369	-0.000065
172	0.000000	0.002220	-0.000083
173	0.000000	0.002037	-0.000097
174	0.000000	0.001830	-0.000108
175	0.000000	0.001604	-0.000116
176	0.000000	0.001366	-0.000120
177	0.000000	0.001123	-0.000121
178	0.000000	0.000883	-0.000118
179	0.000000	0.000493	-0.000107
180	0.000000	0.000141	-0.000096
181	0.000000	0.000000	-0.000091
182	0.000000	-0.000134	-0.000087
183	0.000000	-0.000410	-0.000073
184	0.000000	-0.000624	-0.000051
185	0.000000	-0.000712	-0.000037
186	0.000000	-0.000774	-0.000025
187	0.000000	-0.000812	-0.000013
188	0.000000	-0.000828	-0.000003
189	0.000000	-0.000824	0.000006
190	0.000000	-0.000802	0.000015
191	0.000000	-0.000766	0.000021
192	0.000000	-0.000717	0.000027
193	0.000000	-0.000657	0.000032
194	0.000000	-0.000590	0.000035
195	0.000000	-0.000516	0.000038
196	0.000000	-0.000439	0.000039
197	0.000000	-0.000360	0.000039
198	0.000000	-0.000283	0.000038
199	0.000000	-0.000157	0.000034
200	0.000000	-0.000045	0.000031
201	0.000000	-0.000000	0.000029
202	0.000000	0.000042	0.000027
203	0.000000	0.000129	0.000023
204	0.000000	0.000195	0.000015
205	0.000000	0.000217	0.000011
206	0.000000	0.000232	0.000008
207	0.000000	0.000243	0.000005
208	0.000000	0.000247	0.000001
209	0.000000	0.000247	-0.000002
210	0.000000	0.000242	-0.000004
211	0.000000	0.000234	-0.000007
212	0.000000	0.000221	-0.000009
213	0.000000	0.000205	-0.000011
214	0.000000	0.000186	-0.000013
215	0.000000	0.000164	-0.000014
216	0.000000	0.000140	-0.000015
217	0.000000	0.000115	-0.000016
218	0.000000	0.000087	-0.000017
219	0.000000	0.000059	-0.000018
220	0.000000	0.000030	-0.000018
221	0.000000	0.000000	-0.000018

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	0.10	0.00
21	0.00	-0.41	0.00
41	0.00	1.26	0.00
61	-0.00	-3.85	0.00
81	0.00	11.82	0.00
101	0.00	-36.28	-0.00
121	0.00	198.06	0.01
141	0.00	508.32	-0.00
161	0.00	228.73	0.01
181	0.00	-36.92	-0.00
201	-0.00	12.01	0.00
221	0.00	-2.87	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	-0.10
	2	0.00	0.16	-0.10
2	2	0.00	0.16	-0.10
	3	0.00	0.32	-0.10
3	3	0.00	0.32	-0.10
	4	0.00	0.48	-0.10
4	4	0.00	0.48	-0.10
	5	0.00	0.64	-0.10
5	5	0.00	0.64	-0.10
	6	0.00	0.80	-0.10
6	6	0.00	0.80	-0.10
	7	0.00	0.95	-0.10
7	7	0.00	0.95	-0.10
	8	0.00	1.11	-0.10
8	8	0.00	1.11	-0.10
	9	0.00	1.27	-0.10
9	9	0.00	1.27	-0.10
	10	0.00	1.43	-0.10
10	10	0.00	1.43	-0.10
	11	0.00	1.59	-0.10
11	11	0.00	1.59	-0.10
	12	0.00	1.75	-0.10
12	12	0.00	1.75	-0.10
	13	0.00	1.91	-0.10
13	13	0.00	1.91	-0.10
	14	0.00	2.07	-0.10
14	14	0.00	2.07	-0.10
	15	0.00	2.22	-0.10
15	15	0.00	2.22	-0.10
	16	0.00	2.38	-0.10
16	16	0.00	2.38	-0.10
	17	0.00	2.54	-0.10
17	17	0.00	2.54	-0.10
	18	0.00	2.70	-0.10
18	18	0.00	2.70	-0.10
	19	0.00	3.04	-0.10
19	19	0.00	3.04	-0.10
	20	0.00	3.37	-0.10
20	20	0.00	3.37	-0.10
	21	0.00	3.52	-0.10
21	21	0.00	3.52	0.31
	22	0.00	3.05	0.31
22	22	0.00	3.05	0.31
	23	0.00	1.97	0.31
23	23	0.00	1.97	0.31
	24	0.00	0.90	0.31
24	24	0.00	0.90	0.31
	25	0.00	0.27	0.31
25	25	0.00	0.27	0.31
	26	0.00	-0.36	0.31
26	26	0.00	-0.36	0.31
	27	0.00	-0.98	0.31
27	27	0.00	-0.98	0.31
	28	0.00	-1.61	0.31
28	28	0.00	-1.61	0.31
	29	0.00	-2.24	0.31
29	29	0.00	-2.24	0.31
	30	0.00	-2.87	0.31
30	30	0.00	-2.87	0.31
	31	0.00	-3.50	0.31
31	31	0.00	-3.50	0.31
	32	0.00	-4.12	0.31
32	32	0.00	-4.12	0.31
	33	0.00	-4.75	0.31
33	33	0.00	-4.75	0.31
	34	0.00	-5.38	0.31
34	34	0.00	-5.38	0.31
	35	0.00	-6.01	0.31
35	35	0.00	-6.01	0.31
	36	0.00	-6.64	0.31
36	36	0.00	-6.64	0.31
	37	0.00	-7.27	0.31
37	37	0.00	-7.27	0.31
	38	0.00	-7.89	0.31
38	38	0.00	-7.89	0.31
	39	0.00	-8.98	0.31
39	39	0.00	-8.98	0.31
	40	0.00	-10.06	0.31
40	40	0.00	-10.06	0.31
	41	0.00	-10.53	0.31
41	41	0.00	-10.53	-0.95
	42	0.00	-9.11	-0.95
42	42	0.00	-9.11	-0.95
	43	0.00	-5.83	-0.95
43	43	0.00	-5.83	-0.95
	44	0.00	-2.55	-0.95
44	44	0.00	-2.55	-0.95
	45	0.00	-0.64	-0.95
45	45	0.00	-0.64	-0.95
	46	0.00	1.27	-0.95
46	46	0.00	1.27	-0.95
	47	0.00	3.18	-0.95
47	47	0.00	3.18	-0.95
	48	0.00	5.08	-0.95
48	48	0.00	5.08	-0.95
	49	0.00	6.99	-0.95
49	49	0.00	6.99	-0.95
	50	0.00	8.90	-0.95
50	50	0.00	8.90	-0.95

	51	0.00	10.81	-0.95	94	94	0.00	155.65	-8.94
51	51	0.00	10.81	-0.95		95	0.00	173.63	-8.94
	52	0.00	12.72	-0.95	95	95	0.00	173.63	-8.94
52	52	0.00	12.72	-0.95		96	0.00	191.60	-8.94
	53	0.00	14.63	-0.95	96	96	0.00	191.61	-8.94
53	53	0.00	14.63	-0.95		97	0.00	209.60	-8.94
	54	0.00	16.54	-0.95	97	97	0.00	209.60	-8.94
54	54	0.00	16.54	-0.95		98	0.00	227.59	-8.94
	55	0.00	18.45	-0.95	98	98	0.00	227.59	-8.95
55	55	0.00	18.45	-0.95		99	0.00	258.54	-8.95
	56	0.00	20.36	-0.95	99	99	0.00	258.54	-8.95
56	56	0.00	20.36	-0.95		100	0.00	289.49	-8.95
	57	0.00	22.27	-0.95	100	100	0.00	289.49	-8.95
57	57	0.00	22.27	-0.95		101	0.00	302.91	-8.95
	58	0.00	24.19	-0.95	101	101	0.00	302.91	27.33
58	58	0.00	24.19	-0.95		102	0.00	261.92	27.33
	59	0.00	27.47	-0.95	102	102	0.00	261.92	27.33
59	59	0.00	27.47	-0.95		103	0.00	167.37	27.33
	60	0.00	30.76	-0.95	103	103	0.00	167.37	27.33
60	60	0.00	30.76	-0.95		104	0.00	72.82	27.33
	61	0.00	32.19	-0.95	104	104	0.00	72.82	27.33
61	61	0.00	32.19	2.90		105	0.00	17.87	27.33
	62	0.00	27.84	2.90	105	105	0.00	17.87	27.33
62	62	0.00	27.84	2.90		106	0.00	-37.11	27.33
	63	0.00	17.79	2.90	106	106	0.00	-37.12	27.33
63	63	0.00	17.79	2.90		107	0.00	-92.08	27.33
	64	0.00	7.74	2.90	107	107	0.00	-92.09	27.34
64	64	0.00	7.74	2.90		108	0.00	-147.09	27.34
	65	0.00	1.90	2.90	108	108	0.00	-147.10	27.35
65	65	0.00	1.90	2.90		109	0.00	-202.11	27.35
	66	0.00	-3.94	2.90	109	109	0.00	-202.10	27.37
66	66	0.00	-3.94	2.91		110	0.00	-257.17	27.37
	67	0.00	-9.78	2.91	110	110	0.00	-257.17	27.37
67	67	0.00	-9.78	2.91		111	0.00	-312.21	27.37
	68	0.00	-15.63	2.91	111	111	0.00	-312.21	27.38
68	68	0.00	-15.63	2.91		112	0.00	-367.27	27.38
	69	0.00	-21.48	2.91	112	112	0.00	-367.28	27.39
69	69	0.00	-21.48	2.91		113	0.00	-422.40	27.39
	70	0.00	-27.33	2.91	113	113	0.00	-422.39	27.41
70	70	0.00	-27.33	2.91		114	0.00	-477.52	27.41
	71	0.00	-33.18	2.91	114	114	0.00	-477.52	27.41
71	71	0.00	-33.18	2.91		115	0.00	-532.66	27.41
	72	0.00	-39.03	2.91	115	115	0.00	-532.67	27.42
72	72	0.00	-39.03	2.91		116	0.00	-587.81	27.42
	73	0.00	-44.88	2.91	116	116	0.00	-587.83	27.43
73	73	0.00	-44.88	2.91		117	0.00	-643.01	27.43
	74	0.00	-50.73	2.91	117	117	0.00	-643.01	27.45
74	74	0.00	-50.73	2.91		118	0.00	-698.21	27.45
	75	0.00	-56.59	2.91	118	118	0.00	-698.21	27.44
75	75	0.00	-56.59	2.91		119	0.00	-793.16	27.44
	76	0.00	-62.45	2.91	119	119	0.00	-793.16	27.44
76	76	0.00	-62.45	2.92		120	0.00	-888.10	27.44
	77	0.00	-68.32	2.92	120	120	0.00	-888.11	27.42
77	77	0.00	-68.32	2.92		121	0.00	-929.25	27.42
	78	0.00	-74.18	2.92	121	121	0.00	-929.26	-170.64
78	78	0.00	-74.18	2.92		122	0.00	-673.31	-170.64
	79	0.00	-84.27	2.92	122	122	0.00	-673.31	-170.62
79	79	0.00	-84.27	2.92		123	0.00	-82.95	-170.62
	80	0.00	-94.36	2.92	123	123	0.00	-82.95	-170.62
80	80	0.00	-94.36	2.92		124	0.00	452.61	-130.62
	81	0.00	-98.73	2.92	124	124	0.00	452.60	-130.63
81	81	0.00	-98.73	-8.91		125	0.00	662.45	-90.63
	82	0.00	-85.37	-8.91	125	125	0.00	662.44	-90.63
82	82	0.00	-85.37	-8.91		126	0.00	793.88	-50.63
	83	0.00	-54.56	-8.91	126	126	0.00	793.88	-50.62
83	83	0.00	-54.56	-8.91		127	0.00	895.68	-50.62
	84	0.00	-23.74	-8.91	127	127	0.00	895.69	-50.63
84	84	0.00	-23.74	-8.91		128	0.00	997.55	-50.63
	85	0.00	-5.83	-8.91	128	128	0.00	997.55	-50.63
85	85	0.00	-5.83	-8.91		129	0.00	1095.49	-10.63
	86	0.00	12.10	-8.91	129	129	0.00	1095.49	-10.64
86	86	0.00	12.10	-8.91		130	0.00	1114.92	29.36
	87	0.00	30.01	-8.91	130	130	0.00	1114.93	29.33
87	87	0.00	30.02	-8.91		131	0.00	1055.94	69.33
	88	0.00	47.95	-8.91	131	131	0.00	1055.93	69.33
88	88	0.00	47.95	-8.92		132	0.00	916.52	69.33
	89	0.00	65.88	-8.92	132	132	0.00	916.49	69.31
89	89	0.00	65.88	-8.92		133	0.00	746.91	109.31
	90	0.00	83.83	-8.92	133	133	0.00	746.91	109.30
90	90	0.00	83.83	-8.92		134	0.00	488.54	149.30
	91	0.00	101.77	-8.92	134	134	0.00	488.53	149.29
91	91	0.00	101.77	-8.92		135	0.00	188.15	149.29
	92	0.00	119.71	-8.92	135	135	0.00	188.14	149.29
92	92	0.00	119.72	-8.93		136	0.00	-112.09	149.29
	93	0.00	137.69	-8.93	136	136	0.00	-112.10	149.30
93	93	0.00	137.69	-8.93		137	0.00	-412.50	149.30
	94	0.00	155.65	-8.93	137	137	0.00	-412.50	149.30

	138	0.00	-777.15	189.30	181	181	0.00	308.31	9.15
138	138	0.00	-777.14	189.30		182	0.00	294.58	9.15
	139	0.00	-1562.92	229.30	182	182	0.00	294.58	9.16
139	139	0.00	-1562.92	229.30		183	0.00	262.90	9.16
	140	0.00	-2356.30	229.30	183	183	0.00	262.90	9.16
140	140	0.00	-2356.30	229.30		184	0.00	231.22	9.16
	141	0.00	-2700.25	229.30	184	184	0.00	231.22	9.16
141	141	0.00	-2700.25	-279.02		185	0.00	212.81	9.16
	142	0.00	-2281.72	-279.02	185	185	0.00	212.81	9.15
142	142	0.00	-2281.72	-279.02		186	0.00	194.39	9.15
	143	0.00	-1420.33	-199.02	186	186	0.00	194.39	9.15
143	143	0.00	-1420.33	-199.01		187	0.00	175.98	9.15
	144	0.00	-731.74	-199.01	187	187	0.00	175.98	9.16
144	144	0.00	-731.75	-199.02		188	0.00	157.56	9.16
	145	0.00	-331.53	-199.02	188	188	0.00	157.56	9.15
145	145	0.00	-331.52	-199.02		189	0.00	139.16	9.15
	146	0.00	49.58	-159.02	189	189	0.00	139.15	9.14
146	146	0.00	49.56	-159.03		190	0.00	120.76	9.14
	147	0.00	341.60	-119.03	190	190	0.00	120.76	9.14
147	147	0.00	341.60	-119.00		191	0.00	102.37	9.14
	148	0.00	581.04	-119.00	191	191	0.00	102.37	9.14
148	148	0.00	581.03	-119.04		192	0.00	83.98	9.14
	149	0.00	761.33	-79.04	192	192	0.00	83.98	9.14
149	149	0.00	761.34	-79.04		193	0.00	65.59	9.14
	150	0.00	852.81	-39.04	193	193	0.00	65.59	9.14
150	150	0.00	852.83	-39.06		194	0.00	47.21	9.14
	151	0.00	931.38	-39.06	194	194	0.00	47.21	9.14
151	151	0.00	931.39	-39.07		195	0.00	28.83	9.14
	152	0.00	1009.95	-39.07	195	195	0.00	28.83	9.14
152	152	0.00	1009.95	-39.08		196	0.00	10.45	9.14
	153	0.00	1075.67	0.92	196	196	0.00	10.45	9.14
153	153	0.00	1075.66	0.90		197	0.00	-7.94	9.14
	154	0.00	1052.50	40.90	197	197	0.00	-7.94	9.14
154	154	0.00	1052.49	40.90		198	0.00	-26.31	9.14
	155	0.00	970.20	40.90	198	198	0.00	-26.31	9.14
155	155	0.00	970.20	40.88		199	0.00	-57.92	9.14
	156	0.00	835.31	80.88	199	199	0.00	-57.92	9.14
156	156	0.00	835.29	80.91		200	0.00	-89.54	9.14
	157	0.00	611.34	120.91	200	200	0.00	-89.54	9.14
157	157	0.00	611.34	120.89		201	0.00	-103.24	9.14
	158	0.00	368.23	120.89	201	201	0.00	-103.24	-2.87
158	158	0.00	368.24	120.89		202	0.00	-98.94	-2.87
	159	0.00	-50.04	120.89	202	202	0.00	-98.94	-2.87
159	159	0.00	-50.04	120.89		203	0.00	-89.00	-2.87
	160	0.00	-641.12	200.89	203	203	0.00	-89.00	-2.87
160	160	0.00	-641.13	200.90		204	0.00	-79.06	-2.87
	161	0.00	-942.47	200.90	204	204	0.00	-79.07	-2.87
161	161	0.00	-942.48	-27.83		205	0.00	-74.41	-2.87
	162	0.00	-900.73	-27.83	205	205	0.00	-74.41	-2.87
162	162	0.00	-900.74	-27.82		206	0.00	-69.75	-2.87
	163	0.00	-804.48	-27.82	206	206	0.00	-69.75	-2.87
163	163	0.00	-804.48	-27.83		207	0.00	-65.09	-2.87
	164	0.00	-708.19	-27.83	207	207	0.00	-65.09	-2.87
164	164	0.00	-708.20	-27.83		208	0.00	-60.43	-2.87
	165	0.00	-652.23	-27.83	208	208	0.00	-60.44	-2.87
165	165	0.00	-652.23	-27.82		209	0.00	-55.78	-2.87
	166	0.00	-596.26	-27.82	209	209	0.00	-55.78	-2.86
166	166	0.00	-596.26	-27.83		210	0.00	-51.14	-2.86
	167	0.00	-540.30	-27.83	210	210	0.00	-51.13	-2.86
167	167	0.00	-540.31	-27.83		211	0.00	-46.49	-2.86
	168	0.00	-484.31	-27.83	211	211	0.00	-46.49	-2.86
168	168	0.00	-484.32	-27.82		212	0.00	-41.84	-2.86
	169	0.00	-428.37	-27.82	212	212	0.00	-41.84	-2.87
169	169	0.00	-428.38	-27.80		213	0.00	-37.19	-2.87
	170	0.00	-372.46	-27.80	213	213	0.00	-37.19	-2.87
170	170	0.00	-372.46	-27.79		214	0.00	-32.54	-2.87
	171	0.00	-316.57	-27.79	214	214	0.00	-32.54	-2.87
171	171	0.00	-316.58	-27.79		215	0.00	-27.89	-2.87
	172	0.00	-260.70	-27.79	215	215	0.00	-27.89	-2.86
172	172	0.00	-260.70	-27.78		216	0.00	-23.25	-2.86
	173	0.00	-204.80	-27.78	216	216	0.00	-23.25	-2.87
173	173	0.00	-204.80	-27.77		217	0.00	-18.60	-2.87
	174	0.00	-148.96	-27.77	217	217	0.00	-18.60	-2.87
174	174	0.00	-148.94	-27.76		218	0.00	-13.95	-2.87
	175	0.00	-93.09	-27.76	218	218	0.00	-13.95	-2.87
175	175	0.00	-93.07	-27.77		219	0.00	-9.30	-2.87
	176	0.00	-37.24	-27.77	219	219	0.00	-9.30	-2.87
176	176	0.00	-37.23	-27.77		220	0.00	-4.65	-2.87
	177	0.00	18.65	-27.77	220	220	0.00	-4.65	-2.87
177	177	0.00	18.66	-27.77		221	0.00	0.00	-2.87
	178	0.00	74.49	-27.77					
178	178	0.00	74.49	-27.77					
	179	0.00	170.57	-27.77					
179	179	0.00	170.57	-27.77					
	180	0.00	266.65	-27.77					
180	180	0.00	266.65	-27.77					
	181	0.00	308.30	-27.77					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 8 ESTADO DE CARGAS 8

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	0.000000	0.000000
2	0.000000	0.000000	0.000000
3	0.000000	0.000001	0.000000
4	0.000000	0.000001	0.000000
5	0.000000	0.000001	0.000000
6	0.000000	0.000002	0.000000
7	0.000000	0.000002	0.000000
8	0.000000	0.000002	0.000000
9	0.000000	0.000002	0.000000
10	0.000000	0.000002	0.000000
11	0.000000	0.000003	0.000000
12	0.000000	0.000003	0.000000
13	0.000000	0.000003	0.000000
14	0.000000	0.000003	-0.000000
15	0.000000	0.000003	-0.000000
16	0.000000	0.000003	-0.000000
17	0.000000	0.000002	-0.000000
18	0.000000	0.000002	-0.000000
19	0.000000	0.000001	-0.000000
20	0.000000	0.000000	-0.000000
21	0.000000	-0.000000	-0.000000
22	0.000000	-0.000000	-0.000000
23	0.000000	-0.000002	-0.000000
24	0.000000	-0.000003	-0.000000
25	0.000000	-0.000004	-0.000000
26	0.000000	-0.000005	-0.000000
27	0.000000	-0.000006	-0.000000
28	0.000000	-0.000007	-0.000000
29	0.000000	-0.000007	-0.000000
30	0.000000	-0.000008	-0.000000
31	0.000000	-0.000009	-0.000000
32	0.000000	-0.000009	-0.000000
33	0.000000	-0.000009	-0.000000
34	0.000000	-0.000009	0.000000
35	0.000000	-0.000009	0.000000
36	0.000000	-0.000009	0.000000
37	0.000000	-0.000008	0.000000
38	0.000000	-0.000007	0.000001
39	0.000000	-0.000005	0.000001
40	0.000000	-0.000001	0.000001
41	0.000000	0.000000	0.000001
42	0.000000	0.000002	0.000001
43	0.000000	0.000005	0.000001
44	0.000000	0.000010	0.000001
45	0.000000	0.000013	0.000001
46	0.000000	0.000015	0.000001
47	0.000000	0.000018	0.000001
48	0.000000	0.000020	0.000001
49	0.000000	0.000023	0.000001
50	0.000000	0.000025	0.000001
51	0.000000	0.000026	0.000001
52	0.000000	0.000028	0.000000
53	0.000000	0.000028	0.000000
54	0.000000	0.000028	-0.000000
55	0.000000	0.000028	-0.000000
56	0.000000	0.000027	-0.000001
57	0.000000	0.000024	-0.000001
58	0.000000	0.000021	-0.000002
59	0.000000	0.000014	-0.000003
60	0.000000	0.000005	-0.000003
61	0.000000	-0.000000	-0.000003
62	0.000000	-0.000005	-0.000003
63	0.000000	-0.000017	-0.000004
64	0.000000	-0.000030	-0.000004
65	0.000000	-0.000038	-0.000004
66	0.000000	-0.000047	-0.000004
67	0.000000	-0.000055	-0.000004
68	0.000000	-0.000063	-0.000004
69	0.000000	-0.000070	-0.000003
70	0.000000	-0.000076	-0.000003
71	0.000000	-0.000081	-0.000002
72	0.000000	-0.000085	-0.000001
73	0.000000	-0.000087	-0.000001
74	0.000000	-0.000087	0.000000
75	0.000000	-0.000086	0.000001
76	0.000000	-0.000082	0.000003
77	0.000000	-0.000075	0.000004
78	0.000000	-0.000066	0.000005
79	0.000000	-0.000043	0.000008
80	0.000000	-0.000014	0.000009
81	0.000000	0.000000	0.000010
82	0.000000	0.000015	0.000010
83	0.000000	0.000052	0.000011
84	0.000000	0.000093	0.000012
85	0.000000	0.000118	0.000013
86	0.000000	0.000143	0.000013
87	0.000000	0.000168	0.000012
88	0.000000	0.000192	0.000011
89	0.000000	0.000214	0.000010
90	0.000000	0.000233	0.000009
91	0.000000	0.000249	0.000007
92	0.000000	0.000260	0.000005
93	0.000000	0.000267	0.000002
94	0.000000	0.000268	-0.000001
95	0.000000	0.000263	-0.000004
96	0.000000	0.000250	-0.000008
97	0.000000	0.000230	-0.000012
98	0.000000	0.000201	-0.000017
99	0.000000	0.000132	-0.000024
100	0.000000	0.000043	-0.000028
101	0.000000	-0.000000	-0.000029
102	0.000000	-0.000045	-0.000031
103	0.000000	-0.000159	-0.000034
104	0.000000	-0.000285	-0.000038
105	0.000000	-0.000362	-0.000039
106	0.000000	-0.000440	-0.000039
107	0.000000	-0.000516	-0.000037
108	0.000000	-0.000589	-0.000035
109	0.000000	-0.000656	-0.000031
110	0.000000	-0.000715	-0.000027
111	0.000000	-0.000763	-0.000021
112	0.000000	-0.000798	-0.000014
113	0.000000	-0.000818	-0.000006
114	0.000000	-0.000822	0.000003
115	0.000000	-0.000805	0.000013
116	0.000000	-0.000767	0.000025
117	0.000000	-0.000706	0.000037
118	0.000000	-0.000618	0.000051
119	0.000000	-0.000406	0.000072
120	0.000000	-0.000132	0.000086
121	0.000000	0.000000	0.000090
122	0.000000	0.000139	0.000095
123	0.000000	0.000487	0.000105
124	0.000000	0.000873	0.000116
125	0.000000	0.001110	0.000119
126	0.000000	0.001349	0.000118
127	0.000000	0.001584	0.000114
128	0.000000	0.001807	0.000107
129	0.000000	0.002012	0.000096
130	0.000000	0.002192	0.000082
131	0.000000	0.002339	0.000064
132	0.000000	0.002447	0.000043
133	0.000000	0.002510	0.000019
134	0.000000	0.002520	-0.000009
135	0.000000	0.002470	-0.000041
136	0.000000	0.002354	-0.000076
137	0.000000	0.002164	-0.000114
138	0.000000	0.001894	-0.000155
139	0.000000	0.001244	-0.000222
140	0.000000	0.000405	-0.000263
141	0.000000	-0.000000	-0.000277
142	0.000000	-0.000426	-0.000290
143	0.000000	-0.001470	-0.000309
144	0.000000	-0.002520	-0.000291
145	0.000000	-0.003071	-0.000255
146	0.000000	-0.003540	-0.000210
147	0.000000	-0.003910	-0.000157
148	0.000000	-0.004169	-0.000098
149	0.000000	-0.004302	-0.000033
150	0.000000	-0.004301	0.000035
151	0.000000	-0.004162	0.000103
152	0.000000	-0.003893	0.000164
153	0.000000	-0.003509	0.000216
154	0.000000	-0.003033	0.000255
155	0.000000	-0.002496	0.000276
156	0.000000	-0.001936	0.000278
157	0.000000	-0.001389	0.000262
158	0.000000	-0.000895	0.000226
159	0.000000	-0.000274	0.000121
160	0.000000	-0.000009	0.000025
161	0.000000	-0.000000	-0.000014
162	0.000000	-0.000051	-0.000053
163	0.000000	-0.000403	-0.000143
164	0.000000	-0.001082	-0.000239
165	0.000000	-0.001600	-0.000272
166	0.000000	-0.002159	-0.000280

167	0.000000	-0.002714	-0.000268
168	0.000000	-0.003226	-0.000239
169	0.000000	-0.003666	-0.000197
170	0.000000	-0.004012	-0.000147
171	0.000000	-0.004253	-0.000091
172	0.000000	-0.004377	-0.000031
173	0.000000	-0.004375	0.000034
174	0.000000	-0.004240	0.000100
175	0.000000	-0.003974	0.000163
176	0.000000	-0.003589	0.000219
177	0.000000	-0.003100	0.000265
178	0.000000	-0.002535	0.000295
179	0.000000	-0.001480	0.000309
180	0.000000	-0.000431	0.000293
181	0.000000	-0.000000	0.000280
182	0.000000	0.000410	0.000266
183	0.000000	0.001256	0.000224
184	0.000000	0.001911	0.000156
185	0.000000	0.002183	0.000114
186	0.000000	0.002373	0.000075
187	0.000000	0.002489	0.000040
188	0.000000	0.002537	0.000008
189	0.000000	0.002525	-0.000020
190	0.000000	0.002460	-0.000044
191	0.000000	0.002348	-0.000066
192	0.000000	0.002198	-0.000083
193	0.000000	0.002015	-0.000098
194	0.000000	0.001808	-0.000108
195	0.000000	0.001582	-0.000116
196	0.000000	0.001345	-0.000119
197	0.000000	0.001104	-0.000120
198	0.000000	0.000867	-0.000116
199	0.000000	0.000482	-0.000105
200	0.000000	0.000137	-0.000094
201	0.000000	0.000000	-0.000089
202	0.000000	-0.000130	-0.000084
203	0.000000	-0.000396	-0.000070
204	0.000000	-0.000598	-0.000047
205	0.000000	-0.000665	-0.000035
206	0.000000	-0.000713	-0.000024
207	0.000000	-0.000743	-0.000014
208	0.000000	-0.000758	-0.000004
209	0.000000	-0.000758	0.000005
210	0.000000	-0.000743	0.000013
211	0.000000	-0.000716	0.000020
212	0.000000	-0.000677	0.000027
213	0.000000	-0.000628	0.000033
214	0.000000	-0.000570	0.000039
215	0.000000	-0.000504	0.000043
216	0.000000	-0.000430	0.000047
217	0.000000	-0.000351	0.000050
218	0.000000	-0.000267	0.000053
219	0.000000	-0.000180	0.000055
220	0.000000	-0.000091	0.000056
221	0.000000	-0.000000	0.000056

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	-0.03	-0.00
21	0.00	0.13	-0.00
41	0.00	-0.41	0.00
61	0.00	1.26	-0.00
81	0.00	-3.86	-0.00
101	0.00	11.84	0.00
121	0.00	-36.32	-0.00
141	0.00	198.05	0.01
161	0.00	508.21	0.00
181	0.00	229.02	0.00
201	0.00	-36.81	0.00
221	0.00	8.79	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	0.00	0.03
	2	0.00	-0.05	0.03
2	2	0.00	-0.05	0.03
	3	0.00	-0.10	0.03
3	3	0.00	-0.10	0.03
	4	0.00	-0.16	0.03
4	4	0.00	-0.16	0.03
	5	0.00	-0.21	0.03
5	5	0.00	-0.21	0.03
	6	0.00	-0.26	0.03
6	6	0.00	-0.26	0.03
	7	0.00	-0.31	0.03
7	7	0.00	-0.31	0.03
	8	0.00	-0.36	0.03
8	8	0.00	-0.36	0.03
	9	0.00	-0.42	0.03
9	9	0.00	-0.42	0.03
	10	0.00	-0.47	0.03
10	10	0.00	-0.47	0.03
	11	0.00	-0.52	0.03
11	11	0.00	-0.52	0.03
	12	0.00	-0.57	0.03
12	12	0.00	-0.57	0.03
	13	0.00	-0.62	0.03
13	13	0.00	-0.62	0.03
	14	0.00	-0.67	0.03
14	14	0.00	-0.67	0.03
	15	0.00	-0.73	0.03
15	15	0.00	-0.73	0.03
	16	0.00	-0.78	0.03
16	16	0.00	-0.78	0.03
	17	0.00	-0.83	0.03
17	17	0.00	-0.83	0.03
	18	0.00	-0.88	0.03
18	18	0.00	-0.88	0.03
	19	0.00	-0.99	0.03
19	19	0.00	-0.99	0.03
	20	0.00	-1.10	0.03
20	20	0.00	-1.10	0.03
	21	0.00	-1.15	0.03
21	21	0.00	-1.15	-0.10
	22	0.00	-1.00	-0.10
22	22	0.00	-1.00	-0.10
	23	0.00	-0.64	-0.10
23	23	0.00	-0.64	-0.10
	24	0.00	-0.29	-0.10
24	24	0.00	-0.29	-0.10
	25	0.00	-0.09	-0.10
25	25	0.00	-0.09	-0.10
	26	0.00	0.12	-0.10
26	26	0.00	0.12	-0.10
	27	0.00	0.32	-0.10
27	27	0.00	0.32	-0.10
	28	0.00	0.53	-0.10
28	28	0.00	0.53	-0.10
	29	0.00	0.73	-0.10
29	29	0.00	0.73	-0.10
	30	0.00	0.94	-0.10
30	30	0.00	0.94	-0.10
	31	0.00	1.14	-0.10
31	31	0.00	1.14	-0.10
	32	0.00	1.35	-0.10
32	32	0.00	1.35	-0.10
	33	0.00	1.55	-0.10
33	33	0.00	1.55	-0.10
	34	0.00	1.76	-0.10
34	34	0.00	1.76	-0.10
	35	0.00	1.96	-0.10
35	35	0.00	1.96	-0.10
	36	0.00	2.17	-0.10
36	36	0.00	2.17	-0.10
	37	0.00	2.37	-0.10
37	37	0.00	2.37	-0.10
	38	0.00	2.58	-0.10
38	38	0.00	2.58	-0.10
	39	0.00	2.93	-0.10
39	39	0.00	2.93	-0.10
	40	0.00	3.28	-0.10
40	40	0.00	3.28	-0.10
	41	0.00	3.44	-0.10
41	41	0.00	3.44	0.31
	42	0.00	2.97	0.31
42	42	0.00	2.97	0.31
	43	0.00	1.90	0.31
43	43	0.00	1.90	0.31
	44	0.00	0.83	0.31
44	44	0.00	0.83	0.31
	45	0.00	0.21	0.31
45	45	0.00	0.21	0.31
	46	0.00	-0.41	0.31
46	46	0.00	-0.41	0.31
	47	0.00	-1.04	0.31
47	47	0.00	-1.04	0.31
	48	0.00	-1.66	0.31
48	48	0.00	-1.66	0.31
	49	0.00	-2.28	0.31
49	49	0.00	-2.28	0.31
	50	0.00	-2.90	0.31
50	50	0.00	-2.90	0.31

	51	0.00	-3.53	0.31	94	94	0.00	-50.79	2.91
51	51	0.00	-3.53	0.31		95	0.00	-56.66	2.91
	52	0.00	-4.15	0.31	95	95	0.00	-56.66	2.92
52	52	0.00	-4.15	0.31		96	0.00	-62.52	2.92
	53	0.00	-4.77	0.31	96	96	0.00	-62.52	2.92
53	53	0.00	-4.77	0.31		97	0.00	-68.39	2.92
	54	0.00	-5.40	0.31	97	97	0.00	-68.39	2.92
54	54	0.00	-5.40	0.31		98	0.00	-74.26	2.92
	55	0.00	-6.02	0.31	98	98	0.00	-74.26	2.92
55	55	0.00	-6.02	0.31		99	0.00	-84.36	2.92
	56	0.00	-6.64	0.31	99	99	0.00	-84.36	2.92
56	56	0.00	-6.64	0.31		100	0.00	-94.46	2.92
	57	0.00	-7.27	0.31	100	100	0.00	-94.46	2.92
57	57	0.00	-7.27	0.31		101	0.00	-98.84	2.92
	58	0.00	-7.89	0.31	101	101	0.00	-98.84	-8.92
58	58	0.00	-7.89	0.31		102	0.00	-85.47	-8.92
	59	0.00	-8.97	0.31	102	102	0.00	-85.47	-8.92
59	59	0.00	-8.97	0.31		103	0.00	-54.62	-8.92
	60	0.00	-10.04	0.31	103	103	0.00	-54.62	-8.92
60	60	0.00	-10.04	0.31		104	0.00	-23.76	-8.92
	61	0.00	-10.50	0.31	104	104	0.00	-23.76	-8.92
61	61	0.00	-10.50	-0.95		105	0.00	-5.83	-8.92
	62	0.00	-9.08	-0.95	105	105	0.00	-5.83	-8.92
62	62	0.00	-9.08	-0.95		106	0.00	12.11	-8.92
	63	0.00	-5.80	-0.95	106	106	0.00	12.11	-8.92
63	63	0.00	-5.80	-0.95		107	0.00	30.05	-8.92
	64	0.00	-2.53	-0.95	107	107	0.00	30.05	-8.92
64	64	0.00	-2.53	-0.95		108	0.00	48.00	-8.92
	65	0.00	-0.62	-0.95	108	108	0.00	48.00	-8.93
65	65	0.00	-0.62	-0.95		109	0.00	65.95	-8.93
	66	0.00	1.29	-0.95	109	109	0.00	65.95	-8.93
66	66	0.00	1.29	-0.95		110	0.00	83.92	-8.93
	67	0.00	3.19	-0.95	110	110	0.00	83.92	-8.93
67	67	0.00	3.19	-0.95		111	0.00	101.88	-8.93
	68	0.00	5.10	-0.95	111	111	0.00	101.88	-8.93
68	68	0.00	5.10	-0.95		112	0.00	119.85	-8.93
	69	0.00	7.01	-0.95	112	112	0.00	119.85	-8.94
69	69	0.00	7.01	-0.95		113	0.00	137.83	-8.94
	70	0.00	8.92	-0.95	113	113	0.00	137.83	-8.94
70	70	0.00	8.92	-0.95		114	0.00	155.82	-8.94
	71	0.00	10.83	-0.95	114	114	0.00	155.82	-8.94
71	71	0.00	10.83	-0.95		115	0.00	173.81	-8.94
	72	0.00	12.74	-0.95	115	115	0.00	173.82	-8.95
72	72	0.00	12.74	-0.95		116	0.00	191.81	-8.95
	73	0.00	14.65	-0.95	116	116	0.00	191.81	-8.95
73	73	0.00	14.65	-0.95		117	0.00	209.82	-8.95
	74	0.00	16.56	-0.95	117	117	0.00	209.82	-8.96
74	74	0.00	16.56	-0.95		118	0.00	227.83	-8.96
	75	0.00	18.47	-0.95	118	118	0.00	227.83	-8.95
75	75	0.00	18.47	-0.95		119	0.00	258.82	-8.95
	76	0.00	20.38	-0.95	119	119	0.00	258.82	-8.95
76	76	0.00	20.38	-0.95		120	0.00	289.80	-8.95
	77	0.00	22.29	-0.95	120	120	0.00	289.80	-8.95
77	77	0.00	22.29	-0.95		121	0.00	303.22	-8.95
	78	0.00	24.21	-0.95	121	121	0.00	303.23	27.37
78	78	0.00	24.21	-0.95		122	0.00	262.17	27.37
	79	0.00	27.50	-0.95	122	122	0.00	262.17	27.37
79	79	0.00	27.50	-0.95		123	0.00	167.49	27.37
	80	0.00	30.79	-0.95	123	123	0.00	167.49	27.37
80	80	0.00	30.79	-0.95		124	0.00	72.80	27.37
	81	0.00	32.22	-0.95	124	124	0.00	72.80	27.36
81	81	0.00	32.22	2.91		125	0.00	17.78	27.36
	82	0.00	27.86	2.91	125	125	0.00	17.78	27.37
82	82	0.00	27.86	2.91		126	0.00	-37.29	27.37
	83	0.00	17.80	2.91	126	126	0.00	-37.29	27.37
83	83	0.00	17.80	2.91		127	0.00	-92.33	27.37
	84	0.00	7.75	2.91	127	127	0.00	-92.32	27.37
84	84	0.00	7.75	2.91		128	0.00	-147.39	27.37
	85	0.00	1.90	2.91	128	128	0.00	-147.39	27.37
85	85	0.00	1.90	2.91		129	0.00	-202.42	27.37
	86	0.00	-3.95	2.91	129	129	0.00	-202.43	27.37
86	86	0.00	-3.95	2.91		130	0.00	-257.49	27.37
	87	0.00	-9.79	2.91	130	130	0.00	-257.51	27.38
87	87	0.00	-9.79	2.91		131	0.00	-312.56	27.38
	88	0.00	-15.65	2.91	131	131	0.00	-312.56	27.39
88	88	0.00	-15.65	2.91		132	0.00	-367.64	27.39
	89	0.00	-21.50	2.91	132	132	0.00	-367.63	27.40
89	89	0.00	-21.50	2.91		133	0.00	-422.75	27.40
	90	0.00	-27.35	2.91	133	133	0.00	-422.75	27.41
90	90	0.00	-27.35	2.91		134	0.00	-477.87	27.41
	91	0.00	-33.21	2.91	134	134	0.00	-477.86	27.41
91	91	0.00	-33.21	2.91		135	0.00	-533.01	27.41
	92	0.00	-39.07	2.91	135	135	0.00	-533.02	27.41
92	92	0.00	-39.07	2.91		136	0.00	-588.14	27.41
	93	0.00	-44.93	2.91	136	136	0.00	-588.13	27.41
93	93	0.00	-44.93	2.91		137	0.00	-643.27	27.41
	94	0.00	-50.79	2.91	137	137	0.00	-643.26	27.42

	138	0.00	-698.40	27.42	181	181	0.00	-945.13	-28.05
138	138	0.00	-698.39	27.42		182	0.00	-903.04	-28.05
	139	0.00	-793.25	27.42	182	182	0.00	-903.05	-28.07
139	139	0.00	-793.25	27.41		183	0.00	-805.94	-28.07
	140	0.00	-888.08	27.41	183	183	0.00	-805.95	-28.07
140	140	0.00	-888.08	27.40		184	0.00	-708.83	-28.07
	141	0.00	-929.19	27.40	184	184	0.00	-708.83	-28.07
141	141	0.00	-929.21	-170.65		185	0.00	-652.38	-28.07
	142	0.00	-673.24	-170.65	185	185	0.00	-652.39	-28.06
142	142	0.00	-673.24	-170.63		186	0.00	-595.92	-28.06
	143	0.00	-82.86	-170.63	186	186	0.00	-595.92	-28.06
143	143	0.00	-82.85	-170.63		187	0.00	-539.49	-28.06
	144	0.00	452.72	-130.63	187	187	0.00	-539.49	-28.07
144	144	0.00	452.71	-130.63		188	0.00	-483.01	-28.07
	145	0.00	662.57	-90.63	188	188	0.00	-483.01	-28.05
145	145	0.00	662.57	-90.64		189	0.00	-426.59	-28.05
	146	0.00	794.02	-50.64	189	189	0.00	-426.60	-28.04
146	146	0.00	794.01	-50.63		190	0.00	-370.17	-28.04
	147	0.00	895.83	-50.63	190	190	0.00	-370.18	-28.03
147	147	0.00	895.83	-50.63		191	0.00	-313.81	-28.03
	148	0.00	997.69	-50.63	191	191	0.00	-313.81	-28.02
148	148	0.00	997.70	-50.63		192	0.00	-257.46	-28.02
	149	0.00	1095.63	-10.63	192	192	0.00	-257.44	-28.01
149	149	0.00	1095.65	-10.69		193	0.00	-201.08	-28.01
	150	0.00	1115.19	29.31	193	193	0.00	-201.07	-28.01
150	150	0.00	1115.17	29.30		194	0.00	-144.74	-28.01
	151	0.00	1056.25	69.30	194	194	0.00	-144.73	-28.01
151	151	0.00	1056.25	69.31		195	0.00	-88.38	-28.01
	152	0.00	916.87	69.31	195	195	0.00	-88.38	-28.01
152	152	0.00	916.87	69.30		196	0.00	-32.04	-28.01
	153	0.00	747.32	109.30	196	196	0.00	-32.04	-28.01
153	153	0.00	747.32	109.27		197	0.00	24.32	-28.01
	154	0.00	489.01	149.27	197	197	0.00	24.33	-28.01
154	154	0.00	489.00	149.28		198	0.00	80.65	-28.01
	155	0.00	188.65	149.28	198	198	0.00	80.65	-28.01
155	155	0.00	188.64	149.27		199	0.00	177.57	-28.01
	156	0.00	-111.53	149.27	199	199	0.00	177.56	-28.01
156	156	0.00	-111.55	149.28		200	0.00	274.48	-28.01
	157	0.00	-411.90	149.28	200	200	0.00	274.48	-28.01
157	157	0.00	-411.91	149.28		201	0.00	316.50	-28.01
	158	0.00	-776.50	189.28	201	201	0.00	316.50	8.80
158	158	0.00	-776.50	189.28		202	0.00	303.29	8.80
	159	0.00	-1562.19	229.28	202	202	0.00	303.30	8.80
159	159	0.00	-1562.19	229.28		203	0.00	272.84	8.80
	160	0.00	-2355.49	229.28	203	203	0.00	272.84	8.80
160	160	0.00	-2355.49	229.28		204	0.00	242.38	8.80
	161	0.00	-2699.40	229.28	204	204	0.00	242.38	8.81
161	161	0.00	-2699.40	-278.94		205	0.00	228.10	8.81
	162	0.00	-2281.00	-278.94	205	205	0.00	228.10	8.81
162	162	0.00	-2281.00	-278.94		206	0.00	213.81	8.81
	163	0.00	-1419.88	-198.94	206	206	0.00	213.81	8.80
163	163	0.00	-1419.87	-198.94		207	0.00	199.53	8.80
	164	0.00	-731.56	-198.94	207	207	0.00	199.53	8.80
164	164	0.00	-731.56	-198.94		208	0.00	185.27	8.80
	165	0.00	-331.50	-198.94	208	208	0.00	185.27	8.79
165	165	0.00	-331.51	-198.95		209	0.00	171.00	8.79
	166	0.00	49.45	-158.95	209	209	0.00	171.01	8.78
166	166	0.00	49.45	-158.94		210	0.00	156.76	8.78
	167	0.00	341.31	-118.94	210	210	0.00	156.76	8.78
167	167	0.00	341.31	-118.93		211	0.00	142.52	8.78
	168	0.00	580.60	-118.93	211	211	0.00	142.52	8.78
168	168	0.00	580.61	-118.94		212	0.00	128.27	8.78
	169	0.00	760.72	-78.94	212	212	0.00	128.27	8.79
169	169	0.00	760.74	-78.97		213	0.00	114.01	8.79
	170	0.00	852.06	-38.97	213	213	0.00	114.01	8.79
170	170	0.00	852.07	-38.99		214	0.00	99.76	8.79
	171	0.00	930.47	-38.99	214	214	0.00	99.76	8.79
171	171	0.00	930.50	-38.98		215	0.00	85.50	8.79
	172	0.00	1008.88	-38.98	215	215	0.00	85.50	8.78
172	172	0.00	1008.88	-39.01		216	0.00	71.26	8.78
	173	0.00	1074.45	0.99	216	216	0.00	71.27	8.78
173	173	0.00	1074.46	0.99		217	0.00	57.01	8.78
	174	0.00	1051.10	40.99	217	217	0.00	57.01	8.78
174	174	0.00	1051.09	40.96		218	0.00	42.76	8.78
	175	0.00	968.68	40.96	218	218	0.00	42.76	8.78
175	175	0.00	968.67	40.97		219	0.00	28.51	8.78
	176	0.00	833.61	80.97	219	219	0.00	28.51	8.79
176	176	0.00	833.59	80.98		220	0.00	14.25	8.79
	177	0.00	609.50	120.98	220	220	0.00	14.25	8.79
177	177	0.00	609.49	120.97		221	0.00	0.00	8.79
	178	0.00	366.23	120.97					
178	178	0.00	366.23	120.97					
	179	0.00	-52.32	120.97					
179	179	0.00	-52.31	120.97					
	180	0.00	-643.67	200.97					
180	180	0.00	-643.68	200.97					
	181	0.00	-945.13	200.97					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 9 ESTADO DE CARGAS 9

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000000
2	0.000000	-0.000000	-0.000000
3	0.000000	-0.000000	-0.000000
4	0.000000	-0.000000	-0.000000
5	0.000000	-0.000000	-0.000000
6	0.000000	-0.000001	-0.000000
7	0.000000	-0.000001	-0.000000
8	0.000000	-0.000001	-0.000000
9	0.000000	-0.000001	-0.000000
10	0.000000	-0.000001	-0.000000
11	0.000000	-0.000001	-0.000000
12	0.000000	-0.000001	-0.000000
13	0.000000	-0.000001	-0.000000
14	0.000000	-0.000001	0.000000
15	0.000000	-0.000001	0.000000
16	0.000000	-0.000001	0.000000
17	0.000000	-0.000001	0.000000
18	0.000000	-0.000001	0.000000
19	0.000000	-0.000000	0.000000
20	0.000000	-0.000000	0.000000
21	0.000000	0.000000	0.000000
22	0.000000	0.000000	0.000000
23	0.000000	0.000001	0.000000
24	0.000000	0.000001	0.000000
25	0.000000	0.000001	0.000000
26	0.000000	0.000002	0.000000
27	0.000000	0.000002	0.000000
28	0.000000	0.000002	0.000000
29	0.000000	0.000002	0.000000
30	0.000000	0.000003	0.000000
31	0.000000	0.000003	0.000000
32	0.000000	0.000003	0.000000
33	0.000000	0.000003	0.000000
34	0.000000	0.000003	-0.000000
35	0.000000	0.000003	-0.000000
36	0.000000	0.000003	-0.000000
37	0.000000	0.000003	-0.000000
38	0.000000	0.000002	-0.000000
39	0.000000	0.000001	-0.000000
40	0.000000	0.000000	-0.000000
41	0.000000	-0.000000	-0.000000
42	0.000000	-0.000001	-0.000000
43	0.000000	-0.000002	-0.000000
44	0.000000	-0.000003	-0.000000
45	0.000000	-0.000004	-0.000000
46	0.000000	-0.000005	-0.000000
47	0.000000	-0.000006	-0.000000
48	0.000000	-0.000007	-0.000000
49	0.000000	-0.000007	-0.000000
50	0.000000	-0.000008	-0.000000
51	0.000000	-0.000009	-0.000000
52	0.000000	-0.000009	-0.000000
53	0.000000	-0.000009	-0.000000
54	0.000000	-0.000009	0.000000
55	0.000000	-0.000009	0.000000
56	0.000000	-0.000009	0.000000
57	0.000000	-0.000008	0.000000
58	0.000000	-0.000007	0.000001
59	0.000000	-0.000005	0.000001
60	0.000000	-0.000001	0.000001
61	0.000000	0.000000	0.000001
62	0.000000	0.000002	0.000001
63	0.000000	0.000006	0.000001
64	0.000000	0.000010	0.000001
65	0.000000	0.000013	0.000001
66	0.000000	0.000015	0.000001
67	0.000000	0.000018	0.000001
68	0.000000	0.000020	0.000001
69	0.000000	0.000023	0.000001
70	0.000000	0.000025	0.000001
71	0.000000	0.000027	0.000001
72	0.000000	0.000028	0.000000
73	0.000000	0.000028	0.000000
74	0.000000	0.000029	-0.000000
75	0.000000	0.000028	-0.000000
76	0.000000	0.000027	-0.000001
77	0.000000	0.000025	-0.000001
78	0.000000	0.000021	-0.000002
79	0.000000	0.000014	-0.000003
80	0.000000	0.000005	-0.000003
81	0.000000	-0.000000	-0.000003
82	0.000000	-0.000005	-0.000003
83	0.000000	-0.000017	-0.000004
84	0.000000	-0.000030	-0.000004
85	0.000000	-0.000039	-0.000004
86	0.000000	-0.000047	-0.000004
87	0.000000	-0.000055	-0.000004
88	0.000000	-0.000063	-0.000004
89	0.000000	-0.000070	-0.000003
90	0.000000	-0.000076	-0.000003
91	0.000000	-0.000081	-0.000002
92	0.000000	-0.000085	-0.000001
93	0.000000	-0.000087	-0.000001
94	0.000000	-0.000088	0.000000
95	0.000000	-0.000086	0.000001
96	0.000000	-0.000082	0.000003
97	0.000000	-0.000075	0.000004
98	0.000000	-0.000066	0.000005
99	0.000000	-0.000043	0.000008
100	0.000000	-0.000014	0.000009
101	0.000000	0.000000	0.000010
102	0.000000	0.000015	0.000010
103	0.000000	0.000052	0.000011
104	0.000000	0.000093	0.000012
105	0.000000	0.000118	0.000013
106	0.000000	0.000144	0.000013
107	0.000000	0.000169	0.000012
108	0.000000	0.000193	0.000011
109	0.000000	0.000215	0.000010
110	0.000000	0.000234	0.000009
111	0.000000	0.000249	0.000007
112	0.000000	0.000261	0.000005
113	0.000000	0.000268	0.000002
114	0.000000	0.000269	-0.000001
115	0.000000	0.000263	-0.000004
116	0.000000	0.000251	-0.000008
117	0.000000	0.000231	-0.000012
118	0.000000	0.000202	-0.000017
119	0.000000	0.000133	-0.000024
120	0.000000	0.000043	-0.000028
121	0.000000	-0.000000	-0.000030
122	0.000000	-0.000046	-0.000031
123	0.000000	-0.000159	-0.000035
124	0.000000	-0.000286	-0.000038
125	0.000000	-0.000363	-0.000039
126	0.000000	-0.000441	-0.000039
127	0.000000	-0.000518	-0.000037
128	0.000000	-0.000591	-0.000035
129	0.000000	-0.000658	-0.000031
130	0.000000	-0.000717	-0.000027
131	0.000000	-0.000765	-0.000021
132	0.000000	-0.000801	-0.000014
133	0.000000	-0.000821	-0.000006
134	0.000000	-0.000824	0.000003
135	0.000000	-0.000808	0.000013
136	0.000000	-0.000770	0.000025
137	0.000000	-0.000708	0.000037
138	0.000000	-0.000620	0.000051
139	0.000000	-0.000407	0.000073
140	0.000000	-0.000133	0.000086
141	0.000000	0.000000	0.000091
142	0.000000	0.000140	0.000095
143	0.000000	0.000489	0.000106
144	0.000000	0.000876	0.000117
145	0.000000	0.001113	0.000119
146	0.000000	0.001353	0.000119
147	0.000000	0.001589	0.000115
148	0.000000	0.001813	0.000107
149	0.000000	0.002018	0.000096
150	0.000000	0.002198	0.000082
151	0.000000	0.002346	0.000064
152	0.000000	0.002454	0.000043
153	0.000000	0.002517	0.000019
154	0.000000	0.002527	-0.000009
155	0.000000	0.002477	-0.000041
156	0.000000	0.002360	-0.000076
157	0.000000	0.002170	-0.000114
158	0.000000	0.001899	-0.000156
159	0.000000	0.001247	-0.000223
160	0.000000	0.000407	-0.000264
161	0.000000	-0.000000	-0.000278
162	0.000000	-0.000427	-0.000291
163	0.000000	-0.001474	-0.000309
164	0.000000	-0.002528	-0.000292
165	0.000000	-0.003081	-0.000256
166	0.000000	-0.003552	-0.000211

167	0.000000	-0.003924	-0.000158
168	0.000000	-0.004185	-0.000099
169	0.000000	-0.004320	-0.000034
170	0.000000	-0.004320	0.000034
171	0.000000	-0.004182	0.000102
172	0.000000	-0.003914	0.000163
173	0.000000	-0.003531	0.000216
174	0.000000	-0.003055	0.000255
175	0.000000	-0.002518	0.000276
176	0.000000	-0.001956	0.000279
177	0.000000	-0.001408	0.000263
178	0.000000	-0.000911	0.000227
179	0.000000	-0.000285	0.000123
180	0.000000	-0.000012	0.000028
181	0.000000	-0.000000	-0.000012
182	0.000000	-0.000048	-0.000051
183	0.000000	-0.000390	-0.000140
184	0.000000	-0.001058	-0.000236
185	0.000000	-0.001570	-0.000269
186	0.000000	-0.002123	-0.000277
187	0.000000	-0.002671	-0.000265
188	0.000000	-0.003177	-0.000236
189	0.000000	-0.003612	-0.000194
190	0.000000	-0.003953	-0.000144
191	0.000000	-0.004189	-0.000090
192	0.000000	-0.004310	-0.000030
193	0.000000	-0.004307	0.000034
194	0.000000	-0.004172	0.000100
195	0.000000	-0.003908	0.000162
196	0.000000	-0.003525	0.000217
197	0.000000	-0.003041	0.000261
198	0.000000	-0.002484	0.000291
199	0.000000	-0.001446	0.000303
200	0.000000	-0.000420	0.000286
201	0.000000	-0.000000	0.000273
202	0.000000	0.000398	0.000258
203	0.000000	0.001215	0.000215
204	0.000000	0.001833	0.000144
205	0.000000	0.002037	0.000108
206	0.000000	0.002185	0.000074
207	0.000000	0.002279	0.000042
208	0.000000	0.002324	0.000013
209	0.000000	0.002322	-0.000014
210	0.000000	0.002278	-0.000040
211	0.000000	0.002195	-0.000062
212	0.000000	0.002077	-0.000083
213	0.000000	0.001927	-0.000102
214	0.000000	0.001748	-0.000118
215	0.000000	0.001544	-0.000132
216	0.000000	0.001319	-0.000144
217	0.000000	0.001077	-0.000154
218	0.000000	0.000820	-0.000162
219	0.000000	0.000553	-0.000167
220	0.000000	0.000278	-0.000171
221	0.000000	0.000000	-0.000172

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	0.01	0.00
21	-0.00	-0.04	0.00
41	0.00	0.13	0.00
61	0.00	-0.41	0.00
81	-0.00	1.26	0.00
101	-0.00	-3.87	0.00
121	0.00	11.88	-0.00
141	0.00	-36.41	0.00
161	0.00	198.37	-0.01
181	0.00	507.23	0.00
201	0.00	228.70	0.00
221	0.00	-26.94	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	-0.01
	2	0.00	0.02	-0.01
2	2	0.00	0.02	-0.01
	3	0.00	0.03	-0.01
3	3	0.00	0.03	-0.01
	4	0.00	0.05	-0.01
4	4	0.00	0.05	-0.01
	5	0.00	0.07	-0.01
5	5	0.00	0.07	-0.01
	6	0.00	0.08	-0.01
6	6	0.00	0.08	-0.01
	7	0.00	0.10	-0.01
7	7	0.00	0.10	-0.01
	8	0.00	0.12	-0.01
8	8	0.00	0.12	-0.01
	9	0.00	0.14	-0.01
9	9	0.00	0.14	-0.01
	10	0.00	0.15	-0.01
10	10	0.00	0.15	-0.01
	11	0.00	0.17	-0.01
11	11	0.00	0.17	-0.01
	12	0.00	0.19	-0.01
12	12	0.00	0.19	-0.01
	13	0.00	0.20	-0.01
13	13	0.00	0.20	-0.01
	14	0.00	0.22	-0.01
14	14	0.00	0.22	-0.01
	15	0.00	0.24	-0.01
15	15	0.00	0.24	-0.01
	16	0.00	0.25	-0.01
16	16	0.00	0.25	-0.01
	17	0.00	0.27	-0.01
17	17	0.00	0.27	-0.01
	18	0.00	0.29	-0.01
18	18	0.00	0.29	-0.01
	19	0.00	0.32	-0.01
19	19	0.00	0.32	-0.01
	20	0.00	0.36	-0.01
20	20	0.00	0.36	-0.01
	21	0.00	0.38	-0.01
21	21	0.00	0.38	0.03
	22	0.00	0.33	0.03
22	22	0.00	0.33	0.03
	23	0.00	0.21	0.03
23	23	0.00	0.21	0.03
	24	0.00	0.10	0.03
24	24	0.00	0.10	0.03
	25	0.00	0.03	0.03
25	25	0.00	0.03	0.03
	26	0.00	-0.04	0.03
26	26	0.00	-0.04	0.03
	27	0.00	-0.11	0.03
27	27	0.00	-0.11	0.03
	28	0.00	-0.17	0.03
28	28	0.00	-0.17	0.03
	29	0.00	-0.24	0.03
29	29	0.00	-0.24	0.03
	30	0.00	-0.31	0.03
30	30	0.00	-0.31	0.03
	31	0.00	-0.37	0.03
31	31	0.00	-0.37	0.03
	32	0.00	-0.44	0.03
32	32	0.00	-0.44	0.03
	33	0.00	-0.51	0.03
33	33	0.00	-0.51	0.03
	34	0.00	-0.57	0.03
34	34	0.00	-0.57	0.03
	35	0.00	-0.64	0.03
35	35	0.00	-0.64	0.03
	36	0.00	-0.71	0.03
36	36	0.00	-0.71	0.03
	37	0.00	-0.78	0.03
37	37	0.00	-0.78	0.03
	38	0.00	-0.84	0.03
38	38	0.00	-0.84	0.03
	39	0.00	-0.96	0.03
39	39	0.00	-0.96	0.03
	40	0.00	-1.07	0.03
40	40	0.00	-1.07	0.03
	41	0.00	-1.12	0.03
41	41	0.00	-1.12	-0.10
	42	0.00	-0.97	-0.10
42	42	0.00	-0.97	-0.10
	43	0.00	-0.62	-0.10
43	43	0.00	-0.62	-0.10
	44	0.00	-0.27	-0.10
44	44	0.00	-0.27	-0.10
	45	0.00	-0.07	-0.10
45	45	0.00	-0.07	-0.10
	46	0.00	0.14	-0.10
46	46	0.00	0.14	-0.10
	47	0.00	0.34	-0.10
47	47	0.00	0.34	-0.10
	48	0.00	0.54	-0.10
48	48	0.00	0.54	-0.10
	49	0.00	0.75	-0.10
49	49	0.00	0.75	-0.10
	50	0.00	0.95	-0.10
50	50	0.00	0.95	-0.10

	51	0.00	1.15	-0.10	94	94	0.00	16.62	-0.95
51	51	0.00	1.15	-0.10		95	0.00	18.53	-0.95
	52	0.00	1.36	-0.10	95	95	0.00	18.53	-0.95
52	52	0.00	1.36	-0.10		96	0.00	20.45	-0.95
	53	0.00	1.56	-0.10	96	96	0.00	20.45	-0.95
53	53	0.00	1.56	-0.10		97	0.00	22.37	-0.95
	54	0.00	1.77	-0.10	97	97	0.00	22.37	-0.96
54	54	0.00	1.77	-0.10		98	0.00	24.29	-0.96
	55	0.00	1.97	-0.10	98	98	0.00	24.29	-0.95
55	55	0.00	1.97	-0.10		99	0.00	27.60	-0.95
	56	0.00	2.17	-0.10	99	99	0.00	27.60	-0.95
56	56	0.00	2.17	-0.10		100	0.00	30.90	-0.95
	57	0.00	2.38	-0.10	100	100	0.00	30.90	-0.95
57	57	0.00	2.38	-0.10		101	0.00	32.34	-0.95
	58	0.00	2.58	-0.10	101	101	0.00	32.34	2.92
58	58	0.00	2.58	-0.10		102	0.00	27.96	2.92
	59	0.00	2.93	-0.10	102	102	0.00	27.96	2.92
59	59	0.00	2.93	-0.10		103	0.00	17.87	2.92
	60	0.00	3.28	-0.10	103	103	0.00	17.87	2.92
60	60	0.00	3.28	-0.10		104	0.00	7.77	2.92
	61	0.00	3.44	-0.10	104	104	0.00	7.77	2.92
61	61	0.00	3.44	0.31		105	0.00	1.91	2.92
	62	0.00	2.97	0.31	105	105	0.00	1.91	2.92
62	62	0.00	2.97	0.31		106	0.00	-3.96	2.92
	63	0.00	1.90	0.31	106	106	0.00	-3.96	2.92
63	63	0.00	1.90	0.31		107	0.00	-9.83	2.92
	64	0.00	0.83	0.31	107	107	0.00	-9.83	2.92
64	64	0.00	0.83	0.31		108	0.00	-15.70	2.92
	65	0.00	0.20	0.31	108	108	0.00	-15.70	2.92
65	65	0.00	0.20	0.31		109	0.00	-21.58	2.92
	66	0.00	-0.42	0.31	109	109	0.00	-21.57	2.92
66	66	0.00	-0.42	0.31		110	0.00	-27.45	2.92
	67	0.00	-1.04	0.31	110	110	0.00	-27.45	2.92
67	67	0.00	-1.04	0.31		111	0.00	-33.33	2.92
	68	0.00	-1.67	0.31	111	111	0.00	-33.33	2.92
68	68	0.00	-1.67	0.31		112	0.00	-39.21	2.92
	69	0.00	-2.29	0.31	112	112	0.00	-39.21	2.92
69	69	0.00	-2.29	0.31		113	0.00	-45.09	2.92
	70	0.00	-2.92	0.31	113	113	0.00	-45.09	2.93
70	70	0.00	-2.92	0.31		114	0.00	-50.97	2.93
	71	0.00	-3.54	0.31	114	114	0.00	-50.97	2.93
71	71	0.00	-3.54	0.31		115	0.00	-56.86	2.93
	72	0.00	-4.17	0.31	115	115	0.00	-56.86	2.93
72	72	0.00	-4.17	0.31		116	0.00	-62.75	2.93
	73	0.00	-4.79	0.31	116	116	0.00	-62.75	2.93
73	73	0.00	-4.79	0.31		117	0.00	-68.64	2.93
	74	0.00	-5.42	0.31	117	117	0.00	-68.64	2.93
74	74	0.00	-5.42	0.31		118	0.00	-74.53	2.93
	75	0.00	-6.04	0.31	118	118	0.00	-74.53	2.93
75	75	0.00	-6.04	0.31		119	0.00	-84.67	2.93
	76	0.00	-6.67	0.31	119	119	0.00	-84.67	2.93
76	76	0.00	-6.67	0.31		120	0.00	-94.80	2.93
	77	0.00	-7.29	0.31	120	120	0.00	-94.80	2.93
77	77	0.00	-7.29	0.31		121	0.00	-99.20	2.93
	78	0.00	-7.92	0.31	121	121	0.00	-99.20	-8.95
78	78	0.00	-7.92	0.31		122	0.00	-85.77	-8.95
	79	0.00	-9.00	0.31	122	122	0.00	-85.77	-8.95
79	79	0.00	-9.00	0.31		123	0.00	-54.79	-8.95
	80	0.00	-10.07	0.31	123	123	0.00	-54.79	-8.95
80	80	0.00	-10.07	0.31		124	0.00	-23.82	-8.95
	81	0.00	-10.54	0.31	124	124	0.00	-23.82	-8.95
81	81	0.00	-10.54	-0.95		125	0.00	-5.81	-8.95
	82	0.00	-9.11	-0.95	125	125	0.00	-5.81	-8.95
82	82	0.00	-9.11	-0.95		126	0.00	12.20	-8.95
	83	0.00	-5.82	-0.95	126	126	0.00	12.20	-8.95
83	83	0.00	-5.82	-0.95		127	0.00	30.20	-8.95
	84	0.00	-2.53	-0.95	127	127	0.00	30.20	-8.95
84	84	0.00	-2.53	-0.95		128	0.00	48.22	-8.95
	85	0.00	-0.62	-0.95	128	128	0.00	48.22	-8.95
85	85	0.00	-0.62	-0.95		129	0.00	66.22	-8.95
	86	0.00	1.29	-0.95	129	129	0.00	66.22	-8.95
86	86	0.00	1.29	-0.95		130	0.00	84.24	-8.95
	87	0.00	3.20	-0.95	130	130	0.00	84.24	-8.96
87	87	0.00	3.20	-0.95		131	0.00	102.25	-8.96
	88	0.00	5.12	-0.95	131	131	0.00	102.25	-8.96
88	88	0.00	5.12	-0.95		132	0.00	120.27	-8.96
	89	0.00	7.03	-0.95	132	132	0.00	120.27	-8.96
89	89	0.00	7.03	-0.95		133	0.00	138.30	-8.96
	90	0.00	8.95	-0.95	133	133	0.00	138.30	-8.96
90	90	0.00	8.95	-0.95		134	0.00	156.33	-8.96
	91	0.00	10.86	-0.95	134	134	0.00	156.32	-8.97
91	91	0.00	10.86	-0.95		135	0.00	174.37	-8.97
	92	0.00	12.78	-0.95	135	135	0.00	174.37	-8.97
92	92	0.00	12.78	-0.95		136	0.00	192.40	-8.97
	93	0.00	14.70	-0.95	136	136	0.00	192.40	-8.97
93	93	0.00	14.70	-0.95		137	0.00	210.44	-8.97
	94	0.00	16.62	-0.95	137	137	0.00	210.44	-8.97

	138	0.00	228.47	-8.97	181	181	0.00	-2691.21	-278.20
138	138	0.00	228.47	-8.97		182	0.00	-2273.91	-278.20
	139	0.00	259.50	-8.97	182	182	0.00	-2273.91	-278.20
139	139	0.00	259.50	-8.97		183	0.00	-1415.35	-198.20
	140	0.00	290.53	-8.97	183	183	0.00	-1415.35	-198.20
140	140	0.00	290.52	-8.97		184	0.00	-729.59	-198.20
	141	0.00	303.98	-8.97	184	184	0.00	-729.59	-198.20
141	141	0.00	303.98	27.44		185	0.00	-331.02	-198.20
	142	0.00	262.82	27.44	185	185	0.00	-331.02	-198.20
142	142	0.00	262.82	27.44		186	0.00	48.44	-158.20
	143	0.00	167.89	27.44	186	186	0.00	48.45	-158.19
143	143	0.00	167.89	27.44		187	0.00	338.81	-118.19
	144	0.00	72.96	27.44	187	187	0.00	338.82	-118.19
144	144	0.00	72.96	27.44		188	0.00	576.61	-118.19
	145	0.00	17.79	27.44	188	188	0.00	576.62	-118.21
145	145	0.00	17.78	27.44		189	0.00	755.25	-78.21
	146	0.00	-37.42	27.44	189	189	0.00	755.26	-78.23
146	146	0.00	-37.42	27.44		190	0.00	845.10	-38.23
	147	0.00	-92.60	27.44	190	190	0.00	845.09	-38.27
147	147	0.00	-92.60	27.44		191	0.00	922.04	-38.27
	148	0.00	-147.80	27.44	191	191	0.00	922.03	-38.26
148	148	0.00	-147.80	27.44		192	0.00	998.96	-38.26
	149	0.00	-202.98	27.44	192	192	0.00	998.94	-38.27
149	149	0.00	-202.98	27.46		193	0.00	1063.02	1.73
	150	0.00	-258.23	27.46	193	193	0.00	1063.02	1.72
150	150	0.00	-258.23	27.47		194	0.00	1038.19	41.72
	151	0.00	-313.46	27.47	194	194	0.00	1038.17	41.70
151	151	0.00	-313.46	27.47		195	0.00	954.27	41.70
	152	0.00	-368.71	27.47	195	195	0.00	954.27	41.71
152	152	0.00	-368.69	27.48		196	0.00	817.70	81.71
	153	0.00	-423.98	27.48	196	196	0.00	817.70	81.72
153	153	0.00	-423.98	27.47		197	0.00	592.10	121.72
	154	0.00	-479.24	27.47	197	197	0.00	592.09	121.70
154	154	0.00	-479.23	27.49		198	0.00	347.35	121.70
	155	0.00	-534.55	27.49	198	198	0.00	347.35	121.71
155	155	0.00	-534.55	27.49		199	0.00	-73.76	121.71
	156	0.00	-589.83	27.49	199	199	0.00	-73.76	121.71
156	156	0.00	-589.82	27.49		200	0.00	-667.68	201.71
	157	0.00	-645.12	27.49	200	200	0.00	-667.68	201.72
157	157	0.00	-645.10	27.50		201	0.00	-970.25	201.72
	158	0.00	-700.40	27.50	201	201	0.00	-970.25	-26.98
158	158	0.00	-700.40	27.49		202	0.00	-929.78	-26.98
	159	0.00	-795.52	27.49	202	202	0.00	-929.78	-26.99
159	159	0.00	-795.53	27.49		203	0.00	-836.41	-26.99
	160	0.00	-890.63	27.49	203	203	0.00	-836.42	-26.99
160	160	0.00	-890.63	27.49		204	0.00	-743.03	-26.99
	161	0.00	-931.87	27.49	204	204	0.00	-743.03	-26.98
161	161	0.00	-931.86	-170.88		205	0.00	-699.26	-26.98
	162	0.00	-675.55	-170.88	205	205	0.00	-699.28	-27.01
162	162	0.00	-675.54	-170.87		206	0.00	-655.44	-27.01
	163	0.00	-84.33	-170.87	206	206	0.00	-655.46	-26.98
163	163	0.00	-84.32	-170.87		207	0.00	-611.70	-26.98
	164	0.00	452.08	-130.87	207	207	0.00	-611.69	-26.96
164	164	0.00	452.09	-130.86		208	0.00	-567.95	-26.96
	165	0.00	662.40	-90.86	208	208	0.00	-567.96	-26.94
165	165	0.00	662.42	-90.87		209	0.00	-524.23	-26.94
	166	0.00	794.33	-50.87	209	209	0.00	-524.26	-26.95
166	166	0.00	794.33	-50.88		210	0.00	-480.55	-26.95
	167	0.00	896.65	-50.88	210	210	0.00	-480.57	-26.93
167	167	0.00	896.65	-50.86		211	0.00	-436.90	-26.93
	168	0.00	998.98	-50.86	211	211	0.00	-436.90	-26.91
168	168	0.00	999.00	-50.87		212	0.00	-393.22	-26.91
	169	0.00	1097.42	-10.87	212	212	0.00	-393.22	-26.95
169	169	0.00	1097.45	-10.91		213	0.00	-349.50	-26.95
	170	0.00	1117.44	29.09	213	213	0.00	-349.53	-26.94
170	170	0.00	1117.45	29.07		214	0.00	-305.80	-26.94
	171	0.00	1059.00	69.07	214	214	0.00	-305.81	-26.93
171	171	0.00	1059.01	69.08		215	0.00	-262.12	-26.93
	172	0.00	920.10	69.08	215	215	0.00	-262.13	-26.93
172	172	0.00	920.11	69.05		216	0.00	-218.45	-26.93
	173	0.00	751.06	109.05	216	216	0.00	-218.47	-26.93
173	173	0.00	751.04	109.03		217	0.00	-174.77	-26.93
	174	0.00	493.23	149.03	217	217	0.00	-174.77	-26.94
174	174	0.00	493.20	149.02		218	0.00	-131.08	-26.94
	175	0.00	193.36	149.02	218	218	0.00	-131.09	-26.93
175	175	0.00	193.35	149.03		219	0.00	-87.40	-26.93
	176	0.00	-106.35	149.03	219	219	0.00	-87.40	-26.93
176	176	0.00	-106.36	149.04		220	0.00	-43.69	-26.93
	177	0.00	-406.23	149.04	220	220	0.00	-43.69	-26.94
177	177	0.00	-406.23	149.04		221	0.00	0.00	-26.94
	178	0.00	-770.34	189.04					
178	178	0.00	-770.34	189.03					
	179	0.00	-1555.20	229.03					
179	179	0.00	-1555.20	229.03					
	180	0.00	-2347.66	229.03					
180	180	0.00	-2347.66	229.03					
	181	0.00	-2691.21	229.03					

CALCULOS DE PRUEBA DE CARGA
VTO LLOBREGAT MIXTA (B)

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 10 ESTADO DE CARGAS 10

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	0.000000	0.000000
2	0.000000	0.000000	0.000000
3	0.000000	0.000000	0.000000
4	0.000000	0.000000	0.000000
5	0.000000	0.000000	0.000000
6	0.000000	0.000000	0.000000
7	0.000000	0.000000	0.000000
8	0.000000	0.000000	0.000000
9	0.000000	0.000000	0.000000
10	0.000000	0.000000	0.000000
11	0.000000	0.000000	0.000000
12	0.000000	0.000000	0.000000
13	0.000000	0.000000	0.000000
14	0.000000	0.000000	-0.000000
15	0.000000	0.000000	-0.000000
16	0.000000	0.000000	-0.000000
17	0.000000	0.000000	-0.000000
18	0.000000	0.000000	-0.000000
19	0.000000	0.000000	-0.000000
20	0.000000	0.000000	-0.000000
21	0.000000	-0.000000	-0.000000
22	0.000000	-0.000000	-0.000000
23	0.000000	-0.000000	-0.000000
24	0.000000	-0.000000	-0.000000
25	0.000000	-0.000000	-0.000000
26	0.000000	-0.000001	-0.000000
27	0.000000	-0.000001	-0.000000
28	0.000000	-0.000001	-0.000000
29	0.000000	-0.000001	-0.000000
30	0.000000	-0.000001	-0.000000
31	0.000000	-0.000001	-0.000000
32	0.000000	-0.000001	-0.000000
33	0.000000	-0.000001	-0.000000
34	0.000000	-0.000001	0.000000
35	0.000000	-0.000001	0.000000
36	0.000000	-0.000001	0.000000
37	0.000000	-0.000001	0.000000
38	0.000000	-0.000001	0.000000
39	0.000000	-0.000001	0.000000
40	0.000000	-0.000000	0.000000
41	0.000000	0.000000	0.000000
42	0.000000	0.000000	0.000000
43	0.000000	0.000001	0.000000
44	0.000000	0.000001	0.000000
45	0.000000	0.000001	0.000000
46	0.000000	0.000002	0.000000
47	0.000000	0.000002	0.000000
48	0.000000	0.000002	0.000000
49	0.000000	0.000003	0.000000
50	0.000000	0.000003	0.000000
51	0.000000	0.000003	0.000000
52	0.000000	0.000003	0.000000
53	0.000000	0.000003	0.000000
54	0.000000	0.000003	-0.000000
55	0.000000	0.000003	-0.000000
56	0.000000	0.000003	-0.000000
57	0.000000	0.000003	-0.000000
58	0.000000	0.000003	-0.000000
59	0.000000	0.000002	-0.000000
60	0.000000	0.000001	-0.000000
61	0.000000	-0.000000	-0.000000
62	0.000000	-0.000001	-0.000000
63	0.000000	-0.000002	-0.000000
64	0.000000	-0.000004	-0.000000
65	0.000000	-0.000005	-0.000000
66	0.000000	-0.000006	-0.000000
67	0.000000	-0.000007	-0.000000
68	0.000000	-0.000007	-0.000000
69	0.000000	-0.000008	-0.000000
70	0.000000	-0.000009	-0.000000
71	0.000000	-0.000010	-0.000000
72	0.000000	-0.000010	-0.000000
73	0.000000	-0.000010	-0.000000
74	0.000000	-0.000010	0.000000
75	0.000000	-0.000010	0.000000
76	0.000000	-0.000010	0.000000
77	0.000000	-0.000009	0.000000
78	0.000000	-0.000008	0.000001
79	0.000000	-0.000005	0.000001
80	0.000000	-0.000002	0.000001
81	0.000000	0.000000	0.000001
82	0.000000	0.000002	0.000001
83	0.000000	0.000006	0.000001
84	0.000000	0.000011	0.000001
85	0.000000	0.000014	0.000002
86	0.000000	0.000017	0.000001
87	0.000000	0.000020	0.000001
88	0.000000	0.000023	0.000001
89	0.000000	0.000025	0.000001
90	0.000000	0.000028	0.000001
91	0.000000	0.000030	0.000001
92	0.000000	0.000031	0.000001
93	0.000000	0.000032	0.000000
94	0.000000	0.000032	-0.000000
95	0.000000	0.000031	-0.000001
96	0.000000	0.000030	-0.000001
97	0.000000	0.000027	-0.000001
98	0.000000	0.000024	-0.000002
99	0.000000	0.000016	-0.000003
100	0.000000	0.000005	-0.000003
101	0.000000	-0.000000	-0.000004
102	0.000000	-0.000005	-0.000004
103	0.000000	-0.000019	-0.000004
104	0.000000	-0.000034	-0.000005
105	0.000000	-0.000043	-0.000005
106	0.000000	-0.000052	-0.000005
107	0.000000	-0.000062	-0.000004
108	0.000000	-0.000070	-0.000004
109	0.000000	-0.000078	-0.000004
110	0.000000	-0.000085	-0.000003
111	0.000000	-0.000091	-0.000002
112	0.000000	-0.000095	-0.000002
113	0.000000	-0.000098	-0.000001
114	0.000000	-0.000098	0.000000
115	0.000000	-0.000096	0.000002
116	0.000000	-0.000091	0.000003
117	0.000000	-0.000084	0.000004
118	0.000000	-0.000074	0.000006
119	0.000000	-0.000048	0.000009
120	0.000000	-0.000016	0.000010
121	0.000000	0.000000	0.000011
122	0.000000	0.000017	0.000011
123	0.000000	0.000058	0.000013
124	0.000000	0.000104	0.000014
125	0.000000	0.000132	0.000014
126	0.000000	0.000161	0.000014
127	0.000000	0.000189	0.000014
128	0.000000	0.000215	0.000013
129	0.000000	0.000240	0.000011
130	0.000000	0.000261	0.000010
131	0.000000	0.000279	0.000008
132	0.000000	0.000292	0.000005
133	0.000000	0.000299	0.000002
134	0.000000	0.000300	-0.000001
135	0.000000	0.000294	-0.000005
136	0.000000	0.000281	-0.000009
137	0.000000	0.000258	-0.000014
138	0.000000	0.000226	-0.000019
139	0.000000	0.000148	-0.000026
140	0.000000	0.000048	-0.000031
141	0.000000	-0.000000	-0.000033
142	0.000000	-0.000051	-0.000035
143	0.000000	-0.000178	-0.000039
144	0.000000	-0.000319	-0.000042
145	0.000000	-0.000406	-0.000043
146	0.000000	-0.000493	-0.000043
147	0.000000	-0.000579	-0.000042
148	0.000000	-0.000660	-0.000039
149	0.000000	-0.000735	-0.000035
150	0.000000	-0.000801	-0.000030
151	0.000000	-0.000855	-0.000023
152	0.000000	-0.000894	-0.000016
153	0.000000	-0.000917	-0.000007
154	0.000000	-0.000921	0.000003
155	0.000000	-0.000902	0.000015
156	0.000000	-0.000860	0.000028
157	0.000000	-0.000791	0.000042
158	0.000000	-0.000692	0.000057
159	0.000000	-0.000454	0.000081
160	0.000000	-0.000148	0.000096
161	0.000000	0.000000	0.000101
162	0.000000	0.000156	0.000106
163	0.000000	0.000546	0.000118
164	0.000000	0.000978	0.000130
165	0.000000	0.001244	0.000133
166	0.000000	0.001512	0.000133
167	0.000000	0.001775	0.000128

168	0.000000	0.002025	0.000120		8	0.00	-0.04	0.00
169	0.000000	0.002254	0.000108	8	8	0.00	-0.04	0.00
170	0.000000	0.002455	0.000092		9	0.00	-0.05	0.00
171	0.000000	0.002620	0.000072	9	9	0.00	-0.05	0.00
172	0.000000	0.002742	0.000048		10	0.00	-0.06	0.00
173	0.000000	0.002812	0.000021	10	10	0.00	-0.06	0.00
174	0.000000	0.002823	-0.000011		11	0.00	-0.06	0.00
175	0.000000	0.002767	-0.000046	11	11	0.00	-0.06	0.00
176	0.000000	0.002636	-0.000085		12	0.00	-0.07	0.00
177	0.000000	0.002424	-0.000127	12	12	0.00	-0.07	0.00
178	0.000000	0.002121	-0.000174		13	0.00	-0.07	0.00
179	0.000000	0.001393	-0.000249	13	13	0.00	-0.07	0.00
180	0.000000	0.000454	-0.000295		14	0.00	-0.08	0.00
181	0.000000	-0.000000	-0.000311	14	14	0.00	-0.08	0.00
182	0.000000	-0.000477	-0.000325		15	0.00	-0.09	0.00
183	0.000000	-0.001649	-0.000347	15	15	0.00	-0.09	0.00
184	0.000000	-0.002842	-0.000333		16	0.00	-0.09	0.00
185	0.000000	-0.003480	-0.000299	16	16	0.00	-0.09	0.00
186	0.000000	-0.004038	-0.000253		17	0.00	-0.10	0.00
187	0.000000	-0.004494	-0.000199	17	17	0.00	-0.10	0.00
188	0.000000	-0.004834	-0.000138		18	0.00	-0.10	0.00
189	0.000000	-0.005044	-0.000069	18	18	0.00	-0.11	0.00
190	0.000000	-0.005108	0.000005		19	0.00	-0.12	0.00
191	0.000000	-0.005023	0.000079	19	19	0.00	-0.12	0.00
192	0.000000	-0.004794	0.000148		20	0.00	-0.13	0.00
193	0.000000	-0.004434	0.000209	20	20	0.00	-0.13	0.00
194	0.000000	-0.003961	0.000258		21	0.00	-0.14	0.00
195	0.000000	-0.003406	0.000291	21	21	0.00	-0.14	-0.01
196	0.000000	-0.002802	0.000306		22	0.00	-0.12	-0.01
197	0.000000	-0.002186	0.000304	22	22	0.00	-0.12	-0.01
198	0.000000	-0.001592	0.000283		23	0.00	-0.08	-0.01
199	0.000000	-0.000732	0.000203	23	23	0.00	-0.08	-0.01
200	0.000000	-0.000158	0.000122		24	0.00	-0.03	-0.01
201	0.000000	-0.000000	0.000088	24	24	0.00	-0.03	-0.01
202	0.000000	0.000106	0.000054		25	0.00	-0.01	-0.01
203	0.000000	0.000142	-0.000026	25	25	0.00	-0.01	-0.01
204	0.000000	-0.000105	-0.000108		26	0.00	0.01	-0.01
205	0.000000	-0.000302	-0.000133	26	26	0.00	0.01	-0.01
206	0.000000	-0.000532	-0.000147		27	0.00	0.04	-0.01
207	0.000000	-0.000773	-0.000149	27	27	0.00	0.04	-0.01
208	0.000000	-0.001009	-0.000139		28	0.00	0.06	-0.01
209	0.000000	-0.001221	-0.000120	28	28	0.00	0.06	-0.01
210	0.000000	-0.001395	-0.000094		29	0.00	0.09	-0.01
211	0.000000	-0.001523	-0.000063	29	29	0.00	0.09	-0.01
212	0.000000	-0.001597	-0.000028		30	0.00	0.11	-0.01
213	0.000000	-0.001614	0.000007	30	30	0.00	0.11	-0.01
214	0.000000	-0.001575	0.000041		31	0.00	0.14	-0.01
215	0.000000	-0.001482	0.000074	31	31	0.00	0.14	-0.01
216	0.000000	-0.001336	0.000105		32	0.00	0.16	-0.01
217	0.000000	-0.001140	0.000136	32	32	0.00	0.16	-0.01
218	0.000000	-0.000899	0.000162		33	0.00	0.18	-0.01
219	0.000000	-0.000620	0.000181	33	33	0.00	0.18	-0.01
220	0.000000	-0.000316	0.000192		34	0.00	0.21	-0.01
221	0.000000	-0.000000	0.000196	34	34	0.00	0.21	-0.01
					35	0.00	0.23	-0.01
	Reacciones en apoyos			35	35	0.00	0.23	-0.01
					36	0.00	0.26	-0.01
Nudo	Fza. x	Fza. y	Mto. z	36	36	0.00	0.26	-0.01
1	-0.00	-0.00	0.00		37	0.00	0.28	-0.01
21	0.00	0.02	-0.00	37	37	0.00	0.28	-0.01
41	0.00	-0.05	0.00		38	0.00	0.31	-0.01
61	-0.00	0.15	0.00	38	38	0.00	0.31	-0.01
81	0.00	-0.46	0.00		39	0.00	0.35	-0.01
101	0.00	1.41	0.00	39	39	0.00	0.35	-0.01
121	0.00	-4.33	0.00		40	0.00	0.39	-0.01
141	0.00	13.26	0.00	40	40	0.00	0.39	-0.01
161	0.00	-40.67	0.01		41	0.00	0.41	-0.01
181	0.00	211.42	-0.01	41	41	0.00	0.41	0.04
201	-0.00	444.64	0.00		42	0.00	0.35	0.04
221	0.00	94.52	0.00	42	42	0.00	0.35	0.04
					43	0.00	0.23	0.04
Esfuerzos en extremos de barras				43	43	0.00	0.23	0.04
					44	0.00	0.10	0.04
Barra	Ext.	Axil	Flector	Cortante	44	44	0.00	0.10	0.04
1	1	0.00	-0.00	0.00		45	0.00	0.02	0.04
	2	0.00	-0.01	0.00	45	45	0.00	0.02	0.04
2	2	0.00	-0.01	0.00		46	0.00	-0.05	0.04
	3	0.00	-0.01	0.00	46	46	0.00	-0.05	0.04
3	3	0.00	-0.01	0.00		47	0.00	-0.12	0.04
	4	0.00	-0.02	0.00	47	47	0.00	-0.12	0.04
4	4	0.00	-0.02	0.00		48	0.00	-0.20	0.04
	5	0.00	-0.02	0.00	48	48	0.00	-0.20	0.04
5	5	0.00	-0.02	0.00		49	0.00	-0.27	0.04
	6	0.00	-0.03	0.00	49	49	0.00	-0.27	0.04
6	6	0.00	-0.03	0.00		50	0.00	-0.35	0.04
	7	0.00	-0.04	0.00	50	50	0.00	-0.35	0.04
7	7	0.00	-0.04	0.00		51	0.00	-0.42	0.04

51	51	0.00	-0.42	0.04		95	0.00	-6.75	0.35
	52	0.00	-0.49	0.04	95	95	0.00	-6.75	0.35
52	52	0.00	-0.49	0.04		96	0.00	-7.45	0.35
	53	0.00	-0.57	0.04	96	96	0.00	-7.45	0.35
53	53	0.00	-0.57	0.04		97	0.00	-8.15	0.35
	54	0.00	-0.64	0.04	97	97	0.00	-8.15	0.35
54	54	0.00	-0.64	0.04		98	0.00	-8.85	0.35
	55	0.00	-0.72	0.04	98	98	0.00	-8.85	0.35
55	55	0.00	-0.72	0.04		99	0.00	-10.06	0.35
	56	0.00	-0.79	0.04	99	99	0.00	-10.06	0.35
56	56	0.00	-0.79	0.04		100	0.00	-11.26	0.35
	57	0.00	-0.87	0.04	100	100	0.00	-11.26	0.35
57	57	0.00	-0.87	0.04		101	0.00	-11.78	0.35
	58	0.00	-0.94	0.04	101	101	0.00	-11.78	-1.06
58	58	0.00	-0.94	0.04		102	0.00	-10.19	-1.06
	59	0.00	-1.07	0.04	102	102	0.00	-10.19	-1.06
59	59	0.00	-1.07	0.04		103	0.00	-6.51	-1.06
	60	0.00	-1.20	0.04	103	103	0.00	-6.51	-1.06
60	60	0.00	-1.20	0.04		104	0.00	-2.83	-1.06
	61	0.00	-1.25	0.04	104	104	0.00	-2.83	-1.06
61	61	0.00	-1.25	-0.11		105	0.00	-0.70	-1.06
	62	0.00	-1.08	-0.11	105	105	0.00	-0.70	-1.06
62	62	0.00	-1.08	-0.11		106	0.00	1.44	-1.06
	63	0.00	-0.69	-0.11	106	106	0.00	1.44	-1.06
63	63	0.00	-0.69	-0.11		107	0.00	3.58	-1.06
	64	0.00	-0.30	-0.11	107	107	0.00	3.58	-1.06
64	64	0.00	-0.30	-0.11		108	0.00	5.72	-1.06
	65	0.00	-0.07	-0.11	108	108	0.00	5.72	-1.06
65	65	0.00	-0.07	-0.11		109	0.00	7.86	-1.06
	66	0.00	0.15	-0.11	109	109	0.00	7.86	-1.06
66	66	0.00	0.15	-0.11		110	0.00	10.00	-1.06
	67	0.00	0.38	-0.11	110	110	0.00	10.00	-1.06
67	67	0.00	0.38	-0.11		111	0.00	12.14	-1.06
	68	0.00	0.61	-0.11	111	111	0.00	12.14	-1.06
68	68	0.00	0.61	-0.11		112	0.00	14.28	-1.06
	69	0.00	0.84	-0.11	112	112	0.00	14.29	-1.07
69	69	0.00	0.84	-0.11		113	0.00	16.43	-1.07
	70	0.00	1.06	-0.11	113	113	0.00	16.43	-1.07
70	70	0.00	1.06	-0.11		114	0.00	18.57	-1.07
	71	0.00	1.29	-0.11	114	114	0.00	18.57	-1.07
71	71	0.00	1.29	-0.11		115	0.00	20.72	-1.07
	72	0.00	1.52	-0.11	115	115	0.00	20.72	-1.07
72	72	0.00	1.52	-0.11		116	0.00	22.86	-1.07
	73	0.00	1.75	-0.11	116	116	0.00	22.86	-1.07
73	73	0.00	1.75	-0.11		117	0.00	25.01	-1.07
	74	0.00	1.97	-0.11	117	117	0.00	25.01	-1.07
74	74	0.00	1.97	-0.11		118	0.00	27.16	-1.07
	75	0.00	2.20	-0.11	118	118	0.00	27.16	-1.07
75	75	0.00	2.20	-0.11		119	0.00	30.85	-1.07
	76	0.00	2.43	-0.11	119	119	0.00	30.85	-1.07
76	76	0.00	2.43	-0.11		120	0.00	34.54	-1.07
	77	0.00	2.66	-0.11	120	120	0.00	34.54	-1.07
77	77	0.00	2.66	-0.11		121	0.00	36.14	-1.07
	78	0.00	2.89	-0.11	121	121	0.00	36.14	3.26
78	78	0.00	2.89	-0.11		122	0.00	31.25	3.26
	79	0.00	3.28	-0.11	122	122	0.00	31.25	3.26
79	79	0.00	3.28	-0.11		123	0.00	19.96	3.26
	80	0.00	3.67	-0.11	123	123	0.00	19.96	3.26
80	80	0.00	3.67	-0.11		124	0.00	8.68	3.26
	81	0.00	3.84	-0.11	124	124	0.00	8.68	3.26
81	81	0.00	3.84	0.35		125	0.00	2.12	3.26
	82	0.00	3.32	0.35	125	125	0.00	2.12	3.26
82	82	0.00	3.32	0.35		126	0.00	-4.44	3.26
	83	0.00	2.12	0.35	126	126	0.00	-4.44	3.26
83	83	0.00	2.12	0.35		127	0.00	-11.00	3.26
	84	0.00	0.92	0.35	127	127	0.00	-11.00	3.26
84	84	0.00	0.92	0.35		128	0.00	-17.57	3.26
	85	0.00	0.23	0.35	128	128	0.00	-17.57	3.26
85	85	0.00	0.23	0.35		129	0.00	-24.13	3.26
	86	0.00	-0.47	0.35	129	129	0.00	-24.13	3.26
86	86	0.00	-0.47	0.35		130	0.00	-30.69	3.26
	87	0.00	-1.17	0.35	130	130	0.00	-30.69	3.26
87	87	0.00	-1.17	0.35		131	0.00	-37.26	3.26
	88	0.00	-1.86	0.35	131	131	0.00	-37.25	3.27
88	88	0.00	-1.87	0.35		132	0.00	-43.82	3.27
	89	0.00	-2.56	0.35	132	132	0.00	-43.82	3.27
89	89	0.00	-2.56	0.35		133	0.00	-50.39	3.27
	90	0.00	-3.26	0.35	133	133	0.00	-50.39	3.27
90	90	0.00	-3.26	0.35		134	0.00	-56.96	3.27
	91	0.00	-3.96	0.35	134	134	0.00	-56.96	3.27
91	91	0.00	-3.96	0.35		135	0.00	-63.53	3.27
	92	0.00	-4.66	0.35	135	135	0.00	-63.53	3.27
92	92	0.00	-4.66	0.35		136	0.00	-70.10	3.27
	93	0.00	-5.36	0.35	136	136	0.00	-70.10	3.27
93	93	0.00	-5.36	0.35		137	0.00	-76.67	3.27
	94	0.00	-6.05	0.35	137	137	0.00	-76.67	3.27
94	94	0.00	-6.05	0.35		138	0.00	-83.24	3.27

CALCULOS DE PRUEBA DE CARGA
VTO LLOBREGAT MIXTA (B)

138	138	0.00	-83.24	3.27		182	0.00	-769.77	-180.72
	139	0.00	-94.55	3.27	182	182	0.00	-769.76	-180.71
139	139	0.00	-94.55	3.27		183	0.00	-144.52	-180.71
	140	0.00	-105.85	3.27	183	183	0.00	-144.51	-180.71
140	140	0.00	-105.85	3.27		184	0.00	425.93	-140.71
	141	0.00	-110.75	3.27	184	184	0.00	425.93	-140.69
141	141	0.00	-110.75	-10.00		185	0.00	656.03	-100.69
	142	0.00	-95.76	-10.00	185	185	0.00	656.04	-100.72
142	142	0.00	-95.76	-10.00		186	0.00	807.76	-60.72
	143	0.00	-61.17	-10.00	186	186	0.00	807.75	-60.71
143	143	0.00	-61.17	-10.00		187	0.00	929.84	-60.71
	144	0.00	-26.58	-10.00	187	187	0.00	929.83	-60.71
144	144	0.00	-26.58	-10.00		188	0.00	1051.98	-60.71
	145	0.00	-6.48	-10.00	188	188	0.00	1051.98	-60.72
145	145	0.00	-6.48	-10.00		189	0.00	1170.20	-20.72
	146	0.00	13.64	-10.00	189	189	0.00	1170.21	-20.76
146	146	0.00	13.63	-10.00		190	0.00	1210.03	19.24
	147	0.00	33.74	-10.00	190	190	0.00	1210.03	19.23
147	147	0.00	33.74	-10.00		191	0.00	1171.37	59.23
	148	0.00	53.85	-10.00	191	191	0.00	1171.39	59.22
148	148	0.00	53.85	-10.00		192	0.00	1052.29	59.22
	149	0.00	73.96	-10.00	192	192	0.00	1052.28	59.20
149	149	0.00	73.96	-10.01		193	0.00	903.06	99.20
	150	0.00	94.09	-10.01	193	193	0.00	903.06	99.19
150	150	0.00	94.09	-10.01		194	0.00	665.02	139.19
	151	0.00	114.21	-10.01	194	194	0.00	665.02	139.18
151	151	0.00	114.21	-10.01		195	0.00	384.98	139.18
	152	0.00	134.33	-10.01	195	195	0.00	384.98	139.17
152	152	0.00	134.34	-10.01		196	0.00	105.11	139.17
	153	0.00	154.47	-10.01	196	196	0.00	105.09	139.18
153	153	0.00	154.48	-10.01		197	0.00	-174.94	139.18
	154	0.00	174.61	-10.01	197	197	0.00	-174.96	139.18
154	154	0.00	174.61	-10.02		198	0.00	-519.24	179.18
	155	0.00	194.76	-10.02	198	198	0.00	-519.24	179.18
155	155	0.00	194.76	-10.02		199	0.00	-1270.00	219.18
	156	0.00	214.91	-10.02	199	199	0.00	-1270.00	219.18
156	156	0.00	214.90	-10.01		200	0.00	-2028.36	219.18
	157	0.00	235.05	-10.01	200	200	0.00	-2028.36	219.18
157	157	0.00	235.04	-10.02		201	0.00	-2357.13	219.18
	158	0.00	255.19	-10.02	201	201	0.00	-2357.13	-225.46
158	158	0.00	255.19	-10.02		202	0.00	-2018.94	-225.46
	159	0.00	289.85	-10.02	202	202	0.00	-2018.94	-225.46
159	159	0.00	289.85	-10.02		203	0.00	-1238.84	-225.46
	160	0.00	324.50	-10.02	203	203	0.00	-1238.84	-225.46
160	160	0.00	324.50	-10.02		204	0.00	-629.94	-145.46
	161	0.00	339.53	-10.02	204	204	0.00	-629.94	-145.46
161	161	0.00	339.52	30.65		205	0.00	-394.00	-145.46
	162	0.00	293.55	30.65	205	205	0.00	-394.00	-145.46
162	162	0.00	293.55	30.65		206	0.00	-157.91	-145.46
	163	0.00	187.52	30.65	206	206	0.00	-157.91	-145.46
163	163	0.00	187.52	30.64		207	0.00	78.03	-145.46
	164	0.00	81.49	30.64	207	207	0.00	78.03	-145.47
164	164	0.00	81.49	30.64		208	0.00	300.82	-105.47
	165	0.00	19.87	30.64	208	208	0.00	300.83	-105.47
165	165	0.00	19.86	30.65		209	0.00	465.94	-65.47
	166	0.00	-41.80	30.65	209	209	0.00	465.94	-65.49
166	166	0.00	-41.80	30.64		210	0.00	572.17	-65.49
	167	0.00	-103.43	30.64	210	210	0.00	572.16	-65.50
167	167	0.00	-103.42	30.64		211	0.00	672.16	-25.50
	168	0.00	-165.08	30.64	211	211	0.00	672.16	-25.48
168	168	0.00	-165.08	30.65		212	0.00	713.52	-25.48
	169	0.00	-226.72	30.65	212	212	0.00	713.52	-25.48
169	169	0.00	-226.72	30.68		213	0.00	690.80	14.52
	170	0.00	-288.44	30.68	213	213	0.00	690.80	14.51
170	170	0.00	-288.43	30.67		214	0.00	667.25	14.51
	171	0.00	-350.12	30.67	214	214	0.00	667.23	14.50
171	171	0.00	-350.13	30.68		215	0.00	643.70	14.50
	172	0.00	-411.82	30.68	215	215	0.00	643.69	14.51
172	172	0.00	-411.81	30.69		216	0.00	620.16	14.51
	173	0.00	-473.56	30.69	216	216	0.00	620.18	14.52
173	173	0.00	-473.56	30.70		217	0.00	568.98	54.52
	174	0.00	-535.29	30.70	217	217	0.00	568.98	54.52
174	174	0.00	-535.27	30.72		218	0.00	460.04	94.52
	175	0.00	-597.07	30.72	218	218	0.00	460.03	94.51
175	175	0.00	-597.05	30.71		219	0.00	306.73	94.51
	176	0.00	-658.81	30.71	219	219	0.00	306.72	94.52
176	176	0.00	-658.80	30.70		220	0.00	153.32	94.52
	177	0.00	-720.56	30.70	220	220	0.00	153.32	94.52
177	177	0.00	-720.55	30.71		221	0.00	0.00	94.52
	178	0.00	-782.30	30.71					
178	178	0.00	-782.30	30.71					
	179	0.00	-888.55	30.71					
179	179	0.00	-888.56	30.70					
	180	0.00	-994.79	30.70					
180	180	0.00	-994.78	30.71					
	181	0.00	-1040.85	30.71					
181	181	0.00	-1040.84	-180.72					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 11 ESTADO DE CARGAS 11

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000586
2	0.000000	-0.000947	-0.000578
3	0.000000	-0.001868	-0.000555
4	0.000000	-0.002740	-0.000519
5	0.000000	-0.003545	-0.000472
6	0.000000	-0.004266	-0.000417
7	0.000000	-0.004894	-0.000356
8	0.000000	-0.005417	-0.000289
9	0.000000	-0.005828	-0.000216
10	0.000000	-0.006114	-0.000137
11	0.000000	-0.006270	-0.000055
12	0.000000	-0.006292	0.000028
13	0.000000	-0.006181	0.000109
14	0.000000	-0.005941	0.000186
15	0.000000	-0.005580	0.000258
16	0.000000	-0.005107	0.000323
17	0.000000	-0.004539	0.000377
18	0.000000	-0.003891	0.000421
19	0.000000	-0.002338	0.000470
20	0.000000	-0.000700	0.000470
21	0.000000	-0.000000	0.000463
22	0.000000	0.000686	0.000452
23	0.000000	0.002194	0.000419
24	0.000000	0.003535	0.000356
25	0.000000	0.004206	0.000311
26	0.000000	0.004785	0.000265
27	0.000000	0.005269	0.000217
28	0.000000	0.005658	0.000169
29	0.000000	0.005949	0.000120
30	0.000000	0.006141	0.000070
31	0.000000	0.006230	0.000019
32	0.000000	0.006216	-0.000033
33	0.000000	0.006095	-0.000086
34	0.000000	0.005867	-0.000141
35	0.000000	0.005529	-0.000196
36	0.000000	0.005079	-0.000252
37	0.000000	0.004515	-0.000309
38	0.000000	0.003835	-0.000367
39	0.000000	0.002416	-0.000453
40	0.000000	0.000764	-0.000502
41	0.000000	-0.000000	-0.000517
42	0.000000	-0.000787	-0.000531
43	0.000000	-0.002659	-0.000546
44	0.000000	-0.004517	-0.000521
45	0.000000	-0.005525	-0.000478
46	0.000000	-0.006429	-0.000418
47	0.000000	-0.007195	-0.000342
48	0.000000	-0.007798	-0.000256
49	0.000000	-0.008221	-0.000164
50	0.000000	-0.008455	-0.000069
51	0.000000	-0.008499	0.000025
52	0.000000	-0.008356	0.000117
53	0.000000	-0.008029	0.000208
54	0.000000	-0.007523	0.000294
55	0.000000	-0.006853	0.000370
56	0.000000	-0.006041	0.000434
57	0.000000	-0.005118	0.000481
58	0.000000	-0.004122	0.000506
59	0.000000	-0.002366	0.000501
60	0.000000	-0.000684	0.000466
61	0.000000	-0.000000	0.000445
62	0.000000	0.000651	0.000422
63	0.000000	0.001995	0.000356
64	0.000000	0.003039	0.000249
65	0.000000	0.003472	0.000182
66	0.000000	0.003776	0.000121
67	0.000000	0.003962	0.000065
68	0.000000	0.004042	0.000015
69	0.000000	0.004027	-0.000030
70	0.000000	0.003926	-0.000069
71	0.000000	0.003752	-0.000103
72	0.000000	0.003516	-0.000131
73	0.000000	0.003228	-0.000154
74	0.000000	0.002899	-0.000172
75	0.000000	0.002541	-0.000184
76	0.000000	0.002165	-0.000190
77	0.000000	0.001781	-0.000191
78	0.000000	0.001400	-0.000186
79	0.000000	0.000781	-0.000169
80	0.000000	0.000223	-0.000152
81	0.000000	0.000000	-0.000145
82	0.000000	-0.000212	-0.000138
83	0.000000	-0.000650	-0.000116
84	0.000000	-0.000991	-0.000081
85	0.000000	-0.001132	-0.000059
86	0.000000	-0.001231	-0.000039
87	0.000000	-0.001292	-0.000021
88	0.000000	-0.001318	-0.000005
89	0.000000	-0.001313	0.000010
90	0.000000	-0.001280	0.000023
91	0.000000	-0.001223	0.000034
92	0.000000	-0.001146	0.000043
93	0.000000	-0.001052	0.000050
94	0.000000	-0.000945	0.000056
95	0.000000	-0.000828	0.000060
96	0.000000	-0.000706	0.000062
97	0.000000	-0.000580	0.000062
98	0.000000	-0.000456	0.000061
99	0.000000	-0.000255	0.000055
100	0.000000	-0.000073	0.000050
101	0.000000	-0.000000	0.000047
102	0.000000	0.000069	0.000045
103	0.000000	0.000212	0.000038
104	0.000000	0.000323	0.000026
105	0.000000	0.000369	0.000019
106	0.000000	0.000401	0.000013
107	0.000000	0.000421	0.000007
108	0.000000	0.000430	0.000002
109	0.000000	0.000428	-0.000003
110	0.000000	0.000417	-0.000007
111	0.000000	0.000399	-0.000011
112	0.000000	0.000374	-0.000014
113	0.000000	0.000343	-0.000016
114	0.000000	0.000308	-0.000018
115	0.000000	0.000270	-0.000019
116	0.000000	0.000230	-0.000020
117	0.000000	0.000189	-0.000020
118	0.000000	0.000149	-0.000020
119	0.000000	0.000083	-0.000018
120	0.000000	0.000024	-0.000016
121	0.000000	0.000000	-0.000015
122	0.000000	-0.000023	-0.000015
123	0.000000	-0.000069	-0.000012
124	0.000000	-0.000105	-0.000009
125	0.000000	-0.000120	-0.000006
126	0.000000	-0.000131	-0.000004
127	0.000000	-0.000137	-0.000002
128	0.000000	-0.000140	-0.000001
129	0.000000	-0.000140	0.000001
130	0.000000	-0.000136	0.000002
131	0.000000	-0.000130	0.000004
132	0.000000	-0.000122	0.000005
133	0.000000	-0.000112	0.000005
134	0.000000	-0.000100	0.000006
135	0.000000	-0.000088	0.000006
136	0.000000	-0.000075	0.000007
137	0.000000	-0.000062	0.000007
138	0.000000	-0.000049	0.000006
139	0.000000	-0.000027	0.000006
140	0.000000	-0.000008	0.000005
141	0.000000	-0.000000	0.000005
142	0.000000	0.000007	0.000005
143	0.000000	0.000023	0.000004
144	0.000000	0.000034	0.000003
145	0.000000	0.000039	0.000002
146	0.000000	0.000043	0.000001
147	0.000000	0.000045	0.000001
148	0.000000	0.000046	0.000000
149	0.000000	0.000046	-0.000000
150	0.000000	0.000044	-0.000001
151	0.000000	0.000042	-0.000001
152	0.000000	0.000040	-0.000001
153	0.000000	0.000036	-0.000002
154	0.000000	0.000033	-0.000002
155	0.000000	0.000029	-0.000002
156	0.000000	0.000024	-0.000002
157	0.000000	0.000020	-0.000002
158	0.000000	0.000016	-0.000002
159	0.000000	0.000009	-0.000002
160	0.000000	0.000003	-0.000002
161	0.000000	0.000000	-0.000002
162	0.000000	-0.000002	-0.000002
163	0.000000	-0.000007	-0.000001
164	0.000000	-0.000011	-0.000001
165	0.000000	-0.000013	-0.000001
166	0.000000	-0.000014	-0.000000
167	0.000000	-0.000015	-0.000000

	168	0.000000	-0.000015	-0.000000
	169	0.000000	-0.000015	0.000000
	170	0.000000	-0.000014	0.000000
	171	0.000000	-0.000014	0.000000
	172	0.000000	-0.000013	0.000000
	173	0.000000	-0.000012	0.000001
	174	0.000000	-0.000011	0.000001
	175	0.000000	-0.000009	0.000001
	176	0.000000	-0.000008	0.000001
	177	0.000000	-0.000007	0.000001
	178	0.000000	-0.000005	0.000001
	179	0.000000	-0.000003	0.000001
	180	0.000000	-0.000001	0.000001
	181	0.000000	-0.000000	0.000001
	182	0.000000	0.000001	0.000001
	183	0.000000	0.000002	0.000000
	184	0.000000	0.000004	0.000000
	185	0.000000	0.000004	0.000000
	186	0.000000	0.000005	0.000000
	187	0.000000	0.000005	0.000000
	188	0.000000	0.000005	0.000000
	189	0.000000	0.000005	-0.000000
	190	0.000000	0.000005	-0.000000
	191	0.000000	0.000004	-0.000000
	192	0.000000	0.000004	-0.000000
	193	0.000000	0.000004	-0.000000
	194	0.000000	0.000003	-0.000000
	195	0.000000	0.000003	-0.000000
	196	0.000000	0.000003	-0.000000
	197	0.000000	0.000002	-0.000000
	198	0.000000	0.000002	-0.000000
	199	0.000000	0.000001	-0.000000
	200	0.000000	0.000000	-0.000000
	201	0.000000	0.000000	-0.000000
	202	0.000000	-0.000000	-0.000000
	203	0.000000	-0.000001	-0.000000
	204	0.000000	-0.000001	-0.000000
	205	0.000000	-0.000001	-0.000000
	206	0.000000	-0.000001	-0.000000
	207	0.000000	-0.000001	-0.000000
	208	0.000000	-0.000001	-0.000000
	209	0.000000	-0.000001	0.000000
	210	0.000000	-0.000001	0.000000
	211	0.000000	-0.000001	0.000000
	212	0.000000	-0.000001	0.000000
	213	0.000000	-0.000001	0.000000
	214	0.000000	-0.000001	0.000000
	215	0.000000	-0.000001	0.000000
	216	0.000000	-0.000001	0.000000
	217	0.000000	-0.000001	0.000000
	218	0.000000	-0.000001	0.000000
	219	0.000000	-0.000000	0.000000
	220	0.000000	-0.000000	0.000000
	221	0.000000	-0.000000	0.000000

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	194.58	0.00
21	-0.00	197.97	-0.01
41	0.00	237.46	0.00
61	0.00	294.51	0.01
81	0.00	-58.23	0.00
101	0.00	18.98	0.00
121	0.00	-6.18	0.00
141	0.00	2.02	0.00
161	0.00	-0.66	0.00
181	0.00	0.22	0.00
201	0.00	-0.07	-0.00
221	0.00	0.02	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	-194.58
	2	0.00	315.59	-194.58
2	2	0.00	315.60	-194.56
	3	0.00	603.57	-154.56
3	3	0.00	603.57	-154.57
	4	0.00	843.98	-114.57
4	4	0.00	843.96	-114.58
	5	0.00	1029.81	-114.58
5	5	0.00	1029.80	-114.58
	6	0.00	1158.08	-74.58
6	6	0.00	1158.07	-74.61
	7	0.00	1279.09	-74.61
7	7	0.00	1279.06	-74.58
	8	0.00	1400.03	-74.58
8	8	0.00	1400.07	-74.53
	9	0.00	1521.02	-74.53
9	9	0.00	1521.02	-74.49
	10	0.00	1612.99	-34.49
10	10	0.00	1613.02	-34.39
	11	0.00	1657.48	5.61
11	11	0.00	1657.53	5.63
	12	0.00	1648.40	5.63
12	12	0.00	1648.41	5.62
	13	0.00	1580.57	45.62
13	13	0.00	1580.60	45.74
	14	0.00	1506.36	45.74
14	14	0.00	1506.35	45.75
	15	0.00	1374.43	85.75
15	15	0.00	1374.39	85.79
	16	0.00	1184.64	125.79
16	16	0.00	1184.65	125.83
	17	0.00	980.42	125.83
17	17	0.00	980.42	125.87
	18	0.00	776.25	125.87
18	18	0.00	776.26	125.84
	19	0.00	318.04	165.84
19	19	0.00	318.02	165.84
	20	0.00	-344.99	205.84
20	20	0.00	-344.99	205.87
	21	0.00	-653.78	205.87
21	21	0.00	-653.77	7.90
	22	0.00	-665.61	7.90
22	22	0.00	-665.62	7.90
	23	0.00	-692.97	7.90
23	23	0.00	-692.97	7.90
	24	0.00	-720.33	7.90
24	24	0.00	-720.34	7.90
	25	0.00	-736.23	7.90
25	25	0.00	-736.26	7.92
	26	0.00	-752.20	7.92
26	26	0.00	-752.19	7.96
	27	0.00	-768.20	7.96
27	27	0.00	-768.17	7.97
	28	0.00	-784.20	7.97
28	28	0.00	-784.20	7.98
	29	0.00	-800.24	7.98
29	29	0.00	-800.21	8.02
	30	0.00	-816.36	8.02
30	30	0.00	-816.31	8.03
	31	0.00	-832.45	8.03
31	31	0.00	-832.41	8.06
	32	0.00	-848.62	8.06
32	32	0.00	-848.57	8.08
	33	0.00	-864.82	8.08
33	33	0.00	-864.80	8.07
	34	0.00	-881.04	8.07
34	34	0.00	-881.00	8.10
	35	0.00	-897.29	8.10
35	35	0.00	-897.28	8.09
	36	0.00	-913.56	8.09
36	36	0.00	-913.61	8.15
	37	0.00	-930.00	8.15
37	37	0.00	-929.98	8.17
	38	0.00	-946.41	8.17
38	38	0.00	-946.41	8.18
	39	0.00	-974.70	8.18
39	39	0.00	-974.70	8.18
	40	0.00	-1003.00	8.18
40	40	0.00	-1002.99	8.19
	41	0.00	-1015.29	8.19
41	41	0.00	-1015.29	-229.27
	42	0.00	-671.40	-229.27
42	42	0.00	-671.39	-229.26
	43	0.00	17.85	-149.26
43	43	0.00	17.84	-149.26
	44	0.00	534.29	-149.26
44	44	0.00	534.28	-149.27
	45	0.00	834.46	-149.27
45	45	0.00	834.44	-149.32
	46	0.00	1115.54	-109.32
46	46	0.00	1115.52	-109.34
	47	0.00	1307.64	-69.34
47	47	0.00	1307.64	-69.34
	48	0.00	1447.16	-69.34
48	48	0.00	1447.16	-69.36
	49	0.00	1527.55	-29.36
49	49	0.00	1527.61	-29.38
	50	0.00	1519.17	10.62
50	50	0.00	1519.21	10.60
	51	0.00	1497.89	10.60

51	51	0.00	1497.92	10.58		95	0.00	48.20	14.32
	52	0.00	1476.65	10.58	95	95	0.00	48.20	14.31
52	52	0.00	1476.70	10.57		96	0.00	19.43	14.31
	53	0.00	1442.51	50.57	96	96	0.00	19.43	14.30
53	53	0.00	1442.53	50.51		97	0.00	-9.35	14.30
	54	0.00	1319.59	90.51	97	97	0.00	-9.35	14.30
54	54	0.00	1319.54	90.50		98	0.00	-38.11	14.30
	55	0.00	1137.45	90.50	98	98	0.00	-38.11	14.30
55	55	0.00	1137.45	90.49		99	0.00	-87.59	14.30
	56	0.00	902.79	130.49	99	99	0.00	-87.59	14.30
56	56	0.00	902.76	130.50		100	0.00	-137.08	14.30
	57	0.00	579.02	170.50	100	100	0.00	-137.08	14.30
57	57	0.00	579.00	170.47		101	0.00	-158.52	14.30
	58	0.00	236.17	170.47	101	101	0.00	-158.52	-4.68
58	58	0.00	236.18	170.47		102	0.00	-151.50	-4.68
	59	0.00	-353.65	170.47	102	102	0.00	-151.50	-4.68
59	59	0.00	-353.65	170.46		103	0.00	-135.30	-4.68
	60	0.00	-1116.25	250.46	103	103	0.00	-135.30	-4.68
60	60	0.00	-1116.26	250.44		104	0.00	-119.11	-4.68
	61	0.00	-1491.92	250.44	104	104	0.00	-119.11	-4.68
61	61	0.00	-1491.93	-44.07		105	0.00	-109.69	-4.68
	62	0.00	-1425.81	-44.07	105	105	0.00	-109.69	-4.68
62	62	0.00	-1425.82	-44.07		106	0.00	-100.27	-4.68
	63	0.00	-1273.34	-44.07	106	106	0.00	-100.28	-4.68
63	63	0.00	-1273.34	-44.07		107	0.00	-90.86	-4.68
	64	0.00	-1120.88	-44.07	107	107	0.00	-90.86	-4.68
64	64	0.00	-1120.88	-44.07		108	0.00	-81.46	-4.68
	65	0.00	-1032.25	-44.07	108	108	0.00	-81.45	-4.67
65	65	0.00	-1032.25	-44.04		109	0.00	-72.06	-4.67
	66	0.00	-943.65	-44.04	109	109	0.00	-72.06	-4.67
66	66	0.00	-943.64	-44.02		110	0.00	-62.66	-4.67
	67	0.00	-855.12	-44.02	110	110	0.00	-62.66	-4.67
67	67	0.00	-855.12	-43.99		111	0.00	-53.27	-4.67
	68	0.00	-766.61	-43.99	111	111	0.00	-53.27	-4.67
68	68	0.00	-766.61	-43.97		112	0.00	-43.88	-4.67
	69	0.00	-678.20	-43.97	112	112	0.00	-43.88	-4.67
69	69	0.00	-678.18	-43.96		113	0.00	-34.49	-4.67
	70	0.00	-589.74	-43.96	113	113	0.00	-34.49	-4.67
70	70	0.00	-589.73	-43.94		114	0.00	-25.11	-4.67
	71	0.00	-501.37	-43.94	114	114	0.00	-25.11	-4.67
71	71	0.00	-501.35	-43.94		115	0.00	-15.72	-4.67
	72	0.00	-412.99	-43.94	115	115	0.00	-15.72	-4.66
72	72	0.00	-413.00	-43.94		116	0.00	-6.34	-4.66
	73	0.00	-324.59	-43.94	116	116	0.00	-6.34	-4.66
73	73	0.00	-324.56	-43.92		117	0.00	3.03	-4.66
	74	0.00	-236.23	-43.92	117	117	0.00	3.04	-4.66
74	74	0.00	-236.23	-43.91		118	0.00	12.41	-4.66
	75	0.00	-147.87	-43.91	118	118	0.00	12.41	-4.66
75	75	0.00	-147.88	-43.89		119	0.00	28.54	-4.66
	76	0.00	-59.61	-43.89	119	119	0.00	28.54	-4.66
76	76	0.00	-59.62	-43.89		120	0.00	44.66	-4.66
	77	0.00	28.69	-43.89	120	120	0.00	44.67	-4.66
77	77	0.00	28.69	-43.88		121	0.00	51.66	-4.66
	78	0.00	116.93	-43.88	121	121	0.00	51.66	1.52
78	78	0.00	116.92	-43.88		122	0.00	49.37	1.52
	79	0.00	268.74	-43.88	122	122	0.00	49.37	1.52
79	79	0.00	268.74	-43.88		123	0.00	44.10	1.52
	80	0.00	420.55	-43.88	123	123	0.00	44.10	1.52
80	80	0.00	420.56	-43.87		124	0.00	38.83	1.52
	81	0.00	486.36	-43.87	124	124	0.00	38.83	1.52
81	81	0.00	486.36	14.36		125	0.00	35.76	1.52
	82	0.00	464.81	14.36	125	125	0.00	35.76	1.52
82	82	0.00	464.81	14.36		126	0.00	32.70	1.52
	83	0.00	415.11	14.36	126	126	0.00	32.70	1.52
83	83	0.00	415.11	14.36		127	0.00	29.63	1.52
	84	0.00	365.41	14.36	127	127	0.00	29.63	1.52
84	84	0.00	365.42	14.37		128	0.00	26.57	1.52
	85	0.00	336.52	14.37	128	128	0.00	26.57	1.52
85	85	0.00	336.53	14.37		129	0.00	23.51	1.52
	86	0.00	307.62	14.37	129	129	0.00	23.51	1.52
86	86	0.00	307.63	14.36		130	0.00	20.44	1.52
	87	0.00	278.76	14.36	130	130	0.00	20.44	1.52
87	87	0.00	278.76	14.35		131	0.00	17.38	1.52
	88	0.00	249.89	14.35	131	131	0.00	17.38	1.52
88	88	0.00	249.89	14.33		132	0.00	14.32	1.52
	89	0.00	221.06	14.33	132	132	0.00	14.32	1.52
89	89	0.00	221.05	14.33		133	0.00	11.26	1.52
	90	0.00	192.21	14.33	133	133	0.00	11.26	1.52
90	90	0.00	192.21	14.32		134	0.00	8.20	1.52
	91	0.00	163.40	14.32	134	134	0.00	8.20	1.52
91	91	0.00	163.40	14.33		135	0.00	5.13	1.52
	92	0.00	134.58	14.33	135	135	0.00	5.13	1.52
92	92	0.00	134.60	14.32		136	0.00	2.08	1.52
	93	0.00	105.78	14.32	136	136	0.00	2.08	1.52
93	93	0.00	105.79	14.31		137	0.00	-0.99	1.52
	94	0.00	77.00	14.31	137	137	0.00	-0.99	1.52
94	94	0.00	77.00	14.32		138	0.00	-4.05	1.52

138	138	0.00	-4.05	1.52		182	0.00	-1.72	-0.05
	139	0.00	-9.31	1.52	182	182	0.00	-1.72	-0.05
139	139	0.00	-9.31	1.52		183	0.00	-1.53	-0.05
	140	0.00	-14.57	1.52	183	183	0.00	-1.53	-0.05
140	140	0.00	-14.57	1.52		184	0.00	-1.35	-0.05
	141	0.00	-16.85	1.52	184	184	0.00	-1.35	-0.05
141	141	0.00	-16.85	-0.50		185	0.00	-1.24	-0.05
	142	0.00	-16.11	-0.50	185	185	0.00	-1.24	-0.05
142	142	0.00	-16.11	-0.50		186	0.00	-1.13	-0.05
	143	0.00	-14.39	-0.50	186	186	0.00	-1.13	-0.05
143	143	0.00	-14.39	-0.50		187	0.00	-1.03	-0.05
	144	0.00	-12.67	-0.50	187	187	0.00	-1.03	-0.05
144	144	0.00	-12.67	-0.50		188	0.00	-0.92	-0.05
	145	0.00	-11.67	-0.50	188	188	0.00	-0.92	-0.05
145	145	0.00	-11.67	-0.50		189	0.00	-0.81	-0.05
	146	0.00	-10.67	-0.50	189	189	0.00	-0.81	-0.05
146	146	0.00	-10.67	-0.50		190	0.00	-0.70	-0.05
	147	0.00	-9.67	-0.50	190	190	0.00	-0.70	-0.05
147	147	0.00	-9.67	-0.50		191	0.00	-0.60	-0.05
	148	0.00	-8.67	-0.50	191	191	0.00	-0.60	-0.05
148	148	0.00	-8.67	-0.50		192	0.00	-0.49	-0.05
	149	0.00	-7.67	-0.50	192	192	0.00	-0.49	-0.05
149	149	0.00	-7.67	-0.50		193	0.00	-0.38	-0.05
	150	0.00	-6.67	-0.50	193	193	0.00	-0.38	-0.05
150	150	0.00	-6.67	-0.50		194	0.00	-0.28	-0.05
	151	0.00	-5.67	-0.50	194	194	0.00	-0.28	-0.05
151	151	0.00	-5.67	-0.50		195	0.00	-0.17	-0.05
	152	0.00	-4.67	-0.50	195	195	0.00	-0.17	-0.05
152	152	0.00	-4.67	-0.50		196	0.00	-0.06	-0.05
	153	0.00	-3.67	-0.50	196	196	0.00	-0.06	-0.05
153	153	0.00	-3.67	-0.50		197	0.00	0.05	-0.05
	154	0.00	-2.67	-0.50	197	197	0.00	0.05	-0.05
154	154	0.00	-2.67	-0.50		198	0.00	0.15	-0.05
	155	0.00	-1.67	-0.50	198	198	0.00	0.15	-0.05
155	155	0.00	-1.67	-0.50		199	0.00	0.34	-0.05
	156	0.00	-0.68	-0.50	199	199	0.00	0.34	-0.05
156	156	0.00	-0.68	-0.50		200	0.00	0.52	-0.05
	157	0.00	0.32	-0.50	200	200	0.00	0.52	-0.05
157	157	0.00	0.32	-0.50		201	0.00	0.60	-0.05
	158	0.00	1.32	-0.50	201	201	0.00	0.60	0.02
158	158	0.00	1.32	-0.50		202	0.00	0.58	0.02
	159	0.00	3.04	-0.50	202	202	0.00	0.58	0.02
159	159	0.00	3.04	-0.50		203	0.00	0.52	0.02
	160	0.00	4.76	-0.50	203	203	0.00	0.52	0.02
160	160	0.00	4.76	-0.50		204	0.00	0.46	0.02
	161	0.00	5.50	-0.50	204	204	0.00	0.46	0.02
161	161	0.00	5.50	0.16		205	0.00	0.43	0.02
	162	0.00	5.26	0.16	205	205	0.00	0.43	0.02
162	162	0.00	5.26	0.16		206	0.00	0.41	0.02
	163	0.00	4.69	0.16	206	206	0.00	0.41	0.02
163	163	0.00	4.69	0.16		207	0.00	0.38	0.02
	164	0.00	4.13	0.16	207	207	0.00	0.38	0.02
164	164	0.00	4.13	0.16		208	0.00	0.35	0.02
	165	0.00	3.81	0.16	208	208	0.00	0.35	0.02
165	165	0.00	3.81	0.16		209	0.00	0.33	0.02
	166	0.00	3.48	0.16	209	209	0.00	0.33	0.02
166	166	0.00	3.48	0.16		210	0.00	0.30	0.02
	167	0.00	3.15	0.16	210	210	0.00	0.30	0.02
167	167	0.00	3.15	0.16		211	0.00	0.27	0.02
	168	0.00	2.83	0.16	211	211	0.00	0.27	0.02
168	168	0.00	2.83	0.16		212	0.00	0.24	0.02
	169	0.00	2.50	0.16	212	212	0.00	0.24	0.02
169	169	0.00	2.50	0.16		213	0.00	0.22	0.02
	170	0.00	2.17	0.16	213	213	0.00	0.22	0.02
170	170	0.00	2.17	0.16		214	0.00	0.19	0.02
	171	0.00	1.85	0.16	214	214	0.00	0.19	0.02
171	171	0.00	1.85	0.16		215	0.00	0.16	0.02
	172	0.00	1.52	0.16	215	215	0.00	0.16	0.02
172	172	0.00	1.52	0.16		216	0.00	0.14	0.02
	173	0.00	1.20	0.16	216	216	0.00	0.14	0.02
173	173	0.00	1.20	0.16		217	0.00	0.11	0.02
	174	0.00	0.87	0.16	217	217	0.00	0.11	0.02
174	174	0.00	0.87	0.16		218	0.00	0.08	0.02
	175	0.00	0.54	0.16	218	218	0.00	0.08	0.02
175	175	0.00	0.54	0.16		219	0.00	0.05	0.02
	176	0.00	0.22	0.16	219	219	0.00	0.05	0.02
176	176	0.00	0.22	0.16		220	0.00	0.03	0.02
	177	0.00	-0.11	0.16	220	220	0.00	0.03	0.02
177	177	0.00	-0.11	0.16		221	0.00	0.00	0.02
	178	0.00	-0.43	0.16					
178	178	0.00	-0.43	0.16					
	179	0.00	-1.00	0.16					
179	179	0.00	-1.00	0.16					
	180	0.00	-1.56	0.16					
180	180	0.00	-1.56	0.16					
	181	0.00	-1.80	0.16					
181	181	0.00	-1.80	-0.05					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 12 ESTADO DE CARGAS 12

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	0.000000	0.000278
2	0.000000	0.000450	0.000276
3	0.000000	0.000895	0.000271
4	0.000000	0.001328	0.000262
5	0.000000	0.001744	0.000250
6	0.000000	0.002137	0.000234
7	0.000000	0.002501	0.000214
8	0.000000	0.002830	0.000191
9	0.000000	0.003120	0.000165
10	0.000000	0.003363	0.000135
11	0.000000	0.003555	0.000101
12	0.000000	0.003689	0.000064
13	0.000000	0.003760	0.000023
14	0.000000	0.003762	-0.000021
15	0.000000	0.003690	-0.000069
16	0.000000	0.003537	-0.000120
17	0.000000	0.003298	-0.000175
18	0.000000	0.002967	-0.000233
19	0.000000	0.001966	-0.000348
20	0.000000	0.000644	-0.000418
21	0.000000	-0.000000	-0.000442
22	0.000000	-0.000679	-0.000463
23	0.000000	-0.002365	-0.000505
24	0.000000	-0.004141	-0.000511
25	0.000000	-0.005143	-0.000483
26	0.000000	-0.006072	-0.000438
27	0.000000	-0.006896	-0.000379
28	0.000000	-0.007590	-0.000308
29	0.000000	-0.008125	-0.000223
30	0.000000	-0.008478	-0.000127
31	0.000000	-0.008633	-0.000026
32	0.000000	-0.008583	0.000075
33	0.000000	-0.008331	0.000175
34	0.000000	-0.007884	0.000268
35	0.000000	-0.007260	0.000350
36	0.000000	-0.006483	0.000421
37	0.000000	-0.005576	0.000479
38	0.000000	-0.004564	0.000524
39	0.000000	-0.002687	0.000551
40	0.000000	-0.000797	0.000537
41	0.000000	-0.000000	0.000525
42	0.000000	0.000778	0.000512
43	0.000000	0.002474	0.000469
44	0.000000	0.003962	0.000391
45	0.000000	0.004693	0.000336
46	0.000000	0.005314	0.000282
47	0.000000	0.005825	0.000227
48	0.000000	0.006226	0.000171
49	0.000000	0.006514	0.000116
50	0.000000	0.006692	0.000060
51	0.000000	0.006757	0.000004
52	0.000000	0.006709	-0.000052
53	0.000000	0.006548	-0.000108
54	0.000000	0.006274	-0.000165
55	0.000000	0.005885	-0.000222
56	0.000000	0.005382	-0.000279
57	0.000000	0.004764	-0.000336
58	0.000000	0.004031	-0.000393
59	0.000000	0.002525	-0.000477
60	0.000000	0.000796	-0.000523
61	0.000000	-0.000000	-0.000538
62	0.000000	-0.000816	-0.000550
63	0.000000	-0.002749	-0.000562
64	0.000000	-0.004655	-0.000532
65	0.000000	-0.005683	-0.000487
66	0.000000	-0.006601	-0.000423
67	0.000000	-0.007375	-0.000345
68	0.000000	-0.007981	-0.000257
69	0.000000	-0.008403	-0.000162
70	0.000000	-0.008632	-0.000066
71	0.000000	-0.008668	0.000030
72	0.000000	-0.008515	0.000123
73	0.000000	-0.008174	0.000215
74	0.000000	-0.007653	0.000302
75	0.000000	-0.006967	0.000379
76	0.000000	-0.006139	0.000443
77	0.000000	-0.005198	0.000489
78	0.000000	-0.004185	0.000514
79	0.000000	-0.002401	0.000508
80	0.000000	-0.000694	0.000472
81	0.000000	-0.000000	0.000452
82	0.000000	0.000660	0.000429
83	0.000000	0.002024	0.000361
84	0.000000	0.003083	0.000253
85	0.000000	0.003522	0.000185
86	0.000000	0.003831	0.000123
87	0.000000	0.004020	0.000066
88	0.000000	0.004101	0.000015
89	0.000000	0.004085	-0.000030
90	0.000000	0.003983	-0.000070
91	0.000000	0.003807	-0.000104
92	0.000000	0.003567	-0.000133
93	0.000000	0.003275	-0.000156
94	0.000000	0.002941	-0.000174
95	0.000000	0.002578	-0.000186
96	0.000000	0.002196	-0.000193
97	0.000000	0.001806	-0.000194
98	0.000000	0.001421	-0.000189
99	0.000000	0.000793	-0.000172
100	0.000000	0.000226	-0.000154
101	0.000000	0.000000	-0.000147
102	0.000000	-0.000215	-0.000140
103	0.000000	-0.000660	-0.000118
104	0.000000	-0.001005	-0.000082
105	0.000000	-0.001148	-0.000060
106	0.000000	-0.001249	-0.000040
107	0.000000	-0.001311	-0.000022
108	0.000000	-0.001337	-0.000005
109	0.000000	-0.001332	0.000010
110	0.000000	-0.001299	0.000023
111	0.000000	-0.001241	0.000034
112	0.000000	-0.001163	0.000043
113	0.000000	-0.001068	0.000051
114	0.000000	-0.000959	0.000057
115	0.000000	-0.000840	0.000061
116	0.000000	-0.000716	0.000063
117	0.000000	-0.000589	0.000063
118	0.000000	-0.000463	0.000062
119	0.000000	-0.000258	0.000056
120	0.000000	-0.000074	0.000050
121	0.000000	-0.000000	0.000048
122	0.000000	0.000070	0.000046
123	0.000000	0.000215	0.000038
124	0.000000	0.000328	0.000027
125	0.000000	0.000374	0.000020
126	0.000000	0.000407	0.000013
127	0.000000	0.000427	0.000007
128	0.000000	0.000436	0.000002
129	0.000000	0.000434	-0.000003
130	0.000000	0.000424	-0.000007
131	0.000000	0.000405	-0.000011
132	0.000000	0.000379	-0.000014
133	0.000000	0.000348	-0.000017
134	0.000000	0.000313	-0.000019
135	0.000000	0.000274	-0.000020
136	0.000000	0.000234	-0.000020
137	0.000000	0.000192	-0.000021
138	0.000000	0.000151	-0.000020
139	0.000000	0.000084	-0.000018
140	0.000000	0.000024	-0.000016
141	0.000000	0.000000	-0.000016
142	0.000000	-0.000023	-0.000015
143	0.000000	-0.000070	-0.000013
144	0.000000	-0.000107	-0.000009
145	0.000000	-0.000122	-0.000006
146	0.000000	-0.000133	-0.000004
147	0.000000	-0.000139	-0.000002
148	0.000000	-0.000142	-0.000001
149	0.000000	-0.000142	0.000001
150	0.000000	-0.000138	0.000002
151	0.000000	-0.000132	0.000004
152	0.000000	-0.000124	0.000005
153	0.000000	-0.000114	0.000005
154	0.000000	-0.000102	0.000006
155	0.000000	-0.000089	0.000006
156	0.000000	-0.000076	0.000007
157	0.000000	-0.000063	0.000007
158	0.000000	-0.000049	0.000007
159	0.000000	-0.000027	0.000006
160	0.000000	-0.000008	0.000005
161	0.000000	-0.000000	0.000005
162	0.000000	0.000007	0.000005
163	0.000000	0.000023	0.000004
164	0.000000	0.000035	0.000003
165	0.000000	0.000040	0.000002
166	0.000000	0.000043	0.000001
167	0.000000	0.000045	0.000001

168	0.000000	0.000046	0.000000	
169	0.000000	0.000046	-0.000000	
170	0.000000	0.000045	-0.000001	
171	0.000000	0.000043	-0.000001	
172	0.000000	0.000040	-0.000002	
173	0.000000	0.000037	-0.000002	
174	0.000000	0.000033	-0.000002	
175	0.000000	0.000029	-0.000002	
176	0.000000	0.000025	-0.000002	
177	0.000000	0.000020	-0.000002	
178	0.000000	0.000016	-0.000002	
179	0.000000	0.000009	-0.000002	
180	0.000000	0.000003	-0.000002	
181	0.000000	0.000000	-0.000002	
182	0.000000	-0.000002	-0.000002	
183	0.000000	-0.000007	-0.000001	
184	0.000000	-0.000011	-0.000001	
185	0.000000	-0.000013	-0.000001	
186	0.000000	-0.000014	-0.000000	
187	0.000000	-0.000015	-0.000000	
188	0.000000	-0.000015	-0.000000	
189	0.000000	-0.000015	0.000000	
190	0.000000	-0.000015	0.000000	
191	0.000000	-0.000014	0.000000	
192	0.000000	-0.000013	0.000000	
193	0.000000	-0.000012	0.000001	
194	0.000000	-0.000011	0.000001	
195	0.000000	-0.000009	0.000001	
196	0.000000	-0.000008	0.000001	
197	0.000000	-0.000007	0.000001	
198	0.000000	-0.000005	0.000001	
199	0.000000	-0.000003	0.000001	
200	0.000000	-0.000001	0.000001	
201	0.000000	-0.000000	0.000001	
202	0.000000	0.000001	0.000000	
203	0.000000	0.000002	0.000000	
204	0.000000	0.000004	0.000000	
205	0.000000	0.000004	0.000000	
206	0.000000	0.000004	0.000000	
207	0.000000	0.000004	0.000000	
208	0.000000	0.000004	0.000000	
209	0.000000	0.000004	-0.000000	
210	0.000000	0.000004	-0.000000	
211	0.000000	0.000004	-0.000000	
212	0.000000	0.000004	-0.000000	
213	0.000000	0.000004	-0.000000	
214	0.000000	0.000003	-0.000000	
215	0.000000	0.000003	-0.000000	
216	0.000000	0.000003	-0.000000	
217	0.000000	0.000002	-0.000000	
218	0.000000	0.000002	-0.000000	
219	0.000000	0.000001	-0.000000	
220	0.000000	0.000001	-0.000000	
221	0.000000	0.000000	-0.000000	

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	-43.65	0.00
21	-0.00	268.89	0.01
41	0.00	172.38	-0.01
61	0.00	229.16	-0.01
81	-0.00	297.12	-0.01
101	-0.00	-59.07	0.00
121	0.00	19.25	0.00
141	0.00	-6.28	0.00
161	0.00	2.05	0.00
181	0.00	-0.67	-0.00
201	0.00	0.22	0.00
221	0.00	-0.05	-0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	43.65
	2	0.00	-70.80	43.65
2	2	0.00	-70.80	43.65
	3	0.00	-141.64	43.65
3	3	0.00	-141.64	43.65
	4	0.00	-212.43	43.65
4	4	0.00	-212.42	43.65
	5	0.00	-283.23	43.65
5	5	0.00	-283.22	43.66
	6	0.00	-354.08	43.66
6	6	0.00	-354.07	43.67
	7	0.00	-424.90	43.67
7	7	0.00	-424.88	43.66
	8	0.00	-495.70	43.66
8	8	0.00	-495.71	43.64
	9	0.00	-566.53	43.64
9	9	0.00	-566.52	43.60
	10	0.00	-637.24	43.60
10	10	0.00	-637.23	43.59
	11	0.00	-707.98	43.59
11	11	0.00	-707.98	43.54
	12	0.00	-778.60	43.54
12	12	0.00	-778.59	43.56
	13	0.00	-849.25	43.56
13	13	0.00	-849.24	43.49
	14	0.00	-919.82	43.49
14	14	0.00	-919.83	43.43
	15	0.00	-990.28	43.43
15	15	0.00	-990.28	43.45
	16	0.00	-1060.75	43.45
16	16	0.00	-1060.74	43.43
	17	0.00	-1131.23	43.43
17	17	0.00	-1131.18	43.41
	18	0.00	-1201.59	43.41
18	18	0.00	-1201.57	43.40
	19	0.00	-1351.75	43.40
19	19	0.00	-1351.74	43.40
	20	0.00	-1501.91	43.40
20	20	0.00	-1501.92	43.39
	21	0.00	-1567.01	43.39
21	21	0.00	-1567.02	-225.50
	22	0.00	-1228.78	-225.50
22	22	0.00	-1228.78	-225.49
	23	0.00	-448.57	-225.49
23	23	0.00	-448.56	-225.49
	24	0.00	276.85	-185.49
24	24	0.00	276.85	-185.51
	25	0.00	597.07	-145.51
25	25	0.00	597.07	-145.52
	26	0.00	838.95	-105.52
26	26	0.00	838.94	-105.56
	27	0.00	1051.21	-105.56
27	27	0.00	1051.21	-105.54
	28	0.00	1263.56	-105.54
28	28	0.00	1263.58	-105.59
	29	0.00	1472.05	-65.59
29	29	0.00	1472.03	-65.63
	30	0.00	1602.12	-25.63
30	30	0.00	1602.08	-25.65
	31	0.00	1653.65	-25.65
31	31	0.00	1653.61	-25.70
	32	0.00	1624.86	14.30
32	32	0.00	1624.77	14.27
	33	0.00	1565.94	54.27
33	33	0.00	1565.92	54.28
	34	0.00	1418.20	94.28
34	34	0.00	1418.20	94.31
	35	0.00	1228.45	94.31
35	35	0.00	1228.46	94.22
	36	0.00	1038.99	94.22
36	36	0.00	1039.01	94.17
	37	0.00	849.52	94.17
37	37	0.00	849.49	94.15
	38	0.00	595.75	134.15
38	38	0.00	595.75	134.15
	39	0.00	0.78	174.15
39	39	0.00	0.79	174.15
	40	0.00	-601.76	174.15
40	40	0.00	-601.77	174.14
	41	0.00	-862.96	174.14
41	41	0.00	-862.95	1.76
	42	0.00	-865.56	1.76
42	42	0.00	-865.56	1.73
	43	0.00	-871.55	1.73
43	43	0.00	-871.53	1.73
	44	0.00	-877.53	1.73
44	44	0.00	-877.51	1.74
	45	0.00	-881.01	1.74
45	45	0.00	-881.00	1.77
	46	0.00	-884.56	1.77
46	46	0.00	-884.56	1.78
	47	0.00	-888.14	1.78
47	47	0.00	-888.17	1.78
	48	0.00	-891.76	1.78
48	48	0.00	-891.78	1.80
	49	0.00	-895.41	1.80
49	49	0.00	-895.44	1.85
	50	0.00	-899.16	1.85
50	50	0.00	-899.16	1.85
	51	0.00	-902.88	1.85

51	51	0.00	-902.91	1.85		95	0.00	-150.02	-44.55
	52	0.00	-906.64	1.85	95	95	0.00	-150.04	-44.54
52	52	0.00	-906.68	1.87		96	0.00	-60.47	-44.54
	53	0.00	-910.44	1.87	96	96	0.00	-60.48	-44.52
53	53	0.00	-910.44	1.93		97	0.00	29.09	-44.52
	54	0.00	-914.32	1.93	97	97	0.00	29.10	-44.51
54	54	0.00	-914.27	1.92		98	0.00	118.60	-44.51
	55	0.00	-918.13	1.92	98	98	0.00	118.61	-44.51
55	55	0.00	-918.14	1.92		99	0.00	272.63	-44.51
	56	0.00	-922.01	1.92	99	99	0.00	272.63	-44.51
56	56	0.00	-921.99	1.92		100	0.00	426.64	-44.51
	57	0.00	-925.85	1.92	100	100	0.00	426.65	-44.50
57	57	0.00	-925.82	1.96		101	0.00	493.40	-44.50
	58	0.00	-929.76	1.96	101	101	0.00	493.40	14.56
58	58	0.00	-929.76	1.96		102	0.00	471.55	14.56
	59	0.00	-936.52	1.96	102	102	0.00	471.54	14.57
59	59	0.00	-936.51	1.96		103	0.00	421.13	14.57
	60	0.00	-943.30	1.96	103	103	0.00	421.13	14.57
60	60	0.00	-943.28	2.00		104	0.00	370.72	14.57
	61	0.00	-946.28	2.00	104	104	0.00	370.72	14.57
61	61	0.00	-946.26	-227.17		105	0.00	341.42	14.57
	62	0.00	-605.52	-227.17	105	105	0.00	341.42	14.57
62	62	0.00	-605.51	-227.17		106	0.00	312.10	14.57
	63	0.00	76.50	-147.17	106	106	0.00	312.10	14.56
63	63	0.00	76.51	-147.17		107	0.00	282.82	14.56
	64	0.00	585.73	-147.17	107	107	0.00	282.81	14.55
64	64	0.00	585.73	-147.17		108	0.00	253.53	14.55
	65	0.00	881.70	-147.17	108	108	0.00	253.53	14.54
65	65	0.00	881.70	-147.22		109	0.00	224.28	14.54
	66	0.00	1158.58	-107.22	109	109	0.00	224.28	14.54
66	66	0.00	1158.54	-107.29		110	0.00	195.02	14.54
	67	0.00	1346.54	-67.29	110	110	0.00	195.02	14.53
67	67	0.00	1346.50	-67.31		111	0.00	165.79	14.53
	68	0.00	1481.94	-67.31	111	111	0.00	165.79	14.53
68	68	0.00	1481.93	-67.37		112	0.00	136.56	14.53
	69	0.00	1558.33	-27.37	112	112	0.00	136.57	14.53
69	69	0.00	1558.31	-27.35		113	0.00	107.34	14.53
	70	0.00	1545.77	12.65	113	113	0.00	107.35	14.52
70	70	0.00	1545.81	12.61		114	0.00	78.14	14.52
	71	0.00	1520.46	12.61	114	114	0.00	78.14	14.52
71	71	0.00	1520.46	12.61		115	0.00	48.94	14.52
	72	0.00	1495.10	12.61	115	115	0.00	48.93	14.51
72	72	0.00	1495.13	12.57		116	0.00	19.75	14.51
	73	0.00	1456.92	52.57	116	116	0.00	19.75	14.51
73	73	0.00	1456.86	52.56		117	0.00	-9.45	14.51
	74	0.00	1329.80	92.56	117	117	0.00	-9.45	14.51
74	74	0.00	1329.80	92.51		118	0.00	-38.62	14.51
	75	0.00	1143.67	92.51	118	118	0.00	-38.62	14.51
75	75	0.00	1143.71	92.48		119	0.00	-88.82	14.51
	76	0.00	905.04	132.48	119	119	0.00	-88.82	14.51
76	76	0.00	905.05	132.42		120	0.00	-139.02	14.51
	77	0.00	577.46	172.42	120	120	0.00	-139.02	14.51
77	77	0.00	577.42	172.40		121	0.00	-160.78	14.51
	78	0.00	230.73	172.40	121	121	0.00	-160.78	-4.74
78	78	0.00	230.73	172.42		122	0.00	-153.67	-4.74
	79	0.00	-365.84	172.42	122	122	0.00	-153.67	-4.74
79	79	0.00	-365.84	172.41		123	0.00	-137.26	-4.74
	80	0.00	-1135.18	252.41	123	123	0.00	-137.26	-4.74
80	80	0.00	-1135.18	252.41		124	0.00	-120.85	-4.74
	81	0.00	-1513.78	252.41	124	124	0.00	-120.85	-4.74
81	81	0.00	-1513.77	-44.71		125	0.00	-111.31	-4.74
	82	0.00	-1446.70	-44.71	125	125	0.00	-111.32	-4.74
82	82	0.00	-1446.70	-44.71		126	0.00	-101.77	-4.74
	83	0.00	-1292.01	-44.71	126	126	0.00	-101.77	-4.74
83	83	0.00	-1292.01	-44.70		127	0.00	-92.24	-4.74
	84	0.00	-1137.34	-44.70	127	127	0.00	-92.24	-4.74
84	84	0.00	-1137.32	-44.70		128	0.00	-82.70	-4.74
	85	0.00	-1047.43	-44.70	128	128	0.00	-82.70	-4.74
85	85	0.00	-1047.40	-44.69		129	0.00	-73.16	-4.74
	86	0.00	-957.49	-44.69	129	129	0.00	-73.16	-4.74
86	86	0.00	-957.50	-44.69		130	0.00	-63.62	-4.74
	87	0.00	-867.62	-44.69	130	130	0.00	-63.62	-4.74
87	87	0.00	-867.63	-44.66		131	0.00	-54.09	-4.74
	88	0.00	-777.77	-44.66	131	131	0.00	-54.09	-4.74
88	88	0.00	-777.78	-44.64		132	0.00	-44.56	-4.74
	89	0.00	-688.02	-44.64	132	132	0.00	-44.56	-4.74
89	89	0.00	-688.03	-44.63		133	0.00	-35.03	-4.74
	90	0.00	-598.23	-44.63	133	133	0.00	-35.03	-4.73
90	90	0.00	-598.23	-44.58		134	0.00	-25.51	-4.73
	91	0.00	-508.58	-44.58	134	134	0.00	-25.51	-4.74
91	91	0.00	-508.56	-44.58		135	0.00	-15.98	-4.74
	92	0.00	-418.90	-44.58	135	135	0.00	-15.98	-4.73
92	92	0.00	-418.92	-44.58		136	0.00	-6.46	-4.73
	93	0.00	-329.23	-44.58	136	136	0.00	-6.46	-4.74
93	93	0.00	-329.25	-44.56		137	0.00	3.07	-4.74
	94	0.00	-239.65	-44.56	137	137	0.00	3.07	-4.74
94	94	0.00	-239.66	-44.55		138	0.00	12.59	-4.74

138	138	0.00	12.59	-4.73
	139	0.00	28.97	-4.73
139	139	0.00	28.97	-4.73
	140	0.00	45.36	-4.73
140	140	0.00	45.36	-4.74
	141	0.00	52.46	-4.74
141	141	0.00	52.46	1.55
	142	0.00	50.14	1.55
142	142	0.00	50.14	1.55
	143	0.00	44.78	1.55
143	143	0.00	44.78	1.55
	144	0.00	39.43	1.55
144	144	0.00	39.43	1.55
	145	0.00	36.31	1.55
145	145	0.00	36.31	1.55
	146	0.00	33.20	1.55
146	146	0.00	33.20	1.55
	147	0.00	30.09	1.55
147	147	0.00	30.09	1.55
	148	0.00	26.97	1.55
148	148	0.00	26.97	1.55
	149	0.00	23.86	1.55
149	149	0.00	23.86	1.55
	150	0.00	20.75	1.55
150	150	0.00	20.75	1.55
	151	0.00	17.64	1.55
151	151	0.00	17.64	1.55
	152	0.00	14.53	1.55
152	152	0.00	14.53	1.55
	153	0.00	11.42	1.55
153	153	0.00	11.42	1.54
	154	0.00	8.32	1.54
154	154	0.00	8.32	1.54
	155	0.00	5.21	1.54
155	155	0.00	5.21	1.54
	156	0.00	2.10	1.54
156	156	0.00	2.10	1.54
	157	0.00	-1.00	1.54
157	157	0.00	-1.01	1.54
	158	0.00	-4.11	1.54
158	158	0.00	-4.11	1.54
	159	0.00	-9.46	1.54
159	159	0.00	-9.46	1.54
	160	0.00	-14.80	1.54
160	160	0.00	-14.80	1.54
	161	0.00	-17.12	1.54
161	161	0.00	-17.12	-0.51
	162	0.00	-16.36	-0.51
162	162	0.00	-16.36	-0.51
	163	0.00	-14.61	-0.51
163	163	0.00	-14.61	-0.51
	164	0.00	-12.86	-0.51
164	164	0.00	-12.86	-0.51
	165	0.00	-11.85	-0.51
165	165	0.00	-11.85	-0.51
	166	0.00	-10.83	-0.51
166	166	0.00	-10.83	-0.51
	167	0.00	-9.81	-0.51
167	167	0.00	-9.81	-0.51
	168	0.00	-8.80	-0.51
168	168	0.00	-8.80	-0.51
	169	0.00	-7.78	-0.51
169	169	0.00	-7.78	-0.50
	170	0.00	-6.76	-0.50
170	170	0.00	-6.76	-0.50
	171	0.00	-5.75	-0.50
171	171	0.00	-5.75	-0.50
	172	0.00	-4.73	-0.50
172	172	0.00	-4.73	-0.50
	173	0.00	-3.72	-0.50
173	173	0.00	-3.72	-0.50
	174	0.00	-2.71	-0.50
174	174	0.00	-2.71	-0.50
	175	0.00	-1.69	-0.50
175	175	0.00	-1.69	-0.50
	176	0.00	-0.68	-0.50
176	176	0.00	-0.68	-0.50
	177	0.00	0.34	-0.50
177	177	0.00	0.34	-0.50
	178	0.00	1.35	-0.50
178	178	0.00	1.35	-0.50
	179	0.00	3.10	-0.50
179	179	0.00	3.10	-0.50
	180	0.00	4.84	-0.50
180	180	0.00	4.84	-0.50
	181	0.00	5.60	-0.50
181	181	0.00	5.60	0.17
	182	0.00	5.35	0.17
182	182	0.00	5.35	0.17
	183	0.00	4.77	0.17
183	183	0.00	4.77	0.17
	184	0.00	4.20	0.17
184	184	0.00	4.20	0.17
	185	0.00	3.87	0.17
185	185	0.00	3.87	0.17
	186	0.00	3.53	0.17
186	186	0.00	3.53	0.17
	187	0.00	3.20	0.17
187	187	0.00	3.20	0.17
	188	0.00	2.86	0.17
188	188	0.00	2.86	0.17
	189	0.00	2.53	0.17
189	189	0.00	2.53	0.17
	190	0.00	2.19	0.17
190	190	0.00	2.19	0.17
	191	0.00	1.86	0.17
191	191	0.00	1.86	0.17
	192	0.00	1.53	0.17
192	192	0.00	1.53	0.17
	193	0.00	1.19	0.17
193	193	0.00	1.19	0.17
	194	0.00	0.86	0.17
194	194	0.00	0.86	0.17
	195	0.00	0.52	0.17
195	195	0.00	0.52	0.17
	196	0.00	0.19	0.17
196	196	0.00	0.19	0.17
	197	0.00	-0.14	0.17
197	197	0.00	-0.14	0.17
	198	0.00	-0.48	0.17
198	198	0.00	-0.48	0.17
	199	0.00	-1.05	0.17
199	199	0.00	-1.05	0.17
	200	0.00	-1.63	0.17
200	200	0.00	-1.63	0.17
	201	0.00	-1.88	0.17
201	201	0.00	-1.88	-0.05
	202	0.00	-1.80	-0.05
202	202	0.00	-1.80	-0.05
	203	0.00	-1.62	-0.05
203	203	0.00	-1.62	-0.05
	204	0.00	-1.44	-0.05
204	204	0.00	-1.44	-0.05
	205	0.00	-1.35	-0.05
205	205	0.00	-1.35	-0.05
	206	0.00	-1.27	-0.05
206	206	0.00	-1.27	-0.05
	207	0.00	-1.18	-0.05
207	207	0.00	-1.18	-0.05
	208	0.00	-1.10	-0.05
208	208	0.00	-1.10	-0.05
	209	0.00	-1.01	-0.05
209	209	0.00	-1.01	-0.05
	210	0.00	-0.93	-0.05
210	210	0.00	-0.93	-0.05
	211	0.00	-0.84	-0.05
211	211	0.00	-0.84	-0.05
	212	0.00	-0.76	-0.05
212	212	0.00	-0.76	-0.05
	213	0.00	-0.68	-0.05
213	213	0.00	-0.68	-0.05
	214	0.00	-0.59	-0.05
214	214	0.00	-0.59	-0.05
	215	0.00	-0.51	-0.05
215	215	0.00	-0.51	-0.05
	216	0.00	-0.42	-0.05
216	216	0.00	-0.42	-0.05
	217	0.00	-0.34	-0.05
217	217	0.00	-0.34	-0.05
	218	0.00	-0.25	-0.05
218	218	0.00	-0.25	-0.05
	219	0.00	-0.17	-0.05
219	219	0.00	-0.17	-0.05
	220	0.00	-0.08	-0.05
220	220	0.00	-0.08	-0.05
	221	0.00	-0.00	-0.05

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 13 ESTADO DE CARGAS 13

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000091
2	0.000000	-0.000147	-0.000090
3	0.000000	-0.000292	-0.000088
4	0.000000	-0.000433	-0.000086
5	0.000000	-0.000569	-0.000081
6	0.000000	-0.000697	-0.000076
7	0.000000	-0.000815	-0.000070
8	0.000000	-0.000923	-0.000062
9	0.000000	-0.001017	-0.000054
10	0.000000	-0.001097	-0.000044
11	0.000000	-0.001159	-0.000033
12	0.000000	-0.001203	-0.000021
13	0.000000	-0.001226	-0.000008
14	0.000000	-0.001227	0.000007
15	0.000000	-0.001203	0.000022
16	0.000000	-0.001153	0.000039
17	0.000000	-0.001075	0.000057
18	0.000000	-0.000967	0.000076
19	0.000000	-0.000641	0.000113
20	0.000000	-0.000210	0.000136
21	0.000000	0.000000	0.000144
22	0.000000	0.000222	0.000151
23	0.000000	0.000779	0.000169
24	0.000000	0.001401	0.000188
25	0.000000	0.001785	0.000193
26	0.000000	0.002175	0.000193
27	0.000000	0.002557	0.000187
28	0.000000	0.002922	0.000175
29	0.000000	0.003258	0.000158
30	0.000000	0.003553	0.000135
31	0.000000	0.003796	0.000106
32	0.000000	0.003976	0.000072
33	0.000000	0.004081	0.000032
34	0.000000	0.004100	-0.000014
35	0.000000	0.004022	-0.000065
36	0.000000	0.003835	-0.000122
37	0.000000	0.003528	-0.000184
38	0.000000	0.003090	-0.000253
39	0.000000	0.002030	-0.000362
40	0.000000	0.000662	-0.000430
41	0.000000	-0.000000	-0.000453
42	0.000000	-0.000696	-0.000475
43	0.000000	-0.002418	-0.000514
44	0.000000	-0.004221	-0.000517
45	0.000000	-0.005235	-0.000488
46	0.000000	-0.006172	-0.000441
47	0.000000	-0.007001	-0.000381
48	0.000000	-0.007696	-0.000308
49	0.000000	-0.008231	-0.000222
50	0.000000	-0.008582	-0.000125
51	0.000000	-0.008732	-0.000024
52	0.000000	-0.008676	0.000079
53	0.000000	-0.008416	0.000179
54	0.000000	-0.007961	0.000273
55	0.000000	-0.007327	0.000355
56	0.000000	-0.006540	0.000426
57	0.000000	-0.005623	0.000484
58	0.000000	-0.004601	0.000529
59	0.000000	-0.002708	0.000556
60	0.000000	-0.000803	0.000541
61	0.000000	-0.000000	0.000529
62	0.000000	0.000783	0.000515
63	0.000000	0.002491	0.000472
64	0.000000	0.003987	0.000393
65	0.000000	0.004722	0.000338
66	0.000000	0.005346	0.000282
67	0.000000	0.005858	0.000227
68	0.000000	0.006259	0.000171
69	0.000000	0.006548	0.000116
70	0.000000	0.006724	0.000060
71	0.000000	0.006787	0.000003
72	0.000000	0.006737	-0.000053
73	0.000000	0.006574	-0.000109
74	0.000000	0.006297	-0.000166
75	0.000000	0.005906	-0.000223
76	0.000000	0.005400	-0.000280
77	0.000000	0.004778	-0.000337
78	0.000000	0.004042	-0.000395
79	0.000000	0.002531	-0.000478
80	0.000000	0.000797	-0.000524
81	0.000000	-0.000000	-0.000539
82	0.000000	-0.000818	-0.000551
83	0.000000	-0.002754	-0.000563
84	0.000000	-0.004663	-0.000533
85	0.000000	-0.005691	-0.000487
86	0.000000	-0.006610	-0.000423
87	0.000000	-0.007384	-0.000345
88	0.000000	-0.007991	-0.000257
89	0.000000	-0.008413	-0.000162
90	0.000000	-0.008642	-0.000065
91	0.000000	-0.008677	0.000030
92	0.000000	-0.008523	0.000123
93	0.000000	-0.008182	0.000215
94	0.000000	-0.007660	0.000302
95	0.000000	-0.006973	0.000379
96	0.000000	-0.006144	0.000443
97	0.000000	-0.005202	0.000490
98	0.000000	-0.004189	0.000515
99	0.000000	-0.002403	0.000509
100	0.000000	-0.000694	0.000473
101	0.000000	-0.000000	0.000452
102	0.000000	0.000661	0.000429
103	0.000000	0.002026	0.000362
104	0.000000	0.003085	0.000253
105	0.000000	0.003525	0.000185
106	0.000000	0.003834	0.000123
107	0.000000	0.004024	0.000066
108	0.000000	0.004105	0.000015
109	0.000000	0.004089	-0.000030
110	0.000000	0.003987	-0.000070
111	0.000000	0.003810	-0.000105
112	0.000000	0.003570	-0.000133
113	0.000000	0.003277	-0.000157
114	0.000000	0.002944	-0.000174
115	0.000000	0.002580	-0.000186
116	0.000000	0.002198	-0.000193
117	0.000000	0.001808	-0.000194
118	0.000000	0.001422	-0.000189
119	0.000000	0.000793	-0.000172
120	0.000000	0.000227	-0.000155
121	0.000000	0.000000	-0.000147
122	0.000000	-0.000215	-0.000140
123	0.000000	-0.000661	-0.000118
124	0.000000	-0.001006	-0.000083
125	0.000000	-0.001150	-0.000060
126	0.000000	-0.001250	-0.000040
127	0.000000	-0.001312	-0.000022
128	0.000000	-0.001339	-0.000005
129	0.000000	-0.001334	0.000010
130	0.000000	-0.001300	0.000023
131	0.000000	-0.001243	0.000034
132	0.000000	-0.001164	0.000043
133	0.000000	-0.001069	0.000051
134	0.000000	-0.000960	0.000057
135	0.000000	-0.000842	0.000061
136	0.000000	-0.000717	0.000063
137	0.000000	-0.000590	0.000063
138	0.000000	-0.000464	0.000062
139	0.000000	-0.000259	0.000056
140	0.000000	-0.000074	0.000050
141	0.000000	-0.000000	0.000048
142	0.000000	0.000070	0.000046
143	0.000000	0.000216	0.000038
144	0.000000	0.000328	0.000027
145	0.000000	0.000375	0.000020
146	0.000000	0.000408	0.000013
147	0.000000	0.000428	0.000007
148	0.000000	0.000437	0.000002
149	0.000000	0.000435	-0.000003
150	0.000000	0.000424	-0.000007
151	0.000000	0.000405	-0.000011
152	0.000000	0.000380	-0.000014
153	0.000000	0.000349	-0.000017
154	0.000000	0.000313	-0.000019
155	0.000000	0.000275	-0.000020
156	0.000000	0.000234	-0.000021
157	0.000000	0.000192	-0.000021
158	0.000000	0.000151	-0.000020
159	0.000000	0.000084	-0.000018
160	0.000000	0.000024	-0.000016
161	0.000000	0.000000	-0.000016
162	0.000000	-0.000023	-0.000015
163	0.000000	-0.000070	-0.000013
164	0.000000	-0.000107	-0.000009
165	0.000000	-0.000122	-0.000006
166	0.000000	-0.000133	-0.000004
167	0.000000	-0.000140	-0.000002

168	0.000000	-0.000142	-0.000001		8	0.00	161.63	-14.24
169	0.000000	-0.000142	0.000001	8	8	0.00	161.63	-14.23
170	0.000000	-0.000138	0.000002		9	0.00	184.73	-14.23
171	0.000000	-0.000132	0.000004	9	9	0.00	184.72	-14.23
172	0.000000	-0.000124	0.000005		10	0.00	207.79	-14.23
173	0.000000	-0.000114	0.000005	10	10	0.00	207.78	-14.21
174	0.000000	-0.000102	0.000006		11	0.00	230.85	-14.21
175	0.000000	-0.000089	0.000006	11	11	0.00	230.84	-14.20
176	0.000000	-0.000076	0.000007		12	0.00	253.88	-14.20
177	0.000000	-0.000063	0.000007	12	12	0.00	253.88	-14.20
178	0.000000	-0.000049	0.000007		13	0.00	276.91	-14.20
179	0.000000	-0.000027	0.000006	13	13	0.00	276.91	-14.18
180	0.000000	-0.000008	0.000005		14	0.00	299.92	-14.18
181	0.000000	-0.000000	0.000005	14	14	0.00	299.92	-14.17
182	0.000000	0.000007	0.000005		15	0.00	322.90	-14.17
183	0.000000	0.000023	0.000004	15	15	0.00	322.90	-14.17
184	0.000000	0.000035	0.000003		16	0.00	345.88	-14.17
185	0.000000	0.000040	0.000002	16	16	0.00	345.87	-14.16
186	0.000000	0.000043	0.000001		17	0.00	368.86	-14.16
187	0.000000	0.000045	0.000001	17	17	0.00	368.85	-14.15
188	0.000000	0.000046	0.000000		18	0.00	391.80	-14.15
189	0.000000	0.000046	-0.000000	18	18	0.00	391.80	-14.15
190	0.000000	0.000045	-0.000001		19	0.00	440.76	-14.15
191	0.000000	0.000043	-0.000001	19	19	0.00	440.76	-14.15
192	0.000000	0.000040	-0.000002		20	0.00	489.73	-14.15
193	0.000000	0.000037	-0.000002	20	20	0.00	489.73	-14.14
194	0.000000	0.000033	-0.000002		21	0.00	510.95	-14.14
195	0.000000	0.000029	-0.000002	21	21	0.00	510.95	45.24
196	0.000000	0.000024	-0.000002		22	0.00	443.10	45.24
197	0.000000	0.000020	-0.000002	22	22	0.00	443.10	45.23
198	0.000000	0.000016	-0.000002		23	0.00	286.59	45.23
199	0.000000	0.000009	-0.000002	23	23	0.00	286.59	45.23
200	0.000000	0.000002	-0.000002		24	0.00	130.07	45.23
201	0.000000	0.000000	-0.000002	24	24	0.00	130.07	45.23
202	0.000000	-0.000002	-0.000002		25	0.00	39.10	45.23
203	0.000000	-0.000007	-0.000001	25	25	0.00	39.09	45.25
204	0.000000	-0.000011	-0.000001		26	0.00	-51.94	45.25
205	0.000000	-0.000012	-0.000001	26	26	0.00	-51.94	45.25
206	0.000000	-0.000013	-0.000000		27	0.00	-142.94	45.25
207	0.000000	-0.000014	-0.000000	27	27	0.00	-142.93	45.27
208	0.000000	-0.000014	-0.000000		28	0.00	-234.01	45.27
209	0.000000	-0.000014	0.000000	28	28	0.00	-234.00	45.28
210	0.000000	-0.000014	0.000000		29	0.00	-325.05	45.28
211	0.000000	-0.000013	0.000000	29	29	0.00	-325.04	45.28
212	0.000000	-0.000012	0.000000		30	0.00	-416.15	45.28
213	0.000000	-0.000011	0.000001	30	30	0.00	-416.13	45.30
214	0.000000	-0.000010	0.000001		31	0.00	-507.23	45.30
215	0.000000	-0.000009	0.000001	31	31	0.00	-507.22	45.31
216	0.000000	-0.000008	0.000001		32	0.00	-598.32	45.31
217	0.000000	-0.000006	0.000001	32	32	0.00	-598.32	45.31
218	0.000000	-0.000005	0.000001		33	0.00	-689.48	45.31
219	0.000000	-0.000003	0.000001	33	33	0.00	-689.49	45.34
220	0.000000	-0.000002	0.000001		34	0.00	-780.66	45.34
221	0.000000	-0.000000	0.000001	34	34	0.00	-780.62	45.34
					35	0.00	-871.85	45.34
				35	35	0.00	-871.83	45.36
					36	0.00	-963.05	45.36
				36	36	0.00	-963.06	45.38
					37	0.00	-1054.37	45.38
				37	37	0.00	-1054.36	45.40
					38	0.00	-1145.66	45.40
				38	38	0.00	-1145.66	45.41
					39	0.00	-1302.76	45.41
				39	39	0.00	-1302.77	45.41
					40	0.00	-1459.87	45.41
				40	40	0.00	-1459.88	45.40
					41	0.00	-1527.99	45.40
				41	41	0.00	-1528.00	-224.35
					42	0.00	-1191.48	-224.35
				42	42	0.00	-1191.47	-224.35
					43	0.00	-415.23	-224.35
				43	43	0.00	-415.24	-224.35
					44	0.00	306.21	-184.35
				44	44	0.00	306.21	-184.35
					45	0.00	624.10	-144.35
				45	45	0.00	624.10	-144.39
					46	0.00	863.68	-104.39
				46	46	0.00	863.67	-104.43
					47	0.00	1073.67	-104.43
				47	47	0.00	1073.66	-104.43
					48	0.00	1283.78	-104.43
				48	48	0.00	1283.79	-104.42
					49	0.00	1489.90	-64.42
				49	49	0.00	1489.94	-64.50
					50	0.00	1617.75	-24.50
				50	50	0.00	1617.72	-24.52
					51	0.00	1667.03	15.48

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	14.23	-0.00
21	0.00	-59.38	-0.00
41	0.00	269.75	0.01
61	0.00	174.09	-0.03
81	-0.00	228.71	0.00
101	0.00	297.22	0.00
121	0.00	-59.11	0.00
141	0.00	19.29	0.00
161	0.00	-6.29	-0.00
181	0.00	2.06	0.00
201	-0.00	-0.67	-0.00
221	0.00	0.16	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	0.00	-14.23
	2	0.00	23.08	-14.23
2	2	0.00	23.09	-14.23
	3	0.00	46.19	-14.23
3	3	0.00	46.18	-14.23
	4	0.00	69.27	-14.23
4	4	0.00	69.27	-14.23
	5	0.00	92.35	-14.23
5	5	0.00	92.35	-14.24
	6	0.00	115.45	-14.24
6	6	0.00	115.45	-14.24
	7	0.00	138.55	-14.24
7	7	0.00	138.54	-14.24

51	51	0.00	1667.02	15.49		95	0.00	1144.07	92.60
	52	0.00	1635.87	15.49	95	95	0.00	1144.10	92.60
52	52	0.00	1635.91	15.48		96	0.00	905.20	132.60
	53	0.00	1574.65	55.48	96	96	0.00	905.26	132.54
53	53	0.00	1574.66	55.43		97	0.00	577.43	172.54
	54	0.00	1424.64	95.43	97	97	0.00	577.42	172.51
54	54	0.00	1424.61	95.43		98	0.00	230.51	172.51
	55	0.00	1232.59	95.43	98	98	0.00	230.52	172.52
55	55	0.00	1232.61	95.41		99	0.00	-366.41	172.52
	56	0.00	1040.75	95.41	99	99	0.00	-366.40	172.51
56	56	0.00	1040.75	95.45		100	0.00	-1136.11	252.51
	57	0.00	848.69	95.45	100	100	0.00	-1136.11	252.50
57	57	0.00	848.70	95.37		101	0.00	-1514.85	252.50
	58	0.00	592.50	135.37	101	101	0.00	-1514.85	-44.73
58	58	0.00	592.51	135.38		102	0.00	-1447.75	-44.73
	59	0.00	-6.73	175.38	102	102	0.00	-1447.73	-44.73
59	59	0.00	-6.71	175.38		103	0.00	-1292.95	-44.73
	60	0.00	-613.52	175.38	103	103	0.00	-1292.95	-44.73
60	60	0.00	-613.49	175.39		104	0.00	-1138.19	-44.73
	61	0.00	-876.56	175.39	104	104	0.00	-1138.18	-44.73
61	61	0.00	-876.53	1.30		105	0.00	-1048.22	-44.73
	62	0.00	-878.46	1.30	105	105	0.00	-1048.23	-44.74
62	62	0.00	-878.45	1.29		106	0.00	-958.22	-44.74
	63	0.00	-882.92	1.29	106	106	0.00	-958.21	-44.71
63	63	0.00	-882.91	1.29		107	0.00	-868.31	-44.71
	64	0.00	-887.38	1.29	107	107	0.00	-868.29	-44.68
64	64	0.00	-887.36	1.29		108	0.00	-778.40	-44.68
	65	0.00	-889.97	1.29	108	108	0.00	-778.40	-44.67
65	65	0.00	-889.96	1.33		109	0.00	-688.57	-44.67
	66	0.00	-892.63	1.33	109	109	0.00	-688.56	-44.63
66	66	0.00	-892.61	1.36		110	0.00	-598.76	-44.63
	67	0.00	-895.35	1.36	110	110	0.00	-598.74	-44.62
67	67	0.00	-895.33	1.41		111	0.00	-509.02	-44.62
	68	0.00	-898.16	1.41	111	111	0.00	-509.00	-44.62
68	68	0.00	-898.18	1.42		112	0.00	-419.28	-44.62
	69	0.00	-901.03	1.42	112	112	0.00	-419.31	-44.61
69	69	0.00	-901.03	1.44		113	0.00	-329.55	-44.61
	70	0.00	-903.92	1.44	113	113	0.00	-329.56	-44.57
70	70	0.00	-903.92	1.48		114	0.00	-239.93	-44.57
	71	0.00	-906.90	1.48	114	114	0.00	-239.92	-44.57
71	71	0.00	-906.88	1.46		115	0.00	-150.24	-44.57
	72	0.00	-909.82	1.46	115	115	0.00	-150.24	-44.57
72	72	0.00	-909.85	1.48		116	0.00	-60.62	-44.57
	73	0.00	-912.84	1.48	116	116	0.00	-60.64	-44.56
73	73	0.00	-912.78	1.51		117	0.00	29.01	-44.56
	74	0.00	-915.82	1.51	117	117	0.00	29.01	-44.54
74	74	0.00	-915.79	1.56		118	0.00	118.57	-44.54
	75	0.00	-918.94	1.56	118	118	0.00	118.57	-44.54
75	75	0.00	-918.92	1.59		119	0.00	272.69	-44.54
	76	0.00	-922.11	1.59	119	119	0.00	272.69	-44.54
76	76	0.00	-922.10	1.62		120	0.00	426.81	-44.54
	77	0.00	-925.35	1.62	120	120	0.00	426.81	-44.55
77	77	0.00	-925.34	1.62		121	0.00	493.64	-44.55
	78	0.00	-928.60	1.62	121	121	0.00	493.64	14.55
78	78	0.00	-928.62	1.62		122	0.00	471.80	14.55
	79	0.00	-934.23	1.62	122	122	0.00	471.80	14.56
79	79	0.00	-934.22	1.63		123	0.00	421.42	14.56
	80	0.00	-939.85	1.63	123	123	0.00	421.42	14.56
80	80	0.00	-939.85	1.64		124	0.00	371.04	14.56
	81	0.00	-942.33	1.64	124	124	0.00	371.04	14.56
81	81	0.00	-942.33	-227.07		125	0.00	341.76	14.56
	82	0.00	-601.75	-227.07	125	125	0.00	341.76	14.56
82	82	0.00	-601.75	-227.06		126	0.00	312.46	14.56
	83	0.00	79.88	-147.06	126	126	0.00	312.47	14.56
83	83	0.00	79.88	-147.06		127	0.00	283.18	14.56
	84	0.00	588.73	-147.06	127	127	0.00	283.18	14.56
84	84	0.00	588.73	-147.05		128	0.00	253.89	14.56
	85	0.00	884.44	-147.05	128	128	0.00	253.89	14.56
85	85	0.00	884.43	-147.09		129	0.00	224.62	14.56
	86	0.00	1161.05	-107.09	129	129	0.00	224.62	14.56
86	86	0.00	1161.05	-107.09		130	0.00	195.32	14.56
	87	0.00	1348.65	-67.09	130	130	0.00	195.33	14.55
87	87	0.00	1348.68	-67.12		131	0.00	166.07	14.55
	88	0.00	1483.74	-67.12	131	131	0.00	166.07	14.55
88	88	0.00	1483.78	-67.19		132	0.00	136.82	14.55
	89	0.00	1559.82	-27.19	132	132	0.00	136.81	14.54
89	89	0.00	1559.83	-27.21		133	0.00	107.55	14.54
	90	0.00	1547.03	12.79	133	133	0.00	107.56	14.54
90	90	0.00	1547.03	12.71		134	0.00	78.31	14.54
	91	0.00	1521.47	12.71	134	134	0.00	78.32	14.54
91	91	0.00	1521.44	12.70		135	0.00	49.06	14.54
	92	0.00	1495.91	12.70	135	135	0.00	49.07	14.54
92	92	0.00	1495.95	12.67		136	0.00	19.83	14.54
	93	0.00	1457.53	52.67	136	136	0.00	19.83	14.54
93	93	0.00	1457.58	52.63		137	0.00	-9.42	14.54
	94	0.00	1330.37	92.63	137	137	0.00	-9.42	14.54
94	94	0.00	1330.39	92.60		138	0.00	-38.66	14.54

138	138	0.00	-38.65	14.54		182	0.00	-16.43	-0.51
	139	0.00	-88.95	14.54	182	182	0.00	-16.43	-0.51
139	139	0.00	-88.95	14.54		183	0.00	-14.66	-0.51
	140	0.00	-139.25	14.54	183	183	0.00	-14.66	-0.51
140	140	0.00	-139.25	14.54		184	0.00	-12.89	-0.51
	141	0.00	-161.06	14.54	184	184	0.00	-12.89	-0.51
141	141	0.00	-161.06	-4.75		185	0.00	-11.87	-0.51
	142	0.00	-153.93	-4.75	185	185	0.00	-11.87	-0.51
142	142	0.00	-153.93	-4.75		186	0.00	-10.84	-0.51
	143	0.00	-137.49	-4.75	186	186	0.00	-10.84	-0.51
143	143	0.00	-137.49	-4.75		187	0.00	-9.81	-0.51
	144	0.00	-121.05	-4.75	187	187	0.00	-9.81	-0.51
144	144	0.00	-121.05	-4.75		188	0.00	-8.79	-0.51
	145	0.00	-111.49	-4.75	188	188	0.00	-8.79	-0.51
145	145	0.00	-111.49	-4.75		189	0.00	-7.76	-0.51
	146	0.00	-101.93	-4.75	189	189	0.00	-7.76	-0.51
146	146	0.00	-101.93	-4.75		190	0.00	-6.73	-0.51
	147	0.00	-92.37	-4.75	190	190	0.00	-6.73	-0.51
147	147	0.00	-92.38	-4.75		191	0.00	-5.71	-0.51
	148	0.00	-82.81	-4.75	191	191	0.00	-5.71	-0.51
148	148	0.00	-82.81	-4.75		192	0.00	-4.68	-0.51
	149	0.00	-73.26	-4.75	192	192	0.00	-4.68	-0.51
149	149	0.00	-73.26	-4.75		193	0.00	-3.66	-0.51
	150	0.00	-63.71	-4.75	193	193	0.00	-3.66	-0.51
150	150	0.00	-63.71	-4.75		194	0.00	-2.63	-0.51
	151	0.00	-54.17	-4.75	194	194	0.00	-2.63	-0.51
151	151	0.00	-54.17	-4.75		195	0.00	-1.61	-0.51
	152	0.00	-44.62	-4.75	195	195	0.00	-1.61	-0.51
152	152	0.00	-44.62	-4.74		196	0.00	-0.58	-0.51
	153	0.00	-35.08	-4.74	196	196	0.00	-0.58	-0.51
153	153	0.00	-35.08	-4.74		197	0.00	0.44	-0.51
	154	0.00	-25.54	-4.74	197	197	0.00	0.44	-0.51
154	154	0.00	-25.54	-4.74		198	0.00	1.47	-0.51
	155	0.00	-16.00	-4.74	198	198	0.00	1.47	-0.51
155	155	0.00	-16.00	-4.74		199	0.00	3.23	-0.51
	156	0.00	-6.46	-4.74	199	199	0.00	3.23	-0.51
156	156	0.00	-6.46	-4.74		200	0.00	4.99	-0.51
	157	0.00	3.08	-4.74	200	200	0.00	4.99	-0.51
157	157	0.00	3.09	-4.74		201	0.00	5.76	-0.51
	158	0.00	12.62	-4.74	201	201	0.00	5.76	0.16
158	158	0.00	12.62	-4.74		202	0.00	5.52	0.16
	159	0.00	29.03	-4.74	202	202	0.00	5.52	0.16
159	159	0.00	29.03	-4.74		203	0.00	4.96	0.16
	160	0.00	45.44	-4.74	203	203	0.00	4.96	0.16
160	160	0.00	45.44	-4.74		204	0.00	4.41	0.16
	161	0.00	52.55	-4.74	204	204	0.00	4.41	0.16
161	161	0.00	52.55	1.55		205	0.00	4.15	0.16
	162	0.00	50.23	1.55	205	205	0.00	4.15	0.16
162	162	0.00	50.23	1.55		206	0.00	3.89	0.16
	163	0.00	44.86	1.55	206	206	0.00	3.89	0.16
163	163	0.00	44.86	1.55		207	0.00	3.63	0.16
	164	0.00	39.49	1.55	207	207	0.00	3.63	0.16
164	164	0.00	39.49	1.55		208	0.00	3.37	0.16
	165	0.00	36.37	1.55	208	208	0.00	3.37	0.16
165	165	0.00	36.37	1.55		209	0.00	3.11	0.16
	166	0.00	33.25	1.55	209	209	0.00	3.11	0.16
166	166	0.00	33.25	1.55		210	0.00	2.85	0.16
	167	0.00	30.13	1.55	210	210	0.00	2.85	0.16
167	167	0.00	30.13	1.55		211	0.00	2.59	0.16
	168	0.00	27.01	1.55	211	211	0.00	2.59	0.16
168	168	0.00	27.01	1.55		212	0.00	2.33	0.16
	169	0.00	23.89	1.55	212	212	0.00	2.33	0.16
169	169	0.00	23.89	1.55		213	0.00	2.07	0.16
	170	0.00	20.77	1.55	213	213	0.00	2.07	0.16
170	170	0.00	20.77	1.55		214	0.00	1.81	0.16
	171	0.00	17.65	1.55	214	214	0.00	1.81	0.16
171	171	0.00	17.65	1.55		215	0.00	1.56	0.16
	172	0.00	14.54	1.55	215	215	0.00	1.56	0.16
172	172	0.00	14.54	1.55		216	0.00	1.30	0.16
	173	0.00	11.42	1.55	216	216	0.00	1.30	0.16
173	173	0.00	11.42	1.55		217	0.00	1.04	0.16
	174	0.00	8.31	1.55	217	217	0.00	1.04	0.16
174	174	0.00	8.31	1.55		218	0.00	0.78	0.16
	175	0.00	5.19	1.55	218	218	0.00	0.78	0.16
175	175	0.00	5.19	1.55		219	0.00	0.52	0.16
	176	0.00	2.08	1.55	219	219	0.00	0.52	0.16
176	176	0.00	2.08	1.55		220	0.00	0.26	0.16
	177	0.00	-1.04	1.55	220	220	0.00	0.26	0.16
177	177	0.00	-1.04	1.55		221	0.00	0.00	0.16
	178	0.00	-4.15	1.55					
178	178	0.00	-4.15	1.55					
	179	0.00	-9.51	1.55					
179	179	0.00	-9.51	1.55					
	180	0.00	-14.87	1.55					
180	180	0.00	-14.87	1.55					
	181	0.00	-17.19	1.55					
181	181	0.00	-17.19	-0.51					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 14 ESTADO DE CARGAS 14

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	0.000000	0.000030
2	0.000000	0.000048	0.000029
3	0.000000	0.000095	0.000029
4	0.000000	0.000141	0.000028
5	0.000000	0.000185	0.000027
6	0.000000	0.000227	0.000025
7	0.000000	0.000266	0.000023
8	0.000000	0.000301	0.000020
9	0.000000	0.000332	0.000018
10	0.000000	0.000358	0.000014
11	0.000000	0.000378	0.000011
12	0.000000	0.000392	0.000007
13	0.000000	0.000400	0.000002
14	0.000000	0.000400	-0.000002
15	0.000000	0.000392	-0.000007
16	0.000000	0.000376	-0.000013
17	0.000000	0.000351	-0.000019
18	0.000000	0.000315	-0.000025
19	0.000000	0.000209	-0.000037
20	0.000000	0.000068	-0.000044
21	0.000000	-0.000000	-0.000047
22	0.000000	-0.000072	-0.000049
23	0.000000	-0.000254	-0.000055
24	0.000000	-0.000457	-0.000061
25	0.000000	-0.000582	-0.000063
26	0.000000	-0.000709	-0.000063
27	0.000000	-0.000834	-0.000061
28	0.000000	-0.000953	-0.000057
29	0.000000	-0.001062	-0.000051
30	0.000000	-0.001158	-0.000044
31	0.000000	-0.001238	-0.000035
32	0.000000	-0.001296	-0.000023
33	0.000000	-0.001331	-0.000010
34	0.000000	-0.001337	0.000004
35	0.000000	-0.001311	0.000021
36	0.000000	-0.001250	0.000040
37	0.000000	-0.001150	0.000060
38	0.000000	-0.001007	0.000082
39	0.000000	-0.000662	0.000118
40	0.000000	-0.000216	0.000140
41	0.000000	0.000000	0.000148
42	0.000000	0.000227	0.000155
43	0.000000	0.000796	0.000172
44	0.000000	0.001427	0.000190
45	0.000000	0.001815	0.000195
46	0.000000	0.002207	0.000194
47	0.000000	0.002591	0.000187
48	0.000000	0.002957	0.000175
49	0.000000	0.003292	0.000157
50	0.000000	0.003586	0.000134
51	0.000000	0.003828	0.000105
52	0.000000	0.004006	0.000071
53	0.000000	0.004109	0.000031
54	0.000000	0.004125	-0.000015
55	0.000000	0.004044	-0.000067
56	0.000000	0.003854	-0.000124
57	0.000000	0.003543	-0.000186
58	0.000000	0.003101	-0.000254
59	0.000000	0.002036	-0.000363
60	0.000000	0.000664	-0.000431
61	0.000000	-0.000000	-0.000454
62	0.000000	-0.000698	-0.000476
63	0.000000	-0.002423	-0.000515
64	0.000000	-0.004228	-0.000518
65	0.000000	-0.005243	-0.000488
66	0.000000	-0.006181	-0.000441
67	0.000000	-0.007010	-0.000381
68	0.000000	-0.007706	-0.000308
69	0.000000	-0.008240	-0.000222
70	0.000000	-0.008591	-0.000125
71	0.000000	-0.008740	-0.000023
72	0.000000	-0.008684	0.000079
73	0.000000	-0.008423	0.000179
74	0.000000	-0.007966	0.000273
75	0.000000	-0.007332	0.000356
76	0.000000	-0.006544	0.000426
77	0.000000	-0.005626	0.000485
78	0.000000	-0.004603	0.000530
79	0.000000	-0.002709	0.000556
80	0.000000	-0.000803	0.000541
81	0.000000	-0.000000	0.000529
82	0.000000	0.000783	0.000515
83	0.000000	0.002492	0.000472
84	0.000000	0.003989	0.000393
85	0.000000	0.004724	0.000338
86	0.000000	0.005348	0.000283
87	0.000000	0.005860	0.000227
88	0.000000	0.006261	0.000171
89	0.000000	0.006550	0.000116
90	0.000000	0.006726	0.000060
91	0.000000	0.006789	0.000003
92	0.000000	0.006739	-0.000053
93	0.000000	0.006576	-0.000110
94	0.000000	0.006299	-0.000166
95	0.000000	0.005907	-0.000223
96	0.000000	0.005401	-0.000280
97	0.000000	0.004779	-0.000338
98	0.000000	0.004043	-0.000395
99	0.000000	0.002532	-0.000478
100	0.000000	0.000798	-0.000524
101	0.000000	-0.000000	-0.000539
102	0.000000	-0.000818	-0.000551
103	0.000000	-0.002755	-0.000563
104	0.000000	-0.004664	-0.000533
105	0.000000	-0.005692	-0.000487
106	0.000000	-0.006611	-0.000423
107	0.000000	-0.007386	-0.000345
108	0.000000	-0.007993	-0.000257
109	0.000000	-0.008415	-0.000162
110	0.000000	-0.008643	-0.000065
111	0.000000	-0.008679	0.000030
112	0.000000	-0.008525	0.000123
113	0.000000	-0.008184	0.000215
114	0.000000	-0.007662	0.000302
115	0.000000	-0.006975	0.000379
116	0.000000	-0.006145	0.000443
117	0.000000	-0.005203	0.000490
118	0.000000	-0.004190	0.000515
119	0.000000	-0.002404	0.000509
120	0.000000	-0.000695	0.000473
121	0.000000	-0.000000	0.000452
122	0.000000	0.000661	0.000429
123	0.000000	0.002027	0.000362
124	0.000000	0.003087	0.000253
125	0.000000	0.003527	0.000185
126	0.000000	0.003836	0.000123
127	0.000000	0.004026	0.000066
128	0.000000	0.004107	0.000015
129	0.000000	0.004091	-0.000030
130	0.000000	0.003989	-0.000070
131	0.000000	0.003813	-0.000105
132	0.000000	0.003573	-0.000133
133	0.000000	0.003280	-0.000157
134	0.000000	0.002946	-0.000174
135	0.000000	0.002582	-0.000186
136	0.000000	0.002200	-0.000193
137	0.000000	0.001810	-0.000194
138	0.000000	0.001423	-0.000189
139	0.000000	0.000794	-0.000172
140	0.000000	0.000227	-0.000155
141	0.000000	0.000000	-0.000148
142	0.000000	-0.000216	-0.000140
143	0.000000	-0.000661	-0.000118
144	0.000000	-0.001007	-0.000083
145	0.000000	-0.001150	-0.000060
146	0.000000	-0.001251	-0.000040
147	0.000000	-0.001313	-0.000022
148	0.000000	-0.001340	-0.000005
149	0.000000	-0.001335	0.000010
150	0.000000	-0.001301	0.000023
151	0.000000	-0.001244	0.000034
152	0.000000	-0.001165	0.000044
153	0.000000	-0.001070	0.000051
154	0.000000	-0.000961	0.000057
155	0.000000	-0.000842	0.000061
156	0.000000	-0.000717	0.000063
157	0.000000	-0.000590	0.000063
158	0.000000	-0.000464	0.000062
159	0.000000	-0.000259	0.000056
160	0.000000	-0.000074	0.000050
161	0.000000	-0.000000	0.000048
162	0.000000	0.000070	0.000046
163	0.000000	0.000216	0.000038
164	0.000000	0.000328	0.000027
165	0.000000	0.000375	0.000020
166	0.000000	0.000408	0.000013
167	0.000000	0.000428	0.000007

168	0.000000	0.000437	0.000002		8	0.00	-52.70	4.64
169	0.000000	0.000435	-0.000003	8	8	0.00	-52.70	4.64
170	0.000000	0.000424	-0.000007		9	0.00	-60.23	4.64
171	0.000000	0.000405	-0.000011	9	9	0.00	-60.23	4.64
172	0.000000	0.000380	-0.000014		10	0.00	-67.75	4.64
173	0.000000	0.000349	-0.000017	10	10	0.00	-67.74	4.63
174	0.000000	0.000313	-0.000019		11	0.00	-75.26	4.63
175	0.000000	0.000274	-0.000020	11	11	0.00	-75.26	4.63
176	0.000000	0.000234	-0.000021		12	0.00	-82.77	4.63
177	0.000000	0.000192	-0.000021	12	12	0.00	-82.77	4.63
178	0.000000	0.000151	-0.000020		13	0.00	-90.28	4.63
179	0.000000	0.000084	-0.000018	13	13	0.00	-90.28	4.62
180	0.000000	0.000024	-0.000016		14	0.00	-97.78	4.62
181	0.000000	0.000000	-0.000016	14	14	0.00	-97.78	4.62
182	0.000000	-0.000023	-0.000015		15	0.00	-105.28	4.62
183	0.000000	-0.000070	-0.000013	15	15	0.00	-105.28	4.62
184	0.000000	-0.000107	-0.000009		16	0.00	-112.77	4.62
185	0.000000	-0.000122	-0.000006	16	16	0.00	-112.77	4.62
186	0.000000	-0.000132	-0.000004		17	0.00	-120.26	4.62
187	0.000000	-0.000139	-0.000002	17	17	0.00	-120.26	4.61
188	0.000000	-0.000142	-0.000000		18	0.00	-127.74	4.61
189	0.000000	-0.000141	0.000001	18	18	0.00	-127.74	4.61
190	0.000000	-0.000137	0.000002		19	0.00	-143.70	4.61
191	0.000000	-0.000131	0.000004	19	19	0.00	-143.70	4.61
192	0.000000	-0.000123	0.000005		20	0.00	-159.67	4.61
193	0.000000	-0.000112	0.000005	20	20	0.00	-159.67	4.61
194	0.000000	-0.000101	0.000006		21	0.00	-166.59	4.61
195	0.000000	-0.000088	0.000006	21	21	0.00	-166.59	-14.75
196	0.000000	-0.000075	0.000007		22	0.00	-144.47	-14.75
197	0.000000	-0.000062	0.000007	22	22	0.00	-144.47	-14.75
198	0.000000	-0.000048	0.000006		23	0.00	-93.44	-14.75
199	0.000000	-0.000027	0.000006	23	23	0.00	-93.44	-14.75
200	0.000000	-0.000008	0.000005		24	0.00	-42.41	-14.75
201	0.000000	-0.000000	0.000005	24	24	0.00	-42.41	-14.75
202	0.000000	0.000007	0.000005		25	0.00	-12.75	-14.75
203	0.000000	0.000022	0.000004	25	25	0.00	-12.75	-14.75
204	0.000000	0.000033	0.000003		26	0.00	16.93	-14.75
205	0.000000	0.000037	0.000002	26	26	0.00	16.93	-14.76
206	0.000000	0.000040	0.000001		27	0.00	46.61	-14.76
207	0.000000	0.000041	0.000001	27	27	0.00	46.60	-14.76
208	0.000000	0.000042	0.000000		28	0.00	76.29	-14.76
209	0.000000	0.000042	-0.000000	28	28	0.00	76.29	-14.76
210	0.000000	0.000041	-0.000001		29	0.00	105.97	-14.76
211	0.000000	0.000040	-0.000001	29	29	0.00	105.97	-14.76
212	0.000000	0.000038	-0.000002		30	0.00	135.68	-14.76
213	0.000000	0.000035	-0.000002	30	30	0.00	135.67	-14.77
214	0.000000	0.000032	-0.000002		31	0.00	165.37	-14.77
215	0.000000	0.000028	-0.000002	31	31	0.00	165.37	-14.77
216	0.000000	0.000024	-0.000003		32	0.00	195.07	-14.77
217	0.000000	0.000020	-0.000003	32	32	0.00	195.07	-14.77
218	0.000000	0.000015	-0.000003		33	0.00	224.79	-14.77
219	0.000000	0.000010	-0.000003	33	33	0.00	224.80	-14.78
220	0.000000	0.000005	-0.000003		34	0.00	254.52	-14.78
221	0.000000	0.000000	-0.000003	34	34	0.00	254.51	-14.78
					35	0.00	284.25	-14.78
	Reacciones en apoyos			35	35	0.00	284.24	-14.79
					36	0.00	313.98	-14.79
Nudo	Fza. x	Fza. y	Mto. z	36	36	0.00	313.99	-14.79
1	-0.00	-4.64	-0.00		37	0.00	343.76	-14.79
21	0.00	19.36	-0.00	37	37	0.00	343.75	-14.80
41	0.00	-59.66	0.00		38	0.00	373.52	-14.80
61	0.00	269.13	-0.01	38	38	0.00	373.52	-14.80
81	0.00	174.15	-0.01		39	0.00	424.74	-14.80
101	-0.00	228.70	0.01	39	39	0.00	424.74	-14.80
121	0.00	297.20	0.00		40	0.00	475.96	-14.80
141	0.00	-59.18	-0.00	40	40	0.00	475.96	-14.81
161	0.00	19.31	0.00		41	0.00	498.18	-14.81
181	0.00	-6.32	0.00	41	41	0.00	498.17	44.86
201	-0.00	2.05	0.00		42	0.00	430.89	44.86
221	0.00	-0.49	-0.00	42	42	0.00	430.89	44.86
					43	0.00	275.69	44.86
	Esfuerzos en extremos de barras			43	43	0.00	275.69	44.86
					44	0.00	120.48	44.86
Barra	Ext.	Axil	Flector	Cortante	44	44	0.00	120.48	44.86
1	1	0.00	0.00	4.64		45	0.00	30.27	44.86
	2	0.00	-7.53	4.64	45	45	0.00	30.27	44.87
2	2	0.00	-7.53	4.64		46	0.00	-60.00	44.87
	3	0.00	-15.06	4.64	46	46	0.00	-60.00	44.89
3	3	0.00	-15.06	4.64		47	0.00	-150.26	44.89
	4	0.00	-22.58	4.64	47	47	0.00	-150.27	44.88
4	4	0.00	-22.58	4.64		48	0.00	-240.57	44.88
	5	0.00	-30.11	4.64	48	48	0.00	-240.57	44.89
5	5	0.00	-30.11	4.64		49	0.00	-330.84	44.89
	6	0.00	-37.64	4.64	49	49	0.00	-330.85	44.92
6	6	0.00	-37.64	4.64		50	0.00	-421.22	44.92
	7	0.00	-45.17	4.64	50	50	0.00	-421.21	44.92
7	7	0.00	-45.17	4.64		51	0.00	-511.54	44.92

51	51	0.00	-511.55	44.91		95	0.00	-919.08	1.51
	52	0.00	-601.86	44.91	95	95	0.00	-919.12	1.54
52	52	0.00	-601.88	44.93		96	0.00	-922.22	1.54
	53	0.00	-692.28	44.93	96	96	0.00	-922.28	1.58
53	53	0.00	-692.29	44.94		97	0.00	-925.46	1.58
	54	0.00	-782.66	44.94	97	97	0.00	-925.46	1.61
54	54	0.00	-782.66	44.94		98	0.00	-928.70	1.61
	55	0.00	-873.08	44.94	98	98	0.00	-928.71	1.61
55	55	0.00	-873.09	44.96		99	0.00	-934.27	1.61
	56	0.00	-963.50	44.96	99	99	0.00	-934.27	1.61
56	56	0.00	-963.49	44.95		100	0.00	-939.84	1.61
	57	0.00	-1053.92	44.95	100	100	0.00	-939.85	1.62
57	57	0.00	-1053.91	44.98		101	0.00	-942.28	1.62
	58	0.00	-1144.37	44.98	101	101	0.00	-942.30	-227.08
58	58	0.00	-1144.37	44.98		102	0.00	-601.69	-227.08
	59	0.00	-1299.99	44.98	102	102	0.00	-601.70	-227.07
59	59	0.00	-1300.00	44.98		103	0.00	79.97	-147.07
	60	0.00	-1455.62	44.98	103	103	0.00	79.97	-147.07
60	60	0.00	-1455.64	44.99		104	0.00	588.85	-147.07
	61	0.00	-1523.13	44.99	104	104	0.00	588.85	-147.06
61	61	0.00	-1523.12	-224.14		105	0.00	884.60	-147.06
	62	0.00	-1186.92	-224.14	105	105	0.00	884.62	-147.07
62	62	0.00	-1186.91	-224.15		106	0.00	1161.20	-107.07
	63	0.00	-411.33	-224.15	106	106	0.00	1161.19	-107.12
63	63	0.00	-411.33	-224.16		107	0.00	1348.85	-67.12
	64	0.00	309.46	-184.16	107	107	0.00	1348.82	-67.17
64	64	0.00	309.47	-184.14		108	0.00	1483.98	-67.17
	65	0.00	626.94	-144.14	108	108	0.00	1483.95	-67.22
65	65	0.00	626.94	-144.21		109	0.00	1560.05	-27.22
	66	0.00	866.17	-104.21	109	109	0.00	1560.01	-27.26
66	66	0.00	866.13	-104.25		110	0.00	1547.29	12.74
	67	0.00	1075.78	-104.25	110	110	0.00	1547.29	12.73
67	67	0.00	1075.75	-104.29		111	0.00	1521.69	12.73
	68	0.00	1285.59	-104.29	111	111	0.00	1521.72	12.73
68	68	0.00	1285.62	-104.29		112	0.00	1496.13	12.73
	69	0.00	1491.48	-64.29	112	112	0.00	1496.21	12.67
69	69	0.00	1491.52	-64.31		113	0.00	1457.80	52.67
	70	0.00	1618.95	-24.31	113	113	0.00	1457.82	52.60
70	70	0.00	1619.01	-24.35		114	0.00	1330.69	92.60
	71	0.00	1667.98	15.65	114	114	0.00	1330.67	92.59
71	71	0.00	1667.99	15.63		115	0.00	1144.38	92.59
	72	0.00	1636.55	15.63	115	115	0.00	1144.37	92.56
72	72	0.00	1636.58	15.60		116	0.00	905.56	132.56
	73	0.00	1575.07	55.60	116	116	0.00	905.58	132.53
73	73	0.00	1575.04	55.62		117	0.00	577.78	172.53
	74	0.00	1424.63	95.62	117	117	0.00	577.75	172.49
74	74	0.00	1424.65	95.52		118	0.00	230.88	172.49
	75	0.00	1232.46	95.52	118	118	0.00	230.87	172.51
75	75	0.00	1232.46	95.48		119	0.00	-366.02	172.51
	76	0.00	1040.45	95.48	119	119	0.00	-366.02	172.51
76	76	0.00	1040.44	95.45		120	0.00	-1135.70	252.51
	77	0.00	848.39	95.45	120	120	0.00	-1135.70	252.54
77	77	0.00	848.39	95.45		121	0.00	-1514.49	252.54
	78	0.00	592.05	135.45	121	121	0.00	-1514.49	-44.66
78	78	0.00	592.08	135.44		122	0.00	-1447.49	-44.66
	79	0.00	-7.34	175.44	122	122	0.00	-1447.50	-44.67
79	79	0.00	-7.33	175.43		123	0.00	-1292.93	-44.67
	80	0.00	-614.33	175.43	123	123	0.00	-1292.93	-44.67
80	80	0.00	-614.33	175.43		124	0.00	-1138.36	-44.67
	81	0.00	-877.45	175.43	124	124	0.00	-1138.36	-44.68
81	81	0.00	-877.44	1.28		125	0.00	-1048.51	-44.68
	82	0.00	-879.34	1.28	125	125	0.00	-1048.53	-44.67
82	82	0.00	-879.32	1.27		126	0.00	-958.64	-44.67
	83	0.00	-883.72	1.27	126	126	0.00	-958.64	-44.66
83	83	0.00	-883.71	1.27		127	0.00	-868.83	-44.66
	84	0.00	-888.11	1.27	127	127	0.00	-868.82	-44.67
84	84	0.00	-888.11	1.25		128	0.00	-778.95	-44.67
	85	0.00	-890.64	1.25	128	128	0.00	-778.95	-44.67
85	85	0.00	-890.65	1.27		129	0.00	-689.13	-44.67
	86	0.00	-893.21	1.27	129	129	0.00	-689.12	-44.66
86	86	0.00	-893.21	1.31		130	0.00	-599.27	-44.66
	87	0.00	-895.85	1.31	130	130	0.00	-599.27	-44.63
87	87	0.00	-895.84	1.32		131	0.00	-509.53	-44.63
	88	0.00	-898.51	1.32	131	131	0.00	-509.51	-44.63
88	88	0.00	-898.54	1.37		132	0.00	-419.76	-44.63
	89	0.00	-901.29	1.37	132	132	0.00	-419.75	-44.62
89	89	0.00	-901.31	1.39		133	0.00	-329.98	-44.62
	90	0.00	-904.10	1.39	133	133	0.00	-329.99	-44.61
90	90	0.00	-904.09	1.46		134	0.00	-240.27	-44.61
	91	0.00	-907.03	1.46	134	134	0.00	-240.26	-44.59
91	91	0.00	-907.01	1.44		135	0.00	-150.55	-44.59
	92	0.00	-909.90	1.44	135	135	0.00	-150.53	-44.59
92	92	0.00	-909.97	1.47		136	0.00	-60.85	-44.59
	93	0.00	-912.92	1.47	136	136	0.00	-60.83	-44.60
93	93	0.00	-912.98	1.50		137	0.00	28.90	-44.60
	94	0.00	-915.99	1.50	137	137	0.00	28.91	-44.60
94	94	0.00	-916.04	1.51		138	0.00	118.60	-44.60

138	138	0.00	118.60	-44.60		182	0.00	50.40	1.57
	139	0.00	272.90	-44.60	182	182	0.00	50.40	1.57
139	139	0.00	272.91	-44.60		183	0.00	44.98	1.57
	140	0.00	427.22	-44.60	183	183	0.00	44.98	1.57
140	140	0.00	427.23	-44.60		184	0.00	39.56	1.57
	141	0.00	494.13	-44.60	184	184	0.00	39.56	1.57
141	141	0.00	494.13	14.58		185	0.00	36.41	1.57
	142	0.00	472.26	14.58	185	185	0.00	36.41	1.57
142	142	0.00	472.26	14.58		186	0.00	33.26	1.57
	143	0.00	421.82	14.58	186	186	0.00	33.26	1.57
143	143	0.00	421.82	14.58		187	0.00	30.11	1.57
	144	0.00	371.38	14.58	187	187	0.00	30.11	1.57
144	144	0.00	371.37	14.57		188	0.00	26.95	1.57
	145	0.00	342.06	14.57	188	188	0.00	26.95	1.57
145	145	0.00	342.06	14.58		189	0.00	23.81	1.57
	146	0.00	312.73	14.58	189	189	0.00	23.81	1.57
146	146	0.00	312.73	14.58		190	0.00	20.66	1.57
	147	0.00	283.41	14.58	190	190	0.00	20.66	1.56
147	147	0.00	283.41	14.58		191	0.00	17.51	1.56
	148	0.00	254.07	14.58	191	191	0.00	17.51	1.56
148	148	0.00	254.08	14.58		192	0.00	14.37	1.56
	149	0.00	224.76	14.58	192	192	0.00	14.37	1.56
149	149	0.00	224.77	14.57		193	0.00	11.22	1.56
	150	0.00	195.46	14.57	193	193	0.00	11.22	1.56
150	150	0.00	195.46	14.56		194	0.00	8.08	1.56
	151	0.00	166.18	14.56	194	194	0.00	8.08	1.56
151	151	0.00	166.18	14.56		195	0.00	4.93	1.56
	152	0.00	136.91	14.56	195	195	0.00	4.93	1.56
152	152	0.00	136.91	14.56		196	0.00	1.79	1.56
	153	0.00	107.61	14.56	196	196	0.00	1.79	1.56
153	153	0.00	107.62	14.55		197	0.00	-1.36	1.56
	154	0.00	78.35	14.55	197	197	0.00	-1.36	1.56
154	154	0.00	78.35	14.55		198	0.00	-4.50	1.56
	155	0.00	49.07	14.55	198	198	0.00	-4.50	1.56
155	155	0.00	49.08	14.55		199	0.00	-9.91	1.56
	156	0.00	19.82	14.55	199	199	0.00	-9.91	1.56
156	156	0.00	19.81	14.55		200	0.00	-15.32	1.56
	157	0.00	-9.46	14.55	200	200	0.00	-15.32	1.56
157	157	0.00	-9.47	14.55		201	0.00	-17.66	1.56
	158	0.00	-38.72	14.55	201	201	0.00	-17.66	-0.49
158	158	0.00	-38.72	14.55		202	0.00	-16.93	-0.49
	159	0.00	-89.07	14.55	202	202	0.00	-16.93	-0.49
159	159	0.00	-89.07	14.55		203	0.00	-15.23	-0.49
	160	0.00	-139.41	14.55	203	203	0.00	-15.23	-0.49
160	160	0.00	-139.41	14.55		204	0.00	-13.53	-0.49
	161	0.00	-161.23	14.55	204	204	0.00	-13.53	-0.49
161	161	0.00	-161.24	-4.76		205	0.00	-12.73	-0.49
	162	0.00	-154.09	-4.76	205	205	0.00	-12.73	-0.49
162	162	0.00	-154.10	-4.76		206	0.00	-11.93	-0.49
	163	0.00	-137.63	-4.76	206	206	0.00	-11.93	-0.49
163	163	0.00	-137.63	-4.76		207	0.00	-11.14	-0.49
	164	0.00	-121.16	-4.76	207	207	0.00	-11.14	-0.49
164	164	0.00	-121.16	-4.76		208	0.00	-10.34	-0.49
	165	0.00	-111.58	-4.76	208	208	0.00	-10.34	-0.49
165	165	0.00	-111.58	-4.76		209	0.00	-9.54	-0.49
	166	0.00	-102.00	-4.76	209	209	0.00	-9.54	-0.49
166	166	0.00	-102.01	-4.76		210	0.00	-8.75	-0.49
	167	0.00	-92.43	-4.76	210	210	0.00	-8.75	-0.49
167	167	0.00	-92.44	-4.76		211	0.00	-7.95	-0.49
	168	0.00	-82.85	-4.76	211	211	0.00	-7.95	-0.49
168	168	0.00	-82.86	-4.76		212	0.00	-7.16	-0.49
	169	0.00	-73.28	-4.76	212	212	0.00	-7.16	-0.49
169	169	0.00	-73.29	-4.75		213	0.00	-6.36	-0.49
	170	0.00	-63.72	-4.75	213	213	0.00	-6.36	-0.49
170	170	0.00	-63.72	-4.75		214	0.00	-5.57	-0.49
	171	0.00	-54.16	-4.75	214	214	0.00	-5.57	-0.49
171	171	0.00	-54.16	-4.75		215	0.00	-4.77	-0.49
	172	0.00	-44.60	-4.75	215	215	0.00	-4.77	-0.49
172	172	0.00	-44.60	-4.75		216	0.00	-3.98	-0.49
	173	0.00	-35.04	-4.75	216	216	0.00	-3.98	-0.49
173	173	0.00	-35.04	-4.75		217	0.00	-3.18	-0.49
	174	0.00	-25.48	-4.75	217	217	0.00	-3.18	-0.49
174	174	0.00	-25.48	-4.75		218	0.00	-2.39	-0.49
	175	0.00	-15.92	-4.75	218	218	0.00	-2.39	-0.49
175	175	0.00	-15.92	-4.75		219	0.00	-1.59	-0.49
	176	0.00	-6.37	-4.75	219	219	0.00	-1.59	-0.49
176	176	0.00	-6.37	-4.75		220	0.00	-0.80	-0.49
	177	0.00	3.19	-4.75	220	220	0.00	-0.80	-0.49
177	177	0.00	3.19	-4.75		221	0.00	-0.00	-0.49
	178	0.00	12.74	-4.75					
178	178	0.00	12.74	-4.75					
	179	0.00	29.18	-4.75					
179	179	0.00	29.18	-4.75					
	180	0.00	45.62	-4.75					
180	180	0.00	45.62	-4.75					
	181	0.00	52.74	-4.75					
181	181	0.00	52.74	1.57					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 15 ESTADO DE CARGAS 15

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000010
2	0.000000	-0.000016	-0.000010
3	0.000000	-0.000031	-0.000009
4	0.000000	-0.000046	-0.000009
5	0.000000	-0.000060	-0.000009
6	0.000000	-0.000074	-0.000008
7	0.000000	-0.000087	-0.000007
8	0.000000	-0.000098	-0.000007
9	0.000000	-0.000108	-0.000006
10	0.000000	-0.000117	-0.000005
11	0.000000	-0.000123	-0.000004
12	0.000000	-0.000128	-0.000002
13	0.000000	-0.000130	-0.000001
14	0.000000	-0.000130	0.000001
15	0.000000	-0.000128	0.000002
16	0.000000	-0.000123	0.000004
17	0.000000	-0.000114	0.000006
18	0.000000	-0.000103	0.000008
19	0.000000	-0.000068	0.000012
20	0.000000	-0.000022	0.000014
21	0.000000	0.000000	0.000015
22	0.000000	0.000024	0.000016
23	0.000000	0.000083	0.000018
24	0.000000	0.000149	0.000020
25	0.000000	0.000190	0.000021
26	0.000000	0.000231	0.000020
27	0.000000	0.000272	0.000020
28	0.000000	0.000311	0.000019
29	0.000000	0.000346	0.000017
30	0.000000	0.000378	0.000014
31	0.000000	0.000403	0.000011
32	0.000000	0.000423	0.000008
33	0.000000	0.000434	0.000003
34	0.000000	0.000436	-0.000001
35	0.000000	0.000427	-0.000007
36	0.000000	0.000408	-0.000013
37	0.000000	0.000375	-0.000020
38	0.000000	0.000328	-0.000027
39	0.000000	0.000216	-0.000038
40	0.000000	0.000070	-0.000046
41	0.000000	-0.000000	-0.000048
42	0.000000	-0.000074	-0.000051
43	0.000000	-0.000259	-0.000056
44	0.000000	-0.000465	-0.000062
45	0.000000	-0.000592	-0.000063
46	0.000000	-0.000719	-0.000063
47	0.000000	-0.000845	-0.000061
48	0.000000	-0.000964	-0.000057
49	0.000000	-0.001073	-0.000051
50	0.000000	-0.001169	-0.000044
51	0.000000	-0.001248	-0.000034
52	0.000000	-0.001306	-0.000023
53	0.000000	-0.001339	-0.000010
54	0.000000	-0.001345	0.000005
55	0.000000	-0.001318	0.000022
56	0.000000	-0.001256	0.000040
57	0.000000	-0.001155	0.000061
58	0.000000	-0.001011	0.000083
59	0.000000	-0.000664	0.000118
60	0.000000	-0.000216	0.000141
61	0.000000	0.000000	0.000148
62	0.000000	0.000228	0.000155
63	0.000000	0.000797	0.000173
64	0.000000	0.001429	0.000190
65	0.000000	0.001817	0.000195
66	0.000000	0.002209	0.000194
67	0.000000	0.002594	0.000187
68	0.000000	0.002959	0.000175
69	0.000000	0.003295	0.000157
70	0.000000	0.003589	0.000134
71	0.000000	0.003830	0.000105
72	0.000000	0.004008	0.000071
73	0.000000	0.004110	0.000030
74	0.000000	0.004126	-0.000015
75	0.000000	0.004045	-0.000067
76	0.000000	0.003854	-0.000124
77	0.000000	0.003544	-0.000186
78	0.000000	0.003102	-0.000254
79	0.000000	0.002037	-0.000364
80	0.000000	0.000664	-0.000431
81	0.000000	-0.000000	-0.000454
82	0.000000	-0.000698	-0.000476
83	0.000000	-0.002423	-0.000515
84	0.000000	-0.004228	-0.000518
85	0.000000	-0.005243	-0.000488
86	0.000000	-0.006181	-0.000441
87	0.000000	-0.007011	-0.000381
88	0.000000	-0.007706	-0.000308
89	0.000000	-0.008241	-0.000222
90	0.000000	-0.008591	-0.000125
91	0.000000	-0.008741	-0.000023
92	0.000000	-0.008684	0.000079
93	0.000000	-0.008423	0.000179
94	0.000000	-0.007967	0.000273
95	0.000000	-0.007333	0.000356
96	0.000000	-0.006545	0.000426
97	0.000000	-0.005627	0.000485
98	0.000000	-0.004604	0.000530
99	0.000000	-0.002710	0.000556
100	0.000000	-0.000803	0.000541
101	0.000000	-0.000000	0.000529
102	0.000000	0.000784	0.000516
103	0.000000	0.002493	0.000472
104	0.000000	0.003990	0.000393
105	0.000000	0.004725	0.000338
106	0.000000	0.005349	0.000283
107	0.000000	0.005862	0.000227
108	0.000000	0.006263	0.000171
109	0.000000	0.006552	0.000116
110	0.000000	0.006728	0.000060
111	0.000000	0.006792	0.000003
112	0.000000	0.006742	-0.000053
113	0.000000	0.006579	-0.000109
114	0.000000	0.006301	-0.000166
115	0.000000	0.005910	-0.000223
116	0.000000	0.005403	-0.000280
117	0.000000	0.004782	-0.000338
118	0.000000	0.004045	-0.000395
119	0.000000	0.002533	-0.000479
120	0.000000	0.000798	-0.000525
121	0.000000	-0.000000	-0.000539
122	0.000000	-0.000819	-0.000551
123	0.000000	-0.002757	-0.000563
124	0.000000	-0.004666	-0.000533
125	0.000000	-0.005696	-0.000488
126	0.000000	-0.006615	-0.000424
127	0.000000	-0.007390	-0.000345
128	0.000000	-0.007997	-0.000257
129	0.000000	-0.008420	-0.000162
130	0.000000	-0.008649	-0.000065
131	0.000000	-0.008684	0.000030
132	0.000000	-0.008530	0.000123
133	0.000000	-0.008189	0.000215
134	0.000000	-0.007667	0.000302
135	0.000000	-0.006979	0.000379
136	0.000000	-0.006149	0.000443
137	0.000000	-0.005206	0.000490
138	0.000000	-0.004192	0.000515
139	0.000000	-0.002405	0.000509
140	0.000000	-0.000695	0.000473
141	0.000000	-0.000000	0.000452
142	0.000000	0.000661	0.000429
143	0.000000	0.002028	0.000362
144	0.000000	0.003088	0.000253
145	0.000000	0.003529	0.000185
146	0.000000	0.003838	0.000123
147	0.000000	0.004028	0.000066
148	0.000000	0.004109	0.000015
149	0.000000	0.004093	-0.000030
150	0.000000	0.003991	-0.000070
151	0.000000	0.003814	-0.000105
152	0.000000	0.003574	-0.000133
153	0.000000	0.003281	-0.000157
154	0.000000	0.002947	-0.000174
155	0.000000	0.002583	-0.000187
156	0.000000	0.002201	-0.000193
157	0.000000	0.001810	-0.000194
158	0.000000	0.001424	-0.000189
159	0.000000	0.000794	-0.000172
160	0.000000	0.000227	-0.000155
161	0.000000	0.000000	-0.000148
162	0.000000	-0.000216	-0.000140
163	0.000000	-0.000661	-0.000118
164	0.000000	-0.001007	-0.000083
165	0.000000	-0.001151	-0.000060
166	0.000000	-0.001251	-0.000040
167	0.000000	-0.001313	-0.000022

168	0.000000	-0.001340	-0.000005
169	0.000000	-0.001334	0.000010
170	0.000000	-0.001301	0.000023
171	0.000000	-0.001243	0.000034
172	0.000000	-0.001165	0.000044
173	0.000000	-0.001069	0.000051
174	0.000000	-0.000960	0.000057
175	0.000000	-0.000841	0.000061
176	0.000000	-0.000717	0.000063
177	0.000000	-0.000589	0.000063
178	0.000000	-0.000463	0.000062
179	0.000000	-0.000258	0.000056
180	0.000000	-0.000074	0.000050
181	0.000000	-0.000000	0.000048
182	0.000000	0.000070	0.000046
183	0.000000	0.000215	0.000038
184	0.000000	0.000327	0.000027
185	0.000000	0.000374	0.000020
186	0.000000	0.000406	0.000013
187	0.000000	0.000426	0.000007
188	0.000000	0.000434	0.000001
189	0.000000	0.000432	-0.000003
190	0.000000	0.000421	-0.000008
191	0.000000	0.000402	-0.000011
192	0.000000	0.000376	-0.000014
193	0.000000	0.000345	-0.000017
194	0.000000	0.000309	-0.000019
195	0.000000	0.000271	-0.000020
196	0.000000	0.000230	-0.000020
197	0.000000	0.000189	-0.000020
198	0.000000	0.000148	-0.000020
199	0.000000	0.000082	-0.000018
200	0.000000	0.000023	-0.000016
201	0.000000	0.000000	-0.000015
202	0.000000	-0.000022	-0.000014
203	0.000000	-0.000068	-0.000012
204	0.000000	-0.000102	-0.000008
205	0.000000	-0.000114	-0.000006
206	0.000000	-0.000122	-0.000004
207	0.000000	-0.000127	-0.000002
208	0.000000	-0.000130	-0.000001
209	0.000000	-0.000130	0.000001
210	0.000000	-0.000127	0.000002
211	0.000000	-0.000123	0.000003
212	0.000000	-0.000116	0.000005
213	0.000000	-0.000108	0.000006
214	0.000000	-0.000098	0.000007
215	0.000000	-0.000086	0.000007
216	0.000000	-0.000074	0.000008
217	0.000000	-0.000060	0.000009
218	0.000000	-0.000046	0.000009
219	0.000000	-0.000031	0.000009
220	0.000000	-0.000016	0.000010
221	0.000000	-0.000000	0.000010

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	1.51	0.00
21	0.00	-6.31	0.00
41	-0.00	19.45	0.00
61	0.00	-59.45	0.00
81	0.00	269.15	0.00
101	0.00	174.13	0.01
121	-0.00	228.88	-0.03
141	0.00	297.34	-0.01
161	0.00	-59.23	-0.00
181	0.00	19.37	0.00
201	0.00	-6.30	-0.00
221	0.00	1.50	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	-1.51
	2	0.00	2.45	-1.51
2	2	0.00	2.45	-1.51
	3	0.00	4.91	-1.51
3	3	0.00	4.91	-1.51
	4	0.00	7.36	-1.51
4	4	0.00	7.36	-1.51
	5	0.00	9.82	-1.51
5	5	0.00	9.82	-1.51
	6	0.00	12.27	-1.51
6	6	0.00	12.27	-1.51
	7	0.00	14.72	-1.51
7	7	0.00	14.72	-1.51
	8	0.00	17.18	-1.51
8	8	0.00	17.18	-1.51
	9	0.00	19.63	-1.51
9	9	0.00	19.63	-1.51
	10	0.00	22.08	-1.51
10	10	0.00	22.08	-1.51
	11	0.00	24.54	-1.51
11	11	0.00	24.53	-1.51
	12	0.00	26.98	-1.51
12	12	0.00	26.98	-1.51
	13	0.00	29.43	-1.51
13	13	0.00	29.43	-1.51
	14	0.00	31.88	-1.51
14	14	0.00	31.88	-1.51
	15	0.00	34.32	-1.51
15	15	0.00	34.32	-1.51
	16	0.00	36.76	-1.51
16	16	0.00	36.76	-1.50
	17	0.00	39.20	-1.50
17	17	0.00	39.20	-1.50
	18	0.00	41.64	-1.50
18	18	0.00	41.64	-1.50
	19	0.00	46.84	-1.50
19	19	0.00	46.85	-1.50
	20	0.00	52.05	-1.50
20	20	0.00	52.05	-1.50
	21	0.00	54.31	-1.50
21	21	0.00	54.30	4.81
	22	0.00	47.09	4.81
22	22	0.00	47.09	4.81
	23	0.00	30.46	4.81
23	23	0.00	30.46	4.81
	24	0.00	13.82	4.81
24	24	0.00	13.82	4.81
	25	0.00	4.16	4.81
25	25	0.00	4.15	4.81
	26	0.00	-5.52	4.81
26	26	0.00	-5.52	4.81
	27	0.00	-15.19	4.81
27	27	0.00	-15.19	4.81
	28	0.00	-24.87	4.81
28	28	0.00	-24.87	4.81
	29	0.00	-34.55	4.81
29	29	0.00	-34.55	4.81
	30	0.00	-44.23	4.81
30	30	0.00	-44.23	4.81
	31	0.00	-53.91	4.81
31	31	0.00	-53.91	4.82
	32	0.00	-63.59	4.82
32	32	0.00	-63.59	4.82
	33	0.00	-73.28	4.82
33	33	0.00	-73.28	4.82
	34	0.00	-82.97	4.82
34	34	0.00	-82.97	4.82
	35	0.00	-92.66	4.82
35	35	0.00	-92.66	4.82
	36	0.00	-102.35	4.82
36	36	0.00	-102.36	4.82
	37	0.00	-112.06	4.82
37	37	0.00	-112.06	4.83
	38	0.00	-121.76	4.83
38	38	0.00	-121.76	4.83
	39	0.00	-138.46	4.83
39	39	0.00	-138.46	4.83
	40	0.00	-155.16	4.83
40	40	0.00	-155.16	4.83
	41	0.00	-162.40	4.83
41	41	0.00	-162.40	-14.62
	42	0.00	-140.47	-14.62
42	42	0.00	-140.46	-14.62
	43	0.00	-89.87	-14.62
43	43	0.00	-89.87	-14.62
	44	0.00	-39.28	-14.62
44	44	0.00	-39.28	-14.63
	45	0.00	-9.87	-14.63
45	45	0.00	-9.87	-14.63
	46	0.00	19.56	-14.63
46	46	0.00	19.56	-14.63
	47	0.00	48.98	-14.63
47	47	0.00	48.99	-14.63
	48	0.00	78.42	-14.63
48	48	0.00	78.42	-14.63
	49	0.00	107.85	-14.63
49	49	0.00	107.86	-14.64
	50	0.00	137.31	-14.64
50	50	0.00	137.31	-14.64
	51	0.00	166.76	-14.64

51	51	0.00	166.75	-14.64		95	0.00	1232.62	95.53
	52	0.00	196.20	-14.64	95	95	0.00	1232.65	95.48
52	52	0.00	196.21	-14.65		96	0.00	1040.64	95.48
	53	0.00	225.67	-14.65	96	96	0.00	1040.65	95.42
53	53	0.00	225.68	-14.65		97	0.00	848.66	95.42
	54	0.00	255.14	-14.65	97	97	0.00	848.60	95.39
54	54	0.00	255.13	-14.65		98	0.00	592.37	135.39
	55	0.00	284.62	-14.65	98	98	0.00	592.35	135.42
55	55	0.00	284.62	-14.65		99	0.00	-7.01	175.42
	56	0.00	314.09	-14.65	99	99	0.00	-7.01	175.42
56	56	0.00	314.08	-14.65		100	0.00	-613.96	175.42
	57	0.00	343.57	-14.65	100	100	0.00	-613.96	175.41
57	57	0.00	343.56	-14.66		101	0.00	-877.06	175.41
	58	0.00	373.05	-14.66	101	101	0.00	-877.07	1.28
58	58	0.00	373.05	-14.66		102	0.00	-878.99	1.28
	59	0.00	423.78	-14.66	102	102	0.00	-878.99	1.30
59	59	0.00	423.78	-14.66		103	0.00	-883.49	1.30
	60	0.00	474.51	-14.66	103	103	0.00	-883.49	1.30
60	60	0.00	474.52	-14.67		104	0.00	-888.00	1.30
	61	0.00	496.52	-14.67	104	104	0.00	-888.01	1.29
61	61	0.00	496.52	44.79		105	0.00	-890.60	1.29
	62	0.00	429.35	44.79	105	105	0.00	-890.61	1.31
62	62	0.00	429.34	44.79		106	0.00	-893.24	1.31
	63	0.00	274.38	44.79	106	106	0.00	-893.25	1.31
63	63	0.00	274.38	44.79		107	0.00	-895.89	1.31
	64	0.00	119.42	44.79	107	107	0.00	-895.89	1.39
64	64	0.00	119.42	44.79		108	0.00	-898.68	1.39
	65	0.00	29.35	44.79	108	108	0.00	-898.67	1.41
65	65	0.00	29.35	44.80		109	0.00	-901.50	1.41
	66	0.00	-60.78	44.80	109	109	0.00	-901.48	1.43
66	66	0.00	-60.79	44.81		110	0.00	-904.37	1.43
	67	0.00	-150.90	44.81	110	110	0.00	-904.37	1.47
67	67	0.00	-150.91	44.83		111	0.00	-907.32	1.47
	68	0.00	-241.11	44.83	111	111	0.00	-907.29	1.51
68	68	0.00	-241.10	44.86		112	0.00	-910.32	1.51
	69	0.00	-331.32	44.86	112	112	0.00	-910.35	1.49
69	69	0.00	-331.29	44.86		113	0.00	-913.35	1.49
	70	0.00	-421.55	44.86	113	113	0.00	-913.42	1.52
70	70	0.00	-421.54	44.88		114	0.00	-916.48	1.52
	71	0.00	-511.79	44.88	114	114	0.00	-916.51	1.56
71	71	0.00	-511.78	44.86		115	0.00	-919.66	1.56
	72	0.00	-602.00	44.86	115	115	0.00	-919.65	1.60
72	72	0.00	-602.00	44.89		116	0.00	-922.87	1.60
	73	0.00	-692.32	44.89	116	116	0.00	-922.89	1.62
73	73	0.00	-692.27	44.90		117	0.00	-926.14	1.62
	74	0.00	-782.56	44.90	117	117	0.00	-926.13	1.65
74	74	0.00	-782.53	44.93		118	0.00	-929.45	1.65
	75	0.00	-872.94	44.93	118	118	0.00	-929.44	1.64
75	75	0.00	-872.94	44.93		119	0.00	-935.13	1.64
	76	0.00	-963.30	44.93	119	119	0.00	-935.11	1.64
76	76	0.00	-963.30	44.97		120	0.00	-940.78	1.64
	77	0.00	-1053.78	44.97	120	120	0.00	-940.74	1.66
77	77	0.00	-1053.77	44.97		121	0.00	-943.23	1.66
	78	0.00	-1144.20	44.97	121	121	0.00	-943.21	-227.22
78	78	0.00	-1144.22	44.97		122	0.00	-602.39	-227.22
	79	0.00	-1299.82	44.97	122	122	0.00	-602.39	-227.20
79	79	0.00	-1299.81	44.98		123	0.00	79.73	-147.20
	80	0.00	-1455.44	44.98	123	123	0.00	79.73	-147.20
80	80	0.00	-1455.43	44.99		124	0.00	589.04	-147.20
	81	0.00	-1522.92	44.99	124	124	0.00	589.05	-147.18
81	81	0.00	-1522.92	-224.16		125	0.00	885.02	-147.18
	82	0.00	-1186.70	-224.16	125	125	0.00	885.07	-147.19
82	82	0.00	-1186.70	-224.16		126	0.00	1161.90	-107.19
	83	0.00	-411.12	-224.16	126	126	0.00	1161.90	-107.22
83	83	0.00	-411.12	-224.16		127	0.00	1349.77	-67.22
	84	0.00	309.67	-184.16	127	127	0.00	1349.74	-67.23
84	84	0.00	309.68	-184.14		128	0.00	1485.00	-67.23
	85	0.00	627.15	-144.14	128	128	0.00	1484.97	-67.22
85	85	0.00	627.16	-144.16		129	0.00	1561.08	-27.22
	86	0.00	866.29	-104.16	129	129	0.00	1561.06	-27.22
86	86	0.00	866.29	-104.20		130	0.00	1548.26	12.78
	87	0.00	1075.84	-104.20	130	130	0.00	1548.27	12.70
87	87	0.00	1075.84	-104.23		131	0.00	1522.74	12.70
	88	0.00	1285.56	-104.23	131	131	0.00	1522.71	12.72
88	88	0.00	1285.57	-104.30		132	0.00	1497.13	12.72
	89	0.00	1491.42	-64.30	132	132	0.00	1497.12	12.70
89	89	0.00	1491.40	-64.33		133	0.00	1458.65	52.70
	90	0.00	1618.86	-24.33	133	133	0.00	1458.68	52.65
90	90	0.00	1618.83	-24.39		134	0.00	1331.44	92.65
	91	0.00	1667.88	15.61	134	134	0.00	1331.41	92.62
91	91	0.00	1667.83	15.61		135	0.00	1145.05	92.62
	92	0.00	1636.44	15.61	135	135	0.00	1145.03	92.61
92	92	0.00	1636.48	15.58		136	0.00	906.10	132.61
	93	0.00	1575.01	55.58	136	136	0.00	906.05	132.63
93	93	0.00	1575.02	55.51		137	0.00	578.03	172.63
	94	0.00	1424.83	95.51	137	137	0.00	577.99	172.63
94	94	0.00	1424.84	95.53		138	0.00	230.85	172.63

138	138	0.00	230.84	172.63
	139	0.00	-366.45	172.63
139	139	0.00	-366.46	172.63
	140	0.00	-1136.58	252.63
140	140	0.00	-1136.58	252.65
	141	0.00	-1515.54	252.65
141	141	0.00	-1515.53	-44.69
	142	0.00	-1448.48	-44.69
142	142	0.00	-1448.48	-44.72
	143	0.00	-1293.77	-44.72
143	143	0.00	-1293.77	-44.72
	144	0.00	-1139.05	-44.72
144	144	0.00	-1139.04	-44.71
	145	0.00	-1049.12	-44.71
145	145	0.00	-1049.13	-44.71
	146	0.00	-959.17	-44.71
146	146	0.00	-959.16	-44.71
	147	0.00	-869.25	-44.71
147	147	0.00	-869.25	-44.73
	148	0.00	-779.26	-44.73
148	148	0.00	-779.27	-44.71
	149	0.00	-689.36	-44.71
149	149	0.00	-689.37	-44.66
	150	0.00	-599.51	-44.66
150	150	0.00	-599.51	-44.67
	151	0.00	-509.68	-44.67
151	151	0.00	-509.69	-44.65
	152	0.00	-419.91	-44.65
152	152	0.00	-419.89	-44.63
	153	0.00	-330.08	-44.63
153	153	0.00	-330.07	-44.63
	154	0.00	-240.32	-44.63
154	154	0.00	-240.29	-44.61
	155	0.00	-150.53	-44.61
155	155	0.00	-150.52	-44.62
	156	0.00	-60.78	-44.62
156	156	0.00	-60.78	-44.64
	157	0.00	29.03	-44.64
157	157	0.00	29.03	-44.63
	158	0.00	118.78	-44.63
158	158	0.00	118.77	-44.62
	159	0.00	273.17	-44.62
159	159	0.00	273.17	-44.63
	160	0.00	427.58	-44.63
160	160	0.00	427.58	-44.63
	161	0.00	494.52	-44.63
161	161	0.00	494.52	14.60
	162	0.00	472.62	14.60
162	162	0.00	472.63	14.60
	163	0.00	422.12	14.60
163	163	0.00	422.12	14.60
	164	0.00	371.60	14.60
164	164	0.00	371.60	14.60
	165	0.00	342.23	14.60
165	165	0.00	342.23	14.60
	166	0.00	312.86	14.60
166	166	0.00	312.86	14.60
	167	0.00	283.50	14.60
167	167	0.00	283.51	14.60
	168	0.00	254.12	14.60
168	168	0.00	254.13	14.60
	169	0.00	224.77	14.60
169	169	0.00	224.78	14.59
	170	0.00	195.43	14.59
170	170	0.00	195.43	14.58
	171	0.00	166.11	14.58
171	171	0.00	166.11	14.58
	172	0.00	136.79	14.58
172	172	0.00	136.79	14.58
	173	0.00	107.46	14.58
173	173	0.00	107.46	14.57
	174	0.00	78.16	14.57
174	174	0.00	78.15	14.57
	175	0.00	48.84	14.57
175	175	0.00	48.84	14.57
	176	0.00	19.54	14.57
176	176	0.00	19.53	14.57
	177	0.00	-9.78	14.57
177	177	0.00	-9.79	14.57
	178	0.00	-39.09	14.57
178	178	0.00	-39.09	14.57
	179	0.00	-89.50	14.57
179	179	0.00	-89.50	14.57
	180	0.00	-139.91	14.57
180	180	0.00	-139.92	14.57
	181	0.00	-161.77	14.57
181	181	0.00	-161.77	-4.80
	182	0.00	-154.57	-4.80
182	182	0.00	-154.57	-4.80
	183	0.00	-137.95	-4.80
183	183	0.00	-137.95	-4.80
	184	0.00	-121.33	-4.80
184	184	0.00	-121.32	-4.80
	185	0.00	-111.66	-4.80
185	185	0.00	-111.66	-4.80
	186	0.00	-102.00	-4.80
186	186	0.00	-102.00	-4.80
	187	0.00	-92.34	-4.80
187	187	0.00	-92.34	-4.80
	188	0.00	-82.68	-4.80
188	188	0.00	-82.67	-4.80
	189	0.00	-73.02	-4.80
189	189	0.00	-73.02	-4.80
	190	0.00	-63.36	-4.80
190	190	0.00	-63.36	-4.80
	191	0.00	-53.71	-4.80
191	191	0.00	-53.71	-4.80
	192	0.00	-44.07	-4.80
192	192	0.00	-44.06	-4.80
	193	0.00	-34.42	-4.80
193	193	0.00	-34.42	-4.80
	194	0.00	-24.77	-4.80
194	194	0.00	-24.77	-4.79
	195	0.00	-15.13	-4.79
195	195	0.00	-15.13	-4.79
	196	0.00	-5.49	-4.79
196	196	0.00	-5.48	-4.80
	197	0.00	4.16	-4.80
197	197	0.00	4.16	-4.79
	198	0.00	13.80	-4.79
198	198	0.00	13.80	-4.79
	199	0.00	30.39	-4.79
199	199	0.00	30.39	-4.79
	200	0.00	46.98	-4.79
200	200	0.00	46.98	-4.79
	201	0.00	54.17	-4.79
201	201	0.00	54.17	1.51
	202	0.00	51.91	1.51
202	202	0.00	51.91	1.51
	203	0.00	46.70	1.51
203	203	0.00	46.70	1.51
	204	0.00	41.49	1.51
204	204	0.00	41.49	1.51
	205	0.00	39.04	1.51
205	205	0.00	39.04	1.51
	206	0.00	36.60	1.51
206	206	0.00	36.60	1.51
	207	0.00	34.15	1.51
207	207	0.00	34.15	1.50
	208	0.00	31.71	1.50
208	208	0.00	31.71	1.51
	209	0.00	29.27	1.51
209	209	0.00	29.27	1.50
	210	0.00	26.83	1.50
210	210	0.00	26.83	1.50
	211	0.00	24.39	1.50
211	211	0.00	24.39	1.50
	212	0.00	21.95	1.50
212	212	0.00	21.96	1.51
	213	0.00	19.51	1.51
213	213	0.00	19.51	1.50
	214	0.00	17.08	1.50
214	214	0.00	17.07	1.50
	215	0.00	14.63	1.50
215	215	0.00	14.63	1.50
	216	0.00	12.20	1.50
216	216	0.00	12.20	1.50
	217	0.00	9.76	1.50
217	217	0.00	9.76	1.50
	218	0.00	7.32	1.50
218	218	0.00	7.32	1.50
	219	0.00	4.88	1.50
219	219	0.00	4.88	1.50
	220	0.00	2.44	1.50
220	220	0.00	2.44	1.50
	221	0.00	0.00	1.50

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 16 ESTADO DE CARGAS 16

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	0.000000	0.000003
2	0.000000	0.000005	0.000003
3	0.000000	0.000010	0.000003
4	0.000000	0.000015	0.000003
5	0.000000	0.000020	0.000003
6	0.000000	0.000024	0.000003
7	0.000000	0.000028	0.000002
8	0.000000	0.000032	0.000002
9	0.000000	0.000035	0.000002
10	0.000000	0.000038	0.000002
11	0.000000	0.000040	0.000001
12	0.000000	0.000042	0.000001
13	0.000000	0.000042	0.000000
14	0.000000	0.000043	-0.000000
15	0.000000	0.000042	-0.000001
16	0.000000	0.000040	-0.000001
17	0.000000	0.000037	-0.000002
18	0.000000	0.000034	-0.000003
19	0.000000	0.000022	-0.000004
20	0.000000	0.000007	-0.000005
21	0.000000	-0.000000	-0.000005
22	0.000000	-0.000008	-0.000005
23	0.000000	-0.000027	-0.000006
24	0.000000	-0.000049	-0.000007
25	0.000000	-0.000062	-0.000007
26	0.000000	-0.000075	-0.000007
27	0.000000	-0.000089	-0.000006
28	0.000000	-0.000101	-0.000006
29	0.000000	-0.000113	-0.000005
30	0.000000	-0.000123	-0.000005
31	0.000000	-0.000132	-0.000004
32	0.000000	-0.000138	-0.000002
33	0.000000	-0.000141	-0.000001
34	0.000000	-0.000142	0.000000
35	0.000000	-0.000139	0.000002
36	0.000000	-0.000133	0.000004
37	0.000000	-0.000122	0.000006
38	0.000000	-0.000107	0.000009
39	0.000000	-0.000070	0.000013
40	0.000000	-0.000023	0.000015
41	0.000000	0.000000	0.000016
42	0.000000	0.000024	0.000016
43	0.000000	0.000085	0.000018
44	0.000000	0.000152	0.000020
45	0.000000	0.000193	0.000021
46	0.000000	0.000235	0.000021
47	0.000000	0.000275	0.000020
48	0.000000	0.000314	0.000019
49	0.000000	0.000350	0.000017
50	0.000000	0.000381	0.000014
51	0.000000	0.000407	0.000011
52	0.000000	0.000426	0.000008
53	0.000000	0.000437	0.000003
54	0.000000	0.000438	-0.000002
55	0.000000	0.000430	-0.000007
56	0.000000	0.000410	-0.000013
57	0.000000	0.000377	-0.000020
58	0.000000	0.000330	-0.000027
59	0.000000	0.000216	-0.000039
60	0.000000	0.000071	-0.000046
61	0.000000	-0.000000	-0.000048
62	0.000000	-0.000074	-0.000051
63	0.000000	-0.000260	-0.000056
64	0.000000	-0.000466	-0.000062
65	0.000000	-0.000592	-0.000064
66	0.000000	-0.000720	-0.000063
67	0.000000	-0.000846	-0.000061
68	0.000000	-0.000965	-0.000057
69	0.000000	-0.001074	-0.000051
70	0.000000	-0.001170	-0.000044
71	0.000000	-0.001249	-0.000034
72	0.000000	-0.001307	-0.000023
73	0.000000	-0.001340	-0.000010
74	0.000000	-0.001345	0.000005
75	0.000000	-0.001319	0.000022
76	0.000000	-0.001257	0.000040
77	0.000000	-0.001155	0.000061
78	0.000000	-0.001011	0.000083
79	0.000000	-0.000664	0.000119
80	0.000000	-0.000217	0.000141
81	0.000000	0.000000	0.000148
82	0.000000	0.000228	0.000155
83	0.000000	0.000798	0.000173
84	0.000000	0.001429	0.000190
85	0.000000	0.001818	0.000195
86	0.000000	0.002210	0.000194
87	0.000000	0.002594	0.000187
88	0.000000	0.002960	0.000175
89	0.000000	0.003295	0.000157
90	0.000000	0.003589	0.000134
91	0.000000	0.003831	0.000105
92	0.000000	0.004008	0.000071
93	0.000000	0.004111	0.000030
94	0.000000	0.004127	-0.000015
95	0.000000	0.004045	-0.000067
96	0.000000	0.003855	-0.000124
97	0.000000	0.003544	-0.000186
98	0.000000	0.003102	-0.000254
99	0.000000	0.002037	-0.000364
100	0.000000	0.000664	-0.000431
101	0.000000	-0.000000	-0.000455
102	0.000000	-0.000698	-0.000476
103	0.000000	-0.002423	-0.000515
104	0.000000	-0.004229	-0.000518
105	0.000000	-0.005244	-0.000488
106	0.000000	-0.006182	-0.000442
107	0.000000	-0.007012	-0.000381
108	0.000000	-0.007707	-0.000308
109	0.000000	-0.008242	-0.000222
110	0.000000	-0.008593	-0.000125
111	0.000000	-0.008743	-0.000023
112	0.000000	-0.008686	0.000079
113	0.000000	-0.008425	0.000179
114	0.000000	-0.007969	0.000273
115	0.000000	-0.007334	0.000356
116	0.000000	-0.006547	0.000426
117	0.000000	-0.005628	0.000485
118	0.000000	-0.004605	0.000530
119	0.000000	-0.002711	0.000556
120	0.000000	-0.000803	0.000541
121	0.000000	-0.000000	0.000529
122	0.000000	0.000784	0.000516
123	0.000000	0.002494	0.000473
124	0.000000	0.003992	0.000393
125	0.000000	0.004727	0.000338
126	0.000000	0.005352	0.000283
127	0.000000	0.005865	0.000227
128	0.000000	0.006267	0.000172
129	0.000000	0.006555	0.000116
130	0.000000	0.006732	0.000060
131	0.000000	0.006795	0.000003
132	0.000000	0.006745	-0.000053
133	0.000000	0.006582	-0.000110
134	0.000000	0.006304	-0.000166
135	0.000000	0.005912	-0.000223
136	0.000000	0.005406	-0.000281
137	0.000000	0.004784	-0.000338
138	0.000000	0.004046	-0.000395
139	0.000000	0.002534	-0.000479
140	0.000000	0.000798	-0.000525
141	0.000000	-0.000000	-0.000539
142	0.000000	-0.000819	-0.000552
143	0.000000	-0.002757	-0.000563
144	0.000000	-0.004667	-0.000533
145	0.000000	-0.005696	-0.000487
146	0.000000	-0.006616	-0.000424
147	0.000000	-0.007391	-0.000345
148	0.000000	-0.007998	-0.000257
149	0.000000	-0.008420	-0.000162
150	0.000000	-0.008649	-0.000065
151	0.000000	-0.008684	0.000030
152	0.000000	-0.008530	0.000124
153	0.000000	-0.008188	0.000216
154	0.000000	-0.007666	0.000303
155	0.000000	-0.006978	0.000379
156	0.000000	-0.006148	0.000443
157	0.000000	-0.005206	0.000490
158	0.000000	-0.004192	0.000515
159	0.000000	-0.002405	0.000509
160	0.000000	-0.000695	0.000473
161	0.000000	-0.000000	0.000452
162	0.000000	0.000661	0.000429
163	0.000000	0.002027	0.000362
164	0.000000	0.003087	0.000253
165	0.000000	0.003527	0.000185
166	0.000000	0.003836	0.000123
167	0.000000	0.004026	0.000066

168	0.000000	0.004107	0.000015
169	0.000000	0.004090	-0.000030
170	0.000000	0.003988	-0.000070
171	0.000000	0.003811	-0.000105
172	0.000000	0.003571	-0.000134
173	0.000000	0.003278	-0.000157
174	0.000000	0.002944	-0.000174
175	0.000000	0.002580	-0.000186
176	0.000000	0.002197	-0.000193
177	0.000000	0.001807	-0.000194
178	0.000000	0.001421	-0.000189
179	0.000000	0.000793	-0.000172
180	0.000000	0.000226	-0.000154
181	0.000000	0.000000	-0.000147
182	0.000000	-0.000215	-0.000140
183	0.000000	-0.000659	-0.000118
184	0.000000	-0.001003	-0.000082
185	0.000000	-0.001145	-0.000060
186	0.000000	-0.001245	-0.000040
187	0.000000	-0.001306	-0.000021
188	0.000000	-0.001331	-0.000004
189	0.000000	-0.001325	0.000010
190	0.000000	-0.001291	0.000023
191	0.000000	-0.001232	0.000034
192	0.000000	-0.001153	0.000044
193	0.000000	-0.001058	0.000051
194	0.000000	-0.000949	0.000057
195	0.000000	-0.000830	0.000061
196	0.000000	-0.000706	0.000063
197	0.000000	-0.000579	0.000063
198	0.000000	-0.000455	0.000061
199	0.000000	-0.000253	0.000055
200	0.000000	-0.000072	0.000049
201	0.000000	-0.000000	0.000047
202	0.000000	0.000068	0.000044
203	0.000000	0.000208	0.000037
204	0.000000	0.000314	0.000025
205	0.000000	0.000349	0.000018
206	0.000000	0.000374	0.000013
207	0.000000	0.000390	0.000007
208	0.000000	0.000398	0.000002
209	0.000000	0.000398	-0.000002
210	0.000000	0.000390	-0.000007
211	0.000000	0.000376	-0.000011
212	0.000000	0.000356	-0.000014
213	0.000000	0.000330	-0.000017
214	0.000000	0.000299	-0.000020
215	0.000000	0.000264	-0.000023
216	0.000000	0.000226	-0.000025
217	0.000000	0.000184	-0.000026
218	0.000000	0.000140	-0.000028
219	0.000000	0.000095	-0.000029
220	0.000000	0.000048	-0.000029
221	0.000000	0.000000	-0.000029

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	-0.49	-0.00
21	0.00	2.06	0.00
41	0.00	-6.34	0.00
61	0.00	19.38	0.00
81	0.00	-59.45	0.00
101	-0.00	269.16	0.01
121	-0.00	173.99	0.01
141	0.00	228.68	-0.01
161	0.00	297.41	0.01
181	0.00	-59.39	-0.00
201	0.00	19.32	0.00
221	0.00	-4.61	-0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	0.00	0.49
	2	0.00	-0.80	0.49
2	2	0.00	-0.80	0.49
	3	0.00	-1.60	0.49
3	3	0.00	-1.60	0.49
	4	0.00	-2.40	0.49
4	4	0.00	-2.40	0.49
	5	0.00	-3.20	0.49
5	5	0.00	-3.20	0.49
	6	0.00	-4.00	0.49
6	6	0.00	-4.00	0.49
	7	0.00	-4.80	0.49
7	7	0.00	-4.80	0.49
	8	0.00	-5.60	0.49
8	8	0.00	-5.60	0.49
	9	0.00	-6.40	0.49
9	9	0.00	-6.40	0.49
	10	0.00	-7.20	0.49
10	10	0.00	-7.20	0.49
	11	0.00	-8.00	0.49
11	11	0.00	-8.00	0.49
	12	0.00	-8.80	0.49
12	12	0.00	-8.80	0.49
	13	0.00	-9.59	0.49
13	13	0.00	-9.59	0.49
	14	0.00	-10.39	0.49
14	14	0.00	-10.39	0.49
	15	0.00	-11.19	0.49
15	15	0.00	-11.19	0.49
	16	0.00	-11.98	0.49
16	16	0.00	-11.98	0.49
	17	0.00	-12.78	0.49
17	17	0.00	-12.78	0.49
	18	0.00	-13.58	0.49
18	18	0.00	-13.58	0.49
	19	0.00	-15.27	0.49
19	19	0.00	-15.27	0.49
	20	0.00	-16.97	0.49
20	20	0.00	-16.97	0.49
	21	0.00	-17.70	0.49
21	21	0.00	-17.70	-1.57
	22	0.00	-15.35	-1.57
22	22	0.00	-15.35	-1.57
	23	0.00	-9.93	-1.57
23	23	0.00	-9.93	-1.57
	24	0.00	-4.51	-1.57
24	24	0.00	-4.51	-1.57
	25	0.00	-1.35	-1.57
25	25	0.00	-1.35	-1.57
	26	0.00	1.80	-1.57
26	26	0.00	1.80	-1.57
	27	0.00	4.95	-1.57
27	27	0.00	4.95	-1.57
	28	0.00	8.11	-1.57
28	28	0.00	8.11	-1.57
	29	0.00	11.26	-1.57
29	29	0.00	11.26	-1.57
	30	0.00	14.42	-1.57
30	30	0.00	14.42	-1.57
	31	0.00	17.57	-1.57
31	31	0.00	17.57	-1.57
	32	0.00	20.73	-1.57
32	32	0.00	20.73	-1.57
	33	0.00	23.89	-1.57
33	33	0.00	23.89	-1.57
	34	0.00	27.05	-1.57
34	34	0.00	27.05	-1.57
	35	0.00	30.21	-1.57
35	35	0.00	30.21	-1.57
	36	0.00	33.37	-1.57
36	36	0.00	33.37	-1.57
	37	0.00	36.53	-1.57
37	37	0.00	36.53	-1.57
	38	0.00	39.70	-1.57
38	38	0.00	39.70	-1.57
	39	0.00	45.14	-1.57
39	39	0.00	45.14	-1.57
	40	0.00	50.58	-1.57
40	40	0.00	50.58	-1.57
	41	0.00	52.94	-1.57
41	41	0.00	52.94	4.77
	42	0.00	45.79	4.77
42	42	0.00	45.79	4.77
	43	0.00	29.30	4.77
43	43	0.00	29.30	4.77
	44	0.00	12.80	4.77
44	44	0.00	12.80	4.77
	45	0.00	3.22	4.77
45	45	0.00	3.22	4.77
	46	0.00	-6.38	4.77
46	46	0.00	-6.38	4.77
	47	0.00	-15.97	4.77
47	47	0.00	-15.97	4.77
	48	0.00	-25.57	4.77
48	48	0.00	-25.57	4.77
	49	0.00	-35.16	4.77
49	49	0.00	-35.16	4.77
	50	0.00	-44.76	4.77
50	50	0.00	-44.76	4.77
	51	0.00	-54.37	4.77

51	51	0.00	-54.36	4.77		95	0.00	-873.08	44.92
	52	0.00	-63.96	4.77	95	95	0.00	-873.09	44.95
52	52	0.00	-63.96	4.78		96	0.00	-963.48	44.95
	53	0.00	-73.57	4.78	96	96	0.00	-963.50	44.97
53	53	0.00	-73.57	4.78		97	0.00	-1053.97	44.97
	54	0.00	-83.18	4.78	97	97	0.00	-1053.97	44.97
54	54	0.00	-83.17	4.78		98	0.00	-1144.41	44.97
	55	0.00	-92.79	4.78	98	98	0.00	-1144.43	44.98
55	55	0.00	-92.79	4.78		99	0.00	-1300.05	44.98
	56	0.00	-102.40	4.78	99	99	0.00	-1300.05	44.99
56	56	0.00	-102.39	4.78		100	0.00	-1455.70	44.99
	57	0.00	-112.01	4.78	100	100	0.00	-1455.70	44.98
57	57	0.00	-112.00	4.78		101	0.00	-1523.18	44.98
	58	0.00	-121.62	4.78	101	101	0.00	-1523.19	-224.18
58	58	0.00	-121.62	4.78		102	0.00	-1186.93	-224.18
	59	0.00	-138.16	4.78	102	102	0.00	-1186.93	-224.18
59	59	0.00	-138.16	4.78		103	0.00	-411.27	-224.18
	60	0.00	-154.70	4.78	103	103	0.00	-411.27	-224.18
60	60	0.00	-154.70	4.78		104	0.00	309.60	-184.18
	61	0.00	-161.87	4.78	104	104	0.00	309.58	-184.20
61	61	0.00	-161.87	-14.60		105	0.00	627.17	-144.20
	62	0.00	-139.97	-14.60	105	105	0.00	627.16	-144.18
62	62	0.00	-139.97	-14.60		106	0.00	866.33	-104.18
	63	0.00	-89.45	-14.60	106	106	0.00	866.35	-104.19
63	63	0.00	-89.45	-14.60		107	0.00	1075.88	-104.19
	64	0.00	-38.93	-14.60	107	107	0.00	1075.90	-104.27
64	64	0.00	-38.93	-14.60		108	0.00	1285.69	-104.27
	65	0.00	-9.57	-14.60	108	108	0.00	1285.68	-104.31
65	65	0.00	-9.57	-14.60		109	0.00	1491.58	-64.31
	66	0.00	19.82	-14.60	109	109	0.00	1491.57	-64.34
66	66	0.00	19.81	-14.61		110	0.00	1619.05	-24.34
	67	0.00	49.20	-14.61	110	110	0.00	1619.07	-24.37
67	67	0.00	49.20	-14.62		111	0.00	1668.08	15.63
	68	0.00	78.60	-14.62	111	111	0.00	1668.12	15.63
68	68	0.00	78.61	-14.62		112	0.00	1636.69	15.63
	69	0.00	108.01	-14.62	112	112	0.00	1636.78	15.57
69	69	0.00	108.01	-14.62		113	0.00	1575.34	55.57
	70	0.00	137.43	-14.62	113	113	0.00	1575.38	55.51
70	70	0.00	137.43	-14.63		114	0.00	1425.18	95.51
	71	0.00	166.85	-14.63	114	114	0.00	1425.18	95.48
71	71	0.00	166.84	-14.63		115	0.00	1233.07	95.48
	72	0.00	196.26	-14.63	115	115	0.00	1233.09	95.48
72	72	0.00	196.26	-14.63		116	0.00	1041.08	95.48
	73	0.00	225.70	-14.63	116	116	0.00	1041.12	95.41
73	73	0.00	225.69	-14.63		117	0.00	849.16	95.41
	74	0.00	255.12	-14.63	117	117	0.00	849.12	95.38
74	74	0.00	255.12	-14.65		118	0.00	592.91	135.38
	75	0.00	284.58	-14.65	118	118	0.00	592.91	135.40
75	75	0.00	284.58	-14.65		119	0.00	-6.38	175.40
	76	0.00	314.05	-14.65	119	119	0.00	-6.38	175.40
76	76	0.00	314.04	-14.66		120	0.00	-613.27	175.40
	77	0.00	343.54	-14.66	120	120	0.00	-613.29	175.41
77	77	0.00	343.54	-14.66		121	0.00	-876.39	175.41
	78	0.00	373.03	-14.66	121	121	0.00	-876.40	1.42
78	78	0.00	373.03	-14.66		122	0.00	-878.52	1.42
	79	0.00	423.76	-14.66	122	122	0.00	-878.51	1.40
79	79	0.00	423.75	-14.66		123	0.00	-883.36	1.40
	80	0.00	474.49	-14.66	123	123	0.00	-883.35	1.39
80	80	0.00	474.48	-14.67		124	0.00	-888.17	1.39
	81	0.00	496.49	-14.67	124	124	0.00	-888.17	1.40
81	81	0.00	496.49	44.79		125	0.00	-890.98	1.40
	82	0.00	429.31	44.79	125	125	0.00	-890.98	1.41
82	82	0.00	429.31	44.79		126	0.00	-893.81	1.41
	83	0.00	274.33	44.79	126	126	0.00	-893.82	1.39
83	83	0.00	274.34	44.79		127	0.00	-896.61	1.39
	84	0.00	119.36	44.79	127	127	0.00	-896.62	1.41
84	84	0.00	119.35	44.78		128	0.00	-899.46	1.41
	85	0.00	29.30	44.78	128	128	0.00	-899.47	1.40
85	85	0.00	29.29	44.79		129	0.00	-902.27	1.40
	86	0.00	-60.83	44.79	129	129	0.00	-902.28	1.41
86	86	0.00	-60.82	44.81		130	0.00	-905.12	1.41
	87	0.00	-150.94	44.81	130	130	0.00	-905.15	1.45
87	87	0.00	-150.94	44.81		131	0.00	-908.06	1.45
	88	0.00	-241.10	44.81	131	131	0.00	-908.08	1.45
88	88	0.00	-241.11	44.84		132	0.00	-911.00	1.45
	89	0.00	-331.28	44.84	132	132	0.00	-910.97	1.50
89	89	0.00	-331.27	44.86		133	0.00	-914.00	1.50
	90	0.00	-421.52	44.86	133	133	0.00	-914.01	1.50
90	90	0.00	-421.51	44.87		134	0.00	-917.02	1.50
	91	0.00	-511.75	44.87	134	134	0.00	-917.00	1.55
91	91	0.00	-511.76	44.86		135	0.00	-920.11	1.55
	92	0.00	-601.98	44.86	135	135	0.00	-920.10	1.54
92	92	0.00	-602.01	44.90		136	0.00	-923.19	1.54
	93	0.00	-692.35	44.90	136	136	0.00	-923.15	1.53
93	93	0.00	-692.35	44.93		137	0.00	-926.22	1.53
	94	0.00	-782.70	44.93	137	137	0.00	-926.20	1.53
94	94	0.00	-782.70	44.92		138	0.00	-929.27	1.53

138	138	0.00	-929.29	1.53		182	0.00	473.88	14.72
	139	0.00	-934.58	1.53	182	182	0.00	473.88	14.73
139	139	0.00	-934.59	1.53		183	0.00	422.93	14.73
	140	0.00	-939.86	1.53	183	183	0.00	422.93	14.73
140	140	0.00	-939.85	1.53		184	0.00	371.97	14.73
	141	0.00	-942.16	1.53	184	184	0.00	371.97	14.73
141	141	0.00	-942.14	-227.15		185	0.00	342.34	14.73
	142	0.00	-601.43	-227.15	185	185	0.00	342.34	14.72
142	142	0.00	-601.42	-227.14		186	0.00	312.72	14.72
	143	0.00	80.50	-147.14	186	186	0.00	312.72	14.73
143	143	0.00	80.51	-147.14		187	0.00	283.10	14.73
	144	0.00	589.62	-147.14	187	187	0.00	283.10	14.73
144	144	0.00	589.59	-147.15		188	0.00	253.47	14.73
	145	0.00	885.51	-147.15	188	188	0.00	253.47	14.72
145	145	0.00	885.52	-147.15		189	0.00	223.86	14.72
	146	0.00	1162.27	-107.15	189	189	0.00	223.86	14.71
146	146	0.00	1162.23	-107.16		190	0.00	194.26	14.71
	147	0.00	1349.98	-67.16	190	190	0.00	194.26	14.71
147	147	0.00	1349.99	-67.11		191	0.00	164.68	14.71
	148	0.00	1485.01	-67.11	191	191	0.00	164.68	14.71
148	148	0.00	1485.03	-67.17		192	0.00	135.10	14.71
	149	0.00	1561.02	-27.17	192	192	0.00	135.10	14.71
149	149	0.00	1561.08	-27.19		193	0.00	105.51	14.71
	150	0.00	1548.23	12.81	193	193	0.00	105.51	14.70
150	150	0.00	1548.26	12.73		194	0.00	75.96	14.70
	151	0.00	1522.67	12.73	194	194	0.00	75.95	14.70
151	151	0.00	1522.63	12.70		195	0.00	46.37	14.70
	152	0.00	1497.10	12.70	195	195	0.00	46.37	14.70
152	152	0.00	1497.04	12.70		196	0.00	16.82	14.70
	153	0.00	1458.57	52.70	196	196	0.00	16.82	14.70
153	153	0.00	1458.54	52.65		197	0.00	-12.77	14.70
	154	0.00	1331.30	92.65	197	197	0.00	-12.77	14.70
154	154	0.00	1331.23	92.64		198	0.00	-42.32	14.70
	155	0.00	1144.84	92.64	198	198	0.00	-42.32	14.70
155	155	0.00	1144.81	92.65		199	0.00	-93.18	14.70
	156	0.00	905.82	132.65	199	199	0.00	-93.18	14.70
156	156	0.00	905.77	132.66		200	0.00	-144.04	14.70
	157	0.00	577.69	172.66	200	200	0.00	-144.04	14.70
157	157	0.00	577.65	172.65		201	0.00	-166.09	14.70
	158	0.00	230.45	172.65	201	201	0.00	-166.09	-4.62
158	158	0.00	230.45	172.66		202	0.00	-159.16	-4.62
	159	0.00	-366.94	172.66	202	202	0.00	-159.16	-4.62
159	159	0.00	-366.94	172.66		203	0.00	-143.18	-4.62
	160	0.00	-1137.13	252.66	203	203	0.00	-143.18	-4.62
160	160	0.00	-1137.16	252.66		204	0.00	-127.19	-4.62
	161	0.00	-1516.12	252.66	204	204	0.00	-127.19	-4.62
161	161	0.00	-1516.14	-44.75		205	0.00	-119.70	-4.62
	162	0.00	-1449.00	-44.75	205	205	0.00	-119.70	-4.62
162	162	0.00	-1449.02	-44.76		206	0.00	-112.20	-4.62
	163	0.00	-1294.15	-44.76	206	206	0.00	-112.20	-4.62
163	163	0.00	-1294.15	-44.76		207	0.00	-104.71	-4.62
	164	0.00	-1139.27	-44.76	207	207	0.00	-104.71	-4.62
164	164	0.00	-1139.27	-44.77		208	0.00	-97.22	-4.62
	165	0.00	-1049.24	-44.77	208	208	0.00	-97.22	-4.61
165	165	0.00	-1049.24	-44.75		209	0.00	-89.74	-4.61
	166	0.00	-959.20	-44.75	209	209	0.00	-89.74	-4.61
166	166	0.00	-959.20	-44.77		210	0.00	-82.26	-4.61
	167	0.00	-869.18	-44.77	210	210	0.00	-82.26	-4.61
167	167	0.00	-869.20	-44.78		211	0.00	-74.79	-4.61
	168	0.00	-779.10	-44.78	211	211	0.00	-74.79	-4.61
168	168	0.00	-779.13	-44.76		212	0.00	-67.31	-4.61
	169	0.00	-689.11	-44.76	212	212	0.00	-67.31	-4.61
169	169	0.00	-689.13	-44.71		213	0.00	-59.83	-4.61
	170	0.00	-599.17	-44.71	213	213	0.00	-59.83	-4.61
170	170	0.00	-599.18	-44.72		214	0.00	-52.35	-4.61
	171	0.00	-509.25	-44.72	214	214	0.00	-52.35	-4.61
171	171	0.00	-509.27	-44.70		215	0.00	-44.87	-4.61
	172	0.00	-419.39	-44.70	215	215	0.00	-44.87	-4.61
172	172	0.00	-419.38	-44.69		216	0.00	-37.39	-4.61
	173	0.00	-329.46	-44.69	216	216	0.00	-37.40	-4.61
173	173	0.00	-329.45	-44.67		217	0.00	-29.92	-4.61
	174	0.00	-239.63	-44.67	217	217	0.00	-29.92	-4.61
174	174	0.00	-239.61	-44.67		218	0.00	-22.44	-4.61
	175	0.00	-149.73	-44.67	218	218	0.00	-22.44	-4.61
175	175	0.00	-149.72	-44.66		219	0.00	-14.96	-4.61
	176	0.00	-59.91	-44.66	219	219	0.00	-14.96	-4.61
176	176	0.00	-59.90	-44.68		220	0.00	-7.48	-4.61
	177	0.00	30.01	-44.68	220	220	0.00	-7.48	-4.61
177	177	0.00	30.01	-44.67		221	0.00	-0.00	-4.61
	178	0.00	119.84	-44.67					
178	178	0.00	119.84	-44.67					
	179	0.00	274.39	-44.67					
179	179	0.00	274.39	-44.67					
	180	0.00	428.96	-44.67					
180	180	0.00	428.97	-44.67					
	181	0.00	495.96	-44.67					
181	181	0.00	495.97	14.72					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 17 ESTADO DE CARGAS 17

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000001
2	0.000000	-0.000002	-0.000001
3	0.000000	-0.000003	-0.000001
4	0.000000	-0.000005	-0.000001
5	0.000000	-0.000006	-0.000001
6	0.000000	-0.000008	-0.000001
7	0.000000	-0.000009	-0.000001
8	0.000000	-0.000010	-0.000001
9	0.000000	-0.000011	-0.000001
10	0.000000	-0.000012	-0.000000
11	0.000000	-0.000013	-0.000000
12	0.000000	-0.000014	-0.000000
13	0.000000	-0.000014	-0.000000
14	0.000000	-0.000014	0.000000
15	0.000000	-0.000014	0.000000
16	0.000000	-0.000013	0.000000
17	0.000000	-0.000012	0.000001
18	0.000000	-0.000011	0.000001
19	0.000000	-0.000007	0.000001
20	0.000000	-0.000002	0.000002
21	0.000000	0.000000	0.000002
22	0.000000	0.000003	0.000002
23	0.000000	0.000009	0.000002
24	0.000000	0.000016	0.000002
25	0.000000	0.000020	0.000002
26	0.000000	0.000025	0.000002
27	0.000000	0.000029	0.000002
28	0.000000	0.000033	0.000002
29	0.000000	0.000037	0.000002
30	0.000000	0.000040	0.000002
31	0.000000	0.000043	0.000001
32	0.000000	0.000045	0.000001
33	0.000000	0.000046	0.000000
34	0.000000	0.000046	-0.000000
35	0.000000	0.000045	-0.000001
36	0.000000	0.000043	-0.000001
37	0.000000	0.000040	-0.000002
38	0.000000	0.000035	-0.000003
39	0.000000	0.000023	-0.000004
40	0.000000	0.000007	-0.000005
41	0.000000	-0.000000	-0.000005
42	0.000000	-0.000008	-0.000005
43	0.000000	-0.000028	-0.000006
44	0.000000	-0.000049	-0.000007
45	0.000000	-0.000063	-0.000007
46	0.000000	-0.000076	-0.000007
47	0.000000	-0.000090	-0.000006
48	0.000000	-0.000102	-0.000006
49	0.000000	-0.000114	-0.000005
50	0.000000	-0.000124	-0.000005
51	0.000000	-0.000133	-0.000004
52	0.000000	-0.000139	-0.000002
53	0.000000	-0.000142	-0.000001
54	0.000000	-0.000143	0.000001
55	0.000000	-0.000140	0.000002
56	0.000000	-0.000134	0.000004
57	0.000000	-0.000123	0.000006
58	0.000000	-0.000107	0.000009
59	0.000000	-0.000071	0.000013
60	0.000000	-0.000023	0.000015
61	0.000000	0.000000	0.000016
62	0.000000	0.000024	0.000017
63	0.000000	0.000085	0.000018
64	0.000000	0.000152	0.000020
65	0.000000	0.000193	0.000021
66	0.000000	0.000235	0.000021
67	0.000000	0.000276	0.000020
68	0.000000	0.000315	0.000019
69	0.000000	0.000350	0.000017
70	0.000000	0.000382	0.000014
71	0.000000	0.000407	0.000011
72	0.000000	0.000426	0.000008
73	0.000000	0.000437	0.000003
74	0.000000	0.000439	-0.000002
75	0.000000	0.000430	-0.000007
76	0.000000	0.000410	-0.000013
77	0.000000	0.000377	-0.000020
78	0.000000	0.000330	-0.000027
79	0.000000	0.000217	-0.000039
80	0.000000	0.000071	-0.000046
81	0.000000	-0.000000	-0.000048
82	0.000000	-0.000074	-0.000051
83	0.000000	-0.000260	-0.000056
84	0.000000	-0.000466	-0.000062
85	0.000000	-0.000593	-0.000064
86	0.000000	-0.000721	-0.000063
87	0.000000	-0.000846	-0.000061
88	0.000000	-0.000965	-0.000057
89	0.000000	-0.001075	-0.000051
90	0.000000	-0.001171	-0.000044
91	0.000000	-0.001249	-0.000034
92	0.000000	-0.001307	-0.000023
93	0.000000	-0.001341	-0.000010
94	0.000000	-0.001346	0.000005
95	0.000000	-0.001319	0.000022
96	0.000000	-0.001257	0.000040
97	0.000000	-0.001156	0.000061
98	0.000000	-0.001012	0.000083
99	0.000000	-0.000664	0.000119
100	0.000000	-0.000217	0.000141
101	0.000000	0.000000	0.000148
102	0.000000	0.000228	0.000155
103	0.000000	0.000798	0.000173
104	0.000000	0.001430	0.000190
105	0.000000	0.001819	0.000195
106	0.000000	0.002211	0.000194
107	0.000000	0.002595	0.000187
108	0.000000	0.002961	0.000175
109	0.000000	0.003297	0.000158
110	0.000000	0.003591	0.000134
111	0.000000	0.003833	0.000105
112	0.000000	0.004010	0.000071
113	0.000000	0.004113	0.000030
114	0.000000	0.004129	-0.000015
115	0.000000	0.004048	-0.000067
116	0.000000	0.003857	-0.000124
117	0.000000	0.003546	-0.000186
118	0.000000	0.003104	-0.000255
119	0.000000	0.002038	-0.000364
120	0.000000	0.000665	-0.000431
121	0.000000	-0.000000	-0.000455
122	0.000000	-0.000699	-0.000476
123	0.000000	-0.002425	-0.000515
124	0.000000	-0.004231	-0.000518
125	0.000000	-0.005247	-0.000489
126	0.000000	-0.006186	-0.000442
127	0.000000	-0.007015	-0.000381
128	0.000000	-0.007711	-0.000308
129	0.000000	-0.008246	-0.000222
130	0.000000	-0.008597	-0.000125
131	0.000000	-0.008747	-0.000023
132	0.000000	-0.008690	0.000079
133	0.000000	-0.008429	0.000180
134	0.000000	-0.007972	0.000273
135	0.000000	-0.007337	0.000356
136	0.000000	-0.006549	0.000426
137	0.000000	-0.005630	0.000485
138	0.000000	-0.004607	0.000530
139	0.000000	-0.002711	0.000557
140	0.000000	-0.000804	0.000541
141	0.000000	-0.000000	0.000530
142	0.000000	0.000784	0.000516
143	0.000000	0.002494	0.000473
144	0.000000	0.003992	0.000393
145	0.000000	0.004728	0.000338
146	0.000000	0.005352	0.000283
147	0.000000	0.005865	0.000227
148	0.000000	0.006266	0.000171
149	0.000000	0.006554	0.000116
150	0.000000	0.006730	0.000059
151	0.000000	0.006793	0.000003
152	0.000000	0.006743	-0.000053
153	0.000000	0.006580	-0.000110
154	0.000000	0.006302	-0.000166
155	0.000000	0.005910	-0.000223
156	0.000000	0.005403	-0.000281
157	0.000000	0.004781	-0.000338
158	0.000000	0.004044	-0.000395
159	0.000000	0.002533	-0.000478
160	0.000000	0.000798	-0.000524
161	0.000000	-0.000000	-0.000539
162	0.000000	-0.000818	-0.000551
163	0.000000	-0.002755	-0.000563
164	0.000000	-0.004663	-0.000533
165	0.000000	-0.005692	-0.000487
166	0.000000	-0.006610	-0.000423
167	0.000000	-0.007384	-0.000345

168	0.000000	-0.007990	-0.000257
169	0.000000	-0.008411	-0.000162
170	0.000000	-0.008639	-0.000065
171	0.000000	-0.008674	0.000030
172	0.000000	-0.008519	0.000124
173	0.000000	-0.008177	0.000216
174	0.000000	-0.007655	0.000303
175	0.000000	-0.006967	0.000379
176	0.000000	-0.006138	0.000443
177	0.000000	-0.005196	0.000489
178	0.000000	-0.004183	0.000514
179	0.000000	-0.002399	0.000508
180	0.000000	-0.000693	0.000472
181	0.000000	-0.000000	0.000451
182	0.000000	0.000659	0.000428
183	0.000000	0.002021	0.000360
184	0.000000	0.003075	0.000251
185	0.000000	0.003512	0.000184
186	0.000000	0.003817	0.000121
187	0.000000	0.004003	0.000065
188	0.000000	0.004081	0.000014
189	0.000000	0.004062	-0.000032
190	0.000000	0.003957	-0.000072
191	0.000000	0.003778	-0.000106
192	0.000000	0.003536	-0.000134
193	0.000000	0.003242	-0.000157
194	0.000000	0.002908	-0.000174
195	0.000000	0.002545	-0.000186
196	0.000000	0.002164	-0.000192
197	0.000000	0.001776	-0.000192
198	0.000000	0.001394	-0.000187
199	0.000000	0.000775	-0.000169
200	0.000000	0.000221	-0.000151
201	0.000000	0.000000	-0.000143
202	0.000000	-0.000209	-0.000135
203	0.000000	-0.000637	-0.000113
204	0.000000	-0.000962	-0.000076
205	0.000000	-0.001069	-0.000057
206	0.000000	-0.001147	-0.000039
207	0.000000	-0.001196	-0.000022
208	0.000000	-0.001220	-0.000007
209	0.000000	-0.001219	0.000008
210	0.000000	-0.001196	0.000021
211	0.000000	-0.001152	0.000033
212	0.000000	-0.001090	0.000044
213	0.000000	-0.001011	0.000053
214	0.000000	-0.000917	0.000062
215	0.000000	-0.000810	0.000069
216	0.000000	-0.000692	0.000076
217	0.000000	-0.000565	0.000081
218	0.000000	-0.000430	0.000085
219	0.000000	-0.000290	0.000088
220	0.000000	-0.000146	0.000090
221	0.000000	-0.000000	0.000090

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	0.16	-0.00
21	0.00	-0.67	0.00
41	-0.00	2.07	-0.00
61	0.00	-6.32	0.00
81	0.00	19.39	0.00
101	0.00	-59.50	0.00
121	0.00	269.30	-0.02
141	0.00	174.25	0.01
161	0.00	228.47	-0.01
181	0.00	297.92	0.00
201	-0.00	-59.22	0.00
221	0.00	14.14	0.00

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	0.00	-0.16
	2	0.00	0.26	-0.16
2	2	0.00	0.26	-0.16
	3	0.00	0.52	-0.16
3	3	0.00	0.52	-0.16
	4	0.00	0.78	-0.16
4	4	0.00	0.78	-0.16
	5	0.00	1.04	-0.16
5	5	0.00	1.04	-0.16
	6	0.00	1.30	-0.16
6	6	0.00	1.30	-0.16
	7	0.00	1.57	-0.16
7	7	0.00	1.57	-0.16
	8	0.00	1.83	-0.16
8	8	0.00	1.83	-0.16
	9	0.00	2.09	-0.16
9	9	0.00	2.09	-0.16
	10	0.00	2.35	-0.16
10	10	0.00	2.35	-0.16
	11	0.00	2.61	-0.16
11	11	0.00	2.61	-0.16
	12	0.00	2.87	-0.16
12	12	0.00	2.87	-0.16
	13	0.00	3.13	-0.16
13	13	0.00	3.13	-0.16
	14	0.00	3.39	-0.16
14	14	0.00	3.39	-0.16
	15	0.00	3.65	-0.16
15	15	0.00	3.65	-0.16
	16	0.00	3.91	-0.16
16	16	0.00	3.91	-0.16
	17	0.00	4.17	-0.16
17	17	0.00	4.17	-0.16
	18	0.00	4.43	-0.16
18	18	0.00	4.43	-0.16
	19	0.00	4.98	-0.16
19	19	0.00	4.98	-0.16
	20	0.00	5.53	-0.16
20	20	0.00	5.53	-0.16
	21	0.00	5.77	-0.16
21	21	0.00	5.77	0.51
	22	0.00	5.01	0.51
22	22	0.00	5.01	0.51
	23	0.00	3.24	0.51
23	23	0.00	3.24	0.51
	24	0.00	1.47	0.51
24	24	0.00	1.47	0.51
	25	0.00	0.44	0.51
25	25	0.00	0.44	0.51
	26	0.00	-0.59	0.51
26	26	0.00	-0.59	0.51
	27	0.00	-1.62	0.51
27	27	0.00	-1.62	0.51
	28	0.00	-2.64	0.51
28	28	0.00	-2.64	0.51
	29	0.00	-3.67	0.51
29	29	0.00	-3.67	0.51
	30	0.00	-4.70	0.51
30	30	0.00	-4.70	0.51
	31	0.00	-5.73	0.51
31	31	0.00	-5.73	0.51
	32	0.00	-6.76	0.51
32	32	0.00	-6.76	0.51
	33	0.00	-7.79	0.51
33	33	0.00	-7.79	0.51
	34	0.00	-8.82	0.51
34	34	0.00	-8.82	0.51
	35	0.00	-9.85	0.51
35	35	0.00	-9.85	0.51
	36	0.00	-10.88	0.51
36	36	0.00	-10.88	0.51
	37	0.00	-11.91	0.51
37	37	0.00	-11.91	0.51
	38	0.00	-12.95	0.51
38	38	0.00	-12.95	0.51
	39	0.00	-14.72	0.51
39	39	0.00	-14.72	0.51
	40	0.00	-16.50	0.51
40	40	0.00	-16.50	0.51
	41	0.00	-17.27	0.51
41	41	0.00	-17.27	-1.55
	42	0.00	-14.93	-1.55
42	42	0.00	-14.93	-1.55
	43	0.00	-9.56	-1.55
43	43	0.00	-9.56	-1.55
	44	0.00	-4.18	-1.55
44	44	0.00	-4.18	-1.55
	45	0.00	-1.05	-1.55
45	45	0.00	-1.05	-1.56
	46	0.00	2.08	-1.56
46	46	0.00	2.08	-1.56
	47	0.00	5.21	-1.56
47	47	0.00	5.21	-1.56
	48	0.00	8.34	-1.56
48	48	0.00	8.34	-1.56
	49	0.00	11.47	-1.56
49	49	0.00	11.47	-1.56
	50	0.00	14.60	-1.56
50	50	0.00	14.60	-1.56
	51	0.00	17.73	-1.56

51	51	0.00	17.73	-1.56		95	0.00	284.74	-14.65
	52	0.00	20.86	-1.56	95	95	0.00	284.75	-14.66
52	52	0.00	20.86	-1.56		96	0.00	314.22	-14.66
	53	0.00	23.99	-1.56	96	96	0.00	314.23	-14.66
53	53	0.00	23.99	-1.56		97	0.00	343.73	-14.66
	54	0.00	27.13	-1.56	97	97	0.00	343.73	-14.67
54	54	0.00	27.13	-1.56		98	0.00	373.24	-14.67
	55	0.00	30.26	-1.56	98	98	0.00	373.23	-14.67
55	55	0.00	30.26	-1.56		99	0.00	423.99	-14.67
	56	0.00	33.39	-1.56	99	99	0.00	423.99	-14.67
56	56	0.00	33.39	-1.56		100	0.00	474.75	-14.67
	57	0.00	36.53	-1.56	100	100	0.00	474.74	-14.68
57	57	0.00	36.53	-1.56		101	0.00	496.76	-14.68
	58	0.00	39.66	-1.56	101	101	0.00	496.76	44.82
58	58	0.00	39.66	-1.56		102	0.00	429.54	44.82
	59	0.00	45.06	-1.56	102	102	0.00	429.54	44.81
59	59	0.00	45.06	-1.56		103	0.00	274.49	44.81
	60	0.00	50.45	-1.56	103	103	0.00	274.49	44.81
60	60	0.00	50.45	-1.56		104	0.00	119.43	44.81
	61	0.00	52.79	-1.56	104	104	0.00	119.42	44.81
61	61	0.00	52.79	4.76		105	0.00	29.31	44.81
	62	0.00	45.65	4.76	105	105	0.00	29.31	44.82
62	62	0.00	45.65	4.76		106	0.00	-60.87	44.82
	63	0.00	29.17	4.76	106	106	0.00	-60.86	44.83
63	63	0.00	29.17	4.76		107	0.00	-151.01	44.83
	64	0.00	12.70	4.76	107	107	0.00	-151.00	44.86
64	64	0.00	12.70	4.76		108	0.00	-241.25	44.86
	65	0.00	3.12	4.76	108	108	0.00	-241.25	44.85
65	65	0.00	3.12	4.76		109	0.00	-331.45	44.85
	66	0.00	-6.46	4.76	109	109	0.00	-331.45	44.88
66	66	0.00	-6.46	4.77		110	0.00	-421.74	44.88
	67	0.00	-16.05	4.77	110	110	0.00	-421.74	44.90
67	67	0.00	-16.05	4.77		111	0.00	-512.03	44.90
	68	0.00	-25.63	4.77	111	111	0.00	-512.02	44.90
68	68	0.00	-25.64	4.77		112	0.00	-602.31	44.90
	69	0.00	-35.22	4.77	112	112	0.00	-602.34	44.92
69	69	0.00	-35.22	4.77		113	0.00	-692.71	44.92
	70	0.00	-44.82	4.77	113	113	0.00	-692.73	44.94
70	70	0.00	-44.82	4.77		114	0.00	-783.10	44.94
	71	0.00	-54.41	4.77	114	114	0.00	-783.12	44.94
71	71	0.00	-54.41	4.77		115	0.00	-873.54	44.94
	72	0.00	-64.01	4.77	115	115	0.00	-873.56	44.96
72	72	0.00	-64.01	4.77		116	0.00	-963.98	44.96
	73	0.00	-73.61	4.77	116	116	0.00	-964.00	45.00
73	73	0.00	-73.61	4.77		117	0.00	-1054.54	45.00
	74	0.00	-83.20	4.77	117	117	0.00	-1054.53	45.00
74	74	0.00	-83.20	4.78		118	0.00	-1145.02	45.00
	75	0.00	-92.81	4.78	118	118	0.00	-1145.04	45.00
75	75	0.00	-92.81	4.78		119	0.00	-1300.75	45.00
	76	0.00	-102.42	4.78	119	119	0.00	-1300.75	45.00
76	76	0.00	-102.42	4.78		120	0.00	-1456.46	45.00
	77	0.00	-112.04	4.78	120	120	0.00	-1456.44	45.00
77	77	0.00	-112.04	4.78		121	0.00	-1523.95	45.00
	78	0.00	-121.65	4.78	121	121	0.00	-1523.93	-224.30
78	78	0.00	-121.66	4.78		122	0.00	-1187.49	-224.30
	79	0.00	-138.20	4.78	122	122	0.00	-1187.48	-224.29
79	79	0.00	-138.20	4.78		123	0.00	-411.43	-224.29
	80	0.00	-154.74	4.78	123	123	0.00	-411.43	-224.29
80	80	0.00	-154.75	4.78		124	0.00	309.82	-184.29
	81	0.00	-161.92	4.78	124	124	0.00	309.83	-184.28
81	81	0.00	-161.92	-14.61		125	0.00	627.58	-144.28
	82	0.00	-140.01	-14.61	125	125	0.00	627.59	-144.30
82	82	0.00	-140.01	-14.61		126	0.00	867.00	-104.30
	83	0.00	-89.47	-14.61	126	126	0.00	867.01	-104.30
83	83	0.00	-89.47	-14.61		127	0.00	1076.75	-104.30
	84	0.00	-38.93	-14.61	127	127	0.00	1076.76	-104.29
84	84	0.00	-38.93	-14.61		128	0.00	1286.60	-104.29
	85	0.00	-9.55	-14.61	128	128	0.00	1286.58	-104.33
85	85	0.00	-9.55	-14.61		129	0.00	1492.52	-64.33
	86	0.00	19.84	-14.61	129	129	0.00	1492.45	-64.34
86	86	0.00	19.84	-14.61		130	0.00	1619.95	-24.34
	87	0.00	49.22	-14.61	130	130	0.00	1619.96	-24.36
87	87	0.00	49.23	-14.61		131	0.00	1668.93	15.64
	88	0.00	78.63	-14.61	131	131	0.00	1668.95	15.64
88	88	0.00	78.64	-14.62		132	0.00	1637.51	15.64
	89	0.00	108.04	-14.62	132	132	0.00	1637.46	15.56
89	89	0.00	108.04	-14.63		133	0.00	1576.04	55.56
	90	0.00	137.47	-14.63	133	133	0.00	1576.02	55.57
90	90	0.00	137.47	-14.63		134	0.00	1425.72	95.57
	91	0.00	166.89	-14.63	134	134	0.00	1425.72	95.54
91	91	0.00	166.90	-14.63		135	0.00	1233.48	95.54
	92	0.00	196.33	-14.63	135	135	0.00	1233.49	95.53
92	92	0.00	196.34	-14.64		136	0.00	1041.38	95.53
	93	0.00	225.79	-14.64	136	136	0.00	1041.37	95.58
93	93	0.00	225.80	-14.65		137	0.00	849.06	95.58
	94	0.00	255.26	-14.65	137	137	0.00	849.06	95.53
94	94	0.00	255.27	-14.65		138	0.00	592.55	135.53

CALCULOS DE PRUEBA DE CARGA
VTO LLOBREGAT MIXTA (B)

138	138	0.00	592.55	135.53		182	0.00	-1452.80	-45.13
	139	0.00	-7.20	175.53	182	182	0.00	-1452.80	-45.15
139	139	0.00	-7.21	175.54		183	0.00	-1296.58	-45.15
	140	0.00	-614.58	175.54	183	183	0.00	-1296.59	-45.16
140	140	0.00	-614.59	175.55		184	0.00	-1140.35	-45.16
	141	0.00	-877.90	175.55	184	184	0.00	-1140.35	-45.15
141	141	0.00	-877.91	1.30		185	0.00	-1049.54	-45.15
	142	0.00	-879.86	1.30	185	185	0.00	-1049.55	-45.15
142	142	0.00	-879.89	1.31		186	0.00	-958.70	-45.15
	143	0.00	-884.42	1.31	186	186	0.00	-958.71	-45.15
143	143	0.00	-884.44	1.31		187	0.00	-867.91	-45.15
	144	0.00	-888.96	1.31	187	187	0.00	-867.90	-45.14
144	144	0.00	-888.96	1.30		188	0.00	-777.08	-45.14
	145	0.00	-891.58	1.30	188	188	0.00	-777.07	-45.15
145	145	0.00	-891.58	1.34		189	0.00	-686.28	-45.15
	146	0.00	-894.27	1.34	189	189	0.00	-686.28	-45.10
146	146	0.00	-894.23	1.32		190	0.00	-595.55	-45.10
	147	0.00	-896.89	1.32	190	190	0.00	-595.54	-45.10
147	147	0.00	-896.90	1.29		191	0.00	-504.85	-45.10
	148	0.00	-899.49	1.29	191	191	0.00	-504.86	-45.09
148	148	0.00	-899.50	1.33		192	0.00	-414.19	-45.09
	149	0.00	-902.18	1.33	192	192	0.00	-414.19	-45.09
149	149	0.00	-902.20	1.37		193	0.00	-323.47	-45.09
	150	0.00	-904.96	1.37	193	193	0.00	-323.49	-45.07
150	150	0.00	-904.99	1.38		194	0.00	-232.84	-45.07
	151	0.00	-907.77	1.38	194	194	0.00	-232.82	-45.05
151	151	0.00	-907.82	1.39		195	0.00	-142.19	-45.05
	152	0.00	-910.62	1.39	195	195	0.00	-142.18	-45.06
152	152	0.00	-910.63	1.43		196	0.00	-51.56	-45.06
	153	0.00	-913.49	1.43	196	196	0.00	-51.55	-45.07
153	153	0.00	-913.49	1.46		197	0.00	39.13	-45.07
	154	0.00	-916.43	1.46	197	197	0.00	39.13	-45.06
154	154	0.00	-916.38	1.49		198	0.00	129.75	-45.06
	155	0.00	-919.38	1.49	198	198	0.00	129.75	-45.06
155	155	0.00	-919.35	1.48		199	0.00	285.66	-45.06
	156	0.00	-922.32	1.48	199	199	0.00	285.66	-45.06
156	156	0.00	-922.29	1.46		200	0.00	441.58	-45.06
	157	0.00	-925.22	1.46	200	200	0.00	441.58	-45.06
157	157	0.00	-925.20	1.47		201	0.00	509.17	-45.06
	158	0.00	-928.15	1.47	201	201	0.00	509.17	14.15
158	158	0.00	-928.16	1.47		202	0.00	487.94	14.15
	159	0.00	-933.26	1.47	202	202	0.00	487.94	14.16
159	159	0.00	-933.26	1.47		203	0.00	438.94	14.16
	160	0.00	-938.33	1.47	203	203	0.00	438.94	14.16
160	160	0.00	-938.33	1.46		204	0.00	389.93	14.16
	161	0.00	-940.52	1.46	204	204	0.00	389.93	14.16
161	161	0.00	-940.51	-227.01		205	0.00	366.96	14.16
	162	0.00	-600.00	-227.01	205	205	0.00	366.97	14.17
162	162	0.00	-599.98	-227.01		206	0.00	343.97	14.17
	163	0.00	81.47	-147.01	206	206	0.00	343.97	14.15
163	163	0.00	81.48	-147.00		207	0.00	321.01	14.15
	164	0.00	590.11	-147.00	207	207	0.00	321.01	14.15
164	164	0.00	590.12	-147.00		208	0.00	298.05	14.15
	165	0.00	885.72	-147.00	208	208	0.00	298.06	14.14
165	165	0.00	885.73	-147.02		209	0.00	275.11	14.14
	166	0.00	1162.22	-107.02	209	209	0.00	275.12	14.14
166	166	0.00	1162.20	-107.03		210	0.00	252.19	14.14
	167	0.00	1349.67	-67.03	210	210	0.00	252.19	14.12
167	167	0.00	1349.68	-66.97		211	0.00	229.29	14.12
	168	0.00	1484.43	-66.97	211	211	0.00	229.29	14.13
168	168	0.00	1484.44	-67.06		212	0.00	206.35	14.13
	169	0.00	1560.21	-27.06	212	212	0.00	206.36	14.14
169	169	0.00	1560.22	-27.08		213	0.00	183.41	14.14
	170	0.00	1547.15	12.92	213	213	0.00	183.41	14.12
170	170	0.00	1547.17	12.87		214	0.00	160.50	14.12
	171	0.00	1521.28	12.87	214	214	0.00	160.49	14.14
171	171	0.00	1521.33	12.90		215	0.00	137.55	14.14
	172	0.00	1495.39	12.90	215	215	0.00	137.56	14.13
172	172	0.00	1495.42	12.85		216	0.00	114.64	14.13
	173	0.00	1456.65	52.85	216	216	0.00	114.64	14.13
173	173	0.00	1456.65	52.81		217	0.00	91.72	14.13
	174	0.00	1329.10	92.81	217	217	0.00	91.72	14.13
174	174	0.00	1329.06	92.78		218	0.00	68.79	14.13
	175	0.00	1142.38	92.78	218	218	0.00	68.79	14.13
175	175	0.00	1142.38	92.80		219	0.00	45.87	14.13
	176	0.00	903.09	132.80	219	219	0.00	45.87	14.14
176	176	0.00	903.05	132.79		220	0.00	22.93	14.14
	177	0.00	574.72	172.79	220	220	0.00	22.93	14.14
177	177	0.00	574.66	172.78		221	0.00	0.00	14.14
	178	0.00	227.21	172.78					
178	178	0.00	227.20	172.79					
	179	0.00	-370.64	172.79					
179	179	0.00	-370.64	172.79					
	180	0.00	-1141.31	252.79					
180	180	0.00	-1141.32	252.80					
	181	0.00	-1520.50	252.80					
181	181	0.00	-1520.50	-45.13					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 18 ESTADO DE CARGAS 18

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	0.000000	0.000000
2	0.000000	0.000001	0.000000
3	0.000000	0.000001	0.000000
4	0.000000	0.000002	0.000000
5	0.000000	0.000002	0.000000
6	0.000000	0.000003	0.000000
7	0.000000	0.000003	0.000000
8	0.000000	0.000003	0.000000
9	0.000000	0.000004	0.000000
10	0.000000	0.000004	0.000000
11	0.000000	0.000004	0.000000
12	0.000000	0.000004	0.000000
13	0.000000	0.000005	0.000000
14	0.000000	0.000005	-0.000000
15	0.000000	0.000004	-0.000000
16	0.000000	0.000004	-0.000000
17	0.000000	0.000004	-0.000000
18	0.000000	0.000004	-0.000000
19	0.000000	0.000002	-0.000000
20	0.000000	0.000001	-0.000001
21	0.000000	-0.000000	-0.000001
22	0.000000	-0.000001	-0.000001
23	0.000000	-0.000003	-0.000001
24	0.000000	-0.000005	-0.000001
25	0.000000	-0.000007	-0.000001
26	0.000000	-0.000008	-0.000001
27	0.000000	-0.000009	-0.000001
28	0.000000	-0.000011	-0.000001
29	0.000000	-0.000012	-0.000001
30	0.000000	-0.000013	-0.000000
31	0.000000	-0.000014	-0.000000
32	0.000000	-0.000015	-0.000000
33	0.000000	-0.000015	-0.000000
34	0.000000	-0.000015	0.000000
35	0.000000	-0.000015	0.000000
36	0.000000	-0.000014	0.000000
37	0.000000	-0.000013	0.000001
38	0.000000	-0.000011	0.000001
39	0.000000	-0.000007	0.000001
40	0.000000	-0.000002	0.000002
41	0.000000	0.000000	0.000002
42	0.000000	0.000003	0.000002
43	0.000000	0.000009	0.000002
44	0.000000	0.000016	0.000002
45	0.000000	0.000021	0.000002
46	0.000000	0.000025	0.000002
47	0.000000	0.000029	0.000002
48	0.000000	0.000033	0.000002
49	0.000000	0.000037	0.000002
50	0.000000	0.000041	0.000002
51	0.000000	0.000043	0.000001
52	0.000000	0.000045	0.000001
53	0.000000	0.000046	0.000000
54	0.000000	0.000047	-0.000000
55	0.000000	0.000046	-0.000001
56	0.000000	0.000044	-0.000001
57	0.000000	0.000040	-0.000002
58	0.000000	0.000035	-0.000003
59	0.000000	0.000023	-0.000004
60	0.000000	0.000008	-0.000005
61	0.000000	-0.000000	-0.000005
62	0.000000	-0.000008	-0.000005
63	0.000000	-0.000028	-0.000006
64	0.000000	-0.000050	-0.000007
65	0.000000	-0.000063	-0.000007
66	0.000000	-0.000077	-0.000007
67	0.000000	-0.000090	-0.000006
68	0.000000	-0.000103	-0.000006
69	0.000000	-0.000114	-0.000005
70	0.000000	-0.000124	-0.000005
71	0.000000	-0.000133	-0.000004
72	0.000000	-0.000139	-0.000002
73	0.000000	-0.000142	-0.000001
74	0.000000	-0.000143	0.000001
75	0.000000	-0.000140	0.000002
76	0.000000	-0.000134	0.000004
77	0.000000	-0.000123	0.000006
78	0.000000	-0.000107	0.000009
79	0.000000	-0.000071	0.000013
80	0.000000	-0.000023	0.000015
81	0.000000	0.000000	0.000016
82	0.000000	0.000024	0.000017
83	0.000000	0.000085	0.000018
84	0.000000	0.000152	0.000020
85	0.000000	0.000193	0.000021
86	0.000000	0.000235	0.000021
87	0.000000	0.000276	0.000020
88	0.000000	0.000315	0.000019
89	0.000000	0.000350	0.000017
90	0.000000	0.000381	0.000014
91	0.000000	0.000407	0.000011
92	0.000000	0.000426	0.000008
93	0.000000	0.000437	0.000003
94	0.000000	0.000439	-0.000002
95	0.000000	0.000430	-0.000007
96	0.000000	0.000410	-0.000013
97	0.000000	0.000377	-0.000020
98	0.000000	0.000330	-0.000027
99	0.000000	0.000217	-0.000039
100	0.000000	0.000071	-0.000046
101	0.000000	-0.000000	-0.000048
102	0.000000	-0.000074	-0.000051
103	0.000000	-0.000260	-0.000056
104	0.000000	-0.000466	-0.000062
105	0.000000	-0.000593	-0.000064
106	0.000000	-0.000721	-0.000063
107	0.000000	-0.000846	-0.000061
108	0.000000	-0.000965	-0.000057
109	0.000000	-0.001074	-0.000051
110	0.000000	-0.001170	-0.000044
111	0.000000	-0.001249	-0.000034
112	0.000000	-0.001307	-0.000023
113	0.000000	-0.001340	-0.000010
114	0.000000	-0.001346	0.000005
115	0.000000	-0.001319	0.000022
116	0.000000	-0.001257	0.000040
117	0.000000	-0.001156	0.000061
118	0.000000	-0.001012	0.000083
119	0.000000	-0.000664	0.000119
120	0.000000	-0.000217	0.000141
121	0.000000	0.000000	0.000148
122	0.000000	0.000228	0.000155
123	0.000000	0.000798	0.000173
124	0.000000	0.001430	0.000190
125	0.000000	0.001818	0.000195
126	0.000000	0.002210	0.000194
127	0.000000	0.002595	0.000187
128	0.000000	0.002960	0.000175
129	0.000000	0.003296	0.000157
130	0.000000	0.003590	0.000134
131	0.000000	0.003831	0.000105
132	0.000000	0.004009	0.000071
133	0.000000	0.004111	0.000030
134	0.000000	0.004127	-0.000015
135	0.000000	0.004045	-0.000067
136	0.000000	0.003855	-0.000124
137	0.000000	0.003544	-0.000186
138	0.000000	0.003102	-0.000254
139	0.000000	0.002037	-0.000364
140	0.000000	0.000664	-0.000431
141	0.000000	-0.000000	-0.000454
142	0.000000	-0.000698	-0.000476
143	0.000000	-0.002423	-0.000515
144	0.000000	-0.004228	-0.000518
145	0.000000	-0.005242	-0.000488
146	0.000000	-0.006180	-0.000441
147	0.000000	-0.007009	-0.000381
148	0.000000	-0.007703	-0.000308
149	0.000000	-0.008237	-0.000221
150	0.000000	-0.008587	-0.000125
151	0.000000	-0.008736	-0.000023
152	0.000000	-0.008679	0.000079
153	0.000000	-0.008418	0.000180
154	0.000000	-0.007961	0.000273
155	0.000000	-0.007326	0.000356
156	0.000000	-0.006538	0.000426
157	0.000000	-0.005620	0.000484
158	0.000000	-0.004598	0.000529
159	0.000000	-0.002706	0.000556
160	0.000000	-0.000802	0.000540
161	0.000000	-0.000000	0.000528
162	0.000000	0.000782	0.000515
163	0.000000	0.002487	0.000471
164	0.000000	0.003980	0.000392
165	0.000000	0.004712	0.000336
166	0.000000	0.005333	0.000281
167	0.000000	0.005842	0.000226

168	0.000000	0.006240	0.000170		8	0.00	-0.60	0.05
169	0.000000	0.006526	0.000114	8	8	0.00	-0.60	0.05
170	0.000000	0.006699	0.000058		9	0.00	-0.68	0.05
171	0.000000	0.006760	0.000002	9	9	0.00	-0.68	0.05
172	0.000000	0.006709	-0.000054		10	0.00	-0.77	0.05
173	0.000000	0.006544	-0.000110	10	10	0.00	-0.77	0.05
174	0.000000	0.006266	-0.000166		11	0.00	-0.85	0.05
175	0.000000	0.005875	-0.000223	11	11	0.00	-0.85	0.05
176	0.000000	0.005370	-0.000279		12	0.00	-0.94	0.05
177	0.000000	0.004750	-0.000336	12	12	0.00	-0.93	0.05
178	0.000000	0.004017	-0.000393		13	0.00	-1.02	0.05
179	0.000000	0.002515	-0.000475	13	13	0.00	-1.02	0.05
180	0.000000	0.000792	-0.000521		14	0.00	-1.10	0.05
181	0.000000	-0.000000	-0.000535	14	14	0.00	-1.10	0.05
182	0.000000	-0.000812	-0.000547		15	0.00	-1.19	0.05
183	0.000000	-0.002734	-0.000558	15	15	0.00	-1.19	0.05
184	0.000000	-0.004625	-0.000528		16	0.00	-1.27	0.05
185	0.000000	-0.005643	-0.000482	16	16	0.00	-1.27	0.05
186	0.000000	-0.006551	-0.000418		17	0.00	-1.36	0.05
187	0.000000	-0.007315	-0.000340	17	17	0.00	-1.36	0.05
188	0.000000	-0.007911	-0.000252		18	0.00	-1.44	0.05
189	0.000000	-0.008324	-0.000158	18	18	0.00	-1.44	0.05
190	0.000000	-0.008544	-0.000061		19	0.00	-1.62	0.05
191	0.000000	-0.008572	0.000033	19	19	0.00	-1.62	0.05
192	0.000000	-0.008412	0.000126		20	0.00	-1.80	0.05
193	0.000000	-0.008068	0.000216	20	20	0.00	-1.80	0.05
194	0.000000	-0.007545	0.000302		21	0.00	-1.88	0.05
195	0.000000	-0.006860	0.000377	21	21	0.00	-1.88	-0.17
196	0.000000	-0.006035	0.000440		22	0.00	-1.63	-0.17
197	0.000000	-0.005102	0.000485	22	22	0.00	-1.63	-0.17
198	0.000000	-0.004101	0.000508		23	0.00	-1.06	-0.17
199	0.000000	-0.002345	0.000498	23	23	0.00	-1.06	-0.17
200	0.000000	-0.000675	0.000460		24	0.00	-0.48	-0.17
201	0.000000	-0.000000	0.000439	24	24	0.00	-0.48	-0.17
202	0.000000	0.000641	0.000415		25	0.00	-0.14	-0.17
203	0.000000	0.001954	0.000345	25	25	0.00	-0.14	-0.17
204	0.000000	0.002949	0.000232		26	0.00	0.19	-0.17
205	0.000000	0.003278	0.000174	26	26	0.00	0.19	-0.17
206	0.000000	0.003515	0.000119		27	0.00	0.53	-0.17
207	0.000000	0.003667	0.000068	27	27	0.00	0.53	-0.17
208	0.000000	0.003738	0.000021		28	0.00	0.86	-0.17
209	0.000000	0.003736	-0.000023	28	28	0.00	0.86	-0.17
210	0.000000	0.003665	-0.000064		29	0.00	1.20	-0.17
211	0.000000	0.003532	-0.000100	29	29	0.00	1.20	-0.17
212	0.000000	0.003341	-0.000134		30	0.00	1.53	-0.17
213	0.000000	0.003099	-0.000164	30	30	0.00	1.53	-0.17
214	0.000000	0.002812	-0.000190		31	0.00	1.87	-0.17
215	0.000000	0.002484	-0.000213	31	31	0.00	1.87	-0.17
216	0.000000	0.002123	-0.000232		32	0.00	2.20	-0.17
217	0.000000	0.001732	-0.000248	32	32	0.00	2.20	-0.17
218	0.000000	0.001319	-0.000260		33	0.00	2.54	-0.17
219	0.000000	0.000889	-0.000269	33	33	0.00	2.54	-0.17
220	0.000000	0.000447	-0.000275		34	0.00	2.87	-0.17
221	0.000000	0.000000	-0.000276	34	34	0.00	2.87	-0.17
					35	0.00	3.21	-0.17
	Reacciones en apoyos			35	35	0.00	3.21	-0.17
					36	0.00	3.55	-0.17
Nudo	Fza. x	Fza. y	Mto. z	36	36	0.00	3.55	-0.17
1	-0.00	-0.05	-0.00		37	0.00	3.88	-0.17
21	0.00	0.22	0.00	37	37	0.00	3.88	-0.17
41	0.00	-0.67	0.00		38	0.00	4.22	-0.17
61	0.00	2.06	0.00	38	38	0.00	4.22	-0.17
81	0.00	-6.32	0.00		39	0.00	4.80	-0.17
101	0.00	19.39	-0.00	39	39	0.00	4.80	-0.17
121	0.00	-59.49	0.01		40	0.00	5.38	-0.17
141	0.00	269.03	0.01	40	40	0.00	5.38	-0.17
161	0.00	174.73	-0.01		41	0.00	5.63	-0.17
181	0.00	226.91	0.00	41	41	0.00	5.63	0.51
201	-0.00	297.41	0.01		42	0.00	4.87	0.51
221	0.00	-43.34	0.00	42	42	0.00	4.87	0.51
					43	0.00	3.11	0.51
Esfuerzos en extremos de barras				43	43	0.00	3.11	0.51
					44	0.00	1.36	0.51
Barra	Ext.	Axil	Flector	Cortante	44	44	0.00	1.36	0.51
1	1	0.00	0.00	0.05		45	0.00	0.34	0.51
	2	0.00	-0.09	0.05	45	45	0.00	0.34	0.51
2	2	0.00	-0.09	0.05		46	0.00	-0.68	0.51
	3	0.00	-0.17	0.05	46	46	0.00	-0.68	0.51
3	3	0.00	-0.17	0.05		47	0.00	-1.70	0.51
	4	0.00	-0.26	0.05	47	47	0.00	-1.70	0.51
4	4	0.00	-0.26	0.05		48	0.00	-2.72	0.51
	5	0.00	-0.34	0.05	48	48	0.00	-2.72	0.51
5	5	0.00	-0.34	0.05		49	0.00	-3.74	0.51
	6	0.00	-0.43	0.05	49	49	0.00	-3.74	0.51
6	6	0.00	-0.43	0.05		50	0.00	-4.76	0.51
	7	0.00	-0.51	0.05	50	50	0.00	-4.76	0.51
7	7	0.00	-0.51	0.05		51	0.00	-5.78	0.51

51	51	0.00	-5.78	0.51	94	94	0.00	-83.19	4.77
	52	0.00	-6.80	0.51		95	0.00	-92.80	4.77
52	52	0.00	-6.80	0.51	95	95	0.00	-92.80	4.78
	53	0.00	-7.82	0.51		96	0.00	-102.40	4.78
53	53	0.00	-7.82	0.51	96	96	0.00	-102.41	4.78
	54	0.00	-8.84	0.51		97	0.00	-112.03	4.78
54	54	0.00	-8.84	0.51	97	97	0.00	-112.02	4.78
	55	0.00	-9.86	0.51		98	0.00	-121.64	4.78
55	55	0.00	-9.86	0.51	98	98	0.00	-121.64	4.78
	56	0.00	-10.88	0.51		99	0.00	-138.18	4.78
56	56	0.00	-10.88	0.51	99	99	0.00	-138.18	4.78
	57	0.00	-11.91	0.51		100	0.00	-154.72	4.78
57	57	0.00	-11.90	0.51	100	100	0.00	-154.72	4.78
	58	0.00	-12.93	0.51		101	0.00	-161.90	4.78
58	58	0.00	-12.93	0.51	101	101	0.00	-161.90	-14.60
	59	0.00	-14.68	0.51		102	0.00	-139.99	-14.60
59	59	0.00	-14.68	0.51	102	102	0.00	-139.99	-14.61
	60	0.00	-16.44	0.51		103	0.00	-89.46	-14.61
60	60	0.00	-16.44	0.51	103	103	0.00	-89.46	-14.61
	61	0.00	-17.21	0.51		104	0.00	-38.92	-14.61
61	61	0.00	-17.21	-1.55	104	104	0.00	-38.92	-14.60
	62	0.00	-14.88	-1.55		105	0.00	-9.55	-14.60
62	62	0.00	-14.88	-1.55	105	105	0.00	-9.55	-14.61
	63	0.00	-9.51	-1.55		106	0.00	19.84	-14.61
63	63	0.00	-9.51	-1.55	106	106	0.00	19.84	-14.61
	64	0.00	-4.14	-1.55		107	0.00	49.21	-14.61
64	64	0.00	-4.14	-1.55	107	107	0.00	49.21	-14.62
	65	0.00	-1.02	-1.55		108	0.00	78.62	-14.62
65	65	0.00	-1.02	-1.55	108	108	0.00	78.62	-14.62
	66	0.00	2.11	-1.55		109	0.00	108.02	-14.62
66	66	0.00	2.11	-1.55	109	109	0.00	108.02	-14.62
	67	0.00	5.23	-1.55		110	0.00	137.45	-14.62
67	67	0.00	5.23	-1.55	110	110	0.00	137.44	-14.63
	68	0.00	8.35	-1.55		111	0.00	166.87	-14.63
68	68	0.00	8.36	-1.55	111	111	0.00	166.87	-14.64
	69	0.00	11.48	-1.55		112	0.00	196.30	-14.64
69	69	0.00	11.48	-1.55	112	112	0.00	196.31	-14.64
	70	0.00	14.61	-1.55		113	0.00	225.76	-14.64
70	70	0.00	14.61	-1.55	113	113	0.00	225.77	-14.64
	71	0.00	17.73	-1.55		114	0.00	255.22	-14.64
71	71	0.00	17.73	-1.55	114	114	0.00	255.22	-14.65
	72	0.00	20.86	-1.55		115	0.00	284.70	-14.65
72	72	0.00	20.86	-1.56	115	115	0.00	284.70	-14.65
	73	0.00	23.99	-1.56		116	0.00	314.17	-14.65
73	73	0.00	23.99	-1.56	116	116	0.00	314.18	-14.66
	74	0.00	27.12	-1.56		117	0.00	343.68	-14.66
74	74	0.00	27.12	-1.56	117	117	0.00	343.67	-14.67
	75	0.00	30.25	-1.56		118	0.00	373.17	-14.67
75	75	0.00	30.25	-1.56	118	118	0.00	373.17	-14.67
	76	0.00	33.38	-1.56		119	0.00	423.92	-14.67
76	76	0.00	33.38	-1.56	119	119	0.00	423.92	-14.67
	77	0.00	36.51	-1.56		120	0.00	474.67	-14.67
77	77	0.00	36.51	-1.56	120	120	0.00	474.66	-14.67
	78	0.00	39.65	-1.56		121	0.00	496.67	-14.67
78	78	0.00	39.65	-1.56	121	121	0.00	496.66	44.83
	79	0.00	45.04	-1.56		122	0.00	429.42	44.83
79	79	0.00	45.04	-1.56	122	122	0.00	429.42	44.82
	80	0.00	50.43	-1.56		123	0.00	274.33	44.82
80	80	0.00	50.43	-1.56	123	123	0.00	274.33	44.82
	81	0.00	52.77	-1.56		124	0.00	119.25	44.82
81	81	0.00	52.77	4.76	124	124	0.00	119.25	44.82
	82	0.00	45.63	4.76		125	0.00	29.12	44.82
82	82	0.00	45.63	4.76	125	125	0.00	29.12	44.83
	83	0.00	29.16	4.76		126	0.00	-61.08	44.83
83	83	0.00	29.16	4.76	126	126	0.00	-61.07	44.83
	84	0.00	12.69	4.76		127	0.00	-151.23	44.83
84	84	0.00	12.69	4.76	127	127	0.00	-151.22	44.83
	85	0.00	3.11	4.76		128	0.00	-241.41	44.83
85	85	0.00	3.11	4.76	128	128	0.00	-241.41	44.83
	86	0.00	-6.47	4.76		129	0.00	-331.56	44.83
86	86	0.00	-6.47	4.76	129	129	0.00	-331.55	44.83
	87	0.00	-16.04	4.76		130	0.00	-421.75	44.83
87	87	0.00	-16.04	4.76	130	130	0.00	-421.77	44.84
	88	0.00	-25.63	4.76		131	0.00	-511.95	44.84
88	88	0.00	-25.63	4.77	131	131	0.00	-511.96	44.86
	89	0.00	-35.21	4.77		132	0.00	-602.16	44.86
89	89	0.00	-35.21	4.77	132	132	0.00	-602.16	44.86
	90	0.00	-44.80	4.77		133	0.00	-692.43	44.86
90	90	0.00	-44.80	4.77	133	133	0.00	-692.43	44.90
	91	0.00	-54.39	4.77		134	0.00	-782.72	44.90
					134	134	0.00	-782.71	44.89
91	91	0.00	-54.39	4.77		135	0.00	-873.03	44.89
	92	0.00	-63.99	4.77	135	135	0.00	-873.04	44.90
92	92	0.00	-63.99	4.77		136	0.00	-963.33	44.90
	93	0.00	-73.59	4.77	136	136	0.00	-963.32	44.89
93	93	0.00	-73.59	4.77		137	0.00	-1053.63	44.89
	94	0.00	-83.19	4.77	137	137	0.00	-1053.64	44.89

	138	0.00	-1143.91	44.89	181	181	0.00	-927.33	-225.84
138	138	0.00	-1143.92	44.90		182	0.00	-588.59	-225.84
	139	0.00	-1299.29	44.90	182	182	0.00	-588.57	-225.82
139	139	0.00	-1299.28	44.90		183	0.00	88.76	-145.82
	140	0.00	-1454.62	44.90	183	183	0.00	88.77	-145.81
140	140	0.00	-1454.62	44.89		184	0.00	593.28	-145.81
	141	0.00	-1521.96	44.89	184	184	0.00	593.29	-145.81
141	141	0.00	-1521.97	-224.14		185	0.00	886.50	-145.81
	142	0.00	-1185.76	-224.14	185	185	0.00	886.51	-145.83
142	142	0.00	-1185.75	-224.13		186	0.00	1160.59	-105.83
	143	0.00	-410.25	-224.13	186	186	0.00	1160.59	-105.83
143	143	0.00	-410.24	-224.13		187	0.00	1345.66	-65.83
	144	0.00	310.46	-184.13	187	187	0.00	1345.64	-65.82
144	144	0.00	310.43	-184.14		188	0.00	1478.06	-65.82
	145	0.00	627.90	-144.14	188	188	0.00	1478.08	-65.82
145	145	0.00	627.90	-144.14		189	0.00	1551.36	-25.82
	146	0.00	867.00	-104.14	189	189	0.00	1551.39	-25.92
146	146	0.00	866.98	-104.13		190	0.00	1535.98	14.08
	147	0.00	1076.39	-104.13	190	190	0.00	1535.98	14.08
147	147	0.00	1076.38	-104.13		191	0.00	1507.67	14.08
	148	0.00	1285.90	-104.13	191	191	0.00	1507.70	14.06
148	148	0.00	1285.89	-104.16		192	0.00	1479.43	14.06
	149	0.00	1491.47	-64.16	192	192	0.00	1479.44	14.05
149	149	0.00	1491.48	-64.22		193	0.00	1438.25	54.05
	150	0.00	1618.73	-24.22	193	193	0.00	1438.26	53.99
150	150	0.00	1618.73	-24.25		194	0.00	1308.32	93.99
	151	0.00	1667.50	15.75	194	194	0.00	1308.27	93.96
151	151	0.00	1667.54	15.78		195	0.00	1119.21	93.96
	152	0.00	1635.82	15.78	195	195	0.00	1119.19	93.97
152	152	0.00	1635.83	15.72		196	0.00	877.52	133.97
	153	0.00	1574.09	55.72	196	196	0.00	877.50	134.01
153	153	0.00	1574.07	55.67		197	0.00	546.70	174.01
	154	0.00	1423.56	95.67	197	197	0.00	546.70	173.98
154	154	0.00	1423.49	95.64		198	0.00	196.82	173.98
	155	0.00	1231.06	95.64	198	198	0.00	196.84	173.99
155	155	0.00	1231.03	95.66		199	0.00	-405.16	173.99
	156	0.00	1038.65	95.66	199	199	0.00	-405.14	173.98
156	156	0.00	1038.60	95.67		200	0.00	-1179.94	253.98
	157	0.00	846.11	95.67	200	200	0.00	-1179.94	254.00
157	157	0.00	846.08	95.68		201	0.00	-1560.92	254.00
	158	0.00	589.28	135.68	201	201	0.00	-1560.93	-43.41
158	158	0.00	589.30	135.67		202	0.00	-1495.80	-43.41
	159	0.00	-10.92	175.67	202	202	0.00	-1495.82	-43.42
159	159	0.00	-10.90	175.67		203	0.00	-1345.60	-43.42
	160	0.00	-618.72	175.67	203	203	0.00	-1345.61	-43.42
160	160	0.00	-618.73	175.69		204	0.00	-1195.37	-43.42
	161	0.00	-882.25	175.69	204	204	0.00	-1195.35	-43.39
161	161	0.00	-882.23	0.96		205	0.00	-1124.97	-43.39
	162	0.00	-883.65	0.96	205	205	0.00	-1124.98	-43.44
162	162	0.00	-883.65	0.92		206	0.00	-1054.47	-43.44
	163	0.00	-886.84	0.92	206	206	0.00	-1054.51	-43.42
163	163	0.00	-886.85	0.92		207	0.00	-984.08	-43.42
	164	0.00	-890.02	0.92	207	207	0.00	-984.06	-43.37
164	164	0.00	-890.02	0.91		208	0.00	-913.72	-43.37
	165	0.00	-891.85	0.91	208	208	0.00	-913.73	-43.35
165	165	0.00	-891.85	0.94		209	0.00	-843.38	-43.35
	166	0.00	-893.74	0.94	209	209	0.00	-843.40	-43.33
166	166	0.00	-893.72	0.93		210	0.00	-773.11	-43.33
	167	0.00	-895.60	0.93	210	210	0.00	-773.10	-43.28
167	167	0.00	-895.57	0.93		211	0.00	-702.91	-43.28
	168	0.00	-897.45	0.93	211	211	0.00	-702.92	-43.34
168	168	0.00	-897.41	0.96		212	0.00	-632.57	-43.34
	169	0.00	-899.33	0.96	212	212	0.00	-632.59	-43.34
169	169	0.00	-899.35	0.98		213	0.00	-562.30	-43.34
	170	0.00	-901.31	0.98	213	213	0.00	-562.29	-43.31
170	170	0.00	-901.33	1.01		214	0.00	-492.00	-43.31
	171	0.00	-903.36	1.01	214	214	0.00	-491.98	-43.33
171	171	0.00	-903.37	1.02		215	0.00	-421.70	-43.33
	172	0.00	-905.43	1.02	215	215	0.00	-421.69	-43.30
172	172	0.00	-905.38	1.08		216	0.00	-351.45	-43.30
	173	0.00	-907.55	1.08	216	216	0.00	-351.47	-43.33
173	173	0.00	-907.52	1.05		217	0.00	-281.16	-43.33
	174	0.00	-909.64	1.05	217	217	0.00	-281.17	-43.33
174	174	0.00	-909.62	1.08		218	0.00	-210.89	-43.33
	175	0.00	-911.80	1.08	218	218	0.00	-210.89	-43.33
175	175	0.00	-911.79	1.09		219	0.00	-140.61	-43.33
	176	0.00	-913.98	1.09	219	219	0.00	-140.61	-43.33
176	176	0.00	-913.94	1.07		220	0.00	-70.29	-43.33
	177	0.00	-916.09	1.07	220	220	0.00	-70.29	-43.34
177	177	0.00	-916.07	1.08		221	0.00	0.00	-43.34
	178	0.00	-918.24	1.08					
178	178	0.00	-918.25	1.08					
	179	0.00	-921.99	1.08					
179	179	0.00	-922.00	1.08					
	180	0.00	-925.73	1.08					
180	180	0.00	-925.71	1.07					
	181	0.00	-927.33	1.07					

VTO LLOBREGAT MIXTA (B) PRUEBA DE CARGA

Hip. nº 19 ESTADO DE CARGAS 19

Desplazamientos de nudos

Nudo	Dpl. x	Dpl. y	Giro z
1	0.000000	-0.000000	-0.000000
2	0.000000	-0.000000	-0.000000
3	0.000000	-0.000000	-0.000000
4	0.000000	-0.000001	-0.000000
5	0.000000	-0.000001	-0.000000
6	0.000000	-0.000001	-0.000000
7	0.000000	-0.000001	-0.000000
8	0.000000	-0.000001	-0.000000
9	0.000000	-0.000001	-0.000000
10	0.000000	-0.000001	-0.000000
11	0.000000	-0.000001	-0.000000
12	0.000000	-0.000001	-0.000000
13	0.000000	-0.000001	-0.000000
14	0.000000	-0.000001	0.000000
15	0.000000	-0.000001	0.000000
16	0.000000	-0.000001	0.000000
17	0.000000	-0.000001	0.000000
18	0.000000	-0.000001	0.000000
19	0.000000	-0.000001	0.000000
20	0.000000	-0.000000	0.000000
21	0.000000	0.000000	0.000000
22	0.000000	0.000000	0.000000
23	0.000000	0.000001	0.000000
24	0.000000	0.000002	0.000000
25	0.000000	0.000002	0.000000
26	0.000000	0.000003	0.000000
27	0.000000	0.000003	0.000000
28	0.000000	0.000003	0.000000
29	0.000000	0.000004	0.000000
30	0.000000	0.000004	0.000000
31	0.000000	0.000004	0.000000
32	0.000000	0.000005	0.000000
33	0.000000	0.000005	0.000000
34	0.000000	0.000005	-0.000000
35	0.000000	0.000005	-0.000000
36	0.000000	0.000004	-0.000000
37	0.000000	0.000004	-0.000000
38	0.000000	0.000004	-0.000000
39	0.000000	0.000002	-0.000000
40	0.000000	0.000001	-0.000001
41	0.000000	-0.000000	-0.000001
42	0.000000	-0.000001	-0.000001
43	0.000000	-0.000003	-0.000001
44	0.000000	-0.000005	-0.000001
45	0.000000	-0.000007	-0.000001
46	0.000000	-0.000008	-0.000001
47	0.000000	-0.000009	-0.000001
48	0.000000	-0.000011	-0.000001
49	0.000000	-0.000012	-0.000001
50	0.000000	-0.000013	-0.000000
51	0.000000	-0.000014	-0.000000
52	0.000000	-0.000014	-0.000000
53	0.000000	-0.000015	-0.000000
54	0.000000	-0.000015	0.000000
55	0.000000	-0.000015	0.000000
56	0.000000	-0.000014	0.000000
57	0.000000	-0.000013	0.000001
58	0.000000	-0.000011	0.000001
59	0.000000	-0.000007	0.000001
60	0.000000	-0.000002	0.000002
61	0.000000	0.000000	0.000002
62	0.000000	0.000003	0.000002
63	0.000000	0.000009	0.000002
64	0.000000	0.000016	0.000002
65	0.000000	0.000020	0.000002
66	0.000000	0.000024	0.000002
67	0.000000	0.000029	0.000002
68	0.000000	0.000033	0.000002
69	0.000000	0.000036	0.000002
70	0.000000	0.000039	0.000001
71	0.000000	0.000042	0.000001
72	0.000000	0.000044	0.000001
73	0.000000	0.000045	0.000000
74	0.000000	0.000045	-0.000000
75	0.000000	0.000045	-0.000001
76	0.000000	0.000042	-0.000001
77	0.000000	0.000039	-0.000002
78	0.000000	0.000034	-0.000003
79	0.000000	0.000022	-0.000004
80	0.000000	0.000007	-0.000005
81	0.000000	-0.000000	-0.000005
82	0.000000	-0.000008	-0.000005
83	0.000000	-0.000027	-0.000006
84	0.000000	-0.000048	-0.000006
85	0.000000	-0.000061	-0.000007
86	0.000000	-0.000075	-0.000007
87	0.000000	-0.000088	-0.000006
88	0.000000	-0.000100	-0.000006
89	0.000000	-0.000111	-0.000005
90	0.000000	-0.000121	-0.000005
91	0.000000	-0.000129	-0.000004
92	0.000000	-0.000135	-0.000002
93	0.000000	-0.000139	-0.000001
94	0.000000	-0.000139	0.000001
95	0.000000	-0.000137	0.000002
96	0.000000	-0.000130	0.000004
97	0.000000	-0.000120	0.000006
98	0.000000	-0.000105	0.000009
99	0.000000	-0.000069	0.000012
100	0.000000	-0.000022	0.000015
101	0.000000	0.000000	0.000015
102	0.000000	0.000024	0.000016
103	0.000000	0.000083	0.000018
104	0.000000	0.000148	0.000020
105	0.000000	0.000188	0.000020
106	0.000000	0.000229	0.000020
107	0.000000	0.000269	0.000019
108	0.000000	0.000306	0.000018
109	0.000000	0.000341	0.000016
110	0.000000	0.000372	0.000014
111	0.000000	0.000397	0.000011
112	0.000000	0.000415	0.000007
113	0.000000	0.000426	0.000003
114	0.000000	0.000427	-0.000002
115	0.000000	0.000419	-0.000007
116	0.000000	0.000399	-0.000013
117	0.000000	0.000367	-0.000019
118	0.000000	0.000321	-0.000026
119	0.000000	0.000211	-0.000038
120	0.000000	0.000069	-0.000045
121	0.000000	-0.000000	-0.000047
122	0.000000	-0.000072	-0.000049
123	0.000000	-0.000253	-0.000055
124	0.000000	-0.000454	-0.000060
125	0.000000	-0.000577	-0.000062
126	0.000000	-0.000702	-0.000062
127	0.000000	-0.000824	-0.000059
128	0.000000	-0.000940	-0.000056
129	0.000000	-0.001046	-0.000050
130	0.000000	-0.001140	-0.000043
131	0.000000	-0.001216	-0.000033
132	0.000000	-0.001273	-0.000022
133	0.000000	-0.001305	-0.000010
134	0.000000	-0.001310	0.000005
135	0.000000	-0.001284	0.000021
136	0.000000	-0.001224	0.000039
137	0.000000	-0.001125	0.000059
138	0.000000	-0.000985	0.000081
139	0.000000	-0.000647	0.000115
140	0.000000	-0.000211	0.000137
141	0.000000	0.000000	0.000144
142	0.000000	0.000222	0.000151
143	0.000000	0.000777	0.000168
144	0.000000	0.001392	0.000185
145	0.000000	0.001770	0.000190
146	0.000000	0.002152	0.000189
147	0.000000	0.002526	0.000182
148	0.000000	0.002882	0.000170
149	0.000000	0.003208	0.000153
150	0.000000	0.003494	0.000130
151	0.000000	0.003729	0.000102
152	0.000000	0.003902	0.000069
153	0.000000	0.004002	0.000030
154	0.000000	0.004017	-0.000015
155	0.000000	0.003938	-0.000065
156	0.000000	0.003752	-0.000120
157	0.000000	0.003450	-0.000181
158	0.000000	0.003019	-0.000248
159	0.000000	0.001983	-0.000354
160	0.000000	0.000646	-0.000420
161	0.000000	-0.000000	-0.000442
162	0.000000	-0.000680	-0.000463
163	0.000000	-0.002357	-0.000501
164	0.000000	-0.004111	-0.000502
165	0.000000	-0.005094	-0.000472
166	0.000000	-0.005999	-0.000425
167	0.000000	-0.006797	-0.000366

168	0.000000	-0.007462	-0.000293
169	0.000000	-0.007968	-0.000209
170	0.000000	-0.008294	-0.000114
171	0.000000	-0.008423	-0.000014
172	0.000000	-0.008352	0.000085
173	0.000000	-0.008082	0.000182
174	0.000000	-0.007624	0.000272
175	0.000000	-0.006996	0.000350
176	0.000000	-0.006223	0.000416
177	0.000000	-0.005331	0.000469
178	0.000000	-0.004345	0.000509
179	0.000000	-0.002539	0.000526
180	0.000000	-0.000748	0.000505
181	0.000000	-0.000000	0.000491
182	0.000000	0.000725	0.000476
183	0.000000	0.002287	0.000428
184	0.000000	0.003622	0.000344
185	0.000000	0.004257	0.000288
186	0.000000	0.004780	0.000232
187	0.000000	0.005193	0.000179
188	0.000000	0.005499	0.000126
189	0.000000	0.005701	0.000075
190	0.000000	0.005801	0.000025
191	0.000000	0.005801	-0.000024
192	0.000000	0.005705	-0.000071
193	0.000000	0.005515	-0.000118
194	0.000000	0.005233	-0.000162
195	0.000000	0.004862	-0.000206
196	0.000000	0.004405	-0.000248
197	0.000000	0.003863	-0.000290
198	0.000000	0.003241	-0.000329
199	0.000000	0.002005	-0.000384
200	0.000000	0.000626	-0.000413
201	0.000000	-0.000000	-0.000421
202	0.000000	-0.000638	-0.000428
203	0.000000	-0.002125	-0.000427
204	0.000000	-0.003526	-0.000377
205	0.000000	-0.004105	-0.000335
206	0.000000	-0.004609	-0.000286
207	0.000000	-0.005027	-0.000228
208	0.000000	-0.005346	-0.000164
209	0.000000	-0.005555	-0.000093
210	0.000000	-0.005647	-0.000020
211	0.000000	-0.005620	0.000054
212	0.000000	-0.005473	0.000127
213	0.000000	-0.005209	0.000197
214	0.000000	-0.004837	0.000262
215	0.000000	-0.004363	0.000321
216	0.000000	-0.003798	0.000375
217	0.000000	-0.003150	0.000423
218	0.000000	-0.002429	0.000464
219	0.000000	-0.001651	0.000493
220	0.000000	-0.000835	0.000511
221	0.000000	-0.000000	0.000517

Reacciones en apoyos

Nudo	Fza. x	Fza. y	Mto. z
1	-0.00	0.02	0.00
21	0.00	-0.07	0.00
41	0.00	0.21	0.00
61	0.00	-0.65	0.00
81	0.00	2.01	-0.00
101	0.00	-6.16	-0.00
121	-0.00	18.89	0.00
141	-0.00	-57.87	0.00
161	0.00	264.19	0.01
181	0.00	189.64	0.00
201	-0.00	164.94	-0.01
221	0.00	144.81	-0.01

Esfuerzos en extremos de barras

Barra	Ext.	Axil	Flector	Cortante
1	1	0.00	-0.00	-0.02
	2	0.00	0.03	-0.02
2	2	0.00	0.03	-0.02
	3	0.00	0.05	-0.02
3	3	0.00	0.05	-0.02
	4	0.00	0.08	-0.02
4	4	0.00	0.08	-0.02
	5	0.00	0.11	-0.02
5	5	0.00	0.11	-0.02
	6	0.00	0.14	-0.02
6	6	0.00	0.14	-0.02
	7	0.00	0.16	-0.02
7	7	0.00	0.16	-0.02
	8	0.00	0.19	-0.02
8	8	0.00	0.19	-0.02
	9	0.00	0.22	-0.02
9	9	0.00	0.22	-0.02
	10	0.00	0.24	-0.02
10	10	0.00	0.24	-0.02
	11	0.00	0.27	-0.02
11	11	0.00	0.27	-0.02
	12	0.00	0.30	-0.02
12	12	0.00	0.30	-0.02
	13	0.00	0.32	-0.02
13	13	0.00	0.32	-0.02
	14	0.00	0.35	-0.02
14	14	0.00	0.35	-0.02
	15	0.00	0.38	-0.02
15	15	0.00	0.38	-0.02
	16	0.00	0.40	-0.02
16	16	0.00	0.40	-0.02
	17	0.00	0.43	-0.02
17	17	0.00	0.43	-0.02
	18	0.00	0.46	-0.02
18	18	0.00	0.46	-0.02
	19	0.00	0.52	-0.02
19	19	0.00	0.52	-0.02
	20	0.00	0.57	-0.02
20	20	0.00	0.57	-0.02
	21	0.00	0.60	-0.02
21	21	0.00	0.60	0.05
	22	0.00	0.52	0.05
22	22	0.00	0.52	0.05
	23	0.00	0.34	0.05
23	23	0.00	0.34	0.05
	24	0.00	0.15	0.05
24	24	0.00	0.15	0.05
	25	0.00	0.05	0.05
25	25	0.00	0.05	0.05
	26	0.00	-0.06	0.05
26	26	0.00	-0.06	0.05
	27	0.00	-0.17	0.05
27	27	0.00	-0.17	0.05
	28	0.00	-0.27	0.05
28	28	0.00	-0.27	0.05
	29	0.00	-0.38	0.05
29	29	0.00	-0.38	0.05
	30	0.00	-0.49	0.05
30	30	0.00	-0.49	0.05
	31	0.00	-0.59	0.05
31	31	0.00	-0.59	0.05
	32	0.00	-0.70	0.05
32	32	0.00	-0.70	0.05
	33	0.00	-0.81	0.05
33	33	0.00	-0.81	0.05
	34	0.00	-0.91	0.05
34	34	0.00	-0.91	0.05
	35	0.00	-1.02	0.05
35	35	0.00	-1.02	0.05
	36	0.00	-1.13	0.05
36	36	0.00	-1.13	0.05
	37	0.00	-1.23	0.05
37	37	0.00	-1.23	0.05
	38	0.00	-1.34	0.05
38	38	0.00	-1.34	0.05
	39	0.00	-1.52	0.05
39	39	0.00	-1.52	0.05
	40	0.00	-1.71	0.05
40	40	0.00	-1.71	0.05
	41	0.00	-1.79	0.05
41	41	0.00	-1.79	-0.16
	42	0.00	-1.55	-0.16
42	42	0.00	-1.55	-0.16
	43	0.00	-0.99	-0.16
43	43	0.00	-0.99	-0.16
	44	0.00	-0.43	-0.16
44	44	0.00	-0.43	-0.16
	45	0.00	-0.11	-0.16
45	45	0.00	-0.11	-0.16
	46	0.00	0.22	-0.16
46	46	0.00	0.22	-0.16
	47	0.00	0.54	-0.16
47	47	0.00	0.54	-0.16
	48	0.00	0.86	-0.16
48	48	0.00	0.86	-0.16
	49	0.00	1.19	-0.16
49	49	0.00	1.19	-0.16
	50	0.00	1.51	-0.16
50	50	0.00	1.51	-0.16
	51	0.00	1.83	-0.16

51	51	0.00	1.83	-0.16		95	0.00	29.46	-1.52
	52	0.00	2.16	-0.16	95	95	0.00	29.46	-1.52
52	52	0.00	2.16	-0.16		96	0.00	32.52	-1.52
	53	0.00	2.48	-0.16	96	96	0.00	32.52	-1.52
53	53	0.00	2.48	-0.16		97	0.00	35.57	-1.52
	54	0.00	2.81	-0.16	97	97	0.00	35.57	-1.52
54	54	0.00	2.81	-0.16		98	0.00	38.62	-1.52
	55	0.00	3.13	-0.16	98	98	0.00	38.62	-1.52
55	55	0.00	3.13	-0.16		99	0.00	43.87	-1.52
	56	0.00	3.46	-0.16	99	99	0.00	43.87	-1.52
56	56	0.00	3.46	-0.16		100	0.00	49.13	-1.52
	57	0.00	3.78	-0.16	100	100	0.00	49.13	-1.52
57	57	0.00	3.78	-0.16		101	0.00	51.40	-1.52
	58	0.00	4.10	-0.16	101	101	0.00	51.40	4.64
58	58	0.00	4.10	-0.16		102	0.00	44.45	4.64
	59	0.00	4.66	-0.16	102	102	0.00	44.45	4.64
59	59	0.00	4.66	-0.16		103	0.00	28.40	4.64
	60	0.00	5.22	-0.16	103	103	0.00	28.40	4.64
60	60	0.00	5.22	-0.16		104	0.00	12.36	4.64
	61	0.00	5.46	-0.16	104	104	0.00	12.36	4.64
61	61	0.00	5.46	0.49		105	0.00	3.03	4.64
	62	0.00	4.72	0.49	105	105	0.00	3.03	4.64
62	62	0.00	4.72	0.49		106	0.00	-6.30	4.64
	63	0.00	3.02	0.49	106	106	0.00	-6.30	4.64
63	63	0.00	3.02	0.49		107	0.00	-15.63	4.64
	64	0.00	1.31	0.49	107	107	0.00	-15.63	4.64
64	64	0.00	1.31	0.49		108	0.00	-24.96	4.64
	65	0.00	0.32	0.49	108	108	0.00	-24.96	4.64
65	65	0.00	0.32	0.49		109	0.00	-34.30	4.64
	66	0.00	-0.67	0.49	109	109	0.00	-34.30	4.64
66	66	0.00	-0.67	0.49		110	0.00	-43.64	4.64
	67	0.00	-1.66	0.49	110	110	0.00	-43.64	4.65
67	67	0.00	-1.66	0.49		111	0.00	-52.98	4.65
	68	0.00	-2.65	0.49	111	111	0.00	-52.98	4.65
68	68	0.00	-2.65	0.49		112	0.00	-62.33	4.65
	69	0.00	-3.64	0.49	112	112	0.00	-62.33	4.65
69	69	0.00	-3.65	0.49		113	0.00	-71.68	4.65
	70	0.00	-4.64	0.49	113	113	0.00	-71.68	4.65
70	70	0.00	-4.64	0.49		114	0.00	-81.04	4.65
	71	0.00	-5.63	0.49	114	114	0.00	-81.04	4.65
71	71	0.00	-5.63	0.49		115	0.00	-90.39	4.65
	72	0.00	-6.62	0.49	115	115	0.00	-90.40	4.65
72	72	0.00	-6.62	0.49		116	0.00	-99.75	4.65
	73	0.00	-7.62	0.49	116	116	0.00	-99.76	4.66
73	73	0.00	-7.62	0.49		117	0.00	-109.12	4.66
	74	0.00	-8.61	0.49	117	117	0.00	-109.12	4.66
74	74	0.00	-8.61	0.49		118	0.00	-118.49	4.66
	75	0.00	-9.60	0.49	118	118	0.00	-118.49	4.66
75	75	0.00	-9.60	0.49		119	0.00	-134.60	4.66
	76	0.00	-10.60	0.49	119	119	0.00	-134.60	4.66
76	76	0.00	-10.60	0.49		120	0.00	-150.71	4.66
	77	0.00	-11.59	0.49	120	120	0.00	-150.71	4.66
77	77	0.00	-11.59	0.49		121	0.00	-157.70	4.66
	78	0.00	-12.59	0.49	121	121	0.00	-157.70	-14.23
78	78	0.00	-12.59	0.49		122	0.00	-136.35	-14.23
	79	0.00	-14.30	0.49	122	122	0.00	-136.35	-14.23
79	79	0.00	-14.30	0.49		123	0.00	-87.10	-14.23
	80	0.00	-16.01	0.49	123	123	0.00	-87.10	-14.23
80	80	0.00	-16.01	0.50		124	0.00	-37.86	-14.23
	81	0.00	-16.76	0.50	124	124	0.00	-37.86	-14.23
81	81	0.00	-16.76	-1.51		125	0.00	-9.24	-14.23
	82	0.00	-14.49	-1.51	125	125	0.00	-9.24	-14.23
82	82	0.00	-14.49	-1.51		126	0.00	19.39	-14.23
	83	0.00	-9.26	-1.51	126	126	0.00	19.39	-14.23
83	83	0.00	-9.26	-1.51		127	0.00	48.02	-14.23
	84	0.00	-4.03	-1.51	127	127	0.00	48.02	-14.23
84	84	0.00	-4.03	-1.51		128	0.00	76.65	-14.23
	85	0.00	-0.99	-1.51	128	128	0.00	76.65	-14.23
85	85	0.00	-0.99	-1.51		129	0.00	105.27	-14.23
	86	0.00	2.05	-1.51	129	129	0.00	105.27	-14.24
86	86	0.00	2.05	-1.51		130	0.00	133.91	-14.24
	87	0.00	5.09	-1.51	130	130	0.00	133.92	-14.24
87	87	0.00	5.09	-1.51		131	0.00	162.55	-14.24
	88	0.00	8.14	-1.51	131	131	0.00	162.56	-14.24
88	88	0.00	8.14	-1.51		132	0.00	191.19	-14.24
	89	0.00	11.18	-1.51	132	132	0.00	191.19	-14.25
89	89	0.00	11.18	-1.51		133	0.00	219.86	-14.25
	90	0.00	14.23	-1.51	133	133	0.00	219.86	-14.25
90	90	0.00	14.23	-1.51		134	0.00	248.52	-14.25
	91	0.00	17.27	-1.51	134	134	0.00	248.52	-14.26
91	91	0.00	17.27	-1.51		135	0.00	277.20	-14.26
	92	0.00	20.32	-1.51	135	135	0.00	277.20	-14.26
92	92	0.00	20.32	-1.52		136	0.00	305.87	-14.26
	93	0.00	23.37	-1.52	136	136	0.00	305.87	-14.25
93	93	0.00	23.37	-1.52		137	0.00	334.54	-14.25
	94	0.00	26.41	-1.52	137	137	0.00	334.54	-14.26
94	94	0.00	26.41	-1.52		138	0.00	363.21	-14.26

138	138	0.00	363.21	-14.26
	139	0.00	412.54	-14.26
139	139	0.00	412.54	-14.26
	140	0.00	461.86	-14.26
140	140	0.00	461.86	-14.25
	141	0.00	483.24	-14.25
141	141	0.00	483.24	43.61
	142	0.00	417.82	43.61
142	142	0.00	417.81	43.62
	143	0.00	266.89	43.62
143	143	0.00	266.89	43.62
	144	0.00	115.98	43.62
144	144	0.00	115.99	43.62
	145	0.00	28.27	43.62
145	145	0.00	28.27	43.62
	146	0.00	-59.49	43.62
146	146	0.00	-59.49	43.62
	147	0.00	-147.21	43.62
147	147	0.00	-147.21	43.61
	148	0.00	-234.95	43.61
148	148	0.00	-234.96	43.62
	149	0.00	-322.68	43.62
149	149	0.00	-322.69	43.65
	150	0.00	-410.52	43.65
150	150	0.00	-410.52	43.66
	151	0.00	-498.32	43.66
151	151	0.00	-498.32	43.67
	152	0.00	-586.14	43.67
152	152	0.00	-586.13	43.67
	153	0.00	-674.00	43.67
153	153	0.00	-673.99	43.71
	154	0.00	-761.89	43.71
154	154	0.00	-761.86	43.70
	155	0.00	-849.79	43.70
155	155	0.00	-849.78	43.71
	156	0.00	-937.68	43.71
156	156	0.00	-937.66	43.69
	157	0.00	-1025.56	43.69
157	157	0.00	-1025.54	43.71
	158	0.00	-1113.44	43.71
158	158	0.00	-1113.45	43.70
	159	0.00	-1264.66	43.70
159	159	0.00	-1264.67	43.70
	160	0.00	-1415.87	43.70
160	160	0.00	-1415.87	43.69
	161	0.00	-1481.41	43.69
161	161	0.00	-1481.42	-220.50
	162	0.00	-1150.68	-220.50
162	162	0.00	-1150.68	-220.47
	163	0.00	-387.85	-220.47
163	163	0.00	-387.83	-220.47
	164	0.00	320.18	-180.47
164	164	0.00	320.19	-180.46
	165	0.00	630.24	-140.46
165	165	0.00	630.24	-140.50
	166	0.00	862.01	-100.50
166	166	0.00	861.97	-100.50
	167	0.00	1064.07	-100.50
167	167	0.00	1064.07	-100.44
	168	0.00	1266.16	-100.44
168	168	0.00	1266.19	-100.49
	169	0.00	1464.39	-60.49
169	169	0.00	1464.41	-60.56
	170	0.00	1584.30	-20.56
170	170	0.00	1584.29	-20.60
	171	0.00	1625.71	19.40
171	171	0.00	1625.68	19.37
	172	0.00	1586.71	19.37
172	172	0.00	1586.67	19.38
	173	0.00	1517.55	59.38
173	173	0.00	1517.52	59.33
	174	0.00	1359.66	99.33
174	174	0.00	1359.59	99.32
	175	0.00	1159.76	99.32
175	175	0.00	1159.72	99.31
	176	0.00	960.01	99.31
176	176	0.00	959.96	99.35
	177	0.00	760.07	99.35
177	177	0.00	760.04	99.34
	178	0.00	495.88	139.34
178	178	0.00	495.90	139.33
	179	0.00	-117.00	179.33
179	179	0.00	-116.99	179.33
	180	0.00	-737.49	179.33
180	180	0.00	-737.50	179.36
	181	0.00	-1006.52	179.36
181	181	0.00	-1006.52	-10.28
	182	0.00	-991.09	-10.28
182	182	0.00	-991.10	-10.30
	183	0.00	-955.48	-10.30
183	183	0.00	-955.49	-10.30
	184	0.00	-919.84	-10.30
184	184	0.00	-919.86	-10.31
	185	0.00	-899.12	-10.31
185	185	0.00	-899.14	-10.30
	186	0.00	-878.42	-10.30
186	186	0.00	-878.44	-10.30
	187	0.00	-857.73	-10.30
187	187	0.00	-857.72	-10.29
	188	0.00	-837.02	-10.29
188	188	0.00	-837.02	-10.29
	189	0.00	-816.32	-10.29
189	189	0.00	-816.34	-10.22
	190	0.00	-795.77	-10.22
190	190	0.00	-795.75	-10.21
	191	0.00	-775.23	-10.21
191	191	0.00	-775.22	-10.20
	192	0.00	-754.70	-10.20
192	192	0.00	-754.67	-10.18
	193	0.00	-734.19	-10.18
193	193	0.00	-734.16	-10.16
	194	0.00	-713.74	-10.16
194	194	0.00	-713.68	-10.14
	195	0.00	-693.29	-10.14
195	195	0.00	-693.27	-10.16
	196	0.00	-672.83	-10.16
196	196	0.00	-672.82	-10.18
	197	0.00	-652.34	-10.18
197	197	0.00	-652.33	-10.16
	198	0.00	-631.91	-10.16
198	198	0.00	-631.92	-10.16
	199	0.00	-596.77	-10.16
199	199	0.00	-596.77	-10.16
	200	0.00	-561.62	-10.16
200	200	0.00	-561.61	-10.16
	201	0.00	-546.37	-10.16
201	201	0.00	-546.36	-175.11
	202	0.00	-283.72	-175.11
202	202	0.00	-283.70	-175.10
	203	0.00	322.13	-175.10
203	203	0.00	322.14	-175.09
	204	0.00	756.76	-95.09
204	204	0.00	756.77	-95.08
	205	0.00	911.00	-95.08
205	205	0.00	911.04	-95.07
	206	0.00	1065.34	-95.07
206	206	0.00	1065.38	-95.10
	207	0.00	1219.62	-95.10
207	207	0.00	1219.60	-95.16
	208	0.00	1360.79	-55.16
208	208	0.00	1360.81	-55.19
	209	0.00	1444.31	-15.19
209	209	0.00	1444.32	-15.24
	210	0.00	1469.04	-15.24
210	210	0.00	1469.01	-15.29
	211	0.00	1487.57	24.71
211	211	0.00	1487.53	24.73
	212	0.00	1447.40	24.73
212	212	0.00	1447.36	24.80
	213	0.00	1343.09	64.80
213	213	0.00	1343.09	64.75
	214	0.00	1238.00	64.75
214	214	0.00	1237.98	64.80
	215	0.00	1132.87	64.80
215	215	0.00	1132.86	64.72
	216	0.00	1027.88	64.72
216	216	0.00	1027.90	64.77
	217	0.00	895.15	104.77
217	217	0.00	895.15	104.78
	218	0.00	704.68	144.78
218	218	0.00	704.68	144.79
	219	0.00	469.84	144.79
219	219	0.00	469.84	144.79
	220	0.00	234.86	144.79
220	220	0.00	234.86	144.81
	221	0.00	-0.01	144.81

Table: Modal Load Participation Ratios

OutputCase	ItemType	Item	Static	Dynamic
Text	Text	Text	Percent	Percent
MODAL	Acceleration	UX	1,630E-09	6,450E-11
MODAL	Acceleration	UY	0,0000	0,0000
MODAL	Acceleration	UZ	98,1654	74,6124

Table: Modal Participating Mass Ratios, Part 1 of 3

OutputCase	StepType	StepNum	Period	UX	UY	UZ	SumUX	SumUY
Text	Text	Unitless	Sec	Unitless	Unitless	Unitless	Unitless	Unitless
MODAL	Mode	1,000000	0,440942	1,041E-19	0,000000	1,876E-06	1,041E-19	0,000000
MODAL	Mode	2,000000	0,413348	2,786E-20	0,000000	1,902E-15	1,320E-19	0,000000
MODAL	Mode	3,000000	0,377071	1,061E-18	0,000000	0,000024	1,193E-18	0,000000
MODAL	Mode	4,000000	0,339531	2,403E-16	0,000000	1,557E-15	2,415E-16	0,000000
MODAL	Mode	5,000000	0,304985	1,831E-17	0,000000	0,000135	2,599E-16	0,000000
MODAL	Mode	6,000000	0,275145	1,502E-17	0,000000	4,566E-15	2,749E-16	0,000000
MODAL	Mode	7,000000	0,250392	7,563E-17	0,000000	0,000917	3,505E-16	0,000000
MODAL	Mode	8,000000	0,230654	1,452E-15	0,000000	1,525E-13	1,803E-15	0,000000
MODAL	Mode	9,000000	0,215928	1,138E-14	0,000000	0,022174	1,318E-14	0,000000
MODAL	Mode	10,000000	0,206121	3,189E-14	0,000000	2,870E-14	4,508E-14	0,000000
MODAL	Mode	11,000000	0,204194	1,351E-16	0,000000	0,722872	4,521E-14	0,000000
MODAL	Mode	12,000000	0,125419	5,998E-13	0,000000	4,687E-13	6,450E-13	0,000000

Table: Modal Participating Mass Ratios, Part 2 of 3

OutputCase	StepType	StepNum	SumUZ	RX	RY	RZ	SumRX	SumRY
Text	Text	Unitless	Unitless	Unitless	Unitless	Unitless	Unitless	Unitless
MODAL	Mode	1,000000	1,876E-06	0,000000	9,265E-18	0,000000	0,000000	9,265E-18
MODAL	Mode	2,000000	1,876E-06	0,000000	3,330E-07	0,000000	0,000000	3,330E-07
MODAL	Mode	3,000000	0,000026	0,000000	4,107E-15	0,000000	0,000000	3,330E-07
MODAL	Mode	4,000000	0,000026	0,000000	1,745E-07	0,000000	0,000000	5,076E-07
MODAL	Mode	5,000000	0,000161	0,000000	2,720E-17	0,000000	0,000000	5,076E-07
MODAL	Mode	6,000000	0,000161	0,000000	6,297E-07	0,000000	0,000000	1,137E-06
MODAL	Mode	7,000000	0,001077	0,000000	3,642E-14	0,000000	0,000000	1,137E-06
MODAL	Mode	8,000000	0,001077	0,000000	3,352E-06	0,000000	0,000000	4,490E-06
MODAL	Mode	9,000000	0,023252	0,000000	3,020E-15	0,000000	0,000000	4,490E-06
MODAL	Mode	10,000000	0,023252	0,000000	0,740493	0,000000	0,000000	0,740497
MODAL	Mode	11,000000	0,746124	0,000000	8,086E-16	0,000000	0,000000	0,740497
MODAL	Mode	12,000000	0,746124	0,000000	0,018130	0,000000	0,000000	0,758627

Table: Modal Participating Mass Ratios, Part 3 of 3

OutputCase	StepType	StepNum	SumRZ
Text	Text	Unitless	Unitless
MODAL	Mode	1,000000	0,000000
MODAL	Mode	2,000000	0,000000
MODAL	Mode	3,000000	0,000000
MODAL	Mode	4,000000	0,000000
MODAL	Mode	5,000000	0,000000
MODAL	Mode	6,000000	0,000000
MODAL	Mode	7,000000	0,000000
MODAL	Mode	8,000000	0,000000
MODAL	Mode	9,000000	0,000000
MODAL	Mode	10,000000	0,000000
MODAL	Mode	11,000000	0,000000
MODAL	Mode	12,000000	0,000000

Table: Modal Participation Factors, Part 1 of 2

OutputCase	StepType	StepNum	Period	UX	UY	UZ	RX	RY
Text	Text	Unitless	Sec	Ton-s2	Ton-s2	Ton-s2	Ton-m-s2	Ton-m-s2
MODAL	Mode	1,000000	0,440942	-1,337E-08	0,000000	0,056760	0,000000	-0,000017
MODAL	Mode	2,000000	0,413348	-6,918E-09	0,000000	-1,808E-06	0,000000	3,283768
MODAL	Mode	3,000000	0,377071	-4,269E-08	0,000000	-0,202474	0,000000	0,000365
MODAL	Mode	4,000000	0,339531	6,425E-07	0,000000	-1,635E-06	0,000000	-2,377284
MODAL	Mode	5,000000	0,304985	-1,773E-07	0,000000	-0,481566	0,000000	0,000030
MODAL	Mode	6,000000	0,275145	-1,606E-07	0,000000	-2,800E-06	0,000000	4,515476

Table: Modal Participation Factors, Part 1 of 2, Cont.

OutputCase	StepType	StepNum	Period	UX	UY	UZ	RX	RY
Text	Text	Unitless	Sec	Ton-s2	Ton-s2	Ton-s2	Ton-m-s2	Ton-m-s2
MODAL	Mode	7,000000	0,250392	3,604E-07	0,000000	1,254754	0,000000	-0,001086
MODAL	Mode	8,000000	0,230654	1,579E-06	0,000000	-0,000016	0,000000	10,418937
MODAL	Mode	9,000000	0,215928	-4,421E-06	0,000000	-6,171370	0,000000	-0,000313
MODAL	Mode	10,000000	0,206121	-7,401E-06	0,000000	7,021E-06	0,000000	4896,667076
MODAL	Mode	11,000000	0,204194	-4,817E-07	0,000000	35,235999	0,000000	0,000162
MODAL	Mode	12,000000	0,125419	-0,000032	0,000000	0,000028	0,000000	-766,184264

Table: Modal Participation Factors, Part 2 of 2

OutputCase	StepType	StepNum	RZ	ModalMass	ModalStiff
Text	Text	Unitless	Ton-m-s2	Ton-m-s2	Ton-m
MODAL	Mode	1,000000	0,000000	1,0000	203,047440
MODAL	Mode	2,000000	0,000000	1,0000	231,061889
MODAL	Mode	3,000000	0,000000	1,0000	277,660090
MODAL	Mode	4,000000	0,000000	1,0000	342,452542
MODAL	Mode	5,000000	0,000000	1,0000	424,425848
MODAL	Mode	6,000000	0,000000	1,0000	521,476928
MODAL	Mode	7,000000	0,000000	1,0000	629,680510
MODAL	Mode	8,000000	0,000000	1,0000	742,056345
MODAL	Mode	9,000000	0,000000	1,0000	846,720873
MODAL	Mode	10,000000	0,000000	1,0000	929,213569
MODAL	Mode	11,000000	0,000000	1,0000	946,838135
MODAL	Mode	12,000000	0,000000	1,0000	2509,772555

Table: Modal Periods And Frequencies

OutputCase	StepType	StepNum	Period	Frequency	CircFreq	Eigenvalue
Text	Text	Unitless	Sec	Cyc/sec	rad/sec	rad2/sec2
MODAL	Mode	1,000000	0,440942	2,2679E+00	1,4249E+01	2,0305E+02
MODAL	Mode	2,000000	0,413348	2,4193E+00	1,5201E+01	2,3106E+02
MODAL	Mode	3,000000	0,377071	2,6520E+00	1,6663E+01	2,7766E+02
MODAL	Mode	4,000000	0,339531	2,9452E+00	1,8505E+01	3,4245E+02
MODAL	Mode	5,000000	0,304985	3,2788E+00	2,0602E+01	4,2443E+02
MODAL	Mode	6,000000	0,275145	3,6344E+00	2,2836E+01	5,2148E+02
MODAL	Mode	7,000000	0,250392	3,9937E+00	2,5093E+01	6,2968E+02
MODAL	Mode	8,000000	0,230654	4,3355E+00	2,7241E+01	7,4206E+02
MODAL	Mode	9,000000	0,215928	4,6312E+00	2,9098E+01	8,4672E+02
MODAL	Mode	10,000000	0,206121	4,8515E+00	3,0483E+01	9,2921E+02
MODAL	Mode	11,000000	0,204194	4,8973E+00	3,0771E+01	9,4684E+02
MODAL	Mode	12,000000	0,125419	7,9733E+00	5,0098E+01	2,5098E+03

Table: Modal Load Participation Ratios

OutputCase Text	ItemType Text	Item Text	Static Percent	Dynamic Percent
MODAL	Acceleration	UX	1,413E-11	5,957E-14
MODAL	Acceleration	UY	0,0000	0,0000
MODAL	Acceleration	UZ	98,4243	75,9683

Table: Modal Participating Mass Ratios, Part 1 of 3

OutputCase Text	StepType Text	StepNum Unitless	Period Sec	UX Unitless	UY Unitless	UZ Unitless	SumUX Unitless	SumUY Unitless
MODAL	Mode	1,000000	0,400177	5,715E-16	0,000000	1,149E-17	5,715E-16	0,000000
MODAL	Mode	2,000000	0,308399	0,000000	0,000000	0,005555	5,715E-16	0,000000
MODAL	Mode	3,000000	0,240245	1,016E-18	0,000000	5,338E-20	5,725E-16	0,000000
MODAL	Mode	4,000000	0,210036	2,318E-17	0,000000	0,754128	5,957E-16	0,000000

Table: Modal Participating Mass Ratios, Part 2 of 3

OutputCase Text	StepType Text	StepNum Unitless	SumUZ Unitless	RX Unitless	RY Unitless	RZ Unitless	SumRX Unitless	SumRY Unitless
MODAL	Mode	1,000000	1,149E-17	0,000000	0,014299	0,000000	0,000000	0,014299
MODAL	Mode	2,000000	0,005555	0,000000	3,376E-20	0,000000	0,000000	0,014299
MODAL	Mode	3,000000	0,005555	0,000000	0,694975	0,000000	0,000000	0,709274
MODAL	Mode	4,000000	0,759683	0,000000	2,882E-20	0,000000	0,000000	0,709274

Table: Modal Participating Mass Ratios, Part 3 of 3

OutputCase Text	StepType Text	StepNum Unitless	SumRZ Unitless
MODAL	Mode	1,000000	0,000000
MODAL	Mode	2,000000	0,000000
MODAL	Mode	3,000000	0,000000
MODAL	Mode	4,000000	0,000000

Table: Modal Participation Factors, Part 1 of 2

OutputCase Text	StepType Text	StepNum Unitless	Period Sec	UX Ton-s2	UY Ton-s2	UZ Ton-s2	RX Ton-m-s2	RY Ton-m-s2
MODAL	Mode	1,000000	0,400177	-5,827E-07	0,000000	-8,262E-08	0,000000	-138,454532
MODAL	Mode	2,000000	0,308399	-4,222E-10	0,000000	-1,816859	0,000000	-2,127E-07
MODAL	Mode	3,000000	0,240245	2,456E-08	0,000000	5,632E-09	0,000000	965,246841
MODAL	Mode	4,000000	0,210036	-1,174E-07	0,000000	-21,168512	0,000000	-1,966E-07

Table: Modal Participation Factors, Part 2 of 2

OutputCase Text	StepType Text	StepNum Unitless	RZ Ton-m-s2	ModalMass Ton-m-s2	ModalStiff Ton-m
MODAL	Mode	1,000000	0,000000	1,0000	246,521689
MODAL	Mode	2,000000	0,000000	1,0000	415,081877
MODAL	Mode	3,000000	0,000000	1,0000	683,990787
MODAL	Mode	4,000000	0,000000	1,0000	894,893730

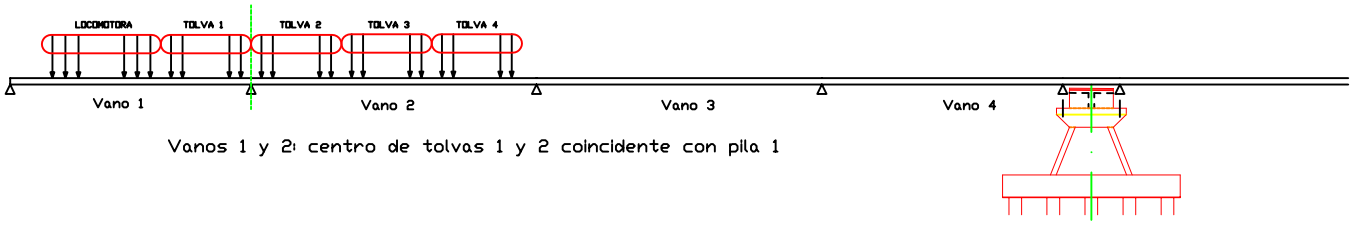
Table: Modal Periods And Frequencies

OutputCase Text	StepType Text	StepNum Unitless	Period Sec	Frequency Cyc/sec	CircFreq rad/sec	Eigenvalue rad2/sec2
MODAL	Mode	1,000000	0,400177	2,4989E+00	1,5701E+01	2,4652E+02
MODAL	Mode	2,000000	0,308399	3,2426E+00	2,0374E+01	4,1508E+02
MODAL	Mode	3,000000	0,240245	4,1624E+00	2,6153E+01	6,8399E+02
MODAL	Mode	4,000000	0,210036	4,7611E+00	2,9915E+01	8,9489E+02

III. -ESQUEMAS DE INSTRUMENTACIÓN PREVISTA Y TREN DE CARGAS.

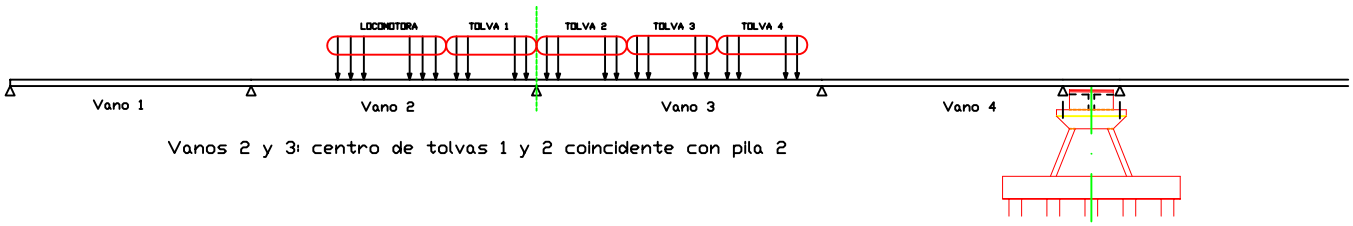
PRUEBA DE CARGA SOBRE LA ESTRUCTURA VTO LLOBREGAT MIXTA (A)

H1



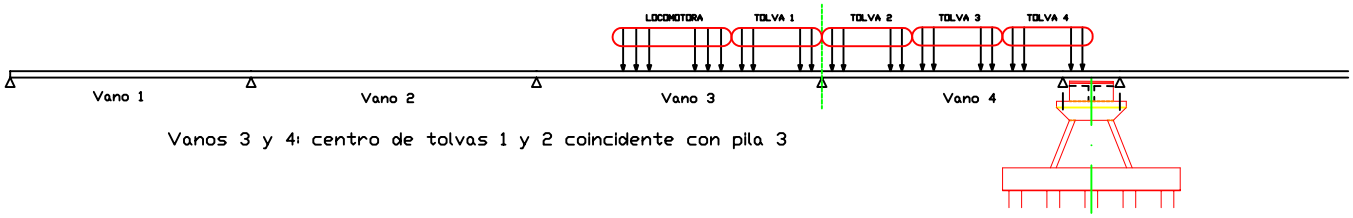
Vanos 1 y 2: centro de tolvas 1 y 2 coincidente con pila 1

H2



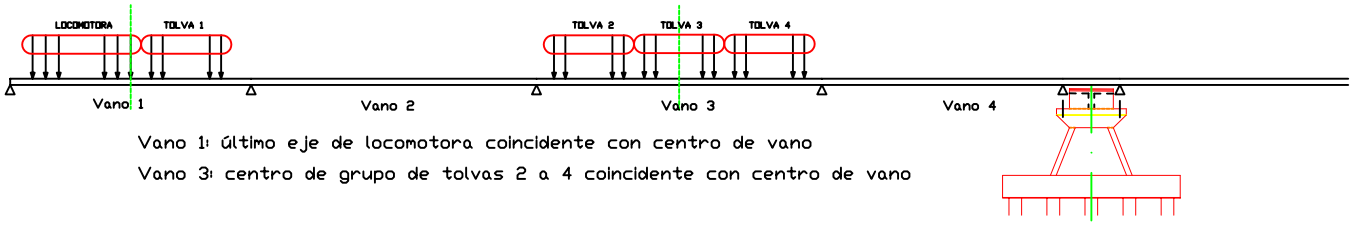
Vanos 2 y 3: centro de tolvas 1 y 2 coincidente con pila 2

H3



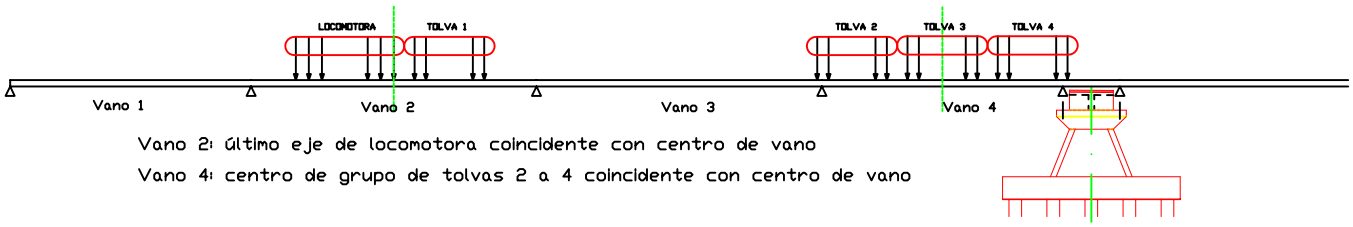
Vanos 3 y 4: centro de tolvas 1 y 2 coincidente con pila 3

H4



Vano 1: último eje de locomotora coincidente con centro de vano
Vano 3: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

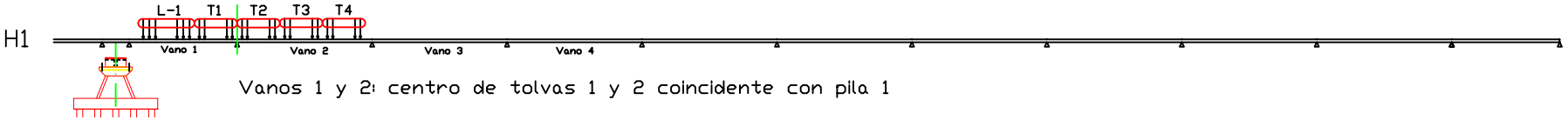
H5



Vano 2: último eje de locomotora coincidente con centro de vano
Vano 4: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

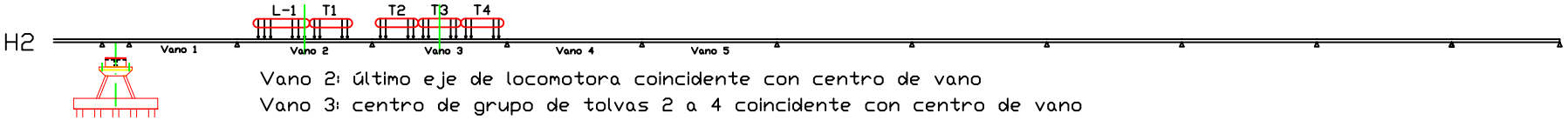
PRUEBA DE CARGA SOBRE LA ESTRUCTURA VTO LLOBREGAR MIXTA (B)

H1



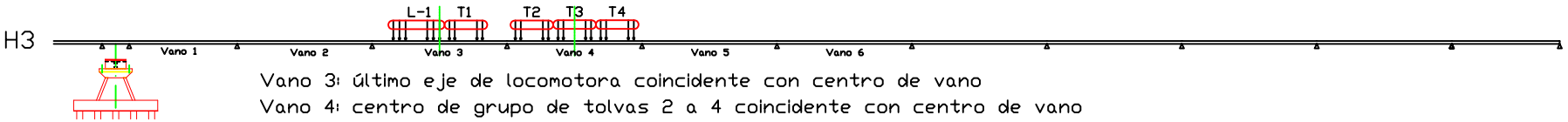
Vanos 1 y 2: centro de tolvas 1 y 2 coincidente con pila 1

H2



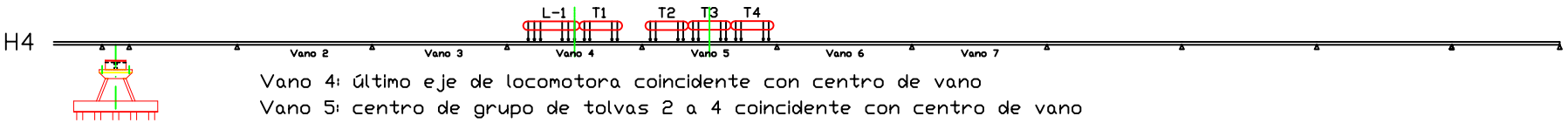
Vano 2: último eje de locomotora coincidente con centro de vano
Vano 3: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H3



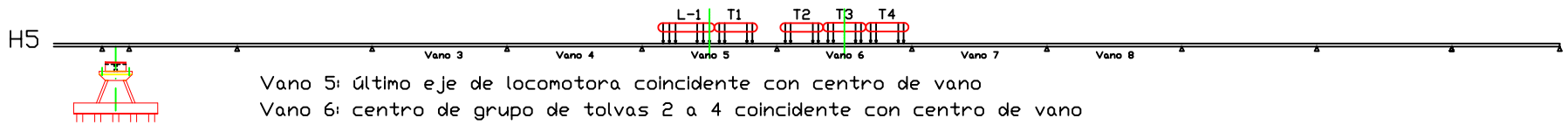
Vano 3: último eje de locomotora coincidente con centro de vano
Vano 4: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H4



Vano 4: último eje de locomotora coincidente con centro de vano
Vano 5: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

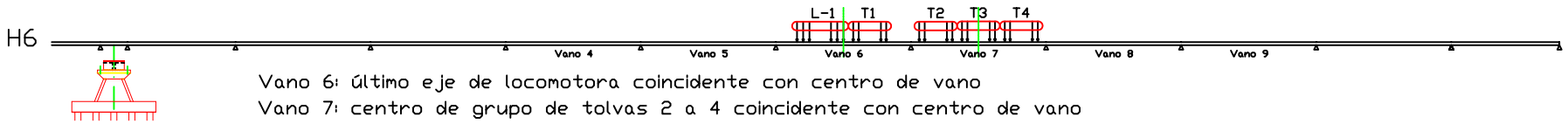
H5



Vano 5: último eje de locomotora coincidente con centro de vano
Vano 6: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

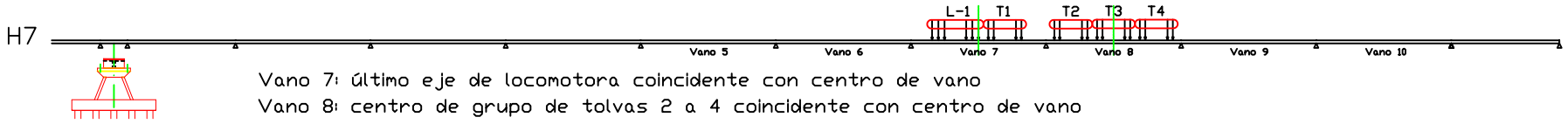
PRUEBA DE CARGA SOBRE LA ESTRUCTURA VTO LLOBREGAR MIXTA (B)

H6



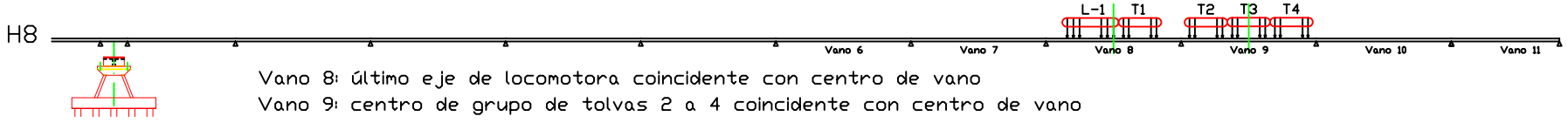
Vano 6: último eje de locomotora coincidente con centro de vano
Vano 7: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H7



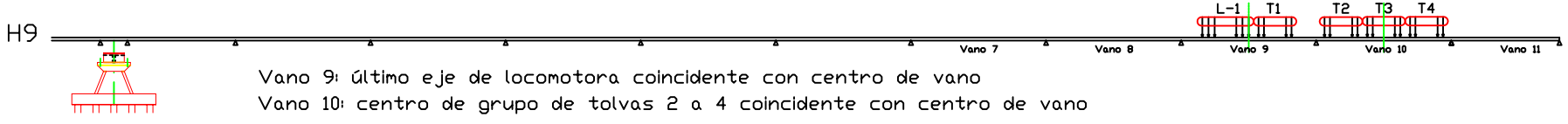
Vano 7: último eje de locomotora coincidente con centro de vano
Vano 8: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H8



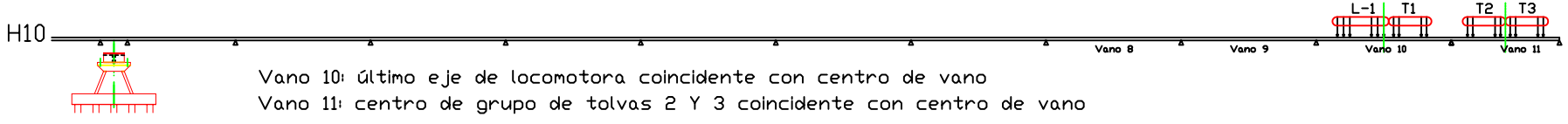
Vano 8: último eje de locomotora coincidente con centro de vano
Vano 9: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H9



Vano 9: último eje de locomotora coincidente con centro de vano
Vano 10: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

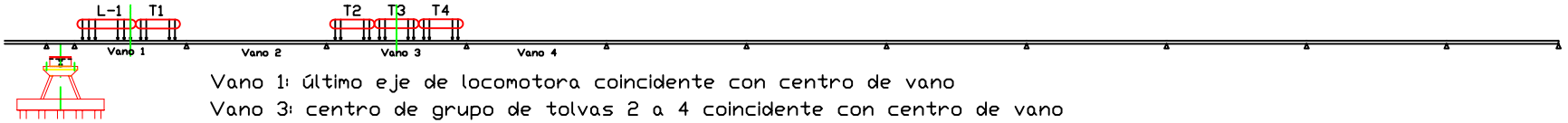
H10



Vano 10: último eje de locomotora coincidente con centro de vano
Vano 11: centro de grupo de tolvas 2 Y 3 coincidente con centro de vano

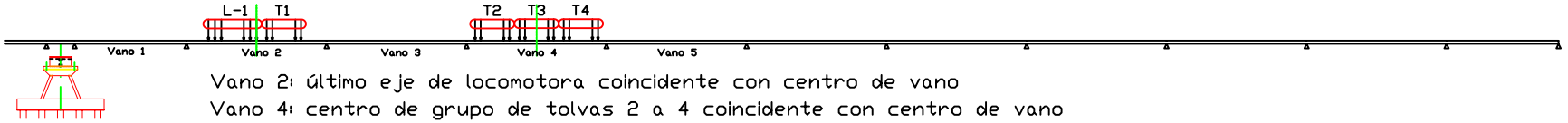
PRUEBA DE CARGA SOBRE LA ESTRUCTURA VTO LLOBREGAR MIXTA (B)

H11



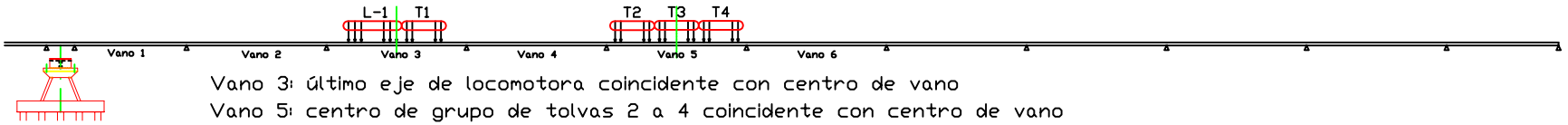
Vano 1: último eje de locomotora coincidente con centro de vano
Vano 3: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H12



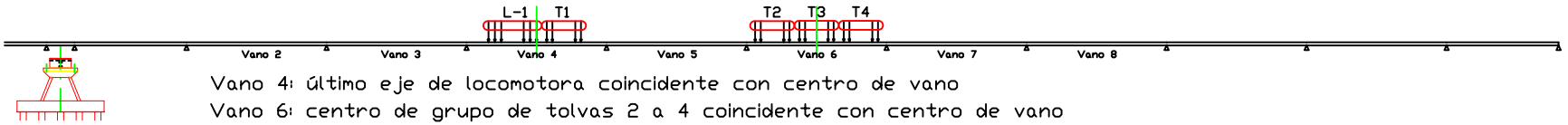
Vano 2: último eje de locomotora coincidente con centro de vano
Vano 4: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H13



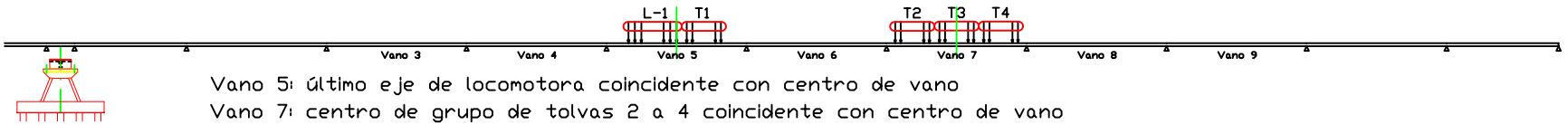
Vano 3: último eje de locomotora coincidente con centro de vano
Vano 5: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H14



Vano 4: último eje de locomotora coincidente con centro de vano
Vano 6: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

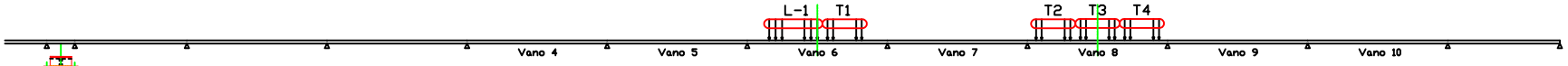
H15

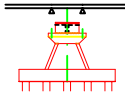


Vano 5: último eje de locomotora coincidente con centro de vano
Vano 7: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

PRUEBA DE CARGA SOBRE LA ESTRUCTURA VTO LLOBREGAR MIXTA (B)

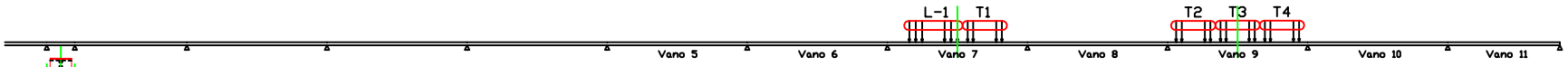
H16

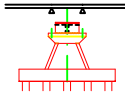




Vano 6: último eje de locomotora coincidente con centro de vano
Vano 8: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

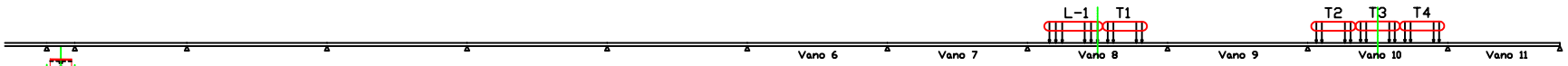
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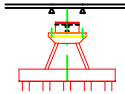




Vano 7: último eje de locomotora coincidente con centro de vano
Vano 9: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

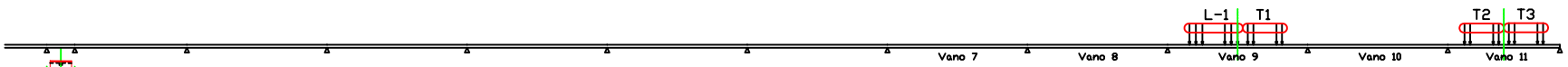
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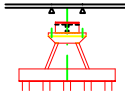




Vano 8: último eje de locomotora coincidente con centro de vano
Vano 10: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

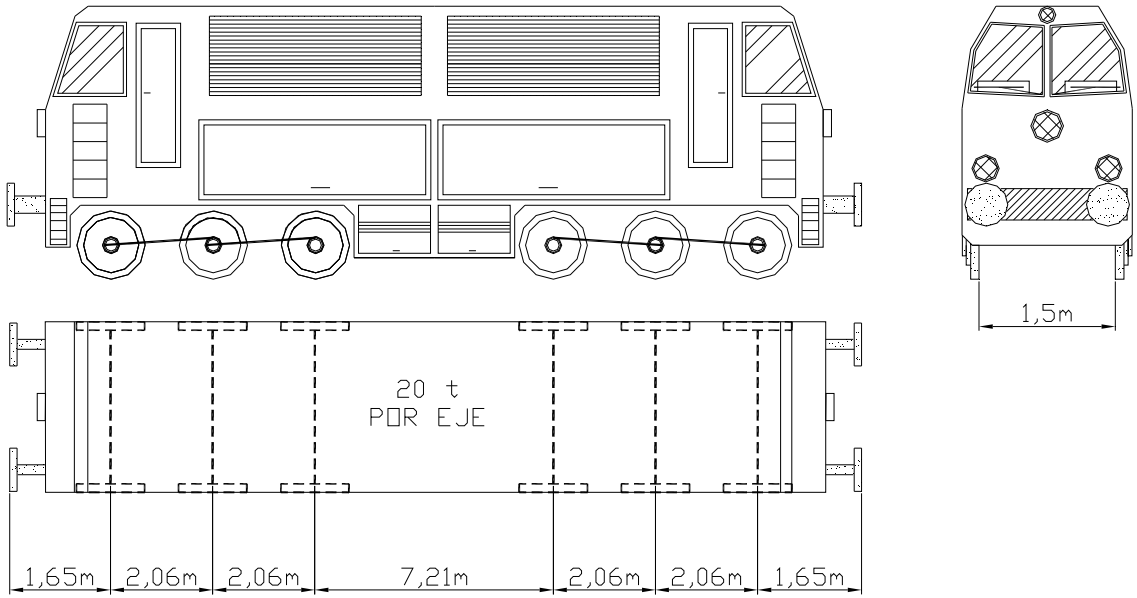
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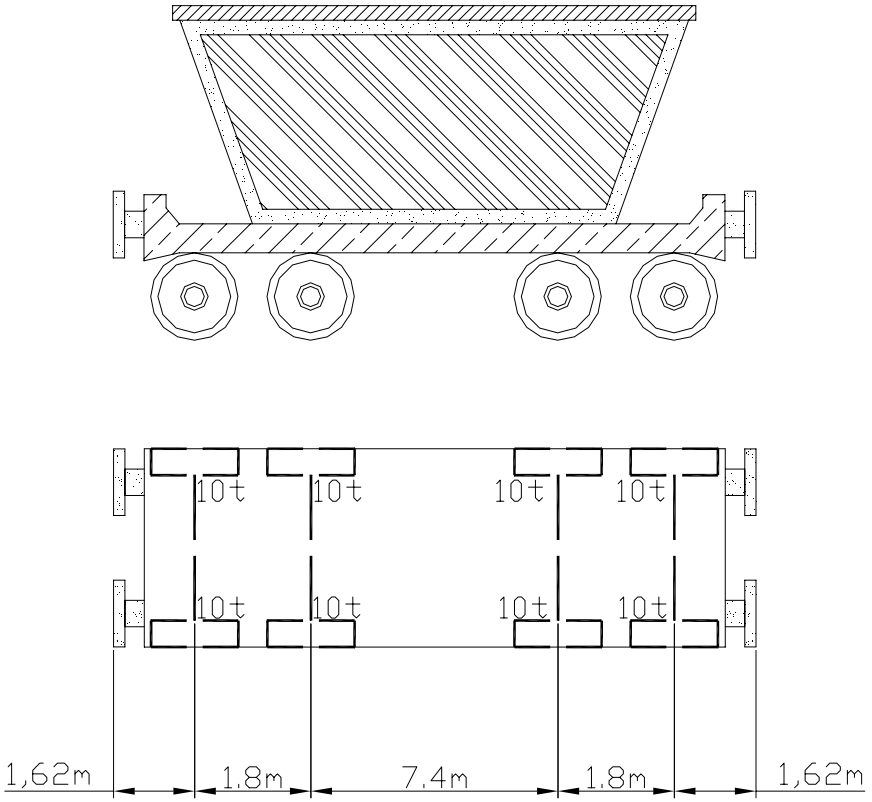


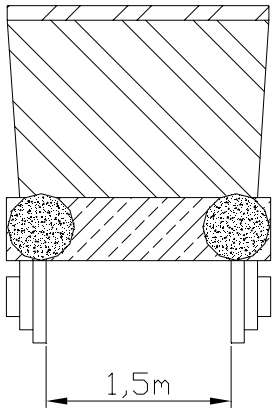
Vano 9: último eje de locomotora coincidente con centro de vano
Vano 11: centro de grupo de tolvas 2 Y 3 coincidente con centro de vano

ESQUEMA DE LA LOCOMOTORA CEDIDA POR EL ADIF PARA LAS PRUEBAS DE CARGA

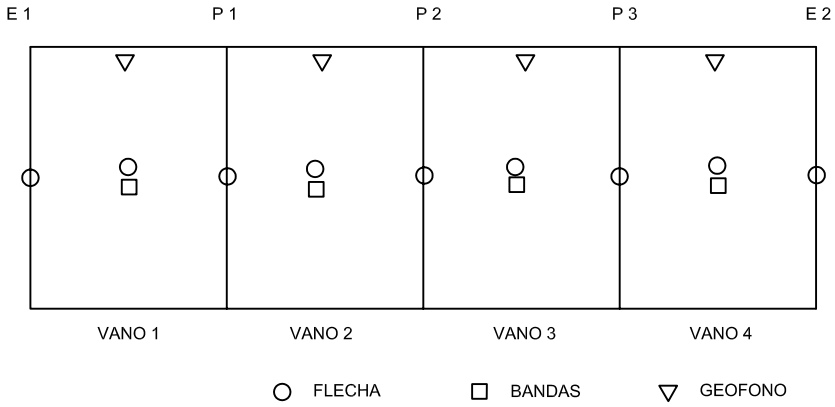


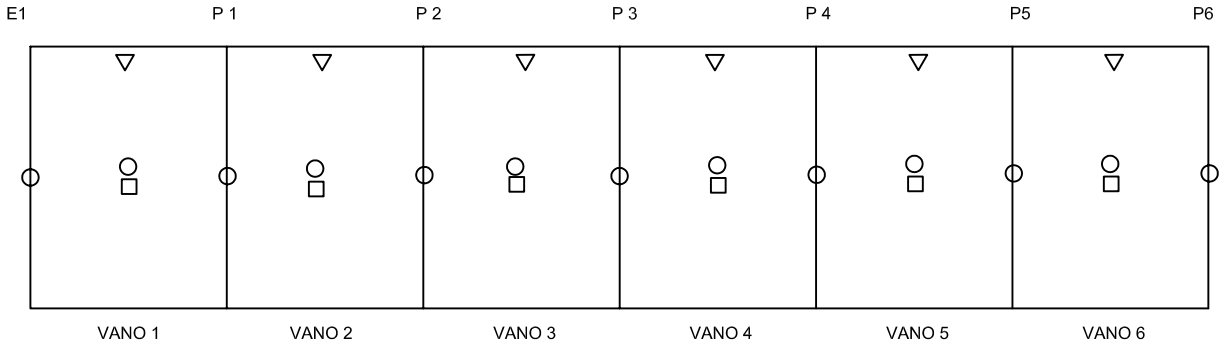
ESQUEMA DE LA TOLVA CEDIDA POR ADIF PARA LAS PRUEBAS DE CARGA

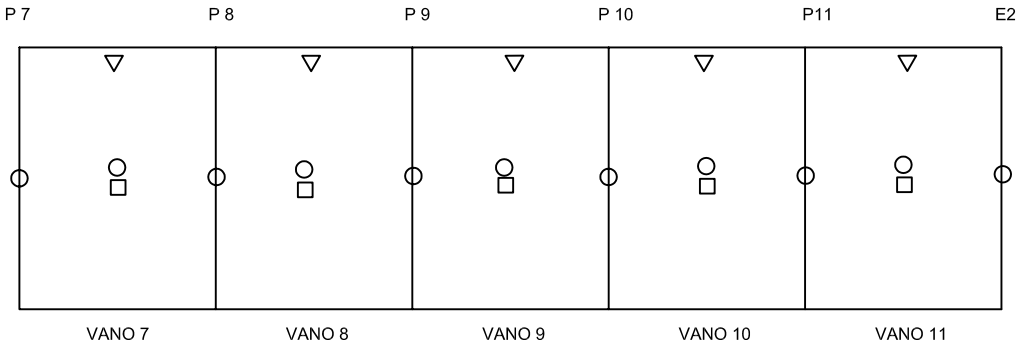




VIADUCTO DE LLOBREGAT MIXTA
63 RMVI 01
CROQUIS DE INSTRUMENTACION





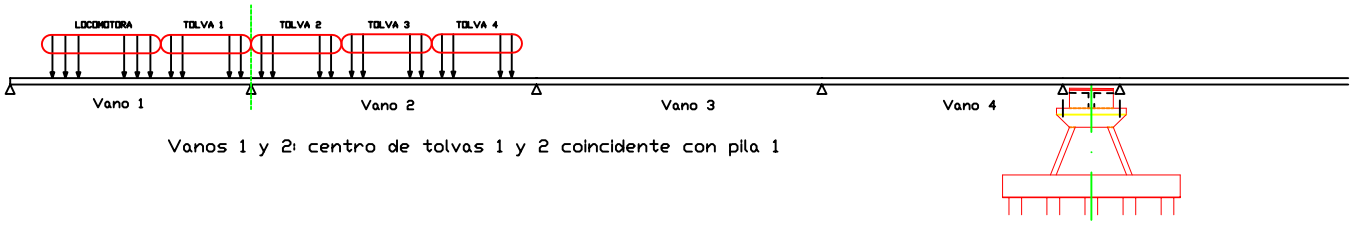


INFORME DE RESULTADOS
PRUEBA DE CARGA DE LA ESTRUCTURA
VIADUCTO LAV MIXTA (63RMVI01)

III. ESQUEMA DE INSTRUMENTACIÓN Y TREN DE CARGA

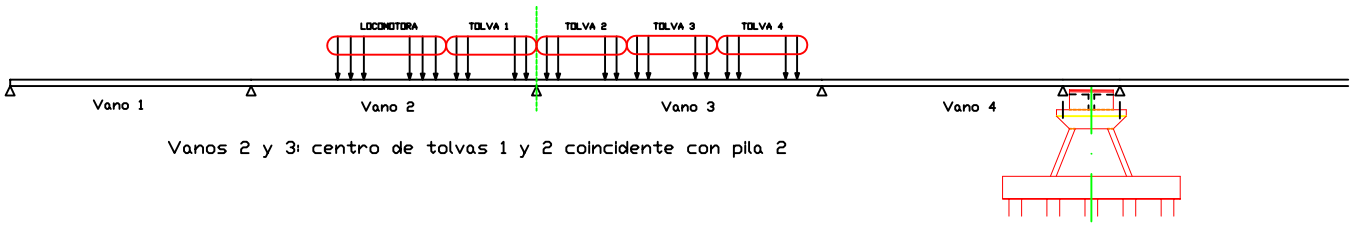
PRUEBA DE CARGA SOBRE LA ESTRUCTURA VTO LLOBREGAT MIXTA (A)

H1



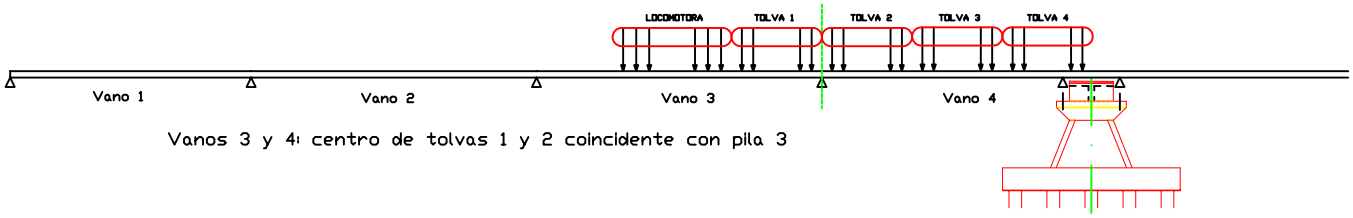
Vanos 1 y 2: centro de tolvas 1 y 2 coincidente con pila 1

H2



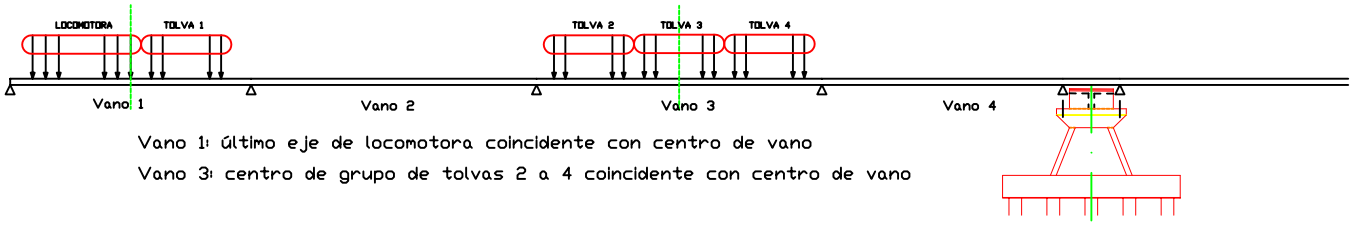
Vanos 2 y 3: centro de tolvas 1 y 2 coincidente con pila 2

H3



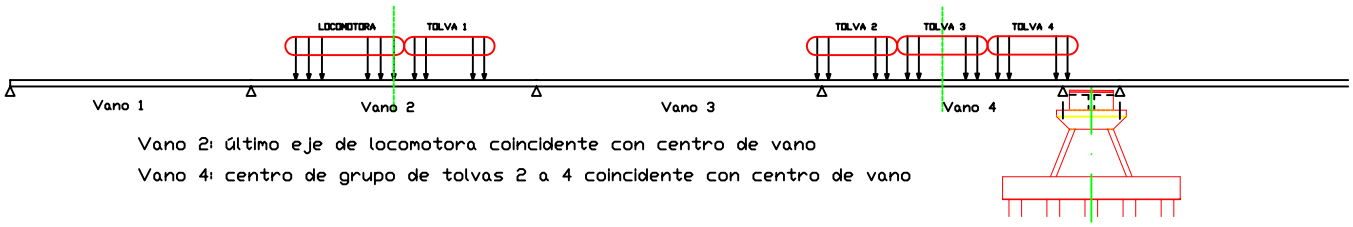
Vanos 3 y 4: centro de tolvas 1 y 2 coincidente con pila 3

H4



Vano 1: último eje de locomotora coincidente con centro de vano
Vano 3: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

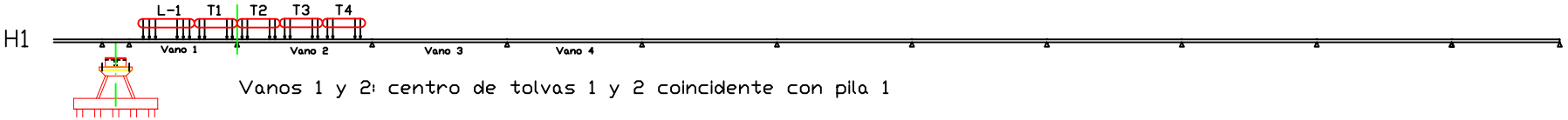
H5



Vano 2: último eje de locomotora coincidente con centro de vano
Vano 4: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

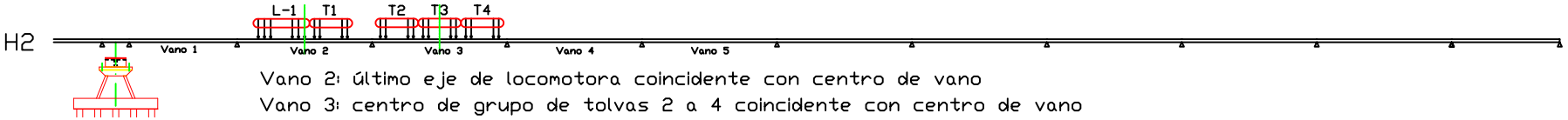
PRUEBA DE CARGA SOBRE LA ESTRUCTURA VTO LLOBREGAR MIXTA (B)

H1



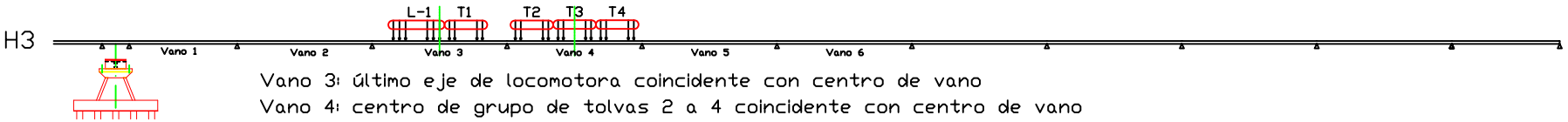
Vanos 1 y 2: centro de tolvas 1 y 2 coincidente con pila 1

H2



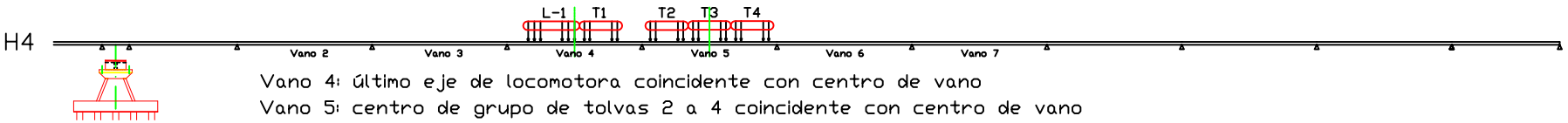
Vano 2: último eje de locomotora coincidente con centro de vano
Vano 3: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H3



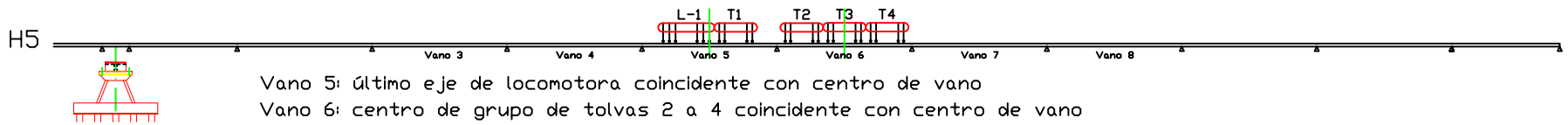
Vano 3: último eje de locomotora coincidente con centro de vano
Vano 4: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H4



Vano 4: último eje de locomotora coincidente con centro de vano
Vano 5: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

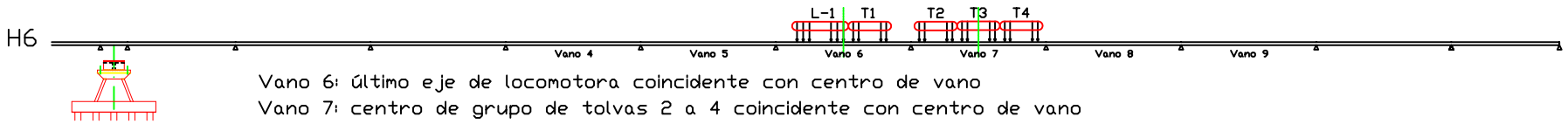
H5



Vano 5: último eje de locomotora coincidente con centro de vano
Vano 6: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

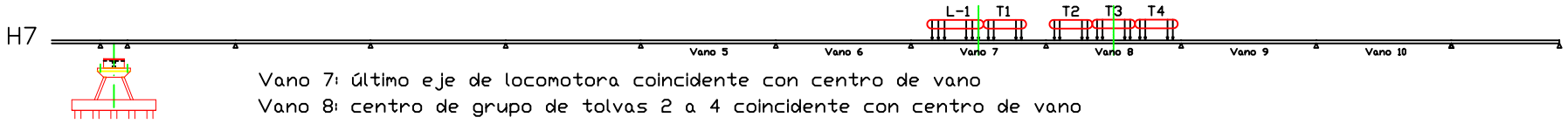
PRUEBA DE CARGA SOBRE LA ESTRUCTURA VTO LLOBREGAR MIXTA (B)

H6



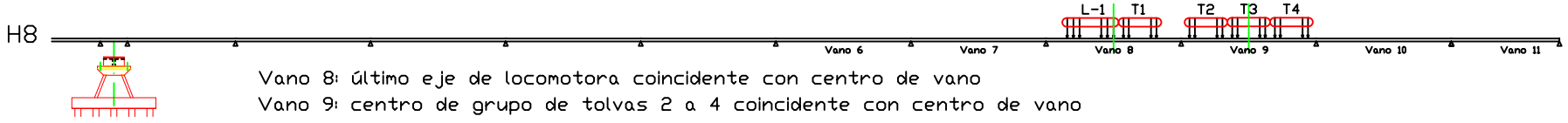
Vano 6: último eje de locomotora coincidente con centro de vano
Vano 7: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H7



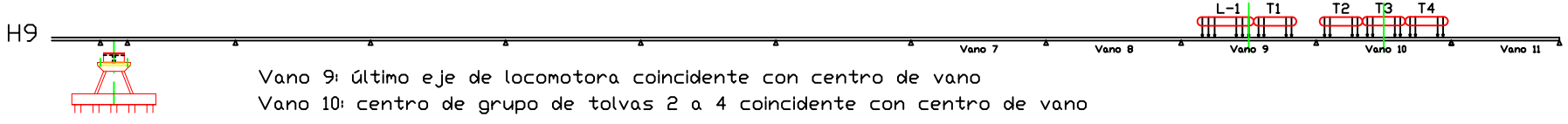
Vano 7: último eje de locomotora coincidente con centro de vano
Vano 8: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H8



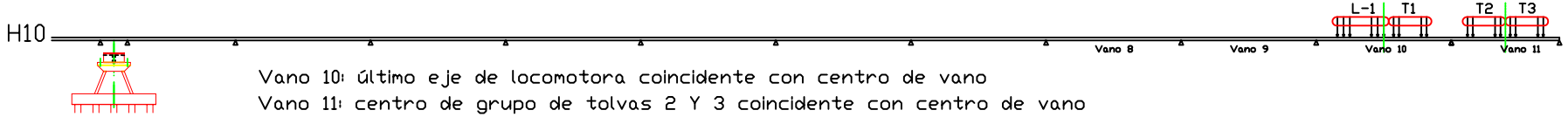
Vano 8: último eje de locomotora coincidente con centro de vano
Vano 9: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H9



Vano 9: último eje de locomotora coincidente con centro de vano
Vano 10: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

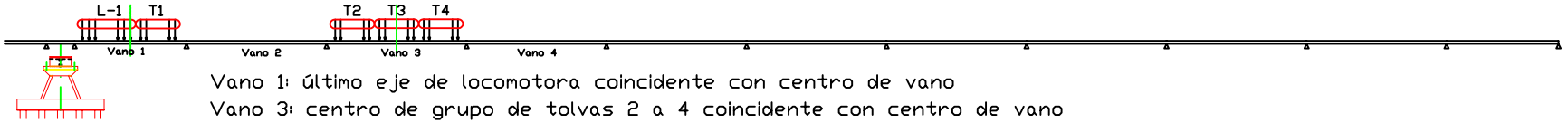
H10



Vano 10: último eje de locomotora coincidente con centro de vano
Vano 11: centro de grupo de tolvas 2 Y 3 coincidente con centro de vano

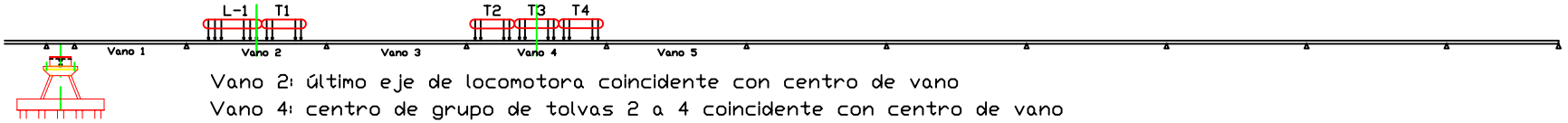
PRUEBA DE CARGA SOBRE LA ESTRUCTURA VTO LLOBREGAR MIXTA (B)

H11



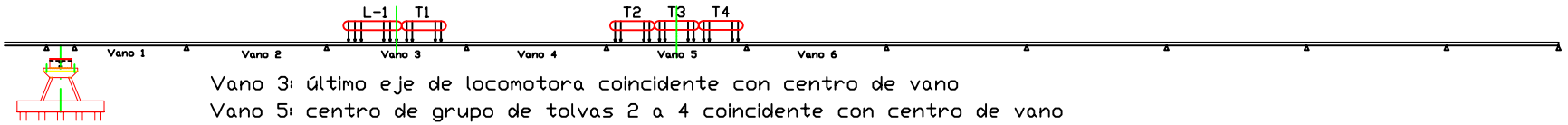
Vano 1: último eje de locomotora coincidente con centro de vano
Vano 3: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H12



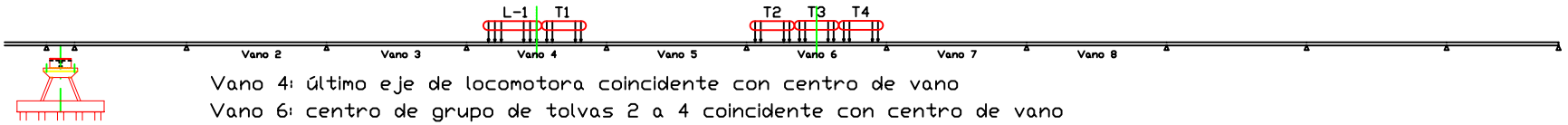
Vano 2: último eje de locomotora coincidente con centro de vano
Vano 4: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H13



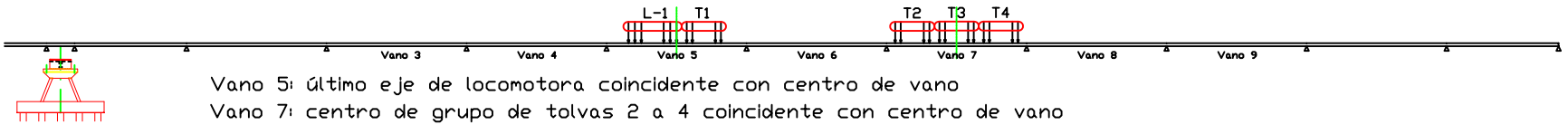
Vano 3: último eje de locomotora coincidente con centro de vano
Vano 5: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

H14



Vano 4: último eje de locomotora coincidente con centro de vano
Vano 6: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

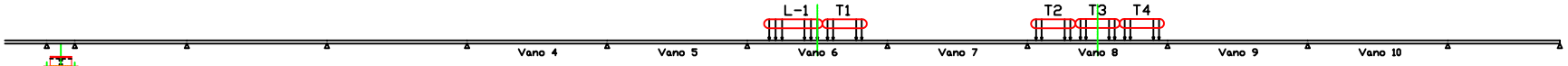
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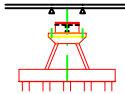


Vano 5: último eje de locomotora coincidente con centro de vano
Vano 7: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

PRUEBA DE CARGA SOBRE LA ESTRUCTURA VTO LLOBREGAR MIXTA (B)

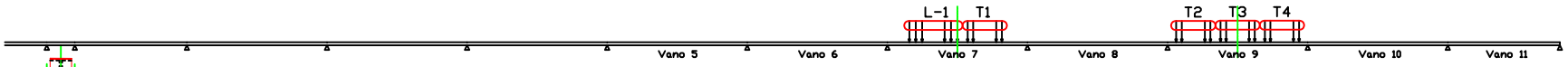
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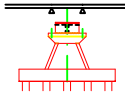




Vano 6: último eje de locomotora coincidente con centro de vano
Vano 8: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

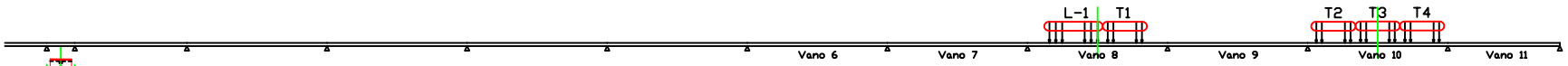
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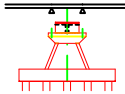




Vano 7: último eje de locomotora coincidente con centro de vano
Vano 9: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

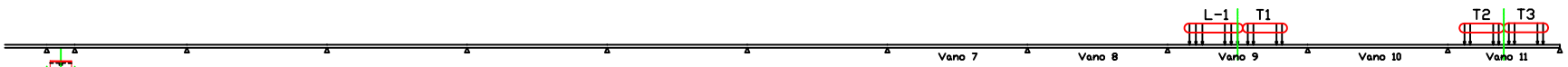
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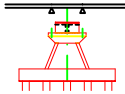




Vano 8: último eje de locomotora coincidente con centro de vano
Vano 10: centro de grupo de tolvas 2 a 4 coincidente con centro de vano

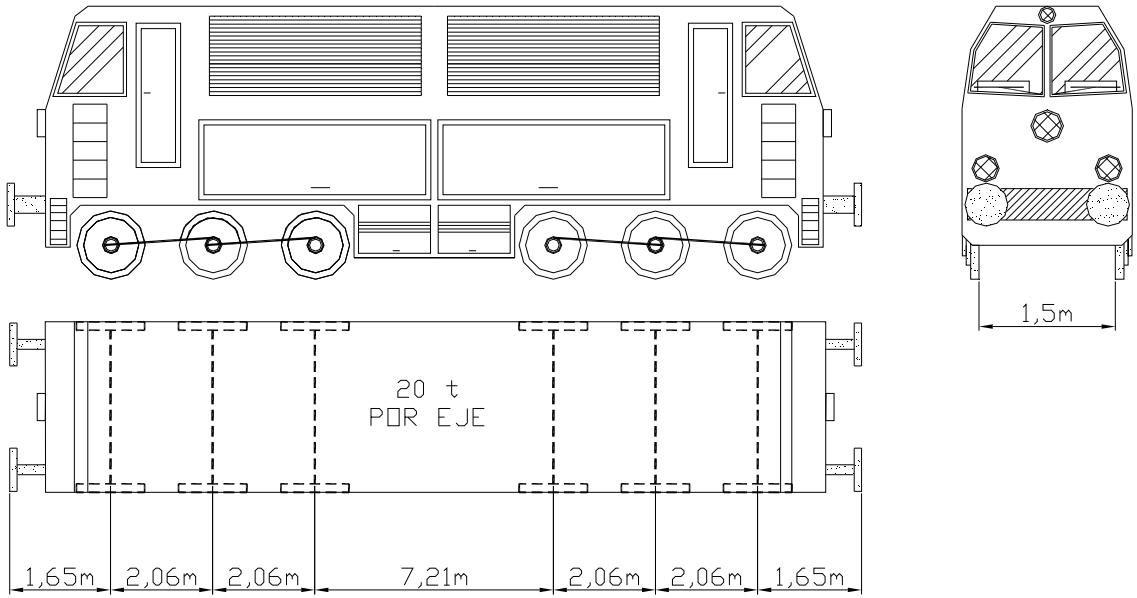
H19



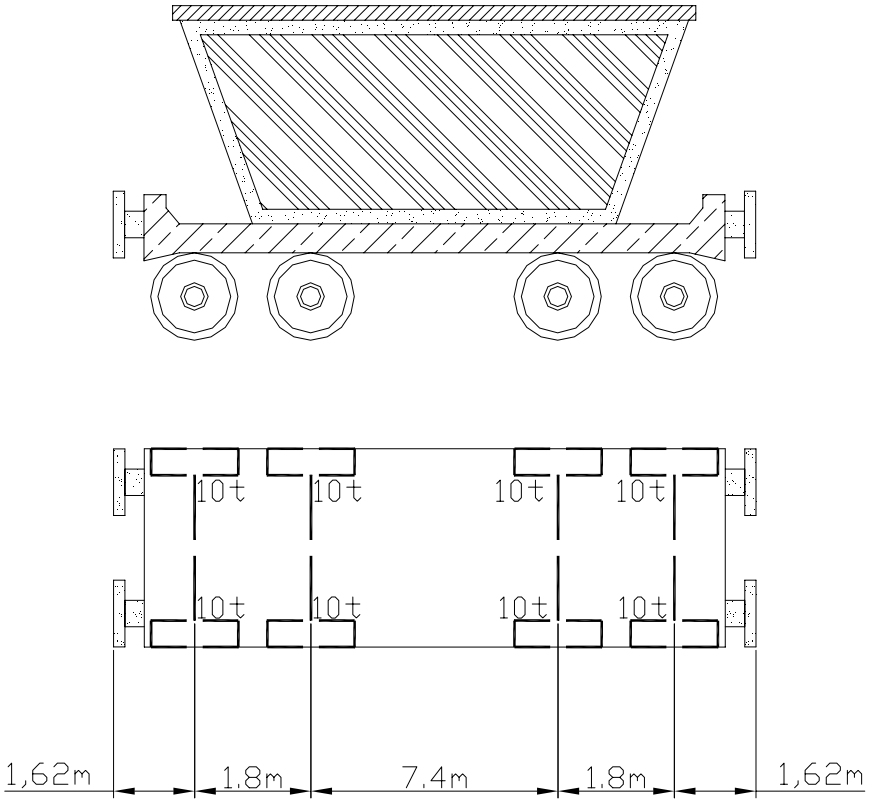


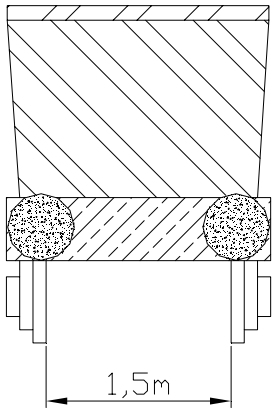
Vano 9: último eje de locomotora coincidente con centro de vano
Vano 11: centro de grupo de tolvas 2 Y 3 coincidente con centro de vano

ESQUEMA DE LA LOCOMOTORA CEDIDA POR EL ADIF PARA LAS PRUEBAS DE CARGA

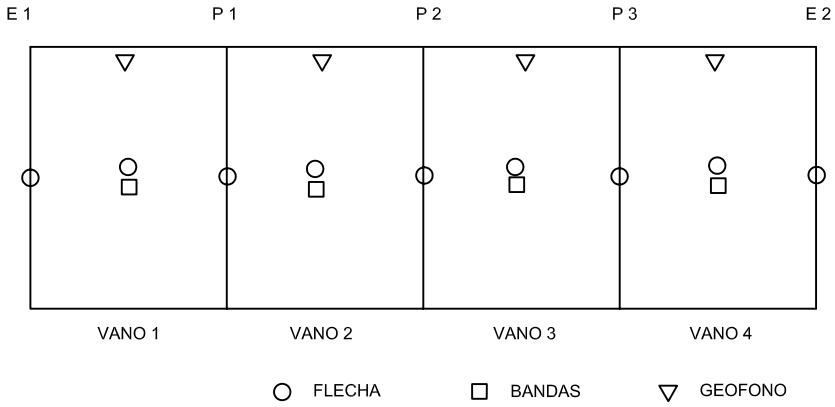


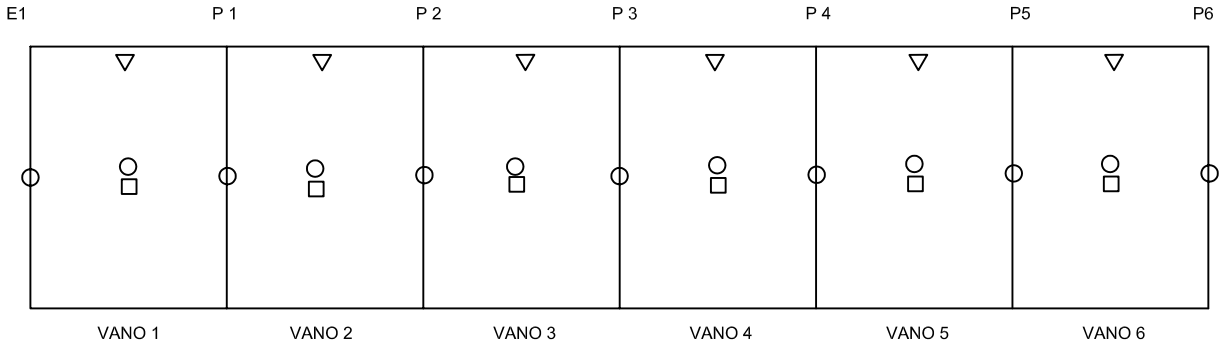
ESQUEMA DE LA TOLVA CEDIDA POR ADIF PARA LAS PRUEBAS DE CARGA

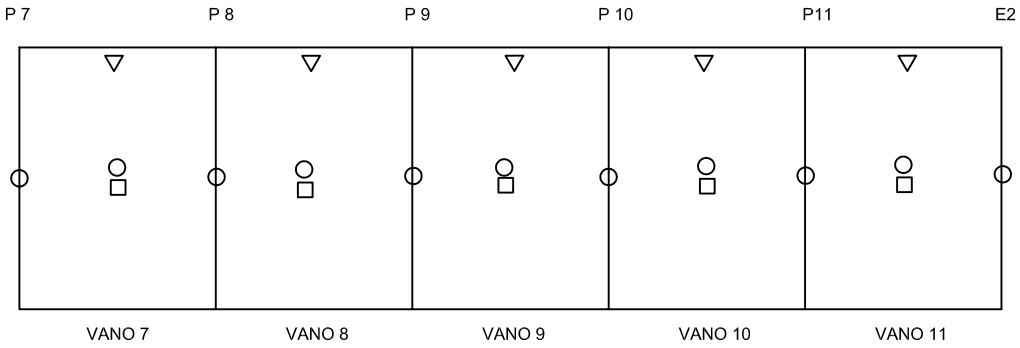




VIADUCTO DE LLOBREGAT MIXTA
63 RMVI 01
CROQUIS DE INSTRUMENTACION







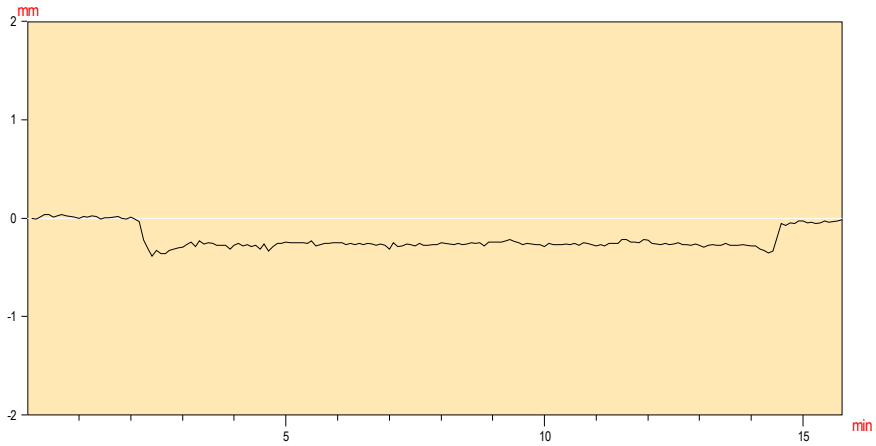
INFORME DE RESULTADOS
PRUEBA DE CARGA DE LA ESTRUCTURA
VIADUCTO LAV MIXTA (63RMVI01)

IV. REGISTRO DE MEDIDAS

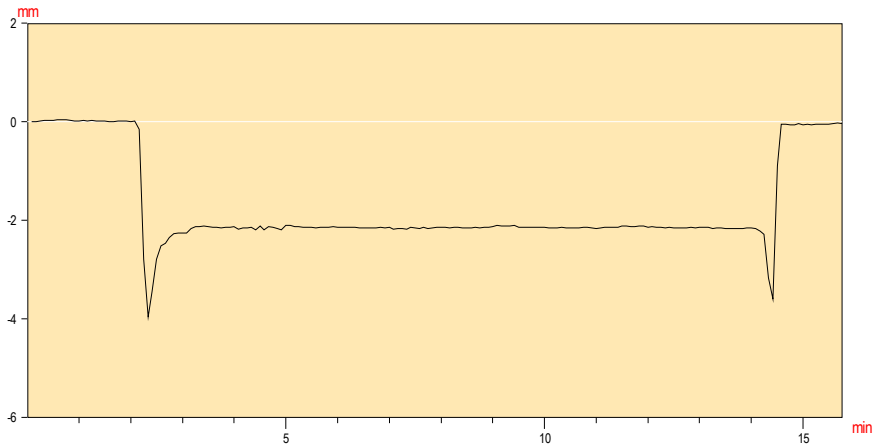
Prueba de carga de la Estructura : viaduc uic2

Organismo : ADIF

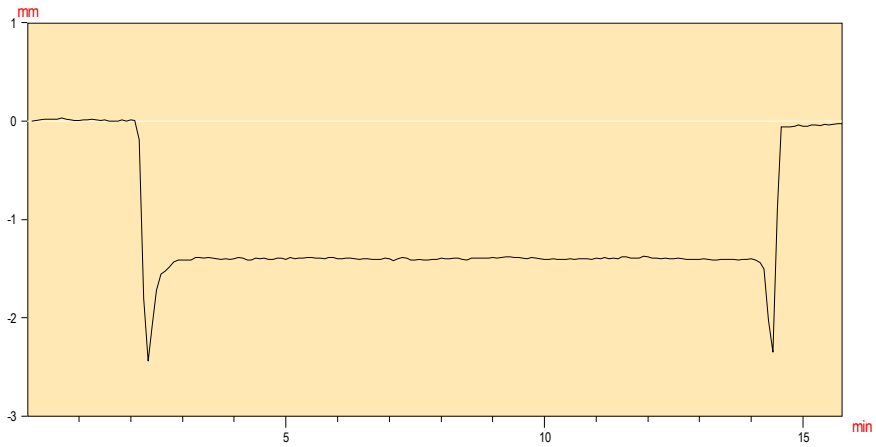
Prueba :	**HIPOTESIS 1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= 0.01
Valor de Prueba	= -0.26
Valor Residual	= -0.05
Canal	F1



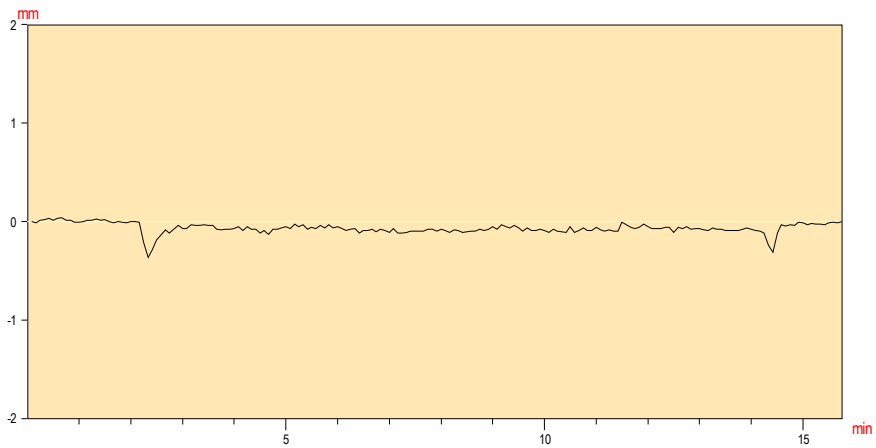
Prueba :	**HIPOTESIS 1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= 0.03
Valor de Prueba	= -2.14
Valor Residual	= -0.05
Canal	F2



Prueba :	**HIPOTESIS 1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= 0.03
Valor de Prueba	= -1.88
Valor Residual	= -0.10
Canal	F3



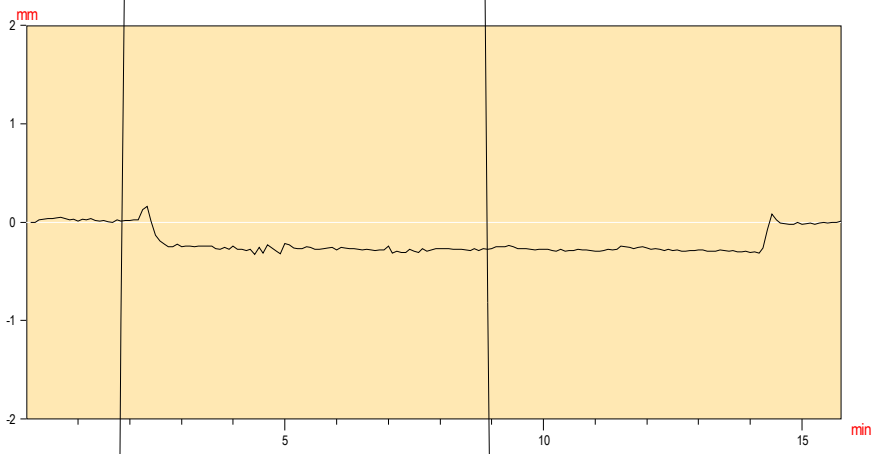
Prueba :	**HIPOTESIS 1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= 0.03
Valor de Prueba	= -0.07
Valor Residual	= -0.01
Canal	F4



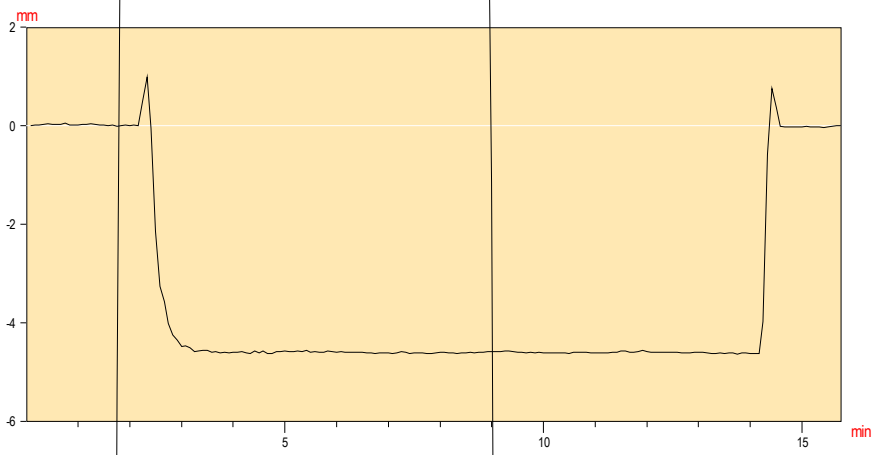
Prueba de carga de la Estructura : viaduc uic2

Organismo : ADIF

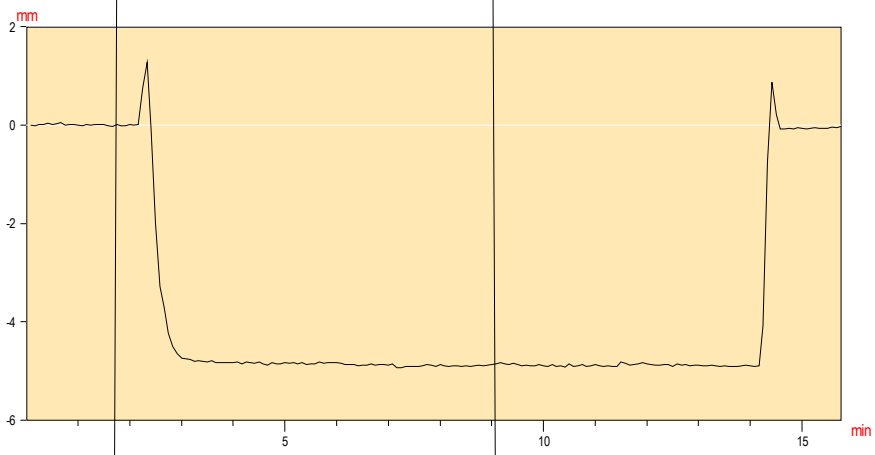
Prueba :	**HIPOTESIS 1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= 0.05
Valor de Prueba	= -0.28
Valor Residual	= -0.01
Canal	F5



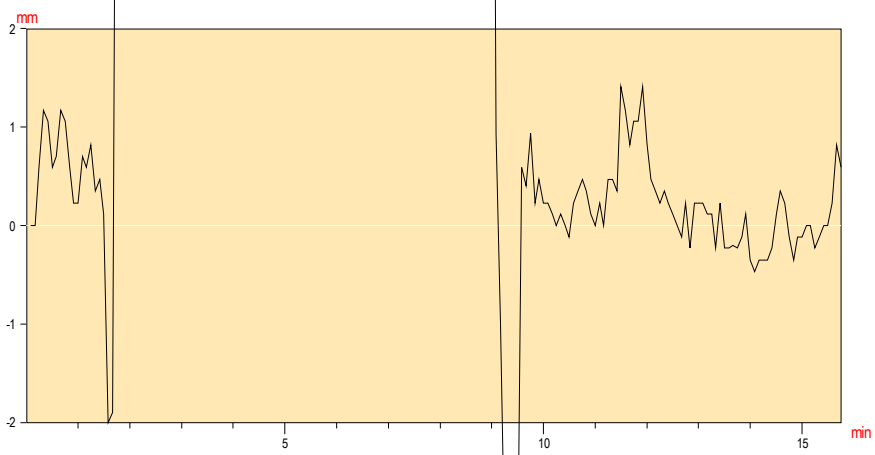
Prueba :	**HIPOTESIS 1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= 0.03
Valor de Prueba	= -4.63
Valor Residual	= -0.02
Canal	F6



Prueba :	**HIPOTESIS 1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= 0.00
Valor de Prueba	= -4.89
Valor Residual	= -0.06
Canal	F7



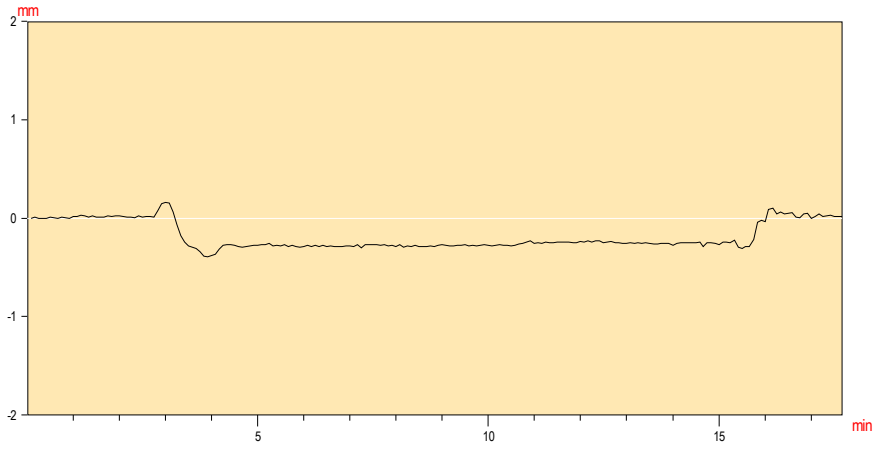
Prueba :	**HIPOTESIS 1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= 0.05
Valor de Prueba	= -0.43
Valor Residual	= 0.02
Canal	F8



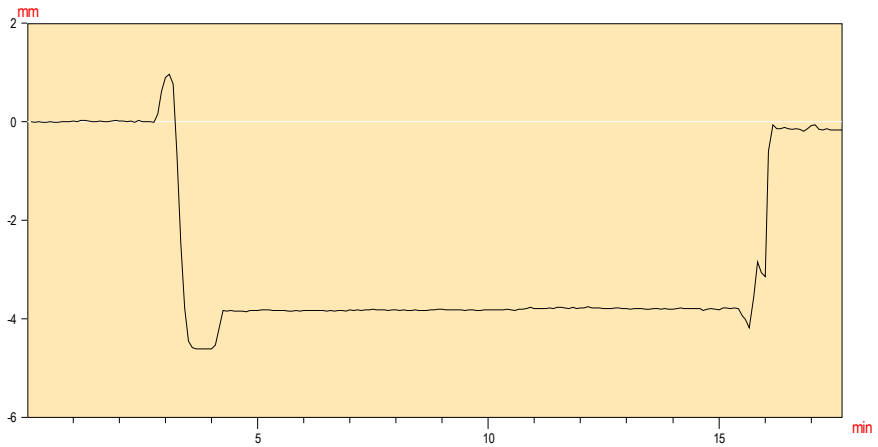
Prueba de carga de la Estructura : viaduc uic2

Organismo : ADIF

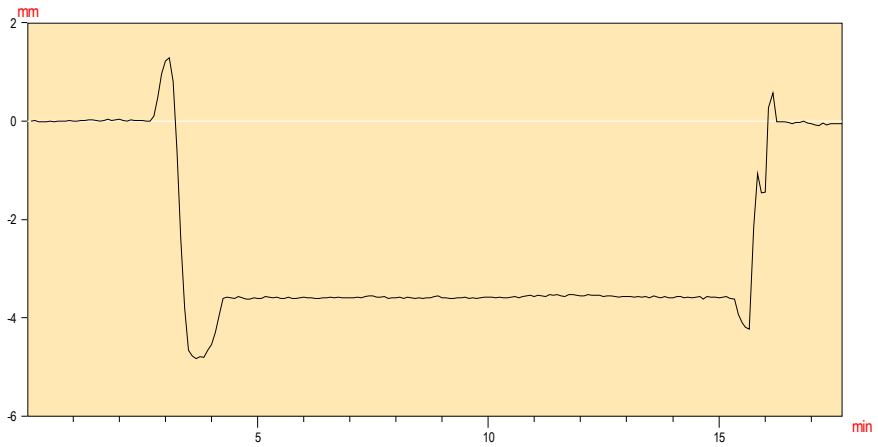
Prueba :	**HIPOTESIS 2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= 0.01
Valor de Prueba	= -0.29
Valor Residual	= 0.02
Canal	F5



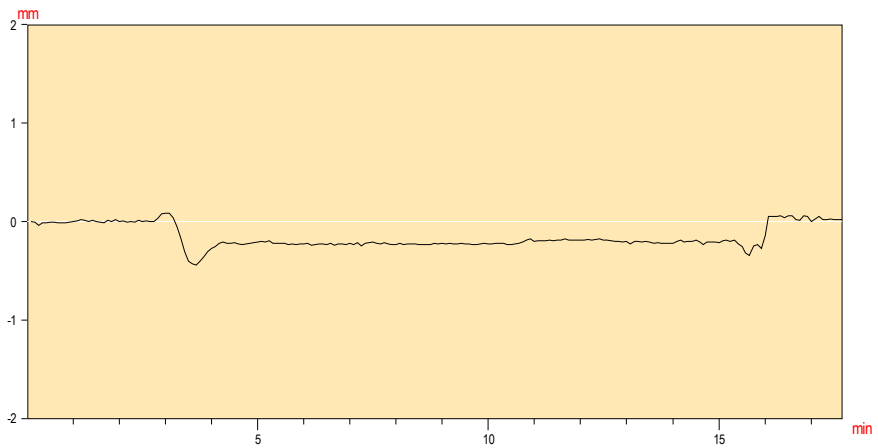
Prueba :	**HIPOTESIS 2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= -0.01
Valor de Prueba	= -3.81
Valor Residual	= -0.16
Canal	F6



Prueba :	**HIPOTESIS 2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= -0.02
Valor de Prueba	= -3.59
Valor Residual	= -0.06
Canal	F7



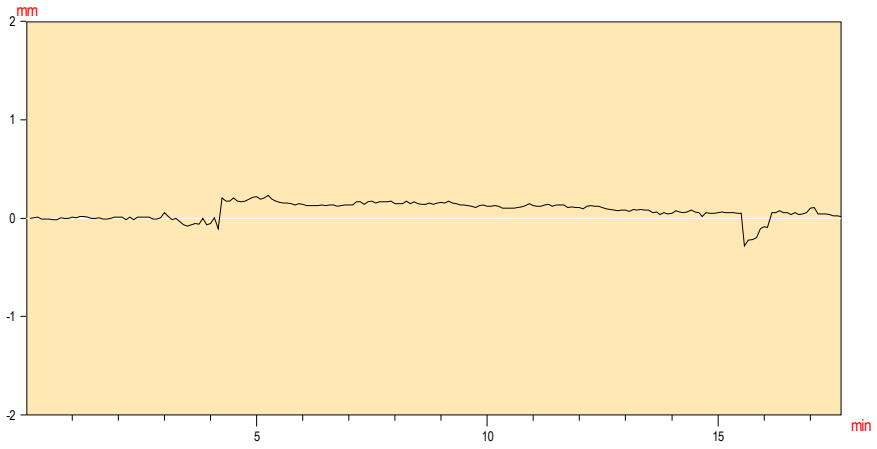
Prueba :	**HIPOTESIS 2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= 0.02
Valor de Prueba	= -0.24
Valor Residual	= 0.02
Canal	F8



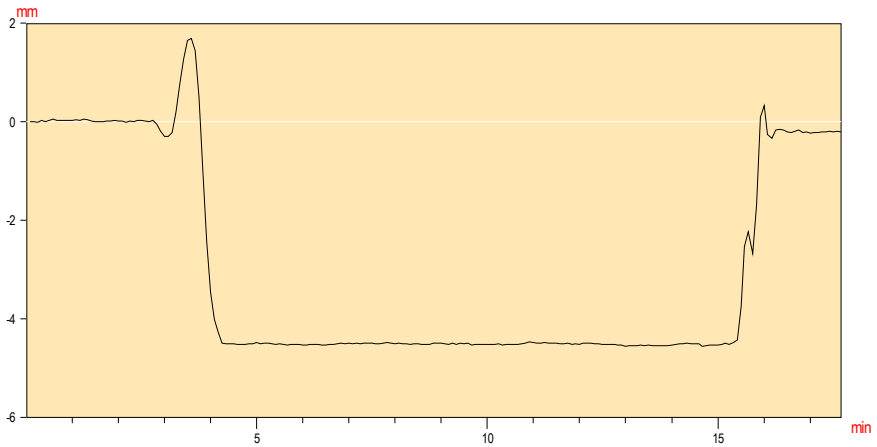
Prueba de carga de la Estructura : viaduc uic2

Organismo : ADIF

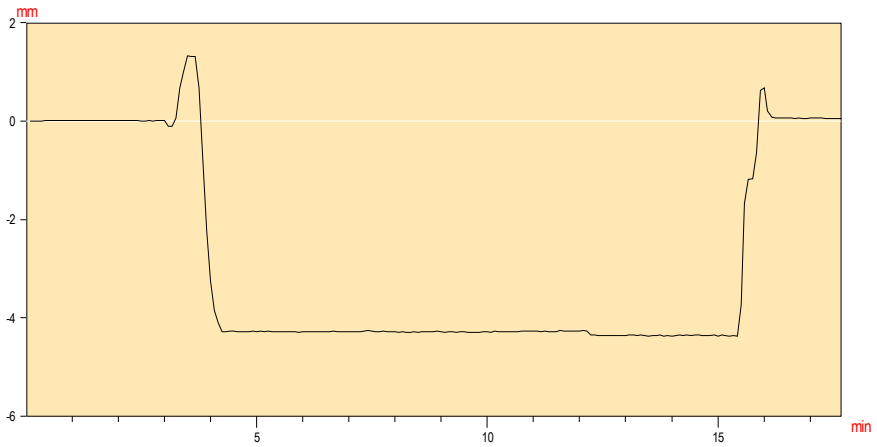
Prueba :	**HIPOTESIS 2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= 0.15
Valor de Prueba	= 0.15
Valor Residual	= 0.02
Canal	F9



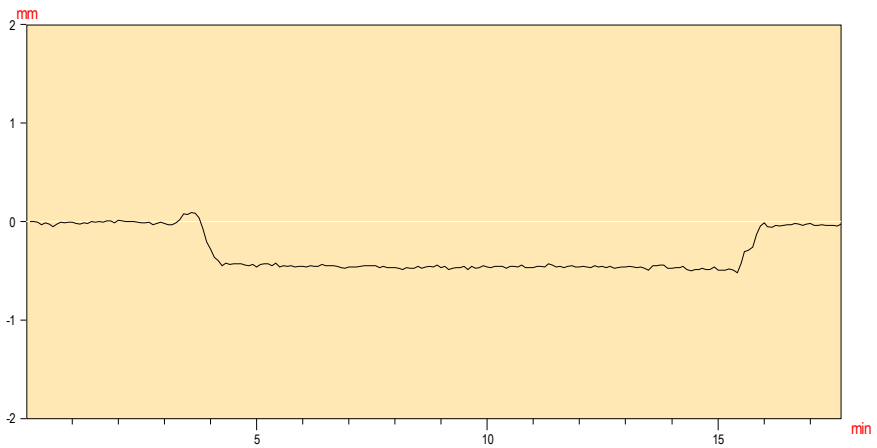
Prueba :	**HIPOTESIS 2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= 0.01
Valor de Prueba	= -4.51
Valor Residual	= -0.19
Canal	F10



Prueba :	**HIPOTESIS 2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= 0.00
Valor de Prueba	= -4.28
Valor Residual	= 0.06
Canal	F11



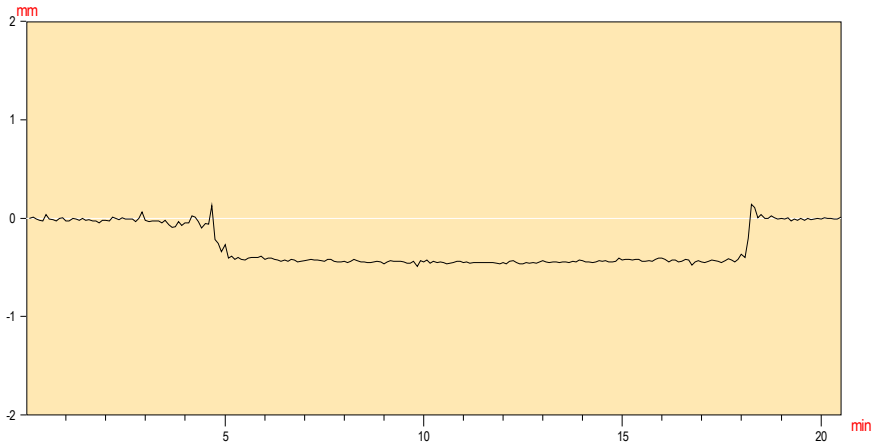
Prueba :	**HIPOTESIS 2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= 0.00
Valor de Prueba	= -0.46
Valor Residual	= -0.05
Canal	F12



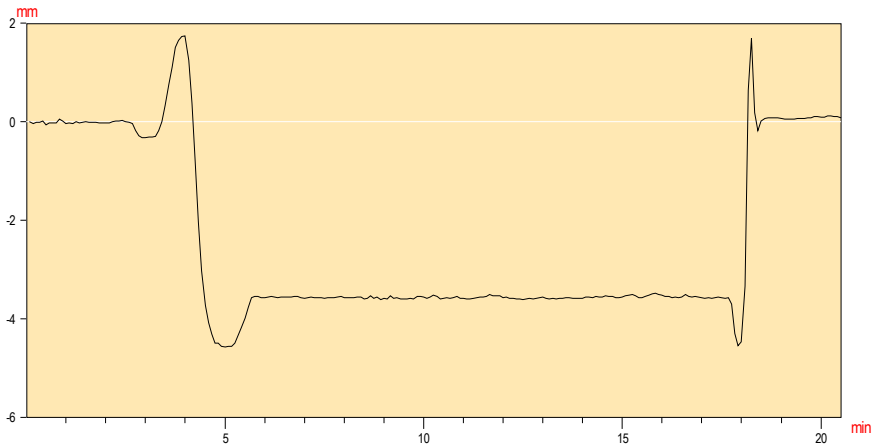
Prueba de carga de la Estructura : viaduc uic2

Organismo : ADIF

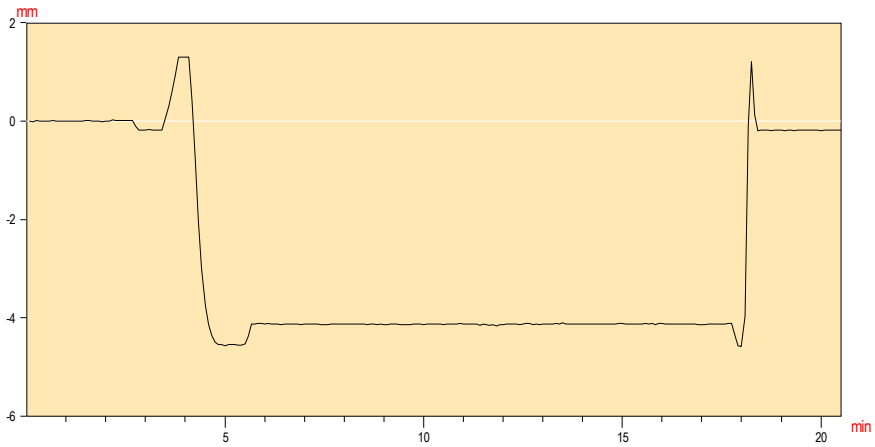
Prueba :	**HIPOTESIS 3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= -0.03
Valor de Prueba	= -0.44
Valor Residual	= 0.00
Canal	F9



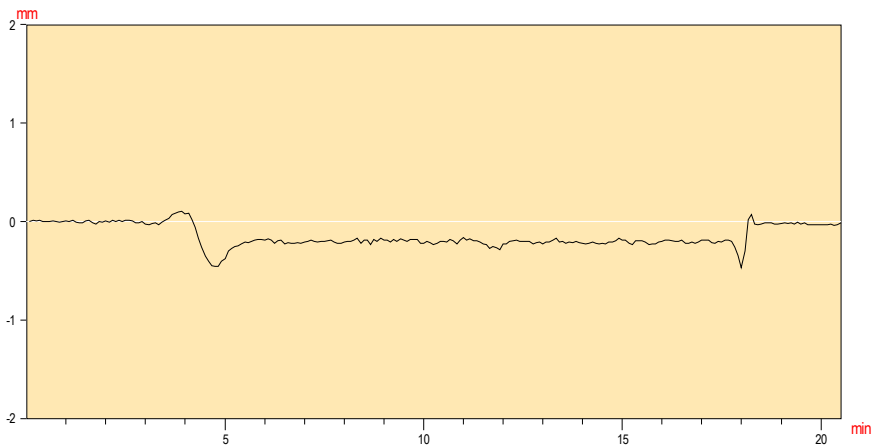
Prueba :	**HIPOTESIS 3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= 0.02
Valor de Prueba	= -3.55
Valor Residual	= 0.08
Canal	F10



Prueba :	**HIPOTESIS 3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= -4.13
Valor de Prueba	= -4.14
Valor Residual	= -0.19
Canal	F11



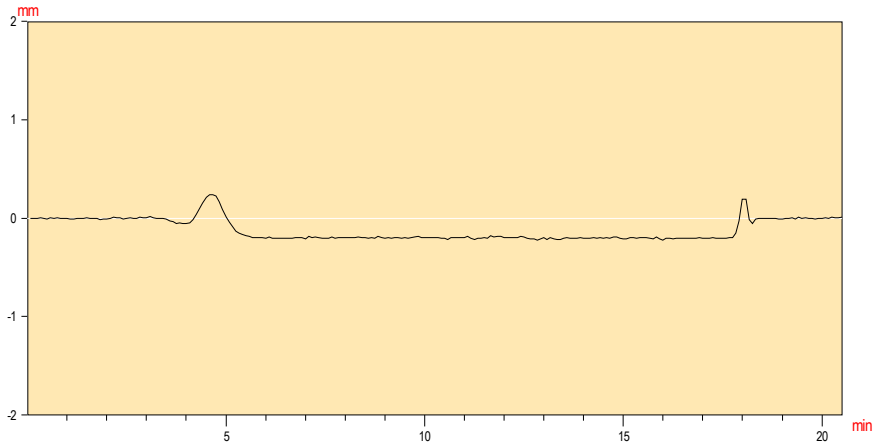
Prueba :	**HIPOTESIS 3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= 0.00
Valor de Prueba	= -0.20
Valor Residual	= -0.03
Canal	F12



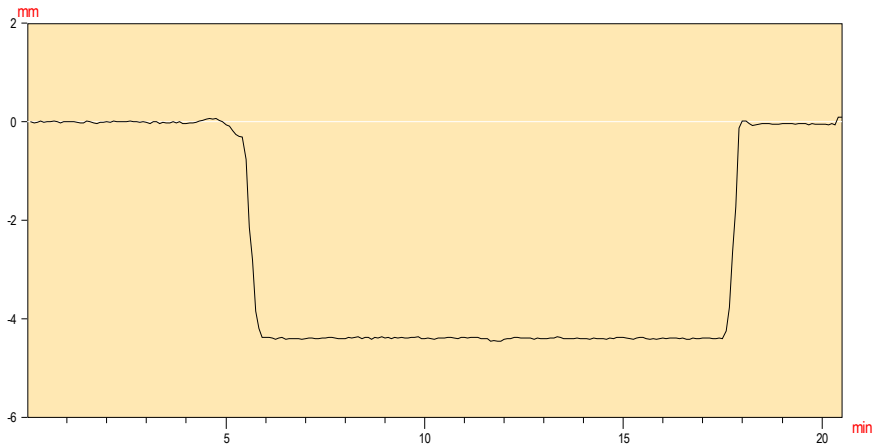
Prueba de carga de la Estructura : viaduc uic2

Organismo : ADIF

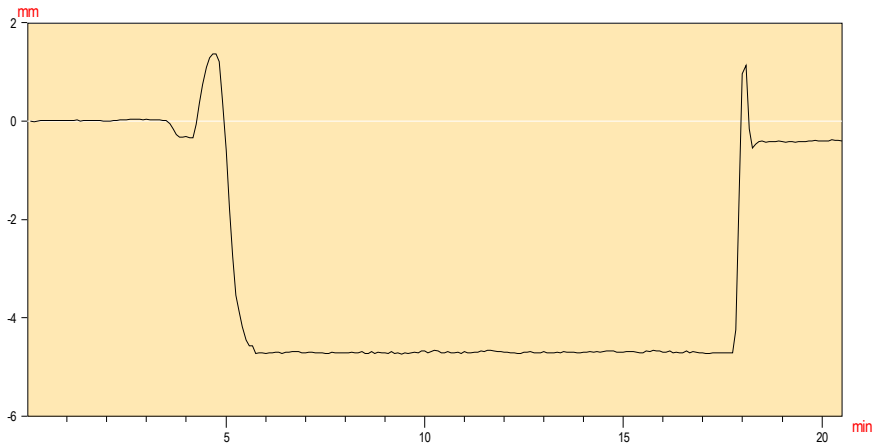
Prueba :	**HIPOTESIS 3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= 0.00
Valor de Prueba	= -0.19
Valor Residual	= 0.01
Canal	F13



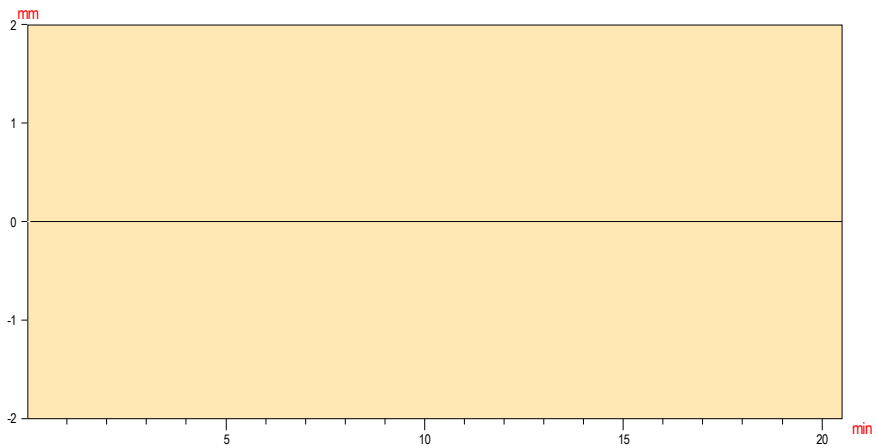
Prueba :	**HIPOTESIS 3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= -0.01
Valor de Prueba	= -4.31
Valor Residual	= -0.05
Canal	F14



Prueba :	**HIPOTESIS 3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= 0.00
Valor de Prueba	= -4.37
Valor Residual	= -0.40
Canal	F15



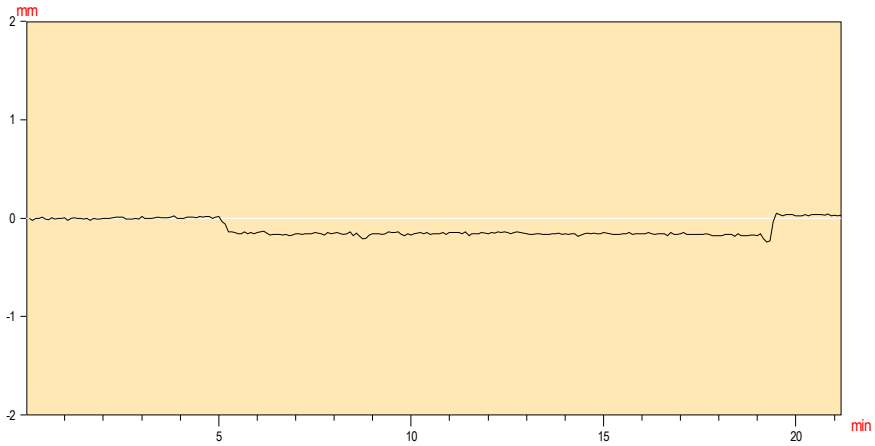
Prueba :	**HIPOTESIS 3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= 0.00
Valor de Prueba	= 0.00
Valor Residual	= 0.00
Canal	F16



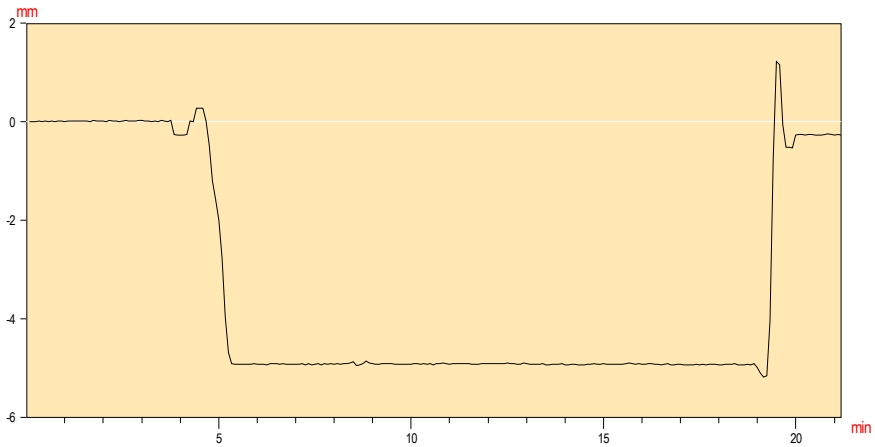
Prueba de carga de la Estructura : viaduct uic 2.

Organismo : adif

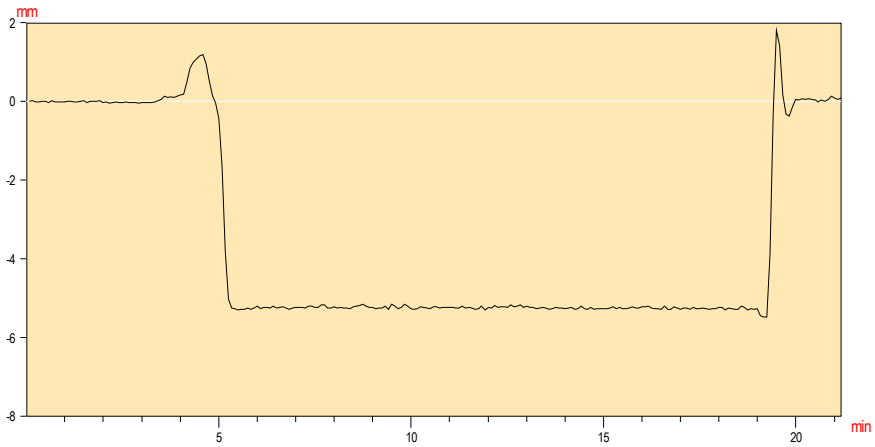
Prueba :	**HIPOTESIS 4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= 0.00
Valor de Prueba	= -0.26
Valor Residual	= 0.03
Canal	F13



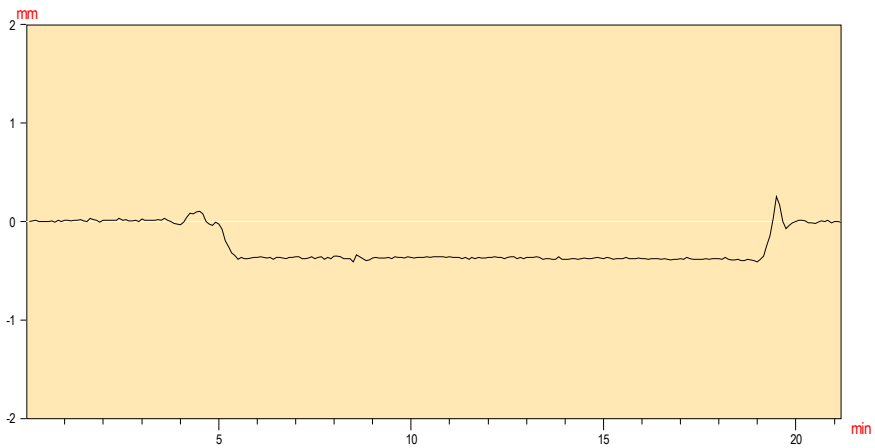
Prueba :	**HIPOTESIS 4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= 0.02
Valor de Prueba	= -4.61
Valor Residual	= -0.26
Canal	F14



Prueba :	**HIPOTESIS 4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= 0.02
Valor de Prueba	= -4.87
Valor Residual	= 0.04
Canal	F15



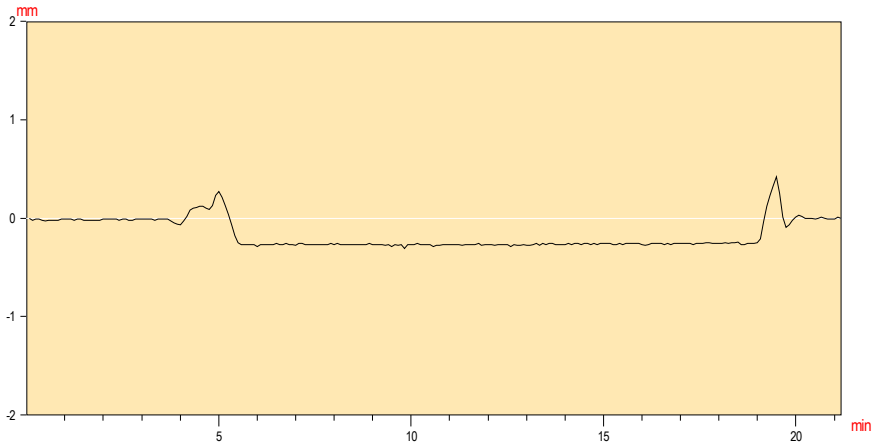
Prueba :	**HIPOTESIS 4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= 0.02
Valor de Prueba	= -0.48
Valor Residual	= 0.00
Canal	F16



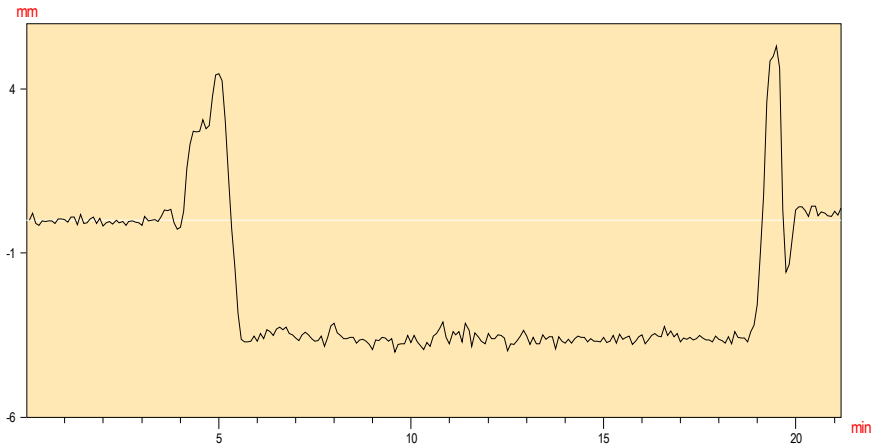
Prueba de carga de la Estructura : viaduct uic 2

Organismo : adif

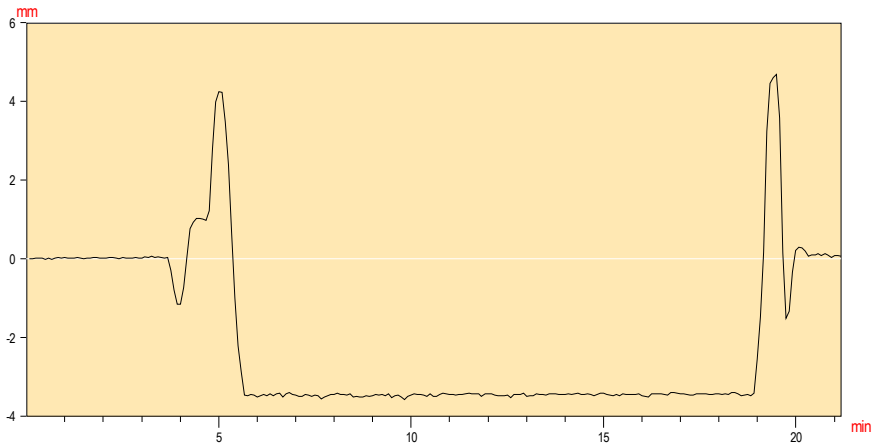
Prueba :	**HIPOTESIS 4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= 0.00
Valor de Prueba	= -0.27
Valor Residual	= 0.01
Canal	F17



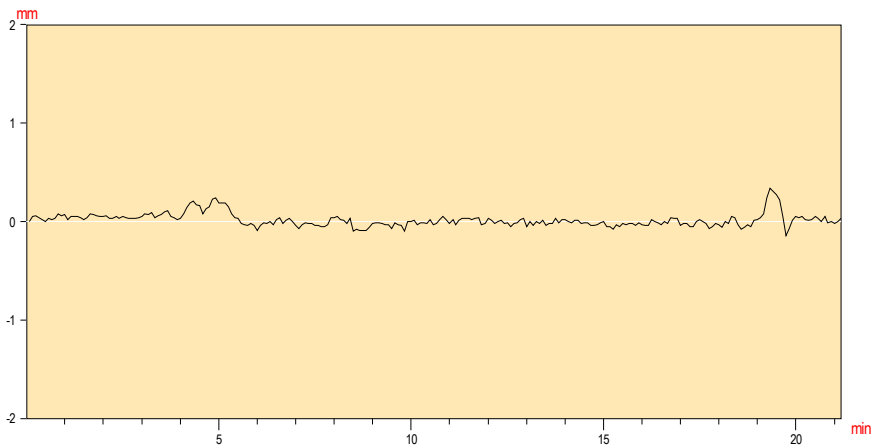
Prueba :	**HIPOTESIS 4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= 0.00
Valor de Prueba	= -3.76
Valor Residual	= 0.12
Canal	F18



Prueba :	**HIPOTESIS 4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= -0.02
Valor de Prueba	= -3.45
Valor Residual	= 0.06
Canal	F19



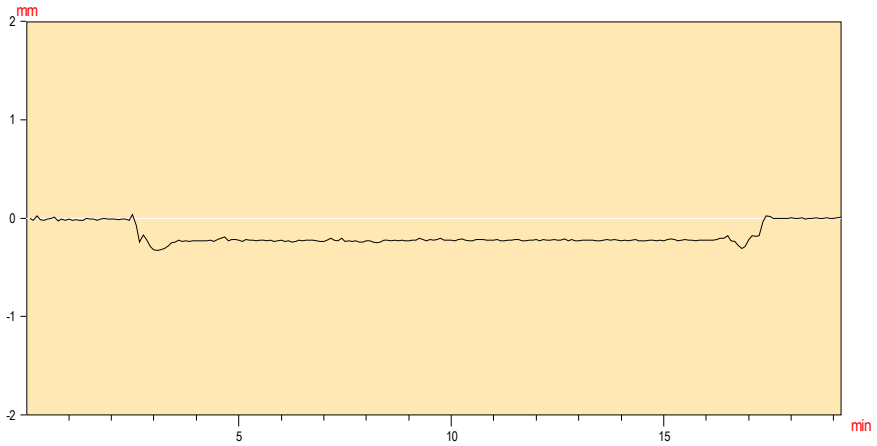
Prueba :	**HIPOTESIS 4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= 0.00
Valor de Prueba	= -0.09
Valor Residual	= -0.02
Canal	F20



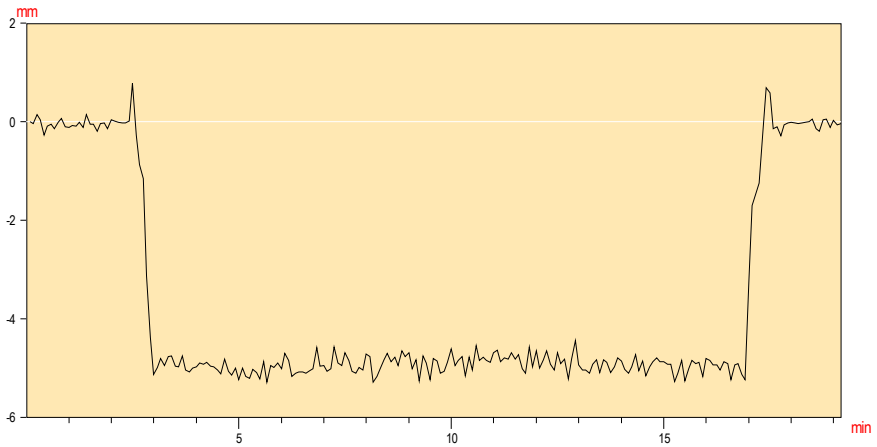
Prueba de carga de la Estructura : viaduct uic 2

Organismo : adif

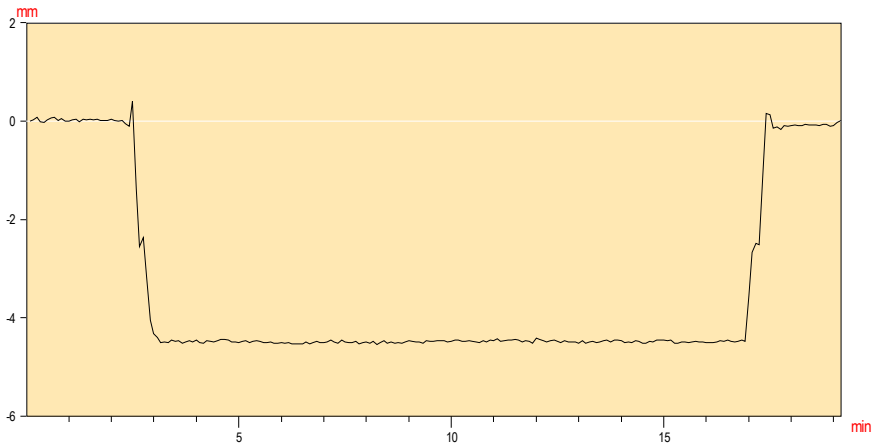
Prueba :	**HIPOTESIS 5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= -0.02
Valor de Prueba	= -0.32
Valor Residual	= -0.00
Canal	F17



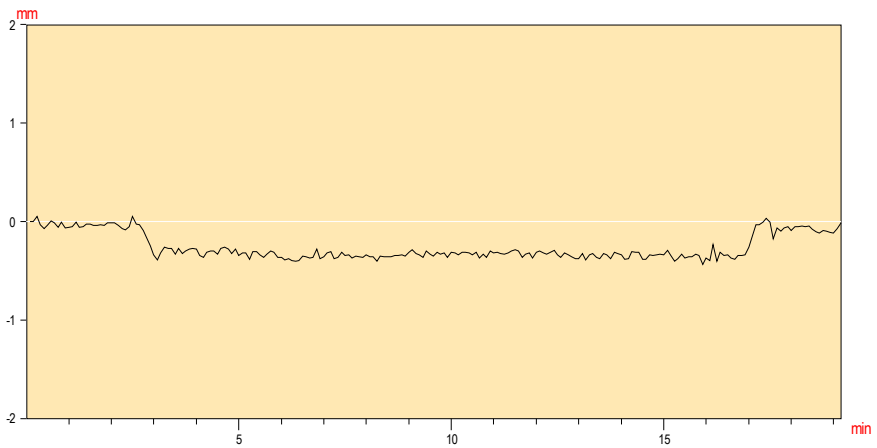
Prueba :	**HIPOTESIS 5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= -0.11
Valor de Prueba	= -4.45
Valor Residual	= -0.06
Canal	F18



Prueba :	**HIPOTESIS 5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= 0.02
Valor de Prueba	= -4.51
Valor Residual	= -0.10
Canal	F19



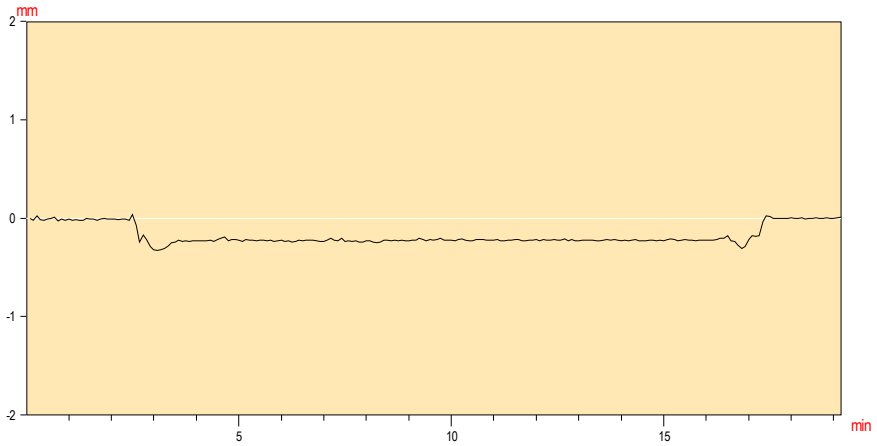
Prueba :	**HIPOTESIS 5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= -0.01
Valor de Prueba	= -0.35
Valor Residual	= -0.11
Canal	F20



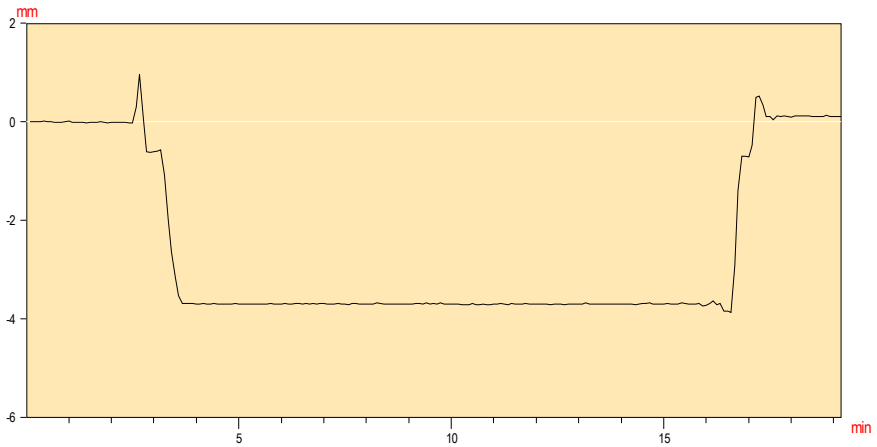
Prueba de carga de la Estructura : viaduct uic 2

Organismo : adif

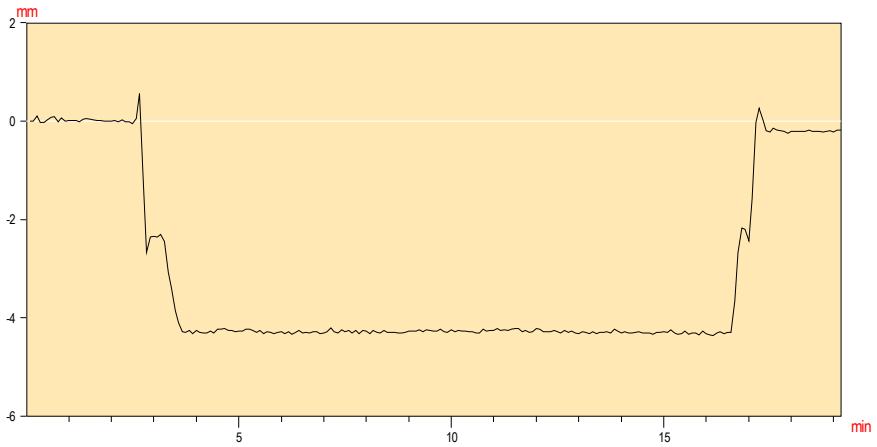
Prueba :	**HIPOTESIS 5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= -0.01
Valor de Prueba	= -0.22
Valor Residual	= -0.00
Canal	F21



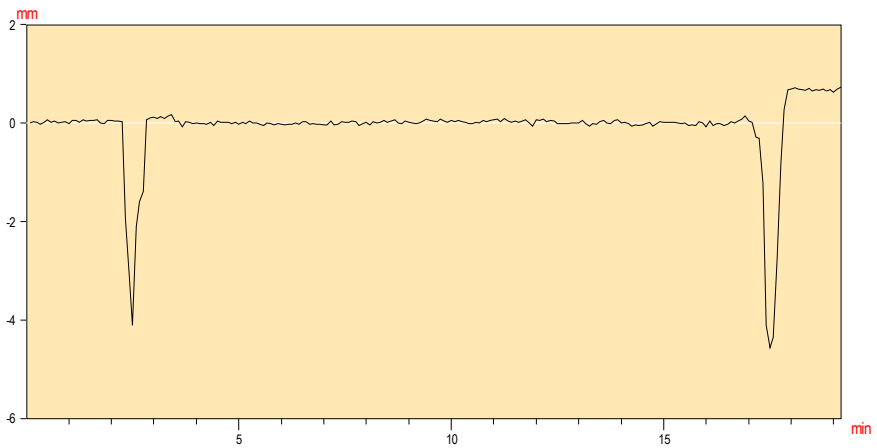
Prueba :	**HIPOTESIS 5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= 0.00
Valor de Prueba	= -3.71
Valor Residual	= 0.12
Canal	F22



Prueba :	**HIPOTESIS 5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= 0.08
Valor de Prueba	= -4.31
Valor Residual	= -0.21
Canal	F23



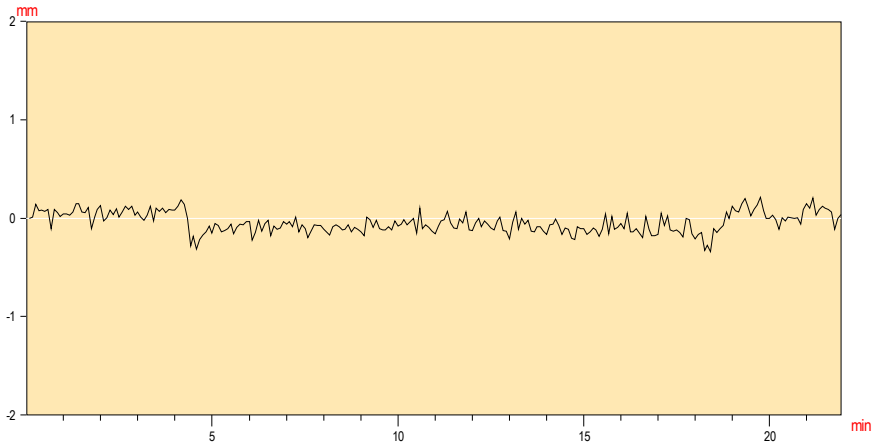
Prueba :	**HIPOTESIS 5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= 0.02
Valor de Prueba	= -0.28
Valor Residual	= -0.05
Canal	F24



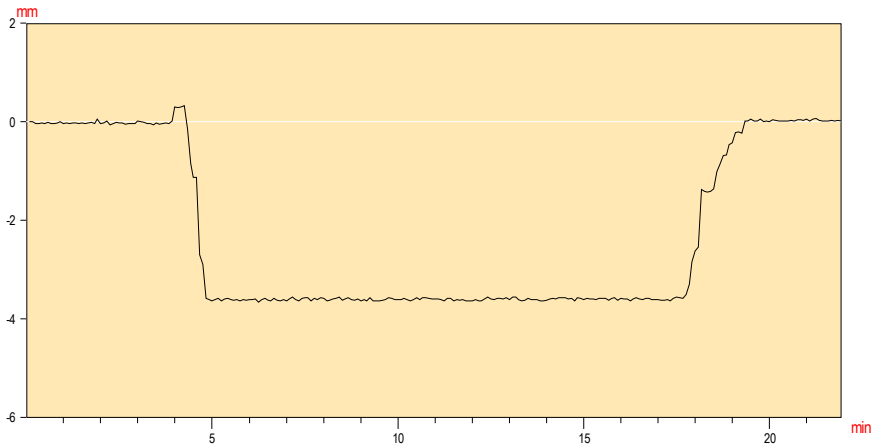
Prueba de carga de la Estructura : viaduct uic 2

Organismo : adif

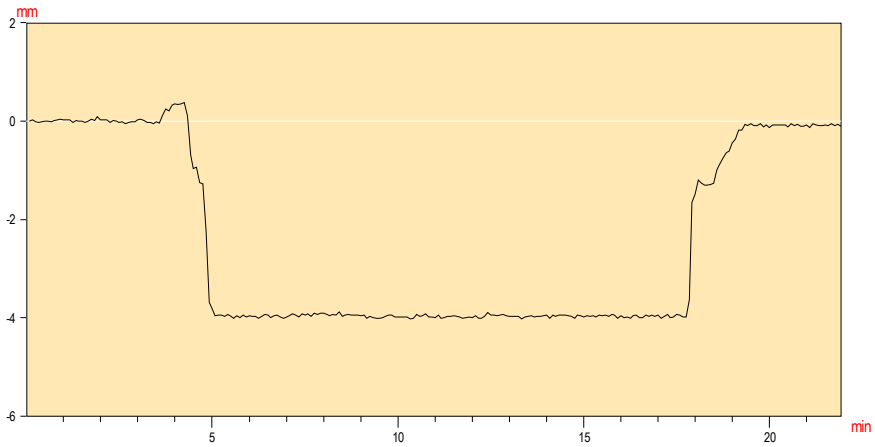
Prueba :	**HIPOTESIS 6**
Fecha :	23/12/2006
Hora :	01:09:40
Valor Inicial	= 0.04
Valor de Prueba	= -0.32
Valor Residual	= 0.03
Canal	F21



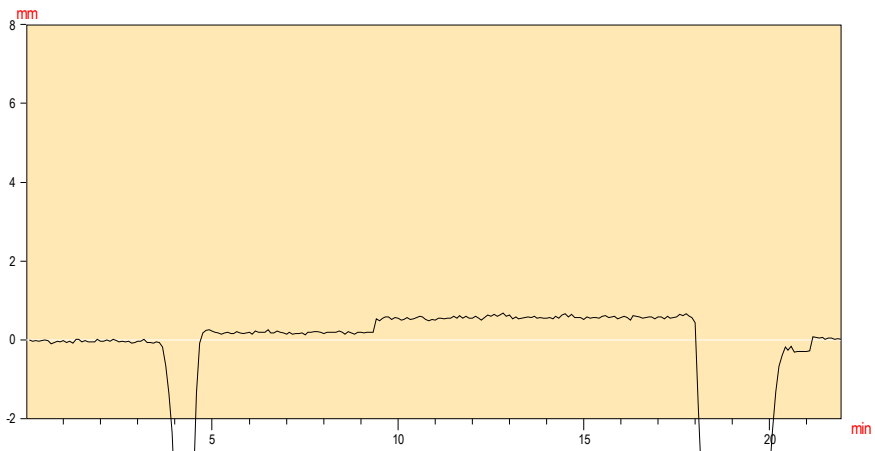
Prueba :	**HIPOTESIS 6**
Fecha :	23/12/2006
Hora :	01:09:40
Valor Inicial	= -0.03
Valor de Prueba	= -3.61
Valor Residual	= 0.02
Canal	F22



Prueba :	**HIPOTESIS 6**
Fecha :	23/12/2006
Hora :	01:09:40
Valor Inicial	= 0.00
Valor de Prueba	= -4.02
Valor Residual	= -0.08
Canal	F23



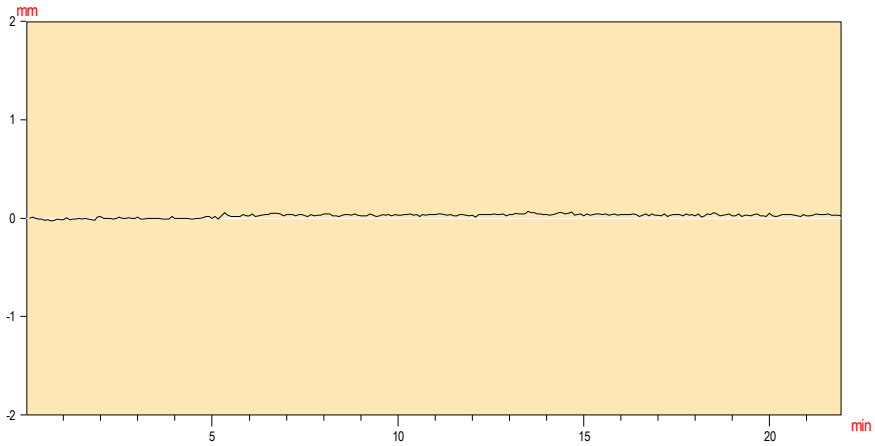
Prueba :	**HIPOTESIS 6**
Fecha :	23/12/2006
Hora :	01:09:40
Valor Inicial	= 0.00
Valor de Prueba	= -0.63
Valor Residual	= 0.04
Canal	F24



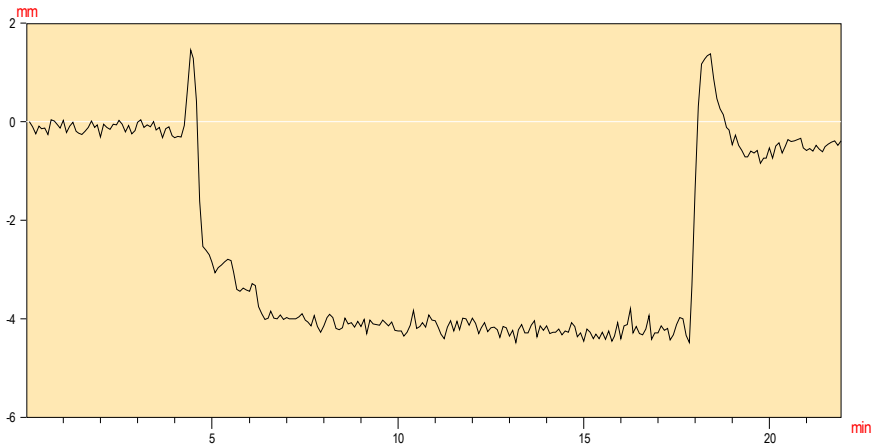
Prueba de carga de la Estructura : viaduct uic 2

Organismo : adif

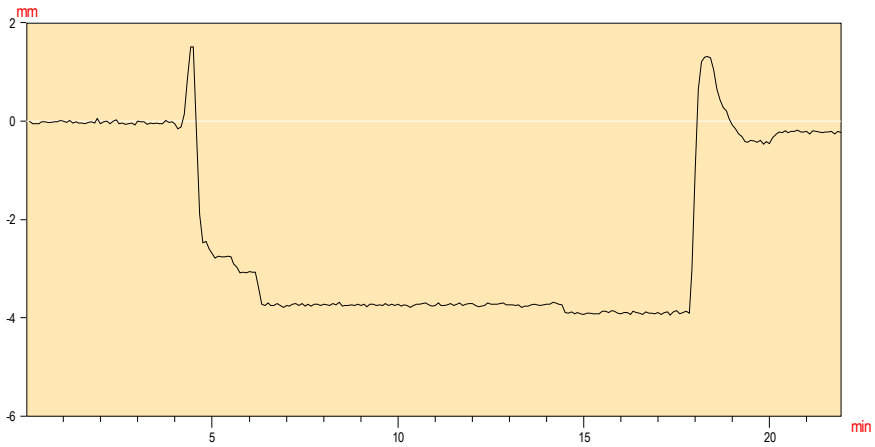
Prueba :	**HIPOTESIS 6**
Fecha :	23/12/2006
Hora :	01:09:40
Valor Inicial	= 0.00
Valor de Prueba	= 0.03
Valor Residual	= 0.00
Canal	F25



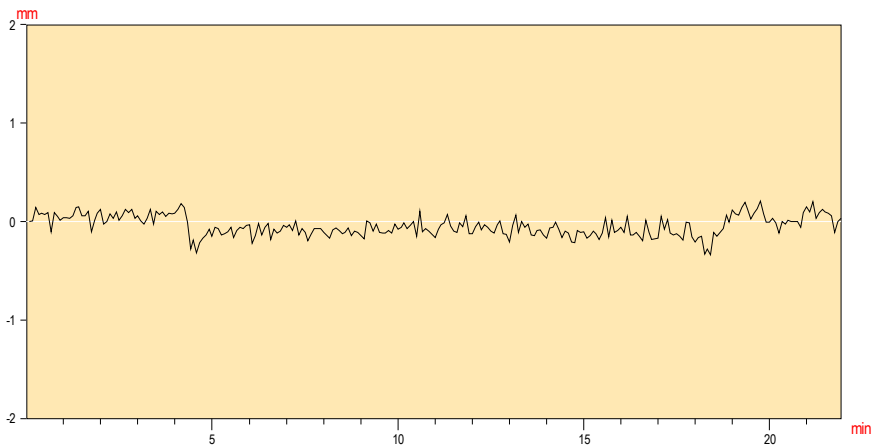
Prueba :	**HIPOTESIS 6**
Fecha :	23/12/2006
Hora :	01:09:40
Valor Inicial	= -0.10
Valor de Prueba	= -4.17
Valor Residual	= -0.11
Canal	F26



Prueba :	**HIPOTESIS 6**
Fecha :	23/12/2006
Hora :	01:09:40
Valor Inicial	= -0.02
Valor de Prueba	= -3.93
Valor Residual	= 0.05
Canal	F27



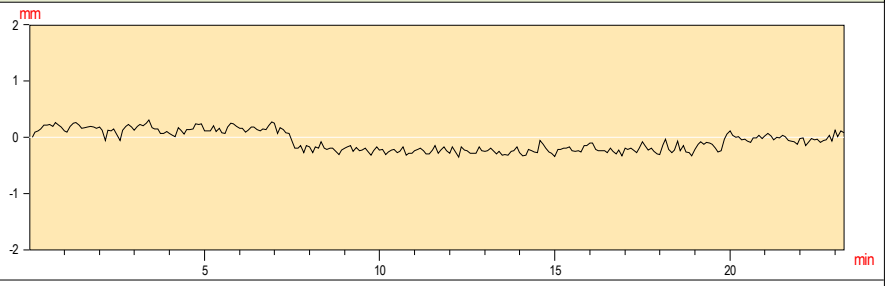
Prueba :	**HIPOTESIS 6**
Fecha :	23/12/2006
Hora :	01:09:40
Valor Inicial	= 0.07
Valor de Prueba	= -0.19
Valor Residual	= 0.00
Canal	F28



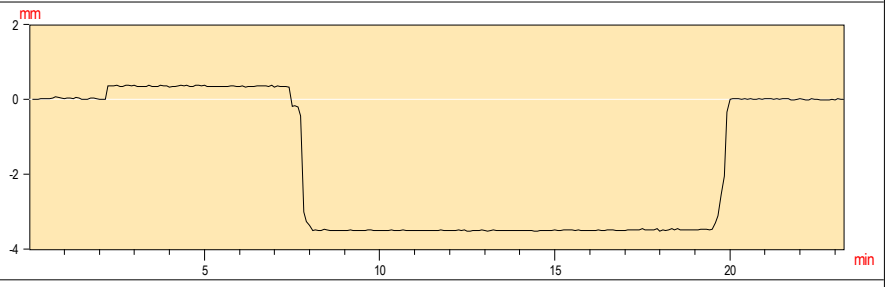
Prueba de carga de la Estructura : viaduct uic 2.cfg

Organismo : adif

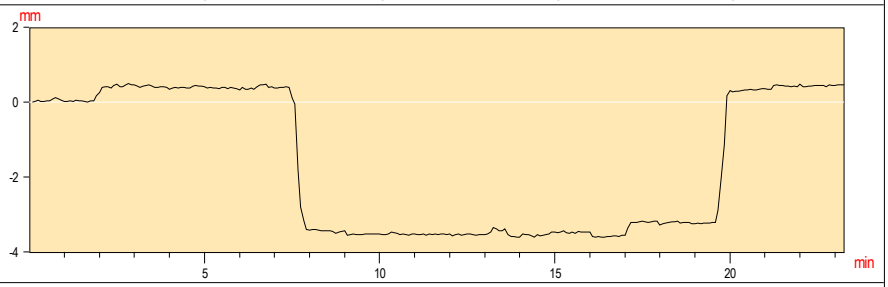
Prueba :	**HIPOTESIS 7**
Fecha :	23/12/06
Hora :	01:34:23
Valor Inicial	= 0.00
Valor de Prueba	= -0.34
Valor Residual	= 0.12
Canal	F25



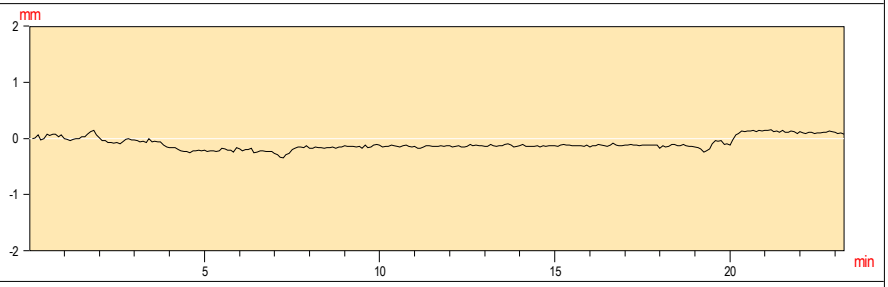
Prueba :	**HIPOTESIS 7**
Fecha :	23/12/06
Hora :	01:34:23
Valor Inicial	= 0.00
Valor de Prueba	= -3.52
Valor Residual	= 0.00
Canal	F26



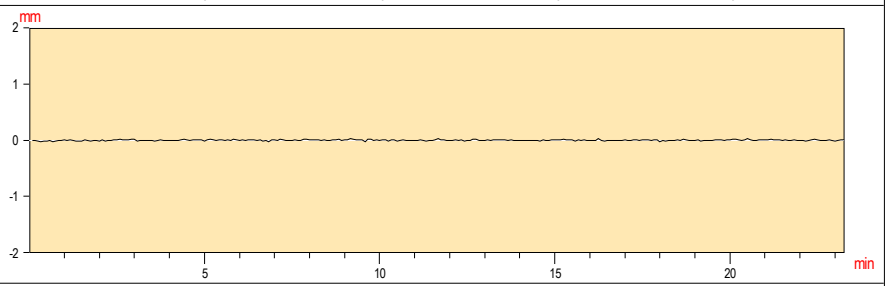
Prueba :	**HIPOTESIS 7**
Fecha :	23/12/06
Hora :	01:34:23
Valor Inicial	= 0.00
Valor de Prueba	= -3.60
Valor Residual	= 0.42
Canal	F27



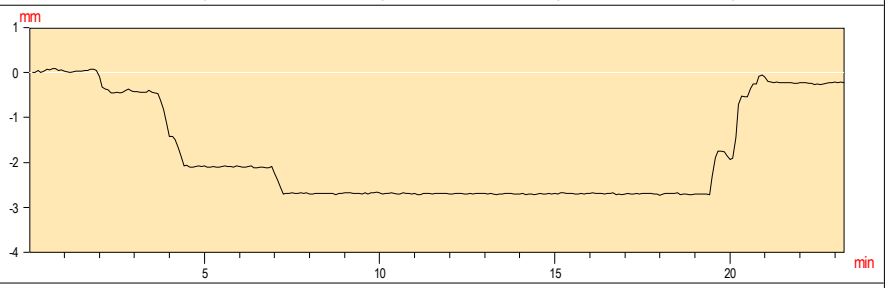
Prueba :	**HIPOTESIS 7**
Fecha :	23/12/06
Hora :	01:34:23
Valor Inicial	= 0.00
Valor de Prueba	= -0.34
Valor Residual	= 0.10
Canal	F28



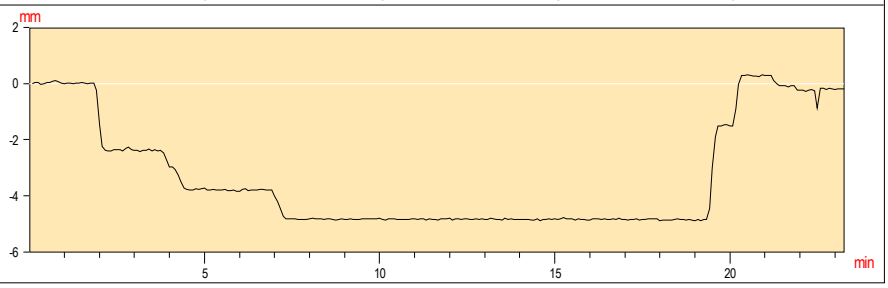
Prueba :	**HIPOTESIS 7**
Fecha :	23/12/06
Hora :	01:34:23
Valor Inicial	= 0.00
Valor de Prueba	= -0.02
Valor Residual	= 0.00
Canal	F29



Prueba :	**HIPOTESIS 7**
Fecha :	23/12/06
Hora :	01:34:23
Valor Inicial	= 0.00
Valor de Prueba	= -2.95
Valor Residual	= -0.43
Canal	F30



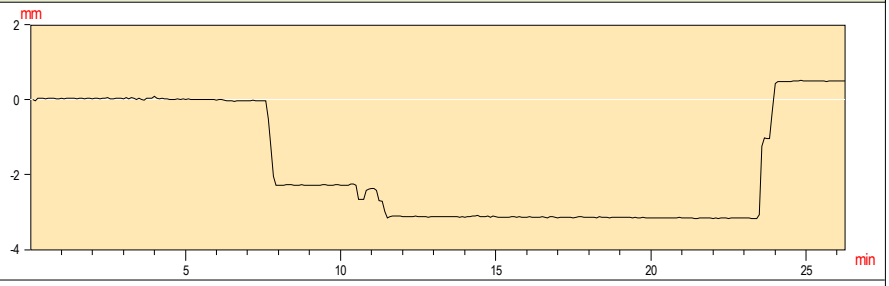
Prueba :	**HIPOTESIS 7**
Fecha :	23/12/06
Hora :	01:34:23
Valor Inicial	= 0.00
Valor de Prueba	= -4.64
Valor Residual	= -0.19
Canal	F31



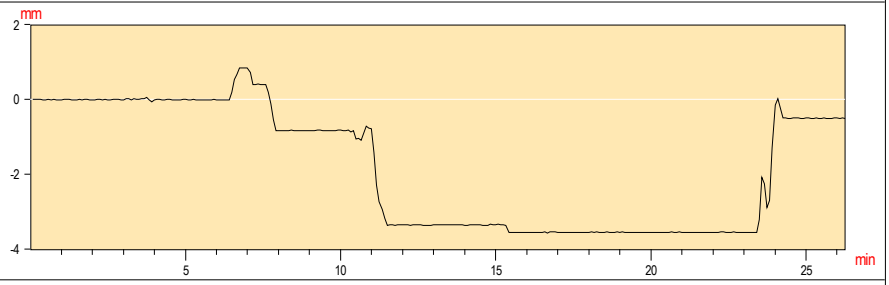
Prueba de carga de la Estructura : viaducto uic

Organismo : adif

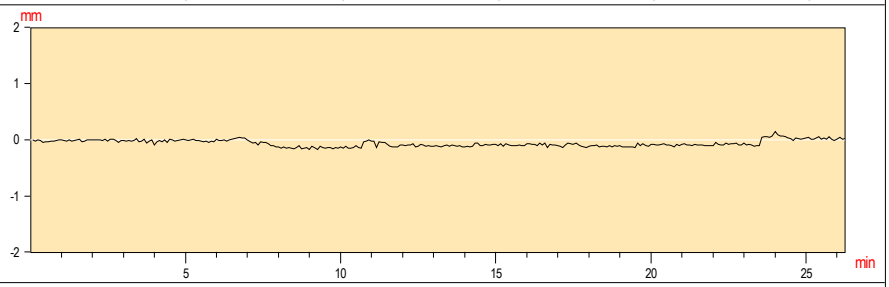
Prueba :	**HIPOTESIS 8**
Fecha :	27/12/06
Hora :	12:12:26
Valor Inicial	= 0.03
Valor de Prueba	= -3.13
Valor Residual	= 0.50
Canal	F31



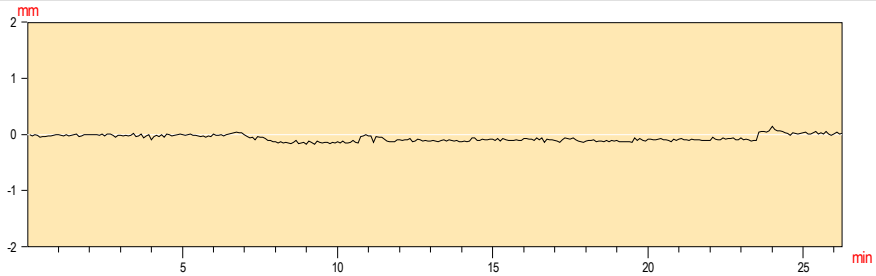
Prueba :	**HIPOTESIS 8**
Fecha :	27/12/06
Hora :	12:12:26
Valor Inicial	= -0.02
Valor de Prueba	= -3.55
Valor Residual	= -0.51
Canal	F32



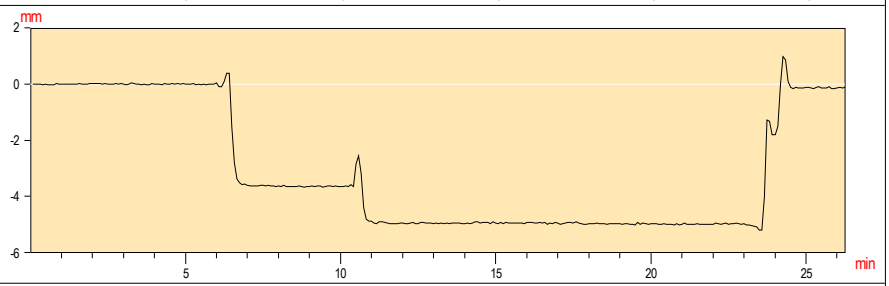
Prueba :	**HIPOTESIS 8**
Fecha :	27/12/06
Hora :	12:12:26
Valor Inicial	= -0.03
Valor de Prueba	= -0.18
Valor Residual	= 0.01
Canal	F33



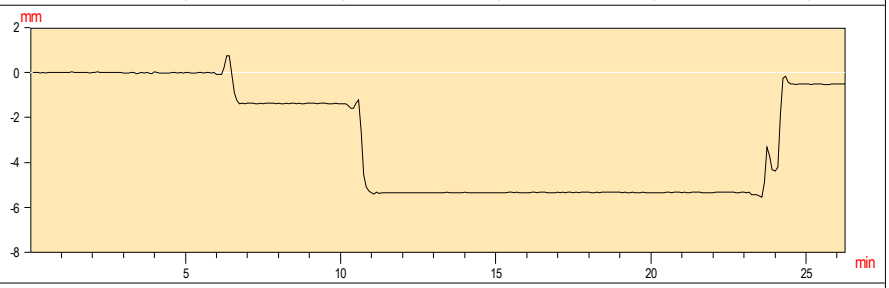
Prueba :	**HIPOTESIS 8**
Fecha :	27/12/06
Hora :	12:12:26
Valor Inicial	= -0.03
Valor de Prueba	= -0.15
Valor Residual	= 0.04
Canal	F34



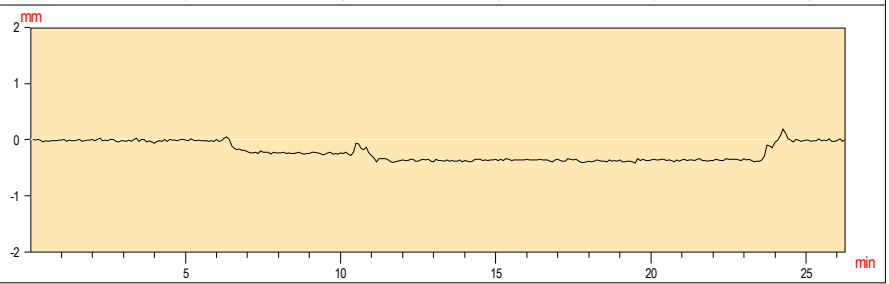
Prueba :	**HIPOTESIS 8**
Fecha :	27/12/06
Hora :	12:12:26
Valor Inicial	= 0.00
Valor de Prueba	= -4.71
Valor Residual	= -0.14
Canal	F35



Prueba :	**HIPOTESIS 8**
Fecha :	27/12/06
Hora :	12:12:26
Valor Inicial	= 0.00
Valor de Prueba	= -4.95
Valor Residual	= -0.51
Canal	F36



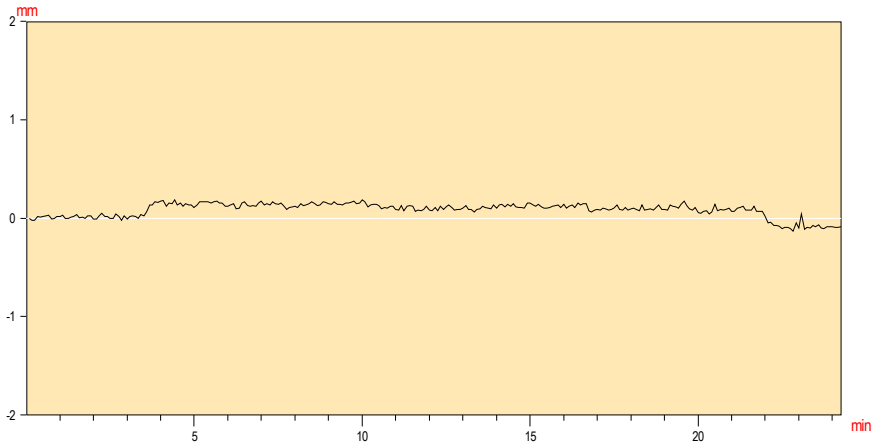
Prueba :	**HIPOTESIS 8**
Fecha :	27/12/06
Hora :	12:12:26
Valor Inicial	= -0.02
Valor de Prueba	= -0.47
Valor Residual	= -0.02
Canal	F37



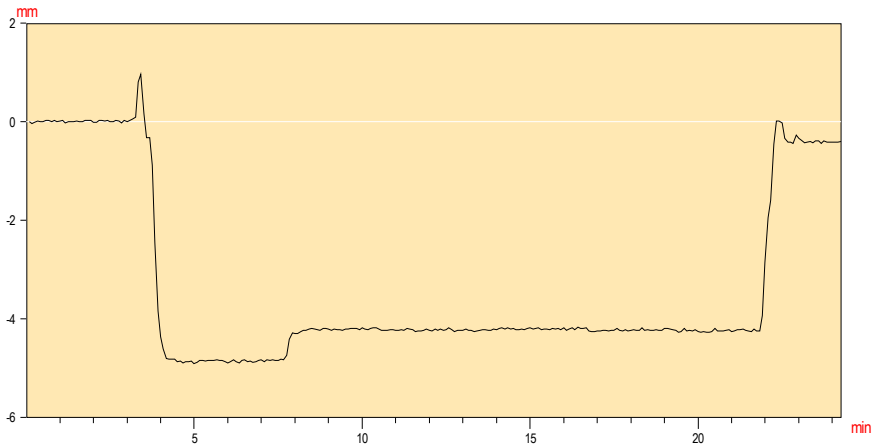
Prueba de carga de la Estructura : viaducto uic

Organismo : adif

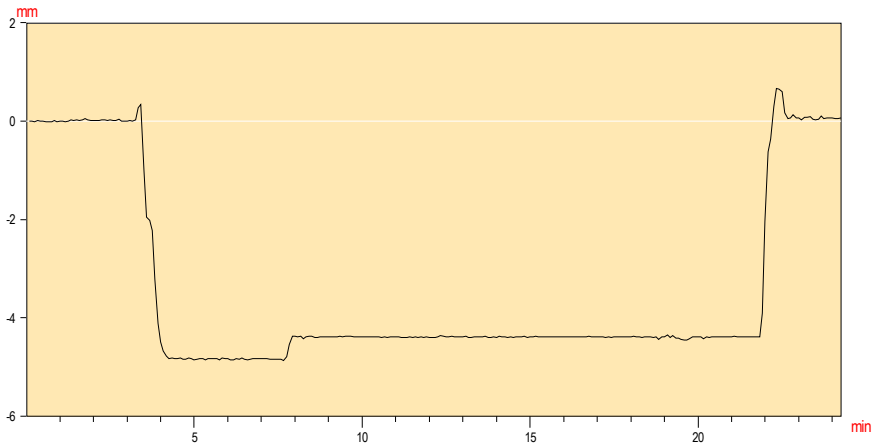
Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:48:31
Valor Inicial	= 0.02
Valor de Prueba	= 0.07
Valor Residual	= 0.02
Canal	F34



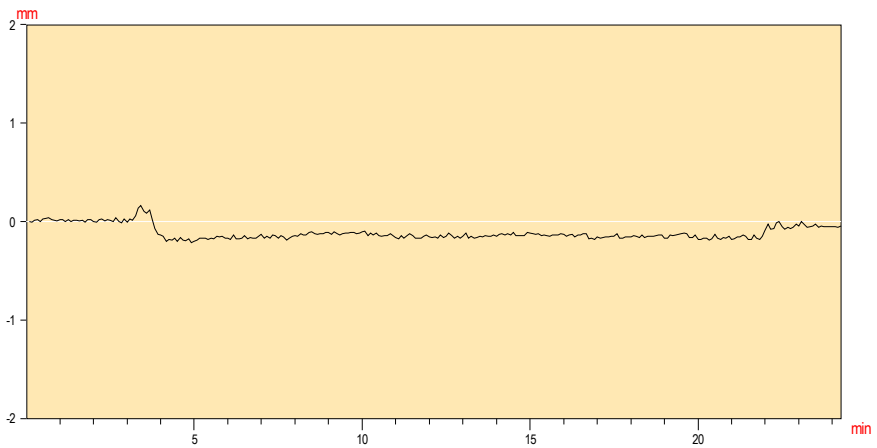
Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:48:31
Valor Inicial	= 0.03
Valor de Prueba	= -4.83
Valor Residual	= -0.02
Canal	F35



Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:48:31
Valor Inicial	= -0.01
Valor de Prueba	= -4.39
Valor Residual	= 0.05
Canal	F36



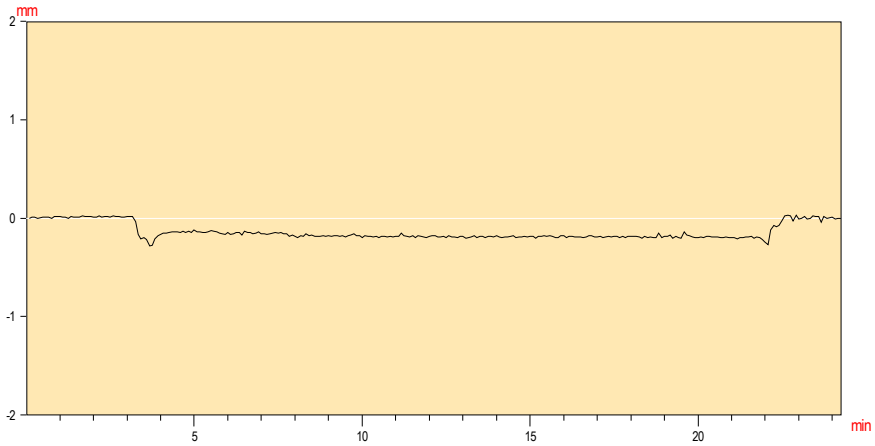
Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:48:31
Valor Inicial	= 0.00
Valor de Prueba	= -0.21
Valor Residual	= -0.05
Canal	F37



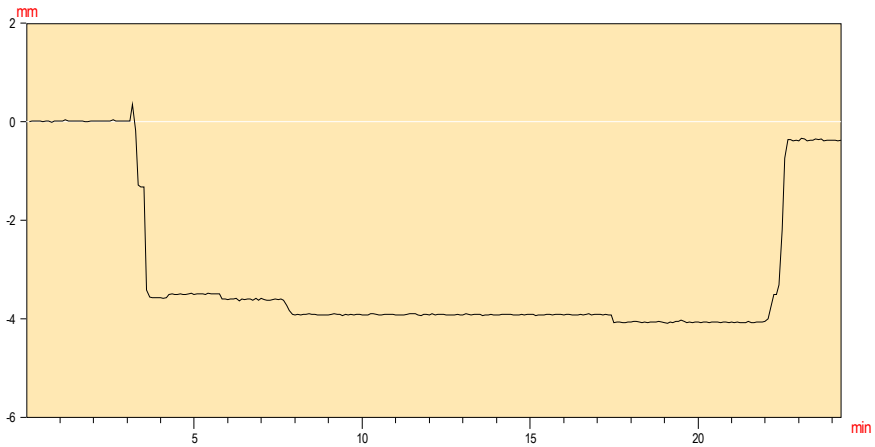
Prueba de carga de la Estructura : viaducto uic

Organismo : adif

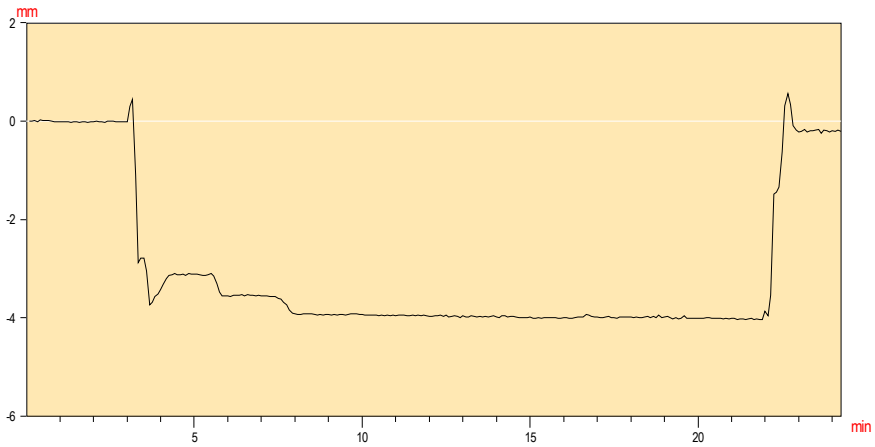
Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:48:31
Valor Inicial	= 0.02
Valor de Prueba	= -0.19
Valor Residual	= -0.00
Canal	F38



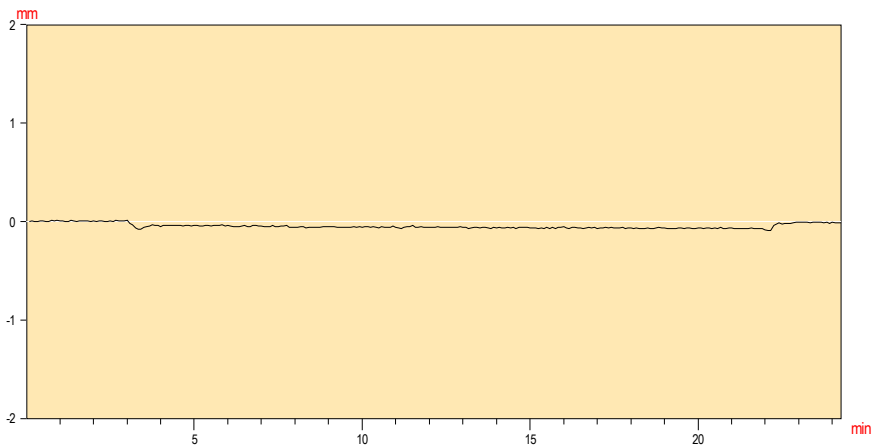
Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:12:31
Valor Inicial	= 0.00
Valor de Prueba	= -4.05
Valor Residual	= -0.37
Canal	F39



Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:12:31
Valor Inicial	= 0.00
Valor de Prueba	= -3.97
Valor Residual	= -0.19
Canal	F40



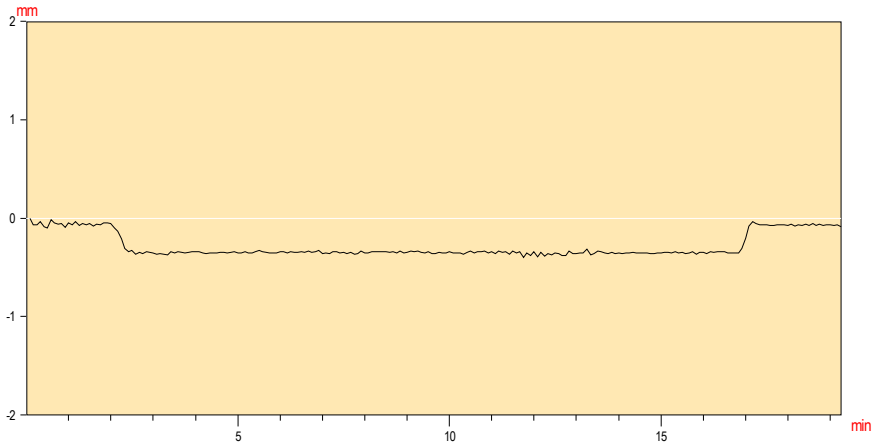
Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:12:31
Valor Inicial	= 0.01
Valor de Prueba	= -0.06
Valor Residual	= -0.01
Canal	F41



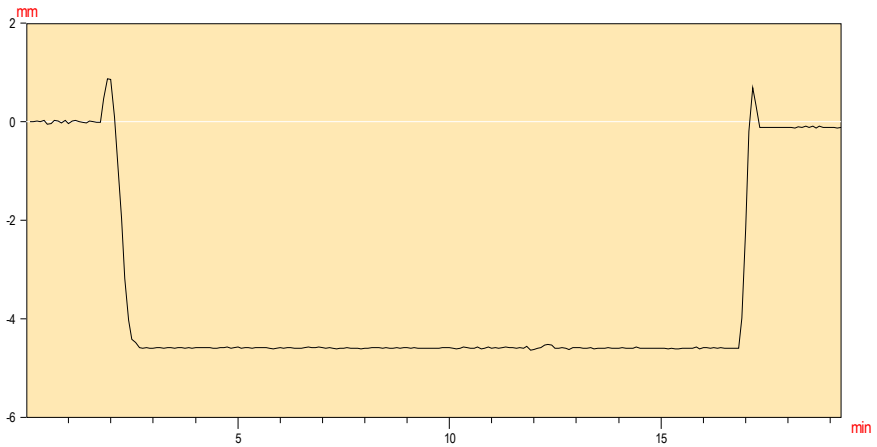
Prueba de carga de la Estructura : viaducto uic

Organismo : adif

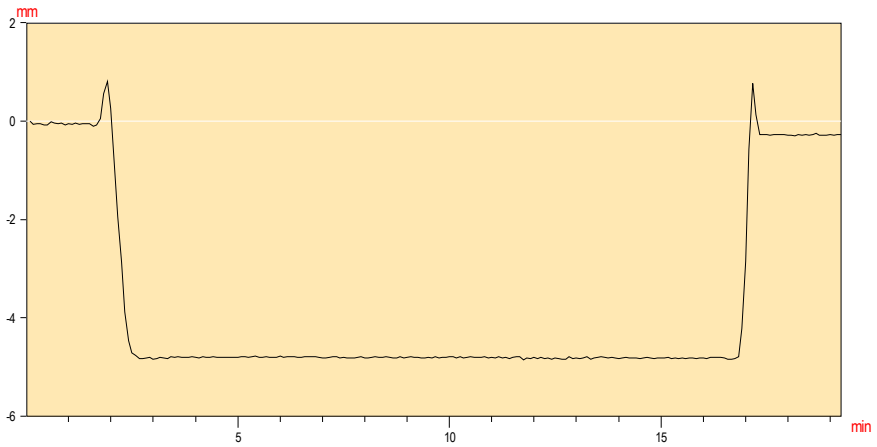
Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= -0.04
Valor de Prueba	= -0.32
Valor Residual	= -0.07
Canal	F38



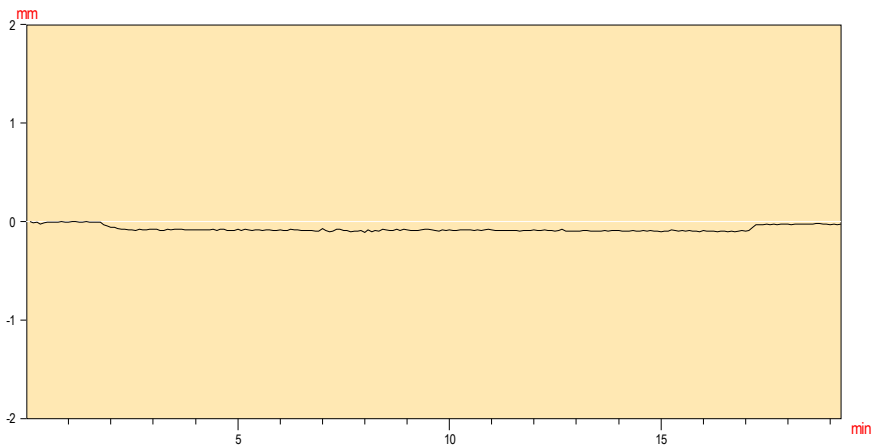
Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= -0.03
Valor de Prueba	= -4.59
Valor Residual	= -0.12
Canal	F39



Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= -0.09
Valor de Prueba	= -4.81
Valor Residual	= -0.29
Canal	F40



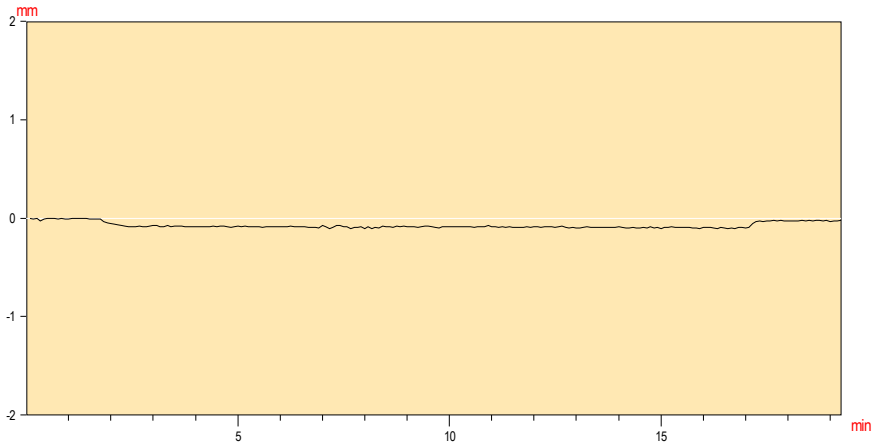
Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= -0.00
Valor de Prueba	= -0.09
Valor Residual	= -0.03
Canal	F41



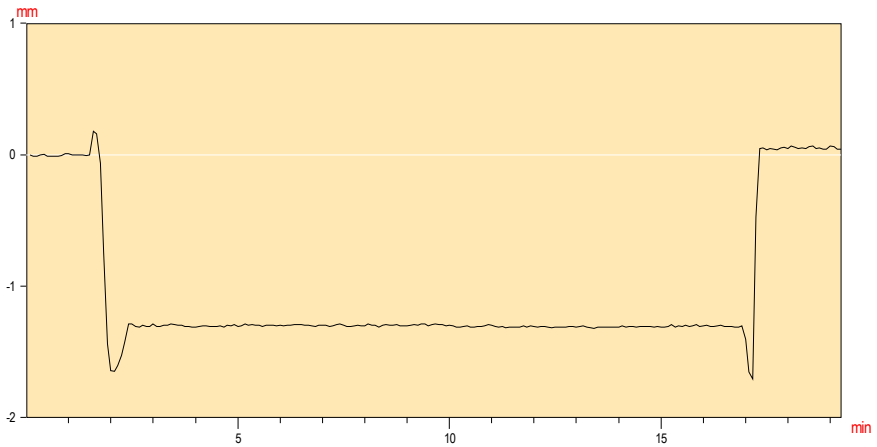
Prueba de carga de la Estructura : viaducto uic

Organismo : adif

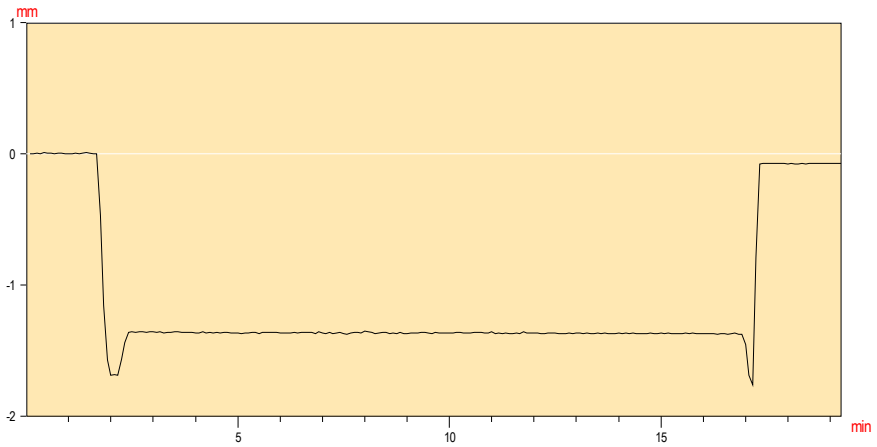
Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= -0.00
Valor de Prueba	= -0.10
Valor Residual	= -0.03
Canal	F42



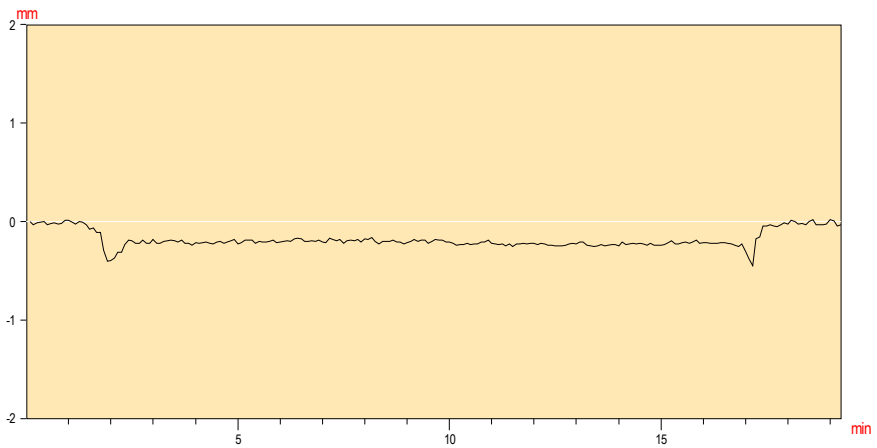
Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= 0.00
Valor de Prueba	= -1.51
Valor Residual	= 0.12
Canal	F43



Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= 0.00
Valor de Prueba	= -1.63
Valor Residual	= -0.14
Canal	F44



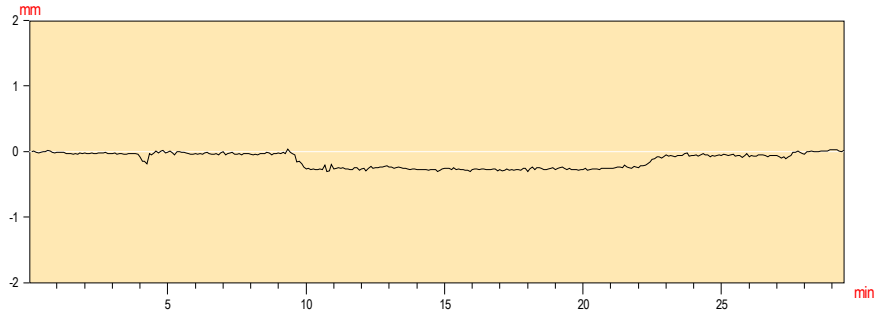
Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= -0.00
Valor de Prueba	= -0.23
Valor Residual	= -0.03
Canal	F45



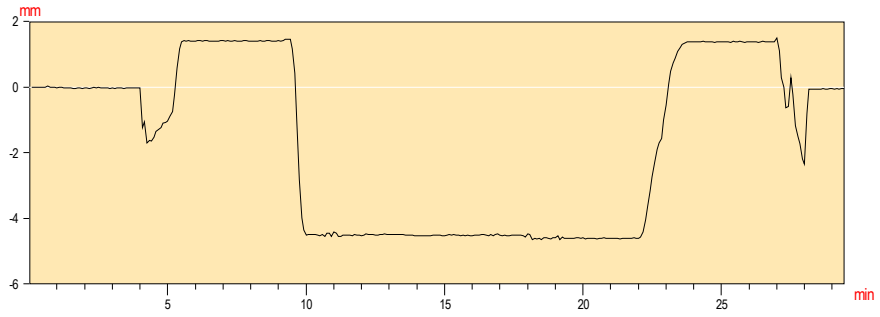
Prueba de carga de la Estructura : viaduc uic

Organismo : ADIF

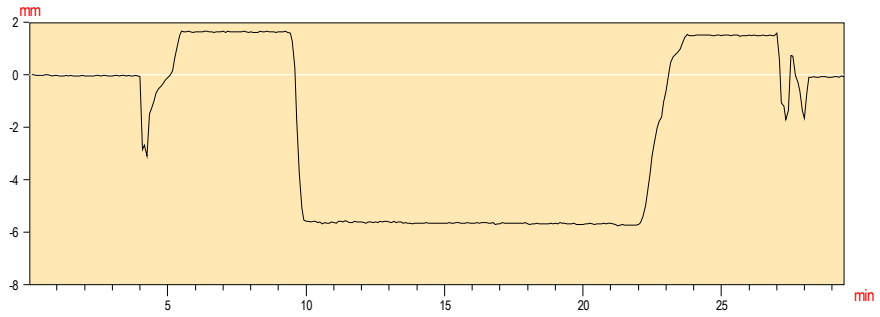
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.03
Valor de Prueba	= -0.27
Valor Residual	= 0.03
Canal	F1



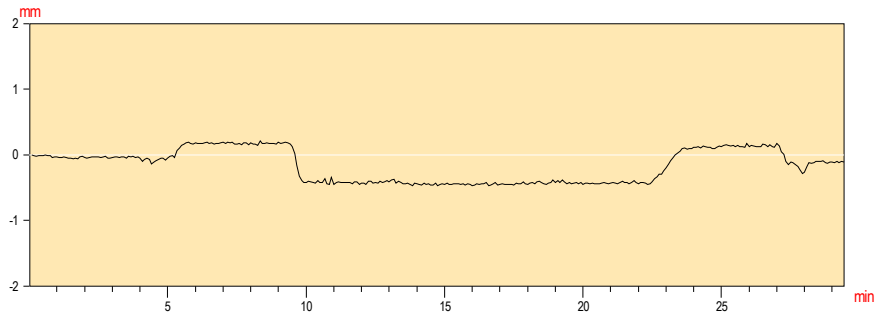
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.04
Valor de Prueba	= -4.52
Valor Residual	= -0.06
Canal	F2



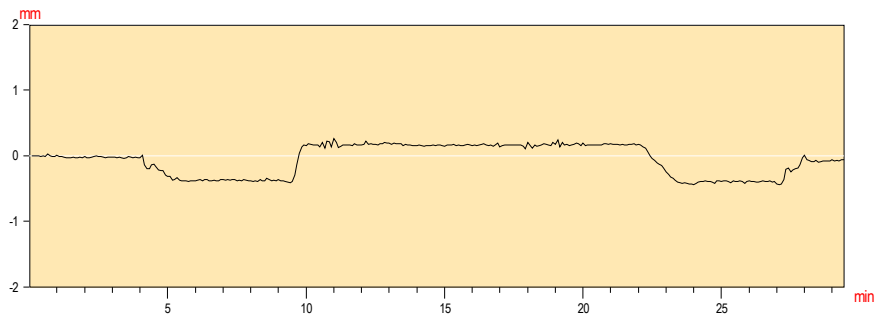
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.01
Valor de Prueba	= -5.64
Valor Residual	= -0.10
Canal	F3



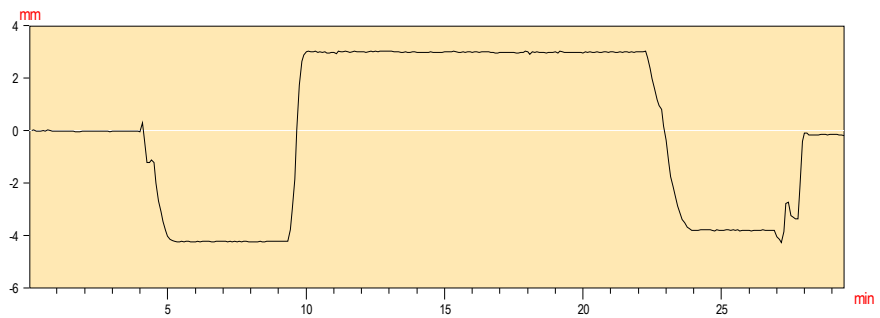
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.02
Valor de Prueba	= -0.44
Valor Residual	= -0.10
Canal	F4



Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.03
Valor de Prueba	= 0.08
Valor Residual	= -0.08
Canal	F5



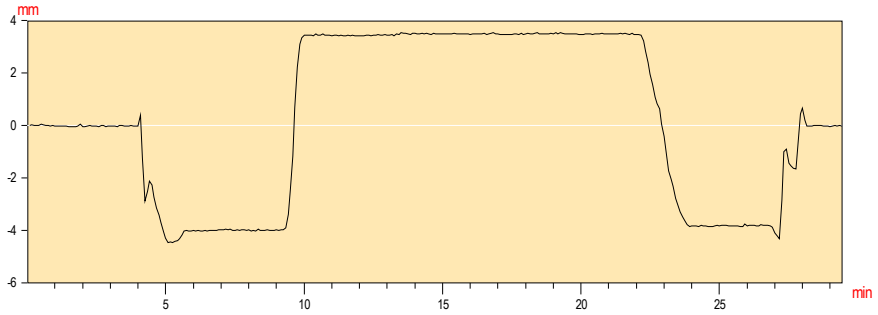
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.01
Valor de Prueba	= 3.29
Valor Residual	= -0.15
Canal	F6



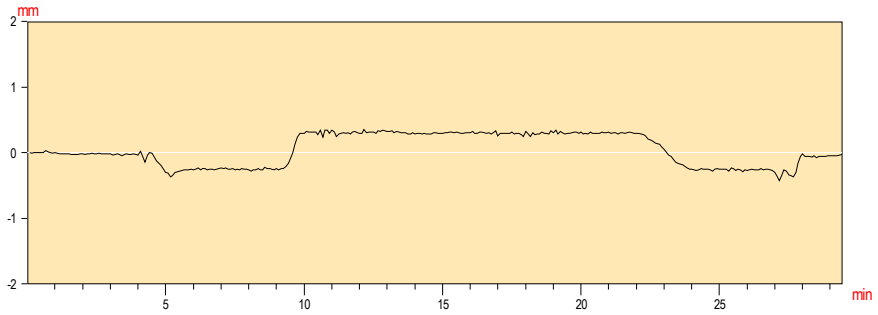
Prueba de carga de la Estructura : viaduc uic

Organismo : ADIF

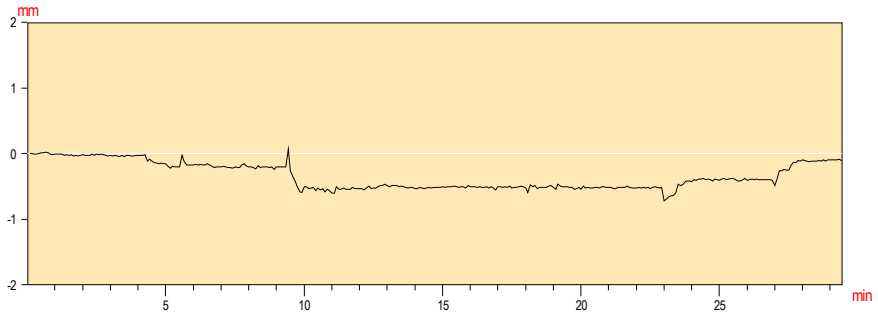
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.05
Valor de Prueba	= 3.76
Valor Residual	= -0.05
Canal	F7



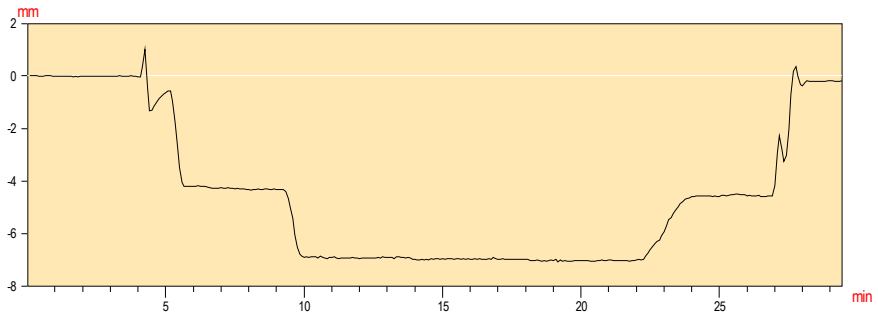
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.03
Valor de Prueba	= 0.11
Valor Residual	= -0.05
Canal	F8



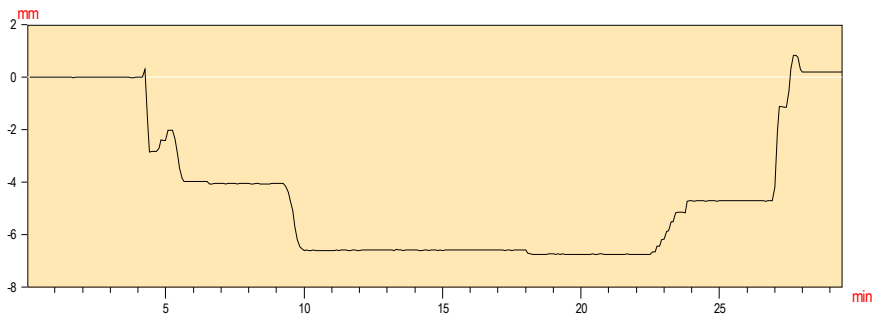
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.03
Valor de Prueba	= -0.51
Valor Residual	= -0.10
Canal	F9



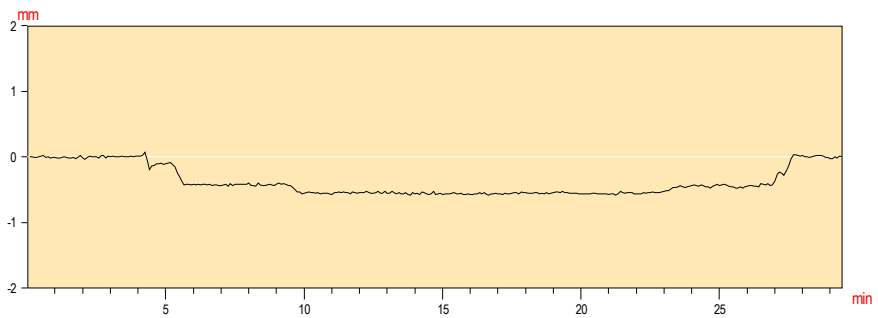
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.00
Valor de Prueba	= -6.91
Valor Residual	= -0.19
Canal	F10



Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.01
Valor de Prueba	= -6.58
Valor Residual	= 0.19
Canal	F11



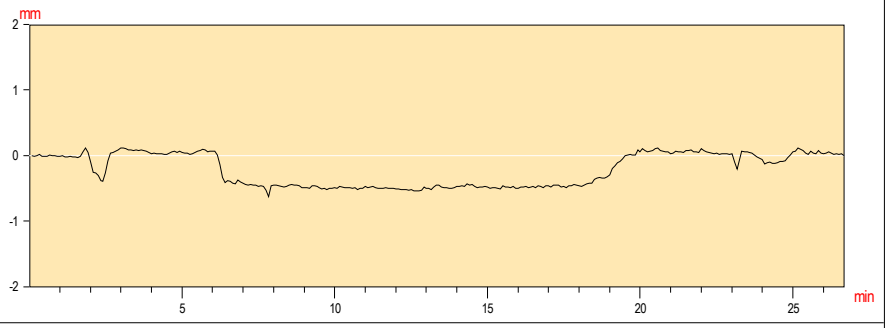
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= -0.01
Valor de Prueba	= -0.58
Valor Residual	= 0.02
Canal	F12



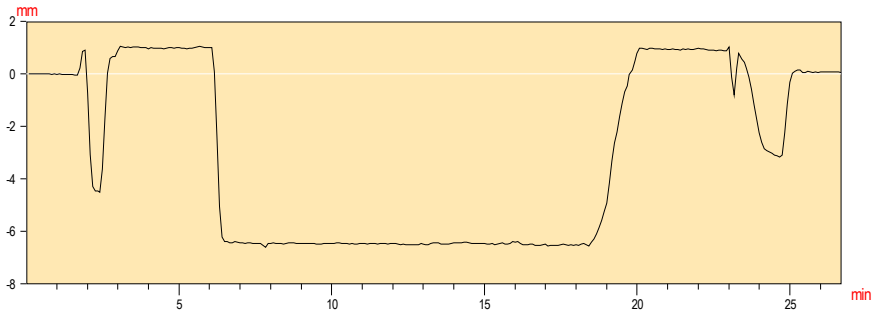
Prueba de carga de la Estructura : viaduc uic

Organismo : ADIF

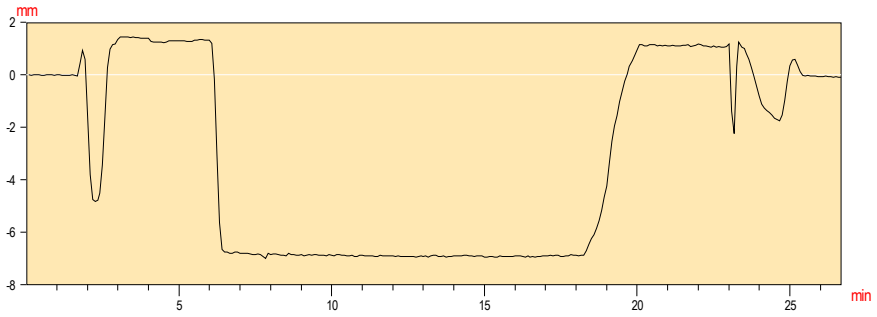
Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= -0.01
Valor de Prueba	= -0.51
Valor Residual	= 0.02
Canal	F5



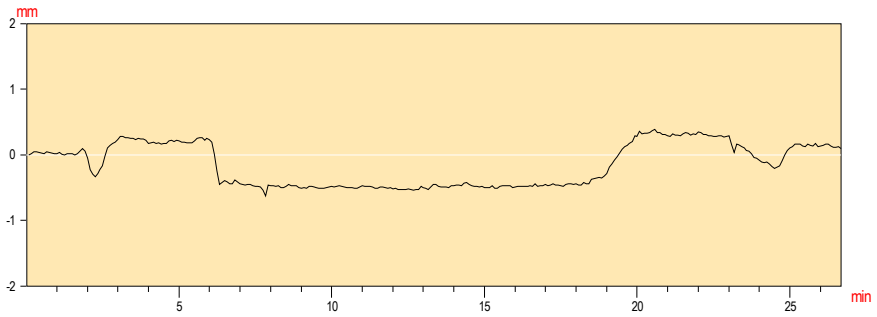
Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= 0.00
Valor de Prueba	= -6.51
Valor Residual	= 0.08
Canal	F6



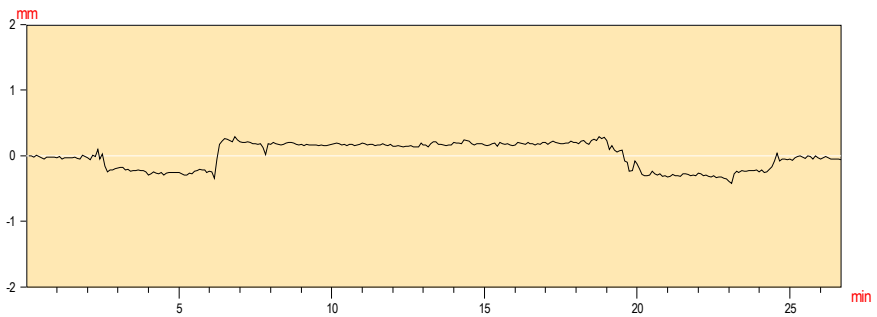
Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= 0.00
Valor de Prueba	= -6.92
Valor Residual	= -0.06
Canal	F7



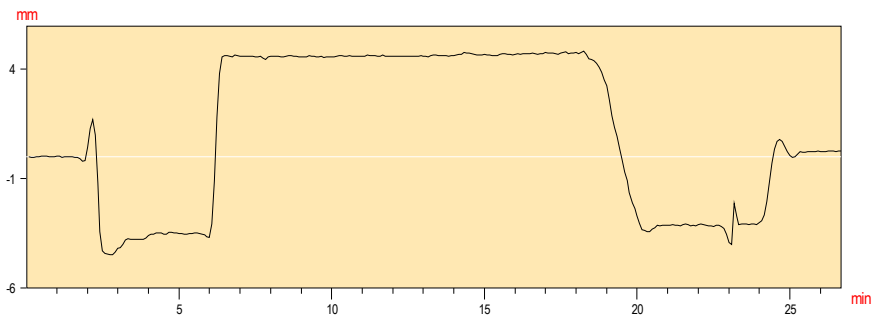
Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= 0.03
Valor de Prueba	= -0.55
Valor Residual	= 0.11
Canal	F8



Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= 0.00
Valor de Prueba	= 0.18
Valor Residual	= -0.05
Canal	F9



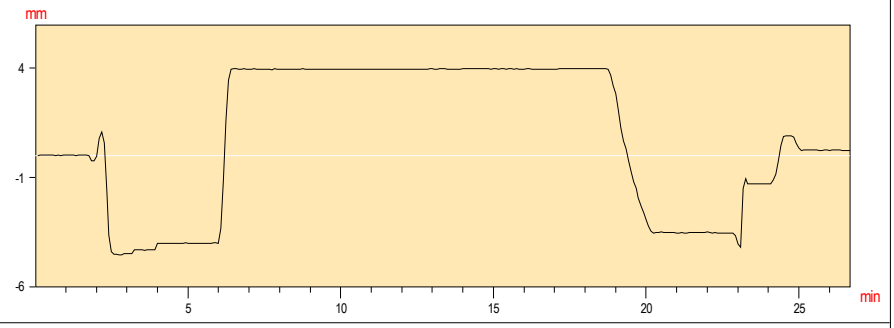
Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= -0.00
Valor de Prueba	= 4.65
Valor Residual	= 0.27
Canal	F10



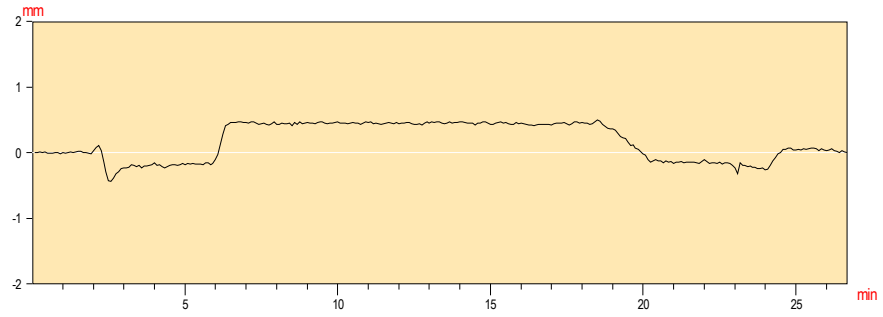
Prueba de carga de la Estructura : viaduc uic

Organismo : ADIF

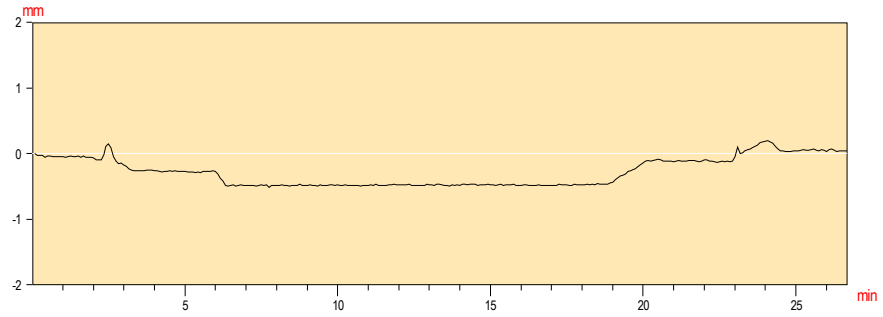
Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= 0.02
Valor de Prueba	= 3.95
Valor Residual	= 0.25
Canal	F11



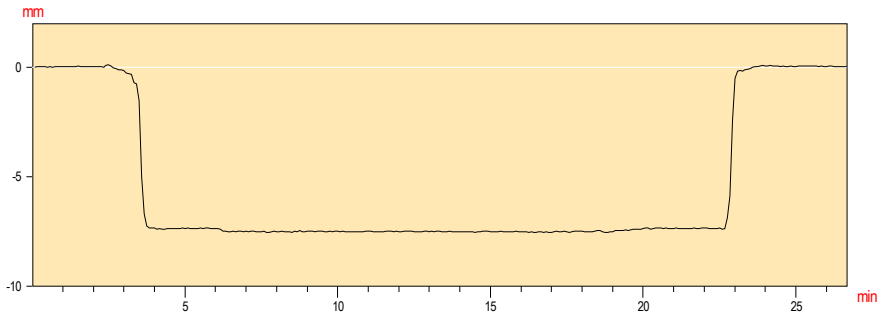
Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= 0.01
Valor de Prueba	= 0.33
Valor Residual	= 0.03
Canal	F12



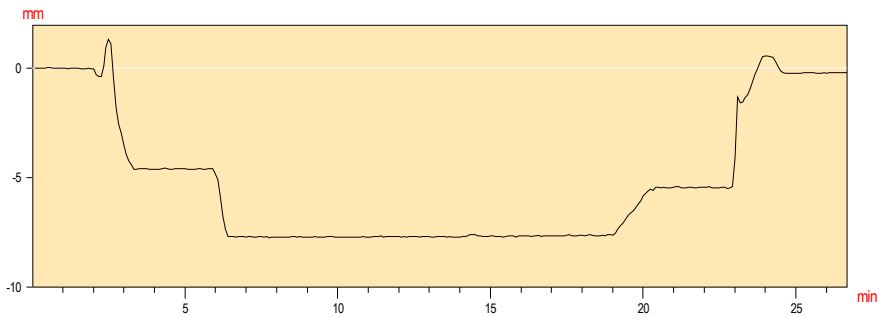
Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= -0.05
Valor de Prueba	= -0.48
Valor Residual	= 0.05
Canal	F13



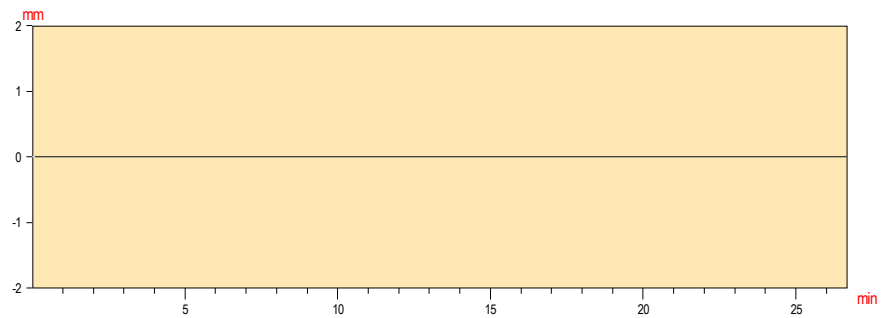
Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= 0.00
Valor de Prueba	= -7.52
Valor Residual	= 0.01
Canal	F14



Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= -0.01
Valor de Prueba	= -7.72
Valor Residual	= -0.20
Canal	F15



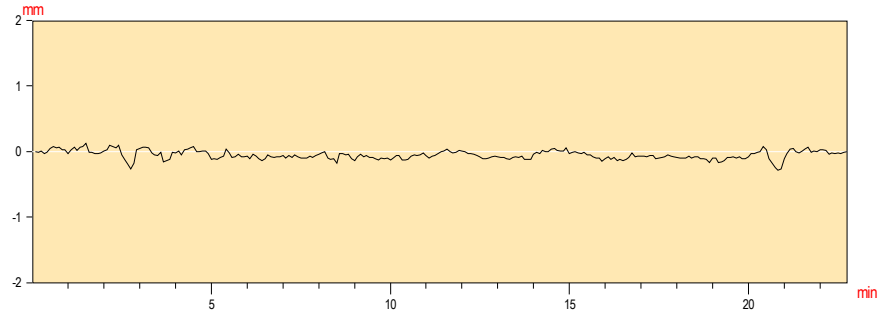
Prueba :	**HIPOTESIS 12**
Fecha :	20/12/06
Hora :	20:59:37
Valor Inicial	= 0.00
Valor de Prueba	= 0.00
Valor Residual	= 0.00
Canal	F16



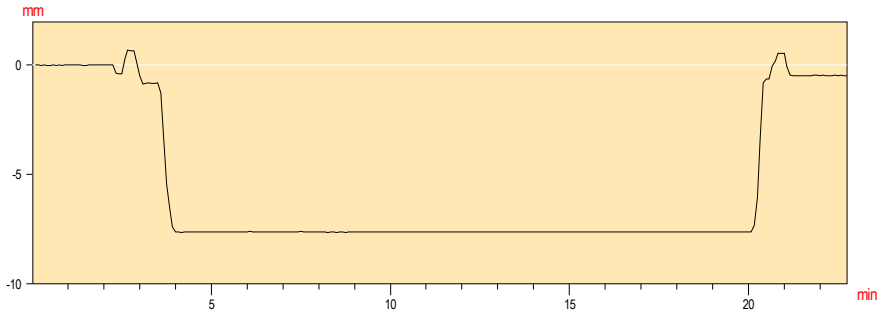
Prueba de carga de la Estructura : viaduct uic 2.cfg

Organismo : adif

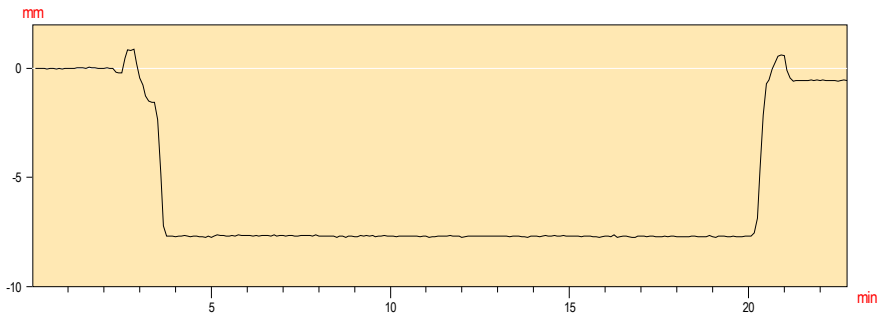
Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= 0.00
Valor de Prueba	= -0.11
Valor Residual	= 0.02
Canal	F9



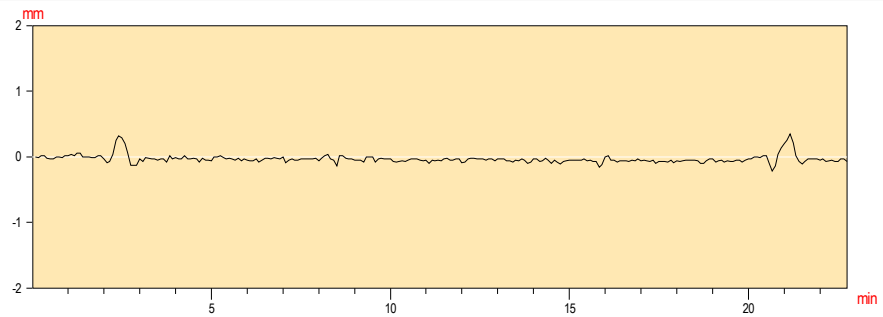
Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= -0.02
Valor de Prueba	= -7.62
Valor Residual	= -0.45
Canal	F10



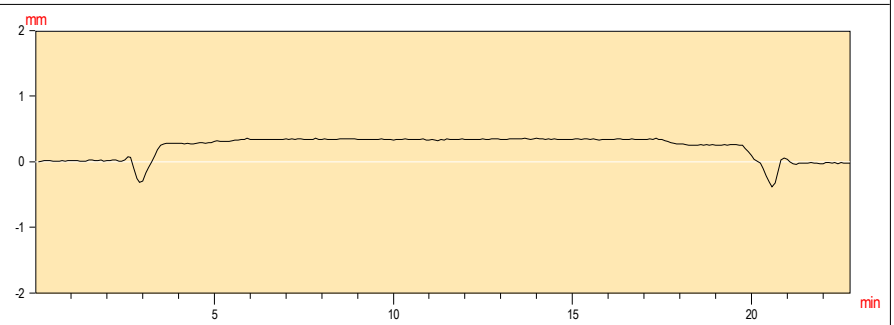
Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= -0.03
Valor de Prueba	= -7.68
Valor Residual	= -0.56
Canal	F11



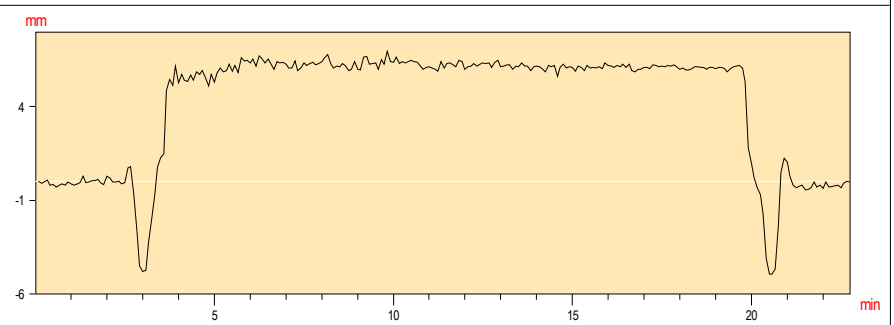
Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= 0.00
Valor de Prueba	= -0.05
Valor Residual	= 0.01
Canal	F12



Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= 0.01
Valor de Prueba	= 0.34
Valor Residual	= -0.01
Canal	F13



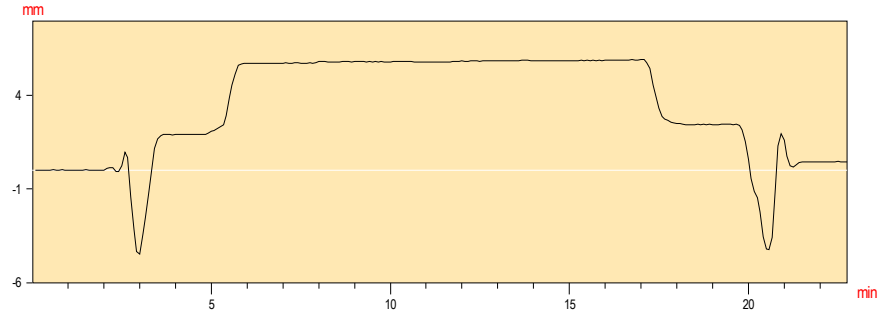
Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= 0.00
Valor de Prueba	= 6.10
Valor Residual	= -0.04
Canal	F14



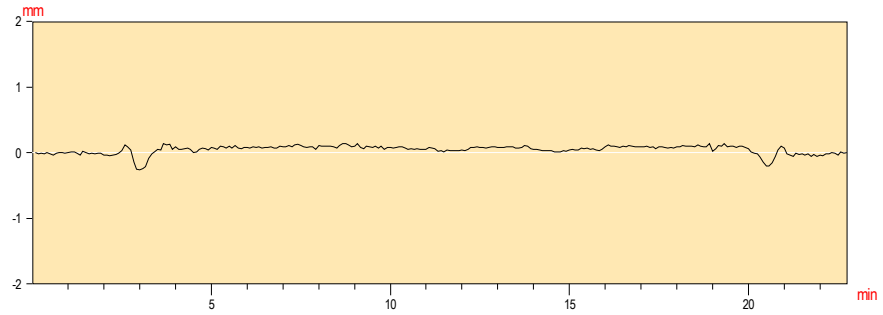
Prueba de carga de la Estructura : viaduct uic 2.cfg

Organismo : adif

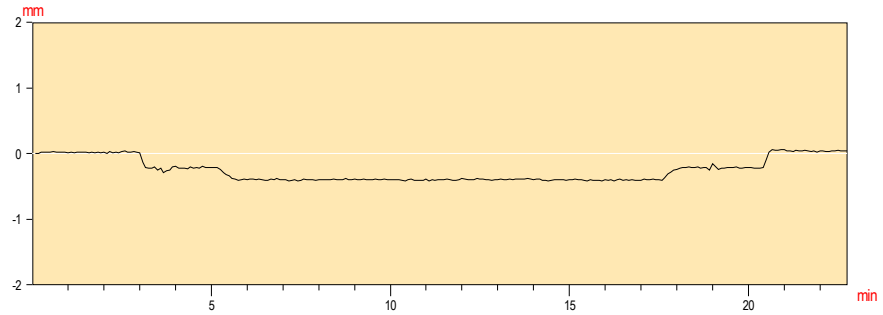
Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= 0.00
Valor de Prueba	= 5.76
Valor Residual	= 0.46
Canal	F15



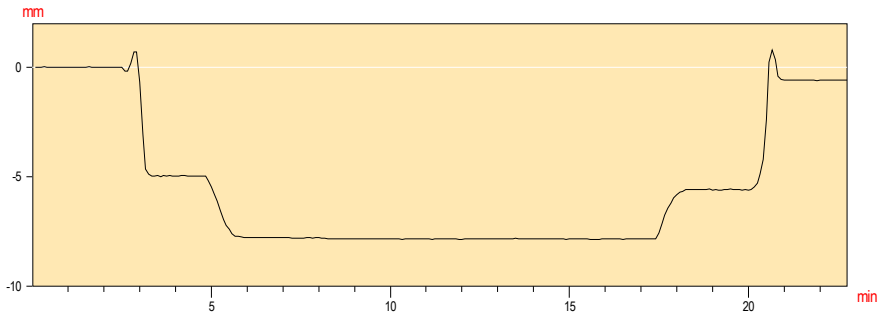
Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= 0.00
Valor de Prueba	= 0.11
Valor Residual	= -0.02
Canal	F16



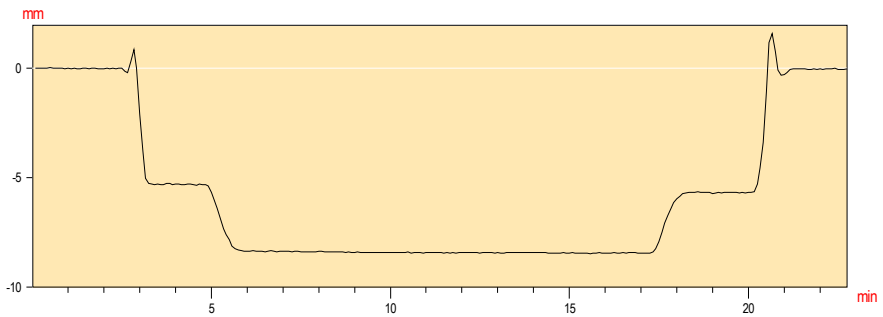
Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= 0.00
Valor de Prueba	= -0.40
Valor Residual	= 0.04
Canal	F17



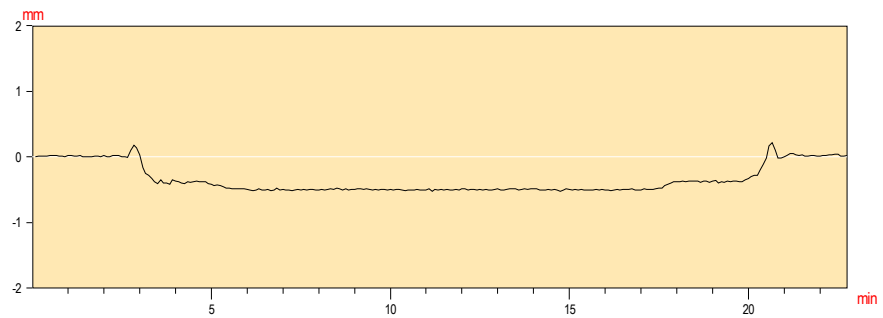
Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= 0.00
Valor de Prueba	= -7.84
Valor Residual	= -0.60
Canal	F18



Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= 0.00
Valor de Prueba	= -8.45
Valor Residual	= -0.04
Canal	F19



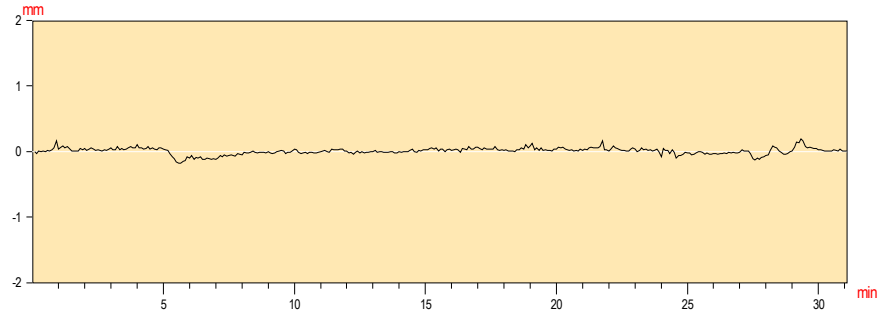
Prueba :	**HIPOTESIS H13**
Fecha :	23/12/06
Hora :	01:52:27
Valor Inicial	= 0.00
Valor de Prueba	= -0.50
Valor Residual	= 0.01
Canal	F20



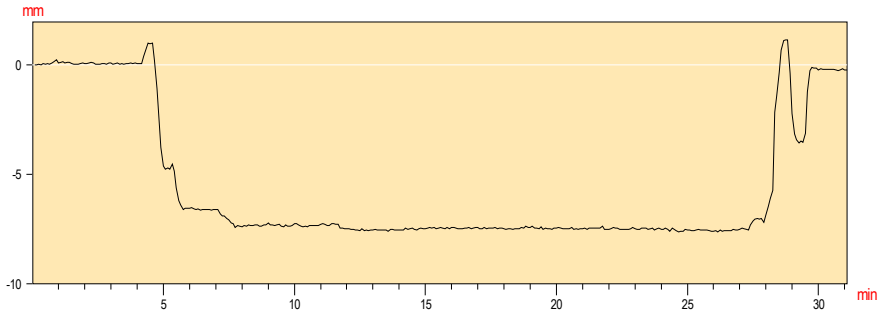
Prueba de carga de la Estructura : viaduct uic 2.cfg

Organismo : adif

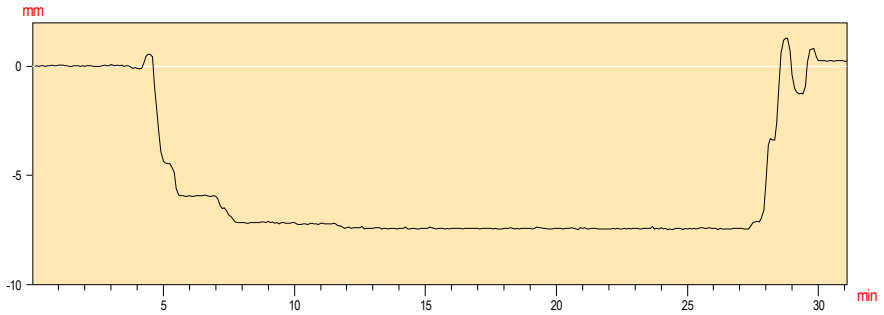
Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.00
Valor de Prueba	= -0.18
Valor Residual	= 0.01
Canal	F13



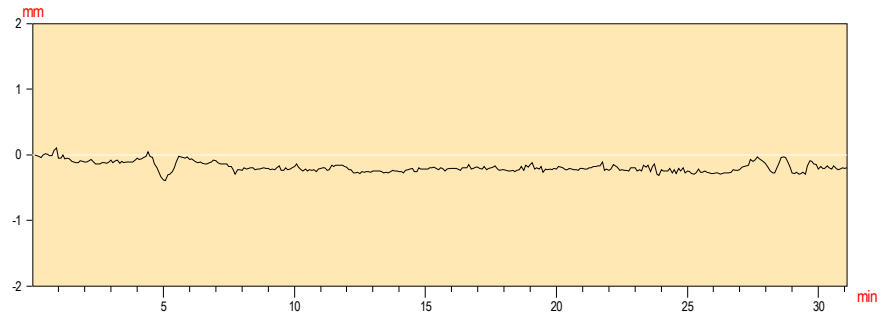
Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.00
Valor de Prueba	= -7.50
Valor Residual	= -0.13
Canal	F14



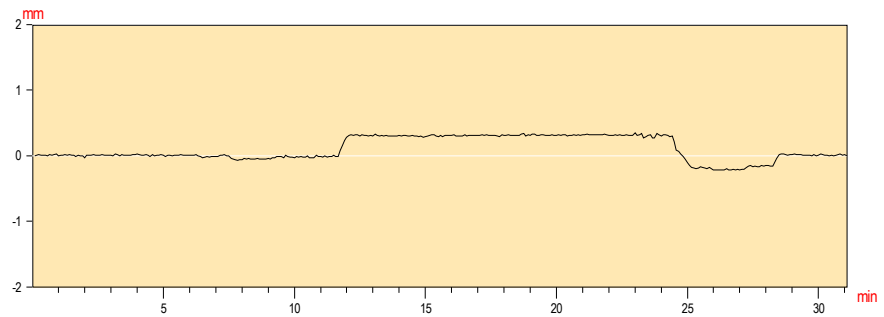
Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.00
Valor de Prueba	= -7.41
Valor Residual	= 0.26
Canal	F15



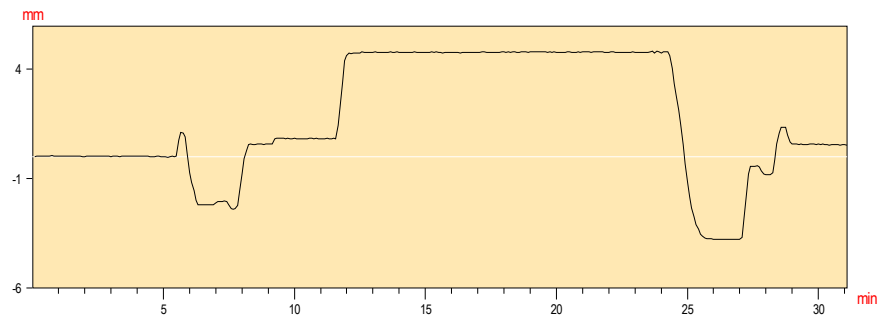
Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.00
Valor de Prueba	= -0.27
Valor Residual	= -0.04
Canal	F16



Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.00
Valor de Prueba	= 0.31
Valor Residual	= 0.01
Canal	F17



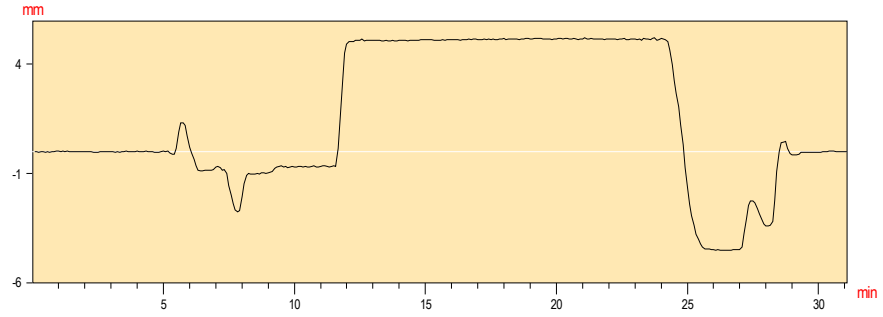
Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.02
Valor de Prueba	= 4.77
Valor Residual	= 0.53
Canal	F18



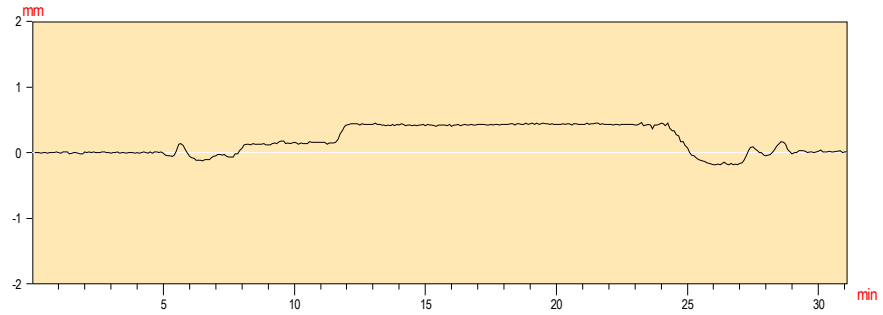
Prueba de carga de la Estructura : viaduct uic 2.cfg

Organismo : adif

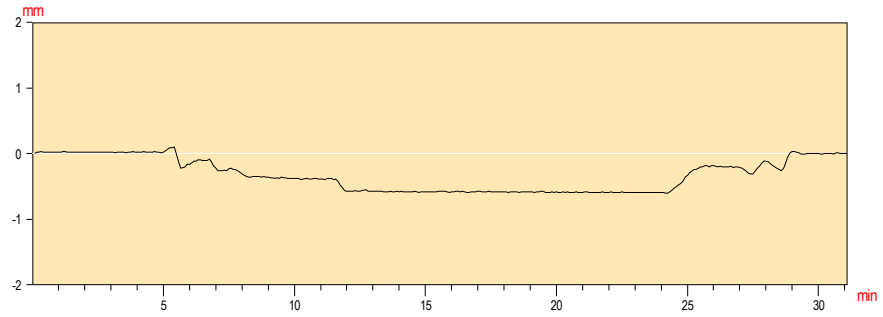
Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.01
Valor de Prueba	= 5.11
Valor Residual	= -0.00
Canal	F19



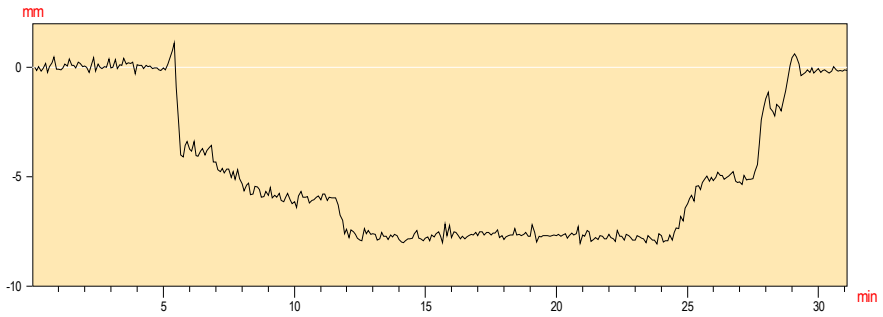
Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.00
Valor de Prueba	= 0.43
Valor Residual	= 0.01
Canal	F20



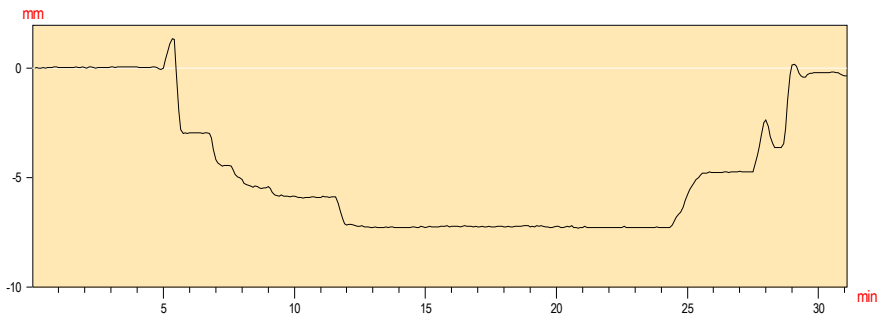
Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.03
Valor de Prueba	= -0.58
Valor Residual	= 0.00
Canal	F21



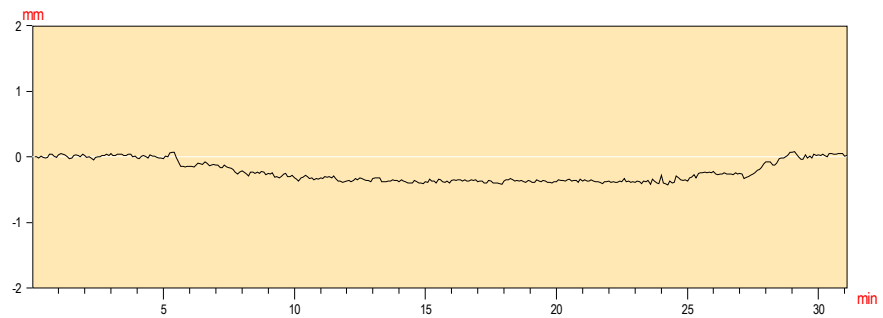
Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.00
Valor de Prueba	= -7.85
Valor Residual	= 0.01
Canal	F22



Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.03
Valor de Prueba	= -7.22
Valor Residual	= -0.18
Canal	F23



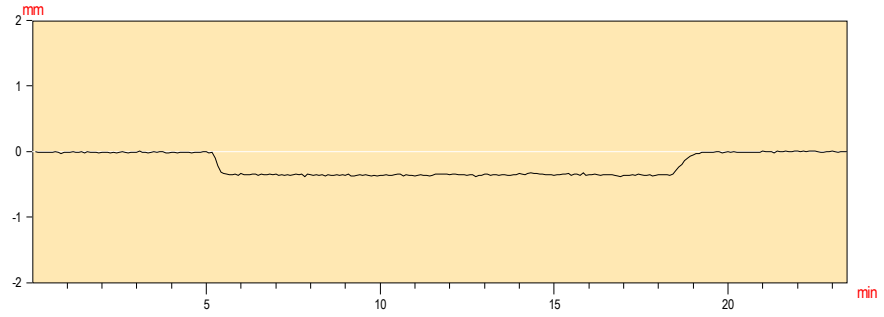
Prueba :	**HIPOTESIS 14**
Fecha :	23/12/06
Hora :	02:12:48
Valor Inicial	= 0.00
Valor de Prueba	= -0.33
Valor Residual	= 0.03
Canal	F24



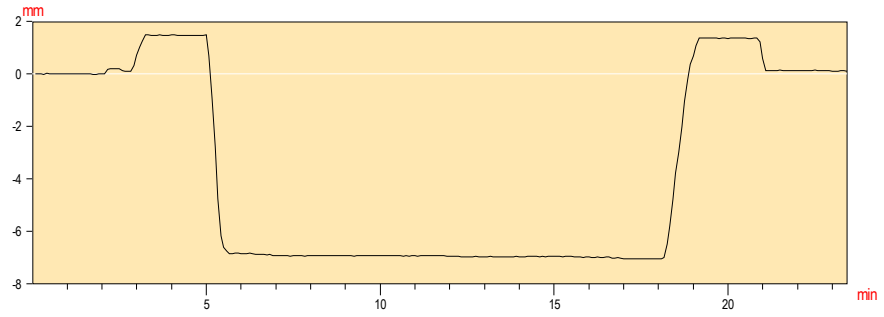
Prueba de carga de la Estructura : viaduct uic

Organismo : adif

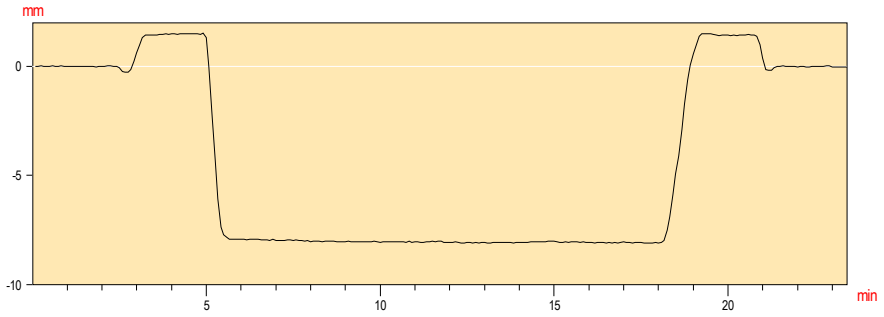
Prueba :	**HIPOTESIS 15**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= -0.02
Valor de Prueba	= -0.37
Valor Residual	= 0.00
Canal	F17



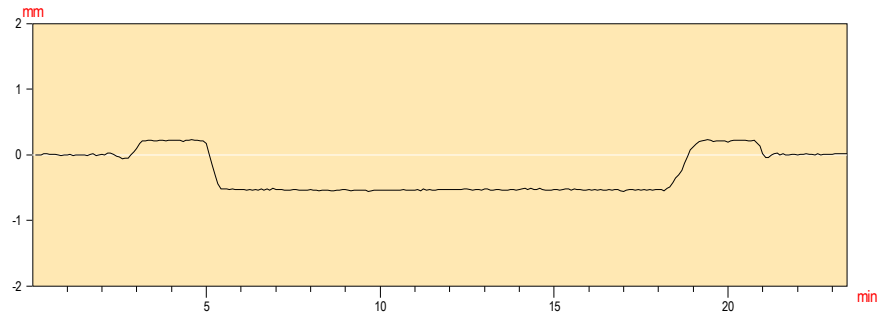
Prueba :	**HIPOTESIS 15.**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= -0.00
Valor de Prueba	= -6.94
Valor Residual	= 0.12
Canal	F18



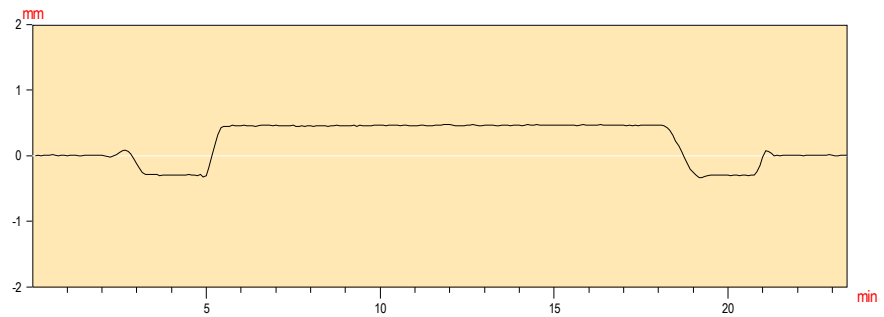
Prueba :	**HIPOTESIS 15.**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= 0.00
Valor de Prueba	= -8.03
Valor Residual	= -0.03
Canal	F19



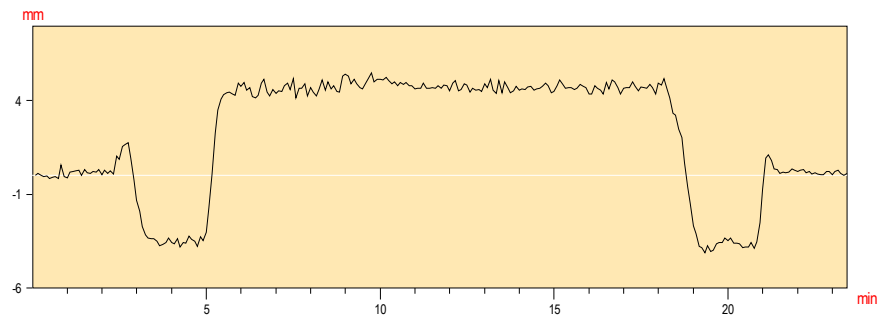
Prueba :	**HIPOTESIS 15.**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= -0.00
Valor de Prueba	= -0.55
Valor Residual	= 0.01
Canal	F20



Prueba :	**HIPOTESIS 15.**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= 0.00
Valor de Prueba	= 0.47
Valor Residual	= 0.00
Canal	F21



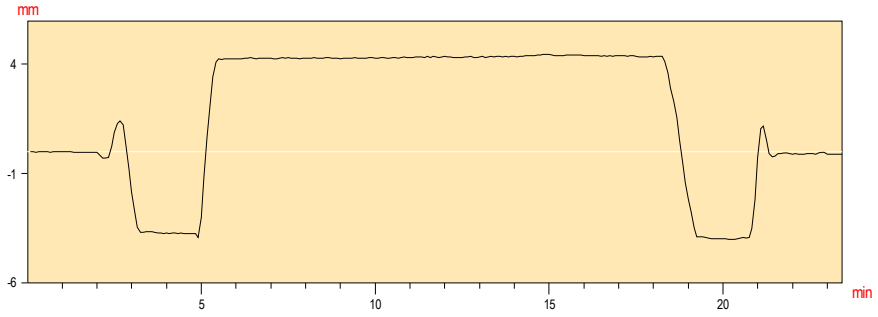
Prueba :	**HIPOTESIS 15**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= -0.15
Valor de Prueba	= 4.79
Valor Residual	= 0.17
Canal	F22



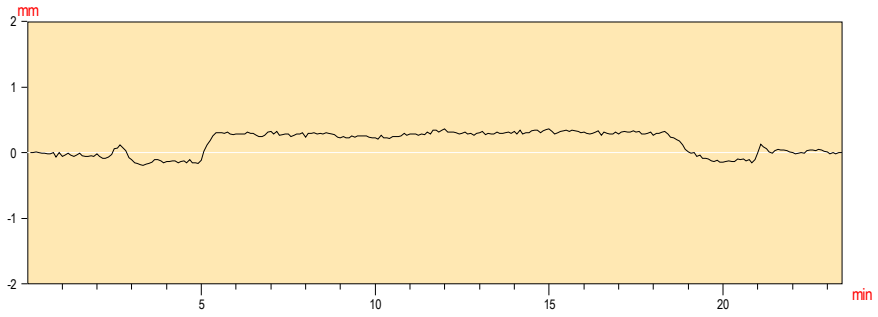
Prueba de carga de la Estructura : viaduct uic 2.cfg

Organismo : adif

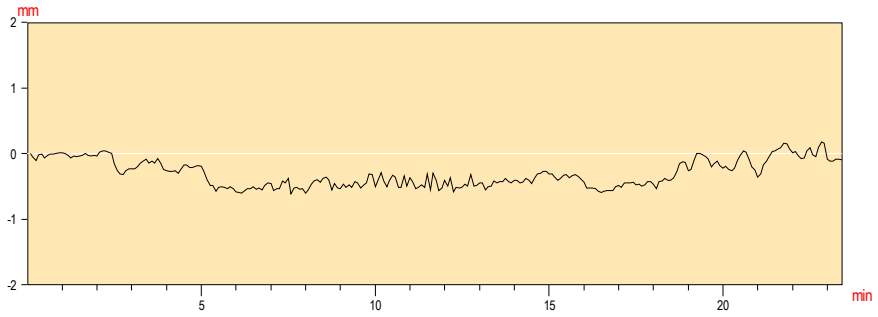
Prueba :	**HIPOTESIS 15**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= 0.00
Valor de Prueba	= 4.42
Valor Residual	= -0.12
Canal	F23



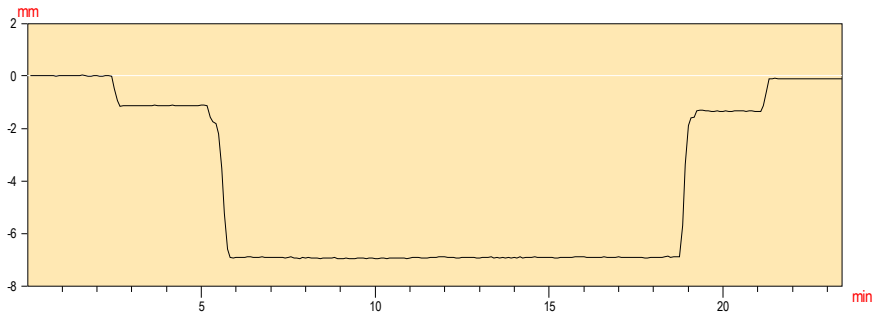
Prueba :	**HIPOTESIS 15**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= 0.00
Valor de Prueba	= 0.30
Valor Residual	= -0.02
Canal	F24



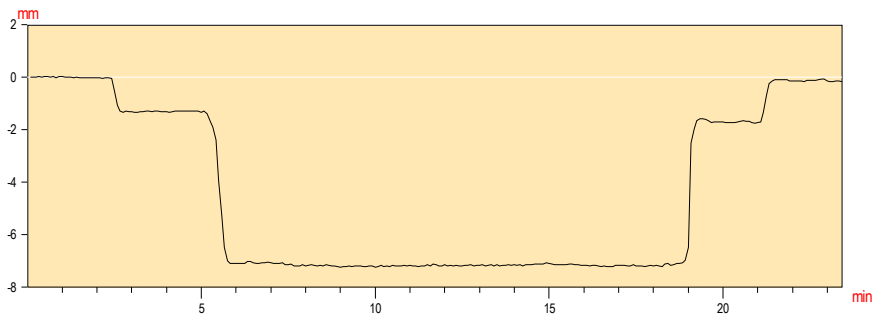
Prueba :	**HIPOTESIS 15**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= 0.00
Valor de Prueba	= -0.56
Valor Residual	= 0.09
Canal	F25



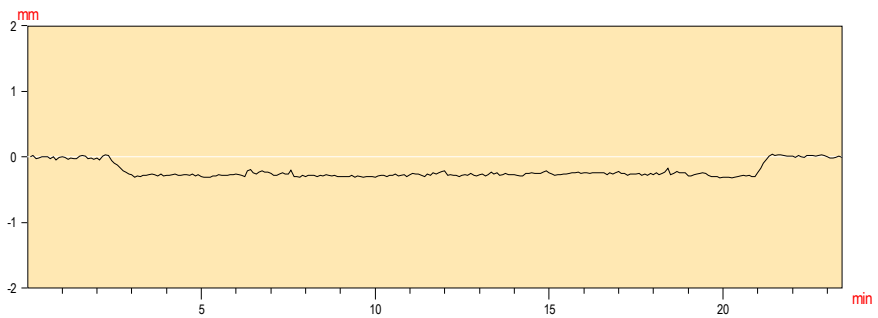
Prueba :	**HIPOTESIS 15**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= 0.00
Valor de Prueba	= -6.92
Valor Residual	= -0.11
Canal	F26



Prueba :	**HIPOTESIS 15**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= 0.00
Valor de Prueba	= -7.24
Valor Residual	= -0.08
Canal	F27



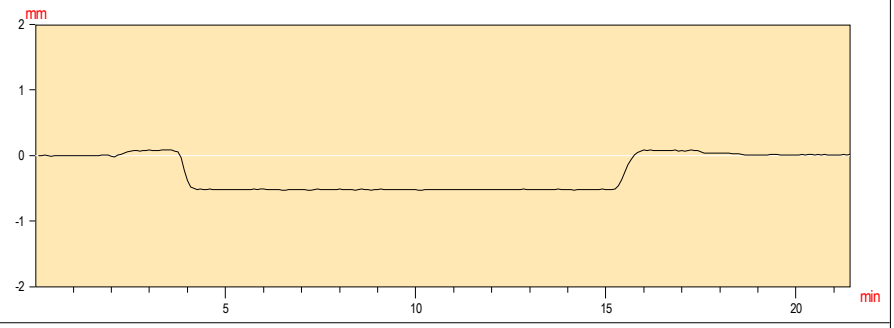
Prueba :	**HIPOTESIS 15**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= 0.00
Valor de Prueba	= -0.31
Valor Residual	= 0.00
Canal	F28



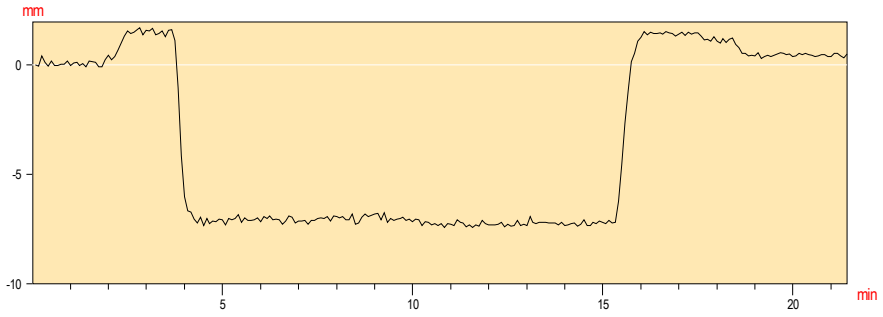
Prueba de carga de la Estructura : viaduct uic

Organismo : adif

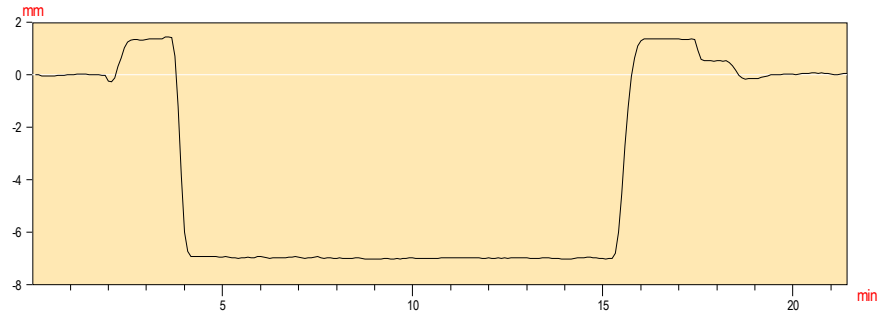
Prueba :	**HIPOTESIS 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= -0.00
Valor de Prueba	= -0.52
Valor Residual	= 0.01
Canal	F21



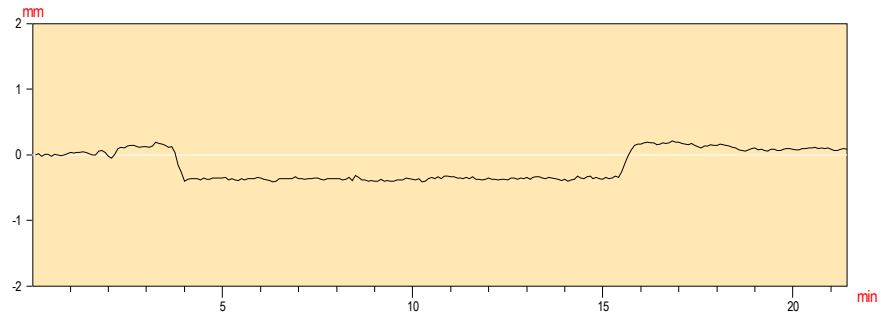
Prueba :	**HIPOTESIS 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.04
Valor de Prueba	= -7.10
Valor Residual	= 0.41
Canal	F22



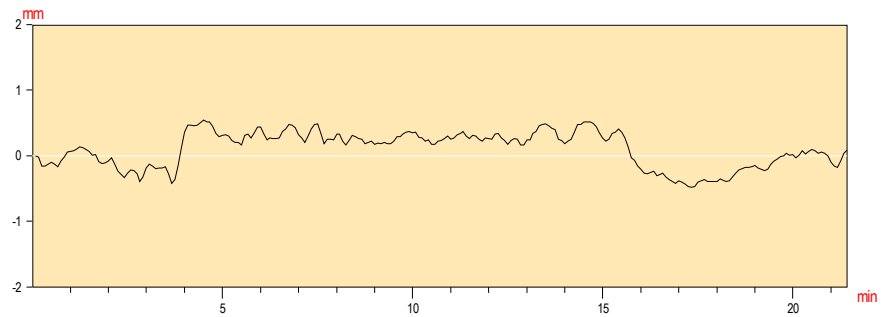
Prueba :	**HIPOTESIS 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.02
Valor de Prueba	= -7.00
Valor Residual	= 0.02
Canal	F23



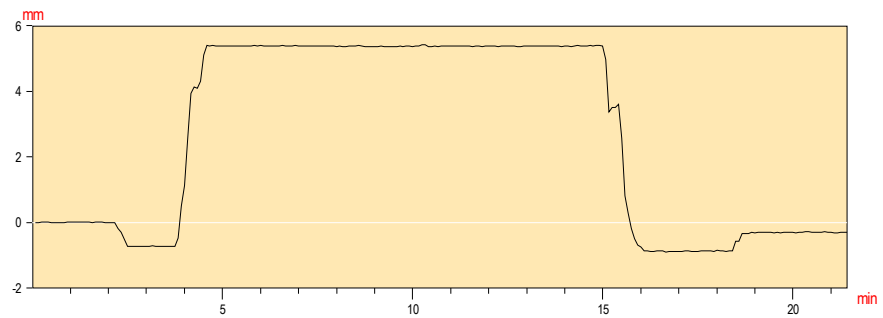
Prueba :	**HIPOTESIS 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.00
Valor de Prueba	= -0.37
Valor Residual	= 0.06
Canal	F24



Prueba :	**HIPOTESIS 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.00
Valor de Prueba	= 0.48
Valor Residual	= 0.04
Canal	F25



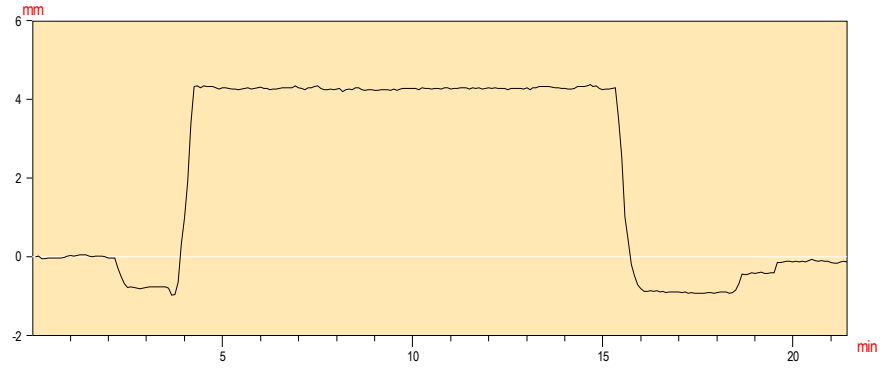
Prueba :	**HIPOTESIS 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.00
Valor de Prueba	= 5.38
Valor Residual	= -0.30
Canal	F26



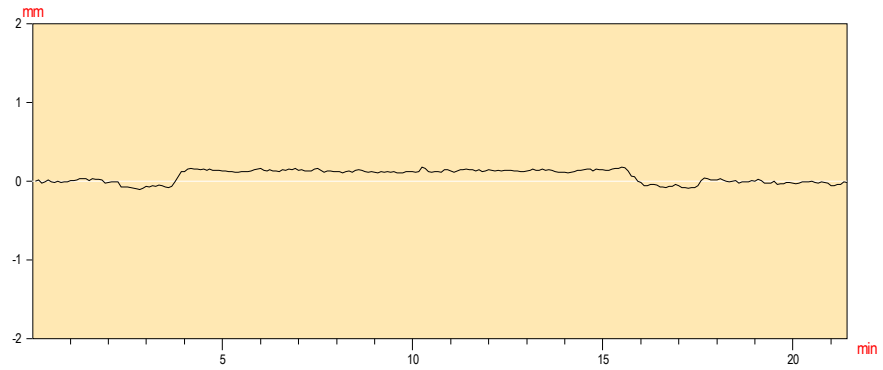
Prueba de carga de la Estructura : viaduct uic 2.cfg

Organismo : adif

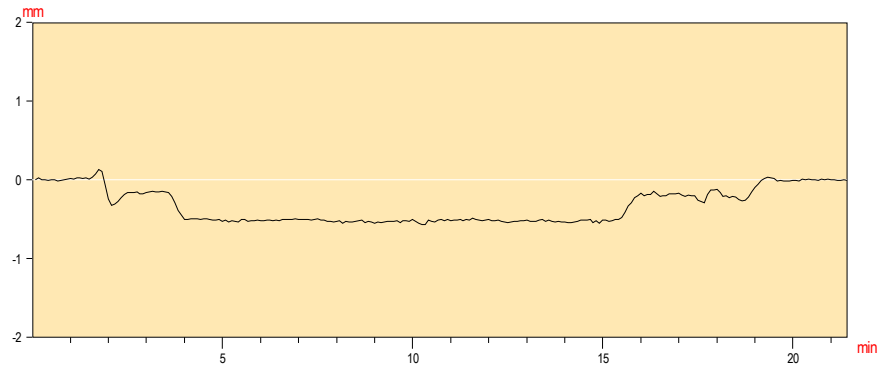
Prueba :	**HIPOTESIS 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.00
Valor de Prueba	= 4.30
Valor Residual	= -0.07
Canal	27



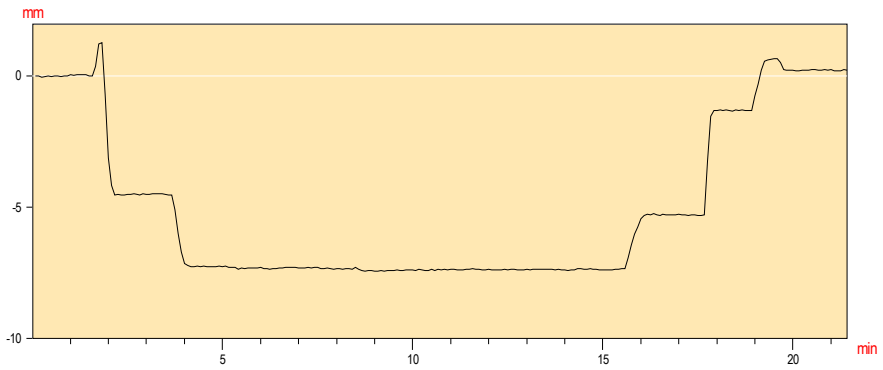
Prueba :	**HIPOTESIS 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.00
Valor de Prueba	= 0.12
Valor Residual	= 0.00
Canal	F28



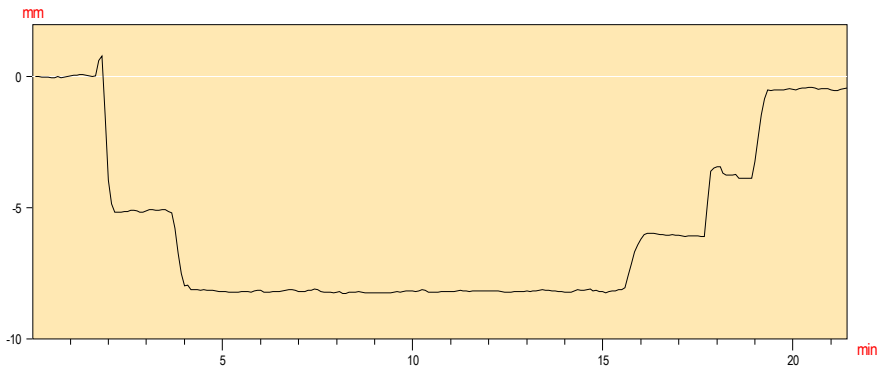
Prueba :	**HIPOTESIS 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.00
Valor de Prueba	= -0.57
Valor Residual	= -0.00
Canal	F29



Prueba :	**HIPOTESIS 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.00
Valor de Prueba	= -7.41
Valor Residual	= 0.23
Canal	F30



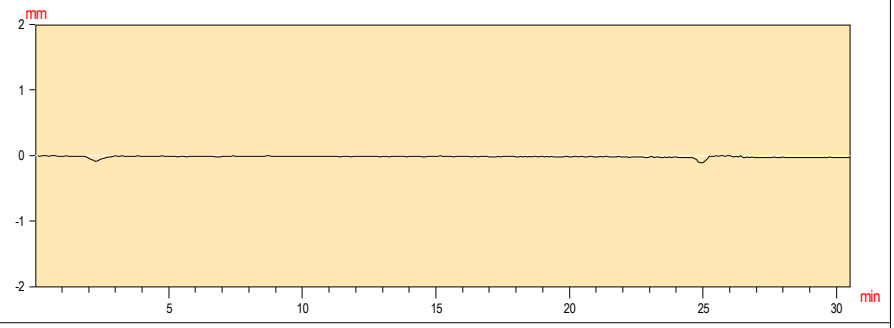
Prueba :	**HIPOTESIS 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.00
Valor de Prueba	= -8.22
Valor Residual	= -0.42
Canal	F31



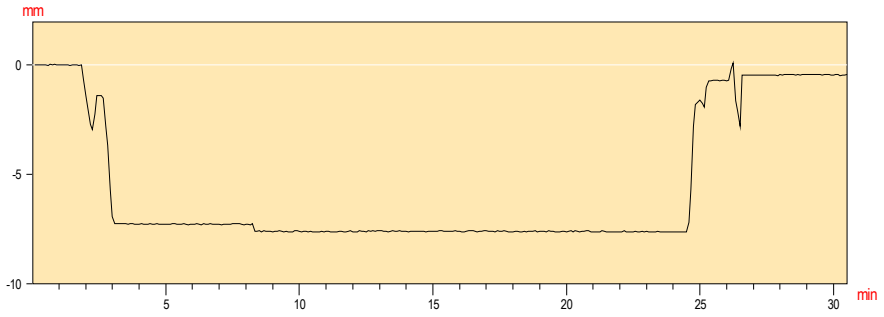
Prueba de carga de la Estructura : viaducto uic 3.cfg

Organismo : adif

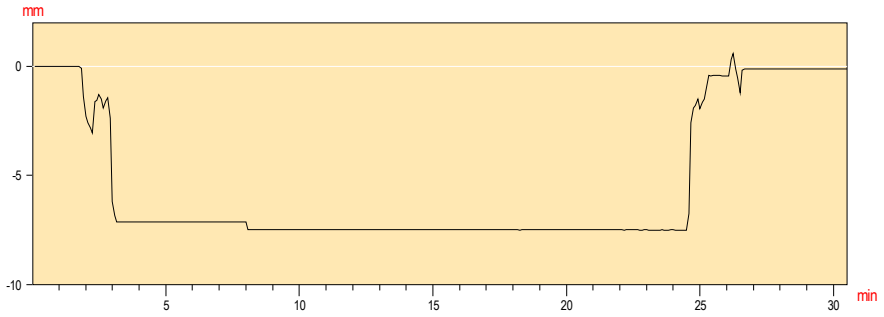
Prueba :	**HIPOTESIS 17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.00
Valor de Prueba	= -0.11
Valor Residual	= -0.02
Canal	F25



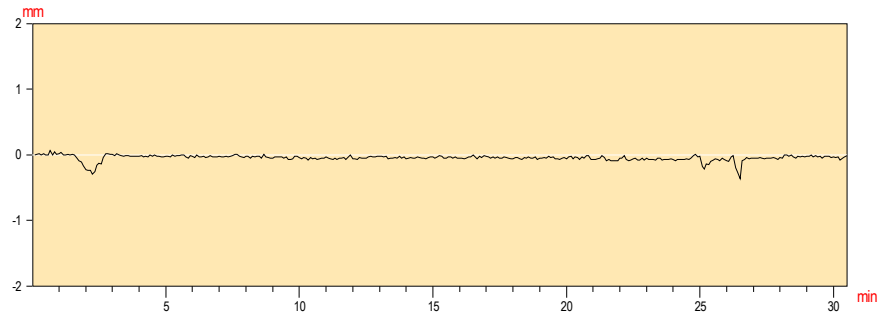
Prueba :	**HIPOTESIS 17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.00
Valor de Prueba	= -7.60
Valor Residual	= -0.44
Canal	F26



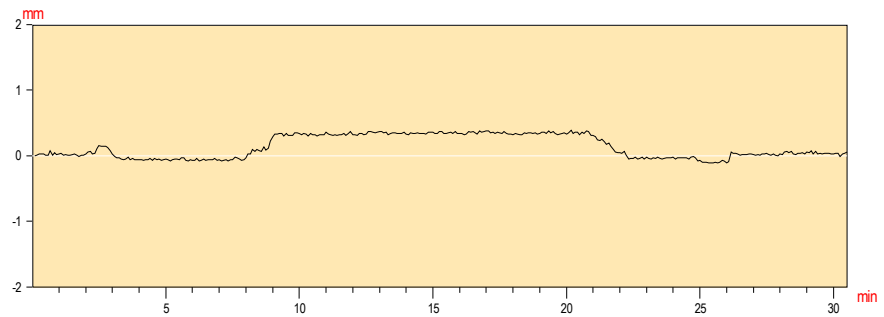
Prueba :	**HIPOTESIS 17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.00
Valor de Prueba	= -7.48
Valor Residual	= -0.13
Canal	F27



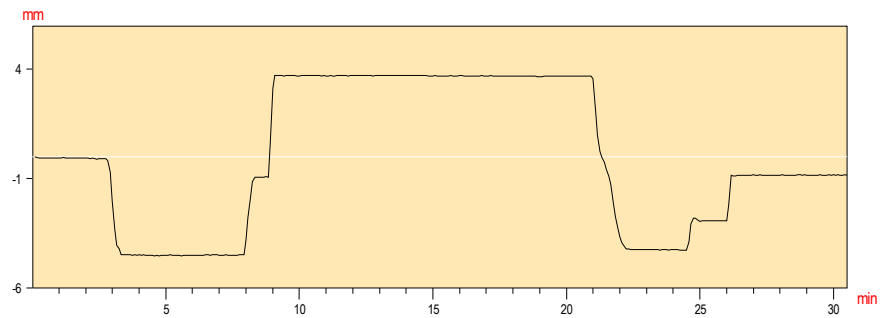
Prueba :	**HIPOTESIS 17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.00
Valor de Prueba	= -0.02
Valor Residual	= 0.00
Canal	F28



Prueba :	**HIPOTESIS 17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.00
Valor de Prueba	= 0.10
Valor Residual	= 0.03
Canal	F29



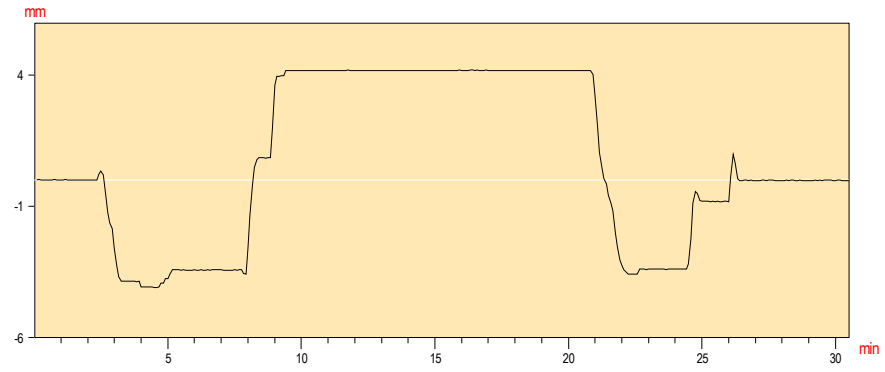
Prueba :	**HIPOTESIS 17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= -0.06
Valor de Prueba	= 3.89
Valor Residual	= -0.84
Canal	F30



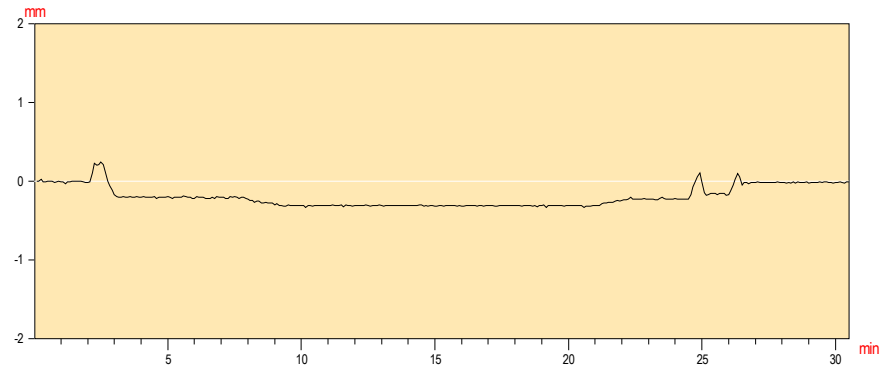
Prueba de carga de la Estructura : viaducto uic 3.cfg

Organismo : adif

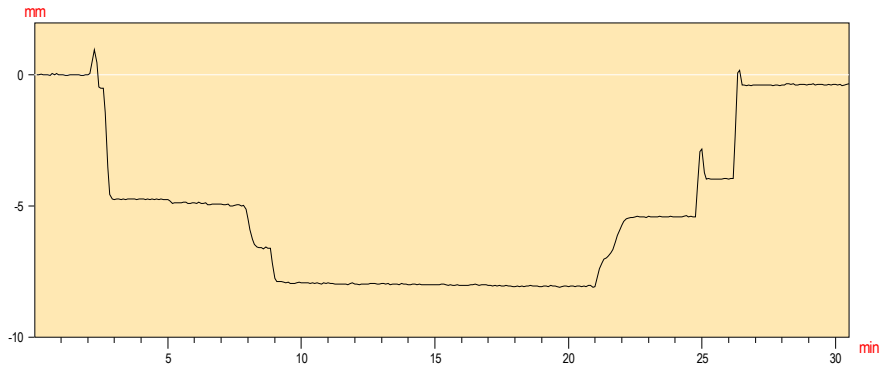
Prueba :	**HIPOTESIS 17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.02
Valor de Prueba	= 4.27
Valor Residual	= -0.01
Canal	F31



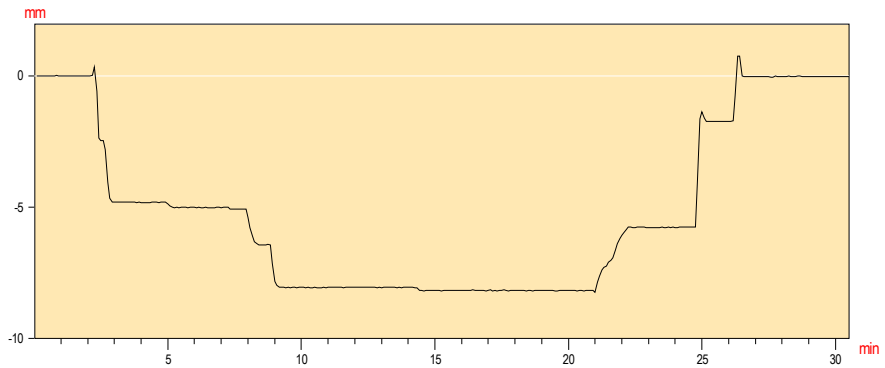
Prueba :	**HIPOTESIS 17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.00
Valor de Prueba	= -0.31
Valor Residual	= -0.01
Canal	F32



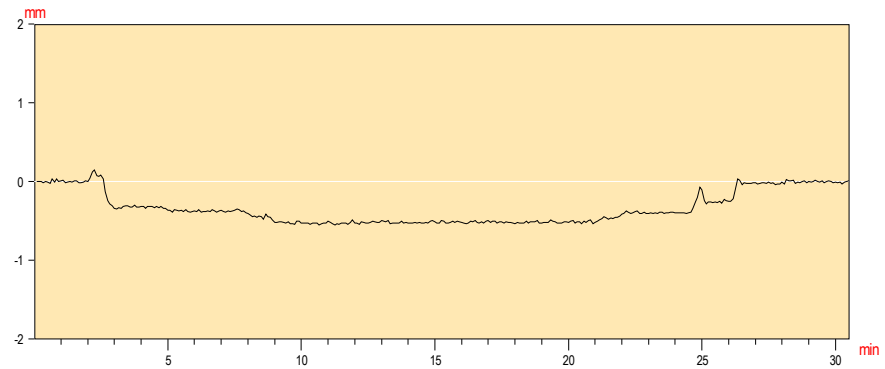
Prueba :	**HIPOTESIS 17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= -0.00
Valor de Prueba	= -8.00
Valor Residual	= -0.37
Canal	F33



Prueba :	**HIPOTESIS 17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= -0.00
Valor de Prueba	= -8.19
Valor Residual	= -0.03
Canal	F34



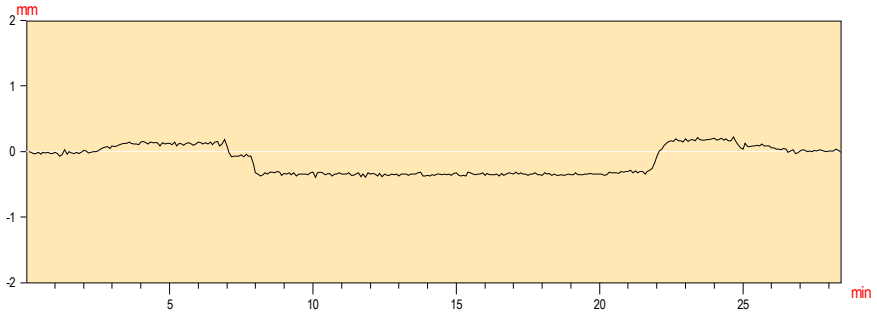
Prueba :	**HIPOTESIS 17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.00
Valor de Prueba	= -0.52
Valor Residual	= -0.00
Canal	F35



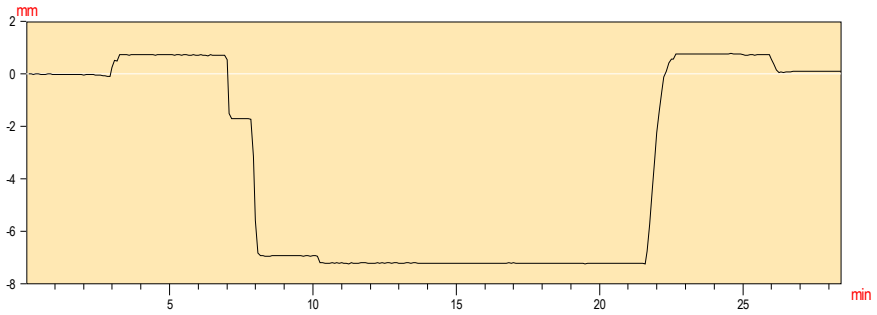
Prueba de carga de la Estructura : viaducto uic 3.cfg

Organismo : adif

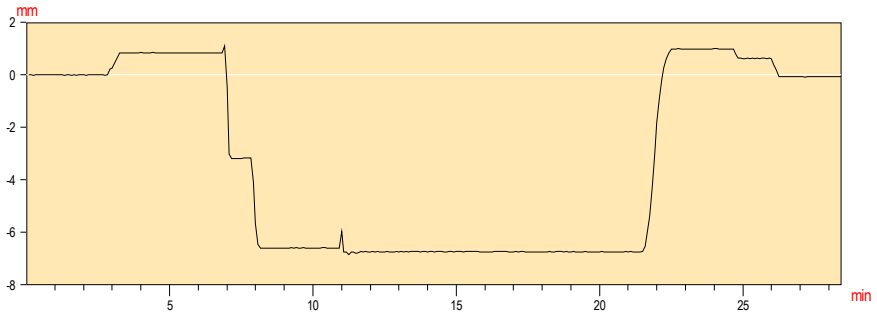
Prueba :	**HIPOTESIS 18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.00
Valor de Prueba	= -0.37
Valor Residual	= 0.02
Canal	F29



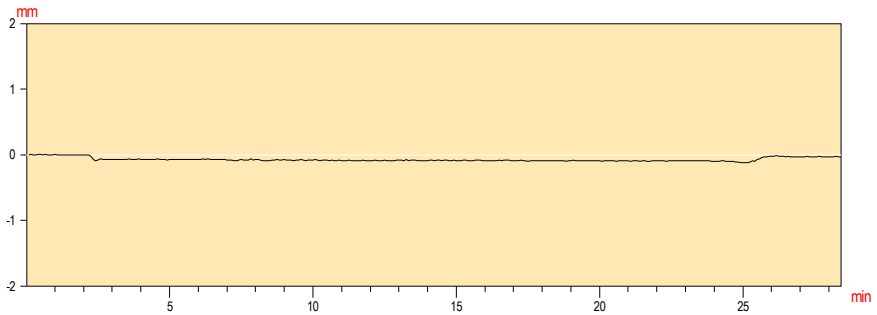
Prueba :	**HIPOTESIS 18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.00
Valor de Prueba	= -7.21
Valor Residual	= 0.10
Canal	F30



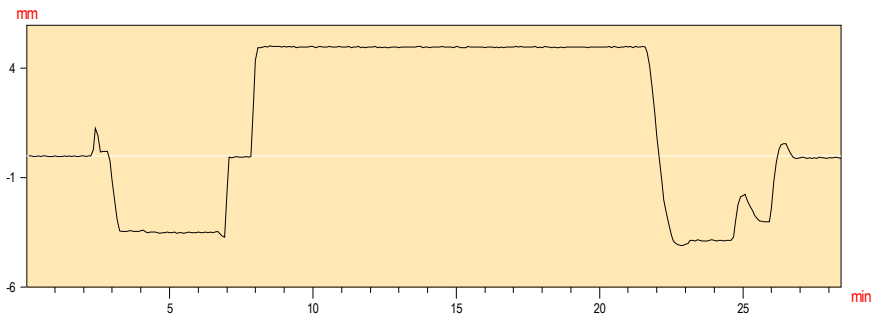
Prueba :	**HIPOTESIS 18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.00
Valor de Prueba	= -6.73
Valor Residual	= -0.07
Canal	F31



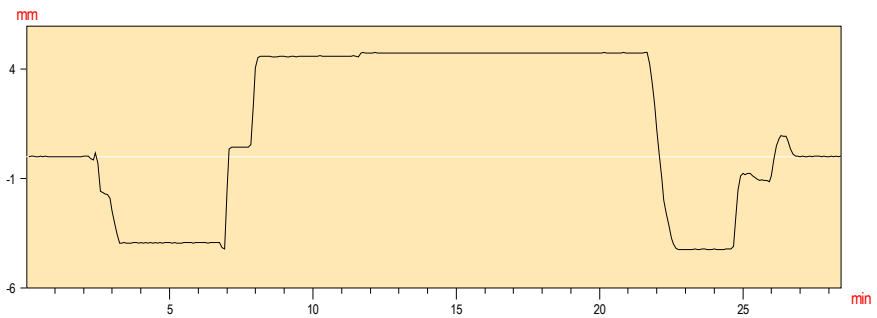
Prueba :	**HIPOTESIS 18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.00
Valor de Prueba	= -0.10
Valor Residual	= -0.03
Canal	F32



Prueba :	**HIPOTESIS 18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= -0.04
Valor de Prueba	= 4.98
Valor Residual	= -0.11
Canal	F33



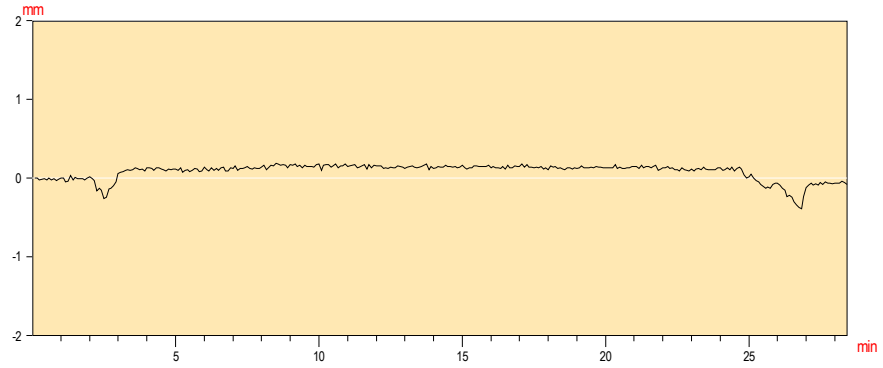
Prueba :	**HIPOTESIS 18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.02
Valor de Prueba	= 4.75
Valor Residual	= 0.02
Canal	F34



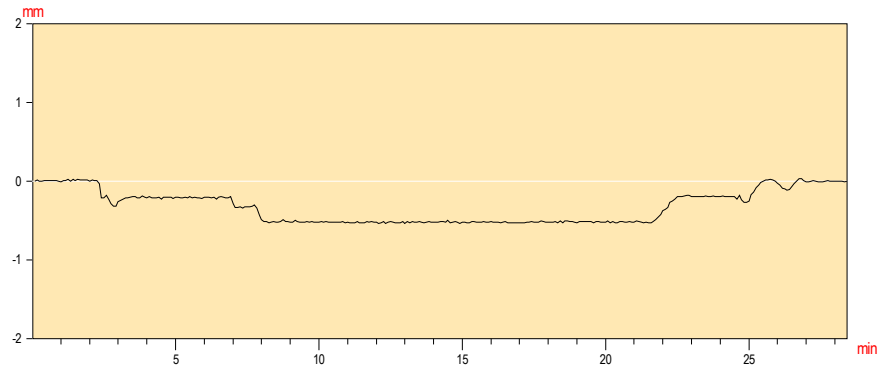
Prueba de carga de la Estructura : viaducto uic 3.cfg

Organismo : adif

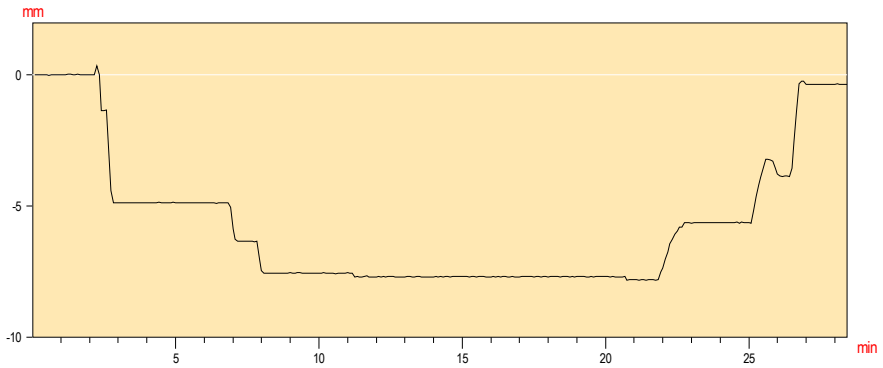
Prueba :	**HIPOTESIS 18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.00
Valor de Prueba	= 0.14
Valor Residual	= -0.08
Canal	F35



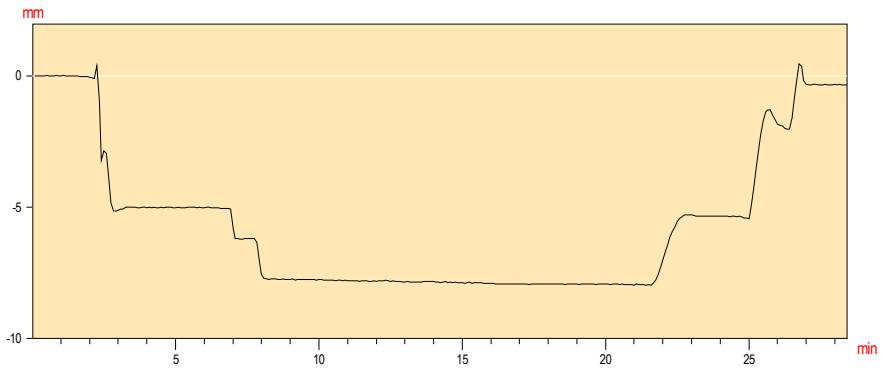
Prueba :	**HIPOTESIS 18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.00
Valor de Prueba	= -0.53
Valor Residual	= 0.01
Canal	F36



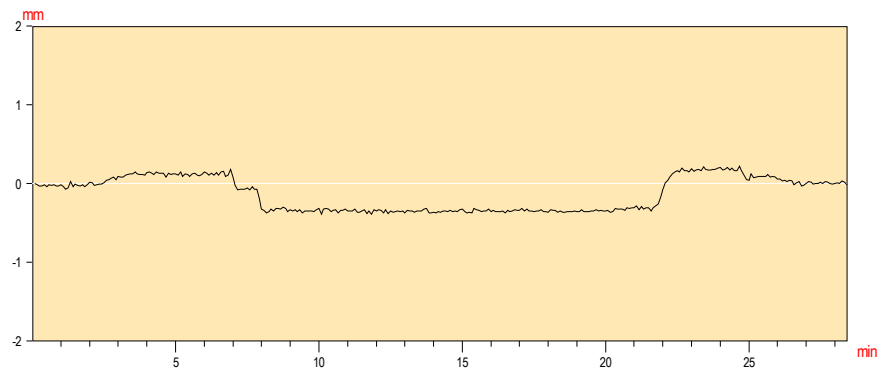
Prueba :	**HIPOTESIS 18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.01
Valor de Prueba	= -7.81
Valor Residual	= -0.37
Canal	F37



Prueba :	**HIPOTESIS 18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.02
Valor de Prueba	= -7.96
Valor Residual	= -0.35
Canal	F38



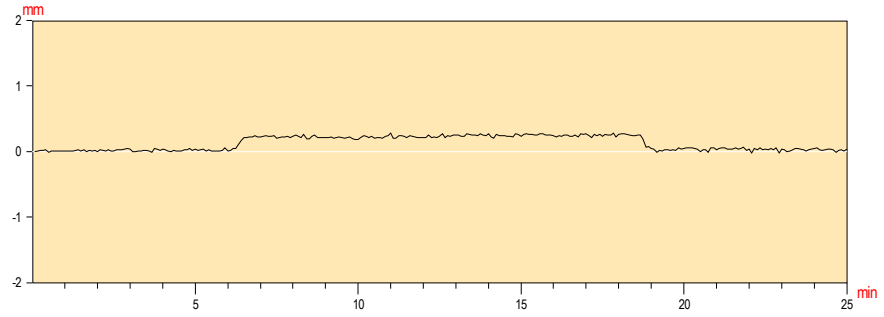
Prueba :	**HIPOTESIS 18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.00
Valor de Prueba	= -0.35
Valor Residual	= 0.00
Canal	F39



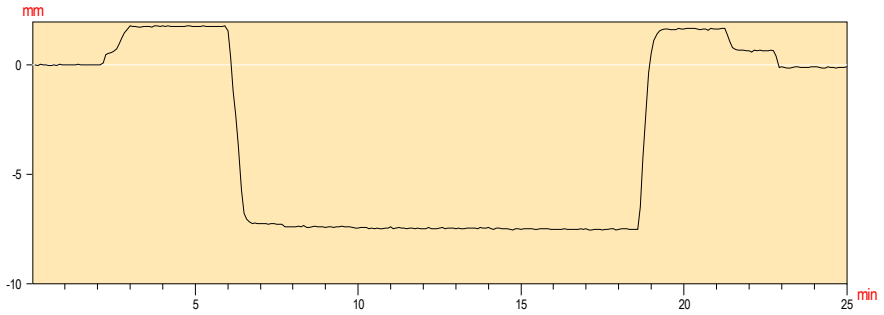
Prueba de carga de la Estructura : viaducto uic

Organismo : adif

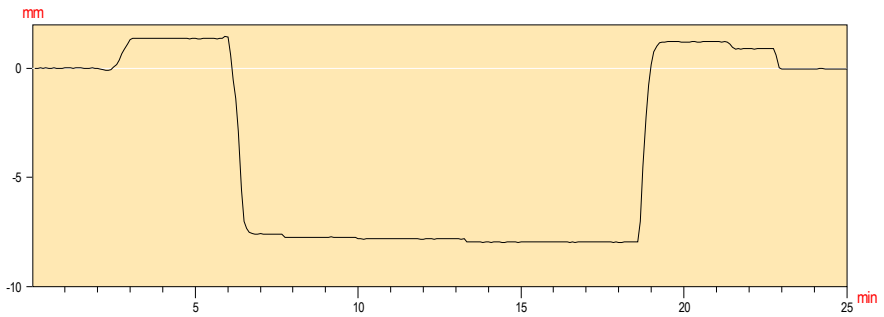
Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.01
Valor de Prueba	= 0.20
Valor Residual	= 0.03
Canal	F34



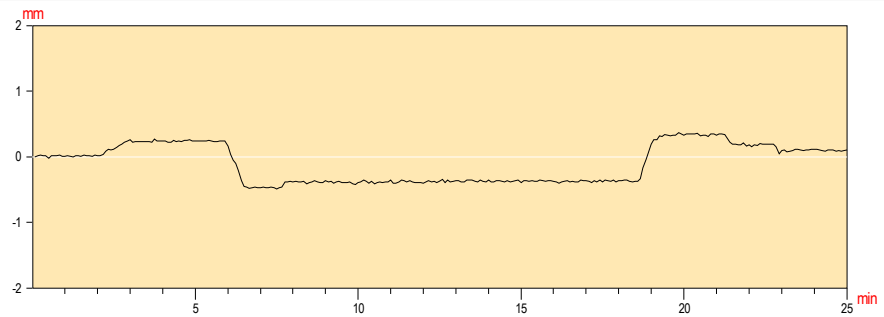
Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.03
Valor de Prueba	= -7.47
Valor Residual	= -0.13
Canal	F35



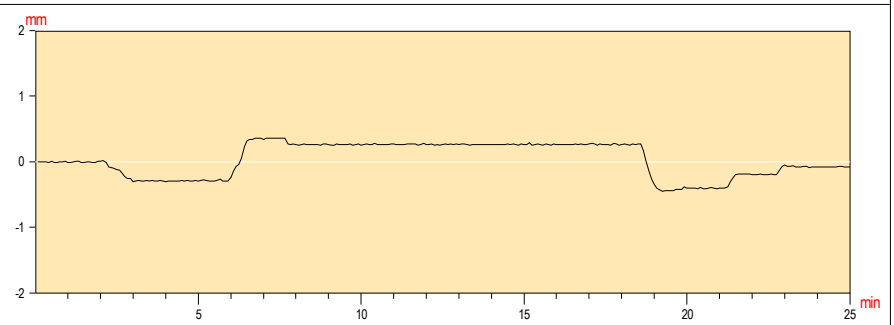
Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.01
Valor de Prueba	= -7.81
Valor Residual	= -0.04
Canal	F36



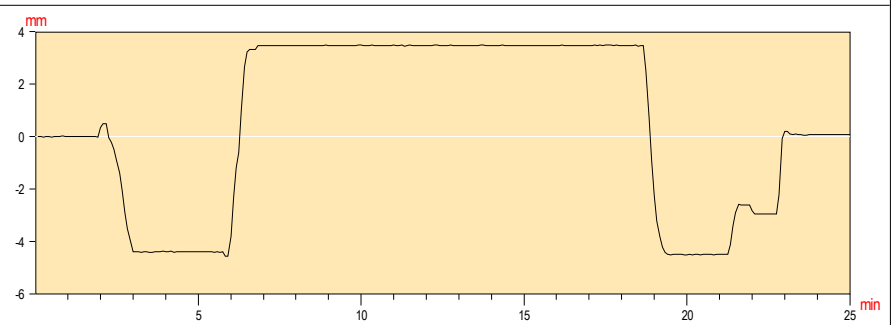
Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.02
Valor de Prueba	= -0.36
Valor Residual	= 0.10
Canal	F37



Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= -0.01
Valor de Prueba	= 0.26
Valor Residual	= -0.07
Canal	F38



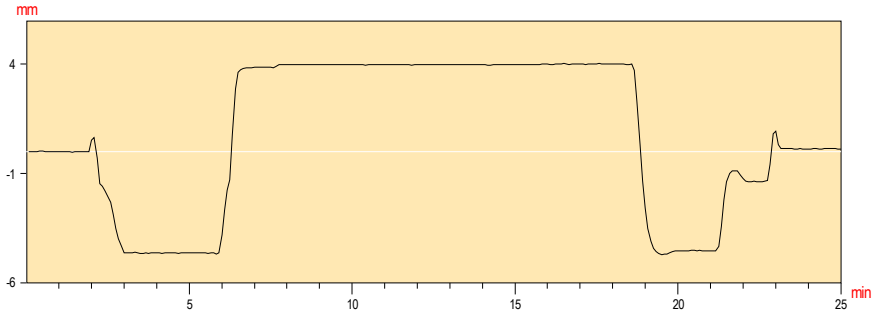
Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= -0.01
Valor de Prueba	= 3.47
Valor Residual	= 0.08
Canal	F39



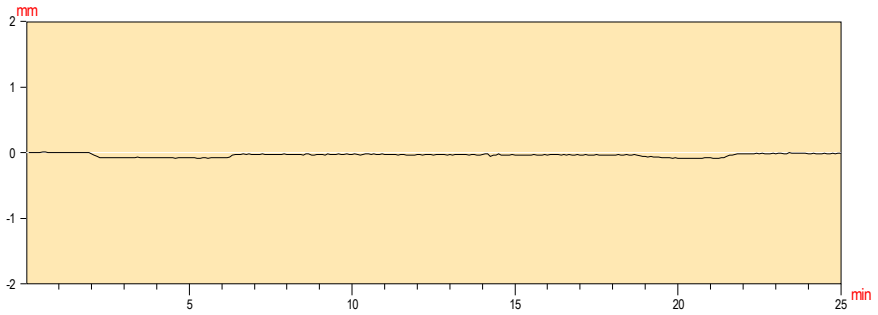
Prueba de carga de la Estructura : viaducto uic

Organismo : adif

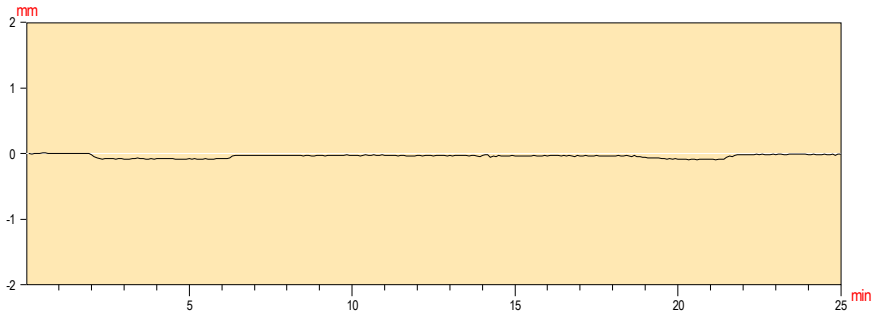
Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= -0.01
Valor de Prueba	= 3.96
Valor Residual	= 0.14
Canal	F40



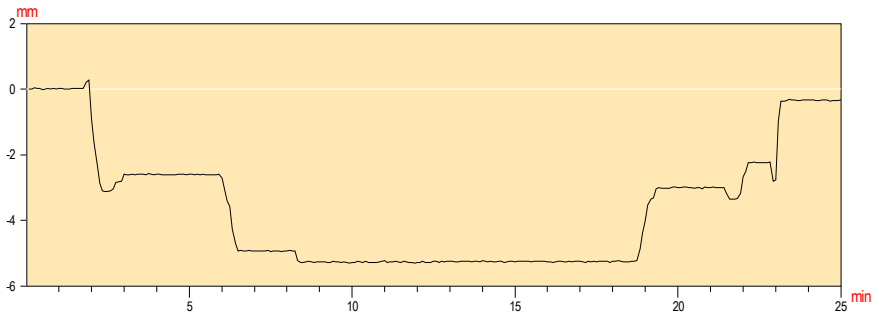
Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.00
Valor de Prueba	= -0.03
Valor Residual	= -0.01
Canal	F41



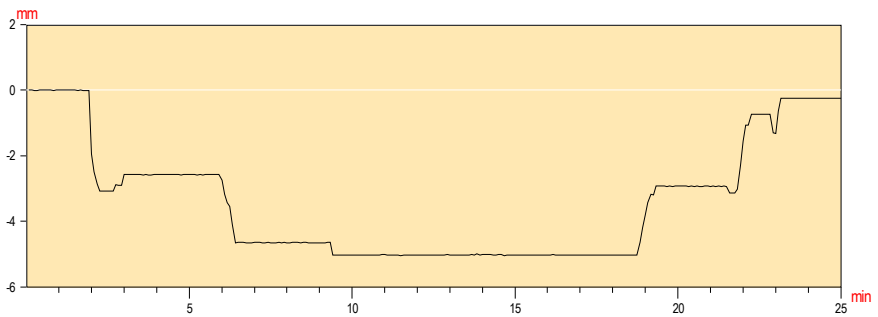
Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.00
Valor de Prueba	= -0.02
Valor Residual	= -0.01
Canal	F42



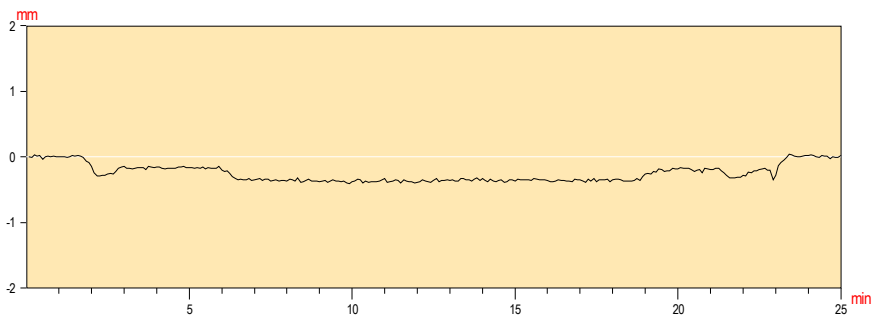
Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.01
Valor de Prueba	= -5.25
Valor Residual	= -0.34
Canal	F43



Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.00
Valor de Prueba	= -5.02
Valor Residual	= -0.24
Canal	F44



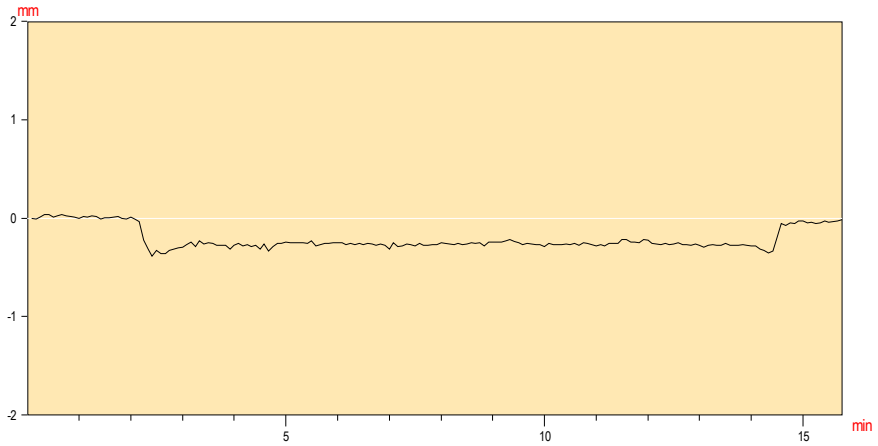
Prueba :	**HIPOTESIS 19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.00
Valor de Prueba	= -0.32
Valor Residual	= -0.01
Canal	F45



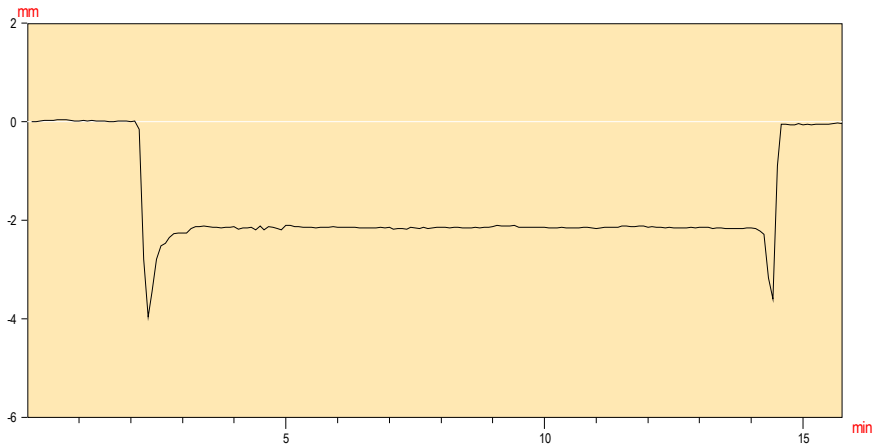
Prueba de carga de la Estructura : viaduc uic1

Organismo : ADIF

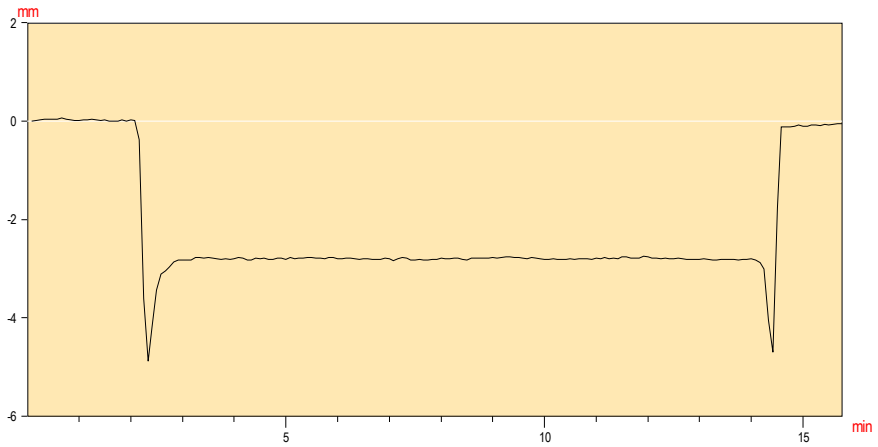
Prueba :	**HIPOTESIS 1**
Fecha :	29/12/2006
Hora :	15:31:58
Valor Inicial	= 0.03
Valor de Prueba	= -0.27
Valor Residual	= -0.03
Canal	F1



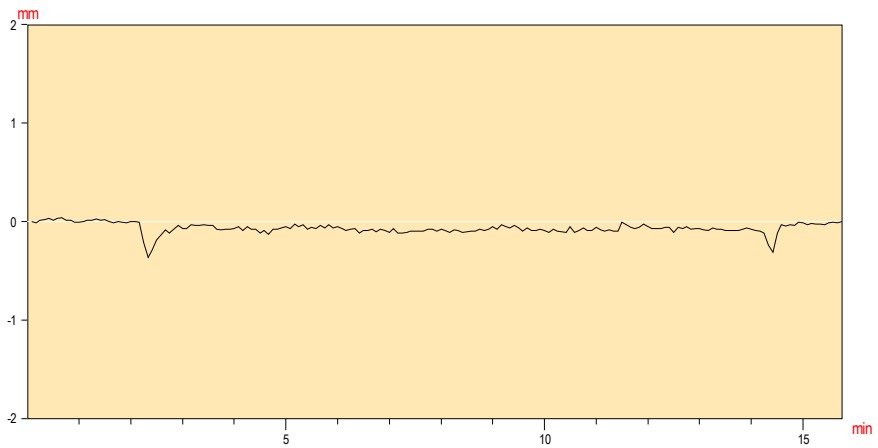
Prueba :	**HIPOTESIS 1**
Fecha :	29/12/20067
Hora :	15:31:58
Valor Inicial	= 0.03
Valor de Prueba	= -2.17
Valor Residual	= -0.03
Canal	F2



Prueba :	**HIPOTESIS 1**
Fecha :	29/12/2006
Hora :	15:31:58
Valor Inicial	= 0.02
Valor de Prueba	= -2.65
Valor Residual	= -0.07
Canal	F3



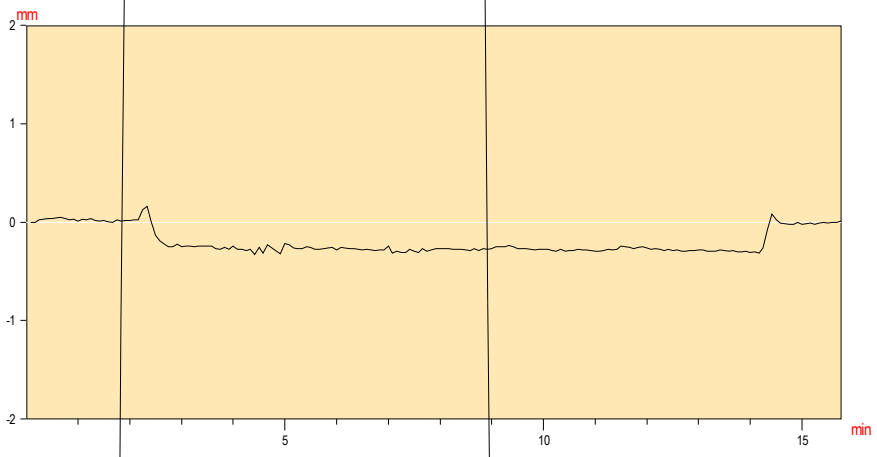
Prueba :	**HIPOTESIS 1**
Fecha :	29/12/2006
Hora :	15:31:58
Valor Inicial	= 0.02
Valor de Prueba	= -0.04
Valor Residual	= -0.01
Canal	F4



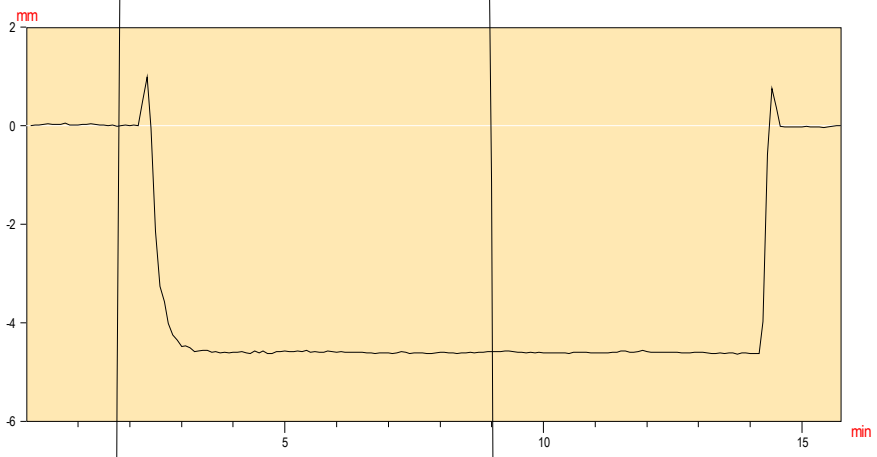
Prueba de carga de la Estructura : viaduc uic1

Organismo : ADIF

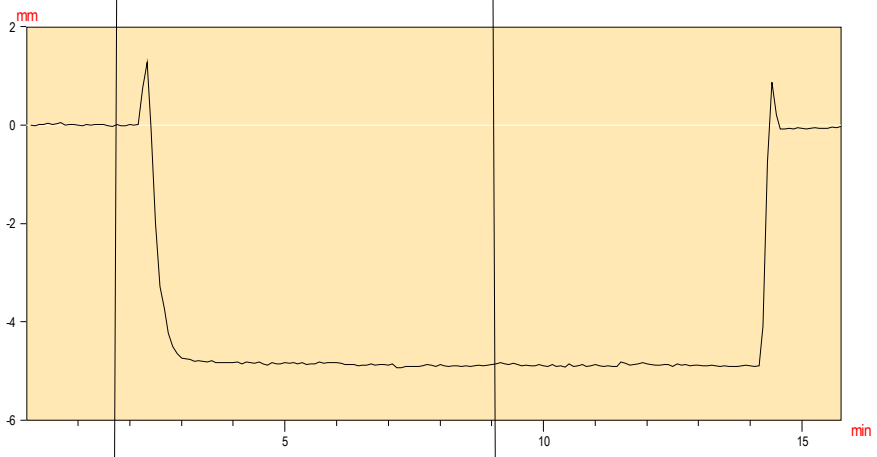
Prueba :	**HIPOTESIS 1**
Fecha :	29/12/2006
Hora :	15:31:58
Valor Inicial	= 0.02
Valor de Prueba	= -0.31
Valor Residual	= -0.00
Canal	F5



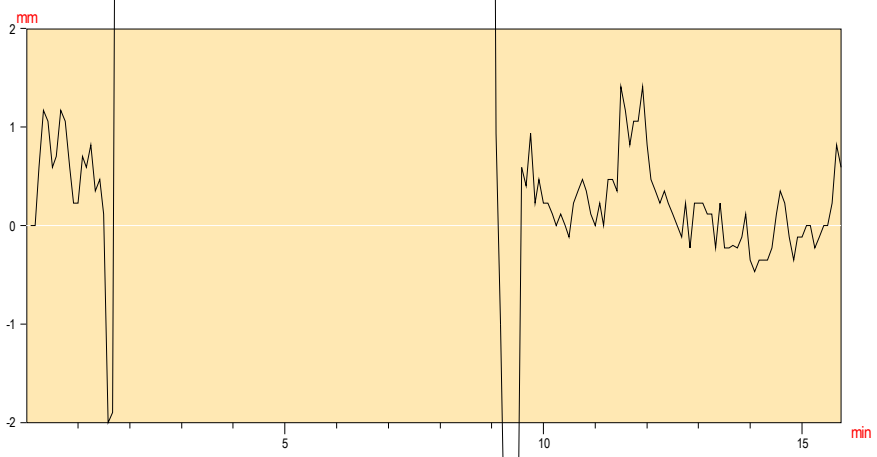
Prueba :	**HIPOTESIS 1**
Fecha :	29/12/2006
Hora :	15:31:58
Valor Inicial	= 0.04
Valor de Prueba	= -4.59
Valor Residual	= -0.02
Canal	F6



Prueba :	**HIPOTESIS 1**
Fecha :	29/12/2006
Hora :	15:31:58
Valor Inicial	= -0.01
Valor de Prueba	= -4.88
Valor Residual	= -0.08
Canal	F7



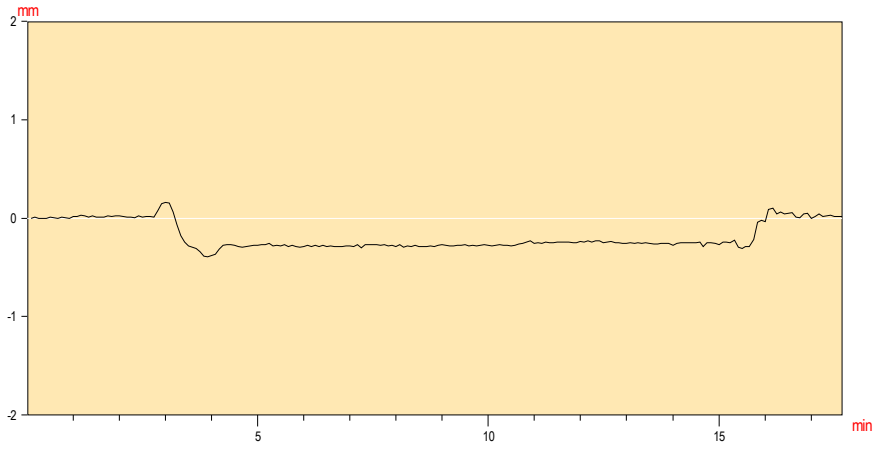
Prueba :	**HIPOTESIS 1**
Fecha :	29/12/2006
Hora :	15:31:58
Valor Inicial	= 0.00
Valor de Prueba	= -0.41
Valor Residual	= 0.00
Canal	F8



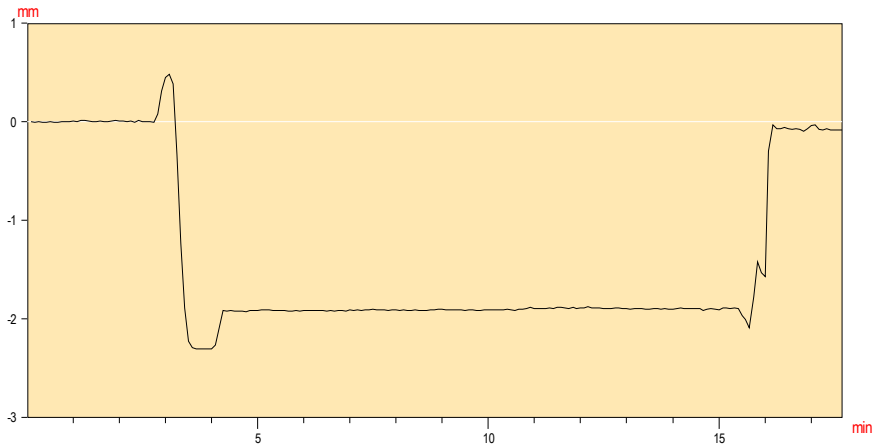
Prueba de carga de la Estructura : viaduc uic1

Organismo : ADIF

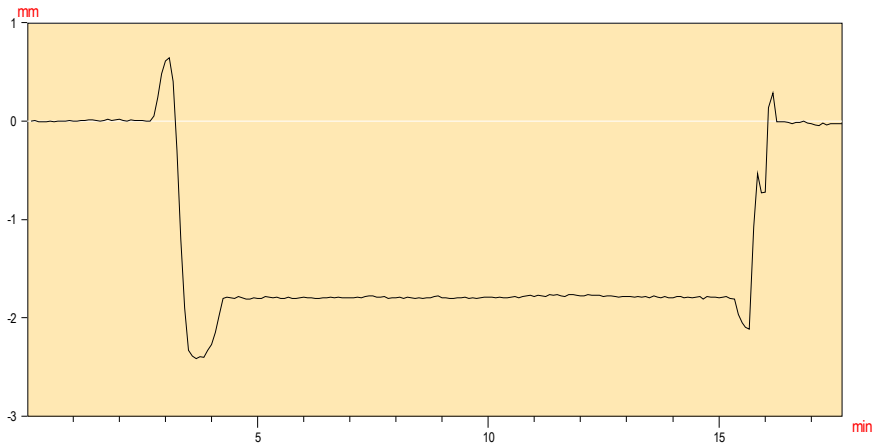
Prueba :	**HIPOTESIS 2**
Fecha :	29/12/2006
Hora :	15:58:55
Valor Inicial	= 0.00
Valor de Prueba	= -0.27
Valor Residual	= 0.02
Canal	F5



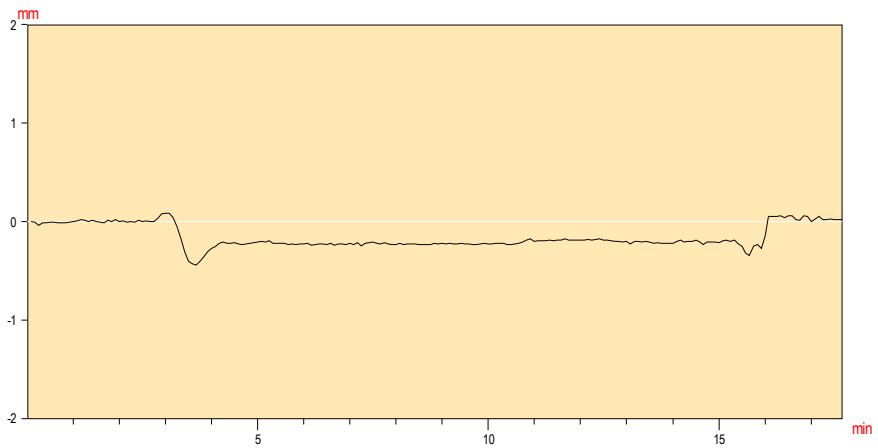
Prueba :	**HIPOTESIS 2**
Fecha :	29/12/2006
Hora :	15:58:55
Valor Inicial	= -0.01
Valor de Prueba	= -2.16
Valor Residual	= -0.16
Canal	F6



Prueba :	**HIPOTESIS 2**
Fecha :	29/12/2006
Hora :	15:58:55
Valor Inicial	= 0.00
Valor de Prueba	= -2.18
Valor Residual	= -0.06
Canal	F7



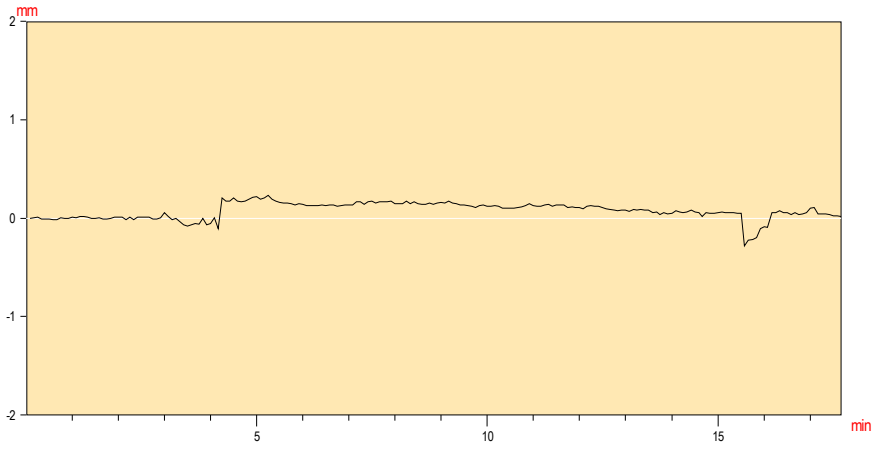
Prueba :	**HIPOTESIS 2**
Fecha :	29/12/2006
Hora :	15:58:55
Valor Inicial	= -0.01
Valor de Prueba	= -0.22
Valor Residual	= 0.02
Canal	F8



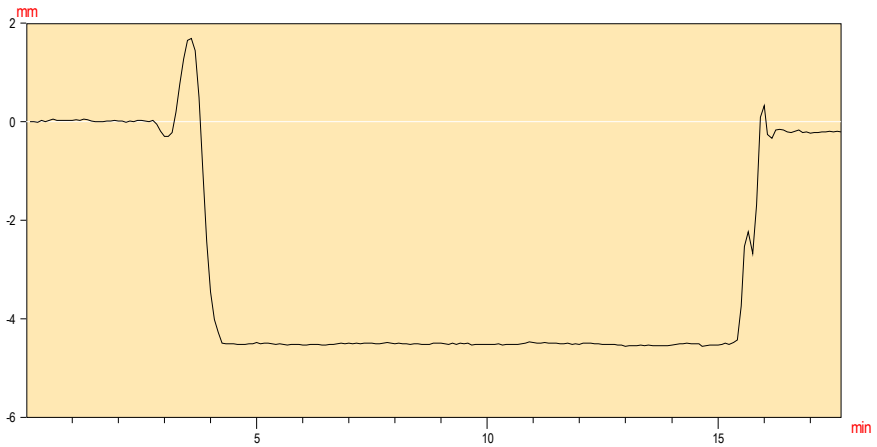
Prueba de carga de la Estructura : viaduc uic1

Organismo : ADIF

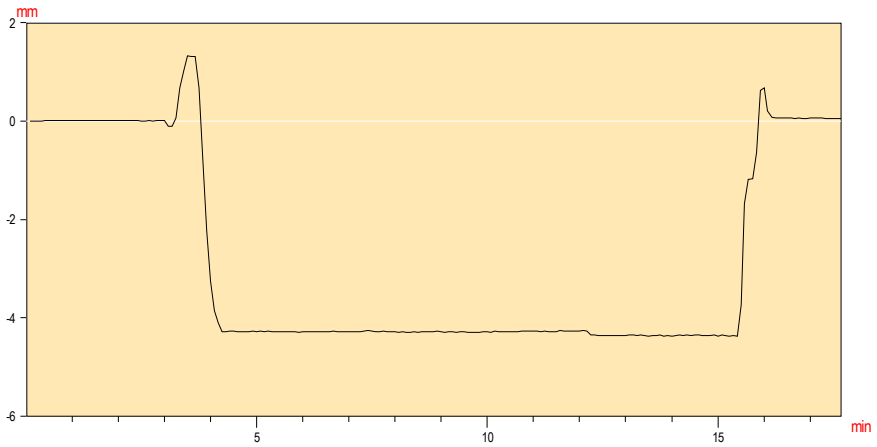
Prueba :	**HIPOTESIS 2**
Fecha :	29/12/2006
Hora :	15:58:55
Valor Inicial	= -0.02
Valor de Prueba	= 0.10
Valor Residual	= 0.02
Canal	F9



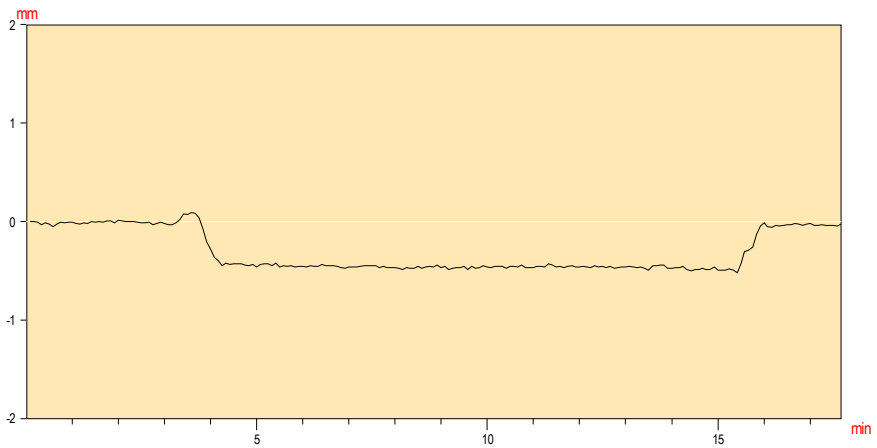
Prueba :	**HIPOTESIS 2**
Fecha :	29/12/2006
Hora :	15:58:55
Valor Inicial	= 0.03
Valor de Prueba	= -4.86
Valor Residual	= -0.19
Canal	F10



Prueba :	**HIPOTESIS 2**
Fecha :	29/12/2006
Hora :	15:58:55
Valor Inicial	= 0.00
Valor de Prueba	= -4.97
Valor Residual	= 0.06
Canal	F11



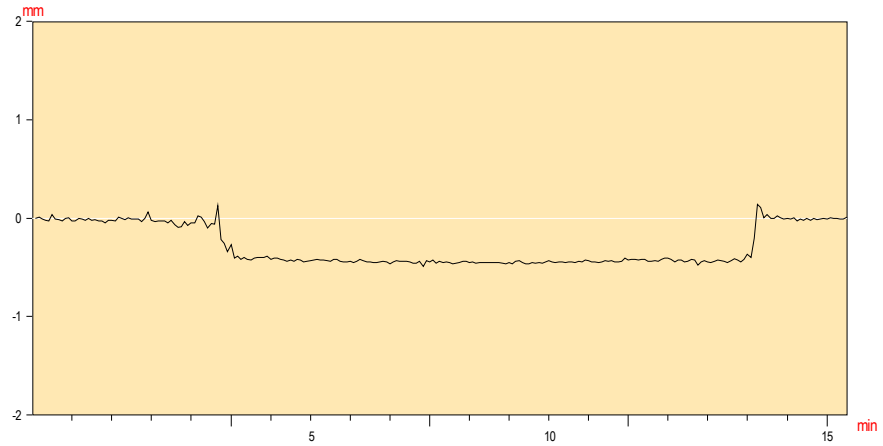
Prueba :	**HIPOTESIS 2**
Fecha :	29/12/2006
Hora :	15:58:55
Valor Inicial	= -0.02
Valor de Prueba	= -0.26
Valor Residual	= -0.04
Canal	F12



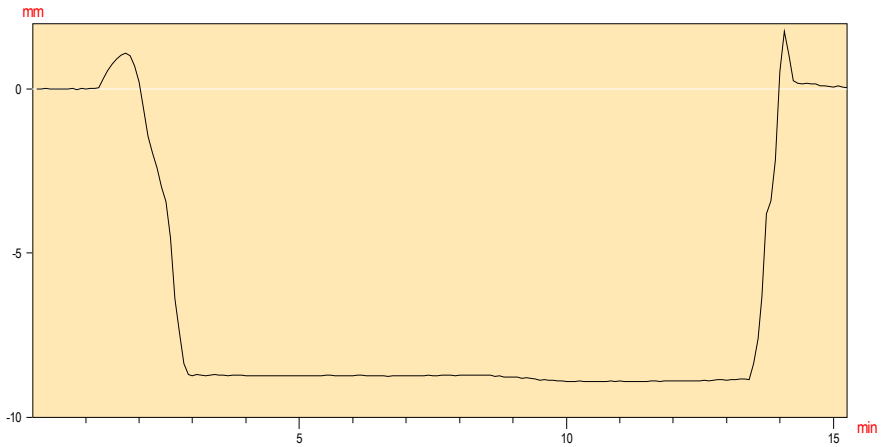
Prueba de carga de la Estructura : viaduc uic1

Organismo : ADIF

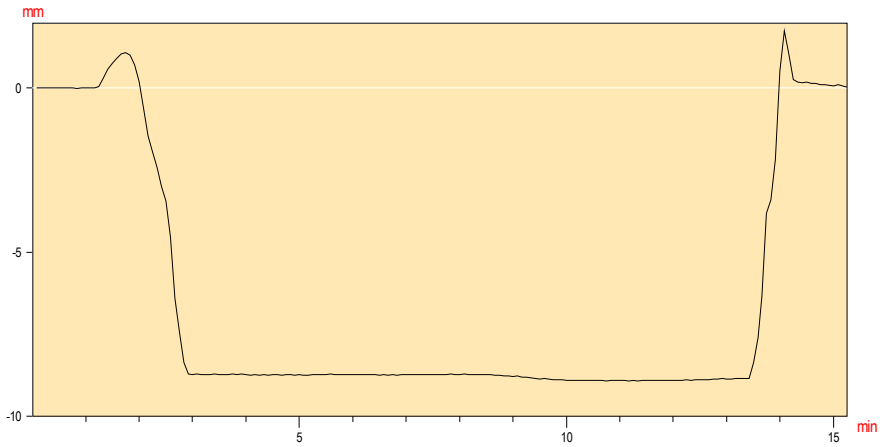
Prueba :	**HIPOTESIS 3**
Fecha :	29/12/06
Hora :	16:29:30
Valor Inicial	= -0.03
Valor de Prueba	= -0.45
Valor Residual	= -0.00
Canal	F9



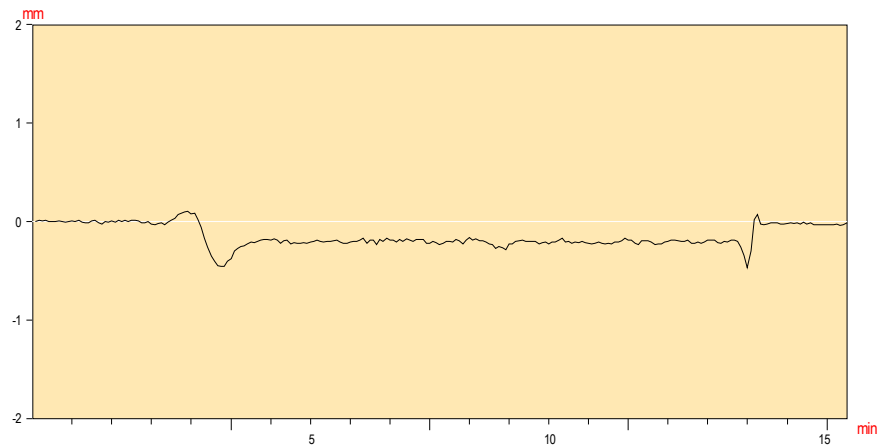
Prueba :	**HIPOTESIS 3**
Fecha :	29/12/06
Hora :	16:29:30
Valor Inicial	= 0.01
Valor de Prueba	= -8.91
Valor Residual	= 0.06
Canal	F10



Prueba :	**HIPOTESIS 3**
Fecha :	29/12/06
Hora :	16:29:30
Valor Inicial	= 0.00
Valor de Prueba	= -8.90
Valor Residual	= 0.06
Canal	F11



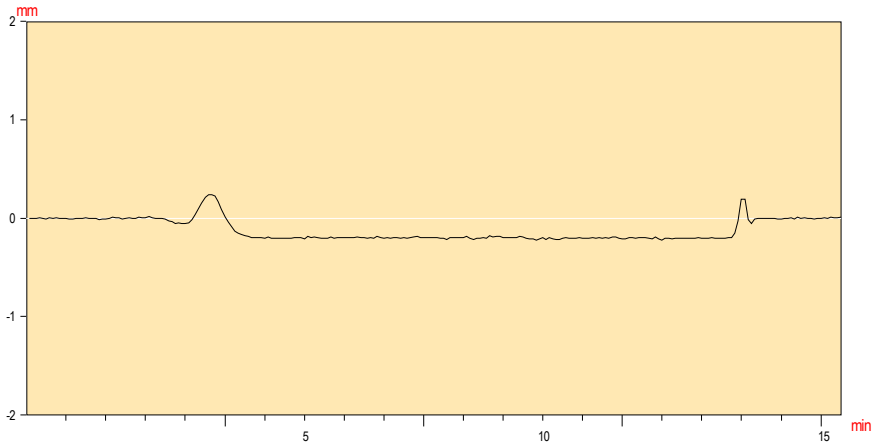
Prueba :	**HIPOTESIS 3**
Fecha :	29/12/06
Hora :	16:29:30
Valor Inicial	= 0.01
Valor de Prueba	= -0.17
Valor Residual	= -0.03
Canal	F12



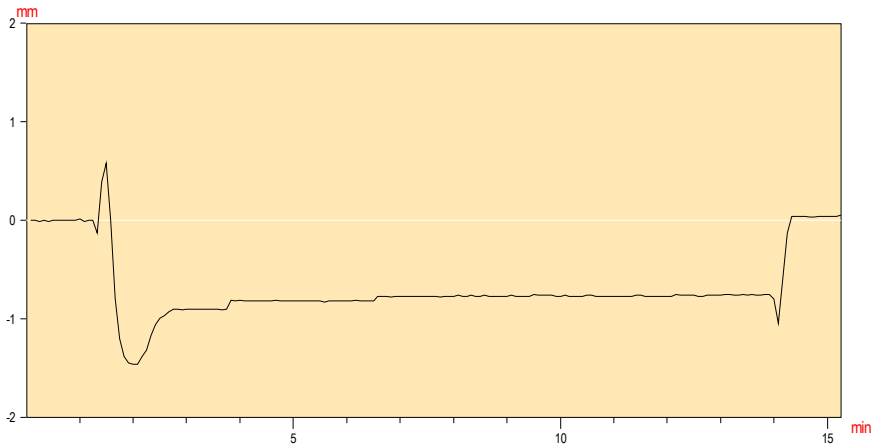
Prueba de carga de la Estructura : viaduc uic1

Organismo : ADIF

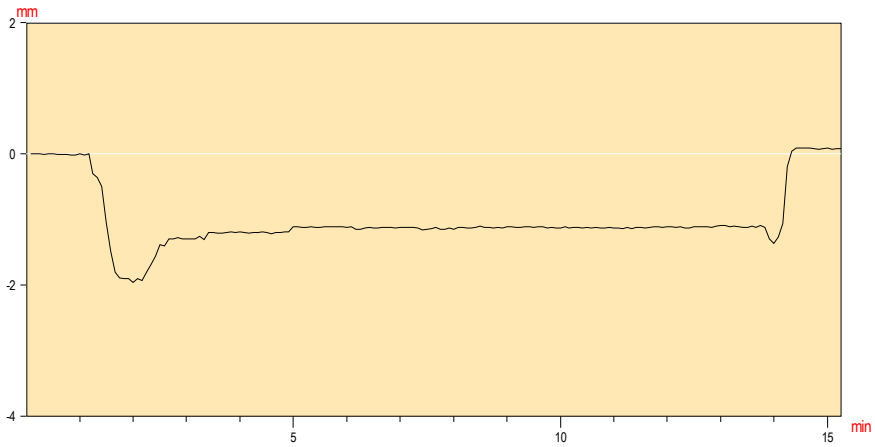
Prueba :	**HIPOTESIS 3**
Fecha :	29/12/06
Hora :	16:29:30
Valor Inicial	= -0.01
Valor de Prueba	= -0.20
Valor Residual	= 0.00
Canal	F13



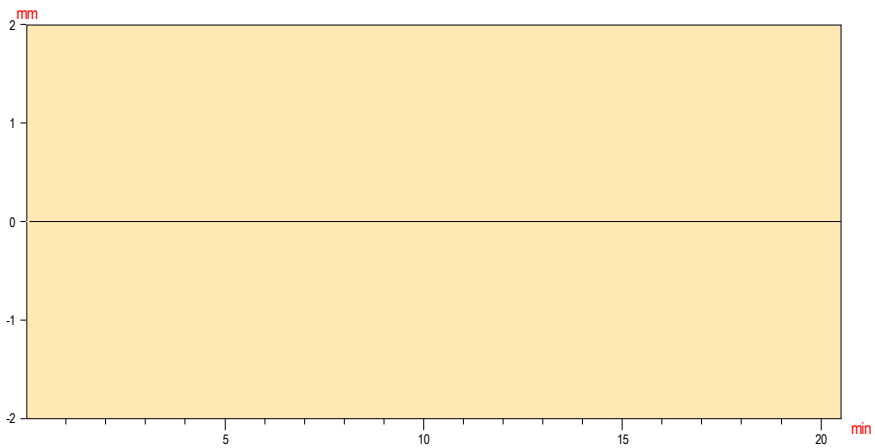
Prueba :	**HIPOTESIS 3**
Fecha :	29/12/06
Hora :	16:29:30
Valor Inicial	= -0.01
Valor de Prueba	= -1.06
Valor Residual	= 0.04
Canal	F14



Prueba :	**HIPOTESIS 3**
Fecha :	29/12/06
Hora :	16:29:30
Valor Inicial	= 0.00
Valor de Prueba	= -0.81
Valor Residual	= 0.07
Canal	F15



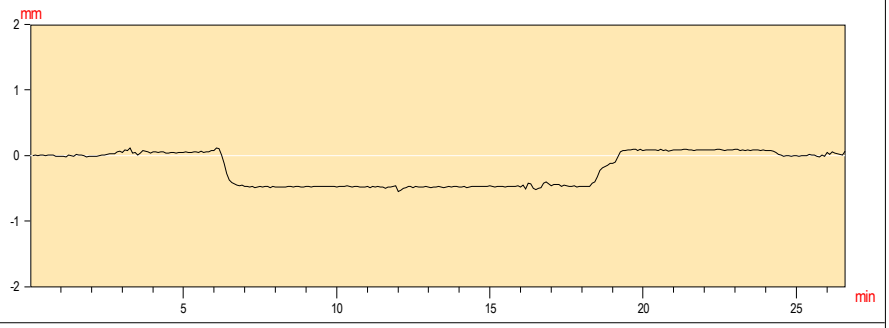
Prueba :	**HIPOTESIS 3**
Fecha :	29/12/06
Hora :	16:29:30
Valor Inicial	= 0.00
Valor de Prueba	= 0.00
Valor Residual	= 0.00
Canal	F16



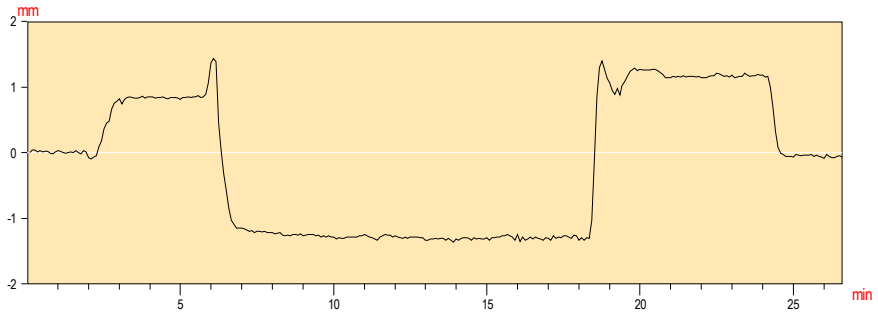
Prueba de carga de la Estructura : viaducto uic 4.cfg

Organismo : adif

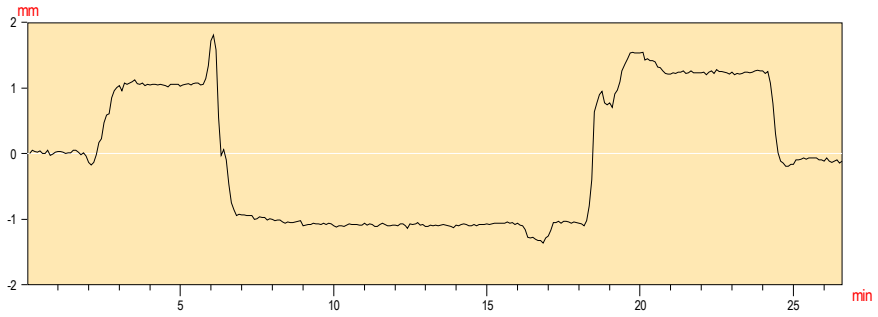
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= 0.00
Valor de Prueba	= -0.53
Valor Residual	= -0.00
Canal	f1



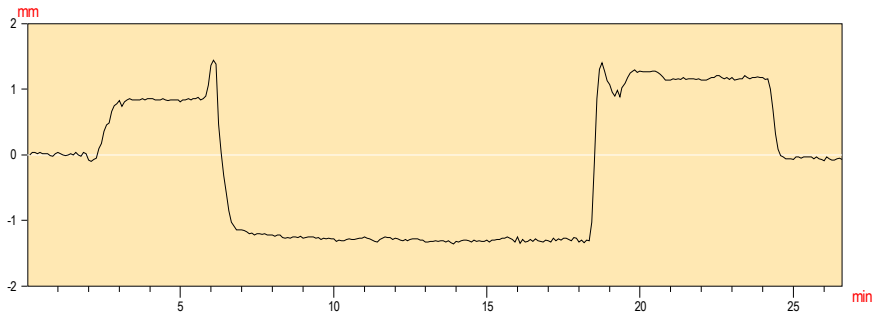
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= 0.00
Valor de Prueba	= -1.16
Valor Residual	= -0.04
Canal	f2



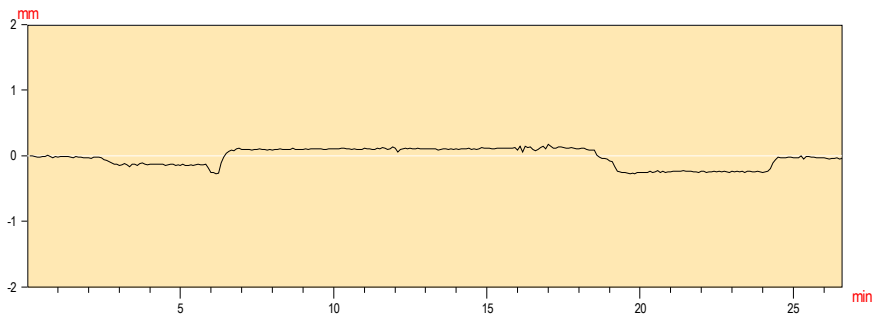
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= 0.00
Valor de Prueba	= -1.13
Valor Residual	= -0.06
Canal	f3



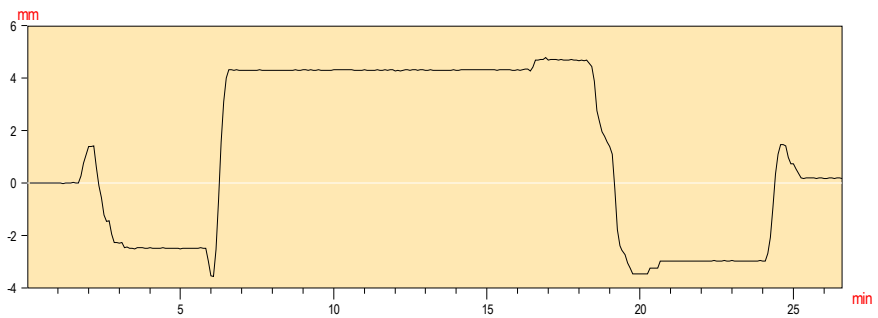
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= 0.01
Valor de Prueba	= -0.35
Valor Residual	= 0.00
Canal	f4



Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= 0.00
Valor de Prueba	= 0.11
Valor Residual	= -0.02
Canal	f5



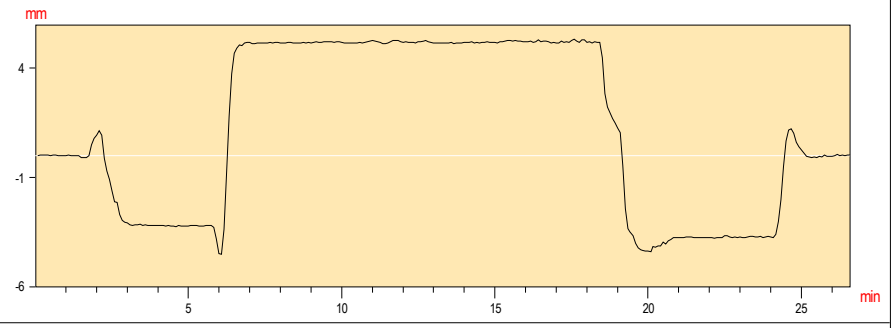
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= 0.00
Valor de Prueba	= 4.71
Valor Residual	= 0.19
Canal	f6



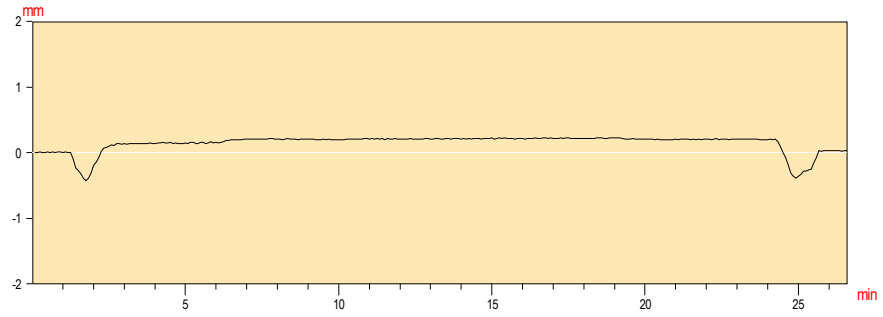
Prueba de carga de la Estructura : viaducto uic 4.cfg

Organismo : adif

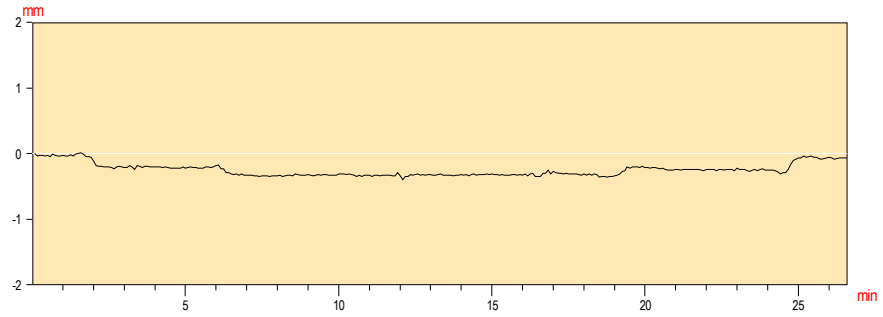
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= 0.00
Valor de Prueba	= 5.27
Valor Residual	= 0.01
Canal	f7



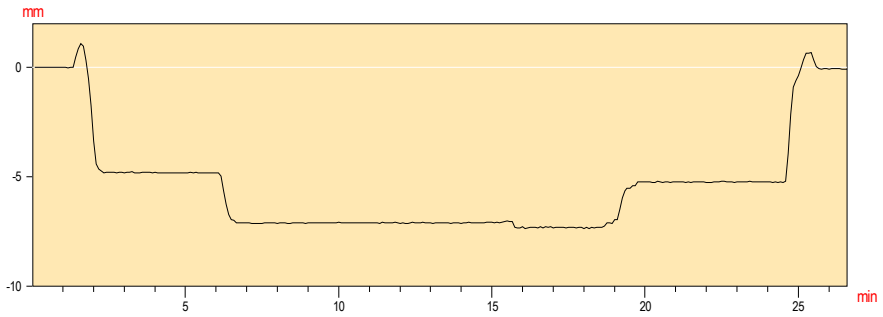
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= 0.00
Valor de Prueba	= 0.21
Valor Residual	= 0.02
Canal	f8



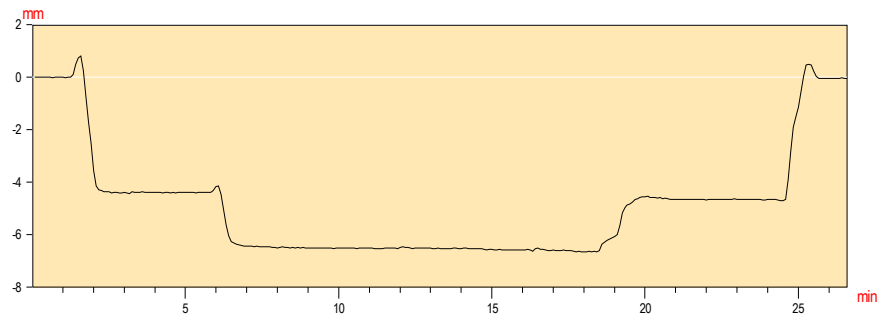
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= -0.03
Valor de Prueba	= -0.35
Valor Residual	= -0.07
Canal	f9



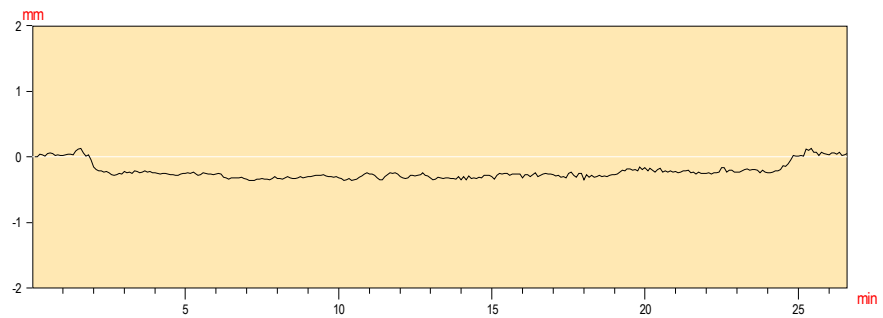
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= -0.01
Valor de Prueba	= -7.31
Valor Residual	= -0.07
Canal	f10



Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= 0.00
Valor de Prueba	= -6.54
Valor Residual	= -0.06
Canal	f11



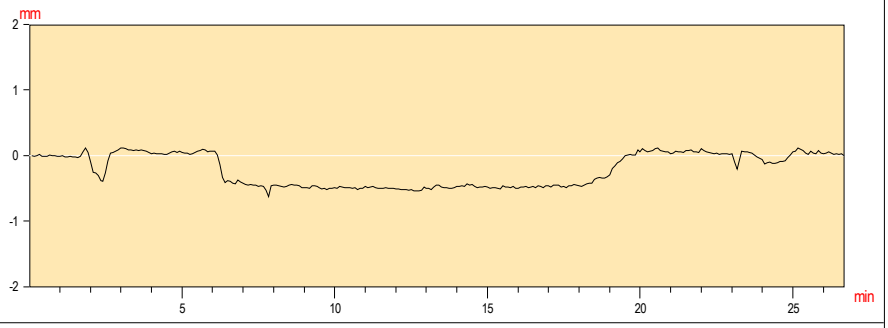
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:08
Valor Inicial	= 0.00
Valor de Prueba	= -0.35
Valor Residual	= 0.06
Canal	f12



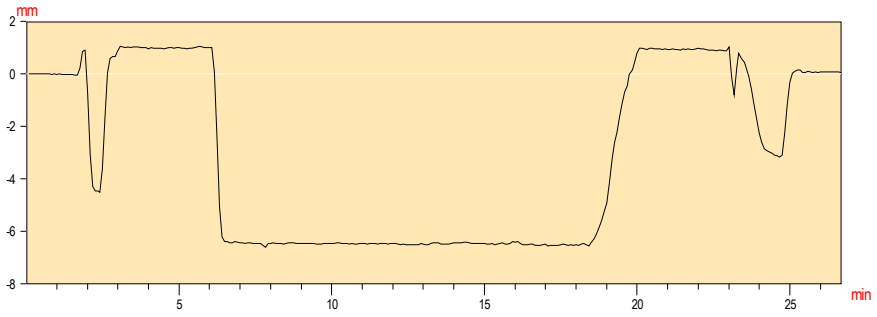
Prueba de carga de la Estructura : viaduc uic1

Organismo : ADIF

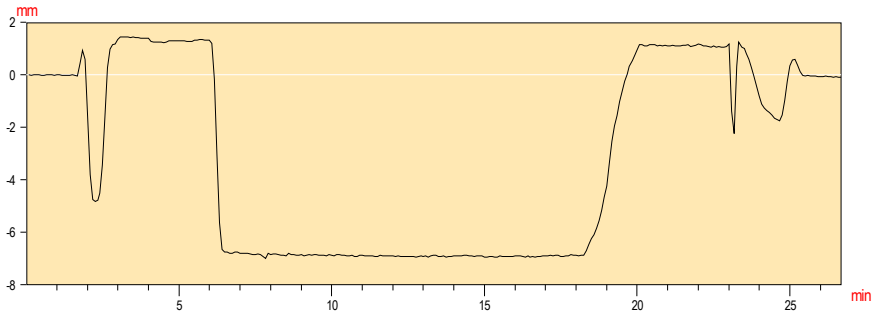
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= -0.02
Valor de Prueba	= -0.49
Valor Residual	= 0.03
Canal	F5



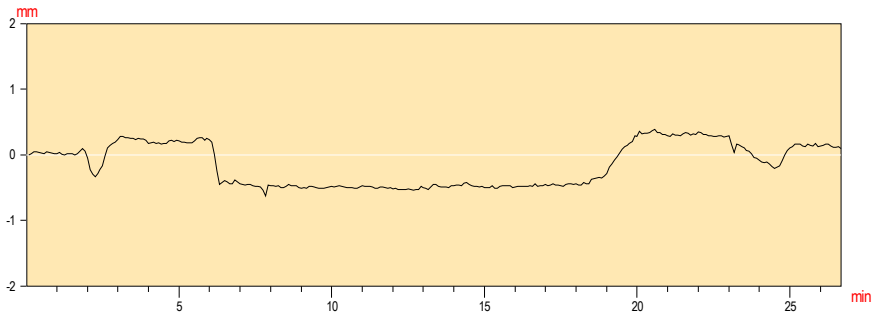
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= 0.00
Valor de Prueba	= -6.45
Valor Residual	= 0.06
Canal	F6



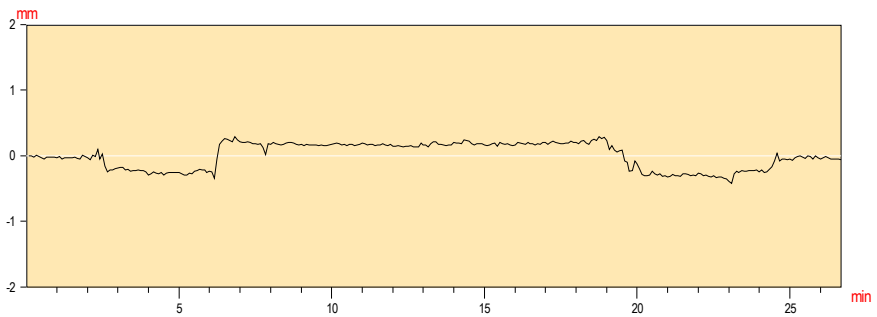
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= 0.00
Valor de Prueba	= -6.90
Valor Residual	= -0.09
Canal	F7



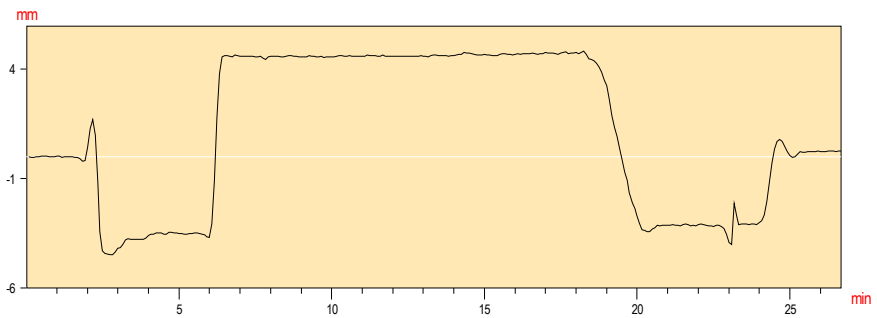
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= 0.02
Valor de Prueba	= -0.48
Valor Residual	= 0.10
Canal	F8



Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= -0.02
Valor de Prueba	= 0.16
Valor Residual	= -0.03
Canal	F9



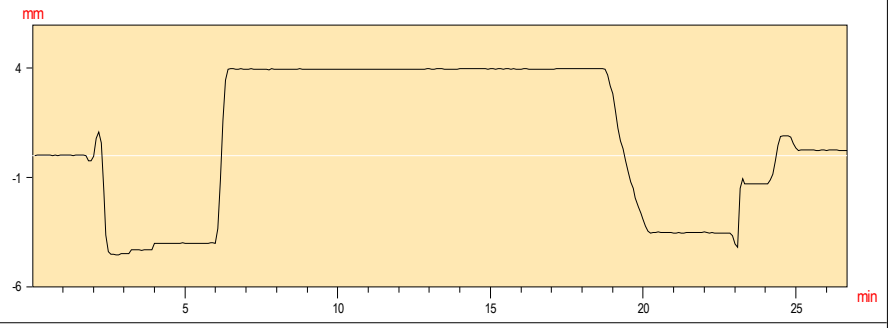
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= 0.04
Valor de Prueba	= 4.55
Valor Residual	= 0.24
Canal	F10



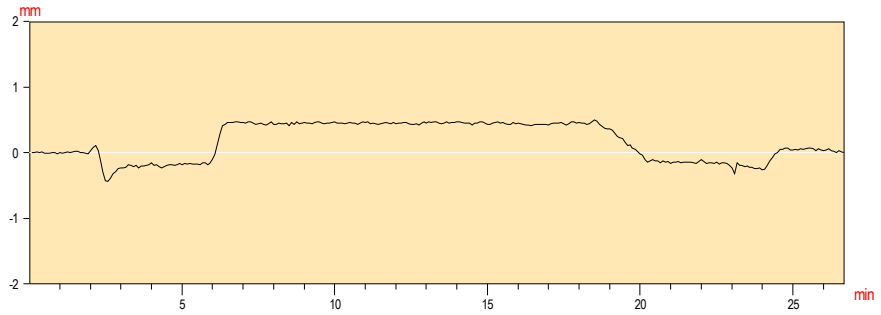
Prueba de carga de la Estructura : viaduc uic1

Organismo : ADIF

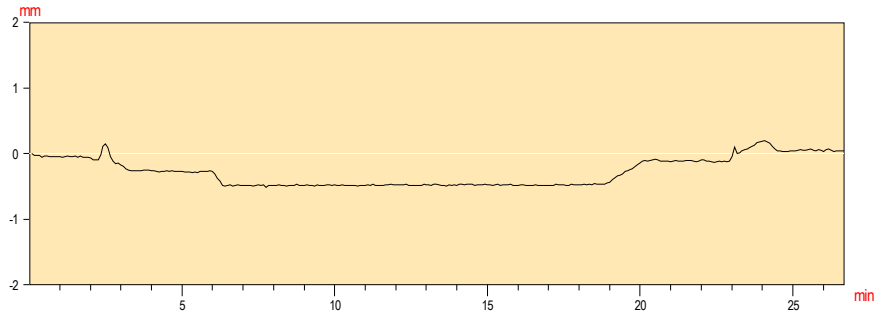
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= 0.01
Valor de Prueba	= 3.96
Valor Residual	= 0.24
Canal	F11



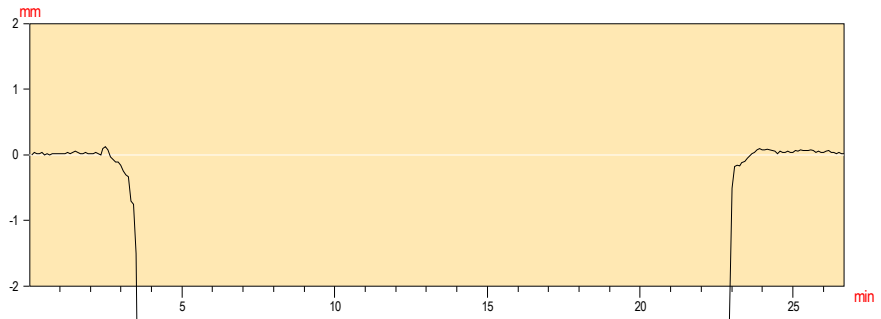
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= -0.01
Valor de Prueba	= 0.45
Valor Residual	= 0.02
Canal	F12



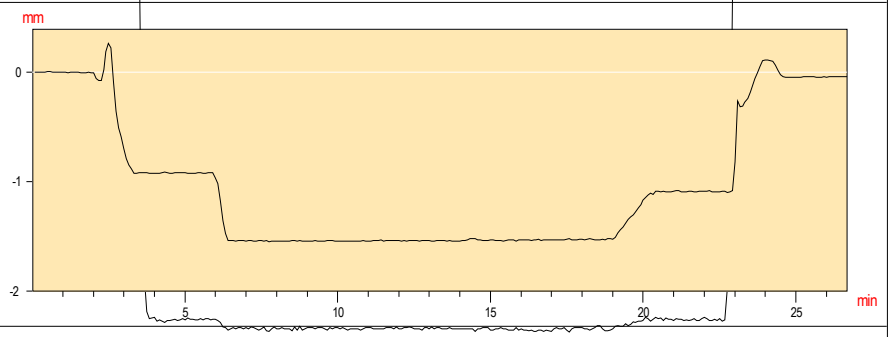
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= -0.05
Valor de Prueba	= -0.48
Valor Residual	= 0.05
Canal	F13



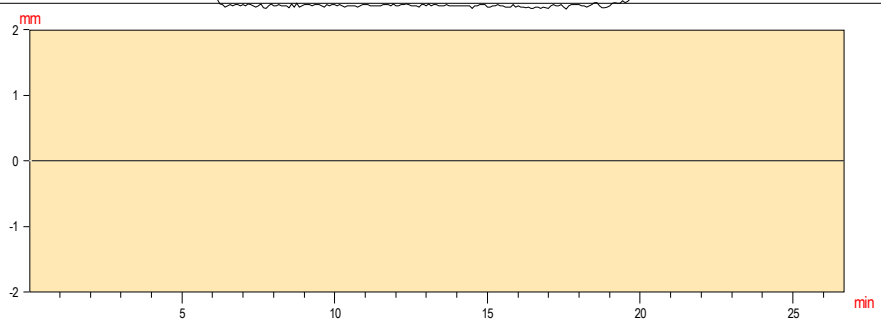
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= 0.02
Valor de Prueba	= --2.01
Valor Residual	= 0.04
Canal	F14



Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= -0.01
Valor de Prueba	= -1.98
Valor Residual	= -0.20
Canal	F15



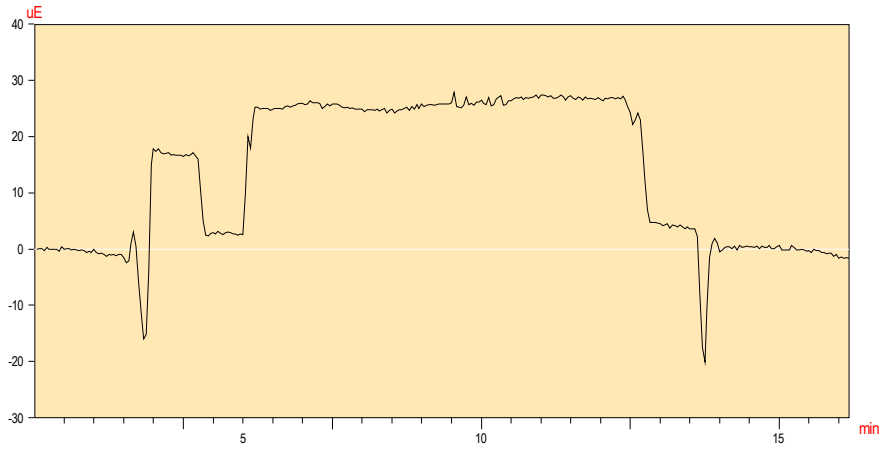
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/2006
Hora :	17:34:37
Valor Inicial	= 0.00
Valor de Prueba	= 0.00
Valor Residual	= 0.00
Canal	F16



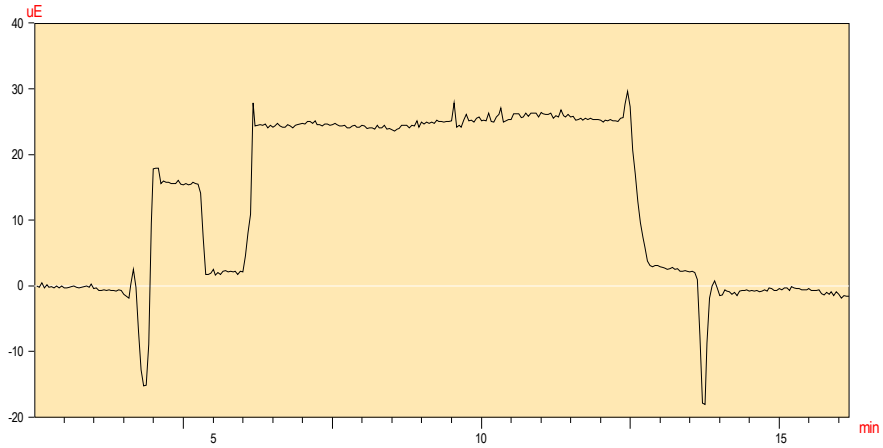
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

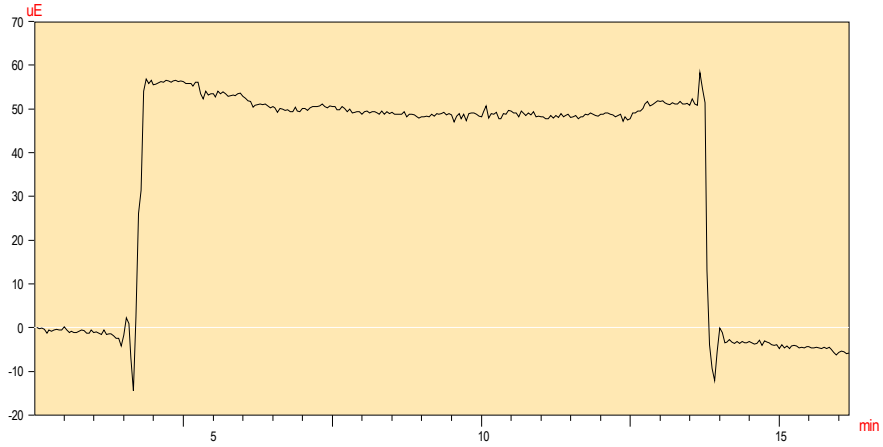
Prueba :	**E-1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= -0.09
Valor de Prueba	= 25.53
Valor Residual	= -0.19
Canal	B1



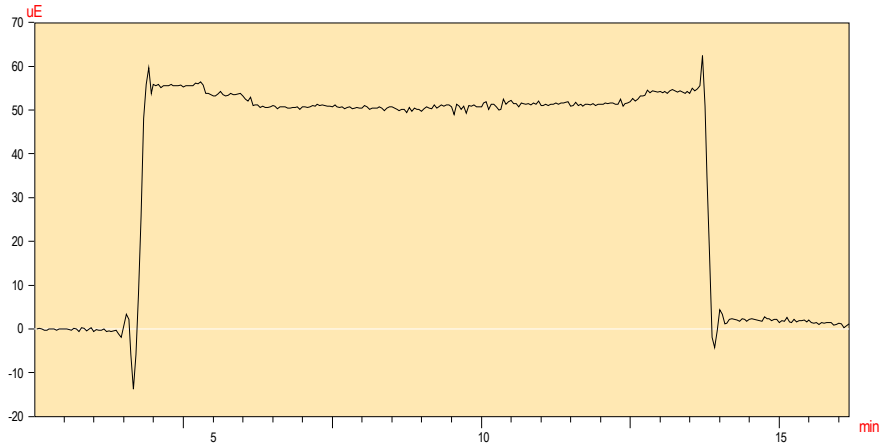
Prueba :	**E-1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= 0.01
Valor de Prueba	= 25.36
Valor Residual	= -1.24
Canal	B2



Prueba :	**E-1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= -0.29
Valor de Prueba	= 51.15
Valor Residual	= -3.90
Canal	B3



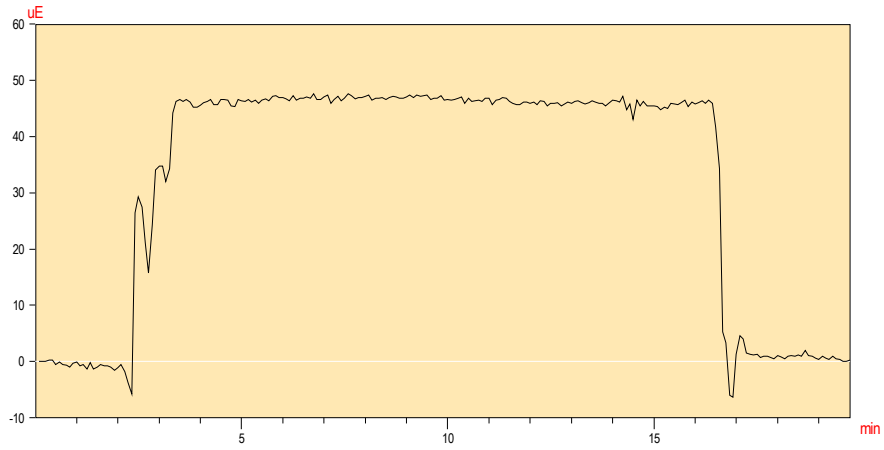
Prueba :	**E-1**
Fecha :	20/12/2006
Hora :	18:21:58
Valor Inicial	= 0.06
Valor de Prueba	= 51.41
Valor Residual	= 1.29
Canal	B4



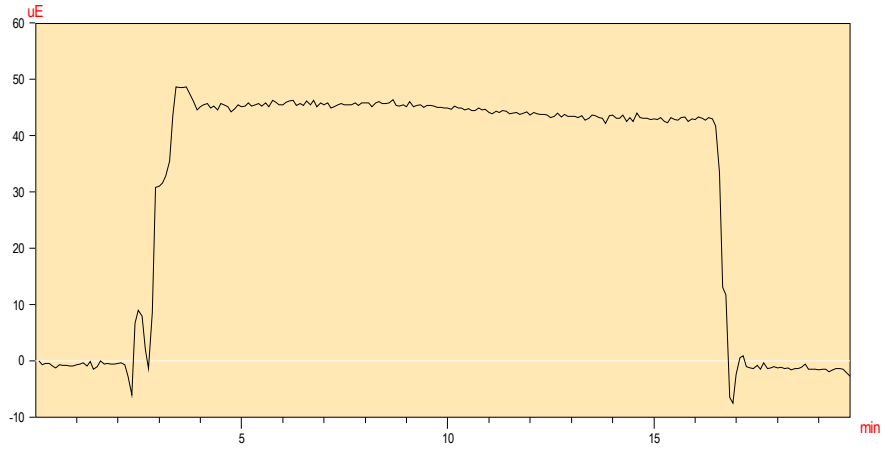
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

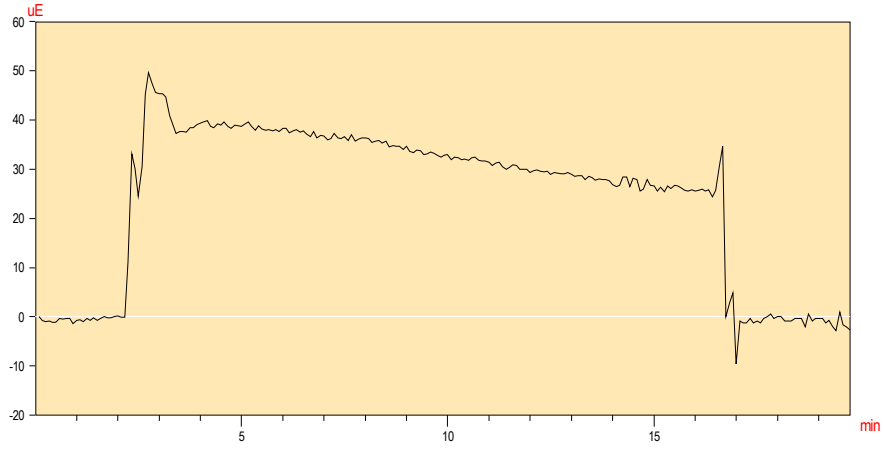
Prueba :	**E-2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= -0.40
Valor de Prueba	= 46.39
Valor Residual	= 0.59
Canal	B3



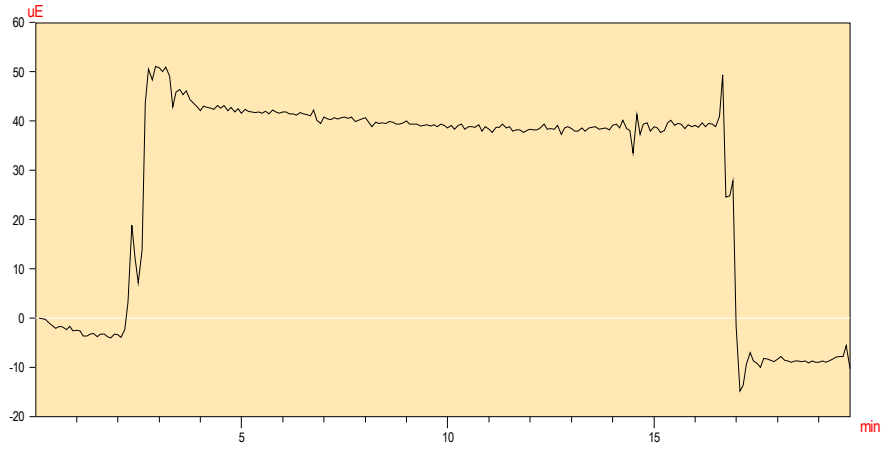
Prueba :	**E-2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= -0.42
Valor de Prueba	= 45.87
Valor Residual	= -1.05
Canal	B4



Prueba :	**E-2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= -0.25
Valor de Prueba	= 36.35
Valor Residual	= 0.78
Canal	B5



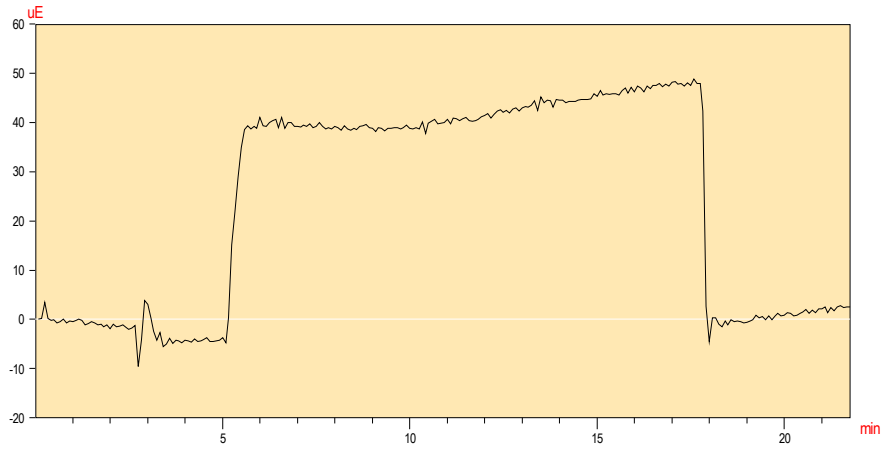
Prueba :	**E-2**
Fecha :	20/12/2006
Hora :	18:54:55
Valor Inicial	= -0.96
Valor de Prueba	= 41.49
Valor Residual	= -5.86
Canal	B6



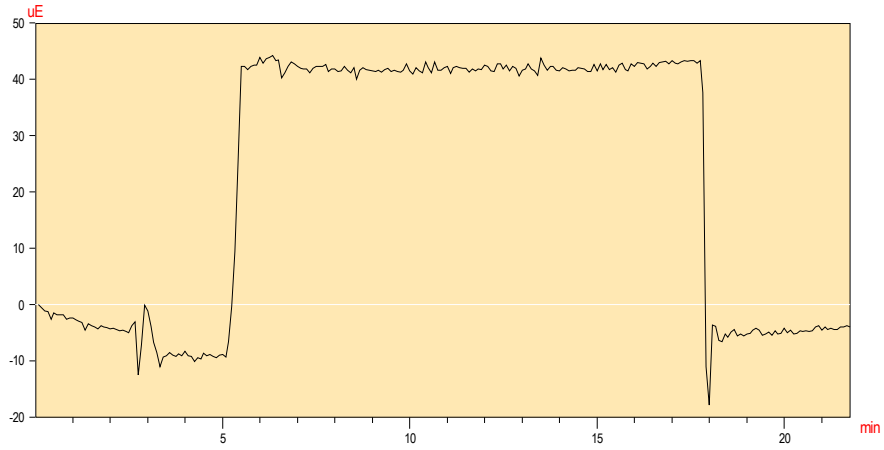
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

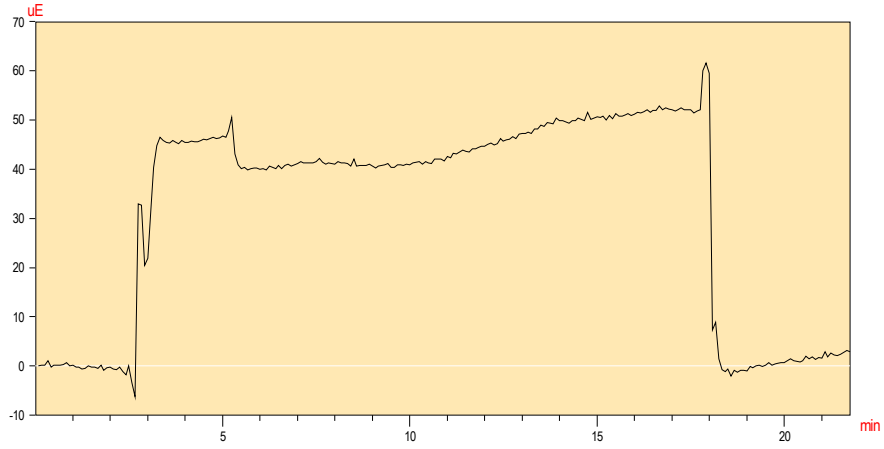
Prueba :	**E-3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= -0.12
Valor de Prueba	= 45.22
Valor Residual	= 2.58
Canal	B5



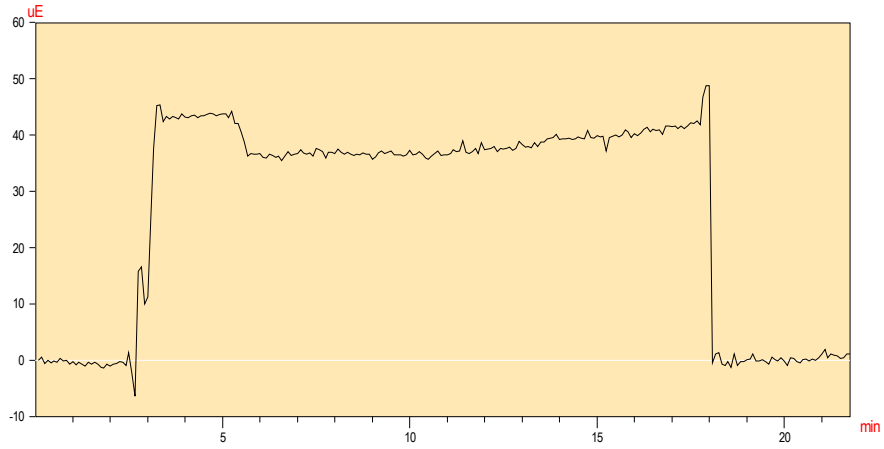
Prueba :	**E-3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= -0.88
Valor de Prueba	= 42.72
Valor Residual	= -3.34
Canal	B6



Prueba :	**E-3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= 0.13
Valor de Prueba	= 48.88
Valor Residual	= 0.62
Canal	B7



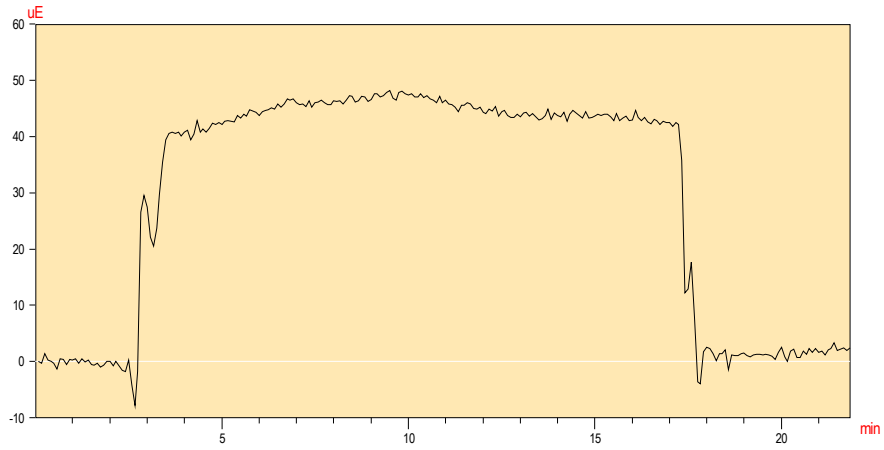
Prueba :	**E-3**
Fecha :	20/12/2006
Hora :	19:39:26
Valor Inicial	= -0.09
Valor de Prueba	= 34.39
Valor Residual	= 0.15
Canal	B8



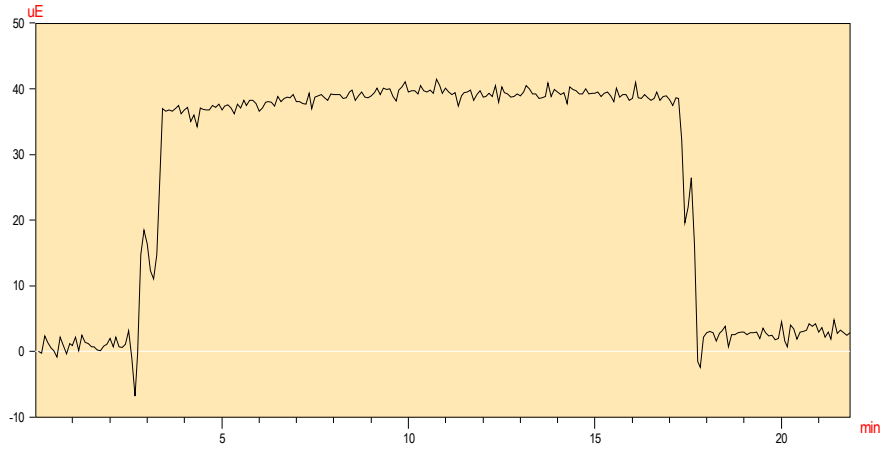
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

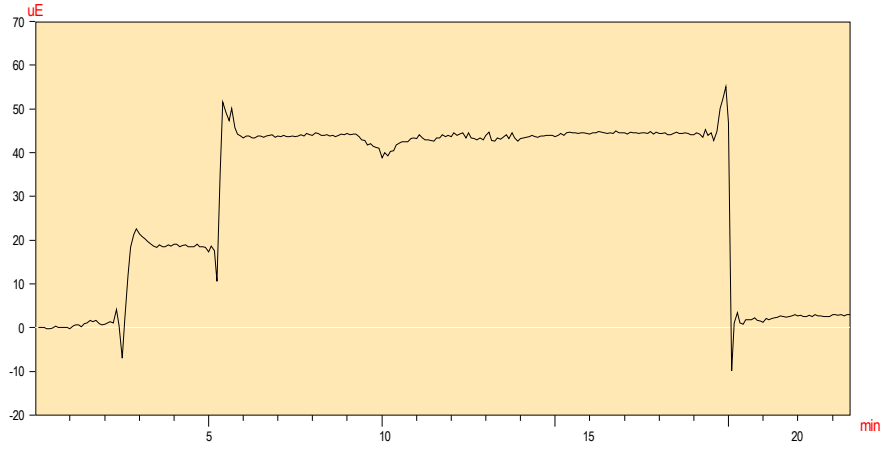
Prueba :	**E-4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= -0.39
Valor de Prueba	= 47.25
Valor Residual	= 2.35
Canal	B7



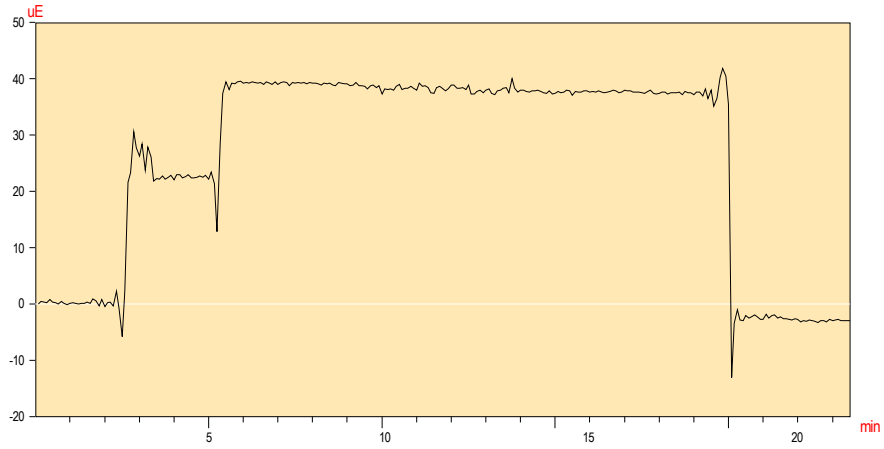
Prueba :	**E-4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= 0.37
Valor de Prueba	= 42.08
Valor Residual	= 1.46
Canal	B8



Prueba :	**E-4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= -0.33
Valor de Prueba	= 44.98
Valor Residual	= 3.35
Canal	B9



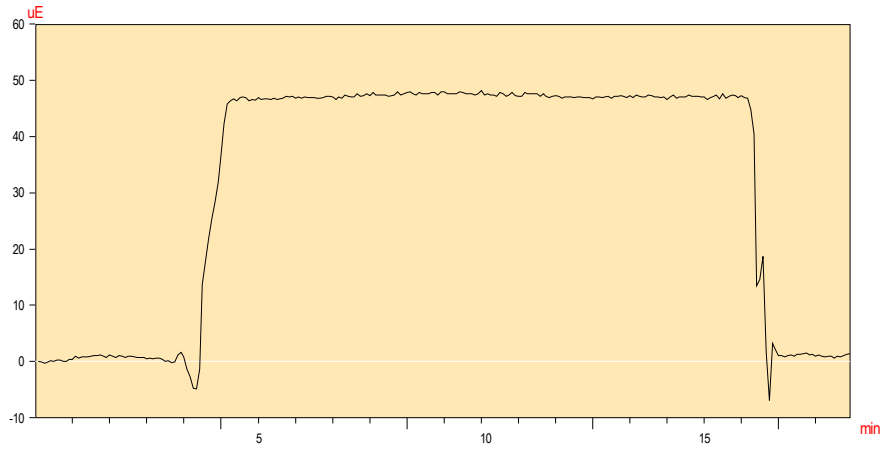
Prueba :	**E-4**
Fecha :	23/12/2006
Hora :	00:05:10
Valor Inicial	= 0.35
Valor de Prueba	= 35.68
Valor Residual	= -1.82
Canal	B10



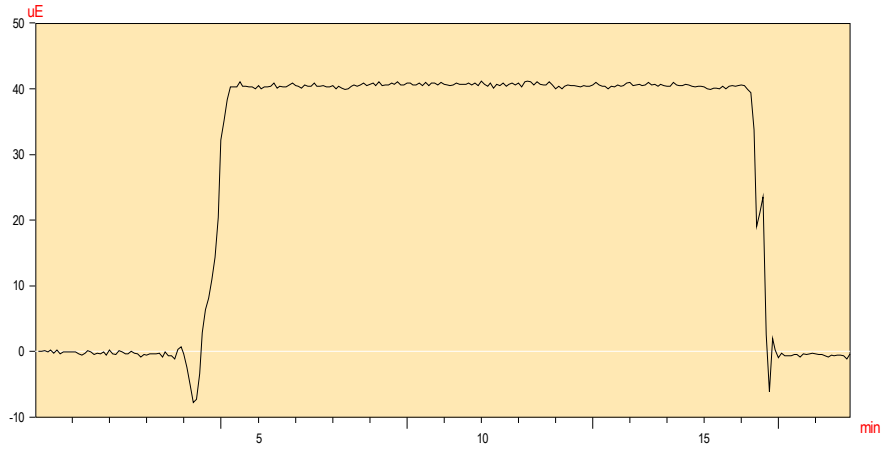
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

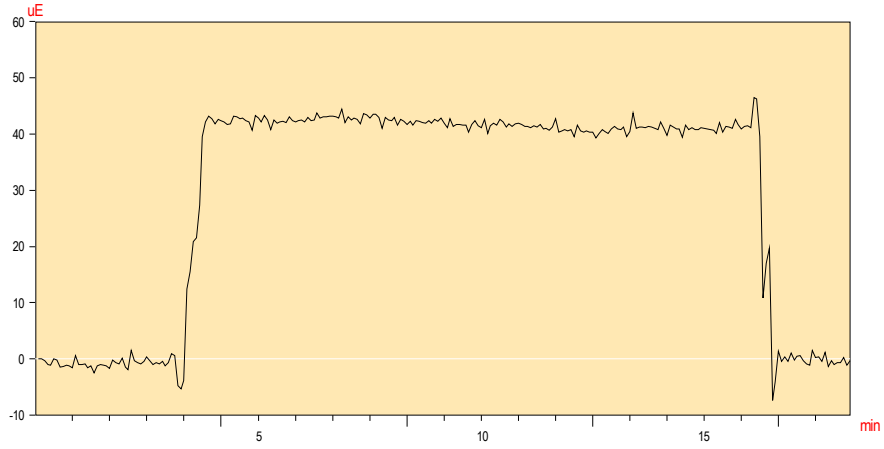
Prueba :	**E-5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= 0.24
Valor de Prueba	= 47.54
Valor Residual	= 0.64
Canal	B9



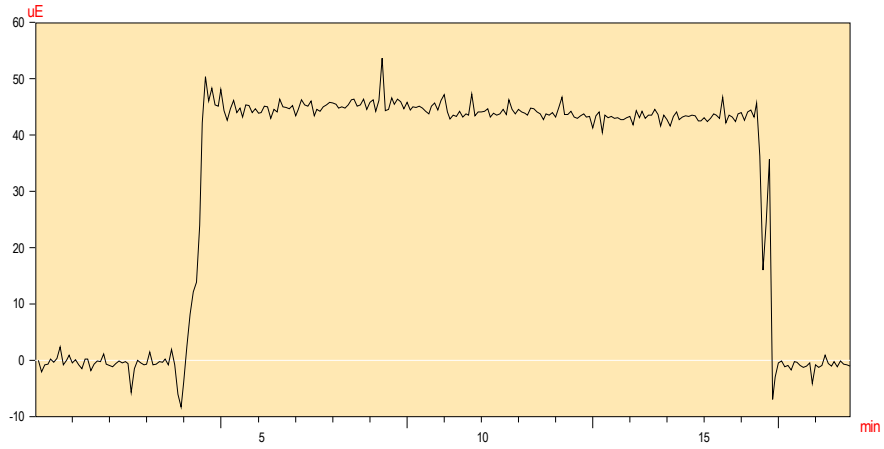
Prueba :	**E-5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= 0.09
Valor de Prueba	= 41.61
Valor Residual	= -0.23
Canal	B10



Prueba :	**E-5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= -0.74
Valor de Prueba	= 42.32
Valor Residual	= -0.50
Canal	B11



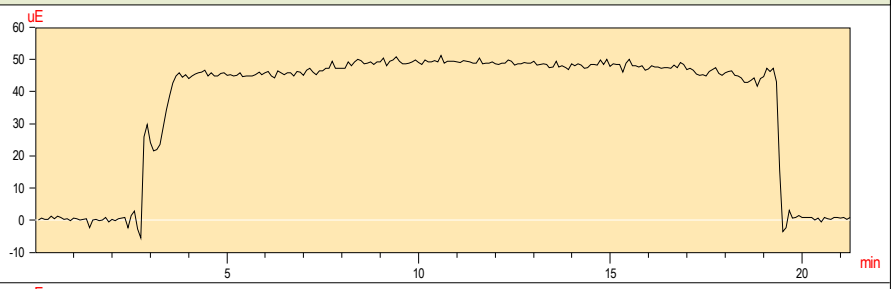
Prueba :	**E-5**
Fecha :	23/12/2006
Hora :	00:37:51
Valor Inicial	= 0.23
Valor de Prueba	= 46.11
Valor Residual	= -0.76
Canal	B12



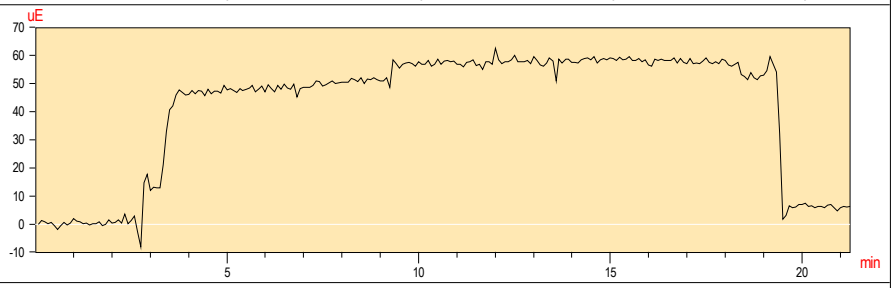
Prueba de carga de la Estructura :LAV (MIXTA)

Organismo : ADIF

Prueba :	**E-6**
Fecha :	23/12/2006
Hora :	01:09:40
Valor Inicial	= 0.15
Valor de Prueba	= 49.66
Valor Residual	= 0.54
Canal	B11



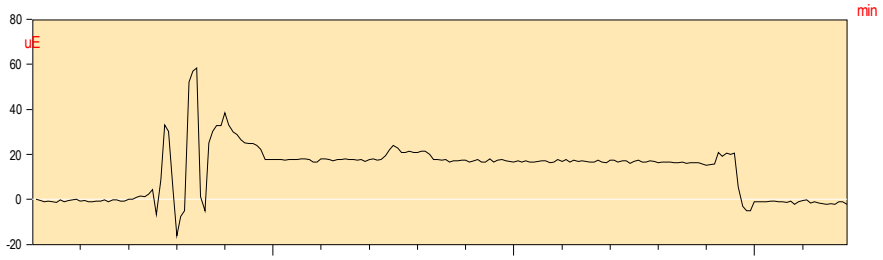
Prueba :	**E-6**
Fecha :	23/12/2006
Hora :	01:09:40
Valor Inicial	= -0.46
Valor de Prueba	= 54.94
Valor Residual	= 4.75
Canal	B12



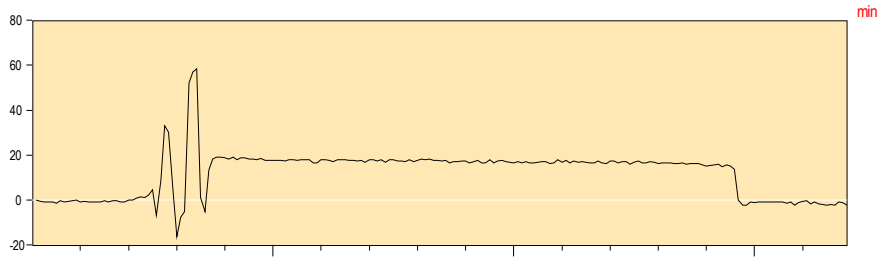
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

Prueba :	**E-7**
Fecha :	23/12/2006
Hora :	01:34:23
Valor Inicial	= -0.25
Valor de Prueba	= 39.29
Valor Residual	= -1.23
Canal	B13



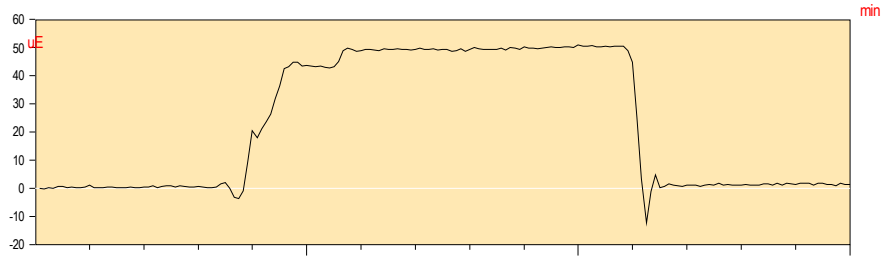
Prueba :	**E-7**
Fecha :	23/12/2006
Hora :	01:34:23
Valor Inicial	= -0.06
Valor de Prueba	= 30.97
Valor Residual	= -0.41
Canal	B14



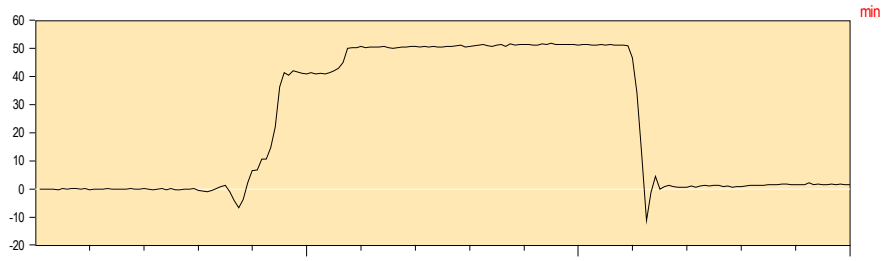
Prueba de carga de la Estructura :LAV (MIXTA)

Organismo : ADIF

Prueba :	**E-8**
Fecha :	27/12/2006
Hora :	12:12:26
Valor Inicial	= -0.36
Valor de Prueba	= 48.76
Valor Residual	= 1.64
Canal	B13



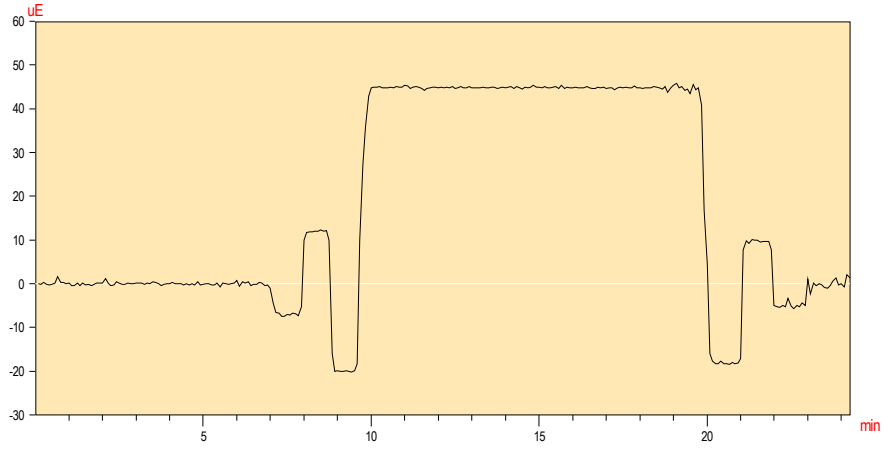
Prueba :	**E-8**
Fecha :	27/12/2006
Hora :	12:12:26
Valor Inicial	= -0.05
Valor de Prueba	= 51.24
Valor Residual	= 1.32
Canal	B14



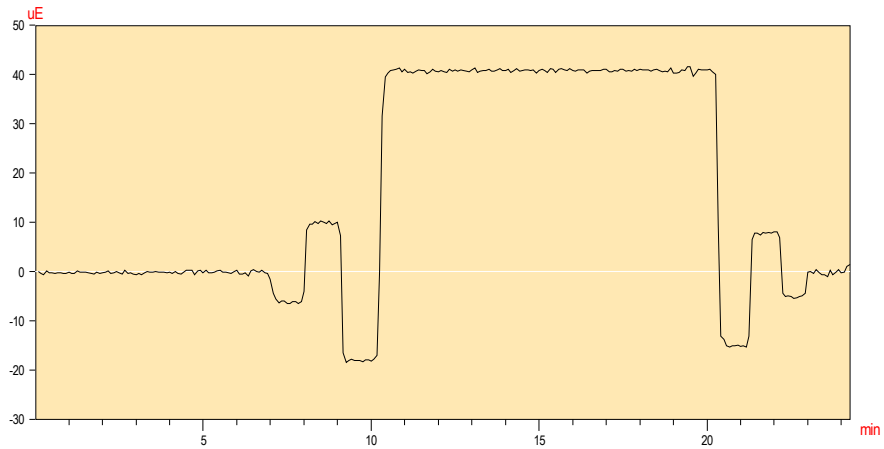
Prueba de carga de la Estructura : viaducto uic 3.cfg

Organismo : adif

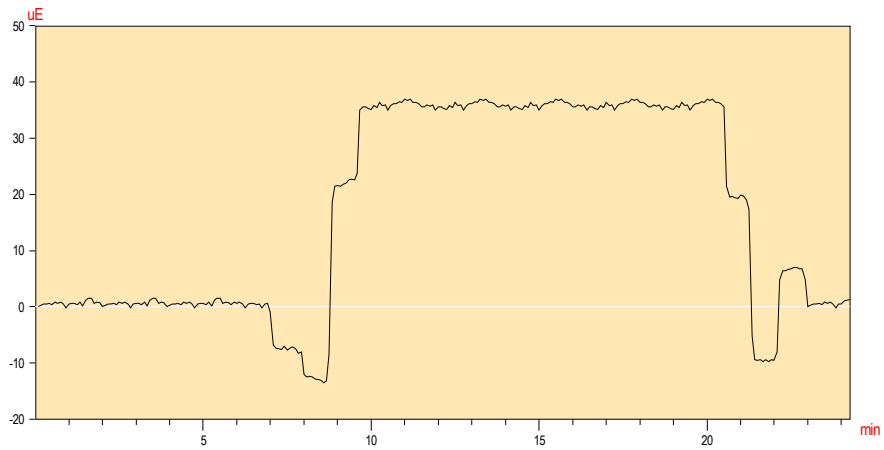
Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:48:31
Valor Inicial	= 0.00
Valor de Prueba	= 44.84
Valor Residual	= 0.00
Canal	B15



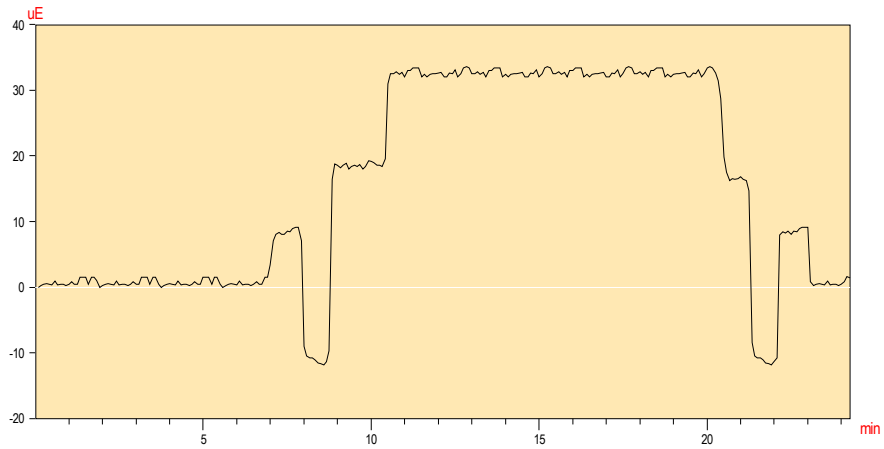
Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:48:31
Valor Inicial	= 0.00
Valor de Prueba	= 40.61
Valor Residual	= -0.12
Canal	B16



Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:48:31
Valor Inicial	= 0.59
Valor de Prueba	= 36.86
Valor Residual	= 0.82
Canal	B17



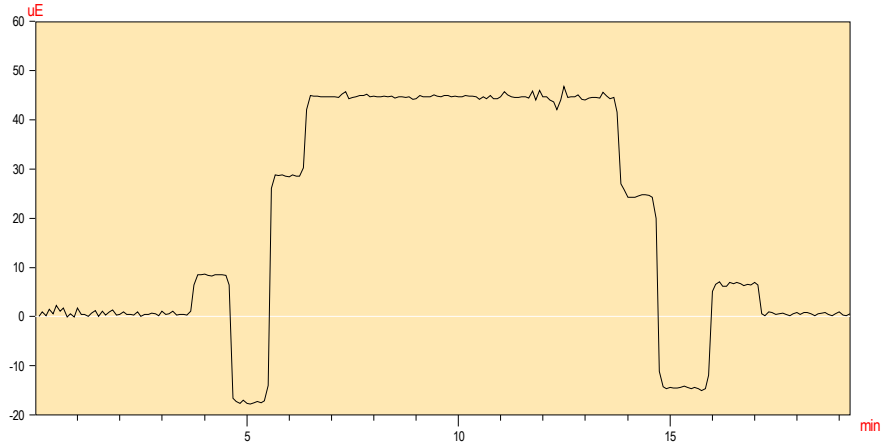
Prueba :	**HIPOTESIS 9**
Fecha :	27/12/06
Hora :	12:48:31
Valor Inicial	= 0.00
Valor de Prueba	= 32.04
Valor Residual	= 0.47
Canal	B18



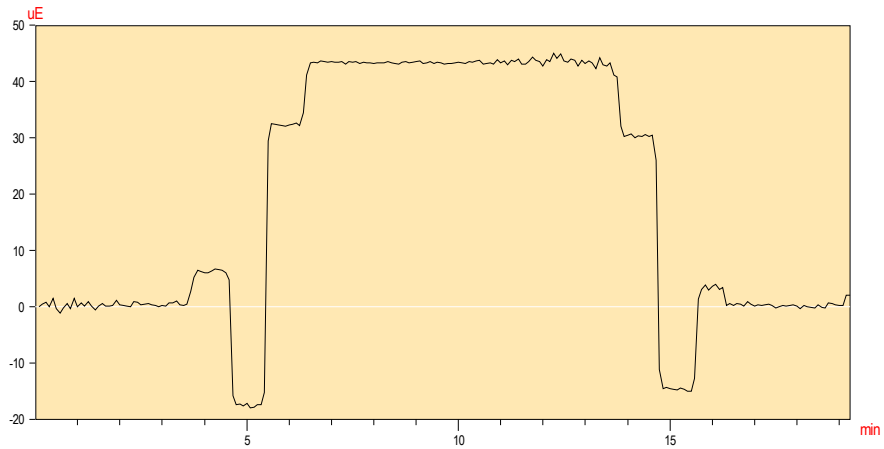
Prueba de carga de la Estructura : viaducto uic 3.cfg

Organismo : adif

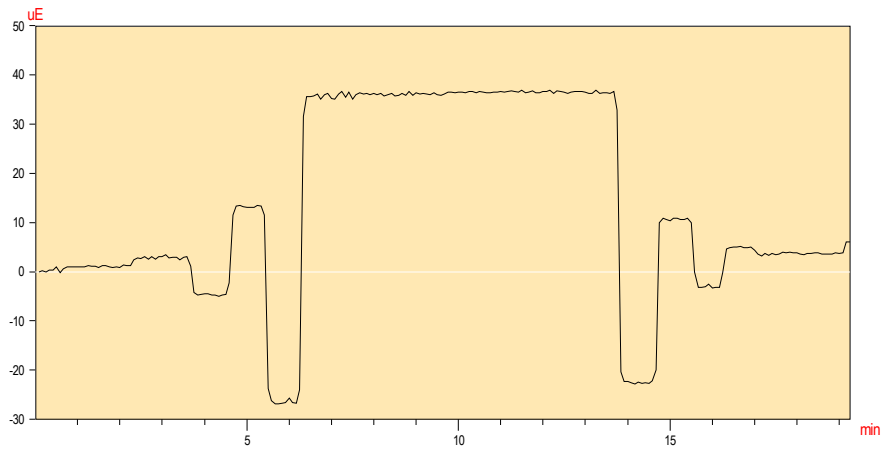
Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= 0.00
Valor de Prueba	= 44.25
Valor Residual	= 0.70
Canal	B17



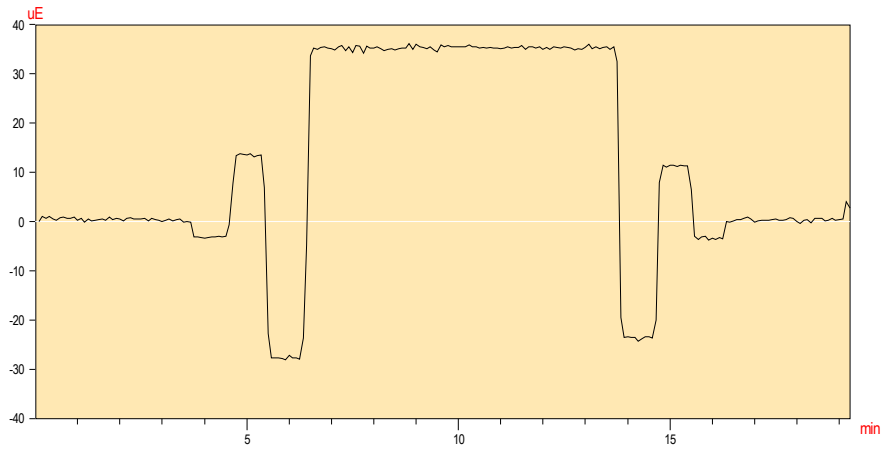
Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= 0.00
Valor de Prueba	= 43.43
Valor Residual	= 0.00
Canal	B18



Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= 0.00
Valor de Prueba	= 34.39
Valor Residual	= 3.52
Canal	B19



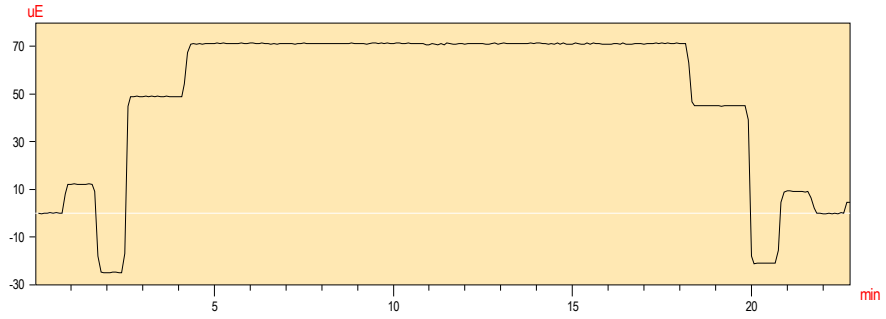
Prueba :	**HIPOTESIS 10**
Fecha :	27/12/06
Hora :	13:15:41
Valor Inicial	= 0.00
Valor de Prueba	= 33.33
Valor Residual	= 0.12
Canal	B20



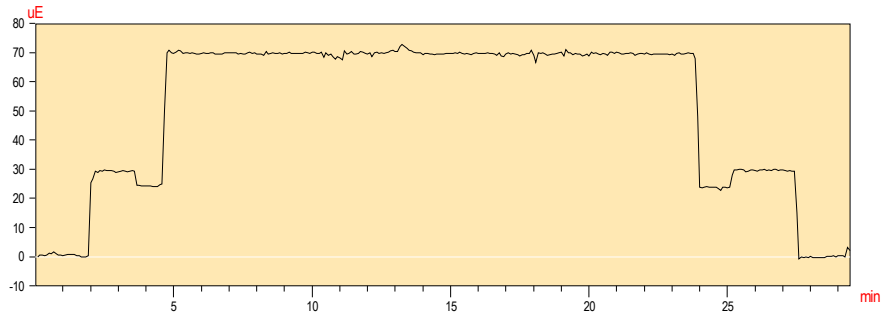
Prueba de carga de la Estructura : viaduc uic1.cfg

Organismo : ADIF

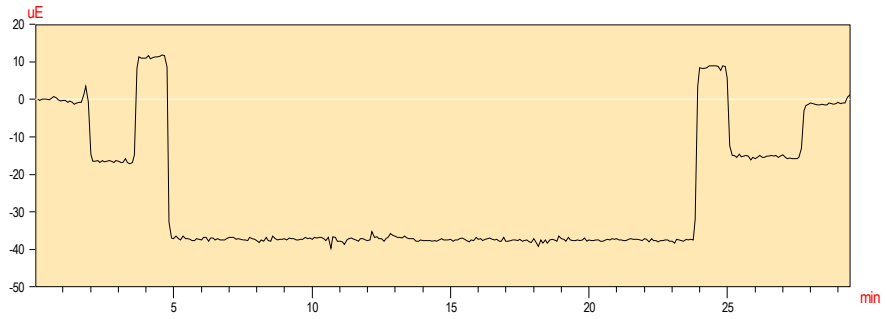
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:27
Valor Inicial	= 0.00
Valor de Prueba	= 71.01
Valor Residual	= 0.00
Canal	B1



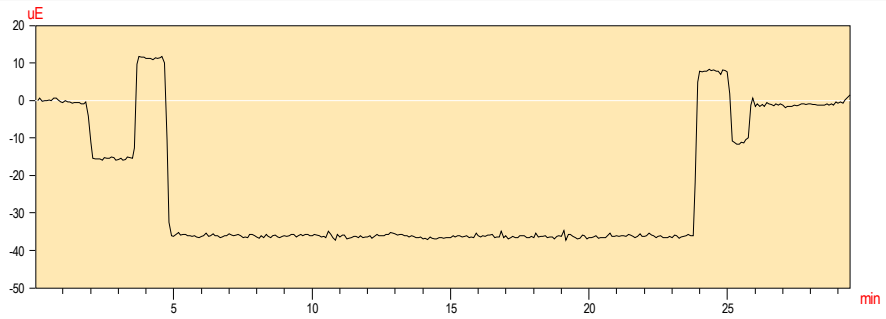
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= 0.00
Valor de Prueba	= 69.60
Valor Residual	= 0.12
Canal	B2



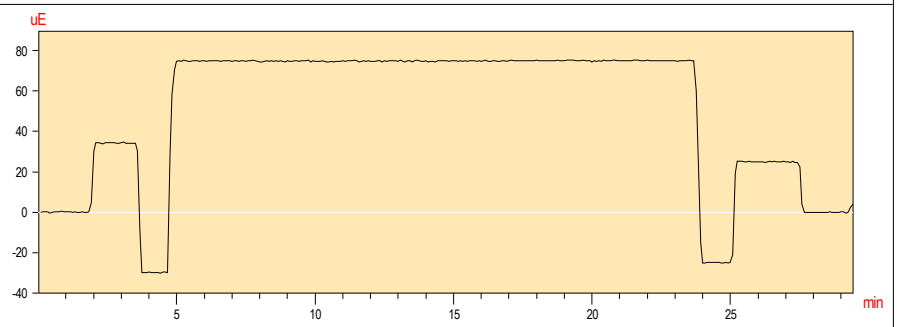
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= 0.00
Valor de Prueba	= -37.68
Valor Residual	= -1.17
Canal	B3



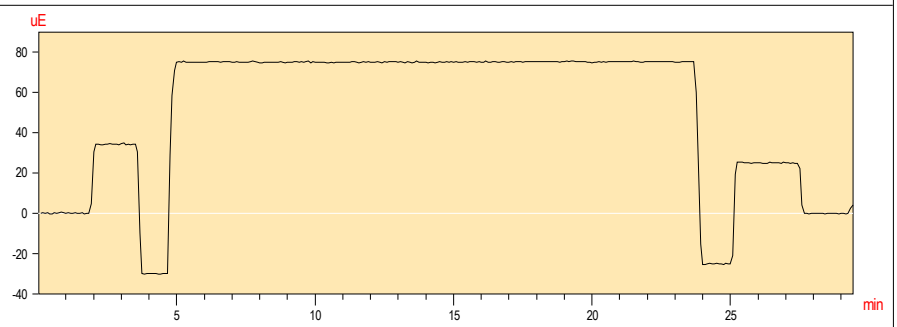
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= 0.00
Valor de Prueba	= -36.39
Valor Residual	= 0.82
Canal	B4



Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= 0.00
Valor de Prueba	= 74.77
Valor Residual	= -0.23
Canal	B5



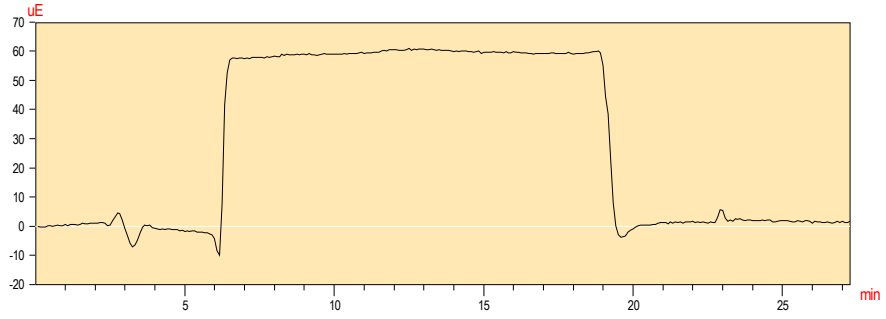
Prueba :	**HIPOTESIS 11**
Fecha :	20/12/06
Hora :	20:05:17
Valor Inicial	= 0.12
Valor de Prueba	= 74.65
Valor Residual	= -0.12
Canal	B6



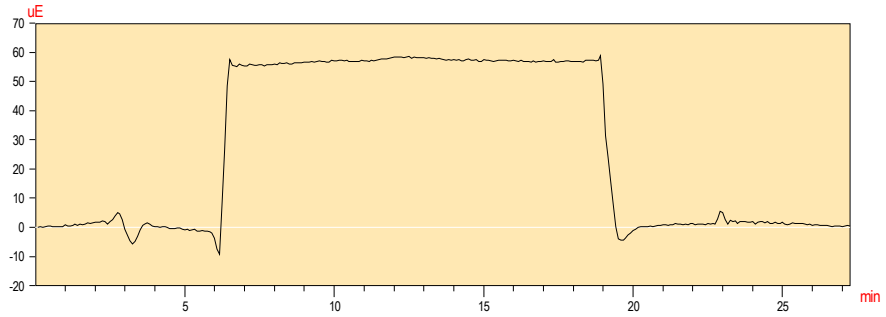
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

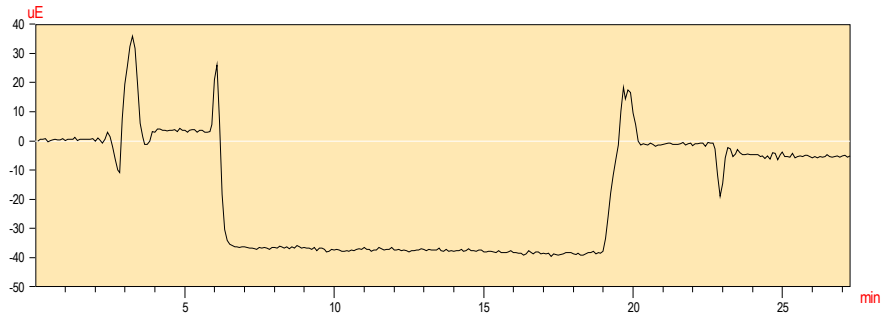
Prueba :	**E-12**
Fecha :	20/12/2006
Hora :	20:59:37
Valor Inicial	= 0.05
Valor de Prueba	= 61.57
Valor Residual	= 1.49
Canal	B3



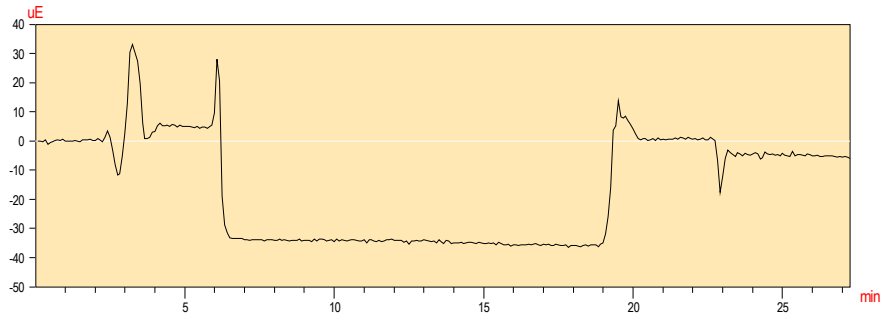
Prueba :	**E-12**
Fecha :	20/12/2006
Hora :	20:59:37
Valor Inicial	= 0.12
Valor de Prueba	= 55.93
Valor Residual	= 0.33
Canal	B4



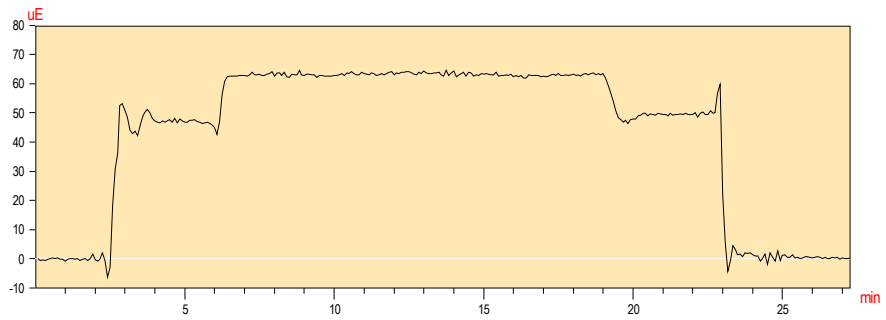
Prueba :	**E-12**
Fecha :	20/12/2006
Hora :	20:59:37
Valor Inicial	= 0.35
Valor de Prueba	= -35.50
Valor Residual	= -3.16
Canal	B5



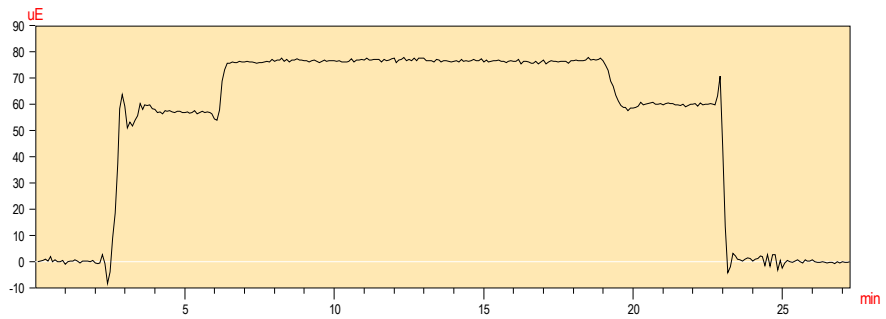
Prueba :	**E-12**
Fecha :	20/12/2006
Hora :	20:59:37
Valor Inicial	= -0.13
Valor de Prueba	= -33.51
Valor Residual	= -4.28
Canal	B6



Prueba :	**E-12**
Fecha :	20/12/2006
Hora :	20:59:37
Valor Inicial	= -0.37
Valor de Prueba	= 63.47
Valor Residual	= 0.35
Canal	B7



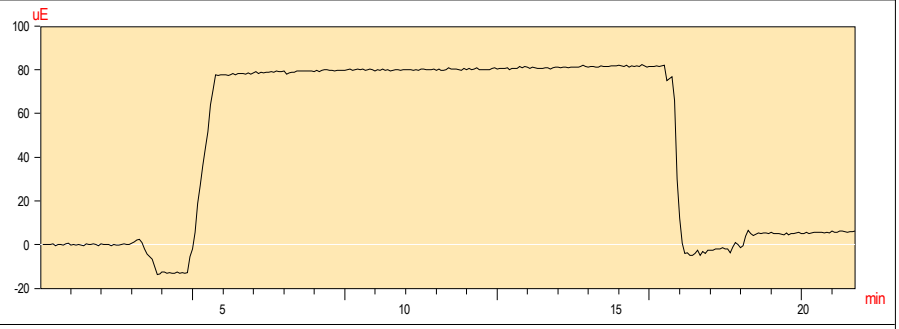
Prueba :	**E-12**
Fecha :	20/12/2006
Hora :	20:59:37
Valor Inicial	= 0.26
Valor de Prueba	= 75.65
Valor Residual	= 0.45
Canal	B8



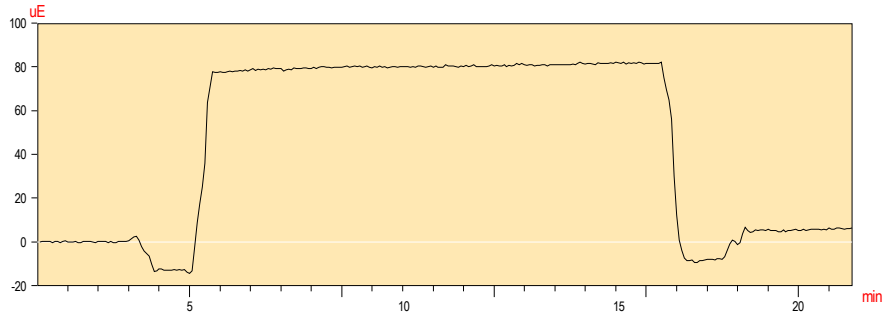
Prueba de carga de la Estructura :LAV (MIXTA)

Organismo : ADIF

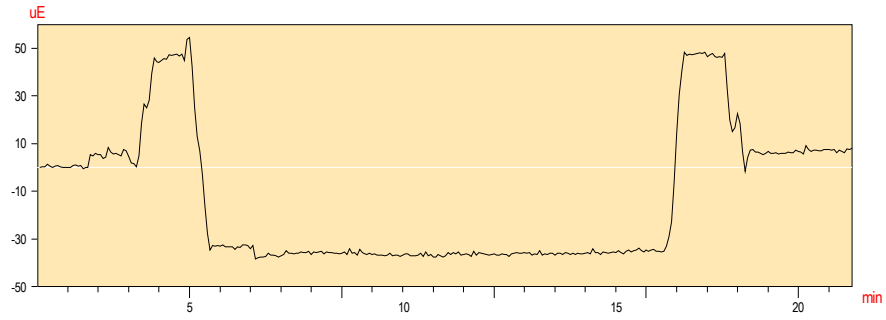
Prueba :	**E-13**
Fecha :	23/12/2006
Hora :	01:52:01
Valor Inicial	= 0.36
Valor de Prueba	= 81.87
Valor Residual	= 6.44
Canal	B5



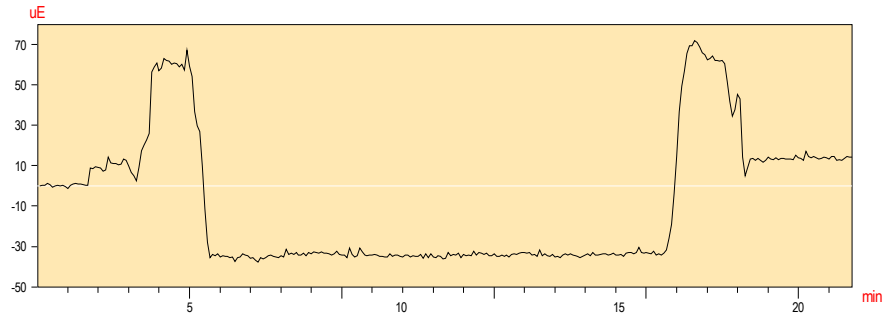
Prueba :	**E-13**
Fecha :	23/12/2006
Hora :	01:52:01
Valor Inicial	= 0.11
Valor de Prueba	= 80.65
Valor Residual	= 6.47
Canal	B6



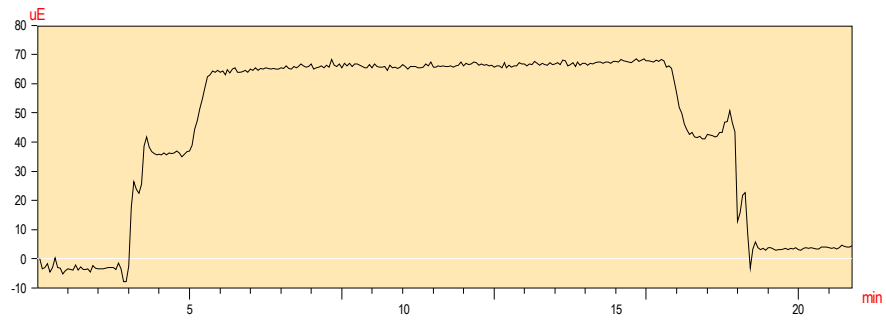
Prueba :	**E-13**
Fecha :	23/12/2006
Hora :	01:52:01
Valor Inicial	= 0.55
Valor de Prueba	= -36.78
Valor Residual	= 7.39
Canal	B7



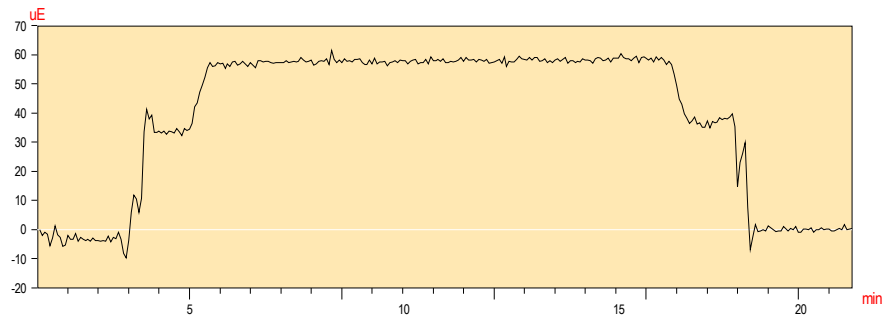
Prueba :	**E-13**
Fecha :	23/12/2006
Hora :	01:52:01
Valor Inicial	= 0.12
Valor de Prueba	= -33.89
Valor Residual	= 12.12
Canal	B8



Prueba :	**E-13**
Fecha :	2312/2006
Hora :	01:52:01
Valor Inicial	= -2.93
Valor de Prueba	= 67.49
Valor Residual	= 3.87
Canal	B9



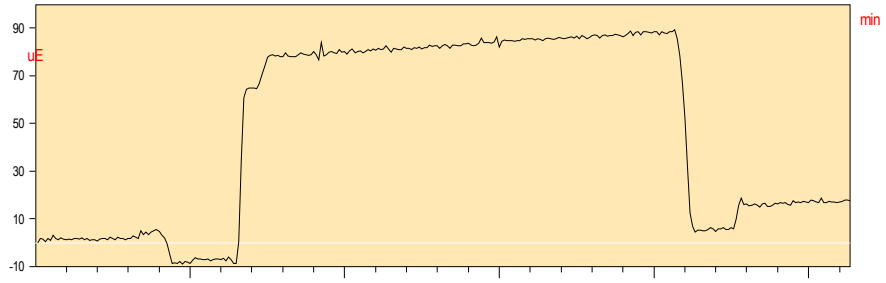
Prueba :	**E-13**
Fecha :	23/12/2006
Hora :	01:52:01
Valor Inicial	= -0.94
Valor de Prueba	= 58.45
Valor Residual	= 0.00
Canal	B10



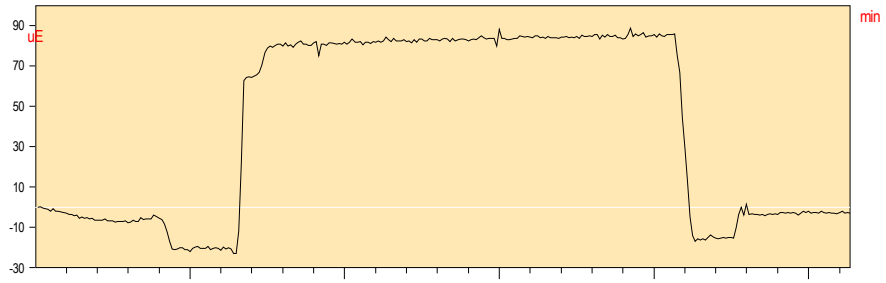
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

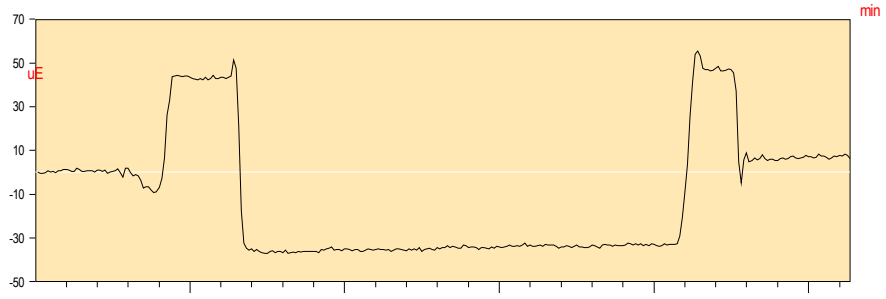
Prueba :	**E-14**
Fecha :	23/12/2006
Hora :	02:12:21
Valor Inicial	= 0.78
Valor de Prueba	= 86.36
Valor Residual	= 17.45
Canal	B7



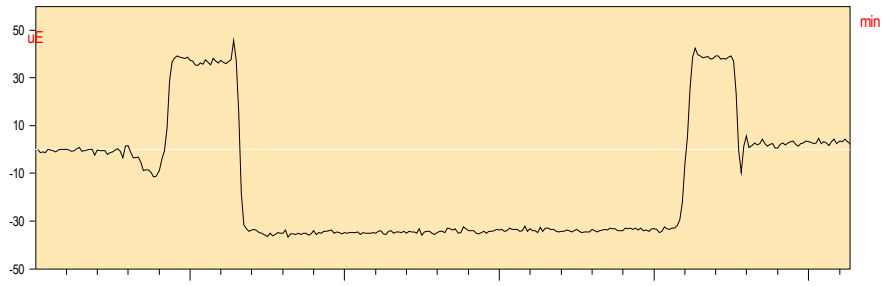
Prueba :	**E-14**
Fecha :	23/12/2006
Hora :	02:12:21
Valor Inicial	= -1.23
Valor de Prueba	= 84.98
Valor Residual	= -2.12
Canal	B8



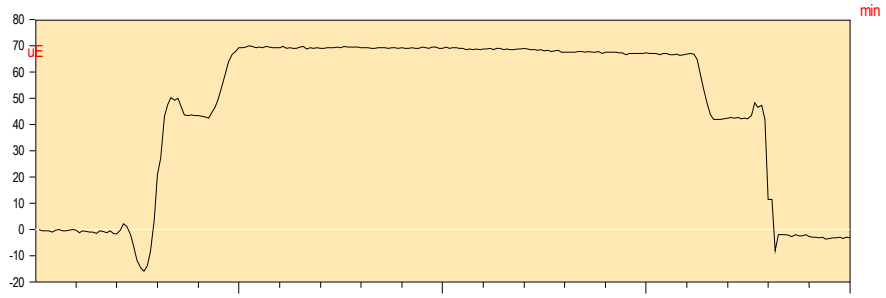
Prueba :	**E-14**
Fecha :	23/12/2006
Hora :	02:12:21
Valor Inicial	= -0.25
Valor de Prueba	= -35.45
Valor Residual	= 7.56
Canal	B9



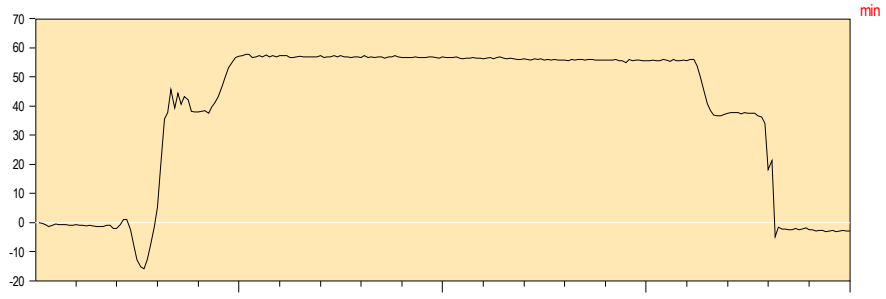
Prueba :	**E-14**
Fecha :	23/12/2006
Hora :	02:12:21
Valor Inicial	= -1.36
Valor de Prueba	= -34.32
Valor Residual	= 4.11
Canal	B10



Prueba :	**E-14**
Fecha :	23/12/2006
Hora :	02:12:21
Valor Inicial	= -0.49
Valor de Prueba	= 68.49
Valor Residual	= -2.29
Canal	B11



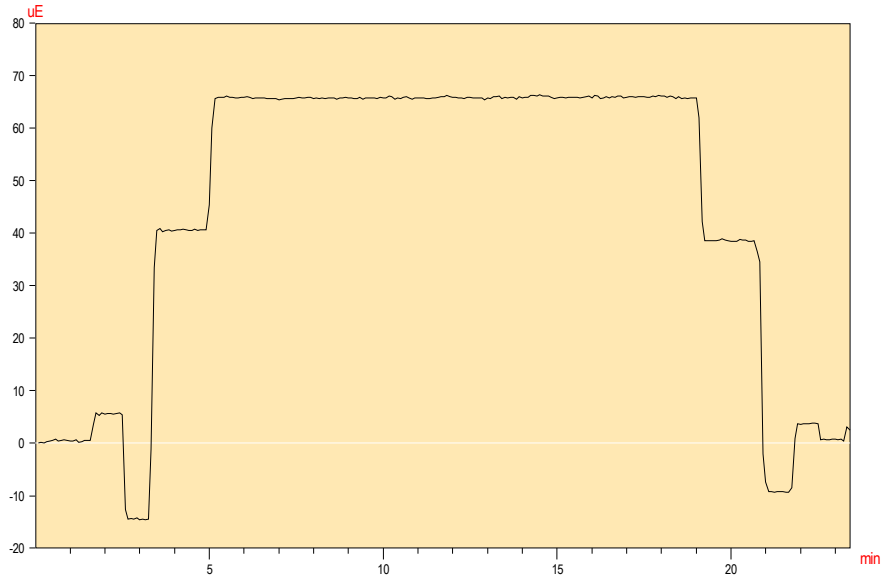
Prueba :	**E-14**
Fecha	23/12/2006
Hora :	02:12:21
Valor Inicial	= -0.23
Valor de Prueba	= 56.16
Valor Residual	= -1.86
Canal	B12



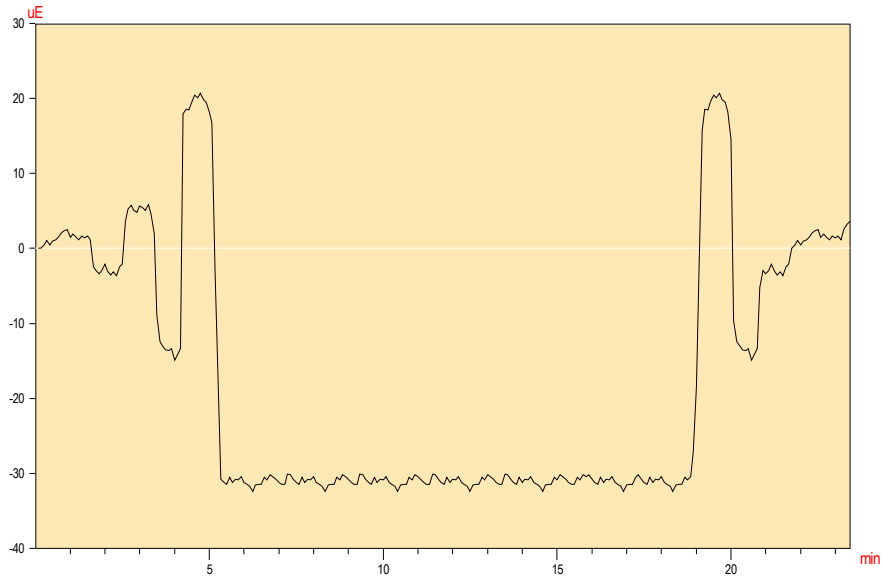
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

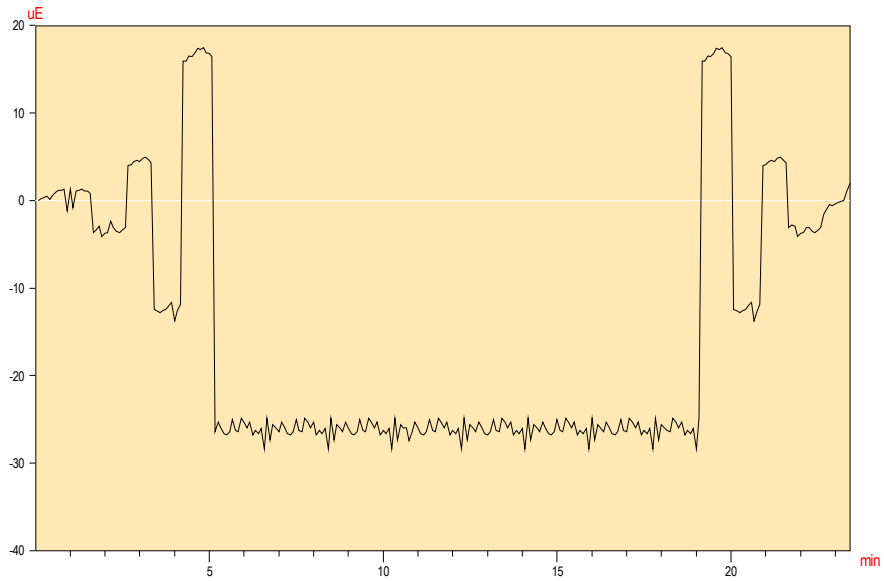
Prueba :	**E-15**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= 0.00
Valor de Prueba	= 65.73
Valor Residual	= 0.82
Canal	B10



Prueba :	**E-15**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= 0.00
Valor de Prueba	= -31.22
Valor Residual	= 1.88
Canal	B11



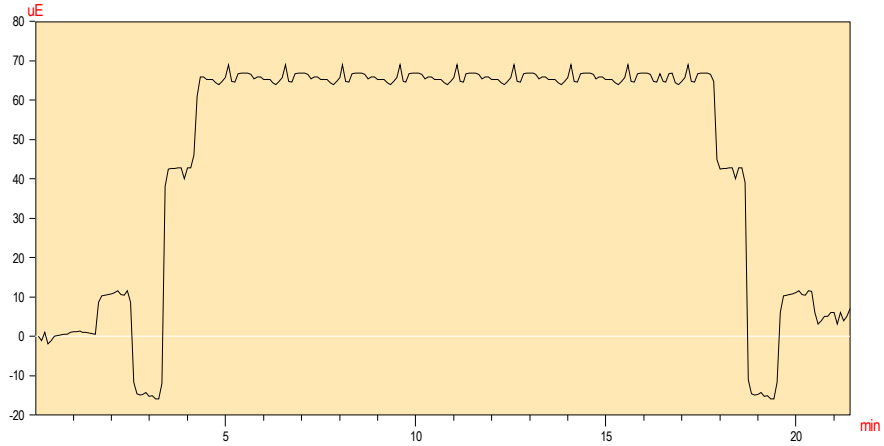
Prueba :	**E-15**
Fecha :	23/12/06
Hora :	02:36:49
Valor Inicial	= 0.00
Valor de Prueba	= -25.94
Valor Residual	= 1.06
Canal	B12



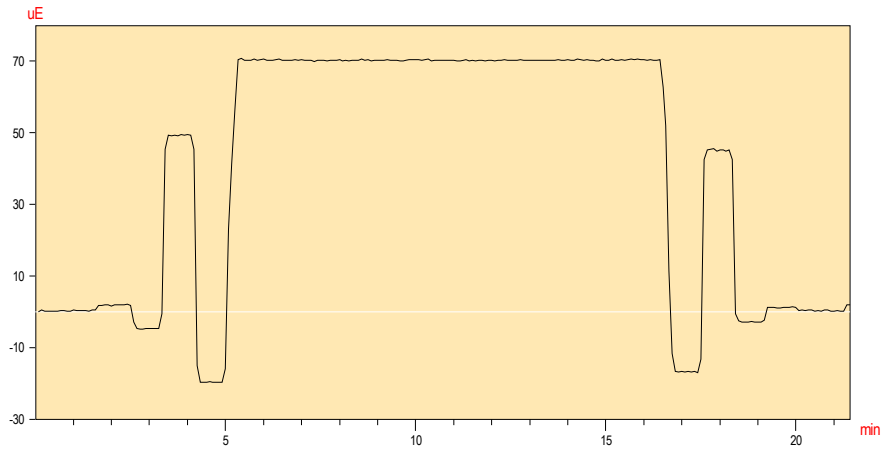
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

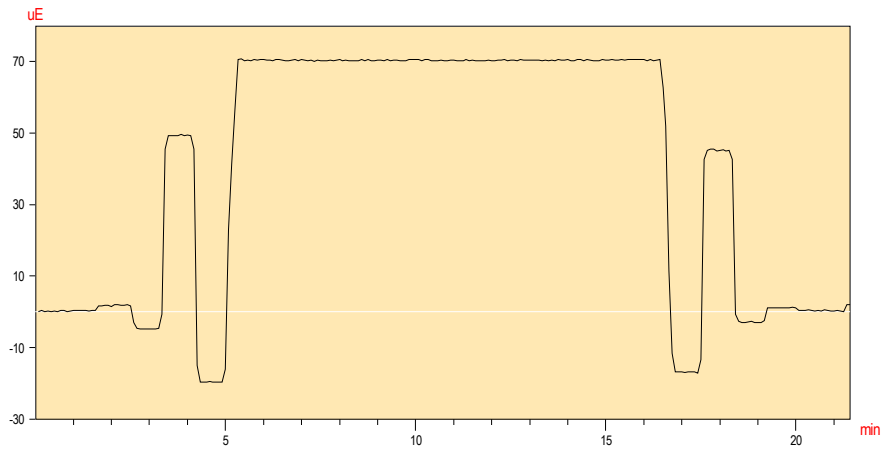
Prueba :	**E-16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.00
Valor de Prueba	= 65.85
Valor Residual	= 3.05
Canal	B11



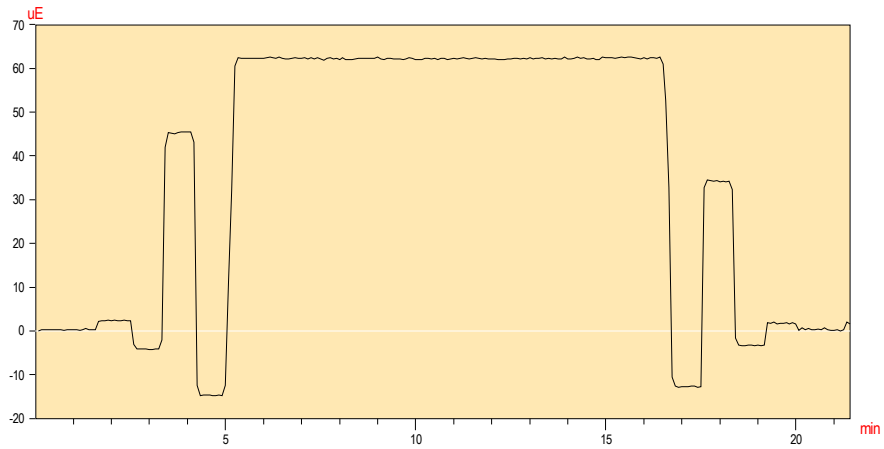
Prueba :	**E-16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.35
Valor de Prueba	= 70.07
Valor Residual	= 0.23
Canal	B12



Prueba :	**E- 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.35
Valor de Prueba	= 70.19
Valor Residual	= 0.59
Canal	B13



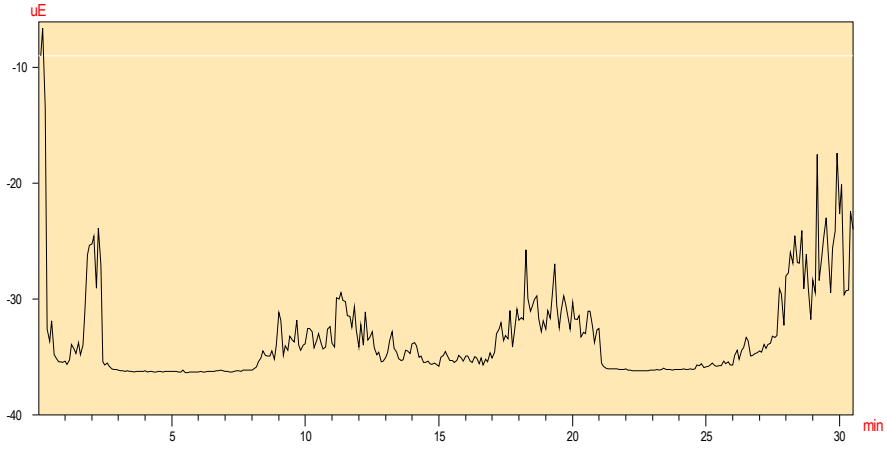
Prueba :	**E- 16**
Fecha :	23/12/06
Hora :	00:05:04
Valor Inicial	= 0.12
Valor de Prueba	= 62.33
Valor Residual	= 0.70
Canal	B14



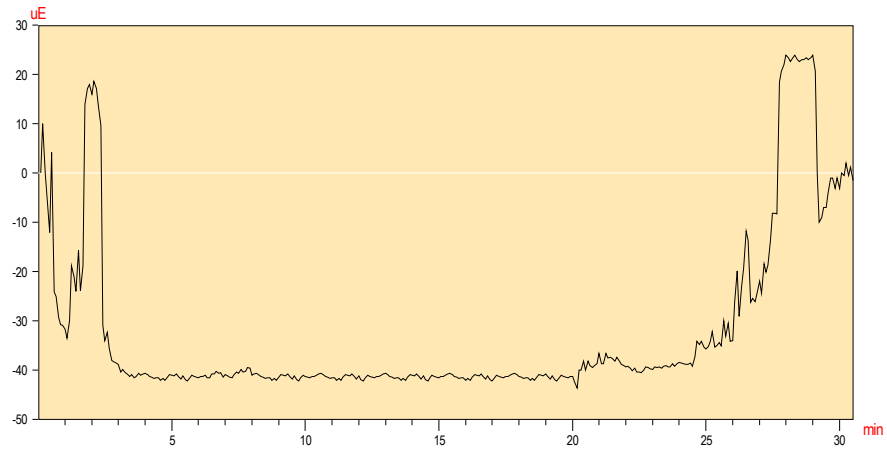
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

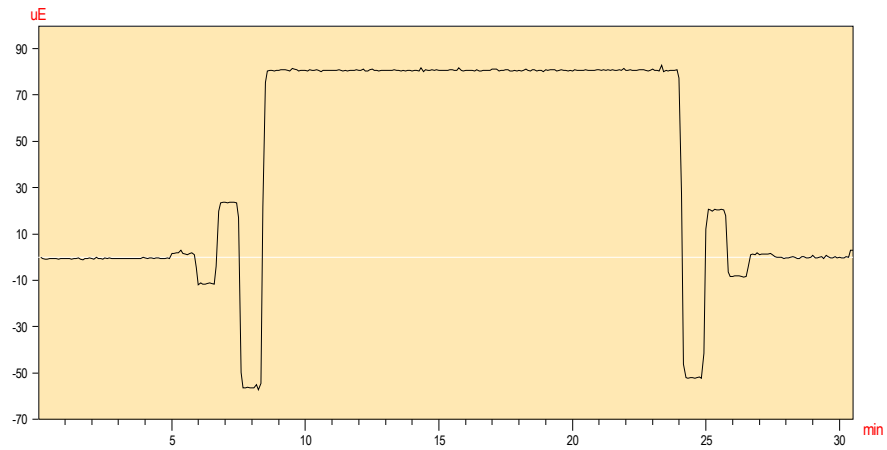
Prueba :	**E-17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.00
Valor de Prueba	= -36.93
Valor Residual	= -14.92
Canal	B13



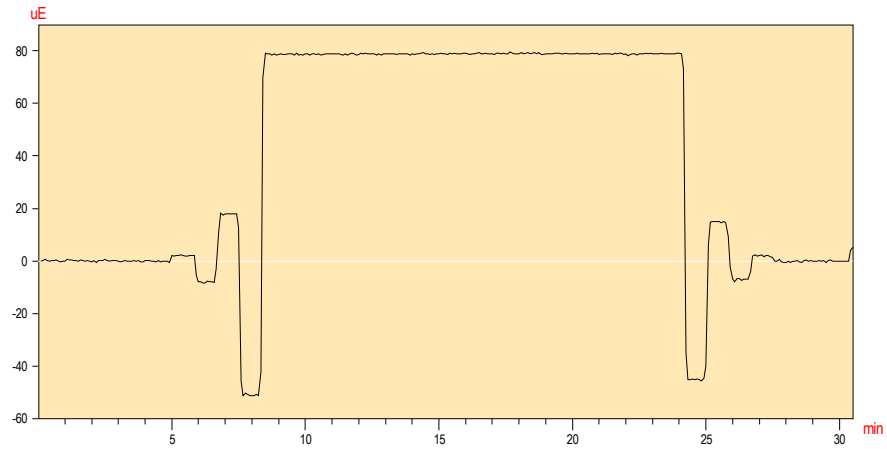
Prueba :	**E-17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.00
Valor de Prueba	= -41.55
Valor Residual	= 0.02
Canal	B14



Prueba :	**E-17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.00
Valor de Prueba	= 80.40
Valor Residual	= 0.12
Canal	B15



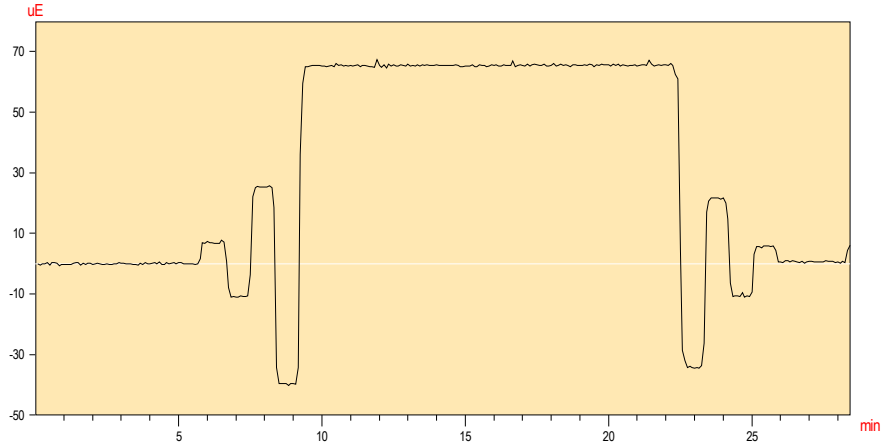
Prueba :	**E-17**
Fecha :	27/12/06
Hora :	13:48:44
Valor Inicial	= 0.23
Valor de Prueba	= 78.64
Valor Residual	= 0.00
Canal	B16



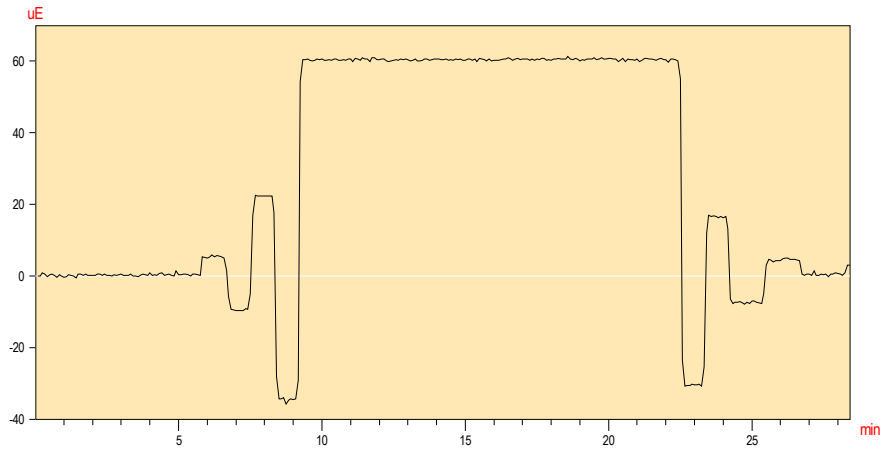
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

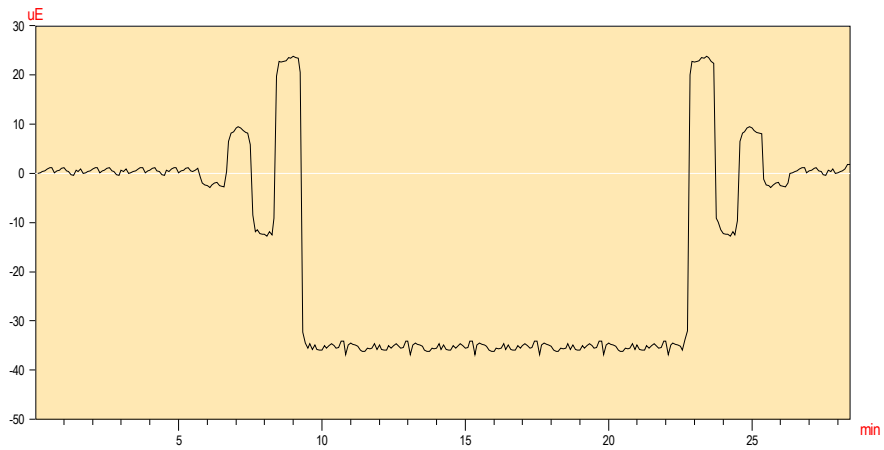
Prueba :	**E-18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.00
Valor de Prueba	= 64.91
Valor Residual	= 0.70
Canal	B13



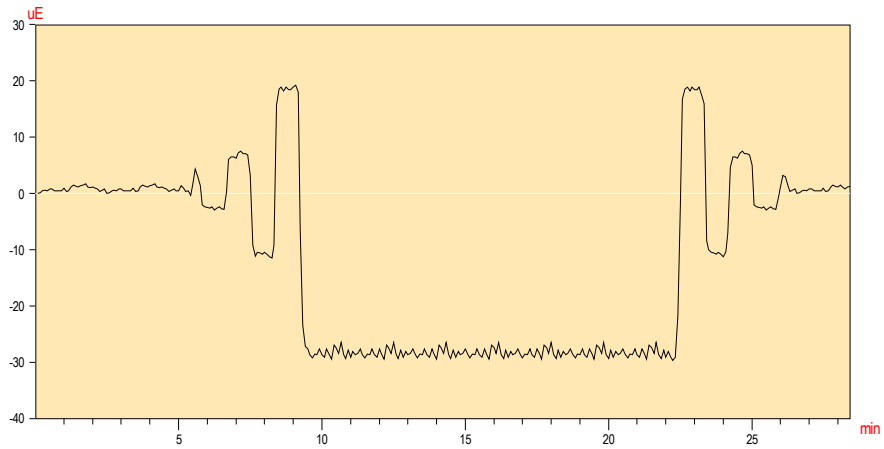
Prueba :	**E-18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= -0.59
Valor de Prueba	= 60.57
Valor Residual	= 0.47
Canal	B14



Prueba :	**E-18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.00
Valor de Prueba	= -36.86
Valor Residual	= 0.35
Canal	B15



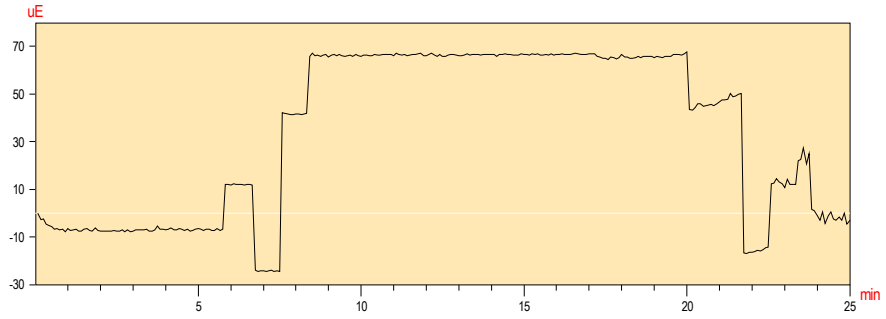
Prueba :	**E-18**
Fecha :	27/12/06
Hora :	14:09:09
Valor Inicial	= 0.00
Valor de Prueba	= -28.64
Valor Residual	= 0.82
Canal	B16



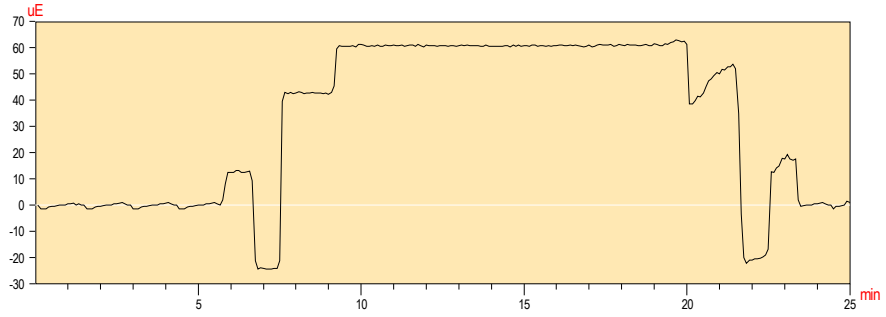
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

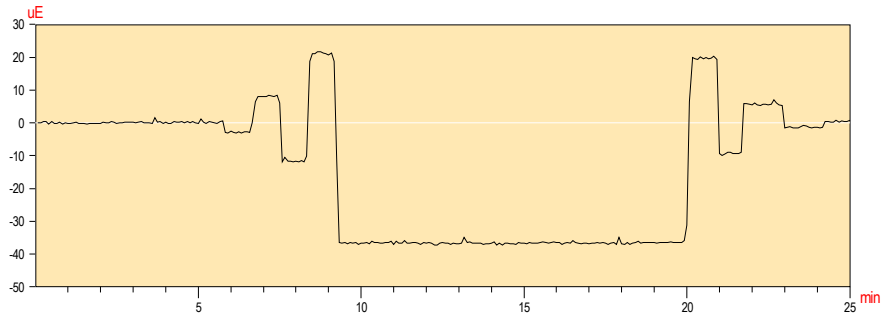
Prueba :	**E-19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.00
Valor de Prueba	= 66.55
Valor Residual	= -4.58
Canal	B15



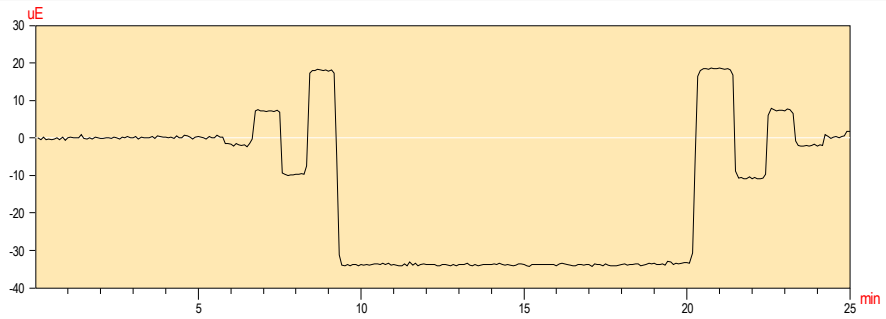
Prueba :	**E-19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.00
Valor de Prueba	= 60.57
Valor Residual	= -0.35
Canal	B16



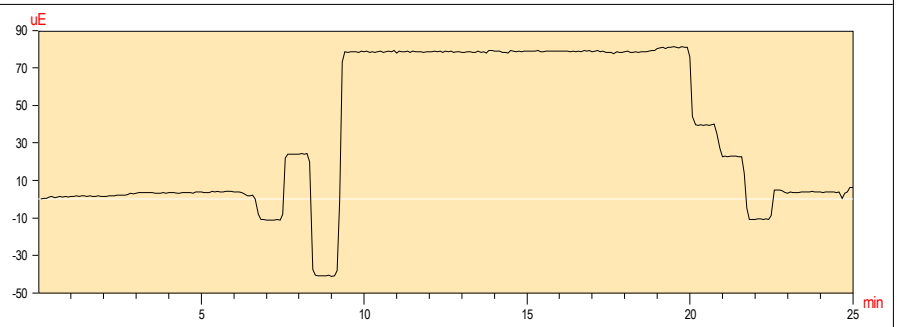
Prueba :	**E-19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.00
Valor de Prueba	= -36.86
Valor Residual	= 0.35
Canal	B17



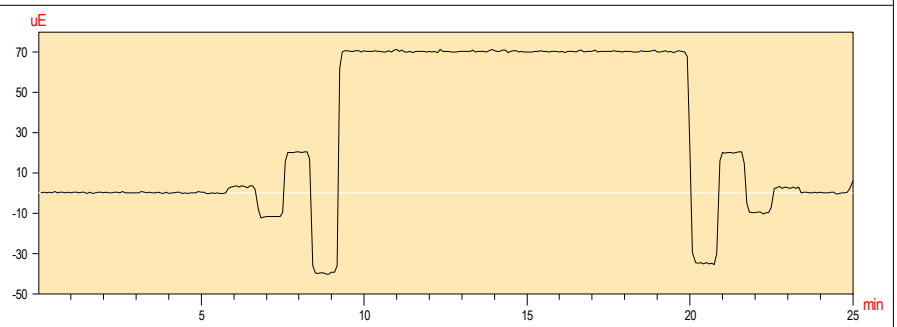
Prueba :	**E-19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.00
Valor de Prueba	= -34.04
Valor Residual	= 0.35
Canal	B18



Prueba :	**E-19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.00
Valor de Prueba	= 78.88
Valor Residual	= 0.47
Canal	B19



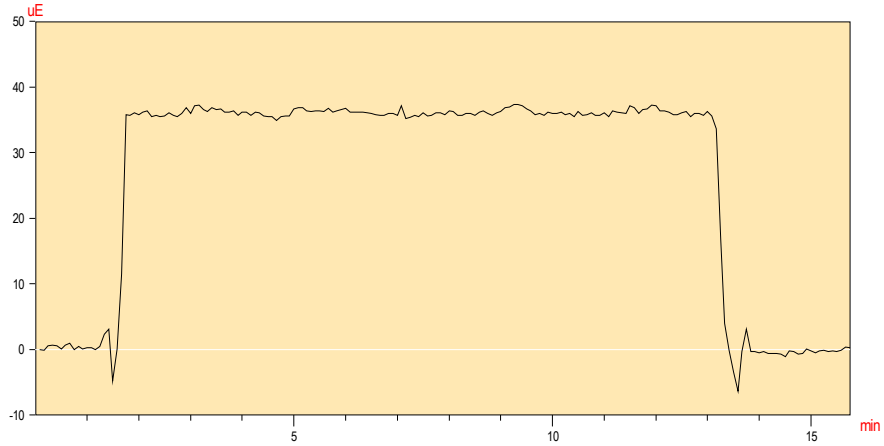
Prueba :	**E-19**
Fecha :	27/12/06
Hora :	11:46:28
Valor Inicial	= 0.00
Valor de Prueba	= 70.19
Valor Residual	= 0.35
Canal	B20



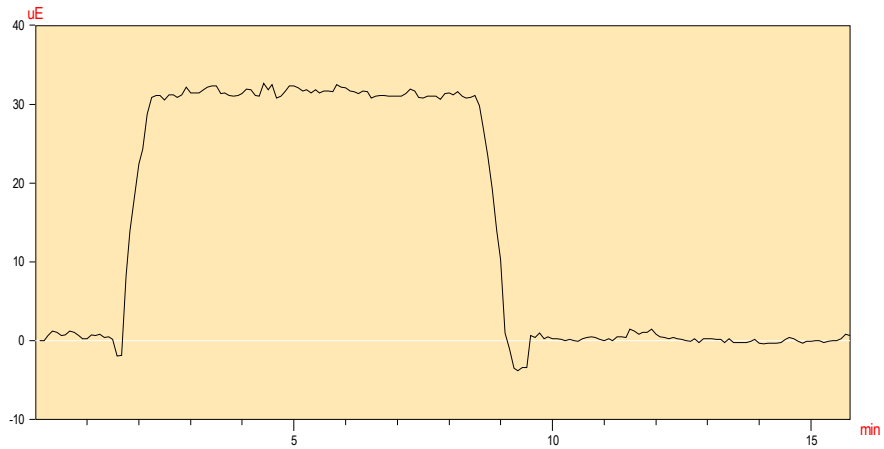
Prueba de carga de la Estructura : viaducto lav mixta

Organismo : ADIF

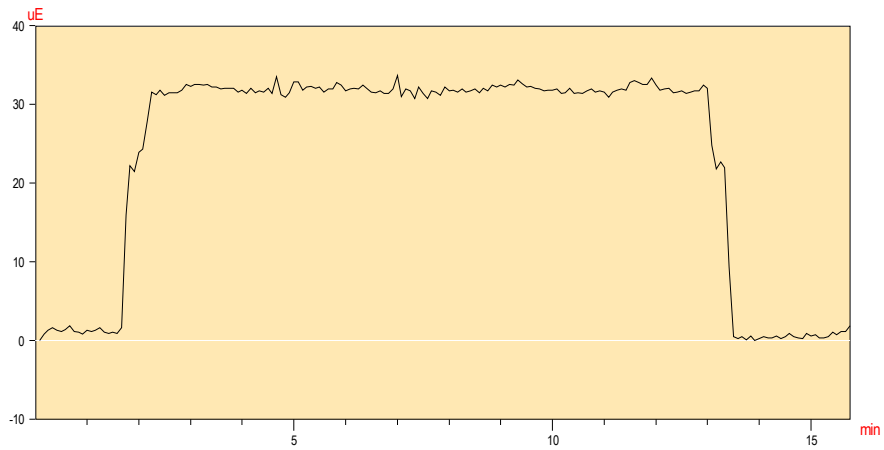
Prueba :	**H 1**
Fecha :	29/12/06
Hora :	15:31:58
Valor Inicial	= 0.00
Valor de Prueba	= 37.09
Valor Residual	= -0.12
Canal	B1



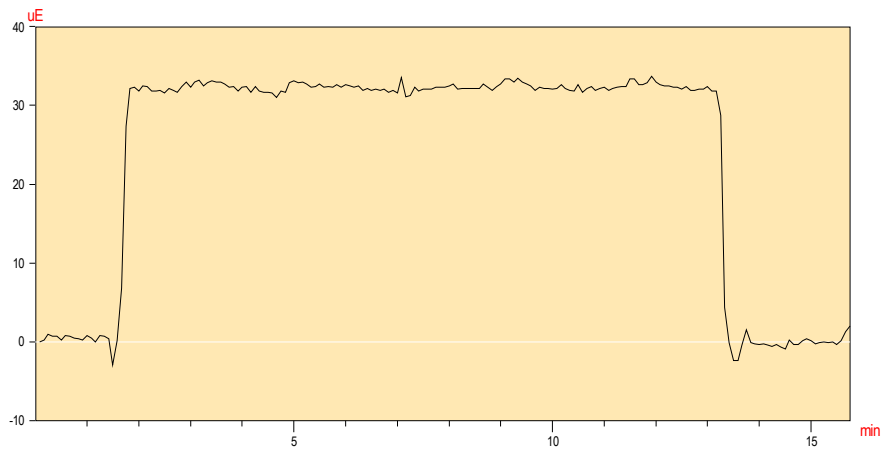
Prueba :	**H 1**
Fecha :	29/12/06
Hora :	15:31:58
Valor Inicial	= 0.00
Valor de Prueba	= 32.63
Valor Residual	= -0.23
Canal	B2



Prueba :	**H 1**
Fecha :	29/12/06
Hora :	15:31:58
Valor Inicial	= 0.00
Valor de Prueba	= 33.69
Valor Residual	= 0.23
Canal	B3



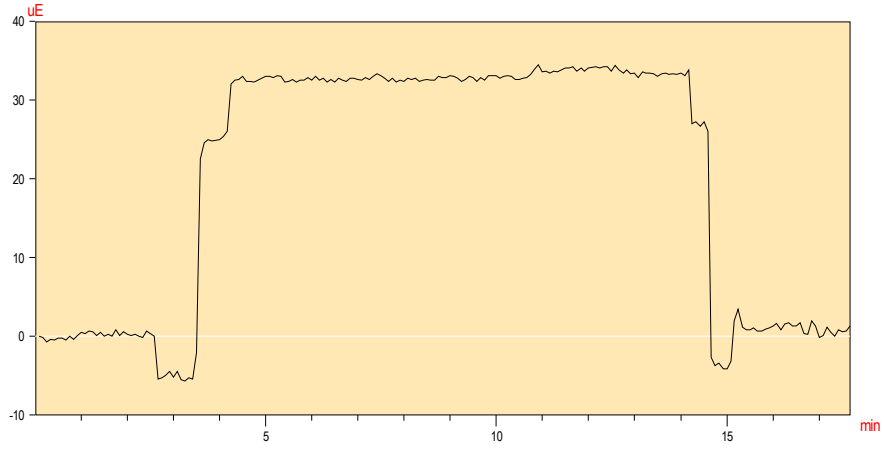
Prueba :	**H 1**
Fecha :	29/12/06
Hora :	15:31:58
Valor Inicial	= 0.00
Valor de Prueba	= 33.57
Valor Residual	= 0.00
Canal	B4



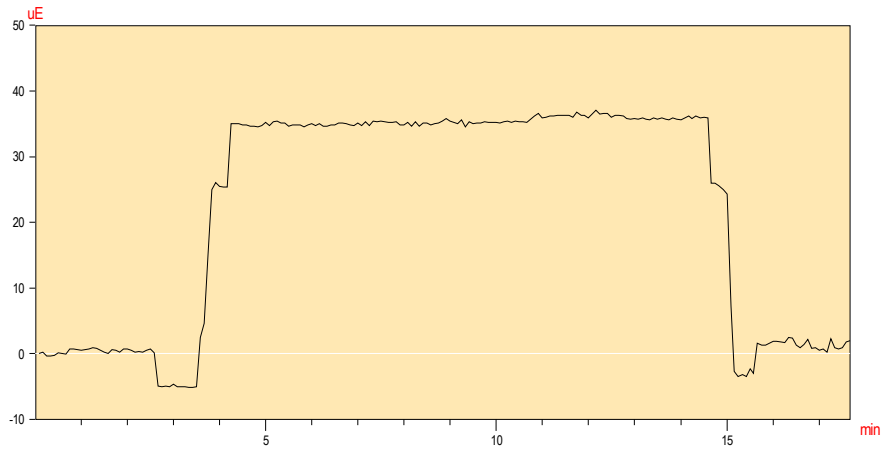
Prueba de carga de la Estructura : viaducto lav mixta

Organismo : ADIF

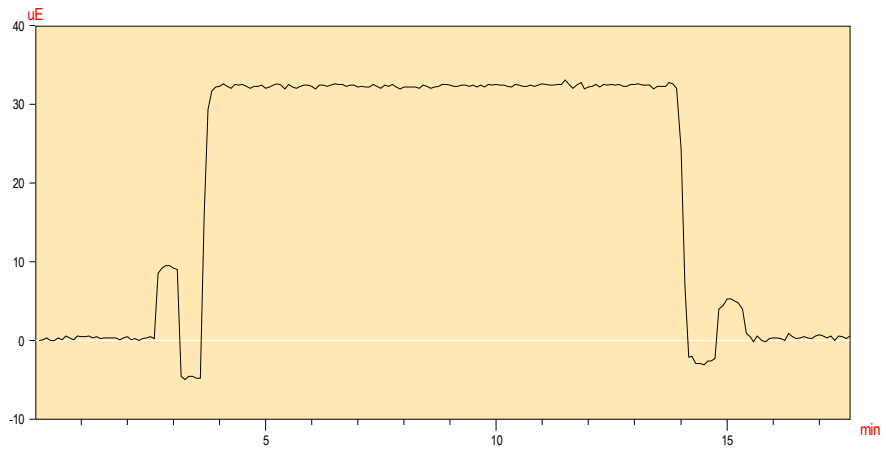
Prueba :	**H 2**
Fecha :	29/12/06
Hora :	15:58:55
Valor Inicial	= 0.00
Valor de Prueba	= 34.51
Valor Residual	= 0.82
Canal	B3



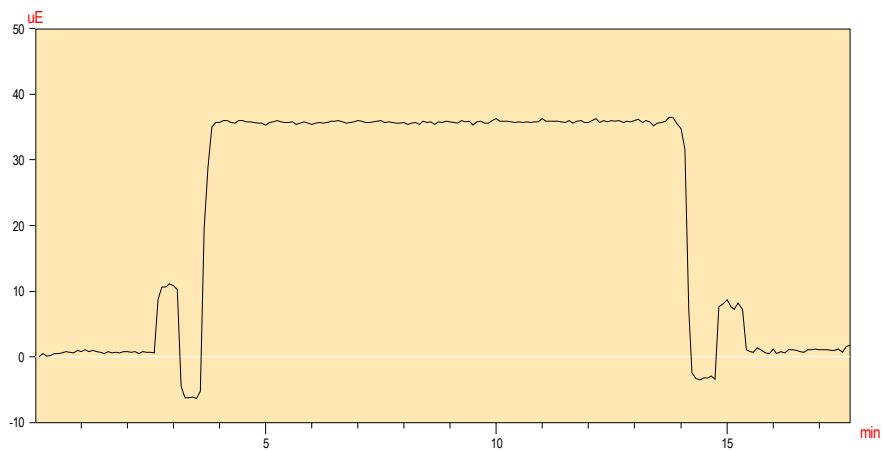
Prueba :	**H 2**
Fecha :	29/12/06
Hora :	15:58:55
Valor Inicial	= 0.00
Valor de Prueba	= 36.50
Valor Residual	= 0.23
Canal	B4



Prueba :	**H 2**
Fecha :	29/12/06
Hora :	15:58:55
Valor Inicial	= 0.00
Valor de Prueba	= 32.51
Valor Residual	= 0.00
Canal	B5



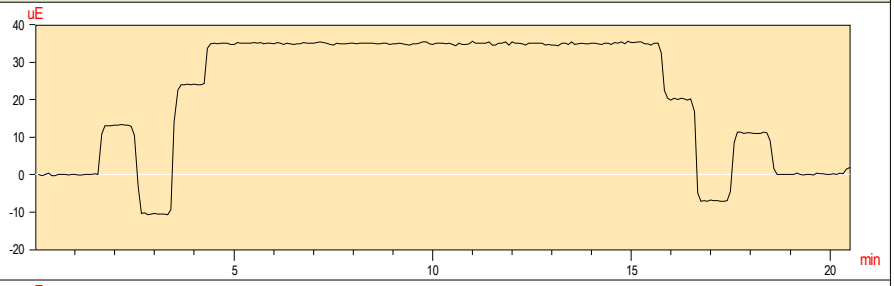
Prueba :	**H 2**
Fecha :	29/12/06
Hora :	15:58:55
Valor Inicial	= 0.12
Valor de Prueba	= 36.50
Valor Residual	= 0.70
Canal	B6



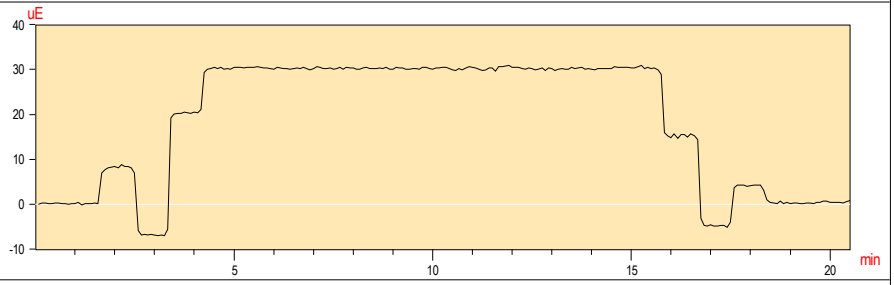
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

Prueba :	**H 3**
Fecha :	21/12/06
Hora :	1:01:26
Valor Inicial	= 0.12
Valor de Prueba	= 35.10
Valor Residual	= 0.23
Canal	B5



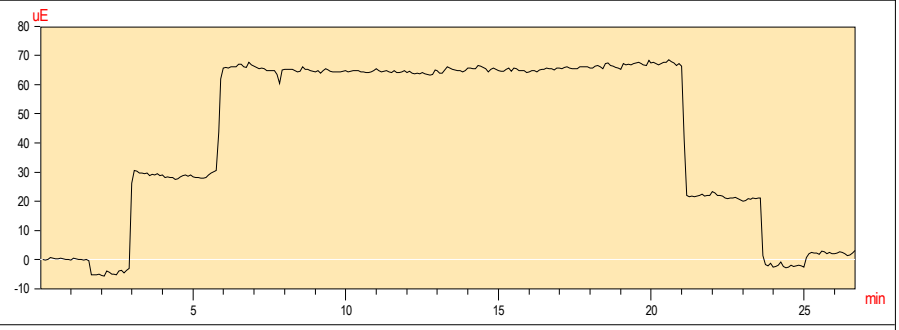
Prueba :	**H 3**
Fecha :	21/12/06
Hora :	1:01:26
Valor Inicial	= 0.00
Valor de Prueba	= 30.40
Valor Residual	= 0.47
Canal	B6



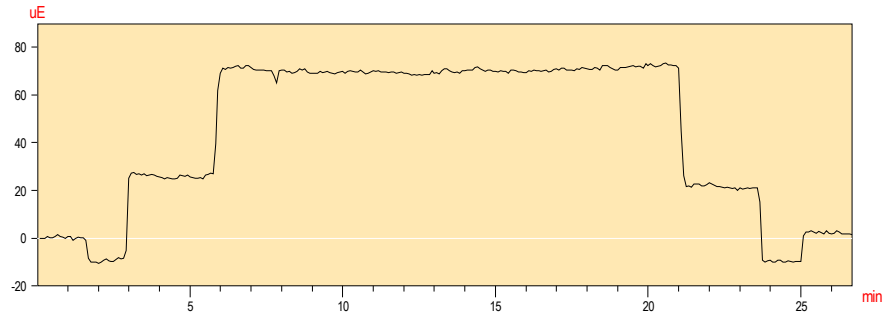
Prueba de carga de la Estructura : viaduc uic1.cfg

Organismo : ADIF

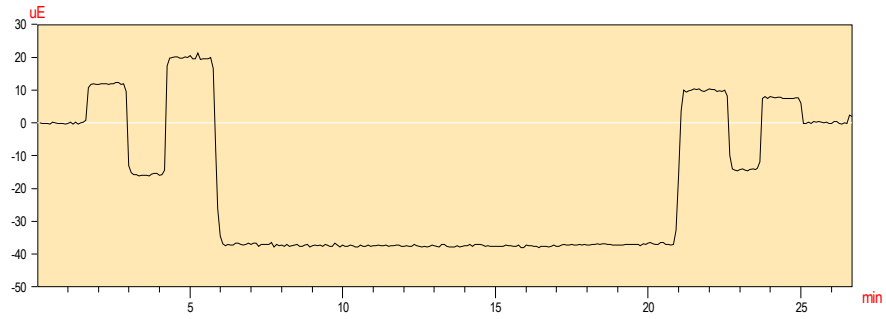
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:37
Valor Inicial	= -0.23
Valor de Prueba	= 65.61
Valor Residual	= 1.41
Canal	B3



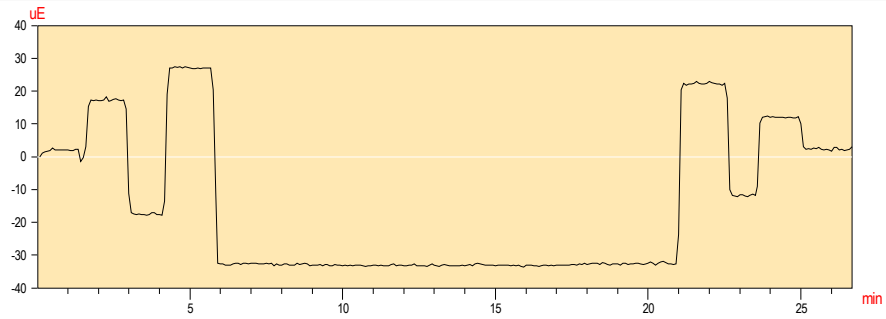
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:37
Valor Inicial	= 0.00
Valor de Prueba	= 71.01
Valor Residual	= 1.76
Canal	B4



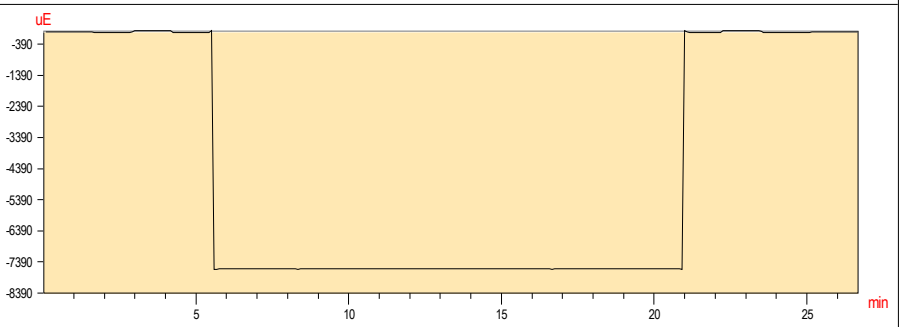
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:37
Valor Inicial	= 0.00
Valor de Prueba	= -37.33
Valor Residual	= -0.12
Canal	B5



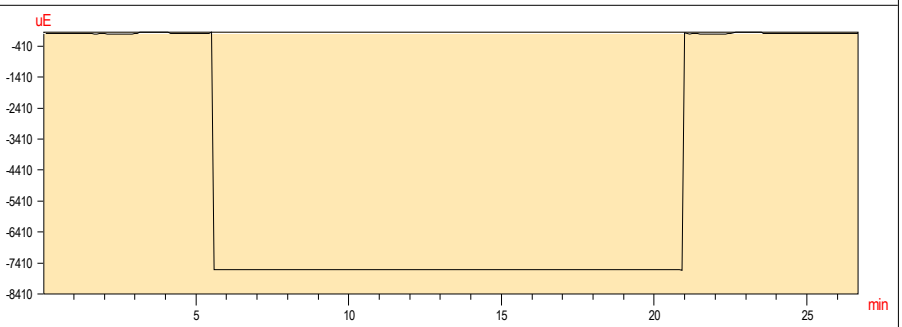
Prueba :	**HIPOTESIS 12**
Fecha :	29/12/06
Hora :	16:49:37
Valor Inicial	= 0.00
Valor de Prueba	= -33.33
Valor Residual	= 2.82
Canal	B6



Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:37
Valor Inicial	= -7615.30
Valor de Prueba	= -7615.54
Valor Residual	= -21.95
Canal	B7



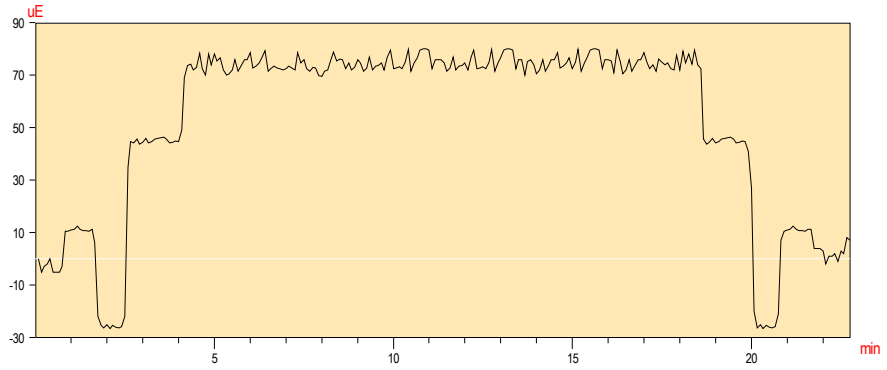
Prueba :	**HIPOTESIS 4**
Fecha :	29/12/06
Hora :	16:49:37
Valor Inicial	= -2.00
Valor de Prueba	= -7624.46
Valor Residual	= -10.45
Canal	B8



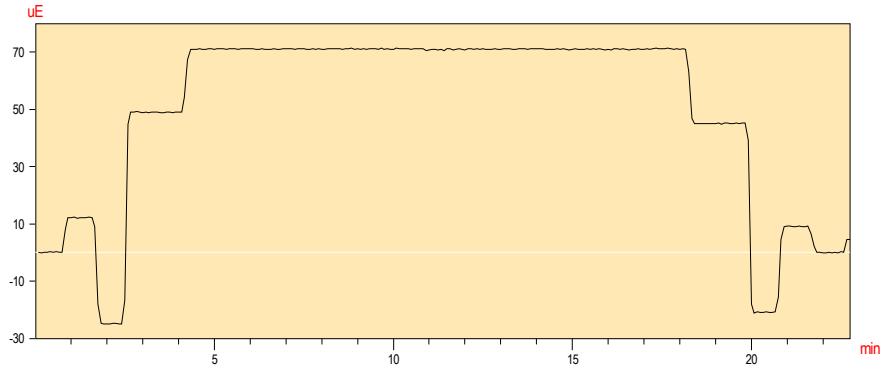
Prueba de carga de la Estructura : viaduct uic 2.cfg

Organismo : adif

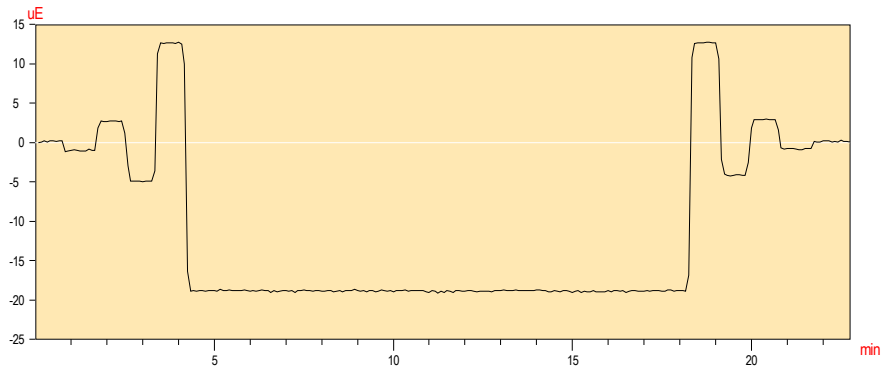
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/06
Hora :	17:34:27
Valor Inicial	= 0.00
Valor de Prueba	= 71.95
Valor Residual	= -2.00
Canal	B5



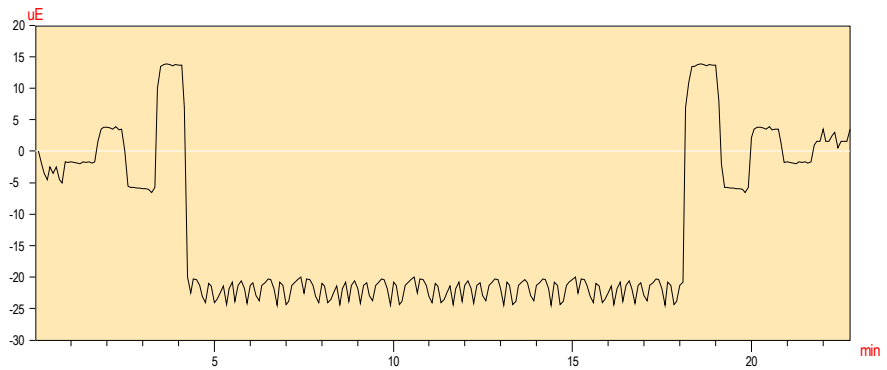
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/06
Hora :	17:34:27
Valor Inicial	= 0.00
Valor de Prueba	= 71.01
Valor Residual	= 0.12
Canal	B6



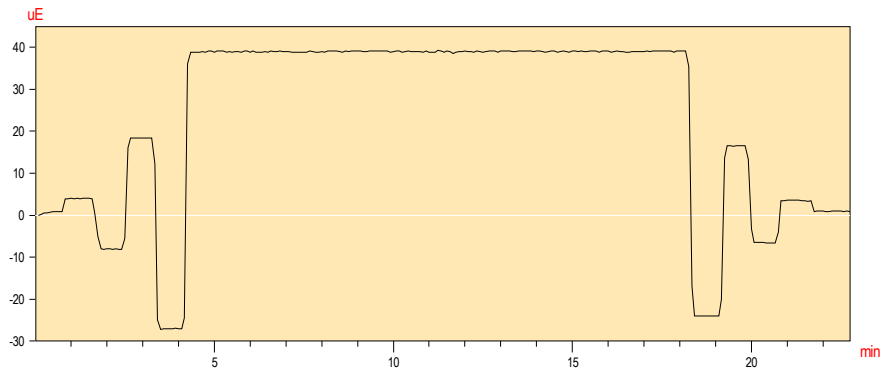
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/06
Hora :	17:34:27
Valor Inicial	= 0.00
Valor de Prueba	= -19.15
Valor Residual	= 0.12
Canal	B7



Prueba :	**HIPOTESIS 5**
Fecha :	29/12/06
Hora :	17:34:27
Valor Inicial	= 0.00
Valor de Prueba	= -24.85
Valor Residual	= 7.04
Canal	B8



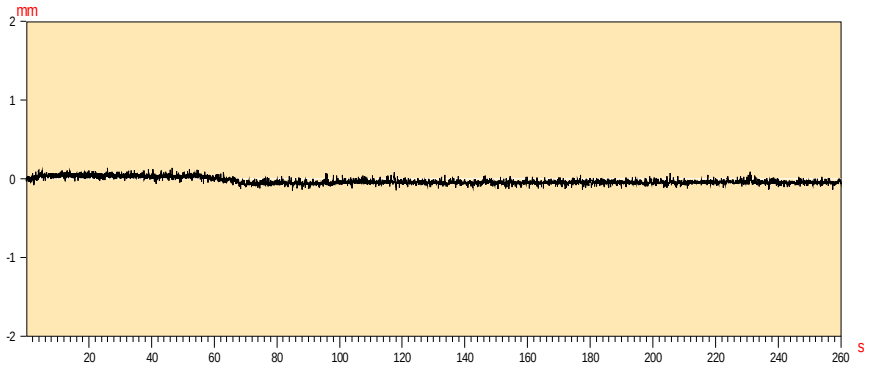
Prueba :	**HIPOTESIS 5**
Fecha :	29/12/06
Hora :	17:34:27
Valor Inicial	= 0.00
Valor de Prueba	= 38.17
Valor Residual	= 1.88
Canal	B9



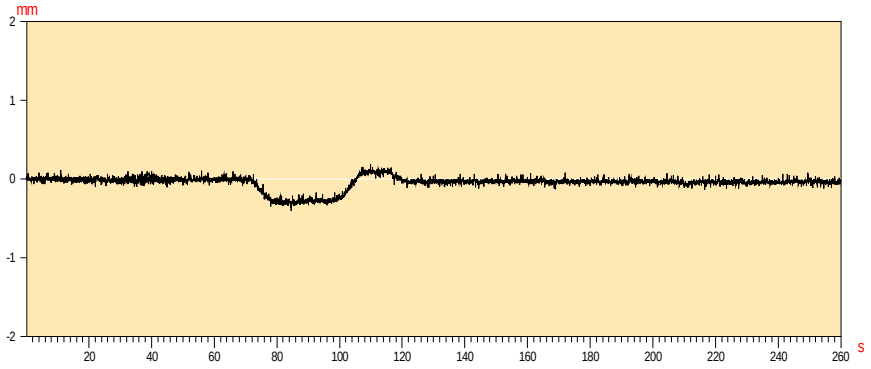
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= -0.01
Valor de Prueba	= -0.08
Valor Residual	= 0.00
Canal	F17



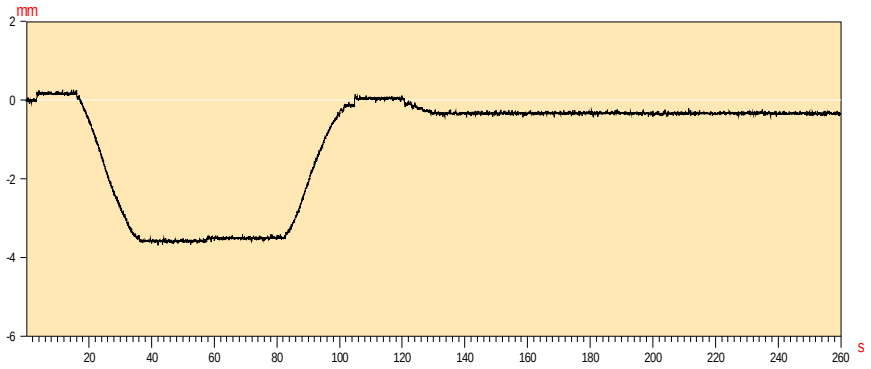
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= -0.01
Valor de Prueba	= -0.30
Valor Residual	= -0.04
Canal	F17



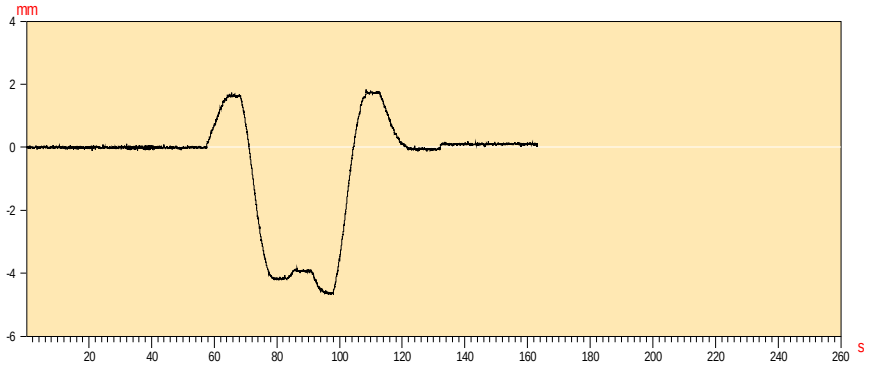
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= -0.01
Valor de Prueba	= -3.50
Valor Residual	= -0.34
Canal	F18



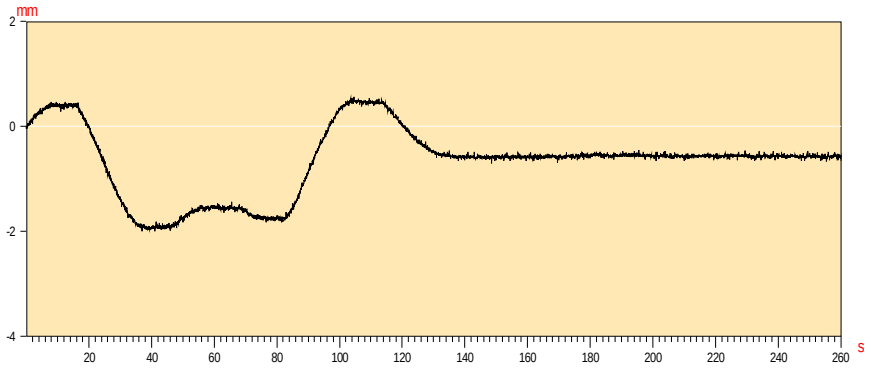
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= 0.02
Valor de Prueba	= -4.63
Valor Residual	= 0.11
Canal	F18



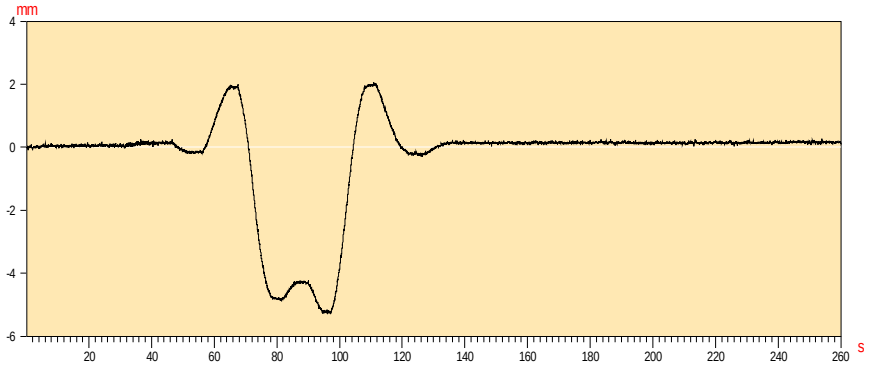
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= 0.05
Valor de Prueba	= -1.93
Valor Residual	= -0.58
Canal	F19



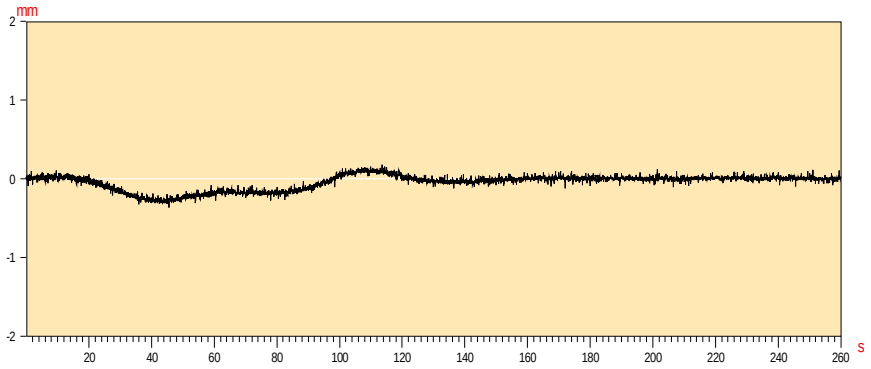
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= 0.01
Valor de Prueba	= -5.12
Valor Residual	= 0.11
Canal	F19



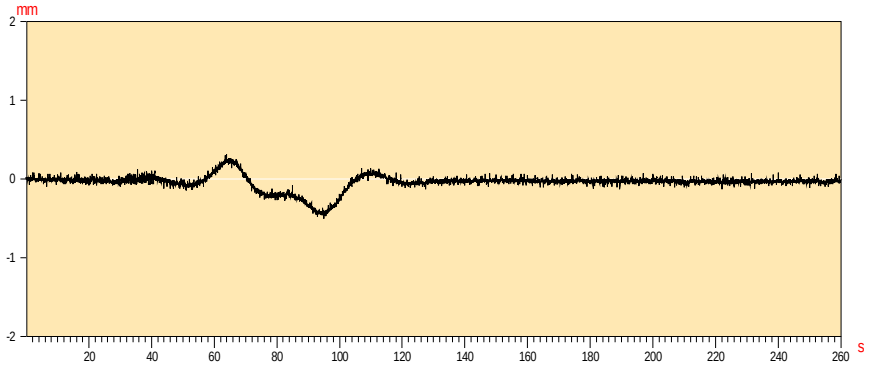
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= 0.02
Valor de Prueba	= -0.30
Valor Residual	= 0.01
Canal	F20



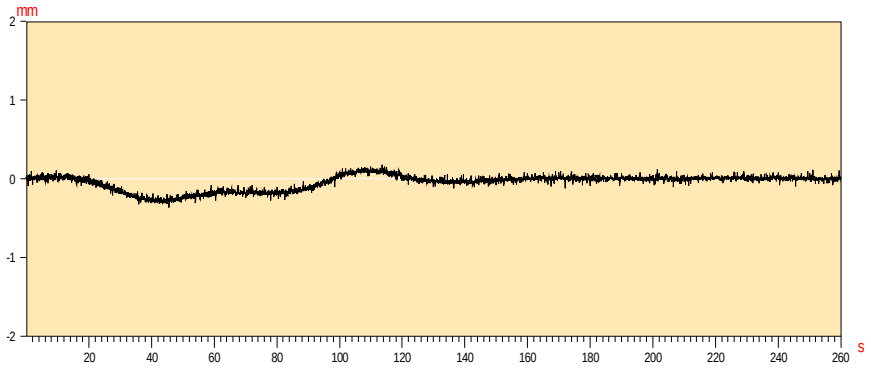
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= 0.00
Valor de Prueba	= -0.45
Valor Residual	= -0.05
Canal	F20



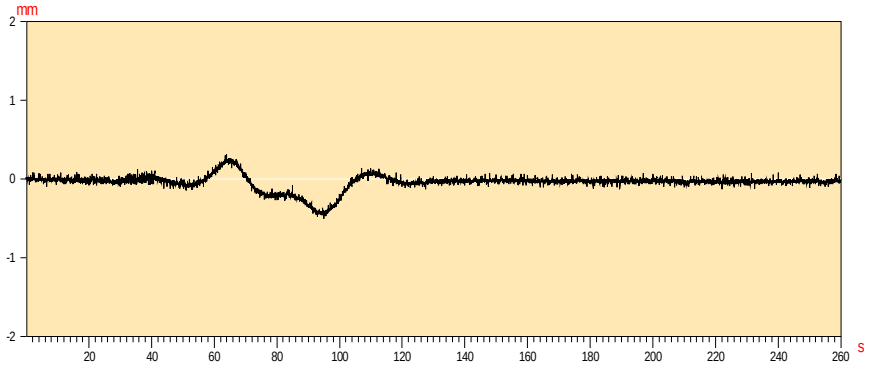
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= 0.02
Valor de Prueba	= -0.30
Valor Residual	= -0.00
Canal	F21



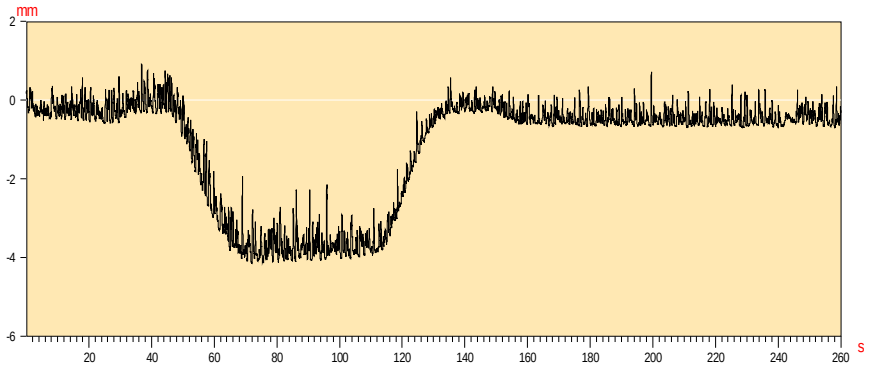
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= 0.02
Valor de Prueba	= -0.44
Valor Residual	= -0.02
Canal	F21



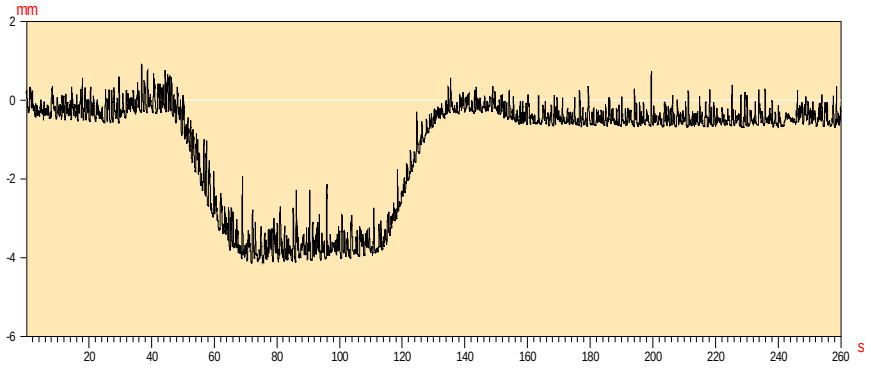
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= -0.04
Valor de Prueba	= -3.13
Valor Residual	= -0.17
Canal	F22



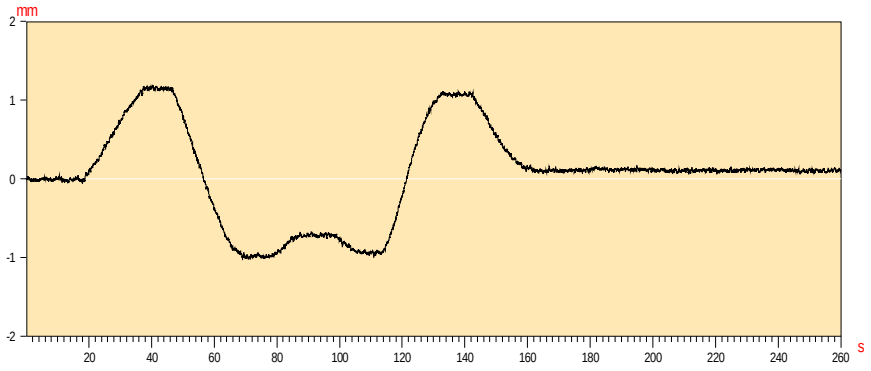
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= 0.13
Valor de Prueba	= -3.94
Valor Residual	= -0.03
Canal	F22



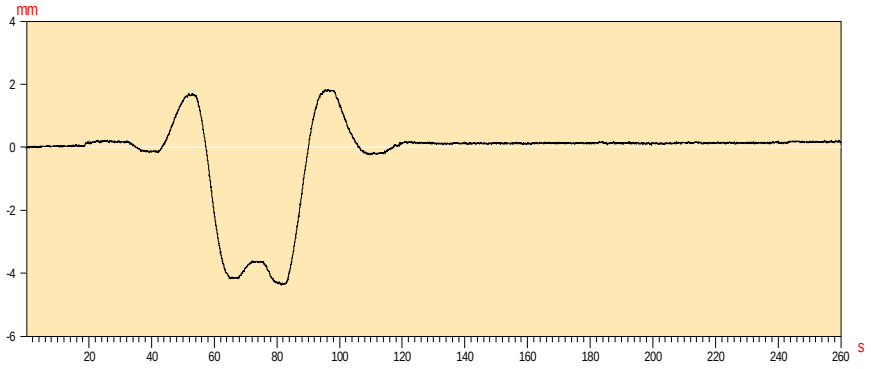
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= -0.03
Valor de Prueba	= -1.00
Valor Residual	= 0.10
Canal	F23



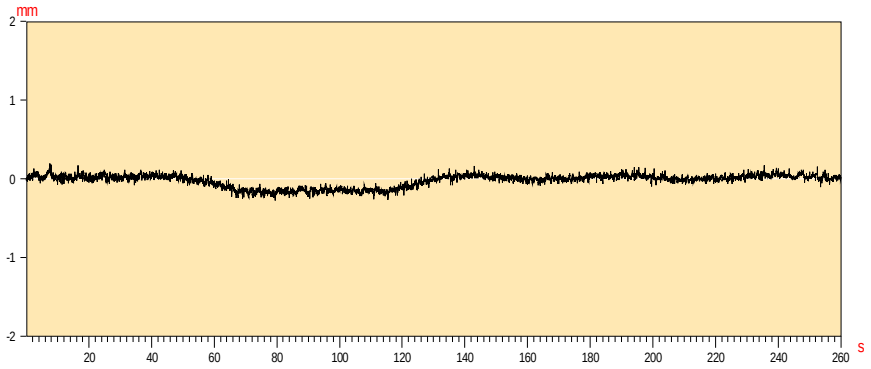
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= 0.01
Valor de Prueba	= -4.34
Valor Residual	= 0.14
Canal	F23



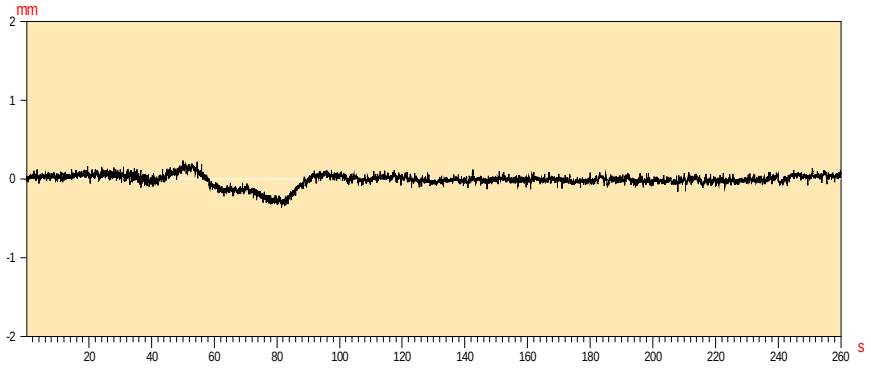
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= 0.03
Valor de Prueba	= -0.18
Valor Residual	= 0.03
Canal	F24



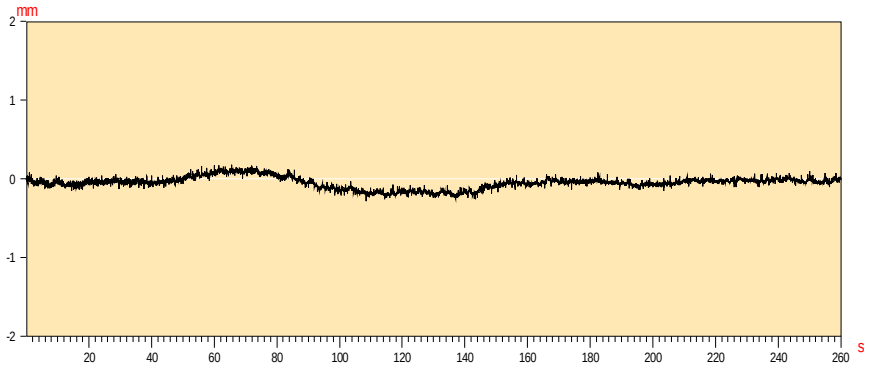
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= 0.00
Valor de Prueba	= -0.30
Valor Residual	= 0.02
Canal	F24



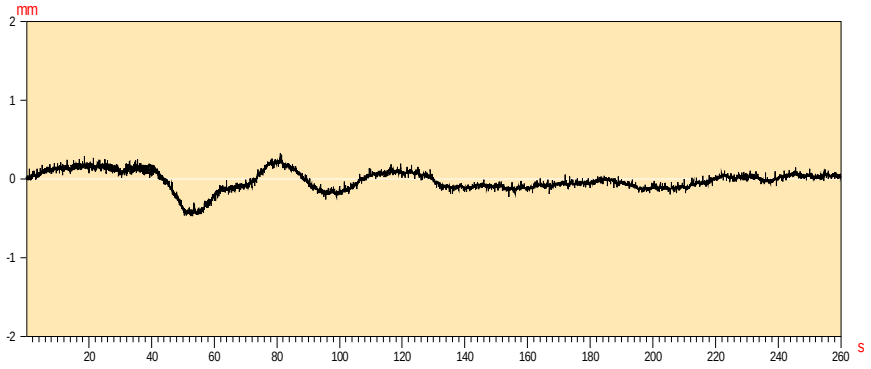
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= -0.05
Valor de Prueba	= -0.19
Valor Residual	= -0.01
Canal	F25



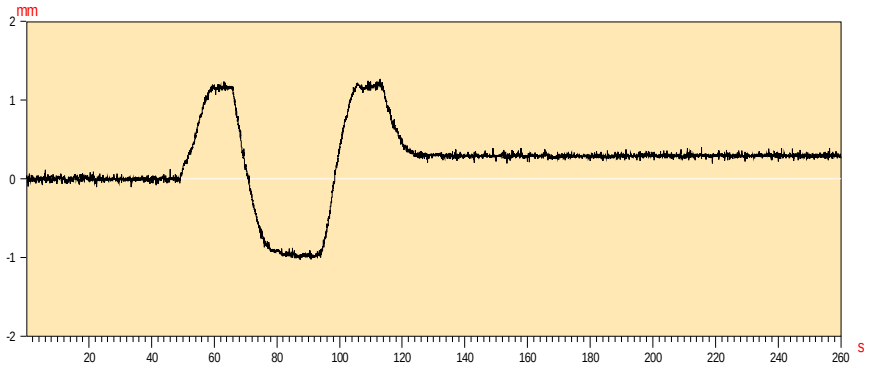
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= 0.02
Valor de Prueba	= -0.43
Valor Residual	= 0.06
Canal	F25



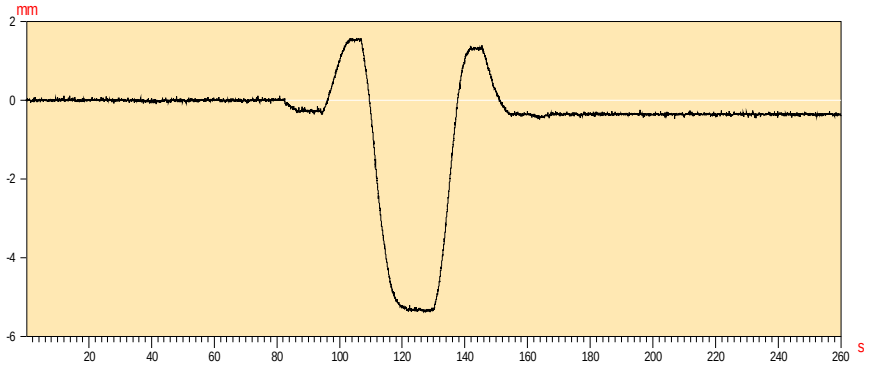
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:46:31
Valor Inicial	= -0.01
Valor de Prueba	= -0.93
Valor Residual	= 0.30
Canal	F26



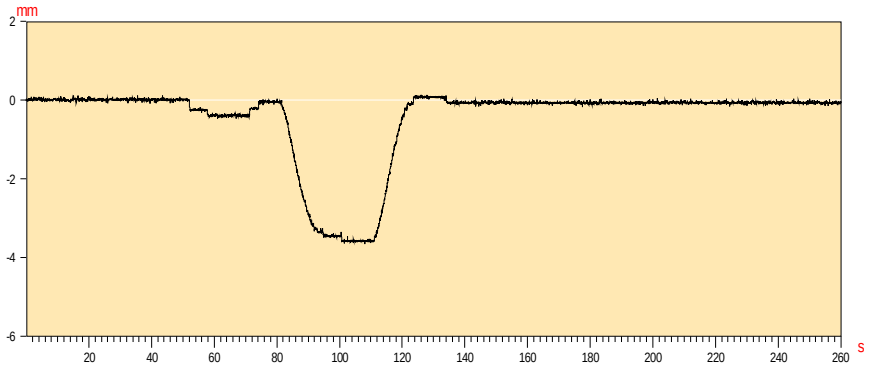
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:16
Valor Inicial	= 0.00
Valor de Prueba	= -5.31
Valor Residual	= -0.36
Canal	F26



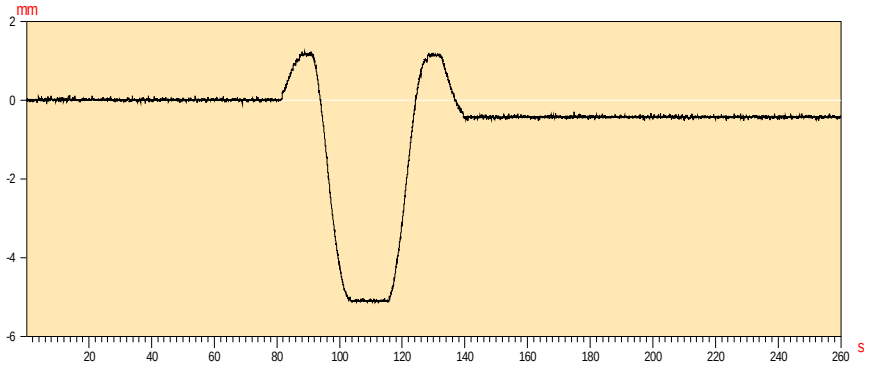
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.03
Valor de Prueba	= -3.58
Valor Residual	= -0.08
Canal	F27



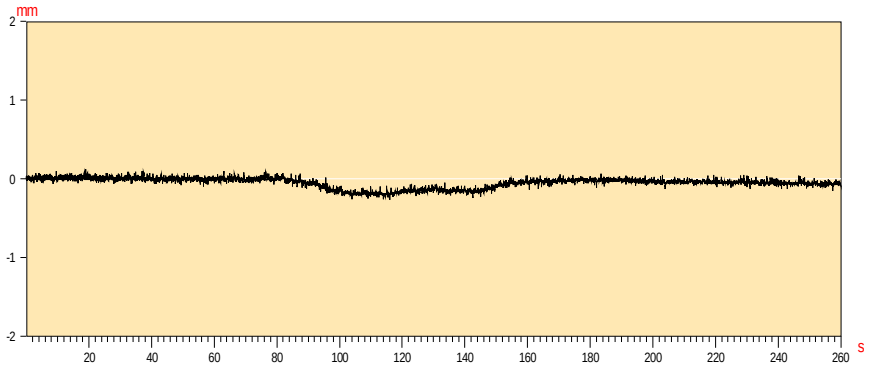
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= 0.00
Valor de Prueba	= -5.10
Valor Residual	= -0.42
Canal	F27



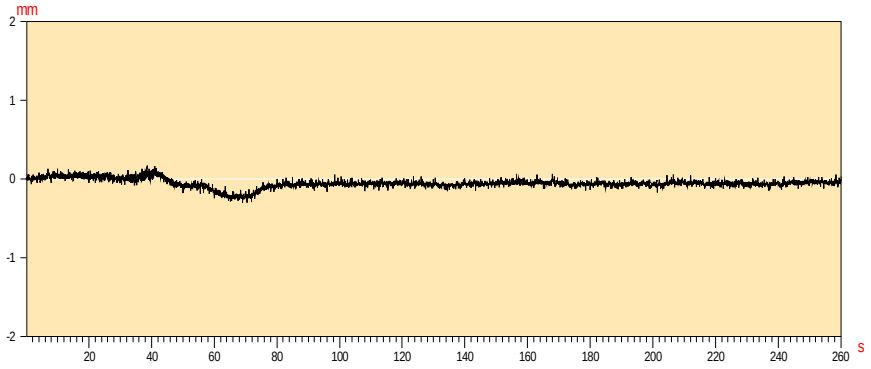
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= 0.02
Valor de Prueba	= -0.16
Valor Residual	= -0.03
Canal	F28



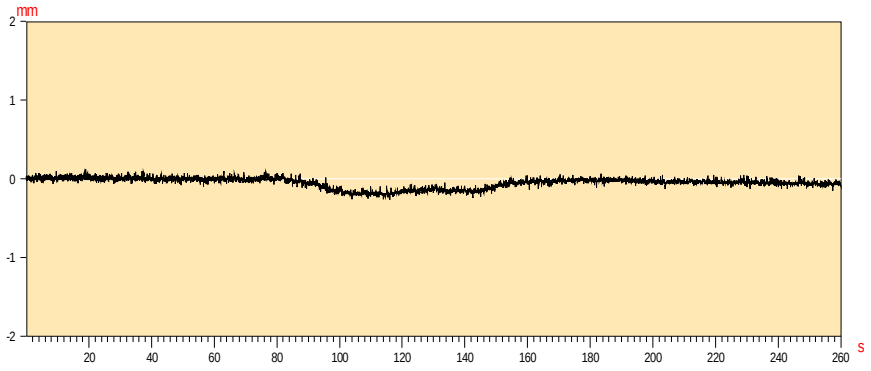
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= -0.02
Valor de Prueba	= -0.22
Valor Residual	= -0.02
Canal	F28



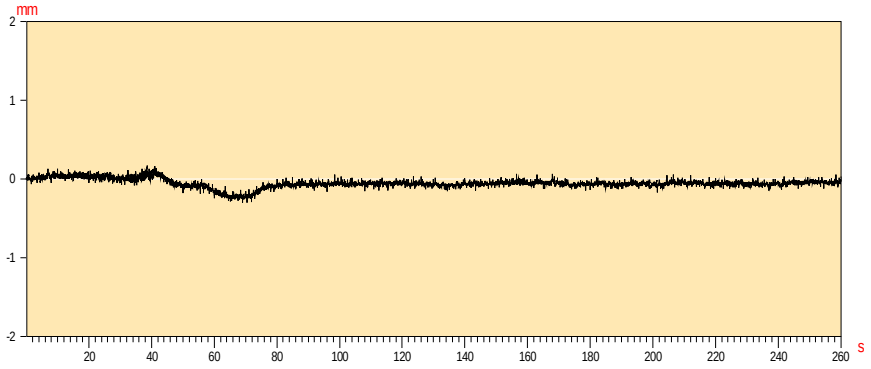
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= 0.02
Valor de Prueba	= -0.18
Valor Residual	= -0.03
Canal	F29



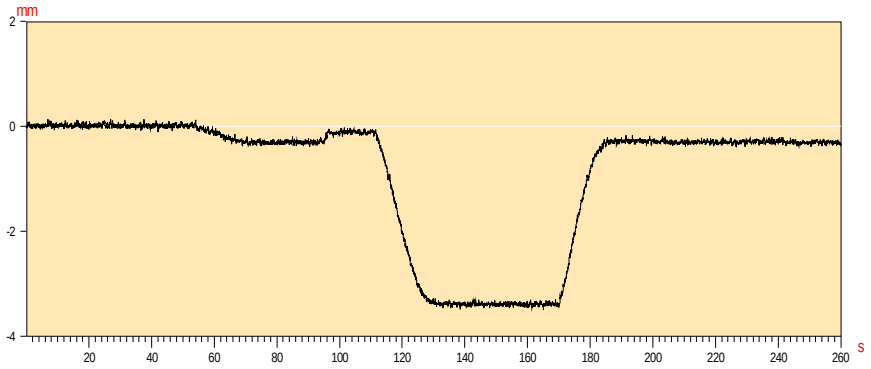
Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= -0.02
Valor de Prueba	= -0.20
Valor Residual	= -0.02
Canal	F29



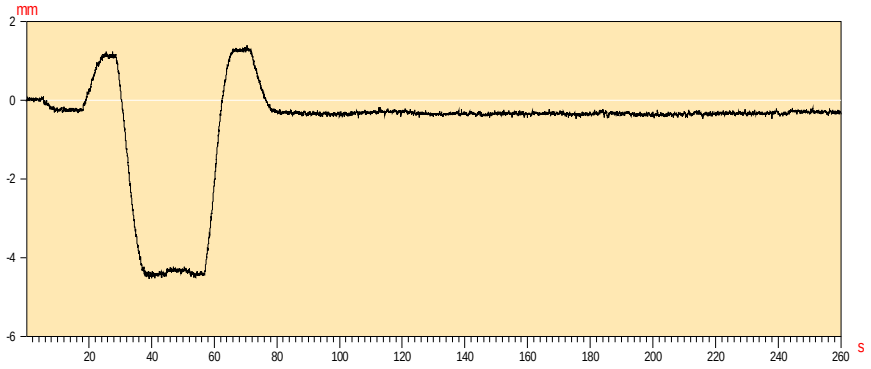
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= -0.02
Valor de Prueba	= -3.37
Valor Residual	= -0.32
Canal	F30



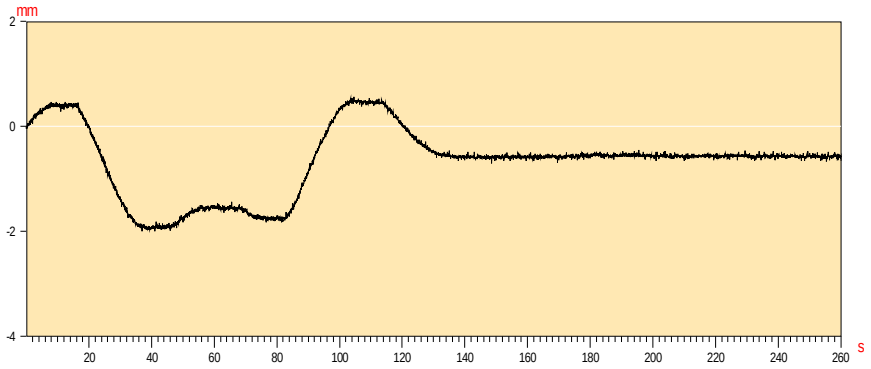
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= 0.00
Valor de Prueba	= -4.45
Valor Residual	= -0.31
Canal	F30



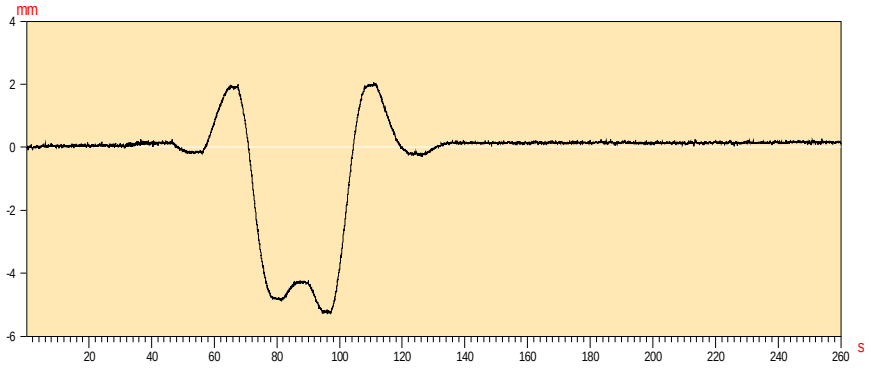
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= 0.05
Valor de Prueba	= -1.91
Valor Residual	= -0.58
Canal	F31



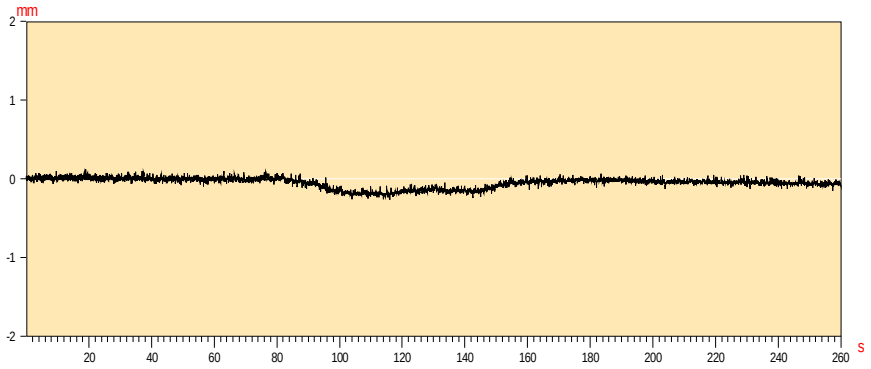
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= 0.02
Valor de Prueba	= -5.24
Valor Residual	= 0.15
Canal	F31



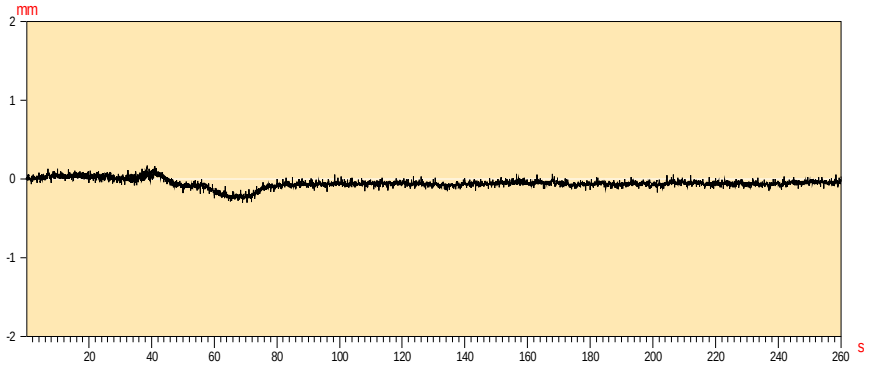
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	23/12/06
Hora :	1:46:37
Valor Inicial	= 0.02
Valor de Prueba	= -0.15
Valor Residual	= -0.03
Canal	F32



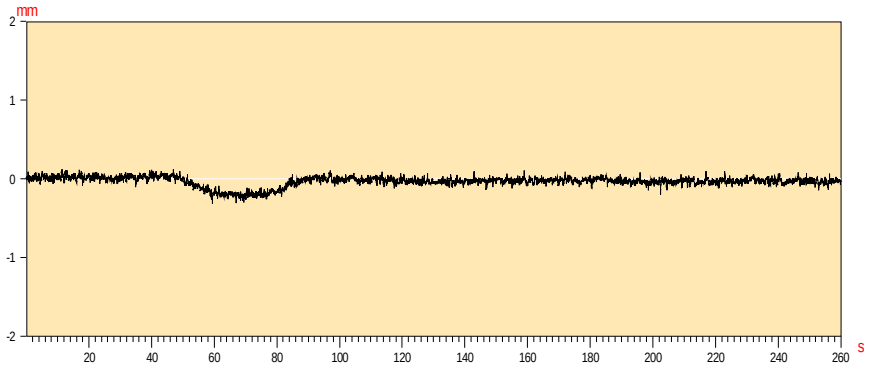
Prueba :	**DIN 5**
Fecha :	23/12/06
Hora :	1:29:54
Valor Inicial	= -0.02
Valor de Prueba	= -0.21
Valor Residual	= -0.02
Canal	F32



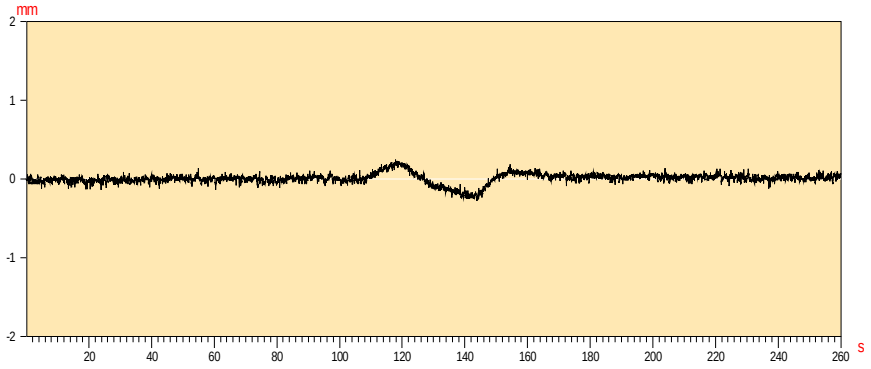
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= -0.03
Valor de Prueba	= -0.15
Valor Residual	= 0.00
Canal	F33



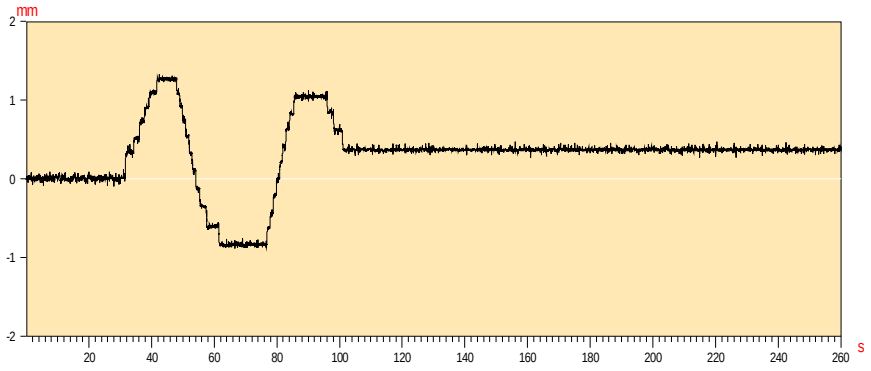
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= 0.00
Valor de Prueba	= -0.21
Valor Residual	= 0.02
Canal	F33



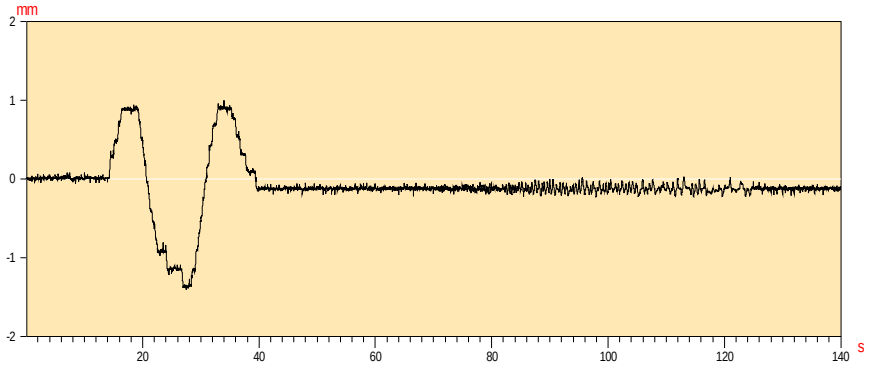
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.04
Valor de Prueba	= -0.82
Valor Residual	= 0.37
Canal	F34



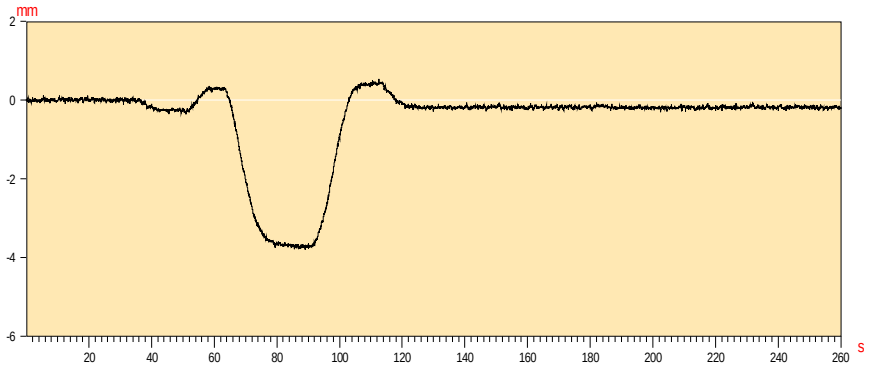
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	14:26:28
Valor Inicial	= 0.02
Valor de Prueba	= -1.36
Valor Residual	= -0.13
Canal	F34



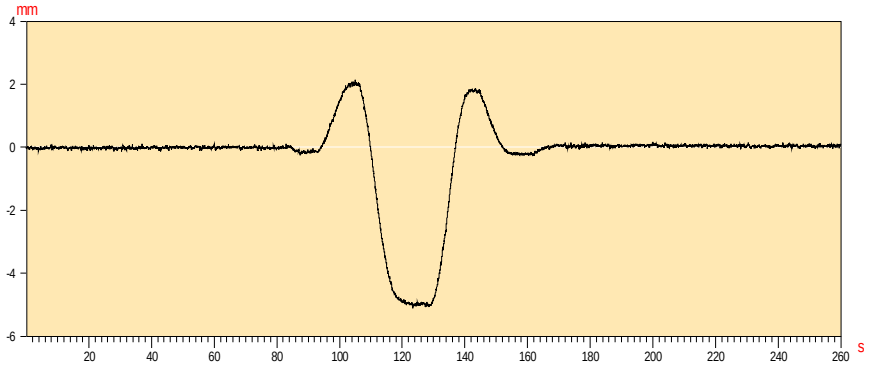
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.04
Valor de Prueba	= -3.72
Valor Residual	= -0.19
Canal	F35



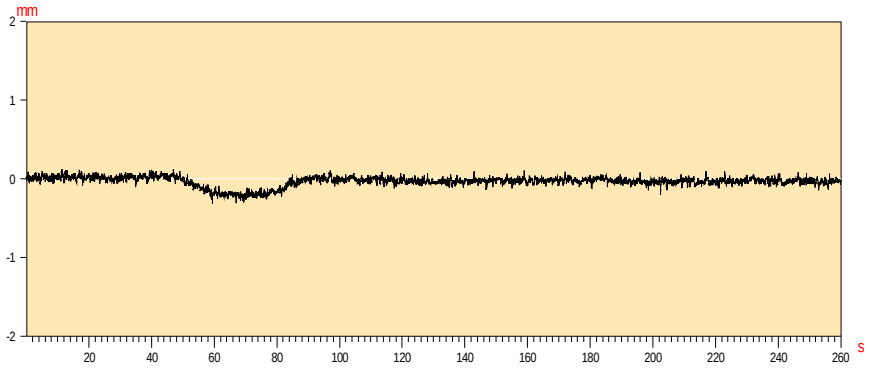
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= -0.04
Valor de Prueba	= -4.97
Valor Residual	= 0.05
Canal	F35



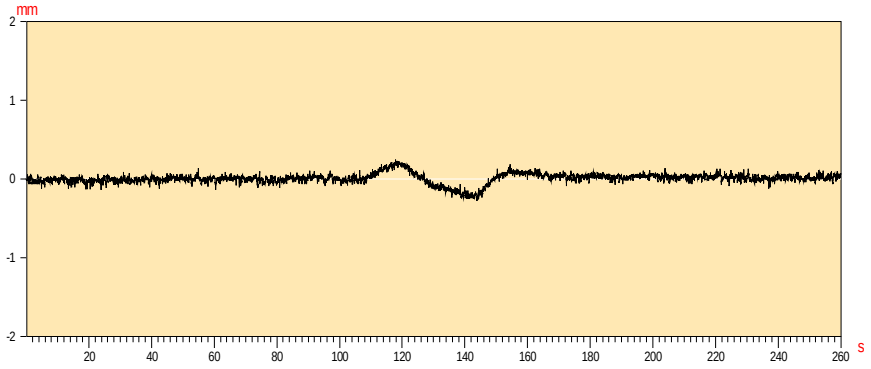
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.02
Valor de Prueba	= -0.22
Valor Residual	= -0.06
Canal	F36



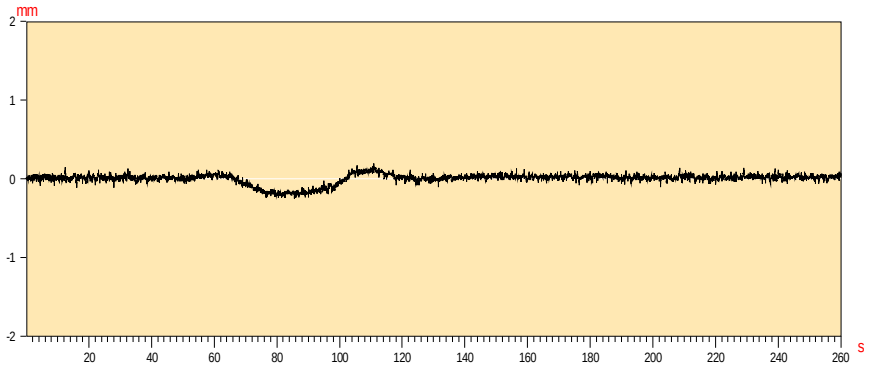
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= -0.05
Valor de Prueba	= -0.24
Valor Residual	= 0.05
Canal	F36



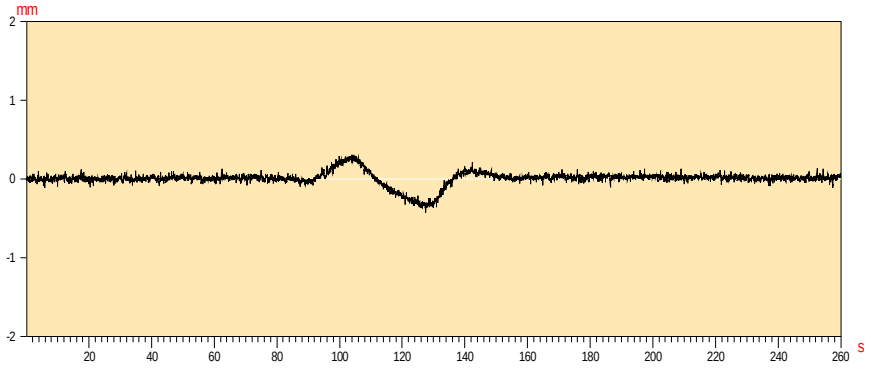
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.01
Valor de Prueba	= -0.21
Valor Residual	= 0.05
Canal	F37



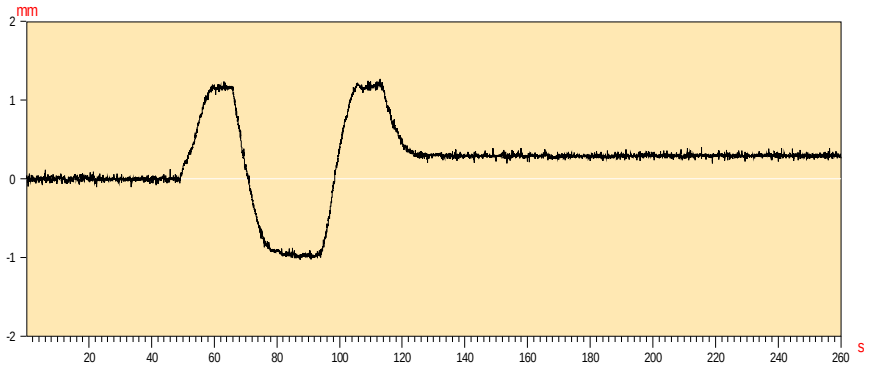
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= 0.03
Valor de Prueba	= -0.34
Valor Residual	= -0.00
Canal	F37



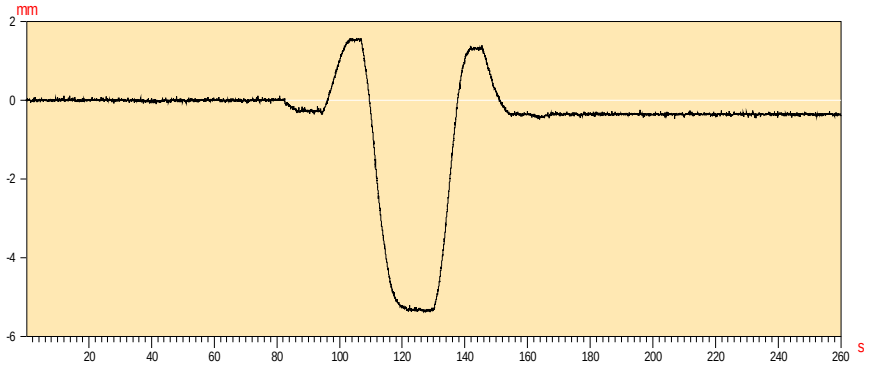
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= -0.01
Valor de Prueba	= -0.93
Valor Residual	= 0.30
Canal	F38



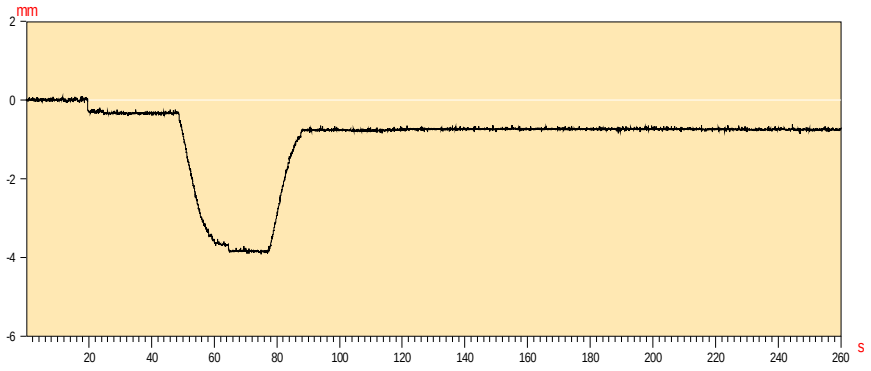
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= 0.00
Valor de Prueba	= -5.31
Valor Residual	= -0.36
Canal	F38



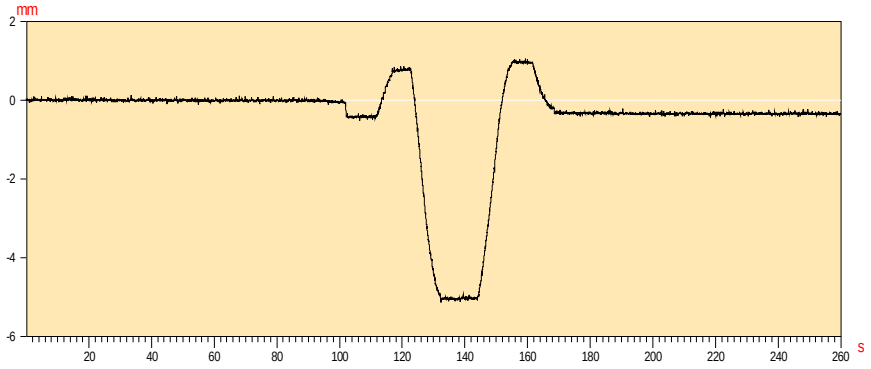
Prueba de carga de la Estructura :VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.02
Valor de Prueba	= -3.85
Valor Residual	= -0.77
Canal	F39



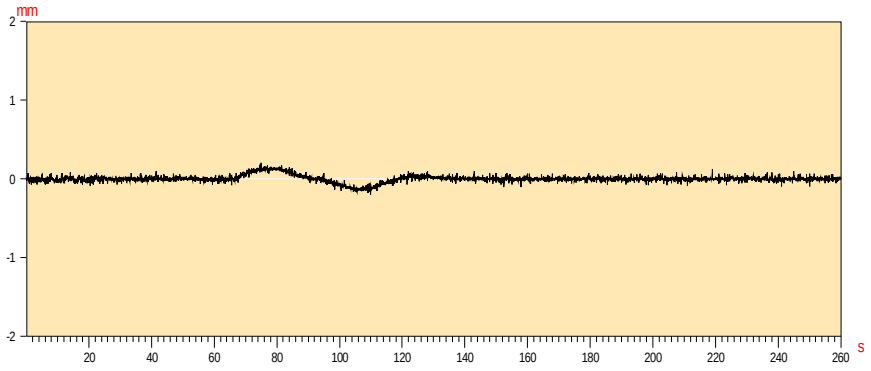
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= -0.01
Valor de Prueba	= -5.03
Valor Residual	= -0.34
Canal	F39



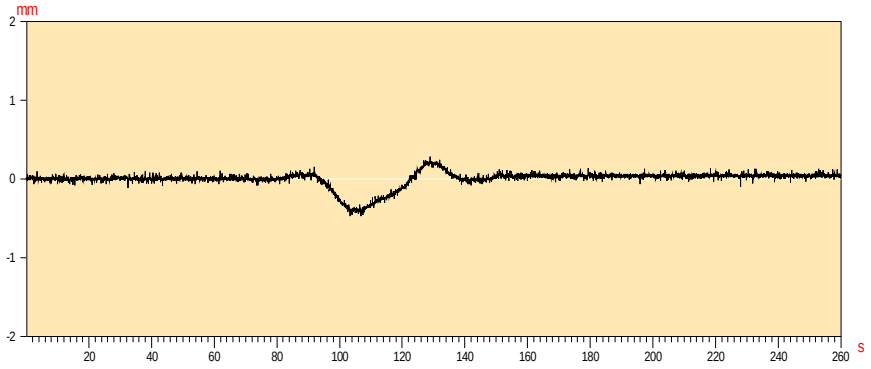
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= -0.03
Valor de Prueba	= -0.13
Valor Residual	= 0.01
Canal	F40



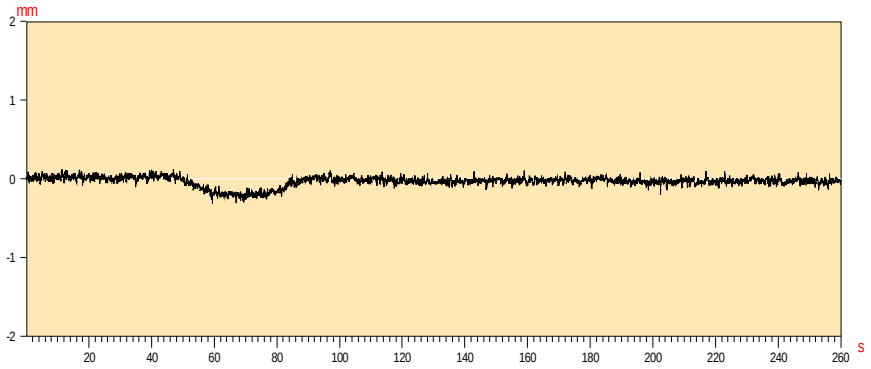
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= 0.01
Valor de Prueba	= -0.40
Valor Residual	= 0.03
Canal	F40



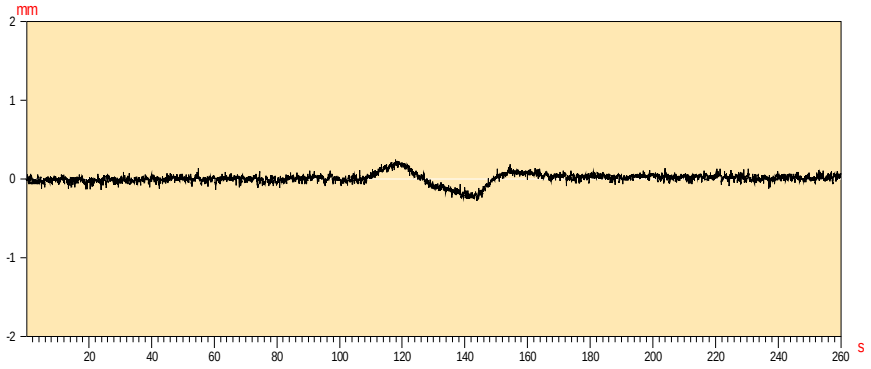
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= -0.03
Valor de Prueba	= -0.15
Valor Residual	= 0.00
Canal	F41



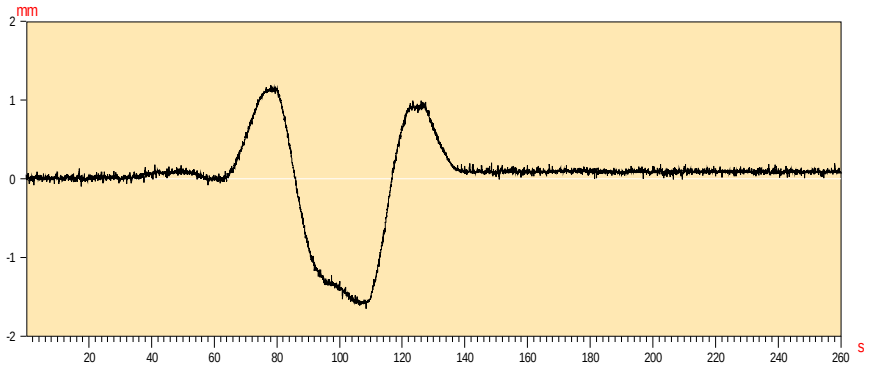
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= 0.00
Valor de Prueba	= -0.21
Valor Residual	= 0.02
Canal	F41



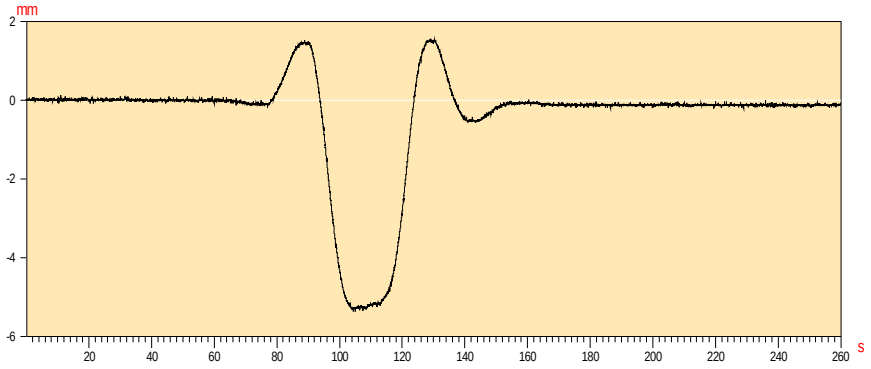
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.00
Valor de Prueba	= -1.57
Valor Residual	= 0.10
Canal	F42



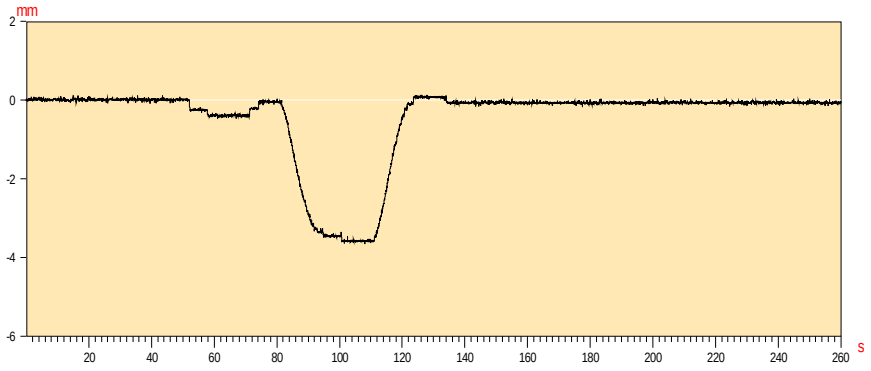
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= 0.02
Valor de Prueba	= -5.26
Valor Residual	= -0.14
Canal	F42



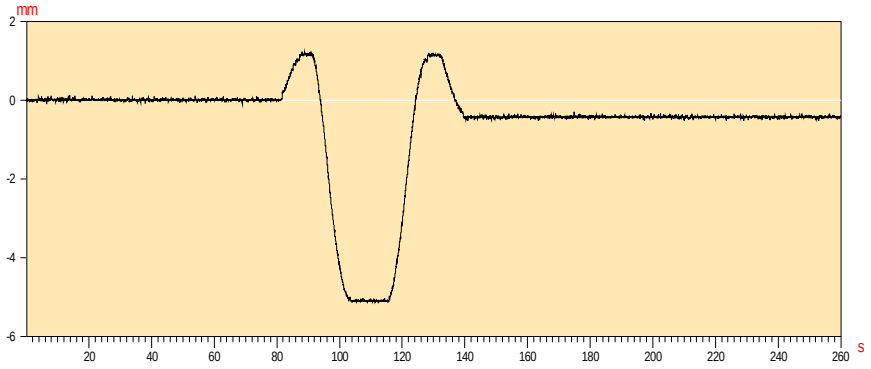
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.03
Valor de Prueba	= -3.58
Valor Residual	= -0.08
Canal	F43



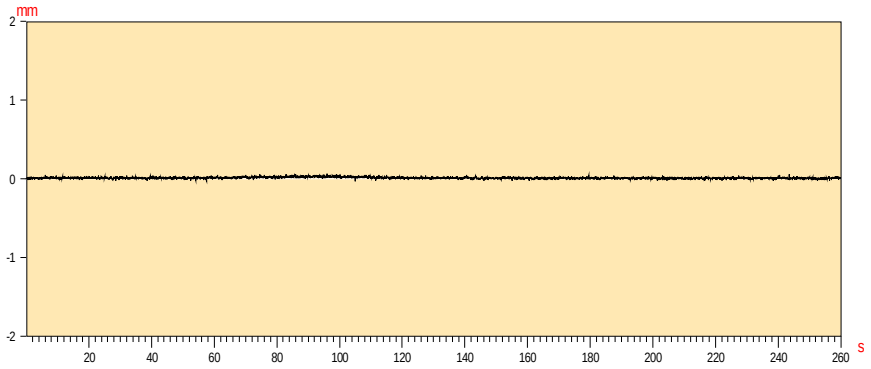
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= 0.00
Valor de Prueba	= -5.10
Valor Residual	= -0.42
Canal	F43



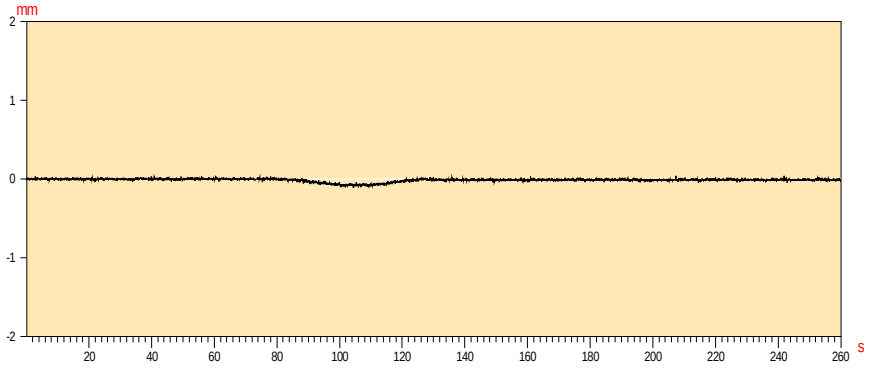
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.02
Valor de Prueba	= 0.00
Valor Residual	= 0.00
Canal	F44



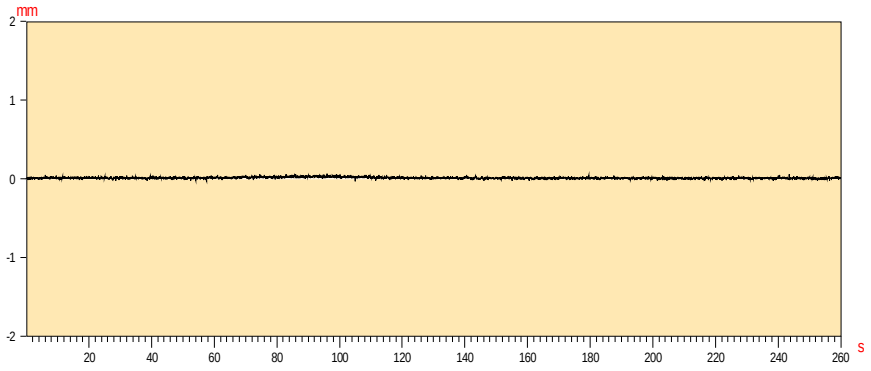
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= -0.01
Valor de Prueba	= -0.08
Valor Residual	= -0.01
Canal	F44



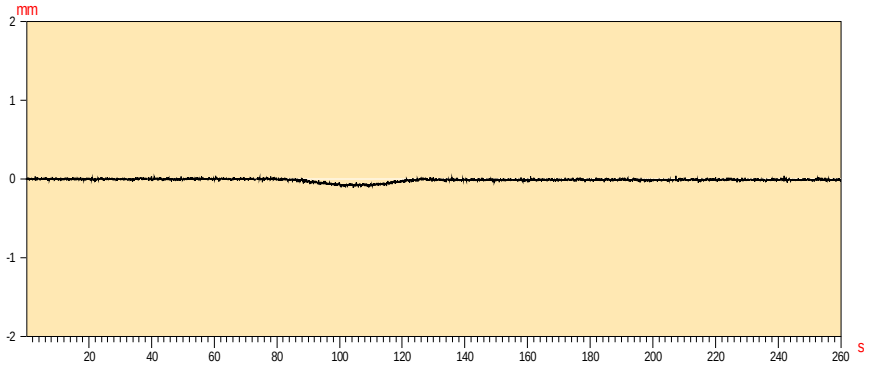
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.00
Valor de Prueba	= -0.01
Valor Residual	= 0.00
Canal	F45



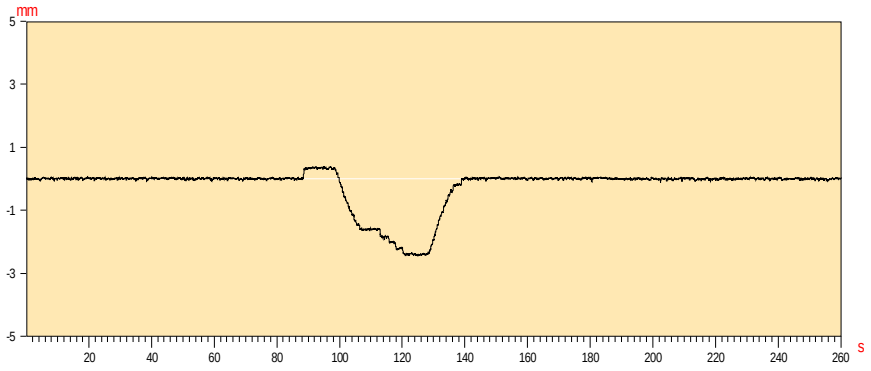
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= -0.00
Valor de Prueba	= -0.08
Valor Residual	= -0.01
Canal	F45



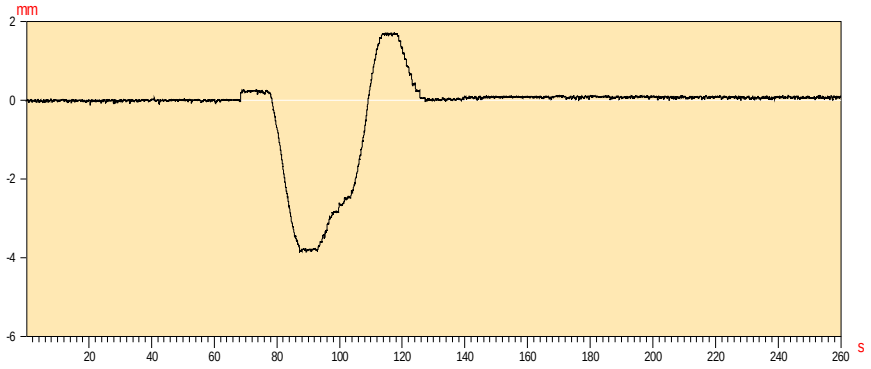
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.01
Valor de Prueba	= -2.41
Valor Residual	= -0.05
Canal	F46



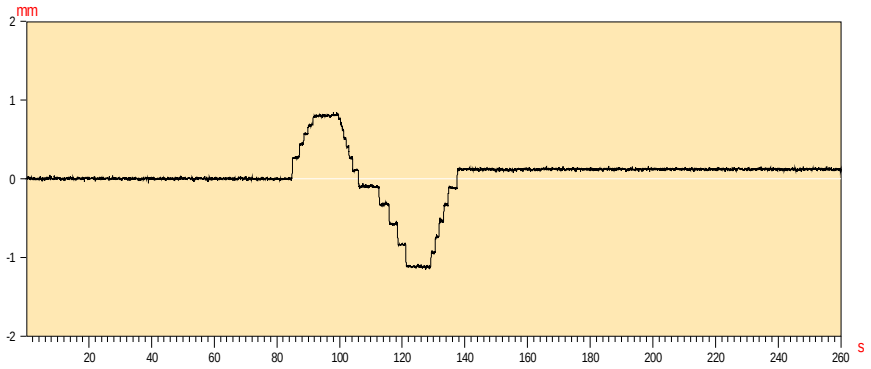
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= 0.00
Valor de Prueba	= -3.77
Valor Residual	= 0.05
Canal	F46



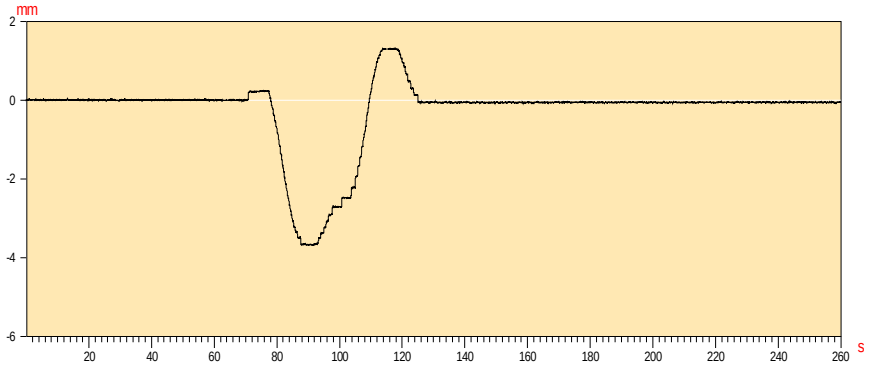
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= -0.02
Valor de Prueba	= -1.12
Valor Residual	= 0.12
Canal	F47



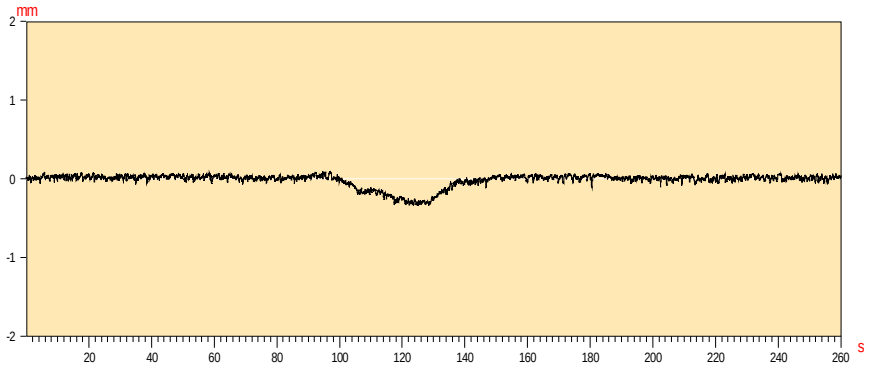
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= -0.01
Valor de Prueba	= -3.67
Valor Residual	= -0.06
Canal	F47



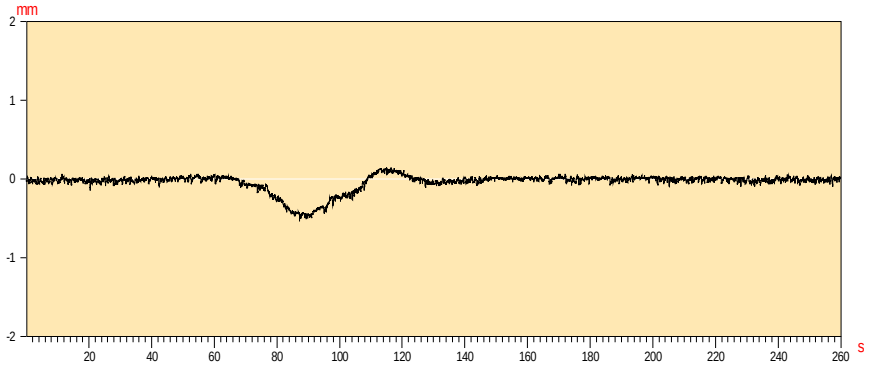
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	27/12/06
Hora :	13:46:31
Valor Inicial	= 0.02
Valor de Prueba	= -0.32
Valor Residual	= 0.05
Canal	F48



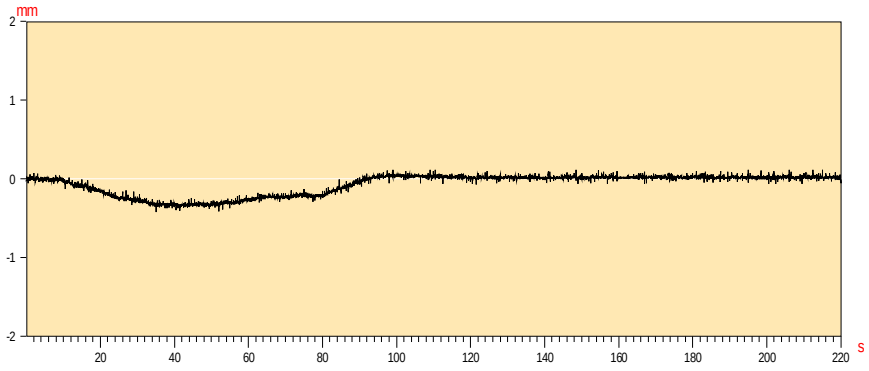
Prueba :	**DIN 5**
Fecha :	27/12/06
Hora :	13:29:16
Valor Inicial	= -0.02
Valor de Prueba	= -0.43
Valor Residual	= 0.02
Canal	F48



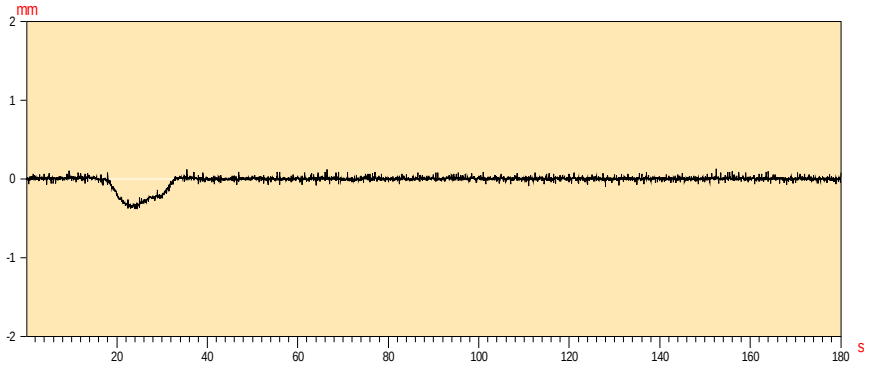
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= -0.03
Valor de Prueba	= -0.34
Valor Residual	= 0.03
Canal	F49



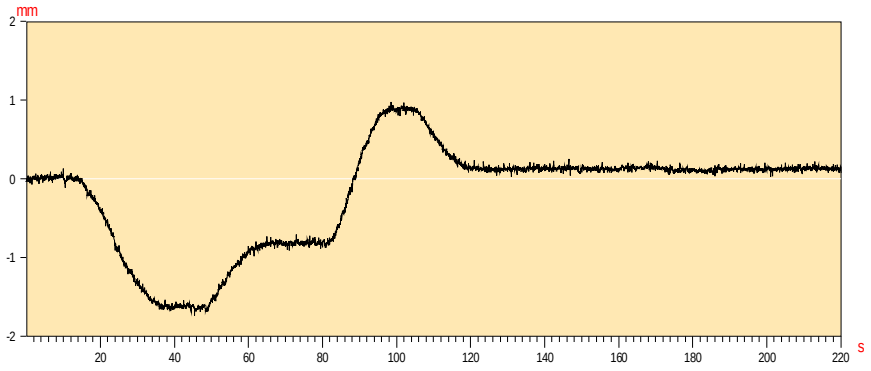
Prueba :	**DIN 5**
Fecha :	29/12/06
Hora :	17:01:49
Valor Inicial	= 0.00
Valor de Prueba	= -0.33
Valor Residual	= -0.02
Canal	F49



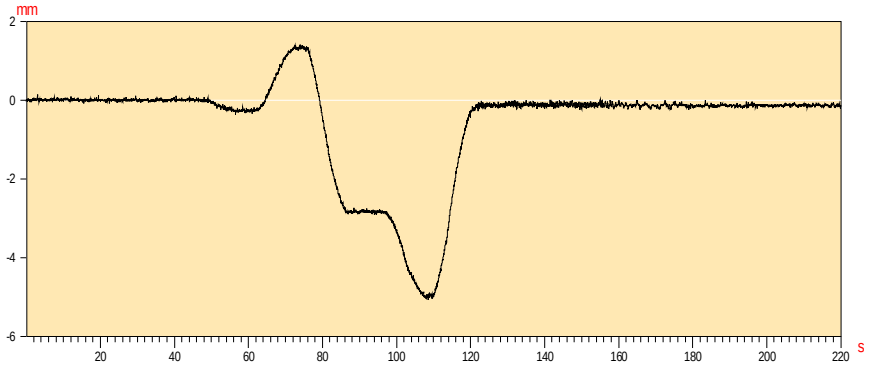
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= -0.01
Valor de Prueba	= -1.63
Valor Residual	= 0.15
Canal	F50



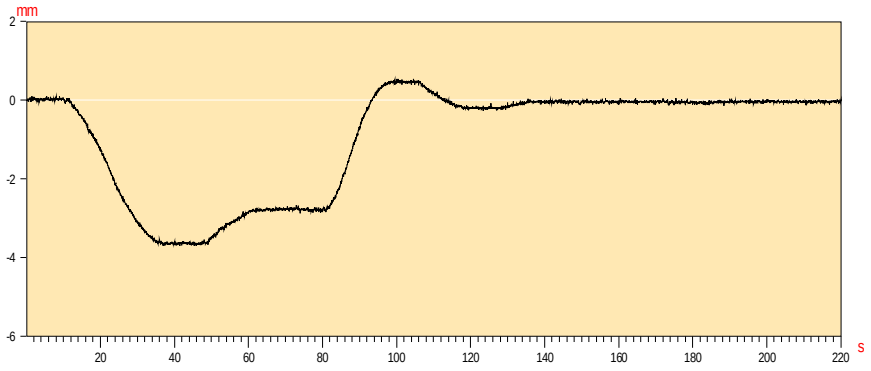
Prueba :	**DIN 5**
Fecha :	29/12/06
Hora :	18:07:16
Valor Inicial	= 0.00
Valor de Prueba	= -4.97
Valor Residual	= -0.18
Canal	F50
Prueba :	**DIN 30**
Fecha :	29/12/06



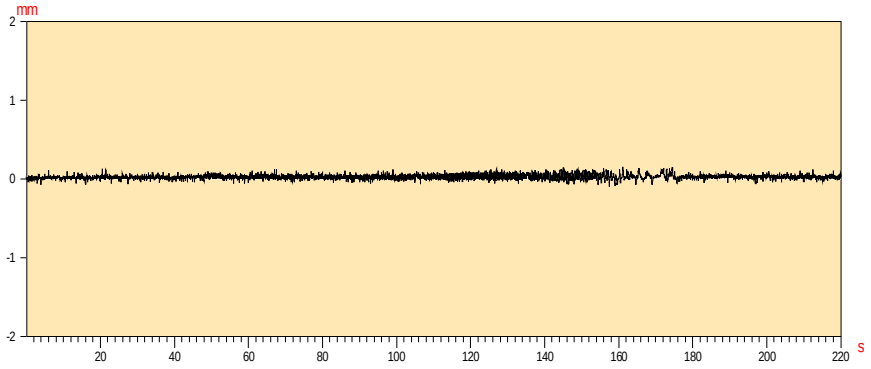
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= -0.01
Valor de Prueba	= -3.65
Valor Residual	= -0.01
Canal	F51



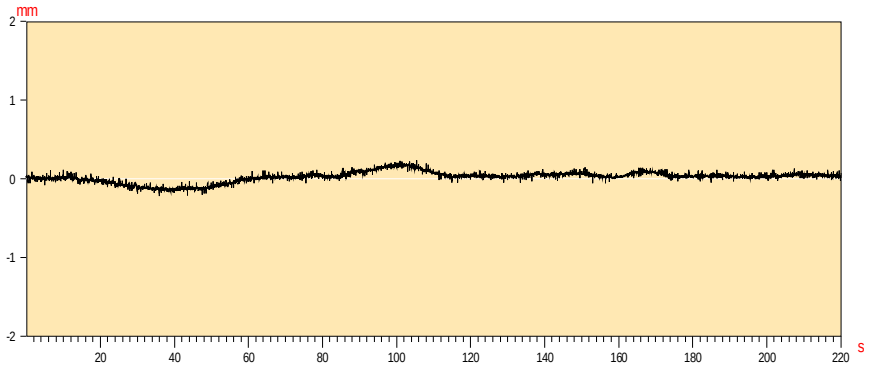
Prueba :	**DIN 5**
Fecha :	29/12/06
Hora :	18:07:16
Valor Inicial	= 0.02
Valor de Prueba	= 0.05
Valor Residual	= 0.03
Canal	F51



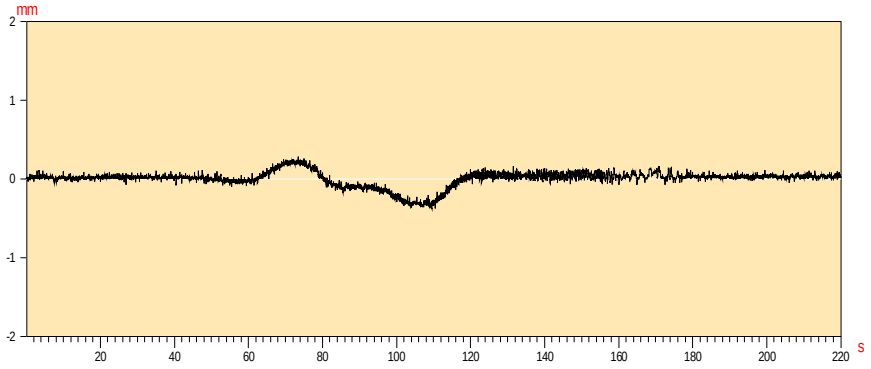
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= 0.01
Valor de Prueba	= -0.14
Valor Residual	= 0.04
Canal	F52



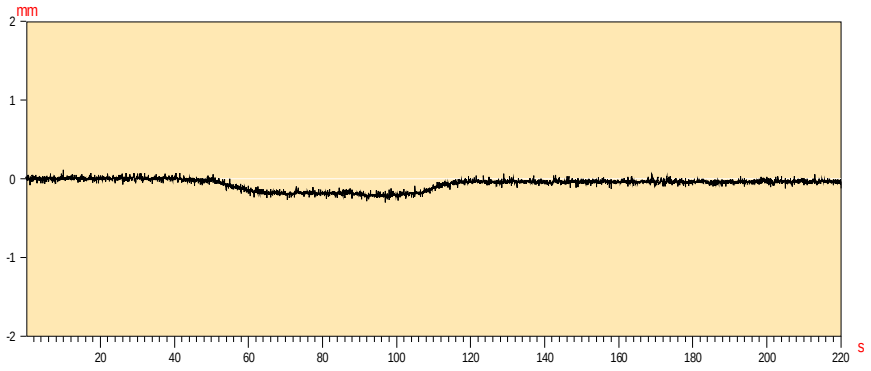
Prueba :	**DIN 5**
Fecha :	29/12/06
Hora :	18:07:16
Valor Inicial	= -0.03
Valor de Prueba	= -0.29
Valor Residual	= 0.03
Canal	F52



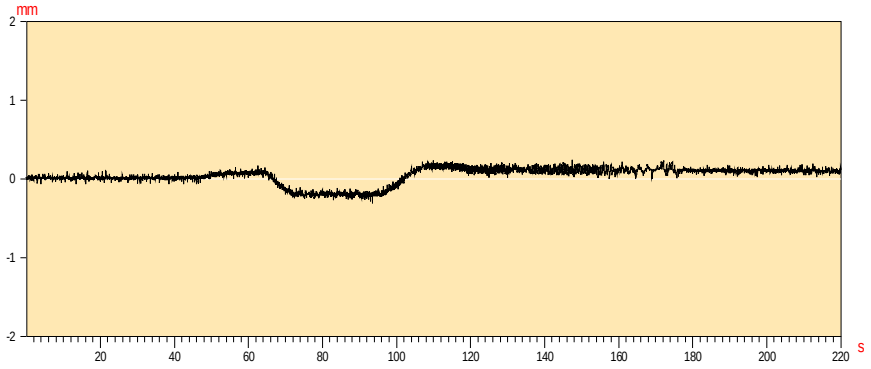
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= 0.00
Valor de Prueba	= -0.23
Valor Residual	= -0.03
Canal	F53



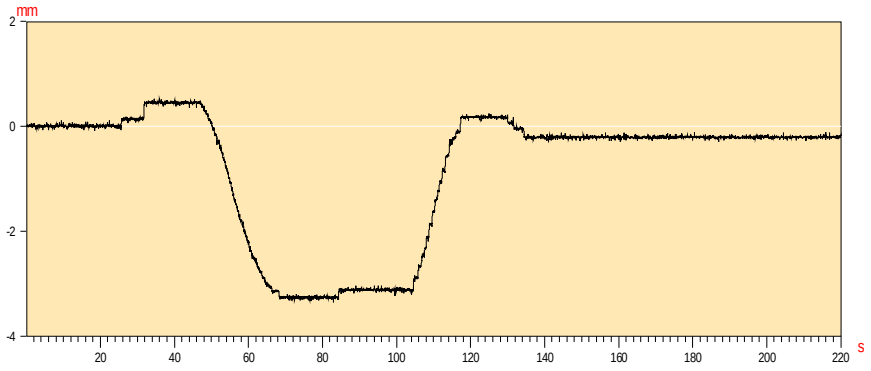
Prueba :	**DIN 5**
Fecha :	29/12/06
Hora :	18:07:16
Valor Inicial	= -0.01
Valor de Prueba	= -0.23
Valor Residual	= 0.10
Canal	F53



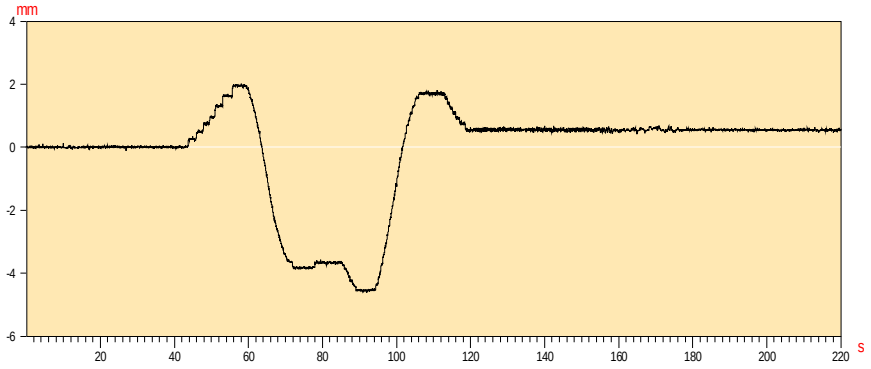
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= 0.05
Valor de Prueba	= -3.27
Valor Residual	= -0.21
Canal	F54



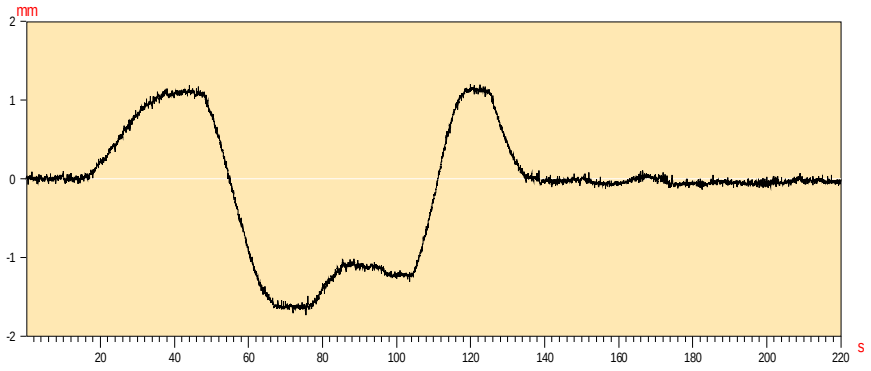
Prueba :	**DIN 5**
Fecha :	29/12/06
Hora :	18:07:16
Valor Inicial	= -0.01
Valor de Prueba	= -4.56
Valor Residual	= 0.55
Canal	F54



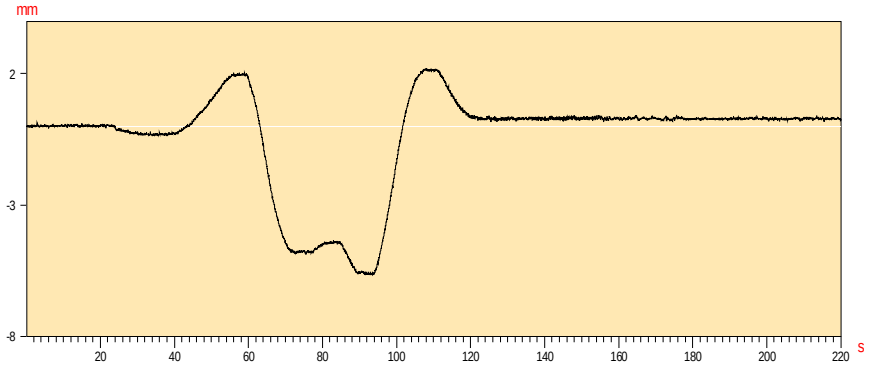
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= 0.01
Valor de Prueba	= -1.62
Valor Residual	= -0.04
Canal	F55



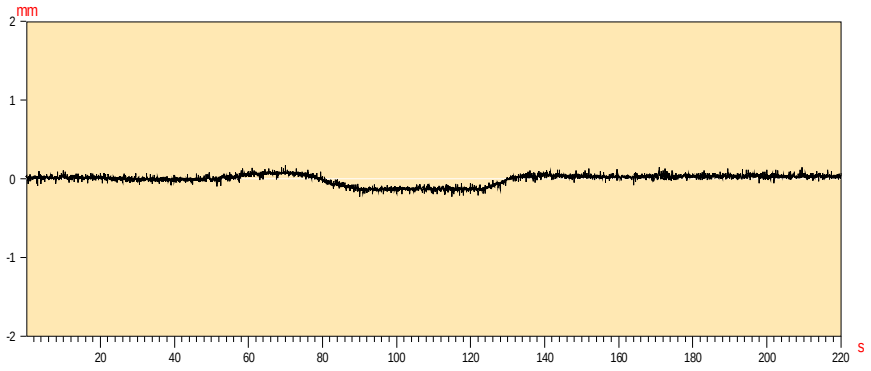
Prueba :	**DIN 5**
Fecha :	29/12/06
Hora :	18:07:16
Valor Inicial	= 0.02
Valor de Prueba	= -5.63
Valor Residual	= 0.29
Canal	F55



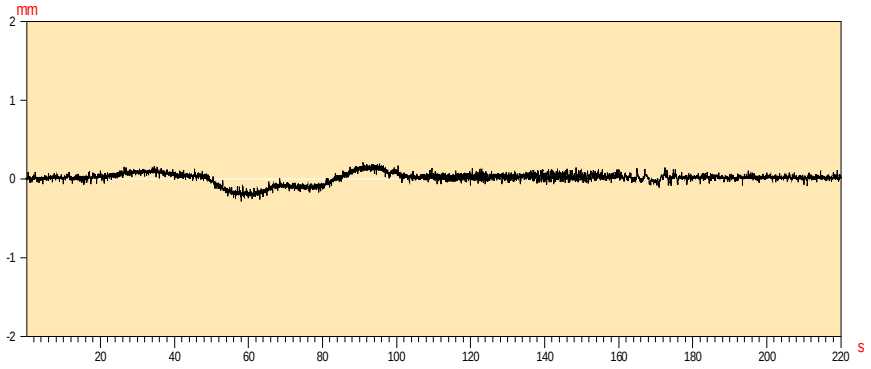
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= 0.03
Valor de Prueba	= -0.15
Valor Residual	= 0.03
Canal	F56



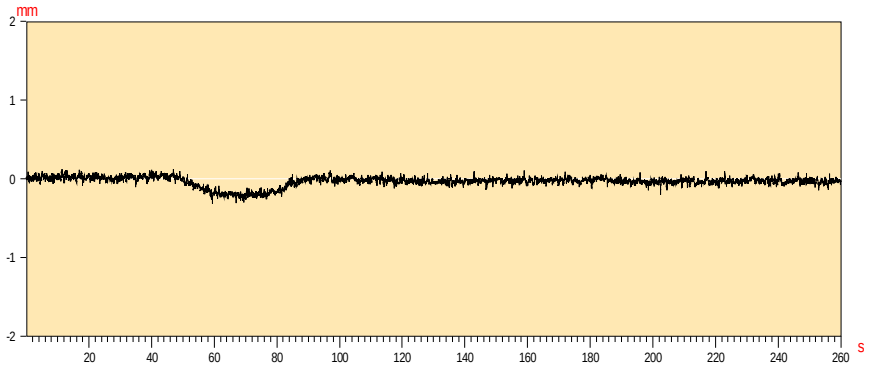
Prueba :	**DIN 5**
Fecha :	29/12/06
Hora :	18:07:16
Valor Inicial	= 0.00
Valor de Prueba	= -0.18
Valor Residual	= 0.02
Canal	F56



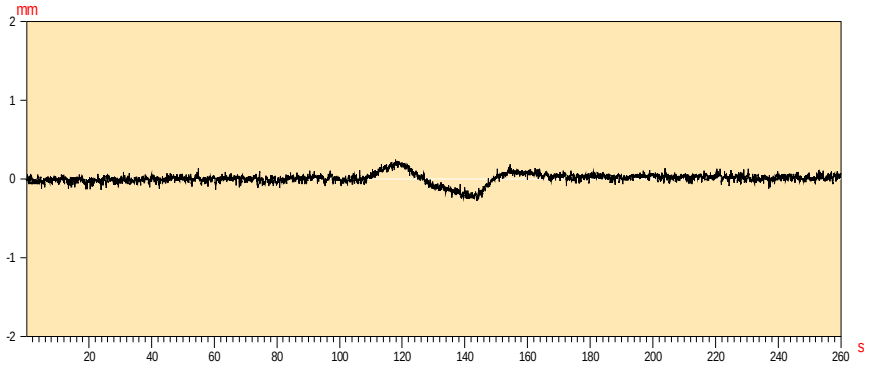
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= -0.03
Valor de Prueba	= -0.15
Valor Residual	= 0.00
Canal	F57



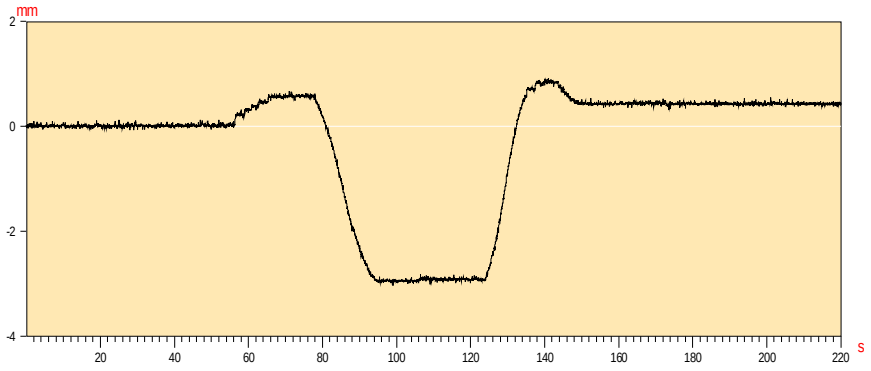
Prueba :	**DIN 5**
Fecha :	2912/06
Hora :	18:07:16
Valor Inicial	= 0.00
Valor de Prueba	= -0.21
Valor Residual	= 0.02
Canal	F57



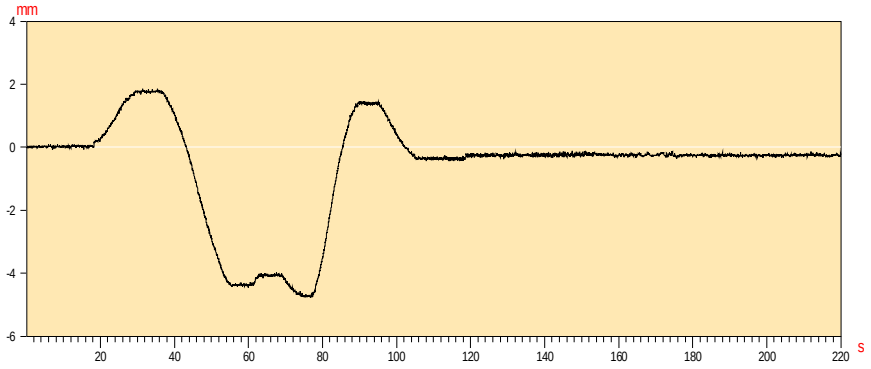
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= 0.00
Valor de Prueba	= -2.89
Valor Residual	= 0.44
Canal	F58



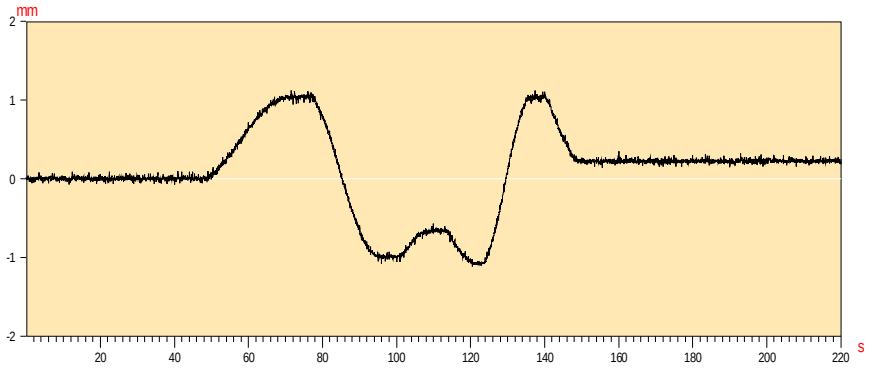
Prueba :	**DIN 5**
Fecha :	29/12/06
Hora :	18:07:16
Valor Inicial	= 0.02
Valor de Prueba	= -4.72
Valor Residual	= -0.25
Canal	F58



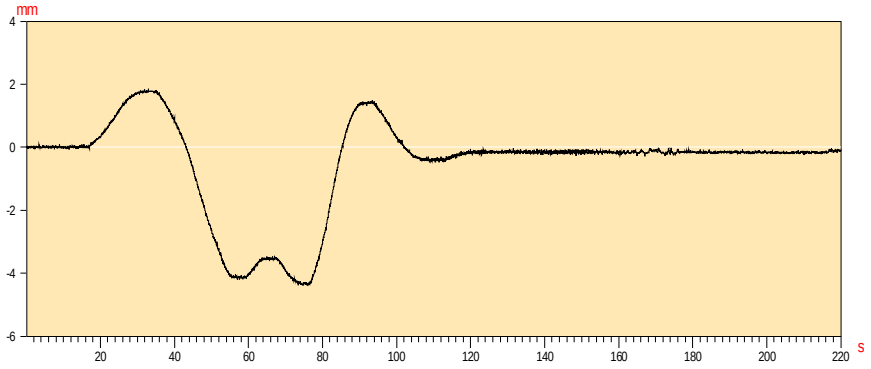
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= -0.01
Valor de Prueba	= -1.03
Valor Residual	= 0.22
Canal	F59



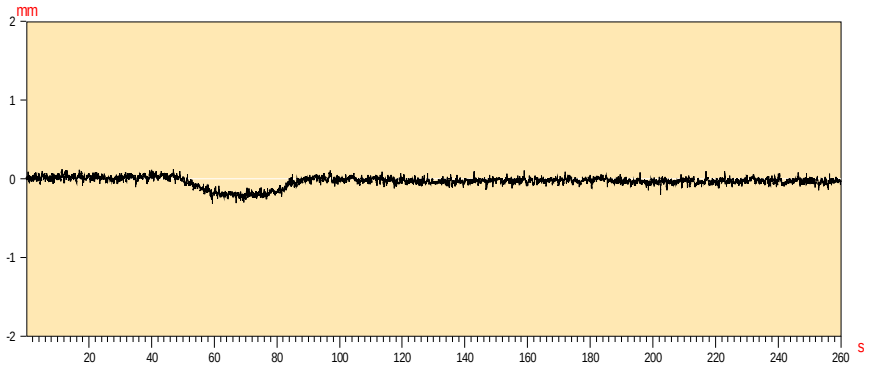
Prueba :	**DIN 5**
Fecha :	29/12/06
Hora :	18:07:16
Valor Inicial	= 0.00
Valor de Prueba	= -4.34
Valor Residual	= -0.16
Canal	F59



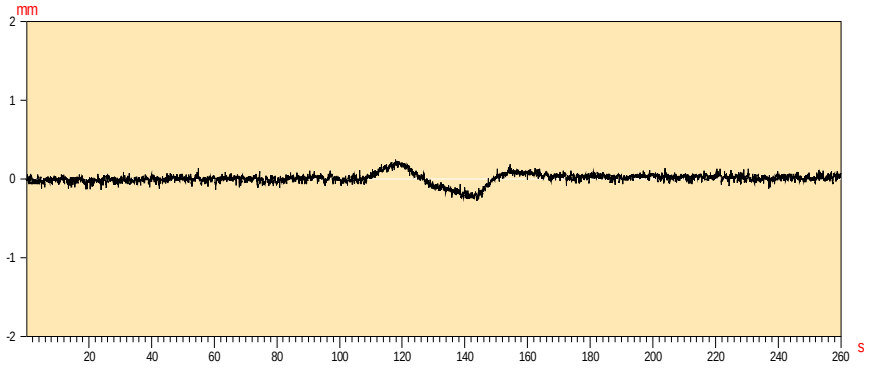
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : adif

Prueba :	**DIN 30**
Fecha :	29/12/06
Hora :	17:12:13
Valor Inicial	= -0.03
Valor de Prueba	= -0.15
Valor Residual	= 0.00
Canal	F60



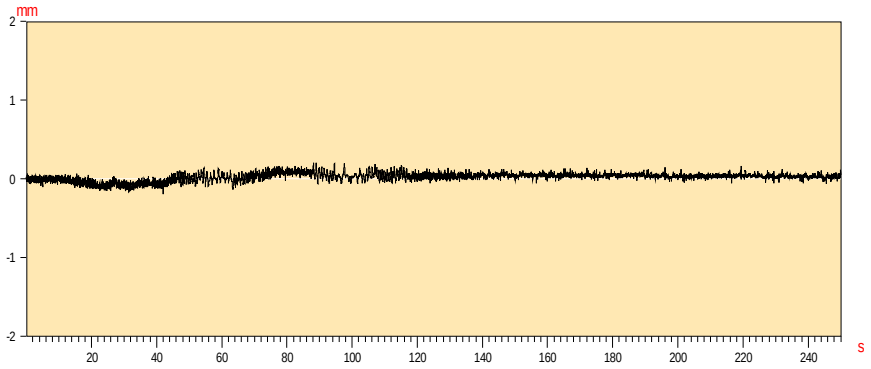
Prueba :	**DIN 5**
Fecha :	29/12/06
Hora :	18:07:16
Valor Inicial	= 0.00
Valor de Prueba	= -0.21
Valor Residual	= 0.02
Canal	F60



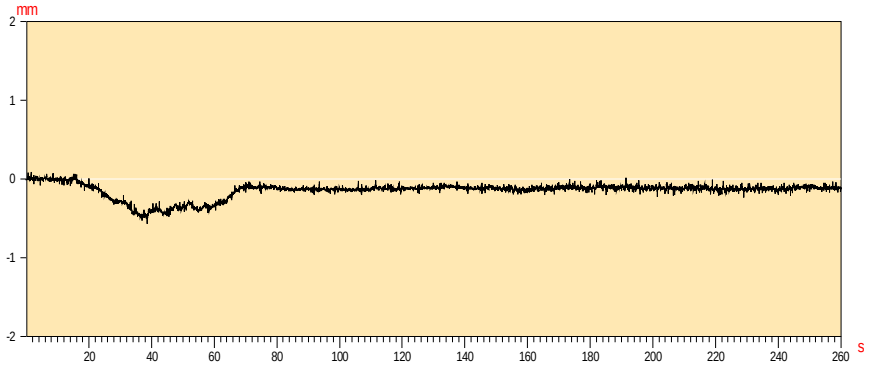
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= -0.02
Valor de Prueba	= -0.08
Valor Residual	= 0.02
Canal	F1



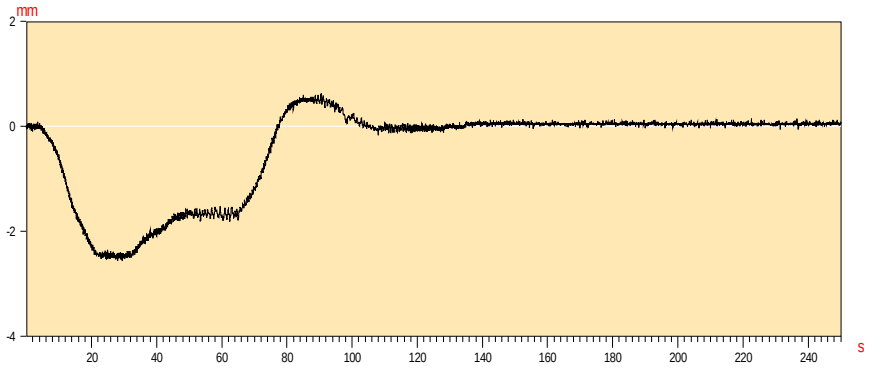
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= 0.01
Valor de Prueba	= -0.46
Valor Residual	= -0.10
Canal	F1



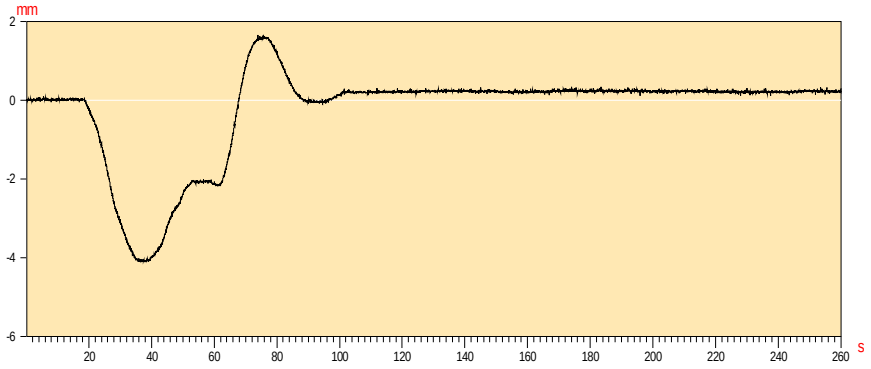
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= 0.05
Valor de Prueba	= -2.46
Valor Residual	= 0.05
Canal	F2



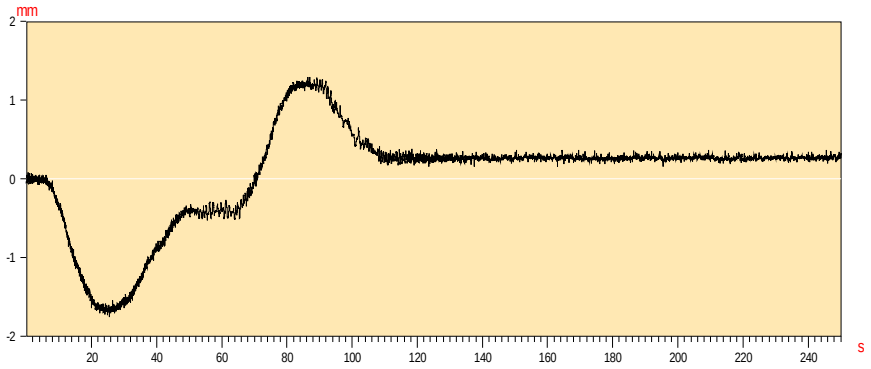
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= 0.00
Valor de Prueba	= -4.08
Valor Residual	= 0.20
Canal	F2



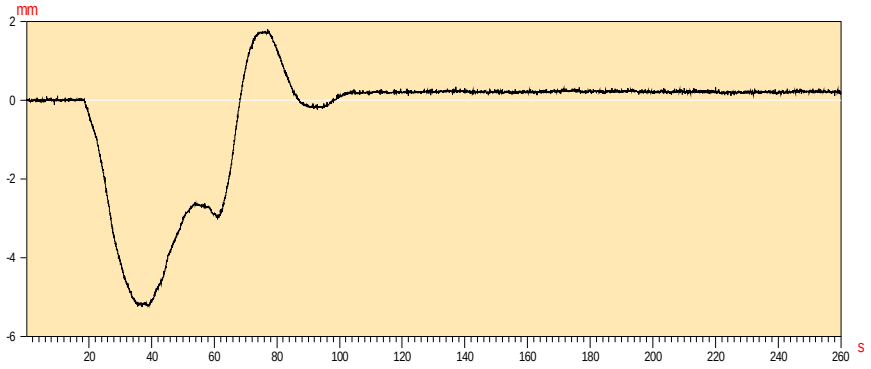
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= -0.00
Valor de Prueba	= -1.60
Valor Residual	= 0.25
Canal	F3



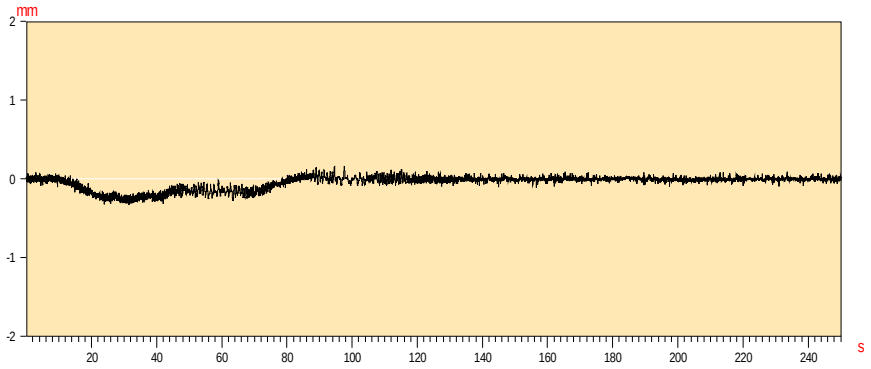
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= -0.02
Valor de Prueba	= -5.20
Valor Residual	= 0.21
Canal	F3



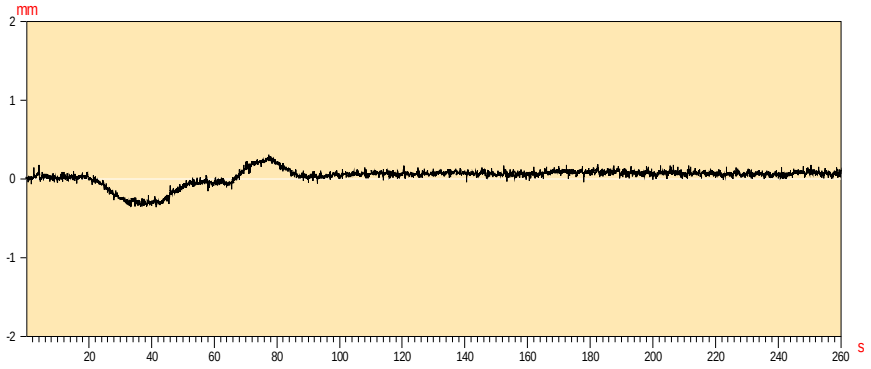
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= 0.03
Valor de Prueba	= -0.21
Valor Residual	= -0.01
Canal	F4



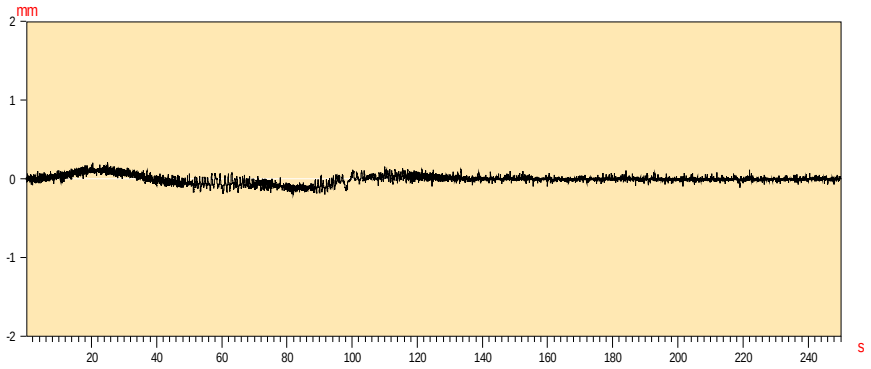
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= 0.03
Valor de Prueba	= -0.28
Valor Residual	= 0.05
Canal	F4



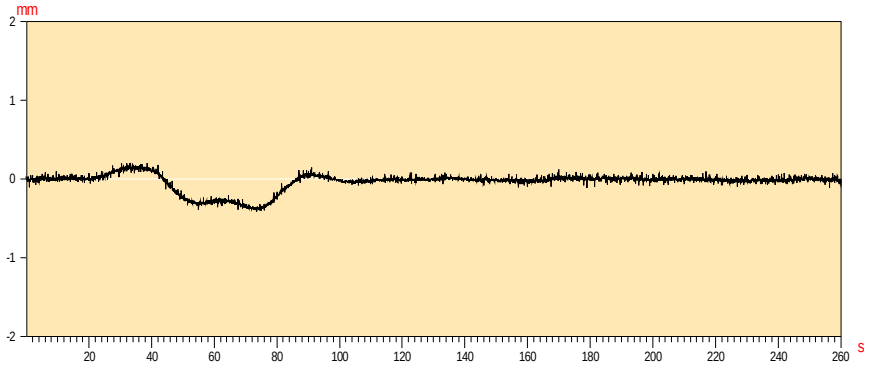
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= -0.04
Valor de Prueba	= -0.14
Valor Residual	= 0.02
Canal	F5



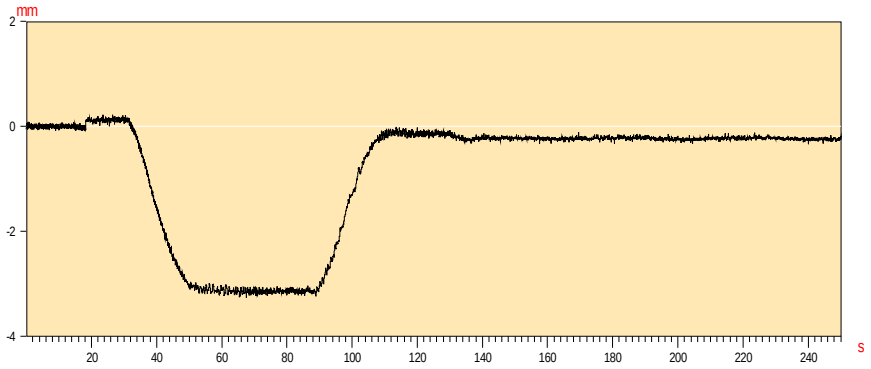
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= 0.02
Valor de Prueba	= -0.38
Valor Residual	= -0.01
Canal	F5



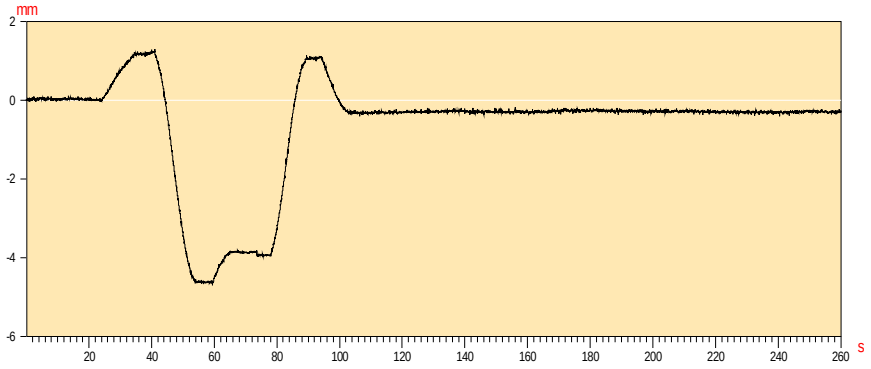
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= -0.04
Valor de Prueba	= -3.08
Valor Residual	= -0.25
Canal	F6



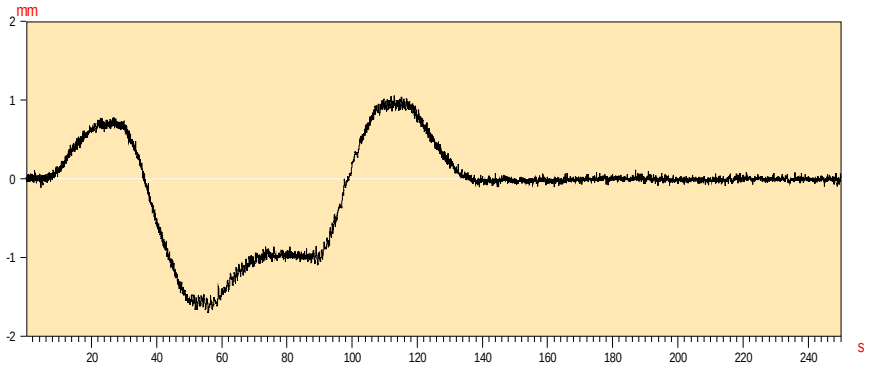
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= 0.03
Valor de Prueba	= -4.63
Valor Residual	= -0.30
Canal	F6



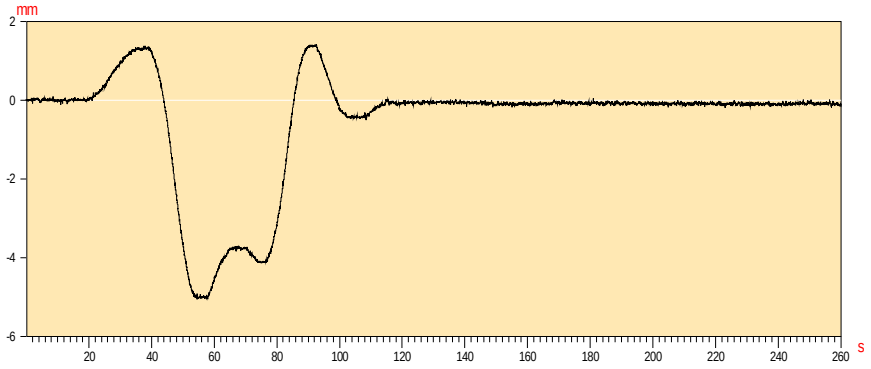
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= -0.00
Valor de Prueba	= -1.69
Valor Residual	= 0.00
Canal	F7



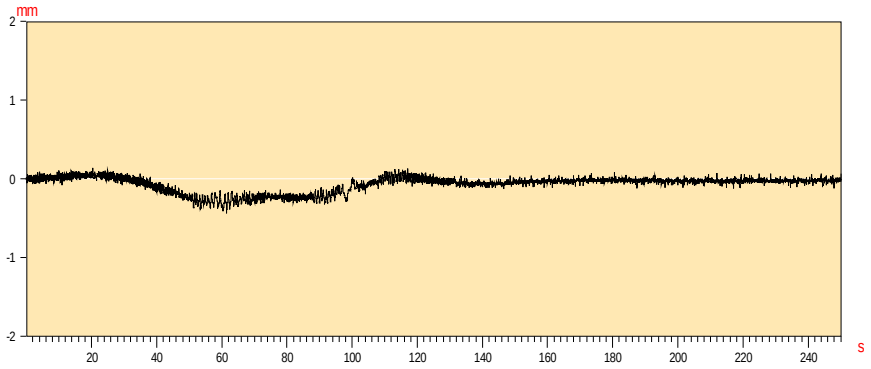
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= -0.01
Valor de Prueba	= -5.02
Valor Residual	= -0.10
Canal	F7



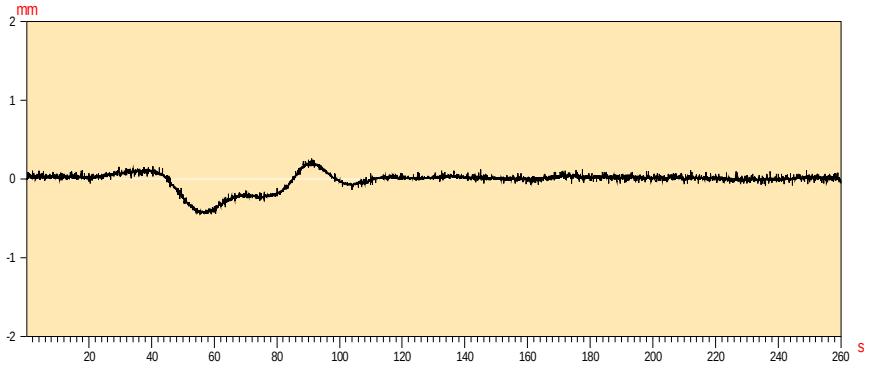
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= 0.02
Valor de Prueba	= -0.29
Valor Residual	= 0.02
Canal	F8



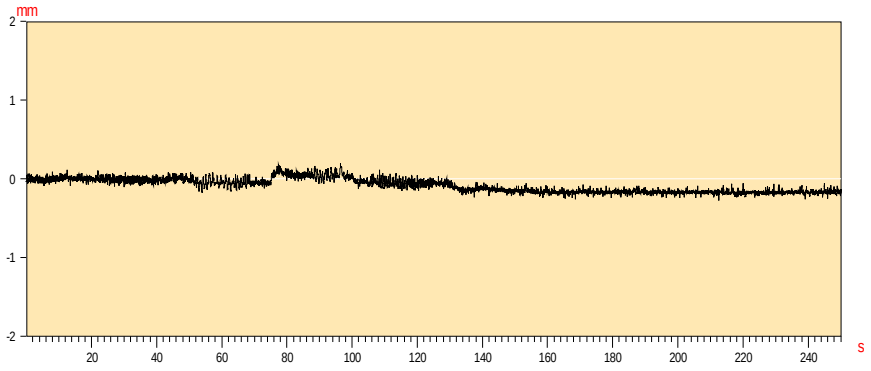
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= 0.03
Valor de Prueba	= -0.43
Valor Residual	= -0.01
Canal	F8



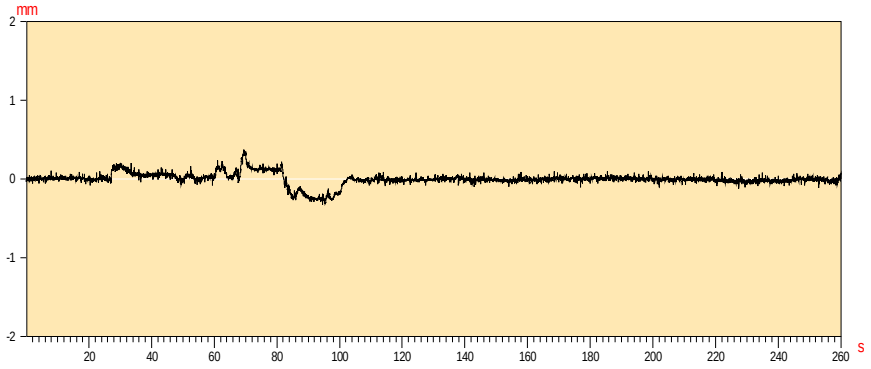
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= -0.03
Valor de Prueba	= -0.18
Valor Residual	= 0.01
Canal	F9



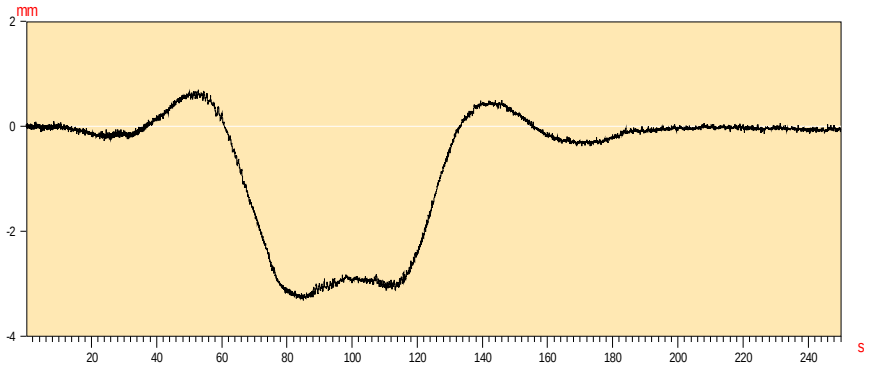
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= -0.02
Valor de Prueba	= -0.24
Valor Residual	= 0.02
Canal	F9



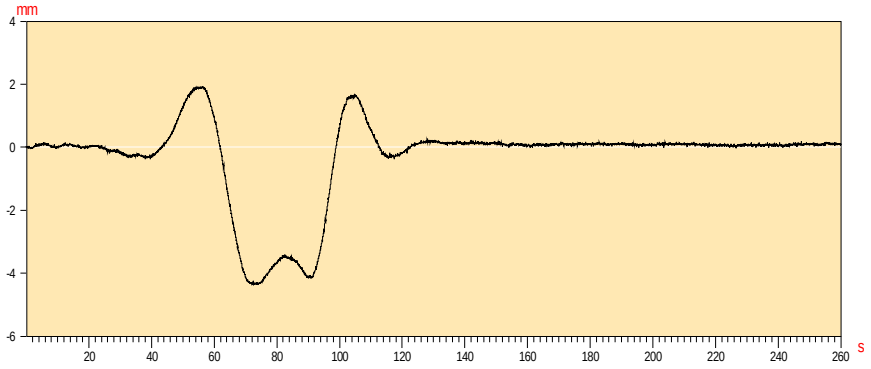
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= -0.03
Valor de Prueba	= -3.27
Valor Residual	= -0.06
Canal	F10



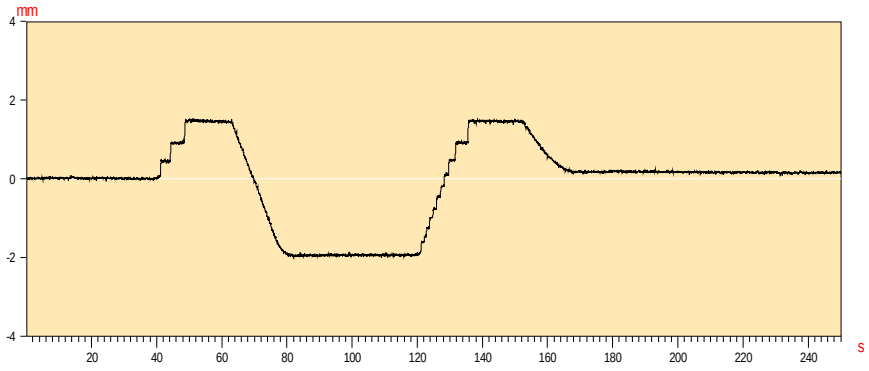
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= 0.00
Valor de Prueba	= -4.33
Valor Residual	= 0.11
Canal	F10



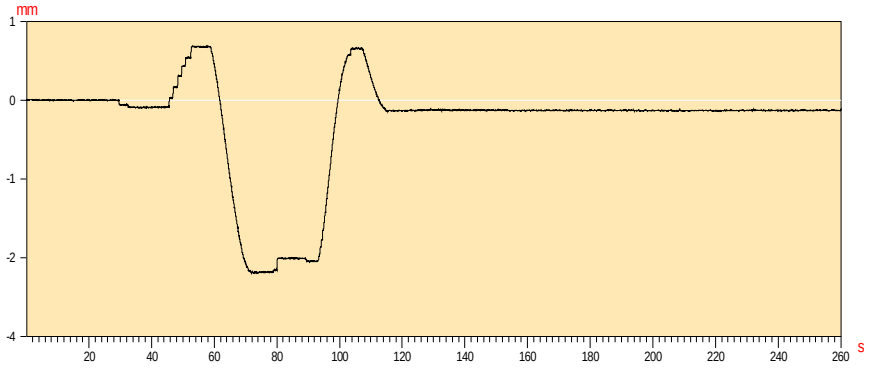
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= -0.00
Valor de Prueba	= -1.96
Valor Residual	= 0.07
Canal	F11



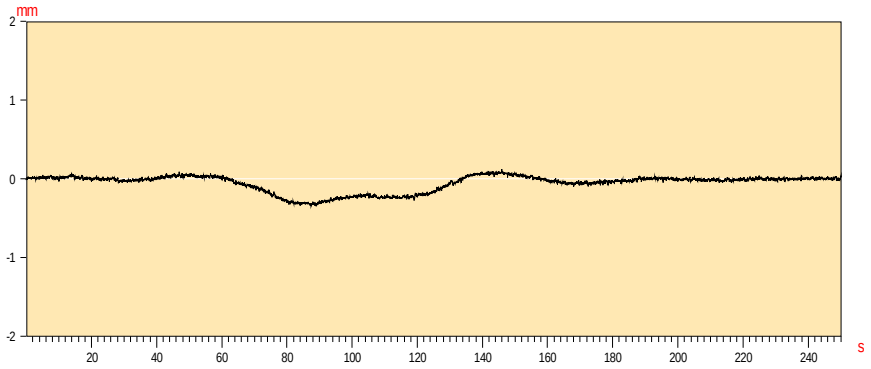
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= -0.01
Valor de Prueba	= -1.89
Valor Residual	= -0.26
Canal	F11



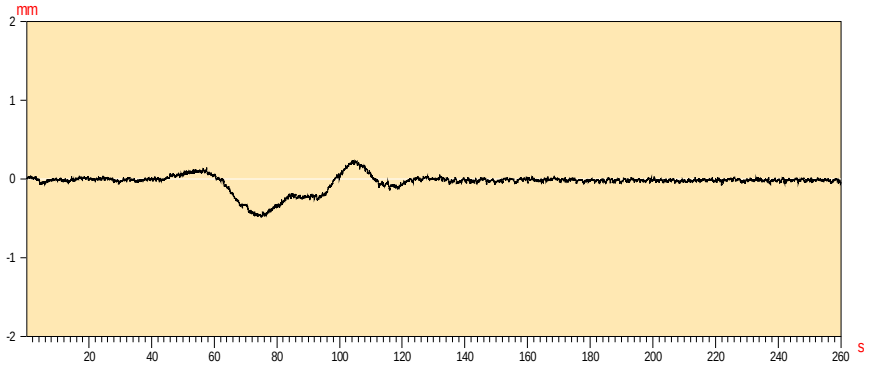
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= 0.01
Valor de Prueba	= -0.24
Valor Residual	= -0.01
Canal	F12



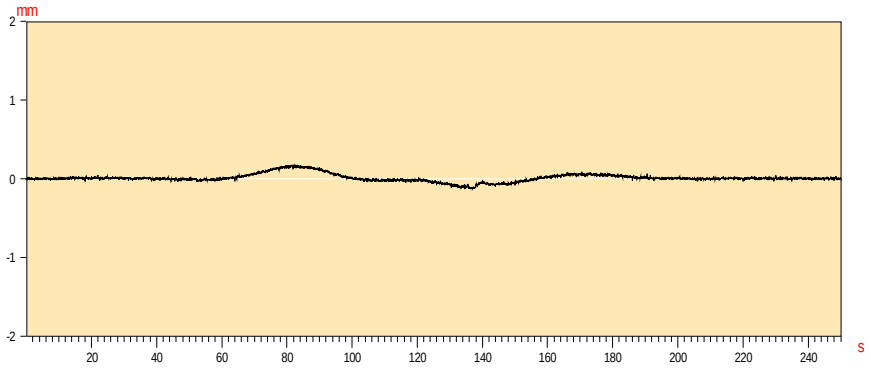
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= 0.02
Valor de Prueba	= -0.47
Valor Residual	= -0.02
Canal	F12



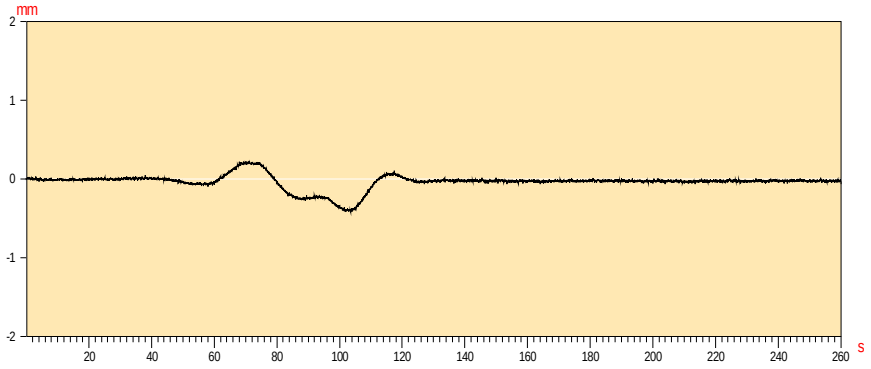
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= -0.01
Valor de Prueba	= -0.12
Valor Residual	= 0.00
Canal	F13



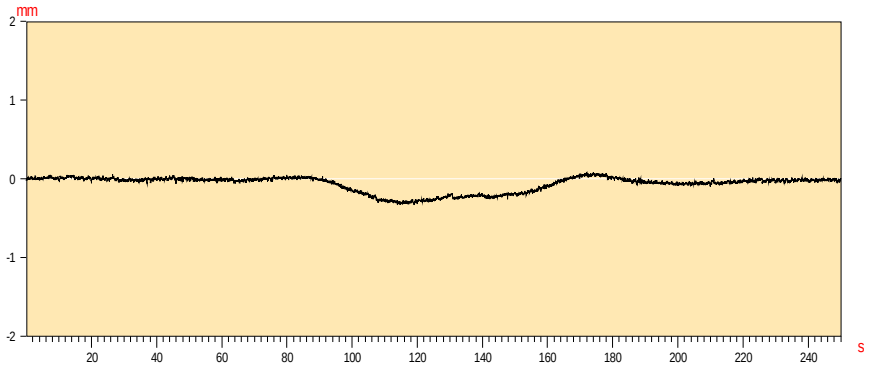
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= -0.00
Valor de Prueba	= -0.40
Valor Residual	= -0.03
Canal	F13



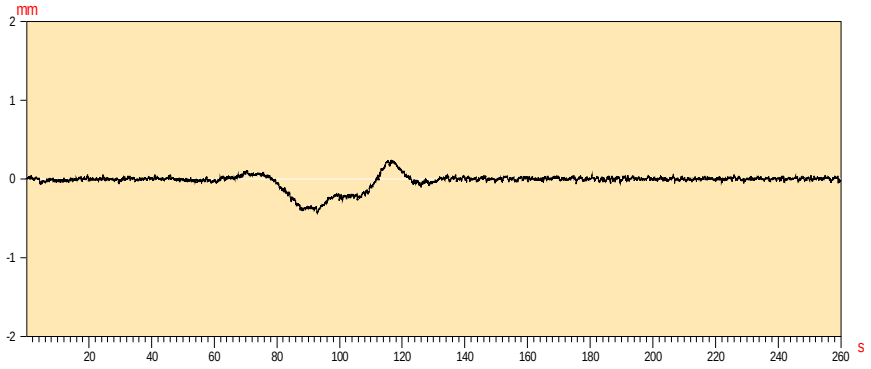
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= 0.00
Valor de Prueba	= -0.26
Valor Residual	= -0.03
Canal	F14



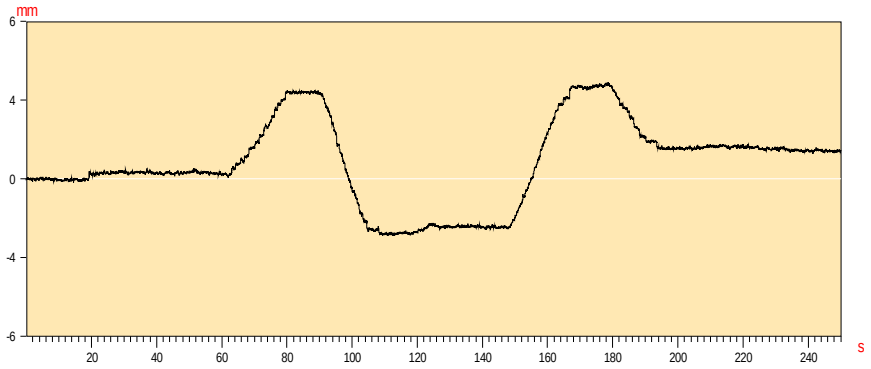
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= -0.02
Valor de Prueba	= -0.39
Valor Residual	= -0.01
Canal	F14



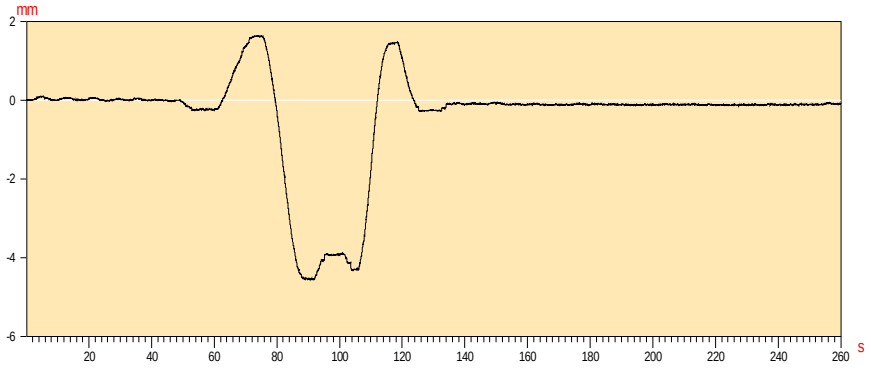
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= 0.00
Valor de Prueba	= -3.68
Valor Residual	= 0.35
Canal	F15



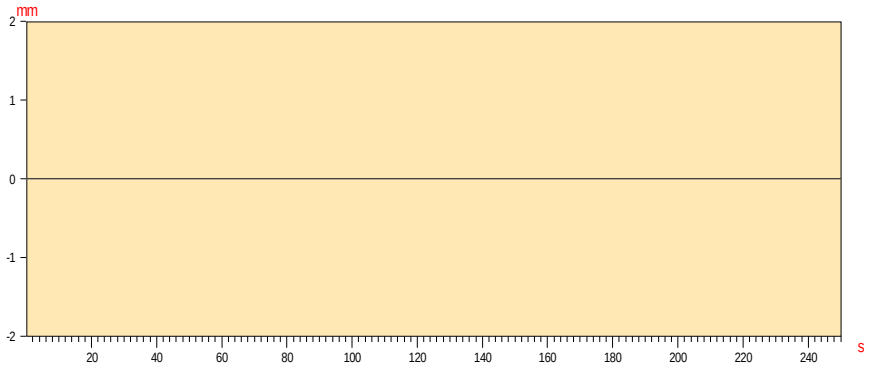
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= 0.04
Valor de Prueba	= -4.54
Valor Residual	= -0.10
Canal	F15



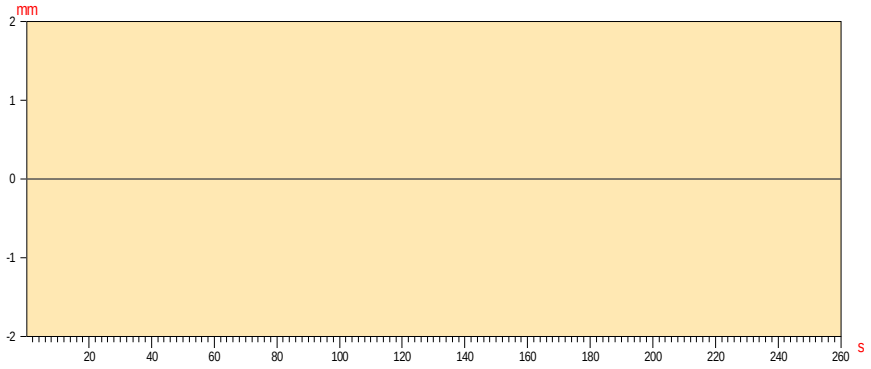
Prueba de carga de la Estructura : VIADUCTO LAV (mixta)

Organismo : ADIF

Prueba :	**DIN 30**
Fecha :	20/12/06
Hora :	22:19:09
Valor Inicial	= 0.00
Valor de Prueba	= 0.00
Valor Residual	= 0.00
Canal	F16



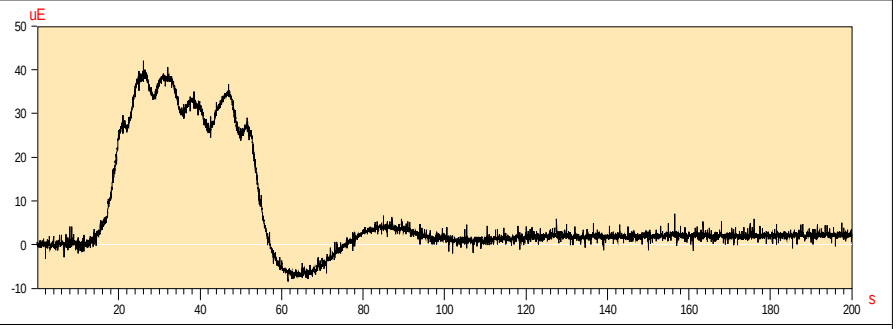
Prueba :	**DIN 5**
Fecha :	21/12/06
Hora :	0:03:03
Valor Inicial	= 0.00
Valor de Prueba	= 0.00
Valor Residual	= 0.00
Canal	F16



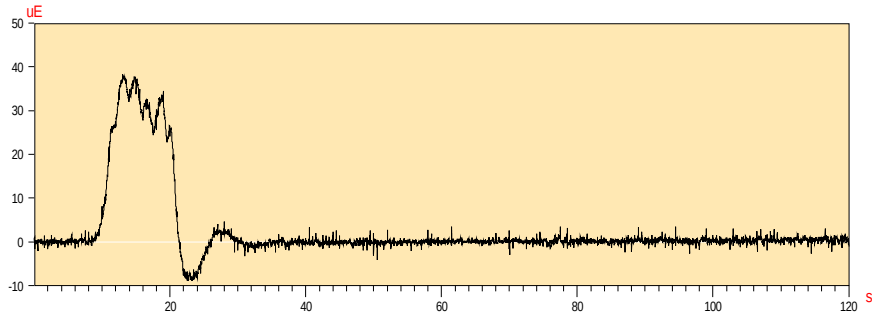
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

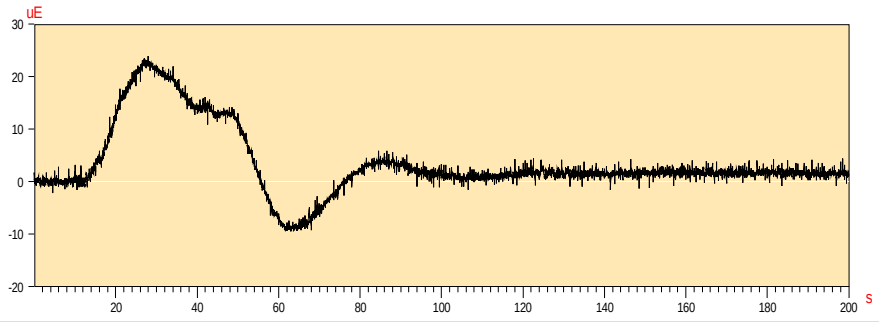
Prueba :	**DIN 5KM**
Fecha :	20/12/2006
Hora :	22:19:09
Valor Inicial	= 0.00
Valor de Prueba	= 38.62
Valor Residual	= 2.11
Canal	B1



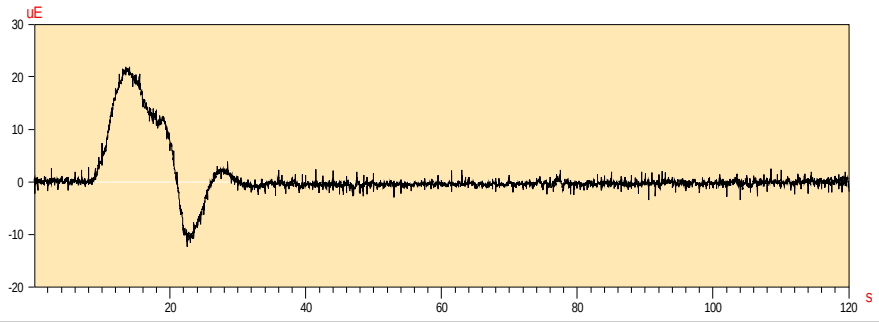
Prueba :	**DIN 30 KM**
Fecha :	20/12/2006
Hora :	0:03:03
Valor Inicial	= 0.00
Valor de Prueba	= 37.44
Valor Residual	= 0.00
Canal	B1



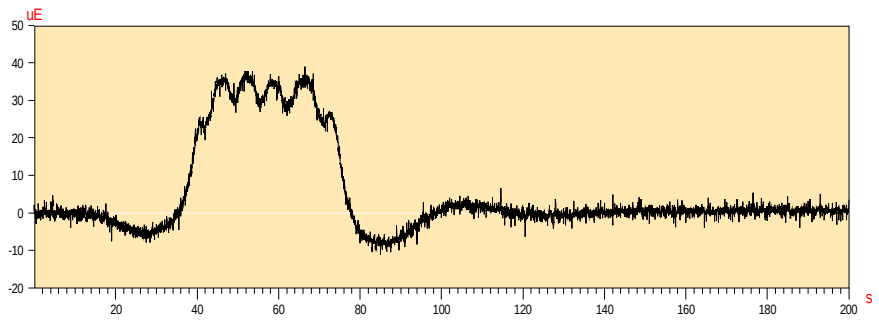
Prueba :	**DIN 5KM**
Fecha :	20/12/2006
Hora :	22:19:03
Valor Inicial	= -0.35
Valor de Prueba	= 22.65
Valor Residual	= 0.82
Canal	B2



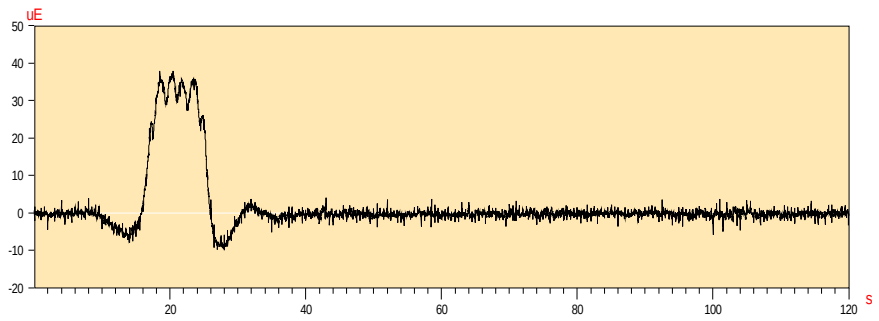
Prueba :	**DIN 30 KM**
Fecha :	20/12/2006
Hora :	0:03:03
alor Inicial	= 0.12
Valor de Prueba	= 20.07
Valor Residual	= 0.23
Canal	B2



Prueba :	**DIN 5KM**
Fecha :	20/12/2006
Hora :	22:19:09
Valor Inicial	= 2.00
Valor de Prueba	= 35.45
Valor Residual	= 0.35
Canal	B3



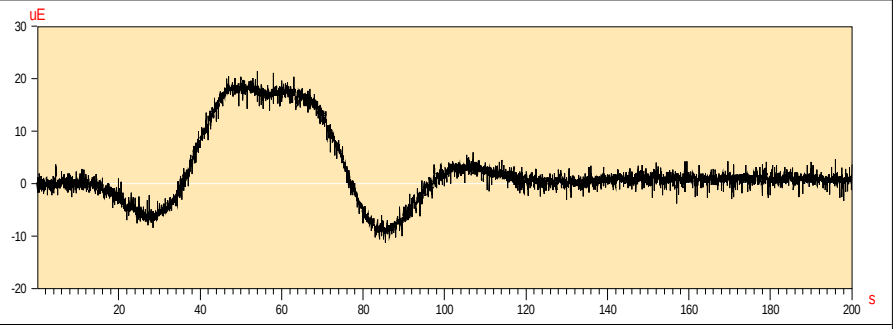
Prueba :	**DIN 30 KM**
Fecha :	20/12/2006
Hora :	0:03:03
Valor Inicial	= 0.12
Valor de Prueba	= 35.56
Valor Residual	= -0.23
Canal	B3



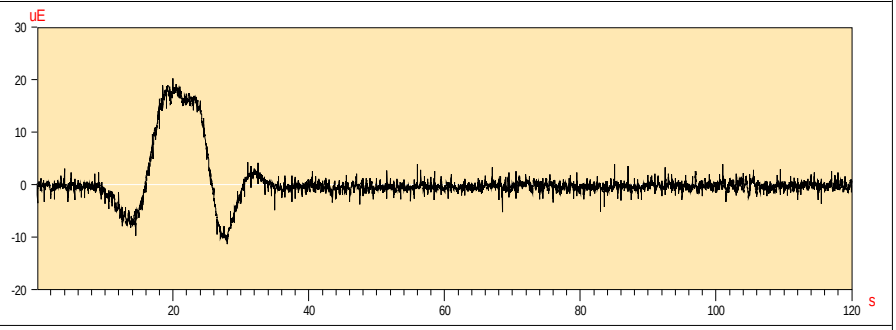
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

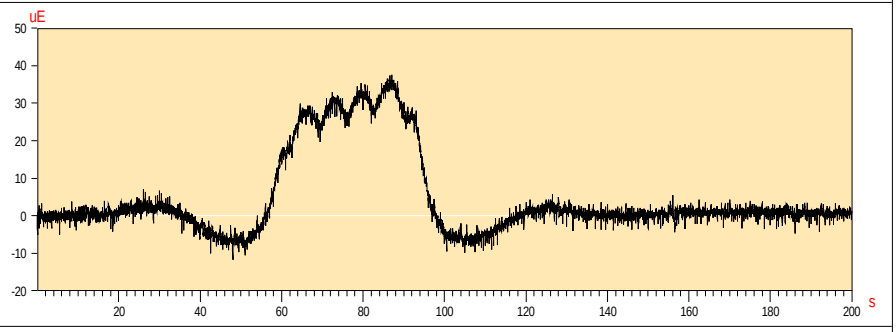
Prueba :	**DIN 5KM**
Fecha :	20/12/2006
Hora :	22:19:09
Valor Inicial	= 0.00
Valor de Prueba	= 17.37
Valor Residual	= 0.47
Canal	B4



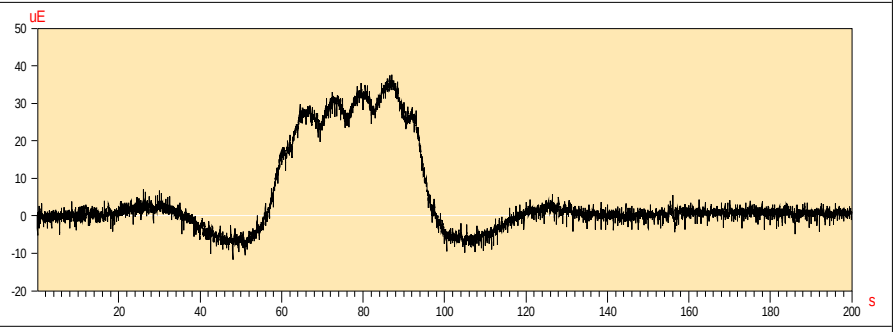
Prueba :	**DIN 30 KM**
Fecha :	20/12/2006
Hora :	0:03:03
Valor Inicial	= 0.23
Valor de Prueba	= 17.84
Valor Residual	= -0.35
Canal	B4



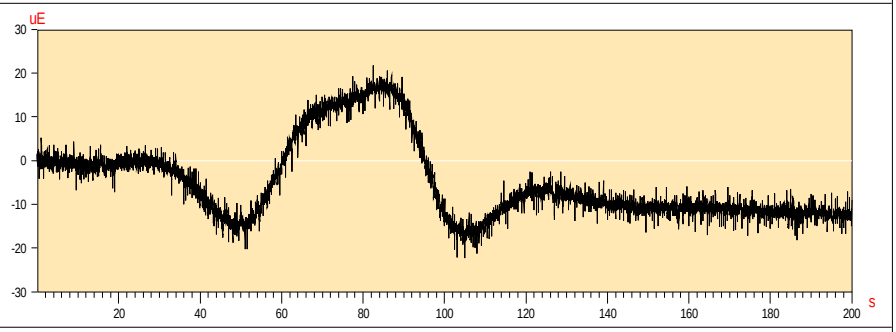
Prueba :	**DIN 5KM**
Fecha :	20/12/2006
Hora :22:19:09	
Valor Inicial	= -1.53
Valor de Prueba	= 36.03
Valor Residual	= 0.94
Canal	B5



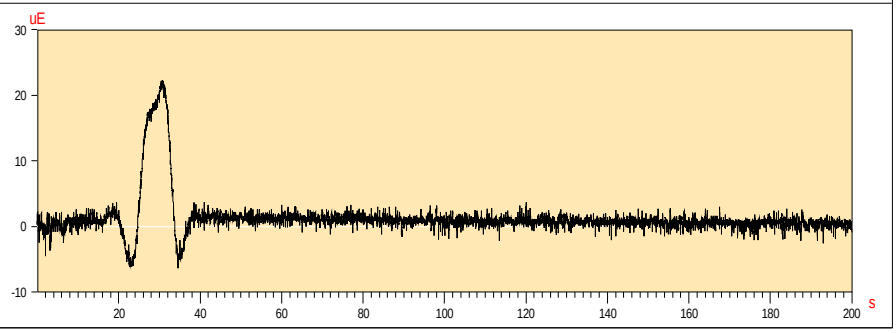
Prueba :	**DIN 30 KM**
Fecha :	20/12/2006
Hora :	0:03:03
Valor Inicial	= -1.53
Valor de Prueba	= 34.63
Valor Residual	= 1.41
Canal	B5



Prueba :	**DIN 5KM**
Fecha :	20/12/2006
Hora :	22:19:09
Valor Inicial	= -0.23
Valor de Prueba	= 20.05
Valor Residual	= -12.68
Canal	B6



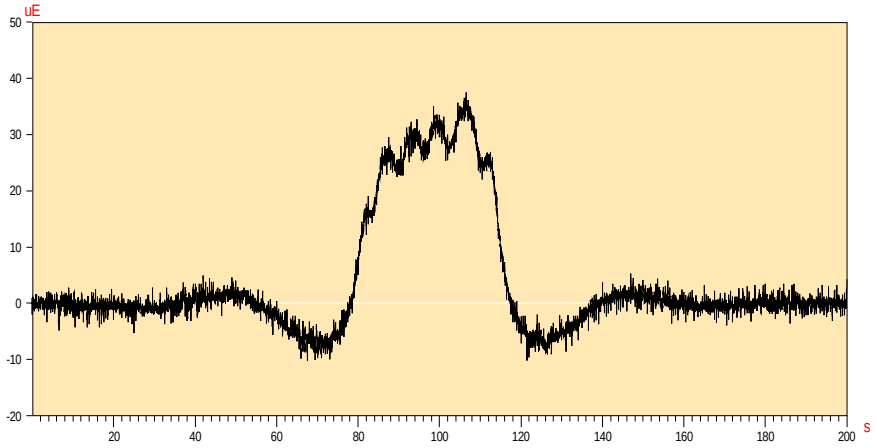
Prueba :	**DIN 30 KM**
Fecha :	20/12/2006
Hora :	0:03:03
Valor Inicial	= 0.47
Valor de Prueba	= 21.01
Valor Residual	= 0.59
Canal	B6



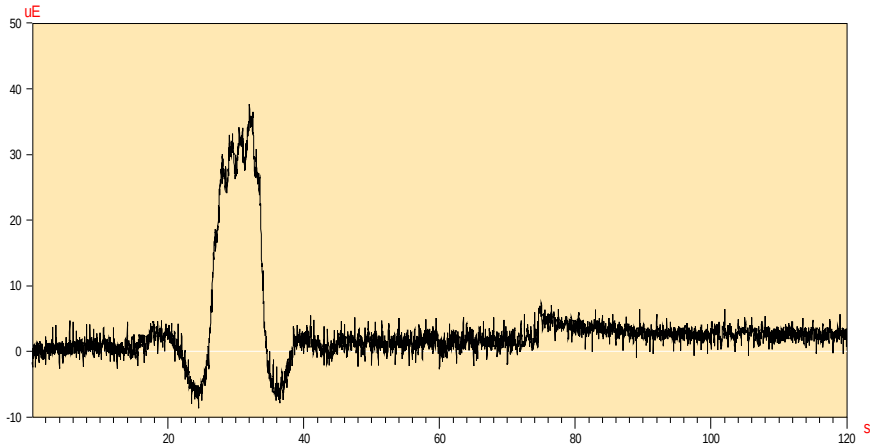
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

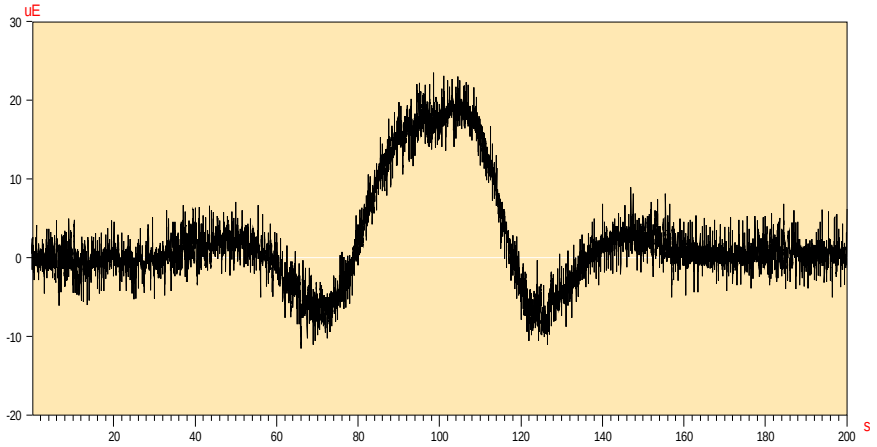
Prueba :	**DIN 5KM**
Fecha :	20/12/2006
Hora :	22:19:09
Valor Inicial	= -0.59
Valor de Prueba	= 33.92
Valor Residual	= 1.06
Canal	B7



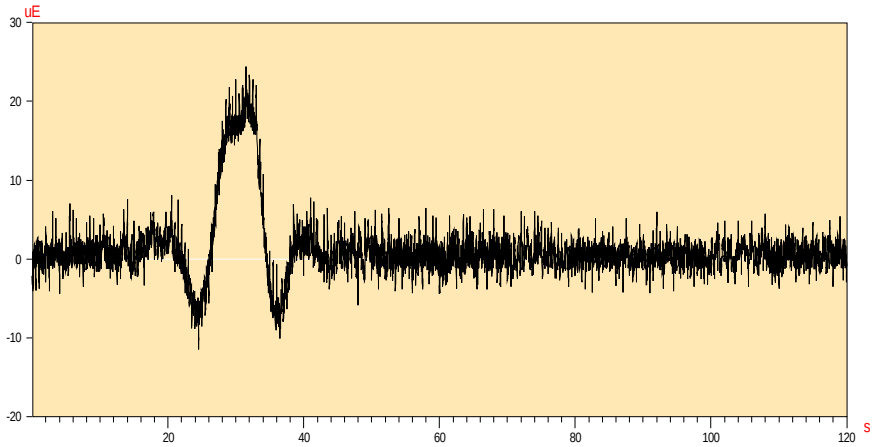
Prueba :	**DIN 30 KM**
Fecha :	20/12/2006
Hora :	0:03:03
Valor Inicial	= 0.59
Valor de Prueba	= 27.47
Valor Residual	= 3.40
Canal	B7



Prueba :	**DIN 5KM**
Fecha :	20/12/2006
Hora :	22:19:09
Valor Inicial	= -1.53
Valor de Prueba	= 20.31
Valor Residual	= -0.23
Canal	B8



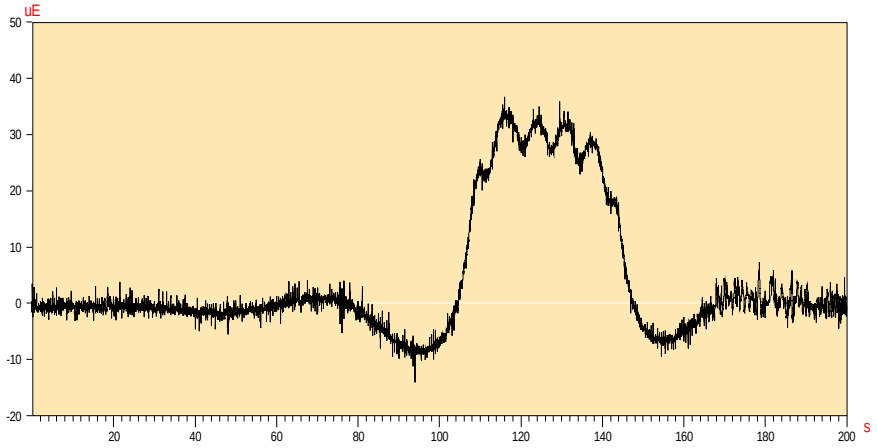
Prueba :	**DIN 30 KM**
Fecha :	20/12/2006
Hora :	0:03:03
Valor Inicial	= -0.82
Valor de Prueba	= 23.83
Valor Residual	= 0.94
Canal	B8



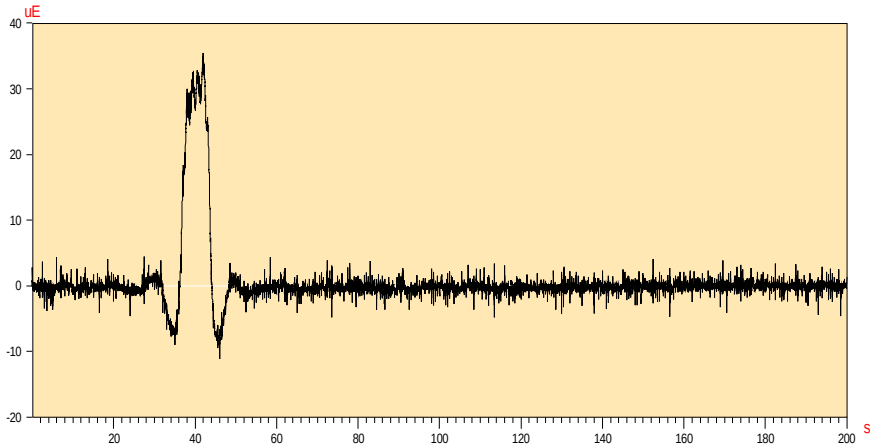
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

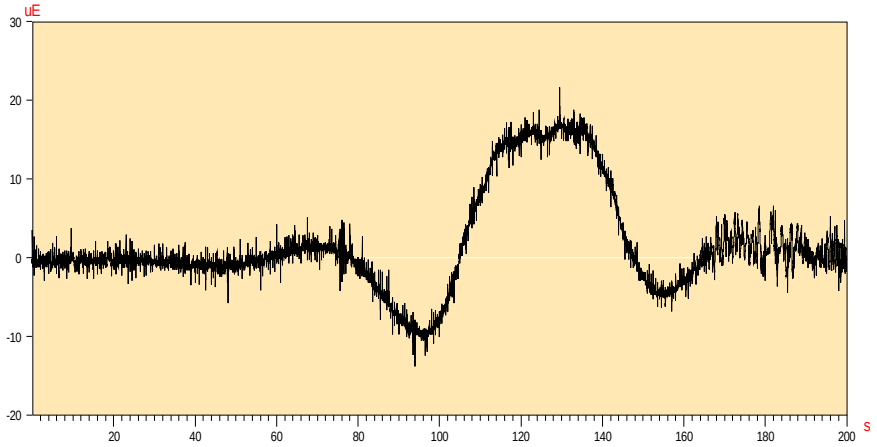
Prueba :	**DIN 5KM**
Fecha :	23/12/2006
Hora :	1:46:37
Valor Inicial	= -0.12
Valor de Prueba	= 33.33
Valor Residual	= 0.94
Canal	B9



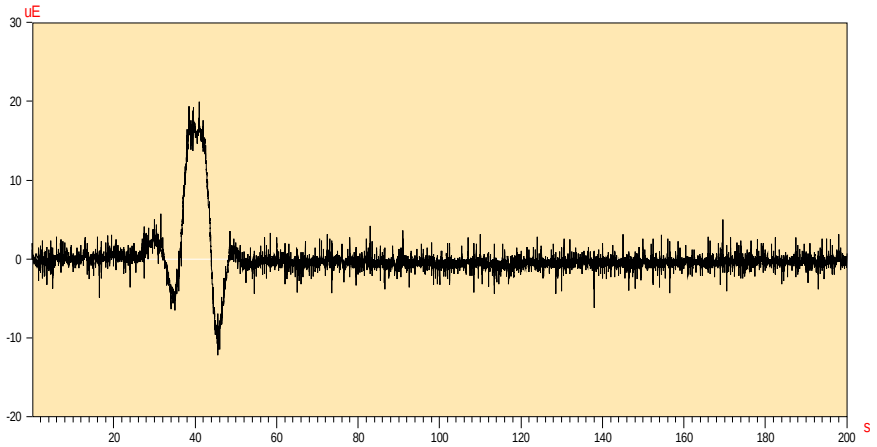
Prueba :	**DIN 30 KM**
Fecha :	23/12/2006
Hora :1:29:54	
Valor Inicial	= -2.46
Valor de Prueba	= 27.82
Valor Residual	= 0.23
Canal	B9



Prueba :	**DIN 5KM**
Fecha :	23/12/2006
Hora :	1:46:37
Valor Inicial	= 0.12
Valor de Prueba	= 16.67
Valor Residual	= 1.41
Canal	B10



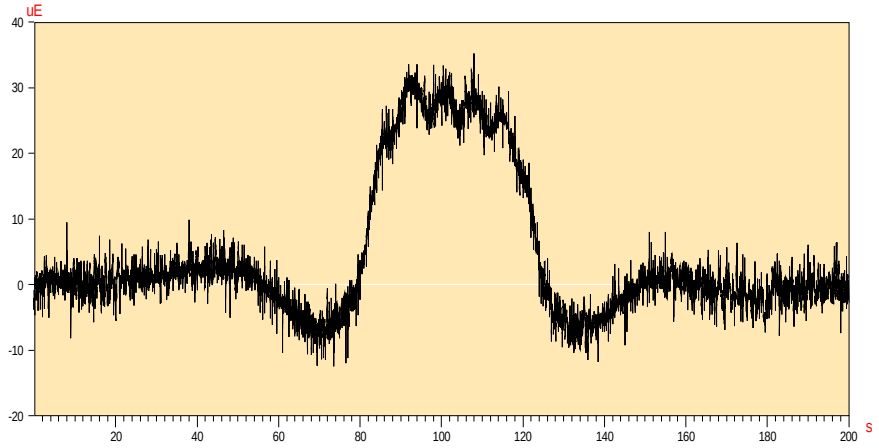
Prueba :	**DIN 30 KM**
Fecha :	23/12/2006
Hora :	1:29:54
Valor Inicial	= 0.00
Valor de Prueba	= 15.85
Valor Residual	= 0.00
Canal	B10



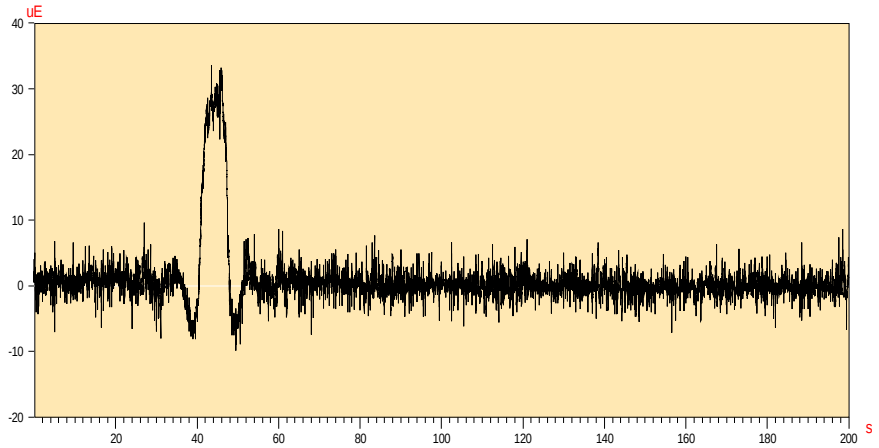
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

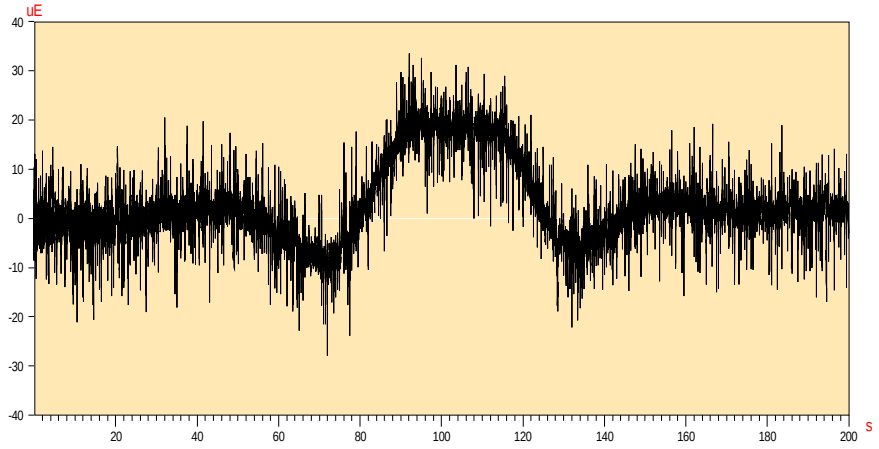
Prueba :	**DIN 5KM**
Fecha :	23/12/2006
Hora :	1:46:37
Valor Inicial	= 0.35
Valor de Prueba	= 27.70
Valor Residual	= -0.35
Canal	B11



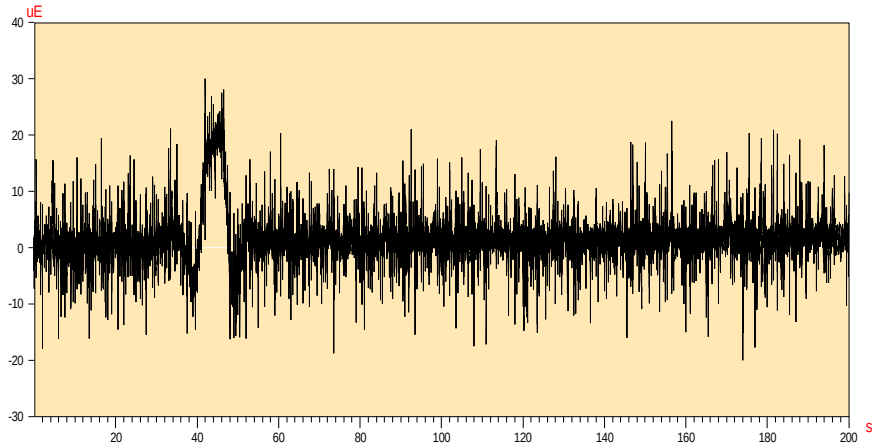
Prueba :	**DIN 30 KM**
Fecha :	23/12/2006
Hora :	1:29:54
Valor Inicial	= 0.70
Valor de Prueba	= 26.41
Valor Residual	= -0.94
Canal	B11



Prueba :	**DIN 5KM**
Fecha :	23/12/2006
Hora :	1:46:37
Valor Inicial	= -2.00
Valor de Prueba	= 21.48
Valor Residual	= 1.06
Canal	B12



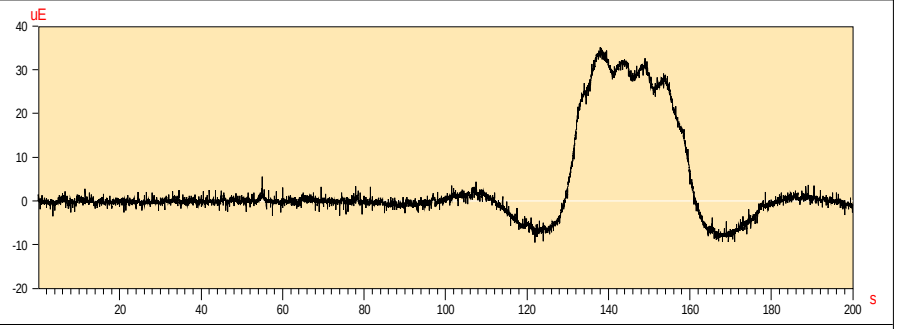
Prueba :	**DIN 30 KM**
Fecha :	23/12/2006
Hora :	1:29:54
Valor Inicial	= 0.35
Valor de Prueba	= 18.78
Valor Residual	= -0.47
Canal	B12



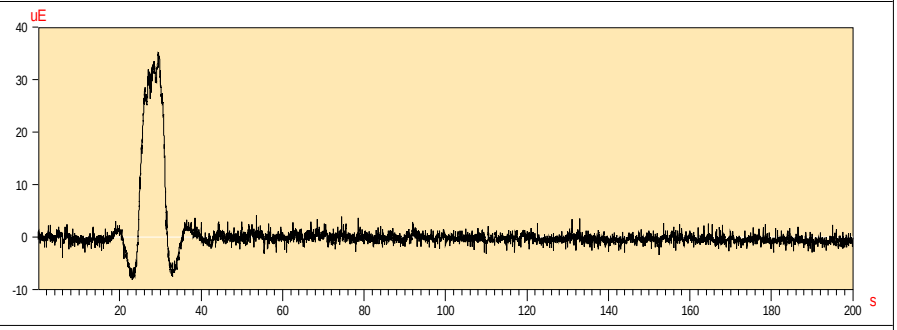
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

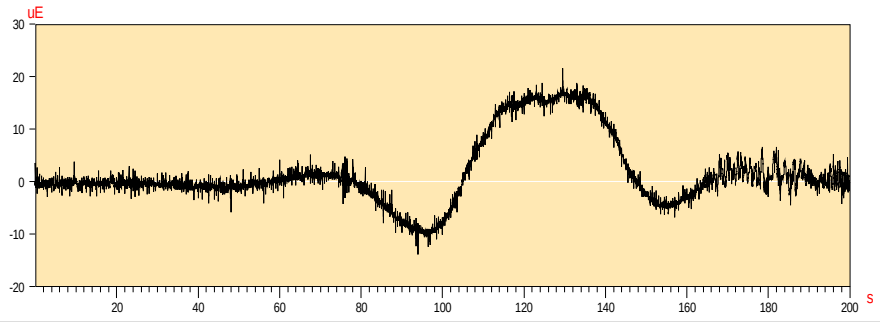
Prueba :	**DIN 5KM**
Fecha :	23/12/2006
Hora :	1:46:37
Valor Inicial	= -0.12
Valor de Prueba	= 33.45
Valor Residual	= -0.94
Canal	B13



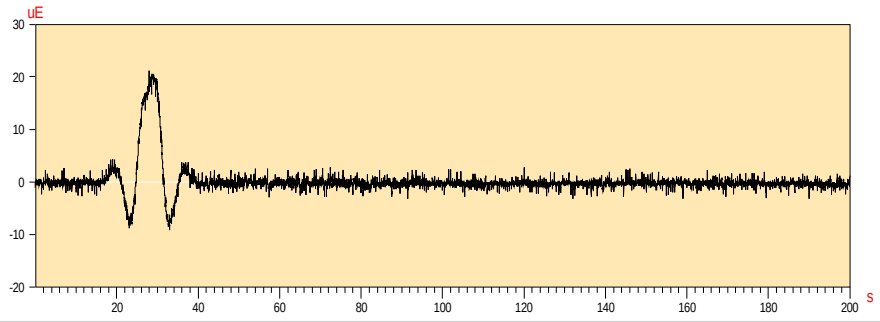
Prueba :	**DIN 30 KM**
Fecha :	23/12/2006
Hora :	1:29:54
Valor Inicial	= -0.70
Valor de Prueba	= 31.34
Valor Residual	= -0.82
Canal	B13



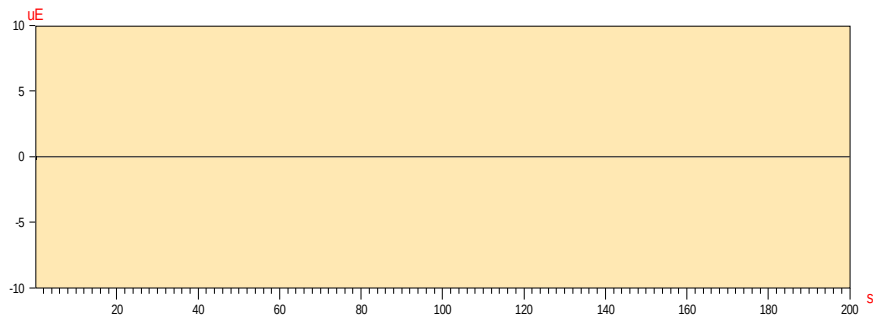
Prueba :	**DIN 5KM**
Fecha :	23/12/2006
Hora :	1:46:37
Valor Inicial	= -0.70
Valor de Prueba	= 19.74
Valor Residual	= 1.88
Canal	B14



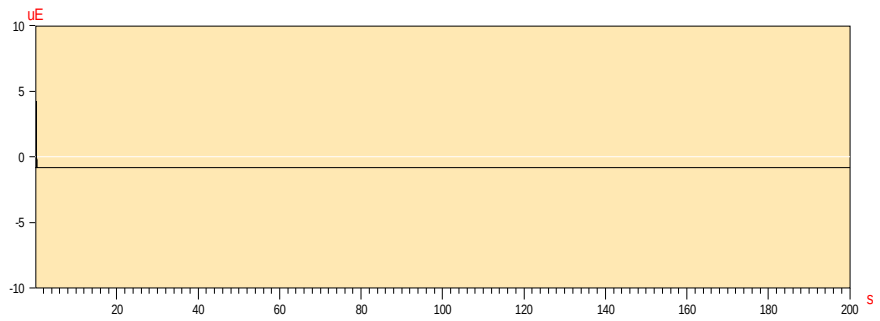
Prueba :	**DIN 30 KM**
Fecha :	23/12/2006
Hora :	1:29:54
Valor Inicial	= 0.00
Valor de Prueba	= 19.01
Valor Residual	= -0.94
Canal	B14



Prueba :	**DIN 5KM**
Fecha :	27/12/2006
:	13:46:31
Valor Inicial	= 0.00
Valor de Prueba	= 0.00
Valor Residual	= 0.00
Canal	B15



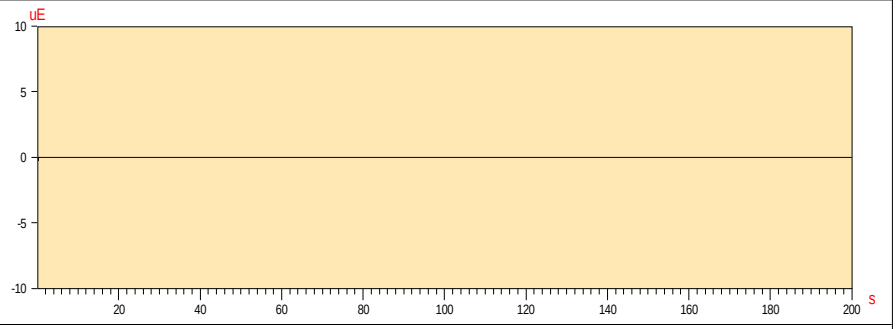
Prueba :	**DIN 30 KM**
Fecha :	27/12/2006
Hora :	13:29:16
Valor Inicial	= -0.82
Valor de Prueba	= -0.82
Valor Residual	= -0.82
Canal	B15



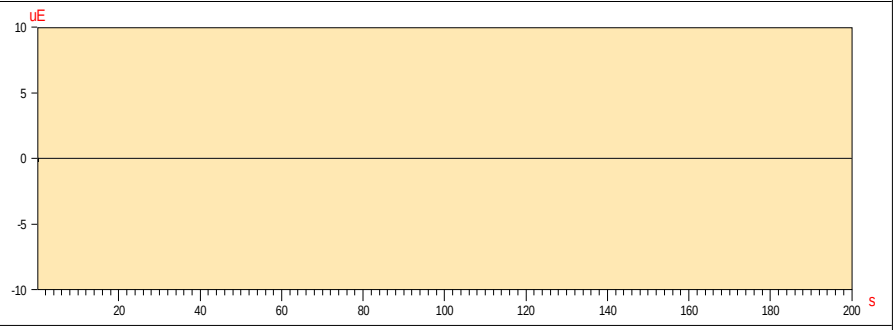
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

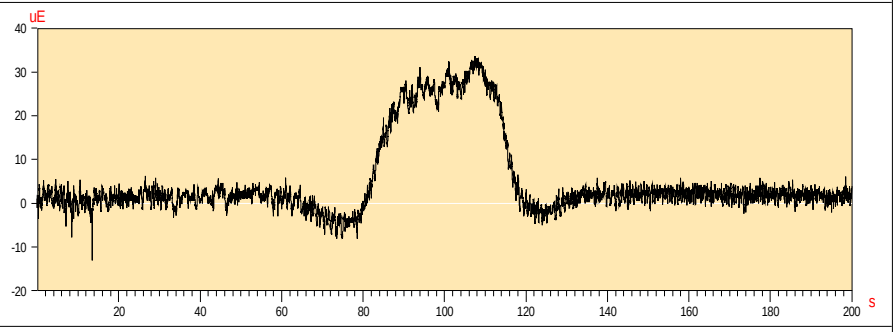
Prueba :	**DIN 5KM**
Fecha :	27/12/2006
Hora :	13:46:31
Valor Inicial	= 0.00
Valor de Prueba	= 0.00
Valor Residual	= 0.00
Canal	B16



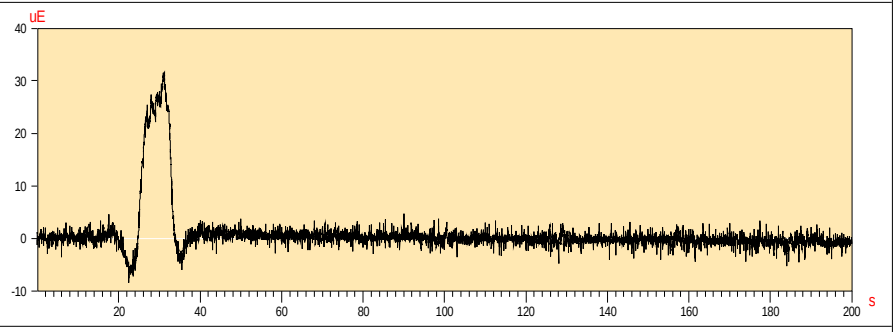
Prueba :	**DIN 30 KM**
Fecha :	27/12/2006
Hora :	13:29:16
Valor Inicial	= 0.00
Valor de Prueba	= 0.00
Valor Residual	= 0.00
Canal	B16



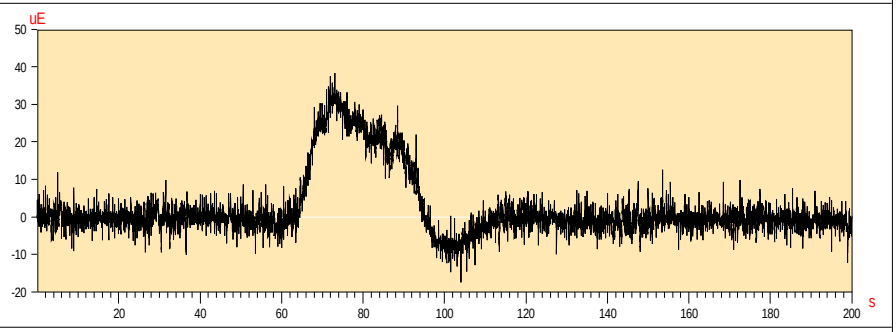
Prueba :	**DIN 5KM**
Fecha :	27/12/2006
Hora :	13:46:31
Valor Inicial	= 3.29
Valor de Prueba	= 31.46
Valor Residual	= -0.23
Canal	B17



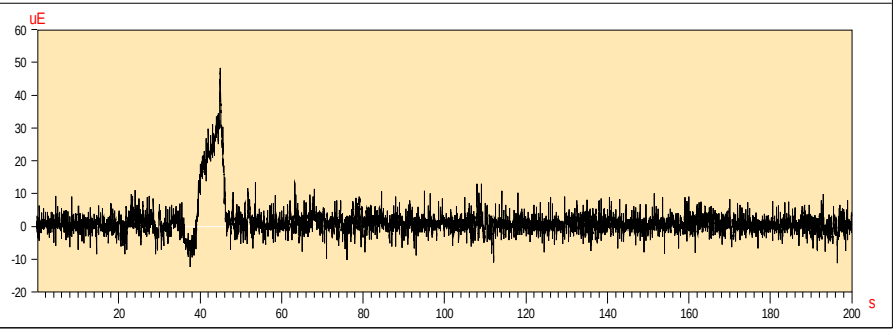
Prueba :	**DIN 30 KM**
Fecha :	27/12/2006
Hora :	13:29:16
Valor Inicial	= 0.47
Valor de Prueba	= 24.41
Valor Residual	= -1.29
Canal	B17



Prueba :	**DIN 5KM**
Fecha :	27/12/2006
Hora :	13:46:31
Valor Inicial	= -2.23
Valor de Prueba	= 31.57
Valor Residual	= -0.23
Canal	B18



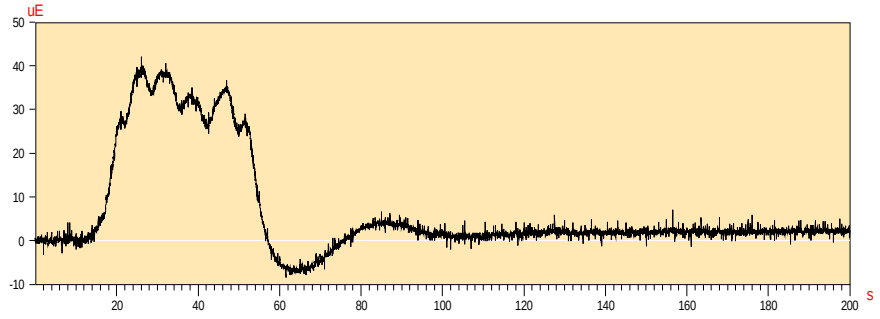
Prueba :	**DIN 30 KM**
Fecha :	27/12/2006
Hora :	13:29:16
Valor Inicial	= 0.35
Valor de Prueba	= 32.87
Valor Residual	= 1.06
Canal	B18



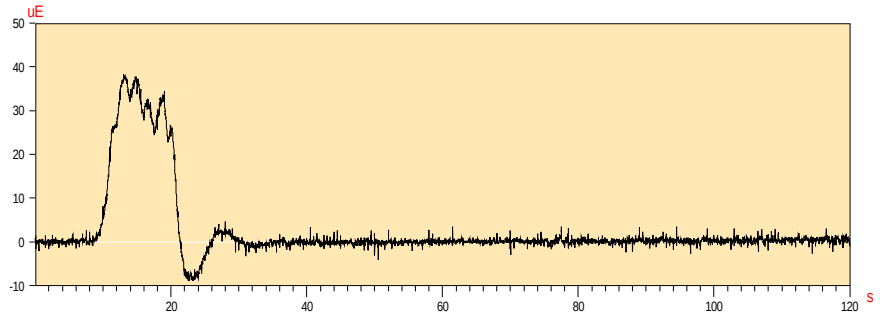
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

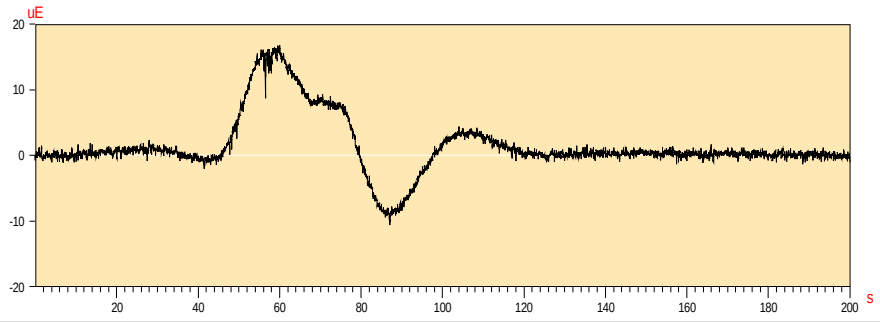
Prueba :	**DIN 5KM**
Fecha :	27/12/2006
Hora :	13:46:31
Valor Inicial	= -0.59
Valor de Prueba	= 39.09
Valor Residual	= 2.46
Canal	B19



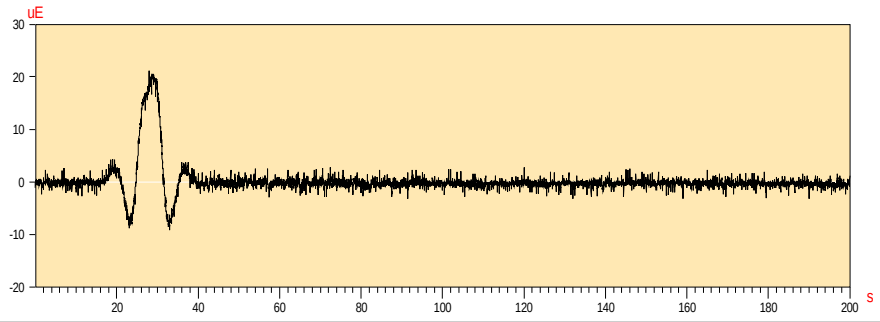
Prueba :	**DIN 30 KM**
Fecha :	27/12/2006
Hora :	13:29:16
Valor Inicial	= 0.23
Valor de Prueba	= 37.56
Valor Residual	= -0.23
Canal	B19



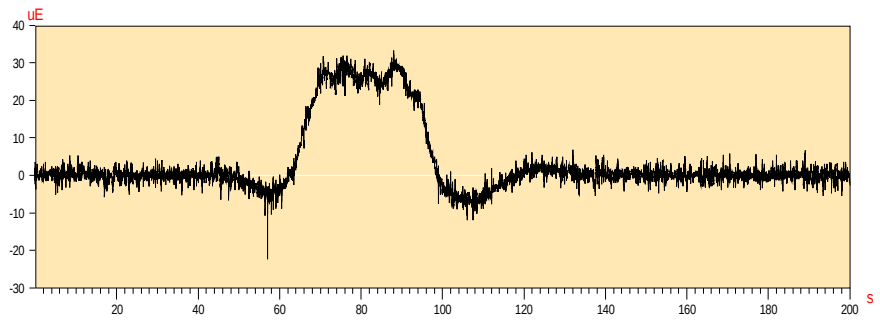
Prueba :	**DIN 5KM**
Fecha :	27/12/2006
Hora :	13:46:31
Valor Inicial	= -0.23
Valor de Prueba	= 18.08
Valor Residual	= -0.23
Canal	B20



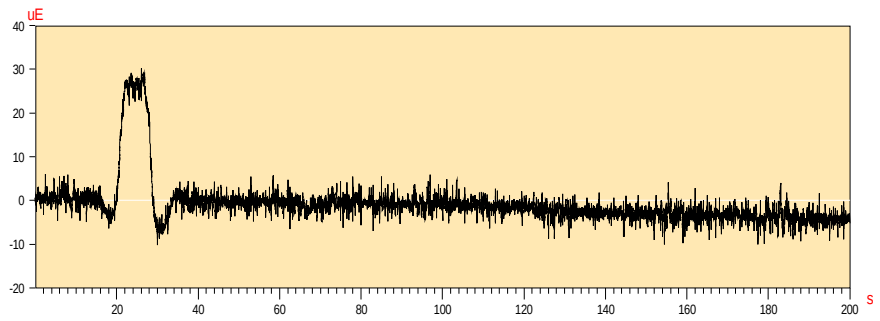
Prueba :	**DIN 30 KM**
Fecha :	27/12/2006
Hora :	13:29:16
Valor Inicial	= -0.12
Valor de Prueba	= 19.01
Valor Residual	= -0.47
Canal	B20



Prueba :	**DIN 5KM**
Fecha :	29/12/2006
Hora :	17:12:13
Valor Inicial	= -0.47
Valor de Prueba	= 25.94
Valor Residual	= -0.70
Canal	B21



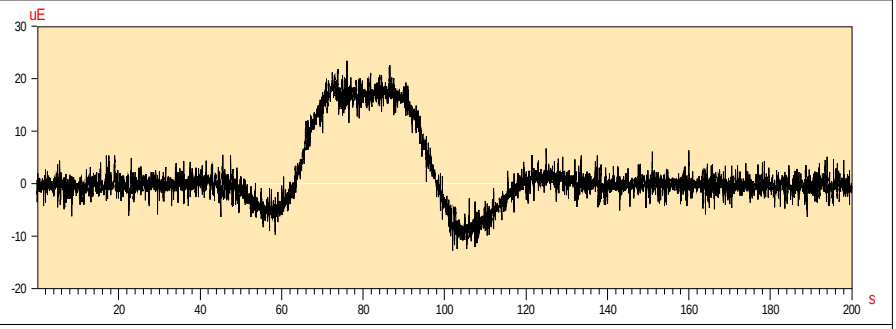
Prueba :	**DIN 30 KM**
Fecha :	29/12/2006
Hora :	18:07:16
Valor Inicial	= 0.00
Valor de Prueba	= 21.95
Valor Residual	= -1.76
Canal	B21



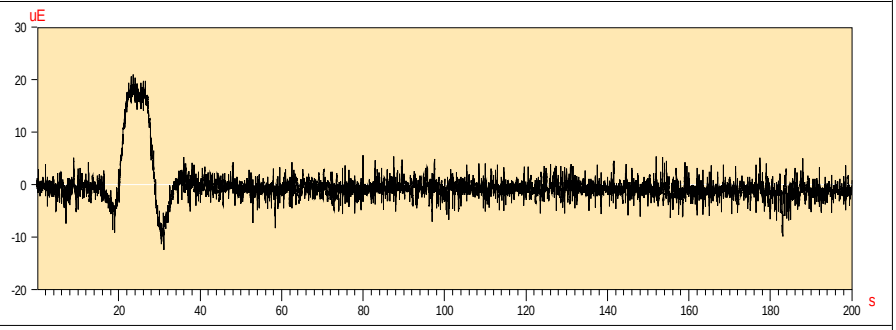
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

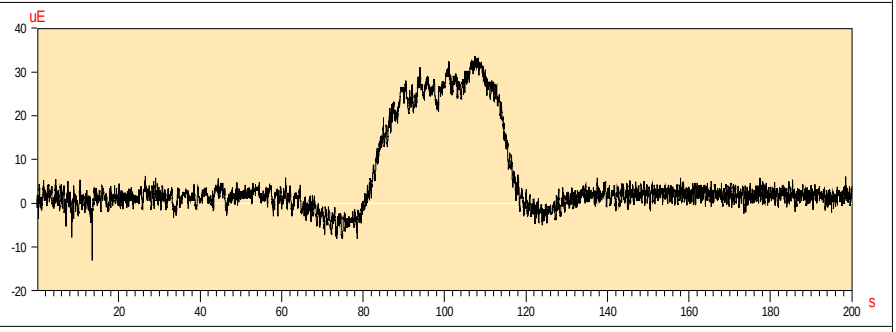
Prueba :	**DIN 5KM**
Fecha :	29/12/2006
Hora :	17:12:13
Valor Inicial	= 0.82
Valor de Prueba	= 17.72
Valor Residual	= 0.47
Canal	B22



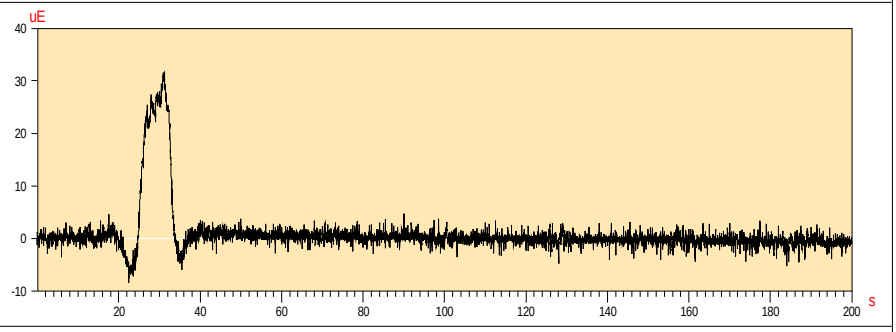
Prueba :	**DIN 30 KM**
Fecha :	29/12/2006
Hora :	18:07:16
Valor Inicial	= -0.47
Valor de Prueba	= 18.78
Valor Residual	= -1.17
Canal	B22



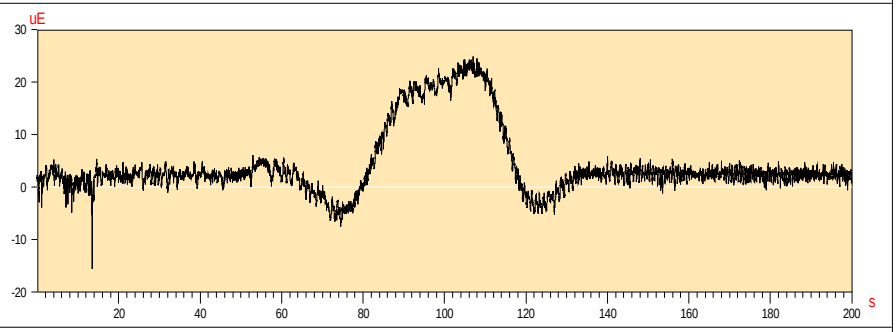
Prueba :	**DIN 5KM**
Fecha :	29/12/2006
Hora :	17:12:13
Valor Inicial	= -0.23
Valor de Prueba	= 32.63
Valor Residual	= 2.35
Canal	B23



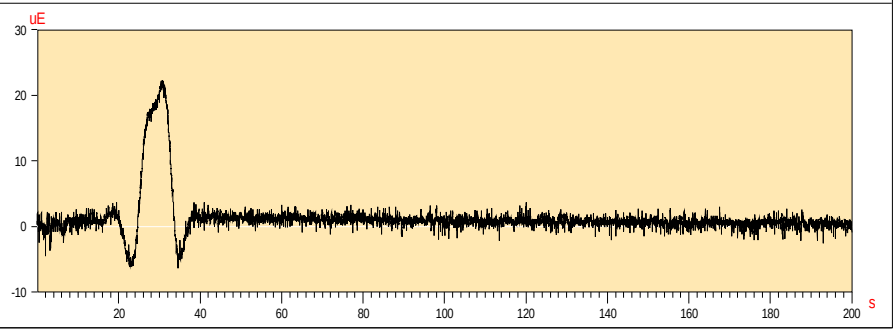
Prueba :	**DIN 30 KM**
Fecha :	29/12/2006
Hora :	18:07:16
Valor Inicial	= 0.35
Valor de Prueba	= 26.64
Valor Residual	= 0.00
Canal	B23



Prueba :	**DIN 5KM**
Fecha :	29/12/2006
Hora :	17:12:13
Valor Inicial	= 2.11
Valor de Prueba	= 23.12
Valor Residual	= 2.35
Canal	B24



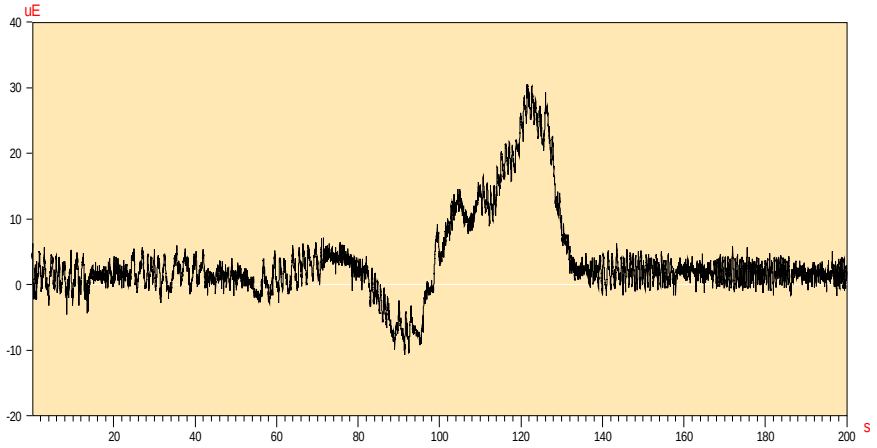
Prueba :	**DIN 30 KM**
Fecha :	29/12/2006
Hora :	1816:07:16:07:16
Valor Inicial	= 0.59
Valor de Prueba	= 21.01
Valor Residual	= 1.06
Canal	B24



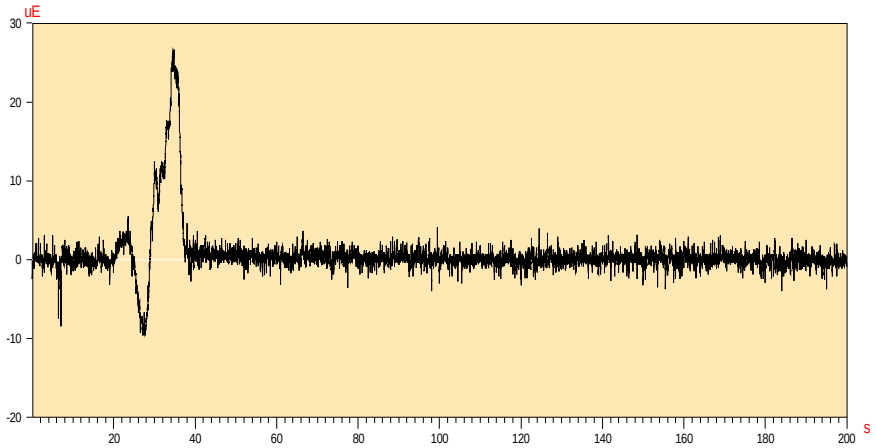
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

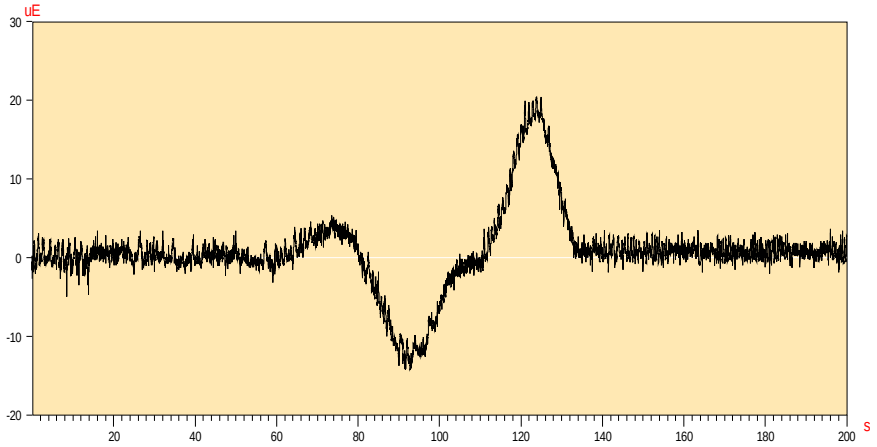
Prueba :	**DIN 5KM**
Fecha :	29/12/2006
Hora :	17:12:13
Valor Inicial	= 4.93
Valor de Prueba	= 28.17
Valor Residual	= 0.00
Canal	B25



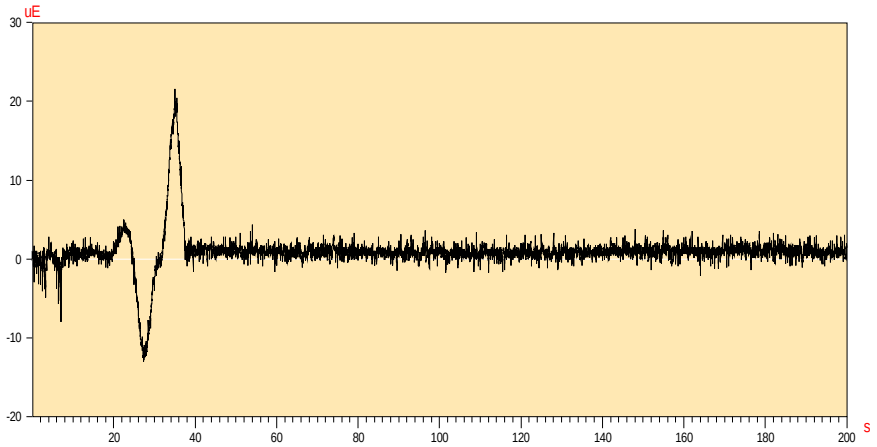
Prueba :	**DIN 30 KM**
Fecha :	29/12/2006
Hora :	16:08:16
Valor Inicial	= 0.12
Valor de Prueba	= 23.59
Valor Residual	= -0.35
Canal	B25



Prueba :	**DIN 5KM**
Fecha :	29/12/2006
Hora :	17:12:13
Valor Inicial	= 2.35
Valor de Prueba	= 18.08
Valor Residual	= 0.82
Canal	B26



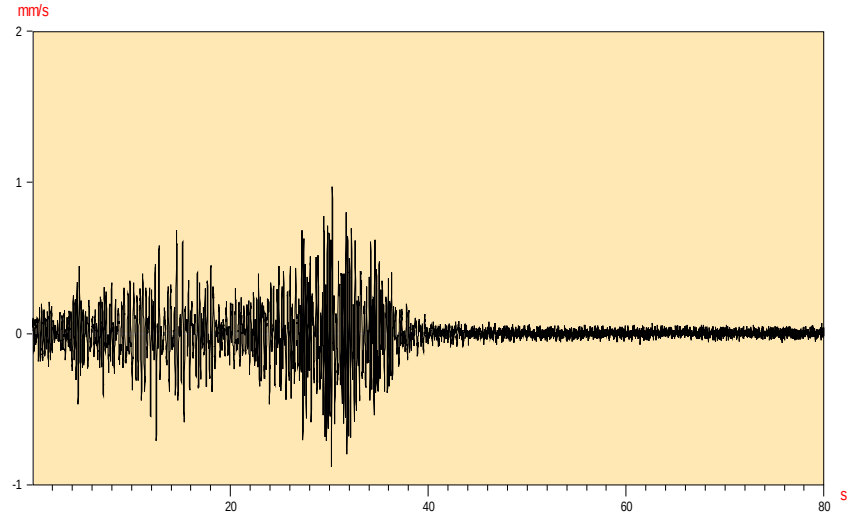
Prueba :	**DIN 30 KM**
Fecha :	29/12/2006
Hora :	18:07:16
Valor Inicial	= -0.70
Valor de Prueba	= 18.90
Valor Residual	= 0.94
Canal	B26



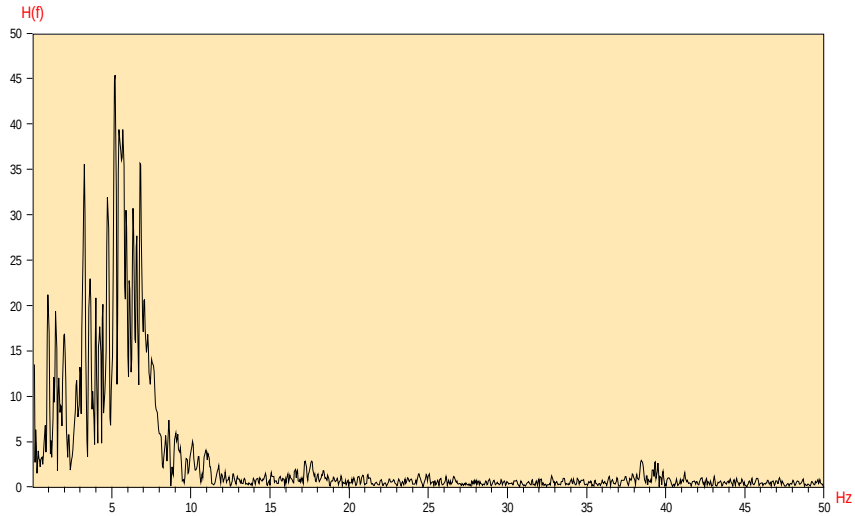
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

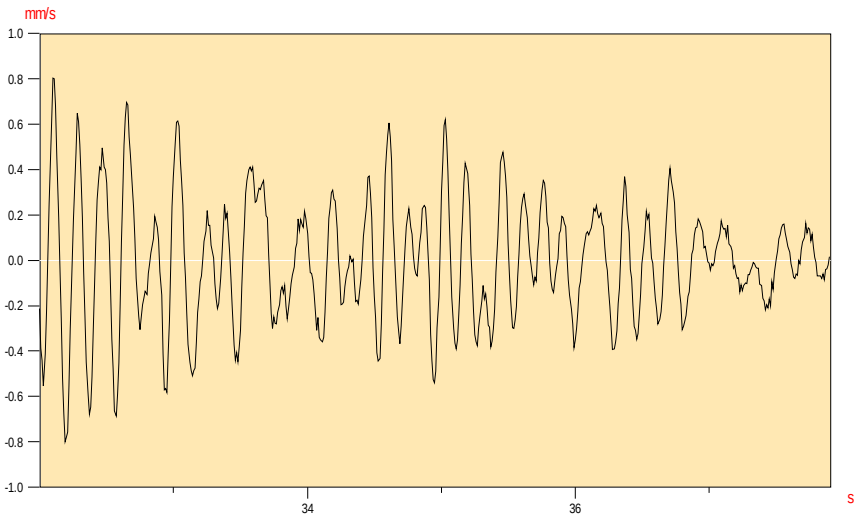
Prueba :	**GEOFONO**
Fecha :	20/12/06
Hora :	23:25:23
Valor de Prueba	= 0.09
Canal	G1



Prueba :	**GEOFONO**
Fecha :	20/12/06
Hora :	23:25:23
Frecuencia de Vibración	= 5.2
Canal	G1



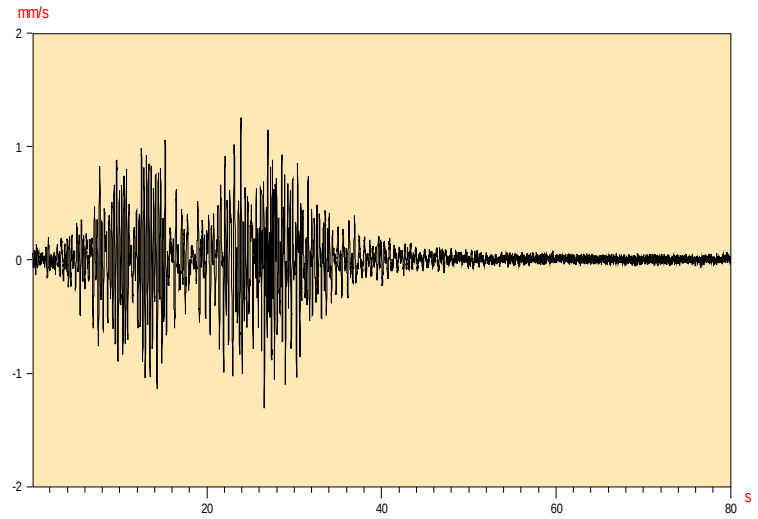
Prueba :	**GEOFONO**
Fecha :	20/12/06
Hora :	23:25:23
Indice Amortiguamiento	= 0.06
Amortiguamiento (%)	= 0.9
Canal	G1



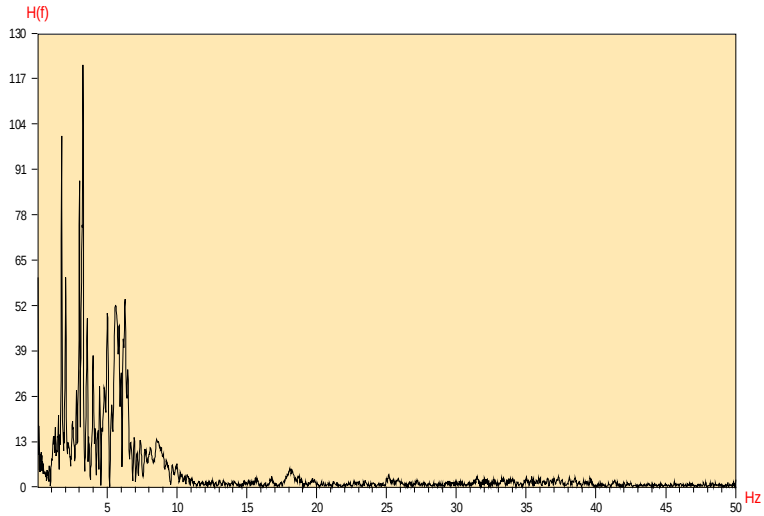
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

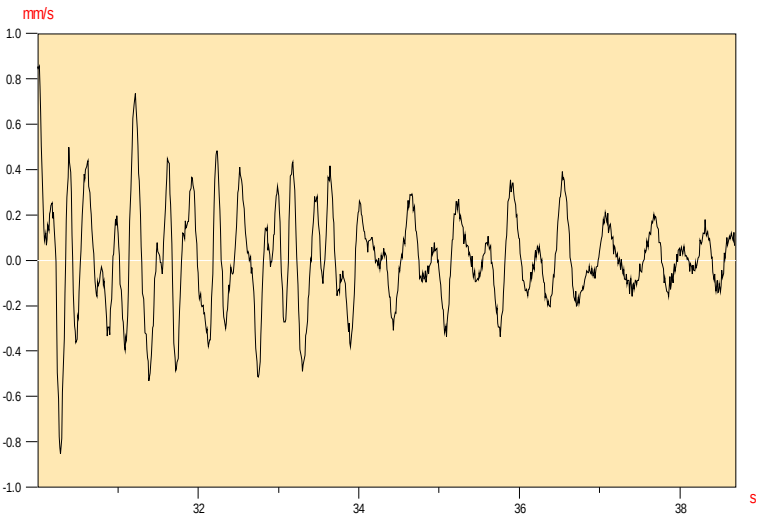
Prueba :	**GEOFONO**
Fecha :	20/12/06
Hora :	23:39:48
Valor de Prueba	= -0.24
Canal	G2



Prueba :	**GEOFONO**
Fecha :	20/12/06
Hora :	23:39:48
Frecuencia de Vibración	= 3.2
Canal	G2



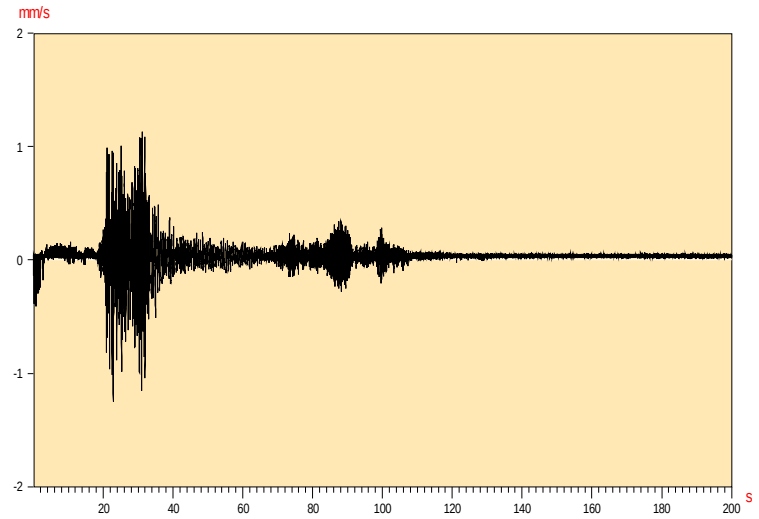
Prueba :	**GEOFONO**
Fecha :	20/12/06
Hora :	23:39:48
Indice Amortiguamiento	= 0.05
Amortiguamiento (%)	= 0.8
Canal	G2



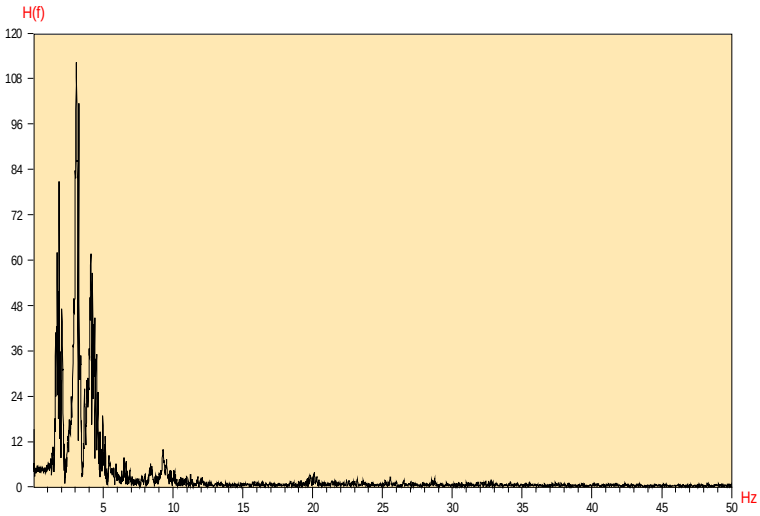
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

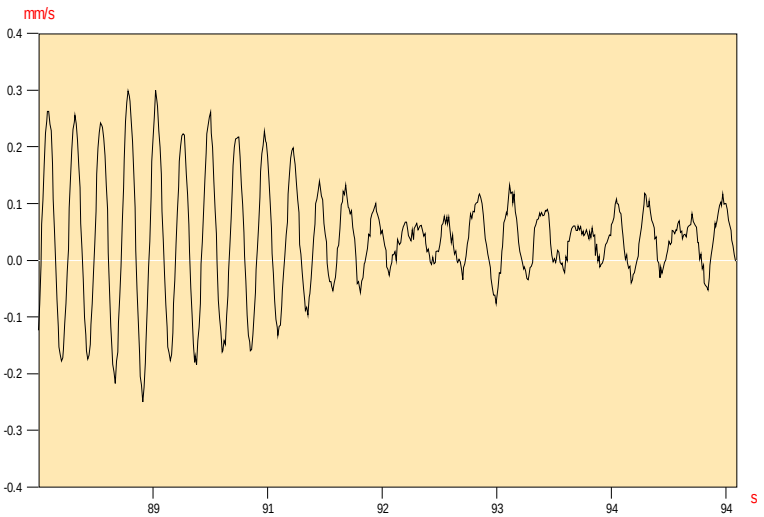
Prueba :	**GEOFONO**
Fecha :	05/07/07
Hora :	14:05:47
Valor de Prueba	= -0.69
Canal	G3



Prueba :	**GEOFONO**
Fecha :	05/07/07
Hora :	14:05:47
Frecuencia de Vibración	= 3.1
Canal	G3



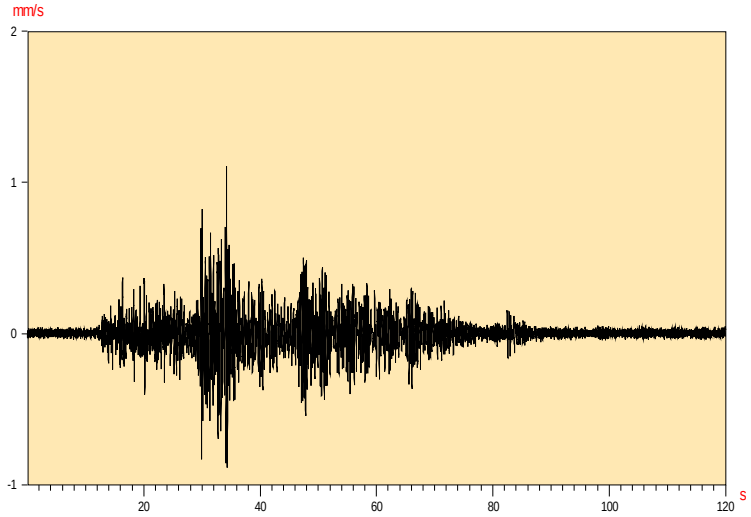
Prueba :	**GEOFONO**
Fecha :	05/07/07
Hora :	14:05:47
Indice Amortiguamiento	= 0.06
Amortiguamiento (%)	= 1.0
Canal	G3



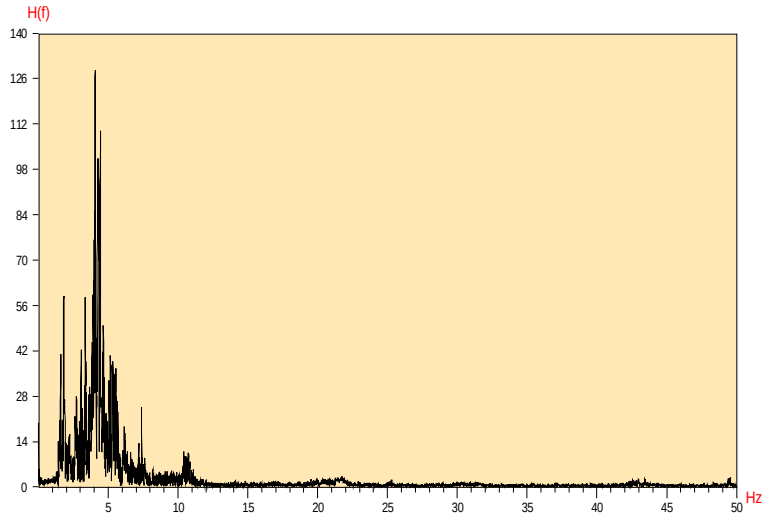
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

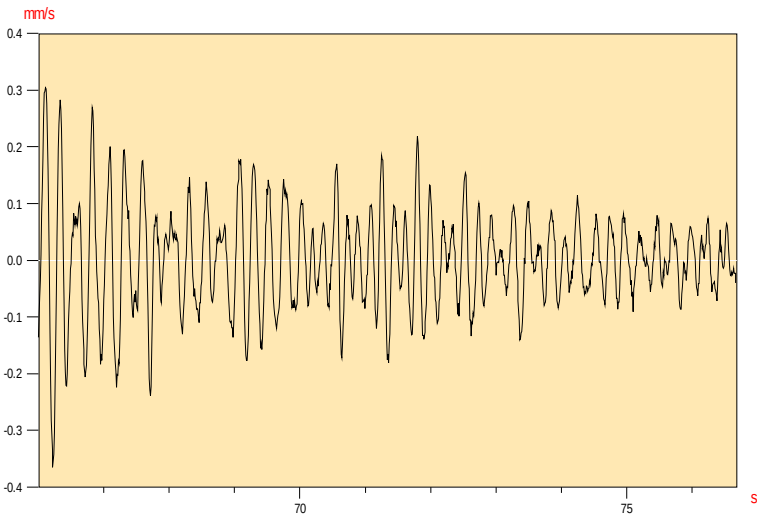
Prueba :	**GEOFONO**
Fecha :	02/07/07
Hora :	14:24:47
Valor de Prueba	= -0.84
Canal	G4



Prueba :	**GEOFONO**
Fecha :	02/07/07
Hora :	14:24:47
Frecuencia de Vibración	= 4.1
Canal	G4



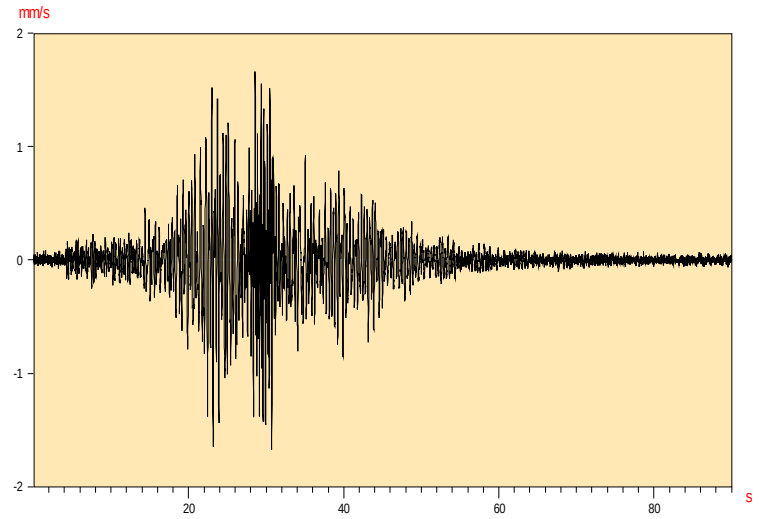
Prueba :	**GEOFONO**
Fecha :	02/07/07
Hora :	14:24:47
Indice Amortiguamiento	= 0.03
Amortiguamiento (%)	= 0.5
Canal	G4



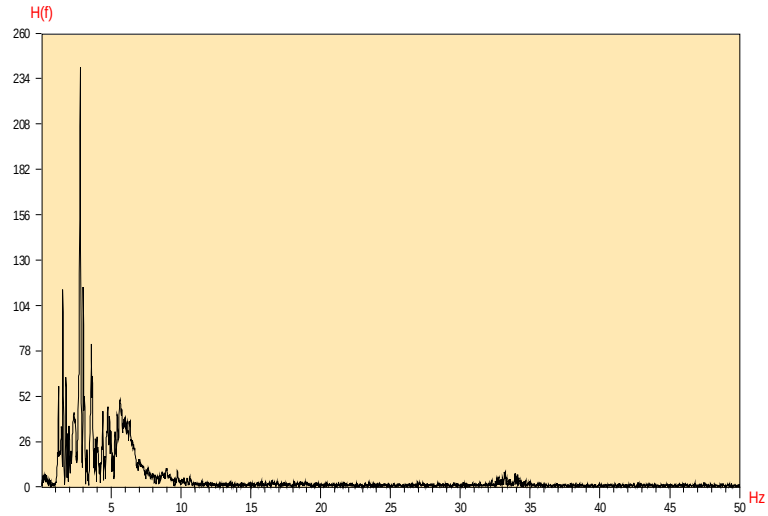
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

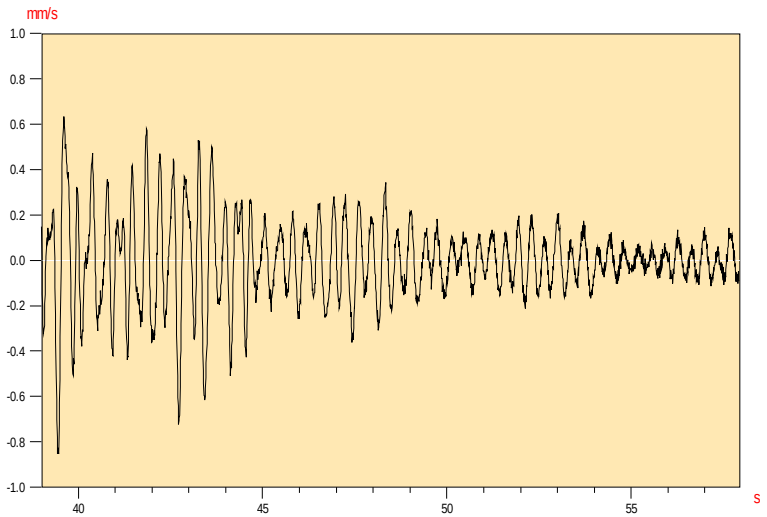
Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	2:43:44
Valor de Prueba	= -0.04
Canal	G5



Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	2:43:44
Frecuencia de Vibración	= 2.8
Canal	G5



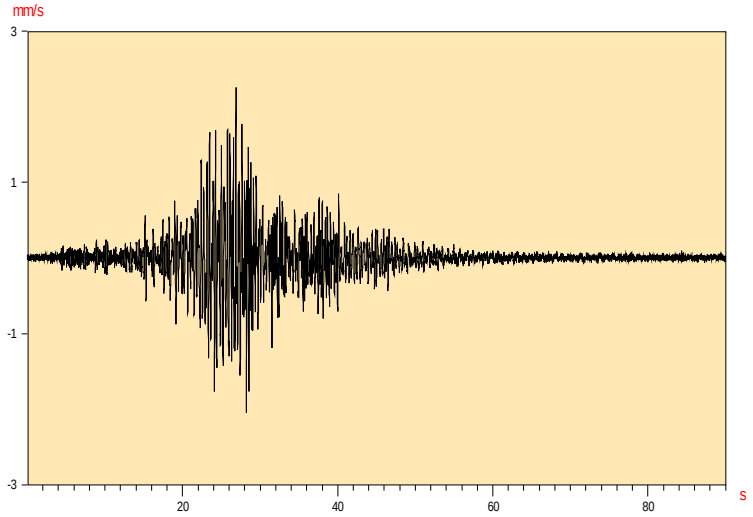
Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	2:43:44
Indice Amortiguamiento	= 0.04
Amortiguamiento (%)	= 0.7
Canal	G5



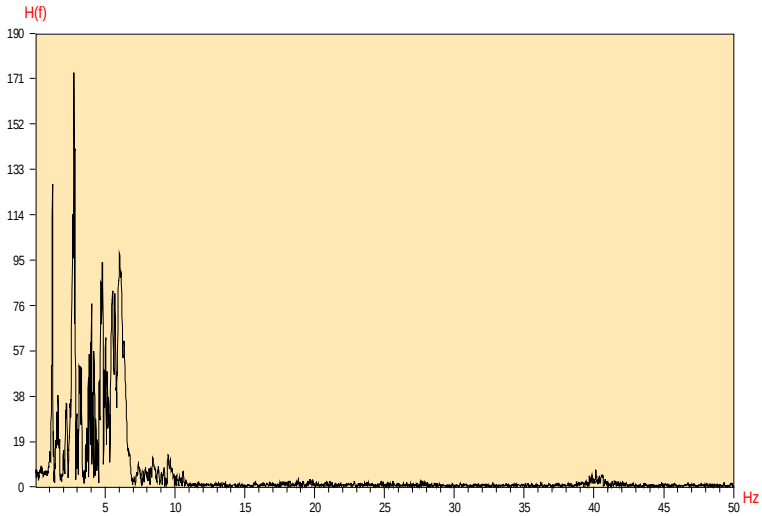
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

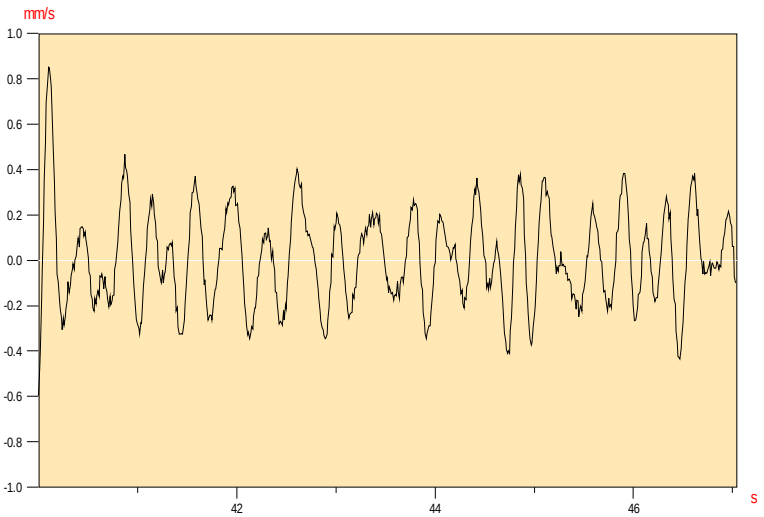
Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	2:54:22
Valor de Prueba	= -0.48
Canal	G6



Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	2:54:22
Frecuencia de Vibración	= 2.7
Canal	G6



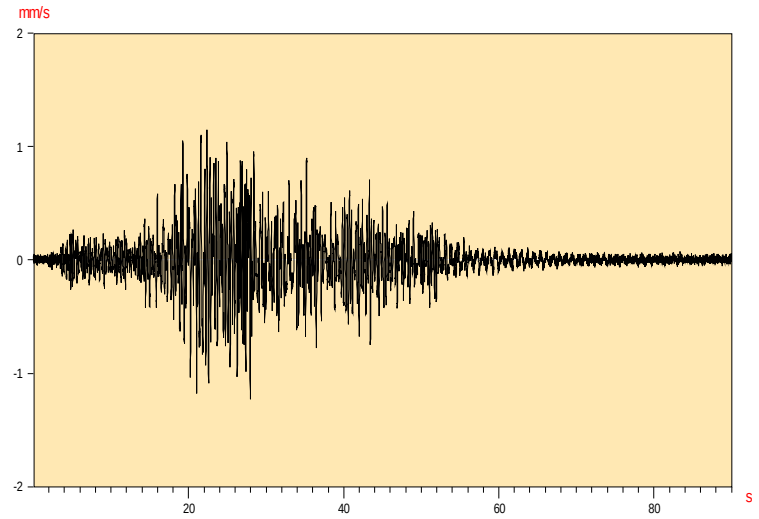
Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	2:54:22
Indice Amortiguamiento	= 0.03
Amortiguamiento (%)	= 0.5
Canal	G6



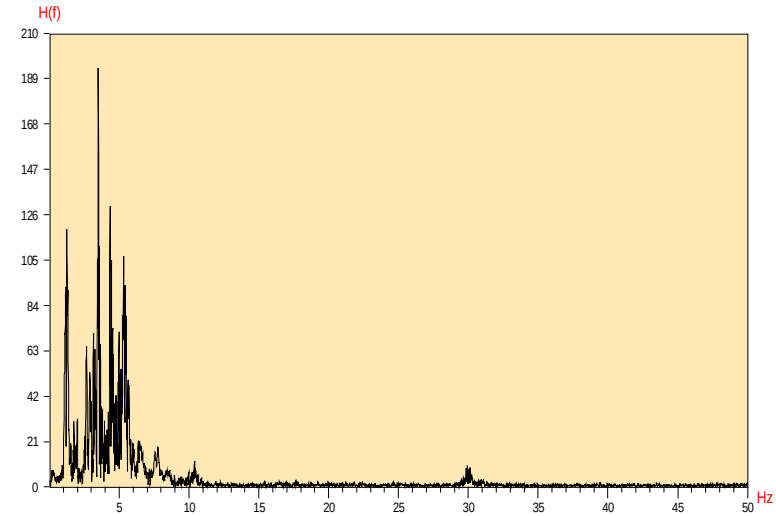
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

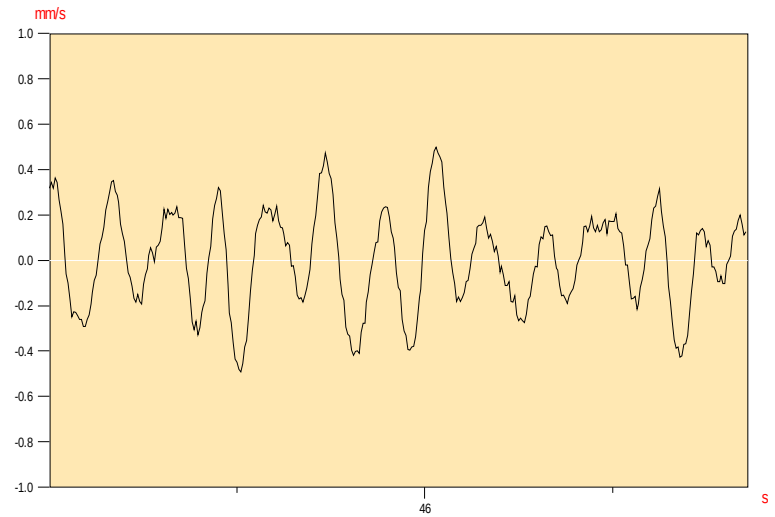
Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	3:04:44
Valor de Prueba	= -0.75
Canal	G7



Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	3:04:44
Frecuencia de Vibración	= 3.5
Canal	G7



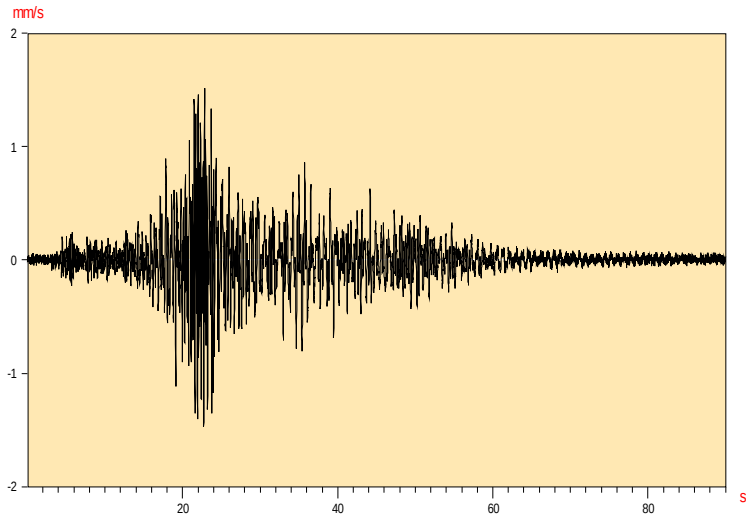
Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	3:04:44
Indice Amortiguamiento	= 0.06
Amortiguamiento (%)	= 1.0
Canal	G7



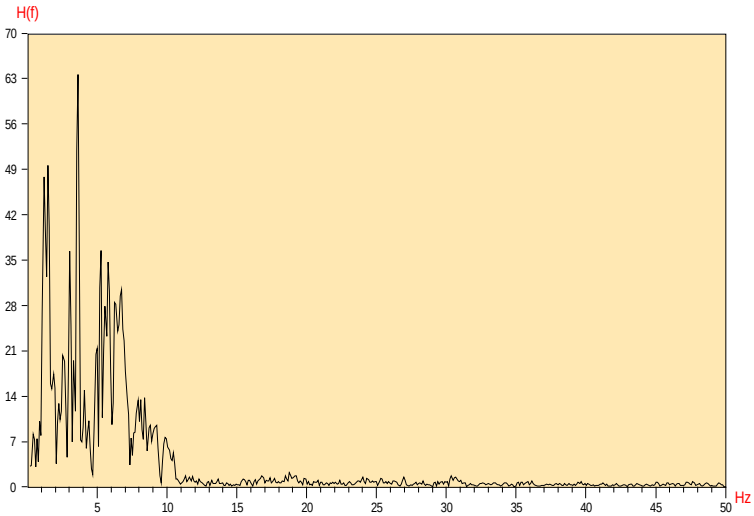
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

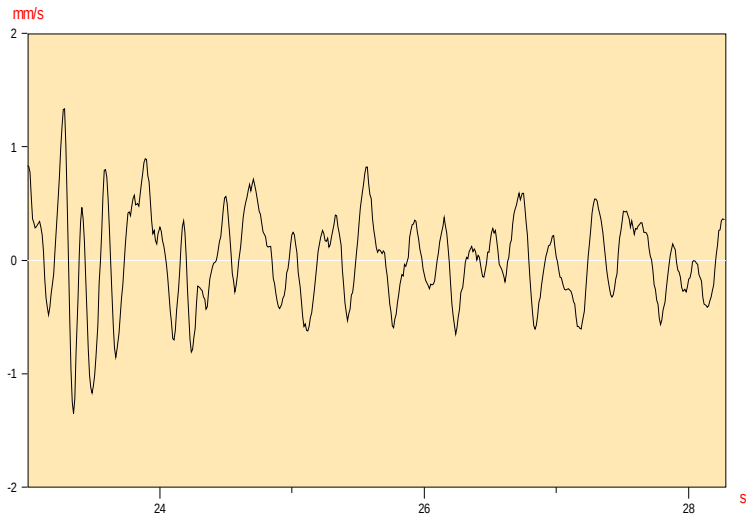
Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	3:17:04
Valor de Prueba	= -0.75
Canal	G8



Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	3:17:04
Frecuencia de Vibración	= 3.5
Canal	G8



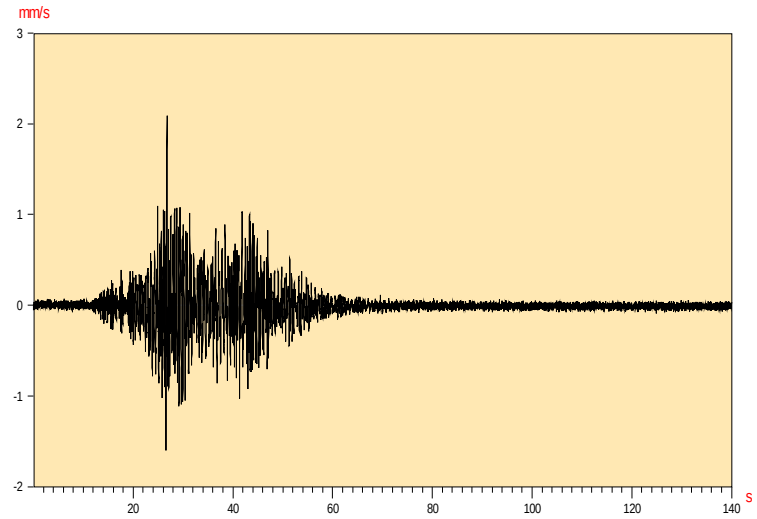
Prueba :	**GEOFONO**
Fecha :	23/12/06
Hora :	3:17:04
Indice Amortiguamiento	= 0.08
Amortiguamiento (%)	= 1.3
Canal	G8



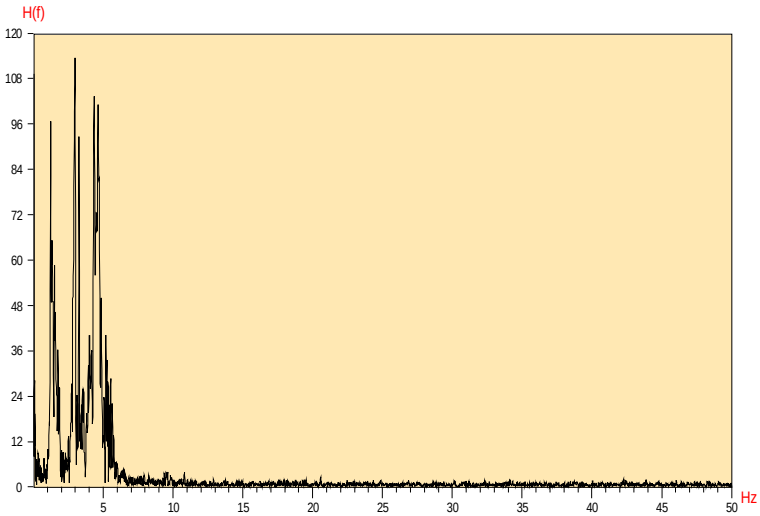
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

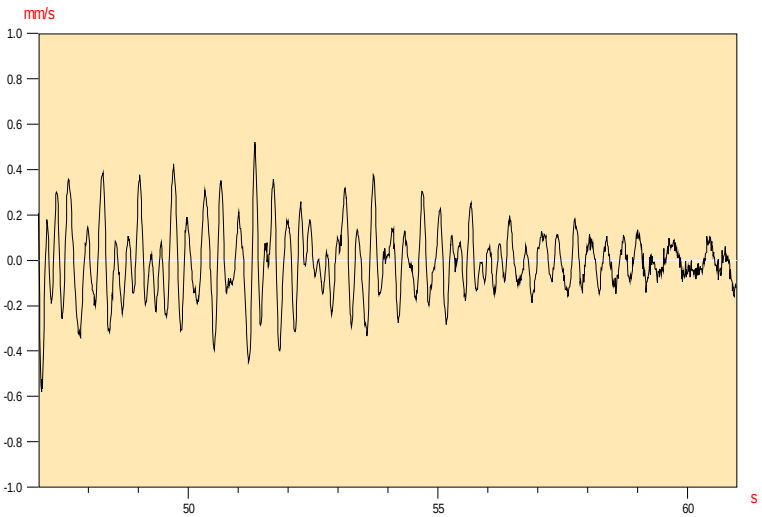
Prueba :	**GEOFONO**
Fecha :	27/12/06
Hora :	14:46:53
Valor de Prueba	= -0.62
Canal	G9



Prueba :	**GEOFONO**
Fecha :	27/12/06
Hora :	14:46:53
Frecuencia de Vibración	= 3.0
Canal	G9



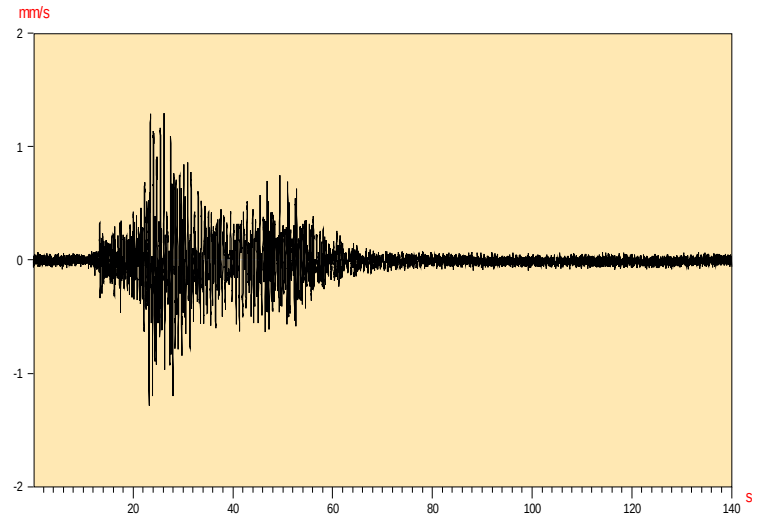
Prueba :	**GEOFONO**
Fecha :	27/12/06
Hora :	14:46:53
Indice Amortiguamiento	= 0.03
Amortiguamiento (%)	= 0.5
Canal	G9



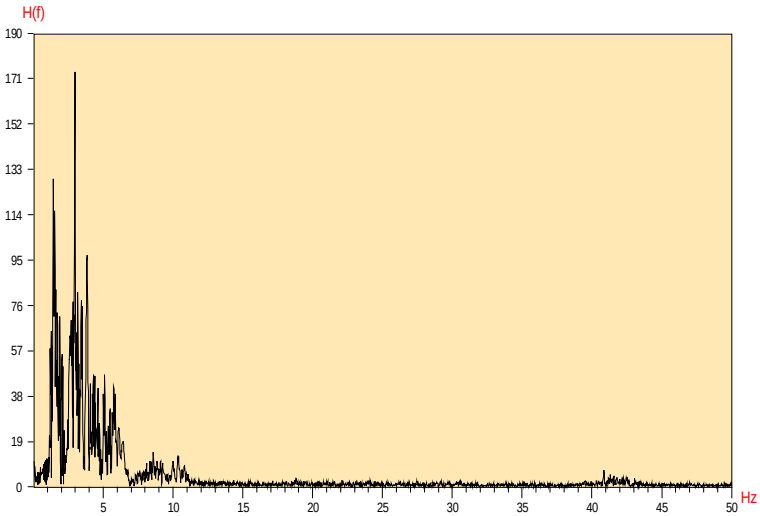
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

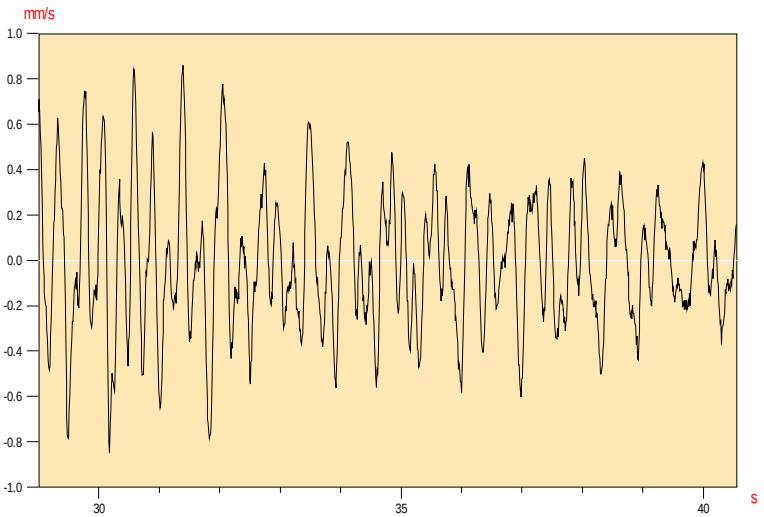
Prueba :	**GEOFONO**
Fecha :	27/12/06
Hora :	14:56:56
Valor de Prueba	= -0.74
Canal	G10



Prueba :	**GEOFONO**
Fecha :	27/12/06
Hora :	14:56:56
Frecuencia de Vibración	= 2.9
Canal	G10



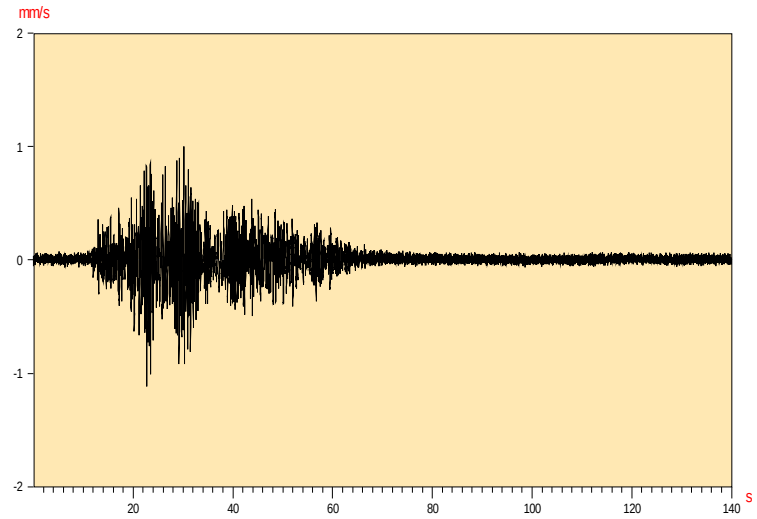
Prueba :	**GEOFONO**
Fecha :	27/12/06
Hora :	14:56:56
Indice Amortiguamiento	= 0.04
Amortiguamiento (%)	= 0.7
Canal	G10



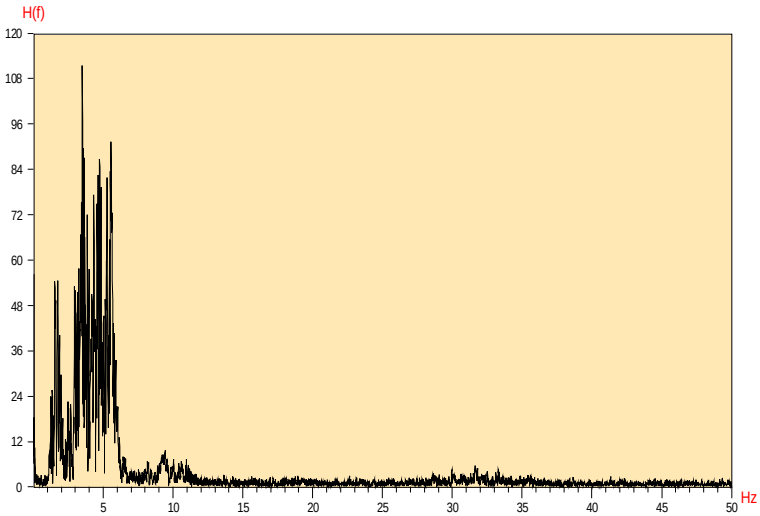
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

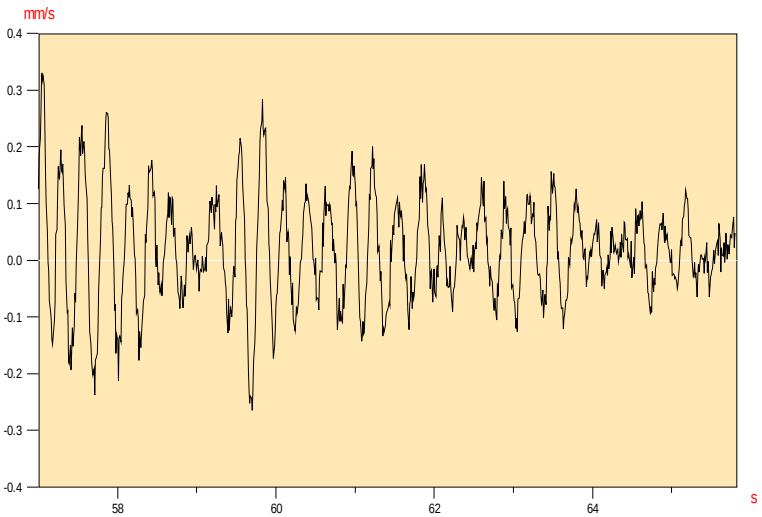
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Hora :	15:05:53
Valor de Prueba	= -0.63
Canal	G11



Prueba :	**GEOFONO**
Fecha :	27/12/06
Hora :	15:05:53
Frecuencia de Vibración	= 3.5
Canal	G11



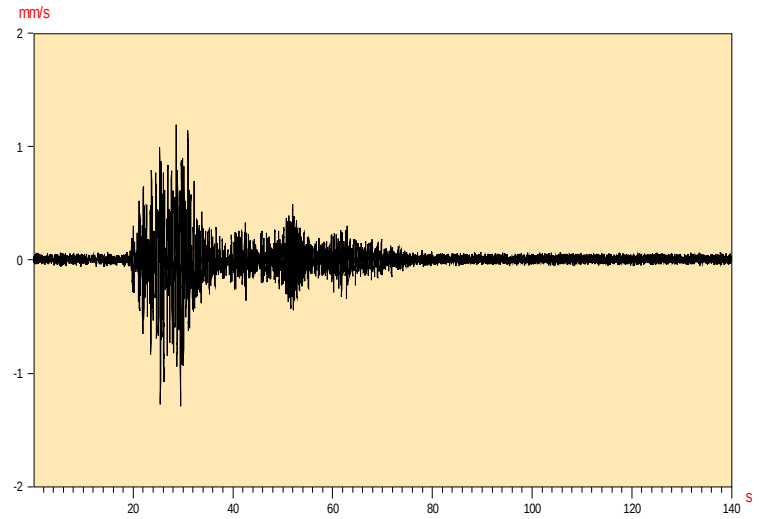
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Indice Amortiguamiento	= 0.03
Amortiguamiento (%)	= 0.5
Canal	G11



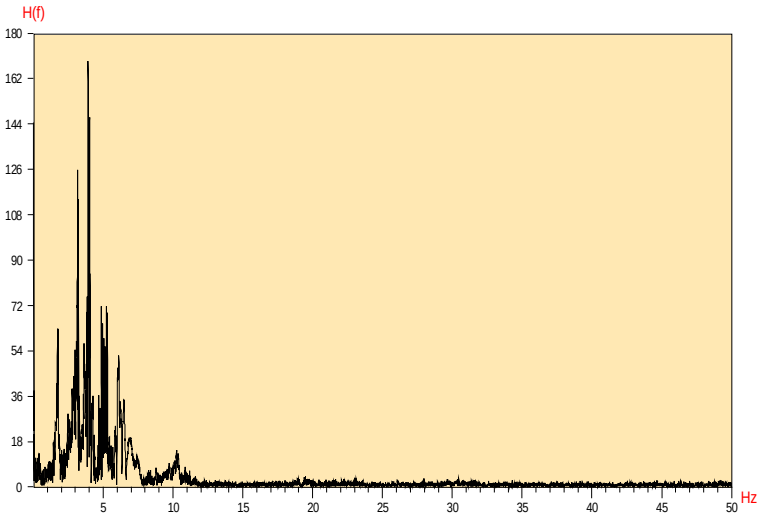
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

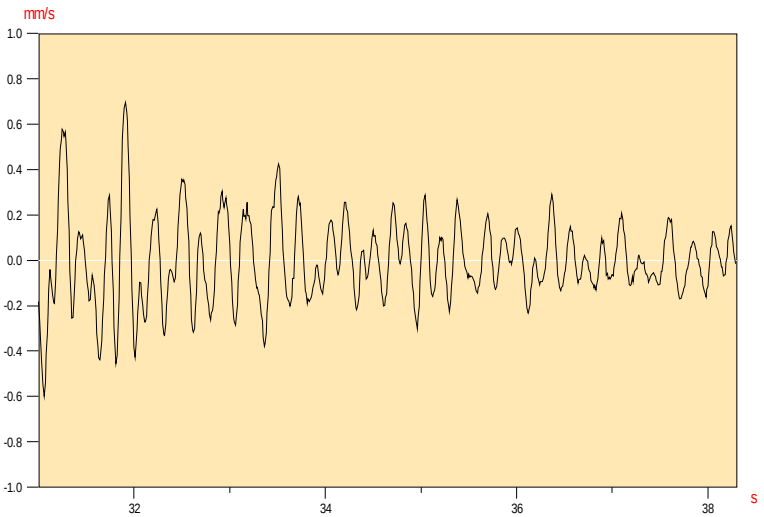
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Fecha :	29/12/06
Hora :	17:52:54
Valor de Prueba	= -1.19
Canal	G12



Prueba :	**GEOFONO**
Fecha :	29/12/06
Hora :	17:52:54
Frecuencia de Vibración	= 3.9
Canal	G12



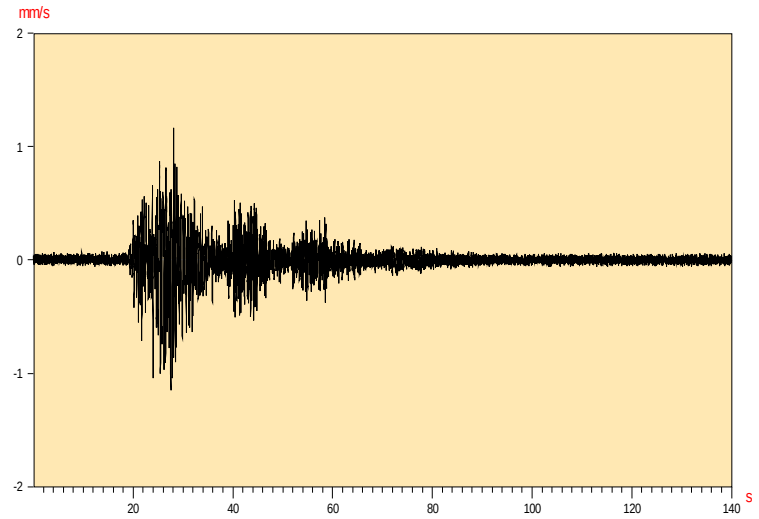
Prueba :	**GEOFONO**
Fecha :	29/12/06
Hora :	17:52:54
Indice Amortiguamiento	= 0.06
Amortiguamiento (%)	= 0.9
Canal	G12



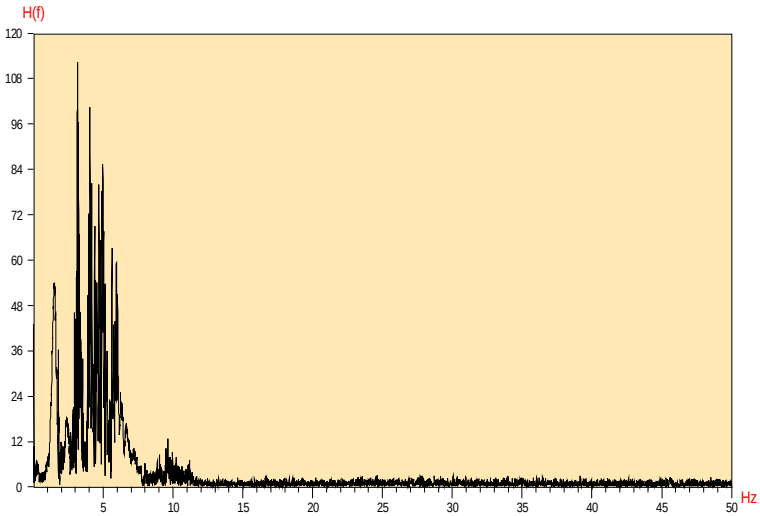
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

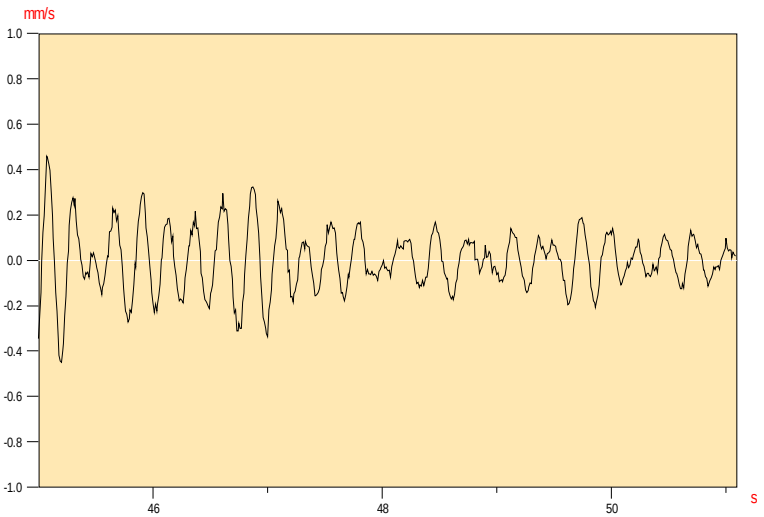
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Fecha :	29/12/06
Hora :	17:47:06
Valor de Prueba	= 0.13
Canal	G13



Prueba :	**GEOFONO**
Fecha :	29/12/06
Hora :	17:47:06
Frecuencia de Vibración	= 3.2
Canal	G13



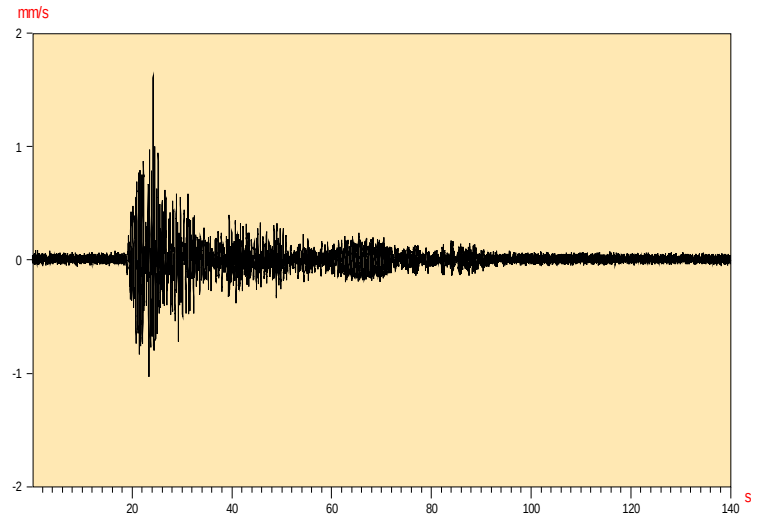
Prueba :	**GEOFONO**
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Hora :	17:47:06
Indice Amortiguamiento	= 0.05
Amortiguamiento (%)	= 0.8
Canal	G13



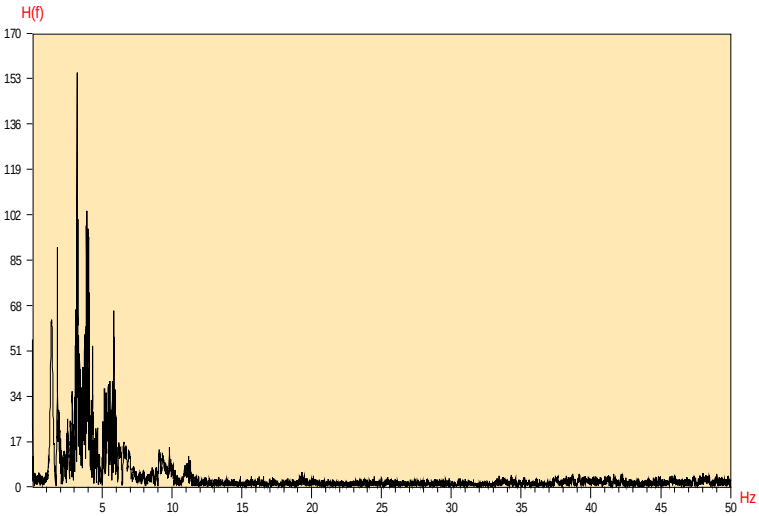
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : adif

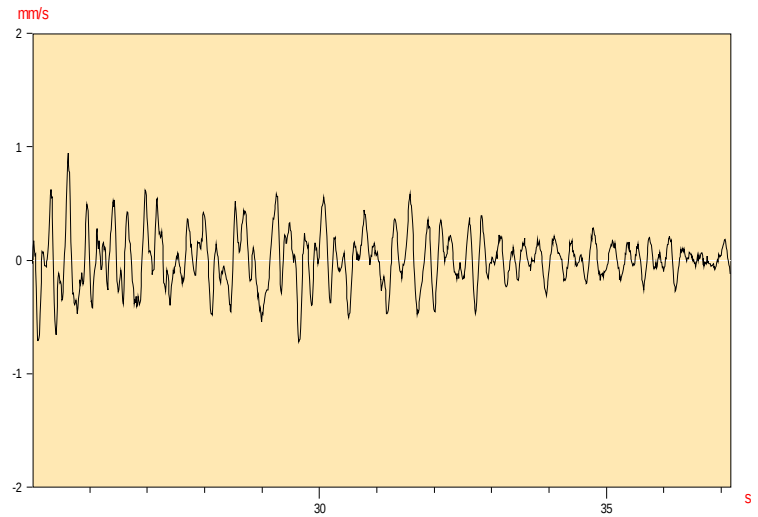
Prueba :	**GEOFONO**
Fecha :	29/12/06
Hora :	17:36:48
Valor de Prueba	= -0.67
Canal	G14



Prueba :	**GEOFONO**
Fecha :	29/12/06
Hora :	17:36:48
Frecuencia de Vibración	= 3.2
Canal	G14



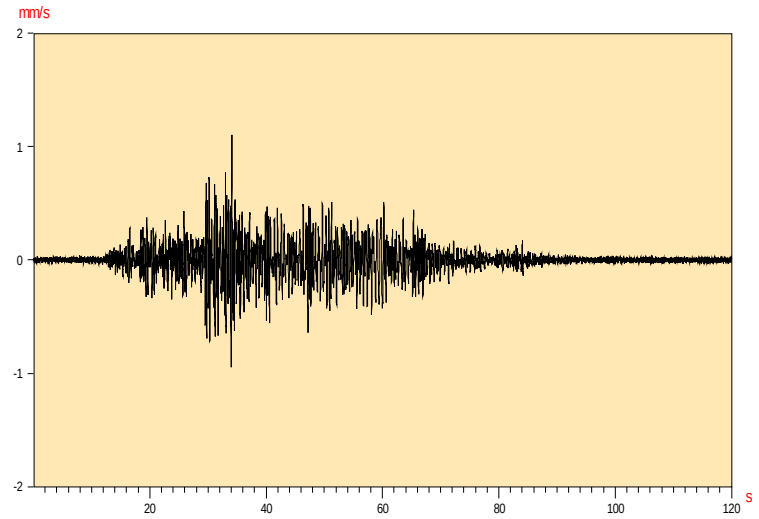
Prueba :	**GEOFONO**
Fecha :	29/12/06
Hora :	17:36:48
Indice Amortiguamiento	= 0.03
Amortiguamiento (%)	= 0.5
Canal	G14



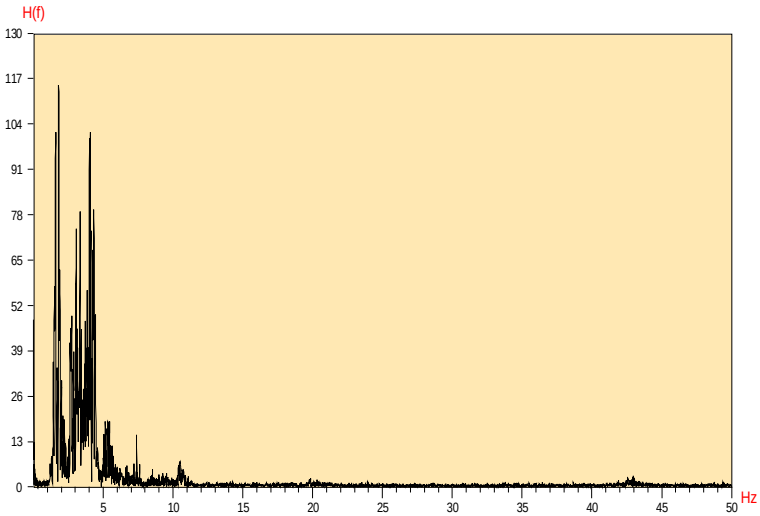
Prueba de carga de la Estructura : LAV (MIXTA)

Organismo : ADIF

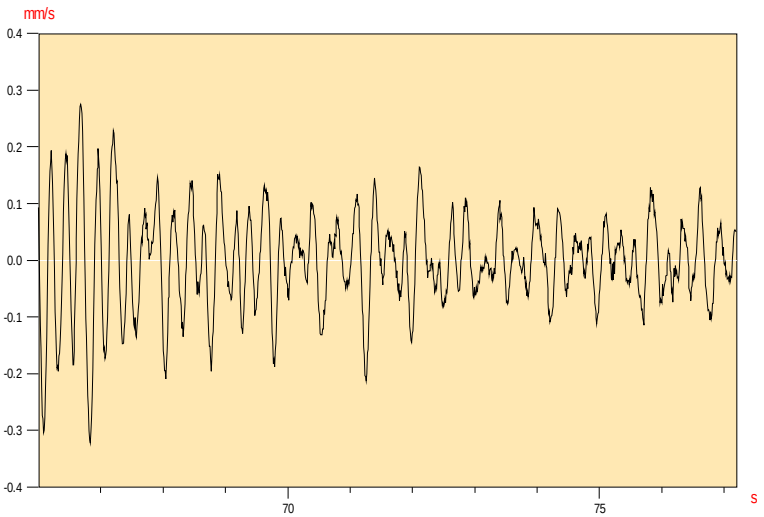
Prueba :	**GEOFONO**
Fecha :	02/07/07
Hora :	14:24:47
Valor de Prueba	= 0.45
Canal	G15



Prueba :	**GEOFONO**
Fecha :	02/07/07
Hora :	14:24:47
Frecuencia de Vibración	= 1.8
Canal	G15



Prueba :	**GEOFONO**
Fecha :	02/07/07
Hora :	14:24:47
Indice Amortiguamiento	= 0.06
Amortiguamiento (%)	= 1.0
Canal	G15



INFORME DE RESULTADOS
PRUEBA DE CARGA DE LA ESTRUCTURA
VIADUCTO LAV MIXTA (63RMVI01)

V. REPORTAJE FOTOGRAFICO



FOTOGRAFIA Nº1: Detalle de la instrumentación en el centro de vano.



FOTOGRAFIA Nº2: Detalle de la instrumentación debajo de la losa.



FOTOGRAFIA Nº3: Detalle de la instrumentación en las pilas.



FOTOGRAFIA Nº4: Vista en alzado de una de las pruebas estáticas en vanos continuos.



FOTOGRAFIA Nº5: Otra prueba estática para vanos continuos.



FOTOGRAFIA Nº6: Otra prueba estática continua.



FOTOGRAFIA Nº7: Vista en alzado de una de las pruebas estáticas en vanos alternos.



FOTOGRAFIA Nº8: Vista de una de las pruebas estáticas en vanos alternos.



FOTOGRAFIA Nº9: Detalle de una de las pruebas dinámicas.



FOTOGRAFIA Nº10: Detalle de otra de las pruebas dinámicas.

INFORME DE RESULTADOS
PRUEBA DE CARGA DE LA ESTRUCTURA
VIADUCTO LAV MIXTA (63RMVI01)

VI. ACTA DE PRUEBA DE CARGA

ACTA DE PRUEBA DE CARGA

TIPO DE PRUEBA:	Recepción de obra nueva	**FECHA DE PRUEBA:**	20-21/12/2006, 22-23/12/2006 , 27/12/2006 y 29/12/2006

IDENTIFICACIÓN ESTRUCTURA

ORGANISMO, COMPAÑÍA:	ADIF
LÍNEA:	L.A.V. Madrid - Zaragoza - Barcelona - Frontera Francesa
TRAMO:	VILAFRANCA DEL PENEDES-BARCELONA. Subtramo: VIIa
P.K.:	OBRA: 608+492 a 609+144 LINEA: 606.797
PROVINCIA:	BARCELONA
DENOMINACIÓN	VIADUCTO LAV MIXTA
REFERENCIA:	63RMVI01

DESCRIPCIÓN DE LA ESTRUCTURA O PARTE DE ELLA: Se trata de una estructura hiperestatica de 15 vanos de luces, (38+2x45+38)+(36+9x45+36), 643 m de longitud total y 13,00 m de altura maxima de pila.

ASISTENTES

NOMBRES	ORGANISMO, COMPAÑÍA
D. JUAN CARLOS GARRIDO BARO	OFITECO

CONDICIONES ATMOSFÉRICAS

Temperatura	9.1ºC	**Humedad relativa**	81%

PUNTOS DE MEDIDA INSTALADOS

		Vano 1	Vano 2	Vano 3	Vano 4
FLECHAS	EQUIPO ÓPTICO			1	
	TRANS. DE DESPLAZAMIENTO	4	4	4	4
DEFORMACIONES UNITARIAS	BANDAS EXTENSOMÉTRICAS	2	2	0	2
REGISTRO DE VIBRACIONES	GEOFONOS	2	2	2	2
OTROS					

TRENES DE CARGA UTILIZADOS

VEHÍCULO		NÚMERO	MATRÍCULAS	PESO UNITARIO (T)	
PREVISTO	REAL			PREVISTO	REAL
1 Loc. RENFE+ 4 tolvas RENFE	1 Loc. RENFE+ 4 tolvas RENFE	1		1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)	1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)
1 Loc. RENFE+ 4 tolvas RENFE	1 Loc. RENFE+ 4 tolvas RENFE	1		1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)	1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)

PORCENTAJE DE SOLICITACIÓN RESPECTO A INSTRUCCIÓN: 38%

SENTIDO DE CIRCULACIÓN PARA LAS PRUEBAS DINÁMICAS: Sentido Vilafranca del Penedes-Barcelona y Barcelona-Vilafranca del Penedes

HORA DE COMIENZO: 22 horas y 19 minutos

RESULTADOS BÁSICOS ALCANZADOS EN LA ESTRUCTURA

				Vano 1	Vano 2	Vano 3	Vano 4
PORCENTAJE DE RESPUESTA RESPECTO AL PROYECTO DE PRUEBA DE CARGA	**Estática**	En general	Flechas	92%	81%	91%	91%
			Deformaciones unitarias	80%	81%	81%	80%
		Pruebas simplificadas	Flechas				
			Deformaciones unitarias				
	Dinámica	Frecuencia propia de vibración		260%	140%	140%	180%
PORCENTAJE DE RECUPERACIÓN	**Estática**	En general	Flechas	>90%	>90%	>90%	>85%
			Deformaciones unitarias	>85%	>85%	>85%	>85%
ANOMALIAS EN LA INSPECCIÓN VISUAL							
OBSERVACIONES							
CONDICIONES DE PUESTA EN SERVICIO		APTO [X]	NO APTO [ ]	RESTRICCIONES			

D. JUAN CARLOS GARRIDO BARO
por OFITECO

ACTA DE PRUEBA DE CARGA

TIPO DE PRUEBA:	Recepción de obra nueva	**FECHA DE PRUEBA:**	20-21/12/2006, 22-23/12/2006 , 27/12/2006 y 29/12/2006

IDENTIFICACIÓN ESTRUCTURA

ORGANISMO, COMPAÑÍA:	ADIF
LÍNEA:	L.A.V. Madrid - Zaragoza - Barcelona - Frontera Francesa
TRAMO:	VILAFRANCA DEL PENEDES-BARCELONA. Subtramo: VIIa
P.K.:	OBRA: 608+492 a 609+144 LINEA: 606.797
PROVINCIA:	BARCELONA
DENOMINACIÓN	VIADUCTO LAV MIXTA
REFERENCIA:	63RMVI01

DESCRIPCIÓN DE LA ESTRUCTURA O PARTE DE ELLA: Se trata de una estructura hiperestatica de 15 vanos de luces, (38+2x45+38)+(36+9x45+36), 643 m de longitud total y 13,00 m de altura maxima de pila.

ASISTENTES

NOMBRES	ORGANISMO, COMPAÑÍA
D. JUAN CARLOS GARRIDO BARO	OFITECO

CONDICIONES ATMOSFÉRICAS

Temperatura	9,1ºC	**Humedad relativa**	81%

PUNTOS DE MEDIDA INSTALADOS

		Vano 5	Vano 6	Vano 7	Vano 8
FLECHAS	EQUIPO ÓPTICO			1	
	TRANS. DE DESPLAZAMIENTO	4	4	4	4
DEFORMACIONES UNITARIAS	BANDAS EXTENSOMÉTRICAS	0	2	-	2
REGISTRO DE VIBRACIONES	GEOFONOS	2	2	2	2
OTROS					

TRENES DE CARGA UTILIZADOS

VEHÍCULO		NÚMERO	MATRÍCULAS	PESO UNITARIO (T)	
PREVISTO	REAL			PREVISTO	REAL
1 Loc. RENFE+ 4 tolvas RENFE	1 Loc. RENFE+ 4 tolvas RENFE	1		1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)	1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)
1 Loc. RENFE+ 4 tolvas RENFE	1 Loc. RENFE+ 4 tolvas RENFE	1		1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)	1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)

PORCENTAJE DE SOLICITACIÓN RESPECTO A INSTRUCCIÓN: 38%

SENTIDO DE CIRCULACIÓN PARA LAS PRUEBAS DINÁMICAS: Sentido Vilafranca del Penedes-Barcelona y Barcelona-Vilafranca del Penedes

HORA DE COMIENZO: 21 horas y 51 minutos

RESULTADOS BÁSICOS ALCANZADOS EN LA ESTRUCTURA

				Vano 5	Vano 6	Vano 7	Vano 8
PORCENTAJE DE RESPUESTA RESPECTO AL PROYECTO DE PRUEBA DE CARGA	**Estática**	En general	Flechas	93%	86%	92%	88%
			Deformaciones unitarias	76%	93%	71%	89%
		Pruebas simplificadas	Flechas				
			Deformaciones unitarias				
	Dinámica	Frecuencia propia de vibración		125%	120%	155%	155%
PORCENTAJE DE RECUPERACIÓN	**Estática**	En general	Flechas	>85%	>85%	>85%	>85%
			Deformaciones unitarias	>85%	>85%	>85%	>85%
ANOMALIAS EN LA INSPECCIÓN VISUAL							
OBSERVACIONES							
CONDICIONES DE PUESTA EN SERVICIO		APTO [X]	NO APTO [ ]	RESTRICCIONES			

D. JUAN CARLOS GARRIDO BARO
por OFITECO

ACTA DE PRUEBA DE CARGA

TIPO DE PRUEBA:	Recepción de obra nueva	**FECHA DE PRUEBA:**	20-21/12/2006, 22-23/12/2006 , 27/12/2006 y 29/12/2006

IDENTIFICACIÓN ESTRUCTURA

ORGANISMO, COMPAÑÍA:	ADIF
LÍNEA:	L.A.V. Madrid - Zaragoza - Barcelona - Frontera Francesa
TRAMO:	VILAFRANCA DEL PENEDES-BARCELONA. Subtramo: VIIa
P.K.:	OBRA: 608+492 a 609+144 LINEA: 606.797
PROVINCIA:	BARCELONA
DENOMINACIÓN	VIADUCTO LAV MIXTA
REFERENCIA:	63RMVI01

DESCRIPCIÓN DE LA ESTRUCTURA O PARTE DE ELLA: Se trata de una estructura hiperestatica de 15 vanos de luces, (38+2x45+38)+(36+9x45+36), 643 m de longitud total y 13,00 m de altura maxima de pila.

ASISTENTES

NOMBRES	ORGANISMO, COMPAÑÍA
D. JUAN CARLOS GARRIDO BARO	OFITECO

CONDICIONES ATMOSFÉRICAS

Temperatura	9,1ºC	**Humedad relativa**	51%

PUNTOS DE MEDIDA INSTALADOS

		Vano 9	Vano 10	Vano 11	
FLECHAS	EQUIPO ÓPTICO				
	TRANS. DE DESPLAZAMIENTO	4	4	4	
DEFORMACIONES UNITARIAS	BANDAS EXTENSOMÉTRICAS	2	2	2	
REGISTRO DE VIBRACIONES	GEOFONOS	2	2	2	
OTROS					

TRENES DE CARGA UTILIZADOS

VEHÍCULO		NÚMERO	MATRÍCULAS	PESO UNITARIO (T)	
PREVISTO	**REAL**			**PREVISTO**	**REAL**
1 Loc. RENFE+ 4 tolvas RENFE	1 Loc. RENFE+ 4 tolvas RENFE	1		1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)	1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)
1 Loc. RENFE+ 4 tolvas RENFE	1 Loc. RENFE+ 4 tolvas RENFE	1		1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)	1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)

PORCENTAJE DE SOLICITACIÓN RESPECTO A INSTRUCCIÓN: 38%

SENTIDO DE CIRCULACIÓN PARA LAS PRUEBAS DINÁMICAS: Sentido Vilafranca del Penedes-Barcelona y Barcelona-Vilafranca del Penedes

HORA DE COMIENZO: 10 horas y 44 minutos

RESULTADOS BÁSICOS ALCANZADOS EN LA ESTRUCTURA

				Vano 9	Vano 10	Vano 11	
PORCENTAJE DE RESPUESTA RESPECTO AL PROYECTO DE PRUEBA DE CARGA	**Estática**	En general	Flechas	95%	91%	67%	
			Deformaciones unitarias	73%	87%	77%	
		Pruebas simplificadas	Flechas				
			Deformaciones unitarias				
	Dinámica	Frecuencia propia de vibración		130%	130%	150%	
PORCENTAJE DE RECUPERACIÓN	**Estática**	En general	Flechas	>85%	>85%	>85%	
			Deformaciones unitarias	>85%	>85%	>85%	
ANOMALIAS EN LA INSPECCIÓN VISUAL							
OBSERVACIONES							
CONDICIONES DE PUESTA EN SERVICIO		APTO [X]	NO APTO [ ]	RESTRICCIONES			

D. JUAN CARLOS GARRIDO BARO
por OFITECO

ACTA DE PRUEBA DE CARGA

TIPO DE PRUEBA:	Recepción de obra nueva	FECHA DE PRUEBA:	20-21/12/2006, 22-23/12/2006 , 27/12/2006 y 29/12/2006

IDENTIFICACIÓN ESTRUCTURA

ORGANISMO, COMPAÑÍA:	ADIF
LÍNEA:	L.A.V. Madrid - Zaragoza - Barcelona - Frontera Francesa
TRAMO:	VILAFRANCA DEL PENEDES-BARCELONA. Subtramo: VIIa
P.K.:	OBRA: 608+492 a 609+144 LINEA: 606.797
PROVINCIA:	BARCELONA
DENOMINACIÓN	VIADUCTO LAV MIXTA
REFERENCIA:	63RMVI01

DESCRIPCIÓN DE LA ESTRUCTURA O PARTE DE ELLA: Se trata de una estructura hiperestatica de 15 vanos de luces, (38+2x45+38)+(36+9x45+36), 643 m de longitud total y 13,00 m de altura maxima de pila.

ASISTENTES

NOMBRES	ORGANISMO, COMPAÑÍA
D. JUAN CARLOS GARRIDO BARO	OFITECO

CONDICIONES ATMOSFÉRICAS

Temperatura	20,5ºC	**Humedad relativa**	44%

PUNTOS DE MEDIDA INSTALADOS

		Vano 12	Vano 13	Vano 14	Vano 15
FLECHAS	EQUIPO ÓPTICO				
	TRANS. DE DESPLAZAMIENTO	4	4	4	4
DEFORMACIONES UNITARIAS	BANDAS EXTENSOMÉTRICAS	2	2	2	2
REGISTRO DE VIBRACIONES	GEOFONOS	2	2	2	2
OTROS					

TRENES DE CARGA UTILIZADOS

VEHÍCULO		NÚMERO	MATRÍCULAS	PESO UNITARIO (T)	
PREVISTO	REAL			PREVISTO	REAL
1 Loc. RENFE+ 4 tolvas RENFE	1 Loc. RENFE+ 4 tolvas RENFE	1		1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)	1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)
1 Loc. RENFE+ 4 tolvas RENFE	1 Loc. RENFE+ 4 tolvas RENFE	1		1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)	1x112 T (18,7 T/eje) + 4x80 T (20 T/eje)

PORCENTAJE DE SOLICITACIÓN RESPECTO A INSTRUCCIÓN: 38%

SENTIDO DE CIRCULACIÓN PARA LAS PRUEBAS DINÁMICAS: Sentido Vilafranca del Penedes-Barcelona y Barcelona-Vilafranca del Penedes

HORA DE COMIENZO: 17 horas y 12 minutos

RESULTADOS BÁSICOS ALCANZADOS EN LA ESTRUCTURA

				Vano 12	Vano 13	Vano 14	Vano 15
PORCENTAJE DE RESPUESTA RESPECTO AL PROYECTO DE PRUEBA DE CARGA	**Estática**	En general	Flechas	92%	72%	86%	77%
			Deformaciones unitarias	85%	94%	90%	85%
		Pruebas simplificadas	Flechas				
			Deformaciones unitarias				
	Dinámica	Frecuencia propia de vibración		170%	130%	130%	80%
PORCENTAJE DE RECUPERACIÓN	**Estática**	En general	Flechas	>85%	>85%	>85%	>85%
			Deformaciones unitarias	>85%	>85%	>85%	>85%
ANOMALIAS EN LA INSPECCIÓN VISUAL							
OBSERVACIONES							
CONDICIONES DE PUESTA EN SERVICIO		APTO [X]	NO APTO [ ]	RESTRICCIONES			

D. JUAN CARLOS GARRIDO BARO
por OFITECO

INFORME DE RESULTADOS
PRUEBA DE CARGA DE LA ESTRUCTURA
VIADUCTO LAV MIXTA (63RMVI01)

VII. FICHA DE SEGUIMIENTO

MODELO A1 DE COMUNICACIÓN DE INSPECCIONES AL REGISTRO

TIPO DE INSPECCIÓN [1] **:** Principal	***FECHA DE INSPECCIÓN:*** 19/12/2006

IDENTIFICACIÓN DE LA ESTRUCTURA

ADMINISTRADOR:	ADIF
LÍNEA:	LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
TRAMO:	VILAFRANCA DEL PENEDES-BARCELONA. Subtramo: VIIa
P.K.:	Obra: 608+492; Línea: 606+797
PROVINCIA:	BARCELONA
DENOMINACIÓN:	VIADUCTO LAV MIXTA
REFERENCIA:	**63RMVI01**
AÑO APROXIMADO DE CONSTRUCCIÓN:	2005

DATOS DEL RESPONSABLE DE LA INSPECCIÓN

ENTIDAD:	OFITECO
INGENIERO RESPONSABLE:	JUAN CARLOS GARRIDO BARO
DIRECCIÓN:	C/ TOMAS REDONDO, 3 EDIFICIO LUARCA-PLANTA 1, NAVE 1 28033 MADRID
TELÉFONO, FAX, E-MAIL:	913822260, 913820084, juancarlos.garrido@ofiteco.es

CARACTERÍSTICAS BÁSICAS Y TIPOLOGÍA [2]

Nº DE TRAMOS:	15	**LUCES DE CADA TRAMO(m):**	38+2x45+38+36+9x45+36				
LONGITUD TOTAL(m):	643						
OBSTÁCULO SALVADO:	CARRETERA ¨	FF. CC. ¨	CAUCE X	OTROS X	ÁNGULO DE INCIDENCIA (º)		
LÍNEA ELECTRIFICADA:	SI X	NO ¨					
VÍA:	ÚNICA ¨	DOBLE X	Nº DE VÍAS 2				
	SOLDADA X	CON JUNTAS ¨					
	ENCARRILADORA	SI ¨	NO X				
	CONTRACARRILES	SI ¨	NO X				
	APARATOS DE DILATACIÓN	SI ¨	NO X				
	RECTA ¨	CURVA A DCHA ¨	CURVA A IZQ. X				
TIPOLOGÍA PUENTE:	METÁLICO ¨	º					
	FÁBRICA ¨						
	HORMIGÓN X	TRAMOS EN ARCO ¨					
		TRAMOS RECTOS X					
	OTROS ¨						
TIPO DE MATERIAL	**ESTRIBOS:**	HORMIGÓN X	PIEDRA ¨	LADRILLO ¨			
	PILAS:	HORMIGÓN X	PIEDRA ¨	LADRILLO ¨	METÁLICAS ¨		
	ARCOS:	HORMIGÓN ¨	PIEDRA ¨	LADRILLO ¨	METÁLICAS ¨		
	TABLERO:	HORMIGÓN X	LOSA ¨	VIGAS ¨	TABLÓN X		
		METÁLICO ¨	VIGAS ALMA LLENA ¨	CELOSÍA ¨			

DAÑOS DE CLASE 1 [3]

Elemento estructural		Tipo de daños		Localizado o Generalizado	Plazo de Reparación (meses)	Limitación de Circulación		Requiere inspección especial
A	ESTRIBO nº	**A**	GOLPES, ROTURAS	**L**	**6**	**A**	VELOCIDAD	**SI**
B	PILA nº	**B**	FISURAS, GRIETAS	**G**	**12**	**B**	CARGAS	**NO**
C	ARCO nº	**C**	DESCALCES EN CIMENTACIONES		**24**	**C**	GÁLIBO	
D	TABLERO METÁLICO nº	**D**	DESPLOMES, BASCULAMIENTOS		**36**	**D**	SEÑALIZAR	
E	TABLERO DE HORMIGÓN nº	**E**	OXIDACIONES, CORROSIONES					
F	VIA I, II, …	**F**	ASIENTOS, DESNIVELACIONES					
G	OTROS:	**G**	OTROS:					

EVALUACIÓN GLOBAL DE EVOLUCIÓN DE DAÑOS RESPECTO A INSPECCIÓN ANTERIOR

SIN EVOLUCIÓN ¨	**POCO IMPORTANTE** ¨	**IMPORTANTE** ¨

RESULTADO DE LA INSPECCIÓN

FAVORABLE X	**DESFAVORABLE (Con daños de clase 1)** ¨

Firma del inspector



INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS BARCELONA

IDENTIFICACIÓN

ID (Identificador de la estructura)	**63RMVI01 VIADUCTO LAV (MIXTA)**
P.K. INICIAL (sentido Madrid-Barcelona)	606,797
P.K. FINAL (sentido Madrid-Barcelona)	606,807
TIPO	Viaducto (luz > 50 m)
SUBTRAMO	VI
FECHA DE LA INSPECCIÓN	19/12/2006

OBSERVACIONES

INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS- BARCELONA

ID (Identificador de la estructura)	**63RMVI01 VIADUCTO LAV (MIXTA)**
FECHA DE LA INSPECCIÓN	**19/12/2006**

DATOS GENERALES

NOMBRE	VIADUCTO LAV (MIXTA)
TIPOLOGÍA GENERAL	VIGA IN SITU
TIPOLOGÍA ESTRUCTURAL	ESTRUCTURA CONTINUA
Nº DE VÍAS	
VELOCIDAD MÁXIMA (km/h)	
TIPO DE ACCESO	VEHÍCULO AUTOMOVIL
OBSTÁCULO SALVADO	RAMBLA O RIERA
NOMBRE OBSTÁCULO SALVADO	
OTRO OBSTÁCULO SALVADO	CAMINO, VÍA PECUARIA O PASO DE FAUNA
NOMBRE OTRO OBSTÁCULO SALVADO	
OBSERVACIONES	

INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS- BARCELONA

ID (Identificador de la estructura)	**63RMVI01 VIADUCTO LAV (MIXTA).**
FECHA DE LA INSPECCIÓN	**19/12/2006**

PARÁMETROS GEOMÉTRICOS

LONGITUD TOTAL (m)	643,00
Nº DE VANOS	15
LONGITUD MEDIA DEL VANO (m)	42,87
LUZ DE CADA VANO (m)	(38+2*45+38)+(36+9*45+36)
ALTURA MÁXIMA DE ESTRIBOS (m)	
ANCHURA MÁXIMA DE ESTRIBOS (m)	14,00
ALTURA MÁXIMA DE PILAS (m)	13,00
ANCHURA MÁXIMA DE PILAS (m)	3,20
ESPESOR MÁXIMO DE PILAS (m)	3,36
GÁLIBO INFERIOR (m)	
ANCHURA MÁXIMA DE TRAMOS (m)	4,00
CANTO MÁXIMO DE TRAMOS EN CENTRO DE VANOS (m)	
Nº DE ELEMENTOS PRINCIPALES EN EL TRAMO	1
SEPARACIÓN ENTRE ELEMENTOS PRINCIPALES (m)	
CANTO DE ELEMENTOS PRINCIPALES	CONSTANTE
CANTO MÁXIMO DE ELEMENTOS PRINCIPALES EN CENTRO DE VANOS (m)	
GÁLIBO IZQUIERDO (m)	
GÁLIBO DERECHO (m)	
ENTREVÍA (m)	
TRAZADO DE VÍA EN PLANTA (m)	-m (curva a la izquierda)
PERALTE DE VÍA DE ENTRADA (m)	
PERALTE DE VÍA DE CENTRO (m)	
PERALTE DE VÍA DE SALIDA (m)	

OBSERVACIONES

INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS- BARCELONA

ID (Identificador de la estructura)	**63RMVI01 VIADUCTO LAV (MIXTA).**
FECHA DE LA INSPECCIÓN	**19/12/2006**

MATERIALES

MATERIAL CONSTITUYENTE	HORMIGÓN PRETENSADO
TRAMOS	
TIPOLOGÍA DE TRAMOS	TABLERO EN CAJÓN
TIPOLOGÍA ESTRUCTURAL DE TRAMOS	ESTRUCTURA CONTINUA
MATERIAL EN TRAMOS	HORMIGÓN PRETENSADO
IMPERMEABILIZACIÓN DE ESTRUCTURA DE TRAMOS	SI
ELEMENTOS DE DRENAJE EN TRAMOS	LONGITUDINALES Y TRANSVERSALES
ESTRIBOS	
TIPOLOGÍA DE ESTRIBOS	MUROS FRONTAL Y EN VUELTAS
MATERIAL BASE EN ESTRIBOS	HORMIGÓN ARMADO O EN MASA
PROTECCIÓN EN PIE DE ESTRIBOS	NO EXISTE
TIPOLOGÍA DE CIMENTACIÓN EN ESTRIBOS	CIMENTACIÓN DIRECTA
MATERIAL BASE EN CIMENTACIÓN DE ESTRIBOS	HORMIGÓN ARMADO O EN MASA
PILAS	
TIPOLOGÍA DE PILAS	TABIQUE
SECCIÓN DE PILAS	CONSTANTE
TAJAMARES	NO
MATERIAL BASE EN PILAS	HORMIGÓN ARMADO O EN MASA
TIPOLOGÍA DE CIMENTACIÓN EN PILAS	PILA PILOTE
MATERIAL BASE EN CIMENTACIÓN DE PILAS	HORMIGÓN ARMADO O EN MASA
APARATOS Y JUNTAS DE DILATACIÓN	
APARATOS DE APOYO	TIPO POT
JUNTAS DE DILATACIÓN	AMBOS ESTRIBOS
TIPOLOGÍA DE JUNTAS DE DILATACIÓN	MURETES GUARDABALASTO Y CUBREJUNTAS
APARATOS DE DILATACIÓN DE CARRILES	AMBOS LADOS
VARIOS	
PASEOS DE SERVICIO	AMBOS LADOS

OBSERVACIONES

INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS- BARCELONA

ID (Identificador de la estructura)	**63RMVI01 VIADUCTO LAV (MIXTA).**
FECHA DE LA INSPECCIÓN	**19/12/2006**

ESTADO ACTUAL MUROS DE PORTICO

Punzonado bajo apoyos	0: No existen defectos
Daños en unión frente y laterales	0: No existen defectos
Juntas degradadas	0: No existen defectos
Golpes y roturas	0: No existen defectos
Fisuras y grietas	0: No existen defectos
Coqueras y nidos de grava	0: No existen defectos
Meteorización y degradación	0: No existen defectos
Desprendimientos	0: No existen defectos
Carbonatación y desagregación	0: No existen defectos
Armaduras vistas someras	0: No existen defectos
Corrosión y disgregación	0: No existen defectos
Humedades y filtraciones	0: No existen defectos
Incrustaciones calcáreas y eflorescencias	0: No existen defectos
Desagüe de mechinales	0: No existen defectos
Abombamientos	0: No existen defectos
Desplomes o basculamientos	0: No existen defectos
Asentamientos	0: No existen defectos
Descalces	0: No existen defectos
Socavaciones	0: No existen defectos
Depósitos en coronación	0: No existen defectos
Daños en coronación	0: No existen defectos
Daños en espaldón	0: No existen defectos
Balasto encastrado	0: No existen defectos
Daños en protección de pie de estribos	0: No existen defectos
Daños en cimentaciones vistas	0: No existen defectos
Vegetación aflorando	0: No existen defectos
Vegetación adosada	0: No existen defectos

OBSERVACIONES ESTRIBOS

EST. GENERAL MUROS PORTICO	0: No existen defectos

INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS- BARCELONA

ID (Identificador de la estructura)	**63RMVI01 VIADUCTO LAV (MIXTA).**
FECHA DE LA INSPECCIÓN	**19/12/2006**

ESTADO ACTUAL MUROS DE ACOMPAÑAMIENTO

Daños en unión frente y laterales	0: No existen defectos
Juntas degradadas	0: No existen defectos
Golpes y roturas	0: No existen defectos
Fisuras y grietas	0: No existen defectos
Coqueras y nidos de grava	0: No existen defectos
Meteorización y degradación	0: No existen defectos
Desprendimientos	0: No existen defectos
Carbonatación y desagregación	0: No existen defectos
Armaduras vistas someras	0: No existen defectos
Corrosión y disgregación	0: No existen defectos
Humedades y filtraciones	0: No existen defectos
Incrustaciones calcáreas y eflorescencias	0: No existen defectos
Desagüe de mechinales	0: No existen defectos
Abombamientos	0: No existen defectos
Desplomes o basculamientos	0: No existen defectos
Asentamientos	0: No existen defectos
Descalces	0: No existen defectos
Socavaciones	0: No existen defectos
Depósitos en coronación	0: No existen defectos
Daños en coronación	0: No existen defectos
Daños en protección de pie de estribos	0: No existen defectos
Daños en cimentaciones vistas	0: No existen defectos
Vegetación aflorando	0: No existen defectos
Vegetación adosada	0: No existen defectos
OBSERVACIONES ESTRIBOS	
ESTADO GENERAL MUROS ACOMP.	0: No existen defectos

INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS- BARCELONA

ID (Identificador de la estructura)	**63RMVI01 VIADUCTO LAV (MIXTA).**
FECHA DE LA INSPECCIÓN	**19/12/2006**

ESTADO ACTUAL PILAS

Punzonado bajo apoyos	0: No existen
Daños en unión frente y laterales	0: No existen
Juntas degradadas	0: No existen
Golpes y roturas	0: No existen
Fisuras y grietas	0: No existen
Coqueras y nidos de grava	0: No existen
Meteorización y degradación	0: No existen
Desprendimientos	0: No existen
Carbonatación y desagregación	0: No existen
Armaduras vistas someras	0: No existen
Corrosión y disgregación	0: No existen
Humedades y filtraciones	1: Defectos con incidencia en la estética
Incrustaciones calcáreas y eflorescencias	1: Defectos con incidencia en la estética
Abombamientos	0: No existen
Desplomes o basculamientos	0: No existen
Asentamientos	0: No existen
Descalces	0: No existen
Socavaciones	0: No existen
Depósitos en coronación	0: No existen
Daños en coronación	0: No existen
Daños en cimentaciones vistas	0: No existen
Vegetación aflorando	0: No existen
Vegetación adosada	0: No existen
OBSERVACIONES PILAS	
ESTADO GENERAL PILAS	0: No existen

INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS- BARCELONA

ID (Identificador de la estructura)	**63RMVI01 VIADUCTO LAV (MIXTA).**
FECHA DE LA INSPECCIÓN	**19/12/2006**

ESTADO ACTUAL APARATOS DE APOYO

Envejecimiento	0: No existen
Corrosión	0: No existen
Suciedad y aterramiento	0: No existen
Bloqueo o encastramiento	0: No existen
Desplazamiento o deslizamiento	0: No existen
Aplastamiento	0: No existen
Reglaje incorrecto	0: No existen
Desnivelaciones	0: No existen
Falta de contacto	0: No existen
Cunas de apoyo deterioradas	0: No existen
Vegetación adosada	0: No existen

OBSERVACIONES APARATOS DE APOYO

ESTADO GENERAL APARATOS DE APOYO 0: No existen

INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS- BARCELONA

ID (Identificador de la estructura)	**63RMVI01 VIADUCTO LAV (MIXTA).**
FECHA DE LA INSPECCIÓN	**19/12/2006**

ESTADO ACTUAL ESTRUCTURA DE TRAMOS

Pintura envejecida y desprendida	0: No existen
Oxidación superficial	0: No existen
Corrosiones locales activas	0: No existen
Entalladuras y pérdidas de sección	0: No existen
Elementos metálicos deformados o rotos	0: No existen
Tornillos flojos o faltan	0: No existen
Soldaduras fisuradas	0: No existen
Fisuras y grietas longitudinales bóvedas	0: No existen
Fisuras y grietas tranversales clave	0: No existen
Fisuras y grietas tranversales riñones	0: No existen
Fisuras y grietas tranversales arranques	0: No existen
Fisuras y grietas longitudinales tímpanos	0: No existen
Fisuras y grietas verticales tímpanos	0: No existen
Separación y filtraciones tímpano-bóveda	0: No existen
Fisuras y grietas longitudinales losas	0: No existen
Fisuras y grietas tranversales losas	0: No existen
Fisuras y grietas verticales losas	0: No existen
Fisuras y grietas longitudinales en alas superiores vigas	0: No existen
Fisuras y grietas transversales en alas superiores vigas	0: No existen
Fisuras y grietas longitudinales conexión alas-alma	0: No existen
Fisuras y grietas tranversales alma vigas	0: No existen
Fisuras y grietas inclinadas alma vigas	0: No existen
Fisuras y grietas longitudinales alma vigas	0: No existen
Fisuras y grietas longitudinales ala inferior	0: No existen
Fisuras y grietas tranversales ala inferior	0: No existen
Fisuras y daños en testeros	0: No existen
Golpes y roturas	0: No existen
Coqueras y nidos de grava	0: No existen
Meteorización y degradación	1: Defectos con incidencia en la estética
Desprendimientos	0: No existen
Carbonatación y desagregación	0: No existen
Armaduras vistas someras	0: No existen
Corrosión y disgregación	0: No existen
Humedades y filtraciones	1: Defectos con incidencia en la estética
Desagües obturados	0: No existen
Incrustaciones calcáreas y eflorescencias	1: Defectos con incidencia en la estética
Abombamientos	0: No existen
Asentamientos y desnivelaciones	0: No existen
Juntas longitudinales degradadas	0: No existen
Juntas transversales degradadas	0: No existen
Vegetación aflorando	0: No existen
Vegetación adosada	0: No existen
OBSERVACIONES ESTRUCTURA DE TRAMOS	EXISTEN UNA SERIE DE PRELOSAS DEL TABLERO QUE PRESENTAN GOLPES Y ROTURAS E INCLUSO ALGUNA DE ELLAS ARMADURAS VISTAS SOMERAS
ESTADO GENERAL ESTRUCTURA DE TRAMOS	0: No existen

INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS- BARCELONA

ID (Identificador de la estructura)	**63RMVI01 VIADUCTO LAV (MIXTA).**
FECHA DE LA INSPECCIÓN	**19/12/2006**

ESTADO ACTUAL RESTO DE ELEMENTOS

Impermeabilización	0: No existen
Drenaje longitudinal	0: No existen
Drenaje transversal	0: No existen
Muretes guardabalasto	0: No existen
Juntas de dilatación	0: No existen
Juntas de longitudinales	0: No existen
Conducciones y canaletas	0: No existen
Anclajes de postes	0: No existen
Barandillas	0: No existen
OBSERVACIONES RESTO DE ELEMENTOS	
ESTADO GENERAL RESTO DE ELEMENTOS	0: No existen

INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS- BARCELONA

ID (Identificador de la estructura) **63RMVI01 VIADUCTO LAV (MIXTA).**
FECHA DE LA INSPECCIÓN **19/12/2006**

ESTADO ACTUAL

ESTADO GENERAL	0: No existen
ESTADO GENERAL MUROS DE PORTICO	
ESTADO GENERAL MUROS ACOMPAÑAMIENTO	
ESTADO GENERAL PILAS	0: No existen
ESTADO GENERAL APARATOS DE APOYO	0: No existen
ESTADO GENERAL ESTRUCTURA DE TRAMOS	
ESTADO GENERAL RESTO DE ELEMENTOS	

OBSERVACIONES

INSPECCIONES ESTRUCTURAS
LAV MADRID - ZARAGOZA - BARCELONA - FRONTERA FRANCESA
VILLAFRANCA DEL PENEDÉS- BARCELONA

ID (Identificador de la estructura) **63RMVI01 VIADUCTO LAV (MIXTA).**

FECHA DE LA INSPECCIÓN **19/12/2006**

IDENTIFICACIÓN ARCHIVOS FOTOGRÁFICOS		NOMBRE ARCHIVO
FOTOGRAFÍA Nº 1	ALZADO DERECHO	63RMVI0101
FOTOGRAFÍA Nº 2	ALZADO IZQUIERDO	63RMVI0102
FOTOGRAFÍA Nº 3	VISTA SUPERIOR DESDE ENTRADA	63RMVI0103
FOTOGRAFÍA Nº 4	VISTA SUPERIOR DESDE SALIDA	63RMVI0104
FOTOGRAFÍA Nº 5	ESTRIBO DE ENTRADA	63RMVI0105
FOTOGRAFÍA Nº 6	ESTRIBO DE SALIDA	63RMVI0106
FOTOGRAFÍA Nº 7	VISTA INFERIOR	63RMVI0107
FOTOGRAFÍA Nº 8	DETALLE DE GUARDABALASTO	63RMVI0108
FOTOGRAFÍA Nº 9	DETALLE DE UN APOYO DIFERENTE	63RMVI0109
FOTOGRAFÍA Nº 10	DETALLE DE UN REDONDO EN UNO DE LOS ESTR	63RMVI01010
FOTOGRAFÍA Nº 11	DETALLE DE TUBO SOBRANTE	63RMVI01011
FOTOGRAFÍA Nº 12	DETALLE DE UNIÓN ENTRE LOSA Y PILA	63RMVI01012
FOTOGRAFÍA Nº 13		
FOTOGRAFÍA Nº 14		
FOTOGRAFÍA Nº 15		
FOTOGRAFÍA Nº 16		
FOTOGRAFÍA Nº 17		

OBSERVACIONES



FOTOGRAFIA Nº1: Alzado derecho en dirección Barcelona.



FOTOGRAFIA Nº2: Alzado izquierdo en dirección Barcelona.



FOTOGRAFIA Nº3: Vista de la entrada superior con dirección Barcelona.



FOTOGRAFIA Nº4: Salida superior con dirección Barcelona.



FOTOGRAFIA Nº5: Estribo de entrada en dirección Barcelona.



FOTOGRAFIA Nº6: Estribo de salida con dirección Barcelona.



FOTOGRAFIA Nº7: Vista inferior.



FOTOGRAFIA Nº8: Detalle del muro guardabalasto.



FOTOGRAFIA Nº9: Detalle de un apoyo diferente al resto.



FOTOGRAFIA Nº10: Detalle de uno redondo en uno de los estribos.



FOTOGRAFIA Nº11: Detalle de tubo sobrante.



FOTOGRAFIA Nº12: Vista de la unión entre viga y pila.

INFORME DE RESULTADOS
PRUEBA DE CARGA DE LA ESTRUCTURA
VIADUCTO LAV MIXTA (63RMVI01)

VIII. PLANIMETRÍA Y NIVELACIÓN

PLANIMETRÍA Y NIVELACIÓN

Dentro de los trabajos realizados por OFITECO en el marco del contrato de "Consultoría y Asistencia Técnica para la Realización de Pruebas de Carga para la recepción de puentes de la L.A.V. Madrid – Zaragoza – Barcelona – Frontera Francesa, Tramo Vilafranca del Penedés - Barcelona (Exp: AV 004/06)" suscrito el 18 de Julio de 2006 por la UTE PC ADIF VILLAFRANCA con el Administrador de Infraestructuras Ferroviarias (ADIF), está contemplado el control topográfico mediante una nivelación geométrica y una planimetría de la Estructura Viaducto LAV (mixta).

NIVELACIÓN GEOMÉTRICA DE LA ESTRUCTURA

Las nivelaciones geométricas de todas las estructuras se han llevado a cabo tomando como base de partida un clavo de referencia situado en un emplazamiento lo más estable posible, así como próximo a las estructuras, realizándose una nivelación geométrica cerrada (ida y vuelta), sobre dicho clavo de referencia con el fin de poder obtener una comprobación de las mediciones efectuadas.

El método de nivelación geométrica más aconsejable empleado para la determinación de los desniveles entre clavos de nivelación ha sido el método del punto medio.

La instrumentación utilizada para la realización de las nivelaciones geométricas se compone por un lado, de un nivel óptico Leika NA2 con micrómetro, y por otro, de miras invar de código de barras.

La tolerancia fijada, en base a un criterio propio, para todas las nivelaciones geométricas se corresponde con la tolerancia exigida en nivelación de alta precisión (debido a que no se ha especificado la imposición de ningún otro tipo de tolerancia):

$T \leq 1.5 \text{ mm} * (\sqrt{K})$; donde K= longitud de la línea de nivelación en Km.

Se han conseguido precisiones mayores que los valores tolerables impuestos.







Bases y clavos de nivelación

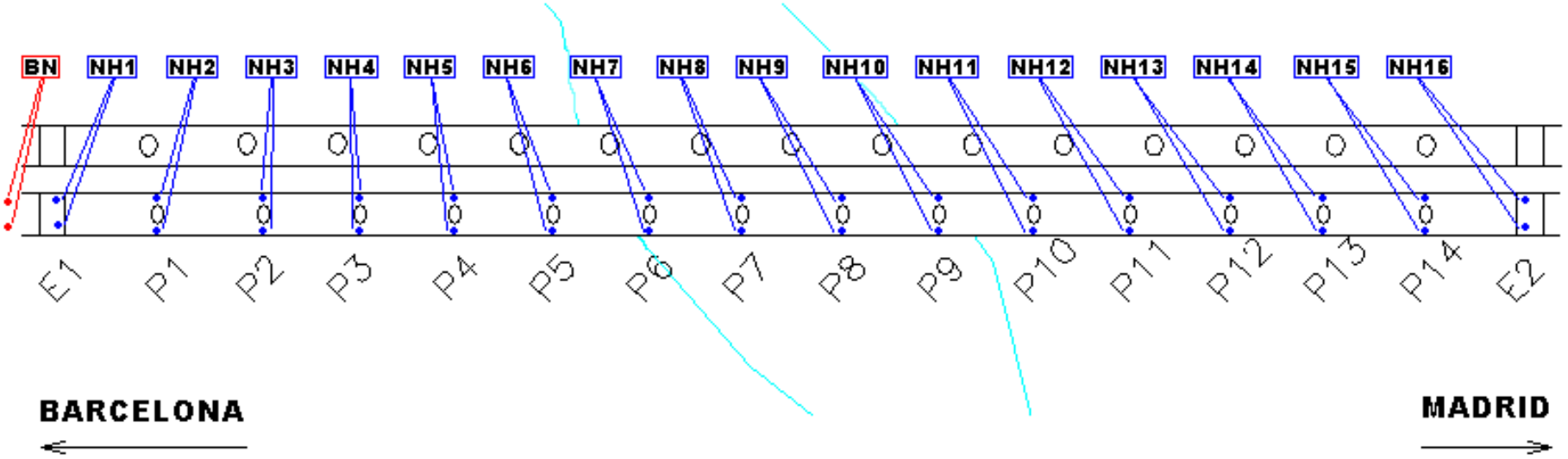
En el caso del viaducto LAV (mixta) se han instalado se han instalado 34 clavos de nivelación distribuidos en dos alineaciones de 16 clavos cada una, para la vía 1 y vía 2 respectivamente, más 2 clavos de referencia.

Para la realización de la nivelación geométrica correspondiente a la vía 1, se ha partido tomando como referencia un clavo de nivelación situado en la zona del estribo de Barcelona, en las proximidades de dicha vía, llevándose a cabo una nivelación geométrica cerrada sobre este clavo de referencia.

Para la realización de la nivelación geométrica correspondiente a la vía 2, se ha partido tomando como referencia un clavo de nivelación situado en la zona del estribo de Barcelona, en las proximidades de dicha vía, llevándose a cabo una nivelación geométrica cerrada sobre este clavo de referencia.

Durante la toma de registros, realizada por la noche, las condiciones climatológicas fueron buenas, día despejado y ligero viento.

A continuación se adjunta un croquis con los puntos de medida y las lecturas de la campaña inicial.


BN
NH1
NH2
NH3
NH4
NH5
NH6
NH7
NH8
NH9
NH10
NH11
NH12
NH13
NH14
NH15
NH16
E1
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
P12
P13
P14
E2
BARCELONA
MADRID

ESTRUCTURA:	MIXTA	FECHA CAMPAÑA: 06-07/05/2008	Nº CAMPAÑA: 1

MARGEN DCHA DIRECCION BARCELONA-MADRID

CLAVO	L. ESPALDA	L.FRENTE	DESNIVEL	COTA	COMPENSACION	DESNIVEL COMPENSADO	DESNIVEL PROMEDIO COMPENSADO	COTA COMPENSADA
Base	1.42673			100.00000				100.00000
HN1	1.17967	0.91680	0.50993	100.50993	-0.000018	0.50991	0.50987	100.50987
Sapo	1.15140	1.12051	0.05916	100.56909	-0.000018	0.05914		
HN2	1.16337	1.13759	0.01381	100.58290	-0.000018	0.01379	0.07278	100.58265
Sapo	1.23467	1.09568	0.06769	100.65059	-0.000018	0.06767		
HN3	1.19008	1.18290	0.05177	100.70236	-0.000018	0.05175	0.11948	100.70213
Sapo	1.19797	1.11378	0.07630	100.77866	-0.000018	0.07628		
HN4	1.19627	1.15077	0.04720	100.82586	-0.000018	0.04718	0.12352	100.82565
Sapo	1.18148	1.13067	0.06560	100.89146	-0.000018	0.06558		
HN5	1.14852	1.14898	0.03250	100.92396	-0.000018	0.03248	0.09804	100.92368
Sapo	1.18844	1.07955	0.06897	100.99293	-0.000018	0.06895		
HN6	1.18332	1.13143	0.05701	101.04994	-0.000018	0.05699	0.12593	101.04961
Sapo	1.19478	1.13234	0.05098	101.10092	-0.000018	0.05096		
HN7	1.16877	1.14508	0.04970	101.15062	-0.000018	0.04968	0.10077	101.15038
Sapo	1.21955	1.10872	0.06005	101.21067	-0.000018	0.06003		
HN8	1.16588	1.16462	0.05493	101.26560	-0.000018	0.05491	0.11495	101.26532
Sapo	1.20048	1.10289	0.06299	101.32859	-0.000018	0.06297		
HN9	1.22569	1.16387	0.03661	101.36520	-0.000018	0.03659	0.09960	101.36492
Sapo	1.20790	1.16682	0.05887	101.42407	-0.000018	0.05885		
HN10	1.14025	1.13530	0.07260	101.49667	-0.000018	0.07258	0.13148	101.49640
Sapo	1.16049	1.07600	0.06425	101.56092	-0.000018	0.06423		
HN11	1.16735	1.12130	0.03919	101.60011	-0.000018	0.03917	0.11746	101.61386
Sapo	1.18141	1.10858	0.05877	101.65888	-0.000018	0.05875		
HN12	1.14638	1.13432	0.04709	101.70597	-0.000018	0.04707	0.10598	101.71984
HN13	1.20225	1.13592	0.01046	101.71643	-0.000018	0.01044	0.01028	101.73012
Sapo	1.19661	1.17185	0.03040	101.74683	-0.000018	0.03038		
HN14	1.18152	1.19613	0.00048	101.74731	-0.000018	0.00046	0.03083	101.76095
Sapo	1.12718	1.16862	0.01290	101.76021	-0.000018	0.01288		
HN15	1.13386	1.17814	-0.05096	101.70925	-0.000018	-0.05098	-0.03809	101.72286
Sapo	1.12960	1.19835	-0.06449	101.64476	-0.000018	-0.06451		
HN16	1.11028	1.22880	-0.09920	101.54556	-0.000018	-0.09922	-0.16376	101.55910
Sapo	1.11161	1.20578	-0.09550	101.45006	-0.000018	-0.09552		

CLAVO	L. ESPALDA	L.FRENTE	DESNIVEL	COTA	COMPENSACION	DESNIVEL COMPENSADO	DESNIVEL PROMEDIO COMPENSADO	COTA COMPENSADA
HN17	1.24952	1.23120	-0.11959	101.33047	-0.000018	-0.11961	-0.21511	101.34399
Sapo	1.20041	1.12992	0.11960	101.45007	-0.000018	0.11958		
HN16	1.22069	1.10488	0.09553	101.54560	-0.000018	0.09551		
Sapo	1.19662	1.12377	0.09692	101.64252	-0.000018	0.09690		
HN15	1.17949	1.12971	0.06691	101.70943	-0.000018	0.06689		
Sapo	1.18652	1.13239	0.04710	101.75653	-0.000018	0.04708		
HN14	1.21042	1.19550	-0.00898	101.74755	-0.000018	-0.00900		
Sapo	1.16552	1.21233	-0.00191	101.74564	-0.000018	-0.00193		
HN13	1.16240	1.19439	-0.02887	101.71677	-0.000018	-0.02889		
HN12	1.15395	1.17251	-0.01011	101.70666	-0.000018	-0.01013		
Sapo	1.13722	1.19907	-0.04512	101.66154	-0.000018	-0.04514		
HN11	1.15688	1.19820	-0.06098	101.60056	-0.000018	-0.06100		
Sapo	1.13710	1.19798	-0.04110	101.55946	-0.000018	-0.04112		
HN10	1.14612	1.19932	-0.06222	101.49724	-0.000018	-0.06224		
Sapo	1.17104	1.20842	-0.06230	101.43494	-0.000018	-0.06232		
HN9	1.16598	1.24022	-0.06918	101.36576	-0.000018	-0.06920		
Sapo	1.12037	1.20141	-0.03543	101.33033	-0.000018	-0.03545		
HN8	1.19719	1.18454	-0.06417	101.26616	-0.000018	-0.06419		
Sapo	1.09770	1.25152	-0.05433	101.21183	-0.000018	-0.05435		
HN7	1.16162	1.15828	-0.06058	101.15125	-0.000018	-0.06060		
Sapo	1.12990	1.20935	-0.04773	101.10352	-0.000018	-0.04775		
HN6	1.14522	1.18302	-0.05312	101.05040	-0.000018	-0.05314		
Sapo	1.09163	1.20210	-0.05688	100.99352	-0.000018	-0.05690		
HN5	1.18376	1.16063	-0.06900	100.92452	-0.000018	-0.06902		
Sapo	1.14682	1.21558	-0.03182	100.89270	-0.000018	-0.03184		
HN4	1.18121	1.21297	-0.06615	100.82655	-0.000018	-0.06617		
Sapo	1.12170	1.22916	-0.04795	100.77860	-0.000018	-0.04797		
HN3	1.18530	1.19729	-0.07559	100.70301	-0.000018	-0.07561		
Sapo	1.08888	1.23630	-0.05100	100.65201	-0.000018	-0.05102		
HN2	1.17812	1.15738	-0.06850	100.58351	-0.000018	-0.06852		
Sapo	1.12170	1.19570	-0.01758	100.56593	-0.000018	-0.01760		
HN1	1.00018	1.17670	-0.05500	100.51093	-0.000018	-0.05502		
Base		1.50999	-0.50981	100.00112	-0.000018	-0.50983		

ERROR DE CIERRE:	1.12 mm

SUMA:	-0.001120	0.00000

ESTRUCTURA:	MIXTA	FECHA CAMPAÑA: 06-07/05/2008	N° CAMPAÑA: 1
MARGEN IZDO DIRECCION BARCELONA-MADRID			

CLAVO	L. ESPALDA	L.FRENTE	DESNIVEL	COTA	COMPENSACION	DESNIVEL COMPENSADO	DESNIVEL PROMEDIO COMPENSADO	COTA COMPENSADA
Base	1.56388			100.00000				100.00000
HN1	1.20091	1.01828	0.54560	100.54560	-0.000015	0.54559	0.54576	100.54576
Sapo	1.16258	1.13341	0.06750	100.61310	-0.000015	0.06748		
HN2	1.17453	1.14117	0.02141	100.63451	-0.000015	0.02139	0.08886	100.63462
Sapo	1.22679	1.12380	0.05073	100.68524	-0.000015	0.05072		
HN3	1.16220	1.15572	0.07107	100.75631	-0.000015	0.07106	0.12176	100.75638
Sapo	1.18932	1.09882	0.06338	100.81969	-0.000015	0.06337		
HN4	1.15827	1.13052	0.05880	100.87849	-0.000015	0.05879	0.12201	100.87839
Sapo	1.19307	1.09651	0.06176	100.94025	-0.000015	0.06174		
HN5	1.20130	1.16102	0.03205	100.97230	-0.000015	0.03204	0.09372	100.97210
Sapo	1.15868	1.12899	0.07231	101.04461	-0.000015	0.07230		
HN6	1.19402	1.13320	0.02548	101.07009	-0.000015	0.02546	0.09775	101.06985
Sapo	1.21348	1.11558	0.07844	101.14853	-0.000015	0.07843		
HN7	1.18905	1.17023	0.04325	101.19178	-0.000015	0.04323	0.12164	101.19149
Sapo	1.21759	1.12498	0.06407	101.25585	-0.000015	0.06405		
HN8	1.19542	1.15260	0.06499	101.32084	-0.000015	0.06497	0.12896	101.32044
Sapo	1.19127	1.14317	0.05225	101.37309	-0.000015	0.05223		
HN9	1.14508	1.12229	0.06898	101.44207	-0.000015	0.06897	0.12122	101.44166
Sapo	1.18418	1.09210	0.05298	101.49505	-0.000015	0.05297		
HN10	1.17833	1.12678	0.05740	101.55245	-0.000015	0.05739	0.11033	101.55199
Sapo	1.17878	1.12588	0.05245	101.60490	-0.000015	0.05244		
HN11	1.18968	1.14241	0.03637	101.64127	-0.000015	0.03636	0.09955	101.65154
Sapo	1.17302	1.11135	0.07833	101.71960	-0.000015	0.07832		
HN12	1.11332	1.12147	0.05155	101.77115	-0.000015	0.05154	0.12987	101.78141
HN13	1.18188	1.10790	0.00542	101.77657	-0.000015	0.00540	0.00543	101.78684
Sapo	1.16236	1.14835	0.03353	101.81010	-0.000015	0.03352		
HN14	1.17100	1.17870	-0.01634	101.79376	-0.000016	-0.01636	0.01718	101.80402
Sapo	1.13928	1.15969	0.01131	101.80507	-0.000016	0.01129		
HN15	1.13710	1.19003	-0.05075	101.75432	-0.000016	-0.05077	-0.03940	101.76462
Sapo	1.10877	1.19558	-0.05848	101.69584	-0.000016	-0.05850		
HN16	1.12330	1.21867	-0.10990	101.58594	-0.000016	-0.10992	-0.16841	101.59622
Sapo	1.09508	1.20333	-0.08003	101.50591	-0.000016	-0.08005		
HN17	1.23067	1.22127	-0.12619	101.37972	-0.000016	-0.12621	-0.20622	101.39000
Sapo	1.19865	1.10452	0.12615	101.50587	-0.000016	0.12613		
HN16	1.23272	1.11859	0.08006	101.58593	-0.000016	0.08004		
Sapo	1.19870	1.12465	0.10807	101.69400	-0.000016	0.10805		

CLAVO	L. ESPALDA	L.FRENTE	DESNIVEL	COTA	COMPENSACION	DESNIVEL COMPENSADO	DESNIVEL PROMEDIO COMPENSADO	COTA COMPENSADA
HN15	1.16148	1.13834	0.06036	101.75436	-0.000016	0.06034		
Sapo	1.16069	1.10959	0.05189	101.80625	-0.000016	0.05187		
HN14	1.17338	1.17322	-0.01253	101.79372	-0.000016	-0.01255		
Sapo	1.14110	1.16386	0.00952	101.80324	-0.000015	0.00951		
HN13	1.13293	1.16780	-0.02670	101.77654	-0.000015	-0.02671		
HN12	1.12668	1.13838	-0.00545	101.77109	-0.000015	-0.00546		
Sapo	1.10608	1.17917	-0.05249	101.71860	-0.000015	-0.05251		
HN11	1.11739	1.18345	-0.07737	101.64123	-0.000015	-0.07738		
Sapo	1.11846	1.15706	-0.03967	101.60156	-0.000015	-0.03968		
HN10	1.12879	1.16751	-0.04905	101.55251	-0.000015	-0.04907		
Sapo	1.09265	1.19000	-0.06121	101.49130	-0.000015	-0.06123		
HN9	1.12230	1.14172	-0.04907	101.44223	-0.000015	-0.04909		
Sapo	1.13760	1.19147	-0.06917	101.37306	-0.000015	-0.06919		
HN8	1.14640	1.18963	-0.05203	101.32103	-0.000015	-0.05205		
Sapo	1.10231	1.21046	-0.06406	101.25697	-0.000015	-0.06408		
HN7	1.16492	1.16710	-0.06479	101.19218	-0.000015	-0.06481		
Sapo	1.11873	1.20758	-0.04266	101.14952	-0.000015	-0.04268		
HN6	1.15829	1.19765	-0.07892	101.07060	-0.000015	-0.07894		
Sapo	1.11872	1.18535	-0.02706	101.04354	-0.000015	-0.02707		
HN5	1.15587	1.18937	-0.07065	100.97289	-0.000015	-0.07067		
Sapo	1.10200	1.18828	-0.03241	100.94048	-0.000015	-0.03243		
HN4	1.14227	1.16321	-0.06121	100.87927	-0.000015	-0.06123		
Sapo	1.11050	1.20279	-0.06052	100.81875	-0.000015	-0.06054		
HN3	1.16397	1.17182	-0.06132	100.75743	-0.000015	-0.06134		
Sapo	1.12208	1.23108	-0.06711	100.69032	-0.000015	-0.06713		
HN2	1.14250	1.17669	-0.05461	100.63571	-0.000015	-0.05463		
Sapo	1.15072	1.17420	-0.03170	100.60401	-0.000015	-0.03171		
HN1	1.02158	1.20783	-0.05711	100.54690	-0.000015	-0.05713		
Base		1.56749	-0.54591	100.00099	-0.000015	-0.54593		

ERROR DE CIERRE:	0.99 mm

SUMA:	-0.000973	0.00002

COLIMACIÓN ANGULAR DE LAS ESTRUCTURAS

La colimación angular permite realizar un control topográfico determinando o asignando coordenadas planimétricas X e Y desde pilares topográficos de observación, a una serie de señales o dianas de puntería instrumentadas tanto en los estribos como en las pilas de las estructuras.

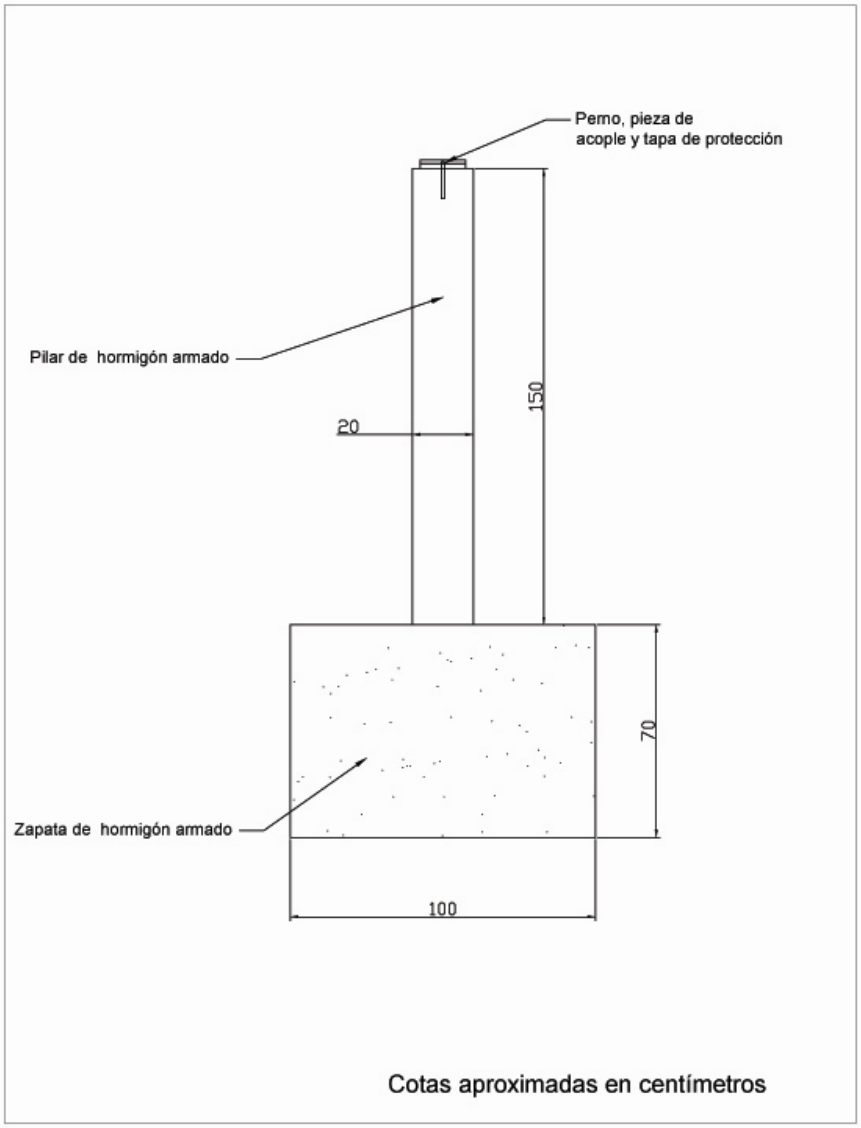
El método topográfico empleado ha sido el de la bisección angular, siendo posible en algunos casos la comprobación mediante el método de polisección o trisección angular.

La instrumentación utilizada para la realización de las colimaciones angulares se compone por un lado, de una estación total (Trimble serie 5000) de 10^{cc} con distanciómetro de precisión mínima 3 mm + 5 p.p.m, y por otro, de un conjunto de prismas y bases nivelantes que conforman un equipo de centrado forzoso.

Para llevar a cabo las bisecciones angulares de las estructuras, se han instalado los pilares topográficos de observación a efectos de poder efectuar el control desde ambos lados de la estructura.



Señal o diana de puntería



Pilar topográfico de observación

La nominación y orden de los pilares se corresponde con la dirección de la línea del AVE (Madrid-Zaragoza-Barcelona-Frontera Francesa), considerando en primer lugar los que se han instrumentado en la zona de la estructura perteneciente a la vía 2 y posteriormente los pilares instrumentados en la zona de la vía 1. De esta forma, comenzaremos nombrando y ordenando los pilares de forma creciente a partir del situado lo más próximo al estribo de Barcelona en la zona de la vía 2 de la estructura, que también será el origen de coordenadas, para proceder después con el mismo criterio para los pilares de la zona de la vía 1.

Del mismo modo que se ha actuado con los pilares, así hemos procedido en el caso de las dianas o señales de puntería instrumentadas sobre los estribos y pilas de cada una de las estructuras.

Para la instrumentación de los pilares de observación topográfica se ha tratado de buscar emplazamientos que permitieran una visibilidad recíproca entre ellos mismos, así como la visibilidad de la batería de señales de puntería montadas en las pilas y estribos de las estructuras.

En el caso del viaducto LAV (mixta) se han instalado un total de 8 pilares de observación topográfica y 27 señales (dianas) de puntería. Por cada estribo y pilas P1, P2 y P3 se han colocado una señal mientras que por el resto de pilas se han colocado dos señales, una en la parte superior y otra en la parte media baja.

En la realización de la bisección angular correspondiente a la estructura, se han utilizado los pilares denominados del VB1 al VB8 para la observación de las señales de puntería. En el primer caso VB1 – VB2, el pilar VB1 se ha tomado como pilar de referencia. El origen de coordenadas X e Y se ha establecido en el pilar VB1. Del mismo modo se ha procedido a la realización de las siguientes bisecciones angulares utilizándose respectivamente los pilares VB3 - VB4, VB5 - VB6 y VB7 – VB8, para la observación de las señales de puntería, actuando respectivamente los pilares VB3, VB5 y VB7 como pilares de referencia. El origen de coordenadas X e Y se ha establecido en cada pilar.

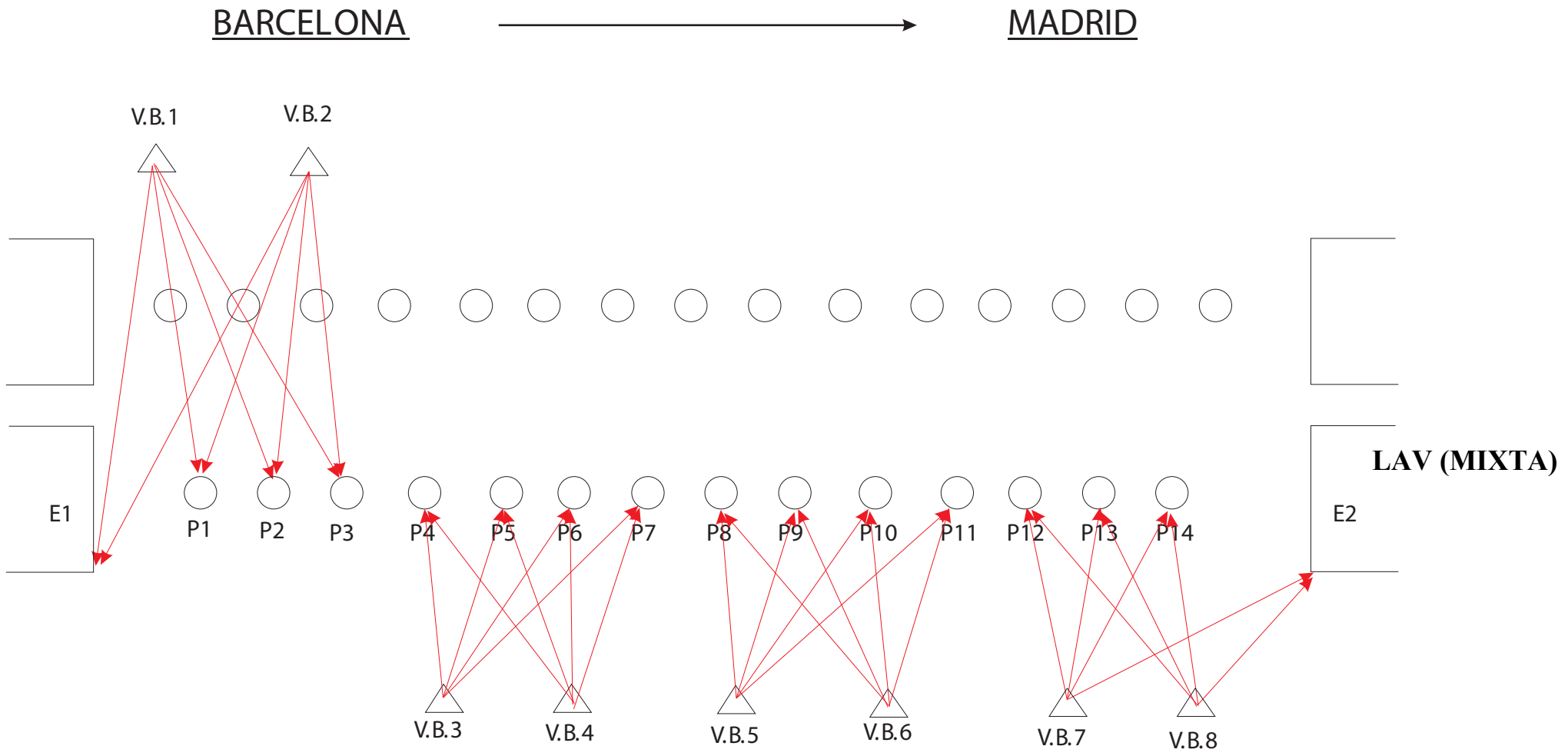
Durante la toma de registros las condiciones climatológicas fueron buenas, día despejado y ausencia de viento.

Durante la campaña de planimetría la señal de la pila 8 situada en la parte baja de la pila no se ha podido divisar desde los pilares VB5 y VB6.

A continuación se adjunta un croquis topográfico y las lecturas de la campaña inicial realizada el 7 de Febrero de 2008.

VIADUCTO DE LAV - MIXTA

En cada pilar y estribo hay (o suele haber) dos placas de puntería, siendo la placa A la de arriba y la B la de abajo. Cuando alguna de estas observaciones falta, o bien hay algún objeto que obstaculiza la visión, o bien no se ha podido montar la placa correspondiente.



ESTACION	PUNTO	AZIMUT	DISTANCIA	COORDENADAS	
				X_COMP.	Y_COMP.
VB1	**VB2**	0.0010	41.1930	**1000.001**	**1041.193**
	E1	141.9766		**1034.540**	**973.228**
	P1	77.5499		**1025.629**	**1009.432**
	P2	29.2856		**1026.220**	**1052.919**
	P3	17.2763		**1027.097**	**1097.388**
VB2	**E1**	170.0671			
	P1	156.7777			
	P2	73.2269			
	P3	28.6032			

ESTACION	PUNTO	AZIMUT	DISTANCIA	COORDENADAS	
				X_COMP.	Y_COMP.
VB3	**VB4**	0.0005	33.407	**2000.000**	**2033.407**
	P4a	265.6689		**1941.766**	**1965.151**
	P4b	265.6861		**1941.740**	**1965.156**
	P5a	309.4217		**1958.898**	**2006.128**
	P5b	309.4237		**1958.885**	**2006.131**
	P6a	368.6214		**1974.954**	**2046.631**
	P6b	368.6617		**1974.979**	**2046.654**
	P7a	393.2906		**1990.703**	**2087.887**
	P7b	393.5559		**1991.034**	**2088.270**
VB4	**P4a**	244.9663			
	P4b	244.9830			
	P5a	262.6977			
	P5b	262.7102			
	P6a	330.9263			
	P6b	330.9992			
	P7a	389.2395			
	P7b	389.6873			

ESTACION	PUNTO	AZIMUT	DISTANCIA	COORDENADAS	
				X_COMP.	Y_COMP.
VB5	**VB6**	0.0005	29.241	**3000.000**	**3029.241**
	P8a	239.2442		**2943.834**	**2920.733**
	P8b	no se ve			
	P9a	265.7327		**1941.534**	**1965.091**
	P9b	265.8070		**1940.396**	**1964.506**
	P10a	308.9245		**1936.576**	**2008.950**
	P10b	308.5573		**1935.417**	**2008.734**
	P11a	340.9513		**1930.398**	**2052.175**
	P11b	341.1996		**1930.276**	**2052.693**
VB6	**P8a**	230.4076			
	P8b	no se ve			
	P9a	247.0513			
	P9b	247.3744			
	P10a	280.2878			
	P10b	280.4265			
	P11a	320.2638			
	P11b	320.6561			

ESTACION	PUNTO	AZIMUT	DISTANCIA	COORDENADAS	
				X_COMP.	Y_COMP.
VB7	**VB8**	399.9996	76.043	**4000.000**	**4049.171**
	P12a	279.5952		**3956.004**	**3985.395**
	P12b	280.0452		**3954.545**	**3985.266**
	P13a	333.4440		**3949.232**	**4029.429**
	P13b	332.5031		**3948.072**	**4029.084**
	P14a	357.3072		**3942.202**	**4072.861**
	P14b	356.4002		**3940.766**	**4072.525**
	E2a	368.2168		**3939.487**	**4110.967**
VB8	**P12a**	238.4442			
	P12b	239.3600			
	P13a	276.3892			
	P13b	276.5025			
	P14a	324.7642			
	P14b	323.9085			
	E2a	350.6676			

CONTROL DE LOS MOVIMIENTOS DE LAS ESTRUCTURAS DE LA LÍNEA DE ALTA VELOCIDAD (AVE) MADRID-BARCELONA

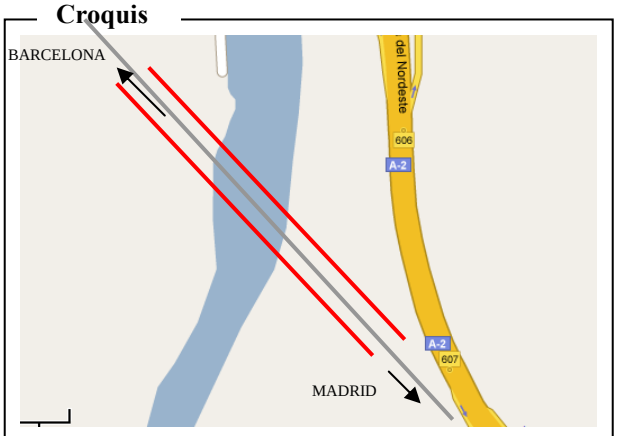
Reseña de Vértice

ESTRUCTURA: **LAV-MIXTA**	MUNICIPIO: **Sant Joan Despí**
NÚMERO: **V.B.1**	PROVINCIA: **BARCELONA**
HOJA MTN: **1038-IV**	FECHA: **23/06/08**

Fotografía



Croquis



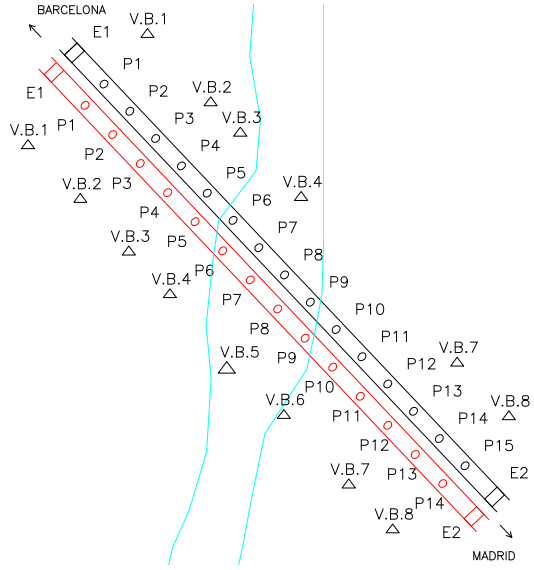
Tipo de señal

Hito de control de hormigón armado con forro de PVC de 1,34 m. de altura y base de 1,35 metros de diámetro

Situación

Situado en la margen Norte (aguas arriba) de la estructura. Frente a P1.

Croquis de detalle



Horizonte GPS

Despejado

Observaciones

CONTROL DE LOS MOVIMIENTOS DE LAS ESTRUCTURAS DE LA LÍNEA DE ALTA VELOCIDAD (AVE) MADRID-BARCELONA

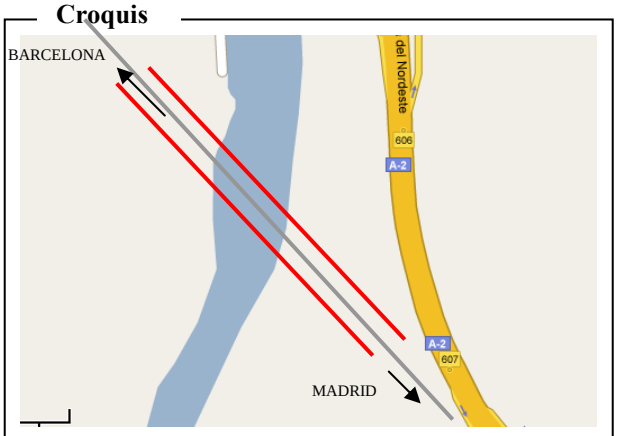
Reseña de Vértice

ESTRUCTURA: **LAV MIXTA**	MUNICIPIO: **Sant Joan Despí**
NÚMERO: **V.B.2**	PROVINCIA: **BARCELONA**
HOJA MTN: **1038-IV**	FECHA: **23/06/08**

Fotografía



Croquis



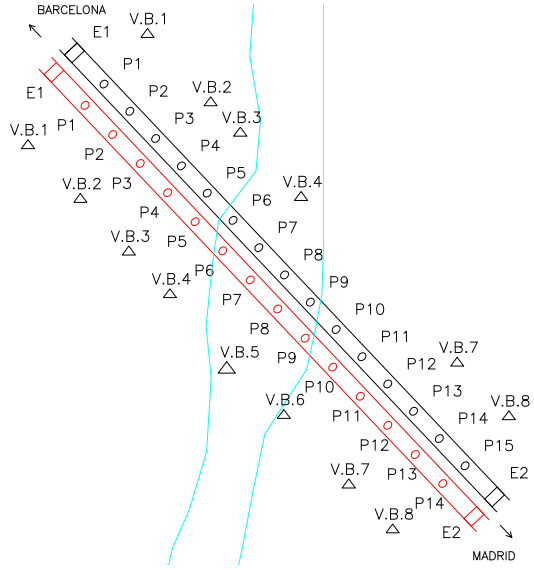
Tipo de señal

Hito de control de hormigón armado con forro de PVC de 1,26 m. de altura y base cuadrada de 1,10 metros de diámetro

Situación

Situado en la margen Norte (aguas arriba) de la estructura. Frente a P2 y delante de una cuneta y una valla que cierra un vivero de árboles.

Croquis de detalle



Horizonte GPS

Despejado

Observaciones

CONTROL DE LOS MOVIMIENTOS DE LAS ESTRUCTURAS DE LA LÍNEA DE ALTA VELOCIDAD (AVE) MADRID-BARCELONA

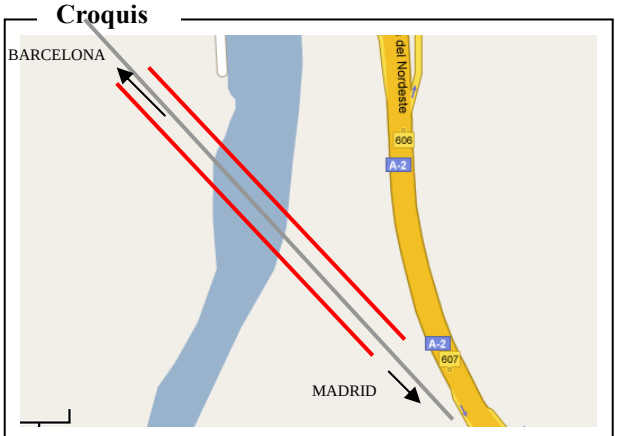
Reseña de Vértice

ESTRUCTURA: **LAV MIXTA**	MUNICIPIO: **Sant Joan Despí**
NÚMERO: **V.B.3**	PROVINCIA: **BARCELONA**
HOJA MTN: **1038-IV**	FECHA: **23/06/08**

Fotografía



Croquis



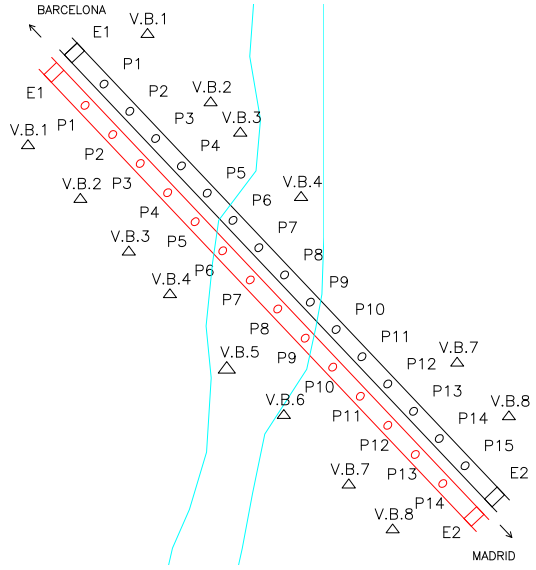
Tipo de señal

Hito de control de hormigón armado con forro de PVC de 1,22 m. de altura y sin base de hormigón visible

Situación

Situado en la margen Norte (aguas arriba) de la estructura. Frente a P5

Croquis de detalle



Horizonte GPS

Despejado

Observaciones

CONTROL DE LOS MOVIMIENTOS DE LAS ESTRUCTURAS DE LA LÍNEA DE ALTA VELOCIDAD (AVE) MADRID-BARCELONA

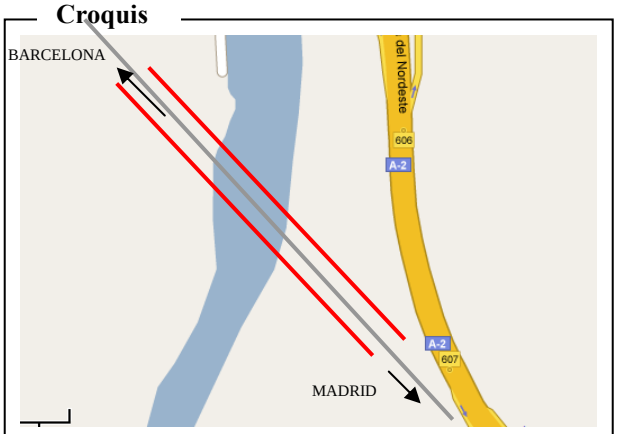
Reseña de Vértice

ESTRUCTURA: **LAV MIXTA**	MUNICIPIO: **Sant Joan Despí**
NÚMERO: **V.B.4**	PROVINCIA: **BARCELONA**
HOJA MTN: **1038-IV**	FECHA: **23/06/08**

Fotografía



Croquis



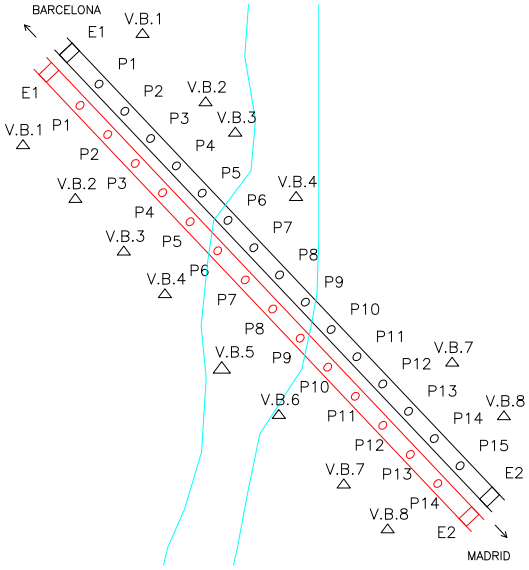
Tipo de señal

Hito de control de hormigón armado con forro de PVC de 1,3 m. de altura y base de hormigón de 1,1 metros de diámetro.

Situación

Situado en la margen Norte (aguas arriba) de la estructura. Entre P5 y P6. Situado delante de un cañaveral.

Croquis de detalle



Horizonte GPS

Despejado

Observaciones

CONTROL DE LOS MOVIMIENTOS DE LAS ESTRUCTURAS DE LA LÍNEA DE ALTA VELOCIDAD (AVE) MADRID-BARCELONA

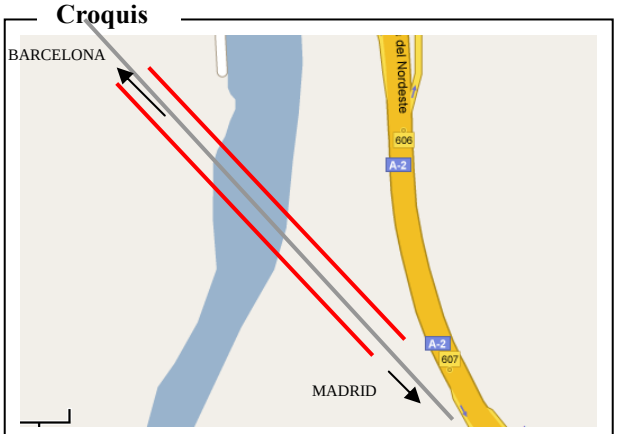
Reseña de Vértice

ESTRUCTURA: **LAV-MIXTA**	MUNICIPIO: **Sant Joan Despí**
NÚMERO: **V.B.5**	PROVINCIA: **BARCELONA**
HOJA MTN: **1038-IV**	FECHA: **23/06/08**

Fotografía



Croquis



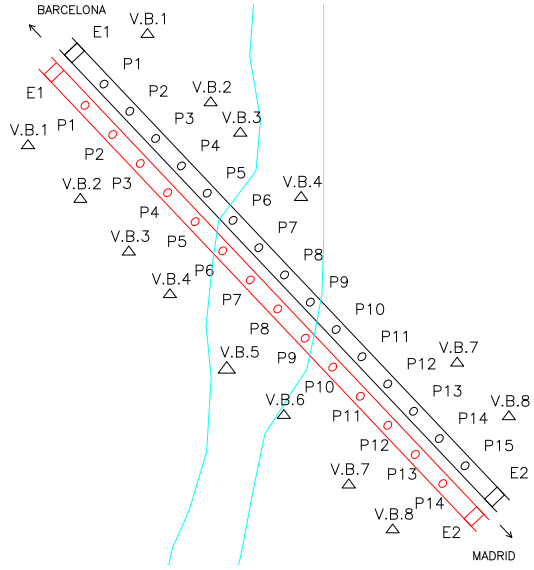
Tipo de señal

Hito de control de hormigón armado con forro de PVC de 1,22 m. de altura y base de 1,20 metros de diámetro

Situación

Situado en la margen Norte (aguas arriba) de la estructura. Frente a P10

Croquis de detalle



Horizonte GPS

Despejado

Observaciones

CONTROL DE LOS MOVIMIENTOS DE LAS ESTRUCTURAS DE LA LÍNEA DE ALTA VELOCIDAD (AVE) MADRID-BARCELONA

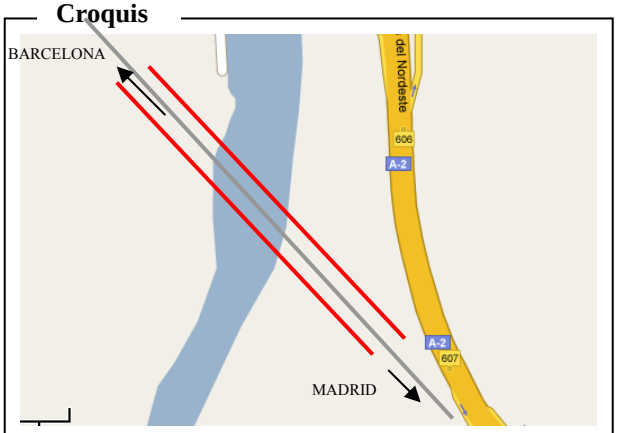
Reseña de Vértice

ESTRUCTURA: **LAV MIXTA**	MUNICIPIO: **Sant Joan Despí**
NÚMERO: **V.B.6**	PROVINCIA: **BARCELONA**
HOJA MTN: **1038-IV**	FECHA: **23/06/08**

Fotografía



Croquis



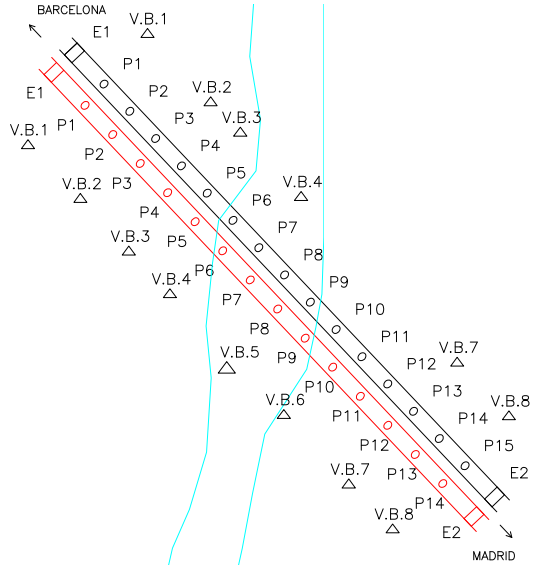
Tipo de señal

Hito de control de hormigón armado con forro de PVC de 1,238 m. de altura y base de 1,10 metros de diámetro

Situación

Situado en la margen Norte (aguas arriba) de la estructura. Frente a P10

Croquis de detalle



Horizonte GPS

Despejado

Observaciones

CONTROL DE LOS MOVIMIENTOS DE LAS ESTRUCTURAS DE LA LÍNEA DE ALTA VELOCIDAD (AVE) MADRID-BARCELONA

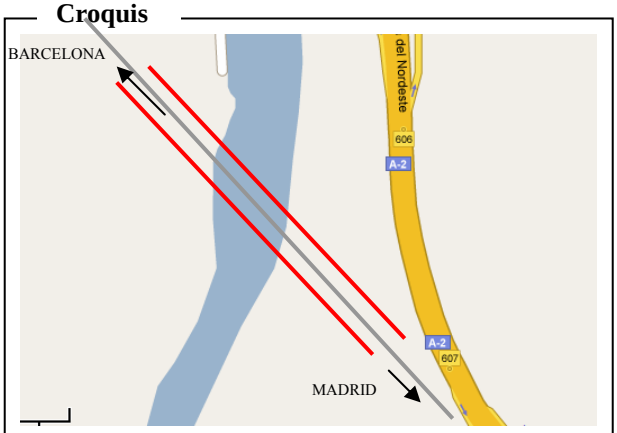
Reseña de Vértice

ESTRUCTURA: **LAV MIXTA**	MUNICIPIO: **Sant Joan Despí**
NÚMERO: **V.B.7**	PROVINCIA: **BARCELONA**
HOJA MTN: **1038-IV**	FECHA: **23/06/08**

Fotografía



Croquis



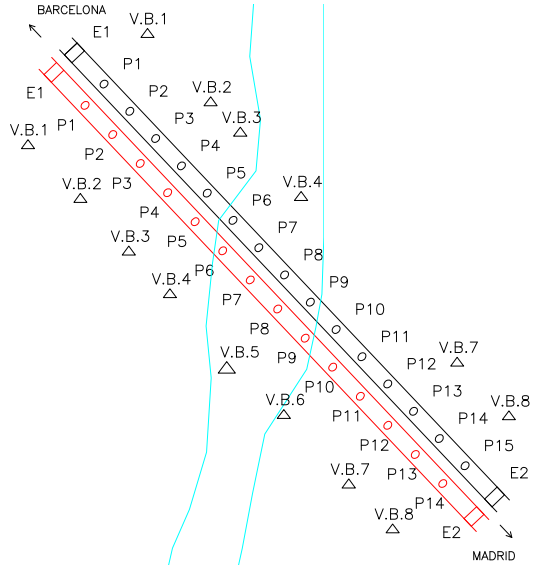
Tipo de señal

Hito de control de hormigón armado con forro de PVC de 1,238 m. de altura y base de 1,10 metros de diámetro

Situación

Situado en la margen Norte (aguas arriba) de la estructura. Frente a P10

Croquis de detalle



Horizonte GPS

Despejado

Observaciones

CONTROL DE LOS MOVIMIENTOS DE LAS ESTRUCTURAS DE LA LÍNEA DE ALTA VELOCIDAD (AVE) MADRID-BARCELONA

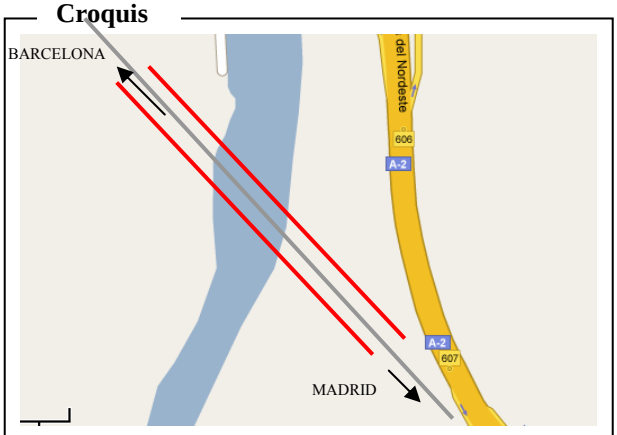
Reseña de Vértice

ESTRUCTURA: **LAV MIXTA**	MUNICIPIO: **Sant Joan Despí**
NÚMERO: **V.B.8**	PROVINCIA: **BARCELONA**
HOJA MTN: **1038-IV**	FECHA: **23/06/08**

Fotografía



Croquis



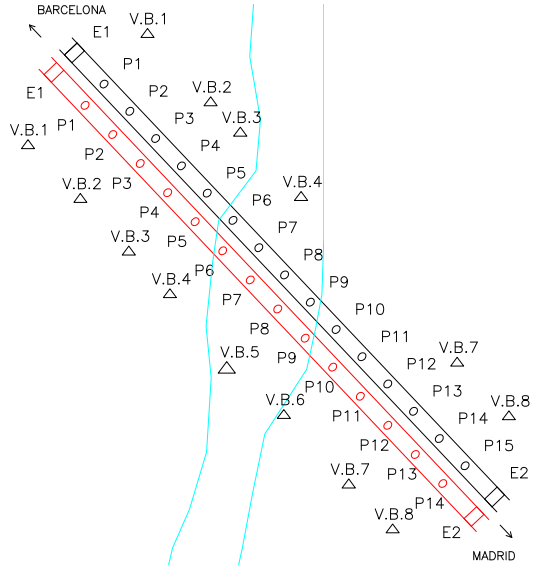
Tipo de señal

Hito de control de hormigón armado con forro de PVC de 1,238 m. de altura y base de 1,10 metros de diámetro

Situación

Situado en la margen Norte (aguas arriba) de la estructura. Entre la P14 y la P13

Croquis de detalle



Horizonte GPS

Despejado

Observaciones

INFORME DE RESULTADOS
PRUEBA DE CARGA DE LA ESTRUCTURA
VIADUCTO LAV MIXTA (63RMVI01)

IX. INSPECCIÓN DE CAUCE

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2.-DATOS PREVIOS 3

3.-ENTORNO 4

4.-VISITA A CAMPO..... 5

5.-EVALUACIÓN DE LA SITUACIÓN REAL DEL CAUCE Y LA ESTRUCTURA..... 5

6.-CONCLUSIONES 6

ANEJO 9A: CARTOGRAFÍA

ANEJO 9B: CROQUIS DE CAUCE

ANEJO 9C: FICHA DE CAMPO

ANEJO 9D: REPORTAJE FOTOGRÁFICO

1.-INTRODUCCIÓN

El presente anejo tiene por objeto el análisis desde el punto de vista de riesgo de socavación del viaducto de Llobregat LAV MIXTA perteneciente a la línea de Alta Velocidad Madrid-Zaragoza-Barcelona-Frontera Francesa. Tramo: Santa Coloma de Cervelló – Sant Joan Despí. Tramo VIIa, P.K. Línea: 606+784.

Los resultados alcanzados se han obtenido a partir de la metodología estándar empleada por TIFSA en este tipo de estudios.

2.-DATOS PREVIOS

Se incluye a continuación una tabla resumen de los datos relativos a la estructura:

Nombre:	Viaducto de Llobregat LAV MIXTA	P.K.:	606+784
Línea:	Madrid-Zaragoza-Barcelona-Front. Francesa	Provincia	Barcelona
Tipología:	Doble tablero de cajones de hormigón pretensado sobre pilas de hormigón	Material:	Hormigón pretensado
Número de vanos:	Quince	Luz:	36 en extremos, 45 en centrales
Coordenadas U.T.M.	X= 420436 Y= 4579353 (aprox.) Institut Cartogràfic de Catalunya	Huso: Escala:	30 1:10.000
Datos topográficos:	Hoja nº 286-127, Sant Joan Despí		
Confederación:	Agencia Catalana del Agua		

3.-ENTORNO

El puente de estudio se encuentra ubicado en el municipio de Sant Joan Despí, el cual presenta una precipitación media anual de 482 mm y una temperatura media anual de 16ºC.

El entorno del viaducto presenta una morfología llana como corresponde al inicio del delta. En su litología predominan los limos y arcillas.

El aprovechamiento agrícola en el entrono próximo intensivo, tipo hortofrutícola.

En cauce discurre por la llanura aluvial encajado en los propios sedimentos del río Llobregat, con los taludes perfilados artificialmente.

A la altura de la obra, las márgenes del cauce se encuentran carentes de protección artificial.

En el Apéndice 9A (Cartografía) se indica la situación del puente sobre el Mapa Topográfico Nacional. Asimismo, en el Apéndice 9B (Croquis de Cauce) se incluyen la vista en planta del cauce y la sección transversal del mismo a la altura del puente, vista desde aguas arriba.

4.-VISITA A CAMPO

Fecha de la visita: 23/06/2008

Trabajos realizados: Inspección visual de la estructura y de cada uno de sus elementos, haciendo hincapié en el estado del conjunto suelo-cimentación. También se estudió la posible existencia de erosiones en el cauce. En el Apéndice 9C (Ficha de Campo) se describen con más detalle las observaciones realizadas durante la inspección. Asimismo, en el Apéndice 9D (Reportaje Fotográfico) se muestran las fotografías tomadas durante la visita a campo.

5.-EVALUACIÓN DE LA SITUACIÓN REAL DEL CAUCE Y LA ESTRUCTURA

Las características del terreno del lecho, cobertura en márgenes y erosión en las mismas nos aportan los datos necesarios para estimar el índice de socavación, que para el caso de estudio es de:

Terreno del lecho (L)	Tipo de Protección (TP)	Estado de Protección (EP)	
6	---	---	
	Índice de Márgenes (M)		**Índice de Socavabilidad (IS)**
	3.5		**2**

El lecho del cauce está constituido fundamentalmente por arcillas y limos. El Índice de Socavabilidad refleja las condiciones de riesgo que caracterizan al conjunto suelo-cimentación.

El rango que conlleva el índice obtenido aparece reflejado en la siguiente tabla:

Índice de Socavabilidad		Rango
IS<5	→	Riesgo de socavación
IS≥5	→	Aparentemente sin problemas

6.-CONCLUSIONES

- El índice de Socavación obtenido (IS=2) refleja las condiciones de riesgo de erosión y socavación de la estructura.

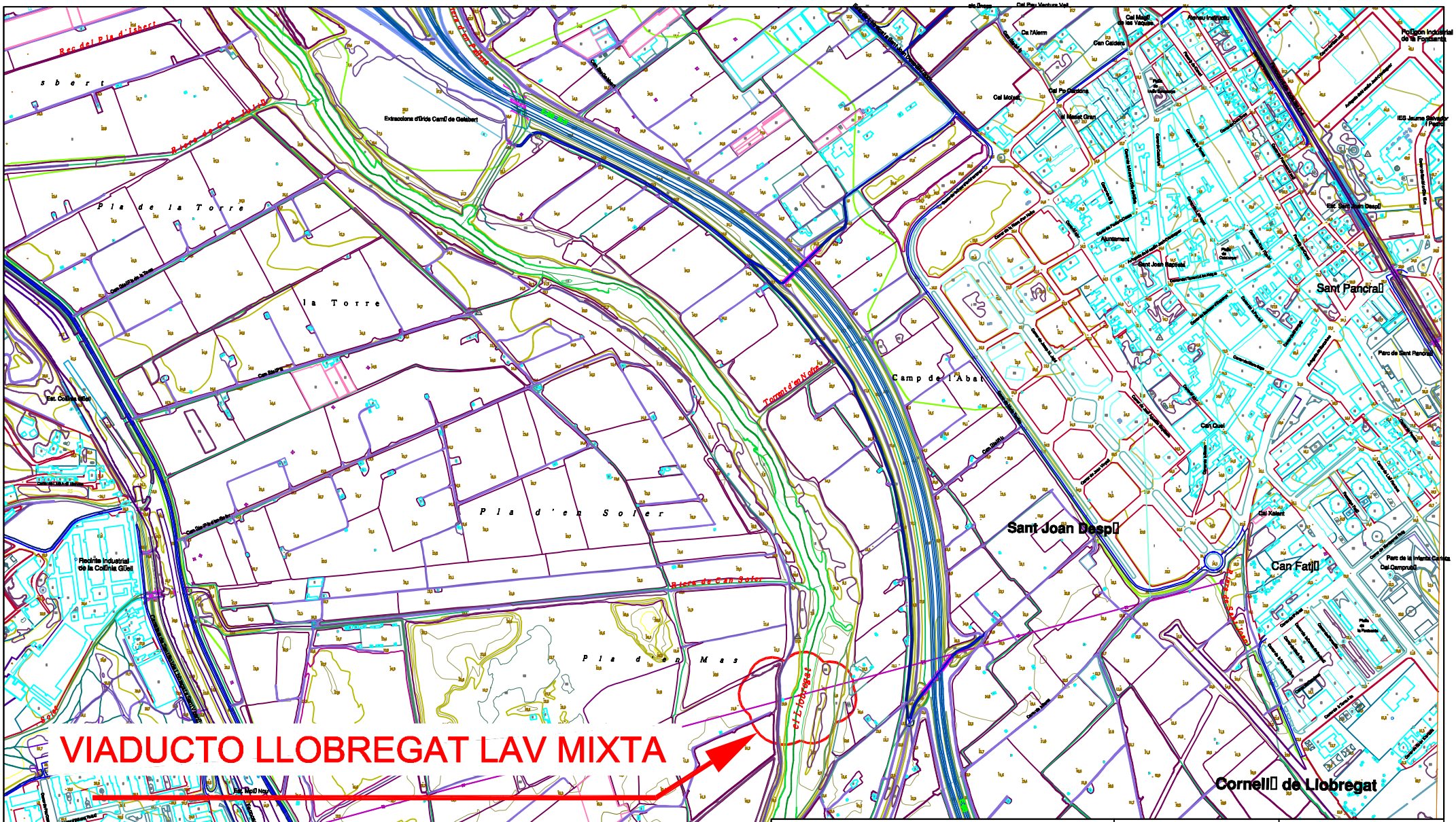
- La erosión puede considerarse importante en los periodos de avenidas fuertes.

- La escasa granulometría del material constituyente del lecho puede propiciar la erosión del mismo.

- Se ha detectado cierta erosión en el entorno de la estructura, debido al vertido libre del desagüe de la estructura, pero por el momento ésta no tiene repercusión alguna en la estabilidad de la misma.

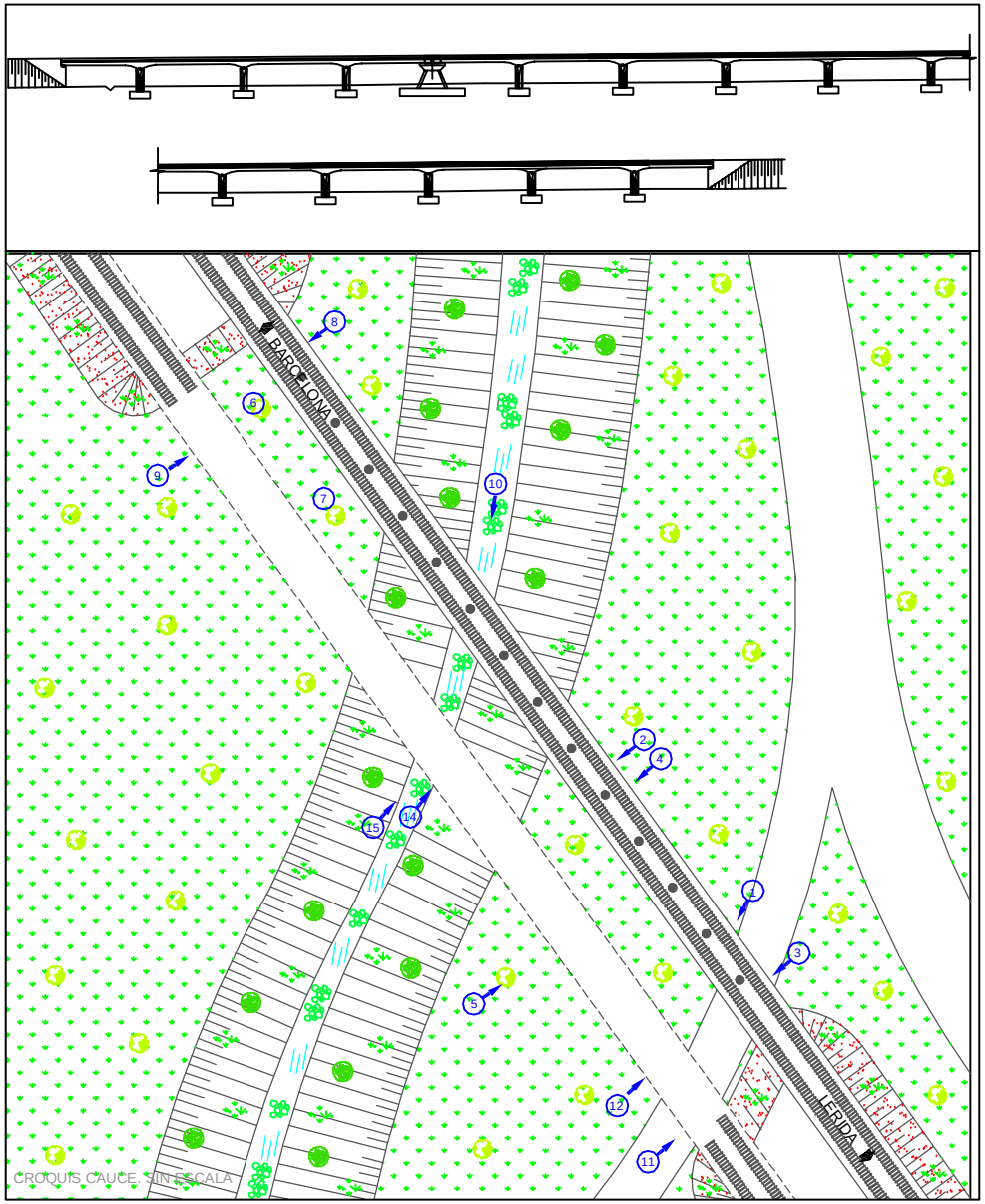
- En la inspección no se han observado daños en la estructura o en su entorno que comprometan la estabilidad de la misma, por lo que a priori puede funcionar sin problemas hidráulicos normales.

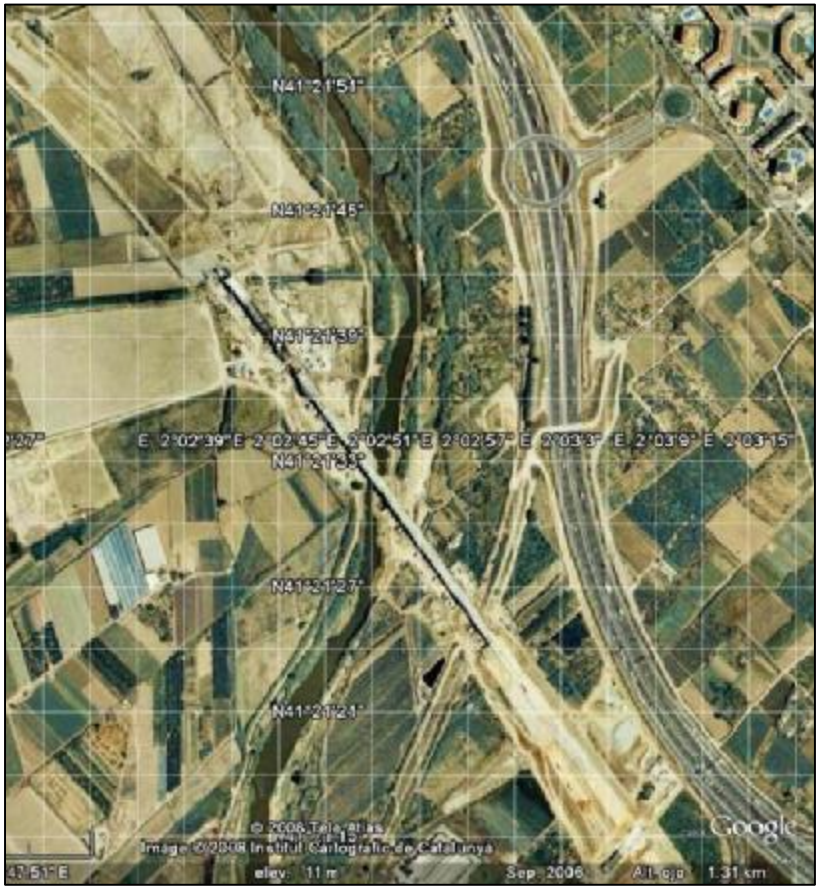
ANEJO 9A: CARTOGRAFÍA



		CLIENTE: adif	REFERENCIA: 63RMVI01
			ESCALAS: 1 / 10.000
LÍNEA:	L.A.V. MADRID – ZARAGOZA – BARCELONA – FRONTERA FRANCESA	TÍTULO: MAPA DE SITUACIÓN	FECHA: 23 / 06 / 08
PUENTE:	VIADUCTO LLOBREGAT LAV MIXTA		HOJA 1 DE 1

ANEJO 9B: CROQUIS DE CAUCE

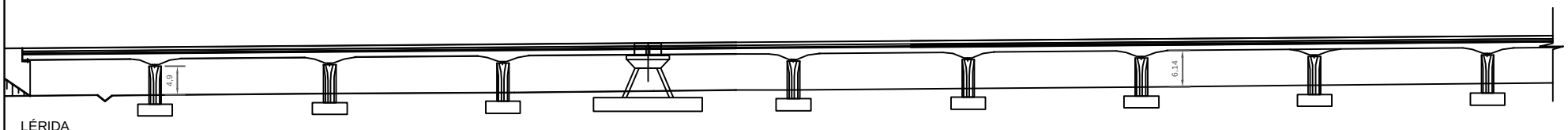




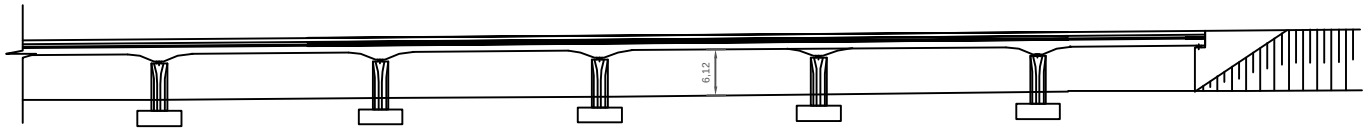
LEYENDA

- Nº DE FOTOGRAFÍA
- VEG. ARBÓREA
- VEG. ARBUSTIVA
- VEG. HERBÁCEA
- CULT. ARBÓREOS
- CULT. HERBÁCEOS
- TIERRA
- ROCA
- PROFUNDIDAD AGUA
- PAVIMENTO
- EDIFICACIÓN
- OBSTRUCCIÓN
- EROSIÓN/SOCAV.
- TALUD VERTICAL

	CLIENTE: adif	REFERENCIA: 63RMVI01
		ESCALAS: SIN ESCALA
LÍNEA: L.A.V. Madrid-Zaragoza-Barcelona-Frontera Francesa	TITULO: CROQUIS DE CAUCE PLANTA	FECHA: JUNIO 2008
PUENTE: Viaducto Llobregat L.A.V. MIXTA		HOJA 1 DE 2



LÉRIDA



BARCELONA

	CLIENTE: adif	REFERENCIA: 63RMVI01
		ESCALAS: SIN ESCALA
LÍNEA: L.A.V. Madrid-Zaragoza-Barcelona-Frontera Francesa	TITULO: CROQUIS DE CAUCE ALZADO	FECHA: JUNIO 2008
PUENTE: Viaducto Llobregat L.A.V. MIXTA		HOJA 2 DE 2

ANEJO 9C: FICHA DE CAMPO

INSPECCIÓN DE ESTRIBOS

ESTRIBO 1

Localización	1	1= LLANURA D, 2= MARGEN D, 3= CAUCE, 4= MARGEN I, 5= LLANURA I
Material del muro	1	1= HORM. 2= SILL. 3= LADR. 4= MAMPOST. 5= TIERRA REFOR. 6= ACERO 7= OTRO
Tipo de estribo	--	1= CERRADO, 2 = ABIERTO, 3 = FLOTANTE
Cimentación	---	1= DIRECTA, 2 = PILOTES, 3= PILOTES ENCAMISADOS, 4= PANTALLAS, 5= OTRAS
Estado del estribo	1	1= BUENO, 2= DAÑOS, 3= DAÑOS MUY AVANZADOS / DESPLOME
Protección	3	1= ESCOLLERA, 2= GAVIONES, 3= OTRO
Estado de la protección	1	1= BUENO, 2= DAÑOS, 3= DAÑOS MUY AVANZADOS / DESPLOME
Terreno	6	1= ARTIFICIAL, 2= ROCA, 3= BOLOS, 4= GRAVA, 5= ARENA, 6= LIMO / ARCILLA
Ángulo de ataque del agua	1	1= NO INCIDE, 2= 0º a 5º, 3= 6º a 35º, 4= 36º a 50º, 5=51º a 90º, 6 = NEGATIVO
Nivel máximo del agua	-	EN METROS, MEDIDO DESDE EL TERRENO
Nivel actual del agua	0	EN METROS, MEDIDO DESDE EL TERRENO
Socavación	3	1= NINGUNA, 2= LEVE, 3= AVANZADA, 4= DESCALCE
Profundidad de socavación	1.3	EN METROS, MEDIDO DESDE EL TERRENO ACTUAL

ESTRIBO 2

Localización	1	1= LLANURA D, 2= MARGEN D, 3= CAUCE, 4= MARGEN I, 5= LLANURA I
Material del muro	1	1= HORM. 2= SILL. 3= LADR. 4= MAMPOST. 5= TIERRA REFOR. 6= ACERO 7= OTRO
Tipo de estribo	1	1= CERRADO, 2 = ABIERTO, 3 = FLOTANTE
Cimentación	---	1= DIRECTA, 2 = PILOTES, 3= PILOTES ENCAMISADOS, 4= PANTALLAS, 5= OTRAS
Estado del estribo	1	1= BUENO, 2= DAÑOS, 3= DAÑOS MUY AVANZADOS / DESPLOME
Protección	3	1= ESCOLLERA, 2= GAVIONES, 3= OTRO
Estado de la protección	1	1= BUENO, 2= DAÑOS, 3= DAÑOS MUY AVANZADOS / DESPLOME
Terreno	6	1= ARTIFICIAL, 2= ROCA, 3= BOLOS, 4= GRAVA, 5= ARENA, 6= LIMO / ARCILLA
Ángulo de ataque del agua	1	1= NO INCIDE, 2= 0º a 5º, 3= 6º a 35º, 4= 36º a 50º, 5=51º a 90º, 6 = NEGATIVO
Nivel máximo del agua	-	EN METROS, MEDIDO DESDE EL TERRENO
Nivel actual del agua	0	EN METROS, MEDIDO DESDE EL TERRENO
Socavación	1	1= NINGUNA, 2= LEVE, 3= AVANZADA, 4= DESCALCE
Profundidad de socavación	0	EN METROS, MEDIDO DESDE EL TERRENO ACTUAL

ALETAS

			PROTECCIÓN		SOCAVACIÓN	
	Ángulo	Estado	Tipo	Estado	Tipo	Profundidad
Aleta E1 izquierda						
Aleta E1 derecha						
Aleta E2 izquierda						
Aleta E2 derecha						
	1= 0º a 5º	1= BUENO	1= ESCOLLERA	1= BUENO	1= NINGUNA	
	2= 6º a 30º	2= DAÑOS	2= GAVIONES	2= DAÑOS	2= LEVE	
	3= 31º a 60º	3= DAÑOS MUY AVANZADOS	3= OTROS	3= DAÑOS MUY AVANZADOS	3= AVANZADA	
	4= 61º a 85º				4= DESCALCE	
	5= 86º a 90º					

INSPECCIÓN DEL CAUCE

CARACTERIZACIÓN

Anchura aguas arriba	20	En metros
Anchura aguas abajo	20	En metros
Profundidad	1.5	En metros
Situación del cauce	4	1= LIBRE, 2= EN LLANURA DE INUNDACIÓN, 3= ENCAÑONADO 4= ENCAUZADO
Terreno del lecho	6	1= ARTIFICIAL, 2= ROCA, 3= BOLOS, 4= GRAVA, 5= ARENA, 6= LIMO/ ARCILLA
Estado del cauce	2	1= SECO, 2= RÉGIMEN NORMAL, 3= AVENIDA, 4= MAREA OCEÁNICA
Tipo de protección	NO	1= ESCOLLERA, 2= GAVIONES, 3= OTRO
Estado de la protección	NO	1= BUENO, 2= DAÑOS, 3= DAÑOS MUY AVANZADOS / DESPLOME
Tipo de cauce	4	1= ARTIFICIAL, 2= ARROYO, 3= ESTABLE, 4= SEMIESTABLE, 5= RAMIFICADO, 6= TORRENTE

ÁNGULOS CON EL PUENTE

Ángulo de entrada en aguas bajas	2
Ángulo de salida en aguas bajas	2
Ángulo de entrada en aguas altas	1
Ángulo de salida en aguas altas	1

1= 90º a 80º, 2= 79º a 45º, 3= 44º a 10º, 4= 9º a 0

MÁRGENES

Margen derecha aguas arriba	COBERTURA	5 + 3
	TERRENO	6
	EROSIÓN	2-3
Margen derecha aguas abajo	COBERTURA	5/3
	TERRENO	6
	EROSIÓN	2 + 3
Margen izquierda aguas arriba	COBERTURA	5 + 3
	TERRENO	6
	EROSIÓN	2 + 3
Margen izquierda aguas abajo	COBERTURA	3
	TERRENO	6
	EROSIÓN	2 + 3
COBERTURA: 1= artificial, 2= bosque, 3= matorral, 4= pastos, 5= árido		
TERRENO: 1= artificial, 2= roca, 3= bolos, 4= grava, 5= arena, 6= limo/ arcilla		
EROSIÓN: 1= no hay, 2= suave, 3= severa		

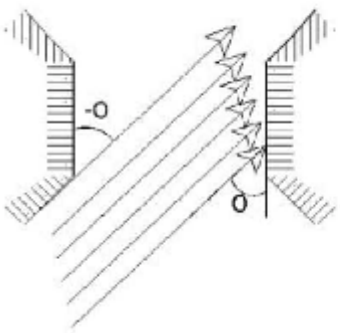
BARRAS U OBSTRUCCIONES

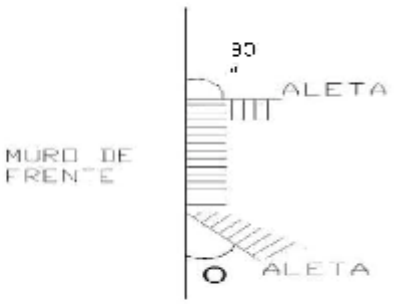
		SITUACIÓN	OCUPACIÓN	DISTANCIA
	Barra 1			
	Barra 2			
AGUAS ARRIBA	Barra 3			
	Barra 4			
	Barra 5			
	Barra 1			
	Barra 2			
AGUAS ABAJO	Barra 3			

	Barra 4 Barra 5			
		1= IZQUIERDA 2= CENTRAL 3= DERECHA	En % de la anchura del río.	En metros al puente.

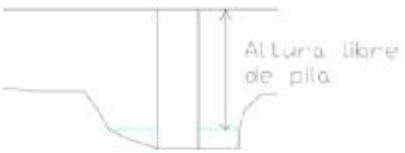
CROQUIS DE ÁNGULOS y ALTURA LIBRE DE PILA

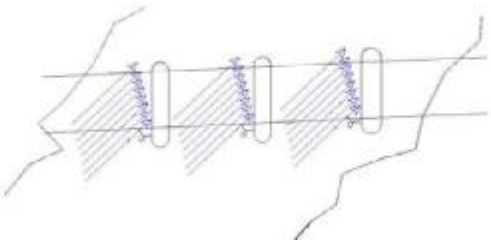
Estribos Aletas





Pilas





COMENTARIOS

En el momento de la inspección el tiempo era soleado y el cauce que salva el puente discurría en régimen normal.

Estribos y Aletas:

Los estribos de hormigón armado son cerrados, se trata de muros en vuelta que forman un ángulo recto con los frentes, careciendo de aletas. Ambos se encuentran en buen estado.

Cauce:

El río discurre con cierto meandreo en las proximidades de la estructura.

El cauce se encuentra encajado en sus propios sedimentos, flanqueado por márgenes inclinadas. No se observan erosiones importantes.

No se han observado aterramientos ni barras.

Nivel del agua:

No se aprecian marcas que indiquen el nivel máximo del agua a su paso bajo la estructura.

ANEJO 9D: REPORTAJE FOTOGRÁFICO



FOTOGRAFÍA Nº 1: ESTRIBO DERECHO



FOTOGRAFÍA Nº 2: MARGEN DERECHO VIADUCTO LAV MIXTA



. FOTOGRAFÍA Nº 3: CAUCE ENTRE ESTRIBO DERECHO Y PILA 1



FOTOGRAFÍA Nº 4: MUROS DE CARGA MARGEN DERECHO



FOTOGRAFÍA Nº 5: MUROS DE CARGA MARGEN IZQUIERDO.



FOTOGRAFÍA Nº 6: ESTRIBO IZQUIERDO



FOTOGRAFÍA Nº 7: GRIETAS TALUD ENTRE PILAS



FOTOGRAFÍA Nº 8: LAV PILA1 AGUAS ABAJO



FOTOGRAFÍA Nº9: LAV PILA1 AGUAS ARRIBA



FOTOGRAFÍA Nº10: CAUCE RIO ENTRE PILAS



FOTOGRAFÍA Nº11: SOCAVACIÓN EN ESTRIBO 1



FOTOGRAFÍA Nº12: EROSIÓN POR DESAGÜE ESTRUCTURA



FOTOGRAFÍA Nº13: PILAS JUNTO AL CAUCE



FOTOGRAFÍA Nº14: ENCAUZAMIENTO