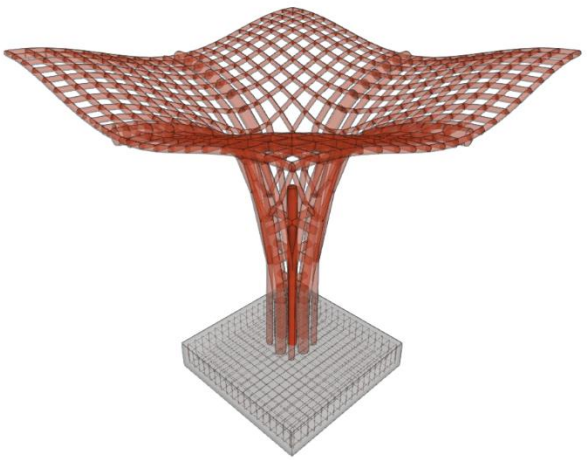
MEMORIAS DE CÁLCULO

PROYECTO DISEÑO ESTRUCTURA DE HIDROFILIA



ISOMETRICO ESTRUCTURA



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INTRODUCCIÓN

El presente informe contiene los resultados de las memorias de cálculo para el PROYECTO DISEÑO ESTRUCTURA DE HIDROFILIA, EN NEIVA-HUILA, el cual comprende la identificación de los parámetros sísmicos para el completo diseño de la estructura.

El método utilizado para el análisis de la estructura es el método de resistencia ultima, cumpliendo con las normas establecidas por el Código Colombiano Sismo resistente el cual esta expresado por la NSR-10.

En primera instancia se dan a conocer algunas aspectos de carácter sísmico de la zona en la cual se va a desarrollar el proyecto, espectro de diseño, definición de las características de la estructura y el material empleado, análisis de cargas de servicio, análisis de desplazamientos horizontales, diseño de elementos estructurales analizando los requerimientos de refuerzo a cortante y a flexión tanto de las columnas como de las vigas y muros que conforma la estructura. Finalmente se da el análisis del diseño de la cimentación con base a las cargas generadas por la estructura y con los resultados de capacidad admisible dada en el lote del proyecto.

Los resultados del presente informe se expresan con gran entendimiento en los planos anexos en donde se muestra las cuantías requeridas en los elementos estructurales, cave recalcar que en los planos se indican las longitudes de los perfiles estructurales, hierros, el diámetro, longitud de empalmes, longitud de ganchos y la ubicación de estos en los elementos estructurales.

NORMAS CONSIDERADAS

- Hormigón: NSR-10
- Aceros conformados: AISI S100-2007 (LRFD)
- Aceros laminados y armados: ANSI/AISC 360-10 (LRFD)

1. FUNDAMENTOS TEÓRICOS

El análisis y diseño de estructuras involucra un considerable esfuerzo tanto humano como técnico, teniendo en cuenta que en la actualidad éstas requieren gran rapidez y una altísima precisión, además de tener como objeto último el de producir estructuras seguras al menor costo posible.

A continuación se efectuará una presentación de las labores relacionadas con la actividad antes descrita.

Previa ejecución de un proyecto arquitectónico se procede a:

• Elaboración del modelo estructural espacial que define la geometría en cuanto a incidencias, conectividades y restricciones de todos y cada uno de los elementos que conforman la estructura, en concordancia total con el proyecto arquitectónico.

• Pre dimensionamiento de los elementos estructurales basado en las luces, cargas probables inferidas del uso de la edificación en particular, así como del tipo de materiales a emplear.

• Evaluación detallada de cargas verticales (permanentes, transitorias, accidentales) y horizontales (aquellas que se presentarían como resultado de una excitación sísmica o por acción del viento).

• Análisis de la estructura efectuado a partir de la geometría y cargas previamente definidas así como de las diferentes condiciones y combinaciones especificadas en las Normas Sismo Resistentes (NSR-10) con objeto de conocer los elementos mecánicos de diseño (desplazamientos, deformaciones, esfuerzos de flexión, corte, axial y torsión) al igual que las reacciones que se transmiten a la fundación. Para este efecto se utiliza el programa CYPE, que permite el análisis de estructuras espaciales utilizando el método de elementos finitos. Con base en los resultados hasta aquí obtenidos se perfecciona (o según el caso, se redefine) el modelo inicialmente propuesto hasta conseguir la solución óptima tanto por seguridad como por economía, la cual, en todo caso es diferente para cada estructura en particular.

• Diseño de la estructura atendiendo en todo a la norma vigente (NSR-10). Se procede a diseñar y detallar en forma óptima desde el punto de vista de las cantidades de materiales y ajustado a los materiales disponibles en el mercado, todos y cada uno de los elementos que constituyen la estructura (súper-estructura y sub-estructura o cimentación) con objeto de producir los planos de construcción correspondientes.

• Preparación y revisión de documentos definitivos del estudio como son las memorias de cálculo, los planos de construcción, listados de computador y las cantidades de obra.

1.1 Descripción evaluación de esbeltez de los elementos tipo columna en el programa CYPECAD

Se entiende por efecto de esbeltez la reducción de resistencia de un elemento sujeto a la compresión axial o a flexocompresion, debida a que la longitud del elemento de grande en comparación con las dimensiones de su sección trasversal.

El programa CYPECAD realiza la comprobación del articulo C.10.10.1 de la NSR-10 en que indica si se permite ignorar o no ignorar el efecto de esbeltez. Con lo anterior el programa realiza automáticamente la comprobación y procese hacer el análisis tanto para el eje X y el eje y como se muestra a continuación:

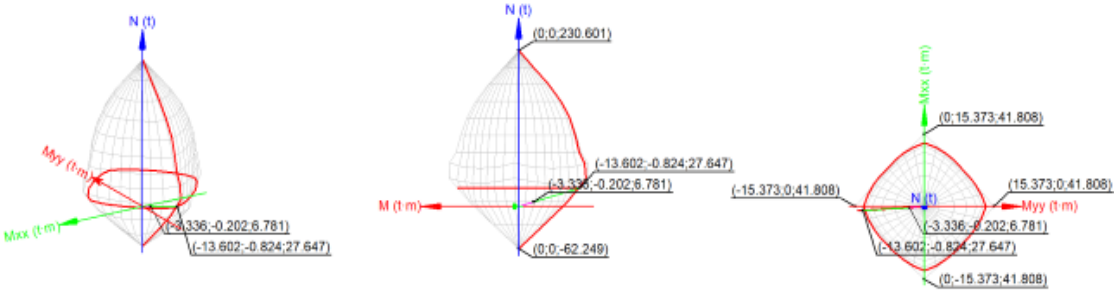
Estado límite de agotamiento frente a solicitaciones normales (combinaciones sísmicas) (NSR-10, Título C, Artículo 10)

Los esfuerzos solicitantes de cálculo pésimos se producen en '1.15 m', para la combinación de hipótesis "0.9·PP+0.9·CM-SX-0.3·SY".
Se debe satisfacer:

η : ***0.243*** ✓

η : ***0.245*** ✓

6.781 t ≤ **171.515 t** ✓



Volumen de capacidad | Vista N, M | Vista Mx, My

Comprobación de resistencia de la sección (η_1)

P_u,M_u son los esfuerzos de cálculo de primer orden.

P_u: Esfuerzo normal de cálculo. **P_u** : *6.781* t

M_u: Momento de cálculo de primer orden. **$M_{u,x}$** : *-0.201* t·m

$M_{u,y}$: *-3.309* t·m

$\phi \cdot P_n$,$\phi \cdot M_n$ son los esfuerzos que producen el agotamiento de la sección con las mismas excentricidades que los esfuerzos solicitantes de cálculo pésimos.

$\phi \cdot P_n$: Axil de agotamiento. **$\phi \cdot P_n$** : *27.948* t

$\phi \cdot M_n$: Momentos de agotamiento. **$\phi \cdot M_{n,x}$** : *-0.827* t·m

$\phi \cdot M_{n,y}$: *-13.640* t·m

Comprobación del estado limite de inestabilidad (η_2)

P_u,M_c esfuerzos solicitantes de cálculo pésimos obtenidos a partir de los de primer orden incrementados para tener en cuenta los efectos de segundo orden a causa de la esbeltez.

P_u: Axil solicitante de cálculo pésimo. **P_u** : *6.781* t

M_c: Momento flector solicitante de cálculo pésimo. **$M_{c,x}$** : *-0.202* t·m

$M_{c,y}$: *-3.336* t·m

$\phi \cdot P_n$,$\phi \cdot M_n$ son los esfuerzos que producen el agotamiento de la sección con las mismas excentricidades que los esfuerzos solicitantes de cálculo pésimos.

$\phi \cdot P_n$: Axil de agotamiento. **$\phi \cdot P_n$** : *27.647* t

$\phi \cdot M_n$: Momentos de agotamiento. **$\phi \cdot M_{n,x}$** : *-0.824* t·m

$\phi \cdot M_{n,y}$: *-13.602* t·m

En el eje x:

No se permite ignorar los efectos de esbeltez en elementos a compresión que satisfacen (Artículo 10.10.1):

27.7 > **22.0**

Donde:

kl_u: Longitud efectiva. **kl_u** : *3.200* m

r: Radio de giro de la sección transversal de un elemento en compresión. **r** : *11.55* cm

Los elementos a compresión deben diseñarse para la fuerza axial mayorada P_u y para el momento magnificado por los efectos de curvatura del elemento, M_c (Artículo 10.10.6):

P_u : *6.781* t

M_c : *-0.202* t·m

Donde:

M_2 : *-0.201* t·m

Siendo:

$M_{2,min}$: *0.183* t·m

h: Altura de un elemento. **h** : *400.00* mm

δ_{ns} : *1.008*

Siendo:

P_c : *1129.294* t

Donde:
E_c: Módulo de elasticidad del concreto. E_c : *219689.00* kp/cm²
I_g: Momento de inercia de la sección bruta del elemento con respecto al eje que pasa por el centroide, sin tener en cuenta el refuerzo. I_g : *213333.33* cm4
kl_u: Longitud efectiva. kl_u : *3.200* m

En el eje y:
No se permite ignorar los efectos de esbeltez en elementos a compresión que satisfacen (Artículo 10.10.1):

27.7 > **22.0**

Donde:
kl_u: Longitud efectiva. kl_u : *3.200* m
r: Radio de giro de la sección transversal de un elemento en compresión. **r** : *11.55* cm

Los elementos a compresión deben diseñarse para la fuerza axial mayorada P_u y para el momento magnificado por los efectos de curvatura del elemento, M_c (Artículo 10.10.6):

P_u : *6.781* t

M_c : *-3.336* t·m

Donde:

M_2 : *-3.309* t·m

Siendo:

$M_{2,min}$: *0.183* t·m

h: Altura de un elemento. **h** : *400.00* mm

δ_{ns} : *1.008*

Siendo:

P_c : *1129.294* t

Donde:
E_c: Módulo de elasticidad del concreto. E_c : *219689.00* kp/cm²

I_g: Momento de inercia de la sección bruta del elemento con respecto al eje que pasa por el centroide, sin tener en cuenta el refuerzo. **I_g** : *213333.33* cm4

kl_u: Longitud efectiva. **kl_u** : *3.200* m

Comprobación de resistencia axial de diseño

La fuerza axial mayorada P_u de elementos en compresión no debe tomarse mayor que $\phi \cdot P_{n,max}$ (Artículo 10.3.6).

$\phi \cdot P_{n,max}$: *171.515* t

Siendo:

f'_c: Resistencia especifica a compresión del hormigón. **f'_c** : *210.00* kp/cm²

f_y: Resistencia especificada a la fluencia del refuerzo. **f_y** : *4200.00* kp/cm²

A_g: Área total de la sección de hormigón. **A_g** : *1600.00* cm²

A_{st}: Área total de refuerzo longitudinal no preesforzado. **A_{st}** : *16.47* cm²

Cálculo de la capacidad resistente

El cálculo de la capacidad resistente última de las secciones se efectúa a partir de las hipótesis generales siguientes (Artículo 10.2):

(a) El diseño por resistencia de elementos sometidos a flexión y cargas axiales debe satisfacer las condiciones de equilibrio y de compatibilidad de deformaciones.

(b) Las deformaciones unitarias en el refuerzo y en el concreto deben suponerse directamente proporcionales a la distancia desde el eje neutro.

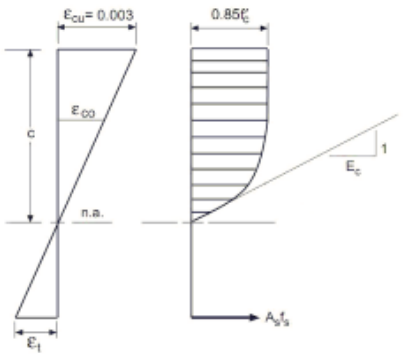
(c) La máxima deformación unitaria utilizable en la fibra extrema sometida a compresión del concreto se supone igual a 0.003.

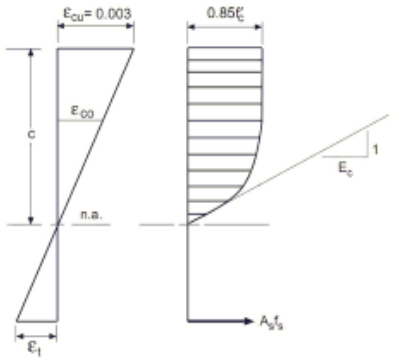
(d) El esfuerzo en el refuerzo cuando sea menor que f_y debe tomarse como E_s veces la deformación unitaria del acero. Para deformaciones unitarias mayores que las correspondientes a f_y, el esfuerzo se considera independiente de la deformación unitaria e igual a f_y.

(e) La resistencia a la tracción del concreto no debe considerarse en los cálculos de elementos de concreto reforzado sometidos a flexión y a carga axial.

(f) La relación entre la distribución de los esfuerzos de compresión en el concreto y la deformación unitaria del concreto se debe suponer rectangular, trapezoidal, parabólica o de cualquier otra forma que dé origen a una predicción de la resistencia que coincida con los resultados de ensayos representativos.

El diagrama de cálculo tensión-deformación del hormigón es del tipo parábola rectángulo. No se considera la resistencia del hormigón a tracción.





f'c: Resistencia especifica a compresión del hormigón.
εcu: Máxima deformación unitaria utilizable en la fibra extrema de concreto a compresión.

εc0: Deformación unitaria bajo carga máxima.
Se adopta el siguiente diagrama de cálculo tensión-deformación del acero de las armaduras pasivas.

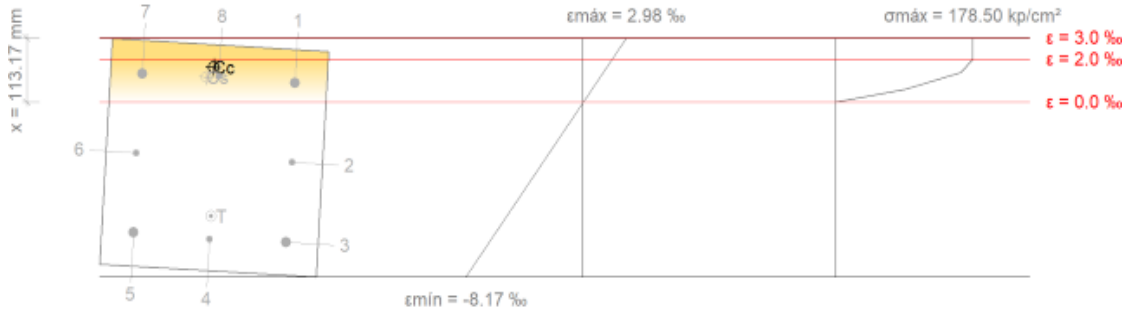
f'c : *210.00* kp/cm²
εcu : *0.0030*
εc0 : *0.0020*



fy: Resistencia especificada a la fluencia del refuerzo.

fy : *4200.00* kp/cm²

Equilibrio de la sección para los esfuerzos de agotamiento, calculados con las mismas excentricidades que los esfuerzos de cálculo pésimos:



Barra	Designación	Coord. X (mm)	Coord. Y (mm)	f_s (kp/cm²)	ε
1	Ø3/4"	-140.95	140.95	+1841.45	+0.000903
2	Ø1/2"	0.00	144.13	-4200.00	-0.002813
3	Ø3/4"	140.95	140.95	-4200.00	-0.006519
4	Ø1/2"	144.13	0.00	-4200.00	-0.006385
5	Ø3/4"	140.95	-140.95	-4200.00	-0.006084
6	Ø1/2"	0.00	-144.12	-4200.00	-0.002367
7	Ø3/4"	-140.95	-140.95	+2730.05	+0.001339
8	Ø1/2"	-144.12	0.00	+2456.21	+0.001205

	Resultante (t)	e.x (mm)	e.y (mm)
Cc	54.483	-159.45	-10.26
Cs	16.141	-141.56	-22.12
T	39.904	103.78	0.00

P_n: *30.719* t

$M_{n,x}$: *-0.916* t·m

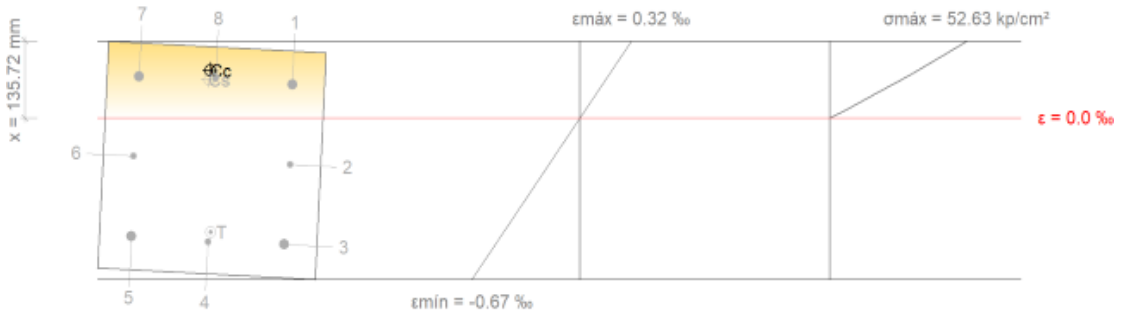
$M_{n,y}$: *-15.113* t·m

Donde:
C_c: Resultante de compresiones en el hormigón.
C_s: Resultante de compresiones en el acero.
T: Resultante de tracciones en el acero.

C_c: *54.483* t
C_s: *16.141* t
T: *39.904* t

e_{cc}: Excentricidad de la resultante de compresiones en el hormigón en la dirección de los ejes X e Y.	$e_{cc,x}$:	*-159.45* mm
	$e_{cc,y}$:	*-10.26* mm
e_{cs}: Excentricidad de la resultante de compresiones en el acero en la dirección de los ejes X e Y.	$e_{cs,x}$:	*-141.56* mm
	$e_{cs,y}$:	*-22.12* mm
e_T: Excentricidad de la resultante de tracciones en el acero en la dirección de los ejes X e Y.	$e_{T,x}$:	*103.78* mm
	$e_{T,y}$:	*0.00* mm
ε_{cmax}: Deformación de la fibra más comprimida de hormigón.	ε_{cmax} :	*0.0030*
ε_{smax}: Deformación de la barra de acero más traccionada.	ε_{smax} :	*0.0065*
σ_{cmax}: Tensión de la fibra más comprimida de hormigón.	σ_{cmax} :	*178.50* kp/cm²
σ_{smax}: Tensión de la barra de acero más traccionada.	σ_{smax} :	*4200.00* kp/cm²

Equilibrio de la sección para los esfuerzos solicitantes de cálculo pésimos:



Barra	Designación	Coord. X (mm)	Coord. Y (mm)	f_s (kp/cm²)	ε
1	Ø3/4"	-140.95	140.95	+285.78	+0.000140
2	Ø1/2"	0.00	144.13	-392.91	-0.000193
3	Ø3/4"	140.95	140.95	-1070.04	-0.000525
4	Ø1/2"	144.13	0.00	-1050.65	-0.000515
5	Ø3/4"	140.95	-140.95	-1000.73	-0.000491
6	Ø1/2"	0.00	-144.12	-322.04	-0.000158
7	Ø3/4"	-140.95	-140.95	+355.09	+0.000174
8	Ø1/2"	-144.12	0.00	+335.70	+0.000165

	Resultante (t)	e.x (mm)	e.y (mm)
Cc	12.668	-157.38	-10.54

2.GENERALIDADES

PROYECTO:	PROYECTO DISEÑO ESTRUCTURAL DE HIDROFILIA
LOCALIZACION	NEIVA-HUILA
USO	Ocupación normal
METODO DE DISEÑO	Resistencia ultima
METODO DE CALCULO ANTISISMICO	Análisis modal espectral
PROCESAMIENTO ELECTRONICO	CYPE 2025 EXCEL
MATERIALES ESPECIFICOS:	Concreto reforzado F´c= 250 Kg/cm^2.
	Acero de Refuerzo Fy=420 Mpa
	Mampostería F´m=10Mpa
SISEMA ESTRUCTURAL	Sistema Tipo Péndulo Invertido. Estructura Metálica
TIPO DE CUBIERTA	Liviana
TIPO DE CIMENTACION	Zapata aislada
ZONIFICACION SISMICA	Alta

3. DATOS DE DISEÑO

3.1 Datos de diseño

Parámetros de diseño de acuerdo a los valores estimados del estudio de suelos y del reglamento colombiano de construcción sismo resistente NSR – 2010, los parámetros de diseño son los siguientes:

Parámetros sísmicos

Zona de Riesgo Sísmico	Alto
Coeficiente que representa la aceleración Horizontal pico efectiva	Aa= 0.25
Coeficiente de aceleración que representa la velocidad horizontal pico efectiva	Av= 0.25
Grupo de Uso	I= Edificaciones de ocupación normal
Coeficiente de importancia	1.00 (Diseño Estructural)
Coeficiente de amplificación Fa del suelo para la zona de periodos cortos del espectro	Fa= 1.30
Coeficiente de amplificación Fv del suelo para la zona de periodos intermedios del espectro	Fv= 1.90

Parámetros geotécnicos

Capacidad portante admisible:	Según el estudio geotécnico, 1.00 Kg/cm^2

3.2 Materiales utilizados

Materiales utilizados							
Material		E (kp/cm²)	n	G (kp/cm²)	f_y (kp/cm²)	$a_{\cdot t}$ (m/m°C)	g (t/m³)
Tipo	Designación						
Acero conformado (perfiles estructurales)	ASTM 500 GC	2069317.0	0.300	795891.2	3522.0	0.000012	7.850
Hormigón	f'c=250	238752	0.200	93691.3	-	0.000010	2.500

Notación:
E: Módulo de elasticidad
n: Módulo de poisson
G: Módulo de elasticidad transversal
f_y: Límite elástico
$a_{\cdot t}$: Coeficiente de dilatación
g: Peso específico

Aceros en barras

Elemento	Acero	f_{yk} (kp/cm²)	γ_s
Todos	Grado 60 (Latinoamérica)	4200	1.00

4. JUSTIFICACIÓN DE LAS ACCIONES SISMICAS

Datos generales de sismo

Caracterización del emplazamiento

A_a: Aceleración horizontal pico efectiva (NSR-10, A.2.2) — **A_a** : *0.25* g
A_v: Velocidad horizontal pico efectiva (NSR-10, A.2.2) — **A_v** : *0.25* g
V_m: Velocidad media de onda de cortante (NSR-10, A.2.4.3) — **V_m** : *180.00* m/s

Sistema estructural

R_{0X}: Coeficiente de disipación de energía básico (X) (NSR-10, A.3) — **R_{0X}** : *1.35*
R_{0Y}: Coeficiente de disipación de energía básico (Y) (NSR-10, A.3) — **R_{0Y}** : *1.35*
Φ_a: Coeficiente de irregularidad en altura (NSR-10, A.3.3.5) — **Φ_a** : *1.00*
Φ_p: Coeficiente de irregularidad en planta (NSR-10, A.3.3.4) — **Φ_p** : *1.00*
Φ_{rX}: Coeficiente por ausencia de redundancia (X) (NSR-10, A.3.3.8) — **Φ_{rX}** : *1.00*
Φ_{rY}: Coeficiente por ausencia de redundancia (Y) (NSR-10, A.3.3.8) — **Φ_{rY}** : *1.00*
Geometría en altura (NSR-10, A.3.3.4 y A.3.3.5): Regular

Estimación del periodo fundamental de la estructura: Según norma
Tipología estructural (X): I
Tipología estructural (Y): I

h: Altura del edificio **h** : *8.21* m

Tipo de edificación (NSR-10, A.2.5): I

Parámetros de cálculo

Número de modos de vibración que intervienen en el análisis: Automático, hasta alcanzar un porcentaje exigido de masa desplazada (90 %)

Fracción de sobrecarga de uso : *0.00*

Fracción de sobrecarga de nieve : *0.00*

Factor multiplicador del espectro : *1.00*

Efectos de la componente sísmica vertical

No se consideran

Verificación de la condición de cortante basal: Según norma

Se realiza análisis de los efectos de 2º orden

Valor para multiplicar los desplazamientos 1.25

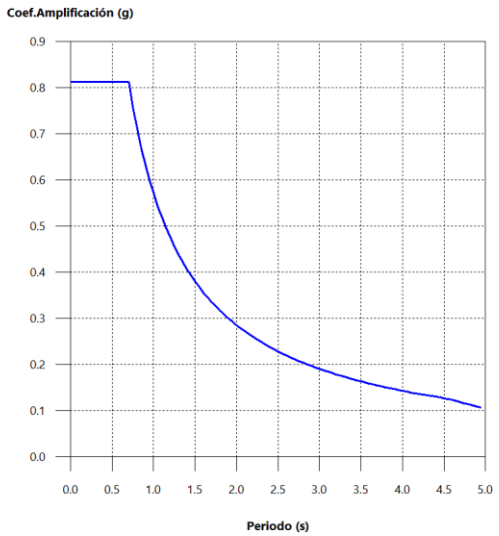
Direcciones de análisis

Acción sísmica según X

Acción sísmica según Y

Espectro de cálculo

Espectro elástico de aceleraciones



Coef.Amplificación:

El valor máximo de las ordenadas espectrales es 0.812 g.

NSR-10 (A.2.6.1)

Parámetros necesarios para la definición del espectro

A_a: Aceleración horizontal pico efectiva (NSR-10, A.2.2) — **A_a** : *0.25* g

A_v: Velocidad horizontal pico efectiva (NSR-10, A.2.2) — **A_v** : *0.25* g

F_a: Coeficiente de amplificación de la aceleración en zona de periodos cortos (NSR-10, Tabla A.2.4-3) — **F_a** : *1.30*

Tipo de perfil de suelo (NSR-10, A.2.4) — **Suelo** : *D*

A_a: Aceleración horizontal pico efectiva (NSR-10, A.2.2) — **A_a** : *0.25* g

F_v: Coeficiente de amplificación de la aceleración en zona de periodos intermedios (NSR-10, Tabla A.2.4-4) — **F_v** : *1.90*

Tipo de perfil de suelo (NSR-10, A.2.4) — **Suelo** : *D*

A_v: Velocidad horizontal pico efectiva (NSR-10, A.2.2) — **A_v** : *0.25* g

I: Coeficiente de importancia (NSR-10, A.2.5) — **I** : *1.00*

Tipo de edificación: I

T_c: Periodo correspondiente a la transición entre la zona de aceleración constante y la parte descendente del mismo (NSR-10, A.2.6.1) — **T_c** : *0.70* s

T_l: Periodo correspondiente al inicio de la zona de desplazamiento aproximadamente constante (NSR-10, A.2.6.1) — **T_l** : *4.56* s

1.2.2. Espectro de diseño de aceleraciones

El espectro de diseño sísmico se obtiene reduciendo el espectro elástico por el coeficiente (R) correspondiente a cada dirección de análisis.

Coeficiente de capacidad de disipación de energía (NSR-10, A.3.3.3)

R_X: Coeficiente de capacidad de disipación de energía de diseño (X)

R_Y: Coeficiente de capacidad de disipación de energía de diseño (Y)

R_{Xi}: Coeficiente de capacidad de disipación de energía (X) — **R_{Xi}** : *1.35*

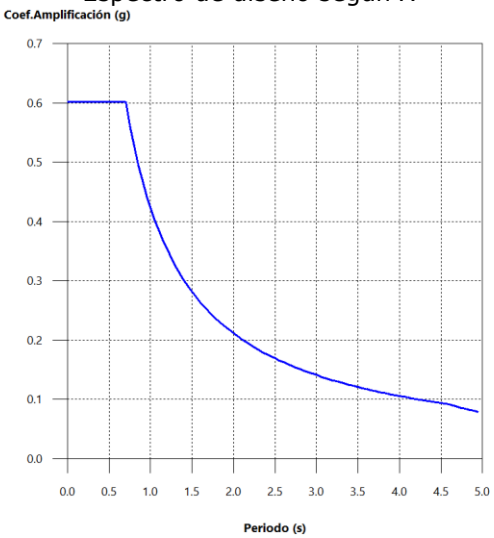
R_{Yi}: Coeficiente de capacidad de disipación de energía (Y) — **R_{Yi}** : *1.35*

Donde:

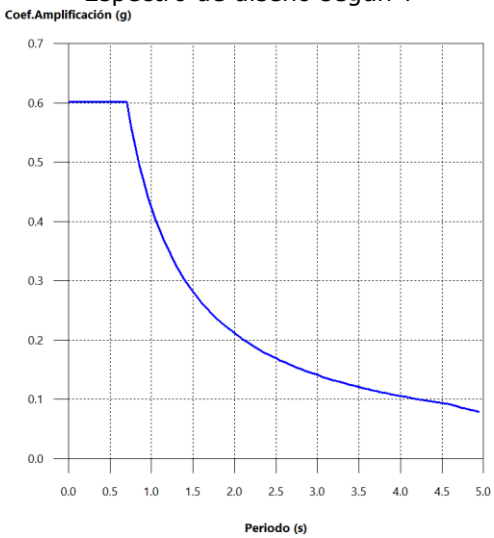
R_{0X}: Coeficiente de disipación de energía básico (X) (NSR-10, A.3)	**R_{0X}** : *1.35*
R_{0Y}: Coeficiente de disipación de energía básico (Y) (NSR-10, A.3)	**R_{0Y}** : *1.35*
Φ_a: Coeficiente de irregularidad en altura (NSR-10, A.3.3.5)	**Φ_a** : *1.00*
Φ_p: Coeficiente de irregularidad en planta (NSR-10, A.3.3.4)	**Φ_p** : *1.00*
Φ_{rX}: Coeficiente por ausencia de redundancia (X) (NSR-10, A.3.3.8)	**Φ_{rX}** : *1.00*
Φ_{rY}: Coeficiente por ausencia de redundancia (Y) (NSR-10, A.3.3.8)	**Φ_{rY}** : *1.00*

NSR-10 (A.3.7)

Espectro de diseño según X



Espectro de diseño según Y



Coeficientes de participación

Modo	T	L_x	L_y	M_x	M_y	Hipótesis X(1)	Hipótesis Y(1)
Modo 1	0.794	0.5885	0.8085	0 %	0 %	R = 1.35 A = 5.22 m/s² D = 83.3285 mm	R = 1.35 A = 5.22 m/s² D = 83.3285 mm
Modo 2	0.094	0	1	0 %	0.15 %	R = 1.35 A = 5.904 m/s² D = 1.31604 mm	R = 1.35 A = 5.904 m/s² D = 1.31604 mm
Modo 3	0.094	1	0.0001	0.15 %	0 %	R = 1.35 A = 5.904 m/s² D = 1.3161 mm	R = 1.35 A = 5.904 m/s² D = 1.3161 mm
Modo 4	0.098	1	0	0.15 %	0 %	R = 1.35 A = 5.904 m/s² D = 1.44458 mm	R = 1.35 A = 5.904 m/s² D = 1.44458 mm

Modo	T	L_x	L_y	M_x	M_y	Hipótesis X(1)	Hipótesis Y(1)
Modo 5	0.094	0.0001	1	0 %	0.15 %	R = 1.35 A = 5.904 m/s² D = 1.31595 mm	R = 1.35 A = 5.904 m/s² D = 1.31595 mm
Modo 6	0.098	0	1	0 %	0.15 %	R = 1.35 A = 5.904 m/s² D = 1.44458 mm	R = 1.35 A = 5.904 m/s² D = 1.44458 mm
Modo 7	0.562	0.9929	0.1193	73.61 %	1.07 %	R = 1.35 A = 5.904 m/s² D = 47.1977 mm	R = 1.35 A = 5.904 m/s² D = 47.1977 mm
Modo 8	0.094	1	0	0.15 %	0 %	R = 1.35 A = 5.904 m/s² D = 1.31604 mm	R = 1.35 A = 5.904 m/s² D = 1.31604 mm
Modo 9	0.094	1	0	0.15 %	0 %	R = 1.35 A = 5.904 m/s² D = 1.31595 mm	R = 1.35 A = 5.904 m/s² D = 1.31595 mm
Modo 10	0.094	0	1	0 %	0.15 %	R = 1.35 A = 5.904 m/s² D = 1.3161 mm	R = 1.35 A = 5.904 m/s² D = 1.3161 mm
Modo 11	0.557	0.119	0.9929	1.06 %	74.44 %	R = 1.35 A = 5.904 m/s² D = 46.4545 mm	R = 1.35 A = 5.904 m/s² D = 46.4545 mm
Modo 12	0.318	0.9086	0.4176	0 %	0 %	R = 1.35 A = 5.904 m/s² D = 15.1327 mm	R = 1.35 A = 5.904 m/s² D = 15.1327 mm
Modo 13	0.268	0.8098	0.5867	0.02 %	0.01 %	R = 1.35 A = 5.904 m/s² D = 10.7784 mm	R = 1.35 A = 5.904 m/s² D = 10.7784 mm
Modo 14	0.253	0.99	0.1414	15.78 %	0.33 %	R = 1.35 A = 5.904 m/s² D = 9.60287 mm	R = 1.35 A = 5.904 m/s² D = 9.60287 mm
Modo 15	0.252	0.1391	0.9903	0.31 %	15.99 %	R = 1.35 A = 5.904 m/s² D = 9.48672 mm	R = 1.35 A = 5.904 m/s² D = 9.48672 mm
Total				91.38 %	92.44 %		

T: Periodo de vibración en segundos.

L_x, L_y: Coeficientes de participación normalizados en cada dirección del análisis.

M_x, M_y: Porcentaje de masa desplazada por cada modo en cada dirección del análisis.

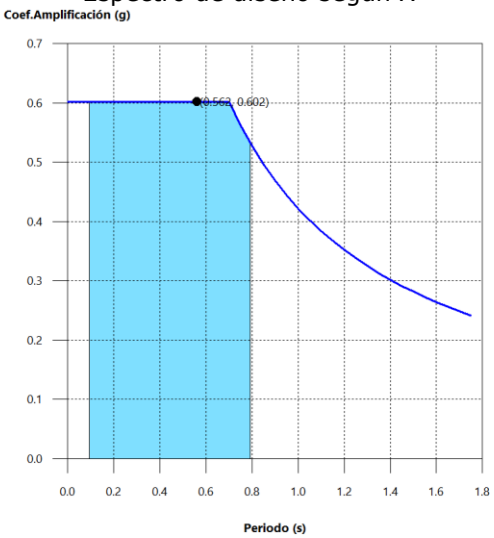
R: Relación entre la aceleración de cálculo usando la ductilidad asignada a la estructura y la aceleración de cálculo obtenida sin ductilidad.

A: Aceleración de cálculo, incluyendo la ductilidad.

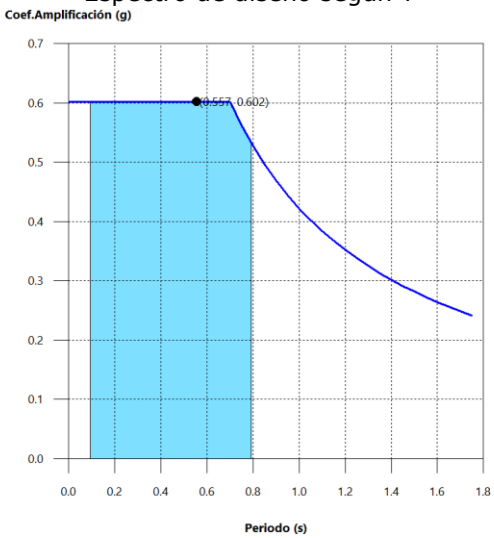
D: Coeficiente del modo. Equivale al desplazamiento máximo del grado de libertad dinámico.

Representación de los periodos modales

Espectro de diseño según X



Espectro de diseño según Y



Se representa el rango de periodos abarcado por los modos estudiados, con indicación de los modos en los que se desplaza más del 30% de la masa:

Hipótesis Sismo X1		
Hipótesis modal	T (s)	A (g)
Modo 7	0.562	0.602

Hipótesis Sismo Y1		
Hipótesis modal	T (s)	A (g)
Modo 11	0.557	0.602

Corrección por cortante basal

Cortante dinámico CQC

El cortante basal dinámico (V_d), por dirección e hipótesis sísmica, se obtiene mediante la combinación cuadrática completa (CQC) de los cortantes en la base por hipótesis modal.

Hipótesis sísmica (X)	Hipótesis modal	V_X (t)	$V_{d,X}$ (t)
Sismo X1	Modo 1	0.0002	12.3159
	Modo 2	0.0000	
	Modo 3	0.0236	
	Modo 4	0.0242	
	Modo 5	0.0000	
	Modo 6	0.0000	
	Modo 7	11.8358	
	Modo 8	0.0236	
	Modo 9	0.0236	

Hipótesis sísmica (X)	Hipótesis modal	V_X (t)	$V_{d,X}$ (t)
	Modo 10	0.0000	
	Modo 11	0.1700	
	Modo 12	0.0001	
	Modo 13	0.0025	
	Modo 14	2.5366	
	Modo 15	0.0502	

Hipótesis sísmica (Y)	Hipótesis modal	V_Y (t)	$V_{d,Y}$ (t)
Sismo Y1	Modo 1	0.0004	12.3270
	Modo 2	0.0236	
	Modo 3	0.0000	
	Modo 4	0.0000	
	Modo 5	0.0236	
	Modo 6	0.0242	
	Modo 7	0.1709	
	Modo 8	0.0000	
	Modo 9	0.0000	
	Modo 10	0.0236	
	Modo 11	11.8443	
	Modo 12	0.0000	
	Modo 13	0.0013	
	Modo 14	0.0517	
	Modo 15	2.5439	

$V_{d,X}$: Cortante basal dinámico en dirección X, por hipótesis sísmica
$V_{d,Y}$: Cortante basal dinámico en dirección Y, por hipótesis sísmica

Cortante basal estático

El cortante sísmico en la base de la estructura se determina para cada una de las direcciones de análisis:

$V_{s,X}$: Cortante sísmico en la base (X) (NSR-10, A.4.3.1) **$V_{s,X}$** : *16.5761* t

$S_{d,X}(T_a)$: Aceleración espectral horizontal de diseño (X) **$S_{d,X}(T_a)$** : *0.602* g

$T_{a,X}$: Periodo fundamental aproximado (X) (NSR-10, A.4.2.2) **$T_{a,X}$** : *0.31* s

Tipología estructural (X): I

h: Altura del edificio **h** : *8.21* m

$V_{S,Y}$: Cortante sísmico en la base (Y) (NSR-10, A.4.3.1) **$V_{S,Y}$** : *16.5761* t

$S_{d,Y}(T_a)$: Aceleración espectral horizontal de diseño (Y) **$S_{d,Y}(T_a)$** : *0.602* g

$T_{a,Y}$: Periodo fundamental aproximado (Y) (NSR-10, A.4.2.2) **$T_{a,Y}$** : *0.31* s

Tipología estructural (Y): I

h: Altura del edificio **h** : *8.21* m

W: Peso sísmico total de la estructura **W** : *27.5418* t

Verificación de la condición de cortante basal

Cuando el valor del cortante dinámico total en la base (V_d), obtenido después de realizar la combinación modal, para cualquiera de las direcciones de análisis, es menor que el 80 % del cortante basal sísmico estático (V_s), todos los parámetros de la respuesta dinámica se multiplican por el factor de modificación: $0.80 \cdot V_s/V_d$.

Geometría en altura (NSR-10, A.3.3.4 y A.3.3.5): Regular

NSR-10 (A.5.4.5)

Hipótesis sísmica	Condición de cortante basal mínimo		Factor de modificación
Sismo X1	$V_{d,X1} \geq 0.80 \cdot V_{s,X}$	12.3159 t ≥ 13.2609 t	1.08
Sismo Y1	$V_{d,Y1} \geq 0.80 \cdot V_{s,Y}$	12.3270 t ≥ 13.2609 t	1.08

$V_{d,X}$: Cortante basal dinámico en dirección X, por hipótesis sísmica
$V_{s,X}$: Cortante basal estático en dirección X, por hipótesis sísmica
$V_{d,Y}$: Cortante basal dinámico en dirección Y, por hipótesis sísmica
$V_{s,Y}$: Cortante basal estático en dirección Y, por hipótesis sísmica

5 EVALUACION DE CARGAS

Para el cálculo de las estructuras y su fundación, se seleccionaron las cargas que aplican de acuerdo a lo indicado en el titulo B del reglamento Colombiano de construcción Sismo resistente NSR – 2010.

5.1 Cargas muertas

Peso propio de los elementos estructurales, los tiene en cuenta el programa.

Para la cubierta liviana se manejó una carga de 50 Kg/m

5.2 Cargas vivas

Para la cubierta se tuvo en cuenta una carga viva de 50 Kg/m^2 (Tabla B.3.4.3-1).

5.3 Casos de carga usadas en el cálculo

Para las distintas situaciones de proyecto, las combinaciones de acciones se definirán de acuerdo con los siguientes criterios:

- Situaciones persistentes o transitorias

- Situaciones sísmicas

- Donde:

G_k Acción permanente
P_k Acción de pretensado
Q_k Acción variable
A_E Acción sísmica
γ_G Coeficiente parcial de seguridad de las acciones permanentes
γ_P Coeficiente parcial de seguridad de la acción de pretensado
$\gamma_{Q,1}$ Coeficiente parcial de seguridad de la acción variable principal
$\gamma_{Q,i}$ Coeficiente parcial de seguridad de las acciones variables de acompañamiento
γ_{AE} Coeficiente parcial de seguridad de la acción sísmica

Para cada situación de proyecto y estado límite los coeficientes a utilizar serán:

E.L.U. de rotura. Hormigón en cimentaciones: NSR-10

(C.9-1)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.400	1.400
Sobrecarga (Q)		

(C.9-2 Lr)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)	0.000	0.500

(C.9-2 S)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)		

(C.9-3 Lr, L)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)	0.000	1.600

(C.9-3 S, L)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)		

(C.9-3 Lr, W)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200

(C.9-3 Lr, W)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Sobrecarga (Q)	0.000	1.600

(C.9-3 S, W)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G) Sobrecarga (Q)	1.200	1.200

(C.9-4 Lr)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G) Sobrecarga (Q)	1.200 0.000	1.200 0.500

(C.9-4 S)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G) Sobrecarga (Q)	1.200	1.200

(C.9-5)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G) Sobrecarga (Q) Sismo (E)	1.200 -1.000	1.200 1.000
Notas: *Las solicitaciones obtenidas de los resultados del análisis en cada una de las direcciones ortogonales se combinarán con el 30 % de los de la otra.*		

(C.9-6)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	0.900	0.900
Sobrecarga (Q)		

(C.9-7)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	0.900	0.900
Sobrecarga (Q)		
Sismo (E)	-1.000	1.000

Notas:

Las solicitaciones obtenidas de los resultados del análisis en cada una de las direcciones ortogonales se combinarán con el 30 % de los de la otra.

E.L.U. de rotura. Acero conformado: AISI S100-2016 (LRFD)

2.3.2 - [1] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.400	1.400
Sobrecarga (Q)		

2.3.2 - [2 Lr] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)	0.000	0.500

2.3.2 - [2 S] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)		

2.3.2 - [3 Lr, L] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)	0.000	1.600

2.3.2 - [3 S, L] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)		

2.3.2 - [3 Lr, W] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)	0.000	1.600

2.3.2 - [3 S, W] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)		

2.3.2 - [4 Lr] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)	0.000	0.500

2.3.2 - [4 S] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200

2.3.2 - [4 S] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Sobrecarga (Q)		

2.3.2 - [5] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)		
Sismo (E)	-1.000	1.000
Notas: *Las solicitaciones obtenidas de los resultados del análisis en cada una de las direcciones ortogonales se combinarán con el 30 % de los de la otra.*		

2.3.2 - [6] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	0.900	0.900
Sobrecarga (Q)		

2.3.2 - [7] (ASCE/SEI 7-10)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	0.900	0.900
Sobrecarga (Q)		
Sismo (E)	-1.000	1.000
Notas: *Las solicitaciones obtenidas de los resultados del análisis en cada una de las direcciones ortogonales se combinarán con el 30 % de los de la otra.*		

Tensiones sobre el terreno

B.2.3-1, B.2.3-2		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.000	1.000
Sobrecarga (Q)		

B.2.3-3 (Lr)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.000	1.000
Sobrecarga (Q)	0.000	1.000

B.2.3-3 (S)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.000	1.000
Sobrecarga (Q)		

B.2.3-4 (Lr)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.000	1.000
Sobrecarga (Q)	0.000	0.750

B.2.3-4 (S)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.000	1.000
Sobrecarga (Q)		

B.2.3-5, B.2.3-9		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	0.600	1.000
Sobrecarga (Q)		

B.2.3-6, B.2.3-10		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	0.600	1.000

B.2.3-6, B.2.3-10		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Sobrecarga (Q)		
Sismo (E)	-0.700	0.700

B.2.3-7 (Lr)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.000	1.000
Sobrecarga (Q)	0.000	0.750

B.2.3-7 (S)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.000	1.000
Sobrecarga (Q)		

B.2.3-8 (Lr)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.000	1.000
Sobrecarga (Q)	0.000	0.750
Sismo (E)	-0.525	0.525

B.2.3-8 (S)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.000	1.000
Sobrecarga (Q)		

Desplazamientos

(C.9-1)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.400	1.400
Sobrecarga (Q)		

(C.9-2 Lr)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)	0.000	0.500

(C.9-2 S)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)		

(C.9-3 Lr, L)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)	0.000	1.600

(C.9-3 S, L)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)		

(C.9-3 Lr, W)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)	0.000	1.600

(C.9-3 S, W)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)		

(C.9-4 Lr)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)	0.000	0.500

(C.9-4 S)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)		

(C.9-5)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	1.200	1.200
Sobrecarga (Q)		
Sismo (E)	-1.000	1.000

(C.9-6)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	0.900	0.900
Sobrecarga (Q)		

(C.9-7)		
	Coeficientes parciales de seguridad (γ)	
	Favorable	Desfavorable
Carga permanente (G)	0.900	0.900
Sobrecarga (Q)		
Sismo (E)	-1.000	1.000

5.4 Combinaciones usadas en el cálculo

- **Nombres de las hipótesis**

PP	Peso propio
CM 1	CM 1
Q 1	Q 1
SX	Sismo X
SY	Sismo Y

- **E.L.U. de rotura. Hormigón en cimentaciones**
- **E.L.U. de rotura. Acero conformado**

Comb.	PP	CM 1	Q 1	SX	SY
1	1.400	1.400			
2	1.200	1.200			
3	1.200	1.200	1.600		
4	1.200	1.200		-0.300	-1.000
5	1.200	1.200		0.300	-1.000
6	1.200	1.200		-1.000	-0.300
7	1.200	1.200		-1.000	0.300
8	1.200	1.200		0.300	1.000
9	1.200	1.200		-0.300	1.000
10	1.200	1.200		1.000	0.300
11	1.200	1.200		1.000	-0.300
12	0.900	0.900			

Comb.	PP	CM 1	Q 1	SX	SY
13	0.900	0.900		-0.300	-1.000
14	0.900	0.900		0.300	-1.000
15	0.900	0.900		-1.000	-0.300
16	0.900	0.900		-1.000	0.300
17	0.900	0.900		0.300	1.000
18	0.900	0.900		-0.300	1.000
19	0.900	0.900		1.000	0.300
20	0.900	0.900		1.000	-0.300

- **Tensiones sobre el terreno**

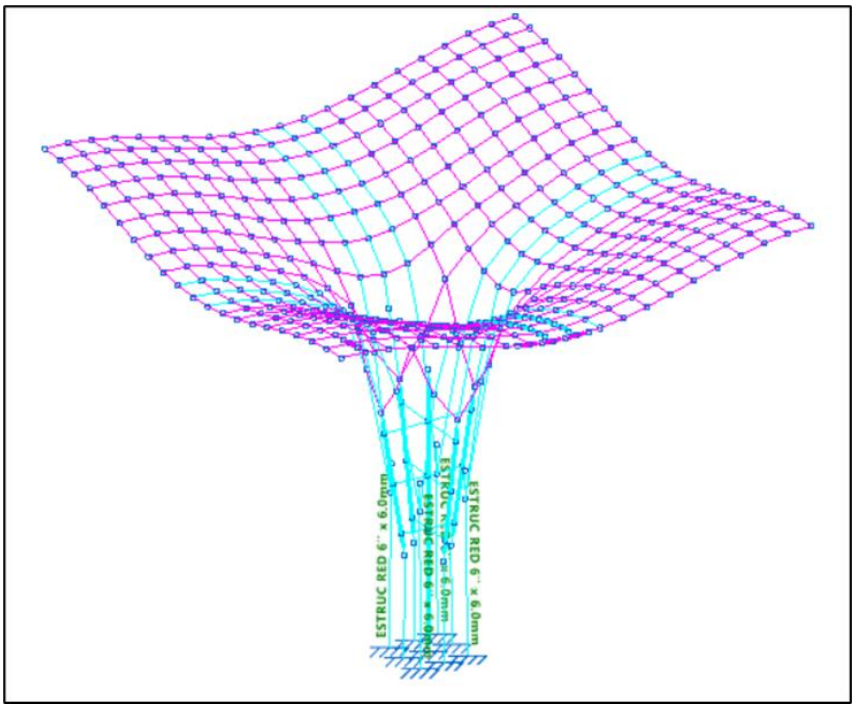
Comb.	PP	CM 1	Q 1	SX	SY
1	1.000	1.000			
2	1.000	1.000	1.000		
3	0.600	0.600			
4	1.000	0.600			
5	0.600	1.000			
6	0.600	0.600		-0.700	
7	1.000	0.600		-0.700	
8	0.600	1.000		-0.700	
9	1.000	1.000		-0.700	
10	0.600	0.600		0.700	
11	1.000	0.600		0.700	
12	0.600	1.000		0.700	
13	1.000	1.000		0.700	
14	0.600	0.600			-0.700
15	1.000	0.600			-0.700
16	0.600	1.000			-0.700
17	1.000	1.000			-0.700
18	0.600	0.600			0.700
19	1.000	0.600			0.700
20	0.600	1.000			0.700
21	1.000	1.000			0.700
22	1.000	1.000	0.750	-0.525	
23	1.000	1.000	0.750	0.525	
24	1.000	1.000	0.750		-0.525
25	1.000	1.000	0.750		0.525

- **Desplazamientos**

Comb.	PP	CM 1	Q 1	SX	SY
1	1.400	1.400			
2	1.200	1.200			
3	1.200	1.200	1.600		
4	1.200	1.200		-1.000	
5	1.200	1.200		1.000	
6	1.200	1.200			-1.000
7	1.200	1.200			1.000
8	0.900	0.900			
9	0.900	0.900		-1.000	
10	0.900	0.900		1.000	
11	0.900	0.900			-1.000
12	0.900	0.900			1.000

6 DATOS GEOMETRICOS DE LA ESTRUCTURA

6.1 Estructura



6.2 Geometría

Materiales utilizados

Materiales utilizados							
Material		E (kp/cm²)	ν	G (kp/cm²)	f_y (kp/cm²)	$\alpha_{\cdot t}$ (m/m°C)	γ (t/m³)
Tipo	Designación						
Acero conformado	ASTM 500 GC (Redondos)	2069317.0	0.300	795891.2	3241.0	0.000012	7.850

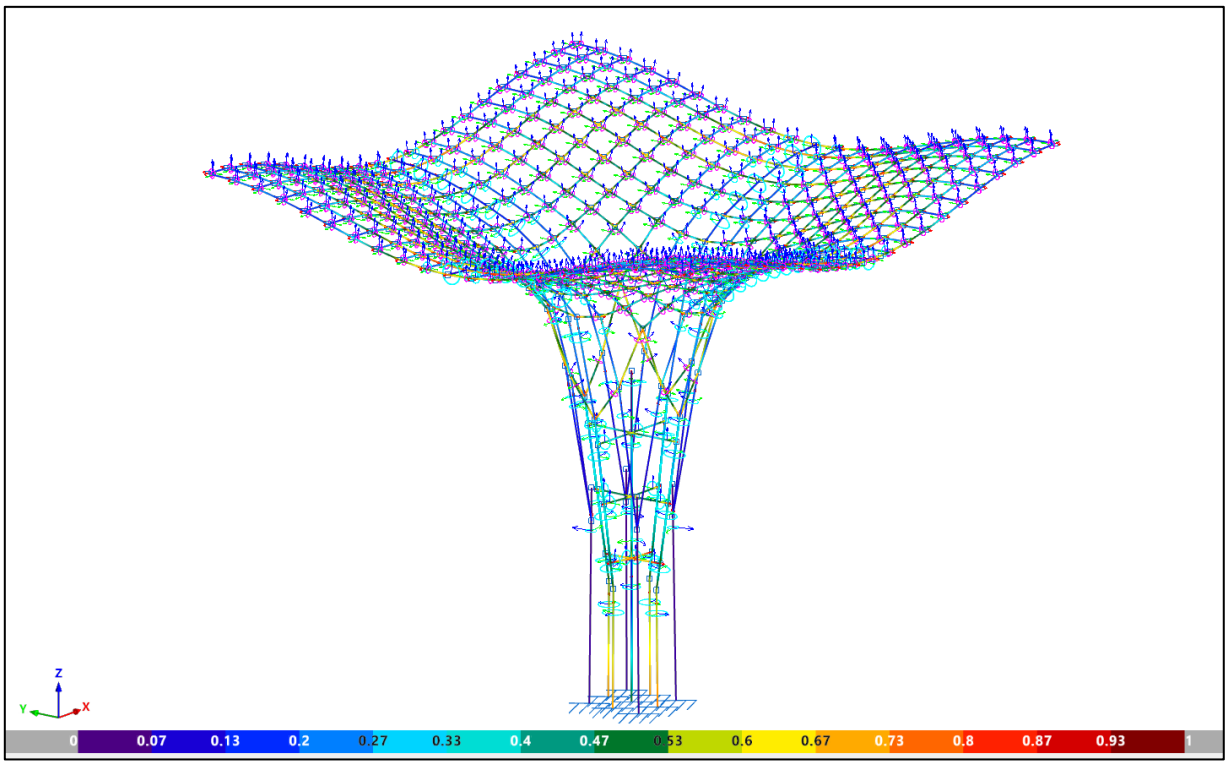
Notación:
E: Módulo de elasticidad
ν: Módulo de poisson
G: Módulo de elasticidad transversal
f_y: Límite elástico
$\alpha_{\cdot t}$: Coeficiente de dilatación
γ: Peso específico

Resumen de cómputo

Resumen de cómputo												
Material		Serie	Perfil	Longitud			Volumen			Peso		
Tipo	Designación			Perfil (m)	Serie (m)	Material (m)	Perfil (m³)	Serie (m³)	Material (m³)	Perfil (kg)	Serie (kg)	Material (kg)
			ESTRUC RED 4" x 6.0mm	77.475			0.158			1241.54		
			ESTRUC RED 4" x 4.0mm	258.550			0.358			2813.19		
			ESTRUC RED 6" x 6.0mm	68.674			0.210			1650.25		
			ESTRUC RED 12" x 10.3mm	38.614			0.392			3075.93		
			ESTRUC RED 10" x 9.3mm	5.000			0.039			302.52		
			ESTRUC RED 8" x 8.2mm	7.850			0.043			334.80		
		Perfil estructural redondo			456.163			1.200			9418.22	
Acero conformado	ASTM 500 GC (Redondos)					456.163			1.200			9418.22

7 COMPROBACIONES DE DESPLAZAMIENTOS

Nota: se anexa cuadro de desplazamientos de los nudos de la estructura, pero no se hace comprobaciones de derivas pues según el literal A.6.4.1.5 de NSR 10, dice: “No hay límites de derivas en edificaciones de un piso”.



Vista gráfica del desplazamiento máximo de la estructura

7.1 Desplazamientos de nudos

Referencias:

Dx, Dy, Dz: Desplazamientos de los nudos en ejes globales.
Gx, Gy, Gz: Giros de los nudos en ejes globales.

2.2.1.1.1. Envolventes

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
N1	Desplazamientos	Valor mínimo de la envolvente	-56.167	-59.987	-56.247	-10.232	-10.728	-1.347
		Valor máximo de la envolvente	59.646	54.565	35.315	18.896	26.218	0.347
N2	Desplazamientos	Valor mínimo de la envolvente	-55.280	-57.452	-50.327	-10.307	-9.986	-1.676
		Valor máximo de la envolvente	57.101	53.397	35.664	17.348	22.721	0.403
N3	Desplazamientos	Valor mínimo de la envolvente	-55.603	-58.910	-47.989	-10.217	-10.427	-1.599
		Valor máximo de la envolvente	58.908	53.981	30.850	18.528	24.022	0.290
N4	Desplazamientos	Valor mínimo de la envolvente	-57.140	-62.546	-63.140	-10.181	-11.248	-0.959
		Valor máximo de la envolvente	62.605	55.737	34.970	20.366	28.360	0.340
N5	Desplazamientos	Valor mínimo de la envolvente	-57.226	-62.787	-72.073	-10.212	-11.636	-0.886
		Valor máximo de la envolvente	62.639	55.858	39.438	20.301	30.081	0.398
N6	Desplazamientos	Valor mínimo de la envolvente	-56.244	-60.184	-64.552	-10.251	-10.986	-1.273
		Valor máximo de la envolvente	59.522	54.678	39.791	18.973	27.904	0.402
N7	Desplazamientos	Valor mínimo de la envolvente	-55.388	-57.701	-57.977	-10.322	-10.214	-1.701
		Valor máximo de la envolvente	56.972	53.546	40.168	17.573	24.465	0.508
N8	Desplazamientos	Valor mínimo de la envolvente	-54.725	-55.677	-52.754	-10.406	-9.595	-1.913

Envolvente de los desplazamientos en nudos									
Referencia	Combinación		Desplazamientos en ejes globales						
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	55.247	52.678	40.485	16.077	20.095	0.667
N9	Desplazamientos	Valor mínimo de la envolvente	-54.285	-54.345	-49.303	-10.515	-9.430	-1.380
		Valor máximo de la envolvente	54.378	52.127	40.657	14.679	14.894	0.628
N10	Desplazamientos	Valor mínimo de la envolvente	-54.206	-54.089	-47.980	-10.595	-9.485	-0.661
		Valor máximo de la envolvente	54.283	52.113	40.695	13.929	9.579	0.615
N11	Desplazamientos	Valor mínimo de la envolvente	-54.411	-54.549	-49.165	-10.508	-14.116	-0.643
		Valor máximo de la envolvente	54.433	52.306	40.604	14.680	8.736	1.391
N12	Desplazamientos	Valor mínimo de la envolvente	-55.285	-55.903	-53.496	-10.547	-20.041	-0.646
		Valor máximo de la envolvente	54.859	52.868	41.305	16.160	9.461	1.952
N13	Desplazamientos	Valor mínimo de la envolvente	-56.879	-57.912	-59.982	-10.663	-23.172	-0.691
		Valor máximo de la envolvente	55.468	53.750	42.213	17.847	8.813	1.949
N14	Desplazamientos	Valor mínimo de la envolvente	-59.446	-60.498	-67.939	-10.830	-26.267	-0.493
		Valor máximo de la envolvente	56.325	54.971	43.176	19.512	9.243	1.411
N15	Desplazamientos	Valor mínimo de la envolvente	-62.581	-63.183	-76.905	-11.094	-28.231	-0.443
		Valor máximo de la envolvente	57.311	56.224	44.229	21.169	9.686	0.964
N16	Desplazamientos	Valor mínimo de la envolvente	-65.874	-65.856	-86.398	-10.862	-29.035	-0.387
		Valor máximo de la envolvente	58.341	57.488	45.389	22.250	10.062	0.582
N17	Desplazamientos	Valor mínimo de la envolvente	-68.875	-68.221	-95.970	-10.946	-28.899	-0.320
		Valor máximo de la envolvente	59.309	58.547	46.646	23.597	10.355	0.336
N18	Desplazamientos	Valor mínimo de la envolvente	-71.219	-70.206	-105.312	-11.069	-28.184	-0.329
		Valor máximo de la envolvente	60.106	59.408	47.989	24.944	10.560	0.342
N19	Desplazamientos	Valor mínimo de la envolvente	-72.742	-71.632	-114.255	-11.156	-27.200	-0.243
		Valor máximo de la envolvente	60.695	59.989	49.386	26.159	10.626	0.327
N20	Desplazamientos	Valor mínimo de la envolvente	-73.254	-72.220	-122.810	-11.203	-26.579	-0.209
		Valor máximo de la envolvente	60.901	60.172	50.788	27.051	10.620	0.229
N21	Desplazamientos	Valor mínimo de la envolvente	-72.710	-71.733	-111.030	-11.238	-25.729	-0.268
		Valor máximo de la envolvente	60.750	59.988	46.125	27.706	10.614	0.212
N22	Desplazamientos	Valor mínimo de la envolvente	-71.991	-70.939	-102.948	-11.165	-26.182	-0.262
		Valor máximo de la envolvente	60.457	59.720	44.748	26.623	10.609	0.272
N23	Desplazamientos	Valor mínimo de la envolvente	-70.946	-69.773	-91.280	-11.207	-24.949	-0.274
		Valor máximo de la envolvente	60.086	59.291	40.092	27.582	10.575	0.299
N24	Desplazamientos	Valor mínimo de la envolvente	-70.810	-69.783	-94.525	-11.062	-27.003	-0.312
		Valor máximo de la envolvente	60.013	59.238	43.375	25.323	10.520	0.298
N25	Desplazamientos	Valor mínimo de la envolvente	-69.634	-68.529	-83.443	-11.069	-25.672	-0.299
		Valor máximo de la envolvente	59.549	58.755	38.765	26.148	10.481	0.298
N26	Desplazamientos	Valor mínimo de la envolvente	-68.544	-67.853	-85.751	-10.944	-27.667	-0.320
		Valor máximo de la envolvente	59.198	58.390	42.065	23.921	10.308	0.385
N27	Desplazamientos	Valor mínimo de la envolvente	-67.599	-66.767	-75.276	-10.935	-26.205	-0.306
		Valor máximo de la envolvente	58.790	57.943	37.494	24.579	10.272	0.458
N28	Desplazamientos	Valor mínimo de la envolvente	-65.688	-65.537	-76.768	-10.845	-27.727	-0.362
		Valor máximo de la envolvente	58.241	57.334	40.838	22.468	10.010	0.654
N29	Desplazamientos	Valor mínimo de la envolvente	-65.016	-64.636	-66.955	-10.830	-27.103	-0.336
		Valor máximo de la envolvente	57.868	56.929	36.301	22.863	10.992	0.807
N30	Desplazamientos	Valor mínimo de la envolvente	-62.569	-62.942	-67.900	-11.031	-26.816	-0.407
		Valor máximo de la envolvente	57.223	56.104	39.703	21.214	9.627	1.050
N31	Desplazamientos	Valor mínimo de la envolvente	-61.994	-62.064	-58.814	-10.987	-25.029	-0.371
		Valor máximo de la envolvente	56.807	55.675	35.188	21.223	9.628	1.278
N32	Desplazamientos	Valor mínimo de la envolvente	-59.601	-60.298	-59.597	-10.804	-24.732	-0.443
		Valor máximo de la envolvente	56.247	54.857	38.663	19.447	9.168	1.478
N33	Desplazamientos	Valor mínimo de la envolvente	-57.049	-57.665	-52.340	-10.645	-21.496	-0.462
		Valor máximo de la envolvente	55.359	53.603	37.702	17.647	8.684	1.779
N34	Desplazamientos	Valor mínimo de la envolvente	-56.205	-56.463	-44.853	-10.597	-19.524	-0.409

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	54.667	52.879	33.203	17.011	8.619	1.917
N35	Desplazamientos	Valor mínimo de la envolvente	-55.249	-55.439	-46.582	-10.515	-17.447	-0.520
		Valor máximo de la envolvente	54.648	52.564	36.795	15.856	8.363	1.790
N36	Desplazamientos	Valor mínimo de la envolvente	-54.402	-54.200	-39.878	-10.452	-15.636	-0.332
		Valor máximo de la envolvente	53.884	51.729	32.298	15.141	8.207	1.644
N37	Desplazamientos	Valor mínimo de la envolvente	-53.327	-52.647	-36.554	-10.492	-11.977	-0.195
		Valor máximo de la envolvente	53.308	50.911	31.395	13.910	8.420	0.946
N38	Desplazamientos	Valor mínimo de la envolvente	-53.841	-53.377	-41.897	-10.594	-9.372	-0.533
		Valor máximo de la envolvente	53.936	51.572	36.068	13.819	9.466	0.498
N39	Desplazamientos	Valor mínimo de la envolvente	-53.096	-52.275	-35.856	-10.582	-9.233	-0.384
		Valor máximo de la envolvente	53.193	50.721	31.404	13.535	9.321	0.368
N40	Desplazamientos	Valor mínimo de la envolvente	-54.109	-53.943	-42.904	-10.516	-8.613	-1.191
		Valor máximo de la envolvente	54.360	51.838	36.043	14.443	13.198	0.457
N41	Desplazamientos	Valor mínimo de la envolvente	-53.324	-52.743	-36.684	-10.508	-8.441	-0.941
		Valor máximo de la envolvente	53.559	50.953	31.441	13.958	12.070	0.177
N42	Desplazamientos	Valor mínimo de la envolvente	-54.573	-55.323	-45.778	-10.402	-9.333	-1.779
		Valor máximo de la envolvente	55.309	52.443	35.931	15.780	18.298	0.539
N43	Desplazamientos	Valor mínimo de la envolvente	-54.587	-56.246	-42.842	-10.296	-9.756	-1.789
		Valor máximo de la envolvente	56.262	52.670	31.166	16.701	20.594	0.288
N44	Desplazamientos	Valor mínimo de la envolvente	-53.313	-54.242	-35.687	-10.644	-9.553	-1.727
		Valor máximo de la envolvente	54.646	51.408	26.689	16.212	18.308	0.290
N45	Desplazamientos	Valor mínimo de la envolvente	-56.725	-61.668	-54.135	-10.147	-10.812	-1.178
		Valor máximo de la envolvente	62.033	55.307	30.523	20.369	26.150	0.277
N46	Desplazamientos	Valor mínimo de la envolvente	-58.152	-65.062	-70.578	-10.162	-11.142	-0.592
		Valor máximo de la envolvente	65.712	56.895	34.702	21.769	28.782	0.317
N47	Desplazamientos	Valor mínimo de la envolvente	-58.250	-65.380	-80.106	-10.196	-11.237	-0.535
		Valor máximo de la envolvente	65.911	57.049	39.173	21.574	30.114	0.361
N48	Desplazamientos	Valor mínimo de la envolvente	-59.211	-67.700	-88.242	-10.191	-11.576	-0.353
		Valor máximo de la envolvente	68.894	58.070	39.025	22.814	30.031	0.352
N49	Desplazamientos	Valor mínimo de la envolvente	-59.103	-67.321	-79.240	-10.170	-11.483	-0.372
		Valor máximo de la envolvente	68.554	57.901	35.632	23.116	28.763	0.319
N50	Desplazamientos	Valor mínimo de la envolvente	-60.000	-69.693	-98.748	-10.233	-11.789	-0.328
		Valor máximo de la envolvente	71.222	58.943	41.562	24.066	29.326	0.326
N51	Desplazamientos	Valor mínimo de la envolvente	-59.884	-69.255	-91.467	-10.211	-11.698	-0.293
		Valor máximo de la envolvente	70.780	58.759	40.420	24.431	28.104	0.312
N52	Desplazamientos	Valor mínimo de la envolvente	-60.521	-71.119	-111.137	-10.261	-11.834	-0.306
		Valor máximo de la envolvente	72.672	59.531	46.433	25.207	28.313	0.237
N53	Desplazamientos	Valor mínimo de la envolvente	-60.397	-70.625	-103.324	-10.256	-11.762	-0.263
		Valor máximo de la envolvente	72.169	59.324	45.263	25.661	27.243	0.261
N54	Desplazamientos	Valor mínimo de la envolvente	-60.704	-71.666	-123.127	-10.271	-11.810	-0.250
		Valor máximo de la envolvente	73.159	59.680	51.301	26.061	27.673	0.244
N55	Desplazamientos	Valor mínimo de la envolvente	-60.576	-71.159	-114.860	-10.288	-11.754	-0.227
		Valor máximo de la envolvente	72.636	59.476	50.112	26.692	26.774	0.291
N56	Desplazamientos	Valor mínimo de la envolvente	-60.129	-69.649	-106.232	-10.330	-11.640	-0.279
		Valor máximo de la envolvente	71.345	58.891	48.956	27.787	25.547	0.283
N57	Desplazamientos	Valor mínimo de la envolvente	-59.953	-69.183	-95.228	-10.255	-11.647	-0.275
		Valor máximo de la envolvente	70.915	58.754	44.136	26.583	25.941	0.258
N58	Desplazamientos	Valor mínimo de la envolvente	-59.393	-67.208	-97.018	-10.360	-11.526	-0.230
		Valor máximo de la envolvente	69.479	57.982	47.665	28.728	24.225	0.235
N59	Desplazamientos	Valor mínimo de la envolvente	-59.206	-66.867	-86.583	-10.234	-11.506	-0.214
		Valor máximo de la envolvente	69.081	57.876	42.884	27.433	24.528	0.271
N60	Desplazamientos	Valor mínimo de la envolvente	-58.252	-64.180	-87.498	-10.255	-11.742	-0.345

Envolvente de los desplazamientos en nudos									
Referencia	Combinación		Desplazamientos en ejes globales						
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	67.028	56.965	46.381	29.037	23.205	0.515
N61	Desplazamientos	Valor mínimo de la envolvente	-58.107	-64.000	-77.674	-10.561	-11.731	-0.264
		Valor máximo de la envolvente	66.717	56.893	41.661	28.118	23.420	0.538
N62	Desplazamientos	Valor mínimo de la envolvente	-57.004	-60.899	-78.005	-9.936	-11.499	-0.341
		Valor máximo de la envolvente	64.368	55.918	45.132	28.270	21.693	0.816
N63	Desplazamientos	Valor mínimo de la envolvente	-56.883	-60.892	-68.831	-9.752	-11.379	-0.304
		Valor máximo de la envolvente	64.125	55.871	40.479	26.775	21.660	0.914
N64	Desplazamientos	Valor mínimo de la envolvente	-55.768	-57.780	-69.038	-9.473	-11.056	-0.531
		Valor máximo de la envolvente	61.700	54.918	43.979	26.260	19.914	1.376
N65	Desplazamientos	Valor mínimo de la envolvente	-55.653	-57.937	-60.552	-9.276	-11.021	-0.452
		Valor máximo de la envolvente	61.498	54.893	39.387	24.665	19.805	1.434
N66	Desplazamientos	Valor mínimo de la envolvente	-54.569	-55.237	-61.109	-8.978	-10.764	-0.799
		Valor máximo de la envolvente	59.143	54.052	42.933	23.072	18.188	1.951
N67	Desplazamientos	Valor mínimo de la envolvente	-54.419	-55.402	-53.333	-8.752	-10.749	-0.674
		Valor máximo de la envolvente	58.889	54.007	38.383	21.365	17.939	1.917
N68	Desplazamientos	Valor mínimo de la envolvente	-53.629	-53.519	-54.683	-9.427	-10.587	-0.825
		Valor máximo de la envolvente	57.047	53.379	41.964	19.736	16.471	2.015
N69	Desplazamientos	Valor mínimo de la envolvente	-53.393	-53.619	-47.638	-9.156	-10.558	-0.681
		Valor máximo de la envolvente	56.687	53.300	37.438	17.961	16.118	1.875
N70	Desplazamientos	Valor mínimo de la envolvente	-53.001	-52.697	-50.405	-9.275	-10.521	-0.787
		Valor máximo de la envolvente	55.651	52.975	41.215	14.518	14.917	1.443
N71	Desplazamientos	Valor mínimo de la envolvente	-52.712	-52.699	-43.902	-8.522	-10.527	-0.586
		Valor máximo de la envolvente	55.242	52.860	36.601	12.876	14.664	1.256
N72	Desplazamientos	Valor mínimo de la envolvente	-52.818	-52.510	-49.200	-9.454	-10.616	-0.740
		Valor máximo de la envolvente	55.207	52.809	41.281	9.444	14.164	0.760
N73	Desplazamientos	Valor mínimo de la envolvente	-52.515	-52.436	-42.988	-9.343	-10.620	-0.592
		Valor máximo de la envolvente	54.802	52.726	36.625	9.332	14.058	0.611
N74	Desplazamientos	Valor mínimo de la envolvente	-52.934	-52.675	-50.399	-14.536	-10.535	-1.406
		Valor máximo de la envolvente	55.566	52.995	41.203	9.294	14.934	0.791
N75	Desplazamientos	Valor mínimo de la envolvente	-52.645	-52.587	-43.893	-13.482	-10.540	-1.227
		Valor máximo de la envolvente	55.158	53.005	36.583	9.123	14.679	0.596
N76	Desplazamientos	Valor mínimo de la envolvente	-53.483	-53.117	-53.731	-19.728	-10.446	-1.992
		Valor máximo de la envolvente	56.865	53.852	41.006	9.437	16.332	0.847
N77	Desplazamientos	Valor mínimo de la envolvente	-53.246	-53.050	-46.647	-17.937	-10.438	-1.851
		Valor máximo de la envolvente	56.505	53.946	36.436	9.139	16.000	0.701
N78	Desplazamientos	Valor mínimo de la envolvente	-54.343	-53.787	-58.879	-24.043	-10.407	-1.770
		Valor máximo de la envolvente	58.859	55.563	40.703	9.976	17.826	0.662
N79	Desplazamientos	Valor mínimo de la envolvente	-54.193	-53.757	-51.125	-22.301	-10.383	-1.742
		Valor máximo de la envolvente	58.607	55.727	36.163	9.701	17.568	0.542
N80	Desplazamientos	Valor mínimo de la envolvente	-55.474	-54.653	-65.430	-27.371	-10.407	-1.264
		Valor máximo de la envolvente	61.327	58.103	40.378	10.619	19.249	0.456
N81	Desplazamientos	Valor mínimo de la envolvente	-55.359	-54.647	-57.011	-25.716	-10.380	-1.336
		Valor máximo de la envolvente	61.127	58.264	35.836	10.347	19.147	0.391
N82	Desplazamientos	Valor mínimo de la envolvente	-56.658	-55.653	-72.967	-29.439	-10.454	-0.801
		Valor máximo de la envolvente	63.925	61.215	40.112	11.146	20.619	0.356
N83	Desplazamientos	Valor mínimo de la envolvente	-56.534	-55.627	-63.899	-27.811	-10.422	-0.891
		Valor máximo de la envolvente	63.681	61.218	35.539	10.812	20.674	0.309
N84	Desplazamientos	Valor mínimo de la envolvente	-57.854	-56.697	-81.044	-29.963	-10.537	-0.444
		Valor máximo de la envolvente	66.518	64.488	39.954	11.223	21.956	0.297
N85	Desplazamientos	Valor mínimo de la envolvente	-57.700	-56.650	-71.353	-28.581	-10.507	-0.515
		Valor máximo de la envolvente	66.199	64.324	35.335	11.050	22.150	0.264
N86	Desplazamientos	Valor mínimo de la envolvente	-58.874	-57.677	-89.228	-29.864	-10.627	-0.294

Envolvente de los desplazamientos en nudos									
Referencia	Combinación		Desplazamientos en ejes globales						
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	68.832	67.474	39.913	11.534	23.264	0.309
N87	Desplazamientos	Valor mínimo de la envolvente	-58.709	-57.614	-79.079	-28.545	-10.614	-0.305
		Valor máximo de la envolvente	68.458	67.169	35.376	11.369	23.571	0.266
N88	Desplazamientos	Valor mínimo de la envolvente	-59.728	-58.480	-98.721	-29.101	-10.723	-0.268
		Valor máximo de la envolvente	70.802	69.806	41.489	11.678	24.551	0.276
N89	Desplazamientos	Valor mínimo de la envolvente	-59.525	-58.406	-91.257	-27.842	-10.726	-0.241
		Valor máximo de la envolvente	70.347	69.397	40.160	11.536	24.939	0.269
N90	Desplazamientos	Valor mínimo de la envolvente	-60.236	-59.007	-111.070	-28.077	-10.792	-0.309
		Valor máximo de la envolvente	72.146	71.256	46.368	11.701	25.721	0.250
N91	Desplazamientos	Valor mínimo de la envolvente	-60.031	-58.931	-103.057	-26.978	-10.820	-0.246
		Valor máximo de la envolvente	71.655	70.793	44.989	11.594	26.206	0.254
N92	Desplazamientos	Valor mínimo de la envolvente	-60.389	-59.192	-123.031	-27.462	-10.852	-0.303
		Valor máximo de la envolvente	72.694	71.743	51.252	11.698	26.617	0.312
N93	Desplazamientos	Valor mínimo de la envolvente	-60.171	-59.123	-114.545	-26.540	-10.903	-0.216
		Valor máximo de la envolvente	72.175	71.272	49.832	11.615	27.280	0.290
N94	Desplazamientos	Valor mínimo de la envolvente	-59.456	-67.957	-83.883	-10.174	-11.577	-0.285
		Valor máximo de la envolvente	69.645	58.229	39.279	25.215	26.695	0.289
N95	Desplazamientos	Valor mínimo de la envolvente	-58.701	-66.213	-72.257	-10.117	-11.373	-0.419
		Valor máximo de la envolvente	67.618	57.429	34.528	23.731	27.236	0.269
N96	Desplazamientos	Valor mínimo de la envolvente	-58.730	-65.891	-75.898	-10.115	-11.428	-0.189
		Valor máximo de la envolvente	67.964	57.429	38.124	25.901	25.118	0.349
N97	Desplazamientos	Valor mínimo de la envolvente	-58.017	-64.482	-64.963	-10.046	-11.251	-0.272
		Valor máximo de la envolvente	66.202	56.742	33.418	24.143	25.424	0.280
N98	Desplazamientos	Valor mínimo de la envolvente	-57.697	-63.334	-67.673	-10.072	-11.619	-0.211
		Valor máximo de la envolvente	65.808	56.521	36.964	26.040	23.710	0.686
N99	Desplazamientos	Valor mínimo de la envolvente	-56.907	-61.916	-57.549	-9.898	-11.102	-0.209
		Valor máximo de la envolvente	64.009	55.747	32.309	23.869	23.270	0.582
N100	Desplazamientos	Valor mínimo de la envolvente	-56.448	-60.340	-59.585	-10.680	-11.290	-0.265
		Valor máximo de la envolvente	63.237	55.471	35.843	25.938	21.597	1.173
N101	Desplazamientos	Valor mínimo de la envolvente	-55.473	-58.755	-50.387	-10.338	-11.199	-0.263
		Valor máximo de la envolvente	61.240	54.518	31.237	23.360	21.142	1.123
N102	Desplazamientos	Valor mínimo de la envolvente	-55.061	-57.238	-52.115	-9.158	-10.990	-0.327
		Valor máximo de la envolvente	60.406	54.363	34.802	22.662	19.394	1.640
N103	Desplazamientos	Valor mínimo de la envolvente	-53.916	-55.622	-43.904	-9.119	-10.877	-0.318
		Valor máximo de la envolvente	58.333	53.252	30.238	20.334	18.568	1.601
N104	Desplazamientos	Valor mínimo de la envolvente	-53.686	-54.617	-45.734	-8.602	-10.727	-0.408
		Valor máximo de la envolvente	57.667	53.361	33.837	19.331	17.236	1.909
N105	Desplazamientos	Valor mínimo de la envolvente	-52.411	-53.073	-38.481	-8.526	-10.598	-0.354
		Valor máximo de la envolvente	55.636	52.138	29.307	17.172	16.242	1.799
N106	Desplazamientos	Valor mínimo de la envolvente	-52.547	-52.843	-40.829	-8.188	-10.529	-0.400
		Valor máximo de la envolvente	55.424	52.589	32.913	15.363	15.346	1.692
N107	Desplazamientos	Valor mínimo de la envolvente	-51.179	-51.417	-34.376	-8.028	-10.414	-0.327
		Valor máximo de la envolvente	53.482	51.311	28.408	13.660	14.454	1.525
N108	Desplazamientos	Valor mínimo de la envolvente	-51.824	-51.967	-37.585	-8.364	-10.537	-0.255
		Valor máximo de la envolvente	54.022	52.134	31.986	11.782	14.151	1.007
N109	Desplazamientos	Valor mínimo de la envolvente	-50.440	-50.655	-31.603	-8.205	-10.536	-0.183
		Valor máximo de la envolvente	52.197	50.861	27.465	10.833	13.604	0.916
N110	Desplazamientos	Valor mínimo de la envolvente	-51.640	-51.740	-36.861	-9.195	-10.622	-0.352
		Valor máximo de la envolvente	53.651	52.021	31.963	9.183	13.785	0.371
N111	Desplazamientos	Valor mínimo de la envolvente	-50.279	-50.488	-30.882	-9.029	-10.605	-0.404
		Valor máximo de la envolvente	51.906	50.759	27.299	9.014	13.391	0.422
N112	Desplazamientos	Valor mínimo de la envolvente	-51.756	-51.868	-37.574	-11.842	-10.546	-0.977

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	53.939	52.263	31.965	8.413	14.162	0.264
N113	Desplazamientos	Valor mínimo de la envolvente	-50.372	-50.598	-31.494	-10.893	-10.508	-0.827
		Valor máximo de la envolvente	52.114	50.934	27.344	8.248	13.577	0.112
N114	Desplazamientos	Valor mínimo de la envolvente	-52.400	-52.347	-39.800	-16.051	-10.438	-1.671
		Valor máximo de la envolvente	55.242	53.162	31.867	8.871	15.254	0.421
N115	Desplazamientos	Valor mínimo de la envolvente	-51.032	-51.077	-33.298	-14.238	-10.629	-1.437
		Valor máximo de la envolvente	53.301	51.726	27.308	8.591	14.667	0.279
N116	Desplazamientos	Valor mínimo de la envolvente	-53.459	-53.120	-43.553	-20.169	-10.372	-1.763
		Valor máximo de la envolvente	57.386	54.935	31.633	9.439	16.874	0.302
N117	Desplazamientos	Valor mínimo de la envolvente	-52.185	-51.904	-36.322	-17.848	-10.306	-1.675
		Valor máximo de la envolvente	55.358	53.383	27.116	9.184	15.941	0.239
N118	Desplazamientos	Valor mínimo de la envolvente	-54.768	-54.127	-48.653	-23.549	-10.356	-1.520
		Valor máximo de la envolvente	60.037	57.562	31.311	10.047	18.743	0.226
N119	Desplazamientos	Valor mínimo de la envolvente	-53.622	-53.024	-40.521	-20.979	-10.280	-1.487
		Valor máximo de la envolvente	57.967	55.939	26.809	9.748	17.952	0.208
N120	Desplazamientos	Valor mínimo de la envolvente	-56.096	-55.241	-54.770	-25.685	-10.372	-1.077
		Valor máximo de la envolvente	62.792	60.668	30.994	10.434	20.647	0.196
N121	Desplazamientos	Valor mínimo de la envolvente	-55.119	-54.295	-45.693	-23.341	-10.279	-0.994
		Valor máximo de la envolvente	60.796	59.081	26.484	10.308	20.189	0.152
N122	Desplazamientos	Valor mínimo de la envolvente	-57.284	-56.293	-61.495	-26.839	-10.433	-0.638
		Valor máximo de la envolvente	65.287	63.665	30.747	10.880	22.477	0.184
N123	Desplazamientos	Valor mínimo de la envolvente	-56.488	-55.527	-53.697	-24.717	-10.303	-0.517
		Valor máximo de la envolvente	63.487	62.246	28.386	10.737	22.422	0.161
N124	Desplazamientos	Valor mínimo de la envolvente	-58.243	-57.206	-71.952	-26.964	-10.533	-0.355
		Valor máximo de la envolvente	67.354	66.225	34.133	11.184	24.158	0.211
N125	Desplazamientos	Valor mínimo de la envolvente	-57.533	-56.525	-64.564	-25.119	-10.357	-0.258
		Valor máximo de la envolvente	65.600	64.817	32.934	11.011	24.463	0.265
N126	Desplazamientos	Valor mínimo de la envolvente	-58.989	-57.956	-83.499	-26.396	-10.661	-0.239
		Valor máximo de la envolvente	69.043	68.241	38.843	11.363	25.696	0.247
N127	Desplazamientos	Valor mínimo de la envolvente	-58.218	-57.216	-75.399	-24.798	-10.460	-0.201
		Valor máximo de la envolvente	67.006	66.552	37.570	11.175	26.237	0.358
N128	Desplazamientos	Valor mínimo de la envolvente	-59.440	-58.449	-94.730	-25.653	-10.788	-0.267
		Valor máximo de la envolvente	70.193	69.503	43.622	11.443	27.093	0.253
N129	Desplazamientos	Valor mínimo de la envolvente	-58.612	-57.669	-85.984	-24.211	-10.597	-0.251
		Valor máximo de la envolvente	67.929	67.643	42.260	11.258	27.770	0.304
N130	Desplazamientos	Valor mínimo de la envolvente	-59.556	-58.623	-105.654	-25.300	-10.914	-0.291
		Valor máximo de la envolvente	70.637	69.930	48.400	11.477	28.336	0.298
N131	Desplazamientos	Valor mínimo de la envolvente	-58.693	-57.826	-96.321	-23.921	-10.747	-0.283
		Valor máximo de la envolvente	68.246	68.011	46.973	11.291	29.073	0.282
N132	Desplazamientos	Valor mínimo de la envolvente	-57.783	-64.160	-60.876	-10.111	-11.052	-0.726
		Valor máximo de la envolvente	65.045	56.487	30.256	22.123	27.096	0.259
N133	Desplazamientos	Valor mínimo de la envolvente	-56.998	-62.380	-54.000	-10.046	-10.967	-0.578
		Valor máximo de la envolvente	63.602	55.709	28.803	22.139	25.012	0.217
N134	Desplazamientos	Valor mínimo de la envolvente	-55.743	-59.695	-45.169	-10.082	-10.522	-1.086
		Valor máximo de la envolvente	60.405	54.347	26.103	19.950	23.625	0.236
N135	Desplazamientos	Valor mínimo de la envolvente	-55.700	-59.648	-47.549	-9.899	-10.840	-0.253
		Valor máximo de la envolvente	61.246	54.522	27.731	21.507	22.522	0.259
N136	Desplazamientos	Valor mínimo de la envolvente	-54.269	-56.949	-38.010	-9.913	-10.413	-0.716
		Valor máximo de la envolvente	58.042	52.989	23.286	19.037	21.002	0.221
N137	Desplazamientos	Valor mínimo de la envolvente	-54.091	-56.482	-41.470	-9.603	-10.974	-0.259
		Valor máximo de la envolvente	58.457	53.117	26.704	20.109	20.172	0.760
N138	Desplazamientos	Valor mínimo de la envolvente	-52.510	-53.919	-33.061	-9.624	-10.250	-0.324

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	55.384	51.437	22.302	17.685	18.397	0.325
N139	Desplazamientos	Valor mínimo de la envolvente	-52.383	-53.463	-36.082	-9.141	-10.590	-0.310
		Valor máximo de la envolvente	55.657	51.706	25.751	17.951	17.463	1.226
N140	Desplazamientos	Valor mínimo de la envolvente	-50.685	-51.103	-28.730	-9.223	-10.050	-0.337
		Valor máximo de la envolvente	52.802	49.911	21.399	15.880	16.127	0.737
N141	Desplazamientos	Valor mínimo de la envolvente	-50.773	-51.084	-31.640	-8.528	-10.286	-0.356
		Valor máximo de la envolvente	53.148	50.494	24.853	15.149	15.212	1.444
N142	Desplazamientos	Valor mínimo de la envolvente	-49.013	-48.922	-25.179	-8.663	-9.844	-0.416
		Valor máximo de la envolvente	50.553	48.624	20.543	13.498	14.302	1.008
N143	Desplazamientos	Valor mínimo de la envolvente	-49.472	-49.598	-28.277	-7.926	-10.143	-0.346
		Valor máximo de la envolvente	51.165	49.636	23.964	12.171	13.615	1.274
N144	Desplazamientos	Valor mínimo de la envolvente	-47.667	-47.629	-22.491	-7.919	-9.817	-0.473
		Valor máximo de la envolvente	48.779	47.762	19.649	10.818	12.912	1.034
N145	Desplazamientos	Valor mínimo de la envolvente	-48.736	-48.964	-25.884	-8.050	-10.371	-0.263
		Valor máximo de la envolvente	50.031	49.206	22.982	10.015	12.960	0.888
N146	Desplazamientos	Valor mínimo de la envolvente	-48.568	-48.834	-25.094	-8.840	-10.560	-0.584
		Valor máximo de la envolvente	49.778	49.095	22.643	8.822	12.914	0.601
N147	Desplazamientos	Valor mínimo de la envolvente	-46.920	-47.107	-20.438	-7.953	-10.141	-0.510
		Valor máximo de la envolvente	47.797	47.354	18.572	9.257	12.265	1.004
N148	Desplazamientos	Valor mínimo de la envolvente	-46.681	-46.970	-19.523	-8.642	-10.479	-0.735
		Valor máximo de la envolvente	47.513	47.220	18.010	8.620	12.369	0.752
N149	Desplazamientos	Valor mínimo de la envolvente	-48.667	-48.947	-25.670	-10.106	-10.370	-0.792
		Valor máximo de la envolvente	49.948	49.227	22.755	8.117	12.960	0.205
N150	Desplazamientos	Valor mínimo de la envolvente	-46.850	-47.107	-20.125	-9.385	-10.155	-0.854
		Valor máximo de la envolvente	47.713	47.360	18.245	8.050	12.279	0.399
N151	Desplazamientos	Valor mínimo de la envolvente	-49.323	-49.407	-27.157	-12.624	-10.306	-1.196
		Valor máximo de la envolvente	50.984	49.892	22.819	8.353	13.774	0.306
N152	Desplazamientos	Valor mínimo de la envolvente	-47.514	-47.535	-21.340	-11.007	-9.850	-0.863
		Valor máximo de la envolvente	48.597	47.904	18.468	8.070	12.937	0.336
N153	Desplazamientos	Valor mínimo de la envolvente	-50.548	-50.272	-29.494	-15.579	-10.411	-1.367
		Valor máximo de la envolvente	52.873	51.387	22.665	8.926	15.323	0.314
N154	Desplazamientos	Valor mínimo de la envolvente	-48.788	-48.420	-23.044	-13.709	-9.784	-0.895
		Valor máximo de la envolvente	50.283	49.225	18.356	8.825	14.221	0.332
N155	Desplazamientos	Valor mínimo de la envolvente	-52.092	-51.488	-32.768	-18.446	-10.074	-1.144
		Valor máximo de la envolvente	55.298	53.776	22.373	9.602	16.922	0.255
N156	Desplazamientos	Valor mínimo de la envolvente	-50.399	-49.714	-25.472	-16.192	-9.985	-0.629
		Valor máximo de la envolvente	52.453	51.420	18.061	9.481	16.029	0.247
N157	Desplazamientos	Valor mínimo de la envolvente	-53.736	-52.906	-37.779	-20.729	-10.080	-0.653
		Valor máximo de la envolvente	58.018	56.808	22.930	10.193	19.240	0.169
N158	Desplazamientos	Valor mínimo de la envolvente	-52.156	-51.253	-32.831	-18.168	-9.772	-0.281
		Valor máximo de la envolvente	54.955	54.260	21.963	10.057	17.869	0.288
N159	Desplazamientos	Valor mínimo de la envolvente	-55.277	-54.315	-47.223	-22.242	-10.080	-0.282
		Valor máximo de la envolvente	60.727	59.984	27.302	10.608	21.708	0.289
N160	Desplazamientos	Valor mínimo de la envolvente	-53.846	-52.817	-41.158	-19.625	-10.040	-0.181
		Valor máximo de la envolvente	57.533	57.311	26.297	10.458	20.564	0.679
N161	Desplazamientos	Valor mínimo de la envolvente	-56.514	-55.505	-57.128	-22.981	-10.140	-0.157
		Valor máximo de la envolvente	63.008	62.723	31.805	10.860	24.114	0.527
N162	Desplazamientos	Valor mínimo de la envolvente	-55.260	-54.186	-49.992	-20.627	-10.356	-0.169
		Valor máximo de la envolvente	59.823	60.076	30.761	10.715	23.379	1.020
N163	Desplazamientos	Valor mínimo de la envolvente	-57.284	-56.283	-67.152	-23.030	-10.482	-0.167
		Valor máximo de la envolvente	64.426	64.506	36.383	10.989	26.436	0.635
N164	Desplazamientos	Valor mínimo de la envolvente	-56.214	-55.154	-59.103	-21.096	-10.669	-0.214

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	61.412	62.064	35.293	10.823	25.911	1.109
N165	Desplazamientos	Valor mínimo de la envolvente	-57.632	-56.685	-77.052	-22.688	-10.879	-0.230
		Valor máximo de la envolvente	65.069	65.405	41.001	11.051	28.405	0.495
N166	Desplazamientos	Valor mínimo de la envolvente	-57.692	-56.827	-86.772	-22.485	-10.431	-0.277
		Valor máximo de la envolvente	65.239	65.711	45.640	11.075	29.166	0.438
N167	Desplazamientos	Valor mínimo de la envolvente	-56.595	-55.592	-68.255	-21.106	-10.998	-0.337
		Valor máximo de la envolvente	61.949	62.954	39.850	10.861	27.990	0.933
N168	Desplazamientos	Valor mínimo de la envolvente	-55.601	-54.419	-60.032	-19.723	-9.370	-0.496
		Valor máximo de la envolvente	58.983	60.395	38.802	10.961	24.729	1.457
N169	Desplazamientos	Valor mínimo de la envolvente	-56.630	-55.726	-77.331	-21.046	-10.019	-0.375
		Valor máximo de la envolvente	61.948	63.208	44.421	10.891	28.307	0.836
N170	Desplazamientos	Valor mínimo de la envolvente	-54.451	-56.865	-39.947	-10.135	-10.196	-1.544
		Valor máximo de la envolvente	57.232	52.853	26.408	17.752	21.505	0.272
N171	Desplazamientos	Valor mínimo de la envolvente	-52.831	-54.230	-32.284	-9.921	-9.793	-1.223
		Valor máximo de la envolvente	54.980	51.347	22.040	16.719	18.701	0.313
N172	Desplazamientos	Valor mínimo de la envolvente	-51.598	-51.791	-28.943	-10.248	-8.948	-1.465
		Valor máximo de la envolvente	52.562	49.794	22.294	15.097	15.675	0.378
N173	Desplazamientos	Valor mínimo de la envolvente	-50.953	-51.424	-25.365	-9.615	-9.709	-0.729
		Valor máximo de la envolvente	52.520	49.683	18.081	15.605	16.466	0.328
N174	Desplazamientos	Valor mínimo de la envolvente	-49.047	-48.839	-21.898	-9.335	-9.614	-0.399
		Valor máximo de la envolvente	50.168	48.078	17.204	14.320	14.704	0.399
N175	Desplazamientos	Valor mínimo de la envolvente	-49.642	-49.242	-22.589	-9.575	-8.970	-1.013
		Valor máximo de la envolvente	50.301	48.063	18.051	13.942	13.911	0.418
N176	Desplazamientos	Valor mínimo de la envolvente	-52.475	-52.159	-32.587	-10.538	-8.323	-1.525
		Valor máximo de la envolvente	52.966	50.243	26.847	14.488	14.081	0.326
N177	Desplazamientos	Valor mínimo de la envolvente	-53.807	-54.077	-39.017	-10.393	-9.096	-1.590
		Valor máximo de la envolvente	54.471	51.601	31.380	15.086	16.415	0.287
N178	Desplazamientos	Valor mínimo de la envolvente	-51.989	-50.944	-30.694	-10.440	-8.295	-0.898
		Valor máximo de la envolvente	52.159	49.576	26.846	13.374	11.082	0.163
N179	Desplazamientos	Valor mínimo de la envolvente	-50.723	-49.874	-26.531	-10.171	-8.224	-1.307
		Valor máximo de la envolvente	51.048	48.552	22.406	13.555	12.573	0.375
N180	Desplazamientos	Valor mínimo de la envolvente	-50.260	-48.813	-24.966	-10.266	-8.200	-0.911
		Valor máximo de la envolvente	50.373	47.886	22.296	12.732	10.259	0.280
N181	Desplazamientos	Valor mínimo de la envolvente	-48.747	-47.526	-20.813	-9.645	-8.187	-1.020
		Valor máximo de la envolvente	48.964	46.767	18.117	12.644	11.177	0.456
N182	Desplazamientos	Valor mínimo de la envolvente	-47.666	-46.910	-16.585	-9.390	-9.149	-0.639
		Valor máximo de la envolvente	48.130	46.428	13.955	13.003	12.552	0.477
N183	Desplazamientos	Valor mínimo de la envolvente	-45.346	-44.356	-13.509	-9.354	-9.486	-0.538
		Valor máximo de la envolvente	45.553	44.466	12.275	11.349	11.595	0.537
N184	Desplazamientos	Valor mínimo de la envolvente	-46.467	-45.023	-15.449	-9.468	-8.281	-0.836
		Valor máximo de la envolvente	46.612	44.805	13.989	11.753	9.873	0.709
N185	Desplazamientos	Valor mínimo de la envolvente	-47.352	-46.844	-19.059	-8.988	-9.558	-0.463
		Valor máximo de la envolvente	48.177	46.723	16.376	12.280	13.278	0.623
N186	Desplazamientos	Valor mínimo de la envolvente	-45.680	-45.390	-17.029	-8.087	-9.596	-0.700
		Valor máximo de la envolvente	46.230	45.574	15.470	9.587	11.991	0.828
N187	Desplazamientos	Valor mínimo de la envolvente	-42.495	-41.905	-11.998	-8.430	-9.587	-0.964
		Valor máximo de la envolvente	42.430	42.235	11.331	8.951	11.012	0.615
N188	Desplazamientos	Valor mínimo de la envolvente	-44.279	-44.467	-15.314	-7.951	-9.900	-0.853
		Valor máximo de la envolvente	44.675	44.729	14.255	8.585	11.424	1.146
N189	Desplazamientos	Valor mínimo de la envolvente	-40.190	-40.433	-10.601	-8.129	-9.583	-1.259
		Valor máximo de la envolvente	40.097	40.707	10.055	8.230	10.407	1.298
N190	Desplazamientos	Valor mínimo de la envolvente	-43.660	-44.132	-14.217	-8.451	-10.324	-0.897

Envolvente de los desplazamientos en nudos									
Referencia	Combinación		Desplazamientos en ejes globales						
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	44.025	44.367	13.422	8.423	11.673	0.912
N191	Desplazamientos	Valor mínimo de la envolvente	-39.070	-39.906	-9.266	-8.279	-9.962	-1.100
		Valor máximo de la envolvente	38.985	40.121	8.929	8.243	10.629	1.114
N192	Desplazamientos	Valor mínimo de la envolvente	-44.209	-44.496	-14.915	-8.733	-9.890	-0.998
		Valor máximo de la envolvente	44.592	44.708	13.839	8.054	11.410	0.741
N193	Desplazamientos	Valor mínimo de la envolvente	-40.139	-40.496	-10.147	-8.326	-9.501	-1.289
		Valor máximo de la envolvente	40.039	40.655	9.580	8.164	10.301	1.277
N194	Desplazamientos	Valor mínimo de la envolvente	-45.524	-45.361	-15.872	-9.713	-9.601	-0.686
		Valor máximo de la envolvente	46.048	45.657	14.276	8.159	11.978	0.583
N195	Desplazamientos	Valor mínimo de la envolvente	-42.335	-42.037	-10.816	-9.063	-9.573	-0.401
		Valor máximo de la envolvente	42.253	42.154	10.101	8.467	10.968	0.766
N196	Desplazamientos	Valor mínimo de la envolvente	-47.126	-46.543	-16.949	-12.363	-9.527	-0.502
		Valor máximo de la envolvente	47.911	47.152	14.200	9.002	13.213	0.360
N197	Desplazamientos	Valor mínimo de la envolvente	-45.115	-44.312	-13.425	-11.449	-9.500	-0.399
		Valor máximo de la envolvente	45.292	44.670	12.105	9.362	11.559	0.407
N198	Desplazamientos	Valor mínimo de la envolvente	-48.765	-47.906	-21.754	-14.517	-9.480	-0.298
		Valor máximo de la envolvente	49.830	49.168	16.957	9.456	14.520	0.305
N199	Desplazamientos	Valor mínimo de la envolvente	-47.385	-46.301	-18.908	-13.126	-9.129	-0.326
		Valor máximo de la envolvente	47.802	47.272	16.146	9.416	12.467	0.482
N200	Desplazamientos	Valor mínimo de la envolvente	-38.428	-37.730	-7.440	-9.432	-9.264	-1.169
		Valor máximo de la envolvente	37.966	37.420	7.200	9.096	9.568	1.181
N201	Desplazamientos	Valor mínimo de la envolvente	-29.617	-29.528	-6.063	-7.848	-8.673	-2.096
		Valor máximo de la envolvente	29.221	29.824	5.625	7.964	8.463	2.196
N202	Desplazamientos	Valor mínimo de la envolvente	-42.808	-41.581	-11.893	-10.870	-8.597	-0.813
		Valor máximo de la envolvente	42.750	41.664	11.164	9.446	9.168	0.465
N203	Desplazamientos	Valor mínimo de la envolvente	-30.005	-29.065	-6.528	-8.348	-8.099	-2.298
		Valor máximo de la envolvente	30.180	28.787	6.080	8.530	7.955	2.216
N204	Desplazamientos	Valor mínimo de la envolvente	-41.238	-39.427	-10.512	-10.205	-8.306	-1.188
		Valor máximo de la envolvente	41.227	39.481	9.921	9.373	8.438	1.214
N205	Desplazamientos	Valor mínimo de la envolvente	-46.186	-44.740	-16.871	-11.884	-8.243	-0.514
		Valor máximo de la envolvente	46.293	45.439	15.248	9.480	9.775	0.632
N206	Desplazamientos	Valor mínimo de la envolvente	-12.952	-12.447	-3.356	-7.256	-7.348	-1.650
		Valor máximo de la envolvente	13.282	12.840	2.771	7.450	7.132	1.658
N207	Desplazamientos	Valor mínimo de la envolvente	-38.926	-40.141	-9.168	-8.298	-10.552	-1.255
		Valor máximo de la envolvente	39.111	40.345	8.863	8.258	9.924	1.245
N208	Desplazamientos	Valor mínimo de la envolvente	-43.917	-44.440	-14.087	-8.459	-11.623	-1.062
		Valor máximo de la envolvente	43.668	44.665	13.339	8.426	10.305	1.053
N209	Desplazamientos	Valor mínimo de la envolvente	-23.878	-25.656	-5.008	-8.518	-7.985	-2.001
		Valor máximo de la envolvente	24.016	25.781	4.763	8.472	8.252	1.990
N210	Desplazamientos	Valor mínimo de la envolvente	-29.158	-29.743	-5.946	-7.991	-8.433	-2.237
		Valor máximo de la envolvente	29.633	29.763	5.558	7.775	8.683	2.343
N211	Desplazamientos	Valor mínimo de la envolvente	-40.039	-40.672	-10.044	-8.155	-10.318	-1.504
		Valor máximo de la envolvente	40.240	40.937	9.536	8.243	9.535	1.479
N212	Desplazamientos	Valor mínimo de la envolvente	-38.591	-37.124	-7.460	-9.088	-9.300	-1.422
		Valor máximo de la envolvente	38.130	37.831	7.283	9.337	9.638	1.440
N213	Desplazamientos	Valor mínimo de la envolvente	-30.194	-28.527	-5.767	-8.476	-8.149	-2.119
		Valor máximo de la envolvente	30.341	29.104	5.390	8.208	7.985	2.250
N214	Desplazamientos	Valor mínimo de la envolvente	-30.171	-29.127	-6.040	-8.382	-7.913	-2.239
		Valor máximo de la envolvente	30.056	28.846	5.598	8.563	8.090	2.326
N215	Desplazamientos	Valor mínimo de la envolvente	-41.177	-39.514	-10.085	-10.203	-8.407	-1.448
		Valor máximo de la envolvente	41.281	39.564	9.501	9.372	8.297	1.427
N216	Desplazamientos	Valor mínimo de la envolvente	-45.285	-43.541	-14.807	-11.300	-8.823	-1.168

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	45.362	44.088	13.700	9.753	8.186	0.902
N217	Desplazamientos	Valor mínimo de la envolvente	-42.696	-41.754	-10.743	-10.890	-9.158	-0.539
		Valor máximo de la envolvente	42.850	41.831	10.027	9.460	8.609	0.893
N218	Desplazamientos	Valor mínimo de la envolvente	-43.043	-41.337	-10.494	-9.461	-8.578	-0.532
		Valor máximo de la envolvente	43.001	41.693	9.873	10.772	9.184	0.888
N219	Desplazamientos	Valor mínimo de la envolvente	-41.483	-39.144	-9.764	-9.391	-8.276	-1.314
		Valor máximo de la envolvente	41.483	39.500	9.288	10.096	8.424	1.321
N220	Desplazamientos	Valor mínimo de la envolvente	-48.314	-46.620	-19.526	-10.026	-8.154	-1.019
		Valor máximo de la envolvente	48.415	46.089	17.838	12.033	9.503	0.534
N221	Desplazamientos	Valor mínimo de la envolvente	-51.807	-50.608	-29.992	-10.544	-9.086	-0.510
		Valor máximo de la envolvente	51.898	49.401	26.763	13.125	9.160	0.501
N222	Desplazamientos	Valor mínimo de la envolvente	-51.983	-50.911	-30.683	-10.455	-11.011	-0.217
		Valor máximo de la envolvente	52.007	49.576	26.902	13.339	8.298	0.947
N223	Desplazamientos	Valor mínimo de la envolvente	-50.114	-48.578	-24.323	-10.473	-8.920	-0.709
		Valor máximo de la envolvente	50.198	47.745	22.140	12.635	8.975	0.701
N224	Desplazamientos	Valor mínimo de la envolvente	-50.259	-48.852	-25.091	-10.259	-10.182	-0.364
		Valor máximo de la envolvente	50.315	47.935	22.466	12.667	8.196	0.997
N225	Desplazamientos	Valor mínimo de la envolvente	-47.962	-46.082	-18.879	-10.361	-8.737	-0.870
		Valor máximo de la envolvente	48.041	45.636	17.552	12.071	8.773	0.866
N226	Desplazamientos	Valor mínimo de la envolvente	-48.150	-46.453	-19.781	-10.005	-9.409	-0.666
		Valor máximo de la envolvente	48.226	45.958	18.112	11.942	8.138	1.161
N227	Desplazamientos	Valor mínimo de la envolvente	-44.915	-42.543	-13.701	-10.175	-8.556	-1.042
		Valor máximo de la envolvente	44.985	42.526	13.020	11.370	8.580	1.046
N228	Desplazamientos	Valor mínimo de la envolvente	-45.590	-43.561	-14.423	-9.757	-8.160	-1.087
		Valor máximo de la envolvente	45.650	43.482	13.490	11.156	8.828	0.837
N229	Desplazamientos	Valor mínimo de la envolvente	-40.897	-38.112	-8.865	-9.797	-8.407	-1.246
		Valor máximo de la envolvente	40.954	38.452	8.593	10.367	8.425	1.254
N230	Desplazamientos	Valor mínimo de la envolvente	-45.391	-43.387	-15.006	-9.746	-8.730	-1.029
		Valor máximo de la envolvente	45.481	43.326	14.041	11.126	8.112	1.292
N231	Desplazamientos	Valor mínimo de la envolvente	-52.887	-52.291	-33.519	-10.282	-13.915	-0.335
		Valor máximo de la envolvente	52.551	50.381	27.842	14.229	8.101	1.543
N232	Desplazamientos	Valor mínimo de la envolvente	-54.578	-54.462	-37.698	-10.416	-17.415	-0.408
		Valor máximo de la envolvente	53.394	51.626	28.742	16.011	8.604	1.852
N233	Desplazamientos	Valor mínimo de la envolvente	-50.967	-50.018	-27.535	-10.050	-12.394	-0.397
		Valor máximo de la envolvente	50.800	48.703	23.472	13.416	8.054	1.341
N234	Desplazamientos	Valor mínimo de la envolvente	-52.490	-52.019	-30.972	-10.040	-15.403	-0.441
		Valor máximo de la envolvente	51.678	50.025	24.382	14.903	8.644	1.545
N235	Desplazamientos	Valor mínimo de la envolvente	-48.894	-47.686	-21.885	-9.615	-11.012	-0.591
		Valor máximo de la envolvente	48.815	46.931	19.244	12.579	8.081	1.139
N236	Desplazamientos	Valor mínimo de la envolvente	-50.233	-49.485	-24.648	-9.601	-13.750	-0.543
		Valor máximo de la envolvente	49.716	48.311	20.177	13.964	8.800	1.154
N237	Desplazamientos	Valor mínimo de la envolvente	-46.538	-45.195	-16.561	-9.439	-9.782	-0.831
		Valor máximo de la envolvente	46.531	44.980	15.147	11.679	8.268	0.925
N238	Desplazamientos	Valor mínimo de la envolvente	-48.052	-47.168	-18.672	-9.405	-12.540	-0.571
		Valor máximo de la envolvente	47.732	46.690	16.103	12.992	9.139	0.747
N239	Desplazamientos	Valor mínimo de la envolvente	-42.933	-41.517	-11.659	-9.482	-9.122	-1.059
		Valor máximo de la envolvente	43.099	41.863	11.062	10.766	8.576	0.706
N240	Desplazamientos	Valor mínimo de la envolvente	-41.430	-39.235	-10.217	-9.396	-8.385	-1.403
		Valor máximo de la envolvente	41.543	39.586	9.740	10.121	8.265	1.413
N241	Desplazamientos	Valor mínimo de la envolvente	-45.448	-44.606	-13.230	-9.398	-11.586	-0.628
		Valor máximo de la envolvente	45.376	44.711	12.043	11.361	9.508	0.641
N242	Desplazamientos	Valor mínimo de la envolvente	-38.046	-37.299	-7.246	-9.116	-9.572	-1.517

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	38.609	37.991	7.086	9.361	9.281	1.509
N243	Desplazamientos	Valor mínimo de la envolvente	-42.338	-42.145	-10.709	-8.430	-10.968	-0.644
		Valor máximo de la envolvente	42.524	42.466	10.081	8.938	9.585	0.999
N244	Desplazamientos	Valor mínimo de la envolvente	-58.860	-59.222	-51.292	-10.776	-22.816	-0.399
		Valor máximo de la envolvente	55.683	54.274	34.158	19.100	9.160	1.714
N245	Desplazamientos	Valor mínimo de la envolvente	-57.174	-57.178	-43.198	-10.643	-20.567	-0.388
		Valor máximo de la envolvente	54.532	53.151	29.683	18.291	9.199	1.665
N246	Desplazamientos	Valor mínimo de la envolvente	-60.356	-60.092	-49.755	-10.922	-22.839	-0.344
		Valor máximo de la envolvente	55.823	54.720	30.694	20.819	9.677	1.197
N247	Desplazamientos	Valor mínimo de la envolvente	-54.917	-54.544	-35.496	-10.232	-18.217	-0.384
		Valor máximo de la envolvente	52.913	51.653	25.296	17.056	9.260	1.311
N248	Desplazamientos	Valor mínimo de la envolvente	-57.987	-57.346	-40.960	-10.480	-20.372	-0.324
		Valor máximo de la envolvente	54.350	53.368	26.263	19.633	9.729	0.830
N249	Desplazamientos	Valor mínimo de la envolvente	-52.456	-51.741	-28.269	-9.849	-16.148	-0.432
		Valor máximo de la envolvente	51.030	49.997	21.044	15.846	9.356	0.851
N250	Desplazamientos	Valor mínimo de la envolvente	-55.323	-54.314	-32.661	-10.082	-17.954	-0.394
		Valor máximo de la envolvente	52.585	51.819	21.948	18.160	9.765	0.407
N251	Desplazamientos	Valor mínimo de la envolvente	-50.089	-49.160	-21.567	-9.458	-14.584	-0.483
		Valor máximo de la envolvente	49.111	48.395	16.935	14.431	9.474	0.499
N252	Desplazamientos	Valor mínimo de la envolvente	-52.723	-51.493	-25.384	-9.572	-15.868	-0.795
		Valor máximo de la envolvente	50.745	50.291	18.108	16.233	9.762	0.405
N253	Desplazamientos	Valor mínimo de la envolvente	-48.075	-47.161	-16.830	-9.026	-13.258	-0.727
		Valor máximo de la envolvente	47.390	47.033	14.204	12.302	9.541	0.582
N254	Desplazamientos	Valor mínimo de la envolvente	-50.456	-49.310	-22.943	-8.846	-14.196	-1.086
		Valor máximo de la envolvente	49.054	49.001	18.366	13.678	9.730	0.505
N255	Desplazamientos	Valor mínimo de la envolvente	-46.116	-45.700	-15.760	-8.129	-11.974	-0.941
		Valor máximo de la envolvente	45.697	45.875	14.254	9.619	9.598	0.825
N256	Desplazamientos	Valor mínimo de la envolvente	-48.665	-48.013	-21.230	-8.049	-12.886	-1.104
		Valor máximo de la envolvente	47.687	48.135	18.449	10.945	9.799	0.554
N257	Desplazamientos	Valor mínimo de la envolvente	-44.572	-44.778	-14.801	-8.024	-11.379	-1.246
		Valor máximo de la envolvente	44.298	45.030	13.792	8.648	9.880	0.964
N258	Desplazamientos	Valor mínimo de la envolvente	-47.688	-47.492	-20.000	-8.016	-12.268	-1.091
		Valor máximo de la envolvente	46.939	47.726	18.195	9.315	10.161	0.607
N259	Desplazamientos	Valor mínimo de la envolvente	-47.398	-47.355	-19.383	-8.649	-12.359	-0.911
		Valor máximo de la envolvente	46.691	47.592	17.929	8.622	10.495	0.903
N260	Desplazamientos	Valor mínimo de la envolvente	-44.503	-44.799	-15.212	-8.700	-11.379	-0.928
		Valor máximo de la envolvente	44.232	45.000	14.177	8.010	9.892	1.196
N261	Desplazamientos	Valor mínimo de la envolvente	-47.615	-47.490	-20.319	-9.351	-12.239	-0.616
		Valor máximo de la envolvente	46.873	47.731	18.493	8.004	10.146	1.083
N262	Desplazamientos	Valor mínimo de la envolvente	-45.973	-45.671	-16.991	-9.719	-11.935	-0.572
		Valor máximo de la envolvente	45.559	45.956	15.435	8.155	9.590	0.686
N263	Desplazamientos	Valor mínimo de la envolvente	-39.966	-40.729	-10.529	-8.358	-10.324	-1.283
		Valor máximo de la envolvente	40.167	40.877	9.991	8.187	9.546	1.301
N264	Desplazamientos	Valor mínimo de la envolvente	-42.191	-42.279	-11.981	-9.093	-11.003	-0.925
		Valor máximo de la envolvente	42.373	42.386	11.293	8.489	9.635	0.570
N265	Desplazamientos	Valor mínimo de la envolvente	-45.220	-44.556	-13.539	-11.467	-11.546	-0.537
		Valor máximo de la envolvente	45.146	44.907	12.243	9.371	9.517	0.536
N266	Desplazamientos	Valor mínimo de la envolvente	-37.877	-37.899	-7.458	-9.461	-9.593	-1.336
		Valor máximo de la envolvente	38.428	37.578	7.234	9.116	9.309	1.332
N267	Desplazamientos	Valor mínimo de la envolvente	-29.094	-29.649	-6.493	-7.887	-8.419	-2.361
		Valor máximo de la envolvente	29.567	29.922	6.074	8.013	8.664	2.243
N268	Desplazamientos	Valor mínimo de la envolvente	-46.232	-44.923	-15.769	-11.884	-9.786	-0.856

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	46.228	45.617	14.160	9.477	8.277	0.743
N269	Desplazamientos	Valor mínimo de la envolvente	-47.839	-46.855	-19.059	-12.382	-13.184	-0.377
		Valor máximo de la envolvente	47.164	47.455	16.347	9.009	9.532	0.529
N270	Desplazamientos	Valor mínimo de la envolvente	-47.737	-46.550	-16.831	-13.126	-12.422	-0.637
		Valor máximo de la envolvente	47.427	47.515	14.092	9.410	9.117	0.487
N271	Desplazamientos	Valor mínimo de la envolvente	-49.763	-48.220	-21.930	-14.431	-14.575	-0.421
		Valor máximo de la envolvente	48.808	49.474	17.169	9.360	9.572	0.424
N272	Desplazamientos	Valor mínimo de la envolvente	-49.832	-48.191	-22.879	-14.034	-13.775	-0.999
		Valor máximo de la envolvente	49.337	49.872	18.188	9.570	8.944	0.427
N273	Desplazamientos	Valor mínimo de la envolvente	-48.502	-46.877	-21.185	-12.777	-11.083	-1.025
		Valor máximo de la envolvente	48.438	48.136	18.288	9.666	8.190	0.488
N274	Desplazamientos	Valor mínimo de la envolvente	-47.961	-46.144	-19.965	-12.152	-9.475	-1.025
		Valor máximo de la envolvente	48.010	47.178	18.043	10.004	8.178	0.559
N275	Desplazamientos	Valor mínimo de la envolvente	-44.940	-42.927	-14.109	-11.537	-8.570	-0.884
		Valor máximo de la envolvente	44.990	43.450	13.266	10.163	8.580	0.886
N276	Desplazamientos	Valor mínimo de la envolvente	-47.821	-45.901	-19.354	-12.227	-8.762	-0.719
		Valor máximo de la envolvente	47.873	46.897	17.783	10.317	8.773	0.721
N277	Desplazamientos	Valor mínimo de la envolvente	-45.309	-43.459	-15.161	-11.309	-8.111	-0.772
		Valor máximo de la envolvente	45.333	44.008	14.048	9.762	8.768	1.041
N278	Desplazamientos	Valor mínimo de la envolvente	-49.292	-47.946	-24.968	-14.213	-8.804	-0.281
		Valor máximo de la envolvente	49.895	49.632	20.254	9.756	13.667	0.860
N279	Desplazamientos	Valor mínimo de la envolvente	-50.604	-49.523	-28.512	-15.936	-9.366	-0.234
		Valor máximo de la envolvente	52.105	51.777	21.088	9.877	16.059	0.629
N280	Desplazamientos	Valor mínimo de la envolvente	-52.410	-51.199	-35.795	-17.121	-9.282	-0.204
		Valor máximo de la envolvente	54.486	54.609	25.377	10.262	18.110	1.106
N281	Desplazamientos	Valor mínimo de la envolvente	-51.175	-49.687	-31.368	-15.106	-8.668	-0.231
		Valor máximo de la envolvente	52.080	52.208	24.502	10.180	15.301	1.299
N282	Desplazamientos	Valor mínimo de la envolvente	-48.393	-46.704	-22.281	-12.803	-8.069	-0.314
		Valor máximo de la envolvente	48.563	47.968	19.371	9.696	10.985	0.856
N283	Desplazamientos	Valor mínimo de la envolvente	-47.958	-46.063	-20.234	-12.153	-8.111	-0.439
		Valor máximo de la envolvente	48.014	47.100	18.305	10.007	9.428	0.909
N284	Desplazamientos	Valor mínimo de la envolvente	-50.293	-48.487	-28.014	-13.501	-8.073	-0.207
		Valor máximo de la envolvente	50.570	50.334	23.627	10.017	12.325	1.113
N285	Desplazamientos	Valor mínimo de la envolvente	-51.986	-50.170	-34.057	-14.340	-8.167	-0.189
		Valor máximo de la envolvente	52.417	52.628	28.008	10.290	13.799	1.402
N286	Desplazamientos	Valor mínimo de la envolvente	-49.824	-47.855	-25.626	-12.821	-8.201	-0.201
		Valor máximo de la envolvente	49.897	49.312	22.652	10.214	10.176	0.805
N287	Desplazamientos	Valor mínimo de la envolvente	-52.831	-51.308	-38.145	-16.130	-8.659	-0.225
		Valor máximo de la envolvente	54.091	54.679	28.892	10.486	17.306	1.693
N288	Desplazamientos	Valor mínimo de la envolvente	-53.969	-52.712	-43.545	-18.481	-9.255	-0.206
		Valor máximo de la envolvente	56.664	57.263	29.798	10.804	20.472	1.503
N289	Desplazamientos	Valor mínimo de la envolvente	-55.082	-53.840	-51.678	-19.296	-9.279	-0.312
		Valor máximo de la envolvente	58.289	59.317	34.290	10.910	22.769	1.606
N290	Desplazamientos	Valor mínimo de la envolvente	-54.059	-52.570	-45.333	-17.128	-8.722	-0.439
		Valor máximo de la envolvente	55.648	56.697	33.356	10.623	19.438	1.917
N291	Desplazamientos	Valor mínimo de la envolvente	-54.700	-53.299	-52.863	-17.840	-9.869	-0.695
		Valor máximo de la envolvente	56.435	57.915	37.836	10.658	22.457	1.914
N292	Desplazamientos	Valor mínimo de la envolvente	-55.615	-54.523	-68.434	-19.827	-9.539	-0.574
		Valor máximo de la envolvente	58.821	60.586	43.318	10.993	26.284	1.399
N293	Desplazamientos	Valor mínimo de la envolvente	-54.736	-53.457	-60.566	-18.089	-10.112	-0.805
		Valor máximo de la envolvente	56.268	58.175	42.315	10.675	24.170	1.932
N294	Desplazamientos	Valor mínimo de la envolvente	-53.270	-51.517	-40.449	-15.237	-8.319	-0.401

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	53.858	54.551	32.449	10.413	15.487	1.669
N295	Desplazamientos	Valor mínimo de la envolvente	-51.496	-49.535	-31.289	-13.461	-8.349	-0.079
		Valor máximo de la envolvente	51.614	51.457	27.072	10.379	10.983	0.848
N296	Desplazamientos	Valor mínimo de la envolvente	-40.643	-38.396	-9.215	-10.518	-8.402	-1.102
		Valor máximo de la envolvente	40.689	38.456	8.842	9.817	8.413	1.102
N297	Desplazamientos	Valor mínimo de la envolvente	-25.992	-23.554	-4.911	-7.871	-8.588	-1.891
		Valor máximo de la envolvente	26.017	23.546	4.636	8.081	8.600	1.885
N298	Desplazamientos	Valor mínimo de la envolvente	-35.988	-33.334	-7.575	-9.540	-8.452	-1.352
		Valor máximo de la envolvente	36.028	33.186	7.289	9.352	8.463	1.350
N299	Desplazamientos	Valor mínimo de la envolvente	-49.708	-47.758	-24.861	-12.771	-8.961	-0.562
		Valor máximo de la envolvente	49.762	49.137	22.345	10.399	8.971	0.564
N300	Desplazamientos	Valor mínimo de la envolvente	-49.840	-47.934	-25.449	-12.818	-10.197	-0.953
		Valor máximo de la envolvente	49.874	49.389	22.482	10.208	8.244	0.354
N301	Desplazamientos	Valor mínimo de la envolvente	-51.382	-49.443	-30.588	-13.247	-9.150	-0.374
		Valor máximo de la envolvente	51.436	51.241	26.931	10.445	9.160	0.376
N302	Desplazamientos	Valor mínimo de la envolvente	-52.780	-50.901	-37.209	-14.014	-8.503	-0.258
		Valor máximo de la envolvente	52.948	53.266	31.524	10.388	11.924	0.990
N303	Desplazamientos	Valor mínimo de la envolvente	-53.979	-52.347	-47.195	-16.019	-9.228	-0.680
		Valor máximo de la envolvente	54.640	55.799	36.908	10.455	18.017	1.850
N304	Desplazamientos	Valor mínimo de la envolvente	-54.050	-52.573	-54.175	-16.350	-9.486	-0.826
		Valor máximo de la envolvente	54.541	56.147	41.368	10.465	19.771	1.992
N305	Desplazamientos	Valor mínimo de la envolvente	-53.506	-51.779	-43.465	-14.522	-8.661	-0.589
		Valor máximo de la envolvente	53.689	54.475	36.073	10.375	13.014	1.240
N306	Desplazamientos	Valor mínimo de la envolvente	-52.648	-50.783	-36.504	-13.642	-9.316	-0.348
		Valor máximo de la envolvente	52.702	52.967	31.525	10.464	9.327	0.350
N307	Desplazamientos	Valor mínimo de la envolvente	-51.551	-49.613	-31.210	-13.478	-10.985	-0.945
		Valor máximo de la envolvente	51.541	51.533	27.000	10.391	8.373	0.238
N308	Desplazamientos	Valor mínimo de la envolvente	-50.506	-48.652	-26.940	-13.586	-12.699	-1.258
		Valor máximo de la envolvente	50.338	50.494	22.567	10.094	8.472	0.357
N309	Desplazamientos	Valor mínimo de la envolvente	-52.013	-49.925	-29.268	-15.088	-15.724	-1.459
		Valor máximo de la envolvente	51.220	52.440	22.426	10.151	9.122	0.396
N310	Desplazamientos	Valor mínimo de la envolvente	-52.351	-50.330	-33.018	-14.447	-14.316	-1.549
		Valor máximo de la envolvente	52.030	52.784	26.984	10.389	8.710	0.380
N311	Desplazamientos	Valor mínimo de la envolvente	-54.020	-51.537	-36.032	-16.133	-17.954	-1.759
		Valor máximo de la envolvente	52.875	54.903	26.803	10.475	9.340	0.341
N312	Desplazamientos	Valor mínimo de la envolvente	-53.791	-51.673	-39.451	-15.367	-16.141	-1.694
		Valor máximo de la envolvente	53.314	54.702	31.466	10.532	9.001	0.431
N313	Desplazamientos	Valor mínimo de la envolvente	-52.885	-50.978	-37.228	-14.118	-11.934	-0.997
		Valor máximo de la envolvente	52.825	53.340	31.551	10.487	8.536	0.270
N314	Desplazamientos	Valor mínimo de la envolvente	-53.626	-51.855	-43.486	-14.731	-13.556	-1.255
		Valor máximo de la envolvente	53.552	54.550	36.101	10.577	9.227	0.610
N315	Desplazamientos	Valor mínimo de la envolvente	-53.352	-51.644	-42.569	-13.914	-9.464	-0.602
		Valor máximo de la envolvente	53.406	54.105	36.119	10.463	9.476	0.605
N316	Desplazamientos	Valor mínimo de la envolvente	-53.428	-51.942	-48.719	-14.020	-9.717	-0.748
		Valor máximo de la envolvente	53.481	54.505	40.709	10.459	9.729	0.751
N317	Desplazamientos	Valor mínimo de la envolvente	-53.598	-52.067	-49.903	-14.769	-9.386	-0.779
		Valor máximo de la envolvente	53.673	54.884	40.618	10.364	14.624	1.415
N318	Desplazamientos	Valor mínimo de la envolvente	-53.615	-52.144	-49.925	-14.784	-14.623	-1.428
		Valor máximo de la envolvente	53.648	54.958	40.647	10.371	9.410	0.798
N319	Desplazamientos	Valor mínimo de la envolvente	-54.573	-52.501	-46.233	-16.206	-18.044	-1.875
		Valor máximo de la envolvente	54.024	55.948	35.961	10.628	9.284	0.711
N320	Desplazamientos	Valor mínimo de la envolvente	-55.576	-52.795	-43.196	-17.151	-20.287	-1.815

Envolvente de los desplazamientos en nudos									
Referencia	Combinación		Desplazamientos en ejes globales						
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	54.103	56.917	31.244	10.628	9.605	0.342
N321	Desplazamientos	Valor mínimo de la envolvente	-52.038	-49.835	-25.425	-15.796	-16.260	-0.737
		Valor máximo de la envolvente	50.650	52.083	18.036	9.724	9.606	0.350
N322	Desplazamientos	Valor mínimo de la envolvente	-48.512	-47.920	-22.415	-10.913	-12.857	-0.352
		Valor máximo de la envolvente	47.546	48.277	19.595	7.965	9.805	0.891
N323	Desplazamientos	Valor mínimo de la envolvente	-63.562	-62.858	-56.992	-10.789	-24.124	-0.297
		Valor máximo de la envolvente	57.079	56.155	31.782	22.911	10.017	0.661
N324	Desplazamientos	Valor mínimo de la envolvente	-66.170	-65.038	-64.515	-10.906	-24.498	-0.288
		Valor máximo de la envolvente	58.101	57.260	32.941	25.036	10.262	0.283
N325	Desplazamientos	Valor mínimo de la envolvente	-61.201	-60.126	-47.116	-10.627	-21.790	-0.310
		Valor máximo de la envolvente	55.782	54.973	27.310	22.268	10.052	0.313
N326	Desplazamientos	Valor mínimo de la envolvente	-63.974	-62.472	-53.672	-10.764	-22.487	-0.552
		Valor máximo de la envolvente	56.992	56.270	28.427	24.773	10.262	0.184
N327	Desplazamientos	Valor mínimo de la envolvente	-58.403	-56.956	-37.674	-10.263	-19.590	-0.758
		Valor máximo de la envolvente	54.167	53.569	22.941	20.796	10.346	0.264
N328	Desplazamientos	Valor mínimo de la envolvente	-61.194	-59.308	-45.675	-10.406	-21.078	-1.109
		Valor máximo de la envolvente	55.553	55.043	26.546	23.463	11.086	0.252
N329	Desplazamientos	Valor mínimo de la envolvente	-55.578	-53.931	-32.704	-9.676	-17.429	-1.284
		Valor máximo de la envolvente	52.439	52.156	22.421	18.503	10.524	0.374
N330	Desplazamientos	Valor mínimo de la envolvente	-58.255	-56.167	-40.483	-10.137	-18.581	-1.601
		Valor máximo de la envolvente	53.969	53.774	26.859	21.380	10.854	0.319
N331	Desplazamientos	Valor mínimo de la envolvente	-53.053	-51.546	-29.408	-8.835	-15.273	-1.545
		Valor máximo de la envolvente	50.816	50.941	22.679	15.466	10.333	0.464
N332	Desplazamientos	Valor mínimo de la envolvente	-55.547	-53.611	-36.255	-9.476	-16.341	-1.802
		Valor máximo de la envolvente	52.457	52.656	27.138	18.144	10.678	0.358
N333	Desplazamientos	Valor mínimo de la envolvente	-51.055	-50.058	-27.054	-8.106	-13.762	-1.297
		Valor máximo de la envolvente	49.497	50.081	22.807	12.358	10.291	0.376
N334	Desplazamientos	Valor mínimo de la envolvente	-53.376	-51.955	-33.209	-8.235	-14.642	-1.602
		Valor máximo de la envolvente	51.209	51.831	27.309	13.883	10.600	0.407
N335	Desplazamientos	Valor mínimo de la envolvente	-49.925	-49.425	-25.544	-8.085	-12.973	-1.005
		Valor máximo de la envolvente	48.761	49.651	22.711	10.051	10.398	0.387
N336	Desplazamientos	Valor mínimo de la envolvente	-52.096	-51.191	-31.378	-8.216	-13.611	-0.987
		Valor máximo de la envolvente	50.473	51.380	27.316	10.850	10.554	0.260
N337	Desplazamientos	Valor mínimo de la envolvente	-49.665	-49.296	-24.955	-8.842	-12.926	-0.754
		Valor máximo de la envolvente	48.583	49.541	22.574	8.820	10.595	0.745
N338	Desplazamientos	Valor mínimo de la envolvente	-51.795	-51.026	-30.752	-9.026	-13.416	-0.542
		Valor máximo de la envolvente	50.301	51.278	27.247	9.009	10.651	0.532
N339	Desplazamientos	Valor mínimo de la envolvente	-49.844	-49.409	-25.754	-10.076	-12.953	-0.361
		Valor máximo de la envolvente	48.689	49.674	22.906	8.077	10.393	0.958
N340	Desplazamientos	Valor mínimo de la envolvente	-52.008	-51.137	-31.472	-10.866	-13.627	-0.159
		Valor máximo de la envolvente	50.395	51.454	27.401	8.214	10.586	0.862
N341	Desplazamientos	Valor mínimo de la envolvente	-50.890	-49.871	-28.174	-12.228	-13.676	-0.202
		Valor máximo de la envolvente	49.351	50.341	23.901	7.946	10.243	1.103
N342	Desplazamientos	Valor mínimo de la envolvente	-53.202	-51.618	-34.259	-13.677	-14.475	-0.168
		Valor máximo de la envolvente	51.060	52.249	28.346	8.019	10.473	1.393
N343	Desplazamientos	Valor mínimo de la envolvente	-52.790	-50.738	-31.563	-15.200	-15.170	-0.231
		Valor máximo de la envolvente	50.586	51.840	24.797	8.535	10.299	1.295
N344	Desplazamientos	Valor mínimo de la envolvente	-50.207	-48.807	-25.139	-13.584	-14.265	-0.316
		Valor máximo de la envolvente	48.826	49.601	20.501	8.687	9.866	0.890
N345	Desplazamientos	Valor mínimo de la envolvente	-52.382	-50.104	-28.713	-15.965	-16.003	-0.250
		Valor máximo de la envolvente	50.444	51.801	21.350	9.240	10.001	0.642
N346	Desplazamientos	Valor mínimo de la envolvente	-55.225	-51.957	-36.024	-17.996	-17.480	-0.193

Envolvente de los desplazamientos en nudos									
Referencia	Combinación		Desplazamientos en ejes globales						
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	52.142	54.234	25.692	9.137	10.676	1.092
N347	Desplazamientos	Valor mínimo de la envolvente	-54.888	-51.638	-33.064	-17.754	-18.249	-0.332
		Valor máximo de la envolvente	52.209	54.637	22.244	9.628	10.195	0.334
N348	Desplazamientos	Valor mínimo de la envolvente	-54.417	-51.504	-32.527	-17.238	-18.539	-1.229
		Valor máximo de la envolvente	52.459	54.908	22.143	10.363	9.750	0.334
N349	Desplazamientos	Valor mínimo de la envolvente	-57.466	-53.197	-38.036	-19.095	-20.838	-0.756
		Valor máximo de la envolvente	53.902	57.685	23.222	9.908	10.357	0.267
N350	Desplazamientos	Valor mínimo de la envolvente	-56.593	-53.010	-40.214	-18.353	-21.121	-1.569
		Valor máximo de la envolvente	54.018	57.556	26.502	10.657	9.943	0.309
N351	Desplazamientos	Valor mínimo de la envolvente	-59.752	-54.561	-45.349	-20.015	-23.472	-1.101
		Valor máximo de la envolvente	55.315	60.446	26.164	10.079	10.493	0.258
N352	Desplazamientos	Valor mínimo de la envolvente	-58.218	-54.133	-48.272	-19.201	-23.698	-1.611
		Valor máximo de la envolvente	55.132	59.606	30.920	10.790	10.248	0.323
N353	Desplazamientos	Valor mínimo de la envolvente	-61.341	-55.525	-54.345	-20.451	-25.824	-1.164
		Valor máximo de la envolvente	56.270	62.432	30.581	10.151	10.625	0.276
N354	Desplazamientos	Valor mínimo de la envolvente	-58.917	-54.710	-56.550	-18.957	-25.884	-1.357
		Valor máximo de la envolvente	55.656	60.683	35.355	10.168	10.564	0.402
N355	Desplazamientos	Valor mínimo de la envolvente	-56.366	-53.521	-50.698	-17.916	-22.440	-1.758
		Valor máximo de la envolvente	54.746	58.132	35.695	10.713	9.886	0.544
N356	Desplazamientos	Valor mínimo de la envolvente	-56.198	-53.678	-58.379	-18.200	-24.191	-1.772
		Valor máximo de la envolvente	54.779	58.392	40.153	10.763	10.166	0.650
N357	Desplazamientos	Valor mínimo de la envolvente	-54.475	-52.725	-53.250	-16.585	-19.840	-2.020
		Valor máximo de la envolvente	54.094	56.296	40.458	10.683	9.584	0.860
N358	Desplazamientos	Valor mínimo de la envolvente	-58.752	-54.814	-64.888	-19.060	-27.574	-1.285
		Valor máximo de la envolvente	55.664	60.873	39.806	10.196	10.867	0.466
N359	Desplazamientos	Valor mínimo de la envolvente	-61.886	-55.960	-63.386	-20.467	-27.945	-0.936
		Valor máximo de la envolvente	56.657	63.318	35.027	10.191	10.996	0.347
N360	Desplazamientos	Valor mínimo de la envolvente	-57.950	-53.373	-41.428	-20.141	-19.727	-0.153
		Valor máximo de la envolvente	53.794	57.267	26.639	9.587	10.614	0.647
N361	Desplazamientos	Valor mínimo de la envolvente	-55.271	-52.449	-38.377	-17.175	-16.246	-0.212
		Valor máximo de la envolvente	52.225	53.912	29.246	8.498	10.653	1.686
N362	Desplazamientos	Valor mínimo de la envolvente	-67.938	-66.523	-71.981	-11.059	-24.198	-0.308
		Valor máximo de la envolvente	58.815	58.019	34.161	26.885	10.440	0.150
N363	Desplazamientos	Valor mínimo de la envolvente	-69.058	-67.554	-79.190	-11.236	-23.633	-0.236
		Valor máximo de la envolvente	59.291	58.514	35.427	28.486	10.539	0.181
N364	Desplazamientos	Valor mínimo de la envolvente	-65.781	-63.968	-61.496	-10.916	-22.544	-0.650
		Valor máximo de la envolvente	57.786	57.116	30.769	26.928	10.393	0.178
N365	Desplazamientos	Valor mínimo de la envolvente	-66.694	-64.710	-71.385	-11.105	-22.230	-0.506
		Valor máximo de la envolvente	58.199	57.560	35.340	28.715	10.477	0.235
N366	Desplazamientos	Valor mínimo de la envolvente	-63.201	-60.970	-54.783	-10.889	-20.723	-1.164
		Valor máximo de la envolvente	56.534	56.069	31.051	26.190	10.365	0.259
N367	Desplazamientos	Valor mínimo de la envolvente	-64.097	-61.598	-63.945	-11.500	-20.753	-0.924
		Valor máximo de la envolvente	56.976	56.540	35.592	28.574	10.417	0.315
N368	Desplazamientos	Valor mínimo de la envolvente	-60.329	-57.860	-48.643	-10.479	-19.457	-1.634
		Valor máximo de la envolvente	55.113	54.957	31.364	24.020	11.014	0.320
N369	Desplazamientos	Valor mínimo de la envolvente	-61.417	-58.635	-57.029	-10.890	-19.920	-1.356
		Valor máximo de la envolvente	55.700	55.559	35.892	26.325	11.094	0.373
N370	Desplazamientos	Valor mínimo de la envolvente	-57.584	-55.230	-43.510	-9.736	-17.374	-1.851
		Valor máximo de la envolvente	53.737	53.951	31.668	20.497	10.842	0.349
N371	Desplazamientos	Valor mínimo de la envolvente	-58.813	-56.091	-51.106	-10.042	-18.143	-1.669
		Valor máximo de la envolvente	54.477	54.669	36.209	22.696	10.925	0.424
N372	Desplazamientos	Valor mínimo de la envolvente	-55.319	-53.456	-39.725	-9.028	-15.570	-1.601

Envolvente de los desplazamientos en nudos									
Referencia	Combinación		Desplazamientos en ejes globales						
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	52.579	53.180	31.881	16.227	10.747	0.310
N373	Desplazamientos	Valor mínimo de la envolvente	-56.581	-54.306	-46.590	-9.299	-16.422	-1.777
		Valor máximo de la envolvente	53.424	53.963	36.464	18.135	10.850	0.583
N374	Desplazamientos	Valor mínimo de la envolvente	-53.928	-52.578	-37.474	-8.382	-14.322	-0.951
		Valor máximo de la envolvente	51.866	52.724	31.958	11.811	10.716	0.202
N375	Desplazamientos	Valor mínimo de la envolvente	-55.154	-53.384	-43.810	-8.557	-14.926	-1.148
		Valor máximo de la envolvente	52.761	53.521	36.597	12.928	10.794	0.479
N376	Desplazamientos	Valor mínimo de la envolvente	-53.545	-52.352	-36.742	-9.188	-13.818	-0.381
		Valor máximo de la envolvente	51.668	52.612	31.931	9.174	10.673	0.368
N377	Desplazamientos	Valor mínimo de la envolvente	-54.698	-53.122	-42.883	-9.333	-14.094	-0.511
		Valor máximo de la envolvente	52.546	53.388	36.615	9.321	10.673	0.497
N378	Desplazamientos	Valor mínimo de la envolvente	-53.834	-52.481	-37.458	-11.794	-14.172	-0.182
		Valor máximo de la envolvente	51.783	52.855	31.937	8.359	10.583	0.902
N379	Desplazamientos	Valor mínimo de la envolvente	-55.055	-53.272	-43.785	-12.873	-14.693	-0.472
		Valor máximo de la envolvente	52.675	53.668	36.572	8.509	10.580	1.108
N380	Desplazamientos	Valor mínimo de la envolvente	-55.143	-52.961	-40.709	-15.339	-15.404	-0.274
		Valor máximo de la envolvente	52.431	53.756	32.864	8.149	10.622	1.532
N381	Desplazamientos	Valor mínimo de la envolvente	-56.407	-53.736	-47.525	-17.132	-16.203	-0.546
		Valor máximo de la envolvente	53.281	54.610	37.412	8.324	10.677	1.704
N382	Desplazamientos	Valor mínimo de la envolvente	-57.299	-53.736	-45.616	-19.272	-17.275	-0.219
		Valor máximo de la envolvente	53.503	55.534	33.783	8.528	10.815	1.746
N383	Desplazamientos	Valor mínimo de la envolvente	-58.521	-54.443	-53.211	-21.240	-18.011	-0.400
		Valor máximo de la envolvente	54.239	56.394	38.347	8.627	10.870	1.608
N384	Desplazamientos	Valor mínimo de la envolvente	-59.960	-54.741	-51.998	-22.583	-19.444	-0.201
		Valor máximo de la envolvente	54.823	58.161	34.742	9.064	11.105	1.529
N385	Desplazamientos	Valor mínimo de la envolvente	-57.892	-53.570	-43.812	-20.327	-18.591	-0.190
		Valor máximo de la envolvente	53.675	56.472	30.174	9.078	10.967	1.498
N386	Desplazamientos	Valor mínimo de la envolvente	-60.726	-54.842	-50.307	-22.600	-20.751	-0.144
		Valor máximo de la envolvente	55.180	59.618	31.171	9.547	10.890	1.004
N387	Desplazamientos	Valor mínimo de la envolvente	-62.720	-55.854	-59.473	-24.809	-21.244	-0.155
		Valor máximo de la envolvente	56.160	61.270	35.781	9.538	11.020	1.058
N388	Desplazamientos	Valor mínimo de la envolvente	-63.417	-56.078	-57.488	-23.877	-23.130	-0.118
		Valor máximo de la envolvente	56.552	62.790	32.248	9.874	11.062	0.483
N389	Desplazamientos	Valor mínimo de la envolvente	-60.659	-54.783	-47.528	-21.544	-22.373	-0.260
		Valor máximo de la envolvente	55.338	60.445	27.667	9.887	10.792	0.263
N390	Desplazamientos	Valor mínimo de la envolvente	-62.936	-55.973	-54.026	-22.220	-24.867	-0.575
		Valor máximo de la envolvente	56.573	63.187	28.762	10.074	10.940	0.214
N391	Desplazamientos	Valor mínimo de la envolvente	-65.522	-57.081	-64.955	-24.234	-25.283	-0.226
		Valor máximo de la envolvente	57.592	65.368	33.395	10.100	11.227	0.228
N392	Desplazamientos	Valor mínimo de la envolvente	-64.353	-56.752	-61.005	-22.253	-27.003	-0.679
		Valor máximo de la envolvente	57.343	64.972	30.293	10.183	11.095	0.219
N393	Desplazamientos	Valor mínimo de la envolvente	-66.927	-57.779	-72.354	-23.911	-27.139	-0.340
		Valor máximo de la envolvente	58.275	67.112	34.594	10.258	11.410	0.191
N394	Desplazamientos	Valor mínimo de la envolvente	-65.006	-57.156	-70.766	-21.922	-28.756	-0.546
		Valor máximo de la envolvente	57.701	65.873	34.770	10.252	11.275	0.288
N395	Desplazamientos	Valor mínimo de la envolvente	-67.865	-58.240	-79.481	-23.325	-28.726	-0.294
		Valor máximo de la envolvente	58.683	68.211	35.824	10.340	11.600	0.248
N396	Desplazamientos	Valor mínimo de la envolvente	-65.170	-57.299	-80.356	-21.725	-30.148	-0.492
		Valor máximo de la envolvente	57.751	66.181	39.279	10.281	11.457	0.339
N397	Desplazamientos	Valor mínimo de la envolvente	-61.881	-56.090	-72.364	-20.413	-29.535	-0.856
		Valor máximo de la envolvente	56.686	63.569	39.499	10.225	11.289	0.402
N398	Desplazamientos	Valor mínimo de la envolvente	-68.171	-58.408	-88.444	-23.024	-30.048	-0.286

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	58.751	68.590	39.162	10.360	11.768	0.296
N399	Desplazamientos	Valor mínimo de la envolvente	-65.214	-56.907	-67.575	-25.884	-23.191	-0.116
		Valor máximo de la envolvente	57.349	64.270	36.910	9.900	11.200	0.579
N400	Desplazamientos	Valor mínimo de la envolvente	-61.050	-55.329	-60.418	-24.504	-19.897	-0.362
		Valor máximo de la envolvente	55.417	58.928	39.339	9.117	11.180	1.314
N401	Desplazamientos	Valor mínimo de la envolvente	-71.394	-70.288	-98.834	-11.324	-24.566	-0.310
		Valor máximo de la envolvente	60.277	59.472	41.439	28.841	10.575	0.313
N402	Desplazamientos	Valor mínimo de la envolvente	-69.455	-67.960	-89.204	-11.401	-23.338	-0.210
		Valor máximo de la envolvente	59.475	58.681	39.769	29.829	10.563	0.207
N403	Desplazamientos	Valor mínimo de la envolvente	-67.007	-64.967	-81.109	-11.307	-22.046	-0.470
		Valor máximo de la envolvente	58.346	57.706	39.945	30.149	10.516	0.302
N404	Desplazamientos	Valor mínimo de la envolvente	-64.349	-61.680	-73.044	-10.928	-20.703	-0.843
		Valor máximo de la envolvente	57.106	56.660	40.159	29.321	10.452	0.369
N405	Desplazamientos	Valor mínimo de la envolvente	-61.609	-58.551	-65.475	-11.291	-20.053	-1.274
		Valor máximo de la envolvente	55.805	55.656	40.437	28.133	11.149	0.425
N406	Desplazamientos	Valor mínimo de la envolvente	-59.075	-55.998	-58.883	-10.359	-18.438	-1.691
		Valor máximo de la envolvente	54.636	54.785	40.756	24.503	10.982	0.537
N407	Desplazamientos	Valor mínimo de la envolvente	-56.933	-54.279	-53.693	-9.602	-16.804	-1.925
		Valor máximo de la envolvente	53.653	54.114	41.050	19.951	10.904	0.734
N408	Desplazamientos	Valor mínimo de la envolvente	-55.568	-53.455	-50.332	-9.365	-14.973	-1.319
		Valor máximo de la envolvente	53.056	53.707	41.236	14.630	10.579	0.665
N409	Desplazamientos	Valor mínimo de la envolvente	-55.104	-53.268	-49.110	-9.443	-14.200	-0.643
		Valor máximo de la envolvente	52.851	53.541	41.294	9.433	10.669	0.628
N410	Desplazamientos	Valor mínimo de la envolvente	-55.464	-53.434	-50.300	-14.558	-14.946	-0.661
		Valor máximo de la envolvente	52.966	53.728	41.209	9.311	10.574	1.282
N411	Desplazamientos	Valor mínimo de la envolvente	-56.768	-53.877	-54.583	-19.664	-16.545	-0.686
		Valor máximo de la envolvente	53.519	54.587	41.965	9.364	10.696	1.838
N412	Desplazamientos	Valor mínimo de la envolvente	-58.774	-54.548	-60.988	-22.886	-18.264	-0.515
		Valor máximo de la envolvente	54.390	56.302	42.919	8.808	10.890	1.631
N413	Desplazamientos	Valor mínimo de la envolvente	-61.251	-55.411	-68.891	-26.020	-20.024	-0.436
		Valor máximo de la envolvente	55.532	58.840	43.947	9.252	11.233	1.251
N414	Desplazamientos	Valor mínimo de la envolvente	-63.608	-56.305	-68.689	-26.614	-21.273	-0.247
		Valor máximo de la envolvente	56.598	61.882	40.424	9.595	11.075	0.836
N415	Desplazamientos	Valor mínimo de la envolvente	-63.852	-56.407	-77.836	-28.031	-21.219	-0.310
		Valor máximo de la envolvente	56.722	61.952	45.086	9.718	11.109	0.763
N416	Desplazamientos	Valor mínimo de la envolvente	-66.125	-57.326	-77.540	-27.541	-22.858	-0.180
		Valor máximo de la envolvente	57.765	64.988	41.615	9.987	11.270	0.440
N417	Desplazamientos	Valor mínimo de la envolvente	-66.444	-57.451	-87.330	-28.869	-22.666	-0.223
		Valor máximo de la envolvente	57.921	65.227	46.345	10.107	11.304	0.377
N418	Desplazamientos	Valor mínimo de la envolvente	-68.369	-58.288	-86.507	-27.476	-24.370	-0.207
		Valor máximo de la envolvente	58.762	67.834	42.897	10.275	11.467	0.254
N419	Desplazamientos	Valor mínimo de la envolvente	-67.270	-57.822	-75.857	-25.975	-24.963	-0.142
		Valor máximo de la envolvente	58.299	66.834	38.120	10.169	11.390	0.293
N420	Desplazamientos	Valor mínimo de la envolvente	-68.953	-58.574	-83.969	-25.416	-26.570	-0.200
		Valor máximo de la envolvente	59.040	68.854	39.392	10.353	11.587	0.201
N421	Desplazamientos	Valor mínimo de la envolvente	-70.222	-59.079	-95.247	-26.788	-25.817	-0.216
		Valor máximo de la envolvente	59.543	70.063	44.242	10.455	11.657	0.196
N422	Desplazamientos	Valor mínimo de la envolvente	-70.104	-59.069	-91.725	-24.665	-28.022	-0.199
		Valor máximo de la envolvente	59.490	70.119	40.696	10.424	11.766	0.222
N423	Desplazamientos	Valor mínimo de la envolvente	-71.505	-59.607	-103.589	-25.914	-27.148	-0.212
		Valor máximo de la envolvente	60.023	71.464	45.611	10.500	11.813	0.212
N424	Desplazamientos	Valor mínimo de la envolvente	-70.513	-59.243	-99.184	-24.280	-29.285	-0.239

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	59.569	70.547	42.008	10.424	11.911	0.241
N425	Desplazamientos	Valor mínimo de la envolvente	-71.971	-59.806	-111.600	-25.443	-28.251	-0.287
		Valor máximo de la envolvente	60.106	71.949	46.976	10.486	11.925	0.222
N426	Desplazamientos	Valor mínimo de la envolvente	-68.741	-58.432	-96.908	-28.740	-24.066	-0.269
		Valor máximo de la envolvente	58.925	68.217	47.696	10.386	11.485	0.262
N427	Desplazamientos	Valor mínimo de la envolvente	-70.650	-59.238	-106.238	-27.996	-25.447	-0.235
		Valor máximo de la envolvente	59.719	70.554	49.107	10.546	11.674	0.234
N428	Desplazamientos	Valor mínimo de la envolvente	-71.984	-59.786	-115.133	-26.960	-26.688	-0.171
		Valor máximo de la envolvente	60.216	72.026	50.532	10.555	11.812	0.237
N429	Desplazamientos	Valor mínimo de la envolvente	-72.460	-59.995	-123.618	-26.313	-27.608	-0.240
		Valor máximo de la envolvente	60.296	72.537	51.937	10.519	11.895	0.240
N430	Desplazamientos	Valor mínimo de la envolvente	-29.571	-29.615	-6.362	-7.954	-8.692	-2.317
		Valor máximo de la envolvente	29.149	29.645	5.961	7.742	8.482	2.231
N431	Desplazamientos	Valor mínimo de la envolvente	-23.996	-25.530	-4.926	-8.487	-8.212	-1.848
		Valor máximo de la envolvente	23.892	25.663	4.668	8.436	7.973	1.862
N432	Desplazamientos	Valor mínimo de la envolvente	-30.300	-28.592	-6.267	-8.500	-7.950	-2.519
		Valor máximo de la envolvente	30.216	29.169	5.891	8.225	8.140	2.409
N433	Desplazamientos	Valor mínimo de la envolvente	-12.137	-12.850	-3.089	-7.087	-7.546	-1.698
		Valor máximo de la envolvente	12.497	12.552	2.531	6.808	7.302	1.723
N434	Desplazamientos	Valor mínimo de la envolvente	-12.957	-12.506	-2.995	-7.329	-7.037	-1.840
		Valor máximo de la envolvente	12.590	12.180	2.432	7.034	7.305	1.838
N435	Desplazamientos	Valor mínimo de la envolvente	-26.145	-23.402	-4.793	-8.062	-8.627	-2.011
		Valor máximo de la envolvente	26.174	23.636	4.566	7.767	8.640	2.021
N436	Desplazamientos	Valor mínimo de la envolvente	-5.362	-5.329	-0.955	-5.297	-5.450	-0.485
		Valor máximo de la envolvente	5.326	5.351	0.852	5.273	5.496	0.489
N437	Desplazamientos	Valor mínimo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
		Valor máximo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
N438	Desplazamientos	Valor mínimo de la envolvente	-5.358	-5.175	-0.932	-5.415	-5.343	-0.490
		Valor máximo de la envolvente	5.361	5.158	0.827	5.347	5.346	0.487
N439	Desplazamientos	Valor mínimo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
		Valor máximo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
N440	Desplazamientos	Valor mínimo de la envolvente	-5.493	-5.208	-0.954	-5.381	-5.419	-0.566
		Valor máximo de la envolvente	5.493	5.267	0.856	5.400	5.423	0.567
N441	Desplazamientos	Valor mínimo de la envolvente	-12.555	-12.216	-3.230	-7.087	-7.197	-1.785
		Valor máximo de la envolvente	12.172	12.613	2.643	7.281	7.466	1.770
N442	Desplazamientos	Valor mínimo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
		Valor máximo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
N443	Desplazamientos	Valor mínimo de la envolvente	-5.435	-5.585	-0.983	-5.401	-5.562	-0.585
		Valor máximo de la envolvente	5.473	5.609	0.881	5.377	5.518	0.581
N444	Desplazamientos	Valor mínimo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
		Valor máximo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
N445	Desplazamientos	Valor mínimo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
		Valor máximo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
N446	Desplazamientos	Valor mínimo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
		Valor máximo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
N447	Desplazamientos	Valor mínimo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
		Valor máximo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
N448	Desplazamientos	Valor mínimo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
		Valor máximo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
N449	Desplazamientos	Valor mínimo de la envolvente	-1.917	-1.942	-0.025	-0.872	-0.878	-0.010
		Valor máximo de la envolvente	1.921	1.902	0.020	0.888	0.880	0.010
N450	Desplazamientos	Valor mínimo de la envolvente	-1.929	-1.895	-0.034	-0.892	-0.883	-0.014

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	1.911	1.950	0.029	0.869	0.875	0.014
N451	Desplazamientos	Valor mínimo de la envolvente	-2.106	-2.102	-0.008	-0.945	-0.942	-0.003
		Valor máximo de la envolvente	2.106	2.112	0.004	0.941	0.942	0.003
N452	Desplazamientos	Valor mínimo de la envolvente	-1.907	-1.895	-0.034	-0.892	-0.874	-0.014
		Valor máximo de la envolvente	1.939	1.951	0.029	0.869	0.887	0.014
N453	Desplazamientos	Valor mínimo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
		Valor máximo de la envolvente	0.000	0.000	0.000	0.000	0.000	0.000
N454	Desplazamientos	Valor mínimo de la envolvente	-26.717	-26.209	-0.201	-6.152	-6.251	-0.173
		Valor máximo de la envolvente	26.737	26.336	-0.055	6.120	6.258	0.176
N455	Desplazamientos	Valor mínimo de la envolvente	-14.027	-14.351	-3.016	-7.457	-6.703	-1.297
		Valor máximo de la envolvente	14.027	14.416	2.831	7.420	6.686	1.290
N456	Desplazamientos	Valor mínimo de la envolvente	-14.497	-13.678	-2.901	-6.510	-7.543	-1.300
		Valor máximo de la envolvente	14.507	13.734	2.727	6.500	7.553	1.306
N457	Desplazamientos	Valor mínimo de la envolvente	-13.921	-14.120	-2.957	-7.396	-6.581	-1.167
		Valor máximo de la envolvente	13.934	14.187	2.766	7.357	6.609	1.177
N458	Desplazamientos	Valor mínimo de la envolvente	-14.327	-13.631	-2.938	-6.509	-7.464	-1.177
		Valor máximo de la envolvente	14.336	13.699	2.737	6.453	7.471	1.172
N459	Desplazamientos	Valor mínimo de la envolvente	-13.891	-13.634	-0.167	-6.055	-6.143	-0.140
		Valor máximo de la envolvente	13.898	13.696	-0.044	6.025	6.148	0.141
N460	Desplazamientos	Valor mínimo de la envolvente	-7.747	-7.600	-0.121	-4.488	-4.561	-0.104
		Valor máximo de la envolvente	7.750	7.632	-0.030	4.466	4.565	0.102
N461	Desplazamientos	Valor mínimo de la envolvente	-54.290	-54.216	-45.952	-10.512	-13.610	-0.522
		Valor máximo de la envolvente	54.281	52.066	38.296	14.582	8.656	1.186
N462	Desplazamientos	Valor mínimo de la envolvente	-53.873	-53.406	-39.633	-10.505	-12.553	-0.256
		Valor máximo de la envolvente	53.814	51.477	33.695	14.172	8.517	0.995
N463	Desplazamientos	Valor mínimo de la envolvente	-54.090	-53.812	-42.792	-10.506	-13.080	-0.471
		Valor máximo de la envolvente	54.071	51.774	36.012	14.431	8.566	1.183
N464	Desplazamientos	Valor mínimo de la envolvente	-52.768	-51.903	-33.582	-10.521	-11.537	-0.200
		Valor máximo de la envolvente	52.752	50.345	29.141	13.654	8.416	1.000
N465	Desplazamientos	Valor mínimo de la envolvente	-51.182	-49.942	-27.853	-10.374	-10.663	-0.397
		Valor máximo de la envolvente	51.218	48.810	24.676	13.002	8.338	1.154
N466	Desplazamientos	Valor mínimo de la envolvente	-49.325	-47.789	-22.400	-10.140	-9.888	-0.706
		Valor máximo de la envolvente	49.381	47.067	20.278	12.315	8.292	1.359
N467	Desplazamientos	Valor mínimo de la envolvente	-46.969	-45.160	-17.246	-9.889	-9.197	-1.071
		Valor máximo de la envolvente	47.036	44.862	15.974	11.556	8.327	1.574
N468	Desplazamientos	Valor mínimo de la envolvente	-43.509	-41.392	-12.457	-9.567	-8.754	-1.459
		Valor máximo de la envolvente	43.615	41.557	11.784	10.622	8.455	1.676
N469	Desplazamientos	Valor mínimo de la envolvente	-20.875	-20.489	-0.200	-6.152	-6.251	-0.173
		Valor máximo de la envolvente	20.888	20.586	-0.055	6.120	6.258	0.176
N470	Desplazamientos	Valor mínimo de la envolvente	-20.876	-22.006	-4.350	-8.416	-7.451	-1.971
		Valor máximo de la envolvente	20.865	22.117	4.105	8.367	7.333	1.987
N471	Desplazamientos	Valor mínimo de la envolvente	-20.864	-22.135	-4.421	-8.449	-7.374	-2.118
		Valor máximo de la envolvente	20.901	22.241	4.186	8.404	7.511	2.106
N472	Desplazamientos	Valor mínimo de la envolvente	-22.565	-20.472	-4.246	-7.328	-8.561	-2.132
		Valor máximo de la envolvente	22.588	20.593	4.026	7.163	8.575	2.143
N473	Desplazamientos	Valor mínimo de la envolvente	-22.416	-20.506	-4.338	-7.232	-8.509	-2.009
		Valor máximo de la envolvente	22.435	20.579	4.077	7.320	8.521	2.001
N474	Desplazamientos	Valor mínimo de la envolvente	-7.923	-7.612	-1.567	-5.624	-6.080	-0.647
		Valor máximo de la envolvente	7.925	7.653	1.444	5.651	6.085	0.649
N475	Desplazamientos	Valor mínimo de la envolvente	-7.740	-7.536	-1.556	-5.666	-5.993	-0.552
		Valor máximo de la envolvente	7.745	7.559	1.420	5.585	5.996	0.548
N476	Desplazamientos	Valor mínimo de la envolvente	-7.698	-7.616	-1.565	-5.926	-5.670	-0.547

Envolvente de los desplazamientos en nudos								
Referencia	Combinación		Desplazamientos en ejes globales					
	Tipo	Descripción	Dx (mm)	Dy (mm)	Dz (mm)	Gx (mRad)	Gy (mRad)	Gz (mRad)
		Valor máximo de la envolvente	7.692	7.648	1.434	5.898	5.727	0.551
N477	Desplazamientos	Valor mínimo de la envolvente	-7.880	-7.964	-1.622	-6.028	-5.836	-0.666
		Valor máximo de la envolvente	7.890	7.998	1.493	6.000	5.784	0.662
N478	Desplazamientos	Valor mínimo de la envolvente	-54.048	-53.759	-44.921	-10.596	-9.426	-0.616
		Valor máximo de la envolvente	54.135	51.863	38.373	13.895	9.520	0.572
N479	Desplazamientos	Valor mínimo de la envolvente	-53.598	-52.993	-38.850	-10.591	-9.306	-0.425
		Valor máximo de la envolvente	53.696	51.277	33.727	13.695	9.397	0.401
N480	Desplazamientos	Valor mínimo de la envolvente	-52.557	-51.567	-32.902	-10.567	-9.168	-0.430
		Valor máximo de la envolvente	52.652	50.165	29.082	13.343	9.249	0.418
N481	Desplazamientos	Valor mínimo de la envolvente	-51.028	-49.666	-27.131	-10.514	-9.016	-0.629
		Valor máximo de la envolvente	51.115	48.639	24.449	12.889	9.080	0.621
N482	Desplazamientos	Valor mínimo de la envolvente	-49.185	-47.514	-21.570	-10.424	-8.845	-0.814
		Valor máximo de la envolvente	49.266	46.855	19.840	12.367	8.890	0.807
N483	Desplazamientos	Valor mínimo de la envolvente	-46.737	-44.685	-16.251	-10.285	-8.664	-0.965
		Valor máximo de la envolvente	46.812	44.425	15.275	11.756	8.695	0.965
N484	Desplazamientos	Valor mínimo de la envolvente	-43.082	-40.497	-11.227	-10.028	-8.507	-1.164
		Valor máximo de la envolvente	43.146	40.673	10.786	10.936	8.529	1.171
N485	Desplazamientos	Valor mínimo de la envolvente	-54.205	-54.112	-48.357	-10.551	-9.492	-1.248
		Valor máximo de la envolvente	54.270	52.073	40.686	14.304	12.637	0.770
N486	Desplazamientos	Valor mínimo de la envolvente	-54.196	-54.147	-48.291	-10.548	-12.538	-0.805
		Valor máximo de la envolvente	54.285	52.117	40.664	14.310	9.577	1.267
N487	Desplazamientos	Valor mínimo de la envolvente	-54.681	-55.056	-50.950	-10.488	-17.561	-0.767
		Valor máximo de la envolvente	54.582	52.498	40.855	15.405	9.280	1.982
N488	Desplazamientos	Valor mínimo de la envolvente	-55.968	-56.825	-56.528	-10.622	-22.402	-0.639
		Valor máximo de la envolvente	55.134	53.264	41.755	17.047	9.684	2.081
N489	Desplazamientos	Valor mínimo de la envolvente	-72.483	-71.395	-108.619	-11.166	-26.703	-0.339
		Valor máximo de la envolvente	60.621	59.896	47.064	26.323	10.614	0.138
N490	Desplazamientos	Valor mínimo de la envolvente	-71.591	-70.472	-97.158	-11.181	-25.558	-0.320
		Valor máximo de la envolvente	60.335	59.546	42.418	27.078	10.583	0.329

Nota: Las combinaciones de hormigón indicadas son las mismas que se utilizan para comprobar el estado límite de equilibrio en la fundación.

. Reacciones

Referencias:

Rx, Ry, Rz: Reacciones en nudos con desplazamientos coaccionados (fuerzas).
Mx, My, Mz: Reacciones en nudos con giros coaccionados (momentos).

2.2.1.2.1. Envolventes

Envolventes de las reacciones en nudos								
Referencia	Combinación		Reacciones en ejes globales					
	Tipo	Descripción	Rx (t)	Ry (t)	Rz (t)	Mx (t·m)	My (t·m)	Mz (t·m)
N437	Hormigón en cimentaciones	Valor mínimo de la envolvente	-0.026	-0.026	0.072	-0.087	-0.087	0.000
		Valor máximo de la envolvente	0.026	0.026	0.112	0.088	0.087	0.000
	Tensiones sobre el terreno	Valor mínimo de la envolvente	-0.018	-0.018	0.048	-0.061	-0.061	0.000
		Valor máximo de la envolvente	0.018	0.018	0.080	0.061	0.061	0.000
N439	Hormigón en cimentaciones	Valor mínimo de la envolvente	-2.696	-2.781	-83.931	-8.607	-8.161	-0.405
		Valor máximo de la envolvente	2.984	2.774	96.347	8.648	8.433	0.400
	Tensiones sobre el terreno	Valor mínimo de la envolvente	-1.759	-1.819	-54.750	-5.629	-5.335	-0.268
		Valor máximo de la envolvente	1.978	1.814	64.210	5.660	5.541	0.265

Envolventes de las reacciones en nudos								
Referencia	Combinación		Reacciones en ejes globales					
	Tipo	Descripción	Rx (t)	Ry (t)	Rz (t)	Mx (t·m)	My (t·m)	Mz (t·m)
N442	Hormigón en cimentaciones	Valor mínimo de la envolvente	-0.026	-0.026	0.071	-0.085	-0.084	-0.001
		Valor máximo de la envolvente	0.026	0.026	0.110	0.082	0.083	0.001
	Tensiones sobre el terreno	Valor mínimo de la envolvente	-0.018	-0.018	0.047	-0.060	-0.058	-0.001
		Valor máximo de la envolvente	0.018	0.018	0.078	0.057	0.058	0.001
N444	Hormigón en cimentaciones	Valor mínimo de la envolvente	-2.891	-2.516	-81.821	-8.207	-8.840	-0.421
		Valor máximo de la envolvente	2.891	2.809	94.588	7.964	8.834	0.425
	Tensiones sobre el terreno	Valor mínimo de la envolvente	-1.878	-1.641	-53.593	-5.389	-5.766	-0.267
		Valor máximo de la envolvente	1.878	1.864	63.321	5.203	5.760	0.270
N445	Hormigón en cimentaciones	Valor mínimo de la envolvente	-0.026	-0.026	0.071	-0.081	-0.083	-0.001
		Valor máximo de la envolvente	0.026	0.026	0.110	0.086	0.084	0.001
	Tensiones sobre el terreno	Valor mínimo de la envolvente	-0.018	-0.018	0.047	-0.057	-0.058	-0.001
		Valor máximo de la envolvente	0.018	0.018	0.078	0.060	0.059	0.001
N446	Hormigón en cimentaciones	Valor mínimo de la envolvente	-2.771	-2.890	-84.901	-7.796	-8.792	-0.461
		Valor máximo de la envolvente	2.761	2.626	96.563	8.103	8.801	0.460
	Tensiones sobre el terreno	Valor mínimo de la envolvente	-1.834	-1.915	-55.434	-5.094	-5.741	-0.306
		Valor máximo de la envolvente	1.826	1.714	64.320	5.329	5.748	0.305
N447	Hormigón en cimentaciones	Valor mínimo de la envolvente	-2.508	-2.737	-83.879	-8.593	-8.012	-0.487
		Valor máximo de la envolvente	2.229	2.728	95.847	8.636	7.743	0.491
	Tensiones sobre el terreno	Valor mínimo de la envolvente	-1.659	-1.788	-55.027	-5.613	-5.260	-0.313
		Valor máximo de la envolvente	1.446	1.781	64.146	5.645	5.055	0.316
N448	Hormigón en cimentaciones	Valor mínimo de la envolvente	-0.026	-0.026	0.071	-0.081	-0.085	-0.002
		Valor máximo de la envolvente	0.026	0.026	0.110	0.086	0.082	0.002
	Tensiones sobre el terreno	Valor mínimo de la envolvente	-0.018	-0.018	0.047	-0.057	-0.060	-0.001
		Valor máximo de la envolvente	0.018	0.018	0.078	0.060	0.058	0.001
N453	Hormigón en cimentaciones	Valor mínimo de la envolvente	-3.440	-3.394	2.463	-5.940	-6.053	-0.046
		Valor máximo de la envolvente	3.441	3.381	8.970	5.969	6.052	0.047
	Tensiones sobre el terreno	Valor mínimo de la envolvente	-2.245	-2.220	1.725	-3.883	-3.955	-0.026
		Valor máximo de la envolvente	2.246	2.210	6.602	3.904	3.954	0.027

Nota: Las combinaciones de hormigón indicadas son las mismas que se utilizan para comprobar el estado límite de equilibrio en la fundación.

8. DISEÑO ESTRUCTURAL DE LOS ELEMENTOS

8.1 Diseño de sistema de cimentación

Comprobación

Referencia: (N437 - N439 - N442 - N444 - N445 - N446 - N447 - N448 - N453) Dimensiones: 455 x 455 x 85 Armados: Xi:Ø7/8"c/25 Yi:Ø7/8"c/25 Xs:Ø7/8"c/25 Ys:Ø7/8"c/25		
Comprobación	Valores	Estado
Tensiones sobre el terreno: *Criterio de CYPE*		

Referencia: (N437 - N439 - N442 - N444 - N445 - N446 - N447 - N448 - N453) Dimensiones: 455 x 455 x 85 Armados: Xi:Ø7/8"c/25 Yi:Ø7/8"c/25 Xs:Ø7/8"c/25 Ys:Ø7/8"c/25		
Comprobación	Valores	Estado
- Tensión media en situaciones persistentes:	Máximo: 1.00 kp/cm² Calculado: 0.43 kp/cm²	Cumple
- Tensión media en situaciones accidentales sísmicas:	Máximo: 2.00 kp/cm² Calculado: 1.20 kp/cm²	Cumple
- Tensión máxima en situaciones persistentes:	Máximo: 1.25 kp/cm² Calculado: 0.44 kp/cm²	Cumple
- Tensión máxima en situaciones accidentales sísmicas:	Máximo: 2.66 kp/cm² Calculado: 2.65 kp/cm²	Cumple
Vuelco de la zapata: *Si el % de reserva de seguridad es mayor que cero, quiere decir que los coeficientes de seguridad al vuelco son mayores que los valores estrictos exigidos para todas las combinaciones de equilibrio.*		
- En dirección X:	Reserva seguridad: 11.4 %	Cumple
- En dirección Y:	Reserva seguridad: 11.0 %	Cumple
Flexión en la zapata:		
- En dirección X:	Momento: 80.31 t·m	Cumple
- En dirección Y:	Momento: 80.77 t·m	Cumple
Cortante en la zapata:		
- En dirección X:	Cortante: 56.66 t	Cumple
- En dirección Y:	Cortante: 56.77 t	Cumple
Compresión oblicua en la zapata: *Criterio de CYPE*	Máximo: 750 t/m²	
- Situaciones persistentes:	Calculado: 15.8 t/m²	Cumple
- Situaciones accidentales sísmicas:	Calculado: 110.14 t/m²	Cumple
Altura mínima: *Capítulo C.15.7 (norma NSR-10)*	Mínimo: 21 cm Calculado: 85 cm	Cumple
Espacio para anclar arranques en fundación:	Mínimo: 0 cm	
- N437:	Calculado: 76 cm	Cumple
- N439:	Calculado: 76 cm	Cumple
- N442:	Calculado: 76 cm	Cumple
- N444:	Calculado: 76 cm	Cumple
- N445:	Calculado: 76 cm	Cumple
- N446:	Calculado: 76 cm	Cumple
- N447:	Calculado: 76 cm	Cumple
- N448:	Calculado: 76 cm	Cumple

Referencia: (N437 - N439 - N442 - N444 - N445 - N446 - N447 - N448 - N453) Dimensiones: 455 x 455 x 85 Armados: Xi:Ø7/8"c/25 Yi:Ø7/8"c/25 Xs:Ø7/8"c/25 Ys:Ø7/8"c/25		
Comprobación	Valores	Estado
- N453:	Calculado: 76 cm	Cumple
Cuantía geométrica mínima: *Capítulo C.7.12.2.1 (norma NSR-10)*	Mínimo: 0.0018	
- Armado inferior dirección X:	Calculado: 0.00181	Cumple
- Armado superior dirección X:	Calculado: 0.00181	Cumple
- Armado inferior dirección Y:	Calculado: 0.00181	Cumple
- Armado superior dirección Y:	Calculado: 0.00181	Cumple
Diámetro mínimo de las barras: *Criterio de CYPE*	Mínimo: 10 mm	
- Parrilla inferior:	Calculado: 22.225 mm	Cumple
- Parrilla superior:	Calculado: 22.225 mm	Cumple
Separación máxima entre barras: *Criterio de CYPE*	Máximo: 30 cm	
- Armado inferior dirección X:	Calculado: 25 cm	Cumple
- Armado inferior dirección Y:	Calculado: 25 cm	Cumple
- Armado superior dirección X:	Calculado: 25 cm	Cumple
- Armado superior dirección Y:	Calculado: 25 cm	Cumple
Separación mínima entre barras: *Criterio de CYPE, basado en: J. Calavera. "Cálculo de Estructuras de Cimentación". Capítulo 3.16*	Mínimo: 10 cm	
- Armado inferior dirección X:	Calculado: 25 cm	Cumple
- Armado inferior dirección Y:	Calculado: 25 cm	Cumple
- Armado superior dirección X:	Calculado: 25 cm	Cumple
- Armado superior dirección Y:	Calculado: 25 cm	Cumple
Longitud de anclaje: *Criterio del libro "Cálculo de estructuras de cimentación", J. Calavera. Ed. INTEMAC, 1991*		
- Armado inf. dirección X hacia der:	Mínimo: 48 cm Calculado: 126 cm	Cumple
- Armado inf. dirección X hacia izq:	Mínimo: 48 cm Calculado: 126 cm	Cumple
- Armado inf. dirección Y hacia arriba:	Mínimo: 49 cm Calculado: 126 cm	Cumple
- Armado inf. dirección Y hacia abajo:	Mínimo: 48 cm Calculado: 125 cm	Cumple

Referencia: (N437 - N439 - N442 - N444 - N445 - N446 - N447 - N448 - N453) Dimensiones: 455 x 455 x 85 Armados: Xi:Ø7/8"c/25 Yi:Ø7/8"c/25 Xs:Ø7/8"c/25 Ys:Ø7/8"c/25		
Comprobación	Valores	Estado
- Armado sup. dirección X hacia der:	Mínimo: 30 cm Calculado: 126 cm	Cumple
- Armado sup. dirección X hacia izq:	Mínimo: 30 cm Calculado: 126 cm	Cumple
- Armado sup. dirección Y hacia arriba:	Mínimo: 30 cm Calculado: 126 cm	Cumple
- Armado sup. dirección Y hacia abajo:	Mínimo: 30 cm Calculado: 125 cm	Cumple
Longitud mínima de los ganchos:	Mínimo: 36 cm	
- Armado inf. dirección X hacia der:	Calculado: 36 cm	Cumple
- Armado inf. dirección X hacia izq:	Calculado: 36 cm	Cumple
- Armado inf. dirección Y hacia arriba:	Calculado: 36 cm	Cumple
- Armado inf. dirección Y hacia abajo:	Calculado: 36 cm	Cumple
- Armado sup. dirección X hacia der:	Calculado: 36 cm	Cumple
- Armado sup. dirección X hacia izq:	Calculado: 36 cm	Cumple
- Armado sup. dirección Y hacia arriba:	Calculado: 36 cm	Cumple
- Armado sup. dirección Y hacia abajo:	Calculado: 36 cm	Cumple
Se cumplen todas las comprobaciones		
Información adicional: - Zapata de tipo rígido (Criterio de CYPE) - Relación rotura pésima (En dirección X): 0.45 - Relación rotura pésima (En dirección Y): 0.45 - Cortante de agotamiento (En dirección X): 253.09 t - Cortante de agotamiento (En dirección Y): 253.09 t		

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8.2 Diseño de elementos de acero

Barras

Resistencia

Referencias:

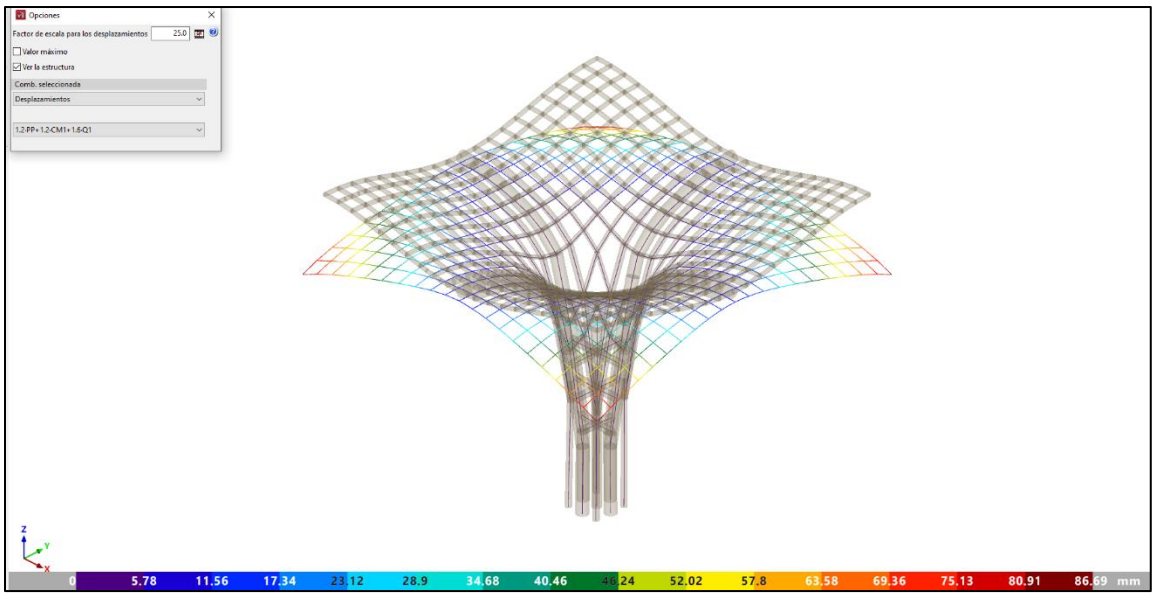
N: Esfuerzo axil (t)
Vy: Esfuerzo cortante según el eje local Y de la barra. (t)
Vz: Esfuerzo cortante según el eje local Z de la barra. (t)
Mt: Momento torsor (t·m)
My: Momento flector en el plano 'XZ' (giro de la sección respecto al eje local 'Y' de la barra). (t·m)

Mz: Momento flector en el plano 'XY' (giro de la sección respecto al eje local 'Z' de la barra). (t·m)

Los esfuerzos indicados son los correspondientes a la combinación pésima, es decir, aquella que demanda la máxima resistencia de la sección.

Origen de los esfuerzos pésimos:

- G: Sólo gravitatorias
- GV: Gravitatorias + viento
- GS: Gravitatorias + sismo
- GVS: Gravitatorias + viento + sismo



η: Aprovechamiento de la resistencia. La barra cumple con las condiciones de resistencia de la norma si se cumple que $\eta \leq 100$ %.

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N2/N1	57.17	0.000	6.078	0.092	-0.580	0.202	-0.566	-0.001	G	Cumple
N3/N1	34.31	0.444	-0.817	-0.907	-0.308	-0.163	0.033	0.265	G	Cumple
N1/N4	51.25	0.000	4.855	0.574	-0.591	0.193	-0.386	0.127	G	Cumple
N4/N5	16.75	0.440	0.059	-0.243	-0.062	-0.096	0.029	0.066	GS	Cumple
N6/N5	30.91	0.000	-0.523	0.148	-0.635	0.165	-0.409	0.039	GS	Cumple
N7/N6	43.49	0.000	-1.342	-0.271	-0.726	0.186	-0.586	-0.067	G	Cumple
N2/N7	25.89	0.440	0.029	0.768	0.066	-0.101	-0.031	-0.164	GS	Cumple
N8/N7	58.50	0.000	-1.959	-0.525	-0.731	0.194	-0.767	-0.158	G	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N9/N8	75.94	0.000	-2.633	-0.583	-0.906	0.181	-1.025	-0.242	G	Cumple
N13/N14	42.63	0.000	-1.022	0.227	-0.736	-0.190	-0.588	0.056	G	Cumple
N14/N15	32.13	0.000	0.014	-0.204	-0.517	-0.134	-0.337	-0.053	GS	Cumple
N15/N16	22.54	0.000	-0.999	-0.243	-0.652	-0.166	-0.209	-0.051	G	Cumple
N16/N17	23.11	0.453	-1.334	-0.302	-0.457	-0.157	0.180	0.088	G	Cumple
N17/N18	24.76	0.448	-1.588	-0.159	-0.310	-0.151	0.226	0.073	G	Cumple
N18/N19	20.78	0.443	-1.062	0.323	-0.233	-0.132	0.204	-0.051	GS	Cumple
N19/N20	19.16	0.440	-0.690	0.698	0.029	-0.108	0.101	-0.158	G	Cumple
N21/N20	19.17	0.440	-0.697	-0.691	0.032	0.108	0.101	0.158	G	Cumple
N22/N21	26.49	0.000	0.478	0.765	0.193	-0.129	0.124	0.168	G	Cumple
N24/N22	22.21	0.000	1.183	-0.003	0.020	-0.151	0.160	0.023	G	Cumple
N24/N18	17.55	0.000	0.363	-0.071	0.100	0.102	0.072	-0.018	G	Cumple
N25/N24	34.94	0.443	0.973	0.599	-0.035	0.114	0.108	-0.151	G	Cumple
N26/N24	34.30	0.448	1.845	-0.613	-0.172	-0.160	0.188	0.164	G	Cumple
N26/N17	19.86	0.440	0.286	0.407	0.011	0.088	0.030	-0.102	GS	Cumple
N27/N26	46.96	0.443	0.445	1.108	-0.201	0.126	0.127	-0.272	G	Cumple
N28/N26	37.44	0.453	2.630	-0.934	-0.352	-0.170	0.145	0.226	G	Cumple
N28/N16	24.25	0.440	0.966	0.448	-0.049	0.102	0.038	-0.112	GS	Cumple
N29/N28	45.27	0.442	0.591	1.103	-0.275	0.122	0.107	-0.273	GS	Cumple
N30/N28	41.32	0.000	3.523	-0.892	-0.542	-0.183	-0.199	-0.199	G	Cumple
N30/N15	16.13	0.440	0.112	0.175	-0.045	0.106	0.025	-0.052	GS	Cumple
N31/N30	40.62	0.442	-0.536	1.189	-0.365	0.156	0.092	-0.313	G	Cumple
N32/N30	51.11	0.000	4.557	-0.589	-0.587	-0.196	-0.385	-0.131	G	Cumple
N32/N14	19.83	0.000	0.739	-0.369	-0.004	0.115	-0.002	-0.091	GS	Cumple
N33/N32	56.52	0.000	5.653	-0.103	-0.568	-0.205	-0.562	-0.003	G	Cumple
N33/N13	24.39	0.440	0.002	-0.723	0.057	0.095	-0.031	0.154	GS	Cumple
N34/N33	26.03	0.446	-0.751	0.418	-0.131	0.163	-0.033	-0.150	G	Cumple
N35/N33	74.76	0.000	6.638	0.362	-0.418	-0.201	-0.692	0.145	G	Cumple
N35/N12	29.65	0.441	0.035	-0.764	0.117	0.122	-0.050	0.167	GS	Cumple
N36/N35	23.64	0.000	0.091	-0.287	0.059	0.130	-0.050	-0.090	GS	Cumple
N463/N35	87.10	0.000	7.304	0.466	-0.336	-0.166	-0.817	0.235	G	Cumple
N38/N463	74.14	0.000	7.974	0.142	0.106	-0.085	-0.740	0.161	G	Cumple
N38/N40	76.89	0.000	8.705	-0.121	-0.149	0.084	-0.775	-0.152	G	Cumple
N40/N9	20.64	0.441	0.377	0.977	0.036	-0.387	-0.104	-0.268	GS	Cumple
N41/N40	23.19	0.448	0.811	0.796	0.167	-0.414	-0.229	-0.192	GS	Cumple
N40/N42	83.89	0.000	8.067	-0.491	-0.145	0.172	-0.748	-0.226	G	Cumple
N42/N2	76.60	0.000	7.230	-0.371	-0.450	0.201	-0.706	-0.144	G	Cumple
N43/N2	27.48	0.446	-0.748	-0.481	-0.138	-0.162	-0.037	0.168	G	Cumple
N44/N43	42.07	0.457	-1.368	-1.204	-0.185	-0.174	-0.045	0.332	G	Cumple
N43/N3	79.87	0.000	4.706	0.964	-0.584	0.162	-0.435	0.183	G	Cumple
N3/N45	80.49	0.000	3.854	1.406	-0.663	0.167	-0.339	0.306	G	Cumple
N45/N4	41.14	0.442	-0.541	-1.218	-0.372	-0.155	0.092	0.322	G	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N4/N46	41.31	0.000	3.726	0.876	-0.544	0.180	-0.200	0.195	G	Cumple
N46/N47	23.89	0.440	1.033	-0.431	-0.044	-0.100	0.037	0.109	GS	Cumple
N5/N47	22.35	0.000	-1.173	0.215	-0.647	0.163	-0.209	0.044	G	Cumple
N47/N48	22.89	0.453	-1.454	0.278	-0.454	0.155	0.178	-0.083	G	Cumple
N49/N48	19.27	0.440	0.288	-0.341	0.043	-0.098	0.027	0.088	GS	Cumple
N48/N50	24.52	0.448	-1.661	0.137	-0.310	0.149	0.225	-0.068	G	Cumple
N51/N50	18.86	0.000	0.428	0.200	0.122	-0.094	0.068	0.044	GS	Cumple
N50/N52	20.88	0.443	-1.489	-0.223	-0.176	0.139	0.219	0.017	G	Cumple
N53/N52	26.28	0.000	0.479	0.765	0.200	-0.128	0.125	0.165	G	Cumple
N52/N54	19.07	0.440	-0.690	-0.694	0.030	0.108	0.101	0.157	G	Cumple
N55/N54	19.08	0.440	-0.693	0.690	0.030	-0.108	0.101	-0.157	G	Cumple
N53/N55	26.52	0.000	0.462	-0.780	0.203	0.128	0.126	-0.168	G	Cumple
N56/N55	21.12	0.443	-1.507	0.237	-0.177	-0.139	0.218	-0.021	G	Cumple
N57/N56	19.30	0.000	0.356	-0.147	0.116	0.101	0.076	-0.035	G	Cumple
N58/N56	24.49	0.448	-0.391	-0.479	-0.303	-0.144	0.229	0.115	GS	Cumple
N59/N58	21.99	0.440	2.032	0.342	0.027	0.085	0.026	-0.085	GS	Cumple
N60/N58	22.69	0.453	-1.545	-0.256	-0.453	-0.154	0.177	0.079	G	Cumple
N61/N60	15.42	0.440	-0.060	0.300	0.014	0.110	0.028	-0.083	G	Cumple
N62/N60	22.46	0.000	0.079	-0.123	-0.552	-0.140	-0.215	-0.012	GS	Cumple
N63/N62	12.72	0.440	-0.037	0.148	-0.045	0.111	0.024	-0.048	GS	Cumple
N64/N62	36.38	0.000	0.094	-0.149	-0.621	-0.159	-0.391	-0.043	GS	Cumple
N65/N64	22.52	0.000	0.674	-0.492	0.018	0.119	-0.001	-0.120	GS	Cumple
N66/N64	44.27	0.000	-1.584	0.303	-0.722	-0.181	-0.589	0.076	G	Cumple
N67/N66	28.44	0.440	0.023	-0.848	0.079	0.108	-0.036	0.182	GS	Cumple
N68/N66	59.48	0.000	-2.272	0.559	-0.725	-0.190	-0.771	0.167	G	Cumple
N69/N68	38.09	0.441	0.330	-1.077	0.124	0.135	-0.051	0.242	GS	Cumple
N70/N68	77.73	0.000	-3.033	0.653	-0.894	-0.179	-1.027	0.264	G	Cumple
N71/N70	22.72	0.441	0.371	-1.280	0.018	0.395	-0.107	0.333	GS	Cumple
N72/N70	75.59	0.000	-3.930	0.319	-1.020	-0.105	-1.094	0.183	G	Cumple
N73/N72	10.53	0.000	0.560	2.383	-1.187	0.528	-0.614	1.326	GS	Cumple
N72/N74	75.27	0.000	-3.918	-0.322	-1.012	0.104	-1.089	-0.183	G	Cumple
N75/N74	22.34	0.000	0.310	0.979	-0.242	-0.376	-0.193	0.254	G	Cumple
N74/N76	77.37	0.000	-3.026	-0.646	-0.889	0.177	-1.023	-0.262	G	Cumple
N77/N76	37.46	0.441	0.325	1.062	0.113	-0.133	-0.050	-0.237	GS	Cumple
N76/N78	59.19	0.000	-2.277	-0.549	-0.722	0.188	-0.769	-0.165	G	Cumple
N79/N78	29.40	0.440	0.014	0.864	0.060	-0.119	-0.036	-0.182	GS	Cumple
N78/N80	44.03	0.000	-1.605	-0.293	-0.718	0.179	-0.587	-0.074	G	Cumple
N81/N80	22.00	0.000	0.398	0.504	0.015	-0.117	-0.003	0.122	GS	Cumple
N80/N82	31.04	0.000	-0.547	0.117	-0.641	0.168	-0.415	0.031	GS	Cumple
N83/N82	14.96	0.440	0.023	-0.192	-0.053	-0.093	0.025	0.054	GS	Cumple
N82/N84	22.18	0.000	-1.345	0.194	-0.640	0.158	-0.210	0.038	G	Cumple
N85/N84	21.79	0.440	0.874	-0.365	-0.030	-0.101	0.032	0.093	GS	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N84/N86	22.60	0.453	-1.584	0.258	-0.449	0.151	0.175	-0.079	G	Cumple
N87/N86	17.58	0.000	0.382	-0.251	0.030	-0.101	0.042	-0.048	GS	Cumple
N86/N88	24.25	0.448	-1.754	0.118	-0.306	0.147	0.223	-0.064	G	Cumple
N89/N88	19.29	0.000	0.365	0.149	0.118	-0.100	0.076	0.036	G	Cumple
N88/N90	21.03	0.443	-1.547	-0.242	-0.175	0.137	0.217	0.021	G	Cumple
N91/N90	26.75	0.000	0.480	0.800	0.205	-0.127	0.126	0.172	G	Cumple
N90/N92	19.27	0.440	-0.713	-0.713	0.031	0.107	0.100	0.162	G	Cumple
N93/N92	19.97	0.440	0.663	0.534	0.019	-0.092	0.086	-0.131	GS	Cumple
N91/N93	27.38	0.000	2.111	-0.746	0.183	0.123	0.108	-0.161	GS	Cumple
N89/N91	22.85	0.000	1.234	-0.048	0.004	0.147	0.158	-0.037	G	Cumple
N87/N89	33.85	0.448	1.981	0.584	-0.169	0.156	0.186	-0.158	G	Cumple
N85/N87	37.04	0.453	2.861	0.899	-0.352	0.165	0.144	-0.219	G	Cumple
N83/N85	41.09	0.000	3.871	0.859	-0.545	0.176	-0.201	0.190	G	Cumple
N81/N83	51.18	0.000	5.053	0.562	-0.595	0.188	-0.388	0.123	G	Cumple
N79/N81	58.24	0.000	5.612	-0.201	-0.463	0.192	-0.549	-0.057	GS	Cumple
N77/N79	77.56	0.000	7.592	-0.374	-0.466	0.196	-0.714	-0.147	G	Cumple
N75/N77	85.49	0.000	8.559	-0.496	-0.162	0.168	-0.761	-0.228	G	Cumple
N73/N75	74.03	0.000	9.664	-0.148	0.058	0.085	-0.707	-0.146	G	Cumple
N73/N71	74.30	0.000	9.677	0.145	0.054	-0.086	-0.711	0.146	G	Cumple
N71/N69	85.84	0.000	8.571	0.504	-0.164	-0.169	-0.763	0.231	G	Cumple
N69/N67	77.93	0.000	7.600	0.389	-0.466	-0.197	-0.715	0.150	G	Cumple
N67/N65	59.80	0.000	6.081	0.354	-0.475	-0.192	-0.523	0.096	GS	Cumple
N65/N63	51.28	0.000	5.057	-0.555	-0.595	-0.190	-0.388	-0.122	G	Cumple
N63/N61	41.26	0.000	3.873	-0.860	-0.547	-0.178	-0.201	-0.190	G	Cumple
N61/N59	37.18	0.453	2.863	-0.896	-0.353	-0.167	0.145	0.218	G	Cumple
N59/N57	35.95	0.448	2.559	-0.779	-0.168	-0.152	0.184	0.183	GS	Cumple
N57/N53	23.92	0.443	2.218	-0.134	0.059	-0.141	0.136	0.056	GS	Cumple
N51/N53	22.61	0.000	1.188	-0.027	0.002	0.149	0.158	-0.033	G	Cumple
N49/N51	34.20	0.448	1.910	0.605	-0.170	0.159	0.187	-0.163	G	Cumple
N94/N51	35.34	0.443	0.995	-0.613	-0.037	-0.114	0.109	0.154	G	Cumple
N95/N94	54.37	0.447	1.595	1.270	-0.284	0.126	0.155	-0.295	G	Cumple
N96/N94	54.30	0.447	1.630	-1.263	-0.283	-0.126	0.155	0.294	G	Cumple
N94/N57	35.22	0.443	0.973	0.608	-0.037	0.114	0.109	-0.154	G	Cumple
N97/N96	67.10	0.446	0.773	1.844	-0.487	0.150	0.170	-0.426	G	Cumple
N98/N96	62.62	0.451	2.339	-1.648	-0.456	-0.143	0.131	0.377	G	Cumple
N96/N59	47.18	0.443	0.439	1.116	-0.202	0.124	0.127	-0.276	G	Cumple
N99/N98	58.86	0.447	0.210	1.607	-0.539	0.161	0.121	-0.386	GS	Cumple
N100/N98	73.15	0.000	3.094	-1.665	-0.631	-0.159	-0.216	-0.374	G	Cumple
N98/N61	41.97	0.442	-0.128	1.317	-0.332	0.139	0.125	-0.331	G	Cumple
N101/N100	59.27	0.451	-0.926	2.026	-0.662	0.191	0.114	-0.507	G	Cumple
N102/N100	81.08	0.000	3.927	-1.418	-0.670	-0.166	-0.341	-0.308	G	Cumple
N100/N63	41.21	0.442	-0.550	1.224	-0.373	0.154	0.091	-0.325	G	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N103/N102	54.24	0.000	-1.401	1.734	-0.546	0.192	-0.198	0.333	G	Cumple
N104/N102	80.62	0.000	4.790	-0.979	-0.593	-0.161	-0.439	-0.186	G	Cumple
N102/N65	34.40	0.444	-0.828	0.919	-0.310	0.162	0.030	-0.270	G	Cumple
N105/N104	42.90	0.457	-1.349	1.238	-0.182	0.174	-0.049	-0.341	G	Cumple
N106/N104	70.91	0.000	5.560	-0.444	-0.369	-0.140	-0.480	-0.034	G	Cumple
N104/N67	28.35	0.446	-0.746	0.506	-0.139	0.160	-0.042	-0.177	G	Cumple
N107/N106	31.11	0.459	-0.441	0.720	0.062	0.129	-0.095	-0.205	G	Cumple
N108/N106	73.33	0.445	6.114	-0.212	0.028	-0.099	-0.436	0.130	G	Cumple
N106/N69	25.14	0.000	0.488	-0.282	0.074	0.130	-0.053	-0.092	GS	Cumple
N109/N108	24.97	0.459	0.810	0.592	0.223	0.314	-0.337	-0.248	G	Cumple
N110/N108	72.03	0.440	6.487	-0.232	0.281	-0.038	-0.460	0.140	G	Cumple
N108/N71	23.84	0.448	0.723	0.167	0.093	0.380	-0.302	-0.179	G	Cumple
N111/N110	16.73	0.458	0.264	-2.285	-0.381	1.062	-1.100	1.815	GS	Cumple
N110/N112	71.86	0.440	6.486	0.231	0.285	0.037	-0.459	-0.139	G	Cumple
N110/N73	14.08	0.000	0.524	-0.716	-0.845	0.888	-1.063	1.372	GS	Cumple
N113/N112	24.86	0.459	0.782	-0.593	0.222	-0.311	-0.336	0.247	G	Cumple
N112/N114	73.31	0.445	6.115	0.218	0.029	0.098	-0.436	-0.131	G	Cumple
N112/N75	23.74	0.448	0.702	-0.171	0.091	-0.378	-0.302	0.179	G	Cumple
N115/N114	31.76	0.459	1.004	-0.764	-0.017	-0.070	-0.059	0.206	GS	Cumple
N114/N116	71.09	0.000	5.564	0.455	-0.371	0.139	-0.481	0.036	G	Cumple
N114/N77	22.86	0.447	0.801	-0.309	0.006	-0.074	-0.060	0.105	GS	Cumple
N117/N116	42.92	0.457	-1.357	-1.248	-0.186	-0.172	-0.048	0.343	G	Cumple
N116/N118	80.85	0.000	4.795	0.992	-0.597	0.160	-0.440	0.189	G	Cumple
N116/N79	28.38	0.446	-0.750	-0.519	-0.143	-0.159	-0.041	0.180	G	Cumple
N119/N118	54.26	0.000	-1.377	-1.743	-0.549	-0.191	-0.199	-0.335	G	Cumple
N118/N120	81.06	0.000	3.935	1.424	-0.670	0.165	-0.341	0.309	G	Cumple
N118/N81	34.47	0.444	-0.811	-0.929	-0.313	-0.160	0.031	0.273	G	Cumple
N121/N120	59.19	0.451	-0.906	-2.029	-0.663	-0.190	0.115	0.508	G	Cumple
N120/N122	73.01	0.000	3.103	1.665	-0.630	0.157	-0.216	0.374	G	Cumple
N120/N83	41.15	0.442	-0.537	-1.228	-0.374	-0.152	0.091	0.326	G	Cumple
N123/N122	59.83	0.447	0.387	-1.623	-0.539	-0.160	0.126	0.388	GS	Cumple
N122/N124	62.54	0.451	2.347	1.652	-0.457	0.141	0.130	-0.378	G	Cumple
N122/N85	44.50	0.442	0.584	-1.026	-0.275	-0.134	0.103	0.256	GS	Cumple
N125/N124	67.08	0.446	0.770	-1.849	-0.488	-0.148	0.171	0.427	G	Cumple
N124/N126	54.30	0.447	1.634	1.268	-0.284	0.125	0.155	-0.295	G	Cumple
N124/N87	47.10	0.443	0.436	-1.118	-0.202	-0.123	0.127	0.276	G	Cumple
N127/N126	54.30	0.447	1.631	-1.268	-0.284	-0.125	0.155	0.295	G	Cumple
N126/N128	35.08	0.443	0.997	0.605	-0.036	0.112	0.108	-0.153	G	Cumple
N126/N89	35.06	0.443	0.995	-0.604	-0.036	-0.112	0.108	0.153	G	Cumple
N128/N91	23.62	0.000	1.595	0.181	-0.015	-0.150	0.140	0.056	GS	Cumple
N129/N128	33.88	0.448	1.979	-0.586	-0.169	-0.156	0.186	0.159	G	Cumple
N128/N130	21.79	0.000	0.508	-0.330	0.125	0.100	0.066	-0.070	GS	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N131/N130	24.27	0.448	-1.752	-0.119	-0.306	-0.147	0.223	0.064	G	Cumple
N130/N93	22.37	0.443	-0.502	0.467	-0.242	-0.135	0.212	-0.092	GS	Cumple
N129/N131	17.13	0.000	0.142	0.235	0.033	0.103	0.050	0.041	G	Cumple
N127/N129	47.13	0.443	0.438	1.120	-0.202	0.123	0.128	-0.277	G	Cumple
N125/N127	67.09	0.446	0.772	1.849	-0.488	0.148	0.171	-0.427	G	Cumple
N121/N123	91.00	0.000	1.480	2.288	-0.878	0.192	-0.300	0.506	G	Cumple
N119/N121	95.51	0.000	1.967	2.079	-0.886	0.191	-0.397	0.448	G	Cumple
N117/N119	88.79	0.000	2.503	1.615	-0.752	0.170	-0.452	0.322	G	Cumple
N115/N117	69.53	0.000	2.976	0.948	-0.445	0.130	-0.437	0.144	G	Cumple
N113/N115	60.95	0.445	3.275	0.585	-0.086	0.079	-0.324	-0.200	G	Cumple
N111/N113	61.82	0.000	1.771	1.688	-0.652	-0.014	-0.296	0.344	GS	Cumple
N111/N109	62.50	0.000	1.837	-1.652	-0.642	0.013	-0.319	-0.327	GS	Cumple
N109/N107	60.93	0.445	3.268	-0.583	-0.088	-0.080	-0.324	0.200	G	Cumple
N107/N105	69.33	0.000	2.968	-0.939	-0.443	-0.131	-0.435	-0.142	G	Cumple
N105/N103	88.50	0.000	2.494	-1.602	-0.747	-0.172	-0.450	-0.319	G	Cumple
N103/N101	95.51	0.000	1.956	-2.074	-0.884	-0.193	-0.396	-0.447	G	Cumple
N101/N99	91.14	0.000	1.467	-2.288	-0.880	-0.194	-0.300	-0.506	G	Cumple
N99/N97	77.47	0.000	1.082	-2.248	-0.775	-0.177	-0.183	-0.496	G	Cumple
N97/N95	66.99	0.446	0.765	-1.840	-0.486	-0.150	0.170	0.424	G	Cumple
N95/N49	47.34	0.443	0.436	-1.124	-0.204	-0.125	0.128	0.277	G	Cumple
N46/N49	37.35	0.453	2.758	0.919	-0.352	0.168	0.145	-0.223	G	Cumple
N132/N46	48.10	0.442	0.703	-1.168	-0.294	-0.128	0.113	0.289	GS	Cumple
N45/N132	72.73	0.000	3.035	1.655	-0.626	0.159	-0.215	0.372	G	Cumple
N133/N132	63.21	0.447	0.438	-1.756	-0.558	-0.157	0.142	0.411	GS	Cumple
N132/N95	62.47	0.451	2.293	1.649	-0.455	0.143	0.130	-0.377	G	Cumple
N134/N133	90.78	0.000	1.491	2.275	-0.874	0.194	-0.299	0.503	G	Cumple
N135/N133	72.15	0.000	0.222	-1.936	-0.753	-0.184	-0.216	-0.420	GS	Cumple
N133/N97	77.50	0.000	1.097	2.245	-0.774	0.177	-0.183	0.495	G	Cumple
N136/N135	80.73	0.000	0.079	1.944	-0.796	0.190	-0.314	0.417	GS	Cumple
N137/N135	80.16	0.000	0.139	-1.963	-0.793	-0.192	-0.297	-0.424	GS	Cumple
N135/N99	73.55	0.000	0.102	1.968	-0.756	0.184	-0.234	0.421	GS	Cumple
N138/N137	81.85	0.000	-1.587	2.618	-0.946	0.207	-0.330	0.573	G	Cumple
N139/N137	79.62	0.000	-0.222	-2.422	-0.990	-0.196	-0.409	-0.523	G	Cumple
N137/N101	75.08	0.000	-1.309	2.499	-0.884	0.213	-0.280	0.530	G	Cumple
N139/N103	68.08	0.000	-2.015	2.202	-0.635	0.202	-0.231	0.464	G	Cumple
N140/N139	73.48	0.000	-2.608	2.342	-0.714	0.183	-0.248	0.521	G	Cumple
N141/N139	87.05	0.000	0.009	-1.954	-0.832	-0.163	-0.428	-0.404	G	Cumple
N142/N141	55.04	0.000	-3.060	1.718	-0.376	0.153	-0.133	0.385	G	Cumple
N143/N141	62.38	0.000	0.250	-1.176	-0.502	-0.120	-0.377	-0.209	G	Cumple
N141/N105	50.93	0.000	-2.141	1.622	-0.279	0.170	-0.137	0.340	G	Cumple
N144/N143	41.60	0.000	2.158	1.309	-0.179	0.034	-0.085	0.295	GS	Cumple
N145/N143	57.47	0.000	0.043	-1.636	-0.795	-0.010	-0.268	-0.374	GS	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N143/N107	36.50	0.000	1.468	1.209	-0.145	0.033	-0.076	0.266	GS	Cumple
N146/N145	68.69	0.000	0.225	-1.903	-0.987	0.018	-0.373	-0.384	GS	Cumple
N147/N145	21.50	0.474	1.642	1.952	-0.111	0.013	-0.179	-0.535	GS	Cumple
N145/N109	22.33	0.469	0.682	0.757	0.208	0.267	-0.292	-0.246	G	Cumple
N146/N111	13.56	0.469	0.015	-2.535	-0.053	1.004	-0.942	1.298	GS	Cumple
N148/N146	13.77	0.475	0.227	-2.343	0.157	1.235	-1.291	0.754	GS	Cumple
N146/N149	68.55	0.000	0.237	1.976	-1.012	-0.023	-0.333	0.417	GS	Cumple
N150/N149	21.27	0.474	1.845	-1.393	-0.067	-0.065	-0.238	0.409	GS	Cumple
N149/N151	60.16	0.000	0.101	1.765	-0.850	0.003	-0.265	0.413	GS	Cumple
N149/N113	22.19	0.469	0.647	-0.755	0.209	-0.264	-0.292	0.245	G	Cumple
N152/N151	42.72	0.000	2.141	-1.394	-0.201	-0.028	-0.081	-0.318	GS	Cumple
N151/N153	62.55	0.000	0.258	1.183	-0.504	0.119	-0.378	0.211	G	Cumple
N151/N115	37.43	0.000	1.442	-1.289	-0.167	-0.027	-0.072	-0.287	GS	Cumple
N153/N117	51.11	0.000	-2.154	-1.631	-0.283	-0.169	-0.138	-0.343	G	Cumple
N154/N153	55.24	0.000	-3.080	-1.726	-0.380	-0.152	-0.135	-0.387	G	Cumple
N153/N155	87.37	0.000	0.017	1.967	-0.838	0.161	-0.430	0.407	G	Cumple
N156/N155	73.49	0.000	-2.566	-2.349	-0.718	-0.181	-0.250	-0.522	G	Cumple
N155/N157	79.56	0.000	-0.212	2.426	-0.992	0.195	-0.410	0.524	G	Cumple
N155/N119	68.10	0.000	-1.983	-2.210	-0.639	-0.201	-0.232	-0.466	G	Cumple
N158/N157	81.70	0.000	-1.553	-2.618	-0.948	-0.205	-0.331	-0.573	G	Cumple
N157/N159	79.68	0.000	-0.328	2.597	-1.007	0.211	-0.348	0.567	G	Cumple
N157/N121	74.97	0.000	-1.282	-2.501	-0.886	-0.212	-0.281	-0.531	G	Cumple
N160/N159	80.92	0.000	0.136	-1.998	-0.784	-0.189	-0.300	-0.432	GS	Cumple
N159/N161	71.29	0.000	-0.329	2.516	-0.932	0.203	-0.261	0.543	G	Cumple
N159/N123	73.02	0.000	0.215	-1.968	-0.745	-0.183	-0.226	-0.421	GS	Cumple
N162/N161	91.00	0.000	1.477	-2.287	-0.878	-0.193	-0.300	-0.506	G	Cumple
N161/N163	59.92	0.447	0.065	1.670	-0.554	0.159	0.126	-0.399	GS	Cumple
N161/N125	77.57	0.000	1.090	-2.254	-0.777	-0.175	-0.184	-0.497	G	Cumple
N163/N127	62.55	0.451	2.342	-1.653	-0.457	-0.141	0.130	0.378	G	Cumple
N164/N163	73.02	0.000	3.097	-1.666	-0.630	-0.157	-0.216	-0.374	G	Cumple
N163/N165	45.05	0.442	0.126	1.102	-0.294	0.132	0.103	-0.277	GS	Cumple
N165/N166	22.58	0.440	0.144	0.438	-0.048	0.106	0.037	-0.113	GS	Cumple
N165/N129	37.07	0.453	2.857	-0.902	-0.353	-0.165	0.144	0.220	G	Cumple
N167/N165	41.13	0.000	3.865	-0.862	-0.545	-0.176	-0.201	-0.191	G	Cumple
N168/N167	51.20	0.000	5.045	-0.563	-0.594	-0.188	-0.388	-0.124	G	Cumple
N167/N169	18.63	0.440	0.858	0.206	-0.055	0.104	0.026	-0.060	GS	Cumple
N164/N167	41.75	0.442	0.346	1.003	-0.311	0.130	0.080	-0.258	GS	Cumple
N162/N164	59.19	0.451	-0.909	2.028	-0.663	0.190	0.115	-0.508	G	Cumple
N160/N162	74.96	0.000	-1.286	2.500	-0.886	0.212	-0.280	0.531	G	Cumple
N158/N160	81.70	0.000	-1.558	2.617	-0.948	0.205	-0.331	0.573	G	Cumple
N156/N158	81.50	0.000	-1.681	2.519	-0.972	0.172	-0.374	0.554	G	Cumple
N154/N156	73.70	0.000	-1.609	2.124	-0.884	0.135	-0.400	0.456	G	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
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N152/N154	52.27	0.000	-1.393	1.271	-0.520	0.114	-0.333	0.247	G	Cumple
N150/N152	55.19	0.000	-0.340	1.970	-1.118	0.008	-0.295	0.469	GS	Cumple
N148/N150	73.48	0.000	0.073	1.976	-1.372	-0.026	-0.388	0.420	GS	Cumple
N148/N147	80.07	0.000	0.044	-2.045	-1.534	0.028	-0.466	-0.416	GS	Cumple
N147/N144	53.43	0.000	-0.329	-1.887	-1.082	-0.011	-0.292	-0.444	GS	Cumple
N144/N142	52.21	0.000	-1.401	-1.267	-0.519	-0.115	-0.331	-0.246	G	Cumple
N142/N140	73.46	0.000	-1.616	-2.109	-0.877	-0.136	-0.398	-0.453	G	Cumple
N140/N138	81.61	0.000	-1.691	-2.517	-0.970	-0.174	-0.374	-0.554	G	Cumple
N138/N136	81.97	0.000	-1.572	-2.624	-0.950	-0.206	-0.331	-0.574	G	Cumple
N136/N134	74.80	0.000	-1.299	-2.489	-0.884	-0.213	-0.279	-0.528	G	Cumple
N134/N45	58.95	0.451	-0.918	-2.007	-0.658	-0.191	0.115	0.502	G	Cumple
N170/N134	95.14	0.000	1.990	2.062	-0.879	0.193	-0.394	0.444	G	Cumple
N170/N3	53.71	0.000	-1.393	-1.711	-0.545	-0.192	-0.196	-0.328	G	Cumple
N44/N170	88.21	0.000	2.543	1.590	-0.742	0.171	-0.448	0.317	G	Cumple
N171/N170	67.86	0.000	-2.008	-2.193	-0.637	-0.202	-0.231	-0.462	G	Cumple
N171/N136	80.14	0.000	0.144	1.744	-0.751	0.176	-0.372	0.364	GS	Cumple
N172/N171	87.50	0.000	0.096	1.961	-0.837	0.163	-0.428	0.406	G	Cumple
N173/N171	73.83	0.000	-2.597	-2.358	-0.720	-0.182	-0.250	-0.524	G	Cumple
N173/N138	81.73	0.000	-1.719	2.521	-0.973	0.174	-0.373	0.555	G	Cumple
N174/N173	76.21	0.000	-3.074	-2.329	-0.856	-0.142	-0.304	-0.525	G	Cumple
N175/N173	73.94	0.000	-1.658	2.123	-0.886	0.136	-0.400	0.457	G	Cumple
N175/N172	55.60	0.000	-3.109	-1.736	-0.381	-0.153	-0.135	-0.389	G	Cumple
N172/N44	50.77	0.000	-2.176	-1.606	-0.284	-0.170	-0.138	-0.336	G	Cumple
N176/N44	68.78	0.000	3.036	0.913	-0.432	0.132	-0.431	0.137	G	Cumple
N177/N43	69.70	0.000	5.469	0.416	-0.352	0.141	-0.473	0.028	G	Cumple
N177/N42	23.34	0.000	0.576	0.191	0.041	-0.124	-0.057	0.072	GS	Cumple
N42/N8	35.51	0.441	0.338	0.971	0.117	-0.134	-0.047	-0.217	GS	Cumple
N41/N177	71.97	0.445	6.020	0.148	0.053	0.102	-0.434	-0.116	G	Cumple
N176/N177	30.00	0.459	-0.449	-0.669	0.055	-0.131	-0.090	0.192	G	Cumple
N178/N176	60.62	0.445	3.358	0.532	-0.065	0.083	-0.325	-0.189	G	Cumple
N179/N176	35.76	0.000	1.405	-1.214	-0.165	-0.028	-0.073	-0.267	GS	Cumple
N179/N172	62.75	0.000	0.371	1.170	-0.504	0.120	-0.378	0.208	G	Cumple
N180/N179	58.99	0.000	0.198	1.712	-0.837	0.006	-0.261	0.398	GS	Cumple
N181/N179	42.41	0.000	2.125	-1.377	-0.196	-0.029	-0.083	-0.312	GS	Cumple
N181/N175	52.57	0.000	-1.460	1.265	-0.524	0.115	-0.334	0.246	G	Cumple
N182/N175	64.55	0.000	-4.142	-1.733	-0.696	-0.133	-0.240	-0.393	G	Cumple
N183/N182	62.65	0.000	-5.338	-1.274	-0.660	-0.101	-0.324	-0.267	G	Cumple
N184/N182	49.96	0.000	-3.645	1.057	-0.330	0.108	-0.272	0.196	G	Cumple
N182/N174	75.45	0.000	-3.410	1.984	-0.957	0.115	-0.402	0.430	G	Cumple
N174/N140	76.10	0.000	-3.098	2.325	-0.855	0.143	-0.302	0.524	G	Cumple
N185/N174	75.18	0.000	-3.375	-1.979	-0.951	-0.115	-0.401	-0.428	G	Cumple
N185/N142	64.25	0.000	-4.078	1.734	-0.694	0.134	-0.238	0.392	G	Cumple

Comprobación de resistencia										
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N183/N185	62.76	0.000	-5.252	1.285	-0.669	0.101	-0.326	0.270	G	Cumple
N186/N185	50.00	0.000	-3.600	-1.076	-0.330	-0.108	-0.270	-0.201	G	Cumple
N187/N186	55.71	0.000	4.556	1.235	-0.365	0.036	-0.152	0.318	GS	Cumple
N188/N186	66.78	0.000	-2.616	-1.941	-1.517	-0.019	-0.351	-0.482	GS	Cumple
N186/N144	49.02	0.000	3.141	1.492	-0.157	0.042	-0.085	0.343	GS	Cumple
N189/N188	26.72	0.608	1.884	1.853	-0.213	0.045	-0.170	-0.696	GS	Cumple
N190/N188	77.24	0.000	-2.783	-1.781	-2.261	0.034	-0.601	-0.359	GS	Cumple
N188/N147	25.71	0.512	1.845	2.225	-0.152	0.023	-0.199	-0.652	GS	Cumple
N191/N190	21.17	0.000	-7.653	0.326	-1.762	-0.095	-4.376	0.035	GS	Cumple
N190/N192	73.49	0.000	-2.677	1.830	-2.042	-0.030	-0.525	0.390	GS	Cumple
N190/N148	15.54	0.000	-4.075	0.376	-0.906	-0.111	-3.343	0.045	GS	Cumple
N193/N192	27.51	0.608	1.834	-1.369	-0.162	-0.064	-0.278	0.600	GS	Cumple
N192/N194	67.57	0.000	-2.517	1.979	-1.534	0.016	-0.356	0.494	GS	Cumple
N192/N150	25.74	0.512	1.923	-1.778	-0.146	-0.053	-0.264	0.556	GS	Cumple
N195/N194	56.44	0.000	4.529	-1.283	-0.395	-0.031	-0.149	-0.335	GS	Cumple
N194/N196	49.99	0.000	-3.572	1.078	-0.332	0.106	-0.272	0.201	G	Cumple
N194/N152	50.32	0.000	3.105	-1.570	-0.186	-0.037	-0.083	-0.366	GS	Cumple
N196/N154	64.49	0.000	-4.110	-1.741	-0.699	-0.132	-0.240	-0.394	G	Cumple
N197/N196	63.08	0.000	-5.302	-1.297	-0.671	-0.099	-0.328	-0.273	G	Cumple
N196/N198	75.47	0.000	-3.353	1.998	-0.960	0.114	-0.404	0.432	G	Cumple
N197/N199	63.03	0.000	-5.329	1.293	-0.670	0.099	-0.328	0.272	G	Cumple
N195/N197	43.34	0.508	-6.160	0.385	0.177	0.031	-0.190	-0.163	G	Cumple
N200/N195	56.13	0.602	-9.184	0.997	0.201	0.002	-0.113	-0.332	GS	Cumple
N201/N200	77.85	1.057	-16.591	0.318	0.443	0.037	-0.214	-0.188	GS	Cumple
N200/N202	54.40	0.602	-7.112	-1.197	0.148	-0.006	-0.125	0.370	GS	Cumple
N203/N200	75.68	1.057	-15.420	-0.255	0.518	-0.034	-0.263	0.158	GS	Cumple
N204/N202	81.42	0.000	-5.730	-1.878	-1.634	-0.040	-0.388	-0.512	GS	Cumple
N202/N205	55.96	0.000	4.515	1.258	-0.361	0.035	-0.147	0.328	GS	Cumple
N193/N195	78.13	0.000	-4.792	1.891	-1.651	0.031	-0.387	0.513	GS	Cumple
N206/N201	18.27	2.226	1.162	0.254	0.102	-0.017	-0.239	-0.371	GS	Cumple
N207/N208	20.92	0.000	-8.156	0.362	-1.291	-0.167	-4.273	0.089	GS	Cumple
N209/N210	83.61	0.000	14.753	0.499	1.550	0.068	0.631	0.255	GS	Cumple
N207/N211	91.67	0.000	-7.005	0.663	-3.401	-0.038	-0.832	0.077	GS	Cumple
N213/N212	77.73	1.057	-17.134	0.298	0.413	0.032	-0.202	-0.183	GS	Cumple
N191/N193	90.46	0.000	-7.301	0.595	-3.320	-0.043	-0.809	0.067	GS	Cumple
N201/N193	35.94	1.244	1.289	-1.400	0.006	0.089	-0.257	0.932	GS	Cumple
N215/N216	27.90	0.608	1.829	-1.360	-0.131	-0.066	-0.289	0.601	GS	Cumple
N215/N217	79.23	0.000	-4.716	1.917	-1.708	0.031	-0.400	0.518	GS	Cumple
N191/N189	88.76	0.000	-5.322	-1.144	-3.374	0.037	-0.802	-0.224	GS	Cumple
N212/N218	56.70	0.602	-9.308	0.974	0.221	0.002	-0.114	-0.334	GS	Cumple
N219/N218	76.41	0.000	-4.180	1.873	-1.678	0.031	-0.395	0.503	GS	Cumple
N218/N183	43.02	0.508	-6.042	0.378	0.170	0.033	-0.189	-0.162	G	Cumple

Comprobación de resistencia										
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N189/N187	80.74	0.000	-5.432	-1.908	-1.661	-0.034	-0.392	-0.518	GS	Cumple
N212/N187	55.67	0.602	-7.410	-1.241	0.130	-0.003	-0.117	0.387	GS	Cumple
N187/N183	43.51	0.508	-6.164	-0.393	0.177	-0.033	-0.188	0.165	G	Cumple
N218/N184	54.29	0.000	4.585	-1.221	-0.365	-0.033	-0.138	-0.318	GS	Cumple
N184/N181	49.55	0.000	3.144	-1.538	-0.171	-0.038	-0.080	-0.358	GS	Cumple
N220/N181	55.16	0.000	-0.324	1.961	-1.124	0.010	-0.297	0.465	GS	Cumple
N220/N180	23.13	0.474	2.042	-1.503	-0.073	-0.075	-0.247	0.450	GS	Cumple
N180/N178	22.67	0.469	0.690	-0.687	0.195	-0.291	-0.282	0.243	G	Cumple
N178/N41	24.54	0.459	0.829	-0.517	0.186	-0.336	-0.312	0.234	G	Cumple
N39/N41	69.71	0.441	6.495	0.158	0.157	0.040	-0.445	-0.126	G	Cumple
N39/N37	74.90	0.440	6.550	-0.192	0.325	-0.039	-0.495	0.135	G	Cumple
N221/N222	60.92	0.000	1.924	-1.578	-0.598	0.011	-0.319	-0.308	GS	Cumple
N221/N178	61.09	0.000	1.591	1.623	-0.696	-0.012	-0.311	0.328	GS	Cumple
N223/N224	68.11	0.000	0.610	-1.864	-0.953	0.017	-0.368	-0.372	GS	Cumple
N223/N180	69.07	0.000	0.468	1.970	-1.027	-0.020	-0.342	0.411	GS	Cumple
N225/N226	75.36	0.000	0.114	-1.944	-1.445	0.032	-0.427	-0.396	GS	Cumple
N225/N220	73.54	0.000	0.012	1.984	-1.381	-0.028	-0.385	0.424	GS	Cumple
N227/N228	73.55	0.000	-3.162	1.768	-1.953	-0.030	-0.516	0.381	GS	Cumple
N219/N228	26.37	0.608	2.186	-1.180	-0.101	-0.077	-0.274	0.534	GS	Cumple
N228/N184	66.97	0.000	-2.604	1.937	-1.534	0.018	-0.356	0.481	GS	Cumple
N229/N219	89.28	0.000	-6.609	0.596	-3.318	-0.039	-0.817	0.066	GS	Cumple
N227/N230	77.49	0.000	-3.477	-1.705	-2.188	0.042	-0.584	-0.346	GS	Cumple
N37/N36	73.28	0.000	4.759	0.799	0.262	-0.110	-0.316	0.276	GS	Cumple
N36/N34	68.11	0.000	5.469	-0.374	-0.331	-0.143	-0.463	-0.019	G	Cumple
N231/N36	29.87	0.459	-0.416	0.654	0.041	0.135	-0.087	-0.191	G	Cumple
N231/N232	68.68	0.000	3.139	-0.891	-0.428	-0.135	-0.430	-0.131	G	Cumple
N233/N231	36.21	0.000	1.528	1.171	-0.160	0.036	-0.080	0.254	GS	Cumple
N222/N231	61.36	0.446	3.465	-0.524	-0.131	-0.086	-0.324	0.192	G	Cumple
N224/N233	59.50	0.000	0.350	-1.662	-0.803	-0.013	-0.276	-0.378	GS	Cumple
N233/N234	64.08	0.000	0.523	-1.181	-0.517	-0.123	-0.385	-0.209	G	Cumple
N235/N233	44.18	0.000	2.259	1.372	-0.204	0.035	-0.097	0.308	GS	Cumple
N235/N236	53.48	0.000	-1.650	-1.258	-0.534	-0.118	-0.344	-0.240	G	Cumple
N237/N235	50.23	0.000	3.063	1.428	-0.206	0.056	-0.104	0.326	GS	Cumple
N226/N235	55.90	0.000	-0.638	-1.938	-1.082	-0.012	-0.300	-0.458	GS	Cumple
N237/N238	49.68	0.000	-3.601	-1.016	-0.348	-0.109	-0.285	-0.181	G	Cumple
N239/N237	54.52	0.000	4.756	1.209	-0.357	0.034	-0.137	0.316	GS	Cumple
N230/N237	66.15	0.000	-2.751	-1.886	-1.465	-0.017	-0.346	-0.474	GS	Cumple
N240/N239	79.74	0.000	-5.156	-1.890	-1.658	-0.036	-0.393	-0.512	GS	Cumple
N239/N241	43.22	0.508	-5.971	-0.384	0.175	-0.032	-0.193	0.164	G	Cumple
N210/N242	77.35	1.057	-17.215	0.291	0.409	0.032	-0.198	-0.179	GS	Cumple
N211/N243	79.50	0.000	-4.510	1.943	-1.750	0.028	-0.413	0.520	GS	Cumple
N243/N241	43.51	0.508	-6.162	0.399	0.176	0.034	-0.185	-0.167	G	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N241/N238	62.36	0.000	-5.340	1.269	-0.640	0.103	-0.320	0.265	G	Cumple
N238/N236	64.14	0.000	-4.129	1.700	-0.693	0.134	-0.241	0.385	G	Cumple
N236/N234	56.47	0.000	-3.100	1.768	-0.388	0.155	-0.139	0.396	G	Cumple
N234/N232	50.72	0.000	-2.182	1.592	-0.289	0.172	-0.141	0.330	G	Cumple
N232/N34	41.37	0.457	-1.377	1.168	-0.193	0.175	-0.042	-0.324	G	Cumple
N34/N244	78.69	0.000	4.677	-0.926	-0.570	-0.163	-0.431	-0.174	G	Cumple
N244/N31	79.73	0.000	3.811	-1.380	-0.655	-0.167	-0.337	-0.300	G	Cumple
N245/N244	53.07	0.000	-1.398	1.678	-0.544	0.193	-0.194	0.321	G	Cumple
N245/N246	94.89	0.000	2.053	-2.045	-0.875	-0.193	-0.393	-0.441	G	Cumple
N247/N245	67.71	0.000	-2.023	2.179	-0.640	0.202	-0.233	0.457	G	Cumple
N232/N245	87.82	0.000	2.627	-1.565	-0.736	-0.172	-0.446	-0.311	G	Cumple
N247/N248	79.37	0.000	-0.084	-2.424	-0.994	-0.197	-0.409	-0.524	G	Cumple
N249/N247	74.47	0.000	-2.618	2.376	-0.726	0.183	-0.254	0.527	G	Cumple
N234/N247	88.02	0.000	0.203	-1.958	-0.843	-0.164	-0.431	-0.405	G	Cumple
N236/N249	74.43	0.000	-1.783	-2.115	-0.891	-0.137	-0.403	-0.454	G	Cumple
N249/N250	82.09	0.000	-1.804	-2.519	-0.975	-0.175	-0.374	-0.554	G	Cumple
N251/N249	76.03	0.000	-3.096	2.309	-0.848	0.143	-0.304	0.520	G	Cumple
N251/N252	76.00	0.000	-3.089	-2.315	-0.853	-0.144	-0.302	-0.522	G	Cumple
N253/N251	75.09	0.000	-3.407	1.970	-0.942	0.117	-0.400	0.426	G	Cumple
N238/N251	75.27	0.000	-3.390	-1.964	-0.958	-0.117	-0.405	-0.424	G	Cumple
N253/N254	64.24	0.000	-4.038	-1.730	-0.695	-0.135	-0.239	-0.391	G	Cumple
N255/N253	50.16	0.000	-3.639	1.079	-0.329	0.109	-0.269	0.201	G	Cumple
N241/N253	62.68	0.000	-5.197	-1.278	-0.670	-0.102	-0.329	-0.267	G	Cumple
N255/N256	49.95	0.000	3.301	-1.542	-0.170	-0.037	-0.081	-0.358	GS	Cumple
N257/N255	68.10	0.000	-2.456	1.996	-1.576	0.016	-0.364	0.496	GS	Cumple
N243/N255	56.35	0.000	4.809	-1.261	-0.389	-0.031	-0.150	-0.326	GS	Cumple
N211/N257	28.65	0.608	2.093	-1.399	-0.100	-0.077	-0.284	0.614	GS	Cumple
N257/N258	26.90	0.512	2.309	-1.824	-0.144	-0.049	-0.279	0.571	GS	Cumple
N208/N257	75.29	0.000	-2.606	1.864	-2.130	-0.030	-0.551	0.392	GS	Cumple
N208/N259	16.42	0.000	-3.760	0.338	-1.102	-0.143	-3.579	0.030	GS	Cumple
N208/N260	76.05	0.000	-2.343	-1.776	-2.263	0.036	-0.596	-0.363	GS	Cumple
N260/N261	25.92	0.512	1.780	2.305	-0.144	0.024	-0.198	-0.662	GS	Cumple
N260/N262	68.31	0.000	-2.972	-1.986	-1.519	-0.015	-0.348	-0.497	GS	Cumple
N263/N260	26.74	0.608	1.934	1.096	-0.054	0.085	-0.304	-0.521	GS	Cumple
N207/N263	87.77	0.000	-5.562	-1.097	-3.313	0.036	-0.783	-0.220	GS	Cumple
N263/N264	80.75	0.000	-5.735	-1.884	-1.599	-0.038	-0.379	-0.513	GS	Cumple
N264/N262	55.66	0.000	4.462	1.242	-0.356	0.038	-0.147	0.323	GS	Cumple
N264/N265	43.27	0.508	-6.155	-0.383	0.176	-0.031	-0.189	0.162	G	Cumple
N214/N266	77.31	1.057	-16.744	0.315	0.426	0.036	-0.204	-0.186	GS	Cumple
N209/N267	78.35	0.000	-16.127	0.033	-2.068	0.040	-0.793	0.029	GS	Cumple
N217/N268	56.13	0.000	4.589	-1.279	-0.375	-0.032	-0.146	-0.332	GS	Cumple
N265/N269	63.04	0.000	-5.309	1.295	-0.670	0.099	-0.327	0.273	G	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N265/N270	62.97	0.000	-5.324	-1.291	-0.669	-0.099	-0.327	-0.271	G	Cumple
N270/N271	75.36	0.000	-3.336	1.995	-0.957	0.114	-0.403	0.432	G	Cumple
N270/N272	64.35	0.000	-4.124	-1.734	-0.697	-0.132	-0.239	-0.392	G	Cumple
N268/N270	49.63	0.000	-3.553	1.068	-0.325	0.107	-0.269	0.199	G	Cumple
N268/N273	49.84	0.000	3.210	-1.534	-0.183	-0.036	-0.085	-0.356	GS	Cumple
N216/N268	67.38	0.000	-2.406	1.983	-1.547	0.016	-0.359	0.493	GS	Cumple
N216/N274	26.00	0.512	2.232	-1.734	-0.181	-0.055	-0.268	0.547	GS	Cumple
N275/N216	73.54	0.000	-2.505	1.847	-2.057	-0.031	-0.530	0.391	GS	Cumple
N275/N276	15.29	0.000	-4.061	0.329	-0.834	-0.137	-3.285	0.014	GS	Cumple
N277/N205	66.85	0.000	-2.728	-1.921	-1.513	-0.019	-0.352	-0.477	GS	Cumple
N205/N199	49.70	0.000	-3.551	-1.070	-0.327	-0.106	-0.271	-0.199	G	Cumple
N199/N278	64.41	0.000	-4.128	1.735	-0.698	0.132	-0.240	0.393	G	Cumple
N199/N198	75.41	0.000	-3.335	-1.997	-0.959	-0.114	-0.404	-0.432	G	Cumple
N198/N156	76.07	0.000	-3.041	-2.332	-0.859	-0.141	-0.305	-0.525	G	Cumple
N198/N279	76.06	0.000	-3.055	2.331	-0.858	0.141	-0.304	0.525	G	Cumple
N278/N279	73.63	0.000	-1.601	-2.121	-0.882	-0.135	-0.400	-0.455	G	Cumple
N279/N280	73.47	0.000	-2.577	2.347	-0.718	0.181	-0.249	0.522	G	Cumple
N279/N158	81.49	0.000	-1.675	-2.518	-0.972	-0.172	-0.374	-0.553	G	Cumple
N278/N281	55.16	0.000	-3.093	1.721	-0.379	0.152	-0.134	0.386	G	Cumple
N282/N278	52.05	0.000	-1.386	-1.263	-0.516	-0.114	-0.332	-0.245	G	Cumple
N283/N282	53.51	0.000	-0.360	-1.881	-1.079	-0.011	-0.293	-0.443	GS	Cumple
N282/N284	41.64	0.000	2.134	1.316	-0.182	0.033	-0.084	0.297	GS	Cumple
N205/N282	49.00	0.000	3.087	1.493	-0.164	0.042	-0.086	0.344	GS	Cumple
N284/N285	36.50	0.000	1.455	1.217	-0.148	0.032	-0.075	0.268	GS	Cumple
N286/N284	57.67	0.000	0.076	-1.637	-0.793	-0.011	-0.269	-0.375	GS	Cumple
N284/N281	62.34	0.000	0.261	-1.176	-0.501	-0.119	-0.377	-0.209	G	Cumple
N281/N287	51.03	0.000	-2.163	1.626	-0.282	0.169	-0.138	0.342	G	Cumple
N281/N280	87.28	0.000	0.020	-1.964	-0.836	-0.161	-0.429	-0.406	G	Cumple
N280/N288	68.07	0.000	-1.991	2.207	-0.638	0.201	-0.232	0.466	G	Cumple
N280/N160	79.54	0.000	-0.210	-2.425	-0.991	-0.195	-0.410	-0.524	G	Cumple
N287/N288	88.69	0.000	2.500	-1.612	-0.750	-0.170	-0.451	-0.321	G	Cumple
N288/N289	54.24	0.000	-1.383	1.741	-0.549	0.191	-0.199	0.335	G	Cumple
N288/N162	95.49	0.000	1.964	-2.078	-0.885	-0.191	-0.397	-0.448	G	Cumple
N290/N289	80.76	0.000	4.787	-0.990	-0.596	-0.160	-0.439	-0.189	G	Cumple
N289/N168	34.48	0.444	-0.816	0.928	-0.313	0.160	0.031	-0.272	G	Cumple
N289/N164	81.05	0.000	3.927	-1.423	-0.670	-0.165	-0.341	-0.309	G	Cumple
N291/N168	57.70	0.000	6.337	-0.085	-0.589	-0.197	-0.570	0.003	G	Cumple
N168/N292	20.42	0.000	0.023	-0.475	0.016	0.117	-0.002	-0.116	GS	Cumple
N293/N292	44.00	0.000	-1.592	0.293	-0.718	-0.179	-0.587	0.073	G	Cumple
N292/N169	30.22	0.000	-0.469	0.259	-0.629	-0.164	-0.387	0.050	GS	Cumple
N169/N166	23.60	0.000	-0.351	-0.321	-0.585	-0.155	-0.242	-0.073	GS	Cumple
N166/N131	22.62	0.453	-1.579	-0.260	-0.449	-0.152	0.175	0.080	G	Cumple

Comprobación de resistencia										
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N291/N293	31.54	0.440	0.646	-0.886	0.063	0.123	-0.034	0.187	GS	Cumple
N290/N291	28.34	0.446	-0.754	0.516	-0.143	0.159	-0.041	-0.179	G	Cumple
N287/N290	42.87	0.457	-1.363	1.243	-0.185	0.173	-0.048	-0.342	G	Cumple
N285/N287	69.33	0.000	2.973	-0.942	-0.442	-0.130	-0.435	-0.143	G	Cumple
N285/N294	31.06	0.459	-0.452	0.721	0.061	0.129	-0.095	-0.205	G	Cumple
N295/N285	60.86	0.445	3.271	-0.582	-0.085	-0.079	-0.323	0.200	G	Cumple
N286/N295	22.17	0.469	0.649	0.751	0.210	0.266	-0.291	-0.244	G	Cumple
N283/N286	21.07	0.474	1.549	1.938	-0.111	0.016	-0.169	-0.529	GS	Cumple
N277/N283	25.04	0.512	1.714	2.202	-0.172	0.024	-0.189	-0.642	GS	Cumple
N204/N277	26.08	0.608	1.577	1.754	-0.280	0.051	-0.173	-0.676	GS	Cumple
N296/N204	87.73	0.000	-5.471	-1.097	-3.310	0.043	-0.781	-0.219	GS	Cumple
N297/N298	21.40	1.157	-15.023	-0.021	1.118	-0.190	-3.796	-0.141	GS	Cumple
N276/N283	77.82	0.000	0.012	-2.006	-1.477	0.026	-0.449	-0.410	GS	Cumple
N276/N274	76.24	0.000	0.010	2.040	-1.431	-0.026	-0.411	0.430	GS	Cumple
N276/N299	13.08	0.000	-1.615	-0.001	-0.268	0.000	-2.969	0.001	G	Cumple
N299/N300	68.15	0.000	0.190	1.958	-1.011	-0.023	-0.336	0.412	GS	Cumple
N299/N301	13.70	0.469	0.287	-1.638	-0.023	0.922	-1.553	0.777	GS	Cumple
N299/N286	69.28	0.000	0.292	-1.930	-0.992	0.021	-0.365	-0.394	GS	Cumple
N301/N295	61.16	0.000	1.872	-1.610	-0.622	0.012	-0.313	-0.318	GS	Cumple
N295/N302	24.84	0.459	0.784	0.589	0.223	0.312	-0.336	-0.246	G	Cumple
N302/N294	73.19	0.445	6.104	-0.215	0.030	-0.098	-0.435	0.130	G	Cumple
N294/N303	23.31	0.000	0.190	-0.229	0.066	0.129	-0.054	-0.080	GS	Cumple
N294/N290	70.91	0.000	5.554	-0.450	-0.368	-0.139	-0.480	-0.035	G	Cumple
N303/N304	34.75	0.440	0.152	-0.990	0.103	0.124	-0.052	0.218	GS	Cumple
N303/N291	77.54	0.000	7.580	0.378	-0.464	-0.196	-0.713	0.147	G	Cumple
N305/N303	85.43	0.000	8.546	0.497	-0.162	-0.168	-0.760	0.228	G	Cumple
N302/N305	23.72	0.448	0.704	0.168	0.092	0.379	-0.301	-0.178	G	Cumple
N306/N302	71.71	0.440	6.473	-0.228	0.285	-0.038	-0.458	0.138	G	Cumple
N301/N306	16.64	0.458	0.163	2.215	-0.281	-1.056	-1.109	-1.798	GS	Cumple
N301/N307	61.48	0.000	1.733	1.669	-0.657	-0.014	-0.298	0.339	GS	Cumple
N300/N307	22.19	0.469	0.650	-0.754	0.209	-0.266	-0.290	0.245	G	Cumple
N274/N300	21.38	0.474	2.055	-1.376	-0.054	-0.060	-0.243	0.404	GS	Cumple
N274/N273	54.58	0.000	-0.292	1.955	-1.113	0.008	-0.294	0.463	GS	Cumple
N273/N272	51.97	0.000	-1.384	1.262	-0.515	0.114	-0.331	0.245	G	Cumple
N273/N308	42.17	0.000	2.205	-1.362	-0.199	-0.027	-0.081	-0.310	GS	Cumple
N308/N309	62.27	0.000	0.261	1.174	-0.500	0.119	-0.376	0.209	G	Cumple
N308/N310	36.70	0.000	1.485	-1.255	-0.163	-0.026	-0.072	-0.279	GS	Cumple
N300/N308	59.14	0.000	0.064	1.735	-0.842	0.004	-0.263	0.404	GS	Cumple
N310/N311	69.26	0.000	2.971	0.940	-0.442	0.130	-0.435	0.143	G	Cumple
N310/N312	31.05	0.459	-0.445	-0.722	0.061	-0.129	-0.095	0.205	G	Cumple
N307/N310	60.84	0.445	3.269	0.585	-0.086	0.079	-0.323	-0.200	G	Cumple
N307/N313	24.85	0.459	0.785	-0.591	0.223	-0.312	-0.335	0.247	G	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N313/N312	73.16	0.445	6.101	0.216	0.029	0.098	-0.435	-0.130	G	Cumple
N313/N314	23.73	0.448	0.704	-0.169	0.092	-0.379	-0.301	0.179	G	Cumple
N306/N313	71.71	0.440	6.472	0.230	0.283	0.038	-0.458	-0.139	G	Cumple
N306/N315	14.15	0.000	0.259	-0.647	-0.897	0.885	-1.106	1.369	GS	Cumple
N315/N314	73.93	0.000	9.646	-0.147	0.056	0.085	-0.706	-0.146	G	Cumple
N315/N316	10.42	0.000	0.287	2.336	-1.226	0.529	-0.632	1.303	GS	Cumple
N315/N305	73.95	0.000	9.647	0.149	0.057	-0.085	-0.706	0.147	G	Cumple
N305/N317	22.32	0.000	0.311	-0.978	-0.240	0.377	-0.192	-0.254	G	Cumple
N317/N304	77.33	0.000	-3.017	0.647	-0.889	-0.178	-1.022	0.262	G	Cumple
N304/N293	59.16	0.000	-2.266	0.551	-0.721	-0.188	-0.768	0.165	G	Cumple
N316/N317	75.19	0.000	-3.908	0.322	-1.013	-0.104	-1.088	0.183	G	Cumple
N316/N318	75.18	0.000	-3.907	-0.321	-1.013	0.104	-1.088	-0.183	G	Cumple
N314/N318	22.32	0.000	0.311	0.978	-0.240	-0.377	-0.192	0.254	G	Cumple
N314/N319	85.40	0.000	8.544	-0.496	-0.162	0.168	-0.760	-0.228	G	Cumple
N312/N319	22.40	0.447	-0.205	-0.179	0.051	-0.138	-0.091	0.085	G	Cumple
N312/N320	70.84	0.000	5.551	0.449	-0.368	0.139	-0.479	0.035	G	Cumple
N311/N320	42.85	0.457	-1.361	-1.242	-0.184	-0.173	-0.048	0.342	G	Cumple
N309/N311	50.99	0.000	-2.160	-1.624	-0.281	-0.169	-0.138	-0.341	G	Cumple
N272/N309	55.11	0.000	-3.089	-1.719	-0.378	-0.152	-0.134	-0.385	G	Cumple
N272/N321	73.56	0.000	-1.600	2.119	-0.881	0.135	-0.399	0.455	G	Cumple
N271/N321	76.04	0.000	-3.061	-2.329	-0.857	-0.141	-0.304	-0.525	G	Cumple
N269/N271	75.45	0.000	-3.360	-1.996	-0.959	-0.114	-0.404	-0.432	G	Cumple
N262/N269	49.99	0.000	-3.580	-1.076	-0.332	-0.106	-0.272	-0.200	G	Cumple
N262/N322	50.52	0.000	3.200	1.535	-0.173	0.043	-0.088	0.355	GS	Cumple
N261/N322	54.76	0.000	-0.388	-1.927	-1.100	-0.011	-0.298	-0.455	GS	Cumple
N259/N261	80.47	0.000	0.055	-2.076	-1.532	0.028	-0.462	-0.424	GS	Cumple
N259/N258	75.85	0.000	0.067	2.026	-1.444	-0.029	-0.400	0.432	GS	Cumple
N258/N256	55.28	0.000	-0.329	1.976	-1.134	0.008	-0.297	0.468	GS	Cumple
N256/N254	52.36	0.000	-1.421	1.269	-0.519	0.116	-0.331	0.247	G	Cumple
N254/N252	73.44	0.000	-1.632	2.103	-0.873	0.138	-0.398	0.451	G	Cumple
N252/N250	81.55	0.000	-1.702	2.505	-0.965	0.175	-0.374	0.551	G	Cumple
N250/N248	82.47	0.000	-1.585	2.637	-0.956	0.207	-0.335	0.577	G	Cumple
N248/N246	74.69	0.000	-1.309	2.481	-0.885	0.213	-0.280	0.525	G	Cumple
N246/N31	58.59	0.451	-0.921	1.982	-0.653	0.192	0.115	-0.497	G	Cumple
N31/N29	72.22	0.000	2.985	-1.637	-0.621	-0.160	-0.214	-0.368	G	Cumple
N29/N27	62.10	0.451	2.242	-1.636	-0.452	-0.144	0.129	0.374	G	Cumple
N323/N29	61.20	0.447	0.466	1.688	-0.546	0.155	0.133	-0.399	GS	Cumple
N323/N324	77.36	0.000	1.128	-2.236	-0.771	-0.177	-0.182	-0.493	G	Cumple
N325/N323	72.64	0.000	0.241	1.938	-0.758	0.183	-0.225	0.416	GS	Cumple
N246/N323	90.60	0.000	1.536	-2.263	-0.871	-0.194	-0.298	-0.500	G	Cumple
N325/N326	73.53	0.000	0.193	-1.986	-0.750	-0.184	-0.224	-0.428	GS	Cumple
N327/N325	81.79	0.000	0.148	1.982	-0.815	0.191	-0.314	0.425	GS	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N248/N325	80.05	0.000	0.184	-1.950	-0.781	-0.191	-0.296	-0.422	GS	Cumple
N250/N327	82.11	0.000	-1.644	-2.619	-0.947	-0.208	-0.330	-0.574	G	Cumple
N327/N328	75.26	0.000	-1.346	-2.500	-0.885	-0.214	-0.280	-0.531	G	Cumple
N329/N327	80.28	0.000	0.177	1.740	-0.753	0.178	-0.372	0.363	GS	Cumple
N329/N330	68.05	0.000	-2.014	-2.198	-0.633	-0.203	-0.231	-0.463	G	Cumple
N331/N329	87.02	0.000	0.007	1.949	-0.829	0.164	-0.428	0.402	G	Cumple
N252/N329	73.43	0.000	-2.605	-2.336	-0.713	-0.184	-0.248	-0.519	G	Cumple
N331/N332	50.92	0.000	-2.118	-1.621	-0.278	-0.171	-0.137	-0.340	G	Cumple
N333/N331	62.53	0.000	0.246	1.178	-0.503	0.121	-0.378	0.209	G	Cumple
N254/N331	55.03	0.000	-3.029	-1.716	-0.376	-0.154	-0.133	-0.385	G	Cumple
N333/N334	36.96	0.000	1.503	-1.261	-0.162	-0.027	-0.073	-0.280	GS	Cumple
N335/N333	59.20	0.000	0.006	1.728	-0.841	0.007	-0.265	0.401	GS	Cumple
N256/N333	42.55	0.000	2.253	-1.371	-0.197	-0.028	-0.082	-0.311	GS	Cumple
N335/N336	22.42	0.469	0.666	-0.757	0.209	-0.269	-0.293	0.246	G	Cumple
N337/N335	70.43	0.000	0.124	2.023	-1.057	-0.023	-0.350	0.425	GS	Cumple
N258/N335	21.94	0.474	2.127	-1.378	-0.061	-0.064	-0.252	0.409	GS	Cumple
N337/N338	16.11	0.469	0.189	2.885	-0.025	-1.108	-1.267	-1.461	GS	Cumple
N337/N339	69.46	0.000	0.155	-1.955	-1.030	0.022	-0.360	-0.404	GS	Cumple
N261/N339	21.77	0.474	1.685	1.984	-0.121	0.015	-0.177	-0.543	GS	Cumple
N339/N340	22.22	0.469	0.660	0.755	0.209	0.263	-0.293	-0.245	G	Cumple
N339/N341	58.82	0.000	0.082	-1.673	-0.811	-0.010	-0.273	-0.384	GS	Cumple
N341/N342	37.57	0.000	1.541	1.251	-0.154	0.032	-0.076	0.276	GS	Cumple
N341/N343	62.52	0.000	0.254	-1.182	-0.504	-0.118	-0.378	-0.211	G	Cumple
N322/N341	42.64	0.000	2.226	1.349	-0.184	0.034	-0.085	0.305	GS	Cumple
N322/N344	52.27	0.000	-1.399	-1.270	-0.520	-0.114	-0.333	-0.247	G	Cumple
N344/N343	55.24	0.000	-3.086	1.726	-0.380	0.152	-0.135	0.387	G	Cumple
N344/N345	73.70	0.000	-1.615	-2.123	-0.884	-0.135	-0.400	-0.456	G	Cumple
N269/N344	64.48	0.000	-4.117	1.740	-0.699	0.132	-0.240	0.394	G	Cumple
N345/N346	73.49	0.000	-2.567	2.349	-0.718	0.181	-0.250	0.522	G	Cumple
N345/N347	81.50	0.000	-1.687	-2.518	-0.972	-0.173	-0.374	-0.553	G	Cumple
N271/N345	76.05	0.000	-3.042	2.331	-0.858	0.141	-0.304	0.525	G	Cumple
N321/N347	81.46	0.000	-1.674	2.517	-0.971	0.173	-0.374	0.553	G	Cumple
N321/N348	73.44	0.000	-2.582	-2.345	-0.717	-0.181	-0.249	-0.521	G	Cumple
N348/N349	79.72	0.000	0.106	1.745	-0.745	0.175	-0.370	0.363	GS	Cumple
N348/N350	68.04	0.000	-1.995	-2.206	-0.637	-0.201	-0.232	-0.465	G	Cumple
N309/N348	87.20	0.000	0.020	1.962	-0.835	0.161	-0.429	0.406	G	Cumple
N311/N350	88.60	0.000	2.498	1.610	-0.749	0.170	-0.451	0.321	G	Cumple
N350/N351	95.45	0.000	1.962	2.076	-0.884	0.192	-0.396	0.447	G	Cumple
N350/N352	54.22	0.000	-1.386	-1.739	-0.548	-0.191	-0.199	-0.334	G	Cumple
N352/N353	81.01	0.000	3.925	1.422	-0.669	0.165	-0.341	0.309	G	Cumple
N352/N354	34.46	0.444	-0.818	-0.927	-0.312	-0.160	0.031	0.272	G	Cumple
N320/N352	80.69	0.000	4.784	0.988	-0.595	0.160	-0.439	0.188	G	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N320/N355	28.33	0.446	-0.753	-0.514	-0.142	-0.159	-0.041	0.179	G	Cumple
N355/N354	57.70	0.000	6.334	0.083	-0.588	0.197	-0.569	-0.004	G	Cumple
N355/N356	30.03	0.000	0.633	0.833	0.021	-0.118	-0.017	0.192	GS	Cumple
N319/N355	77.53	0.000	7.578	-0.380	-0.464	0.196	-0.713	-0.148	G	Cumple
N319/N357	31.98	0.441	0.180	0.900	0.083	-0.117	-0.049	-0.196	GS	Cumple
N357/N356	59.16	0.000	-2.265	-0.552	-0.721	0.188	-0.768	-0.166	G	Cumple
N318/N357	77.31	0.000	-3.015	-0.646	-0.889	0.177	-1.022	-0.262	G	Cumple
N356/N358	44.00	0.000	-1.589	-0.294	-0.718	0.180	-0.587	-0.074	G	Cumple
N354/N358	18.07	0.000	0.026	0.437	0.023	-0.101	-0.001	0.106	GS	Cumple
N354/N359	51.19	0.000	5.043	0.562	-0.594	0.188	-0.387	0.123	G	Cumple
N353/N359	41.18	0.442	-0.540	-1.228	-0.374	-0.152	0.091	0.326	G	Cumple
N351/N353	59.18	0.451	-0.912	-2.028	-0.663	-0.190	0.115	0.507	G	Cumple
N349/N351	74.95	0.000	-1.290	-2.499	-0.886	-0.212	-0.280	-0.530	G	Cumple
N347/N349	81.69	0.000	-1.563	-2.616	-0.947	-0.205	-0.330	-0.573	G	Cumple
N347/N360	81.70	0.000	-1.552	2.618	-0.947	0.205	-0.331	0.573	G	Cumple
N346/N360	79.57	0.000	-0.216	-2.426	-0.992	-0.195	-0.410	-0.524	G	Cumple
N343/N346	87.35	0.000	0.013	-1.967	-0.838	-0.161	-0.430	-0.407	G	Cumple
N343/N361	51.12	0.000	-2.159	1.631	-0.282	0.169	-0.139	0.343	G	Cumple
N342/N361	69.51	0.000	2.976	-0.947	-0.445	-0.130	-0.437	-0.144	G	Cumple
N340/N342	60.91	0.445	3.275	-0.583	-0.086	-0.079	-0.324	0.200	G	Cumple
N338/N340	63.30	0.000	1.910	-1.682	-0.645	0.013	-0.319	-0.335	GS	Cumple
N338/N336	62.64	0.000	1.528	1.720	-0.702	-0.015	-0.303	0.352	GS	Cumple
N336/N334	61.16	0.445	3.275	0.585	-0.090	0.080	-0.324	-0.201	G	Cumple
N334/N332	69.50	0.000	2.974	0.940	-0.444	0.132	-0.437	0.142	G	Cumple
N332/N330	88.51	0.000	2.500	1.597	-0.745	0.173	-0.451	0.318	G	Cumple
N330/N328	95.54	0.000	1.962	2.068	-0.882	0.194	-0.397	0.445	G	Cumple
N328/N326	91.45	0.000	1.469	2.294	-0.884	0.195	-0.302	0.507	G	Cumple
N326/N324	77.37	0.000	1.084	2.243	-0.774	0.178	-0.182	0.494	G	Cumple
N27/N25	54.07	0.447	1.541	-1.260	-0.281	-0.127	0.154	0.294	G	Cumple
N25/N23	34.84	0.443	0.918	-0.593	-0.035	-0.114	0.108	0.151	G	Cumple
N362/N25	54.00	0.447	1.615	1.250	-0.279	0.127	0.154	-0.291	G	Cumple
N362/N363	46.92	0.443	0.455	-1.101	-0.200	-0.125	0.126	0.272	G	Cumple
N364/N362	62.52	0.451	2.333	1.640	-0.455	0.143	0.131	-0.375	G	Cumple
N324/N362	67.04	0.446	0.795	-1.838	-0.485	-0.150	0.169	0.424	G	Cumple
N326/N364	60.22	0.447	0.294	-1.645	-0.541	-0.161	0.127	0.392	GS	Cumple
N364/N365	43.13	0.442	0.334	-0.993	-0.270	-0.135	0.100	0.250	GS	Cumple
N366/N364	73.30	0.000	3.095	1.666	-0.633	0.159	-0.217	0.374	G	Cumple
N366/N367	41.18	0.442	-0.565	-1.218	-0.372	-0.155	0.090	0.323	G	Cumple
N368/N366	81.08	0.000	3.935	1.410	-0.669	0.167	-0.342	0.307	G	Cumple
N328/N366	59.38	0.451	-0.950	-2.026	-0.662	-0.192	0.114	0.507	G	Cumple
N368/N369	34.29	0.444	-0.828	-0.911	-0.308	-0.163	0.030	0.268	G	Cumple
N370/N368	80.63	0.000	4.801	0.972	-0.592	0.162	-0.440	0.184	G	Cumple

Comprobación de resistencia										
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N330/N368	54.20	0.000	-1.401	-1.730	-0.545	-0.193	-0.198	-0.332	G	Cumple
N370/N371	28.35	0.446	-0.735	-0.501	-0.137	-0.161	-0.043	0.176	G	Cumple
N372/N370	71.07	0.000	5.574	0.443	-0.370	0.141	-0.482	0.033	G	Cumple
N332/N370	42.92	0.457	-1.333	-1.236	-0.181	-0.175	-0.050	0.341	G	Cumple
N334/N372	31.19	0.459	-0.433	-0.721	0.063	-0.130	-0.096	0.205	G	Cumple
N372/N373	23.04	0.447	-0.267	0.494	0.138	-0.139	-0.091	-0.090	GS	Cumple
N374/N372	73.60	0.445	6.130	0.213	0.027	0.099	-0.437	-0.130	G	Cumple
N374/N375	23.93	0.448	0.718	-0.167	0.094	-0.383	-0.304	0.179	G	Cumple
N376/N374	72.26	0.440	6.504	0.230	0.283	0.038	-0.462	-0.140	G	Cumple
N336/N374	25.07	0.459	0.802	-0.592	0.224	-0.316	-0.338	0.248	G	Cumple
N376/N377	14.58	0.000	1.166	0.586	-1.113	-0.857	-1.388	-1.144	GS	Cumple
N376/N378	71.91	0.440	6.494	-0.231	0.284	-0.037	-0.459	0.139	G	Cumple
N338/N376	16.84	0.458	0.459	2.317	-0.288	-1.055	-1.088	-1.843	GS	Cumple
N378/N379	23.74	0.448	0.706	0.168	0.090	0.377	-0.302	-0.179	G	Cumple
N378/N380	73.29	0.445	6.120	-0.214	0.030	-0.098	-0.436	0.130	G	Cumple
N340/N378	24.89	0.459	0.790	0.592	0.222	0.310	-0.338	-0.248	G	Cumple
N342/N380	31.16	0.459	-0.464	0.724	0.060	0.128	-0.095	-0.206	G	Cumple
N380/N381	24.48	0.000	0.466	-0.245	0.061	0.128	-0.057	-0.084	GS	Cumple
N380/N382	71.07	0.000	5.568	-0.453	-0.371	-0.138	-0.481	-0.036	G	Cumple
N382/N383	28.38	0.446	-0.753	0.517	-0.143	0.159	-0.041	-0.179	G	Cumple
N382/N384	80.85	0.000	4.798	-0.992	-0.597	-0.160	-0.440	-0.189	G	Cumple
N361/N382	42.95	0.457	-1.361	1.247	-0.185	0.172	-0.049	-0.343	G	Cumple
N361/N385	88.79	0.000	2.503	-1.615	-0.752	-0.170	-0.452	-0.322	G	Cumple
N385/N384	54.27	0.000	-1.378	1.743	-0.549	0.191	-0.199	0.335	G	Cumple
N385/N386	95.52	0.000	1.966	-2.079	-0.886	-0.191	-0.397	-0.448	G	Cumple
N346/N385	68.12	0.000	-1.983	2.210	-0.638	0.201	-0.232	0.466	G	Cumple
N386/N387	59.19	0.451	-0.906	2.029	-0.663	0.190	0.115	-0.508	G	Cumple
N386/N388	91.00	0.000	1.479	-2.288	-0.878	-0.193	-0.300	-0.506	G	Cumple
N360/N386	74.98	0.000	-1.282	2.501	-0.886	0.212	-0.281	0.531	G	Cumple
N360/N389	79.78	0.000	0.053	-1.958	-0.781	-0.190	-0.297	-0.423	GS	Cumple
N389/N388	73.40	0.000	0.165	1.957	-0.756	0.183	-0.235	0.418	GS	Cumple
N349/N389	81.54	0.000	0.075	1.987	-0.800	0.189	-0.316	0.425	GS	Cumple
N390/N391	77.59	0.000	1.089	2.254	-0.777	0.176	-0.184	0.497	G	Cumple
N390/N392	60.33	0.447	0.193	-1.659	-0.544	-0.160	0.130	0.395	GS	Cumple
N351/N390	90.99	0.000	1.476	2.287	-0.878	0.193	-0.300	0.506	G	Cumple
N392/N393	62.56	0.451	2.340	1.654	-0.457	0.141	0.130	-0.378	G	Cumple
N392/N394	43.89	0.442	0.237	-1.038	-0.277	-0.133	0.104	0.260	GS	Cumple
N353/N392	73.02	0.000	3.095	1.665	-0.630	0.157	-0.216	0.374	G	Cumple
N394/N395	37.09	0.453	2.856	0.903	-0.353	0.165	0.144	-0.220	G	Cumple
N394/N396	20.35	0.440	0.221	-0.367	-0.030	-0.102	0.033	0.093	GS	Cumple
N359/N394	41.20	0.000	3.865	0.764	-0.480	0.172	-0.228	0.169	GS	Cumple
N359/N397	17.19	0.440	0.364	-0.228	-0.062	-0.097	0.028	0.063	GS	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N397/N396	23.71	0.000	-0.554	0.303	-0.602	0.158	-0.244	0.064	GS	Cumple
N358/N397	30.50	0.000	-0.477	-0.113	-0.650	0.168	-0.417	-0.021	GS	Cumple
N396/N398	22.63	0.453	-1.575	0.261	-0.449	0.152	0.175	-0.080	G	Cumple
N395/N398	18.97	0.000	0.890	-0.260	0.031	-0.101	0.043	-0.049	GS	Cumple
N393/N395	47.16	0.443	0.438	-1.120	-0.203	-0.123	0.128	0.277	G	Cumple
N391/N393	67.10	0.446	0.771	-1.849	-0.489	-0.148	0.171	0.427	G	Cumple
N388/N391	77.57	0.000	1.092	-2.254	-0.776	-0.175	-0.183	-0.497	G	Cumple
N388/N399	60.50	0.447	0.361	1.668	-0.552	0.159	0.125	-0.399	GS	Cumple
N387/N399	73.01	0.000	3.105	-1.665	-0.630	-0.157	-0.216	-0.374	G	Cumple
N384/N387	81.07	0.000	3.937	-1.424	-0.671	-0.165	-0.342	-0.309	G	Cumple
N384/N400	34.44	0.444	-0.812	0.929	-0.313	0.160	0.031	-0.272	G	Cumple
N383/N400	58.54	0.000	5.912	0.311	-0.467	-0.186	-0.522	0.087	GS	Cumple
N381/N383	77.61	0.000	7.597	0.377	-0.466	-0.195	-0.715	0.147	G	Cumple
N379/N381	85.58	0.000	8.567	0.501	-0.162	-0.168	-0.762	0.229	G	Cumple
N377/N379	74.11	0.000	9.675	0.150	0.058	-0.085	-0.708	0.147	G	Cumple
N377/N375	74.64	0.000	9.703	-0.148	0.053	0.086	-0.714	-0.147	G	Cumple
N375/N373	86.18	0.000	8.597	-0.504	-0.166	0.170	-0.766	-0.231	G	Cumple
N373/N371	78.28	0.000	6.795	-0.883	-0.270	0.200	-0.646	-0.244	GS	Cumple
N371/N369	58.44	0.000	6.375	0.059	-0.589	0.200	-0.572	-0.009	G	Cumple
N369/N367	51.32	0.000	5.078	0.545	-0.595	0.191	-0.389	0.120	G	Cumple
N367/N365	41.40	0.000	3.895	0.859	-0.548	0.179	-0.202	0.190	G	Cumple
N365/N363	37.16	0.453	2.887	0.885	-0.353	0.168	0.145	-0.216	G	Cumple
N363/N23	35.16	0.448	2.653	0.720	-0.180	0.154	0.176	-0.174	GS	Cumple
N23/N401	19.35	0.000	0.332	0.149	0.118	-0.102	0.076	0.035	G	Cumple
N401/N21	20.97	0.443	-1.496	-0.225	-0.177	0.141	0.217	0.018	G	Cumple
N402/N401	24.18	0.448	-1.702	0.103	-0.311	0.150	0.225	-0.059	G	Cumple
N363/N402	22.50	0.000	1.854	-0.327	0.009	-0.105	0.038	-0.063	GS	Cumple
N403/N402	22.73	0.453	-1.548	0.250	-0.455	0.155	0.177	-0.078	G	Cumple
N365/N403	17.20	0.440	0.228	-0.280	-0.016	-0.093	0.027	0.072	GS	Cumple
N404/N403	27.66	0.000	0.039	0.258	-0.642	0.163	-0.237	0.053	GS	Cumple
N367/N404	15.99	0.000	0.278	0.189	0.009	-0.114	0.010	0.053	GS	Cumple
N405/N404	38.02	0.000	0.048	-0.130	-0.684	0.174	-0.423	-0.024	GS	Cumple
N369/N405	17.70	0.000	-0.060	0.556	0.034	-0.118	0.000	0.134	GS	Cumple
N406/N405	44.55	0.000	-1.608	-0.310	-0.724	0.182	-0.591	-0.078	G	Cumple
N371/N406	32.29	0.440	0.585	0.922	0.075	-0.120	-0.038	-0.195	GS	Cumple
N407/N406	59.78	0.000	-2.304	-0.561	-0.729	0.191	-0.774	-0.169	G	Cumple
N373/N407	33.94	0.441	0.197	0.969	0.098	-0.119	-0.053	-0.212	GS	Cumple
N408/N407	78.10	0.000	-3.067	-0.653	-0.900	0.180	-1.031	-0.265	G	Cumple
N375/N408	22.60	0.441	0.947	1.221	-0.004	-0.392	-0.105	-0.310	GS	Cumple
N409/N408	75.99	0.000	-3.964	-0.321	-1.028	0.106	-1.099	-0.184	G	Cumple
N377/N409	10.65	0.000	1.213	-2.012	-1.581	-0.494	-0.816	-1.133	GS	Cumple
N409/N410	75.33	0.000	-3.937	0.325	-1.011	-0.104	-1.089	0.184	G	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N379/N410	22.39	0.000	0.311	-0.986	-0.243	0.376	-0.193	-0.256	G	Cumple
N410/N411	77.45	0.000	-3.037	0.650	-0.888	-0.177	-1.023	0.263	G	Cumple
N381/N411	36.98	0.441	0.195	-1.061	0.114	0.132	-0.049	0.238	GS	Cumple
N411/N412	59.21	0.000	-2.284	0.551	-0.721	-0.188	-0.769	0.165	G	Cumple
N383/N412	27.20	0.440	0.011	-0.813	0.066	0.105	-0.033	0.174	GS	Cumple
N412/N413	44.05	0.000	-1.608	0.293	-0.718	-0.179	-0.587	0.074	G	Cumple
N400/N413	22.99	0.000	0.632	-0.518	0.020	0.119	-0.002	-0.126	GS	Cumple
N400/N414	51.18	0.000	5.057	-0.561	-0.595	-0.188	-0.388	-0.123	G	Cumple
N414/N415	14.31	0.440	0.072	0.131	-0.038	0.101	0.021	-0.042	GS	Cumple
N414/N416	41.09	0.000	3.873	-0.859	-0.545	-0.176	-0.201	-0.190	G	Cumple
N387/N414	41.13	0.442	-0.537	1.227	-0.373	0.152	0.091	-0.326	G	Cumple
N416/N417	20.96	0.440	0.900	0.331	-0.021	0.101	0.029	-0.085	GS	Cumple
N416/N418	37.04	0.453	2.863	-0.899	-0.352	-0.165	0.144	0.219	G	Cumple
N399/N416	44.29	0.442	0.571	1.033	-0.277	0.131	0.099	-0.261	GS	Cumple
N399/N419	62.54	0.451	2.348	-1.652	-0.457	-0.141	0.130	0.378	G	Cumple
N419/N418	47.09	0.443	0.436	1.118	-0.202	0.123	0.127	-0.276	G	Cumple
N419/N420	54.31	0.447	1.635	-1.268	-0.284	-0.125	0.155	0.295	G	Cumple
N391/N419	67.09	0.446	0.769	1.849	-0.489	0.148	0.171	-0.427	G	Cumple
N420/N421	35.07	0.443	0.995	0.605	-0.036	0.112	0.108	-0.153	G	Cumple
N420/N422	35.10	0.443	0.998	-0.606	-0.036	-0.112	0.108	0.153	G	Cumple
N393/N420	54.32	0.447	1.630	1.269	-0.284	0.125	0.155	-0.295	G	Cumple
N422/N423	23.24	0.000	2.355	-0.137	-0.001	0.141	0.129	-0.048	GS	Cumple
N422/N424	19.23	0.000	0.366	0.147	0.118	-0.100	0.076	0.035	G	Cumple
N395/N422	33.89	0.448	1.978	0.587	-0.169	0.156	0.186	-0.159	G	Cumple
N424/N425	21.02	0.443	-1.546	-0.241	-0.175	0.137	0.217	0.021	G	Cumple
N398/N424	24.28	0.448	-1.750	0.120	-0.306	0.147	0.223	-0.064	G	Cumple
N423/N425	26.74	0.000	0.481	0.799	0.205	-0.127	0.126	0.172	G	Cumple
N421/N423	23.10	0.000	1.306	0.280	-0.019	-0.142	0.127	0.075	GS	Cumple
N418/N421	33.85	0.448	1.983	-0.584	-0.169	-0.156	0.186	0.158	G	Cumple
N418/N426	17.80	0.440	0.283	0.333	0.026	0.086	0.026	-0.085	GS	Cumple
N417/N426	22.59	0.453	-1.584	-0.258	-0.449	-0.151	0.175	0.079	G	Cumple
N426/N427	24.25	0.448	-1.754	-0.118	-0.306	-0.146	0.223	0.064	G	Cumple
N421/N427	19.96	0.000	0.506	-0.254	0.119	0.097	0.066	-0.053	GS	Cumple
N427/N428	22.10	0.443	-0.773	0.438	-0.235	-0.132	0.208	-0.085	GS	Cumple
N423/N428	26.75	0.000	0.480	-0.800	0.205	0.127	0.126	-0.172	G	Cumple
N428/N429	19.27	0.440	-0.712	0.713	0.031	-0.107	0.100	-0.162	G	Cumple
N425/N429	19.27	0.440	-0.712	-0.713	0.031	0.107	0.100	0.162	G	Cumple
N415/N417	22.18	0.000	-1.346	-0.193	-0.640	-0.158	-0.210	-0.038	G	Cumple
N413/N415	30.07	0.000	-1.290	0.006	-0.707	-0.168	-0.400	0.001	G	Cumple
N202/N197	43.16	0.508	-6.120	-0.380	0.180	-0.031	-0.190	0.161	G	Cumple
N1/N6	21.43	0.000	0.597	0.477	0.014	-0.113	0.000	0.116	GS	Cumple
N389/N390	73.15	0.000	0.084	-1.988	-0.751	-0.183	-0.223	-0.428	GS	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N266/N264	53.23	0.602	-7.018	-1.185	0.128	-0.004	-0.116	0.368	GS	Cumple
N296/N275	20.44	0.000	-7.512	0.341	-1.594	-0.148	-4.213	0.035	GS	Cumple
N275/N277	75.47	0.000	-2.922	-1.761	-2.155	0.033	-0.572	-0.359	GS	Cumple
N123/N125	77.56	0.000	1.092	2.254	-0.776	0.175	-0.183	0.497	G	Cumple
N298/N296	22.98	0.554	-15.017	-0.013	0.672	-0.182	-4.178	-0.153	GS	Cumple
N244/N32	33.56	0.444	-0.809	0.862	-0.299	0.164	0.035	-0.252	G	Cumple
N324/N27	66.74	0.446	0.770	1.827	-0.482	0.150	0.169	-0.422	G	Cumple
N228/N220	25.94	0.512	2.138	-1.853	-0.210	-0.059	-0.252	0.561	GS	Cumple
N259/N337	13.45	0.000	-1.612	0.491	-0.807	-0.133	-3.056	0.026	GS	Cumple
N430/N189	35.14	0.000	1.567	1.437	-0.152	-0.097	-0.293	0.846	GS	Cumple
N431/N191	23.88	1.712	-15.350	-0.003	1.066	-0.142	-4.346	-0.191	GS	Cumple
N431/N201	85.65	0.000	14.373	0.604	1.582	0.065	0.640	0.292	GS	Cumple
N431/N430	80.23	0.000	-17.067	-0.049	-2.055	0.044	-0.795	0.003	GS	Cumple
N430/N212	74.27	1.054	-16.202	-0.183	0.489	-0.031	-0.250	0.125	GS	Cumple
N217/N265	43.16	0.508	-6.126	0.378	0.182	0.032	-0.190	-0.161	G	Cumple
N266/N217	57.15	0.602	-9.316	1.013	0.203	0.004	-0.112	-0.340	GS	Cumple
N296/N215	89.91	0.000	-6.988	0.608	-3.335	-0.044	-0.812	0.069	GS	Cumple
N214/N215	36.18	1.244	1.290	-1.418	0.002	0.088	-0.252	0.946	GS	Cumple
N267/N263	33.72	0.000	1.318	1.411	-0.124	-0.097	-0.270	0.827	GS	Cumple
N242/N239	54.43	0.602	-7.077	-1.182	0.169	-0.007	-0.128	0.369	GS	Cumple
N210/N211	35.87	1.244	1.678	-1.442	-0.082	0.079	-0.214	0.965	GS	Cumple
N209/N207	23.44	1.709	-15.282	-0.049	1.089	-0.173	-4.247	-0.098	GS	Cumple
N213/N219	36.45	1.244	1.697	-1.445	-0.078	0.084	-0.216	0.978	GS	Cumple
N433/N430	19.29	2.305	1.070	-0.256	0.137	0.006	-0.272	0.391	GS	Cumple
N434/N210	18.42	2.306	1.203	0.238	0.101	-0.012	-0.241	-0.378	GS	Cumple
N435/N229	24.04	1.709	-15.612	-0.028	1.167	-0.157	-4.362	-0.128	GS	Cumple
N435/N213	85.07	0.000	14.907	0.511	1.596	0.069	0.646	0.259	GS	Cumple
N433/N213	18.57	2.306	1.300	0.234	0.106	-0.013	-0.247	-0.372	GS	Cumple
N435/N432	81.61	0.000	-16.810	0.049	-2.148	0.045	-0.825	0.038	GS	Cumple
N203/N204	34.58	1.244	1.191	1.278	0.039	-0.075	-0.296	-0.860	GS	Cumple
N297/N203	81.73	0.000	-16.381	0.147	-2.201	0.044	-0.840	0.072	GS	Cumple
N206/N203	19.06	2.226	1.133	-0.266	0.137	0.014	-0.267	0.377	GS	Cumple
N436/N476	54.35	0.000	-94.170	0.725	-17.846	-0.025	-4.793	1.019	GS	Cumple
N476/N457	48.85	0.000	-66.910	0.322	-8.151	0.179	-5.793	1.057	GS	Cumple
N457/N470	37.03	0.000	31.160	1.207	4.760	0.514	4.005	1.785	GS	Cumple
N470/N431	30.74	0.000	22.253	-2.403	4.172	0.157	4.801	-0.558	GS	Cumple
N439/N436	74.52	0.000	73.548	-1.378	-1.902	0.219	-7.277	-4.302	GS	Cumple
N440/N474	54.90	0.000	-94.474	0.833	-17.398	-0.007	-4.884	1.095	GS	Cumple
N474/N456	50.65	0.000	56.083	-0.319	9.180	-0.210	6.283	-1.039	GS	Cumple
N456/N472	37.61	0.000	32.929	1.246	4.925	0.524	3.947	1.831	GS	Cumple
N472/N435	30.82	0.000	20.508	4.517	3.966	-0.273	4.342	1.064	GS	Cumple
N441/N267	19.00	2.301	1.169	-0.269	0.114	0.006	-0.239	0.409	GS	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N297/N214	86.18	0.000	14.303	0.596	1.615	0.067	0.651	0.290	GS	Cumple
N442/N449	2.63	0.000	-0.094	0.025	-0.011	0.000	-0.035	0.081	GS	Cumple
N441/N214	17.54	2.312	1.132	0.223	0.102	-0.017	-0.240	-0.344	GS	Cumple
N443/N477	55.07	0.000	-93.593	0.687	-17.717	-0.046	-5.027	0.966	GS	Cumple
N477/N455	50.50	0.000	49.316	0.664	8.395	0.350	5.726	1.967	GS	Cumple
N455/N471	37.35	0.000	32.373	1.244	4.882	0.553	3.939	1.793	GS	Cumple
N471/N209	30.86	0.000	22.191	-2.447	4.492	0.149	4.841	-0.560	GS	Cumple
N438/N475	54.30	0.000	-92.389	0.672	-17.594	-0.093	-4.922	1.085	GS	Cumple
N475/N458	47.63	0.000	-65.345	0.276	-7.987	0.147	-5.638	1.033	GS	Cumple
N458/N473	36.27	0.000	-43.498	-1.234	-5.051	-0.535	-3.750	-1.841	GS	Cumple
N473/N297	30.60	0.000	21.500	-2.450	4.098	0.156	4.823	-0.565	GS	Cumple
N444/N438	75.15	0.000	73.116	-1.562	-1.753	0.284	-7.012	-4.689	GS	Cumple
N445/N450	2.82	0.000	-0.094	-0.015	-0.023	0.000	-0.074	-0.050	GS	Cumple
N446/N440	77.70	0.000	76.331	-1.807	-1.481	0.266	-6.182	-5.883	GS	Cumple
N447/N443	74.02	0.000	75.283	-1.356	-1.531	0.298	-6.970	-4.276	GS	Cumple
N448/N452	2.87	0.000	-0.094	-0.018	-0.021	0.000	-0.066	-0.060	GS	Cumple
N229/N240	87.55	0.000	-6.904	-0.312	-3.153	0.034	-0.788	0.012	GS	Cumple
N432/N240	35.29	0.000	1.439	1.503	-0.126	-0.101	-0.273	0.874	GS	Cumple
N434/N432	19.54	2.306	1.157	-0.259	0.131	0.011	-0.267	0.397	GS	Cumple
N432/N242	76.56	1.057	-16.270	-0.237	0.488	-0.030	-0.250	0.154	GS	Cumple
N242/N243	57.79	0.602	-9.574	1.015	0.199	0.001	-0.110	-0.345	GS	Cumple
N267/N266	75.77	1.057	-15.687	-0.237	0.506	-0.032	-0.260	0.154	GS	Cumple
N437/N451	2.52	0.000	-0.096	0.000	-0.026	0.000	-0.088	0.000	GS	Cumple
N453/N460	47.53	0.000	-5.897	-3.090	1.684	-0.022	2.969	-5.457	GS	Cumple
N460/N459	63.59	0.000	-4.987	-12.391	6.733	-0.010	4.077	-7.496	GS	Cumple
N459/N469	43.36	0.000	-3.411	-10.353	5.679	-0.010	2.792	-5.096	GS	Cumple
N469/N454	0.04	0.000	-0.079	0.000	0.000	0.000	0.000	0.000	G	Cumple
N459/N458	79.01	0.640	0.514	-0.320	-18.757	0.214	6.331	-0.151	GS	Cumple
N459/N457	82.36	0.651	0.086	-0.268	-19.637	0.178	6.727	-0.099	GS	Cumple
N459/N456	85.00	0.669	0.468	-0.330	-19.508	0.211	6.864	-0.133	GS	Cumple
N459/N455	83.80	0.654	0.053	-0.300	-19.426	0.204	6.759	-0.165	GS	Cumple
N462/N463	24.36	0.224	0.646	-0.839	0.205	0.410	-0.236	0.239	GS	Cumple
N463/N461	20.25	0.000	0.198	-0.717	-0.225	0.368	-0.186	-0.197	G	Cumple
N461/N11	20.18	0.221	0.509	-0.968	-0.012	0.387	-0.091	0.257	GS	Cumple
N464/N37	24.96	0.227	0.668	0.536	0.263	0.343	-0.337	-0.225	G	Cumple
N37/N462	21.88	0.227	0.542	-0.015	0.035	0.384	-0.274	-0.139	G	Cumple
N465/N222	22.72	0.232	0.565	0.691	0.227	0.294	-0.293	-0.237	G	Cumple
N222/N464	20.69	0.232	0.675	0.536	0.171	0.333	-0.282	-0.131	G	Cumple
N466/N224	22.73	0.236	1.504	1.954	-0.094	0.034	-0.182	-0.562	GS	Cumple
N224/N465	18.18	0.000	0.234	-1.083	0.283	0.313	-0.096	-0.263	GS	Cumple
N467/N226	26.67	0.246	1.615	2.427	-0.051	0.045	-0.203	-0.672	GS	Cumple
N226/N466	19.83	0.000	1.471	1.964	-0.274	0.022	-0.272	0.379	GS	Cumple

Comprobación de resistencia										
Barra	h (%)	Posición (m)	Esfuerzos pésimos						Origen	Estado
			N (t)	Vy (t)	Vz (t)	Mt (t·m)	My (t·m)	Mz (t·m)		
N240/N468	21.90	0.000	1.686	1.572	-0.347	0.067	-0.322	0.352	GS	Cumple
N468/N230	24.50	0.302	2.005	0.855	0.062	0.096	-0.305	-0.424	GS	Cumple
N230/N467	25.58	0.000	1.547	2.428	-0.401	0.030	-0.318	0.535	GS	Cumple
N470/N469	65.03	0.000	-0.748	-1.757	11.750	0.286	5.486	-0.389	GS	Cumple
N469/N471	65.88	0.809	-1.110	-1.730	-11.745	0.281	5.538	0.366	GS	Cumple
N469/N472	66.52	0.819	-0.712	-1.773	-11.929	0.286	5.615	0.391	GS	Cumple
N469/N473	62.77	0.798	-1.203	-1.851	-11.282	0.297	5.268	0.391	GS	Cumple
N460/N474	82.36	0.651	0.086	-0.268	-19.637	0.178	6.727	-0.099	GS	Cumple
N475/N460	85.00	0.669	0.468	-0.330	-19.508	0.211	6.864	-0.133	GS	Cumple
N476/N460	83.80	0.654	0.053	-0.300	-19.426	0.204	6.759	-0.165	GS	Cumple
N460/N477	82.36	0.651	0.086	-0.268	-19.637	0.178	6.727	-0.099	GS	Cumple
N478/N10	6.97	0.000	0.077	-2.300	-1.182	-0.552	-0.363	-0.746	GS	Cumple
N229/N484	21.45	0.000	-8.341	0.492	-1.757	-0.170	-4.385	0.092	GS	Cumple
N484/N227	19.09	0.000	-8.097	0.486	-2.529	-0.157	-3.844	-0.084	GS	Cumple
N227/N483	14.96	0.000	-4.517	0.241	-0.203	-0.199	-3.169	0.007	GS	Cumple
N483/N225	14.72	0.000	-4.347	0.231	-1.099	-0.172	-3.126	-0.105	GS	Cumple
N225/N482	13.04	0.000	-2.345	0.353	-0.365	-0.187	-2.898	0.027	GS	Cumple
N482/N223	12.72	0.000	-2.260	0.324	-0.601	-0.163	-2.828	-0.081	GS	Cumple
N223/N481	11.93	0.236	0.037	2.844	0.045	-1.095	-0.968	-0.793	GS	Cumple
N481/N221	14.91	0.232	0.042	2.851	0.071	-1.061	-0.991	-1.510	GS	Cumple
N221/N480	14.90	0.232	0.181	2.132	-0.281	-1.078	-1.184	-1.287	GS	Cumple
N480/N39	16.77	0.226	0.215	2.144	-0.238	-0.981	-1.142	-1.866	GS	Cumple
N39/N479	14.05	0.000	0.180	0.485	-0.807	-0.933	-1.066	-1.344	GS	Cumple
N479/N38	13.72	0.000	0.285	0.484	-0.765	-0.787	-0.903	-1.564	GS	Cumple
N38/N478	10.20	0.000	0.049	-2.296	-1.214	-0.564	-0.626	-1.241	GS	Cumple
N488/N13	44.19	0.000	-1.527	0.482	-0.720	-0.195	-0.611	0.041	G	Cumple
N485/N9	60.96	0.000	-3.232	-0.255	-1.049	0.101	-0.886	-0.124	G	Cumple
N485/N10	77.57	0.220	-3.184	-0.255	1.223	0.106	-1.151	0.175	G	Cumple
N10/N486	76.72	0.000	-2.680	0.343	-1.113	-0.110	-1.139	0.210	G	Cumple
N486/N11	61.11	0.000	-2.761	0.343	-0.849	-0.099	-0.898	0.143	G	Cumple
N11/N487	76.88	0.000	-2.057	0.568	-1.029	-0.178	-1.069	0.241	G	Cumple
N487/N12	59.92	0.000	-2.122	0.568	-0.837	-0.169	-0.845	0.128	G	Cumple
N12/N488	57.89	0.000	-1.507	0.482	-0.806	-0.196	-0.787	0.142	G	Cumple
N489/N19	20.13	0.220	0.511	-0.737	0.263	0.127	0.024	0.167	G	Cumple
N23/N490	22.83	0.000	1.274	-0.029	-0.002	0.150	0.159	-0.032	G	Cumple
N490/N22	22.57	0.000	2.307	0.106	0.115	0.144	0.145	-0.019	GS	Cumple
N22/N489	25.83	0.000	0.515	-0.737	0.173	0.127	0.120	-0.163	G	Cumple

Comprobaciones E.L.U. (Resumido)

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N2/N1	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.454 m h = 10.2	x: 0.454 m h = 0.1	h = 11.0	x: 0 m h = 28.0	x: 0.454 m h = 5.1	x: 0.454 m h = 2.7	x: 0 m h = 3.5	x: 0 m h = 32.8	x: 0 m h = 8.5	x: 0 m h = 10.9	x: 0 m h = 0.8	x: 0 m h = 57.2	x: 0.454 m h = 6.4	x: 0 m h = 45.2	**CUMPLE h = 57.2**
N3/N1	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.444 m h < 0.1	x: 0 m h = 2.2	h = 12.6	x: 0 m h = 8.3	x: 0.444 m h = 18.7	h = 8.0	x: 0 m h = 3.3	x: 0 m h = 13.9	x: 0.444 m h = 24.2	x: 0 m h = 2.0	x: 0.444 m h = 6.5	x: 0.444 m h = 22.7	x: 0.444 m h = 34.3	x: 0.444 m h = 25.6	**CUMPLE h = 34.3**
N1/N4	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.456 m h = 8.2	x: 0 m h = 0.2	h = 10.5	x: 0 m h = 19.5	x: 0.456 m h = 6.6	h = 3.4	x: 0 m h = 3.5	x: 0 m h = 23.7	x: 0.456 m h = 11.2	x: 0 m h = 5.7	x: 0.456 m h = 1.4	x: 0 m h = 51.2	x: 0.456 m h = 4.8	x: 0 m h = 33.2	**CUMPLE h = 51.2**
N4/N5	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.3	x: 0 m h = 0.8	h = 9.2	x: 0.44 m h = 2.1	x: 0.44 m h = 5.7	x: 0.44 m h = 2.9	x: 0 m h = 1.0	x: 0.44 m h = 5.6	x: 0.44 m h = 7.9	x: 0.44 m h = 0.3	x: 0.44 m h = 0.7	x: 0.44 m h = 16.8	x: 0.44 m h = 13.4	x: 0 m h = 10.6	**CUMPLE h = 16.8**
N6/N5	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.228 m h = 0.7	x: 0.228 m h = 2.3	h = 9.5	x: 0 m h = 20.2	x: 0 m h = 2.4	x: 0 m h = 1.1	x: 0 m h = 4.3	x: 0 m h = 24.1	x: 0 m h = 5.9	x: 0 m h = 6.0	x: 0 m h = 0.4	x: 0 m h = 19.8	x: 0 m h = 30.9	x: 0 m h = 26.6	**CUMPLE h = 30.9**
N7/N6	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.453 m h = 1.3	x: 0.453 m h = 3.3	h = 10.1	x: 0 m h = 29.0	x: 0 m h = 5.9	x: 0.453 m h = 3.3	x: 0 m h = 4.4	x: 0 m h = 33.4	x: 0 m h = 9.9	x: 0 m h = 11.3	x: 0 m h = 1.1	x: 0.227 m h = 18.3	x: 0 m h = 43.5	x: 0 m h = 38.7	**CUMPLE h = 43.5**
N2/N7	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.22 m h = 0.3	x: 0.22 m h = 0.8	h = 10.4	x: 0 m h = 2.3	x: 0 m h = 13.5	x: 0.44 m h = 7.5	x: 0 m h = 0.9	x: 0 m h = 7.0	x: 0 m h = 17.6	x: 0 m h = 0.5	x: 0 m h = 3.6	x: 0.44 m h = 25.9	x: 0 m h = 23.4	x: 0 m h = 16.9	**CUMPLE h = 25.9**
N8/N7	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.448 m h = 1.5	x: 0 m h = 4.4	h = 10.6	x: 0 m h = 38.0	x: 0 m h = 7.9	h = 3.4	x: 0 m h = 4.4	x: 0 m h = 42.6	x: 0 m h = 12.4	x: 0 m h = 18.3	x: 0 m h = 1.6	x: 0.224 m h = 20.7	x: 0 m h = 58.5	x: 0 m h = 52.0	**CUMPLE h = 58.5**
N9/N8	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 1.8	x: 0 m h = 5.8	h = 9.8	x: 0 m h = 50.7	x: 0 m h = 15.4	h = 5.4	x: 0 m h = 5.4	x: 0 m h = 55.0	x: 0 m h = 19.6	x: 0 m h = 30.5	x: 0 m h = 4.2	x: 0 m h = 16.7	x: 0 m h = 75.9	x: 0 m h = 69.8	**CUMPLE h = 75.9**
N13/N14	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.453 m h = 1.2	x: 0 m h = 2.8	h = 10.3	x: 0 m h = 29.1	x: 0.453 m h = 5.8	x: 0.453 m h = 2.9	x: 0 m h = 4.4	x: 0 m h = 33.6	x: 0.453 m h = 9.9	x: 0 m h = 11.5	x: 0.453 m h = 1.1	x: 0 m h = 31.2	x: 0 m h = 42.6	x: 0 m h = 38.2	**CUMPLE h = 42.6**
N14/N15	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.456 m h = 0.7	x: 0 m h = 2.0	h = 9.7	x: 0 m h = 19.8	x: 0 m h = 2.7	x: 0.228 m h = 1.3	x: 0 m h = 4.3	x: 0 m h = 24.0	x: 0 m h = 6.4	x: 0 m h = 5.9	x: 0 m h = 0.4	x: 0 m h = 32.1	x: 0 m h = 30.4	x: 0 m h = 26.2	**CUMPLE h = 32.1**
N15/N16	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.456 m h = 0.3	x: 0 m h = 1.9	h = 9.0	x: 0 m h = 11.6	x: 0.456 m h = 3.7	h = 1.7	x: 0 m h = 3.9	x: 0 m h = 15.1	x: 0.456 m h = 6.9	x: 0 m h = 2.4	x: 0.456 m h = 0.5	x: 0 m h = 15.7	x: 0 m h = 22.5	x: 0 m h = 15.2	**CUMPLE h = 22.5**
N16/N17	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.4	h = 8.6	x: 0.453 m h = 8.9	x: 0.453 m h = 5.5	x: 0.453 m h = 2.7	x: 0 m h = 3.2	x: 0.453 m h = 12.6	x: 0.453 m h = 8.8	x: 0.453 m h = 1.7	x: 0.453 m h = 0.8	N.P.[2]	x: 0.453 m h = 23.1	x: 0.453 m h = 14.8	**CUMPLE h = 23.1**
N17/N18	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.9	h = 8.2	x: 0.448 m h = 11.2	x: 0.448 m h = 4.0	h = 1.0	x: 0 m h = 2.3	x: 0.448 m h = 14.7	x: 0.448 m h = 7.2	x: 0.448 m h = 2.2	x: 0.448 m h = 0.5	N.P.[2]	x: 0.448 m h = 24.8	x: 0.448 m h = 17.5	**CUMPLE h = 24.8**
N18/N19	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.6	h = 7.6	x: 0.443 m h = 10.8	x: 0 m h = 4.7	x: 0.443 m h = 2.1	x: 0 m h = 1.6	x: 0.443 m h = 14.1	x: 0 m h = 7.7	x: 0.443 m h = 2.0	x: 0 m h = 0.6	N.P.[2]	x: 0.443 m h = 20.8	x: 0.443 m h = 16.1	**CUMPLE h = 20.8**
N19/N20	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 1.2	h = 5.9	x: 0.22 m h = 5.1	x: 0.44 m h = 7.8	h = 4.2	x: 0 m h = 0.2	x: 0.22 m h = 7.7	x: 0.44 m h = 10.4	x: 0.22 m h = 0.6	x: 0.44 m h = 1.3	N.P.[2]	x: 0.44 m h = 19.2	x: 0.44 m h = 12.8	**CUMPLE h = 19.2**
N21/N20	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.5	x: 0 m h = 1.6	h = 5.9	x: 0.22 m h = 5.1	x: 0.44 m h = 7.8	h = 4.1	x: 0 m h = 0.2	x: 0.22 m h = 7.7	x: 0.44 m h = 10.4	x: 0.22 m h = 0.6	x: 0.44 m h = 1.2	x: 0 m h = 17.8	x: 0.44 m h = 19.2	x: 0.44 m h = 12.9	**CUMPLE h = 19.2**
N22/N21	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.441 m h = 0.8	N.P.[3]	h = 7.0	x: 0 m h = 6.1	x: 0.441 m h = 8.4	h = 4.6	x: 0.441 m h = 1.6	x: 0 m h = 9.2	x: 0.441 m h = 11.4	x: 0 m h = 0.9	x: 0.441 m h = 1.5	x: 0 m h = 26.5	N.P.[4]	x: 0 m h = 13.7	**CUMPLE h = 26.5**
N24/N22	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.442 m h = 2.0	x: 0 m h < 0.1	h = 8.2	x: 0 m h = 7.9	x: 0.442 m h = 2.5	h = 1.0	x: 0.442 m h = 0.5	x: 0 m h = 11.5	x: 0 m h = 5.5	x: 0 m h = 1.3	x: 0 m h = 0.3	x: 0 m h = 22.2	x: 0.442 m h = 1.4	x: 0 m h = 12.0	**CUMPLE h = 22.2**
N24/N18	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 1.2	x: 0 m h = 0.4	h = 7.9	x: 0 m h = 5.1	x: 0.44 m h = 2.7	x: 0.22 m h = 1.5	x: 0.44 m h = 1.5	x: 0 m h = 8.6	x: 0.44 m h = 5.6	x: 0 m h = 0.7	x: 0.44 m h = 0.3	x: 0 m h = 17.5	x: 0 m h = 3.4	x: 0.44 m h = 9.6	**CUMPLE h = 17.5**
N25/N24	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.443 m h = 2.7	x: 0 m h = 0.6	h = 8.8	x: 0.443 m h = 7.6	x: 0.443 m h = 10.6	h = 5.3	x: 0 m h = 0.9	x: 0.443 m h = 11.5	x: 0.443 m h = 14.5	x: 0.443 m h = 1.3	x: 0.443 m h = 2.4	x: 0.443 m h = 34.9	x: 0.443 m h = 4.8	x: 0.443 m h = 18.7	**CUMPLE h = 34.9**
N26/N24	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.448 m h = 3.1	x: 0 m h = 0.2	h = 8.7	x: 0.448 m h = 9.3	x: 0.448 m h = 8.1	h = 3.7	x: 0 m h = 1.5	x: 0.448 m h = 13.1	x: 0.448 m h = 11.9	x: 0.448 m h = 1.7	x: 0.448 m h = 1.5	x: 0.448 m h = 34.3	x: 0 m h = 2.3	x: 0.448 m h = 18.5	**CUMPLE h = 34.3**
N26/N17	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.7	x: 0 m h = 0.4	h = 8.2	x: 0 m h = 3.2	x: 0.44 m h = 7.2	x: 0 m h = 3.6	x: 0.44 m h = 0.7	x: 0 m h = 6.8	x: 0.44 m h = 10.2	x: 0 m h = 0.5	x: 0.44 m h = 1.2	x: 0.44 m h = 19.9	x: 0 m h = 5.9	x: 0.44 m h = 11.1	**CUMPLE h = 19.9**
N27/N26	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.443 m h = 1.6	x: 0 m h = 0.7	h = 9.7	x: 0.443 m h = 8.9	x: 0.443 m h = 19.2	h = 9.8	x: 0 m h = 2.4	x: 0.443 m h = 13.2	x: 0.443 m h = 23.5	x: 0.443 m h = 1.8	x: 0.443 m h = 6.5	x: 0.443 m h = 47.0	x: 0.443 m h = 9.7	x: 0.443 m h = 27.5	**CUMPLE h = 47.0**
N28/N26	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.453 m h = 4.4	x: 0 m h = 0.1	h = 9.2	x: 0.453 m h = 7.2	x: 0.453 m h = 11.2	x: 0 m h = 5.6	x: 0 m h = 2.5	x: 0.453 m h = 11.2	x: 0.453 m h = 15.2	x: 0.453 m h = 1.3	x: 0.453 m h = 2.6	x: 0.453 m h = 37.4	x: 0 m h = 3.3	x: 0.453 m h = 21.0	**CUMPLE h = 37.4**
N28/N16	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 2.7	x: 0 m h = 3.0	h = 8.7	x: 0.44 m h = 2.7	x: 0.44 m h = 7.9	h = 4.0	x: 0 m h = 0.9	x: 0.44 m h = 6.3	x: 0.44 m h = 11.3	x: 0.44 m h = 0.4	x: 0.44 m h = 1.4	x: 0.44 m h = 24.3	x: 0.44 m h = 17.5	x: 0.44 m h = 12.7	**CUMPLE h = 24.3**
N29/N28	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.442 m h = 1.8	x: 0 m h = 2.2	h = 10.9	x: 0.442 m h = 8.8	x: 0.442 m h = 22.8	h = 11.5	x: 0 m h = 3.5	x: 0.442 m h = 13.6	x: 0.442 m h = 27.7	x: 0.442 m h = 1.9	x: 0.442 m h = 9.0	x: 0.442 m h = 45.3	x: 0.442 m h = 41.7	x: 0.442 m h = 30.9	**CUMPLE h = 45.3**
N30/N28	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.455 m h = 5.9	x: 0 m h = 0.1	h = 9.9	x: 0 m h = 10.8	x: 0.455 m h = 10.3	h = 5.3	x: 0 m h = 3.2	x: 0 m h = 14.5	x: 0.455 m h = 14.6	x: 0 m h = 2.2	x: 0.455 m h = 2.4	x: 0 m h = 41.3	x: 0.455 m h = 4.2	x: 0 m h = 23.3	**CUMPLE h = 41.3**
N30/N15	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.4	x: 0 m h = 0.8	h = 9.4	x: 0.44 m h = 2.0	x: 0.44 m h = 5.4	x: 0.44 m h = 2.8	x: 0 m h = 1.0	x: 0.44 m h = 6.0	x: 0.44 m h = 8.2	x: 0.44 m h = 0.4	x: 0.44 m h = 0.7	x: 0.44 m h = 16.1	x: 0.44 m h = 14.8	x: 0 m h = 11.3	**CUMPLE h = 16.1**
N31/N30	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.221 m h = 0.1	x: 0 m h = 1.4	h = 12.1	x: 0.442 m h = 6.5	x: 0.442 m h = 22.0	h = 10.5	x: 0 m h = 3.8	x: 0.442 m h = 11.8	x: 0.442 m h = 27.4	x: 0.442 m h = 1.5	x: 0.442 m h = 8.6	x: 0.442 m h = 33.7	x: 0.442 m h = 40.6	x: 0.442 m h = 30.0	**CUMPLE h = 40.6**
N32/N30	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.456 m h = 7.7	x: 0 m h = 0.1	h = 10.6	x: 0 m h = 19.0	x: 0.456 m h = 6.8	h = 3.5	x: 0 m h = 3.5	x: 0 m h = 23.7	x: 0.456 m h = 11.4	x: 0 m h = 5.7	x: 0.456 m h = 1.4	x: 0 m h = 51.1	x: 0.456 m h = 3.4	x: 0 m h = 32.7	**CUMPLE h = 51.1**
N32/N14	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.9	x: 0 m h = 2.7	h = 10.1	x: 0.44 m h = 1.6	x: 0 m h = 7.5	x: 0.44 m h = 3.9	x: 0 m h = 1.0	x: 0 m h = 5.8	x: 0 m h = 11.0	x: 0 m h = 0.3	x: 0 m h = 1.4	x: 0 m h = 19.8	x: 0 m h = 15.4	x: 0.44 m h = 12.1	**CUMPLE h = 19.8**
N33/N32	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.454 m h = 9.5	x: 0 m h < 0.1	h = 11.1	x: 0 m h = 27.8	x: 0.454 m h = 5.2	x: 0 m h = 2.6	x: 0 m h = 3.4	x: 0 m h = 32.7	x: 0 m h = 8.4	x: 0 m h = 10.8	x: 0 m h = 0.7	x: 0 m h = 56.5	x: 0.454 m h = 7.0	x: 0 m h = 44.3	**CUMPLE h = 56.5**
N33/N13	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.2	x: 0 m h = 0.8	h = 10.6	x: 0.44 m h = 2.3	x: 0 m h = 12.6	x: 0 m h = 7.1	x: 0 m h = 0.9	x: 0 m h = 6.7	x: 0 m h = 16.8	x: 0 m h = 0.5	x: 0 m h = 3.3	x: 0.44 m h = 24.4	x: 0.44 m h = 23.3	x: 0.44 m h = 16.5	**CUMPLE h = 24.4**
N34/N33	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.446 m h = 0.6	x: 0 m h = 2.3	h = 12.6	x: 0 m h = 7.5	x: 0.446 m h = 10.6	x: 0 m h = 4.0	x: 0 m h = 1.8	x: 0 m h = 13.1	x: 0.446 m h = 16.1	x: 0 m h = 1.7	x: 0.446 m h = 2.7	x: 0.446 m h = 14.2	x: 0.446 m h = 26.0	x: 0 m h = 16.7	**CUMPLE h = 26.0**
N35/N33	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.45 m h = 11.2	x: 0.225 m h < 0.1	h = 10.9	x: 0 m h = 34.2	x: 0 m h = 10.9	h = 4.2	x: 0 m h = 2.5	x: 0 m h = 39.0	x: 0 m h = 15.2	x: 0 m h = 15.2	x: 0 m h = 2.5	x: 0 m h = 74.8	x: 0.45 m h = 7.0	x: 0 m h = 54.8	**CUMPLE h = 74.8**
N35/N12	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.441 m h = 0.6	x: 0 m h = 0.8	h = 10.3	x: 0.441 m h = 3.5	x: 0.441 m h = 13.1	h = 7.3	x: 0.441 m h = 1.2	x: 0.441 m h = 8.0	x: 0.441 m h = 17.6	x: 0.441 m h = 0.6	x: 0.441 m h = 3.6	x: 0.441 m h = 29.6	x: 0.441 m h = 26.0	x: 0.441 m h = 17.4	**CUMPLE h = 29.6**
N36/N35	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.224 m h = 1.6	x: 0.224 m h = 2.1	h = 11.0	x: 0.447 m h = 5.9	x: 0.447 m h = 11.0	h = 5.3	x: 0.447 m h = 1.0	x: 0.447 m h = 10.6	x: 0 m h = 13.7	x: 0.447 m h = 1.1	x: 0 m h = 2.1	x: 0 m h = 23.6	x: 0.447 m h = 23.0	x: 0.447 m h = 15.3	**CUMPLE h = 23.6**
N463/N35	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.446 m h = 12.3	N.P.[3]	h = 9.3	x: 0 m h = 40.4	x: 0 m h = 17.7	h = 6.2	x: 0 m h = 2.2	x: 0 m h = 44.3	x: 0 m h = 21.8	x: 0 m h = 19.7	x: 0 m h = 5.1	x: 0 m h = 87.1	N.P.[4]	x: 0 m h = 64.6	**CUMPLE h = 87.1**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N38/N463	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 13.4	N.P.[3]	x: 0.22 m h = 5.8	x: 0.44 m h = 39.7	x: 0 m h = 15.3	h = 5.4	x: 0.44 m h = 2.4	x: 0.44 m h = 41.7	x: 0 m h = 17.8	x: 0.44 m h = 17.4	x: 0 m h = 3.5	x: 0 m h = 74.1	N.P.[4]	x: 0.44 m h = 63.2	**CUMPLE h = 74.1**
N38/N40	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.441 m h = 14.6	N.P.[3]	h = 5.3	x: 0 m h = 38.3	x: 0 m h = 14.5	x: 0 m h = 5.6	x: 0 m h = 2.3	x: 0 m h = 40.3	x: 0 m h = 16.4	x: 0 m h = 16.3	x: 0 m h = 3.0	x: 0 m h = 76.9	N.P.[4]	x: 0 m h = 63.4	**CUMPLE h = 76.9**
N40/N9	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.441 m h = 0.7	x: 0.22 m h = 0.4	x: 0.22 m h = 9.3	x: 0 m h = 3.5	x: 0.441 m h = 5.8	h = 3.9	x: 0 m h = 0.9	x: 0 m h = 7.5	x: 0.441 m h = 9.9	x: 0 m h = 0.6	x: 0.441 m h = 1.1	x: 0.441 m h = 20.6	x: 0.441 m h = 7.0	x: 0.22 m h = 13.2	**CUMPLE h = 20.6**
N41/N40	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.224 m h = 1.5	x: 0.224 m h = 0.9	x: 0.224 m h = 10.0	x: 0.448 m h = 6.0	x: 0.448 m h = 7.6	h = 3.6	x: 0.448 m h = 0.7	x: 0.448 m h = 10.1	x: 0.448 m h = 9.0	x: 0.448 m h = 1.0	x: 0.448 m h = 0.9	x: 0.448 m h = 23.2	x: 0.448 m h = 10.6	x: 0.224 m h = 13.2	**CUMPLE h = 23.2**
N40/N42	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.444 m h = 13.6	N.P.[3]	h = 9.5	x: 0 m h = 37.0	x: 0 m h = 18.3	h = 6.8	x: 0 m h = 1.7	x: 0 m h = 41.1	x: 0 m h = 22.5	x: 0 m h = 16.9	x: 0 m h = 5.5	x: 0 m h = 83.9	N.P.[4]	x: 0 m h = 61.6	**CUMPLE h = 83.9**
N42/N2	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.45 m h = 12.2	N.P.[3]	h = 10.9	x: 0 m h = 34.9	x: 0 m h = 10.0	h = 4.2	x: 0 m h = 2.7	x: 0 m h = 39.7	x: 0 m h = 14.6	x: 0 m h = 15.8	x: 0 m h = 2.3	x: 0 m h = 76.6	N.P.[4]	x: 0 m h = 56.7	**CUMPLE h = 76.6**
N43/N2	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.446 m h = 0.6	x: 0 m h = 2.3	h = 12.5	x: 0 m h = 8.0	x: 0.446 m h = 11.8	h = 4.3	x: 0 m h = 1.8	x: 0 m h = 13.5	x: 0.446 m h = 17.4	x: 0 m h = 1.9	x: 0.446 m h = 3.2	x: 0.446 m h = 18.8	x: 0.446 m h = 27.5	x: 0 m h = 17.2	**CUMPLE h = 27.5**
N44/N43	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.457 m h = 1.1	x: 0.457 m h = 4.3	h = 13.5	x: 0 m h = 10.2	x: 0.457 m h = 23.4	h = 10.6	x: 0 m h = 2.2	x: 0 m h = 16.2	x: 0.457 m h = 29.3	x: 0 m h = 2.7	x: 0.457 m h = 9.7	x: 0.457 m h = 25.1	x: 0.457 m h = 42.1	x: 0.457 m h = 33.0	**CUMPLE h = 42.1**
N43/N3	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 11.7	x: 0.458 m h = 1.0	h = 12.5	x: 0 m h = 30.6	x: 0.458 m h = 18.2	h = 8.5	x: 0 m h = 5.2	x: 0 m h = 36.2	x: 0.458 m h = 23.7	x: 0 m h = 13.3	x: 0.458 m h = 6.3	x: 0 m h = 79.9	x: 0.458 m h = 10.7	x: 0 m h = 53.2	**CUMPLE h = 79.9**
N3/N45	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.46 m h = 9.6	x: 0 m h = 1.0	h = 12.9	x: 0 m h = 23.9	x: 0.46 m h = 24.0	h = 12.4	x: 0 m h = 5.9	x: 0 m h = 29.6	x: 0.46 m h = 29.7	x: 0 m h = 9.1	x: 0.46 m h = 10.3	x: 0 m h = 80.5	x: 0.46 m h = 7.8	x: 0 m h = 49.6	**CUMPLE h = 80.5**
N45/N4	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.442 m h < 0.1	x: 0 m h = 1.4	h = 12.0	x: 0.442 m h = 6.5	x: 0.442 m h = 22.6	h = 10.8	x: 0 m h = 3.9	x: 0.442 m h = 11.8	x: 0.442 m h = 27.9	x: 0.442 m h = 1.5	x: 0.442 m h = 9.0	x: 0.442 m h = 35.9	x: 0.442 m h = 41.1	x: 0.442 m h = 30.8	**CUMPLE h = 41.1**
N4/N46	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.455 m h = 6.3	x: 0 m h = 0.2	h = 9.8	x: 0 m h = 11.2	x: 0.455 m h = 10.1	h = 5.3	x: 0 m h = 3.3	x: 0 m h = 15.2	x: 0.455 m h = 14.4	x: 0 m h = 2.4	x: 0.455 m h = 2.3	x: 0 m h = 41.3	x: 0 m h = 5.0	x: 0 m h = 23.5	**CUMPLE h = 41.3**
N46/N47	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 2.7	x: 0 m h = 3.0	h = 8.6	x: 0.44 m h = 2.6	x: 0.44 m h = 7.6	h = 3.8	x: 0 m h = 0.8	x: 0.44 m h = 6.0	x: 0.44 m h = 11.1	x: 0.44 m h = 0.4	x: 0.44 m h = 1.4	x: 0.44 m h = 23.9	x: 0.44 m h = 16.4	x: 0.44 m h = 12.6	**CUMPLE h = 23.9**
N5/N47	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.456 m h = 0.2	x: 0 m h = 2.1	h = 8.9	x: 0 m h = 11.8	x: 0.456 m h = 3.5	x: 0 m h = 1.9	x: 0 m h = 3.9	x: 0 m h = 15.5	x: 0.456 m h = 6.5	x: 0 m h = 2.5	x: 0.456 m h = 0.4	x: 0.456 m h = 6.1	x: 0 m h = 22.4	x: 0 m h = 15.9	**CUMPLE h = 22.4**
N47/N48	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.6	h = 8.4	x: 0.453 m h = 8.8	x: 0.453 m h = 5.4	x: 0.453 m h = 2.6	x: 0 m h = 3.1	x: 0.453 m h = 12.5	x: 0.453 m h = 8.9	x: 0.453 m h = 1.6	x: 0.453 m h = 0.9	N.P.[2]	x: 0.453 m h = 22.9	x: 0.453 m h = 14.8	**CUMPLE h = 22.9**
N49/N48	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 0.8	x: 0 m h = 0.5	h = 8.1	x: 0 m h = 3.3	x: 0.44 m h = 6.8	x: 0.44 m h = 3.4	x: 0.44 m h = 0.8	x: 0 m h = 6.9	x: 0.44 m h = 9.8	x: 0 m h = 0.5	x: 0.44 m h = 1.1	x: 0.44 m h = 19.3	x: 0 m h = 4.6	x: 0 m h = 11.2	**CUMPLE h = 19.3**
N48/N50	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.0	h = 8.1	x: 0.448 m h = 11.1	x: 0.448 m h = 3.8	x: 0.448 m h = 1.0	x: 0 m h = 2.3	x: 0.448 m h = 14.7	x: 0.448 m h = 7.0	x: 0.448 m h = 2.2	x: 0.448 m h = 0.5	N.P.[2]	x: 0.448 m h = 24.5	x: 0.448 m h = 17.5	**CUMPLE h = 24.5**
N51/N50	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.2	x: 0 m h = 0.4	h = 7.8	x: 0 m h = 5.2	x: 0.44 m h = 3.3	x: 0.22 m h = 1.9	x: 0.44 m h = 1.6	x: 0 m h = 8.7	x: 0.44 m h = 6.3	x: 0 m h = 0.8	x: 0.44 m h = 0.4	x: 0 m h = 18.9	x: 0 m h = 3.2	x: 0.44 m h = 9.7	**CUMPLE h = 18.9**
N50/N52	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.7	h = 7.6	x: 0.443 m h = 10.8	x: 0 m h = 4.8	h = 2.1	x: 0 m h = 1.6	x: 0.443 m h = 14.1	x: 0 m h = 7.7	x: 0.443 m h = 2.0	x: 0 m h = 0.6	N.P.[2]	x: 0.443 m h = 20.9	x: 0.443 m h = 16.2	**CUMPLE h = 20.9**
N53/N52	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 3.2	x: 0 m h = 2.6	h = 6.9	x: 0 m h = 6.2	x: 0.44 m h = 8.5	h = 4.6	x: 0.44 m h = 1.6	x: 0 m h = 9.2	x: 0.44 m h = 11.5	x: 0 m h = 0.9	x: 0.44 m h = 1.5	x: 0 m h = 26.3	x: 0 m h = 6.5	x: 0 m h = 13.8	**CUMPLE h = 26.3**
N52/N54	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 1.2	h = 5.9	x: 0.22 m h = 5.1	x: 0.44 m h = 7.8	h = 4.2	x: 0 m h = 0.2	x: 0.22 m h = 7.7	x: 0.44 m h = 10.3	x: 0.22 m h = 0.6	x: 0.44 m h = 1.2	N.P.[2]	x: 0.44 m h = 19.1	x: 0.44 m h = 12.8	**CUMPLE h = 19.1**
N55/N54	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.4	x: 0 m h = 1.5	h = 5.9	x: 0.22 m h = 5.1	x: 0.44 m h = 7.8	h = 4.1	x: 0 m h = 0.2	x: 0.22 m h = 7.7	x: 0.44 m h = 10.3	x: 0.22 m h = 0.6	x: 0.44 m h = 1.2	x: 0.44 m h = 17.5	x: 0.44 m h = 19.1	x: 0.44 m h = 12.8	**CUMPLE h = 19.1**
N53/N55	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.8	N.P.[3]	h = 6.9	x: 0 m h = 6.2	x: 0.44 m h = 8.7	h = 4.7	x: 0.44 m h = 1.6	x: 0 m h = 9.3	x: 0.44 m h = 11.7	x: 0 m h = 0.9	x: 0.44 m h = 1.6	x: 0 m h = 26.5	N.P.[4]	x: 0 m h = 13.8	**CUMPLE h = 26.5**
N56/N55	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.7	h = 7.5	x: 0.443 m h = 10.8	x: 0 m h = 4.2	h = 1.4	x: 0 m h = 1.5	x: 0.443 m h = 14.1	x: 0 m h = 7.4	x: 0.443 m h = 2.0	x: 0 m h = 0.6	N.P.[2]	x: 0.443 m h = 21.1	x: 0.443 m h = 16.2	**CUMPLE h = 21.1**
N57/N56	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.4	x: 0 m h = 0.7	h = 7.8	x: 0 m h = 5.3	x: 0.44 m h = 6.4	x: 0 m h = 3.5	x: 0.44 m h = 1.6	x: 0 m h = 8.8	x: 0.44 m h = 7.2	x: 0 m h = 0.8	x: 0.44 m h = 0.6	x: 0 m h = 19.3	x: 0 m h = 9.5	x: 0.44 m h = 9.9	**CUMPLE h = 19.3**
N58/N56	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.1	h = 8.1	x: 0.448 m h = 11.3	x: 0.448 m h = 5.7	h = 2.9	x: 0 m h = 2.3	x: 0.448 m h = 14.7	x: 0.448 m h = 9.1	x: 0.448 m h = 2.2	x: 0.448 m h = 0.9	N.P.[2]	x: 0.448 m h = 24.5	x: 0.448 m h = 17.4	**CUMPLE h = 24.5**
N59/N58	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 5.1	x: 0 m h = 5.1	h = 8.1	x: 0 m h = 3.5	x: 0.44 m h = 5.9	h = 3.0	x: 0.44 m h = 0.9	x: 0 m h = 7.1	x: 0.44 m h = 8.8	x: 0 m h = 0.5	x: 0.44 m h = 0.9	x: 0.44 m h = 22.0	x: 0 m h = 9.7	x: 0.44 m h = 12.8	**CUMPLE h = 22.0**
N60/N58	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h < 0.1	x: 0 m h = 2.8	h = 8.4	x: 0.453 m h = 9.2	x: 0.453 m h = 5.4	x: 0 m h = 2.2	x: 0 m h = 3.2	x: 0.453 m h = 12.8	x: 0.453 m h = 7.5	x: 0.453 m h = 1.7	x: 0.453 m h = 0.6	x: 0.453 m h = 17.4	x: 0.453 m h = 22.7	x: 0.453 m h = 14.7	**CUMPLE h = 22.7**
N61/N60	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.5	x: 0 m h = 0.7	h = 8.5	x: 0.44 m h = 2.0	x: 0.44 m h = 6.3	h = 3.2	x: 0 m h = 0.8	x: 0.44 m h = 5.7	x: 0.44 m h = 9.6	x: 0.44 m h = 0.3	x: 0.44 m h = 1.0	x: 0.44 m h = 14.2	x: 0.44 m h = 15.4	x: 0 m h = 11.2	**CUMPLE h = 15.4**
N62/N60	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.456 m h = 0.3	x: 0 m h = 2.3	h = 8.9	x: 0 m h = 11.9	x: 0.456 m h = 3.0	x: 0.456 m h = 1.3	x: 0 m h = 3.9	x: 0 m h = 15.7	x: 0.456 m h = 6.6	x: 0 m h = 2.6	x: 0.456 m h = 0.4	x: 0 m h = 22.5	x: 0 m h = 22.3	x: 0 m h = 15.6	**CUMPLE h = 22.5**
N63/N62	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 0.5	h = 9.1	x: 0.44 m h = 1.8	x: 0.44 m h = 5.0	x: 0 m h = 2.6	x: 0 m h = 0.9	x: 0.44 m h = 5.5	x: 0 m h = 7.3	x: 0.44 m h = 0.3	x: 0 m h = 0.6	N.P.[2]	x: 0.44 m h = 12.7	x: 0 m h = 10.1	**CUMPLE h = 12.7**
N64/N62	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.228 m h = 0.5	x: 0.228 m h = 2.4	h = 9.5	x: 0 m h = 20.6	x: 0 m h = 2.3	x: 0.228 m h = 1.0	x: 0 m h = 4.3	x: 0 m h = 24.7	x: 0 m h = 5.9	x: 0 m h = 6.2	x: 0 m h = 0.4	x: 0 m h = 36.4	x: 0 m h = 30.3	x: 0 m h = 27.0	**CUMPLE h = 36.4**
N65/N64	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.8	x: 0 m h = 2.5	h = 9.6	x: 0.44 m h = 1.7	x: 0 m h = 9.3	x: 0 m h = 4.9	x: 0 m h = 1.0	x: 0 m h = 5.6	x: 0 m h = 12.7	x: 0 m h = 0.3	x: 0 m h = 1.8	x: 0 m h = 22.5	x: 0 m h = 17.3	x: 0.44 m h = 13.6	**CUMPLE h = 22.5**
N66/N64	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 0.1	x: 0 m h = 2.8	x: 0.453 m h = 10.6	x: 0 m h = 29.1	x: 0.453 m h = 6.4	x: 0 m h = 3.4	x: 0 m h = 4.3	x: 0 m h = 33.4	x: 0.453 m h = 10.6	x: 0 m h = 11.3	x: 0.453 m h = 1.2	x: 0.227 m h = 32.1	x: 0 m h = 44.3	x: 0 m h = 39.5	**CUMPLE h = 44.3**
N67/N66	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.3	x: 0 m h = 0.8	h = 10.4	x: 0.44 m h = 2.7	x: 0 m h = 14.9	x: 0 m h = 8.2	x: 0 m h = 1.0	x: 0 m h = 7.1	x: 0 m h = 19.2	x: 0 m h = 0.5	x: 0 m h = 4.4	x: 0.44 m h = 28.4	x: 0.44 m h = 25.2	x: 0 m h = 18.7	**CUMPLE h = 28.4**
N68/N66	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.224 m h = 0.5	x: 0 m h = 4.1	h = 10.6	x: 0 m h = 38.1	x: 0 m h = 8.3	h = 3.5	x: 0 m h = 4.3	x: 0 m h = 42.6	x: 0 m h = 12.8	x: 0 m h = 18.4	x: 0 m h = 1.7	x: 0.224 m h = 12.5	x: 0 m h = 59.5	x: 0 m h = 52.9	**CUMPLE h = 59.5**
N69/N68	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.22 m h = 1.9	x: 0.22 m h = 2.3	h = 10.5	x: 0.441 m h = 3.7	x: 0.441 m h = 17.0	h = 9.5	x: 0.441 m h = 1.1	x: 0.441 m h = 8.2	x: 0.441 m h = 21.6	x: 0.441 m h = 0.7	x: 0.441 m h = 5.6	x: 0.441 m h = 38.1	x: 0 m h = 25.1	x: 0.441 m h = 22.5	**CUMPLE h = 38.1**
N70/N68	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.443 m h = 0.6	x: 0 m h = 5.4	x: 0 m h = 10.0	x: 0 m h = 50.8	x: 0 m h = 17.0	x: 0 m h = 6.2	x: 0 m h = 5.4	x: 0 m h = 55.0	x: 0 m h = 21.3	x: 0 m h = 30.5	x: 0 m h = 4.9	x: 0 m h = 10.3	x: 0 m h = 77.7	x: 0 m h = 70.9	**CUMPLE h = 77.7**
N71/N70	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 0.8	x: 0 m h = 0.5	h = 9.4	x: 0 m h = 4.2	x: 0.441 m h = 7.2	h = 5.1	x: 0 m h = 1.0	x: 0 m h = 8.2	x: 0.441 m h = 11.4	x: 0 m h = 0.7	x: 0.441 m h = 1.6	x: 0.441 m h = 22.7	x: 0.441 m h = 11.7	h = 14.5	**CUMPLE h = 22.7**
N72/N70	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.0	x: 0 m h = 7.0	h = 6.4	x: 0 m h = 54.1	x: 0 m h = 12.4	h = 4.1	x: 0 m h = 6.1	x: 0 m h = 56.6	x: 0 m h = 15.2	x: 0 m h = 32.4	x: 0 m h = 2.5	x: 0 m h = 12.2	x: 0 m h = 75.2	x: 0 m h = 75.6	**CUMPLE h = 75.6**
N73/N72	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.22 m h = 0.6	x: 0.22 m h = 0.5	h = 2.0	x: 0 m h = 4.4	x: 0 m h = 4.5	h = 2.9	x: 0 m h = 3.0	x: 0 m h = 3.8	x: 0 m h = 5.3	x: 0 m h = 0.3	x: 0 m h = 0.4	x: 0 m h = 10.5	x: 0 m h = 8.4	x: 0 m h = 6.3	**CUMPLE h = 10.5**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N72/N74	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.5	x: 0 m h = 7.3	h = 6.5	x: 0 m h = 53.9	x: 0 m h = 11.9	x: 0 m h = 4.2	x: 0 m h = 6.1	x: 0 m h = 56.3	x: 0 m h = 14.8	x: 0 m h = 32.1	x: 0 m h = 2.3	x: 0 m h = 13.7	x: 0 m h = 74.9	x: 0 m h = 75.3	**CUMPLE h = 75.3**
N75/N74	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.22 m h = 0.7	x: 0.22 m h = 0.5	x: 0.22 m h = 9.4	x: 0 m h = 4.2	x: 0.441 m h = 6.7	h = 4.9	x: 0 m h = 1.0	x: 0 m h = 8.1	x: 0.441 m h = 10.8	x: 0 m h = 0.7	x: 0.441 m h = 1.4	x: 0 m h = 22.3	x: 0.441 m h = 7.5	x: 0.22 m h = 14.2	**CUMPLE h = 22.3**
N74/N76	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 1.2	x: 0 m h = 5.7	h = 10.5	x: 0 m h = 50.6	x: 0 m h = 16.8	h = 6.0	x: 0 m h = 5.3	x: 0 m h = 54.8	x: 0 m h = 21.3	x: 0 m h = 30.3	x: 0 m h = 4.9	x: 0 m h = 13.5	x: 0 m h = 77.4	x: 0 m h = 70.6	**CUMPLE h = 77.4**
N77/N76	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.441 m h = 1.9	x: 0 m h = 2.2	h = 10.3	x: 0.441 m h = 3.5	x: 0.441 m h = 16.7	h = 9.4	x: 0.441 m h = 1.0	x: 0.441 m h = 8.1	x: 0.441 m h = 21.3	x: 0.441 m h = 0.7	x: 0.441 m h = 5.4	x: 0.441 m h = 37.5	x: 0 m h = 24.9	x: 0.441 m h = 22.1	**CUMPLE h = 37.5**
N76/N78	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.448 m h = 0.8	x: 0 m h = 4.2	h = 10.5	x: 0 m h = 38.0	x: 0 m h = 8.2	h = 3.6	x: 0 m h = 4.3	x: 0 m h = 42.5	x: 0 m h = 12.6	x: 0 m h = 18.2	x: 0 m h = 1.7	x: 0 m h = 12.4	x: 0 m h = 59.2	x: 0 m h = 52.7	**CUMPLE h = 59.2**
N79/N78	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.4	x: 0 m h = 1.0	h = 10.1	x: 0 m h = 2.6	x: 0 m h = 13.9	x: 0.22 m h = 7.7	x: 0 m h = 0.9	x: 0 m h = 7.1	x: 0 m h = 18.0	x: 0 m h = 0.5	x: 0 m h = 3.8	x: 0.44 m h = 29.4	x: 0 m h = 24.3	x: 0 m h = 17.5	**CUMPLE h = 29.4**
N78/N80	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 0.6	x: 0.453 m h = 3.0	h = 9.8	x: 0 m h = 29.0	x: 0 m h = 6.2	x: 0.453 m h = 3.3	x: 0 m h = 4.3	x: 0 m h = 33.3	x: 0 m h = 10.2	x: 0 m h = 11.3	x: 0 m h = 1.1	x: 0 m h = 13.3	x: 0 m h = 44.0	x: 0 m h = 39.4	**CUMPLE h = 44.0**
N81/N80	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.5	x: 0 m h = 2.2	h = 9.5	x: 0.44 m h = 1.5	x: 0 m h = 8.6	h = 4.5	x: 0 m h = 0.9	x: 0 m h = 5.6	x: 0 m h = 12.6	x: 0 m h = 0.3	x: 0 m h = 1.8	x: 0 m h = 22.0	x: 0 m h = 17.1	x: 0.44 m h = 13.5	**CUMPLE h = 22.0**
N80/N82	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.456 m h = 0.2	x: 0 m h = 2.3	h = 9.1	x: 0 m h = 20.5	x: 0 m h = 2.0	x: 0 m h = 0.9	x: 0 m h = 4.2	x: 0 m h = 24.5	x: 0 m h = 5.5	x: 0 m h = 6.2	x: 0 m h = 0.3	x: 0 m h = 21.4	x: 0 m h = 31.0	x: 0 m h = 27.0	**CUMPLE h = 31.0**
N83/N82	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.2	x: 0 m h = 0.7	h = 8.9	x: 0.44 m h = 1.8	x: 0.44 m h = 4.7	x: 0.44 m h = 2.3	x: 0 m h = 0.9	x: 0.44 m h = 5.3	x: 0.44 m h = 7.0	x: 0.44 m h = 0.3	x: 0.44 m h = 0.5	x: 0.44 m h = 15.0	x: 0.44 m h = 12.3	x: 0 m h = 10.0	**CUMPLE h = 15.0**
N82/N84	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 2.4	x: 0.228 m h = 8.7	x: 0 m h = 12.1	x: 0.456 m h = 2.8	x: 0 m h = 1.5	x: 0 m h = 3.8	x: 0 m h = 15.9	x: 0.456 m h = 6.2	x: 0 m h = 2.7	x: 0.456 m h = 0.4	N.P.$^{(2)}$	x: 0 m h = 22.2	x: 0 m h = 16.3	**CUMPLE h = 22.2**
N85/N84	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 2.2	x: 0 m h = 2.5	h = 8.4	x: 0.44 m h = 2.2	x: 0.44 m h = 6.5	h = 3.2	x: 0 m h = 0.7	x: 0.44 m h = 5.7	x: 0.44 m h = 10.0	x: 0.44 m h = 0.3	x: 0.44 m h = 1.1	x: 0.44 m h = 21.8	x: 0.44 m h = 15.4	x: 0 m h = 11.1	**CUMPLE h = 21.8**
N84/N86	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 2.9	x: 0 m h = 8.3	x: 0.453 m h = 8.7	x: 0.453 m h = 5.2	x: 0 m h = 2.3	x: 0 m h = 3.1	x: 0.453 m h = 12.2	x: 0.453 m h = 8.6	x: 0.453 m h = 1.6	x: 0.453 m h = 0.8	N.P.$^{(2)}$	x: 0.453 m h = 22.6	x: 0.453 m h = 14.7	**CUMPLE h = 22.6**
N87/N86	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.0	x: 0 m h = 0.8	h = 8.0	x: 0 m h = 3.5	x: 0.44 m h = 5.0	x: 0.44 m h = 2.5	x: 0.44 m h = 0.9	x: 0 m h = 7.0	x: 0.44 m h = 8.1	x: 0 m h = 0.5	x: 0.44 m h = 0.7	x: 0 m h = 17.6	x: 0.44 m h = 5.4	x: 0.44 m h = 10.2	**CUMPLE h = 17.6**
N86/N88	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.2	h = 8.0	x: 0.448 m h = 11.0	x: 0.448 m h = 3.2	x: 0 m h = 1.1	x: 0 m h = 2.3	x: 0.448 m h = 14.5	x: 0.448 m h = 6.6	x: 0.448 m h = 2.1	x: 0.448 m h = 0.4	N.P.$^{(2)}$	x: 0.448 m h = 24.2	x: 0.448 m h = 17.4	**CUMPLE h = 24.2**
N89/N88	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 3.3	x: 0 m h = 2.7	h = 7.7	x: 0 m h = 5.3	x: 0.44 m h = 2.5	x: 0 m h = 1.4	x: 0.44 m h = 1.6	x: 0 m h = 8.8	x: 0 m h = 5.9	x: 0 m h = 0.8	x: 0 m h = 0.4	x: 0 m h = 19.3	x: 0 m h = 6.4	x: 0.44 m h = 9.9	**CUMPLE h = 19.3**
N88/N90	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 2.8	h = 7.5	x: 0.443 m h = 10.7	x: 0 m h = 4.3	x: 0 m h = 1.6	x: 0 m h = 1.5	x: 0.443 m h = 14.0	x: 0 m h = 7.5	x: 0.443 m h = 2.0	x: 0 m h = 0.6	N.P.$^{(2)}$	x: 0.443 m h = 21.0	x: 0.443 m h = 16.2	**CUMPLE h = 21.0**
N91/N90	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.1	x: 0 m h = 0.4	h = 6.9	x: 0 m h = 6.2	x: 0.44 m h = 8.9	h = 4.8	x: 0.44 m h = 1.7	x: 0 m h = 9.2	x: 0.44 m h = 11.9	x: 0 m h = 0.9	x: 0.44 m h = 1.6	x: 0 m h = 26.8	x: 0 m h = 7.5	x: 0 m h = 14.0	**CUMPLE h = 26.8**
N90/N92	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 1.3	h = 5.8	x: 0.22 m h = 5.1	x: 0.44 m h = 8.0	h = 4.3	x: 0 m h = 0.4	x: 0.22 m h = 7.6	x: 0.44 m h = 10.5	x: 0.22 m h = 0.6	x: 0.44 m h = 1.3	N.P.$^{(2)}$	x: 0.44 m h = 19.3	x: 0.44 m h = 13.0	**CUMPLE h = 19.3**
N93/N92	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.3	x: 0.44 m h = 2.5	h = 5.8	x: 0.22 m h = 5.1	x: 0.44 m h = 8.0	h = 4.3	x: 0 m h = 0.2	x: 0.22 m h = 7.6	x: 0.44 m h = 10.5	x: 0.22 m h = 0.6	x: 0.44 m h = 1.3	x: 0.44 m h = 20.0	x: 0.44 m h = 19.3	x: 0.44 m h = 13.0	**CUMPLE h = 20.0**
N91/N93	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 3.6	x: 0.44 m h = 3.0	h = 6.9	x: 0 m h = 6.2	x: 0.44 m h = 8.9	h = 4.8	x: 0.44 m h = 1.7	x: 0 m h = 9.2	x: 0.44 m h = 11.9	x: 0 m h = 0.9	x: 0.44 m h = 1.6	x: 0 m h = 27.4	x: 0 m h = 7.7	x: 0 m h = 15.5	**CUMPLE h = 27.4**
N89/N91	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.443 m h = 3.9	x: 0 m h = 2.2	h = 8.0	x: 0 m h = 7.8	x: 0.443 m h = 2.3	h = 1.0	x: 0.443 m h = 0.4	x: 0 m h = 11.3	x: 0 m h = 5.3	x: 0 m h = 1.3	x: 0 m h = 0.3	x: 0 m h = 22.9	x: 0 m h = 7.1	x: 0 m h = 12.1	**CUMPLE h = 22.9**
N87/N89	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.448 m h = 4.6	x: 0 m h = 1.8	h = 8.5	x: 0.448 m h = 9.2	x: 0.448 m h = 7.8	h = 3.5	x: 0 m h = 1.4	x: 0.448 m h = 12.9	x: 0.448 m h = 11.5	x: 0.448 m h = 1.7	x: 0.448 m h = 1.5	x: 0.448 m h = 33.9	x: 0.448 m h = 8.3	x: 0.448 m h = 18.4	**CUMPLE h = 33.9**
N85/N87	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 5.4	x: 0 m h = 1.4	h = 9.0	x: 0.453 m h = 7.1	x: 0.453 m h = 10.8	h = 5.4	x: 0 m h = 2.5	x: 0.453 m h = 11.0	x: 0.453 m h = 14.7	x: 0.453 m h = 1.3	x: 0.453 m h = 2.5	x: 0.453 m h = 37.0	x: 0.453 m h = 8.3	x: 0.453 m h = 21.0	**CUMPLE h = 37.0**
N83/N85	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 6.9	x: 0 m h = 1.4	x: 0.228 m h = 9.7	x: 0 m h = 11.3	x: 0.455 m h = 10.0	h = 5.2	x: 0 m h = 3.3	x: 0 m h = 15.4	x: 0.455 m h = 14.1	x: 0 m h = 2.5	x: 0.455 m h = 2.3	x: 0 m h = 41.1	x: 0.455 m h = 7.9	x: 0 m h = 23.6	**CUMPLE h = 41.1**
N81/N83	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.456 m h = 8.5	x: 0.228 m h = 1.2	h = 10.2	x: 0 m h = 19.6	x: 0.456 m h = 6.6	h = 3.4	x: 0 m h = 3.6	x: 0 m h = 23.9	x: 0.456 m h = 11.0	x: 0 m h = 5.8	x: 0.456 m h = 1.3	x: 0 m h = 51.2	x: 0.456 m h = 6.8	x: 0 m h = 33.6	**CUMPLE h = 51.2**
N79/N81	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.454 m h = 10.7	x: 0.454 m h = 1.1	h = 10.7	x: 0 m h = 28.2	x: 0.454 m h = 5.1	x: 0.454 m h = 2.8	x: 0 m h = 3.5	x: 0 m h = 32.9	x: 0 m h = 8.8	x: 0 m h = 10.9	x: 0 m h = 0.8	x: 0 m h = 58.2	x: 0.454 m h = 8.8	x: 0 m h = 45.9	**CUMPLE h = 58.2**
N77/N79	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.45 m h = 12.8	x: 0 m h = 0.5	x: 0.225 m h = 10.7	x: 0 m h = 35.3	x: 0 m h = 10.6	h = 4.5	x: 0 m h = 2.8	x: 0 m h = 40.0	x: 0 m h = 15.3	x: 0 m h = 16.1	x: 0 m h = 2.5	x: 0 m h = 77.6	x: 0.45 m h = 5.5	x: 0 m h = 57.8	**CUMPLE h = 77.6**
N75/N77	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.444 m h = 14.4	x: 0.222 m h = 0.4	x: 0 m h = 9.5	x: 0 m h = 37.7	x: 0 m h = 19.2	x: 0 m h = 7.2	x: 0 m h = 1.8	x: 0 m h = 41.6	x: 0 m h = 23.3	x: 0 m h = 17.3	x: 0 m h = 5.9	x: 0 m h = 85.5	x: 0 m h = 5.1	x: 0 m h = 63.3	**CUMPLE h = 85.5**
N73/N75	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 16.2	x: 0 m h = 0.6	h = 5.4	x: 0.44 m h = 37.0	x: 0 m h = 14.9	x: 0 m h = 6.0	x: 0.44 m h = 2.4	x: 0.44 m h = 39.0	x: 0 m h = 16.9	x: 0.44 m h = 15.2	x: 0 m h = 3.2	x: 0 m h = 74.0	x: 0.44 m h = 3.5	x: 0.44 m h = 62.6	**CUMPLE h = 74.0**
N73/N71	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 16.3	x: 0 m h = 0.5	x: 0.22 m h = 5.8	x: 0.44 m h = 37.1	x: 0 m h = 15.3	h = 5.7	x: 0.44 m h = 2.5	x: 0.44 m h = 39.1	x: 0 m h = 17.7	x: 0.44 m h = 15.3	x: 0 m h = 3.5	x: 0 m h = 74.3	x: 0 m h = 5.2	x: 0.44 m h = 62.7	**CUMPLE h = 74.3**
N71/N69	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.444 m h = 14.4	x: 0 m h = 0.9	h = 9.6	x: 0 m h = 37.7	x: 0 m h = 19.9	h = 7.6	x: 0 m h = 1.7	x: 0 m h = 41.7	x: 0 m h = 24.1	x: 0 m h = 17.4	x: 0 m h = 6.4	x: 0 m h = 85.8	x: 0 m h = 9.3	x: 0 m h = 63.5	**CUMPLE h = 85.8**
N69/N67	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.45 m h = 12.8	x: 0 m h = 1.0	h = 10.9	x: 0 m h = 35.4	x: 0 m h = 10.5	h = 4.5	x: 0 m h = 2.8	x: 0 m h = 40.0	x: 0 m h = 15.2	x: 0 m h = 16.1	x: 0 m h = 2.5	x: 0 m h = 77.9	x: 0.45 m h = 11.4	x: 0 m h = 57.9	**CUMPLE h = 77.9**
N67/N65	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.454 m h = 10.7	x: 0 m h = 1.2	x: 0.454 m h = 11.1	x: 0 m h = 28.2	x: 0.454 m h = 5.3	x: 0 m h = 2.7	x: 0 m h = 3.5	x: 0 m h = 32.9	x: 0 m h = 9.3	x: 0 m h = 11.0	x: 0 m h = 0.9	x: 0 m h = 59.8	x: 0.454 m h = 9.3	x: 0 m h = 45.9	**CUMPLE h = 59.8**
N65/N63	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.456 m h = 8.5	x: 0.456 m h = 1.3	h = 10.3	x: 0 m h = 19.3	x: 0.456 m h = 6.5	h = 3.3	x: 0 m h = 3.6	x: 0 m h = 23.7	x: 0.456 m h = 11.0	x: 0 m h = 5.7	x: 0.456 m h = 1.3	x: 0 m h = 51.3	x: 0.456 m h = 5.6	x: 0 m h = 33.6	**CUMPLE h = 51.3**
N63/N61	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.228 m h = 7.3	x: 0.228 m h = 1.8	x: 0.228 m h = 9.7	x: 0 m h = 11.0	x: 0.455 m h = 10.0	h = 5.2	x: 0 m h = 3.3	x: 0 m h = 15.0	x: 0.455 m h = 14.2	x: 0 m h = 2.3	x: 0.455 m h = 2.3	x: 0 m h = 41.3	x: 0 m h = 6.1	x: 0 m h = 23.6	**CUMPLE h = 41.3**
N61/N59	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 5.5	x: 0 m h = 1.4	h = 9.1	x: 0.453 m h = 7.2	x: 0.453 m h = 10.8	h = 5.4	x: 0 m h = 2.5	x: 0.453 m h = 11.1	x: 0.453 m h = 14.8	x: 0.453 m h = 1.3	x: 0.453 m h = 2.5	x: 0.453 m h = 37.2	x: 0.453 m h = 7.7	x: 0.453 m h = 21.0	**CUMPLE h = 37.2**
N59/N57	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.448 m h = 4.4	x: 0 m h = 1.7	h = 8.6	x: 0.448 m h = 9.2	x: 0.448 m h = 9.2	x: 0 m h = 4.7	x: 0 m h = 1.4	x: 0.448 m h = 13.0	x: 0.448 m h = 12.6	x: 0.448 m h = 1.7	x: 0.448 m h = 1.8	x: 0.448 m h = 35.9	x: 0 m h = 7.3	x: 0.448 m h = 20.3	**CUMPLE h = 35.9**
N57/N53	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.443 m h = 3.7	x: 0 m h = 2.1	h = 8.1	x: 0 m h = 7.8	x: 0.443 m h = 3.5	x: 0 m h = 1.5	x: 0.443 m h = 0.4	x: 0 m h = 11.3	x: 0.443 m h = 6.3	x: 0 m h = 1.3	x: 0.443 m h = 0.4	x: 0.443 m h = 23.9	x: 0 m h = 6.1	x: 0 m h = 13.3	**CUMPLE h = 23.9**
N51/N53	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.443 m h = 2.0	x: 0 m h = 0.1	h = 8.1	x: 0 m h = 7.8	x: 0 m h = 2.9	x: 0.443 m h = 1.2	x: 0.443 m h = 0.5	x: 0 m h = 11.3	x: 0 m h = 5.7	x: 0 m h = 1.3	x: 0 m h = 0.3	x: 0 m h = 22.6	x: 0 m h = 1.5	x: 0 m h = 12.0	**CUMPLE h = 22.6**
N49/N51	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.448 m h = 3.2	x: 0 m h = 0.3	h = 8.6	x: 0.448 m h = 9.2	x: 0.448 m h = 8.0	h = 3.6	x: 0 m h = 1.4	x: 0.448 m h = 13.0	x: 0.448 m h = 11.8	x: 0.448 m h = 1.7	x: 0.448 m h = 1.5	x: 0.448 m h = 34.2	x: 0 m h = 2.8	x: 0.448 m h = 18.5	**CUMPLE h = 34.2**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N94/N51	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.443 m h = 2.8	x: 0 m h = 0.7	h = 8.8	x: 0.443 m h = 7.6	x: 0.443 m h = 10.9	h = 5.4	x: 0 m h = 0.9	x: 0.443 m h = 11.5	x: 0.443 m h = 14.8	x: 0.443 m h = 1.3	x: 0.443 m h = 2.5	x: 0.443 m h = 35.3	x: 0.443 m h = 6.2	x: 0.443 m h = 19.1	**CUMPLE** **h = 35.3**
N95/N94	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 4.3	x: 0 m h = 1.0	h = 9.8	x: 0.447 m h = 10.9	x: 0.447 m h = 20.8	h = 11.2	x: 0 m h = 3.1	x: 0.447 m h = 15.2	x: 0.447 m h = 25.1	x: 0.447 m h = 2.4	x: 0.447 m h = 7.6	x: 0.447 m h = 54.4	x: 0.447 m h = 7.5	x: 0.447 m h = 33.2	**CUMPLE** **h = 54.4**
N96/N94	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 4.2	x: 0 m h = 0.7	h = 9.8	x: 0.447 m h = 10.9	x: 0.447 m h = 20.7	h = 11.2	x: 0 m h = 3.1	x: 0.447 m h = 15.2	x: 0.447 m h = 25.0	x: 0.447 m h = 2.4	x: 0.447 m h = 7.5	x: 0.447 m h = 54.3	x: 0.447 m h = 7.2	x: 0.447 m h = 33.1	**CUMPLE** **h = 54.3**
N94/N57	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.443 m h = 3.0	x: 0 m h = 0.9	h = 8.8	x: 0.443 m h = 7.6	x: 0.443 m h = 10.9	x: 0 m h = 5.5	x: 0 m h = 1.1	x: 0.443 m h = 11.5	x: 0.443 m h = 14.7	x: 0.443 m h = 1.3	x: 0.443 m h = 2.5	x: 0.443 m h = 35.2	x: 0.443 m h = 5.7	x: 0.443 m h = 19.0	**CUMPLE** **h = 35.2**
N97/N96	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.446 m h = 4.3	x: 0 m h = 2.8	h = 11.6	x: 0.446 m h = 12.0	x: 0.446 m h = 29.9	h = 16.3	x: 0 m h = 4.9	x: 0.446 m h = 17.1	x: 0.446 m h = 35.1	x: 0.446 m h = 3.1	x: 0.446 m h = 15.0	x: 0.446 m h = 67.1	x: 0.446 m h = 18.1	x: 0.446 m h = 42.2	**CUMPLE** **h = 67.1**
N98/N96	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.451 m h = 5.8	x: 0 m h = 0.8	h = 11.0	x: 0.451 m h = 9.2	x: 0.451 m h = 26.5	h = 14.6	x: 0 m h = 4.6	x: 0.451 m h = 14.1	x: 0.451 m h = 31.4	x: 0.451 m h = 2.1	x: 0.451 m h = 12.0	x: 0.451 m h = 62.6	x: 0.451 m h = 11.5	x: 0.451 m h = 40.8	**CUMPLE** **h = 62.6**
N96/N59	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.443 m h = 4.3	x: 0 m h = 3.6	h = 9.6	x: 0.443 m h = 9.0	x: 0.443 m h = 19.4	h = 9.9	x: 0 m h = 2.4	x: 0.443 m h = 13.2	x: 0.443 m h = 23.7	x: 0.443 m h = 1.8	x: 0.443 m h = 6.6	x: 0.443 m h = 47.2	x: 0.443 m h = 13.3	x: 0.443 m h = 27.8	**CUMPLE** **h = 47.2**
N99/N98	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 0.7	x: 0 m h = 1.2	h = 13.5	x: 0.447 m h = 11.3	x: 0.447 m h = 34.9	h = 18.4	x: 0 m h = 6.4	x: 0.447 m h = 17.3	x: 0.447 m h = 40.9	x: 0.447 m h = 3.3	x: 0.447 m h = 20.1	x: 0.447 m h = 58.9	x: 0.447 m h = 58.7	x: 0.447 m h = 46.3	**CUMPLE** **h = 58.9**
N100/N98	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.456 m h = 7.7	x: 0 m h = 0.9	h = 12.3	x: 0 m h = 15.2	x: 0.456 m h = 27.1	h = 14.7	x: 0 m h = 5.6	x: 0 m h = 20.6	x: 0.456 m h = 32.5	x: 0 m h = 4.6	x: 0.456 m h = 12.7	x: 0 m h = 73.1	x: 0 m h = 6.1	x: 0 m h = 45.6	**CUMPLE** **h = 73.1**
N98/N61	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.442 m h = 0.7	x: 0 m h = 1.1	h = 10.8	x: 0.442 m h = 8.8	x: 0.442 m h = 23.3	h = 11.6	x: 0 m h = 3.5	x: 0.442 m h = 13.6	x: 0.442 m h = 28.1	x: 0.442 m h = 1.9	x: 0.442 m h = 9.2	x: 0.442 m h = 40.9	x: 0.442 m h = 42.0	x: 0.442 m h = 31.4	**CUMPLE** **h = 42.0**
N101/N100	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 2.5	h = 14.8	x: 0 m h = 14.0	x: 0.451 m h = 35.7	h = 17.9	x: 0 m h = 6.4	x: 0 m h = 20.6	x: 0.451 m h = 42.2	x: 0 m h = 4.7	x: 0.451 m h = 21.1	N.P.$^{(2)}$	x: 0.451 m h = 59.3	x: 0.451 m h = 48.2	**CUMPLE** **h = 59.3**
N102/N100	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.46 m h = 9.8	x: 0.23 m h = 1.0	h = 12.9	x: 0 m h = 24.0	x: 0.46 m h = 24.1	h = 12.5	x: 0 m h = 5.9	x: 0 m h = 29.7	x: 0.46 m h = 29.8	x: 0 m h = 9.2	x: 0.46 m h = 10.5	x: 0 m h = 81.1	x: 0.46 m h = 8.5	x: 0 m h = 50.1	**CUMPLE** **h = 81.1**
N100/N63	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 1.5	h = 11.9	x: 0.442 m h = 6.4	x: 0.442 m h = 22.9	h = 10.8	x: 0 m h = 3.9	x: 0.442 m h = 11.6	x: 0.442 m h = 28.1	x: 0 m h = 1.5	x: 0.442 m h = 9.1	N.P.$^{(2)}$	x: 0.442 m h = 41.2	x: 0.442 m h = 31.0	**CUMPLE** **h = 41.2**
N103/N102	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.7	h = 14.9	x: 0 m h = 14.0	x: 0.455 m h = 32.1	h = 15.3	x: 0 m h = 4.8	x: 0 m h = 20.5	x: 0.455 m h = 38.6	x: 0 m h = 4.5	x: 0.455 m h = 17.3	N.P.$^{(2)}$	x: 0 m h = 54.2	x: 0.455 m h = 43.7	**CUMPLE** **h = 54.2**
N104/N102	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 11.9	x: 0 m h = 0.9	h = 12.5	x: 0 m h = 30.9	x: 0.458 m h = 18.4	h = 8.7	x: 0 m h = 5.2	x: 0 m h = 36.4	x: 0.458 m h = 23.9	x: 0 m h = 13.5	x: 0.458 m h = 6.5	x: 0 m h = 80.6	x: 0.458 m h = 11.1	x: 0 m h = 53.8	**CUMPLE** **h = 80.6**
N102/N65	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.222 m h = 0.1	x: 0 m h = 2.2	h = 12.5	x: 0 m h = 8.6	x: 0.444 m h = 19.0	h = 8.1	x: 0 m h = 3.3	x: 0 m h = 14.1	x: 0.444 m h = 24.5	x: 0 m h = 2.1	x: 0.444 m h = 6.7	x: 0.444 m h = 23.6	x: 0.444 m h = 34.4	x: 0.444 m h = 26.0	**CUMPLE** **h = 34.4**
N105/N104	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.229 m h = 0.9	x: 0.229 m h = 4.1	h = 13.4	x: 0 m h = 10.4	x: 0.457 m h = 24.0	h = 10.9	x: 0 m h = 2.2	x: 0 m h = 16.3	x: 0.457 m h = 29.9	x: 0 m h = 2.7	x: 0.457 m h = 10.2	x: 0.457 m h = 27.7	x: 0.457 m h = 42.9	x: 0.457 m h = 33.8	**CUMPLE** **h = 42.9**
N106/N104	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.452 m h = 13.8	x: 0 m h = 0.9	h = 10.8	x: 0 m h = 33.8	x: 0.452 m h = 11.7	h = 5.9	x: 0 m h = 3.3	x: 0 m h = 38.6	x: 0.452 m h = 16.5	x: 0 m h = 15.0	x: 0.452 m h = 2.9	x: 0 m h = 70.9	x: 0.452 m h = 12.4	x: 0 m h = 56.0	**CUMPLE** **h = 70.9**
N104/N67	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.446 m h = 0.5	x: 0 m h = 2.2	h = 12.4	x: 0 m h = 8.4	x: 0.446 m h = 12.4	x: 0 m h = 4.5	x: 0 m h = 1.8	x: 0 m h = 13.9	x: 0.446 m h = 17.9	x: 0 m h = 2.0	x: 0.446 m h = 3.4	x: 0.446 m h = 17.4	x: 0.446 m h = 28.4	x: 0.446 m h = 18.0	**CUMPLE** **h = 28.4**
N107/N106	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.459 m h = 2.5	x: 0 m h = 3.7	h = 10.0	x: 0.459 m h = 7.1	x: 0.459 m h = 17.3	h = 8.7	x: 0.459 m h = 1.5	x: 0.459 m h = 11.5	x: 0.459 m h = 18.8	x: 0.459 m h = 1.3	x: 0.459 m h = 4.2	x: 0.459 m h = 30.0	x: 0.459 m h = 31.1	x: 0.459 m h = 24.1	**CUMPLE** **h = 31.1**
N108/N106	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.445 m h = 15.1	x: 0 m h = 0.7	h = 8.4	x: 0.445 m h = 31.9	x: 0 m h = 19.9	h = 9.5	x: 0 m h = 3.5	x: 0.445 m h = 35.6	x: 0 m h = 23.6	x: 0.445 m h = 12.8	x: 0 m h = 6.1	x: 0.445 m h = 73.3	x: 0 m h = 13.3	x: 0.445 m h = 55.0	**CUMPLE** **h = 73.3**
N106/N69	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.224 m h = 2.0	x: 0.224 m h = 2.6	h = 10.8	x: 0.447 m h = 6.6	x: 0.447 m h = 12.9	h = 6.2	x: 0.447 m h = 1.2	x: 0.447 m h = 11.3	x: 0 m h = 14.2	x: 0.447 m h = 1.3	x: 0 m h = 2.2	x: 0 m h = 25.1	x: 0.447 m h = 23.0	x: 0.447 m h = 16.2	**CUMPLE** **h = 25.1**
N109/N108	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.459 m h = 1.9	x: 0 m h = 1.2	x: 0.459 m h = 8.7	x: 0.459 m h = 7.3	x: 0.459 m h = 10.1	x: 0 m h = 6.1	x: 0.459 m h = 1.2	x: 0.459 m h = 10.6	x: 0.459 m h = 10.5	x: 0.459 m h = 1.1	x: 0.459 m h = 1.5	x: 0.459 m h = 25.0	x: 0.459 m h = 15.1	x: 0.459 m h = 14.7	**CUMPLE** **h = 25.0**
N110/N108	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 16.0	x: 0 m h = 0.7	x: 0.22 m h = 4.5	x: 0.44 m h = 32.4	x: 0.44 m h = 21.1	h = 10.5	x: 0.44 m h = 6.0	x: 0.44 m h = 33.7	x: 0 m h = 21.2	x: 0.44 m h = 11.4	x: 0.44 m h = 5.6	x: 0.44 m h = 72.0	x: 0.44 m h = 10.7	x: 0.44 m h = 58.1	**CUMPLE** **h = 72.0**
N108/N71	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 1.6	x: 0 m h = 0.9	h = 9.8	x: 0.448 m h = 6.5	x: 0.448 m h = 8.3	h = 4.2	x: 0.448 m h = 0.8	x: 0.448 m h = 10.5	x: 0.448 m h = 9.1	x: 0.448 m h = 1.1	x: 0.448 m h = 1.0	x: 0.448 m h = 23.8	x: 0.448 m h = 14.2	x: 0.448 m h = 13.3	**CUMPLE** **h = 23.8**
N111/N110	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 0.4	x: 0 m h = 0.4	h = 3.9	x: 0 m h = 9.0	x: 0.458 m h = 6.1	h = 2.8	x: 0 m h = 1.2	x: 0 m h = 9.1	x: 0.458 m h = 7.9	x: 0 m h = 0.8	x: 0.458 m h = 0.7	x: 0.458 m h = 16.7	x: 0.458 m h = 13.5	x: 0 m h = 11.4	**CUMPLE** **h = 16.7**
N110/N112	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 16.0	x: 0 m h = 0.3	x: 0.22 m h = 4.0	x: 0.44 m h = 32.3	x: 0.44 m h = 21.1	x: 0 m h = 10.9	x: 0.44 m h = 5.6	x: 0.44 m h = 33.6	x: 0 m h = 21.1	x: 0.44 m h = 11.3	x: 0.44 m h = 5.7	x: 0.44 m h = 71.9	x: 0 m h = 4.4	x: 0.44 m h = 58.0	**CUMPLE** **h = 71.9**
N110/N73	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.448 m h = 0.5	x: 0 m h = 0.4	h = 3.3	x: 0 m h = 7.6	x: 0.448 m h = 5.7	h = 0.9	x: 0 m h = 2.1	x: 0 m h = 7.0	x: 0.448 m h = 7.2	x: 0 m h = 0.6	x: 0.448 m h = 0.5	x: 0 m h = 14.1	x: 0 m h = 11.3	x: 0 m h = 9.7	**CUMPLE** **h = 14.1**
N113/N112	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.459 m h = 1.8	x: 0.459 m h = 1.1	h = 8.2	x: 0.459 m h = 7.3	x: 0.459 m h = 10.4	x: 0.23 m h = 6.2	x: 0.459 m h = 1.1	x: 0.459 m h = 10.6	x: 0.459 m h = 10.7	x: 0.459 m h = 1.1	x: 0.459 m h = 1.5	x: 0.459 m h = 24.9	x: 0.459 m h = 15.2	x: 0.459 m h = 14.4	**CUMPLE** **h = 24.9**
N112/N114	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.445 m h = 15.1	x: 0.445 m h = 1.0	h = 8.2	x: 0.445 m h = 31.4	x: 0 m h = 18.5	x: 0 m h = 9.2	x: 0 m h = 3.4	x: 0.445 m h = 35.0	x: 0 m h = 22.1	x: 0.445 m h = 12.4	x: 0 m h = 5.3	x: 0.445 m h = 73.3	x: 0 m h = 10.0	x: 0.445 m h = 54.9	**CUMPLE** **h = 73.3**
N112/N75	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.224 m h = 1.5	x: 0.224 m h = 0.9	x: 0.224 m h = 9.7	x: 0.448 m h = 6.5	x: 0.448 m h = 8.8	h = 4.2	x: 0.448 m h = 0.8	x: 0.448 m h = 10.5	x: 0.448 m h = 9.2	x: 0.448 m h = 1.1	x: 0.448 m h = 1.0	x: 0.448 m h = 23.7	x: 0.448 m h = 11.2	x: 0.224 m h = 12.7	**CUMPLE** **h = 23.7**
N115/N114	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 2.6	x: 0 m h = 3.9	h = 9.9	x: 0.459 m h = 7.3	x: 0.459 m h = 18.4	x: 0 m h = 9.2	x: 0.459 m h = 1.4	x: 0.459 m h = 11.6	x: 0.459 m h = 19.3	x: 0.459 m h = 1.4	x: 0.459 m h = 4.6	x: 0.459 m h = 31.8	x: 0.459 m h = 31.1	x: 0.459 m h = 25.2	**CUMPLE** **h = 31.8**
N114/N116	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.452 m h = 13.8	x: 0.452 m h = 1.1	x: 0.226 m h = 10.8	x: 0 m h = 33.8	x: 0.452 m h = 12.3	x: 0.226 m h = 6.1	x: 0 m h = 3.3	x: 0 m h = 38.6	x: 0.452 m h = 16.6	x: 0 m h = 15.0	x: 0.452 m h = 2.9	x: 0 m h = 71.1	x: 0.452 m h = 8.9	x: 0 m h = 56.0	**CUMPLE** **h = 71.1**
N114/N77	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 2.1	x: 0 m h = 2.8	h = 10.7	x: 0.447 m h = 6.4	x: 0.447 m h = 12.6	x: 0.224 m h = 6.0	x: 0.447 m h = 1.1	x: 0.447 m h = 11.2	x: 0 m h = 13.6	x: 0.447 m h = 1.2	x: 0.447 m h = 2.1	x: 0.447 m h = 22.9	x: 0.447 m h = 22.5	x: 0.447 m h = 17.1	**CUMPLE** **h = 22.9**
N117/N116	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.457 m h = 1.3	x: 0.457 m h = 4.5	h = 13.3	x: 0 m h = 10.5	x: 0.457 m h = 24.1	h = 11.0	x: 0 m h = 2.2	x: 0 m h = 16.4	x: 0.457 m h = 30.0	x: 0 m h = 2.7	x: 0.457 m h = 10.2	x: 0.457 m h = 27.3	x: 0.457 m h = 42.9	x: 0.457 m h = 34.0	**CUMPLE** **h = 42.9**
N116/N118	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 11.9	x: 0.458 m h = 1.1	h = 12.4	x: 0 m h = 30.9	x: 0.458 m h = 18.6	h = 8.8	x: 0 m h = 5.3	x: 0 m h = 36.4	x: 0.458 m h = 24.1	x: 0 m h = 13.5	x: 0.458 m h = 6.6	x: 0 m h = 80.8	x: 0.458 m h = 10.5	x: 0 m h = 53.9	**CUMPLE** **h = 80.8**
N116/N79	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.446 m h = 0.8	x: 0 m h = 2.5	h = 12.3	x: 0 m h = 8.4	x: 0.446 m h = 12.6	h = 4.7	x: 0 m h = 1.9	x: 0 m h = 13.9	x: 0.446 m h = 18.1	x: 0 m h = 2.0	x: 0.446 m h = 3.5	x: 0.446 m h = 21.2	x: 0.446 m h = 28.4	x: 0.446 m h = 18.2	**CUMPLE** **h = 28.4**
N119/N118	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.6	h = 14.8	x: 0 m h = 14.0	x: 0.455 m h = 32.2	h = 15.4	x: 0 m h = 4.9	x: 0 m h = 20.5	x: 0.455 m h = 38.7	x: 0 m h = 4.4	x: 0.455 m h = 17.4	N.P.$^{(2)}$	x: 0 m h = 54.3	x: 0.455 m h = 43.8	**CUMPLE** **h = 54.3**
N118/N120	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.46 m h = 9.8	x: 0.23 m h = 1.1	h = 12.7	x: 0 m h = 24.0	x: 0.46 m h = 24.3	h = 12.6	x: 0 m h = 5.9	x: 0 m h = 29.7	x: 0.46 m h = 29.9	x: 0 m h = 9.1	x: 0.46 m h = 10.5	x: 0 m h = 81.1	x: 0.46 m h = 9.2	x: 0 m h = 50.2	**CUMPLE** **h = 81.1**
N118/N81	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.222 m h = 0.1	x: 0 m h = 2.2	h = 12.4	x: 0 m h = 8.6	x: 0.444 m h = 19.2	h = 8.2	x: 0 m h = 3.4	x: 0 m h = 14.1	x: 0.444 m h = 24.7	x: 0 m h = 2.1	x: 0.444 m h = 6.8	x: 0.444 m h = 21.1	x: 0.444 m h = 34.5	x: 0.444 m h = 26.2	**CUMPLE** **h = 34.5**
N121/N120	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 2.4	h = 14.7	x: 0 m h = 14.0	x: 0.451 m h = 35.7	h = 17.9	x: 0 m h = 6.5	x: 0 m h = 20.5	x: 0.451 m h = 42.2	x: 0 m h = 4.6	x: 0.451 m h = 21.1	N.P.$^{(2)}$	x: 0.451 m h = 59.2	x: 0.451 m h = 48.2	**CUMPLE** **h = 59.2**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N120/N122	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.456 m h = 7.7	x: 0.228 m h = 1.1	h = 12.2	x: 0 m h = 15.2	x: 0.456 m h = 27.1	h = 14.7	x: 0 m h = 5.6	x: 0 m h = 20.6	x: 0.456 m h = 32.5	x: 0 m h = 4.5	x: 0.456 m h = 12.7	x: 0 m h = 73.0	x: 0 m h = 10.1	x: 0 m h = 45.6	**CUMPLE** **h = 73.0**
N120/N83	$w / t \leq (w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 1.4	h = 11.8	x: 0.442 m h = 6.4	x: 0.442 m h = 22.9	h = 10.9	x: 0 m h = 3.9	x: 0.442 m h = 11.6	x: 0.442 m h = 28.1	x: 0 m h = 1.5	x: 0.442 m h = 9.1	N.P.[2]	x: 0.442 m h = 41.1	x: 0.442 m h = 31.1	**CUMPLE** **h = 41.1**
N123/N122	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.447 m h = 1.1	x: 0 m h = 1.7	h = 13.4	x: 0.447 m h = 11.4	x: 0.447 m h = 35.0	h = 18.5	x: 0 m h = 6.4	x: 0.447 m h = 17.3	x: 0.447 m h = 40.9	x: 0.447 m h = 3.3	x: 0.447 m h = 20.1	x: 0.447 m h = 59.8	x: 0.447 m h = 58.7	x: 0.447 m h = 46.4	**CUMPLE** **h = 59.8**
N122/N124	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.451 m h = 5.8	x: 0 m h = 0.8	h = 10.9	x: 0.451 m h = 9.2	x: 0.451 m h = 26.6	h = 14.6	x: 0 m h = 4.6	x: 0.451 m h = 14.0	x: 0.451 m h = 31.4	x: 0.451 m h = 2.1	x: 0.451 m h = 12.0	x: 0.451 m h = 62.5	x: 0.451 m h = 9.5	x: 0.451 m h = 40.9	**CUMPLE** **h = 62.5**
N122/N85	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.442 m h = 1.5	x: 0 m h = 1.9	h = 10.7	x: 0.442 m h = 8.8	x: 0.442 m h = 23.3	h = 11.7	x: 0 m h = 3.5	x: 0.442 m h = 13.5	x: 0.442 m h = 28.0	x: 0.442 m h = 1.9	x: 0.442 m h = 9.2	x: 0.442 m h = 44.5	x: 0.442 m h = 41.9	x: 0.442 m h = 31.5	**CUMPLE** **h = 44.5**
N125/N124	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.446 m h = 2.9	x: 0 m h = 1.3	h = 11.4	x: 0.446 m h = 12.0	x: 0.446 m h = 30.0	h = 16.3	x: 0 m h = 4.9	x: 0.446 m h = 17.1	x: 0.446 m h = 35.1	x: 0.446 m h = 3.1	x: 0.446 m h = 15.0	x: 0.446 m h = 67.1	x: 0.446 m h = 16.0	x: 0.446 m h = 42.3	**CUMPLE** **h = 67.1**
N124/N126	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.447 m h = 4.2	x: 0 m h = 0.8	h = 9.7	x: 0.447 m h = 10.9	x: 0.447 m h = 20.8	h = 11.2	x: 0 m h = 3.1	x: 0.447 m h = 15.2	x: 0.447 m h = 25.0	x: 0.447 m h = 2.4	x: 0.447 m h = 7.5	x: 0.447 m h = 54.3	x: 0.447 m h = 11.7	x: 0.447 m h = 33.2	**CUMPLE** **h = 54.3**
N124/N87	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.443 m h = 2.0	x: 0 m h = 1.2	h = 9.5	x: 0.443 m h = 9.0	x: 0.443 m h = 19.4	h = 9.9	x: 0 m h = 2.4	x: 0.443 m h = 13.2	x: 0.443 m h = 23.6	x: 0.443 m h = 1.8	x: 0.443 m h = 6.6	x: 0.443 m h = 47.1	x: 0.443 m h = 11.6	x: 0.443 m h = 27.8	**CUMPLE** **h = 47.1**
N127/N126	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.447 m h = 5.2	x: 0 m h = 1.9	h = 9.7	x: 0.447 m h = 10.9	x: 0.447 m h = 20.8	h = 11.2	x: 0 m h = 3.1	x: 0.447 m h = 15.2	x: 0.447 m h = 25.0	x: 0.447 m h = 2.4	x: 0.447 m h = 7.5	x: 0.447 m h = 54.3	x: 0.447 m h = 12.4	x: 0.447 m h = 33.2	**CUMPLE** **h = 54.3**
N126/N128	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.443 m h = 2.8	x: 0 m h = 0.7	h = 8.7	x: 0.443 m h = 7.6	x: 0.443 m h = 10.8	h = 5.3	x: 0 m h = 0.9	x: 0.443 m h = 11.5	x: 0.443 m h = 14.6	x: 0.443 m h = 1.3	x: 0.443 m h = 2.4	x: 0.443 m h = 35.1	x: 0.443 m h = 8.2	x: 0.443 m h = 19.0	**CUMPLE** **h = 35.1**
N126/N89	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.443 m h = 4.1	x: 0 m h = 2.1	h = 8.7	x: 0.443 m h = 7.6	x: 0.443 m h = 10.8	h = 5.3	x: 0 m h = 0.9	x: 0.443 m h = 11.5	x: 0.443 m h = 14.6	x: 0.443 m h = 1.3	x: 0.443 m h = 2.4	x: 0.443 m h = 35.1	x: 0.443 m h = 8.4	x: 0.443 m h = 18.9	**CUMPLE** **h = 35.1**
N128/N91	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0 m h = 2.7	x: 0 m h = 1.0	x: 0 m h = 8.1	x: 0 m h = 7.8	x: 0 m h = 3.8	x: 0.443 m h = 1.7	x: 0.443 m h = 0.4	x: 0 m h = 11.3	x: 0 m h = 7.2	x: 0 m h = 1.3	x: 0 m h = 0.5	x: 0 m h = 23.6	x: 0.443 m h = 5.0	x: 0 m h = 12.1	**CUMPLE** **h = 23.6**
N129/N128	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.448 m h = 3.8	x: 0 m h = 1.0	x: 0.224 m h = 8.7	x: 0.448 m h = 9.2	x: 0.448 m h = 7.8	h = 3.5	x: 0 m h = 1.4	x: 0.448 m h = 12.9	x: 0.448 m h = 11.5	x: 0.448 m h = 1.7	x: 0.448 m h = 1.5	x: 0.448 m h = 33.9	x: 0.448 m h = 4.8	x: 0.448 m h = 18.4	**CUMPLE** **h = 33.9**
N128/N130	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.3	x: 0 m h = 0.5	h = 7.7	x: 0 m h = 5.3	x: 0.44 m h = 5.3	h = 2.9	x: 0.44 m h = 1.6	x: 0 m h = 8.8	x: 0.44 m h = 8.7	x: 0 m h = 0.8	x: 0.44 m h = 0.8	x: 0 m h = 21.8	x: 0.44 m h = 5.2	x: 0.44 m h = 10.9	**CUMPLE** **h = 21.8**
N131/N130	$w / t \leq (w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.2	h = 8.1	x: 0.448 m h = 11.0	x: 0.448 m h = 3.3	h = 0.9	x: 0 m h = 2.4	x: 0.448 m h = 14.5	x: 0.448 m h = 6.6	x: 0.448 m h = 2.1	x: 0.448 m h = 0.4	N.P.[2]	x: 0.448 m h = 24.3	x: 0.448 m h = 17.4	**CUMPLE** **h = 24.3**
N130/N93	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.443 m h = 0.1	x: 0 m h = 2.8	h = 7.5	x: 0.443 m h = 10.7	x: 0 m h = 5.7	h = 2.8	x: 0 m h = 1.7	x: 0.443 m h = 14.0	x: 0 m h = 8.9	x: 0.443 m h = 2.0	x: 0 m h = 0.9	x: 0.443 m h = 17.8	x: 0.443 m h = 22.4	x: 0.443 m h = 16.2	**CUMPLE** **h = 22.4**
N129/N131	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.4	x: 0 m h = 0.1	h = 8.0	x: 0 m h = 3.5	x: 0.44 m h = 5.4	x: 0.44 m h = 2.8	x: 0.44 m h = 0.9	x: 0 m h = 7.0	x: 0.44 m h = 7.9	x: 0 m h = 0.5	x: 0.44 m h = 0.7	x: 0 m h = 17.1	x: 0.44 m h = 4.1	x: 0.44 m h = 10.3	**CUMPLE** **h = 17.1**
N127/N129	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.443 m h = 1.3	x: 0 m h = 0.4	h = 9.5	x: 0.443 m h = 9.0	x: 0.443 m h = 19.5	h = 9.9	x: 0 m h = 2.4	x: 0.443 m h = 13.2	x: 0.443 m h = 23.7	x: 0.443 m h = 1.8	x: 0.443 m h = 6.6	x: 0.443 m h = 47.1	x: 0.443 m h = 10.0	x: 0.443 m h = 27.8	**CUMPLE** **h = 47.1**
N125/N127	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.446 m h = 2.1	x: 0 m h = 0.5	h = 11.5	x: 0.446 m h = 12.0	x: 0.446 m h = 30.0	h = 16.4	x: 0 m h = 4.9	x: 0.446 m h = 17.1	x: 0.446 m h = 35.1	x: 0.446 m h = 3.1	x: 0.446 m h = 15.0	x: 0.446 m h = 67.1	x: 0.446 m h = 13.7	x: 0.446 m h = 42.3	**CUMPLE** **h = 67.1**
N121/N123	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.231 m h = 3.8	x: 0.231 m h = 0.7	h = 14.9	x: 0 m h = 21.1	x: 0.461 m h = 38.6	h = 20.2	x: 0 m h = 7.8	x: 0 m h = 27.7	x: 0.461 m h = 45.2	x: 0 m h = 8.3	x: 0.461 m h = 24.5	x: 0 m h = 91.0	x: 0 m h = 19.2	x: 0 m h = 55.3	**CUMPLE** **h = 91.0**
N119/N121	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.464 m h = 4.9	x: 0.232 m h = 0.7	h = 14.8	x: 0 m h = 27.9	x: 0.464 m h = 36.4	h = 18.4	x: 0 m h = 7.8	x: 0 m h = 34.5	x: 0.464 m h = 42.9	x: 0 m h = 12.5	x: 0.464 m h = 21.8	x: 0 m h = 95.5	x: 0 m h = 13.8	x: 0 m h = 57.4	**CUMPLE** **h = 95.5**
N117/N119	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.461 m h = 6.2	x: 0.461 m h = 0.7	h = 13.2	x: 0 m h = 31.8	x: 0.461 m h = 29.7	h = 14.3	x: 0 m h = 6.6	x: 0 m h = 37.6	x: 0.461 m h = 35.5	x: 0 m h = 14.6	x: 0.461 m h = 14.7	x: 0 m h = 88.8	x: 0.461 m h = 14.0	x: 0 m h = 54.9	**CUMPLE** **h = 88.8**
N115/N117	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.453 m h = 7.4	x: 0.227 m h = 0.5	h = 10.0	x: 0 m h = 30.7	x: 0.453 m h = 20.1	h = 8.4	x: 0 m h = 3.9	x: 0 m h = 35.1	x: 0.453 m h = 24.5	x: 0 m h = 12.5	x: 0.453 m h = 6.7	x: 0 m h = 69.5	x: 0.453 m h = 10.5	x: 0 m h = 47.7	**CUMPLE** **h = 69.5**
N113/N115	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.445 m h = 8.1	x: 0.222 m h = 0.7	h = 6.8	x: 0.445 m h = 27.6	x: 0 m h = 23.3	h = 12.8	x: 0 m h = 5.5	x: 0.445 m h = 30.6	x: 0 m h = 22.3	x: 0.445 m h = 9.5	x: 0 m h = 7.1	x: 0.445 m h = 61.0	x: 0 m h = 9.7	x: 0 m h = 41.6	**CUMPLE** **h = 61.0**
N111/N113	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 8.5	x: 0.44 m h = 0.6	h = 3.2	x: 0.44 m h = 26.0	x: 0.44 m h = 28.1	h = 15.1	x: 0.44 m h = 7.1	x: 0.44 m h = 27.3	x: 0.44 m h = 28.6	x: 0.44 m h = 7.8	x: 0.44 m h = 10.4	x: 0 m h = 61.8	x: 0 m h = 7.3	x: 0 m h = 44.1	**CUMPLE** **h = 61.8**
N111/N109	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 8.5	x: 0 m h = 0.2	x: 0.22 m h = 3.3	x: 0.44 m h = 27.0	x: 0.44 m h = 28.1	x: 0 m h = 14.6	x: 0.44 m h = 7.0	x: 0.44 m h = 28.5	x: 0.44 m h = 28.6	x: 0.44 m h = 8.6	x: 0.44 m h = 10.3	x: 0 m h = 62.5	x: 0 m h = 14.5	x: 0 m h = 44.7	**CUMPLE** **h = 62.5**
N109/N107	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.445 m h = 8.1	x: 0 m h = 0.7	h = 7.5	x: 0.445 m h = 29.1	x: 0 m h = 24.8	h = 13.0	x: 0 m h = 5.7	x: 0.445 m h = 32.4	x: 0 m h = 25.5	x: 0.445 m h = 10.7	x: 0 m h = 8.2	x: 0.445 m h = 60.9	x: 0 m h = 16.7	x: 0.445 m h = 44.1	**CUMPLE** **h = 60.9**
N107/N105	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.453 m h = 7.4	x: 0 m h = 0.7	h = 10.3	x: 0 m h = 30.6	x: 0.453 m h = 19.9	h = 8.3	x: 0 m h = 3.9	x: 0 m h = 35.1	x: 0.453 m h = 24.4	x: 0 m h = 12.5	x: 0.453 m h = 6.6	x: 0 m h = 69.3	x: 0.453 m h = 23.0	x: 0 m h = 47.5	**CUMPLE** **h = 69.3**
N105/N103	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.461 m h = 6.2	x: 0 m h = 0.8	h = 13.3	x: 0 m h = 31.7	x: 0.461 m h = 29.5	h = 14.2	x: 0 m h = 6.6	x: 0 m h = 37.5	x: 0.461 m h = 35.4	x: 0 m h = 14.5	x: 0.461 m h = 14.5	x: 0 m h = 88.5	x: 0 m h = 16.2	x: 0 m h = 54.7	**CUMPLE** **h = 88.5**
N103/N101	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.464 m h = 5.0	x: 0 m h = 0.9	h = 14.9	x: 0 m h = 27.9	x: 0.464 m h = 36.3	h = 18.3	x: 0 m h = 7.8	x: 0 m h = 34.5	x: 0.464 m h = 42.9	x: 0 m h = 12.5	x: 0.464 m h = 21.7	x: 0 m h = 95.5	x: 0 m h = 16.5	x: 0 m h = 57.3	**CUMPLE** **h = 95.5**
N101/N99	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.461 m h = 4.0	x: 0 m h = 0.9	h = 15.0	x: 0 m h = 21.1	x: 0.461 m h = 38.6	h = 20.2	x: 0 m h = 7.8	x: 0 m h = 27.8	x: 0.461 m h = 45.3	x: 0 m h = 8.3	x: 0.461 m h = 24.6	x: 0 m h = 91.1	x: 0 m h = 16.3	x: 0 m h = 55.3	**CUMPLE** **h = 91.1**
N99/N97	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.453 m h = 3.1	x: 0 m h = 0.8	h = 13.7	x: 0 m h = 12.8	x: 0.453 m h = 36.8	h = 19.9	x: 0 m h = 6.9	x: 0 m h = 18.9	x: 0.453 m h = 42.8	x: 0 m h = 4.0	x: 0.453 m h = 22.3	x: 0 m h = 77.5	x: 0.453 m h = 18.1	x: 0.453 m h = 50.4	**CUMPLE** **h = 77.5**
N97/N95	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.446 m h = 2.4	x: 0 m h = 0.8	h = 11.6	x: 0.446 m h = 12.0	x: 0.446 m h = 29.8	h = 16.3	x: 0 m h = 4.9	x: 0.446 m h = 17.1	x: 0.446 m h = 35.0	x: 0.446 m h = 3.1	x: 0.446 m h = 14.9	x: 0.446 m h = 67.0	x: 0.446 m h = 13.8	x: 0.446 m h = 42.1	**CUMPLE** **h = 67.0**
N95/N49	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.443 m h = 1.6	x: 0 m h = 0.7	h = 9.6	x: 0.443 m h = 9.0	x: 0.443 m h = 19.5	h = 9.9	x: 0 m h = 2.4	x: 0.443 m h = 13.3	x: 0.443 m h = 23.7	x: 0.443 m h = 1.8	x: 0.443 m h = 6.6	x: 0.443 m h = 47.3	x: 0.443 m h = 8.9	x: 0.443 m h = 27.9	**CUMPLE** **h = 47.3**
N46/N49	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.453 m h = 4.6	x: 0 m h = 0.2	h = 9.1	x: 0.453 m h = 7.2	x: 0.453 m h = 11.2	h = 5.7	x: 0 m h = 2.5	x: 0.453 m h = 11.2	x: 0.453 m h = 15.0	x: 0.453 m h = 1.3	x: 0.453 m h = 2.6	x: 0.453 m h = 37.4	x: 0 m h = 4.7	x: 0.453 m h = 21.1	**CUMPLE** **h = 37.4**
N132/N46	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.442 m h = 1.8	x: 0 m h = 2.2	h = 10.8	x: 0.442 m h = 8.9	x: 0.442 m h = 23.2	h = 11.7	x: 0 m h = 3.5	x: 0.442 m h = 13.7	x: 0.442 m h = 28.0	x: 0.442 m h = 2.0	x: 0.442 m h = 9.2	x: 0.442 m h = 48.1	x: 0.442 m h = 42.0	x: 0.442 m h = 31.4	**CUMPLE** **h = 48.1**
N45/N132	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.456 m h = 7.6	x: 0 m h = 1.1	h = 12.3	x: 0 m h = 15.4	x: 0.456 m h = 26.9	h = 14.6	x: 0 m h = 5.5	x: 0 m h = 20.6	x: 0.456 m h = 32.4	x: 0 m h = 4.5	x: 0.456 m h = 12.6	x: 0 m h = 72.7	x: 0 m h = 9.7	x: 0 m h = 45.2	**CUMPLE** **h = 72.7**
N133/N132	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.447 m h = 1.2	x: 0 m h = 1.8	h = 13.5	x: 0.447 m h = 11.3	x: 0.447 m h = 34.7	h = 18.3	x: 0 m h = 6.3	x: 0.447 m h = 17.3	x: 0.447 m h = 40.7	x: 0.447 m h = 3.3	x: 0.447 m h = 19.9	x: 0.447 m h = 63.2	x: 0.447 m h = 58.6	x: 0.447 m h = 46.1	**CUMPLE** **h = 63.2**
N132/N95	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.451 m h = 5.8	x: 0 m h = 1.0	h = 11.0	x: 0.451 m h = 9.1	x: 0.451 m h = 26.5	h = 14.6	x: 0 m h = 4.6	x: 0.451 m h = 14.0	x: 0.451 m h = 31.4	x: 0.451 m h = 2.1	x: 0.451 m h = 12.0	x: 0.451 m h = 62.5	x: 0.451 m h = 8.4	x: 0.451 m h = 40.7	**CUMPLE** **h = 62.5**
N134/N133	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.231 m h = 5.0	x: 0.231 m h = 1.9	h = 15.0	x: 0 m h = 21.0	x: 0.461 m h = 38.4	h = 20.1	x: 0 m h = 7.7	x: 0 m h = 27.7	x: 0.461 m h = 45.1	x: 0 m h = 8.2	x: 0.461 m h = 24.3	x: 0 m h = 90.8	x: 0 m h = 23.4	x: 0 m h = 55.1	**CUMPLE** **h = 90.8**
N135/N133	$w / t \leq (w / t)_{Máx.}$ Cumple	x: 0.458 m h = 0.8	x: 0 m h = 1.6	h = 15.8	x: 0 m h = 18.3	x: 0.458 m h = 42.7	h = 22.2	x: 0 m h = 8.2	x: 0 m h = 25.3	x: 0.458 m h = 49.7	x: 0 m h = 7.1	x: 0.458 m h = 29.6	x: 0 m h = 72.2	x: 0 m h = 71.2	x: 0.458 m h = 55.8	**CUMPLE** **h = 72.2**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N133/N97	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 4.4	x: 0 m h = 2.2	h = 13.7	x: 0 m h = 12.9	x: 0.453 m h = 36.7	h = 19.9	x: 0 m h = 6.8	x: 0 m h = 18.9	x: 0.453 m h = 42.8	x: 0 m h = 4.0	x: 0.453 m h = 22.3	x: 0 m h = 77.5	x: 0.453 m h = 20.5	x: 0.453 m h = 50.4	**CUMPLE h = 77.5**
N136/N135	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.466 m h = 0.6	x: 0 m h = 1.3	h = 16.4	x: 0 m h = 24.4	x: 0.466 m h = 45.2	h = 22.9	x: 0 m h = 8.9	x: 0 m h = 31.7	x: 0.466 m h = 52.4	x: 0 m h = 10.8	x: 0.466 m h = 32.8	x: 0 m h = 80.7	x: 0 m h = 79.6	x: 0 m h = 59.2	**CUMPLE h = 80.7**
N137/N135	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.466 m h = 0.6	x: 0 m h = 1.4	h = 16.4	x: 0 m h = 24.5	x: 0.466 m h = 45.3	h = 23.0	x: 0 m h = 8.9	x: 0 m h = 31.8	x: 0.466 m h = 52.6	x: 0 m h = 10.9	x: 0.466 m h = 32.9	x: 0 m h = 80.2	x: 0 m h = 79.9	x: 0 m h = 59.4	**CUMPLE h = 80.2**
N135/N99	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 0.6	x: 0 m h = 1.3	h = 15.8	x: 0 m h = 18.3	x: 0.458 m h = 42.8	h = 22.2	x: 0 m h = 8.2	x: 0 m h = 25.3	x: 0.458 m h = 49.8	x: 0 m h = 7.1	x: 0.458 m h = 29.7	x: 0 m h = 73.5	x: 0 m h = 71.3	x: 0.458 m h = 55.8	**CUMPLE h = 73.5**
N138/N137	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.2	h = 16.0	x: 0 m h = 23.2	x: 0.47 m h = 46.3	h = 23.1	x: 0 m h = 8.4	x: 0 m h = 30.3	x: 0.47 m h = 53.4	x: 0 m h = 9.9	x: 0.47 m h = 33.9	N.P.[2]	x: 0 m h = 81.9	x: 0.47 m h = 62.6	**CUMPLE h = 81.9**
N139/N137	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.468 m h = 0.7	x: 0 m h = 1.2	h = 15.2	x: 0 m h = 28.8	x: 0.468 m h = 43.0	h = 21.4	x: 0 m h = 8.8	x: 0 m h = 35.5	x: 0.468 m h = 49.7	x: 0 m h = 13.4	x: 0.468 m h = 29.3	x: 0 m h = 79.2	x: 0 m h = 79.6	x: 0 m h = 58.8	**CUMPLE h = 79.6**
N137/N101	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.5	h = 16.5	x: 0 m h = 19.7	x: 0.462 m h = 44.0	h = 22.1	x: 0 m h = 7.8	x: 0 m h = 27.0	x: 0.462 m h = 51.3	x: 0 m h = 7.9	x: 0.462 m h = 31.2	N.P.[2]	x: 0 m h = 75.1	x: 0.462 m h = 59.3	**CUMPLE h = 75.1**
N139/N103	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 5.3	h = 15.6	x: 0 m h = 16.3	x: 0.466 m h = 39.6	h = 19.5	x: 0 m h = 5.6	x: 0 m h = 23.2	x: 0.466 m h = 46.5	x: 0 m h = 5.7	x: 0.466 m h = 25.4	N.P.[2]	x: 0 m h = 68.1	x: 0.466 m h = 54.8	**CUMPLE h = 68.1**
N140/N139	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.474 m h = 0.1	x: 0 m h = 6.9	h = 14.1	x: 0 m h = 17.5	x: 0.474 m h = 41.4	h = 20.7	x: 0 m h = 6.3	x: 0 m h = 23.7	x: 0.474 m h = 47.7	x: 0 m h = 6.0	x: 0.474 m h = 27.0	x: 0.474 m h = 14.5	x: 0 m h = 73.5	x: 0.474 m h = 58.9	**CUMPLE h = 73.5**
N141/N139	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.232 m h = 1.0	x: 0.232 m h = 1.0	h = 12.6	x: 0 m h = 30.1	x: 0.463 m h = 35.3	h = 17.3	x: 0 m h = 7.4	x: 0 m h = 35.6	x: 0.463 m h = 40.8	x: 0 m h = 13.2	x: 0.463 m h = 19.7	x: 0 m h = 87.0	x: 0 m h = 24.3	x: 0 m h = 51.7	**CUMPLE h = 87.0**
N142/N141	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.475 m h = 2.4	x: 0 m h = 9.5	h = 11.9	x: 0 m h = 9.4	x: 0.475 m h = 30.4	h = 15.2	x: 0 m h = 3.3	x: 0 m h = 14.6	x: 0.475 m h = 35.6	x: 0 m h = 2.2	x: 0.475 m h = 15.0	x: 0 m h = 36.0	x: 0 m h = 55.0	x: 0.475 m h = 46.0	**CUMPLE h = 55.0**
N143/N141	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 1.4	x: 0 m h = 0.9	h = 9.3	x: 0 m h = 26.5	x: 0.454 m h = 22.8	h = 10.4	x: 0 m h = 4.4	x: 0 m h = 30.6	x: 0.454 m h = 26.9	x: 0 m h = 9.6	x: 0.454 m h = 8.3	x: 0 m h = 62.4	x: 0.454 m h = 26.1	x: 0 m h = 38.4	**CUMPLE h = 62.4**
N141/N105	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.469 m h = 1.6	x: 0 m h = 6.5	h = 13.2	x: 0 m h = 9.7	x: 0.469 m h = 29.6	h = 14.3	x: 0 m h = 2.5	x: 0 m h = 15.5	x: 0.469 m h = 35.4	x: 0 m h = 2.5	x: 0.469 m h = 14.6	x: 0 m h = 33.9	x: 0 m h = 50.9	x: 0.469 m h = 42.6	**CUMPLE h = 50.9**
N144/N143	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.475 m h = 5.8	x: 0 m h = 9.3	h = 8.9	x: 0 m h = 6.0	x: 0.475 m h = 23.0	h = 11.6	x: 0 m h = 1.9	x: 0 m h = 8.4	x: 0.475 m h = 24.2	x: 0 m h = 0.7	x: 0.475 m h = 7.2	x: 0 m h = 41.6	x: 0 m h = 31.8	x: 0.475 m h = 34.2	**CUMPLE h = 41.6**
N145/N143	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.444 m h = 1.4	x: 0 m h = 0.7	h = 6.7	x: 0.444 m h = 24.8	x: 0 m h = 28.9	h = 15.0	x: 0 m h = 7.4	x: 0.444 m h = 27.8	x: 0 m h = 29.4	x: 0.444 m h = 8.0	x: 0 m h = 10.9	x: 0 m h = 57.5	x: 0 m h = 45.5	x: 0 m h = 41.1	**CUMPLE h = 57.5**
N143/N107	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.235 m h = 3.9	x: 0.235 m h = 6.1	h = 9.1	x: 0.47 m h = 6.5	x: 0.47 m h = 21.3	h = 10.7	x: 0.47 m h = 1.7	x: 0.47 m h = 10.1	x: 0.47 m h = 22.4	x: 0.47 m h = 1.0	x: 0.47 m h = 6.2	x: 0 m h = 36.5	x: 0.47 m h = 33.0	x: 0.47 m h = 30.3	**CUMPLE h = 36.5**
N146/N145	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.2	x: 0 m h = 0.6	h = 3.2	x: 0 m h = 26.2	x: 0.44 m h = 31.9	h = 17.0	x: 0 m h = 9.0	x: 0 m h = 26.9	x: 0.44 m h = 32.5	x: 0 m h = 8.0	x: 0.44 m h = 13.5	x: 0 m h = 68.7	x: 0 m h = 18.7	x: 0 m h = 47.6	**CUMPLE h = 68.7**
N147/N145	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.474 m h = 2.3	x: 0 m h = 2.0	h = 6.8	x: 0 m h = 6.1	x: 0.474 m h = 11.6	h = 8.0	x: 0.474 m h = 0.8	x: 0.474 m h = 8.1	x: 0.474 m h = 11.9	x: 0.474 m h = 0.7	x: 0.474 m h = 2.1	x: 0.474 m h = 21.5	x: 0.474 m h = 16.1	x: 0.474 m h = 17.1	**CUMPLE h = 21.5**
N145/N109	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.235 m h = 2.2	x: 0.235 m h = 1.6	h = 7.3	x: 0.469 m h = 6.3	x: 0.469 m h = 11.2	x: 0 m h = 7.5	x: 0.469 m h = 1.2	x: 0.469 m h = 9.1	x: 0.469 m h = 11.4	x: 0.469 m h = 0.8	x: 0.469 m h = 1.8	x: 0.469 m h = 22.3	x: 0.469 m h = 15.1	x: 0.469 m h = 16.2	**CUMPLE h = 22.3**
N146/N111	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.469 m h = 0.3	x: 0 m h = 0.5	h = 4.1	x: 0 m h = 9.6	x: 0.469 m h = 4.8	h = 3.4	x: 0 m h = 0.7	x: 0 m h = 9.6	x: 0.469 m h = 6.6	x: 0 m h = 0.9	x: 0.469 m h = 0.6	x: 0.469 m h = 13.6	x: 0.469 m h = 13.2	x: 0 m h = 12.2	**CUMPLE h = 13.6**
N148/N146	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.475 m h = 0.3	x: 0 m h = 0.9	h = 4.6	x: 0 m h = 10.1	x: 0.475 m h = 3.2	h = 3.1	x: 0 m h = 1.0	x: 0 m h = 10.1	x: 0.475 m h = 4.9	x: 0 m h = 1.0	x: 0.475 m h = 0.3	x: 0.475 m h = 13.8	x: 0.475 m h = 13.1	x: 0 m h = 13.2	**CUMPLE h = 13.8**
N146/N149	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.2	x: 0 m h = 0.6	h = 3.2	x: 0 m h = 24.5	x: 0.44 m h = 31.8	h = 17.5	x: 0 m h = 8.9	x: 0 m h = 24.8	x: 0.44 m h = 32.6	x: 0 m h = 6.9	x: 0.44 m h = 13.7	x: 0 m h = 68.6	x: 0.44 m h = 40.7	x: 0 m h = 47.4	**CUMPLE h = 68.6**
N150/N149	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.474 m h = 2.1	x: 0 m h = 1.9	h = 6.7	x: 0 m h = 6.0	x: 0.474 m h = 11.9	x: 0 m h = 8.3	x: 0.474 m h = 0.7	x: 0.474 m h = 8.0	x: 0.474 m h = 12.1	x: 0.474 m h = 0.6	x: 0.474 m h = 2.1	x: 0.474 m h = 21.3	x: 0.474 m h = 16.8	x: 0.474 m h = 16.7	**CUMPLE h = 21.3**
N149/N151	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.444 m h = 1.3	x: 0 m h = 0.6	h = 6.1	x: 0.444 m h = 23.1	x: 0 m h = 29.0	x: 0 m h = 15.6	x: 0 m h = 7.5	x: 0.444 m h = 25.7	x: 0 m h = 25.3	x: 0.444 m h = 6.8	x: 0 m h = 10.9	x: 0 m h = 60.2	x: 0 m h = 39.9	x: 0 m h = 43.4	**CUMPLE h = 60.2**
N149/N113	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.469 m h = 1.9	x: 0 m h = 1.4	h = 7.1	x: 0.469 m h = 6.3	x: 0.469 m h = 11.8	x: 0 m h = 8.0	x: 0.469 m h = 1.2	x: 0.469 m h = 9.1	x: 0.469 m h = 11.9	x: 0.469 m h = 0.8	x: 0.469 m h = 2.1	x: 0.469 m h = 22.2	x: 0.469 m h = 16.8	x: 0.469 m h = 16.3	**CUMPLE h = 22.2**
N152/N151	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.475 m h = 5.8	x: 0 m h = 9.4	h = 8.9	x: 0 m h = 5.9	x: 0.475 m h = 24.3	x: 0 m h = 12.3	x: 0 m h = 1.8	x: 0 m h = 8.4	x: 0.475 m h = 25.2	x: 0 m h = 0.7	x: 0.475 m h = 7.9	x: 0 m h = 42.7	x: 0 m h = 31.9	x: 0.475 m h = 35.7	**CUMPLE h = 42.7**
N151/N153	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.454 m h = 1.2	x: 0 m h = 0.6	h = 9.2	x: 0 m h = 26.6	x: 0.454 m h = 22.9	h = 10.5	x: 0 m h = 4.5	x: 0 m h = 30.7	x: 0.454 m h = 27.0	x: 0 m h = 9.6	x: 0.454 m h = 8.4	x: 0 m h = 62.6	x: 0 m h = 27.7	x: 0 m h = 38.6	**CUMPLE h = 62.6**
N151/N115	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 3.8	x: 0 m h = 6.1	h = 9.0	x: 0.47 m h = 6.6	x: 0.47 m h = 22.4	x: 0 m h = 11.4	x: 0.47 m h = 1.6	x: 0.47 m h = 10.5	x: 0.47 m h = 23.3	x: 0.47 m h = 1.1	x: 0.47 m h = 6.7	x: 0 m h = 37.4	x: 0.47 m h = 33.0	x: 0.47 m h = 31.6	**CUMPLE h = 37.4**
N153/N117	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.469 m h = 2.0	x: 0.469 m h = 7.0	h = 13.1	x: 0 m h = 9.7	x: 0.469 m h = 29.7	h = 14.4	x: 0 m h = 2.5	x: 0 m h = 15.5	x: 0.469 m h = 35.5	x: 0 m h = 2.5	x: 0.469 m h = 14.7	x: 0 m h = 32.9	x: 0 m h = 51.1	x: 0.469 m h = 42.8	**CUMPLE h = 51.1**
N154/N153	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.475 m h = 2.7	x: 0 m h = 9.8	h = 11.7	x: 0 m h = 9.5	x: 0.475 m h = 30.5	h = 15.3	x: 0 m h = 3.4	x: 0 m h = 14.7	x: 0.475 m h = 35.7	x: 0 m h = 2.3	x: 0.475 m h = 15.1	x: 0 m h = 34.8	x: 0 m h = 55.2	x: 0.475 m h = 46.2	**CUMPLE h = 55.2**
N153/N155	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.463 m h = 0.8	x: 0 m h = 0.8	h = 12.5	x: 0 m h = 30.2	x: 0.463 m h = 35.5	h = 17.4	x: 0 m h = 7.4	x: 0 m h = 35.7	x: 0.463 m h = 41.0	x: 0 m h = 13.3	x: 0.463 m h = 19.9	x: 0 m h = 87.4	x: 0 m h = 31.9	x: 0 m h = 52.0	**CUMPLE h = 87.4**
N156/N155	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.474 m h = 0.2	x: 0 m h = 6.8	h = 14.0	x: 0 m h = 17.6	x: 0.474 m h = 41.6	h = 20.8	x: 0 m h = 6.4	x: 0 m h = 23.8	x: 0.474 m h = 47.8	x: 0 m h = 6.1	x: 0.474 m h = 27.1	x: 0.474 m h = 14.6	x: 0 m h = 73.5	x: 0.474 m h = 58.9	**CUMPLE h = 73.5**
N155/N157	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.468 m h = 0.5	x: 0 m h = 1.0	h = 15.1	x: 0 m h = 28.8	x: 0.468 m h = 43.0	h = 21.5	x: 0 m h = 8.8	x: 0 m h = 35.5	x: 0.468 m h = 49.7	x: 0 m h = 13.4	x: 0.468 m h = 29.3	x: 0 m h = 77.8	x: 0 m h = 79.6	x: 0 m h = 58.9	**CUMPLE h = 79.6**
N155/N119	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 5.2	h = 15.5	x: 0 m h = 16.3	x: 0.466 m h = 39.7	h = 19.5	x: 0 m h = 5.6	x: 0 m h = 23.2	x: 0.466 m h = 46.6	x: 0 m h = 5.7	x: 0.466 m h = 25.5	N.P.[2]	x: 0 m h = 68.1	x: 0.466 m h = 54.8	**CUMPLE h = 68.1**
N158/N157	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.1	h = 15.8	x: 0 m h = 23.3	x: 0.47 m h = 46.3	h = 23.1	x: 0 m h = 8.4	x: 0 m h = 30.3	x: 0.47 m h = 53.4	x: 0 m h = 9.9	x: 0.47 m h = 33.8	N.P.[2]	x: 0 m h = 81.7	x: 0.47 m h = 62.6	**CUMPLE h = 81.7**
N157/N159	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.466 m h = 0.4	x: 0 m h = 1.1	h = 16.3	x: 0 m h = 24.5	x: 0.466 m h = 45.2	h = 23.0	x: 0 m h = 8.9	x: 0 m h = 31.7	x: 0.466 m h = 52.4	x: 0 m h = 10.8	x: 0.466 m h = 32.8	x: 0 m h = 66.8	x: 0 m h = 79.7	x: 0 m h = 59.3	**CUMPLE h = 79.7**
N157/N121	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.4	h = 16.4	x: 0 m h = 19.7	x: 0.462 m h = 44.0	h = 22.1	x: 0 m h = 7.8	x: 0 m h = 27.0	x: 0.462 m h = 51.3	x: 0 m h = 7.9	x: 0.462 m h = 31.2	N.P.[2]	x: 0 m h = 75.0	x: 0.462 m h = 59.3	**CUMPLE h = 75.0**
N160/N159	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.466 m h = 0.7	x: 0 m h = 1.4	h = 16.3	x: 0 m h = 24.5	x: 0.466 m h = 45.2	h = 23.0	x: 0 m h = 8.9	x: 0 m h = 31.7	x: 0.466 m h = 52.4	x: 0 m h = 10.8	x: 0.466 m h = 32.8	x: 0 m h = 80.9	x: 0 m h = 79.7	x: 0 m h = 59.3	**CUMPLE h = 80.9**
N159/N161	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 0.4	x: 0 m h = 1.1	h = 15.7	x: 0 m h = 18.4	x: 0.458 m h = 42.9	h = 22.2	x: 0 m h = 8.2	x: 0 m h = 25.3	x: 0.458 m h = 49.8	x: 0 m h = 7.1	x: 0.458 m h = 29.7	x: 0 m h = 69.2	x: 0 m h = 71.3	x: 0.458 m h = 55.9	**CUMPLE h = 71.3**
N159/N123	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 0.8	x: 0 m h = 1.6	h = 15.7	x: 0 m h = 18.4	x: 0.458 m h = 42.9	h = 22.3	x: 0 m h = 8.2	x: 0 m h = 25.3	x: 0.458 m h = 49.8	x: 0 m h = 7.1	x: 0.458 m h = 29.8	x: 0 m h = 73.0	x: 0 m h = 71.3	x: 0.458 m h = 55.9	**CUMPLE h = 73.0**
N162/N161	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.461 m h = 4.3	x: 0 m h = 1.2	h = 14.9	x: 0 m h = 21.1	x: 0.461 m h = 38.6	h = 20.2	x: 0 m h = 7.8	x: 0 m h = 27.7	x: 0.461 m h = 45.2	x: 0 m h = 8.3	x: 0.461 m h = 24.5	x: 0 m h = 91.0	x: 0 m h = 21.3	x: 0 m h = 55.3	**CUMPLE h = 91.0**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N161/N163	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 0.5	x: 0 m h = 1.0	h = 13.4	x: 0.447 m h = 11.4	x: 0.447 m h = 35.0	h = 18.5	x: 0 m h = 6.4	x: 0.447 m h = 17.3	x: 0.447 m h = 40.9	x: 0.447 m h = 3.3	x: 0.447 m h = 20.1	x: 0.447 m h = 59.9	x: 0.447 m h = 58.7	x: 0.447 m h = 46.4	**CUMPLE** **h = 59.9**
N161/N125	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 3.6	x: 0 m h = 1.3	h = 13.6	x: 0 m h = 12.9	x: 0.453 m h = 36.9	h = 19.9	x: 0 m h = 6.9	x: 0 m h = 18.9	x: 0.453 m h = 42.9	x: 0 m h = 4.1	x: 0.453 m h = 22.4	x: 0 m h = 77.6	x: 0.453 m h = 19.0	x: 0.453 m h = 50.6	**CUMPLE** **h = 77.6**
N163/N127	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.451 m h = 6.5	x: 0 m h = 1.7	h = 10.9	x: 0.451 m h = 9.2	x: 0.451 m h = 26.6	h = 14.6	x: 0 m h = 4.6	x: 0.451 m h = 14.0	x: 0.451 m h = 31.4	x: 0.451 m h = 2.1	x: 0.451 m h = 12.0	x: 0.451 m h = 62.6	x: 0.451 m h = 14.2	x: 0.451 m h = 40.9	**CUMPLE** **h = 62.6**
N164/N163	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.456 m h = 8.0	x: 0 m h = 1.5	h = 12.2	x: 0 m h = 15.3	x: 0.456 m h = 27.1	h = 14.7	x: 0 m h = 5.6	x: 0 m h = 20.6	x: 0.456 m h = 32.5	x: 0 m h = 4.5	x: 0.456 m h = 12.7	x: 0 m h = 73.0	x: 0.456 m h = 11.9	x: 0 m h = 45.6	**CUMPLE** **h = 73.0**
N163/N165	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.442 m h = 0.5	x: 0 m h = 0.8	h = 10.7	x: 0.442 m h = 8.8	x: 0.442 m h = 23.3	h = 11.7	x: 0 m h = 3.5	x: 0.442 m h = 13.6	x: 0.442 m h = 28.1	x: 0.442 m h = 1.9	x: 0.442 m h = 9.2	x: 0.442 m h = 45.1	x: 0.442 m h = 42.0	x: 0.442 m h = 31.5	**CUMPLE** **h = 45.1**
N165/N166	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.4	x: 0 m h = 0.5	h = 8.4	x: 0.44 m h = 2.6	x: 0.44 m h = 8.3	x: 0.44 m h = 4.2	x: 0 m h = 0.9	x: 0.44 m h = 6.2	x: 0.44 m h = 11.5	x: 0.44 m h = 0.4	x: 0.44 m h = 1.5	x: 0.44 m h = 22.6	x: 0.44 m h = 15.4	x: 0 m h = 12.1	**CUMPLE** **h = 22.6**
N165/N129	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 5.1	x: 0 m h = 1.0	x: 0.453 m h = 9.1	x: 0.453 m h = 7.1	x: 0.453 m h = 10.9	h = 5.4	x: 0 m h = 2.5	x: 0.453 m h = 11.0	x: 0.453 m h = 14.8	x: 0.453 m h = 1.3	x: 0.453 m h = 2.5	x: 0.453 m h = 37.1	x: 0 m h = 4.2	x: 0.453 m h = 21.1	**CUMPLE** **h = 37.1**
N167/N165	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.455 m h = 6.5	x: 0 m h = 1.0	h = 9.6	x: 0 m h = 11.0	x: 0.455 m h = 10.0	x: 0 m h = 5.3	x: 0 m h = 3.3	x: 0 m h = 14.9	x: 0.455 m h = 14.2	x: 0 m h = 2.3	x: 0.455 m h = 2.3	x: 0 m h = 41.1	x: 0.455 m h = 5.0	x: 0 m h = 23.7	**CUMPLE** **h = 41.1**
N168/N167	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.456 m h = 8.5	x: 0 m h = 1.0	h = 10.2	x: 0 m h = 19.2	x: 0.456 m h = 6.6	h = 3.4	x: 0 m h = 3.6	x: 0 m h = 23.6	x: 0.456 m h = 11.0	x: 0 m h = 5.7	x: 0.456 m h = 1.3	x: 0 m h = 51.2	x: 0.456 m h = 7.4	x: 0 m h = 33.5	**CUMPLE** **h = 51.2**
N167/N169	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 2.4	x: 0 m h = 3.0	h = 8.9	x: 0.44 m h = 2.0	x: 0.44 m h = 5.5	x: 0 m h = 2.8	x: 0 m h = 1.0	x: 0.44 m h = 5.4	x: 0.44 m h = 7.8	x: 0.44 m h = 0.3	x: 0.44 m h = 0.6	x: 0.44 m h = 18.6	x: 0.44 m h = 12.3	x: 0 m h = 10.1	**CUMPLE** **h = 18.6**
N164/N167	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.442 m h = 1.2	x: 0 m h = 2.5	h = 11.8	x: 0.442 m h = 6.4	x: 0.442 m h = 22.9	h = 10.9	x: 0 m h = 3.9	x: 0.442 m h = 11.6	x: 0.442 m h = 28.1	x: 0 m h = 1.5	x: 0.442 m h = 9.1	x: 0.442 m h = 41.8	x: 0.442 m h = 41.2	x: 0.442 m h = 31.1	**CUMPLE** **h = 41.8**
N162/N164	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.451 m h = 0.1	x: 0 m h = 2.4	h = 14.7	x: 0 m h = 14.0	x: 0.451 m h = 35.7	h = 17.9	x: 0 m h = 6.5	x: 0 m h = 20.5	x: 0.451 m h = 42.2	x: 0 m h = 4.6	x: 0.451 m h = 21.0	x: 0 m h = 45.7	x: 0.451 m h = 59.2	x: 0.451 m h = 48.2	**CUMPLE** **h = 59.2**
N160/N162	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.4	h = 16.4	x: 0 m h = 19.7	x: 0.462 m h = 44.0	h = 22.1	x: 0 m h = 7.8	x: 0 m h = 27.0	x: 0.462 m h = 51.3	x: 0 m h = 7.9	x: 0.462 m h = 31.2	N.P.$^{(2)}$	x: 0 m h = 75.0	x: 0.462 m h = 59.2	**CUMPLE** **h = 75.0**
N158/N160	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 4.1	h = 15.8	x: 0 m h = 23.3	x: 0.47 m h = 46.3	h = 23.1	x: 0 m h = 8.4	x: 0 m h = 30.3	x: 0.47 m h = 53.3	x: 0 m h = 9.9	x: 0.47 m h = 33.8	N.P.$^{(2)}$	x: 0 m h = 81.7	x: 0.47 m h = 62.6	**CUMPLE** **h = 81.7**
N156/N158	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 4.4	h = 13.3	x: 0 m h = 26.3	x: 0.471 m h = 44.6	h = 22.3	x: 0 m h = 8.6	x: 0 m h = 32.2	x: 0.471 m h = 50.5	x: 0 m h = 11.1	x: 0.471 m h = 30.4	N.P.$^{(2)}$	x: 0 m h = 81.5	x: 0 m h = 63.2	**CUMPLE** **h = 81.5**
N154/N156	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 4.3	h = 10.4	x: 0 m h = 28.2	x: 0.465 m h = 37.4	h = 18.8	x: 0 m h = 7.8	x: 0 m h = 32.8	x: 0.465 m h = 42.0	x: 0 m h = 11.3	x: 0.465 m h = 21.1	N.P.$^{(2)}$	x: 0 m h = 73.7	x: 0 m h = 57.5	**CUMPLE** **h = 73.7**
N152/N154	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.7	h = 8.8	x: 0 m h = 23.4	x: 0.454 m h = 23.2	h = 11.2	x: 0 m h = 4.6	x: 0 m h = 27.3	x: 0.454 m h = 27.1	x: 0 m h = 7.7	x: 0.454 m h = 8.6	N.P.$^{(2)}$	x: 0 m h = 52.3	x: 0 m h = 40.1	**CUMPLE** **h = 52.3**
N150/N152	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.2	h = 6.5	x: 0.444 m h = 23.3	x: 0 m h = 33.0	h = 17.4	x: 0 m h = 9.9	x: 0.444 m h = 26.2	x: 0 m h = 31.9	x: 0.444 m h = 7.4	x: 0 m h = 14.1	N.P.$^{(2)}$	x: 0 m h = 55.2	x: 0 m h = 49.6	**CUMPLE** **h = 55.2**
N148/N150	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.2	x: 0 m h = 2.2	h = 3.5	x: 0 m h = 30.3	x: 0.44 m h = 33.2	h = 18.1	x: 0 m h = 12.6	x: 0 m h = 30.9	x: 0.44 m h = 34.0	x: 0 m h = 10.7	x: 0.44 m h = 14.8	x: 0 m h = 73.5	x: 0 m h = 61.2	x: 0 m h = 52.7	**CUMPLE** **h = 73.5**
N148/N147	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.4	x: 0 m h = 2.3	h = 3.6	x: 0 m h = 32.8	x: 0.44 m h = 34.1	h = 18.1	x: 0 m h = 13.6	x: 0 m h = 33.7	x: 0.44 m h = 35.0	x: 0 m h = 13.2	x: 0.44 m h = 15.5	x: 0 m h = 80.1	x: 0 m h = 57.5	x: 0 m h = 55.0	**CUMPLE** **h = 80.1**
N147/N144	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.2	h = 6.7	x: 0.444 m h = 22.8	x: 0 m h = 31.3	x: 0 m h = 16.7	x: 0 m h = 9.6	x: 0.444 m h = 25.7	x: 0 m h = 31.6	x: 0.444 m h = 7.1	x: 0 m h = 12.8	N.P.$^{(2)}$	x: 0 m h = 53.4	x: 0 m h = 47.7	**CUMPLE** **h = 53.4**
N144/N142	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.7	h = 8.9	x: 0 m h = 23.3	x: 0.454 m h = 23.1	h = 11.2	x: 0 m h = 4.6	x: 0 m h = 27.2	x: 0.454 m h = 27.0	x: 0 m h = 7.6	x: 0.454 m h = 8.6	N.P.$^{(2)}$	x: 0 m h = 52.2	x: 0 m h = 39.9	**CUMPLE** **h = 52.2**
N142/N140	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 4.3	h = 10.5	x: 0 m h = 28.0	x: 0.465 m h = 37.1	h = 18.7	x: 0 m h = 7.8	x: 0 m h = 32.7	x: 0.465 m h = 41.7	x: 0 m h = 11.3	x: 0.465 m h = 20.9	N.P.$^{(2)}$	x: 0 m h = 73.5	x: 0 m h = 57.2	**CUMPLE** **h = 73.5**
N140/N138	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 4.5	h = 13.5	x: 0 m h = 26.3	x: 0.471 m h = 44.5	h = 22.3	x: 0 m h = 8.6	x: 0 m h = 32.2	x: 0.471 m h = 50.5	x: 0 m h = 11.1	x: 0.471 m h = 30.4	N.P.$^{(2)}$	x: 0 m h = 81.6	x: 0 m h = 63.2	**CUMPLE** **h = 81.6**
N138/N136	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 4.2	h = 16.0	x: 0 m h = 23.3	x: 0.47 m h = 46.5	h = 23.2	x: 0 m h = 8.4	x: 0 m h = 30.4	x: 0.47 m h = 53.5	x: 0 m h = 9.9	x: 0.47 m h = 34.0	N.P.$^{(2)}$	x: 0 m h = 82.0	x: 0.47 m h = 62.8	**CUMPLE** **h = 82.0**
N136/N134	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.4	h = 16.5	x: 0 m h = 19.7	x: 0.462 m h = 43.9	h = 22.0	x: 0 m h = 7.8	x: 0 m h = 27.0	x: 0.462 m h = 51.2	x: 0 m h = 7.9	x: 0.462 m h = 31.0	N.P.$^{(2)}$	x: 0 m h = 74.8	x: 0.462 m h = 59.1	**CUMPLE** **h = 74.8**
N134/N45	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 2.5	h = 14.8	x: 0 m h = 13.9	x: 0.451 m h = 35.3	h = 17.7	x: 0 m h = 6.4	x: 0 m h = 20.4	x: 0.451 m h = 41.9	x: 0 m h = 4.6	x: 0.451 m h = 20.7	N.P.$^{(2)}$	x: 0.451 m h = 58.9	x: 0.451 m h = 47.7	**CUMPLE** **h = 58.9**
N170/N134	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.232 m h = 5.8	x: 0.232 m h = 1.6	h = 14.9	x: 0 m h = 27.7	x: 0.464 m h = 36.1	h = 18.2	x: 0 m h = 7.8	x: 0 m h = 34.3	x: 0.464 m h = 42.6	x: 0 m h = 12.4	x: 0.464 m h = 21.5	x: 0 m h = 95.1	x: 0 m h = 22.0	x: 0 m h = 57.1	**CUMPLE** **h = 95.1**
N170/N3	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.7	h = 14.9	x: 0 m h = 13.8	x: 0.455 m h = 31.6	h = 15.1	x: 0 m h = 4.8	x: 0 m h = 20.3	x: 0.455 m h = 38.2	x: 0 m h = 4.4	x: 0.455 m h = 16.9	N.P.$^{(2)}$	x: 0 m h = 53.7	x: 0.455 m h = 43.2	**CUMPLE** **h = 53.7**
N44/N170	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.461 m h = 6.8	x: 0.461 m h = 1.5	h = 13.3	x: 0 m h = 31.5	x: 0.461 m h = 29.3	h = 14.1	x: 0 m h = 6.6	x: 0 m h = 37.4	x: 0.461 m h = 35.1	x: 0 m h = 14.4	x: 0.461 m h = 14.3	x: 0 m h = 88.2	x: 0 m h = 16.9	x: 0 m h = 54.5	**CUMPLE** **h = 88.2**
N171/N170	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 5.3	h = 15.6	x: 0 m h = 16.3	x: 0.466 m h = 39.5	h = 19.4	x: 0 m h = 5.6	x: 0 m h = 23.2	x: 0.466 m h = 46.4	x: 0 m h = 5.7	x: 0.466 m h = 25.3	N.P.$^{(2)}$	x: 0 m h = 67.9	x: 0.466 m h = 54.6	**CUMPLE** **h = 67.9**
N171/N136	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.468 m h = 0.8	x: 0 m h = 1.1	h = 15.2	x: 0 m h = 28.7	x: 0.468 m h = 43.0	h = 21.4	x: 0 m h = 8.8	x: 0 m h = 35.4	x: 0.468 m h = 49.7	x: 0 m h = 13.3	x: 0.468 m h = 29.3	x: 0 m h = 80.1	x: 0 m h = 79.4	x: 0 m h = 58.7	**CUMPLE** **h = 80.1**
N172/N171	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.463 m h = 1.1	x: 0 m h = 1.0	h = 12.6	x: 0 m h = 30.1	x: 0.463 m h = 35.3	h = 17.3	x: 0 m h = 7.4	x: 0 m h = 35.7	x: 0.463 m h = 40.9	x: 0 m h = 13.3	x: 0.463 m h = 19.7	x: 0 m h = 87.5	x: 0 m h = 25.1	x: 0 m h = 52.1	**CUMPLE** **h = 87.5**
N173/N171	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.474 m h < 0.1	x: 0 m h = 6.9	h = 14.1	x: 0 m h = 17.6	x: 0.474 m h = 41.7	h = 20.8	x: 0 m h = 6.4	x: 0 m h = 23.9	x: 0.474 m h = 48.0	x: 0 m h = 6.1	x: 0.474 m h = 27.4	x: 0.474 m h = 14.5	x: 0 m h = 73.8	x: 0.474 m h = 59.2	**CUMPLE** **h = 73.8**
N173/N138	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 4.5	h = 13.5	x: 0 m h = 26.2	x: 0.471 m h = 44.6	h = 22.3	x: 0 m h = 8.6	x: 0 m h = 32.2	x: 0.471 m h = 50.5	x: 0 m h = 11.1	x: 0.471 m h = 30.5	N.P.$^{(2)}$	x: 0 m h = 81.7	x: 0 m h = 63.3	**CUMPLE** **h = 81.7**
N174/N173	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.473 m h = 0.4	x: 0 m h = 8.1	h = 11.0	x: 0 m h = 21.4	x: 0.473 m h = 40.6	h = 20.6	x: 0 m h = 7.6	x: 0 m h = 26.2	x: 0.473 m h = 45.5	x: 0 m h = 7.5	x: 0.473 m h = 24.9	x: 0.473 m h = 17.4	x: 0 m h = 76.2	x: 0 m h = 61.4	**CUMPLE** **h = 76.2**
N175/N173	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 4.4	h = 10.5	x: 0 m h = 28.1	x: 0.465 m h = 37.3	h = 18.8	x: 0 m h = 7.8	x: 0 m h = 32.8	x: 0.465 m h = 41.9	x: 0 m h = 11.4	x: 0.465 m h = 21.1	N.P.$^{(2)}$	x: 0 m h = 73.9	x: 0 m h = 57.6	**CUMPLE** **h = 73.9**
N175/N172	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.475 m h = 2.4	x: 0 m h = 9.5	h = 11.9	x: 0 m h = 9.5	x: 0.475 m h = 30.7	h = 15.4	x: 0 m h = 3.4	x: 0 m h = 14.8	x: 0.475 m h = 36.0	x: 0 m h = 2.3	x: 0.475 m h = 15.3	x: 0 m h = 34.4	x: 0 m h = 55.6	x: 0.475 m h = 46.5	**CUMPLE** **h = 55.6**
N172/N44	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.469 m h = 1.6	x: 0 m h = 6.6	h = 13.2	x: 0 m h = 9.7	x: 0.469 m h = 29.4	h = 14.2	x: 0 m h = 2.5	x: 0 m h = 15.6	x: 0.469 m h = 35.2	x: 0 m h = 2.5	x: 0.469 m h = 14.4	x: 0 m h = 30.7	x: 0 m h = 50.8	x: 0.469 m h = 42.4	**CUMPLE** **h = 50.8**
N176/N44	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 7.5	x: 0.227 m h = 1.1	h = 10.2	x: 0 m h = 30.4	x: 0.453 m h = 19.4	h = 8.1	x: 0 m h = 3.8	x: 0 m h = 34.9	x: 0.453 m h = 23.9	x: 0 m h = 12.3	x: 0.453 m h = 6.4	x: 0 m h = 68.8	x: 0.453 m h = 21.1	x: 0 m h = 47.2	**CUMPLE** **h = 68.8**
N177/N43	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.452 m h = 13.6	x: 0.452 m h = 1.0	x: 0.226 m h = 11.0	x: 0 m h = 33.3	x: 0.452 m h = 11.2	x: 0.226 m h = 5.6	x: 0 m h = 3.1	x: 0 m h = 38.1	x: 0.452 m h = 16.0	x: 0 m h = 14.6	x: 0.452 m h = 2.7	x: 0 m h = 69.7	x: 0.452 m h = 16.0	x: 0 m h = 55.1	**CUMPLE** **h = 69.7**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N177/N42	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.224 m h = 2.0	x: 0 m h = 2.5	h = 10.9	x: 0.447 m h = 6.0	x: 0.447 m h = 10.9	x: 0.224 m h = 5.3	x: 0.447 m h = 0.9	x: 0.447 m h = 10.8	x: 0 m h = 13.2	x: 0.447 m h = 1.2	x: 0 m h = 1.9	x: 0 m h = 23.3	x: 0.447 m h = 21.1	x: 0.224 m h = 14.9	**CUMPLE h = 23.3**
N42/N8	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.441 m h = 1.7	x: 0 m h = 2.0	h = 10.6	x: 0.441 m h = 3.3	x: 0.441 m h = 15.3	h = 8.6	x: 0.441 m h = 1.0	x: 0.441 m h = 7.9	x: 0.441 m h = 19.9	x: 0.441 m h = 0.6	x: 0.441 m h = 4.7	x: 0.441 m h = 35.5	x: 0 m h = 23.2	x: 0.441 m h = 20.4	**CUMPLE h = 35.5**
N41/N177	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.445 m h = 14.9	x: 0.445 m h = 0.8	h = 8.4	x: 0.445 m h = 31.2	x: 0 m h = 18.1	h = 8.2	x: 0.445 m h = 3.4	x: 0.445 m h = 34.9	x: 0 m h = 21.8	x: 0.445 m h = 12.3	x: 0 m h = 5.2	x: 0.445 m h = 72.0	x: 0 m h = 9.4	x: 0.445 m h = 54.3	**CUMPLE h = 72.0**
N176/N177	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.459 m h = 2.5	x: 0 m h = 3.8	h = 10.1	x: 0.459 m h = 6.9	x: 0.459 m h = 16.6	x: 0 m h = 8.4	x: 0.459 m h = 1.2	x: 0.459 m h = 11.2	x: 0.459 m h = 18.0	x: 0.459 m h = 1.3	x: 0.459 m h = 3.8	x: 0.459 m h = 29.7	x: 0.459 m h = 30.0	x: 0.459 m h = 23.0	**CUMPLE h = 30.0**
N178/N176	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.445 m h = 8.3	x: 0.222 m h = 1.2	h = 7.0	x: 0.445 m h = 27.7	x: 0 m h = 21.5	x: 0 m h = 11.9	x: 0 m h = 5.3	x: 0.445 m h = 30.8	x: 0.445 m h = 21.3	x: 0.445 m h = 9.6	x: 0 m h = 6.2	x: 0.445 m h = 60.6	x: 0 m h = 29.7	x: 0.445 m h = 42.3	**CUMPLE h = 60.6**
N179/N176	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.47 m h = 3.7	x: 0 m h = 6.0	h = 9.2	x: 0.47 m h = 6.6	x: 0.47 m h = 21.3	x: 0 m h = 10.7	x: 0.47 m h = 1.6	x: 0.47 m h = 10.6	x: 0.47 m h = 22.2	x: 0.47 m h = 1.1	x: 0.47 m h = 6.1	x: 0 m h = 35.8	x: 0.47 m h = 32.6	x: 0.47 m h = 30.1	**CUMPLE h = 35.8**
N179/N172	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.227 m h = 1.6	x: 0.227 m h = 0.8	h = 9.3	x: 0 m h = 26.6	x: 0.454 m h = 22.7	h = 10.4	x: 0 m h = 4.5	x: 0 m h = 30.7	x: 0.454 m h = 26.8	x: 0 m h = 9.6	x: 0.454 m h = 8.3	x: 0 m h = 62.8	x: 0.454 m h = 24.8	x: 0 m h = 38.7	**CUMPLE h = 62.8**
N180/N179	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.444 m h = 1.8	x: 0 m h = 0.7	h = 6.2	x: 0.444 m h = 23.3	x: 0 m h = 28.0	x: 0 m h = 15.1	x: 0 m h = 7.4	x: 0.444 m h = 26.0	x: 0 m h = 24.8	x: 0.444 m h = 7.0	x: 0 m h = 10.3	x: 0 m h = 59.0	x: 0 m h = 39.1	x: 0 m h = 42.4	**CUMPLE h = 59.0**
N181/N179	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.475 m h = 5.7	x: 0 m h = 9.3	h = 9.0	x: 0 m h = 5.9	x: 0.475 m h = 24.1	x: 0 m h = 12.2	x: 0 m h = 1.9	x: 0 m h = 8.5	x: 0.475 m h = 25.1	x: 0 m h = 0.7	x: 0.475 m h = 7.8	x: 0 m h = 42.4	x: 0 m h = 32.3	x: 0.475 m h = 35.4	**CUMPLE h = 42.4**
N181/N175	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.9	h = 8.9	x: 0 m h = 23.5	x: 0.454 m h = 23.1	h = 11.2	x: 0 m h = 4.6	x: 0 m h = 27.5	x: 0.454 m h = 27.0	x: 0 m h = 7.8	x: 0.454 m h = 8.6	N.P.[2]	x: 0 m h = 52.6	x: 0 m h = 40.3	**CUMPLE h = 52.6**
N182/N175	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 3.2	x: 0 m h = 12.8	h = 10.3	x: 0 m h = 16.9	x: 0.474 m h = 30.1	h = 15.3	x: 0 m h = 6.2	x: 0 m h = 21.4	x: 0.474 m h = 34.7	x: 0 m h = 5.0	x: 0.474 m h = 14.4	x: 0 m h = 37.2	x: 0 m h = 64.6	x: 0 m h = 51.4	**CUMPLE h = 64.6**
N183/N182	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.489 m h = 4.2	x: 0 m h = 16.4	h = 7.8	x: 0 m h = 22.8	x: 0.489 m h = 25.0	h = 11.3	x: 0 m h = 5.8	x: 0 m h = 26.3	x: 0.489 m h = 28.4	x: 0 m h = 7.2	x: 0.489 m h = 9.4	x: 0 m h = 31.9	x: 0 m h = 62.7	x: 0 m h = 50.9	**CUMPLE h = 62.7**
N184/N182	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.462 m h = 0.8	x: 0 m h = 9.6	h = 8.4	x: 0 m h = 19.2	x: 0.462 m h = 20.6	h = 9.3	x: 0 m h = 3.8	x: 0 m h = 22.9	x: 0.462 m h = 24.3	x: 0 m h = 5.3	x: 0.462 m h = 6.8	x: 0 m h = 23.9	x: 0 m h = 50.0	x: 0 m h = 39.1	**CUMPLE h = 50.0**
N182/N174	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.465 m h = 0.8	x: 0 m h = 9.0	h = 8.9	x: 0 m h = 28.3	x: 0.465 m h = 34.7	h = 17.5	x: 0 m h = 8.5	x: 0 m h = 32.3	x: 0.465 m h = 38.6	x: 0 m h = 11.1	x: 0.465 m h = 18.0	x: 0 m h = 20.7	x: 0 m h = 75.4	x: 0 m h = 60.8	**CUMPLE h = 75.4**
N174/N140	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.473 m h = 0.5	x: 0 m h = 8.2	h = 11.0	x: 0 m h = 21.3	x: 0.473 m h = 40.5	h = 20.6	x: 0 m h = 7.6	x: 0 m h = 26.1	x: 0.473 m h = 45.4	x: 0 m h = 7.4	x: 0.473 m h = 24.8	x: 0.473 m h = 18.5	x: 0 m h = 76.1	x: 0 m h = 61.3	**CUMPLE h = 76.1**
N185/N174	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.233 m h = 0.6	x: 0 m h = 8.9	h = 8.9	x: 0 m h = 28.2	x: 0.465 m h = 34.6	h = 17.5	x: 0 m h = 8.4	x: 0 m h = 32.2	x: 0.465 m h = 38.6	x: 0 m h = 11.1	x: 0.465 m h = 17.9	x: 0 m h = 17.6	x: 0 m h = 75.2	x: 0 m h = 60.5	**CUMPLE h = 75.2**
N185/N142	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.474 m h = 3.3	x: 0 m h = 12.7	h = 10.3	x: 0 m h = 16.7	x: 0.474 m h = 30.2	h = 15.3	x: 0 m h = 6.1	x: 0 m h = 21.3	x: 0.474 m h = 34.7	x: 0 m h = 4.9	x: 0.474 m h = 14.4	x: 0 m h = 37.7	x: 0 m h = 64.3	x: 0 m h = 51.1	**CUMPLE h = 64.3**
N183/N185	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 4.1	x: 0 m h = 16.2	h = 7.8	x: 0 m h = 23.0	x: 0.489 m h = 25.2	h = 11.4	x: 0 m h = 5.9	x: 0 m h = 26.4	x: 0.489 m h = 28.6	x: 0 m h = 7.3	x: 0.489 m h = 9.5	x: 0 m h = 32.5	x: 0 m h = 62.8	x: 0 m h = 51.0	**CUMPLE h = 62.8**
N186/N185	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.462 m h = 0.4	x: 0 m h = 9.5	h = 8.4	x: 0 m h = 19.0	x: 0.462 m h = 20.8	h = 9.5	x: 0 m h = 3.7	x: 0 m h = 22.7	x: 0.462 m h = 24.5	x: 0 m h = 5.2	x: 0.462 m h = 6.9	x: 0.462 m h = 21.6	x: 0 m h = 50.0	x: 0 m h = 39.0	**CUMPLE h = 50.0**
N187/N186	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.549 m h = 12.2	x: 0 m h = 18.7	h = 6.0	x: 0 m h = 10.7	x: 0.549 m h = 25.4	x: 0 m h = 11.0	x: 0 m h = 3.3	x: 0 m h = 12.0	x: 0.549 m h = 26.5	x: 0 m h = 1.5	x: 0.549 m h = 8.2	x: 0 m h = 55.7	x: 0.549 m h = 39.2	x: 0.549 m h = 43.3	**CUMPLE h = 55.7**
N188/N186	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.455 m h = 0.2	x: 0 m h = 10.2	h = 6.0	x: 0.455 m h = 28.9	x: 0 m h = 33.9	h = 17.2	x: 0 m h = 13.4	x: 0.455 m h = 30.9	x: 0 m h = 34.6	x: 0.455 m h = 11.1	x: 0 m h = 14.9	x: 0.455 m h = 28.2	x: 0 m h = 66.8	x: 0 m h = 59.3	**CUMPLE h = 66.8**
N186/N144	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.485 m h = 8.4	x: 0 m h = 13.6	h = 9.2	x: 0 m h = 10.4	x: 0.485 m h = 26.8	x: 0 m h = 13.2	x: 0 m h = 2.9	x: 0 m h = 14.5	x: 0.485 m h = 28.2	x: 0 m h = 2.2	x: 0.485 m h = 9.7	x: 0 m h = 49.0	x: 0 m h = 41.1	x: 0.485 m h = 41.3	**CUMPLE h = 49.0**
N189/N188	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.608 m h = 2.6	x: 0 m h = 2.9	h = 4.2	x: 0 m h = 7.5	x: 0.608 m h = 15.1	h = 7.4	x: 0.608 m h = 1.2	x: 0.608 m h = 8.4	x: 0.608 m h = 15.5	x: 0.608 m h = 0.7	x: 0.608 m h = 3.0	x: 0.608 m h = 26.7	x: 0.608 m h = 16.8	x: 0.608 m h = 21.5	**CUMPLE h = 26.7**
N190/N188	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.442 m h = 0.2	x: 0 m h = 10.8	h = 3.8	x: 0 m h = 42.3	x: 0.442 m h = 30.2	h = 15.8	x: 0 m h = 20.0	x: 0 m h = 43.4	x: 0.442 m h = 31.3	x: 0 m h = 22.9	x: 0.442 m h = 12.3	x: 0 m h = 36.9	x: 0 m h = 77.2	x: 0 m h = 68.8	**CUMPLE h = 77.2**
N188/N147	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.512 m h = 2.5	x: 0 m h = 2.5	h = 6.1	x: 0 m h = 7.4	x: 0.512 m h = 14.1	x: 0 m h = 8.9	x: 0 m h = 0.8	x: 0 m h = 9.1	x: 0.512 m h = 14.4	x: 0 m h = 0.8	x: 0.512 m h = 2.9	x: 0.512 m h = 25.7	x: 0.512 m h = 15.2	x: 0.512 m h = 20.4	**CUMPLE h = 25.7**
N191/N190	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.632 m h = 0.9	x: 0 m h = 2.8	h = 3.2	x: 0 m h = 14.7	x: 0 m h = 3.0	h = 2.0	x: 0 m h = 2.1	x: 0 m h = 14.9	x: 0 m h = 4.1	x: 0 m h = 2.3	x: 0 m h = 0.2	x: 0 m h = 7.9	x: 0 m h = 18.1	x: 0 m h = 21.2	**CUMPLE h = 21.2**
N190/N192	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.442 m h = 0.3	x: 0 m h = 10.8	h = 3.5	x: 0 m h = 40.3	x: 0.442 m h = 29.5	h = 16.2	x: 0 m h = 18.1	x: 0 m h = 41.4	x: 0.442 m h = 30.6	x: 0 m h = 20.2	x: 0.442 m h = 12.0	x: 0 m h = 49.6	x: 0 m h = 73.5	x: 0 m h = 64.5	**CUMPLE h = 73.5**
N190/N148	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.527 m h = 0.5	x: 0 m h = 1.6	h = 3.7	x: 0 m h = 11.3	x: 0.527 m h = 2.0	h = 2.1	x: 0 m h = 1.1	x: 0 m h = 11.4	x: 0 m h = 3.3	x: 0 m h = 1.3	x: 0 m h = 0.1	x: 0.527 m h = 8.6	x: 0 m h = 13.5	x: 0 m h = 15.5	**CUMPLE h = 15.5**
N193/N192	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.608 m h = 2.1	x: 0 m h = 2.5	h = 4.1	x: 0 m h = 8.5	x: 0.608 m h = 14.4	h = 7.5	x: 0.608 m h = 1.5	x: 0 m h = 9.2	x: 0.608 m h = 14.8	x: 0 m h = 0.9	x: 0.608 m h = 2.8	x: 0.608 m h = 27.5	x: 0.608 m h = 16.7	x: 0.608 m h = 19.9	**CUMPLE h = 27.5**
N192/N194	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.455 m h = 0.3	x: 0 m h = 10.1	h = 5.9	x: 0.455 m h = 29.4	x: 0 m h = 34.8	x: 0.228 m h = 17.6	x: 0.228 m h = 13.6	x: 0.455 m h = 31.4	x: 0 m h = 35.3	x: 0.455 m h = 11.6	x: 0 m h = 15.5	x: 0.455 m h = 44.2	x: 0 m h = 67.6	x: 0 m h = 60.2	**CUMPLE h = 67.6**
N192/N150	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.512 m h = 2.2	x: 0 m h = 2.2	h = 6.0	x: 0 m h = 7.6	x: 0.512 m h = 13.9	h = 9.1	x: 0 m h = 0.9	x: 0 m h = 9.2	x: 0.512 m h = 14.2	x: 0 m h = 0.8	x: 0.512 m h = 2.8	x: 0.512 m h = 25.7	x: 0.512 m h = 15.5	x: 0.512 m h = 19.4	**CUMPLE h = 25.7**
N195/N194	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 12.0	x: 0 m h = 18.6	h = 5.9	x: 0 m h = 10.5	x: 0.549 m h = 25.9	x: 0 m h = 11.3	x: 0 m h = 3.5	x: 0 m h = 11.6	x: 0.549 m h = 27.0	x: 0 m h = 1.5	x: 0.549 m h = 8.6	x: 0 m h = 56.4	x: 0.549 m h = 40.8	x: 0.549 m h = 43.9	**CUMPLE h = 56.4**
N194/N196	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.462 m h = 0.5	x: 0 m h = 9.4	h = 8.2	x: 0 m h = 19.2	x: 0.462 m h = 20.9	h = 9.5	x: 0 m h = 3.6	x: 0 m h = 22.8	x: 0.462 m h = 24.5	x: 0 m h = 5.3	x: 0.462 m h = 6.9	x: 0 m h = 19.9	x: 0 m h = 50.0	x: 0 m h = 39.2	**CUMPLE h = 50.0**
N194/N152	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.485 m h = 8.3	x: 0 m h = 13.6	h = 9.1	x: 0 m h = 10.5	x: 0.485 m h = 27.8	x: 0 m h = 13.9	x: 0 m h = 3.0	x: 0 m h = 14.6	x: 0.485 m h = 29.1	x: 0 m h = 2.2	x: 0.485 m h = 10.4	x: 0 m h = 50.3	x: 0 m h = 41.2	x: 0.485 m h = 42.5	**CUMPLE h = 50.3**
N196/N154	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.474 m h = 3.6	x: 0 m h = 13.1	h = 10.2	x: 0 m h = 16.9	x: 0.474 m h = 30.3	h = 15.4	x: 0 m h = 6.2	x: 0 m h = 21.4	x: 0.474 m h = 34.8	x: 0 m h = 5.0	x: 0.474 m h = 14.5	x: 0 m h = 38.7	x: 0 m h = 64.5	x: 0 m h = 51.4	**CUMPLE h = 64.5**
N197/N196	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.489 m h = 4.4	x: 0 m h = 16.6	h = 7.7	x: 0 m h = 23.1	x: 0.489 m h = 25.4	h = 11.5	x: 0 m h = 5.9	x: 0 m h = 26.5	x: 0.489 m h = 28.8	x: 0 m h = 7.4	x: 0.489 m h = 9.6	x: 0 m h = 34.9	x: 0 m h = 63.1	x: 0 m h = 51.4	**CUMPLE h = 63.1**
N196/N198	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.465 m h = 0.6	x: 0 m h = 8.9	h = 8.8	x: 0 m h = 28.4	x: 0.465 m h = 35.0	h = 17.7	x: 0 m h = 8.5	x: 0 m h = 32.3	x: 0.465 m h = 38.8	x: 0 m h = 11.2	x: 0.465 m h = 18.2	x: 0 m h = 18.9	x: 0 m h = 75.5	x: 0 m h = 60.9	**CUMPLE h = 75.5**
N197/N199	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 4.5	x: 0 m h = 16.8	h = 7.7	x: 0 m h = 23.0	x: 0.489 m h = 25.3	h = 11.4	x: 0 m h = 5.9	x: 0 m h = 26.4	x: 0.489 m h = 28.7	x: 0 m h = 7.3	x: 0.489 m h = 9.6	x: 0 m h = 35.0	x: 0 m h = 63.0	x: 0 m h = 51.4	**CUMPLE h = 63.0**
N195/N197	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.508 m h = 4.7	x: 0 m h = 18.9	h = 2.7	x: 0.508 m h = 18.8	x: 0.508 m h = 16.2	x: 0.508 m h = 7.1	x: 0.508 m h = 5.3	x: 0.508 m h = 19.2	x: 0.508 m h = 17.0	x: 0.508 m h = 3.8	x: 0.508 m h = 3.4	x: 0 m h = 29.7	x: 0.508 m h = 43.3	x: 0.508 m h = 40.2	**CUMPLE h = 43.3**
N200/N195	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.602 m h = 17.2	x: 0 m h = 24.5	h = 0.5	x: 0 m h = 13.0	x: 0 m h = 25.4	x: 0.301 m h = 10.7	x: 0 m h = 3.8	N.P.[5]	N.P.[6]	x: 0 m h = 1.8	x: 0 m h = 7.7	x: 0.602 m h = 48.8	x: 0.602 m h = 56.1	x: 0.602 m h = 55.2	**CUMPLE h = 56.1**
N201/N200	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.704 m h = 36.2	x: 0 m h = 45.6	h = 2.9	x: 1.057 m h = 24.3	x: 1.057 m h = 14.6	x: 0.704 m h = 3.4	x: 0.528 m h = 5.6	x: 1.057 m h = 25.1	x: 1.057 m h = 15.6	x: 1.057 m h = 6.6	x: 1.057 m h = 2.6	x: 1.057 m h = 61.5	x: 1.057 m h = 77.8	x: 0 m h = 71.2	**CUMPLE h = 77.8**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N200/N202	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.602 m h = 17.6	x: 0 m h = 24.8	h = 0.7	x: 0 m h = 12.7	x: 0.602 m h = 26.1	x: 0.15 m h = 10.6	x: 0 m h = 3.8	N.P.[5]	N.P.[6]	x: 0 m h = 1.7	x: 0.602 m h = 8.0	x: 0.602 m h = 48.7	x: 0.602 m h = 54.4	x: 0.602 m h = 53.2	**CUMPLE h = 54.4**
N203/N200	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.704 m h = 33.7	x: 0.704 m h = 43.1	h = 2.7	x: 1.057 m h = 24.8	x: 1.057 m h = 15.2	x: 0.704 m h = 3.5	x: 0.528 m h = 5.5	x: 1.057 m h = 25.3	x: 1.057 m h = 16.4	x: 1.057 m h = 6.7	x: 1.057 m h = 2.8	x: 1.057 m h = 62.2	x: 1.057 m h = 75.7	x: 1.057 m h = 69.3	**CUMPLE h = 75.7**
N204/N202	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.487 m h = 6.3	x: 0 m h = 22.6	h = 4.8	x: 0.487 m h = 36.5	x: 0 m h = 36.0	x: 0.487 m h = 16.6	x: 0.487 m h = 17.0	x: 0.487 m h = 37.1	x: 0 m h = 37.4	x: 0.487 m h = 16.6	x: 0 m h = 16.7	x: 0 m h = 46.6	x: 0 m h = 81.4	x: 0 m h = 71.6	**CUMPLE h = 81.4**
N202/N205	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.549 m h = 12.0	x: 0 m h = 18.5	h = 5.9	x: 0 m h = 10.6	x: 0.549 m h = 25.5	x: 0 m h = 11.1	x: 0 m h = 3.2	x: 0 m h = 11.9	x: 0.549 m h = 26.7	x: 0 m h = 1.5	x: 0.549 m h = 8.4	x: 0 m h = 56.0	x: 0.549 m h = 39.0	x: 0.549 m h = 43.2	**CUMPLE h = 56.0**
N193/N195	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.487 m h = 6.1	x: 0 m h = 22.5	h = 5.0	x: 0.487 m h = 37.2	x: 0 m h = 36.1	x: 0.243 m h = 16.8	x: 0.487 m h = 17.2	x: 0.487 m h = 38.0	x: 0 m h = 37.2	x: 0.487 m h = 17.4	x: 0 m h = 16.6	x: 0 m h = 59.1	x: 0 m h = 78.1	x: 0 m h = 69.1	**CUMPLE h = 78.1**
N206/N201	w / t £ (w / t)$_{Máx.}$ Cumple	x: 2.226 m h = 1.3	x: 0 m h = 1.5	h = 0.6	x: 2.226 m h = 6.2	x: 2.226 m h = 8.0	x: 0.371 m h = 1.1	x: 2.226 m h = 0.8	x: 2.226 m h = 5.4	x: 2.226 m h = 8.2	x: 2.226 m h = 0.4	x: 2.226 m h = 0.7	x: 2.226 m h = 18.3	x: 2.226 m h = 12.6	x: 2.226 m h = 13.2	**CUMPLE h = 18.3**
N207/N208	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.632 m h = 1.0	x: 0 m h = 2.9	h = 2.9	x: 0 m h = 14.4	x: 0.632 m h = 2.8	h = 1.7	x: 0 m h = 1.7	x: 0 m h = 14.7	x: 0 m h = 3.4	x: 0 m h = 2.2	x: 0 m h = 0.1	x: 0 m h = 7.6	x: 0 m h = 18.2	x: 0 m h = 20.9	**CUMPLE h = 20.9**
N209/N210	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.539 m h = 24.8	x: 0 m h = 32.1	x: 0.719 m h = 3.9	x: 0 m h = 39.1	x: 0 m h = 16.0	x: 0.719 m h = 3.7	x: 0 m h = 12.2	x: 0 m h = 40.6	x: 0 m h = 17.4	x: 0 m h = 18.0	x: 0 m h = 3.1	x: 0 m h = 83.6	x: 0 m h = 81.7	x: 0 m h = 81.7	**CUMPLE h = 83.6**
N207/N211	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 3.6	x: 0 m h = 20.1	h = 3.9	x: 0 m h = 58.5	x: 0 m h = 23.9	h = 11.3	x: 0 m h = 30.1	x: 0 m h = 59.8	x: 0.447 m h = 21.7	x: 0 m h = 44.8	x: 0 m h = 7.0	x: 0.447 m h = 63.1	x: 0.447 m h = 85.2	x: 0 m h = 91.7	**CUMPLE h = 91.7**
N213/N212	w / t £ (w / t)$_{Máx.}$ Cumple	x: 1.057 m h = 37.7	x: 0 m h = 47.1	x: 0.528 m h = 2.5	x: 1.057 m h = 23.5	x: 1.057 m h = 14.2	x: 0.704 m h = 3.2	x: 1.057 m h = 5.3	x: 1.057 m h = 24.1	x: 1.057 m h = 15.2	x: 1.057 m h = 6.1	x: 1.057 m h = 2.4	x: 1.057 m h = 63.0	x: 1.057 m h = 77.7	x: 1.057 m h = 71.0	**CUMPLE h = 77.7**
N191/N193	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 4.1	x: 0 m h = 20.6	h = 4.2	x: 0 m h = 56.9	x: 0 m h = 22.8	h = 10.6	x: 0 m h = 29.4	x: 0 m h = 58.4	x: 0 m h = 20.8	x: 0 m h = 42.7	x: 0 m h = 6.4	x: 0.447 m h = 62.2	x: 0 m h = 84.1	x: 0 m h = 90.5	**CUMPLE h = 90.5**
N201/N193	w / t £ (w / t)$_{Máx.}$ Cumple	x: 1.244 m h = 1.6	x: 0 m h = 2.7	h = 3.1	x: 1.244 m h = 7.0	x: 1.244 m h = 20.2	x: 0 m h = 5.6	x: 1.244 m h = 0.5	x: 1.244 m h = 7.2	x: 1.244 m h = 21.1	x: 1.244 m h = 0.5	x: 1.244 m h = 4.8	x: 1.244 m h = 35.9	x: 0 m h = 22.9	x: 1.244 m h = 27.5	**CUMPLE h = 35.9**
N215/N216	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.608 m h = 2.1	x: 0 m h = 2.5	h = 4.2	x: 0 m h = 8.3	x: 0.608 m h = 14.8	h = 7.6	x: 0.608 m h = 1.4	x: 0 m h = 9.0	x: 0.608 m h = 15.2	x: 0 m h = 0.8	x: 0.608 m h = 2.9	x: 0.608 m h = 27.9	x: 0.608 m h = 16.7	x: 0.608 m h = 20.3	**CUMPLE h = 27.9**
N215/N217	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.487 m h = 5.9	x: 0 m h = 22.2	h = 5.0	x: 0.487 m h = 37.9	x: 0 m h = 36.5	x: 0 m h = 16.9	x: 0.487 m h = 17.5	x: 0.487 m h = 38.7	x: 0 m h = 37.5	x: 0.487 m h = 18.1	x: 0 m h = 17.0	x: 0 m h = 58.3	x: 0 m h = 79.2	x: 0 m h = 69.9	**CUMPLE h = 79.2**
N191/N189	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 3.6	x: 0 m h = 20.1	h = 3.9	x: 0 m h = 56.4	x: 0 m h = 23.0	x: 0 m h = 11.5	x: 0 m h = 29.8	x: 0 m h = 57.7	x: 0 m h = 23.6	x: 0 m h = 42.2	x: 0 m h = 6.9	x: 0 m h = 63.7	x: 0 m h = 88.8	x: 0 m h = 87.8	**CUMPLE h = 88.8**
N212/N218	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.602 m h = 17.5	x: 0 m h = 24.8	h = 0.7	x: 0 m h = 13.5	x: 0.602 m h = 24.8	x: 0.301 m h = 10.4	x: 0 m h = 4.0	N.P.[5]	N.P.[6]	x: 0 m h = 2.0	x: 0.602 m h = 7.3	x: 0.602 m h = 49.9	x: 0.602 m h = 56.7	x: 0.602 m h = 55.8	**CUMPLE h = 56.7**
N219/N218	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.487 m h = 6.3	x: 0 m h = 22.3	h = 4.8	x: 0.487 m h = 38.0	x: 0 m h = 35.4	x: 0.487 m h = 16.6	x: 0.487 m h = 17.6	x: 0.487 m h = 38.8	x: 0 m h = 36.5	x: 0.487 m h = 18.2	x: 0 m h = 16.0	x: 0 m h = 58.0	x: 0 m h = 76.4	x: 0 m h = 67.2	**CUMPLE h = 76.4**
N218/N183	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.508 m h = 3.9	x: 0 m h = 17.9	h = 2.7	x: 0.508 m h = 18.6	x: 0.508 m h = 16.3	h = 7.1	x: 0.508 m h = 5.3	x: 0.508 m h = 18.9	x: 0.508 m h = 17.0	x: 0.508 m h = 3.7	x: 0.508 m h = 3.4	x: 0 m h = 30.1	x: 0.508 m h = 43.0	x: 0.508 m h = 39.4	**CUMPLE h = 43.0**
N189/N187	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.487 m h = 5.3	x: 0 m h = 21.6	h = 4.7	x: 0.487 m h = 36.9	x: 0 m h = 36.5	x: 0.487 m h = 16.9	x: 0.487 m h = 17.2	x: 0.487 m h = 37.7	x: 0 m h = 37.6	x: 0.487 m h = 17.1	x: 0 m h = 17.0	x: 0 m h = 44.7	x: 0 m h = 80.7	x: 0 m h = 71.4	**CUMPLE h = 80.7**
N212/N187	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.602 m h = 18.0	x: 0 m h = 25.2	h = 0.6	x: 0 m h = 12.3	x: 0.602 m h = 27.3	x: 0.15 m h = 11.0	x: 0 m h = 3.7	N.P.[5]	N.P.[6]	x: 0 m h = 1.7	x: 0.602 m h = 8.7	x: 0.602 m h = 50.5	x: 0.602 m h = 55.7	x: 0.602 m h = 55.1	**CUMPLE h = 55.7**
N187/N183	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.508 m h = 4.1	x: 0 m h = 18.4	h = 2.9	x: 0.508 m h = 18.6	x: 0.508 m h = 15.4	x: 0 m h = 6.6	x: 0.508 m h = 5.2	x: 0.508 m h = 19.4	x: 0.508 m h = 16.2	x: 0.508 m h = 4.0	x: 0.508 m h = 3.0	x: 0.508 m h = 30.1	x: 0.508 m h = 43.5	x: 0.508 m h = 41.9	**CUMPLE h = 43.5**
N218/N184	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.549 m h = 12.2	x: 0 m h = 18.8	h = 6.1	x: 0 m h = 10.0	x: 0.549 m h = 24.8	x: 0 m h = 10.8	x: 0 m h = 3.2	x: 0 m h = 11.2	x: 0.549 m h = 25.9	x: 0 m h = 1.4	x: 0.549 m h = 7.9	x: 0 m h = 54.3	x: 0.549 m h = 40.4	x: 0.549 m h = 42.7	**CUMPLE h = 54.3**
N184/N181	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.485 m h = 8.4	x: 0 m h = 13.7	h = 9.2	x: 0 m h = 10.6	x: 0.485 m h = 27.3	x: 0 m h = 13.6	x: 0 m h = 3.0	x: 0 m h = 14.6	x: 0.485 m h = 28.6	x: 0 m h = 2.2	x: 0.485 m h = 10.0	x: 0 m h = 49.5	x: 0 m h = 41.1	x: 0.485 m h = 41.9	**CUMPLE h = 49.5**
N220/N181	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.4	h = 6.7	x: 0.444 m h = 23.6	x: 0 m h = 32.8	h = 17.3	x: 0 m h = 10.0	x: 0.444 m h = 26.6	x: 0 m h = 31.7	x: 0.444 m h = 7.6	x: 0 m h = 13.9	N.P.[2]	x: 0 m h = 55.2	x: 0 m h = 49.4	**CUMPLE h = 55.2**
N220/N180	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.237 m h = 2.3	x: 0.237 m h = 2.1	h = 7.1	x: 0 m h = 6.3	x: 0.474 m h = 12.7	x: 0 m h = 8.7	x: 0 m h = 0.8	x: 0.474 m h = 8.2	x: 0.474 m h = 12.9	x: 0.474 m h = 0.7	x: 0.474 m h = 2.4	x: 0.474 m h = 23.1	x: 0.474 m h = 17.2	x: 0.474 m h = 17.8	**CUMPLE h = 23.1**
N180/N178	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 2.1	x: 0 m h = 1.5	h = 7.4	x: 0.469 m h = 6.3	x: 0.469 m h = 11.5	x: 0 m h = 7.5	x: 0.469 m h = 1.3	x: 0.469 m h = 9.2	x: 0.469 m h = 11.7	x: 0.469 m h = 0.8	x: 0.469 m h = 1.9	x: 0.469 m h = 22.7	x: 0.469 m h = 17.1	x: 0.469 m h = 16.1	**CUMPLE h = 22.7**
N178/N41	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.459 m h = 1.8	x: 0.459 m h = 1.1	h = 8.6	x: 0.459 m h = 6.8	x: 0.459 m h = 9.9	h = 5.7	x: 0.459 m h = 1.1	x: 0.459 m h = 10.3	x: 0.459 m h = 10.2	x: 0.459 m h = 1.1	x: 0.459 m h = 1.4	x: 0.459 m h = 24.5	x: 0.459 m h = 14.9	x: 0.459 m h = 13.8	**CUMPLE h = 24.5**
N39/N41	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.441 m h = 16.1	x: 0 m h = 0.2	h = 4.2	x: 0.441 m h = 31.3	x: 0.441 m h = 19.8	x: 0 m h = 10.1	x: 0.441 m h = 5.0	x: 0.441 m h = 32.7	x: 0 m h = 20.8	x: 0.441 m h = 10.7	x: 0 m h = 5.1	x: 0.441 m h = 69.7	x: 0 m h = 3.6	x: 0.441 m h = 56.6	**CUMPLE h = 69.7**
N39/N37	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 16.2	x: 0 m h = 0.4	x: 0.22 m h = 4.2	x: 0.44 m h = 34.8	x: 0.44 m h = 19.9	h = 9.8	x: 0.44 m h = 6.0	x: 0.44 m h = 36.1	x: 0 m h = 20.9	x: 0.44 m h = 13.1	x: 0.44 m h = 5.0	x: 0.44 m h = 74.9	x: 0.44 m h = 10.1	x: 0.44 m h = 61.2	**CUMPLE h = 74.9**
N221/N222	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 8.9	x: 0 m h = 0.4	h = 3.3	x: 0.44 m h = 28.0	x: 0.44 m h = 27.2	h = 14.0	x: 0.44 m h = 7.1	x: 0.44 m h = 29.4	x: 0.44 m h = 27.6	x: 0.44 m h = 9.2	x: 0.44 m h = 9.5	x: 0 m h = 60.9	x: 0 m h = 14.6	x: 0.44 m h = 44.6	**CUMPLE h = 60.9**
N221/N178	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.441 m h = 8.7	x: 0.441 m h = 1.0	h = 3.4	x: 0.441 m h = 26.8	x: 0.441 m h = 27.2	h = 14.4	x: 0.441 m h = 6.9	x: 0.441 m h = 28.3	x: 0.441 m h = 27.5	x: 0.441 m h = 8.4	x: 0.441 m h = 9.6	x: 0 m h = 61.1	x: 0 m h = 11.2	x: 0 m h = 43.6	**CUMPLE h = 61.1**
N223/N224	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 2.4	x: 0 m h = 0.6	h = 3.2	x: 0 m h = 25.9	x: 0.44 m h = 31.6	h = 16.7	x: 0 m h = 8.8	x: 0 m h = 26.5	x: 0.44 m h = 32.1	x: 0 m h = 7.7	x: 0.44 m h = 13.1	x: 0 m h = 68.1	x: 0 m h = 19.0	x: 0 m h = 47.6	**CUMPLE h = 68.1**
N223/N180	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 2.0	x: 0 m h = 0.7	h = 3.4	x: 0 m h = 25.5	x: 0.44 m h = 32.2	h = 17.4	x: 0 m h = 9.1	x: 0 m h = 25.4	x: 0.44 m h = 32.8	x: 0 m h = 7.2	x: 0.44 m h = 13.8	x: 0 m h = 69.1	x: 0.44 m h = 41.2	x: 0 m h = 48.1	**CUMPLE h = 69.1**
N225/N226	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.441 m h = 0.3	x: 0 m h = 3.2	h = 3.6	x: 0 m h = 32.1	x: 0.441 m h = 34.0	h = 17.8	x: 0 m h = 13.2	x: 0 m h = 33.1	x: 0.441 m h = 35.0	x: 0 m h = 12.7	x: 0.441 m h = 15.4	x: 0 m h = 75.4	x: 0 m h = 62.7	x: 0 m h = 53.6	**CUMPLE h = 75.4**
N225/N220	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.442 m h < 0.1	x: 0 m h = 2.9	h = 3.6	x: 0 m h = 30.6	x: 0.442 m h = 33.6	h = 18.2	x: 0 m h = 12.6	x: 0 m h = 31.3	x: 0.442 m h = 34.5	x: 0 m h = 11.0	x: 0.442 m h = 15.2	x: 0 m h = 73.5	x: 0 m h = 61.5	x: 0 m h = 52.9	**CUMPLE h = 73.5**
N227/N228	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.449 m h = 1.4	x: 0 m h = 11.4	h = 3.7	x: 0 m h = 39.0	x: 0.449 m h = 29.0	x: 0 m h = 15.6	x: 0 m h = 17.3	x: 0 m h = 40.1	x: 0.449 m h = 30.0	x: 0 m h = 18.8	x: 0.449 m h = 11.4	x: 0 m h = 52.1	x: 0 m h = 73.6	x: 0 m h = 64.7	**CUMPLE h = 73.6**
N219/N228	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.608 m h = 2.5	x: 0 m h = 2.7	h = 4.2	x: 0.608 m h = 7.8	x: 0.608 m h = 13.3	h = 6.8	x: 0.608 m h = 1.5	x: 0.608 m h = 8.9	x: 0.608 m h = 13.9	x: 0.608 m h = 0.8	x: 0.608 m h = 2.4	x: 0.608 m h = 26.4	x: 0.608 m h = 16.4	x: 0.608 m h = 18.7	**CUMPLE h = 26.4**
N228/N184	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.455 m h = 0.7	x: 0 m h = 10.3	h = 6.0	x: 0.455 m h = 29.8	x: 0 m h = 33.8	x: 0.228 m h = 17.1	x: 0.228 m h = 13.6	x: 0.455 m h = 31.8	x: 0 m h = 34.4	x: 0.455 m h = 11.8	x: 0 m h = 14.8	x: 0.455 m h = 44.6	x: 0 m h = 67.0	x: 0 m h = 59.4	**CUMPLE h = 67.0**
N229/N219	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 3.8	x: 0 m h = 19.7	h = 4.0	x: 0 m h = 57.5	x: 0 m h = 23.2	h = 10.7	x: 0 m h = 29.4	x: 0 m h = 58.9	x: 0 m h = 21.0	x: 0 m h = 43.3	x: 0 m h = 6.6	x: 0.447 m h = 62.8	x: 0 m h = 82.4	x: 0 m h = 89.3	**CUMPLE h = 89.3**
N227/N230	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.445 m h = 1.6	x: 0 m h = 11.6	h = 4.0	x: 0 m h = 41.1	x: 0.445 m h = 29.0	h = 15.1	x: 0 m h = 19.3	x: 0 m h = 42.5	x: 0.445 m h = 30.4	x: 0 m h = 21.8	x: 0.445 m h = 11.5	x: 0 m h = 41.2	x: 0 m h = 77.5	x: 0 m h = 68.8	**CUMPLE h = 77.5**
N37/N36	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 15.0	x: 0 m h = 0.5	h = 8.5	x: 0 m h = 33.4	x: 0 m h = 19.4	h = 8.3	x: 0 m h = 3.5	x: 0 m h = 36.9	x: 0 m h = 23.2	x: 0 m h = 13.6	x: 0 m h = 5.9	x: 0 m h = 73.3	x: 0 m h = 10.3	x: 0 m h = 56.9	**CUMPLE h = 73.3**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N36/N34	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.452 m h = 13.6	x: 0 m h = 0.7	h = 11.0	x: 0 m h = 32.6	x: 0.452 m h = 10.9	h = 5.7	x: 0 m h = 2.9	x: 0 m h = 37.5	x: 0.452 m h = 15.5	x: 0 m h = 14.1	x: 0.452 m h = 2.5	x: 0 m h = 68.1	x: 0.452 m h = 11.6	x: 0 m h = 54.3	**CUMPLE** **h = 68.1**
N231/N36	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 2.6	x: 0 m h = 3.8	h = 10.5	x: 0.459 m h = 6.9	x: 0.459 m h = 16.2	x: 0 m h = 8.0	x: 0.459 m h = 1.3	x: 0.459 m h = 11.2	x: 0.459 m h = 18.0	x: 0.459 m h = 1.3	x: 0.459 m h = 3.7	x: 0.459 m h = 28.4	x: 0.459 m h = 29.9	x: 0.459 m h = 22.8	**CUMPLE** **h = 29.9**
N231/N232	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.453 m h = 7.8	x: 0 m h = 1.1	h = 10.4	x: 0 m h = 30.3	x: 0.453 m h = 19.2	h = 7.9	x: 0 m h = 3.8	x: 0 m h = 34.9	x: 0.453 m h = 23.8	x: 0 m h = 12.3	x: 0.453 m h = 6.3	x: 0 m h = 68.7	x: 0.453 m h = 21.5	x: 0 m h = 47.1	**CUMPLE** **h = 68.7**
N233/N231	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 4.1	x: 0 m h = 6.2	h = 9.6	x: 0.47 m h = 6.8	x: 0.47 m h = 20.9	x: 0 m h = 10.4	x: 0.47 m h = 1.8	x: 0.47 m h = 10.6	x: 0.47 m h = 22.1	x: 0.47 m h = 1.2	x: 0.47 m h = 6.0	x: 0 m h = 36.2	x: 0.47 m h = 33.0	x: 0.47 m h = 29.9	**CUMPLE** **h = 36.2**
N222/N231	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.446 m h = 8.6	x: 0 m h = 0.8	h = 7.2	x: 0.446 m h = 28.1	x: 0 m h = 22.3	h = 11.7	x: 0 m h = 5.4	x: 0.446 m h = 31.3	x: 0 m h = 22.5	x: 0.446 m h = 10.0	x: 0 m h = 6.5	x: 0.446 m h = 61.4	x: 0 m h = 32.0	x: 0 m h = 43.6	**CUMPLE** **h = 61.4**
N224/N233	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.445 m h = 2.4	x: 0 m h = 0.8	h = 6.4	x: 0.445 m h = 24.2	x: 0 m h = 27.1	x: 0 m h = 14.7	x: 0 m h = 7.1	x: 0.445 m h = 27.1	x: 0 m h = 27.0	x: 0.445 m h = 7.5	x: 0 m h = 9.5	x: 0 m h = 59.5	x: 0 m h = 42.2	x: 0 m h = 42.0	**CUMPLE** **h = 59.5**
N233/N234	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.454 m h = 1.9	x: 0 m h = 0.9	h = 9.5	x: 0 m h = 27.1	x: 0.454 m h = 23.0	h = 10.4	x: 0 m h = 4.6	x: 0 m h = 31.3	x: 0.454 m h = 27.2	x: 0 m h = 10.0	x: 0.454 m h = 8.5	x: 0 m h = 64.1	x: 0.454 m h = 26.0	x: 0 m h = 39.7	**CUMPLE** **h = 64.1**
N235/N233	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 6.0	x: 0 m h = 9.5	h = 9.4	x: 0 m h = 6.8	x: 0.475 m h = 24.2	x: 0 m h = 12.1	x: 0 m h = 2.1	x: 0 m h = 9.0	x: 0.475 m h = 25.4	x: 0 m h = 0.8	x: 0.475 m h = 7.9	x: 0 m h = 44.2	x: 0 m h = 33.9	x: 0.475 m h = 35.9	**CUMPLE** **h = 44.2**
N235/N236	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.4	h = 9.1	x: 0 m h = 24.2	x: 0.454 m h = 23.3	h = 11.1	x: 0 m h = 4.7	x: 0 m h = 28.2	x: 0.454 m h = 27.3	x: 0 m h = 8.2	x: 0.454 m h = 8.7	N.P.[2]	x: 0 m h = 53.5	x: 0 m h = 41.2	**CUMPLE** **h = 53.5**
N237/N235	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.485 m h = 8.8	x: 0 m h = 13.7	h = 9.4	x: 0 m h = 11.3	x: 0.485 m h = 26.3	x: 0 m h = 12.9	x: 0 m h = 3.3	x: 0 m h = 15.4	x: 0.485 m h = 27.8	x: 0 m h = 2.5	x: 0.485 m h = 9.4	x: 0 m h = 50.2	x: 0 m h = 41.2	x: 0.485 m h = 41.1	**CUMPLE** **h = 50.2**
N226/N235	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.2	h = 6.9	x: 0.447 m h = 23.0	x: 0 m h = 32.3	x: 0 m h = 17.2	x: 0 m h = 9.6	x: 0.447 m h = 26.0	x: 0 m h = 32.7	x: 0.447 m h = 7.2	x: 0 m h = 13.6	N.P.[2]	x: 0 m h = 55.9	x: 0 m h = 49.9	**CUMPLE** **h = 55.9**
N237/N238	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.462 m h = 0.9	x: 0 m h = 9.5	h = 8.4	x: 0 m h = 20.0	x: 0.462 m h = 20.3	h = 9.3	x: 0 m h = 3.8	x: 0 m h = 23.7	x: 0.462 m h = 24.0	x: 0 m h = 5.7	x: 0.462 m h = 6.6	x: 0 m h = 24.2	x: 0 m h = 49.7	x: 0 m h = 39.1	**CUMPLE** **h = 49.7**
N239/N237	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.549 m h = 12.5	x: 0 m h = 18.8	h = 5.9	x: 0 m h = 10.1	x: 0.549 m h = 24.4	x: 0 m h = 10.7	x: 0 m h = 3.2	x: 0.549 m h = 11.7	x: 0.549 m h = 25.6	x: 0.549 m h = 1.4	x: 0.549 m h = 7.7	x: 0 m h = 54.5	x: 0.549 m h = 39.7	x: 0.549 m h = 42.6	**CUMPLE** **h = 54.5**
N230/N237	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.462 m h = 1.0	x: 0 m h = 10.1	h = 6.0	x: 0.462 m h = 29.7	x: 0 m h = 33.4	h = 16.7	x: 0.462 m h = 13.0	x: 0.462 m h = 31.8	x: 0 m h = 33.9	x: 0.462 m h = 11.8	x: 0 m h = 14.3	x: 0.462 m h = 33.5	x: 0 m h = 66.1	x: 0 m h = 58.9	**CUMPLE** **h = 66.1**
N240/N239	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.487 m h = 5.6	x: 0 m h = 21.4	h = 4.6	x: 0.487 m h = 37.8	x: 0 m h = 36.0	x: 0.487 m h = 16.7	x: 0.487 m h = 17.7	x: 0.487 m h = 38.4	x: 0 m h = 37.2	x: 0.487 m h = 17.9	x: 0 m h = 16.7	x: 0 m h = 47.7	x: 0 m h = 79.7	x: 0 m h = 70.3	**CUMPLE** **h = 79.7**
N239/N241	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.508 m h = 3.9	x: 0 m h = 17.7	h = 2.7	x: 0.508 m h = 18.2	x: 0.508 m h = 15.9	x: 0.508 m h = 6.8	x: 0.508 m h = 5.0	x: 0.508 m h = 19.0	x: 0.508 m h = 16.5	x: 0.508 m h = 3.8	x: 0.508 m h = 3.2	x: 0.508 m h = 29.7	x: 0.508 m h = 43.2	x: 0.508 m h = 40.8	**CUMPLE** **h = 43.2**
N210/N242	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.704 m h = 37.7	x: 0.704 m h = 47.4	h = 2.5	x: 1.057 m h = 23.8	x: 1.057 m h = 14.4	x: 0.704 m h = 3.3	x: 1.057 m h = 5.3	x: 1.057 m h = 24.2	x: 1.057 m h = 15.3	x: 1.057 m h = 6.1	x: 1.057 m h = 2.4	x: 1.057 m h = 63.7	x: 1.057 m h = 77.3	x: 1.057 m h = 70.7	**CUMPLE** **h = 77.3**
N211/N243	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.487 m h = 5.7	x: 0 m h = 22.1	h = 5.0	x: 0.487 m h = 38.1	x: 0 m h = 36.6	x: 0.487 m h = 17.2	x: 0.487 m h = 17.8	x: 0.487 m h = 39.1	x: 0 m h = 37.5	x: 0.487 m h = 18.4	x: 0 m h = 17.0	x: 0 m h = 58.7	x: 0 m h = 79.5	x: 0 m h = 70.1	**CUMPLE** **h = 79.5**
N243/N241	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.508 m h = 4.1	x: 0 m h = 18.4	h = 3.0	x: 0.508 m h = 19.0	x: 0.508 m h = 15.5	x: 0.508 m h = 6.8	x: 0.508 m h = 5.6	x: 0.508 m h = 19.5	x: 0.508 m h = 16.2	x: 0.508 m h = 3.9	x: 0.508 m h = 3.1	x: 0 m h = 29.7	x: 0.508 m h = 43.5	x: 0.508 m h = 40.3	**CUMPLE** **h = 43.5**
N241/N238	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.244 m h = 4.2	x: 0.244 m h = 16.4	h = 8.0	x: 0 m h = 22.5	x: 0.489 m h = 25.0	h = 11.2	x: 0 m h = 5.7	x: 0 m h = 26.0	x: 0.489 m h = 28.5	x: 0 m h = 7.1	x: 0.489 m h = 9.4	x: 0 m h = 30.9	x: 0 m h = 62.4	x: 0 m h = 50.5	**CUMPLE** **h = 62.4**
N238/N236	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.474 m h = 3.6	x: 0 m h = 13.2	h = 10.4	x: 0 m h = 17.0	x: 0.474 m h = 29.6	h = 15.0	x: 0 m h = 6.1	x: 0 m h = 21.6	x: 0.474 m h = 34.2	x: 0 m h = 5.0	x: 0.474 m h = 13.9	x: 0 m h = 37.3	x: 0 m h = 64.1	x: 0 m h = 50.8	**CUMPLE** **h = 64.1**
N236/N234	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.475 m h = 2.7	x: 0 m h = 9.9	h = 12.0	x: 0 m h = 9.8	x: 0.475 m h = 31.3	h = 15.6	x: 0 m h = 3.4	x: 0 m h = 15.1	x: 0.475 m h = 36.6	x: 0 m h = 2.4	x: 0.475 m h = 15.8	x: 0 m h = 36.9	x: 0 m h = 56.5	x: 0.475 m h = 47.3	**CUMPLE** **h = 56.5**
N234/N232	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.469 m h = 1.9	x: 0 m h = 6.9	h = 13.3	x: 0 m h = 9.9	x: 0.469 m h = 29.3	h = 14.1	x: 0 m h = 2.6	x: 0 m h = 15.8	x: 0.469 m h = 35.2	x: 0 m h = 2.6	x: 0.469 m h = 14.3	x: 0 m h = 33.1	x: 0 m h = 50.7	x: 0.469 m h = 42.3	**CUMPLE** **h = 50.7**
N232/N34	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.457 m h = 1.2	x: 0 m h = 4.4	h = 13.5	x: 0 m h = 10.2	x: 0.457 m h = 22.8	h = 10.3	x: 0 m h = 2.3	x: 0 m h = 16.2	x: 0.457 m h = 28.8	x: 0 m h = 2.7	x: 0.457 m h = 9.4	x: 0.457 m h = 26.4	x: 0.457 m h = 41.4	x: 0.457 m h = 32.3	**CUMPLE** **h = 41.4**
N34/N244	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.458 m h = 11.6	x: 0 m h = 0.7	h = 12.6	x: 0 m h = 30.3	x: 0.458 m h = 17.6	h = 8.2	x: 0 m h = 5.0	x: 0 m h = 35.9	x: 0.458 m h = 23.1	x: 0 m h = 13.1	x: 0.458 m h = 6.0	x: 0 m h = 78.7	x: 0.458 m h = 10.0	x: 0 m h = 52.4	**CUMPLE** **h = 78.7**
N244/N31	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.46 m h = 9.5	x: 0 m h = 0.8	h = 12.9	x: 0 m h = 23.7	x: 0.46 m h = 23.5	h = 12.2	x: 0 m h = 5.8	x: 0 m h = 29.4	x: 0.46 m h = 29.3	x: 0 m h = 9.0	x: 0.46 m h = 10.1	x: 0 m h = 79.7	x: 0.46 m h = 6.0	x: 0 m h = 49.0	**CUMPLE** **h = 79.7**
N245/N244	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.7	h = 14.9	x: 0 m h = 13.6	x: 0.455 m h = 31.1	h = 14.8	x: 0 m h = 4.8	x: 0 m h = 20.2	x: 0.455 m h = 37.7	x: 0 m h = 4.3	x: 0.455 m h = 16.4	N.P.[2]	x: 0 m h = 53.1	x: 0.455 m h = 42.5	**CUMPLE** **h = 53.1**
N245/N246	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.232 m h = 6.1	x: 0.232 m h = 1.8	h = 14.9	x: 0 m h = 27.7	x: 0.464 m h = 35.8	h = 18.1	x: 0 m h = 7.7	x: 0 m h = 34.3	x: 0.464 m h = 42.4	x: 0 m h = 12.3	x: 0.464 m h = 21.2	x: 0 m h = 94.9	x: 0 m h = 21.5	x: 0 m h = 56.9	**CUMPLE** **h = 94.9**
N247/N245	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 5.3	h = 15.6	x: 0 m h = 16.4	x: 0.466 m h = 39.4	h = 19.3	x: 0 m h = 5.7	x: 0 m h = 23.3	x: 0.466 m h = 46.3	x: 0 m h = 5.7	x: 0.466 m h = 25.1	N.P.[2]	x: 0 m h = 67.7	x: 0.466 m h = 54.5	**CUMPLE** **h = 67.7**
N232/N245	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.461 m h = 6.8	x: 0 m h = 1.3	h = 13.3	x: 0 m h = 31.4	x: 0.461 m h = 28.9	h = 13.8	x: 0 m h = 6.5	x: 0 m h = 37.3	x: 0.461 m h = 34.8	x: 0 m h = 14.3	x: 0.461 m h = 14.0	x: 0 m h = 87.8	x: 0 m h = 16.5	x: 0 m h = 54.3	**CUMPLE** **h = 87.8**
N247/N248	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.468 m h = 1.0	x: 0 m h = 1.2	h = 15.2	x: 0 m h = 28.8	x: 0.468 m h = 43.0	h = 21.4	x: 0 m h = 8.8	x: 0 m h = 35.5	x: 0.468 m h = 49.7	x: 0 m h = 13.4	x: 0.468 m h = 29.3	x: 0 m h = 79.0	x: 0 m h = 79.4	x: 0 m h = 58.6	**CUMPLE** **h = 79.4**
N249/N247	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 6.9	h = 14.2	x: 0 m h = 17.9	x: 0.474 m h = 42.1	h = 21.0	x: 0 m h = 6.4	x: 0 m h = 24.2	x: 0.474 m h = 48.4	x: 0 m h = 6.3	x: 0.474 m h = 27.8	N.P.[2]	x: 0 m h = 74.5	x: 0.474 m h = 59.7	**CUMPLE** **h = 74.5**
N234/N247	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.463 m h = 1.4	x: 0 m h = 1.0	h = 12.7	x: 0 m h = 30.3	x: 0.463 m h = 35.3	h = 17.3	x: 0 m h = 7.5	x: 0 m h = 35.9	x: 0.463 m h = 40.9	x: 0 m h = 13.5	x: 0.463 m h = 19.8	x: 0 m h = 88.0	x: 0 m h = 24.9	x: 0 m h = 52.5	**CUMPLE** **h = 88.0**
N236/N249	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.7	h = 10.6	x: 0 m h = 28.4	x: 0.465 m h = 37.2	h = 18.7	x: 0 m h = 7.9	x: 0 m h = 33.1	x: 0.465 m h = 41.9	x: 0 m h = 11.6	x: 0.465 m h = 21.1	N.P.[2]	x: 0 m h = 74.4	x: 0 m h = 58.0	**CUMPLE** **h = 74.4**
N249/N250	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.8	h = 13.6	x: 0 m h = 26.3	x: 0.471 m h = 44.5	h = 22.3	x: 0 m h = 8.6	x: 0 m h = 32.3	x: 0.471 m h = 50.5	x: 0 m h = 11.2	x: 0.471 m h = 30.5	N.P.[2]	x: 0 m h = 82.1	x: 0 m h = 63.6	**CUMPLE** **h = 82.1**
N251/N249	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.473 m h = 0.2	x: 0 m h = 8.2	h = 11.1	x: 0 m h = 21.4	x: 0.473 m h = 40.3	h = 20.4	x: 0 m h = 7.5	x: 0 m h = 26.3	x: 0.473 m h = 45.2	x: 0 m h = 7.5	x: 0.473 m h = 24.6	x: 0.473 m h = 17.6	x: 0 m h = 76.0	x: 0 m h = 61.1	**CUMPLE** **h = 76.0**
N251/N252	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.473 m h = 0.8	x: 0 m h = 8.2	h = 11.1	x: 0 m h = 21.3	x: 0.473 m h = 40.4	h = 20.5	x: 0 m h = 7.5	x: 0 m h = 26.2	x: 0.473 m h = 45.3	x: 0 m h = 7.4	x: 0.473 m h = 24.7	x: 0.473 m h = 18.3	x: 0 m h = 76.0	x: 0 m h = 61.1	**CUMPLE** **h = 76.0**
N253/N251	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.465 m h = 0.4	x: 0 m h = 9.0	h = 9.1	x: 0 m h = 28.1	x: 0.465 m h = 34.5	h = 17.4	x: 0 m h = 8.3	x: 0 m h = 32.1	x: 0.465 m h = 38.5	x: 0 m h = 11.0	x: 0.465 m h = 17.9	x: 0.465 m h = 16.4	x: 0 m h = 75.1	x: 0 m h = 60.3	**CUMPLE** **h = 75.1**
N238/N251	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.233 m h = 1.0	x: 0 m h = 9.0	h = 9.0	x: 0 m h = 28.5	x: 0.465 m h = 34.4	h = 17.4	x: 0 m h = 8.5	x: 0 m h = 32.5	x: 0.465 m h = 38.4	x: 0 m h = 11.3	x: 0.465 m h = 17.8	x: 0 m h = 19.3	x: 0 m h = 75.3	x: 0 m h = 60.5	**CUMPLE** **h = 75.3**
N253/N254	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 3.2	x: 0 m h = 12.5	h = 10.4	x: 0 m h = 16.8	x: 0.474 m h = 30.1	h = 15.3	x: 0 m h = 6.1	x: 0 m h = 21.4	x: 0.474 m h = 34.7	x: 0 m h = 5.0	x: 0.474 m h = 14.4	x: 0 m h = 37.3	x: 0 m h = 64.2	x: 0 m h = 51.0	**CUMPLE** **h = 64.2**
N255/N253	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.462 m h = 0.3	x: 0 m h = 9.6	h = 8.5	x: 0 m h = 18.9	x: 0.462 m h = 20.9	h = 9.5	x: 0 m h = 3.7	x: 0 m h = 22.7	x: 0.462 m h = 24.6	x: 0 m h = 5.2	x: 0.462 m h = 7.0	x: 0 m h = 20.6	x: 0 m h = 50.2	x: 0 m h = 39.1	**CUMPLE** **h = 50.2**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N241/N253	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.489 m h = 3.9	x: 0 m h = 15.9	h = 7.9	x: 0 m h = 23.1	x: 0.489 m h = 25.1	h = 11.3	x: 0 m h = 5.9	x: 0 m h = 26.6	x: 0.489 m h = 28.6	x: 0 m h = 7.4	x: 0.489 m h = 9.5	x: 0 m h = 33.2	x: 0 m h = 62.7	x: 0 m h = 50.9	**CUMPLE** **h = 62.7**
N255/N256	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.485 m h = 8.8	x: 0 m h = 13.9	h = 9.3	x: 0 m h = 10.5	x: 0.485 m h = 27.4	x: 0 m h = 13.7	x: 0 m h = 3.0	x: 0 m h = 14.6	x: 0.485 m h = 28.7	x: 0 m h = 2.2	x: 0.485 m h = 10.1	x: 0 m h = 50.0	x: 0 m h = 41.2	x: 0.485 m h = 42.5	**CUMPLE** **h = 50.0**
N257/N255	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.455 m h = 0.1	x: 0 m h = 10.3	h = 6.0	x: 0.455 m h = 29.8	x: 0 m h = 34.9	x: 0.228 m h = 17.7	x: 0 m h = 13.9	x: 0.455 m h = 31.9	x: 0 m h = 35.4	x: 0.455 m h = 11.9	x: 0 m h = 15.7	x: 0.455 m h = 42.3	x: 0 m h = 68.1	x: 0 m h = 60.5	**CUMPLE** **h = 68.1**
N243/N255	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.549 m h = 12.7	x: 0 m h = 19.2	h = 6.0	x: 0 m h = 10.6	x: 0.549 m h = 25.8	x: 0 m h = 11.2	x: 0 m h = 3.4	x: 0 m h = 11.7	x: 0.549 m h = 26.8	x: 0 m h = 1.5	x: 0.549 m h = 8.4	x: 0 m h = 56.4	x: 0.549 m h = 41.1	x: 0.549 m h = 44.5	**CUMPLE** **h = 56.4**
N211/N257	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.608 m h = 2.4	x: 0 m h = 2.8	h = 4.3	x: 0.608 m h = 8.0	x: 0.608 m h = 14.8	h = 7.6	x: 0.608 m h = 1.4	x: 0.608 m h = 9.2	x: 0.608 m h = 15.3	x: 0.608 m h = 0.8	x: 0.608 m h = 2.9	x: 0.608 m h = 28.6	x: 0.608 m h = 16.7	x: 0.608 m h = 20.6	**CUMPLE** **h = 28.6**
N257/N258	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.512 m h = 2.6	x: 0 m h = 2.7	h = 6.1	x: 0 m h = 7.9	x: 0.512 m h = 14.2	h = 9.2	x: 0 m h = 0.9	x: 0 m h = 9.2	x: 0.512 m h = 14.5	x: 0 m h = 0.9	x: 0.512 m h = 2.9	x: 0.512 m h = 26.9	x: 0 m h = 16.5	x: 0.512 m h = 19.9	**CUMPLE** **h = 26.9**
N208/N257	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.442 m h = 0.1	x: 0 m h = 10.9	h = 3.5	x: 0 m h = 41.9	x: 0.442 m h = 30.4	h = 16.5	x: 0 m h = 18.8	x: 0 m h = 43.0	x: 0.442 m h = 31.4	x: 0 m h = 21.9	x: 0.442 m h = 12.6	x: 0 m h = 28.6	x: 0 m h = 75.3	x: 0 m h = 66.4	**CUMPLE** **h = 75.3**
N208/N259	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.527 m h = 0.4	x: 0 m h = 1.5	h = 3.6	x: 0 m h = 12.1	x: 0 m h = 2.6	h = 2.3	x: 0 m h = 1.3	x: 0 m h = 12.3	x: 0 m h = 3.9	x: 0 m h = 1.5	x: 0 m h = 0.2	x: 0 m h = 9.5	x: 0 m h = 14.5	x: 0 m h = 16.4	**CUMPLE** **h = 16.4**
N208/N260	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.442 m h = 0.4	x: 0 m h = 10.8	h = 3.7	x: 0 m h = 41.9	x: 0.442 m h = 29.8	h = 15.7	x: 0 m h = 20.0	x: 0 m h = 43.1	x: 0.442 m h = 31.0	x: 0 m h = 22.6	x: 0.442 m h = 12.1	x: 0 m h = 34.7	x: 0 m h = 76.1	x: 0 m h = 67.5	**CUMPLE** **h = 76.1**
N260/N261	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.512 m h = 2.3	x: 0 m h = 2.4	h = 6.0	x: 0 m h = 7.7	x: 0.512 m h = 14.4	x: 0 m h = 9.3	x: 0 m h = 0.8	x: 0 m h = 9.2	x: 0.512 m h = 14.6	x: 0 m h = 0.8	x: 0.512 m h = 3.0	x: 0.512 m h = 25.9	x: 0.512 m h = 15.5	x: 0.512 m h = 20.6	**CUMPLE** **h = 25.9**
N260/N262	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.455 m h = 0.6	x: 0 m h = 10.1	h = 5.9	x: 0.455 m h = 29.4	x: 0 m h = 34.9	h = 17.6	x: 0 m h = 13.4	x: 0.455 m h = 31.4	x: 0 m h = 35.5	x: 0.455 m h = 11.5	x: 0 m h = 15.7	x: 0.455 m h = 34.1	x: 0 m h = 68.3	x: 0 m h = 61.2	**CUMPLE** **h = 68.3**
N263/N260	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.608 m h = 2.2	x: 0 m h = 2.6	h = 4.1	x: 0.608 m h = 7.7	x: 0.608 m h = 14.5	x: 0.152 m h = 7.1	x: 0.608 m h = 1.3	x: 0.608 m h = 8.9	x: 0.608 m h = 15.2	x: 0.608 m h = 0.8	x: 0.608 m h = 2.8	x: 0.608 m h = 26.7	x: 0.608 m h = 16.3	x: 0.608 m h = 20.5	**CUMPLE** **h = 26.7**
N207/N263	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 3.8	x: 0 m h = 20.3	h = 3.8	x: 0 m h = 55.1	x: 0 m h = 23.1	x: 0 m h = 11.3	x: 0 m h = 29.3	x: 0 m h = 56.3	x: 0 m h = 23.6	x: 0 m h = 40.3	x: 0 m h = 6.8	x: 0 m h = 64.2	x: 0 m h = 87.8	x: 0 m h = 87.5	**CUMPLE** **h = 87.8**
N263/N264	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.487 m h = 5.7	x: 0 m h = 22.0	x: 0.243 m h = 4.9	x: 0.487 m h = 36.2	x: 0 m h = 36.1	x: 0.487 m h = 16.7	x: 0.487 m h = 16.8	x: 0.487 m h = 36.8	x: 0 m h = 37.4	x: 0.487 m h = 16.4	x: 0 m h = 16.8	x: 0 m h = 48.3	x: 0 m h = 80.7	x: 0 m h = 71.2	**CUMPLE** **h = 80.7**
N264/N262	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.549 m h = 12.0	x: 0 m h = 18.7	h = 5.9	x: 0 m h = 10.3	x: 0.549 m h = 25.1	x: 0 m h = 11.0	x: 0 m h = 3.2	x: 0 m h = 11.6	x: 0.549 m h = 26.3	x: 0 m h = 1.5	x: 0.549 m h = 8.1	x: 0 m h = 55.7	x: 0.549 m h = 39.0	x: 0.549 m h = 42.8	**CUMPLE** **h = 55.7**
N264/N265	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.508 m h = 3.9	x: 0 m h = 18.1	h = 2.8	x: 0.508 m h = 18.4	x: 0.508 m h = 15.2	x: 0.508 m h = 6.5	x: 0.508 m h = 5.2	x: 0.508 m h = 19.1	x: 0.508 m h = 16.0	x: 0.508 m h = 3.9	x: 0.508 m h = 3.0	x: 0.508 m h = 29.5	x: 0.508 m h = 43.3	x: 0.508 m h = 41.4	**CUMPLE** **h = 43.3**
N214/N266	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.704 m h = 36.1	x: 0.704 m h = 46.1	h = 2.8	x: 1.057 m h = 24.2	x: 1.057 m h = 14.8	x: 0.704 m h = 3.4	x: 0.528 m h = 5.5	x: 1.057 m h = 24.8	x: 1.057 m h = 15.8	x: 1.057 m h = 6.4	x: 1.057 m h = 2.6	x: 1.057 m h = 63.1	x: 1.057 m h = 77.3	x: 0 m h = 71.0	**CUMPLE** **h = 77.3**
N209/N267	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.539 m h = 22.7	x: 0 m h = 29.6	x: 0.719 m h = 3.7	x: 0 m h = 39.2	x: 0 m h = 14.9	x: 0.719 m h = 3.6	x: 0 m h = 12.4	x: 0 m h = 40.1	x: 0 m h = 16.5	x: 0 m h = 17.7	x: 0 m h = 2.8	x: 0 m h = 77.6	x: 0 m h = 75.9	x: 0 m h = 78.4	**CUMPLE** **h = 78.4**
N217/N268	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.549 m h = 12.1	x: 0 m h = 18.6	h = 5.9	x: 0 m h = 10.3	x: 0.549 m h = 26.0	x: 0 m h = 11.3	x: 0 m h = 3.3	x: 0 m h = 11.5	x: 0.549 m h = 27.1	x: 0 m h = 1.4	x: 0.549 m h = 8.6	x: 0 m h = 56.1	x: 0.549 m h = 40.6	x: 0.549 m h = 44.2	**CUMPLE** **h = 56.1**
N265/N269	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 4.4	x: 0 m h = 16.6	h = 7.7	x: 0 m h = 23.0	x: 0.489 m h = 25.3	h = 11.4	x: 0 m h = 5.9	x: 0 m h = 26.4	x: 0.489 m h = 28.7	x: 0 m h = 7.3	x: 0.489 m h = 9.6	x: 0 m h = 35.0	x: 0 m h = 63.0	x: 0 m h = 51.4	**CUMPLE** **h = 63.0**
N265/N270	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 4.0	x: 0 m h = 16.2	h = 7.7	x: 0 m h = 23.0	x: 0.489 m h = 25.3	h = 11.4	x: 0 m h = 5.9	x: 0 m h = 26.4	x: 0.489 m h = 28.7	x: 0 m h = 7.3	x: 0.489 m h = 9.5	x: 0 m h = 33.6	x: 0 m h = 63.0	x: 0 m h = 51.3	**CUMPLE** **h = 63.0**
N270/N271	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.465 m h = 0.8	x: 0 m h = 8.8	h = 8.8	x: 0 m h = 28.4	x: 0.465 m h = 34.9	h = 17.6	x: 0 m h = 8.5	x: 0 m h = 32.3	x: 0.465 m h = 38.8	x: 0 m h = 11.1	x: 0.465 m h = 18.2	x: 0 m h = 19.6	x: 0 m h = 75.4	x: 0 m h = 60.8	**CUMPLE** **h = 75.4**
N270/N272	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.474 m h = 3.4	x: 0 m h = 12.9	h = 10.2	x: 0 m h = 16.8	x: 0.474 m h = 30.2	h = 15.3	x: 0 m h = 6.2	x: 0 m h = 21.3	x: 0.474 m h = 34.7	x: 0 m h = 4.9	x: 0.474 m h = 14.4	x: 0 m h = 37.4	x: 0 m h = 64.3	x: 0 m h = 51.3	**CUMPLE** **h = 64.3**
N268/N270	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.462 m h = 0.7	x: 0 m h = 9.4	h = 8.2	x: 0 m h = 19.0	x: 0.462 m h = 20.7	h = 9.4	x: 0 m h = 3.7	x: 0 m h = 22.6	x: 0.462 m h = 24.4	x: 0 m h = 5.2	x: 0.462 m h = 6.8	x: 0 m h = 21.8	x: 0 m h = 49.6	x: 0 m h = 38.8	**CUMPLE** **h = 49.6**
N268/N273	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.485 m h = 8.6	x: 0 m h = 13.7	h = 9.1	x: 0 m h = 10.5	x: 0.485 m h = 27.3	x: 0 m h = 13.6	x: 0 m h = 3.0	x: 0 m h = 14.5	x: 0.485 m h = 28.6	x: 0 m h = 2.2	x: 0.485 m h = 10.0	x: 0 m h = 49.8	x: 0 m h = 40.9	x: 0.485 m h = 42.1	**CUMPLE** **h = 49.8**
N216/N268	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.455 m h = 0.5	x: 0 m h = 10.0	h = 5.9	x: 0.455 m h = 29.4	x: 0 m h = 34.7	x: 0.228 m h = 17.6	x: 0.228 m h = 13.8	x: 0.455 m h = 31.5	x: 0 m h = 35.2	x: 0.455 m h = 11.6	x: 0 m h = 15.5	x: 0.455 m h = 43.4	x: 0 m h = 67.4	x: 0 m h = 60.0	**CUMPLE** **h = 67.4**
N216/N274	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.512 m h = 2.5	x: 0 m h = 2.6	h = 6.0	x: 0 m h = 8.0	x: 0.512 m h = 14.0	x: 0 m h = 9.0	x: 0 m h = 1.0	x: 0 m h = 9.1	x: 0.512 m h = 14.2	x: 0 m h = 0.8	x: 0.512 m h = 2.8	x: 0.512 m h = 26.0	x: 0.512 m h = 15.8	x: 0.512 m h = 19.6	**CUMPLE** **h = 26.0**
N275/N216	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.442 m h = 0.5	x: 0 m h = 10.7	h = 3.6	x: 0 m h = 39.8	x: 0.442 m h = 29.9	x: 0 m h = 16.3	x: 0 m h = 18.2	x: 0 m h = 40.9	x: 0.442 m h = 31.0	x: 0 m h = 19.8	x: 0.442 m h = 12.3	x: 0 m h = 49.1	x: 0 m h = 73.5	x: 0 m h = 64.5	**CUMPLE** **h = 73.5**
N275/N276	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.527 m h = 0.5	x: 0 m h = 1.5	h = 3.6	x: 0 m h = 11.1	x: 0.527 m h = 2.0	h = 2.0	x: 0 m h = 1.0	x: 0 m h = 11.3	x: 0 m h = 3.2	x: 0 m h = 1.3	x: 0 m h = 0.1	x: 0.527 m h = 7.4	x: 0 m h = 13.3	x: 0 m h = 15.3	**CUMPLE** **h = 15.3**
N277/N205	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.455 m h = 0.7	x: 0 m h = 10.0	h = 5.9	x: 0.455 m h = 28.9	x: 0 m h = 33.6	h = 17.0	x: 0 m h = 13.4	x: 0.455 m h = 30.8	x: 0 m h = 34.2	x: 0.455 m h = 11.1	x: 0 m h = 14.6	x: 0.455 m h = 32.3	x: 0 m h = 66.8	x: 0 m h = 59.3	**CUMPLE** **h = 66.8**
N205/N199	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.462 m h = 0.6	x: 0 m h = 9.4	h = 8.2	x: 0 m h = 19.0	x: 0.462 m h = 20.7	h = 9.5	x: 0 m h = 3.6	x: 0 m h = 22.7	x: 0.462 m h = 24.4	x: 0 m h = 5.2	x: 0.462 m h = 6.8	x: 0.462 m h = 20.7	x: 0 m h = 49.7	x: 0 m h = 38.9	**CUMPLE** **h = 49.7**
N199/N278	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.474 m h = 3.4	x: 0 m h = 12.8	h = 10.2	x: 0 m h = 16.8	x: 0.474 m h = 30.2	h = 15.3	x: 0 m h = 6.2	x: 0 m h = 21.4	x: 0.474 m h = 34.7	x: 0 m h = 4.9	x: 0.474 m h = 14.4	x: 0 m h = 39.4	x: 0 m h = 64.4	x: 0 m h = 51.3	**CUMPLE** **h = 64.4**
N199/N198	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.465 m h = 0.8	x: 0 m h = 8.8	h = 8.8	x: 0 m h = 28.4	x: 0.465 m h = 34.9	h = 17.7	x: 0 m h = 8.5	x: 0 m h = 32.3	x: 0.465 m h = 38.8	x: 0 m h = 11.2	x: 0.465 m h = 18.2	x: 0 m h = 19.2	x: 0 m h = 75.4	x: 0 m h = 60.8	**CUMPLE** **h = 75.4**
N198/N156	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.473 m h = 0.6	x: 0 m h = 8.0	h = 10.9	x: 0 m h = 21.4	x: 0.473 m h = 40.7	h = 20.6	x: 0 m h = 7.6	x: 0 m h = 26.2	x: 0.473 m h = 45.5	x: 0 m h = 7.5	x: 0.473 m h = 24.9	x: 0.473 m h = 18.9	x: 0 m h = 76.1	x: 0 m h = 61.3	**CUMPLE** **h = 76.1**
N198/N279	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.473 m h = 0.4	x: 0 m h = 8.1	h = 10.9	x: 0 m h = 21.4	x: 0.473 m h = 40.6	h = 20.6	x: 0 m h = 7.6	x: 0 m h = 26.2	x: 0.473 m h = 45.5	x: 0 m h = 7.5	x: 0.473 m h = 24.9	x: 0.473 m h = 16.7	x: 0 m h = 76.1	x: 0 m h = 61.3	**CUMPLE** **h = 76.1**
N278/N279	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.2	h = 10.4	x: 0 m h = 28.1	x: 0.465 m h = 37.3	h = 18.8	x: 0 m h = 7.8	x: 0 m h = 32.7	x: 0.465 m h = 41.9	x: 0 m h = 11.3	x: 0.465 m h = 21.1	N.P.[2]	x: 0 m h = 73.6	x: 0 m h = 57.4	**CUMPLE** **h = 73.6**
N279/N280	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.474 m h = 0.1	x: 0 m h = 6.8	h = 14.0	x: 0 m h = 17.5	x: 0.474 m h = 41.5	h = 20.8	x: 0 m h = 6.3	x: 0 m h = 23.7	x: 0.474 m h = 47.7	x: 0 m h = 6.0	x: 0.474 m h = 27.1	x: 0.474 m h = 14.3	x: 0 m h = 73.5	x: 0.474 m h = 58.9	**CUMPLE** **h = 73.5**
N279/N158	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.4	h = 13.3	x: 0 m h = 26.3	x: 0.471 m h = 44.6	h = 22.3	x: 0 m h = 8.6	x: 0 m h = 32.2	x: 0.471 m h = 50.5	x: 0 m h = 11.1	x: 0.471 m h = 30.4	N.P.[2]	x: 0 m h = 81.5	x: 0 m h = 63.2	**CUMPLE** **h = 81.5**
N278/N281	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.475 m h = 2.4	x: 0 m h = 9.5	h = 11.7	x: 0 m h = 9.4	x: 0.475 m h = 30.4	h = 15.2	x: 0 m h = 3.4	x: 0 m h = 14.6	x: 0.475 m h = 35.6	x: 0 m h = 2.3	x: 0.475 m h = 15.0	x: 0 m h = 36.3	x: 0 m h = 55.2	x: 0.475 m h = 46.1	**CUMPLE** **h = 55.2**
N282/N278	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.7	h = 8.8	x: 0 m h = 23.3	x: 0.454 m h = 23.1	h = 11.2	x: 0 m h = 4.6	x: 0 m h = 27.2	x: 0.454 m h = 27.0	x: 0 m h = 7.6	x: 0.454 m h = 8.5	N.P.[2]	x: 0 m h = 52.0	x: 0 m h = 39.9	**CUMPLE** **h = 52.0**
N283/N282	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.2	h = 6.6	x: 0.444 m h = 22.5	x: 0 m h = 31.3	x: 0 m h = 16.7	x: 0 m h = 9.6	x: 0.444 m h = 25.4	x: 0 m h = 31.6	x: 0.444 m h = 6.9	x: 0 m h = 12.8	N.P.[2]	x: 0 m h = 53.5	x: 0 m h = 47.7	**CUMPLE** **h = 53.5**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N282/N284	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.475 m h = 5.7	x: 0 m h = 9.3	h = 8.9	x: 0 m h = 5.9	x: 0.475 m h = 23.1	x: 0 m h = 11.6	x: 0 m h = 1.9	x: 0 m h = 8.4	x: 0.475 m h = 24.3	x: 0 m h = 0.7	x: 0.475 m h = 7.2	x: 0 m h = 41.6	x: 0 m h = 31.7	x: 0.475 m h = 34.2	**CUMPLE h = 41.6**
N205/N282	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.485 m h = 8.3	x: 0 m h = 13.5	h = 9.1	x: 0 m h = 10.5	x: 0.485 m h = 26.8	x: 0 m h = 13.2	x: 0 m h = 3.0	x: 0 m h = 14.5	x: 0.485 m h = 28.2	x: 0 m h = 2.2	x: 0.485 m h = 9.7	x: 0 m h = 49.0	x: 0 m h = 41.0	x: 0.485 m h = 41.1	**CUMPLE h = 49.0**
N284/N285	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.235 m h = 3.9	x: 0 m h = 6.1	h = 9.0	x: 0.47 m h = 6.4	x: 0.47 m h = 21.4	x: 0 m h = 10.8	x: 0.47 m h = 1.7	x: 0.47 m h = 9.9	x: 0.47 m h = 22.5	x: 0.47 m h = 1.0	x: 0.47 m h = 6.2	x: 0 m h = 36.5	x: 0.47 m h = 32.9	x: 0.47 m h = 30.3	**CUMPLE h = 36.5**
N286/N284	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.444 m h = 1.5	x: 0 m h = 0.7	h = 6.5	x: 0.444 m h = 24.4	x: 0 m h = 27.9	x: 0 m h = 14.5	x: 0 m h = 7.2	x: 0.444 m h = 27.3	x: 0 m h = 28.3	x: 0.444 m h = 7.7	x: 0 m h = 10.1	x: 0 m h = 57.7	x: 0 m h = 43.9	x: 0 m h = 40.7	**CUMPLE h = 57.7**
N284/N281	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0 m h = 1.5	x: 0 m h = 1.0	h = 9.2	x: 0 m h = 26.5	x: 0.454 m h = 22.8	h = 10.4	x: 0 m h = 4.4	x: 0 m h = 30.6	x: 0.454 m h = 26.9	x: 0 m h = 9.5	x: 0.454 m h = 8.3	x: 0 m h = 62.3	x: 0.454 m h = 26.2	x: 0 m h = 38.4	**CUMPLE h = 62.3**
N281/N287	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.469 m h = 1.5	x: 0 m h = 6.5	h = 13.1	x: 0 m h = 9.7	x: 0.469 m h = 29.6	h = 14.4	x: 0 m h = 2.5	x: 0 m h = 15.5	x: 0.469 m h = 35.4	x: 0 m h = 2.5	x: 0.469 m h = 14.6	x: 0 m h = 34.0	x: 0 m h = 51.0	x: 0.469 m h = 42.7	**CUMPLE h = 51.0**
N281/N280	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.232 m h = 1.0	x: 0.232 m h = 1.0	h = 12.5	x: 0 m h = 30.2	x: 0.463 m h = 35.4	h = 17.4	x: 0 m h = 7.4	x: 0 m h = 35.7	x: 0.463 m h = 41.0	x: 0 m h = 13.3	x: 0.463 m h = 19.8	x: 0 m h = 87.3	x: 0 m h = 25.0	x: 0 m h = 52.0	**CUMPLE h = 87.3**
N280/N288	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 5.3	h = 15.5	x: 0 m h = 16.3	x: 0.466 m h = 39.7	h = 19.5	x: 0 m h = 5.6	x: 0 m h = 23.2	x: 0.466 m h = 46.5	x: 0 m h = 5.7	x: 0.466 m h = 25.5	N.P.[2]	x: 0 m h = 68.1	x: 0.466 m h = 54.8	**CUMPLE h = 68.1**
N280/N160	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.234 m h = 0.8	x: 0.234 m h = 1.3	h = 15.1	x: 0 m h = 28.8	x: 0.468 m h = 43.0	h = 21.4	x: 0 m h = 8.8	x: 0 m h = 35.5	x: 0.468 m h = 49.7	x: 0 m h = 13.4	x: 0.468 m h = 29.3	x: 0 m h = 78.0	x: 0 m h = 79.5	x: 0 m h = 58.9	**CUMPLE h = 79.5**
N287/N288	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.461 m h = 6.3	x: 0 m h = 1.1	h = 13.2	x: 0 m h = 31.7	x: 0.461 m h = 29.6	h = 14.3	x: 0 m h = 6.6	x: 0 m h = 37.6	x: 0.461 m h = 35.5	x: 0 m h = 14.6	x: 0.461 m h = 14.6	x: 0 m h = 88.7	x: 0 m h = 54.9	x: 0 m h = 54.9	**CUMPLE h = 88.7**
N288/N289	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.7	h = 14.8	x: 0 m h = 14.0	x: 0.455 m h = 32.1	h = 15.4	x: 0 m h = 4.9	x: 0 m h = 20.5	x: 0.455 m h = 38.7	x: 0 m h = 4.4	x: 0.455 m h = 17.3	N.P.[2]	x: 0 m h = 54.2	x: 0.455 m h = 43.8	**CUMPLE h = 54.2**
N288/N162	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.464 m h = 5.3	x: 0 m h = 1.2	h = 14.8	x: 0 m h = 27.9	x: 0.464 m h = 36.3	h = 18.4	x: 0 m h = 7.8	x: 0 m h = 34.5	x: 0.464 m h = 42.9	x: 0 m h = 12.5	x: 0.464 m h = 21.8	x: 0 m h = 95.5	x: 0 m h = 22.4	x: 0 m h = 57.4	**CUMPLE h = 95.5**
N290/N289	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.458 m h = 11.9	x: 0 m h = 1.2	h = 12.4	x: 0 m h = 30.9	x: 0.458 m h = 18.6	h = 8.8	x: 0 m h = 5.3	x: 0 m h = 36.4	x: 0.458 m h = 24.1	x: 0 m h = 13.5	x: 0.458 m h = 6.6	x: 0 m h = 80.8	x: 0.458 m h = 9.6	x: 0 m h = 53.9	**CUMPLE h = 80.8**
N289/N168	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.2	h = 12.4	x: 0 m h = 8.6	x: 0.444 m h = 19.1	h = 8.2	x: 0 m h = 3.4	x: 0 m h = 14.1	x: 0.444 m h = 24.6	x: 0 m h = 2.1	x: 0.444 m h = 6.7	N.P.[2]	x: 0.444 m h = 34.5	x: 0.444 m h = 26.2	**CUMPLE h = 34.5**
N289/N164	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.46 m h = 9.8	x: 0 m h = 1.3	h = 12.8	x: 0 m h = 24.0	x: 0.46 m h = 24.2	h = 12.6	x: 0 m h = 5.9	x: 0 m h = 29.7	x: 0.46 m h = 29.9	x: 0 m h = 9.1	x: 0.46 m h = 10.5	x: 0 m h = 81.0	x: 0.46 m h = 9.6	x: 0 m h = 50.2	**CUMPLE h = 81.0**
N291/N168	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.454 m h = 10.7	x: 0 m h = 0.9	h = 10.7	x: 0 m h = 28.2	x: 0 m h = 3.2	x: 0.454 m h = 1.7	x: 0 m h = 3.5	x: 0 m h = 32.8	x: 0 m h = 6.7	x: 0 m h = 10.9	x: 0 m h = 0.5	x: 0 m h = 57.7	x: 0.454 m h = 6.6	x: 0 m h = 45.9	**CUMPLE h = 57.7**
N168/N292	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.1	x: 0 m h = 0.8	h = 9.5	x: 0.44 m h = 1.7	x: 0 m h = 8.9	x: 0 m h = 4.7	x: 0 m h = 1.0	x: 0 m h = 5.6	x: 0 m h = 12.2	x: 0 m h = 0.3	x: 0 m h = 1.7	x: 0 m h = 20.4	x: 0 m h = 17.1	x: 0.44 m h = 13.2	**CUMPLE h = 20.4**
N293/N292	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0 m h = 0.2	x: 0 m h = 2.9	h = 9.8	x: 0 m h = 29.0	x: 0 m h = 4.0	h = 1.8	x: 0 m h = 4.3	x: 0 m h = 33.3	x: 0 m h = 7.9	x: 0 m h = 11.3	x: 0 m h = 0.7	x: 0 m h = 23.4	x: 0 m h = 44.0	x: 0 m h = 39.3	**CUMPLE h = 44.0**
N292/N169	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.456 m h < 0.1	x: 0 m h = 2.3	x: 0.456 m h = 9.4	x: 0 m h = 20.4	x: 0.456 m h = 3.5	x: 0 m h = 1.7	x: 0 m h = 4.2	x: 0 m h = 24.3	x: 0.456 m h = 7.3	x: 0 m h = 6.1	x: 0.456 m h = 0.6	x: 0 m h = 25.2	x: 0 m h = 30.2	x: 0 m h = 27.0	**CUMPLE h = 30.2**
N169/N166	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.4	h = 8.7	x: 0 m h = 12.0	x: 0 m h = 4.9	x: 0.456 m h = 2.5	x: 0 m h = 3.8	x: 0 m h = 15.7	x: 0 m h = 8.2	x: 0 m h = 2.6	x: 0 m h = 0.7	N.P.[2]	x: 0 m h = 23.6	x: 0 m h = 16.2	**CUMPLE h = 23.6**
N166/N131	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.9	x: 0.453 m h = 8.5	x: 0.453 m h = 8.7	x: 0.453 m h = 4.3	h = 1.6	x: 0 m h = 3.1	x: 0.453 m h = 12.3	x: 0.453 m h = 7.8	x: 0.453 m h = 1.6	x: 0.453 m h = 0.6	N.P.[2]	x: 0.453 m h = 22.6	x: 0.453 m h = 14.7	**CUMPLE h = 22.6**
N291/N293	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.7	x: 0 m h = 2.4	h = 10.5	x: 0 m h = 2.6	x: 0 m h = 14.3	x: 0 m h = 7.8	x: 0 m h = 0.9	x: 0 m h = 7.1	x: 0 m h = 18.5	x: 0 m h = 0.5	x: 0 m h = 4.0	x: 0.44 m h = 31.5	x: 0 m h = 24.4	x: 0 m h = 19.4	**CUMPLE h = 31.5**
N290/N291	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.446 m h = 0.8	x: 0 m h = 2.5	h = 12.3	x: 0 m h = 8.4	x: 0.446 m h = 12.6	h = 4.6	x: 0 m h = 1.9	x: 0 m h = 13.9	x: 0.446 m h = 18.0	x: 0 m h = 2.0	x: 0.446 m h = 3.5	x: 0.446 m h = 23.3	x: 0.446 m h = 28.3	x: 0.446 m h = 18.1	**CUMPLE h = 28.3**
N287/N290	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.457 m h = 1.0	x: 0 m h = 4.2	h = 13.3	x: 0 m h = 10.4	x: 0.457 m h = 24.1	h = 11.0	x: 0 m h = 2.2	x: 0 m h = 16.3	x: 0.457 m h = 30.0	x: 0 m h = 2.7	x: 0.457 m h = 10.2	x: 0.457 m h = 28.8	x: 0.457 m h = 42.9	x: 0.457 m h = 33.9	**CUMPLE h = 42.9**
N285/N287	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.453 m h = 7.4	x: 0 m h = 0.9	h = 10.0	x: 0 m h = 30.6	x: 0.453 m h = 20.0	h = 8.3	x: 0 m h = 3.9	x: 0 m h = 35.1	x: 0.453 m h = 24.4	x: 0 m h = 12.5	x: 0.453 m h = 6.6	x: 0 m h = 69.3	x: 0.453 m h = 22.7	x: 0 m h = 47.5	**CUMPLE h = 69.3**
N285/N294	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.23 m h = 2.5	x: 0.23 m h = 3.7	h = 9.9	x: 0.459 m h = 7.1	x: 0.459 m h = 17.3	x: 0 m h = 8.6	x: 0.459 m h = 1.5	x: 0.459 m h = 11.5	x: 0.459 m h = 18.8	x: 0.459 m h = 1.3	x: 0.459 m h = 4.2	x: 0.459 m h = 29.9	x: 0.459 m h = 31.1	x: 0.459 m h = 24.1	**CUMPLE h = 31.1**
N295/N285	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.445 m h = 8.1	x: 0 m h = 0.8	h = 7.1	x: 0.445 m h = 28.4	x: 0 m h = 23.3	h = 12.2	x: 0 m h = 5.5	x: 0.445 m h = 31.6	x: 0 m h = 23.8	x: 0.445 m h = 10.2	x: 0 m h = 7.1	x: 0.445 m h = 60.9	x: 0 m h = 15.3	x: 0.445 m h = 43.0	**CUMPLE h = 60.9**
N286/N295	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.235 m h = 2.1	x: 0.235 m h = 1.6	x: 0.469 m h = 7.3	x: 0.469 m h = 6.3	x: 0.469 m h = 11.1	x: 0 m h = 7.5	x: 0.469 m h = 1.2	x: 0.469 m h = 9.1	x: 0.469 m h = 11.3	x: 0.469 m h = 0.8	x: 0.469 m h = 1.8	x: 0.469 m h = 22.2	x: 0.469 m h = 15.0	x: 0.469 m h = 16.0	**CUMPLE h = 22.2**
N283/N286	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.474 m h = 2.2	x: 0 m h = 2.0	h = 6.6	x: 0 m h = 6.0	x: 0.474 m h = 11.6	h = 7.9	x: 0.474 m h = 0.8	x: 0.474 m h = 8.0	x: 0.474 m h = 11.7	x: 0.474 m h = 0.6	x: 0.474 m h = 2.0	x: 0.474 m h = 21.1	x: 0.474 m h = 16.0	x: 0.474 m h = 16.8	**CUMPLE h = 21.1**
N277/N283	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.512 m h = 2.3	x: 0 m h = 2.4	h = 6.0	x: 0 m h = 7.5	x: 0.512 m h = 13.9	h = 8.8	x: 0 m h = 0.9	x: 0 m h = 9.1	x: 0.512 m h = 14.2	x: 0 m h = 0.8	x: 0.512 m h = 2.8	x: 0.512 m h = 25.0	x: 0.512 m h = 15.1	x: 0.512 m h = 20.0	**CUMPLE h = 25.0**
N204/N277	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.608 m h = 2.2	x: 0 m h = 2.6	h = 4.1	x: 0 m h = 8.5	x: 0.608 m h = 14.7	h = 7.1	x: 0.608 m h = 1.4	x: 0 m h = 9.4	x: 0.608 m h = 15.2	x: 0 m h = 0.9	x: 0.608 m h = 2.8	x: 0.608 m h = 26.1	x: 0.608 m h = 16.5	x: 0.608 m h = 20.8	**CUMPLE h = 26.1**
N296/N204	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.447 m h = 4.3	x: 0 m h = 20.7	h = 4.2	x: 0 m h = 54.9	x: 0 m h = 22.7	x: 0 m h = 11.3	x: 0 m h = 29.3	x: 0 m h = 56.4	x: 0 m h = 23.4	x: 0 m h = 40.4	x: 0 m h = 6.7	x: 0 m h = 61.8	x: 0 m h = 87.7	x: 0 m h = 85.6	**CUMPLE h = 87.7**
N297/N298	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 1.157 m h = 2.2	x: 0 m h = 5.4	h = 2.5	x: 1.157 m h = 12.8	x: 1.157 m h = 2.4	h = 0.3	x: 1.157 m h = 2.5	x: 1.157 m h = 13.1	x: 0.578 m h = 3.2	x: 1.157 m h = 1.7	x: 0.578 m h = 0.1	x: 0 m h = 14.9	x: 1.157 m h = 19.3	x: 1.157 m h = 21.4	**CUMPLE h = 21.4**
N276/N283	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.3	x: 0 m h = 2.3	h = 3.5	x: 0 m h = 31.6	x: 0.44 m h = 33.3	h = 17.7	x: 0 m h = 13.1	x: 0 m h = 32.5	x: 0.44 m h = 34.2	x: 0 m h = 12.3	x: 0.44 m h = 14.9	x: 0 m h = 77.8	x: 0 m h = 61.1	x: 0 m h = 53.4	**CUMPLE h = 77.8**
N276/N274	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.3	x: 0 m h = 2.2	h = 3.5	x: 0 m h = 30.1	x: 0.44 m h = 33.0	h = 18.0	x: 0 m h = 12.7	x: 0 m h = 30.7	x: 0.44 m h = 33.8	x: 0 m h = 10.6	x: 0.44 m h = 14.7	x: 0 m h = 76.2	x: 0 m h = 60.6	x: 0 m h = 52.3	**CUMPLE h = 76.2**
N276/N299	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.475 m h = 0.3	x: 0 m h = 0.9	h = 3.9	x: 0 m h = 10.0	x: 0.475 m h = 3.2	h = 3.1	x: 0 m h = 0.9	x: 0 m h = 10.0	x: 0.475 m h = 4.9	x: 0 m h = 1.0	x: 0.475 m h = 0.3	x: 0.475 m h = 9.9	x: 0.475 m h = 12.7	x: 0 m h = 13.1	**CUMPLE h = 13.1**
N299/N300	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.3	x: 0 m h = 0.7	h = 3.2	x: 0 m h = 24.5	x: 0.44 m h = 31.7	h = 17.3	x: 0 m h = 8.9	x: 0 m h = 24.9	x: 0.44 m h = 32.5	x: 0 m h = 7.0	x: 0.44 m h = 13.5	x: 0 m h = 68.2	x: 0.44 m h = 40.5	x: 0 m h = 47.1	**CUMPLE h = 68.2**
N299/N301	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.469 m h = 0.3	x: 0 m h = 0.5	h = 4.1	x: 0 m h = 9.5	x: 0.469 m h = 4.8	h = 3.4	x: 0 m h = 0.7	x: 0 m h = 9.0	x: 0.469 m h = 6.6	x: 0 m h = 0.9	x: 0.469 m h = 0.6	x: 0.469 m h = 13.7	x: 0.469 m h = 13.3	x: 0 m h = 12.1	**CUMPLE h = 13.7**
N299/N286	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.3	x: 0 m h = 0.6	h = 3.1	x: 0 m h = 25.7	x: 0.44 m h = 32.1	h = 17.1	x: 0 m h = 8.8	x: 0 m h = 26.4	x: 0.44 m h = 32.8	x: 0 m h = 7.8	x: 0.44 m h = 13.7	x: 0 m h = 69.3	x: 0.44 m h = 40.4	x: 0 m h = 47.9	**CUMPLE h = 69.3**
N301/N295	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 8.5	x: 0 m h = 0.4	h = 3.2	x: 0.44 m h = 26.8	x: 0.44 m h = 27.5	h = 14.2	x: 0.44 m h = 6.9	x: 0.44 m h = 28.3	x: 0.44 m h = 27.9	x: 0.44 m h = 8.5	x: 0.44 m h = 9.8	x: 0 m h = 61.2	x: 0 m h = 14.9	x: 0 m h = 43.9	**CUMPLE h = 61.2**
N295/N302	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0 m h = 2.0	x: 0 m h = 1.4	x: 0.459 m h = 8.7	x: 0.459 m h = 7.3	x: 0.459 m h = 10.0	x: 0.459 m h = 5.9	x: 0.459 m h = 1.1	x: 0.459 m h = 10.6	x: 0.459 m h = 10.4	x: 0.459 m h = 1.1	x: 0.459 m h = 1.4	x: 0.459 m h = 24.8	x: 0.459 m h = 15.0	x: 0.459 m h = 14.5	**CUMPLE h = 24.8**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N302/N294	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.445 m h = 15.1	x: 0 m h = 0.8	h = 8.3	x: 0.445 m h = 31.6	x: 0 m h = 18.6	h = 8.8	x: 0.445 m h = 3.4	x: 0.445 m h = 35.3	x: 0 m h = 22.2	x: 0.445 m h = 12.6	x: 0 m h = 5.4	x: 0.445 m h = 73.2	x: 0 m h = 12.0	x: 0.445 m h = 54.9	**CUMPLE h = 73.2**
N294/N303	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.224 m h = 1.5	x: 0.224 m h = 2.1	h = 10.7	x: 0.447 m h = 6.4	x: 0.447 m h = 12.4	h = 6.0	x: 0.447 m h = 1.1	x: 0.447 m h = 11.2	x: 0 m h = 13.5	x: 0.447 m h = 1.2	x: 0 m h = 2.0	x: 0 m h = 23.3	x: 0.447 m h = 22.8	x: 0.447 m h = 15.9	**CUMPLE h = 23.3**
N294/N290	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.452 m h = 13.8	x: 0 m h = 1.0	h = 10.7	x: 0 m h = 33.8	x: 0.452 m h = 11.9	h = 6.2	x: 0 m h = 3.3	x: 0 m h = 38.5	x: 0.452 m h = 16.6	x: 0 m h = 14.9	x: 0.452 m h = 2.9	x: 0 m h = 70.9	x: 0.452 m h = 12.7	x: 0 m h = 55.9	**CUMPLE h = 70.9**
N303/N304	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.7	x: 0 m h = 0.9	h = 10.4	x: 0.44 m h = 3.7	x: 0.44 m h = 16.7	h = 9.3	x: 0.44 m h = 1.1	x: 0.44 m h = 8.1	x: 0.44 m h = 21.3	x: 0.44 m h = 0.7	x: 0.44 m h = 5.4	x: 0.44 m h = 34.8	x: 0.44 m h = 29.6	x: 0.44 m h = 21.6	**CUMPLE h = 34.8**
N303/N291	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.45 m h = 12.8	x: 0 m h = 0.8	h = 10.7	x: 0 m h = 35.3	x: 0 m h = 11.6	h = 4.9	x: 0 m h = 2.8	x: 0 m h = 39.9	x: 0 m h = 16.0	x: 0 m h = 16.0	x: 0 m h = 2.8	x: 0 m h = 77.5	x: 0.45 m h = 9.3	x: 0 m h = 57.8	**CUMPLE h = 77.5**
N305/N303	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.444 m h = 14.4	x: 0 m h = 0.7	h = 9.5	x: 0 m h = 37.6	x: 0 m h = 18.3	h = 6.8	x: 0 m h = 1.7	x: 0 m h = 41.6	x: 0 m h = 22.5	x: 0 m h = 17.3	x: 0 m h = 5.5	x: 0 m h = 85.4	x: 0 m h = 6.6	x: 0 m h = 63.2	**CUMPLE h = 85.4**
N302/N305	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.224 m h = 1.8	x: 0 m h = 1.2	h = 9.7	x: 0.448 m h = 6.5	x: 0.448 m h = 8.3	h = 3.9	x: 0.448 m h = 0.7	x: 0.448 m h = 10.5	x: 0.448 m h = 9.0	x: 0.448 m h = 1.1	x: 0.448 m h = 0.9	x: 0.448 m h = 23.7	x: 0.448 m h = 14.6	x: 0.448 m h = 13.0	**CUMPLE h = 23.7**
N306/N302	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 16.0	x: 0 m h = 0.6	x: 0.22 m h = 4.6	x: 0.44 m h = 32.2	x: 0.44 m h = 20.5	h = 10.2	x: 0.44 m h = 5.9	x: 0.44 m h = 33.5	x: 0 m h = 21.0	x: 0.44 m h = 11.3	x: 0.44 m h = 5.3	x: 0.44 m h = 71.7	x: 0.44 m h = 10.7	x: 0.44 m h = 57.9	**CUMPLE h = 71.7**
N301/N306	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 0.3	x: 0 m h = 0.3	h = 3.9	x: 0 m h = 9.0	x: 0.458 m h = 6.1	h = 2.7	x: 0 m h = 1.2	x: 0 m h = 8.1	x: 0.458 m h = 7.8	x: 0 m h = 0.8	x: 0.458 m h = 0.7	x: 0.458 m h = 16.6	x: 0.458 m h = 13.4	x: 0 m h = 11.3	**CUMPLE h = 16.6**
N301/N307	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 8.5	x: 0 m h = 0.2	h = 3.2	x: 0.44 m h = 25.9	x: 0.44 m h = 27.9	h = 14.9	x: 0.44 m h = 7.1	x: 0.44 m h = 27.1	x: 0.44 m h = 28.3	x: 0.44 m h = 7.7	x: 0.44 m h = 10.2	x: 0 m h = 61.5	x: 0 m h = 7.2	x: 0 m h = 43.9	**CUMPLE h = 61.5**
N300/N307	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.469 m h = 2.1	x: 0 m h = 1.6	h = 7.1	x: 0.469 m h = 6.3	x: 0.469 m h = 11.5	x: 0 m h = 7.6	x: 0.469 m h = 1.2	x: 0.469 m h = 9.1	x: 0.469 m h = 11.8	x: 0.469 m h = 0.8	x: 0.469 m h = 2.0	x: 0.469 m h = 22.2	x: 0.469 m h = 16.5	x: 0.469 m h = 16.0	**CUMPLE h = 22.2**
N274/N300	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.474 m h = 2.3	x: 0 m h = 2.1	h = 6.8	x: 0 m h = 6.0	x: 0.474 m h = 11.9	x: 0 m h = 8.2	x: 0.474 m h = 0.8	x: 0.474 m h = 8.0	x: 0.474 m h = 12.0	x: 0.474 m h = 0.6	x: 0.474 m h = 2.1	x: 0.474 m h = 21.4	x: 0.474 m h = 16.5	x: 0.474 m h = 16.9	**CUMPLE h = 21.4**
N274/N273	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.2	h = 6.5	x: 0.444 m h = 23.2	x: 0 m h = 32.6	x: 0 m h = 17.3	x: 0 m h = 9.9	x: 0.444 m h = 26.1	x: 0 m h = 31.5	x: 0.444 m h = 7.4	x: 0 m h = 13.8	N.P.$^{(2)}$	x: 0 m h = 54.6	x: 0 m h = 49.0	**CUMPLE h = 54.6**
N273/N272	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.$^{(1)}$	x: 0 m h = 3.7	h = 8.8	x: 0 m h = 23.3	x: 0.454 m h = 23.0	h = 11.2	x: 0 m h = 4.6	x: 0 m h = 27.2	x: 0.454 m h = 26.9	x: 0 m h = 7.6	x: 0.454 m h = 8.5	N.P.$^{(2)}$	x: 0 m h = 52.0	x: 0 m h = 39.8	**CUMPLE h = 52.0**
N273/N308	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.475 m h = 5.9	x: 0 m h = 9.5	h = 8.9	x: 0 m h = 5.8	x: 0.475 m h = 23.8	x: 0 m h = 12.0	x: 0 m h = 1.8	x: 0 m h = 8.4	x: 0.475 m h = 24.7	x: 0 m h = 0.7	x: 0.475 m h = 7.5	x: 0 m h = 42.2	x: 0 m h = 31.7	x: 0.475 m h = 35.2	**CUMPLE h = 42.2**
N308/N309	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.454 m h = 1.3	x: 0 m h = 0.8	h = 9.2	x: 0 m h = 26.5	x: 0.454 m h = 22.8	h = 10.4	x: 0 m h = 4.4	x: 0 m h = 30.5	x: 0.454 m h = 26.9	x: 0 m h = 9.5	x: 0.454 m h = 8.3	x: 0 m h = 62.3	x: 0 m h = 26.6	x: 0 m h = 38.4	**CUMPLE h = 62.3**
N308/N310	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 3.9	x: 0 m h = 6.2	h = 9.0	x: 0.47 m h = 6.5	x: 0.47 m h = 21.9	x: 0 m h = 11.1	x: 0.47 m h = 1.6	x: 0.47 m h = 10.4	x: 0.47 m h = 22.7	x: 0.47 m h = 1.1	x: 0.47 m h = 6.4	x: 0 m h = 36.7	x: 0.47 m h = 32.9	x: 0.47 m h = 31.0	**CUMPLE h = 36.7**
N300/N308	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.444 m h = 1.4	x: 0 m h = 0.7	h = 6.1	x: 0.444 m h = 23.0	x: 0 m h = 28.4	x: 0 m h = 15.3	x: 0 m h = 7.4	x: 0.444 m h = 25.6	x: 0 m h = 24.8	x: 0.444 m h = 6.8	x: 0 m h = 10.5	x: 0 m h = 59.1	x: 0 m h = 42.6	x: 0 m h = 42.6	**CUMPLE h = 59.1**
N310/N311	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 7.4	x: 0.227 m h = 0.8	h = 10.1	x: 0 m h = 30.6	x: 0.453 m h = 19.9	h = 8.3	x: 0 m h = 3.9	x: 0 m h = 35.0	x: 0.453 m h = 24.4	x: 0 m h = 12.4	x: 0.453 m h = 6.6	x: 0 m h = 69.3	x: 0.453 m h = 21.0	x: 0 m h = 47.5	**CUMPLE h = 69.3**
N310/N312	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 2.5	x: 0 m h = 3.7	h = 9.9	x: 0.459 m h = 7.1	x: 0.459 m h = 17.8	x: 0 m h = 8.9	x: 0.459 m h = 1.4	x: 0.459 m h = 11.5	x: 0.459 m h = 18.8	x: 0.459 m h = 1.3	x: 0.459 m h = 4.3	x: 0.459 m h = 31.0	x: 0.459 m h = 31.0	x: 0.459 m h = 24.5	**CUMPLE h = 31.0**
N307/N310	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.445 m h = 8.1	x: 0.222 m h = 0.9	h = 6.8	x: 0.445 m h = 27.5	x: 0 m h = 22.7	h = 12.5	x: 0 m h = 5.5	x: 0.445 m h = 30.5	x: 0 m h = 21.5	x: 0.445 m h = 9.4	x: 0 m h = 6.8	x: 0.445 m h = 60.8	x: 0 m h = 9.9	x: 0 m h = 41.5	**CUMPLE h = 60.8**
N307/N313	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.459 m h = 2.1	x: 0.459 m h = 1.4	h = 8.2	x: 0.459 m h = 7.3	x: 0.459 m h = 10.3	x: 0.23 m h = 6.1	x: 0.459 m h = 1.1	x: 0.459 m h = 10.5	x: 0.459 m h = 10.5	x: 0.459 m h = 1.1	x: 0.459 m h = 1.5	x: 0.459 m h = 24.9	x: 0.459 m h = 15.0	x: 0.459 m h = 14.3	**CUMPLE h = 24.9**
N313/N312	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.445 m h = 15.1	x: 0.445 m h = 1.1	h = 8.2	x: 0.445 m h = 31.4	x: 0 m h = 17.4	x: 0 m h = 8.9	x: 0 m h = 3.4	x: 0.445 m h = 35.0	x: 0 m h = 21.0	x: 0.445 m h = 12.3	x: 0 m h = 4.8	x: 0.445 m h = 73.2	x: 0 m h = 9.3	x: 0.445 m h = 54.8	**CUMPLE h = 73.2**
N313/N314	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.448 m h = 1.9	x: 0.448 m h = 1.3	x: 0.224 m h = 9.6	x: 0.448 m h = 6.5	x: 0.448 m h = 8.5	h = 4.0	x: 0.448 m h = 0.8	x: 0.448 m h = 10.5	x: 0.448 m h = 9.0	x: 0.448 m h = 1.1	x: 0.448 m h = 1.0	x: 0.448 m h = 23.7	x: 0.448 m h = 10.7	x: 0.448 m h = 12.5	**CUMPLE h = 23.7**
N306/N313	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 16.0	x: 0.44 m h = 0.1	h = 4.1	x: 0.44 m h = 32.2	x: 0.44 m h = 20.7	x: 0 m h = 10.7	x: 0.44 m h = 5.6	x: 0.44 m h = 33.5	x: 0 m h = 20.6	x: 0.44 m h = 11.3	x: 0.44 m h = 5.5	x: 0.44 m h = 71.7	x: 0 m h = 8.3	x: 0.44 m h = 57.9	**CUMPLE h = 71.7**
N306/N315	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.448 m h = 0.4	x: 0 m h = 0.3	h = 3.3	x: 0 m h = 7.5	x: 0.448 m h = 5.6	h = 0.8	x: 0 m h = 2.1	x: 0 m h = 6.5	x: 0.448 m h = 7.0	x: 0 m h = 0.6	x: 0.448 m h = 0.5	x: 0 m h = 14.1	x: 0.448 m h = 6.4	x: 0 m h = 9.6	**CUMPLE h = 14.1**
N315/N314	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 16.2	x: 0 m h = 0.7	h = 5.4	x: 0.44 m h = 36.9	x: 0 m h = 14.5	x: 0 m h = 5.8	x: 0.44 m h = 2.4	x: 0.44 m h = 38.9	x: 0 m h = 16.6	x: 0.44 m h = 15.2	x: 0 m h = 3.1	x: 0 m h = 73.9	x: 0 m h = 3.0	x: 0.44 m h = 62.5	**CUMPLE h = 73.9**
N315/N316	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.22 m h = 0.5	x: 0.22 m h = 0.4	h = 2.0	x: 0 m h = 4.4	x: 0 m h = 4.4	h = 2.8	x: 0 m h = 3.0	x: 0 m h = 3.2	x: 0 m h = 5.3	x: 0 m h = 0.3	x: 0 m h = 0.4	x: 0 m h = 10.4	x: 0 m h = 7.2	x: 0 m h = 6.2	**CUMPLE h = 10.4**
N315/N305	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 16.2	x: 0 m h = 0.2	x: 0.22 m h = 5.8	x: 0.44 m h = 36.9	x: 0 m h = 15.3	h = 5.7	x: 0.44 m h = 2.4	x: 0.44 m h = 38.9	x: 0 m h = 17.7	x: 0.44 m h = 15.2	x: 0 m h = 3.5	x: 0 m h = 74.0	x: 0.44 m h = 4.9	x: 0.44 m h = 62.5	**CUMPLE h = 74.0**
N305/N317	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.22 m h = 1.3	x: 0.22 m h = 1.1	h = 9.4	x: 0 m h = 4.2	x: 0.441 m h = 6.7	h = 4.8	x: 0 m h = 1.0	x: 0 m h = 8.1	x: 0.441 m h = 10.8	x: 0 m h = 0.7	x: 0.441 m h = 1.4	x: 0 m h = 22.3	x: 0.441 m h = 13.3	x: 0 m h = 14.1	**CUMPLE h = 22.3**
N317/N304	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.443 m h = 0.7	x: 0 m h = 5.4	x: 0 m h = 10.0	x: 0 m h = 50.6	x: 0 m h = 15.0	x: 0 m h = 5.1	x: 0 m h = 5.3	x: 0 m h = 54.8	x: 0 m h = 19.4	x: 0 m h = 30.3	x: 0 m h = 4.0	x: 0 m h = 7.4	x: 0 m h = 77.3	x: 0 m h = 70.6	**CUMPLE h = 77.3**
N304/N293	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.448 m h = 0.4	x: 0 m h = 4.1	h = 10.4	x: 0 m h = 38.0	x: 0 m h = 10.7	x: 0.448 m h = 4.9	x: 0 m h = 4.3	x: 0 m h = 42.5	x: 0 m h = 14.9	x: 0 m h = 18.2	x: 0 m h = 2.5	x: 0 m h = 10.1	x: 0 m h = 59.2	x: 0 m h = 52.7	**CUMPLE h = 59.2**
N316/N317	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.9	x: 0 m h = 7.0	x: 0.44 m h = 6.5	x: 0 m h = 53.8	x: 0 m h = 12.8	x: 0.44 m h = 4.2	x: 0 m h = 6.1	x: 0 m h = 56.3	x: 0 m h = 15.5	x: 0 m h = 32.0	x: 0 m h = 2.6	x: 0 m h = 12.8	x: 0 m h = 74.8	x: 0 m h = 75.2	**CUMPLE h = 75.2**
N316/N318	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.1	x: 0 m h = 7.0	h = 6.5	x: 0 m h = 53.8	x: 0 m h = 12.3	x: 0 m h = 4.1	x: 0 m h = 6.1	x: 0 m h = 56.3	x: 0 m h = 15.1	x: 0 m h = 32.0	x: 0 m h = 2.4	x: 0 m h = 13.8	x: 0 m h = 74.8	x: 0 m h = 75.2	**CUMPLE h = 75.2**
N314/N318	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 1.4	x: 0 m h = 1.1	x: 0.22 m h = 9.3	x: 0 m h = 4.2	x: 0.441 m h = 6.3	h = 4.6	x: 0 m h = 1.0	x: 0 m h = 8.1	x: 0.441 m h = 10.4	x: 0 m h = 0.7	x: 0.441 m h = 1.3	x: 0 m h = 22.3	x: 0.441 m h = 12.6	x: 0 m h = 13.8	**CUMPLE h = 22.3**
N314/N319	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.444 m h = 14.4	x: 0.222 m h = 0.4	h = 9.5	x: 0 m h = 37.6	x: 0 m h = 17.8	h = 6.5	x: 0 m h = 1.8	x: 0 m h = 41.6	x: 0 m h = 21.9	x: 0 m h = 17.3	x: 0 m h = 5.2	x: 0 m h = 85.4	x: 0 m h = 5.3	x: 0 m h = 63.2	**CUMPLE h = 85.4**
N312/N319	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.224 m h = 1.5	x: 0 m h = 2.1	h = 10.7	x: 0.447 m h = 6.4	x: 0.447 m h = 11.8	h = 5.7	x: 0.447 m h = 1.1	x: 0.447 m h = 11.2	x: 0 m h = 13.1	x: 0.447 m h = 1.2	x: 0.447 m h = 1.9	x: 0.447 m h = 22.0	x: 0.447 m h = 22.4	x: 0.447 m h = 16.2	**CUMPLE h = 22.4**
N312/N320	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.452 m h = 13.8	x: 0.452 m h = 1.3	x: 0.226 m h = 10.8	x: 0 m h = 33.7	x: 0.452 m h = 11.8	x: 0.226 m h = 6.1	x: 0 m h = 3.3	x: 0 m h = 38.5	x: 0.452 m h = 16.6	x: 0 m h = 14.9	x: 0.452 m h = 2.9	x: 0 m h = 70.8	x: 0.452 m h = 9.4	x: 0 m h = 55.9	**CUMPLE h = 70.8**
N311/N320	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.457 m h = 1.2	x: 0 m h = 4.3	h = 13.3	x: 0 m h = 10.4	x: 0.457 m h = 24.0	h = 11.0	x: 0 m h = 2.2	x: 0 m h = 16.3	x: 0.457 m h = 29.9	x: 0 m h = 2.7	x: 0.457 m h = 10.2	x: 0.457 m h = 32.5	x: 0.457 m h = 42.8	x: 0.457 m h = 33.9	**CUMPLE h = 42.8**
N309/N311	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.469 m h = 1.9	x: 0 m h = 6.8	h = 13.1	x: 0 m h = 9.7	x: 0.469 m h = 29.6	h = 14.4	x: 0 m h = 2.5	x: 0 m h = 15.5	x: 0.469 m h = 35.4	x: 0 m h = 2.5	x: 0.469 m h = 14.6	x: 0 m h = 31.4	x: 0 m h = 51.0	x: 0.469 m h = 42.7	**CUMPLE h = 51.0**
N272/N309	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.475 m h = 2.5	x: 0 m h = 9.6	h = 11.8	x: 0 m h = 9.4	x: 0.475 m h = 30.4	h = 15.2	x: 0 m h = 3.3	x: 0 m h = 14.6	x: 0.475 m h = 35.6	x: 0 m h = 2.2	x: 0.475 m h = 15.0	x: 0 m h = 33.7	x: 0 m h = 55.1	x: 0.475 m h = 46.1	**CUMPLE h = 55.1**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N272/N321	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.2	h = 10.4	x: 0 m h = 28.1	x: 0.465 m h = 37.3	h = 18.7	x: 0 m h = 7.8	x: 0 m h = 32.7	x: 0.465 m h = 41.9	x: 0 m h = 11.3	x: 0.465 m h = 21.0	N.P.[2]	x: 0 m h = 73.6	x: 0 m h = 57.4	**CUMPLE h = 73.6**
N271/N321	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.473 m h = 0.3	x: 0 m h = 8.1	h = 10.9	x: 0 m h = 21.4	x: 0.473 m h = 40.6	h = 20.6	x: 0 m h = 7.6	x: 0 m h = 26.2	x: 0.473 m h = 45.4	x: 0 m h = 7.4	x: 0.473 m h = 24.9	x: 0.473 m h = 17.5	x: 0 m h = 76.0	x: 0 m h = 61.3	**CUMPLE h = 76.0**
N269/N271	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.465 m h = 0.4	x: 0 m h = 8.9	h = 8.8	x: 0 m h = 28.4	x: 0.465 m h = 34.9	h = 17.7	x: 0 m h = 8.5	x: 0 m h = 32.3	x: 0.465 m h = 38.8	x: 0 m h = 11.1	x: 0.465 m h = 18.2	x: 0.465 m h = 18.1	x: 0 m h = 75.5	x: 0 m h = 60.8	**CUMPLE h = 75.5**
N262/N269	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.462 m h = 0.3	x: 0 m h = 9.5	h = 8.2	x: 0 m h = 19.1	x: 0.462 m h = 20.8	h = 9.5	x: 0 m h = 3.9	x: 0 m h = 22.8	x: 0.462 m h = 24.5	x: 0 m h = 5.3	x: 0.462 m h = 6.9	x: 0 m h = 20.2	x: 0 m h = 50.0	x: 0 m h = 39.2	**CUMPLE h = 50.0**
N262/N322	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.485 m h = 8.6	x: 0 m h = 13.9	h = 9.1	x: 0 m h = 10.5	x: 0.485 m h = 27.4	x: 0 m h = 13.6	x: 0 m h = 3.0	x: 0 m h = 14.5	x: 0.485 m h = 28.8	x: 0 m h = 2.2	x: 0.485 m h = 10.2	x: 0 m h = 50.5	x: 0 m h = 41.1	x: 0.485 m h = 42.2	**CUMPLE h = 50.5**
N261/N322	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.2	h = 6.5	x: 0.444 m h = 22.6	x: 0 m h = 32.2	x: 0 m h = 17.1	x: 0 m h = 9.8	x: 0.444 m h = 25.5	x: 0 m h = 32.4	x: 0.444 m h = 6.9	x: 0 m h = 13.5	N.P.[2]	x: 0 m h = 54.8	x: 0 m h = 48.9	**CUMPLE h = 54.8**
N259/N261	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.4	x: 0 m h = 2.4	h = 3.6	x: 0 m h = 32.5	x: 0.44 m h = 34.5	h = 18.4	x: 0 m h = 13.5	x: 0 m h = 33.4	x: 0.44 m h = 35.4	x: 0 m h = 13.0	x: 0.44 m h = 15.9	x: 0 m h = 80.5	x: 0 m h = 57.7	x: 0 m h = 55.2	**CUMPLE h = 80.5**
N259/N258	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.2	x: 0 m h = 2.3	h = 3.5	x: 0 m h = 31.6	x: 0.44 m h = 33.9	h = 18.5	x: 0 m h = 13.2	x: 0 m h = 32.2	x: 0.44 m h = 34.8	x: 0 m h = 11.7	x: 0.44 m h = 15.6	x: 0 m h = 75.9	x: 0 m h = 63.2	x: 0 m h = 54.3	**CUMPLE h = 75.9**
N258/N256	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.2	h = 6.7	x: 0.444 m h = 23.6	x: 0 m h = 33.1	h = 17.5	x: 0 m h = 10.1	x: 0.444 m h = 26.5	x: 0 m h = 32.1	x: 0.444 m h = 7.6	x: 0 m h = 14.1	N.P.[2]	x: 0 m h = 55.3	x: 0 m h = 49.6	**CUMPLE h = 55.3**
N256/N254	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.8	h = 9.0	x: 0 m h = 23.3	x: 0.454 m h = 23.2	h = 11.2	x: 0 m h = 4.6	x: 0 m h = 27.3	x: 0.454 m h = 27.1	x: 0 m h = 7.7	x: 0.454 m h = 8.6	N.P.[2]	x: 0 m h = 52.4	x: 0 m h = 40.0	**CUMPLE h = 52.4**
N254/N252	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.3	h = 10.6	x: 0 m h = 28.0	x: 0.465 m h = 37.0	h = 18.6	x: 0 m h = 7.7	x: 0 m h = 32.7	x: 0.465 m h = 41.7	x: 0 m h = 11.3	x: 0.465 m h = 20.9	N.P.[2]	x: 0 m h = 73.4	x: 0 m h = 57.1	**CUMPLE h = 73.4**
N252/N250	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.5	h = 13.6	x: 0 m h = 26.3	x: 0.471 m h = 44.3	h = 22.2	x: 0 m h = 8.5	x: 0 m h = 32.3	x: 0.471 m h = 50.3	x: 0 m h = 11.2	x: 0.471 m h = 30.2	N.P.[2]	x: 0 m h = 81.6	x: 0 m h = 63.0	**CUMPLE h = 81.6**
N250/N248	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.2	h = 16.0	x: 0 m h = 23.5	x: 0.47 m h = 46.7	h = 23.3	x: 0 m h = 8.5	x: 0 m h = 30.6	x: 0.47 m h = 53.8	x: 0 m h = 10.1	x: 0.47 m h = 34.4	N.P.[2]	x: 0 m h = 82.5	x: 0.47 m h = 63.1	**CUMPLE h = 82.5**
N248/N246	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.5	h = 16.5	x: 0 m h = 19.7	x: 0.462 m h = 43.8	h = 21.9	x: 0 m h = 7.8	x: 0 m h = 27.0	x: 0.462 m h = 51.1	x: 0 m h = 7.9	x: 0.462 m h = 30.9	N.P.[2]	x: 0 m h = 74.7	x: 0.462 m h = 59.0	**CUMPLE h = 74.7**
N246/N31	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.5	h = 14.8	x: 0 m h = 13.7	x: 0.451 m h = 35.0	h = 17.5	x: 0 m h = 6.4	x: 0 m h = 20.3	x: 0.451 m h = 41.5	x: 0 m h = 4.5	x: 0.451 m h = 20.3	N.P.[2]	x: 0.451 m h = 58.6	x: 0.451 m h = 47.3	**CUMPLE h = 58.6**
N31/N29	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.456 m h = 7.4	x: 0 m h = 0.8	h = 12.4	x: 0 m h = 15.1	x: 0.456 m h = 26.6	h = 14.5	x: 0 m h = 5.5	x: 0 m h = 20.5	x: 0.456 m h = 32.1	x: 0 m h = 4.5	x: 0.456 m h = 12.4	x: 0 m h = 72.2	x: 0.456 m h = 5.9	x: 0 m h = 44.7	**CUMPLE h = 72.2**
N29/N27	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.451 m h = 5.6	x: 0 m h = 0.9	h = 11.1	x: 0.451 m h = 9.1	x: 0.451 m h = 26.3	h = 14.5	x: 0 m h = 4.6	x: 0.451 m h = 14.0	x: 0.451 m h = 31.2	x: 0.451 m h = 2.1	x: 0.451 m h = 11.8	x: 0.451 m h = 62.1	x: 0.451 m h = 5.2	x: 0.451 m h = 40.3	**CUMPLE h = 62.1**
N323/N29	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 1.2	x: 0 m h = 1.8	h = 13.6	x: 0.447 m h = 11.3	x: 0.447 m h = 34.4	h = 18.2	x: 0 m h = 6.3	x: 0.447 m h = 17.3	x: 0.447 m h = 40.4	x: 0.447 m h = 3.3	x: 0.447 m h = 19.6	x: 0.447 m h = 61.2	x: 0.447 m h = 58.3	x: 0.447 m h = 45.7	**CUMPLE h = 61.2**
N323/N324	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 4.3	x: 0 m h = 2.0	h = 13.7	x: 0 m h = 12.8	x: 0.453 m h = 36.6	h = 19.8	x: 0 m h = 6.8	x: 0 m h = 18.9	x: 0.453 m h = 42.7	x: 0 m h = 4.0	x: 0.453 m h = 22.1	x: 0 m h = 77.4	x: 0.453 m h = 18.8	x: 0.453 m h = 50.3	**CUMPLE h = 77.4**
N325/N323	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 0.8	x: 0 m h = 1.5	h = 15.8	x: 0 m h = 18.3	x: 0.458 m h = 42.7	h = 22.1	x: 0 m h = 8.2	x: 0 m h = 25.3	x: 0.458 m h = 49.7	x: 0 m h = 7.1	x: 0.458 m h = 29.6	x: 0 m h = 72.6	x: 0 m h = 71.1	x: 0.458 m h = 55.8	**CUMPLE h = 72.6**
N246/N323	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.461 m h = 4.9	x: 0 m h = 1.7	h = 15.0	x: 0 m h = 21.0	x: 0.461 m h = 38.2	h = 20.0	x: 0 m h = 7.7	x: 0 m h = 27.6	x: 0.461 m h = 44.9	x: 0 m h = 8.2	x: 0.461 m h = 24.1	x: 0 m h = 90.6	x: 0 m h = 21.4	x: 0 m h = 54.9	**CUMPLE h = 90.6**
N325/N326	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 0.8	x: 0 m h = 1.4	h = 15.8	x: 0 m h = 18.3	x: 0.458 m h = 42.8	h = 22.2	x: 0 m h = 8.2	x: 0 m h = 25.3	x: 0.458 m h = 49.8	x: 0 m h = 7.1	x: 0.458 m h = 29.8	x: 0 m h = 73.5	x: 0 m h = 71.2	x: 0.458 m h = 55.7	**CUMPLE h = 73.5**
N327/N325	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.233 m h = 0.6	x: 0.233 m h = 1.4	h = 16.5	x: 0 m h = 24.7	x: 0.466 m h = 45.5	h = 23.1	x: 0 m h = 9.0	x: 0 m h = 32.0	x: 0.466 m h = 52.8	x: 0 m h = 11.0	x: 0.466 m h = 33.2	x: 0 m h = 81.8	x: 0 m h = 80.2	x: 0 m h = 59.7	**CUMPLE h = 81.8**
N248/N325	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.466 m h = 0.8	x: 0 m h = 1.3	h = 16.5	x: 0 m h = 24.4	x: 0.466 m h = 45.2	h = 23.0	x: 0 m h = 8.9	x: 0 m h = 31.7	x: 0.466 m h = 52.5	x: 0 m h = 10.8	x: 0.466 m h = 32.8	x: 0 m h = 80.1	x: 0 m h = 79.6	x: 0 m h = 59.1	**CUMPLE h = 80.1**
N250/N327	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.3	h = 16.1	x: 0 m h = 23.2	x: 0.47 m h = 46.3	h = 23.2	x: 0 m h = 8.4	x: 0 m h = 30.3	x: 0.47 m h = 53.4	x: 0 m h = 9.9	x: 0.47 m h = 33.9	N.P.[2]	x: 0 m h = 82.1	x: 0.47 m h = 62.8	**CUMPLE h = 82.1**
N327/N328	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.6	h = 16.6	x: 0 m h = 19.7	x: 0.462 m h = 44.0	h = 22.1	x: 0 m h = 7.8	x: 0 m h = 27.0	x: 0.462 m h = 51.3	x: 0 m h = 7.9	x: 0.462 m h = 31.2	N.P.[2]	x: 0 m h = 75.3	x: 0.462 m h = 59.4	**CUMPLE h = 75.3**
N329/N327	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.234 m h = 0.7	x: 0.234 m h = 1.2	h = 15.3	x: 0 m h = 28.8	x: 0.468 m h = 42.8	h = 21.4	x: 0 m h = 8.7	x: 0 m h = 35.6	x: 0.468 m h = 49.6	x: 0 m h = 13.4	x: 0.468 m h = 29.2	x: 0 m h = 80.3	x: 0 m h = 79.6	x: 0 m h = 58.8	**CUMPLE h = 80.3**
N329/N330	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.233 m h = 0.1	x: 0 m h = 5.3	h = 15.7	x: 0 m h = 16.2	x: 0.466 m h = 39.5	h = 19.4	x: 0 m h = 5.6	x: 0 m h = 23.2	x: 0.466 m h = 46.5	x: 0 m h = 5.7	x: 0.466 m h = 25.4	x: 0.466 m h = 11.9	x: 0 m h = 68.1	x: 0.466 m h = 54.7	**CUMPLE h = 68.1**
N331/N329	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.463 m h = 1.0	x: 0 m h = 1.0	h = 12.7	x: 0 m h = 30.1	x: 0.463 m h = 35.2	h = 17.2	x: 0 m h = 7.3	x: 0 m h = 35.7	x: 0.463 m h = 40.8	x: 0 m h = 13.3	x: 0.463 m h = 19.6	x: 0 m h = 87.0	x: 0 m h = 25.1	x: 0 m h = 51.6	**CUMPLE h = 87.0**
N252/N329	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.474 m h = 0.4	x: 0 m h = 6.9	h = 14.2	x: 0 m h = 17.4	x: 0.474 m h = 41.3	h = 20.7	x: 0 m h = 6.3	x: 0 m h = 23.7	x: 0.474 m h = 47.6	x: 0 m h = 6.0	x: 0.474 m h = 26.9	x: 0.474 m h = 16.1	x: 0 m h = 73.4	x: 0.474 m h = 58.8	**CUMPLE h = 73.4**
N331/N332	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.469 m h = 1.7	x: 0 m h = 6.5	h = 13.3	x: 0 m h = 9.7	x: 0.469 m h = 29.6	h = 14.3	x: 0 m h = 2.5	x: 0 m h = 15.5	x: 0.469 m h = 35.4	x: 0 m h = 2.5	x: 0.469 m h = 14.6	x: 0 m h = 31.6	x: 0 m h = 50.9	x: 0.469 m h = 42.5	**CUMPLE h = 50.9**
N333/N331	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.454 m h = 1.4	x: 0 m h = 0.9	h = 9.3	x: 0 m h = 26.6	x: 0.454 m h = 22.9	h = 10.4	x: 0 m h = 4.4	x: 0 m h = 30.7	x: 0.454 m h = 27.0	x: 0 m h = 9.6	x: 0.454 m h = 8.4	x: 0 m h = 62.5	x: 0 m h = 26.6	x: 0 m h = 38.4	**CUMPLE h = 62.5**
N254/N331	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.238 m h = 2.3	x: 0.238 m h = 9.3	h = 11.9	x: 0 m h = 9.4	x: 0.475 m h = 30.3	h = 15.2	x: 0 m h = 3.3	x: 0 m h = 14.7	x: 0.475 m h = 35.6	x: 0 m h = 2.3	x: 0.475 m h = 15.0	x: 0 m h = 33.4	x: 0 m h = 55.0	x: 0.475 m h = 45.9	**CUMPLE h = 55.0**
N333/N334	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.47 m h = 4.0	x: 0 m h = 6.2	h = 9.1	x: 0.47 m h = 6.6	x: 0.47 m h = 22.0	x: 0 m h = 11.2	x: 0.47 m h = 1.7	x: 0.47 m h = 10.5	x: 0.47 m h = 22.9	x: 0.47 m h = 1.1	x: 0.47 m h = 6.5	x: 0 m h = 37.0	x: 0.47 m h = 33.1	x: 0.47 m h = 31.3	**CUMPLE h = 37.0**
N335/N333	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.222 m h = 1.4	x: 0.222 m h = 0.7	h = 6.4	x: 0.444 m h = 23.5	x: 0 m h = 28.7	x: 0 m h = 15.5	x: 0 m h = 7.6	x: 0.444 m h = 26.3	x: 0 m h = 26.1	x: 0.444 m h = 7.1	x: 0 m h = 10.7	x: 0 m h = 59.2	x: 0 m h = 47.7	x: 0 m h = 42.8	**CUMPLE h = 59.2**
N256/N333	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.475 m h = 6.0	x: 0 m h = 9.6	h = 9.0	x: 0 m h = 5.9	x: 0.475 m h = 23.9	x: 0 m h = 12.1	x: 0 m h = 1.9	x: 0 m h = 8.5	x: 0.475 m h = 24.9	x: 0 m h = 0.7	x: 0.475 m h = 7.7	x: 0 m h = 42.5	x: 0 m h = 31.9	x: 0.475 m h = 35.5	**CUMPLE h = 42.5**
N335/N336	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.469 m h = 2.2	x: 0 m h = 1.7	h = 7.2	x: 0.469 m h = 6.3	x: 0.469 m h = 11.7	x: 0 m h = 8.0	x: 0.469 m h = 1.2	x: 0.469 m h = 9.2	x: 0.469 m h = 12.1	x: 0.469 m h = 0.8	x: 0.469 m h = 2.1	x: 0.469 m h = 22.4	x: 0.469 m h = 16.8	x: 0.469 m h = 16.3	**CUMPLE h = 22.4**
N337/N335	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.1	x: 0.44 m h = 0.5	h = 3.3	x: 0 m h = 25.4	x: 0.44 m h = 32.7	h = 17.9	x: 0 m h = 9.3	x: 0 m h = 26.0	x: 0.44 m h = 33.5	x: 0 m h = 7.5	x: 0.44 m h = 14.4	x: 0 m h = 70.4	x: 0 m h = 25.8	x: 0 m h = 48.5	**CUMPLE h = 70.4**
N258/N335	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.474 m h = 2.4	x: 0 m h = 2.2	h = 6.8	x: 0 m h = 6.3	x: 0.474 m h = 12.2	h = 8.5	x: 0.474 m h = 0.7	x: 0.474 m h = 8.1	x: 0.474 m h = 12.3	x: 0.474 m h = 0.7	x: 0.474 m h = 2.2	x: 0.474 m h = 21.9	x: 0.474 m h = 16.9	x: 0.474 m h = 17.3	**CUMPLE h = 21.9**
N337/N338	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.469 m h = 0.3	x: 0 m h = 0.6	h = 4.1	x: 0 m h = 9.6	x: 0.469 m h = 4.9	h = 3.5	x: 0 m h = 0.8	x: 0 m h = 9.7	x: 0.469 m h = 6.7	x: 0 m h = 0.9	x: 0.469 m h = 0.6	x: 0.469 m h = 16.1	x: 0.469 m h = 13.5	x: 0 m h = 12.2	**CUMPLE h = 16.1**
N337/N339	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.1	x: 0 m h = 0.5	h = 3.1	x: 0 m h = 26.1	x: 0.44 m h = 32.2	h = 17.3	x: 0 m h = 9.1	x: 0 m h = 26.7	x: 0.44 m h = 32.9	x: 0 m h = 7.9	x: 0.44 m h = 13.8	x: 0 m h = 69.5	x: 0 m h = 19.3	x: 0 m h = 48.0	**CUMPLE h = 69.5**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N261/N339	$(w / t)_{Máx.}$ Cumple	x: 0.474 m h = 2.2	x: 0 m h = 2.0	h = 6.6	x: 0 m h = 6.3	x: 0.474 m h = 11.8	h = 8.1	x: 0.474 m h = 0.7	x: 0.474 m h = 8.1	x: 0.474 m h = 12.0	x: 0.474 m h = 0.7	x: 0.474 m h = 2.1	x: 0.474 m h = 21.8	x: 0.474 m h = 16.5	x: 0.474 m h = 17.3	**CUMPLE h = 21.8**
N339/N340	$(w / t)_{Máx.}$ Cumple	x: 0.469 m h = 2.0	x: 0 m h = 1.5	h = 7.1	x: 0.469 m h = 6.3	x: 0.469 m h = 11.6	x: 0 m h = 7.7	x: 0.469 m h = 1.2	x: 0.469 m h = 9.1	x: 0.469 m h = 11.5	x: 0.469 m h = 0.8	x: 0.469 m h = 1.9	x: 0.469 m h = 22.2	x: 0.469 m h = 15.6	x: 0.469 m h = 16.6	**CUMPLE h = 22.2**
N339/N341	$(w / t)_{Máx.}$ Cumple	x: 0.444 m h = 1.3	x: 0 m h = 0.6	h = 6.2	x: 0.444 m h = 24.4	x: 0 m h = 28.5	h = 14.8	x: 0 m h = 7.3	x: 0.444 m h = 27.1	x: 0 m h = 28.2	x: 0.444 m h = 7.6	x: 0 m h = 10.5	x: 0 m h = 58.8	x: 0 m h = 44.6	x: 0 m h = 41.6	**CUMPLE h = 58.8**
N341/N342	$(w / t)_{Máx.}$ Cumple	x: 0.47 m h = 4.1	x: 0 m h = 6.4	h = 9.0	x: 0.47 m h = 6.6	x: 0.47 m h = 21.9	x: 0 m h = 11.1	x: 0.47 m h = 1.8	x: 0.47 m h = 10.4	x: 0.47 m h = 23.1	x: 0.47 m h = 1.1	x: 0.47 m h = 6.5	x: 0 m h = 37.6	x: 0.47 m h = 33.0	x: 0.47 m h = 31.3	**CUMPLE h = 37.6**
N341/N343	$(w / t)_{Máx.}$ Cumple	x: 0.227 m h = 1.3	x: 0.227 m h = 0.8	h = 9.2	x: 0 m h = 26.6	x: 0.454 m h = 22.9	h = 10.5	x: 0 m h = 4.5	x: 0 m h = 30.6	x: 0.454 m h = 27.0	x: 0 m h = 9.6	x: 0.454 m h = 8.4	x: 0 m h = 62.5	x: 0.454 m h = 26.4	x: 0 m h = 38.6	**CUMPLE h = 62.5**
N322/N341	$(w / t)_{Máx.}$ Cumple	x: 0.475 m h = 6.0	x: 0 m h = 9.6	h = 8.9	x: 0 m h = 6.0	x: 0.475 m h = 23.7	h = 11.9	x: 0 m h = 2.0	x: 0 m h = 8.4	x: 0.475 m h = 24.8	x: 0 m h = 0.7	x: 0.475 m h = 7.6	x: 0 m h = 42.6	x: 0 m h = 31.8	x: 0.475 m h = 35.1	**CUMPLE h = 42.6**
N322/N344	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.7	h = 8.8	x: 0 m h = 23.4	x: 0.454 m h = 23.2	h = 11.2	x: 0 m h = 4.6	x: 0 m h = 27.3	x: 0.454 m h = 27.1	x: 0 m h = 7.7	x: 0.454 m h = 8.6	N.P.[2]	x: 0 m h = 52.3	x: 0 m h = 40.1	**CUMPLE h = 52.3**
N344/N343	$(w / t)_{Máx.}$ Cumple	x: 0.475 m h = 2.7	x: 0 m h = 9.8	h = 11.7	x: 0 m h = 9.5	x: 0.475 m h = 30.5	h = 15.3	x: 0 m h = 3.4	x: 0 m h = 14.7	x: 0.475 m h = 35.7	x: 0 m h = 2.3	x: 0.475 m h = 15.1	x: 0 m h = 36.8	x: 0 m h = 55.2	x: 0.475 m h = 46.2	**CUMPLE h = 55.2**
N344/N345	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.3	h = 10.4	x: 0 m h = 28.1	x: 0.465 m h = 37.3	h = 18.8	x: 0 m h = 7.8	x: 0 m h = 32.7	x: 0.465 m h = 41.9	x: 0 m h = 11.3	x: 0.465 m h = 21.1	N.P.[2]	x: 0 m h = 73.7	x: 0 m h = 57.5	**CUMPLE h = 73.7**
N269/N344	$(w / t)_{Máx.}$ Cumple	x: 0.474 m h = 3.6	x: 0 m h = 13.1	h = 10.2	x: 0 m h = 16.9	x: 0.474 m h = 30.3	h = 15.4	x: 0 m h = 6.2	x: 0 m h = 21.4	x: 0.474 m h = 34.8	x: 0 m h = 5.0	x: 0.474 m h = 14.5	x: 0 m h = 39.1	x: 0 m h = 64.5	x: 0 m h = 51.4	**CUMPLE h = 64.5**
N345/N346	$(w / t)_{Máx.}$ Cumple	x: 0 m h = 0.2	x: 0 m h = 6.8	h = 14.0	x: 0 m h = 17.6	x: 0.474 m h = 41.6	h = 20.8	x: 0 m h = 6.3	x: 0 m h = 23.8	x: 0.474 m h = 47.7	x: 0 m h = 6.0	x: 0.474 m h = 27.1	x: 0.474 m h = 15.2	x: 0 m h = 73.5	x: 0.474 m h = 58.9	**CUMPLE h = 73.5**
N345/N347	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.5	h = 13.3	x: 0 m h = 26.3	x: 0.471 m h = 44.6	h = 22.3	x: 0 m h = 8.6	x: 0 m h = 32.2	x: 0.471 m h = 50.5	x: 0 m h = 11.1	x: 0.471 m h = 30.4	N.P.[2]	x: 0 m h = 81.5	x: 0 m h = 63.2	**CUMPLE h = 81.5**
N271/N345	$(w / t)_{Máx.}$ Cumple	x: 0.473 m h = 0.6	x: 0 m h = 8.0	h = 10.9	x: 0 m h = 21.4	x: 0.473 m h = 40.7	h = 20.6	x: 0 m h = 7.6	x: 0 m h = 26.2	x: 0.473 m h = 45.5	x: 0 m h = 7.5	x: 0.473 m h = 24.9	x: 0.473 m h = 19.2	x: 0 m h = 76.0	x: 0 m h = 61.3	**CUMPLE h = 76.0**
N321/N347	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.4	h = 13.3	x: 0 m h = 26.3	x: 0.471 m h = 44.5	h = 22.3	x: 0 m h = 8.6	x: 0 m h = 32.2	x: 0.471 m h = 50.4	x: 0 m h = 11.1	x: 0.471 m h = 30.4	N.P.[2]	x: 0 m h = 81.5	x: 0 m h = 63.1	**CUMPLE h = 81.5**
N321/N348	$(w / t)_{Máx.}$ Cumple	x: 0.474 m h = 0.1	x: 0 m h = 6.8	h = 14.0	x: 0 m h = 17.5	x: 0.474 m h = 41.5	h = 20.7	x: 0 m h = 6.3	x: 0 m h = 23.7	x: 0.474 m h = 47.7	x: 0 m h = 6.0	x: 0.474 m h = 27.0	x: 0.474 m h = 15.2	x: 0 m h = 73.4	x: 0.474 m h = 58.9	**CUMPLE h = 73.4**
N348/N349	$(w / t)_{Máx.}$ Cumple	x: 0.468 m h = 0.8	x: 0 m h = 1.3	h = 15.1	x: 0 m h = 28.8	x: 0.468 m h = 43.0	h = 21.4	x: 0 m h = 8.8	x: 0 m h = 35.5	x: 0.468 m h = 49.7	x: 0 m h = 13.3	x: 0.468 m h = 29.3	x: 0 m h = 79.7	x: 0 m h = 79.5	x: 0 m h = 58.8	**CUMPLE h = 79.7**
N348/N350	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 5.3	h = 15.5	x: 0 m h = 16.3	x: 0.466 m h = 39.6	h = 19.5	x: 0 m h = 5.6	x: 0 m h = 23.2	x: 0.466 m h = 46.5	x: 0 m h = 5.7	x: 0.466 m h = 25.4	N.P.[2]	x: 0 m h = 68.0	x: 0.466 m h = 54.8	**CUMPLE h = 68.0**
N309/N348	$(w / t)_{Máx.}$ Cumple	x: 0.463 m h = 1.0	x: 0 m h = 1.0	h = 12.5	x: 0 m h = 30.2	x: 0.463 m h = 35.4	h = 17.3	x: 0 m h = 7.4	x: 0 m h = 35.7	x: 0.463 m h = 40.9	x: 0 m h = 13.3	x: 0.463 m h = 19.8	x: 0 m h = 87.2	x: 0 m h = 25.2	x: 0 m h = 51.9	**CUMPLE h = 87.2**
N311/N350	$(w / t)_{Máx.}$ Cumple	x: 0.461 m h = 6.2	x: 0.23 m h = 1.0	h = 13.2	x: 0 m h = 31.7	x: 0.461 m h = 29.6	h = 14.2	x: 0 m h = 6.6	x: 0 m h = 37.5	x: 0.461 m h = 35.4	x: 0 m h = 14.5	x: 0.461 m h = 14.6	x: 0 m h = 88.6	x: 0 m h = 13.1	x: 0 m h = 54.8	**CUMPLE h = 88.6**
N350/N351	$(w / t)_{Máx.}$ Cumple	x: 0.232 m h = 5.2	x: 0.232 m h = 1.0	h = 14.8	x: 0 m h = 27.9	x: 0.464 m h = 36.3	h = 18.4	x: 0 m h = 7.8	x: 0 m h = 34.4	x: 0.464 m h = 42.9	x: 0 m h = 12.5	x: 0.464 m h = 21.7	x: 0 m h = 95.4	x: 0 m h = 21.5	x: 0 m h = 57.3	**CUMPLE h = 95.4**
N350/N352	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.7	h = 14.8	x: 0 m h = 14.0	x: 0.455 m h = 32.1	h = 15.4	x: 0 m h = 4.8	x: 0 m h = 20.5	x: 0.455 m h = 38.6	x: 0 m h = 4.4	x: 0.455 m h = 17.3	N.P.[2]	x: 0 m h = 54.2	x: 0.455 m h = 43.8	**CUMPLE h = 54.2**
N352/N353	$(w / t)_{Máx.}$ Cumple	x: 0.46 m h = 9.8	x: 0.23 m h = 1.3	h = 12.8	x: 0 m h = 24.0	x: 0.46 m h = 24.2	h = 12.6	x: 0 m h = 5.9	x: 0 m h = 29.6	x: 0.46 m h = 29.9	x: 0 m h = 9.1	x: 0.46 m h = 10.5	x: 0 m h = 81.0	x: 0 m h = 10.4	x: 0 m h = 50.2	**CUMPLE h = 81.0**
N352/N354	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.2	h = 12.4	x: 0 m h = 8.6	x: 0.444 m h = 19.1	h = 8.2	x: 0 m h = 3.4	x: 0 m h = 14.1	x: 0.444 m h = 24.6	x: 0 m h = 2.1	x: 0.444 m h = 6.7	N.P.[2]	x: 0.444 m h = 34.5	x: 0.444 m h = 26.1	**CUMPLE h = 34.5**
N320/N352	$(w / t)_{Máx.}$ Cumple	x: 0.458 m h = 11.9	x: 0.458 m h = 1.3	h = 12.4	x: 0 m h = 30.9	x: 0.458 m h = 18.6	h = 8.7	x: 0 m h = 5.3	x: 0 m h = 36.4	x: 0.458 m h = 24.0	x: 0 m h = 13.5	x: 0.458 m h = 6.5	x: 0 m h = 80.7	x: 0.458 m h = 10.3	x: 0 m h = 53.8	**CUMPLE h = 80.7**
N320/N355	$(w / t)_{Máx.}$ Cumple	x: 0.446 m h = 0.9	x: 0 m h = 2.7	h = 12.3	x: 0 m h = 8.4	x: 0.446 m h = 12.6	h = 4.5	x: 0 m h = 1.9	x: 0 m h = 13.8	x: 0.446 m h = 18.0	x: 0 m h = 2.0	x: 0.446 m h = 3.4	x: 0.446 m h = 24.4	x: 0.446 m h = 28.3	x: 0.446 m h = 18.1	**CUMPLE h = 28.3**
N355/N354	$(w / t)_{Máx.}$ Cumple	x: 0.454 m h = 10.7	x: 0.454 m h = 1.2	h = 10.7	x: 0 m h = 28.2	x: 0.454 m h = 3.1	x: 0.454 m h = 1.7	x: 0 m h = 3.5	x: 0 m h = 32.8	x: 0 m h = 7.0	x: 0 m h = 10.9	x: 0 m h = 0.5	x: 0 m h = 57.7	x: 0.454 m h = 7.0	x: 0 m h = 45.8	**CUMPLE h = 57.7**
N355/N356	$(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.6	x: 0.44 m h = 2.3	x: 0.44 m h = 10.2	x: 0 m h = 2.6	x: 0 m h = 13.5	x: 0.44 m h = 7.4	x: 0 m h = 0.8	x: 0 m h = 7.0	x: 0 m h = 17.6	x: 0 m h = 0.5	x: 0 m h = 3.6	x: 0 m h = 30.0	x: 0 m h = 24.4	x: 0 m h = 18.4	**CUMPLE h = 30.0**
N319/N355	$(w / t)_{Máx.}$ Cumple	x: 0.45 m h = 12.8	x: 0 m h = 0.5	h = 10.7	x: 0 m h = 35.3	x: 0 m h = 11.3	h = 4.9	x: 0 m h = 2.8	x: 0 m h = 39.9	x: 0 m h = 15.9	x: 0 m h = 16.0	x: 0 m h = 2.8	x: 0 m h = 77.5	x: 0.45 m h = 11.4	x: 0 m h = 57.7	**CUMPLE h = 77.5**
N319/N357	$(w / t)_{Máx.}$ Cumple	x: 0.441 m h = 0.7	x: 0 m h = 0.9	x: 0.22 m h = 10.5	x: 0.441 m h = 3.6	x: 0.441 m h = 16.5	x: 0.22 m h = 9.3	x: 0.441 m h = 1.0	x: 0.441 m h = 8.1	x: 0.441 m h = 21.0	x: 0.441 m h = 0.7	x: 0.441 m h = 5.3	x: 0.441 m h = 32.0	x: 0.441 m h = 29.3	x: 0.441 m h = 21.2	**CUMPLE h = 32.0**
N357/N356	$(w / t)_{Máx.}$ Cumple	x: 0.224 m h = 0.5	x: 0 m h = 4.1	h = 10.4	x: 0 m h = 38.0	x: 0 m h = 10.4	h = 4.6	x: 0 m h = 4.3	x: 0 m h = 42.5	x: 0 m h = 14.5	x: 0 m h = 18.2	x: 0 m h = 2.3	x: 0 m h = 15.1	x: 0 m h = 59.2	x: 0 m h = 52.6	**CUMPLE h = 59.2**
N318/N357	$(w / t)_{Máx.}$ Cumple	x: 0.443 m h = 0.8	x: 0 m h = 5.4	h = 10.6	x: 0 m h = 50.6	x: 0 m h = 15.3	h = 5.1	x: 0 m h = 5.3	x: 0 m h = 54.8	x: 0 m h = 19.9	x: 0 m h = 30.3	x: 0 m h = 4.2	x: 0 m h = 13.2	x: 0 m h = 77.3	x: 0 m h = 70.5	**CUMPLE h = 77.3**
N356/N358	$(w / t)_{Máx.}$ Cumple	x: 0.453 m h = 0.4	x: 0 m h = 2.9	h = 9.8	x: 0 m h = 29.0	x: 0 m h = 3.7	h = 1.8	x: 0 m h = 4.3	x: 0 m h = 33.3	x: 0 m h = 7.9	x: 0 m h = 11.2	x: 0 m h = 0.7	x: 0 m h = 19.1	x: 0 m h = 44.0	x: 0 m h = 39.3	**CUMPLE h = 44.0**
N354/N358	$(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.1	x: 0 m h = 0.8	h = 9.6	x: 0.44 m h = 1.4	x: 0 m h = 8.2	x: 0 m h = 4.2	x: 0 m h = 0.9	x: 0 m h = 5.6	x: 0 m h = 12.2	x: 0 m h = 0.3	x: 0 m h = 1.7	x: 0 m h = 18.1	x: 0 m h = 17.1	x: 0 m h = 13.1	**CUMPLE h = 18.1**
N354/N359	$(w / t)_{Máx.}$ Cumple	x: 0.228 m h = 8.6	x: 0 m h = 1.4	h = 10.2	x: 0 m h = 19.7	x: 0.456 m h = 6.6	h = 3.4	x: 0 m h = 3.6	x: 0 m h = 24.0	x: 0.456 m h = 11.0	x: 0 m h = 5.9	x: 0.456 m h = 1.3	x: 0 m h = 51.2	x: 0.456 m h = 8.1	x: 0 m h = 33.5	**CUMPLE h = 51.2**
N353/N359	$(w / t)_{Máx.}$ Cumple	x: 0.221 m h = 0.6	x: 0.221 m h = 1.9	h = 11.8	x: 0.442 m h = 6.4	x: 0.442 m h = 22.9	h = 10.9	x: 0 m h = 3.9	x: 0.442 m h = 11.6	x: 0.442 m h = 28.1	x: 0 m h = 1.5	x: 0.442 m h = 9.1	x: 0.442 m h = 40.8	x: 0.442 m h = 41.2	x: 0.442 m h = 31.1	**CUMPLE h = 41.2**
N351/N353	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.4	h = 14.7	x: 0 m h = 14.0	x: 0.451 m h = 35.7	h = 17.9	x: 0 m h = 6.5	x: 0 m h = 20.5	x: 0.451 m h = 42.2	x: 0 m h = 4.6	x: 0.451 m h = 21.0	N.P.[2]	x: 0.451 m h = 59.2	x: 0.451 m h = 48.1	**CUMPLE h = 59.2**
N349/N351	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.4	h = 16.4	x: 0 m h = 19.7	x: 0.463 m h = 44.0	h = 22.1	x: 0 m h = 7.8	x: 0 m h = 27.0	x: 0.463 m h = 51.2	x: 0 m h = 7.9	x: 0.463 m h = 31.1	N.P.[2]	x: 0 m h = 74.9	x: 0.463 m h = 59.2	**CUMPLE h = 74.9**
N347/N349	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.1	h = 15.9	x: 0 m h = 23.2	x: 0.47 m h = 46.3	h = 23.1	x: 0 m h = 8.4	x: 0 m h = 30.3	x: 0.47 m h = 53.3	x: 0 m h = 9.9	x: 0.47 m h = 33.8	N.P.[2]	x: 0 m h = 81.7	x: 0.47 m h = 62.5	**CUMPLE h = 81.7**
N347/N360	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.1	h = 15.9	x: 0 m h = 23.3	x: 0.47 m h = 46.3	h = 23.1	x: 0 m h = 8.4	x: 0 m h = 30.3	x: 0.47 m h = 53.3	x: 0 m h = 9.9	x: 0.47 m h = 33.8	N.P.[2]	x: 0 m h = 81.7	x: 0.47 m h = 62.5	**CUMPLE h = 81.7**
N346/N360	$(w / t)_{Máx.}$ Cumple	x: 0.468 m h = 0.6	x: 0 m h = 1.1	h = 15.1	x: 0 m h = 28.8	x: 0.468 m h = 43.0	h = 21.5	x: 0 m h = 8.8	x: 0 m h = 35.5	x: 0.468 m h = 49.7	x: 0 m h = 13.4	x: 0.468 m h = 29.3	x: 0 m h = 78.1	x: 0 m h = 79.6	x: 0 m h = 58.9	**CUMPLE h = 79.6**
N343/N346	$(w / t)_{Máx.}$ Cumple	x: 0.463 m h = 0.9	x: 0 m h = 0.9	h = 12.5	x: 0 m h = 30.2	x: 0.463 m h = 35.5	h = 17.4	x: 0 m h = 7.4	x: 0 m h = 35.7	x: 0.463 m h = 41.0	x: 0 m h = 13.3	x: 0.463 m h = 19.9	x: 0 m h = 87.4	x: 0 m h = 33.5	x: 0 m h = 52.0	**CUMPLE h = 87.4**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N343/N361	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.469 m h = 1.9	x: 0 m h = 6.8	h = 13.1	x: 0 m h = 9.7	x: 0.469 m h = 29.7	h = 14.4	x: 0 m h = 2.5	x: 0 m h = 15.5	x: 0.469 m h = 35.5	x: 0 m h = 2.5	x: 0.469 m h = 14.7	x: 0 m h = 34.9	x: 0 m h = 51.1	x: 0.469 m h = 42.8	**CUMPLE** **h = 51.1**
N342/N361	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.453 m h = 7.4	x: 0 m h = 0.8	h = 10.0	x: 0 m h = 30.7	x: 0.453 m h = 20.0	h = 8.4	x: 0 m h = 3.9	x: 0 m h = 35.1	x: 0.453 m h = 24.5	x: 0 m h = 12.5	x: 0.453 m h = 6.7	x: 0 m h = 69.5	x: 0 m h = 15.5	x: 0 m h = 47.7	**CUMPLE** **h = 69.5**
N340/N342	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.445 m h = 8.1	x: 0 m h = 0.8	h = 6.9	x: 0.445 m h = 28.4	x: 0 m h = 24.1	h = 12.7	x: 0 m h = 5.6	x: 0.445 m h = 31.4	x: 0 m h = 24.6	x: 0.445 m h = 10.1	x: 0 m h = 7.6	x: 0.445 m h = 60.9	x: 0 m h = 15.9	x: 0.445 m h = 42.9	**CUMPLE** **h = 60.9**
N338/N340	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 8.5	x: 0 m h = 0.2	x: 0.22 m h = 3.2	x: 0.44 m h = 27.2	x: 0.44 m h = 28.5	x: 0 m h = 14.9	x: 0.44 m h = 7.1	x: 0.44 m h = 28.6	x: 0.44 m h = 29.0	x: 0.44 m h = 8.7	x: 0.44 m h = 10.6	x: 0 m h = 63.3	x: 0 m h = 14.8	x: 0 m h = 45.3	**CUMPLE** **h = 63.3**
N338/N336	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 8.5	x: 0 m h = 0.1	h = 3.3	x: 0.44 m h = 26.5	x: 0.44 m h = 28.7	h = 15.5	x: 0.44 m h = 7.4	x: 0.44 m h = 27.8	x: 0.44 m h = 29.2	x: 0.44 m h = 8.1	x: 0.44 m h = 10.9	x: 0 m h = 62.6	x: 0 m h = 12.4	x: 0 m h = 44.7	**CUMPLE** **h = 62.6**
N336/N334	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.445 m h = 8.1	x: 0.222 m h = 0.9	h = 6.9	x: 0.445 m h = 28.0	x: 0 m h = 23.0	h = 12.7	x: 0 m h = 5.6	x: 0.445 m h = 31.0	x: 0 m h = 22.2	x: 0.445 m h = 9.8	x: 0 m h = 7.0	x: 0.445 m h = 61.2	x: 0 m h = 12.9	x: 0.445 m h = 42.2	**CUMPLE** **h = 61.2**
N334/N332	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.453 m h = 7.4	x: 0.227 m h = 0.8	x: 0.227 m h = 10.3	x: 0 m h = 30.7	x: 0.453 m h = 20.0	h = 8.3	x: 0 m h = 3.9	x: 0 m h = 35.2	x: 0.453 m h = 24.5	x: 0 m h = 12.6	x: 0.453 m h = 6.7	x: 0 m h = 69.5	x: 0.453 m h = 22.0	x: 0 m h = 47.6	**CUMPLE** **h = 69.5**
N332/N330	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.461 m h = 6.2	x: 0.461 m h = 0.9	h = 13.3	x: 0 m h = 31.7	x: 0.461 m h = 29.4	h = 14.1	x: 0 m h = 6.6	x: 0 m h = 37.6	x: 0.461 m h = 35.3	x: 0 m h = 14.6	x: 0.461 m h = 14.5	x: 0 m h = 88.5	x: 0.461 m h = 13.5	x: 0 m h = 54.7	**CUMPLE** **h = 88.5**
N330/N328	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.232 m h = 5.1	x: 0.232 m h = 0.9	h = 15.0	x: 0 m h = 28.0	x: 0.464 m h = 36.2	h = 18.3	x: 0 m h = 7.8	x: 0 m h = 34.6	x: 0.464 m h = 42.8	x: 0 m h = 12.6	x: 0.464 m h = 21.7	x: 0 m h = 95.5	x: 0 m h = 15.9	x: 0 m h = 57.3	**CUMPLE** **h = 95.5**
N328/N326	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.231 m h = 4.0	x: 0.231 m h = 0.9	h = 15.1	x: 0 m h = 21.3	x: 0.461 m h = 38.8	h = 20.3	x: 0 m h = 7.8	x: 0 m h = 27.9	x: 0.461 m h = 45.4	x: 0 m h = 8.4	x: 0.461 m h = 24.7	x: 0 m h = 91.4	x: 0 m h = 20.2	x: 0 m h = 55.5	**CUMPLE** **h = 91.4**
N326/N324	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.453 m h = 3.1	x: 0 m h = 0.8	h = 13.7	x: 0 m h = 12.8	x: 0.453 m h = 36.7	h = 19.8	x: 0 m h = 6.8	x: 0 m h = 18.9	x: 0.453 m h = 42.8	x: 0 m h = 4.0	x: 0.453 m h = 22.3	x: 0 m h = 77.4	x: 0.453 m h = 17.7	x: 0.453 m h = 50.4	**CUMPLE** **h = 77.4**
N27/N25	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.447 m h = 4.1	x: 0 m h = 0.9	h = 9.8	x: 0.447 m h = 10.8	x: 0.447 m h = 20.7	h = 11.1	x: 0 m h = 3.1	x: 0.447 m h = 15.2	x: 0.447 m h = 25.0	x: 0.447 m h = 2.4	x: 0.447 m h = 7.5	x: 0.447 m h = 54.1	x: 0.447 m h = 5.7	x: 0.447 m h = 32.9	**CUMPLE** **h = 54.1**
N25/N23	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.443 m h = 2.7	x: 0 m h = 0.8	h = 8.9	x: 0.443 m h = 7.6	x: 0.443 m h = 10.6	x: 0 m h = 5.3	x: 0 m h = 1.1	x: 0.443 m h = 11.5	x: 0.443 m h = 14.6	x: 0.443 m h = 1.3	x: 0.443 m h = 2.4	x: 0.443 m h = 34.8	x: 0.443 m h = 5.2	x: 0.443 m h = 18.6	**CUMPLE** **h = 34.8**
N362/N25	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.447 m h = 4.0	x: 0 m h = 0.6	h = 9.8	x: 0.447 m h = 10.8	x: 0.447 m h = 20.5	h = 11.1	x: 0 m h = 3.1	x: 0.447 m h = 15.2	x: 0.447 m h = 24.8	x: 0.447 m h = 2.4	x: 0.447 m h = 7.4	x: 0.447 m h = 54.0	x: 0.447 m h = 7.1	x: 0.447 m h = 32.8	**CUMPLE** **h = 54.0**
N362/N363	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.443 m h = 3.9	x: 0 m h = 3.1	h = 9.7	x: 0.443 m h = 8.9	x: 0.443 m h = 19.2	h = 9.7	x: 0 m h = 2.4	x: 0.443 m h = 13.2	x: 0.443 m h = 23.5	x: 0.443 m h = 1.8	x: 0.443 m h = 6.4	x: 0.443 m h = 46.9	x: 0.443 m h = 12.0	x: 0.443 m h = 27.5	**CUMPLE** **h = 46.9**
N364/N362	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.451 m h = 5.8	x: 0 m h = 0.7	h = 11.1	x: 0.451 m h = 9.2	x: 0.451 m h = 26.4	h = 14.5	x: 0 m h = 4.6	x: 0.451 m h = 14.1	x: 0.451 m h = 31.3	x: 0.451 m h = 2.1	x: 0.451 m h = 11.9	x: 0.451 m h = 62.5	x: 0.451 m h = 8.5	x: 0.451 m h = 40.7	**CUMPLE** **h = 62.5**
N324/N362	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.446 m h = 4.0	x: 0 m h = 2.5	h = 11.6	x: 0.446 m h = 11.9	x: 0.446 m h = 29.9	h = 16.3	x: 0 m h = 4.9	x: 0.446 m h = 17.1	x: 0.446 m h = 35.0	x: 0.446 m h = 3.1	x: 0.446 m h = 14.9	x: 0.446 m h = 67.0	x: 0.446 m h = 16.4	x: 0.446 m h = 42.1	**CUMPLE** **h = 67.0**
N326/N364	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.447 m h = 0.9	x: 0 m h = 1.3	h = 13.6	x: 0.447 m h = 11.3	x: 0.447 m h = 34.9	h = 18.4	x: 0 m h = 6.4	x: 0.447 m h = 17.3	x: 0.447 m h = 40.9	x: 0.447 m h = 3.3	x: 0.447 m h = 20.2	x: 0.447 m h = 60.2	x: 0.447 m h = 58.7	x: 0.447 m h = 46.2	**CUMPLE** **h = 60.2**
N364/N365	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.442 m h = 0.9	x: 0 m h = 1.2	h = 10.8	x: 0.442 m h = 8.8	x: 0.442 m h = 23.2	h = 11.6	x: 0 m h = 3.5	x: 0.442 m h = 13.6	x: 0.442 m h = 28.0	x: 0.442 m h = 1.9	x: 0.442 m h = 9.2	x: 0.442 m h = 43.1	x: 0.442 m h = 41.8	x: 0.442 m h = 31.2	**CUMPLE** **h = 43.1**
N366/N364	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.456 m h = 7.7	x: 0 m h = 1.0	h = 12.3	x: 0 m h = 15.3	x: 0.456 m h = 27.1	h = 14.7	x: 0 m h = 5.6	x: 0 m h = 20.7	x: 0.456 m h = 32.6	x: 0 m h = 4.6	x: 0.456 m h = 12.8	x: 0 m h = 73.3	x: 0 m h = 10.0	x: 0 m h = 45.6	**CUMPLE** **h = 73.3**
N366/N367	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.221 m h = 0.3	x: 0.221 m h = 1.6	h = 12.0	x: 0.442 m h = 6.3	x: 0.442 m h = 22.8	h = 10.8	x: 0 m h = 3.9	x: 0.442 m h = 11.6	x: 0.442 m h = 28.0	x: 0 m h = 1.5	x: 0.442 m h = 9.0	x: 0.442 m h = 39.7	x: 0.442 m h = 41.2	x: 0.442 m h = 30.9	**CUMPLE** **h = 41.2**
N368/N366	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.46 m h = 9.8	x: 0.23 m h = 1.1	h = 12.9	x: 0 m h = 24.1	x: 0.46 m h = 24.0	h = 12.5	x: 0 m h = 5.9	x: 0 m h = 29.8	x: 0.46 m h = 29.7	x: 0 m h = 9.2	x: 0.46 m h = 10.4	x: 0 m h = 81.1	x: 0.46 m h = 9.6	x: 0 m h = 50.1	**CUMPLE** **h = 81.1**
N328/N366	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.6	h = 14.9	x: 0 m h = 14.0	x: 0.451 m h = 35.7	h = 17.9	x: 0 m h = 6.4	x: 0 m h = 20.6	x: 0.451 m h = 42.3	x: 0 m h = 4.7	x: 0.451 m h = 21.1	N.P.[2]	x: 0.451 m h = 59.4	x: 0.451 m h = 48.2	**CUMPLE** **h = 59.4**
N368/N369	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.2	h = 12.6	x: 0 m h = 8.6	x: 0.444 m h = 18.9	h = 8.1	x: 0 m h = 3.3	x: 0 m h = 14.1	x: 0.444 m h = 24.4	x: 0 m h = 2.1	x: 0.444 m h = 6.6	N.P.[2]	x: 0.444 m h = 34.3	x: 0.444 m h = 25.9	**CUMPLE** **h = 34.3**
N370/N368	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.458 m h = 11.9	x: 0.458 m h = 1.1	h = 12.6	x: 0 m h = 30.9	x: 0.458 m h = 18.3	h = 8.6	x: 0 m h = 5.2	x: 0 m h = 36.5	x: 0.458 m h = 23.9	x: 0 m h = 13.6	x: 0.458 m h = 6.4	x: 0 m h = 80.6	x: 0.458 m h = 11.3	x: 0 m h = 53.8	**CUMPLE** **h = 80.6**
N330/N368	w / t £ $(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.7	h = 15.0	x: 0 m h = 13.9	x: 0.455 m h = 32.0	h = 15.3	x: 0 m h = 4.8	x: 0 m h = 20.5	x: 0.455 m h = 38.6	x: 0 m h = 4.5	x: 0.455 m h = 17.2	N.P.[2]	x: 0 m h = 54.2	x: 0.455 m h = 43.6	**CUMPLE** **h = 54.2**
N370/N371	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.446 m h = 0.7	x: 0 m h = 2.4	h = 12.5	x: 0 m h = 8.4	x: 0.446 m h = 12.4	x: 0.446 m h = 4.6	x: 0 m h = 1.8	x: 0 m h = 13.9	x: 0.446 m h = 17.9	x: 0 m h = 2.0	x: 0.446 m h = 3.4	x: 0.446 m h = 22.9	x: 0.446 m h = 28.3	x: 0.446 m h = 17.8	**CUMPLE** **h = 28.3**
N372/N370	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.452 m h = 13.8	x: 0.452 m h = 1.2	x: 0.226 m h = 11.3	x: 0 m h = 33.9	x: 0.452 m h = 12.2	x: 0.226 m h = 6.6	x: 0 m h = 3.3	x: 0 m h = 38.7	x: 0.452 m h = 16.6	x: 0 m h = 15.1	x: 0.452 m h = 2.9	x: 0 m h = 71.1	x: 0.452 m h = 18.2	x: 0 m h = 56.2	**CUMPLE** **h = 71.1**
N332/N370	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.457 m h = 1.0	x: 0.457 m h = 4.1	h = 13.5	x: 0 m h = 10.4	x: 0.457 m h = 24.0	h = 10.9	x: 0 m h = 2.2	x: 0 m h = 16.4	x: 0.457 m h = 29.9	x: 0 m h = 2.7	x: 0.457 m h = 10.2	x: 0.457 m h = 26.8	x: 0.457 m h = 42.9	x: 0.457 m h = 33.7	**CUMPLE** **h = 42.9**
N334/N372	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 2.5	x: 0 m h = 3.7	h = 10.1	x: 0.459 m h = 7.2	x: 0.459 m h = 18.0	x: 0 m h = 9.0	x: 0.459 m h = 1.4	x: 0.459 m h = 11.7	x: 0.459 m h = 18.9	x: 0.459 m h = 1.4	x: 0.459 m h = 4.4	x: 0.459 m h = 31.2	x: 0.459 m h = 31.2	x: 0.459 m h = 24.8	**CUMPLE** **h = 31.2**
N372/N373	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.447 m h = 1.6	x: 0 m h = 2.2	x: 0.224 m h = 10.8	x: 0.447 m h = 6.5	x: 0.447 m h = 12.4	x: 0.224 m h = 6.1	x: 0.447 m h = 1.2	x: 0.447 m h = 11.3	x: 0 m h = 14.0	x: 0.447 m h = 1.3	x: 0 m h = 2.1	x: 0 m h = 22.4	x: 0.447 m h = 23.0	x: 0.447 m h = 16.4	**CUMPLE** **h = 23.0**
N374/N372	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.445 m h = 15.2	x: 0.445 m h = 1.1	h = 8.3	x: 0.445 m h = 32.0	x: 0 m h = 18.3	x: 0 m h = 9.0	x: 0 m h = 3.5	x: 0.445 m h = 35.6	x: 0 m h = 21.9	x: 0.445 m h = 12.8	x: 0 m h = 5.3	x: 0.445 m h = 73.6	x: 0 m h = 10.2	x: 0.445 m h = 55.1	**CUMPLE** **h = 73.6**
N374/N375	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.448 m h = 2.1	x: 0.448 m h = 1.5	x: 0.224 m h = 9.7	x: 0.448 m h = 6.6	x: 0.448 m h = 8.8	h = 4.2	x: 0.448 m h = 0.8	x: 0.448 m h = 10.6	x: 0.448 m h = 9.2	x: 0.448 m h = 1.1	x: 0.448 m h = 1.0	x: 0.448 m h = 23.9	x: 0.448 m h = 11.0	x: 0.224 m h = 12.9	**CUMPLE** **h = 23.9**
N376/N374	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 16.1	x: 0 m h = 0.2	h = 4.2	x: 0.44 m h = 32.5	x: 0.44 m h = 21.5	x: 0 m h = 11.1	x: 0.44 m h = 5.8	x: 0.44 m h = 33.8	x: 0 m h = 21.5	x: 0.44 m h = 11.5	x: 0.44 m h = 6.0	x: 0.44 m h = 72.3	x: 0.44 m h = 8.0	x: 0.44 m h = 58.3	**CUMPLE** **h = 72.3**
N336/N374	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.459 m h = 2.3	x: 0.459 m h = 1.6	h = 8.3	x: 0.459 m h = 7.3	x: 0.459 m h = 10.5	h = 6.2	x: 0.459 m h = 1.1	x: 0.459 m h = 10.6	x: 0.459 m h = 10.7	x: 0.459 m h = 1.1	x: 0.459 m h = 1.5	x: 0.459 m h = 25.1	x: 0.459 m h = 15.3	x: 0.459 m h = 14.6	**CUMPLE** **h = 25.1**
N376/N377	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.448 m h = 0.6	x: 0 m h = 0.5	h = 3.3	x: 0 m h = 7.6	x: 0.448 m h = 5.8	h = 0.9	x: 0 m h = 2.1	x: 0 m h = 7.6	x: 0.448 m h = 7.2	x: 0 m h = 0.6	x: 0.448 m h = 0.5	x: 0 m h = 14.6	x: 0 m h = 11.3	x: 0 m h = 9.7	**CUMPLE** **h = 14.6**
N376/N378	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 16.1	x: 0 m h = 0.7	x: 0.22 m h = 4.1	x: 0.44 m h = 32.3	x: 0.44 m h = 21.5	h = 10.8	x: 0.44 m h = 6.0	x: 0.44 m h = 33.6	x: 0 m h = 21.5	x: 0.44 m h = 11.4	x: 0.44 m h = 5.9	x: 0.44 m h = 71.9	x: 0.44 m h = 10.5	x: 0.44 m h = 58.1	**CUMPLE** **h = 71.9**
N338/N376	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.458 m h = 0.5	x: 0 m h = 0.5	h = 3.9	x: 0 m h = 9.1	x: 0.458 m h = 6.2	h = 2.8	x: 0 m h = 1.2	x: 0 m h = 9.1	x: 0.458 m h = 7.9	x: 0 m h = 0.8	x: 0.458 m h = 0.7	x: 0.458 m h = 16.8	x: 0.458 m h = 13.7	x: 0 m h = 11.4	**CUMPLE** **h = 16.8**
N378/N379	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 1.5	x: 0 m h = 0.9	h = 9.6	x: 0.448 m h = 6.5	x: 0.448 m h = 8.5	h = 4.1	x: 0.448 m h = 0.7	x: 0.448 m h = 10.5	x: 0.448 m h = 9.2	x: 0.448 m h = 1.1	x: 0.448 m h = 1.0	x: 0.448 m h = 23.7	x: 0.448 m h = 14.4	x: 0.448 m h = 13.1	**CUMPLE** **h = 23.7**
N378/N380	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.445 m h = 15.1	x: 0 m h = 0.6	h = 8.4	x: 0.445 m h = 31.9	x: 0 m h = 20.1	h = 9.6	x: 0.445 m h = 3.5	x: 0.445 m h = 35.6	x: 0 m h = 23.8	x: 0.445 m h = 12.8	x: 0 m h = 6.3	x: 0.445 m h = 73.3	x: 0 m h = 13.1	x: 0.445 m h = 55.0	**CUMPLE** **h = 73.3**
N340/N378	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 1.8	x: 0 m h = 1.1	x: 0.459 m h = 8.4	x: 0.459 m h = 7.3	x: 0.459 m h = 10.3	x: 0 m h = 6.3	x: 0.459 m h = 1.1	x: 0.459 m h = 10.6	x: 0.459 m h = 10.7	x: 0.459 m h = 1.1	x: 0.459 m h = 1.5	x: 0.459 m h = 24.9	x: 0.459 m h = 15.3	x: 0.459 m h = 14.9	**CUMPLE** **h = 24.9**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N342/N380	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.459 m h = 2.7	x: 0 m h = 4.0	h = 9.9	x: 0.459 m h = 7.2	x: 0.459 m h = 17.9	x: 0.23 m h = 9.0	x: 0.459 m h = 1.5	x: 0.459 m h = 11.5	x: 0.459 m h = 19.1	x: 0.459 m h = 1.3	x: 0.459 m h = 4.4	x: 0.459 m h = 30.4	x: 0.459 m h = 31.2	x: 0.459 m h = 24.9	**CUMPLE** **h = 31.2**
N380/N381	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 2.1	x: 0 m h = 2.7	h = 10.7	x: 0.447 m h = 6.4	x: 0.447 m h = 12.9	h = 6.2	x: 0.447 m h = 1.1	x: 0.447 m h = 11.2	x: 0 m h = 13.9	x: 0.447 m h = 1.2	x: 0 m h = 2.1	x: 0 m h = 24.5	x: 0.447 m h = 22.9	x: 0.447 m h = 16.3	**CUMPLE** **h = 24.5**
N380/N382	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.452 m h = 13.8	x: 0 m h = 0.8	h = 10.7	x: 0 m h = 33.8	x: 0.452 m h = 12.1	h = 6.3	x: 0 m h = 3.3	x: 0 m h = 38.6	x: 0.452 m h = 16.6	x: 0 m h = 15.0	x: 0.452 m h = 2.9	x: 0 m h = 71.1	x: 0.452 m h = 11.7	x: 0 m h = 56.1	**CUMPLE** **h = 71.1**
N382/N383	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.446 m h = 0.7	x: 0 m h = 2.5	h = 12.3	x: 0 m h = 8.5	x: 0.446 m h = 12.6	h = 4.6	x: 0 m h = 1.9	x: 0 m h = 13.9	x: 0.446 m h = 18.1	x: 0 m h = 2.0	x: 0.446 m h = 3.5	x: 0.446 m h = 20.8	x: 0.446 m h = 28.4	x: 0.446 m h = 18.2	**CUMPLE** **h = 28.4**
N382/N384	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 11.9	x: 0 m h = 0.9	h = 12.4	x: 0 m h = 30.9	x: 0.458 m h = 18.6	h = 8.8	x: 0 m h = 5.3	x: 0 m h = 36.4	x: 0.458 m h = 24.1	x: 0 m h = 13.5	x: 0.458 m h = 6.6	x: 0 m h = 80.9	x: 0.458 m h = 10.8	x: 0 m h = 54.0	**CUMPLE** **h = 80.9**
N361/N382	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.457 m h = 1.2	x: 0 m h = 4.3	h = 13.3	x: 0 m h = 10.5	x: 0.457 m h = 24.1	h = 11.0	x: 0 m h = 2.2	x: 0 m h = 16.4	x: 0.457 m h = 30.0	x: 0 m h = 2.7	x: 0.457 m h = 10.2	x: 0 m h = 27.3	x: 0.457 m h = 42.9	x: 0.457 m h = 34.0	**CUMPLE** **h = 42.9**
N361/N385	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.461 m h = 6.2	x: 0 m h = 0.9	h = 13.2	x: 0 m h = 31.8	x: 0.461 m h = 29.7	h = 14.3	x: 0 m h = 6.7	x: 0 m h = 37.6	x: 0.461 m h = 35.5	x: 0 m h = 14.6	x: 0.461 m h = 14.7	x: 0 m h = 88.8	x: 0 m h = 17.0	x: 0 m h = 55.0	**CUMPLE** **h = 88.8**
N385/N384	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.6	h = 14.8	x: 0 m h = 14.0	x: 0.455 m h = 32.2	h = 15.4	x: 0 m h = 4.9	x: 0 m h = 20.5	x: 0.455 m h = 38.7	x: 0 m h = 4.5	x: 0.455 m h = 17.4	N.P.[2]	x: 0 m h = 54.3	x: 0.455 m h = 43.8	**CUMPLE** **h = 54.3**
N385/N386	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.464 m h = 5.2	x: 0 m h = 1.1	h = 14.8	x: 0 m h = 27.9	x: 0.464 m h = 36.4	h = 18.4	x: 0 m h = 7.8	x: 0 m h = 34.5	x: 0.464 m h = 42.9	x: 0 m h = 12.5	x: 0.464 m h = 21.8	x: 0 m h = 95.5	x: 0 m h = 17.2	x: 0 m h = 57.4	**CUMPLE** **h = 95.5**
N346/N385	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 5.2	h = 15.5	x: 0 m h = 16.3	x: 0.466 m h = 39.7	h = 19.5	x: 0 m h = 5.6	x: 0 m h = 23.2	x: 0.466 m h = 46.6	x: 0 m h = 5.7	x: 0.466 m h = 25.5	N.P.[2]	x: 0 m h = 68.1	x: 0.466 m h = 54.8	**CUMPLE** **h = 68.1**
N386/N387	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.4	h = 14.7	x: 0 m h = 14.0	x: 0.451 m h = 35.7	h = 17.9	x: 0 m h = 6.5	x: 0 m h = 20.5	x: 0.451 m h = 42.2	x: 0 m h = 4.6	x: 0.451 m h = 21.1	N.P.[2]	x: 0.451 m h = 59.2	x: 0.451 m h = 48.2	**CUMPLE** **h = 59.2**
N386/N388	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.461 m h = 4.3	x: 0 m h = 1.2	h = 14.9	x: 0 m h = 21.1	x: 0.461 m h = 38.6	h = 20.2	x: 0 m h = 7.8	x: 0 m h = 27.7	x: 0.461 m h = 45.2	x: 0 m h = 8.3	x: 0.461 m h = 24.5	x: 0 m h = 91.0	x: 0 m h = 20.8	x: 0 m h = 55.3	**CUMPLE** **h = 91.0**
N360/N386	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.4	h = 16.4	x: 0 m h = 19.8	x: 0.462 m h = 44.0	h = 22.1	x: 0 m h = 7.8	x: 0 m h = 27.0	x: 0.462 m h = 51.3	x: 0 m h = 7.9	x: 0.462 m h = 31.2	N.P.[2]	x: 0 m h = 75.0	x: 0.462 m h = 59.3	**CUMPLE** **h = 75.0**
N360/N389	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.466 m h = 0.5	x: 0 m h = 1.3	h = 16.3	x: 0 m h = 24.5	x: 0.466 m h = 45.2	h = 23.0	x: 0 m h = 8.9	x: 0 m h = 31.7	x: 0.466 m h = 52.4	x: 0 m h = 10.8	x: 0.466 m h = 32.8	x: 0 m h = 79.8	x: 0 m h = 79.7	x: 0 m h = 59.3	**CUMPLE** **h = 79.8**
N389/N388	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.458 m h = 0.8	x: 0 m h = 1.6	h = 15.7	x: 0 m h = 18.4	x: 0.458 m h = 42.9	h = 22.3	x: 0 m h = 8.2	x: 0 m h = 25.3	x: 0.458 m h = 49.8	x: 0 m h = 7.1	x: 0.458 m h = 29.8	x: 0 m h = 73.4	x: 0 m h = 71.3	x: 0.458 m h = 56.0	**CUMPLE** **h = 73.4**
N349/N389	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.466 m h = 0.7	x: 0 m h = 1.4	h = 16.3	x: 0 m h = 24.5	x: 0.466 m h = 45.2	h = 23.0	x: 0 m h = 8.9	x: 0 m h = 31.7	x: 0.466 m h = 52.4	x: 0 m h = 10.8	x: 0.466 m h = 32.8	x: 0 m h = 81.5	x: 0 m h = 79.7	x: 0 m h = 59.3	**CUMPLE** **h = 81.5**
N390/N391	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 3.1	x: 0 m h = 0.8	h = 13.6	x: 0 m h = 12.9	x: 0.453 m h = 36.9	h = 19.9	x: 0 m h = 6.9	x: 0 m h = 18.9	x: 0.453 m h = 42.9	x: 0 m h = 4.1	x: 0.453 m h = 22.4	x: 0 m h = 77.6	x: 0.453 m h = 19.8	x: 0.453 m h = 50.6	**CUMPLE** **h = 77.6**
N390/N392	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 0.7	x: 0 m h = 1.2	h = 13.4	x: 0.447 m h = 11.4	x: 0.447 m h = 35.0	h = 18.5	x: 0 m h = 6.4	x: 0.447 m h = 17.3	x: 0.447 m h = 40.9	x: 0.447 m h = 3.3	x: 0.447 m h = 20.1	x: 0.447 m h = 60.3	x: 0.447 m h = 58.7	x: 0.447 m h = 46.4	**CUMPLE** **h = 60.3**
N351/N390	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.461 m h = 3.9	x: 0 m h = 0.8	h = 14.9	x: 0 m h = 21.1	x: 0.461 m h = 38.6	h = 20.2	x: 0 m h = 7.8	x: 0 m h = 27.7	x: 0.461 m h = 45.2	x: 0 m h = 8.3	x: 0.461 m h = 24.5	x: 0 m h = 91.0	x: 0 m h = 20.7	x: 0 m h = 55.3	**CUMPLE** **h = 91.0**
N392/N393	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.451 m h = 5.8	x: 0 m h = 0.9	h = 10.9	x: 0.451 m h = 9.2	x: 0.451 m h = 26.6	h = 14.6	x: 0 m h = 4.6	x: 0.451 m h = 14.0	x: 0.451 m h = 31.4	x: 0.451 m h = 2.1	x: 0.451 m h = 12.0	x: 0.451 m h = 62.6	x: 0.451 m h = 11.2	x: 0.451 m h = 40.9	**CUMPLE** **h = 62.6**
N392/N394	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.442 m h = 0.7	x: 0 m h = 1.1	h = 10.7	x: 0.442 m h = 8.8	x: 0.442 m h = 23.3	h = 11.7	x: 0 m h = 3.5	x: 0.442 m h = 13.6	x: 0.442 m h = 28.1	x: 0.442 m h = 1.9	x: 0.442 m h = 9.2	x: 0.442 m h = 43.9	x: 0.442 m h = 42.0	x: 0.442 m h = 31.5	**CUMPLE** **h = 43.9**
N353/N392	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.456 m h = 7.7	x: 0 m h = 0.7	h = 12.2	x: 0 m h = 15.2	x: 0.456 m h = 27.1	h = 14.7	x: 0 m h = 5.6	x: 0 m h = 20.6	x: 0.456 m h = 32.5	x: 0 m h = 4.5	x: 0.456 m h = 12.7	x: 0 m h = 73.0	x: 0 m h = 9.4	x: 0 m h = 45.6	**CUMPLE** **h = 73.0**
N394/N395	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 5.6	x: 0 m h = 1.6	h = 9.0	x: 0.453 m h = 7.1	x: 0.453 m h = 10.9	h = 5.4	x: 0 m h = 2.5	x: 0.453 m h = 11.0	x: 0.453 m h = 14.8	x: 0.453 m h = 1.3	x: 0.453 m h = 2.5	x: 0.453 m h = 37.1	x: 0.453 m h = 9.1	x: 0.453 m h = 21.1	**CUMPLE** **h = 37.1**
N394/N396	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 0.6	x: 0 m h = 0.7	h = 8.4	x: 0.44 m h = 2.3	x: 0.44 m h = 6.6	h = 3.2	x: 0 m h = 0.6	x: 0.44 m h = 5.8	x: 0.44 m h = 10.1	x: 0.44 m h = 0.3	x: 0.44 m h = 1.1	x: 0.44 m h = 20.4	x: 0.44 m h = 15.5	x: 0 m h = 11.2	**CUMPLE** **h = 20.4**
N359/N394	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 7.1	x: 0 m h = 1.6	h = 9.6	x: 0 m h = 11.3	x: 0.455 m h = 10.0	h = 5.2	x: 0 m h = 3.3	x: 0 m h = 15.3	x: 0.455 m h = 14.2	x: 0 m h = 2.4	x: 0.455 m h = 2.3	x: 0 m h = 41.2	x: 0.455 m h = 6.0	x: 0 m h = 24.0	**CUMPLE** **h = 41.2**
N359/N397	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 1.7	x: 0 m h = 2.3	h = 9.0	x: 0.44 m h = 2.0	x: 0.44 m h = 5.1	x: 0.44 m h = 2.6	x: 0 m h = 0.9	x: 0.44 m h = 5.3	x: 0.44 m h = 7.8	x: 0.44 m h = 0.3	x: 0.44 m h = 0.6	x: 0.44 m h = 17.2	x: 0.44 m h = 12.4	x: 0 m h = 10.0	**CUMPLE** **h = 17.2**
N397/N396	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.4	x: 0.228 m h = 8.7	x: 0 m h = 12.0	x: 0.456 m h = 3.9	x: 0 m h = 2.0	x: 0 m h = 3.8	x: 0 m h = 15.8	x: 0.456 m h = 7.4	x: 0 m h = 2.6	x: 0.456 m h = 0.6	N.P.[2]	x: 0 m h = 23.7	x: 0 m h = 16.5	**CUMPLE** **h = 23.7**
N358/N397	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.3	h = 9.2	x: 0 m h = 20.6	x: 0.456 m h = 3.2	x: 0.456 m h = 1.7	x: 0 m h = 4.2	x: 0 m h = 24.6	x: 0.456 m h = 7.1	x: 0 m h = 6.2	x: 0.456 m h = 0.5	N.P.[2]	x: 0 m h = 30.5	x: 0 m h = 27.0	**CUMPLE** **h = 30.5**
N396/N398	w / t ≤ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.9	x: 0 m h = 8.3	x: 0.453 m h = 8.7	x: 0.453 m h = 4.0	h = 1.6	x: 0 m h = 3.1	x: 0.453 m h = 12.3	x: 0.453 m h = 7.5	x: 0.453 m h = 1.6	x: 0.453 m h = 0.6	N.P.[2]	x: 0.453 m h = 22.6	x: 0.453 m h = 14.7	**CUMPLE** **h = 22.6**
N395/N398	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 2.4	x: 0 m h = 2.2	h = 8.0	x: 0 m h = 3.5	x: 0.44 m h = 5.1	x: 0.44 m h = 2.6	x: 0.44 m h = 0.9	x: 0 m h = 7.0	x: 0.44 m h = 8.2	x: 0 m h = 0.5	x: 0.44 m h = 0.7	x: 0 m h = 19.0	x: 0 m h = 7.3	x: 0.44 m h = 10.3	**CUMPLE** **h = 19.0**
N393/N395	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.443 m h = 2.6	x: 0 m h = 1.8	h = 9.5	x: 0.443 m h = 9.0	x: 0.443 m h = 19.5	h = 9.9	x: 0 m h = 2.4	x: 0.443 m h = 13.2	x: 0.443 m h = 23.7	x: 0.443 m h = 1.8	x: 0.443 m h = 6.6	x: 0.443 m h = 47.2	x: 0.443 m h = 12.0	x: 0.443 m h = 27.9	**CUMPLE** **h = 47.2**
N391/N393	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.446 m h = 3.1	x: 0 m h = 1.5	h = 11.5	x: 0.446 m h = 12.0	x: 0.446 m h = 30.0	h = 16.4	x: 0 m h = 4.9	x: 0.446 m h = 17.1	x: 0.446 m h = 35.1	x: 0.446 m h = 3.1	x: 0.446 m h = 15.0	x: 0.446 m h = 67.1	x: 0.446 m h = 15.5	x: 0.446 m h = 42.3	**CUMPLE** **h = 67.1**
N388/N391	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.453 m h = 3.6	x: 0 m h = 1.3	h = 13.6	x: 0 m h = 12.9	x: 0.453 m h = 36.9	h = 19.9	x: 0 m h = 6.9	x: 0 m h = 18.9	x: 0.453 m h = 42.9	x: 0 m h = 4.0	x: 0.453 m h = 22.4	x: 0 m h = 77.6	x: 0.453 m h = 18.3	x: 0.453 m h = 50.6	**CUMPLE** **h = 77.6**
N388/N399	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 1.2	x: 0 m h = 1.7	h = 13.4	x: 0.447 m h = 11.3	x: 0.447 m h = 35.0	h = 18.5	x: 0 m h = 6.4	x: 0.447 m h = 17.3	x: 0.447 m h = 40.9	x: 0.447 m h = 3.3	x: 0.447 m h = 20.1	x: 0.447 m h = 60.5	x: 0.447 m h = 58.7	x: 0.447 m h = 46.4	**CUMPLE** **h = 60.5**
N387/N399	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.456 m h = 7.7	x: 0 m h = 1.0	h = 12.2	x: 0 m h = 15.2	x: 0.456 m h = 27.1	h = 14.7	x: 0 m h = 5.6	x: 0 m h = 20.6	x: 0.456 m h = 32.5	x: 0 m h = 4.5	x: 0.456 m h = 12.7	x: 0 m h = 73.0	x: 0 m h = 7.3	x: 0 m h = 45.6	**CUMPLE** **h = 73.0**
N384/N387	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.46 m h = 9.8	x: 0.23 m h = 1.2	h = 12.7	x: 0 m h = 24.0	x: 0.46 m h = 24.3	h = 12.6	x: 0 m h = 5.9	x: 0 m h = 29.7	x: 0.46 m h = 29.9	x: 0 m h = 9.1	x: 0.46 m h = 10.5	x: 0 m h = 81.1	x: 0.46 m h = 7.4	x: 0 m h = 50.2	**CUMPLE** **h = 81.1**
N384/N400	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.222 m h = 0.1	x: 0 m h = 2.2	h = 12.4	x: 0 m h = 8.6	x: 0.444 m h = 19.2	h = 8.2	x: 0 m h = 3.4	x: 0 m h = 14.1	x: 0.444 m h = 24.6	x: 0 m h = 2.1	x: 0.444 m h = 6.7	x: 0.444 m h = 23.5	x: 0.444 m h = 34.4	x: 0.444 m h = 26.2	**CUMPLE** **h = 34.4**
N383/N400	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.454 m h = 10.7	x: 0 m h = 0.9	x: 0.454 m h = 10.8	x: 0 m h = 28.2	x: 0.454 m h = 5.0	x: 0 m h = 2.5	x: 0 m h = 3.5	x: 0 m h = 32.9	x: 0 m h = 8.8	x: 0 m h = 10.9	x: 0 m h = 0.8	x: 0 m h = 58.5	x: 0.454 m h = 8.5	x: 0 m h = 45.9	**CUMPLE** **h = 58.5**
N381/N383	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.45 m h = 12.8	x: 0 m h = 0.7	h = 10.6	x: 0 m h = 35.4	x: 0 m h = 10.5	h = 4.5	x: 0 m h = 2.8	x: 0 m h = 40.0	x: 0 m h = 15.1	x: 0 m h = 16.1	x: 0 m h = 2.5	x: 0 m h = 77.6	x: 0.45 m h = 7.8	x: 0 m h = 57.9	**CUMPLE** **h = 77.6**
N379/N381	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.444 m h = 14.4	x: 0 m h = 0.6	h = 9.6	x: 0 m h = 37.7	x: 0 m h = 19.7	h = 7.5	x: 0 m h = 1.7	x: 0 m h = 41.6	x: 0 m h = 23.9	x: 0 m h = 17.3	x: 0 m h = 6.3	x: 0 m h = 85.6	x: 0 m h = 8.1	x: 0 m h = 63.3	**CUMPLE** **h = 85.6**
N377/N379	w / t ≤ (w / t)$_{Máx.}$ Cumple	x: 0.44 m h = 16.3	x: 0 m h = 0.2	x: 0.22 m h = 5.8	x: 0.44 m h = 37.0	x: 0 m h = 15.9	h = 6.0	x: 0.44 m h = 2.4	x: 0.44 m h = 39.0	x: 0 m h = 18.3	x: 0.44 m h = 15.2	x: 0 m h = 3.7	x: 0 m h = 74.1	x: 0.44 m h = 4.2	x: 0.44 m h = 62.6	**CUMPLE** **h = 74.1**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N377/N375	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 16.3	x: 0 m h = 1.0	h = 5.5	x: 0.44 m h = 37.2	x: 0 m h = 15.2	x: 0 m h = 6.2	x: 0.44 m h = 2.5	x: 0.44 m h = 39.3	x: 0 m h = 17.6	x: 0.44 m h = 15.4	x: 0 m h = 3.4	x: 0 m h = 74.6	x: 0 m h = 3.8	x: 0.44 m h = 62.9	**CUMPLE h = 74.6**
N375/N373	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.444 m h = 14.5	x: 0.222 m h = 0.7	h = 9.6	x: 0 m h = 37.9	x: 0 m h = 18.5	h = 6.7	x: 0 m h = 1.8	x: 0 m h = 41.9	x: 0 m h = 22.7	x: 0 m h = 17.6	x: 0 m h = 5.6	x: 0 m h = 86.2	x: 0 m h = 12.4	x: 0 m h = 63.7	**CUMPLE h = 86.2**
N373/N371	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.45 m h = 12.8	x: 0 m h = 0.8	h = 10.9	x: 0 m h = 35.5	x: 0 m h = 12.1	h = 5.3	x: 0 m h = 2.8	x: 0 m h = 40.2	x: 0 m h = 16.8	x: 0 m h = 16.2	x: 0 m h = 3.1	x: 0 m h = 78.3	x: 0.45 m h = 12.9	x: 0 m h = 58.1	**CUMPLE h = 78.3**
N371/N369	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.454 m h = 10.7	x: 0.454 m h = 1.3	h = 10.9	x: 0 m h = 28.3	x: 0.454 m h = 3.9	x: 0.454 m h = 2.1	x: 0 m h = 3.5	x: 0 m h = 33.0	x: 0 m h = 7.9	x: 0 m h = 11.0	x: 0 m h = 0.6	x: 0 m h = 58.4	x: 0.454 m h = 8.3	x: 0 m h = 46.1	**CUMPLE h = 58.4**
N369/N367	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0 m h = 8.6	x: 0 m h = 1.4	h = 10.4	x: 0 m h = 19.9	x: 0.456 m h = 6.3	h = 3.3	x: 0 m h = 3.6	x: 0 m h = 24.3	x: 0.456 m h = 10.9	x: 0 m h = 6.0	x: 0.456 m h = 1.3	x: 0 m h = 51.3	x: 0.456 m h = 8.1	x: 0 m h = 33.6	**CUMPLE h = 51.3**
N367/N365	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0 m h = 7.0	x: 0 m h = 1.5	h = 9.8	x: 0 m h = 10.9	x: 0.455 m h = 10.0	h = 5.2	x: 0 m h = 3.3	x: 0 m h = 15.1	x: 0.455 m h = 14.2	x: 0 m h = 2.4	x: 0.455 m h = 2.3	x: 0 m h = 41.4	x: 0.455 m h = 6.0	x: 0 m h = 23.7	**CUMPLE h = 41.4**
N365/N363	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.453 m h = 5.5	x: 0 m h = 1.4	h = 9.1	x: 0.453 m h = 7.2	x: 0.453 m h = 10.7	h = 5.3	x: 0 m h = 2.5	x: 0.453 m h = 11.2	x: 0.453 m h = 14.7	x: 0.453 m h = 1.3	x: 0.453 m h = 2.4	x: 0.453 m h = 37.2	x: 0.453 m h = 7.9	x: 0.453 m h = 21.0	**CUMPLE h = 37.2**
N363/N23	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.448 m h = 4.5	x: 0 m h = 1.7	h = 8.7	x: 0.448 m h = 9.2	x: 0.448 m h = 8.9	h = 4.5	x: 0 m h = 1.4	x: 0.448 m h = 13.0	x: 0.448 m h = 12.5	x: 0.448 m h = 1.7	x: 0.448 m h = 1.8	x: 0.448 m h = 35.2	x: 0 m h = 6.1	x: 0.448 m h = 19.8	**CUMPLE h = 35.2**
N23/N401	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.2	x: 0 m h = 0.6	h = 7.9	x: 0 m h = 5.3	x: 0.44 m h = 6.0	x: 0 m h = 3.2	x: 0.44 m h = 1.6	x: 0 m h = 8.8	x: 0.44 m h = 6.8	x: 0 m h = 0.8	x: 0.44 m h = 0.6	x: 0 m h = 19.4	x: 0 m h = 10.0	x: 0.44 m h = 10.0	**CUMPLE h = 19.4**
N401/N21	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	N.P.(1)	x: 0 m h = 2.7	h = 7.6	x: 0.443 m h = 10.7	x: 0 m h = 4.0	h = 1.3	x: 0 m h = 1.5	x: 0.443 m h = 14.1	x: 0 m h = 7.4	x: 0.443 m h = 2.0	x: 0 m h = 0.6	N.P.(2)	x: 0.443 m h = 21.0	x: 0.443 m h = 16.1	**CUMPLE h = 21.0**
N402/N401	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	N.P.(1)	x: 0 m h = 3.1	h = 8.2	x: 0.448 m h = 11.1	x: 0.448 m h = 5.4	x: 0.448 m h = 2.6	x: 0 m h = 2.3	x: 0.448 m h = 14.7	x: 0.448 m h = 8.6	x: 0.448 m h = 2.2	x: 0.448 m h = 0.8	N.P.(2)	x: 0.448 m h = 24.2	x: 0.448 m h = 17.4	**CUMPLE h = 24.2**
N363/N402	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0 m h = 4.6	x: 0 m h = 4.5	h = 8.2	x: 0 m h = 3.5	x: 0.44 m h = 5.9	x: 0 m h = 3.0	x: 0.44 m h = 0.9	x: 0 m h = 7.1	x: 0.44 m h = 9.0	x: 0 m h = 0.5	x: 0.44 m h = 0.9	x: 0 m h = 22.5	x: 0 m h = 9.1	x: 0.44 m h = 11.6	**CUMPLE h = 22.5**
N403/N402	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.453 m h = 0.1	x: 0 m h = 2.8	h = 8.4	x: 0.453 m h = 9.1	x: 0.453 m h = 4.6	h = 1.9	x: 0 m h = 3.2	x: 0.453 m h = 12.5	x: 0.453 m h = 7.5	x: 0.453 m h = 1.6	x: 0.453 m h = 0.6	x: 0.453 m h = 17.7	x: 0.453 m h = 22.7	x: 0.453 m h = 14.7	**CUMPLE h = 22.7**
N365/N403	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.7	x: 0 m h = 0.9	h = 8.5	x: 0.44 m h = 1.9	x: 0.44 m h = 5.7	h = 2.8	x: 0 m h = 0.7	x: 0.44 m h = 5.7	x: 0.44 m h = 9.5	x: 0.44 m h = 0.3	x: 0.44 m h = 1.0	x: 0.44 m h = 17.2	x: 0.44 m h = 15.3	x: 0 m h = 11.2	**CUMPLE h = 17.2**
N404/N403	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.456 m h = 0.3	x: 0 m h = 2.4	h = 8.9	x: 0 m h = 11.7	x: 0.456 m h = 3.5	x: 0.456 m h = 1.7	x: 0 m h = 3.9	x: 0 m h = 15.6	x: 0.456 m h = 7.1	x: 0 m h = 2.6	x: 0.456 m h = 0.5	x: 0 m h = 27.7	x: 0 m h = 22.4	x: 0 m h = 15.7	**CUMPLE h = 27.7**
N367/N404	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.3	x: 0 m h = 1.8	h = 9.1	x: 0.44 m h = 1.9	x: 0.44 m h = 5.2	x: 0.22 m h = 2.7	x: 0 m h = 0.9	x: 0.44 m h = 5.3	x: 0 m h = 7.7	x: 0.44 m h = 0.3	x: 0 m h = 0.6	x: 0 m h = 16.0	x: 0.44 m h = 12.3	x: 0.44 m h = 10.6	**CUMPLE h = 16.0**
N405/N404	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.456 m h = 0.5	x: 0 m h = 2.4	h = 9.5	x: 0 m h = 20.9	x: 0.456 m h = 3.2	x: 0.228 m h = 1.7	x: 0 m h = 4.3	x: 0 m h = 25.0	x: 0.456 m h = 7.3	x: 0 m h = 6.4	x: 0.456 m h = 0.6	x: 0 m h = 38.0	x: 0 m h = 30.4	x: 0 m h = 27.2	**CUMPLE h = 38.0**
N369/N405	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	N.P.(1)	x: 0 m h = 0.8	h = 9.7	x: 0.44 m h = 1.6	x: 0 m h = 9.4	x: 0.44 m h = 4.9	x: 0 m h = 1.0	x: 0 m h = 5.6	x: 0 m h = 13.5	x: 0 m h = 0.3	x: 0 m h = 2.1	N.P.(2)	x: 0 m h = 17.7	x: 0.44 m h = 14.1	**CUMPLE h = 17.7**
N406/N405	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.453 m h = 0.3	x: 0 m h = 2.9	x: 0.453 m h = 10.4	x: 0 m h = 29.2	x: 0 m h = 4.3	x: 0.453 m h = 2.1	x: 0 m h = 4.3	x: 0 m h = 33.5	x: 0 m h = 8.1	x: 0 m h = 11.4	x: 0 m h = 0.7	x: 0 m h = 32.1	x: 0 m h = 44.6	x: 0 m h = 39.6	**CUMPLE h = 44.6**
N371/N406	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.22 m h = 1.5	x: 0.22 m h = 2.2	h = 10.3	x: 0.44 m h = 2.7	x: 0 m h = 14.8	x: 0.22 m h = 8.2	x: 0 m h = 1.0	x: 0 m h = 7.1	x: 0 m h = 18.9	x: 0 m h = 0.5	x: 0 m h = 4.2	x: 0.44 m h = 32.3	x: 0 m h = 24.7	x: 0 m h = 20.0	**CUMPLE h = 32.3**
N407/N406	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.448 m h = 0.2	x: 0 m h = 4.1	h = 10.6	x: 0 m h = 38.3	x: 0 m h = 11.0	h = 4.9	x: 0 m h = 4.4	x: 0 m h = 42.8	x: 0 m h = 15.2	x: 0 m h = 18.5	x: 0 m h = 2.6	x: 0 m h = 13.9	x: 0 m h = 59.8	x: 0 m h = 53.1	**CUMPLE h = 59.8**
N373/N407	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.441 m h = 0.7	x: 0 m h = 0.9	h = 10.4	x: 0.441 m h = 3.8	x: 0.441 m h = 17.4	h = 9.7	x: 0.441 m h = 1.2	x: 0.441 m h = 8.5	x: 0.441 m h = 22.0	x: 0.441 m h = 0.7	x: 0.441 m h = 5.8	x: 0.441 m h = 33.9	x: 0.441 m h = 30.5	x: 0.441 m h = 22.3	**CUMPLE h = 33.9**
N408/N407	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.443 m h = 0.5	x: 0 m h = 5.5	h = 10.0	x: 0 m h = 51.0	x: 0 m h = 15.2	h = 5.1	x: 0 m h = 5.4	x: 0 m h = 55.3	x: 0 m h = 19.5	x: 0 m h = 30.8	x: 0 m h = 4.1	x: 0 m h = 6.5	x: 0 m h = 78.1	x: 0 m h = 71.2	**CUMPLE h = 78.1**
N375/N408	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.22 m h = 1.5	x: 0.22 m h = 1.3	x: 0.22 m h = 9.4	x: 0 m h = 4.2	x: 0.441 m h = 6.7	h = 4.9	x: 0 m h = 1.0	x: 0 m h = 8.2	x: 0.441 m h = 10.8	x: 0 m h = 0.7	x: 0.441 m h = 1.4	x: 0.441 m h = 22.6	x: 0.441 m h = 8.4	x: 0.22 m h = 14.2	**CUMPLE h = 22.6**
N409/N408	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.8	x: 0 m h = 7.1	h = 6.5	x: 0 m h = 54.4	x: 0 m h = 13.0	h = 4.4	x: 0 m h = 6.2	x: 0 m h = 56.9	x: 0 m h = 15.9	x: 0 m h = 32.7	x: 0 m h = 2.7	x: 0 m h = 9.8	x: 0 m h = 75.6	x: 0 m h = 76.0	**CUMPLE h = 76.0**
N377/N409	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.441 m h = 0.7	x: 0 m h = 0.6	h = 2.0	x: 0 m h = 4.4	x: 0 m h = 4.5	h = 2.8	x: 0 m h = 3.0	x: 0 m h = 4.4	x: 0 m h = 5.3	x: 0 m h = 0.3	x: 0 m h = 0.4	x: 0 m h = 10.7	x: 0 m h = 7.8	x: 0 m h = 6.3	**CUMPLE h = 10.7**
N409/N410	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.1	x: 0 m h = 7.1	h = 6.4	x: 0 m h = 53.9	x: 0 m h = 12.7	h = 4.3	x: 0 m h = 6.1	x: 0 m h = 56.3	x: 0 m h = 15.5	x: 0 m h = 32.1	x: 0 m h = 2.6	x: 0 m h = 16.9	x: 0 m h = 75.0	x: 0 m h = 75.3	**CUMPLE h = 75.3**
N379/N410	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0 m h = 0.7	x: 0 m h = 0.5	h = 9.3	x: 0 m h = 4.2	x: 0.441 m h = 7.1	h = 5.1	x: 0 m h = 1.0	x: 0 m h = 8.1	x: 0.441 m h = 11.3	x: 0 m h = 0.7	x: 0.441 m h = 1.5	x: 0 m h = 22.4	x: 0.441 m h = 13.5	x: 0 m h = 14.3	**CUMPLE h = 22.4**
N410/N411	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.443 m h = 0.8	x: 0 m h = 5.4	x: 0 m h = 9.8	x: 0 m h = 50.6	x: 0 m h = 16.4	x: 0 m h = 5.9	x: 0 m h = 5.3	x: 0 m h = 54.8	x: 0 m h = 20.7	x: 0 m h = 30.3	x: 0 m h = 4.6	x: 0 m h = 10.4	x: 0 m h = 77.4	x: 0 m h = 70.7	**CUMPLE h = 77.4**
N381/N411	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.441 m h = 1.8	x: 0 m h = 2.2	h = 10.3	x: 0.441 m h = 3.5	x: 0.441 m h = 16.7	h = 9.4	x: 0.441 m h = 1.0	x: 0.441 m h = 7.9	x: 0.441 m h = 21.3	x: 0.441 m h = 0.6	x: 0.441 m h = 5.4	x: 0.441 m h = 37.0	x: 0 m h = 25.0	x: 0.441 m h = 21.8	**CUMPLE h = 37.0**
N411/N412	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.448 m h = 0.4	x: 0 m h = 4.1	x: 0 m h = 10.3	x: 0 m h = 38.1	x: 0 m h = 8.2	x: 0 m h = 3.6	x: 0 m h = 4.3	x: 0 m h = 42.5	x: 0 m h = 12.6	x: 0 m h = 18.2	x: 0 m h = 1.7	x: 0 m h = 12.6	x: 0 m h = 59.2	x: 0 m h = 52.7	**CUMPLE h = 59.2**
N383/N412	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.3	x: 0 m h = 0.9	h = 10.4	x: 0 m h = 2.6	x: 0 m h = 14.4	x: 0 m h = 7.9	x: 0 m h = 0.9	x: 0 m h = 7.1	x: 0 m h = 18.5	x: 0 m h = 0.5	x: 0 m h = 4.1	x: 0.44 m h = 27.2	x: 0 m h = 24.4	x: 0 m h = 18.1	**CUMPLE h = 27.2**
N412/N413	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.453 m h = 0.2	x: 0 m h = 2.9	h = 9.7	x: 0 m h = 29.1	x: 0 m h = 6.1	x: 0 m h = 3.2	x: 0 m h = 4.3	x: 0 m h = 33.3	x: 0 m h = 10.1	x: 0 m h = 11.3	x: 0 m h = 1.1	x: 0 m h = 10.3	x: 0 m h = 44.0	x: 0 m h = 39.4	**CUMPLE h = 44.0**
N400/N413	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.7	x: 0 m h = 2.4	h = 9.5	x: 0.44 m h = 1.6	x: 0 m h = 8.9	h = 4.6	x: 0 m h = 1.0	x: 0 m h = 5.6	x: 0 m h = 12.9	x: 0 m h = 0.3	x: 0 m h = 1.9	x: 0 m h = 23.0	x: 0 m h = 17.1	x: 0.44 m h = 13.8	**CUMPLE h = 23.0**
N400/N414	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.456 m h = 8.5	x: 0 m h = 1.0	h = 10.2	x: 0 m h = 19.3	x: 0.456 m h = 6.6	h = 3.4	x: 0 m h = 3.6	x: 0 m h = 23.6	x: 0.456 m h = 11.0	x: 0 m h = 5.7	x: 0.456 m h = 1.3	x: 0 m h = 51.2	x: 0.456 m h = 5.5	x: 0 m h = 33.6	**CUMPLE h = 51.2**
N414/N415	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.3	x: 0 m h = 0.7	h = 8.9	x: 0.44 m h = 1.7	x: 0.44 m h = 4.8	x: 0 m h = 2.4	x: 0 m h = 0.9	x: 0.44 m h = 5.3	x: 0 m h = 6.7	x: 0.44 m h = 0.3	x: 0 m h = 0.5	x: 0.44 m h = 14.3	x: 0.44 m h = 12.2	x: 0 m h = 10.0	**CUMPLE h = 14.3**
N414/N416	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.455 m h = 6.6	x: 0 m h = 1.1	h = 9.6	x: 0 m h = 11.1	x: 0.455 m h = 10.0	h = 5.1	x: 0 m h = 3.3	x: 0 m h = 15.0	x: 0.455 m h = 14.1	x: 0 m h = 2.3	x: 0.455 m h = 2.3	x: 0 m h = 41.1	x: 0.455 m h = 5.9	x: 0 m h = 23.6	**CUMPLE h = 41.1**
N387/N414	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	N.P.(1)	x: 0 m h = 1.4	h = 11.8	x: 0.442 m h = 6.4	x: 0.442 m h = 22.9	h = 10.9	x: 0 m h = 3.9	x: 0.442 m h = 11.6	x: 0.442 m h = 28.1	x: 0 m h = 1.5	x: 0.442 m h = 9.1	N.P.(2)	x: 0.442 m h = 41.1	x: 0.442 m h = 31.1	**CUMPLE h = 41.1**
N416/N417	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0 m h = 2.3	x: 0 m h = 2.6	h = 8.4	x: 0.44 m h = 2.1	x: 0.44 m h = 6.5	x: 0.44 m h = 3.3	x: 0 m h = 0.7	x: 0.44 m h = 5.7	x: 0.44 m h = 9.5	x: 0.44 m h = 0.3	x: 0.44 m h = 1.0	x: 0.44 m h = 21.0	x: 0.44 m h = 15.3	x: 0 m h = 11.1	**CUMPLE h = 21.0**
N416/N418	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.453 m h = 5.2	x: 0 m h = 1.2	h = 9.0	x: 0.453 m h = 7.1	x: 0.453 m h = 10.8	h = 5.4	x: 0 m h = 2.5	x: 0.453 m h = 11.0	x: 0.453 m h = 14.7	x: 0.453 m h = 1.3	x: 0.453 m h = 2.5	x: 0.453 m h = 37.0	x: 0.453 m h = 4.4	x: 0.453 m h = 21.0	**CUMPLE h = 37.0**
N399/N416	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.442 m h = 1.6	x: 0 m h = 2.0	h = 10.7	x: 0.442 m h = 8.8	x: 0.442 m h = 23.3	h = 11.7	x: 0 m h = 3.5	x: 0.442 m h = 13.5	x: 0.442 m h = 28.0	x: 0.442 m h = 1.9	x: 0.442 m h = 9.2	x: 0.442 m h = 44.3	x: 0.442 m h = 41.9	x: 0.442 m h = 31.5	**CUMPLE h = 44.3**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N399/N419	$(w / t)_{Máx.}$ Cumple	x: 0.451 m h = 6.0	x: 0 m h = 1.0	h = 10.9	x: 0.451 m h = 9.2	x: 0.451 m h = 26.6	h = 14.6	x: 0 m h = 4.6	x: 0.451 m h = 14.0	x: 0.451 m h = 31.4	x: 0.451 m h = 2.1	x: 0.451 m h = 12.0	x: 0.451 m h = 62.5	x: 0.451 m h = 6.1	x: 0.451 m h = 40.9	**CUMPLE h = 62.5**
N419/N418	$(w / t)_{Máx.}$ Cumple	x: 0.443 m h = 1.6	x: 0 m h = 0.7	h = 9.5	x: 0.443 m h = 9.0	x: 0.443 m h = 19.4	h = 9.9	x: 0 m h = 2.4	x: 0.443 m h = 13.2	x: 0.443 m h = 23.6	x: 0.443 m h = 1.8	x: 0.443 m h = 6.6	x: 0.443 m h = 47.1	x: 0.443 m h = 10.9	x: 0.443 m h = 27.8	**CUMPLE h = 47.1**
N419/N420	$(w / t)_{Máx.}$ Cumple	x: 0.447 m h = 4.4	x: 0 m h = 1.0	x: 0.224 m h = 9.7	x: 0.447 m h = 10.9	x: 0.447 m h = 20.8	h = 11.2	x: 0 m h = 3.1	x: 0.447 m h = 15.2	x: 0.447 m h = 25.0	x: 0.447 m h = 2.4	x: 0.447 m h = 7.5	x: 0.447 m h = 54.3	x: 0.447 m h = 7.5	x: 0.447 m h = 33.2	**CUMPLE h = 54.3**
N391/N419	$(w / t)_{Máx.}$ Cumple	x: 0.446 m h = 2.4	x: 0 m h = 0.8	h = 11.5	x: 0.446 m h = 12.0	x: 0.446 m h = 30.0	h = 16.4	x: 0 m h = 4.9	x: 0.446 m h = 17.1	x: 0.446 m h = 35.1	x: 0.446 m h = 3.1	x: 0.446 m h = 15.0	x: 0.446 m h = 67.1	x: 0.446 m h = 16.5	x: 0.446 m h = 42.3	**CUMPLE h = 67.1**
N420/N421	$(w / t)_{Máx.}$ Cumple	x: 0.443 m h = 2.9	x: 0 m h = 0.8	x: 0 m h = 8.8	x: 0.443 m h = 7.6	x: 0.443 m h = 10.8	h = 5.3	x: 0 m h = 0.9	x: 0.443 m h = 11.5	x: 0.443 m h = 14.6	x: 0.443 m h = 1.3	x: 0.443 m h = 2.4	x: 0.443 m h = 35.1	x: 0.443 m h = 8.8	x: 0.443 m h = 18.9	**CUMPLE h = 35.1**
N420/N422	$(w / t)_{Máx.}$ Cumple	x: 0.443 m h = 2.9	x: 0 m h = 0.9	h = 8.7	x: 0.443 m h = 7.6	x: 0.443 m h = 10.8	h = 5.4	x: 0 m h = 0.9	x: 0.443 m h = 11.5	x: 0.443 m h = 14.6	x: 0.443 m h = 1.3	x: 0.443 m h = 2.4	x: 0.443 m h = 35.1	x: 0.443 m h = 7.0	x: 0.443 m h = 19.0	**CUMPLE h = 35.1**
N393/N420	$(w / t)_{Máx.}$ Cumple	x: 0.447 m h = 4.3	x: 0 m h = 0.9	h = 9.7	x: 0.447 m h = 10.9	x: 0.447 m h = 20.8	h = 11.2	x: 0 m h = 3.1	x: 0.447 m h = 15.2	x: 0.447 m h = 25.1	x: 0.447 m h = 2.4	x: 0.447 m h = 7.5	x: 0.447 m h = 54.3	x: 0.447 m h = 12.1	x: 0.447 m h = 33.2	**CUMPLE h = 54.3**
N422/N423	$(w / t)_{Máx.}$ Cumple	x: 0.443 m h = 4.0	x: 0 m h = 2.3	h = 8.0	x: 0 m h = 7.8	x: 0 m h = 2.7	h = 1.0	x: 0.443 m h = 0.4	x: 0 m h = 11.3	x: 0 m h = 5.7	x: 0 m h = 1.3	x: 0 m h = 0.3	x: 0 m h = 23.2	x: 0.443 m h = 6.4	x: 0 m h = 12.5	**CUMPLE h = 23.2**
N422/N424	$(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.3	x: 0 m h = 0.6	h = 7.8	x: 0 m h = 5.3	x: 0.44 m h = 2.5	x: 0.44 m h = 1.4	x: 0.44 m h = 1.6	x: 0 m h = 8.8	x: 0 m h = 5.9	x: 0 m h = 0.8	x: 0 m h = 0.4	x: 0 m h = 19.2	x: 0 m h = 5.6	x: 0.44 m h = 9.9	**CUMPLE h = 19.2**
N395/N422	$(w / t)_{Máx.}$ Cumple	x: 0.448 m h = 4.6	x: 0 m h = 1.9	h = 8.5	x: 0.448 m h = 9.2	x: 0.448 m h = 7.9	x: 0.448 m h = 3.6	x: 0 m h = 1.4	x: 0.448 m h = 12.9	x: 0.448 m h = 11.6	x: 0.448 m h = 1.7	x: 0.448 m h = 1.5	x: 0.448 m h = 33.9	x: 0.448 m h = 8.4	x: 0.448 m h = 18.4	**CUMPLE h = 33.9**
N424/N425	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.8	h = 7.5	x: 0.443 m h = 10.7	x: 0 m h = 4.4	x: 0 m h = 1.7	x: 0 m h = 1.5	x: 0.443 m h = 14.0	x: 0 m h = 7.5	x: 0.443 m h = 2.0	x: 0 m h = 0.6	N.P.[2]	x: 0.443 m h = 21.0	x: 0.443 m h = 16.2	**CUMPLE h = 21.0**
N398/N424	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.2	h = 8.0	x: 0.448 m h = 11.0	x: 0.448 m h = 4.5	x: 0 m h = 1.6	x: 0 m h = 2.3	x: 0.448 m h = 14.5	x: 0.448 m h = 7.7	x: 0.448 m h = 2.1	x: 0.448 m h = 0.6	N.P.[2]	x: 0.448 m h = 24.3	x: 0.448 m h = 17.4	**CUMPLE h = 24.3**
N423/N425	$(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 2.2	x: 0 m h = 1.6	h = 6.9	x: 0 m h = 6.2	x: 0.44 m h = 8.9	h = 4.8	x: 0.44 m h = 1.7	x: 0 m h = 9.2	x: 0.44 m h = 11.9	x: 0 m h = 0.9	x: 0.44 m h = 1.6	x: 0 m h = 26.7	x: 0 m h = 8.1	x: 0 m h = 14.0	**CUMPLE h = 26.7**
N421/N423	$(w / t)_{Máx.}$ Cumple	x: 0.443 m h = 3.1	x: 0 m h = 1.4	h = 8.0	x: 0 m h = 7.8	x: 0 m h = 3.7	x: 0.443 m h = 1.7	x: 0.443 m h = 0.4	x: 0 m h = 11.3	x: 0 m h = 7.1	x: 0 m h = 1.3	x: 0 m h = 0.5	x: 0 m h = 23.1	x: 0.443 m h = 5.2	x: 0 m h = 12.1	**CUMPLE h = 23.1**
N418/N421	$(w / t)_{Máx.}$ Cumple	x: 0.448 m h = 4.1	x: 0 m h = 1.3	x: 0.224 m h = 8.6	x: 0.448 m h = 9.2	x: 0.448 m h = 7.8	h = 3.5	x: 0 m h = 1.4	x: 0.448 m h = 12.9	x: 0.448 m h = 11.5	x: 0.448 m h = 1.7	x: 0.448 m h = 1.5	x: 0.448 m h = 33.9	x: 0.448 m h = 6.9	x: 0.448 m h = 18.4	**CUMPLE h = 33.9**
N418/N426	$(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.7	x: 0.44 m h = 0.4	h = 8.0	x: 0 m h = 3.5	x: 0.44 m h = 6.0	h = 3.0	x: 0.44 m h = 0.9	x: 0 m h = 7.0	x: 0.44 m h = 8.9	x: 0 m h = 0.5	x: 0.44 m h = 0.9	x: 0.44 m h = 17.8	x: 0 m h = 7.0	x: 0.44 m h = 10.2	**CUMPLE h = 17.8**
N417/N426	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.9	x: 0.453 m h = 8.3	x: 0.453 m h = 8.7	x: 0.453 m h = 5.0	x: 0 m h = 2.4	x: 0 m h = 3.1	x: 0.453 m h = 12.2	x: 0.453 m h = 8.1	x: 0.453 m h = 1.6	x: 0.453 m h = 0.7	N.P.[2]	x: 0.453 m h = 22.6	x: 0.453 m h = 14.7	**CUMPLE h = 22.6**
N426/N427	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.2	x: 0.224 m h = 8.0	x: 0.448 m h = 11.0	x: 0.448 m h = 3.5	h = 0.8	x: 0 m h = 2.3	x: 0.448 m h = 14.5	x: 0.448 m h = 6.6	x: 0.448 m h = 2.1	x: 0.448 m h = 0.4	N.P.[2]	x: 0.448 m h = 24.2	x: 0.448 m h = 17.4	**CUMPLE h = 24.2**
N421/N427	$(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.3	x: 0 m h = 0.5	h = 7.7	x: 0 m h = 5.3	x: 0.44 m h = 4.2	h = 2.3	x: 0.44 m h = 1.6	x: 0 m h = 8.8	x: 0.44 m h = 7.5	x: 0 m h = 0.8	x: 0.44 m h = 0.6	x: 0 m h = 20.0	x: 0 m h = 4.1	x: 0.44 m h = 10.1	**CUMPLE h = 20.0**
N427/N428	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.8	x: 0.443 m h = 7.6	x: 0.443 m h = 10.9	x: 0 m h = 5.4	x: 0 m h = 2.6	x: 0 m h = 1.6	x: 0.443 m h = 14.3	x: 0 m h = 8.6	x: 0.443 m h = 2.1	x: 0 m h = 0.8	N.P.[2]	x: 0.443 m h = 22.1	x: 0.443 m h = 16.2	**CUMPLE h = 22.1**
N423/N428	$(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 3.7	x: 0 m h = 3.2	h = 6.9	x: 0 m h = 6.2	x: 0.44 m h = 8.9	h = 4.8	x: 0.44 m h = 1.7	x: 0 m h = 9.2	x: 0.44 m h = 11.9	x: 0 m h = 0.9	x: 0.44 m h = 1.6	x: 0 m h = 26.8	x: 0 m h = 8.7	x: 0 m h = 14.2	**CUMPLE h = 26.8**
N428/N429	$(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 0.5	x: 0.44 m h = 1.7	h = 5.8	x: 0.22 m h = 5.1	x: 0.44 m h = 8.0	h = 4.3	x: 0 m h = 0.2	x: 0.22 m h = 7.6	x: 0.44 m h = 10.5	x: 0.22 m h = 0.6	x: 0.44 m h = 1.3	x: 0.44 m h = 17.8	x: 0.44 m h = 19.3	x: 0.44 m h = 13.0	**CUMPLE h = 19.3**
N425/N429	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 1.3	h = 5.8	x: 0.22 m h = 5.1	x: 0.44 m h = 8.0	h = 4.3	x: 0 m h = 0.3	x: 0.22 m h = 7.6	x: 0.44 m h = 10.5	x: 0.22 m h = 0.6	x: 0.44 m h = 1.3	N.P.[2]	x: 0.44 m h = 19.3	x: 0.44 m h = 13.0	**CUMPLE h = 19.3**
N415/N417	$(w / t)_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.4	h = 8.6	x: 0 m h = 11.9	x: 0.456 m h = 3.1	h = 1.4	x: 0 m h = 3.8	x: 0 m h = 15.5	x: 0.456 m h = 6.2	x: 0 m h = 2.5	x: 0.456 m h = 0.4	N.P.[2]	x: 0 m h = 22.2	x: 0 m h = 15.7	**CUMPLE h = 22.2**
N413/N415	$(w / t)_{Máx.}$ Cumple	x: 0.456 m h = 0.1	x: 0 m h = 2.3	h = 9.1	x: 0 m h = 20.2	x: 0 m h = 2.0	h = 0.9	x: 0 m h = 4.2	x: 0 m h = 24.0	x: 0 m h = 5.4	x: 0 m h = 5.9	x: 0 m h = 0.3	x: 0 m h = 24.1	x: 0 m h = 30.1	x: 0 m h = 27.0	**CUMPLE h = 30.1**
N202/N197	$(w / t)_{Máx.}$ Cumple	x: 0.508 m h = 3.9	x: 0 m h = 18.0	h = 2.8	x: 0.508 m h = 18.0	x: 0.508 m h = 15.6	x: 0 m h = 6.8	x: 0.508 m h = 4.9	x: 0.508 m h = 18.7	x: 0.508 m h = 16.5	x: 0.508 m h = 3.7	x: 0.508 m h = 3.2	x: 0.508 m h = 29.0	x: 0.508 m h = 43.2	x: 0.508 m h = 40.9	**CUMPLE h = 43.2**
N1/N6	$(w / t)_{Máx.}$ Cumple	x: 0.44 m h = 1.6	x: 0 m h = 2.3	h = 9.8	x: 0.44 m h = 1.5	x: 0 m h = 8.3	x: 0 m h = 4.3	x: 0 m h = 0.9	x: 0 m h = 5.7	x: 0 m h = 12.1	x: 0 m h = 0.3	x: 0 m h = 1.7	x: 0 m h = 21.4	x: 0 m h = 16.5	x: 0.44 m h = 13.0	**CUMPLE h = 21.4**
N389/N390	$(w / t)_{Máx.}$ Cumple	x: 0.458 m h = 0.5	x: 0 m h = 1.3	h = 15.7	x: 0 m h = 18.3	x: 0.458 m h = 42.8	h = 22.2	x: 0 m h = 8.2	x: 0 m h = 25.3	x: 0.458 m h = 49.8	x: 0 m h = 7.1	x: 0.458 m h = 29.7	x: 0 m h = 73.2	x: 0 m h = 71.3	x: 0.458 m h = 55.9	**CUMPLE h = 73.2**
N266/N264	$(w / t)_{Máx.}$ Cumple	x: 0.602 m h = 17.7	x: 0 m h = 25.1	h = 0.6	x: 0 m h = 13.1	x: 0.602 m h = 25.9	x: 0.15 m h = 10.5	x: 0 m h = 3.9	N.P.[5]	N.P.[6]	x: 0 m h = 1.9	x: 0.602 m h = 7.9	x: 0.602 m h = 46.8	x: 0.602 m h = 53.2	x: 0.602 m h = 52.5	**CUMPLE h = 53.2**
N296/N275	$(w / t)_{Máx.}$ Cumple	x: 0.632 m h = 0.9	x: 0 m h = 2.7	h = 3.1	x: 0 m h = 14.2	x: 0.632 m h = 2.5	h = 1.7	x: 0 m h = 1.9	x: 0 m h = 14.4	x: 0 m h = 3.5	x: 0 m h = 2.1	x: 0.632 m h = 0.1	x: 0 m h = 7.7	x: 0 m h = 17.7	x: 0 m h = 20.4	**CUMPLE h = 20.4**
N275/N277	$(w / t)_{Máx.}$ Cumple	x: 0.442 m h = 0.7	x: 0 m h = 10.7	h = 3.7	x: 0 m h = 40.2	x: 0.442 m h = 29.5	h = 15.6	x: 0 m h = 19.1	x: 0 m h = 41.4	x: 0.442 m h = 30.7	x: 0 m h = 20.7	x: 0.442 m h = 11.8	x: 0 m h = 38.3	x: 0 m h = 75.5	x: 0 m h = 67.1	**CUMPLE h = 75.5**
N123/N125	$(w / t)_{Máx.}$ Cumple	x: 0.453 m h = 2.9	x: 0 m h = 0.5	h = 13.6	x: 0 m h = 12.9	x: 0.453 m h = 36.9	h = 19.9	x: 0 m h = 6.9	x: 0 m h = 18.9	x: 0.453 m h = 42.9	x: 0 m h = 4.0	x: 0.453 m h = 22.4	x: 0 m h = 77.6	x: 0.453 m h = 16.8	x: 0.453 m h = 50.6	**CUMPLE h = 77.6**
N298/N296	$(w / t)_{Máx.}$ Cumple	x: 0.554 m h = 2.2	x: 0 m h = 5.4	h = 2.4	x: 0.554 m h = 14.1	x: 0.554 m h = 2.7	h = 0.3	x: 0.554 m h = 2.2	x: 0.554 m h = 14.4	x: 0.554 m h = 3.0	x: 0.554 m h = 2.1	x: 0.554 m h = 0.1	x: 0 m h = 11.4	x: 0.554 m h = 20.6	x: 0.554 m h = 23.0	**CUMPLE h = 23.0**
N244/N32	$(w / t)_{Máx.}$ Cumple	x: 0.222 m h = 0.2	x: 0 m h = 2.2	h = 12.7	x: 0 m h = 7.9	x: 0.444 m h = 17.7	h = 7.6	x: 0 m h = 3.2	x: 0 m h = 13.6	x: 0.444 m h = 23.4	x: 0 m h = 1.9	x: 0.444 m h = 6.0	x: 0.444 m h = 22.9	x: 0.444 m h = 33.6	x: 0.444 m h = 24.5	**CUMPLE h = 33.6**
N324/N27	$(w / t)_{Máx.}$ Cumple	x: 0.446 m h = 2.3	x: 0 m h = 0.7	h = 11.6	x: 0.446 m h = 11.9	x: 0.446 m h = 29.7	h = 16.2	x: 0 m h = 4.9	x: 0.446 m h = 17.1	x: 0.446 m h = 34.8	x: 0.446 m h = 3.1	x: 0.446 m h = 14.7	x: 0.446 m h = 66.7	x: 0.446 m h = 15.3	x: 0.446 m h = 41.9	**CUMPLE h = 66.7**
N228/N220	$(w / t)_{Máx.}$ Cumple	x: 0.512 m h = 2.4	x: 0 m h = 2.4	h = 6.3	x: 0 m h = 8.0	x: 0.512 m h = 13.9	h = 9.2	x: 0 m h = 1.2	x: 0 m h = 9.7	x: 0.512 m h = 14.2	x: 0 m h = 0.9	x: 0.512 m h = 2.9	x: 0.512 m h = 25.9	x: 0.512 m h = 16.8	x: 0.512 m h = 19.5	**CUMPLE h = 25.9**
N259/N337	$(w / t)_{Máx.}$ Cumple	x: 0.475 m h = 0.3	x: 0 m h = 0.8	h = 4.0	x: 0 m h = 10.3	x: 0.475 m h = 3.2	h = 3.3	x: 0 m h = 1.0	x: 0 m h = 10.5	x: 0.475 m h = 5.0	x: 0 m h = 1.1	x: 0.475 m h = 0.4	x: 0.475 m h = 11.2	x: 0.475 m h = 12.4	x: 0 m h = 13.4	**CUMPLE h = 13.4**
N430/N189	$(w / t)_{Máx.}$ Cumple	x: 1.248 m h = 2.1	x: 0 m h = 3.2	x: 0 m h = 3.1	x: 0 m h = 7.3	x: 1.248 m h = 20.4	x: 0.416 m h = 5.8	x: 1.248 m h = 0.8	x: 0 m h = 8.0	x: 1.248 m h = 21.5	x: 0 m h = 0.6	x: 1.248 m h = 4.9	x: 0 m h = 35.1	x: 0 m h = 24.5	x: 1.248 m h = 27.4	**CUMPLE h = 35.1**
N431/N191	$(w / t)_{Máx.}$ Cumple	x: 1.712 m h = 2.3	x: 0 m h = 5.6	h = 2.4	x: 1.712 m h = 14.6	x: 1.712 m h = 3.1	h = 0.5	x: 1.712 m h = 2.4	x: 1.712 m h = 14.9	x: 0.642 m h = 3.3	x: 1.712 m h = 2.2	x: 0.642 m h = 0.1	x: 0 m h = 14.9	x: 1.712 m h = 21.3	x: 1.712 m h = 23.9	**CUMPLE h = 23.9**
N431/N201	$(w / t)_{Máx.}$ Cumple	x: 0.538 m h = 24.2	x: 0 m h = 31.4	x: 0.717 m h = 3.7	x: 0 m h = 39.5	x: 0 m h = 17.1	x: 0.717 m h = 4.1	x: 0 m h = 12.4	x: 0 m h = 40.9	x: 0 m h = 18.5	x: 0 m h = 18.3	x: 0 m h = 3.6	x: 0 m h = 85.6	x: 0 m h = 84.1	x: 0 m h = 82.2	**CUMPLE h = 85.6**
N431/N430	$(w / t)_{Máx.}$ Cumple	x: 0.719 m h = 23.6	x: 0 m h = 31.1	h = 3.7	x: 0 m h = 39.3	x: 0 m h = 14.8	h = 3.2	x: 0 m h = 12.3	x: 0 m h = 40.4	x: 0 m h = 16.0	x: 0 m h = 17.8	x: 0 m h = 2.7	x: 0 m h = 76.1	x: 0 m h = 75.1	x: 0 m h = 80.2	**CUMPLE h = 80.2**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N430/N212	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.703 m h = 35.3	x: 0.703 m h = 45.1	x: 0.703 m h = 2.4	x: 1.054 m h = 24.7	x: 1.054 m h = 13.5	x: 0.703 m h = 3.0	x: 1.054 m h = 5.4	x: 1.054 m h = 25.2	x: 1.054 m h = 14.5	x: 1.054 m h = 6.7	x: 1.054 m h = 2.2	x: 1.054 m h = 63.4	x: 1.054 m h = 74.3	x: 1.054 m h = 69.0	**CUMPLE h = 74.3**
N217/N265	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.508 m h = 4.6	x: 0 m h = 18.7	h = 2.8	x: 0.508 m h = 18.7	x: 0.508 m h = 15.7	x: 0.508 m h = 6.8	x: 0.508 m h = 5.2	x: 0.508 m h = 17.7	x: 0.508 m h = 16.5	x: 0.508 m h = 3.7	x: 0.508 m h = 3.2	x: 0.508 m h = 29.2	x: 0.508 m h = 43.2	x: 0.508 m h = 39.7	**CUMPLE h = 43.2**
N266/N217	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.602 m h = 17.8	x: 0 m h = 24.9	h = 0.6	x: 0 m h = 13.0	x: 0.602 m h = 25.7	x: 0.301 m h = 10.8	x: 0 m h = 3.9	N.P.[5]	N.P.[6]	x: 0 m h = 1.8	x: 0.602 m h = 7.9	x: 0.602 m h = 50.5	x: 0.602 m h = 57.2	x: 0.602 m h = 56.2	**CUMPLE h = 57.2**
N296/N215	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.447 m h = 4.8	x: 0 m h = 21.3	h = 4.2	x: 0 m h = 57.2	x: 0 m h = 22.7	h = 10.7	x: 0 m h = 29.5	x: 0 m h = 58.7	x: 0 m h = 22.1	x: 0 m h = 43.1	x: 0 m h = 6.4	x: 0.447 m h = 61.7	x: 0 m h = 83.6	x: 0 m h = 89.9	**CUMPLE h = 89.9**
N214/N215	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 1.244 m h = 1.6	x: 0 m h = 2.7	h = 3.2	x: 1.244 m h = 6.9	x: 1.244 m h = 20.5	x: 0 m h = 5.7	x: 1.244 m h = 0.5	x: 1.244 m h = 7.0	x: 1.244 m h = 21.4	x: 1.244 m h = 0.5	x: 1.244 m h = 4.9	x: 1.244 m h = 36.2	x: 0 m h = 22.9	x: 1.244 m h = 27.9	**CUMPLE h = 36.2**
N267/N263	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 1.244 m h = 1.7	x: 0 m h = 2.8	h = 3.1	x: 0 m h = 6.9	x: 1.244 m h = 20.0	x: 0.207 m h = 5.7	x: 1.244 m h = 0.7	x: 0 m h = 7.5	x: 1.244 m h = 21.0	x: 0 m h = 0.6	x: 1.244 m h = 4.7	x: 0 m h = 33.7	x: 0 m h = 23.8	x: 1.244 m h = 26.7	**CUMPLE h = 33.7**
N242/N239	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.602 m h = 18.3	x: 0 m h = 25.4	h = 0.7	x: 0 m h = 12.8	x: 0.602 m h = 26.5	x: 0.15 m h = 10.6	x: 0 m h = 4.0	N.P.[5]	N.P.[6]	x: 0 m h = 1.8	x: 0.602 m h = 8.2	x: 0.602 m h = 49.3	x: 0.602 m h = 54.4	x: 0.602 m h = 53.5	**CUMPLE h = 54.4**
N210/N211	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 1.244 m h = 2.0	x: 0 m h = 3.2	h = 3.2	x: 0 m h = 7.0	x: 1.244 m h = 20.9	x: 0.207 m h = 5.8	x: 1.244 m h = 0.7	x: 0 m h = 7.9	x: 1.244 m h = 21.7	x: 0 m h = 0.6	x: 1.244 m h = 5.1	x: 1.244 m h = 35.9	x: 0 m h = 24.8	x: 1.244 m h = 28.6	**CUMPLE h = 35.9**
N209/N207	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 1.709 m h = 2.3	x: 0 m h = 5.6	h = 2.3	x: 1.709 m h = 14.3	x: 1.709 m h = 2.6	h = 0.3	x: 1.709 m h = 2.5	x: 1.709 m h = 14.6	x: 0.641 m h = 3.2	x: 1.709 m h = 2.1	x: 0.641 m h = 0.1	x: 0 m h = 14.7	x: 1.709 m h = 20.8	x: 1.709 m h = 23.4	**CUMPLE h = 23.4**
N213/N219	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 1.244 m h = 2.0	x: 0 m h = 3.1	h = 3.2	x: 0 m h = 7.0	x: 1.244 m h = 21.2	x: 0 m h = 5.8	x: 1.244 m h = 0.7	x: 0 m h = 7.9	x: 1.244 m h = 22.1	x: 0 m h = 0.6	x: 1.244 m h = 5.2	x: 1.244 m h = 36.4	x: 0 m h = 25.1	x: 1.244 m h = 29.0	**CUMPLE h = 36.4**
N433/N430	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 2.305 m h = 1.5	x: 0 m h = 1.7	h = 0.5	x: 2.305 m h = 5.9	x: 2.305 m h = 8.5	h = 1.0	x: 2.305 m h = 0.8	x: 0 m h = 4.9	x: 2.305 m h = 7.6	x: 2.305 m h = 0.4	x: 2.305 m h = 0.7	x: 2.305 m h = 19.3	x: 2.305 m h = 13.4	x: 2.305 m h = 14.1	**CUMPLE h = 19.3**
N434/N210	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 2.306 m h = 1.4	x: 0 m h = 1.5	h = 0.6	x: 2.306 m h = 6.0	x: 2.306 m h = 8.2	h = 1.0	x: 2.306 m h = 0.7	x: 2.306 m h = 5.3	x: 2.306 m h = 8.3	x: 2.306 m h = 0.4	x: 2.306 m h = 0.7	x: 2.306 m h = 18.4	x: 2.306 m h = 12.9	x: 2.306 m h = 13.5	**CUMPLE h = 18.4**
N435/N229	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 1.709 m h = 2.4	x: 0 m h = 5.7	h = 2.4	x: 1.709 m h = 14.7	x: 1.709 m h = 2.7	h = 0.3	x: 1.709 m h = 2.5	x: 1.709 m h = 15.0	x: 0.641 m h = 3.3	x: 1.709 m h = 2.3	x: 0.641 m h = 0.1	x: 0 m h = 14.7	x: 1.709 m h = 21.3	x: 1.709 m h = 24.0	**CUMPLE h = 24.0**
N435/N213	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.539 m h = 25.1	x: 0 m h = 32.1	x: 0.719 m h = 3.9	x: 0 m h = 39.0	x: 0 m h = 16.3	h = 3.6	x: 0 m h = 12.2	x: 0 m h = 40.4	x: 0 m h = 17.7	x: 0 m h = 17.9	x: 0 m h = 3.3	x: 0 m h = 85.1	x: 0 m h = 82.4	x: 0 m h = 81.8	**CUMPLE h = 85.1**
N433/N213	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 2.306 m h = 1.5	x: 0 m h = 1.7	h = 0.6	x: 2.306 m h = 6.0	x: 2.306 m h = 8.1	x: 0.384 m h = 1.0	x: 2.306 m h = 0.7	x: 2.306 m h = 5.5	x: 2.306 m h = 8.2	x: 2.306 m h = 0.4	x: 2.306 m h = 0.7	x: 2.306 m h = 18.6	x: 2.306 m h = 13.1	x: 2.306 m h = 13.5	**CUMPLE h = 18.6**
N435/N432	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.539 m h = 23.5	x: 0 m h = 30.6	x: 0.719 m h = 3.9	x: 0 m h = 40.8	x: 0 m h = 15.4	x: 0.719 m h = 3.7	x: 0 m h = 12.9	x: 0 m h = 41.9	x: 0 m h = 17.1	x: 0 m h = 19.2	x: 0 m h = 3.0	x: 0 m h = 80.8	x: 0 m h = 78.9	x: 0 m h = 81.6	**CUMPLE h = 81.6**
N203/N204	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 1.244 m h = 1.5	x: 0 m h = 2.7	h = 3.3	x: 1.244 m h = 7.1	x: 1.244 m h = 20.5	x: 0 m h = 5.9	x: 1.244 m h = 0.5	x: 1.244 m h = 7.2	x: 1.244 m h = 21.7	x: 1.244 m h = 0.5	x: 1.244 m h = 5.0	x: 1.244 m h = 34.6	x: 0 m h = 23.1	x: 1.244 m h = 27.4	**CUMPLE h = 34.6**
N297/N203	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.716 m h = 22.5	x: 0 m h = 29.8	x: 0.716 m h = 3.7	x: 0 m h = 41.5	x: 0 m h = 16.8	x: 0.716 m h = 4.2	x: 0 m h = 13.2	x: 0 m h = 42.6	x: 0 m h = 18.4	x: 0 m h = 19.9	x: 0 m h = 3.6	x: 0 m h = 81.0	x: 0 m h = 80.3	x: 0 m h = 81.7	**CUMPLE h = 81.7**
N206/N203	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 2.226 m h = 1.3	x: 0 m h = 1.5	h = 0.7	x: 2.226 m h = 5.9	x: 2.226 m h = 8.2	h = 1.1	x: 2.226 m h = 0.8	x: 2.226 m h = 5.9	x: 2.226 m h = 8.3	x: 2.226 m h = 0.4	x: 2.226 m h = 0.7	x: 2.226 m h = 19.1	x: 2.226 m h = 13.1	x: 2.226 m h = 13.8	**CUMPLE h = 19.1**
N436/N476	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.404 m h = 27.9	x: 0.404 m h = 33.8	h = 0.7	x: 0 m h = 16.1	x: 0 m h = 12.7	h = 3.4	x: 0.404 m h = 21.7	x: 0 m h = 16.2	x: 0 m h = 13.0	x: 0 m h = 7.3	x: 0 m h = 1.8	x: 0 m h = 50.5	x: 0 m h = 53.4	x: 0 m h = 54.3	**CUMPLE h = 54.3**
N476/N457	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.965 m h = 18.5	x: 0 m h = 24.1	h = 2.3	x: 0 m h = 20.4	x: 0 m h = 13.1	h = 1.5	x: 0.965 m h = 10.3	x: 0 m h = 20.7	x: 0 m h = 14.2	x: 0 m h = 5.3	x: 0 m h = 2.0	x: 0 m h = 48.8	x: 0 m h = 47.8	x: 0 m h = 48.9	**CUMPLE h = 48.9**
N457/N470	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.968 m h = 12.1	x: 0 m h = 17.3	h = 3.8	x: 0 m h = 15.0	x: 0 m h = 12.1	h = 2.9	x: 0.968 m h = 7.4	x: 0 m h = 15.5	x: 0 m h = 13.8	x: 0 m h = 2.9	x: 0 m h = 2.0	x: 0 m h = 37.0	x: 0 m h = 36.6	x: 0 m h = 36.3	**CUMPLE h = 37.0**
N470/N431	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.4 m h = 8.2	x: 0 m h = 13.7	h = 2.0	x: 0 m h = 16.2	x: 0 m h = 7.0	x: 0.4 m h = 11.0	x: 0.4 m h = 5.1	x: 0 m h = 16.5	x: 0 m h = 7.9	x: 0 m h = 3.0	x: 0 m h = 1.8	x: 0 m h = 30.7	x: 0 m h = 27.5	x: 0 m h = 28.0	**CUMPLE h = 30.7**
N439/N436	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 1.758 m h = 28.4	x: 0 m h = 35.1	h = 1.7	x: 0 m h = 28.5	x: 0 m h = 29.1	h = 3.4	x: 0 m h = 2.8	x: 0 m h = 28.7	x: 0 m h = 29.9	x: 0 m h = 8.3	x: 0 m h = 9.0	x: 0 m h = 74.5	x: 0 m h = 70.6	x: 0 m h = 70.5	**CUMPLE h = 74.5**
N440/N474	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.416 m h = 28.2	x: 0.416 m h = 33.9	h = 0.4	x: 0 m h = 16.5	x: 0 m h = 13.0	h = 3.4	x: 0.416 m h = 21.1	x: 0 m h = 16.5	x: 0 m h = 13.2	x: 0 m h = 7.1	x: 0 m h = 1.9	x: 0 m h = 51.7	x: 0 m h = 54.0	x: 0 m h = 54.9	**CUMPLE h = 54.9**
N474/N456	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.946 m h = 19.0	x: 0 m h = 24.4	h = 2.6	x: 0 m h = 21.3	x: 0 m h = 13.4	h = 1.6	x: 0.71 m h = 11.4	x: 0 m h = 21.6	x: 0 m h = 14.6	x: 0 m h = 5.9	x: 0 m h = 2.1	x: 0 m h = 50.6	x: 0 m h = 49.0	x: 0 m h = 50.1	**CUMPLE h = 50.6**
N456/N472	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.966 m h = 12.6	x: 0 m h = 17.7	h = 4.0	x: 0 m h = 15.0	x: 0 m h = 12.3	h = 3.0	x: 0.966 m h = 7.6	x: 0 m h = 15.5	x: 0 m h = 14.1	x: 0 m h = 2.9	x: 0 m h = 2.1	x: 0 m h = 37.6	x: 0 m h = 37.0	x: 0 m h = 36.3	**CUMPLE h = 37.6**
N472/N435	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.397 m h = 8.7	x: 0 m h = 14.0	h = 2.0	x: 0 m h = 16.1	x: 0 m h = 7.0	x: 0.397 m h = 11.1	x: 0.397 m h = 5.3	x: 0 m h = 16.2	x: 0 m h = 7.9	x: 0 m h = 2.9	x: 0 m h = 1.8	x: 0 m h = 30.8	x: 0 m h = 27.2	x: 0 m h = 28.1	**CUMPLE h = 30.8**
N441/N267	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 2.301 m h = 1.3	x: 0 m h = 1.5	h = 0.5	x: 2.301 m h = 5.3	x: 2.301 m h = 8.9	h = 1.1	x: 2.301 m h = 0.7	x: 0 m h = 4.7	x: 2.301 m h = 8.0	x: 2.301 m h = 0.3	x: 2.301 m h = 0.8	x: 2.301 m h = 19.0	x: 2.301 m h = 13.2	x: 2.301 m h = 14.1	**CUMPLE h = 19.0**
N297/N214	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.537 m h = 24.0	x: 0 m h = 31.6	x: 0.716 m h = 3.8	x: 0 m h = 40.6	x: 0 m h = 16.8	x: 0.716 m h = 4.0	x: 0 m h = 12.8	x: 0 m h = 42.0	x: 0 m h = 18.2	x: 0 m h = 19.3	x: 0 m h = 3.4	x: 0 m h = 86.2	x: 0 m h = 85.1	x: 0 m h = 83.7	**CUMPLE h = 86.2**
N442/N449	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 3.267 m h < 0.1	x: 0 m h = 0.2	N.P.[7]	x: 0 m h = 1.9	x: 0 m h = 1.8	h = 0.1	x: 0 m h = 0.1	N.P.[5]	N.P.[6]	x: 0 m h < 0.1	x: 0 m h < 0.1	N.P.[2]	x: 0 m h = 2.6	x: 0 m h = 2.5	**CUMPLE h = 2.6**
N441/N214	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 2.312 m h = 1.3	x: 0 m h = 1.5	h = 0.7	x: 2.312 m h = 6.0	x: 2.312 m h = 7.5	h = 0.9	x: 2.312 m h = 0.7	x: 2.312 m h = 5.4	x: 2.312 m h = 7.6	x: 2.312 m h = 0.4	x: 2.312 m h = 0.6	x: 2.312 m h = 17.5	x: 2.312 m h = 12.2	x: 2.312 m h = 12.6	**CUMPLE h = 17.5**
N443/N477	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.412 m h = 27.8	x: 0.412 m h = 33.6	h = 0.5	x: 0 m h = 16.9	x: 0 m h = 12.6	h = 3.3	x: 0.412 m h = 21.5	x: 0 m h = 17.0	x: 0 m h = 12.7	x: 0 m h = 7.5	x: 0 m h = 1.7	x: 0 m h = 51.6	x: 0 m h = 53.9	x: 0 m h = 55.1	**CUMPLE h = 55.1**
N477/N455	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.933 m h = 18.4	x: 0 m h = 23.9	h = 2.5	x: 0 m h = 21.6	x: 0 m h = 13.4	h = 1.6	x: 0.933 m h = 11.4	x: 0 m h = 21.8	x: 0 m h = 14.5	x: 0 m h = 6.0	x: 0 m h = 2.1	x: 0 m h = 50.5	x: 0 m h = 48.5	x: 0 m h = 50.0	**CUMPLE h = 50.5**
N455/N471	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.948 m h = 12.0	x: 0 m h = 17.2	h = 4.0	x: 0 m h = 14.7	x: 0 m h = 12.2	h = 3.0	x: 0.948 m h = 7.5	x: 0 m h = 15.2	x: 0 m h = 13.9	x: 0 m h = 2.8	x: 0 m h = 2.0	x: 0 m h = 37.4	x: 0 m h = 37.0	x: 0 m h = 35.6	**CUMPLE h = 37.4**
N471/N209	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.397 m h = 8.2	x: 0 m h = 13.6	h = 1.9	x: 0 m h = 16.3	x: 0 m h = 7.0	x: 0.397 m h = 11.1	x: 0.397 m h = 5.5	x: 0 m h = 16.6	x: 0 m h = 7.8	x: 0 m h = 3.0	x: 0 m h = 1.8	x: 0 m h = 30.9	x: 0 m h = 27.1	x: 0 m h = 28.0	**CUMPLE h = 30.9**
N438/N475	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.415 m h = 27.2	x: 0.415 m h = 33.2	h = 0.7	x: 0 m h = 16.6	x: 0 m h = 12.8	h = 3.5	x: 0.415 m h = 21.4	x: 0 m h = 16.7	x: 0 m h = 13.1	x: 0 m h = 7.3	x: 0 m h = 1.8	x: 0 m h = 50.9	x: 0 m h = 53.6	x: 0 m h = 54.3	**CUMPLE h = 54.3**
N475/N458	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.963 m h = 17.9	x: 0 m h = 23.5	h = 2.3	x: 0 m h = 19.7	x: 0 m h = 13.1	h = 1.5	x: 0.963 m h = 10.1	x: 0 m h = 20.0	x: 0 m h = 14.2	x: 0 m h = 5.0	x: 0 m h = 2.0	x: 0 m h = 47.6	x: 0 m h = 46.5	x: 0 m h = 47.6	**CUMPLE h = 47.6**
N458/N473	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.978 m h = 11.7	x: 0 m h = 16.9	h = 3.9	x: 0 m h = 14.2	x: 0 m h = 12.2	h = 2.9	x: 0.978 m h = 6.8	x: 0 m h = 14.7	x: 0 m h = 14.0	x: 0 m h = 2.6	x: 0 m h = 2.0	x: 0 m h = 36.2	x: 0 m h = 36.3	x: 0 m h = 35.0	**CUMPLE h = 36.3**
N473/N297	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 0.399 m h = 8.0	x: 0 m h = 13.5	h = 1.9	x: 0 m h = 16.3	x: 0 m h = 7.2	x: 0.399 m h = 11.1	x: 0.399 m h = 5.0	x: 0 m h = 16.5	x: 0 m h = 8.0	x: 0 m h = 3.0	x: 0 m h = 1.9	x: 0 m h = 30.6	x: 0 m h = 27.2	x: 0 m h = 27.9	**CUMPLE h = 30.6**
N444/N438	$w / t \text{ £ } (w / t)_{Máx.}$ Cumple	x: 1.743 m h = 27.7	x: 0 m h = 34.5	h = 1.8	x: 0 m h = 28.0	x: 0 m h = 30.0	h = 3.5	x: 0 m h = 2.7	x: 0 m h = 28.2	x: 0 m h = 30.8	x: 0 m h = 8.0	x: 0 m h = 9.6	x: 0 m h = 75.2	x: 0 m h = 71.2	x: 0 m h = 69.0	**CUMPLE h = 75.2**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N445/N450	w / t £ (w / t)$_{Máx.}$ Cumple	x: 3.267 m h < 0.1	x: 0 m h = 0.2	N.P.[7]	x: 0 m h = 1.9	x: 0 m h = 1.9	h = 0.1	x: 0 m h = 0.1	N.P.[5]	N.P.[6]	x: 0 m h < 0.1	x: 0 m h < 0.1	N.P.[2]	x: 0 m h = 2.8	x: 0 m h = 2.6	**CUMPLE h = 2.8**
N446/N440	w / t £ (w / t)$_{Máx.}$ Cumple	x: 1.766 m h = 28.7	x: 0 m h = 35.1	h = 2.0	x: 0 m h = 28.4	x: 0 m h = 30.5	h = 3.5	x: 0 m h = 2.6	x: 0 m h = 28.7	x: 0 m h = 31.4	x: 0 m h = 8.3	x: 0 m h = 10.0	x: 0 m h = 77.7	x: 0 m h = 72.8	x: 0 m h = 69.2	**CUMPLE h = 77.7**
N447/N443	w / t £ (w / t)$_{Máx.}$ Cumple	x: 1.805 m h = 28.4	x: 0 m h = 35.0	h = 2.1	x: 0 m h = 27.2	x: 0 m h = 29.1	h = 3.3	x: 0 m h = 2.3	x: 0 m h = 27.3	x: 0 m h = 30.0	x: 0 m h = 7.5	x: 0 m h = 9.1	x: 0 m h = 74.0	x: 0 m h = 70.3	x: 0 m h = 68.5	**CUMPLE h = 74.0**
N448/N452	w / t £ (w / t)$_{Máx.}$ Cumple	x: 3.267 m h < 0.1	x: 0 m h = 0.2	N.P.[7]	x: 0 m h = 1.9	x: 0 m h = 1.8	h = 0.1	x: 0 m h = 0.1	N.P.[5]	N.P.[6]	x: 0 m h < 0.1	x: 0 m h < 0.1	N.P.[2]	x: 0 m h = 2.9	x: 0 m h = 2.6	**CUMPLE h = 2.9**
N229/N240	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.447 m h = 3.4	x: 0 m h = 19.1	x: 0.224 m h = 4.1	x: 0 m h = 57.0	x: 0 m h = 22.8	x: 0 m h = 11.2	x: 0.224 m h = 30.1	x: 0 m h = 58.4	x: 0 m h = 23.3	x: 0 m h = 43.1	x: 0 m h = 6.7	x: 0 m h = 65.9	x: 0 m h = 86.6	x: 0 m h = 87.6	**CUMPLE h = 87.6**
N432/N240	w / t £ (w / t)$_{Máx.}$ Cumple	x: 1.244 m h = 1.8	x: 0 m h = 2.9	h = 3.2	x: 0 m h = 6.9	x: 1.244 m h = 21.5	x: 0.207 m h = 6.0	x: 1.244 m h = 0.7	x: 0 m h = 7.5	x: 1.244 m h = 22.6	x: 0 m h = 0.6	x: 1.244 m h = 5.5	x: 0 m h = 35.3	x: 0 m h = 25.1	x: 1.244 m h = 28.6	**CUMPLE h = 35.3**
N434/N432	w / t £ (w / t)$_{Máx.}$ Cumple	x: 2.306 m h = 1.4	x: 0 m h = 1.5	h = 0.6	x: 2.306 m h = 5.8	x: 2.306 m h = 8.6	h = 1.0	x: 2.306 m h = 0.7	x: 2.306 m h = 5.9	x: 2.306 m h = 8.7	x: 2.306 m h = 0.3	x: 2.306 m h = 0.8	x: 2.306 m h = 19.5	x: 2.306 m h = 13.8	x: 2.306 m h = 14.2	**CUMPLE h = 19.5**
N432/N242	w / t £ (w / t)$_{Máx.}$ Cumple	x: 1.057 m h = 35.4	x: 0.704 m h = 44.7	h = 2.5	x: 1.057 m h = 24.6	x: 1.057 m h = 14.6	x: 0.704 m h = 3.2	x: 1.057 m h = 5.4	x: 1.057 m h = 25.0	x: 1.057 m h = 15.6	x: 1.057 m h = 6.6	x: 1.057 m h = 2.6	x: 1.057 m h = 64.5	x: 1.057 m h = 76.6	x: 1.057 m h = 70.6	**CUMPLE h = 76.6**
N242/N243	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.602 m h = 18.4	x: 0 m h = 25.6	h = 0.7	x: 0 m h = 13.1	x: 0.602 m h = 25.9	x: 0.301 m h = 10.8	x: 0 m h = 3.8	N.P.[5]	N.P.[6]	x: 0 m h = 1.9	x: 0.602 m h = 7.9	x: 0.602 m h = 51.7	x: 0.602 m h = 57.8	x: 0.602 m h = 57.2	**CUMPLE h = 57.8**
N267/N266	w / t £ (w / t)$_{Máx.}$ Cumple	x: 1.057 m h = 34.2	x: 0.704 m h = 43.1	h = 2.5	x: 1.057 m h = 24.7	x: 1.057 m h = 14.3	x: 0.704 m h = 3.2	x: 1.057 m h = 5.4	x: 1.057 m h = 25.2	x: 1.057 m h = 15.4	x: 1.057 m h = 6.7	x: 1.057 m h = 2.5	x: 1.057 m h = 61.8	x: 1.057 m h = 75.8	x: 1.057 m h = 69.7	**CUMPLE h = 75.8**
N437/N451	w / t £ (w / t)$_{Máx.}$ Cumple	x: 3.344 m h < 0.1	x: 0 m h = 0.2	N.P.[7]	x: 0 m h = 1.9	x: 0 m h = 1.9	h = 0.1	x: 0 m h = 0.1	N.P.[5]	N.P.[6]	x: 0 m h < 0.1	x: 0 m h < 0.1	N.P.[2]	x: 0 m h = 2.0	x: 0 m h = 2.5	**CUMPLE h = 2.5**
N453/N460	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 4.4	h = 0.3	x: 0 m h = 31.5	x: 0 m h = 32.0	x: 1.95 m h = 5.6	x: 1.95 m h = 5.5	x: 0 m h = 31.6	x: 0 m h = 29.0	x: 0 m h = 10.3	x: 0 m h = 10.5	N.P.[2]	x: 0 m h = 47.5	x: 0 m h = 43.8	**CUMPLE h = 47.5**
N460/N459	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 3.7	h = 0.3	x: 0 m h = 43.3	x: 0 m h = 43.5	x: 0.702 m h = 21.7	x: 0.702 m h = 21.7	x: 0 m h = 21.8	x: 0 m h = 43.6	x: 0 m h = 23.4	x: 0 m h = 23.6	N.P.[2]	x: 0 m h = 63.6	x: 0 m h = 58.5	**CUMPLE h = 63.6**
N459/N469	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 2.7	h = 0.2	x: 0 m h = 29.5	x: 0 m h = 29.6	x: 0.722 m h = 18.1	x: 0.722 m h = 18.1	x: 0 m h = 14.8	x: 0 m h = 27.0	x: 0 m h = 11.9	x: 0 m h = 12.1	N.P.[2]	x: 0 m h = 43.4	x: 0 m h = 39.9	**CUMPLE h = 43.4**
N469/N454	x: 0 m w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h < 0.1	N.P.[7]	N.P.[8]	N.P.[9]	N.P.[10]	N.P.[11]	N.P.[5]	N.P.[6]	N.P.[12]	N.P.[13]	N.P.[2]	N.P.[4]	N.P.[14]	**CUMPLE h < 0.1**
N459/N458	w / t £ (w / t)$_{Máx.}$ Cumple	h = 0.7	N.P.[3]	h = 8.2	x: 0.64 m h = 59.6	x: 0 m h = 12.5	h = 2.7	x: 0 m h = 42.4	x: 0.64 m h = 60.5	x: 0 m h = 16.1	x: 0.64 m h = 54.6	x: 0 m h = 2.7	x: 0.64 m h = 79.0	N.P.[4]	x: 0.64 m h = 74.8	**CUMPLE h = 79.0**
N459/N457	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.651 m h = 0.7	x: 0 m h < 0.1	h = 8.1	x: 0.651 m h = 63.3	x: 0 m h = 12.6	h = 2.7	x: 0 m h = 44.4	x: 0.651 m h = 64.1	x: 0 m h = 16.2	x: 0.651 m h = 60.7	x: 0 m h = 2.7	x: 0.651 m h = 82.4	x: 0.651 m h = 65.7	x: 0.651 m h = 79.2	**CUMPLE h = 82.4**
N459/N456	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.669 m h = 0.7	N.P.[3]	h = 8.2	x: 0.669 m h = 64.6	x: 0 m h = 12.7	h = 2.7	x: 0 m h = 44.1	x: 0.669 m h = 65.5	x: 0 m h = 16.3	x: 0.669 m h = 62.3	x: 0 m h = 2.7	x: 0.669 m h = 85.0	N.P.[4]	x: 0.669 m h = 81.0	**CUMPLE h = 85.0**
N459/N455	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.654 m h = 0.7	x: 0 m h = 0.1	h = 8.2	x: 0.654 m h = 63.6	x: 0 m h = 12.8	h = 2.6	x: 0 m h = 43.9	x: 0.654 m h = 64.5	x: 0 m h = 16.4	x: 0.654 m h = 60.8	x: 0 m h = 2.8	x: 0.654 m h = 83.8	x: 0.654 m h = 66.9	x: 0.654 m h = 79.5	**CUMPLE h = 83.8**
N462/N463	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 1.5	x: 0 m h = 1.1	x: 0.112 m h = 10.0	x: 0.224 m h = 6.4	x: 0.224 m h = 7.2	x: 0.112 m h = 3.5	x: 0.112 m h = 0.9	x: 0.224 m h = 10.6	x: 0.224 m h = 9.5	x: 0.224 m h = 1.1	x: 0.224 m h = 1.0	x: 0.224 m h = 24.4	x: 0.224 m h = 14.7	x: 0.112 m h = 13.6	**CUMPLE h = 24.4**
N463/N461	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 1.1	x: 0 m h = 1.0	h = 9.2	x: 0 m h = 4.0	x: 0 m h = 4.3	h = 3.9	x: 0 m h = 1.1	x: 0 m h = 7.9	x: 0 m h = 8.1	x: 0 m h = 0.6	x: 0 m h = 0.8	x: 0 m h = 20.3	x: 0 m h = 10.0	x: 0 m h = 13.1	**CUMPLE h = 20.3**
N461/N11	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.221 m h = 1.1	x: 0 m h = 1.0	x: 0.111 m h = 9.2	x: 0 m h = 2.9	x: 0.221 m h = 5.6	h = 3.9	x: 0 m h = 1.0	x: 0 m h = 6.8	x: 0.221 m h = 9.6	x: 0 m h = 0.5	x: 0.221 m h = 1.1	x: 0.221 m h = 20.2	x: 0.221 m h = 12.5	x: 0.111 m h = 13.1	**CUMPLE h = 20.2**
N464/N37	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.227 m h = 1.8	x: 0 m h = 1.3	x: 0.227 m h = 8.8	x: 0.227 m h = 7.3	x: 0.227 m h = 9.8	x: 0 m h = 5.6	x: 0.227 m h = 1.3	x: 0.227 m h = 10.9	x: 0.227 m h = 10.4	x: 0.227 m h = 1.2	x: 0.227 m h = 1.4	x: 0.227 m h = 25.0	x: 0.227 m h = 14.5	x: 0.227 m h = 14.2	**CUMPLE h = 25.0**
N37/N462	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.113 m h = 1.6	x: 0.113 m h = 1.1	h = 9.8	x: 0.227 m h = 5.9	x: 0 m h = 4.0	h = 3.4	x: 0.227 m h = 0.7	x: 0.227 m h = 10.0	x: 0 m h = 8.4	x: 0.227 m h = 1.0	x: 0 m h = 0.8	x: 0.227 m h = 21.9	x: 0 m h = 11.4	x: 0.227 m h = 13.2	**CUMPLE h = 21.9**
N465/N222	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 2.0	x: 0 m h = 1.6	h = 7.5	x: 0.232 m h = 6.6	x: 0.232 m h = 11.2	h = 7.2	x: 0.232 m h = 1.3	x: 0.232 m h = 9.4	x: 0.232 m h = 11.5	x: 0.232 m h = 0.9	x: 0.232 m h = 1.8	x: 0.232 m h = 22.7	x: 0.232 m h = 14.9	x: 0.232 m h = 16.1	**CUMPLE h = 22.7**
N222/N464	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.116 m h = 1.9	x: 0.116 m h = 1.3	h = 8.6	x: 0.232 m h = 6.1	x: 0 m h = 4.4	x: 0 m h = 5.8	x: 0.232 m h = 1.1	x: 0.232 m h = 9.6	x: 0 m h = 8.2	x: 0.232 m h = 0.9	x: 0 m h = 0.8	x: 0.232 m h = 20.7	x: 0 m h = 11.8	x: 0.232 m h = 12.1	**CUMPLE h = 20.7**
N466/N224	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.236 m h = 2.1	x: 0 m h = 2.0	h = 6.9	x: 0.236 m h = 6.1	x: 0.236 m h = 12.2	h = 7.9	x: 0.236 m h = 0.8	x: 0.236 m h = 8.4	x: 0.236 m h = 12.5	x: 0.236 m h = 0.7	x: 0.236 m h = 2.2	x: 0.236 m h = 22.7	x: 0.236 m h = 16.3	x: 0.236 m h = 17.7	**CUMPLE h = 22.7**
N224/N465	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.236 m h = 2.0	x: 0.118 m h = 1.6	h = 7.4	x: 0 m h = 5.9	x: 0 m h = 7.3	x: 0 m h = 7.3	x: 0.236 m h = 1.3	x: 0.236 m h = 8.4	x: 0 m h = 9.0	x: 0.236 m h = 0.7	x: 0 m h = 1.1	x: 0 m h = 18.2	x: 0 m h = 12.4	x: 0 m h = 12.1	**CUMPLE h = 18.2**
N467/N226	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.246 m h = 2.1	x: 0 m h = 2.4	h = 6.6	x: 0.246 m h = 6.6	x: 0.246 m h = 14.5	h = 9.7	x: 0 m h = 0.7	x: 0 m h = 8.7	x: 0.246 m h = 15.0	x: 0 m h = 0.8	x: 0.246 m h = 3.2	x: 0.246 m h = 26.7	x: 0.246 m h = 18.6	x: 0.246 m h = 20.7	**CUMPLE h = 26.7**
N226/N466	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0 m h = 2.1	x: 0 m h = 2.0	h = 6.9	x: 0 m h = 6.9	x: 0 m h = 8.6	h = 7.9	x: 0 m h = 1.1	x: 0 m h = 8.0	x: 0 m h = 9.7	x: 0 m h = 0.6	x: 0 m h = 1.4	x: 0 m h = 19.8	x: 0 m h = 14.2	x: 0 m h = 14.3	**CUMPLE h = 19.8**
N240/N468	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.304 m h = 2.3	x: 0 m h = 2.6	h = 4.1	x: 0 m h = 7.5	x: 0 m h = 9.9	h = 6.4	x: 0 m h = 1.4	x: 0 m h = 8.4	x: 0 m h = 10.4	x: 0 m h = 0.7	x: 0 m h = 1.5	x: 0 m h = 21.9	x: 0 m h = 12.9	x: 0 m h = 14.9	**CUMPLE h = 21.9**
N468/N230	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.302 m h = 2.3	x: 0 m h = 2.6	h = 4.3	x: 0.302 m h = 7.4	x: 0.302 m h = 12.9	h = 6.4	x: 0 m h = 1.0	x: 0.302 m h = 8.7	x: 0.302 m h = 13.6	x: 0.302 m h = 0.8	x: 0.302 m h = 2.2	x: 0.302 m h = 24.5	x: 0.302 m h = 14.8	x: 0.302 m h = 18.7	**CUMPLE h = 24.5**
N230/N467	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.254 m h = 2.1	x: 0 m h = 2.4	h = 6.2	x: 0 m h = 8.1	x: 0 m h = 11.6	x: 0.127 m h = 9.7	x: 0 m h = 1.6	x: 0 m h = 8.8	x: 0 m h = 11.9	x: 0 m h = 0.8	x: 0 m h = 2.4	x: 0 m h = 25.6	x: 0 m h = 16.0	x: 0 m h = 18.5	**CUMPLE h = 25.6**
N470/N469	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	h = 2.6	x: 0 m h = 11.1	x: 0 m h = 51.6	x: 0.805 m h = 37.0	x: 0 m h = 15.0	x: 0.805 m h = 26.6	x: 0 m h = 52.9	x: 0.805 m h = 41.9	x: 0 m h = 35.0	x: 0.805 m h = 19.8	N.P.[2]	x: 0.805 m h = 62.1	x: 0 m h = 65.0	**CUMPLE h = 65.0**
N469/N471	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	h = 2.6	x: 0.607 m h = 11.3	x: 0.809 m h = 52.1	x: 0 m h = 37.0	x: 0.607 m h = 15.1	x: 0 m h = 26.6	x: 0.809 m h = 53.4	x: 0 m h = 42.0	x: 0.809 m h = 35.5	x: 0 m h = 19.9	N.P.[2]	x: 0 m h = 62.5	x: 0.809 m h = 65.9	**CUMPLE h = 65.9**
N469/N472	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	h = 2.6	x: 0.614 m h = 11.3	x: 0.819 m h = 52.8	x: 0 m h = 37.4	x: 0.614 m h = 15.1	x: 0 m h = 27.0	x: 0.819 m h = 54.1	x: 0 m h = 42.3	x: 0.819 m h = 36.5	x: 0 m h = 20.2	N.P.[2]	x: 0 m h = 63.8	x: 0.819 m h = 66.5	**CUMPLE h = 66.5**
N469/N473	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	h = 2.6	x: 0.599 m h = 11.3	x: 0.798 m h = 49.6	x: 0 m h = 37.5	x: 0.599 m h = 15.4	x: 0 m h = 25.5	x: 0.798 m h = 50.9	x: 0 m h = 42.4	x: 0.798 m h = 32.4	x: 0 m h = 20.3	N.P.[2]	x: 0 m h = 62.2	x: 0.798 m h = 62.8	**CUMPLE h = 62.8**
N460/N474	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.522 m h = 1.2	x: 0 m h = 2.5	h = 11.5	x: 0.522 m h = 78.9	x: 0.522 m h = 9.5	h = 3.4	x: 0 m h = 63.3	x: 0.522 m h = 80.3	x: 0.522 m h = 14.5	x: 0.651 m h = 60.7	x: 0 m h = 2.7	x: 0.651 m h = 82.4	x: 0.651 m h = 65.7	x: 0.651 m h = 79.2	**CUMPLE h = 82.4**
N475/N460	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.485 m h = 2.5	x: 0 m h = 4.0	h = 11.9	x: 0 m h = 75.5	x: 0 m h = 9.0	h = 3.8	x: 0 m h = 63.4	x: 0 m h = 76.9	x: 0 m h = 14.2	x: 0.669 m h = 62.3	x: 0 m h = 2.7	x: 0.669 m h = 85.0	N.P.[4]	x: 0.669 m h = 81.0	**CUMPLE h = 85.0**
N476/N460	w / t £ (w / t)$_{Máx.}$ Cumple	x: 0.497 m h = 2.4	x: 0 m h = 3.9	h = 11.6	x: 0 m h = 77.3	x: 0 m h = 9.1	h = 3.6	x: 0.497 m h = 64.4	x: 0 m h = 78.7	x: 0 m h = 14.2	x: 0.654 m h = 60.8	x: 0 m h = 2.8	x: 0.654 m h = 83.8	x: 0.654 m h = 66.9	x: 0.654 m h = 79.5	**CUMPLE h = 83.8**
N460/N477	w / t £ (w / t)$_{Máx.}$ Cumple	N.P.[1]	x: 0 m h = 1.5	h = 11.8	x: 0.502 m h = 79.0	x: 0.502 m h = 10.2	h = 3.2	x: 0 m h = 64.4	x: 0.502 m h = 80.3	x: 0.502 m h = 15.4	x: 0.651 m h = 60.7	x: 0 m h = 2.7	x: 0.651 m h = 82.4	x: 0.651 m h = 65.7	x: 0.651 m h = 79.2	**CUMPLE h = 82.4**

Barras	COMPROBACIONES (AISI S100-16 (2016))															Estado
	w / t	T	P	Tr	M_x	M_y	V_x	V_y	M_xTr	M_yTr	M_xV_y	M_yV_x	MT	MP	TPTrMV	
N478/N10	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.111 m h = 0.3	x: 0.111 m h = 0.3	h = 2.0	x: 0 m h = 2.5	x: 0 m h = 2.5	h = 2.8	x: 0 m h = 2.9	x: 0 m h = 2.2	x: 0 m h = 3.4	x: 0 m h = 0.2	x: 0 m h = 0.2	x: 0 m h = 7.0	x: 0 m h = 4.8	x: 0 m h = 5.1	**CUMPLE h = 7.0**
N229/N484	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.316 m h = 1.1	x: 0 m h = 3.0	h = 3.1	x: 0 m h = 14.8	x: 0 m h = 2.5	h = 2.0	x: 0 m h = 2.1	x: 0 m h = 15.1	x: 0 m h = 3.5	x: 0 m h = 2.3	x: 0 m h = 0.1	x: 0 m h = 8.6	x: 0 m h = 18.8	x: 0 m h = 21.5	**CUMPLE h = 21.5**
N484/N227	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.288 m h = 1.0	x: 0 m h = 2.9	h = 3.1	x: 0 m h = 13.0	x: 0.288 m h = 2.7	h = 2.0	x: 0 m h = 3.1	x: 0 m h = 13.2	x: 0.288 m h = 3.5	x: 0 m h = 1.8	x: 0.288 m h = 0.2	x: 0 m h = 6.7	x: 0 m h = 16.6	x: 0 m h = 19.1	**CUMPLE h = 19.1**
N227/N483	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.288 m h = 0.6	x: 0 m h = 1.7	h = 3.6	x: 0 m h = 10.7	x: 0 m h = 2.0	h = 1.8	x: 0.288 m h = 0.6	x: 0 m h = 11.0	x: 0 m h = 3.3	x: 0 m h = 1.2	x: 0 m h = 0.1	x: 0 m h = 6.8	x: 0 m h = 13.1	x: 0 m h = 15.0	**CUMPLE h = 15.0**
N483/N225	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.249 m h = 0.6	x: 0 m h = 1.6	h = 3.6	x: 0 m h = 10.5	x: 0.249 m h = 2.2	h = 1.8	x: 0 m h = 1.4	x: 0 m h = 10.8	x: 0.249 m h = 3.4	x: 0 m h = 1.2	x: 0.249 m h = 0.1	x: 0.249 m h = 7.7	x: 0 m h = 13.0	x: 0 m h = 14.7	**CUMPLE h = 14.7**
N225/N482	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.249 m h = 0.4	x: 0 m h = 0.9	h = 4.0	x: 0 m h = 9.8	x: 0 m h = 1.4	h = 3.2	x: 0.249 m h = 0.5	x: 0 m h = 10.1	x: 0 m h = 3.1	x: 0 m h = 1.0	x: 0 m h = 0.2	x: 0 m h = 8.2	x: 0 m h = 11.5	x: 0 m h = 13.0	**CUMPLE h = 13.0**
N482/N223	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.236 m h = 0.3	x: 0 m h = 0.9	h = 3.9	x: 0 m h = 9.5	x: 0.236 m h = 3.4	h = 3.2	x: 0 m h = 0.8	x: 0 m h = 9.8	x: 0.236 m h = 5.0	x: 0 m h = 1.0	x: 0.236 m h = 0.4	x: 0.236 m h = 10.6	x: 0.236 m h = 12.6	x: 0 m h = 12.7	**CUMPLE h = 12.7**
N223/N481	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.236 m h = 0.2	x: 0 m h = 0.4	h = 4.1	x: 0 m h = 9.2	x: 0.236 m h = 2.8	h = 3.4	x: 0 m h = 0.7	x: 0 m h = 9.4	x: 0.236 m h = 4.5	x: 0 m h = 0.9	x: 0.236 m h = 0.3	x: 0.236 m h = 11.9	x: 0.236 m h = 11.6	x: 0 m h = 11.7	**CUMPLE h = 11.9**
N481/N221	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.232 m h = 0.2	x: 0 m h = 0.4	h = 4.0	x: 0 m h = 9.1	x: 0.232 m h = 5.1	h = 3.5	x: 0 m h = 0.7	x: 0 m h = 9.3	x: 0.232 m h = 6.8	x: 0 m h = 0.9	x: 0.232 m h = 0.6	x: 0.232 m h = 14.9	x: 0.232 m h = 13.4	x: 0 m h = 11.5	**CUMPLE h = 14.9**
N221/N480	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.232 m h = 0.2	x: 0 m h = 0.1	h = 4.0	x: 0 m h = 8.8	x: 0.232 m h = 4.3	h = 2.6	x: 0 m h = 1.2	x: 0 m h = 9.0	x: 0.232 m h = 6.1	x: 0 m h = 0.8	x: 0.232 m h = 0.4	x: 0.232 m h = 14.9	x: 0.232 m h = 11.6	x: 0 m h = 11.1	**CUMPLE h = 14.9**
N480/N39	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.226 m h = 0.2	x: 0 m h = 0.1	h = 3.6	x: 0 m h = 8.3	x: 0.226 m h = 6.3	h = 2.6	x: 0 m h = 1.1	x: 0 m h = 8.4	x: 0.226 m h = 7.9	x: 0 m h = 0.7	x: 0.226 m h = 0.7	x: 0.226 m h = 16.8	x: 0.226 m h = 12.8	x: 0 m h = 10.4	**CUMPLE h = 16.8**
N39/N479	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.226 m h = 0.2	x: 0 m h = 0.1	h = 3.5	x: 0 m h = 7.5	x: 0.226 m h = 4.9	h = 0.6	x: 0 m h = 2.1	x: 0 m h = 7.6	x: 0.226 m h = 6.4	x: 0 m h = 0.6	x: 0.226 m h = 0.4	x: 0 m h = 14.0	x: 0 m h = 5.9	x: 0 m h = 9.5	**CUMPLE h = 14.0**
N479/N38	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.223 m h = 0.3	x: 0 m h = 0.1	h = 2.9	x: 0 m h = 6.2	x: 0.223 m h = 5.6	h = 0.6	x: 0 m h = 2.0	x: 0 m h = 6.3	x: 0.223 m h = 6.9	x: 0 m h = 0.4	x: 0.223 m h = 0.5	x: 0 m h = 13.7	x: 0 m h = 4.9	x: 0 m h = 7.9	**CUMPLE h = 13.7**
N38/N478	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.22 m h = 0.3	x: 0 m h = 0.3	h = 2.1	x: 0 m h = 4.4	x: 0 m h = 4.2	h = 2.8	x: 0 m h = 3.0	x: 0 m h = 3.9	x: 0 m h = 5.1	x: 0 m h = 0.3	x: 0 m h = 0.3	x: 0 m h = 10.2	x: 0 m h = 7.6	x: 0 m h = 5.9	**CUMPLE h = 10.2**
N488/N13	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.224 m h = 1.6	x: 0 m h = 3.9	h = 10.6	x: 0 m h = 30.2	x: 0.224 m h = 5.0	x: 0 m h = 3.6	x: 0 m h = 4.3	x: 0 m h = 34.8	x: 0.224 m h = 9.5	x: 0 m h = 12.3	x: 0.224 m h = 1.0	x: 0 m h = 27.0	x: 0 m h = 44.2	x: 0 m h = 40.5	**CUMPLE h = 44.2**
N485/N9	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.22 m h = 2.3	x: 0 m h = 7.1	h = 6.4	x: 0 m h = 43.8	x: 0.22 m h = 6.6	h = 3.9	x: 0 m h = 6.3	x: 0 m h = 46.2	x: 0 m h = 8.6	x: 0 m h = 21.7	x: 0 m h = 0.8	x: 0 m h = 14.9	x: 0 m h = 60.5	x: 0 m h = 61.0	**CUMPLE h = 61.0**
N485/N10	w / t £ $(w / t)_{Máx.}$ Cumple	h = 2.3	h = 7.0	h = 6.6	x: 0.22 m h = 56.9	x: 0.22 m h = 11.4	x: 0.22 m h = 4.0	x: 0.22 m h = 7.4	x: 0.22 m h = 59.4	x: 0.22 m h = 14.3	x: 0.22 m h = 35.9	x: 0.22 m h = 2.1	x: 0.22 m h = 17.8	x: 0.22 m h = 76.3	x: 0.22 m h = 77.6	**CUMPLE h = 77.6**
N10/N486	w / t £ $(w / t)_{Máx.}$ Cumple	h = 1.8	h = 5.8	h = 6.7	x: 0 m h = 56.3	x: 0 m h = 13.6	h = 4.3	x: 0 m h = 6.7	x: 0 m h = 59.0	x: 0 m h = 16.6	x: 0 m h = 35.2	x: 0 m h = 2.9	x: 0 m h = 18.9	x: 0 m h = 76.7	x: 0 m h = 76.4	**CUMPLE h = 76.7**
N486/N11	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.22 m h = 1.8	x: 0 m h = 5.9	x: 0.22 m h = 6.2	x: 0 m h = 44.4	x: 0 m h = 7.1	h = 4.3	x: 0 m h = 5.1	x: 0 m h = 46.8	x: 0 m h = 9.4	x: 0 m h = 22.1	x: 0 m h = 1.0	x: 0.22 m h = 17.5	x: 0 m h = 61.1	x: 0 m h = 61.1	**CUMPLE h = 61.1**
N11/N487	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.222 m h = 1.7	x: 0 m h = 4.7	x: 0 m h = 9.9	x: 0 m h = 52.9	x: 0 m h = 13.6	x: 0 m h = 4.6	x: 0 m h = 6.2	x: 0 m h = 57.1	x: 0 m h = 17.9	x: 0 m h = 33.0	x: 0 m h = 3.4	x: 0 m h = 19.9	x: 0 m h = 76.9	x: 0 m h = 71.4	**CUMPLE h = 76.9**
N487/N12	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.223 m h = 1.7	x: 0 m h = 4.9	h = 9.4	x: 0 m h = 41.8	x: 0 m h = 6.3	h = 4.6	x: 0 m h = 5.0	x: 0 m h = 45.8	x: 0 m h = 10.3	x: 0 m h = 21.2	x: 0 m h = 1.2	x: 0.223 m h = 19.9	x: 0 m h = 59.9	x: 0 m h = 56.6	**CUMPLE h = 59.9**
N12/N488	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.223 m h = 1.6	x: 0 m h = 3.8	h = 10.7	x: 0 m h = 38.9	x: 0 m h = 8.9	h = 3.7	x: 0 m h = 4.8	x: 0 m h = 43.5	x: 0 m h = 13.1	x: 0 m h = 19.2	x: 0 m h = 1.9	x: 0.223 m h = 27.9	x: 0 m h = 57.9	x: 0 m h = 52.1	**CUMPLE h = 57.9**
N489/N19	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.11 m h = 3.3	x: 0.11 m h = 2.7	h = 6.9	x: 0 m h = 3.8	x: 0.22 m h = 8.2	h = 4.4	x: 0.22 m h = 1.6	x: 0 m h = 6.8	x: 0.22 m h = 11.2	x: 0 m h = 0.5	x: 0.22 m h = 1.5	x: 0.22 m h = 20.1	x: 0.22 m h = 5.6	x: 0.22 m h = 11.7	**CUMPLE h = 20.1**
N23/N490	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0 m h = 3.8	x: 0 m h = 2.1	h = 8.2	x: 0 m h = 7.9	x: 0 m h = 2.6	x: 0.111 m h = 1.5	x: 0.222 m h = 0.2	x: 0 m h = 11.4	x: 0 m h = 5.1	x: 0 m h = 1.3	x: 0 m h = 0.3	x: 0 m h = 22.8	x: 0 m h = 6.0	x: 0 m h = 12.9	**CUMPLE h = 22.8**
N490/N22	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.221 m h = 3.9	x: 0 m h = 2.1	h = 8.2	x: 0 m h = 7.7	x: 0.221 m h = 3.2	h = 1.4	x: 0.221 m h = 0.8	x: 0 m h = 11.3	x: 0.221 m h = 5.9	x: 0 m h = 1.3	x: 0.221 m h = 0.4	x: 0 m h = 22.6	x: 0.221 m h = 6.0	x: 0 m h = 12.9	**CUMPLE h = 22.6**
N22/N489	w / t £ $(w / t)_{Máx.}$ Cumple	x: 0.11 m h = 3.3	x: 0.11 m h = 2.7	h = 6.9	x: 0 m h = 5.9	x: 0 m h = 8.1	h = 4.4	x: 0.22 m h = 1.2	x: 0 m h = 8.9	x: 0 m h = 11.1	x: 0 m h = 0.8	x: 0 m h = 1.4	x: 0 m h = 25.8	x: 0 m h = 6.7	x: 0 m h = 13.4	**CUMPLE h = 25.8**

Notación:

w / t: Limitaciones geométricas
T: Resistencia a tracción
P: Resistencia a compresión
Tr: Resistencia a torsión
M_x: Resistencia a flexión alrededor del eje X
M_y: Resistencia a flexión alrededor del eje Y
V_x: Resistencia a corte en la dirección del eje X
V_y: Resistencia a corte en la dirección del eje Y
M_xTr: Resistencia a flexión alrededor del eje X combinada con torsión
M_yTr: Resistencia a flexión alrededor del eje Y combinada con torsión
M_xV_y: Resistencia a flexión alrededor del eje X combinada con corte en la dirección del eje Y
M_yV_x: Resistencia a flexión alrededor del eje Y combinada con corte en la dirección del eje X
MT: Resistencia a flexión combinada con tracción
MP: Resistencia a flexión combinada con compresión
TPTrMV: Flexión combinada con cortante, axil y torsión - Comprobación de Von Mises
x: Distancia al origen de la barra
h: Coeficiente de aprovechamiento (%)
N.P.: No procede

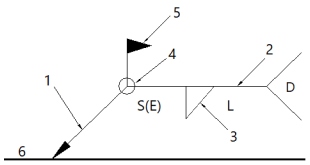
8.3 Diseño de las uniones de la estructura

Referencias y simbología

Para la representación de los símbolos de soldaduras se consideran las indicaciones de la norma ANSI/AWS A2.4-98 'STANDARD SYMBOLS FOR WELDING, BRAZING, AND NON DESTRUCTIVE EXAMINATION'.

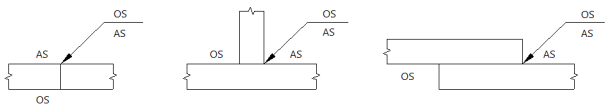
Método de representación de soldaduras

Conforme a la figura 2 de ANSI/AWS A2.4-98 y a los tipos de soldaduras empleadas en este proyecto, se desarrolla el siguiente esquema de representación de una soldadura:



Referencias:
1: flecha (conexión entre 2 y 6)
2: línea de referencia
3: símbolo de soldadura
4: símbolo soldadura perimetral.
5: símbolo de soldadura en el lugar de montaje.
6: línea del dibujo que identifica la unión propuesta.
S: profundidad del bisel. En soldaduras en ángulo, es el lado del cordón de soldadura.
(E): tamaño del cordón en soldaduras a tope.
L: longitud efectiva del cordón de soldadura
D: dato suplementario. En general, la serie de electrodo a utilizar y el proceso precualificado de soldeo.

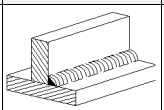
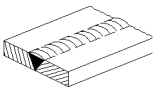
La información relacionada con el lado de la unión soldada a la que apunta la flecha, se coloca por debajo de la línea de referencia, mientras que para el lado opuesto, se indica por encima de la línea de referencia:

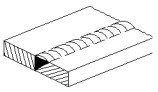
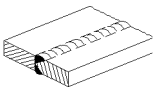
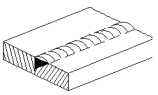
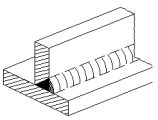
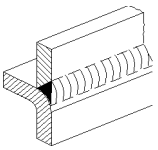


Donde:

OS(Other Side): es el otro lado de la flecha
AS(Arrow Side): es el lado de la flecha

Referencia 3

Designación	Ilustración	Símbolo
Soldadura de filete		
Soldadura a tope en 'V' simple (con chaflán)		

Soldadura a tope en bisel simple		
Soldadura a tope en bisel doble		
Soldadura a tope en bisel simple con talón de raíz amplio		
Soldadura combinada a tope en bisel simple y en ángulo		
Soldadura a tope en bisel simple con lado curvo		

Comprobaciones en placas de anclaje

En cada placa de anclaje se realizan las siguientes comprobaciones (asumiendo la hipótesis de placa rígida):

1. Hormigón sobre el que apoya la placa

Se comprueba que la tensión de compresión en la interfaz placa de anclaje-hormigón es menor a la tensión admisible del hormigón según la naturaleza de cada combinación.

2. Pernos de anclaje

a) *Resistencia del material de los pernos*: Se descomponen los esfuerzos actuantes sobre la placa en axiles y cortantes en los pernos y se comprueba que ambos esfuerzos, por separado y con interacción entre ellos (tensión de Von Mises), producen tensiones menores a la tensión límite del material de los pernos.

b) *Anclaje de los pernos*: Se comprueba el anclaje de los pernos en el hormigón de tal manera que no se produzca el fallo de deslizamiento por adherencia, arrancamiento del cono de rotura o fractura por esfuerzo cortante (aplastamiento).

c) *Aplastamiento*: Se comprueba que en cada perno no se supera el cortante que produciría el aplastamiento de la placa contra el perno.

3. Placa de anclaje

a) *Tensiones globales*: En placas con vuelo, se analizan cuatro secciones en el perímetro del perfil, y se comprueba en todas ellas que las tensiones de Von Mises sean menores que la tensión límite según la norma.

b) *Flechas globales relativas*: Se comprueba que en los vuelos de las placas no aparezcan flechas mayores que 1/250 del vuelo.

c) *Tensiones locales*: Se comprueban las tensiones de Von Mises en todas las placas locales en las que tanto el perfil como los rigidizadores dividen a la placa de anclaje propiamente dicha. Los esfuerzos en cada una de las subplacas se obtienen a partir de las tensiones de contacto con el hormigón y los axiles de los pernos. El modelo generado se resuelve por diferencias finitas.

1. NORMAS

1.1. Acero

Norma considerada: AISC 360-16 (LRFD)

Factor de resistencia (Perfiles y placas), F: 0.90

Factor de resistencia (Tornillos), F: 0.75

Factor de resistencia (Soldaduras), F: 0.75

Coeficiente de deslizamiento: 0.30

1.2. Hormigón

Norma considerada: ACI 318M-19

Factor reductor de resistencia del acero del anclaje sometido a tracción, $F_{s,t}$: 0.75

Factor reductor de resistencia del acero del anclaje sometido a cortante, $F_{s,v}$: 0.65

Factor reductor de resistencia del hormigón sometido a cargas de tracción (Refuerzo suplementario está presente), $F_{c,t}$: 0.75

Factor reductor de resistencia del hormigón sometido a cargas de tracción (Refuerzo suplementario no está presente), $F_{c,t}$: 0.70

Factor reductor de resistencia del hormigón sometido a cargas de cortante (Refuerzo suplementario está presente), $F_{c,v}$: 0.75

Factor reductor de resistencia del hormigón sometido a cargas de cortante (Refuerzo suplementario no está presente), $F_{c,v}$: 0.70

Factor reductor de la resistencia a la extracción por deslizamiento, $F_{p,t}$: 0.70

Factor reductor de la resistencia al desprendimiento, $F_{pr,v}$: 0.70

Factor reductor de resistencia del hormigón ligero, l_a: 1.00

Tamaño máximo del agregado: 15.00 mm

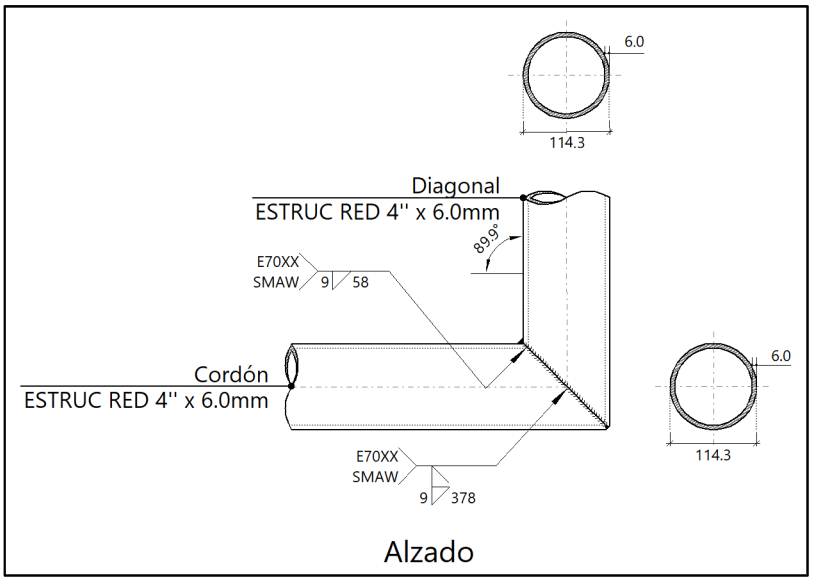
Recubrimiento mínimo: 25.00 mm

1.1. Uniones de CYPE3D

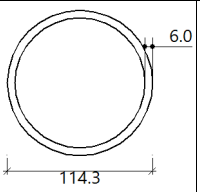
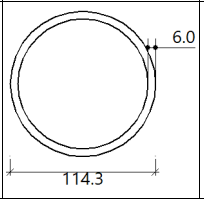
1.1.1. Memoria de cálculo

1.1.1.1. Tipo 1

a) Detalle



b) Descripción de los componentes de la unión

Perfiles							
Pieza	Descripción	Geometría			Acero		
		Esquema	Diámetro exterior (mm)	Espesor (mm)	Tipo	F_y (kp/cm²)	F_u (kp/cm²)
Cordón	ESTRUC RED 4" x 6.0mm		114.3	6	ASTM 500 GC (Redondos)	3241.0	4348.0
Diagonal	ESTRUC RED 4" x 6.0mm		114.3	6	ASTM 500 GC (Redondos)	3241.0	4348.0

c) Comprobación

1) Cordón ESTRUC RED 4" x 6.0mm

Comprobaciones geométricas				
Comprobación	Unidades	Calculado	Límites	
			Mínimo	Máximo
F_y / F_u	--	0.75	--	0.80
Límite elástico	kp/cm²	3241.0	--	3618.8
D/t	--	19.05	8.00	36.96

Comprobaciones de resistencia				
Comprobación	Unidades	Pésimo	Resistente	Aprov. (%)
Plastificación del cordón	t	0.701	11.909	5.89
Interacción axil y momentos	--	0.10	0.36	27.50
Cortante de la sección transversal	t	1.298	8.932	14.53

Soldaduras (ANSI/AISC 360-10, CHAPTER J)

Comprobaciones geométricas						
Descripción	Tipo	P.S.	Longitud efectiva		Lado	Profundidad del surco (mm)
			l_{min} (mm)	l (mm)	w (mm)	
Soldadura combinada a tope en bisel simple y en ángulo	A tope en 'J' simple y en ángulo	SMAW	40	378	9	6
Soldadura de filete	En ángulo	SMAW	40	58	9	--

P.S.: Proceso de soldeo.
l: Longitud efectiva del cordón de soldadura.
w: Espesor del lado del cordón de soldadura.
--: La comprobación no procede.

Comprobación de resistencia														
Descripción	Lado (mm)	t (mm)	l (mm)	Electrodo	Metal Base	Cortante (Metal Soldadura)			Tensiones (Metal Base)			Factor Resistencia	
				F_w (MPa)	F_y (MPa)	Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	ϕ Material base	ϕ Soldadura
Soldadura combinada a tope en bisel simple y en ángulo	La combinación de soldadura en bisel y soldadura en ángulo genera un cordón cuya resistencia es igual a la menor resistencia de las piezas a unir.												
Soldadura de filete	Se adopta el lado de soldadura cuyo espesor de garganta aporta una resistencia igual a la menor resistencia de las piezas a unir.												

2) Diagonal ESTRUC RED 4" x 6.0mm

Comprobaciones geométricas				
Comprobación	Unidades	Calculado	Límites	
			Mínimo	Máximo
F_y / F_u	--	0.75	--	0.80
Límite elástico	kp/cm²	3241.0	--	3618.8
D_b/t_b	--	19.05	8.00	36.96
Ángulo	grados	89.88	30.00	180.00

Comprobaciones de resistencia				
Comprobación	Unidades	Pésimo	Resistente	Aprov. (%)
Plastificación del cordón	t	1.298	11.909	10.90
Interacción axil y momentos	--	0.10	0.36	27.51
Cortante de la sección transversal	t	0.701	8.932	7.85

Soldaduras (ANSI/AISC 360-10, CHAPTER J)

Comprobaciones geométricas						
Descripción	Tipo	P.S.	Longitud efectiva		Lado	Profundidad del surco (mm)
			l_{min} (mm)	l (mm)	w (mm)	
Soldadura combinada a tope en bisel simple y en ángulo	A tope en 'J' simple y en ángulo	SMAW	40	378	9	6
Soldadura de filete	En ángulo	SMAW	40	58	9	--

P.S.: Proceso de soldeo.
l: Longitud efectiva del cordón de soldadura.
w: Espesor del lado del cordón de soldadura.
--: La comprobación no procede.

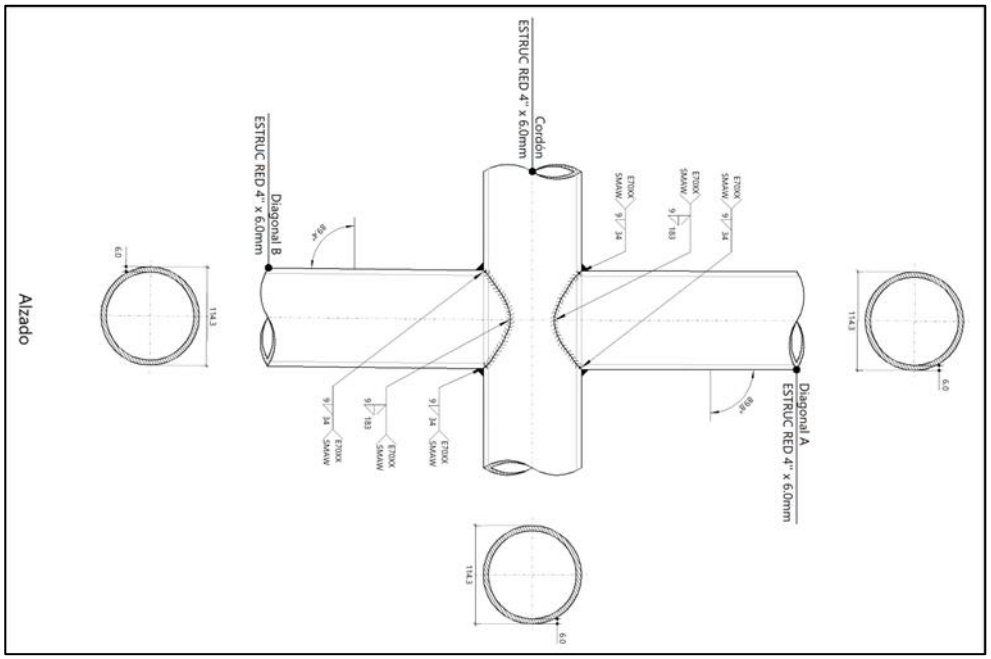
Comprobación de resistencia													
Descripción	Lado (mm)	t (mm)	l (mm)	Electrodo F_w (MPa)	Metal Base F_y (MPa)	Cortante (Metal Soldadura)			Tensiones (Metal Base)			Factor Resistencia	
						Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	ϕ Material base	ϕ Soldadura
Soldadura combinada a tope en bisel simple y en ángulo	La combinación de soldadura en bisel y soldadura en ángulo genera un cordón cuya resistencia es igual a la menor resistencia de las piezas a unir.												
Soldadura de filete	Se adopta el lado de soldadura cuyo espesor de garganta aporta una resistencia igual a la menor resistencia de las piezas a unir.												

d) Cómputo

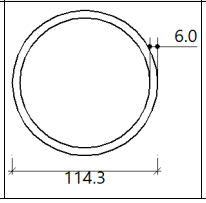
Soldaduras				
Clase de resistencia	Ejecución	Tipo	Lado (mm)	Longitud de cordones (mm)
E70XX	En taller	De filete	9	58
		Combinada a tope en 'V' simple y en ángulo	9	378

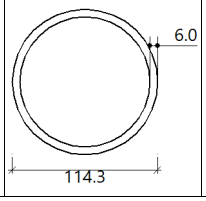
1.1.1.2. Tipo 2

a) Detalle



b) Descripción de los componentes de la unión

Perfiles							
Pieza	Descripción	Geometría			Acero		
		Esquema	Diámetro exterior (mm)	Espesor (mm)	Tipo	F_y (kp/cm²)	F_u (kp/cm²)
Cordón	ESTRUC RED 4" x 6.0mm		114.3	6	ASTM 500 GC (Redondos)	3241.0	4348.0

Perfiles							
Pieza	Descripción	Geometría			Acero		
		Esquema	Diámetro exterior (mm)	Espesor (mm)	Tipo	F_y (kp/cm²)	F_u (kp/cm²)
Diagonal	ESTRUC RED 4" x 6.0mm		114.3	6	ASTM 500 GC (Redondos)	3241.0	4348.0

c) Comprobación

1) Cordón ESTRUC RED 4" x 6.0mm

Comprobaciones geométricas				
Comprobación	Unidades	Calculado	Límites	
			Mínimo	Máximo
F_y / F_u	--	0.75	--	0.80
Límite elástico	kp/cm²	3241.0	--	3669.7
D/t	--	19.05	10.00	40.00
Espesor	mm	6.0	2.5	25.0

Comprobaciones de resistencia				
Comprobación	Unidades	Pésimo	Resistente	Aprov. (%)
Plastificación del cordón	t	0.077	62.491	0.12

2) Diagonal A ESTRUC RED 4" x 6.0mm

Comprobaciones geométricas				
Comprobación	Unidades	Calculado	Límites	
			Mínimo	Máximo
F_y / F_u	--	0.75	--	0.80
Límite elástico	kp/cm²	3241.0	--	3669.7
D_b/t_b	--	19.05	--	50.00
D_b/D	--	1.00	0.20	1.00
Espesor	mm	6.0	2.5	25.0
Ángulo	grados	89.81	30.00	--

Comprobaciones de resistencia				
Comprobación	Unidades	Pésimo	Resistente	Aprov. (%)
Plastificación del cordón	t	0.551	30.444	1.81
Interacción axil y momentos	--	--	--	7.35

Soldaduras (ANSI/AISC 360-10, CHAPTER J)

Comprobaciones geométricas						
Descripción	Tipo	P.S.	Longitud efectiva		Lado	Profundidad del surco (mm)
			l_{min} (mm)	l (mm)	w (mm)	
Soldadura combinada a tope en bisel simple y en ángulo	A tope en bisel simple y en ángulo	SMAW	40	183	9	6
Soldadura de filete	En ángulo	SMAW	40	34	9	--
Soldadura combinada a tope en bisel simple y en ángulo	A tope en bisel simple y en ángulo	SMAW	40	183	9	6
Soldadura de filete	En ángulo	SMAW	40	34	9	--

P.S.: Proceso de soldeo.
l: Longitud efectiva del cordón de soldadura.
w: Espesor del lado del cordón de soldadura.
--: La comprobación no procede.

Comprobación de resistencia													
Descripción	Lado (mm)	t (mm)	l (mm)	Electrodo	Metal Base	Cortante (Metal Soldadura)			Tensiones (Metal Base)			Factor Resistencia	
				F_w (MPa)	F_y (MPa)	Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	ϕ Material base	ϕ Soldadura
Soldadura combinada a tope en bisel simple y en ángulo	La combinación de soldadura en bisel y soldadura en ángulo genera un cordón cuya resistencia es igual a la menor resistencia de las piezas a unir.												
Soldadura de filete	Se adopta el lado de soldadura cuyo espesor de garganta aporta una resistencia igual a la menor resistencia de las piezas a unir.												
Soldadura combinada a tope en bisel simple y en ángulo	La combinación de soldadura en bisel y soldadura en ángulo genera un cordón cuya resistencia es igual a la menor resistencia de las piezas a unir.												
Soldadura de filete	Se adopta el lado de soldadura cuyo espesor de garganta aporta una resistencia igual a la menor resistencia de las piezas a unir.												

3) Diagonal B ESTRUC RED 4" x 6.0mm

Comprobaciones geométricas				
Comprobación	Unidades	Calculado	Límites	
			Mínimo	Máximo
F_y / F_u	--	0.75	--	0.80
Límite elástico	kp/cm²	3241.0	--	3669.7
D_b/t_b	--	19.05	--	31.45
D_b/D	--	1.00	0.20	1.00

Comprobaciones geométricas				
Comprobación	Unidades	Calculado	Límites	
			Mínimo	Máximo
Espesor	mm	6.0	2.5	25.0
Ángulo	grados	89.41	30.00	--

Comprobaciones de resistencia				
Comprobación	Unidades	Pésimo	Resistente	Aprov. (%)
Plastificación del cordón	t	1.315	30.446	4.32
Interacción axil y momentos	--	--	--	10.13

Soldaduras (ANSI/AISC 360-10, CHAPTER J)

Comprobaciones geométricas						
Descripción	Tipo	P.S.	Longitud efectiva		Lado	Profundidad del surco (mm)
			l_{min} (mm)	l (mm)	w (mm)	
Soldadura combinada a tope en bisel simple y en ángulo	A tope en bisel simple y en ángulo	SMAW	40	183	9	6
Soldadura de filete	En ángulo	SMAW	40	34	9	--
Soldadura combinada a tope en bisel simple y en ángulo	A tope en bisel simple y en ángulo	SMAW	40	183	9	6
Soldadura de filete	En ángulo	SMAW	40	34	9	--

P.S.: Proceso de soldeo.
l: Longitud efectiva del cordón de soldadura.
w: Espesor del lado del cordón de soldadura.
--: La comprobación no procede.

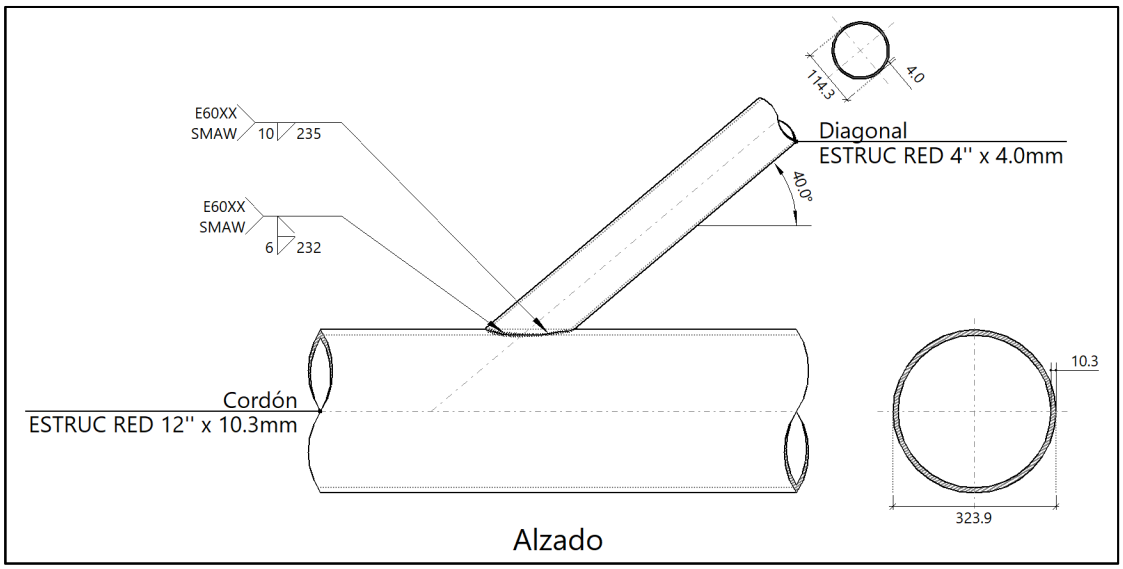
Comprobación de resistencia													
Descripción	Lado (mm)	t (mm)	l (mm)	Electrodo F_w (MPa)	Metal Base F_y (MPa)	Cortante (Metal Soldadura)			Tensiones (Metal Base)			Factor Resistencia	
						Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	ϕ Material base	ϕ Soldadura
Soldadura combinada a tope en bisel simple y en ángulo	La combinación de soldadura en bisel y soldadura en ángulo genera un cordón cuya resistencia es igual a la menor resistencia de las piezas a unir.												
Soldadura de filete	Se adopta el lado de soldadura cuyo espesor de garganta aporta una resistencia igual a la menor resistencia de las piezas a unir.												
Soldadura combinada a tope en bisel simple y en ángulo	La combinación de soldadura en bisel y soldadura en ángulo genera un cordón cuya resistencia es igual a la menor resistencia de las piezas a unir.												
Soldadura de filete	Se adopta el lado de soldadura cuyo espesor de garganta aporta una resistencia igual a la menor resistencia de las piezas a unir.												

d) Cómputo

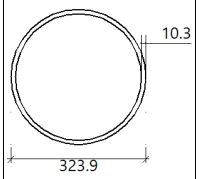
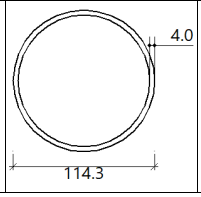
Soldaduras				
Clase de resistencia	Ejecución	Tipo	Lado (mm)	Longitud de cordones (mm)
E70XX	En taller	De filete	9	136
		Combinada a tope en bisel simple y en ángulo	9	732

1.1.1.3. Tipo 3

a) Detalle



b) Descripción de los componentes de la unión

Perfiles							
Pieza	Descripción	Geometría			Acero		
		Esquema	Diámetro exterior (mm)	Espesor (mm)	Tipo	F_y (kp/cm²)	F_u (kp/cm²)
Cordón	ESTRUC RED 12" x 10.3mm		323.9	10.3	ASTM 500 GC (Redondos)	3241.0	4348.0
Diagonal	ESTRUC RED 4" x 4.0mm		114.3	4	ASTM 500 GC (Redondos)	3241.0	4348.0

c) Comprobación

1) Cordón ESTRUC RED 12" x 10.3mm

Comprobaciones geométricas				
Comprobación	Unidades	Calculado	Límites	
			Mínimo	Máximo
F_y / F_u	--	0.75	--	0.80
Límite elástico	kp/cm²	3241.0	--	3669.7
D/t	--	31.45	10.00	50.00
Espesor	mm	10.3	2.5	25.0

2) Diagonal ESTRUC RED 4" x 4.0mm

Comprobaciones geométricas				
Comprobación	Unidades	Calculado	Límites	
			Mínimo	Máximo
F_y / F_u	--	0.75	--	0.80
Límite elástico	kp/cm²	3241.0	--	3669.7
D_b/t_b	--	28.57	--	31.45
D_b/D	--	0.35	0.20	1.00
Espesor	mm	4.0	2.5	25.0
Ángulo	grados	40.01	30.00	--

Comprobaciones de resistencia				
Comprobación	Unidades	Pésimo	Resistente	Aprov. (%)
Plastificación del cordón	t	15.375	39.108	39.31
Punzonamiento por esfuerzo cortante	t	15.375	135.782	11.32
Interacción axil y momentos	--	--	--	53.31

Soldaduras (ANSI/AISC 360-10, CHAPTER J)

Comprobaciones geométricas						
Descripción	Tipo	P.S.	Longitud efectiva		Lado	Profundidad del surco (mm)
			l_{min} (mm)	l (mm)	w (mm)	
Soldadura combinada a tope en bisel simple y en ángulo	A tope en bisel simple y en ángulo	SMAW	40	232	6	4
Soldadura de filete	En ángulo	SMAW	40	235	10	--

P.S.: Proceso de soldeo.
l: Longitud efectiva del cordón de soldadura.
w: Espesor del lado del cordón de soldadura.
--: La comprobación no procede.

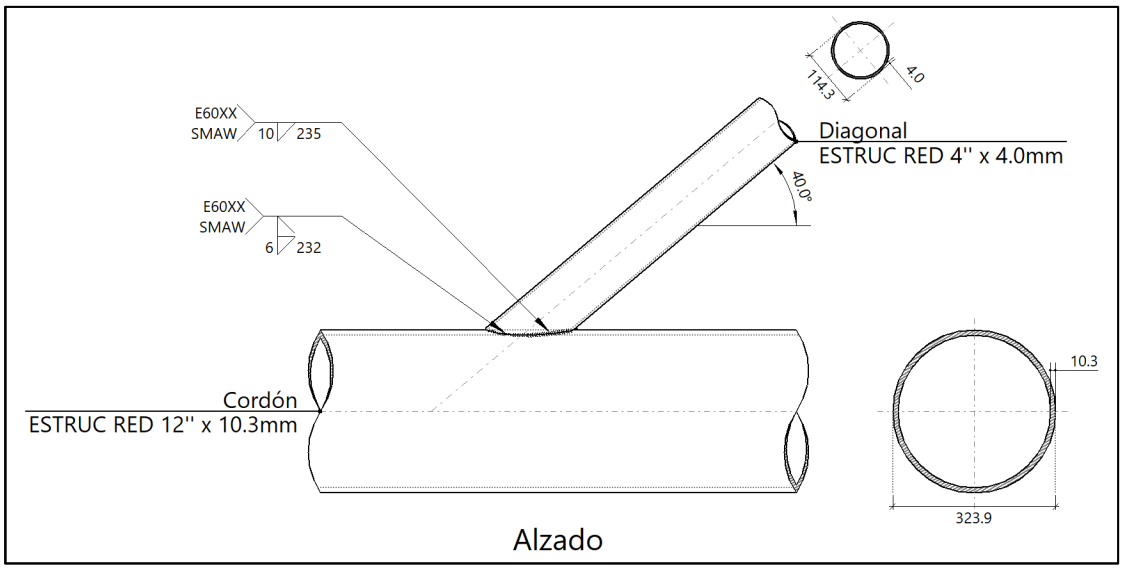
Comprobación de resistencia													
Descripción	Lado (mm)	t (mm)	l (mm)	Electrodo	Metal Base	Cortante (Metal Soldadura)			Tensiones (Metal Base)			Factor Resistencia	
				F_w (MPa)	F_y (MPa)	Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	ϕ Material base	ϕ Soldadura
Soldadura combinada a tope en bisel simple y en ángulo	La combinación de soldadura en bisel y soldadura en ángulo genera un cordón cuya resistencia es igual a la menor resistencia de las piezas a unir.												
Soldadura de filete	Se adopta el lado de soldadura cuyo espesor de garganta aporta una resistencia igual a la menor resistencia de las piezas a unir.												

d) Cómputo

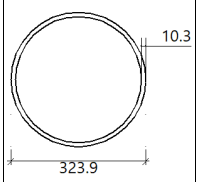
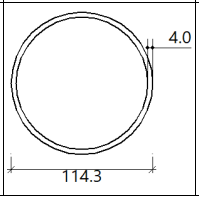
Soldaduras				
Clase de resistencia	Ejecución	Tipo	Lado (mm)	Longitud de cordones (mm)
E60XX	En taller	De filete	10	235
		Combinada a tope en bisel simple y en ángulo	6	232

1.1.1.4. Tipo 4

a) Detalle



b) Descripción de los componentes de la unión

Perfiles							
Pieza	Descripción	Geometría			Acero		
		Esquema	Diámetro exterior (mm)	Espesor (mm)	Tipo	F_y (kp/cm²)	F_u (kp/cm²)
Cordón	ESTRUC RED 12" x 10.3mm		323.9	10.3	ASTM 500 GC (Redondos)	3241.0	4348.0
Diagonal	ESTRUC RED 4" x 4.0mm		114.3	4	ASTM 500 GC (Redondos)	3241.0	4348.0

c) Comprobación

1) Cordón ESTRUC RED 12" x 10.3mm

Comprobaciones geométricas				
Comprobación	Unidades	Calculado	Límites	
			Mínimo	Máximo
F_y / F_u	--	0.75	--	0.80
Límite elástico	kp/cm²	3241.0	--	3669.7
D/t	--	31.45	10.00	50.00

Comprobaciones geométricas				
Comprobación	Unidades	Calculado	Límites	
			Mínimo	Máximo
Espesor	mm	10.3	2.5	25.0

2) Diagonal ESTRUC RED 4" x 4.0mm

Comprobaciones geométricas				
Comprobación	Unidades	Calculado	Límites	
			Mínimo	Máximo
F_y / F_u	--	0.75	--	0.80
Límite elástico	kp/cm²	3241.0	--	3669.7
D_b/t_b	--	28.57	--	31.45
D_b/D	--	0.35	0.20	1.00
Espesor	mm	4.0	2.5	25.0
Ángulo	grados	40.04	30.00	--

Comprobaciones de resistencia				
Comprobación	Unidades	Pésimo	Resistente	Aprov. (%)
Plastificación del cordón	t	16.562	39.081	42.38
Punzonamiento por esfuerzo cortante	t	16.562	135.631	12.21
Interacción axil y momentos	--	--	--	57.07

Soldaduras (ANSI/AISC 360-10, CHAPTER J)

Comprobaciones geométricas						
Descripción	Tipo	P.S.	Longitud efectiva		Lado	Profundidad del surco (mm)
			l_{min} (mm)	l (mm)	w (mm)	
Soldadura combinada a tope en bisel simple y en ángulo	A tope en bisel simple y en ángulo	SMAW	40	232	6	4
Soldadura de filete	En ángulo	SMAW	40	235	10	--

P.S.: Proceso de soldeo.
l: Longitud efectiva del cordón de soldadura.
w: Espesor del lado del cordón de soldadura.
--: La comprobación no procede.

Comprobación de resistencia														
Descripción	Lado (mm)	t (mm)	l (mm)	Electrodo	Metal Base	Cortante (Metal Soldadura)			Tensiones (Metal Base)			Factor Resistencia	
				F_w (MPa)	F_y (MPa)	Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	Caso pesimo (MPa)	Resistente (MPa)	Aprov. (%)	ϕ Material base	ϕ Soldadura
Soldadura combinada a tope en bisel simple y en ángulo	La combinación de soldadura en bisel y soldadura en ángulo genera un cordón cuya resistencia es igual a la menor resistencia de las piezas a unir.												
Soldadura de filete	Se adopta el lado de soldadura cuyo espesor de garganta aporta una resistencia igual a la menor resistencia de las piezas a unir.												

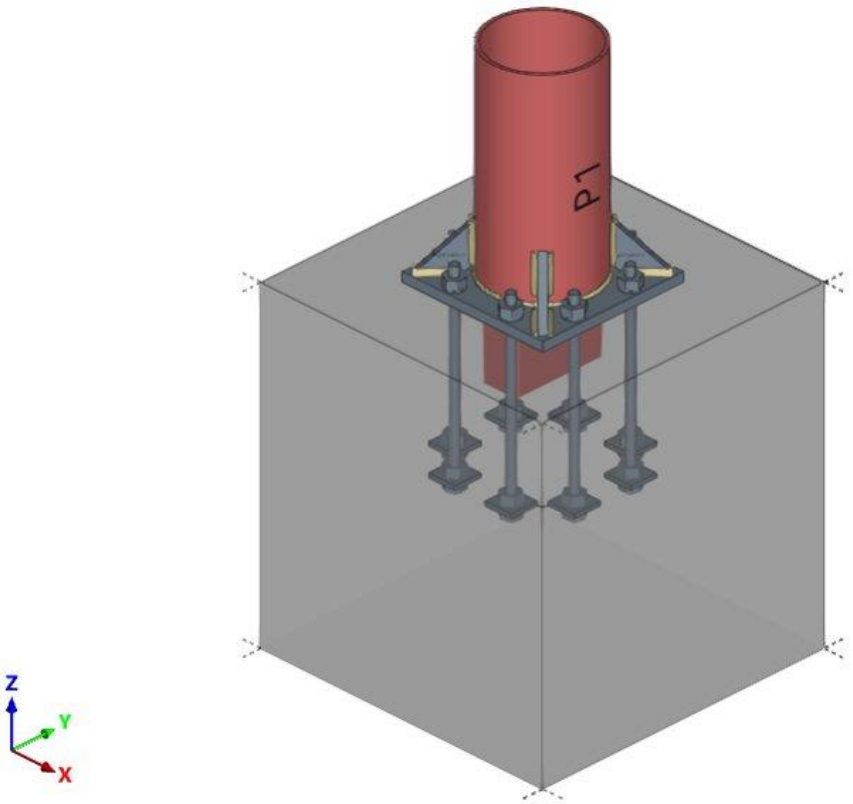
d) Cómputo

Soldaduras				
Clase de resistencia	Ejecución	Tipo	Lado (mm)	Longitud de cordones (mm)
E60XX	En taller	De filete	10	235
		Combinada a tope en bisel simple y en ángulo	6	232

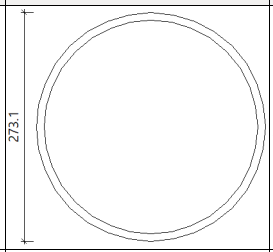
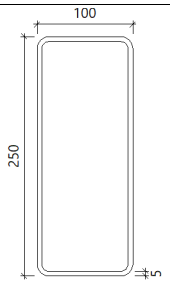
2 UNIONES DE STRUMBIM STEEL.

Ejemplo de comprobaciones típicas del proyecto.

1. COMPONENTES DE LA UNIÓN

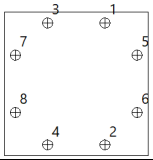


PLACA BASE 01

Perfiles de acero					
Elemento	Descripción	Geometría	Acero		
			Tipo	f_y (MPa)	f_u (MPa)
P1	ESTRUC RED 10" x 9.3mm		ASTM 500 GC (Redondos)	317.94	426.54
Llave de cortante - Anclaje1	ESTRUC RECT 250x100x5.0mm		ASTM 500 GC	248.30	400.03

Placas					
Elemento	Material	Espesor (mm)	Agujeros (mm)	Área (mm²)	Peso (kg)
Placa1	ASTM 500 GC	25.4	8 x 26.00	160000.00	31.90
Rigidizador1 - 1	ASTM 500 GC	20.0	--	7500.00	1.18
Rigidizador1 - 2	ASTM 500 GC	20.0	--	7500.00	1.18
Rigidizador1 - 3	ASTM 500 GC	20.0	--	7500.00	1.18
Rigidizador1 - 4	ASTM 500 GC	20.0	--	7500.00	1.18

Cordones de soldadura						
Elemento	Tipo	Electrodo	a (mm)	l (mm)	t (mm)	Ángulo (°)
Ajuste1	Soldadura de filete	E70XX	7.0	857.2	9.3	90.0
Rigidizador1 - 1 (Placa) - Frontal Rigidizador1 - 1 (Placa) - Trasero Rigidizador1 - 2 (Placa) - Frontal Rigidizador1 - 2 (Placa) - Trasero Rigidizador1 - 3 (Placa) - Frontal Rigidizador1 - 3 (Placa) - Trasero Rigidizador1 - 4 (Placa) - Frontal Rigidizador1 - 4 (Placa) - Trasero	Soldadura de filete	E70XX	9.0	100.0	20.0	90.0
Rigidizador1 - 1 (Perfil) Rigidizador1 - 2 (Perfil) Rigidizador1 - 3 (Perfil) Rigidizador1 - 4 (Perfil)	Soldadura de filete	E70XX	9.0	100.0	9.3	98.2
Rigidizador1 - 1 (Perfil) - Frontal Rigidizador1 - 2 (Perfil) - Frontal Rigidizador1 - 3 (Perfil) - Frontal Rigidizador1 - 4 (Perfil) - Frontal	Soldadura de filete	E70XX	9.0	100.0	9.3	90.0
Anclaje1 - Ala Sup. Anclaje1 - Ala inf.	Soldadura de filete	E70XX	9.0	75.0	5.0	90.0
Anclaje1 - Alma izq. Anclaje1 - Alma der.	Soldadura de filete	E70XX	9.0	225.0	5.0	90.0

Anclaje preinstalado						
Elemento	Tipo	Serie	Material	Dimensiones	Longitud (mm)	Cantidad
Anclaje1	Anclaje		A325	M24	528.6	8
	Tuerca	ASTM A563M	/	M24	--	24
	Arandela	ASTM F436M	/	M24	--	8
	Chapa	--	--	75.0x75.0x10.0 mm	--	8

2. CARGAS

P1 (ESTRUC RED 10" x 9.3mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+1.6·Q1	-88.00	-0.01	0.14	-0.01	-0.32	0.02

P1 (ESTRUC RED 10" x 9.3mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1-0.3·SX-SY	-55.18	-8.30	33.30	-0.29	-58.55	-14.95
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	-54.09	-33.76	-8.27	-0.06	14.62	-59.37
[1] 1.2·PP+1.2·CM1+SX+0.3·SY	-39.64	33.75	8.41	0.05	-14.94	59.38
[1] 0.9·PP+0.9·CM1-SX-0.3·SY	-42.38	-33.75	-8.29	-0.06	14.66	-59.37
[1] 0.9·PP+0.9·CM1+0.3·SX+SY	-26.84	8.29	-33.17	0.28	58.28	14.96
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	-27.92	33.75	8.39	0.06	-14.90	59.38

3. ESFUERZOS EN LOS ANCLAJES

Esfuerzos en los anclajes				
Anclaje	Caso de carga	N (kN)	Vx (kN)	Vy (kN)
Anclaje1 - 1	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.00	0.00	0.00
Anclaje1 - 1	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 1	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	45.16	0.00	0.00
Anclaje1 - 1	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 1	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	46.38	0.00	0.00
Anclaje1 - 1	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	53.14	0.00	0.00
Anclaje1 - 1	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 2	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.00	0.00	0.00
Anclaje1 - 2	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	64.65	0.00	0.00
Anclaje1 - 2	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	19.18	0.00	0.00
Anclaje1 - 2	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	3.59	0.00	0.00
Anclaje1 - 2	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	20.05	0.00	0.00
Anclaje1 - 2	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.00	0.00	0.00
Anclaje1 - 2	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	4.22	0.00	0.00
Anclaje1 - 3	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.00	0.00	0.00
Anclaje1 - 3	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 3	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	3.41	0.00	0.00
Anclaje1 - 3	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	20.23	0.00	0.00
Anclaje1 - 3	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	4.08	0.00	0.00
Anclaje1 - 3	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	67.33	0.00	0.00
Anclaje1 - 3	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	21.19	0.00	0.00
Anclaje1 - 4	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.00	0.00	0.00
Anclaje1 - 4	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	50.53	0.00	0.00
Anclaje1 - 4	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 4	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	46.44	0.00	0.00
Anclaje1 - 4	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 4	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.00	0.00	0.00
Anclaje1 - 4	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	47.60	0.00	0.00
Anclaje1 - 5	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.00	0.00	0.00
Anclaje1 - 5	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	3.09	0.00	0.00
Anclaje1 - 5	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	64.80	0.00	0.00
Anclaje1 - 5	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.00	0.00	0.00

Esfuerzos en los anclajes				
Anclaje	Caso de carga	N (kN)	Vx (kN)	Vy (kN)
Anclaje1 - 5	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	66.10	0.00	0.00
Anclaje1 - 5	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	19.43	0.00	0.00
Anclaje1 - 5	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 6	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.00	0.00	0.00
Anclaje1 - 6	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	43.91	0.00	0.00
Anclaje1 - 6	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	51.37	0.00	0.00
Anclaje1 - 6	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 6	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	52.57	0.00	0.00
Anclaje1 - 6	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.00	0.00	0.00
Anclaje1 - 6	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 7	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.00	0.00	0.00
Anclaje1 - 7	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 7	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 7	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	52.42	0.00	0.00
Anclaje1 - 7	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 7	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	46.35	0.00	0.00
Anclaje1 - 7	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	53.66	0.00	0.00
Anclaje1 - 8	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.00	0.00	0.00
Anclaje1 - 8	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	17.87	0.00	0.00
Anclaje1 - 8	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 8	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	66.47	0.00	0.00
Anclaje1 - 8	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 8	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	4.20	0.00	0.00
Anclaje1 - 8	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	67.74	0.00	0.00

4. COMPROBACIONES

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
P1 - Lado - 1	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.06863	5.00000	1.37
P1 - Lado - 2	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.06549	5.00000	1.31
P1 - Lado - 3	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.05502	5.00000	1.10
P1 - Lado - 4	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.04862	5.00000	0.97
P1 - Lado - 5	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.07135	5.00000	1.43
P1 - Lado - 6	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.07461	5.00000	1.49
P1 - Lado - 7	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.07300	5.00000	1.46
P1 - Lado - 8	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.05350	5.00000	1.07
P1 - Lado - 9	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.05494	5.00000	1.10
P1 - Lado - 10	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.06183	5.00000	1.24
P1 - Lado - 11	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.06503	5.00000	1.30
P1 - Lado - 12	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.06427	5.00000	1.29
P1 - Lado - 13	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.05862	5.00000	1.17
P1 - Lado - 14	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.05118	5.00000	1.02
P1 - Lado - 15	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.05157	5.00000	1.03

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
P1 - Lado - 16	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.07508	5.00000	1.50
P1 - Lado - 17	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.07824	5.00000	1.56
P1 - Lado - 18	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.07641	5.00000	1.53
P1 - Lado - 19	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.05575	5.00000	1.11
P1 - Lado - 20	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	0.06042	5.00000	1.21
P1 - Lado - 21	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.06537	5.00000	1.31
P1 - Lado - 22	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.06641	5.00000	1.33
P1 - Lado - 23	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.06830	5.00000	1.37
P1 - Lado - 24	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.06667	5.00000	1.33
P1 - Lado - 25	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.05627	5.00000	1.13
P1 - Lado - 26	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.05037	5.00000	1.01
P1 - Lado - 27	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.07335	5.00000	1.47
P1 - Lado - 28	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.07662	5.00000	1.53
P1 - Lado - 29	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.07481	5.00000	1.50
P1 - Lado - 30	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.05515	5.00000	1.10
P1 - Lado - 31	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.05778	5.00000	1.16
P1 - Lado - 32	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.06243	5.00000	1.25
P1 - Lado - 33	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.06700	5.00000	1.34
P1 - Lado - 34	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.06651	5.00000	1.33
P1 - Lado - 35	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.06148	5.00000	1.23
P1 - Lado - 36	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.05366	5.00000	1.07
P1 - Lado - 37	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.05120	5.00000	1.02
P1 - Lado - 38	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.07466	5.00000	1.49
P1 - Lado - 39	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.07783	5.00000	1.56
P1 - Lado - 40	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.07603	5.00000	1.52
P1 - Lado - 41	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.05528	5.00000	1.11
P1 - Lado - 42	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.05809	5.00000	1.16
P1 - Lado - 43	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.06696	5.00000	1.34
P1 - Lado - 44	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.06885	5.00000	1.38
Llave de cortante - Anclaje1 - Ala Sup.	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.11688	5.00000	2.34
Llave de cortante - Anclaje1 - Ala inf.	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.12561	5.00000	2.51
Llave de cortante - Anclaje1 - Alma izq.	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.09940	5.00000	1.99
Llave de cortante - Anclaje1 - Alma der.	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.10019	5.00000	2.00
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Izq.) - 1	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.10622	5.00000	2.12
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Izq.) - 2	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	0.14434	5.00000	2.89
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Der.) - 1	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.13355	5.00000	2.67
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Der.) - 2	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.18692	5.00000	3.74
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Izq.) - 1	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.12135	5.00000	2.43
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Izq.) - 2	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.19919	5.00000	3.98
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Der.) - 1	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.11814	5.00000	2.36
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Der.) - 2	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.14928	5.00000	2.99

Esfuerzo de compresión en el concreto				
Elemento	Comb.	f_{cu} (MPa)	f_{ce} (MPa)	Aprov. (%)
Anclaje1 - Hormigón	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	9.23	17.85	51.73
Anclaje1 - Hormigón (Llave de cortante-1)	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	28.25	17.85	58.27
Anclaje1 - Hormigón (Llave de cortante-2)	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	28.61	17.85	60.25
Anclaje1 - Hormigón (Llave de cortante-3)	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	10.46	17.85	58.59
Anclaje1 - Hormigón (Llave de cortante-4)	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	10.33	17.85	57.88

Deformación - Placas				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
Placa1	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.04722	5.00000	0.94
Rigidizador1 - 1	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.06276	5.00000	1.26
Rigidizador1 - 2	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.06306	5.00000	1.26
Rigidizador1 - 3	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.06349	5.00000	1.27
Rigidizador1 - 4	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.06080	5.00000	1.22

Cordones en ángulo										
Elemento	Dimensiones			Metal de soldadura				Metal base		
	w (mm)	w_{min} (mm)	w_{max} (mm)	F_{EXX} (MPa)	R_u (kN)	ΦR_n (kN)	Aprov. (%)	F_{MB} (MPa)	ΦR_n (kN)	Aprov. (%)
Ajuste1 - 1	7.0	5.0	7.7	482.80	18.77	42.91	43.73	240.02	33.54	55.96
Ajuste1 - 2	7.0	5.0	7.7	482.80	18.43	42.92	42.93	240.02	33.54	54.94
Ajuste1 - 3	7.0	5.0	7.7	482.80	14.93	42.92	34.79	240.02	33.54	44.52
Ajuste1 - 4	7.0	5.0	7.7	482.80	10.70	42.92	24.94	240.02	33.54	31.91
Ajuste1 - 5	7.0	5.0	7.7	482.80	7.61	42.27	18.00	240.02	33.54	22.68
Ajuste1 - 6	7.0	5.0	7.7	482.80	8.20	42.85	19.13	240.02	33.54	24.44
Ajuste1 - 7	7.0	5.0	7.7	482.80	11.35	42.92	26.43	240.02	33.54	33.83
Ajuste1 - 8	7.0	5.0	7.7	482.80	14.93	42.89	34.80	240.02	33.54	44.50
Ajuste1 - 9	7.0	5.0	7.7	482.80	16.74	42.90	39.01	240.02	33.54	49.91
Ajuste1 - 10	7.0	5.0	7.7	482.80	18.86	42.91	43.95	240.02	33.54	56.24
Ajuste1 - 11	7.0	5.0	7.7	482.80	19.47	42.91	45.38	240.02	33.54	58.07
Ajuste1 - 12	7.0	5.0	7.7	482.80	18.81	42.92	43.82	240.02	33.54	56.07
Ajuste1 - 13	7.0	5.0	7.7	482.80	16.94	42.91	39.47	240.02	33.54	50.50
Ajuste1 - 14	7.0	5.0	7.7	482.80	15.05	42.91	35.06	240.02	33.54	44.86
Ajuste1 - 15	7.0	5.0	7.7	482.80	12.62	42.93	29.39	240.02	33.54	37.62
Ajuste1 - 16	7.0	5.0	7.7	482.80	8.88	42.41	20.94	240.02	33.54	26.47
Ajuste1 - 17	7.0	5.0	7.7	482.80	8.79	42.79	20.55	240.02	33.54	26.22
Ajuste1 - 18	7.0	5.0	7.7	482.80	10.96	42.93	25.54	240.02	33.54	32.69
Ajuste1 - 19	7.0	5.0	7.7	482.80	14.82	42.90	34.54	240.02	33.54	44.18
Ajuste1 - 20	7.0	5.0	7.7	482.80	18.38	42.92	42.82	240.02	33.54	54.79
Ajuste1 - 21	7.0	5.0	7.7	482.80	19.26	42.92	44.87	240.02	33.54	57.42
Ajuste1 - 22	7.0	5.0	7.7	482.80	17.89	42.91	41.69	240.02	33.54	53.35
Ajuste1 - 23	7.0	5.0	7.7	482.80	18.78	42.89	43.79	240.02	33.54	56.00

Cordones en ángulo										
Elemento	Dimensiones			Metal de soldadura				Metal base		
	w (mm)	w_{min} (mm)	w_{max} (mm)	F_{EXX} (MPa)	R_u (kN)	ΦR_n (kN)	Aprov. (%)	F_{MB} (MPa)	ΦR_n (kN)	Aprov. (%)
Ajuste1 - 24	7.0	5.0	7.7	482.80	20.14	42.91	46.92	240.02	33.54	60.04
Ajuste1 - 25	7.0	5.0	7.7	482.80	15.59	42.93	36.32	240.02	33.54	46.49
Ajuste1 - 26	7.0	5.0	7.7	482.80	10.95	42.92	25.52	240.02	33.54	32.65
Ajuste1 - 27	7.0	5.0	7.7	482.80	8.77	42.54	20.63	240.02	33.54	26.16
Ajuste1 - 28	7.0	5.0	7.7	482.80	9.22	42.84	21.53	240.02	33.54	27.50
Ajuste1 - 29	7.0	5.0	7.7	482.80	11.40	42.92	26.56	240.02	33.54	34.00
Ajuste1 - 30	7.0	5.0	7.7	482.80	15.13	42.89	35.29	240.02	33.54	45.13
Ajuste1 - 31	7.0	5.0	7.7	482.80	18.35	42.91	42.76	240.02	33.54	54.71
Ajuste1 - 32	7.0	5.0	7.7	482.80	19.48	42.91	45.39	240.02	33.54	58.08
Ajuste1 - 33	7.0	5.0	7.7	482.80	19.83	42.92	46.21	240.02	33.54	59.13
Ajuste1 - 34	7.0	5.0	7.7	482.80	20.28	42.92	47.26	240.02	33.54	60.48
Ajuste1 - 35	7.0	5.0	7.7	482.80	18.09	42.92	42.16	240.02	33.54	53.95
Ajuste1 - 36	7.0	5.0	7.7	482.80	15.32	42.92	35.69	240.02	33.54	45.68
Ajuste1 - 37	7.0	5.0	7.7	482.80	12.07	42.93	28.12	240.02	33.54	36.00
Ajuste1 - 38	7.0	5.0	7.7	482.80	8.75	42.88	20.40	240.02	33.54	26.08
Ajuste1 - 39	7.0	5.0	7.7	482.80	8.89	42.78	20.78	240.02	33.54	26.50
Ajuste1 - 40	7.0	5.0	7.7	482.80	11.61	42.93	27.04	240.02	33.54	34.62
Ajuste1 - 41	7.0	5.0	7.7	482.80	13.72	42.92	31.97	240.02	33.54	40.91
Ajuste1 - 42	7.0	5.0	7.7	482.80	16.65	42.91	38.80	240.02	33.54	49.65
Ajuste1 - 43	7.0	5.0	7.7	482.80	19.42	42.92	45.25	240.02	33.54	57.90
Ajuste1 - 44	7.0	5.0	7.7	482.80	19.47	42.92	45.36	240.02	33.54	58.04
Rigidizador1 - 1 (Placa) - Frontal	9.0	8.0	18.4	482.80	18.33	133.10	13.77	240.02	229.12	8.00
Rigidizador1 - 1 (Placa) - Trasero	9.0	8.0	18.4	482.80	18.33	133.10	13.77	240.02	229.12	8.00
Rigidizador1 - 1 (Perfil) - Trasero	9.0	5.0	7.7	482.80	23.56	113.01	20.85	240.02	229.12	10.28
Rigidizador1 - 1 (Perfil) - Frontal	9.0	5.0	7.7	482.80	23.56	113.01	20.85	240.02	229.12	10.28
Rigidizador1 - 2 (Placa) - Frontal	9.0	8.0	18.4	482.80	22.52	136.48	16.50	240.02	229.12	9.83
Rigidizador1 - 2 (Placa) - Trasero	9.0	8.0	18.4	482.80	22.52	136.48	16.50	240.02	229.12	9.83
Rigidizador1 - 2 (Perfil) - Trasero	9.0	5.0	7.7	482.80	22.98	112.55	20.42	240.02	229.12	10.03
Rigidizador1 - 2 (Perfil) - Frontal	9.0	5.0	7.7	482.80	22.98	112.55	20.42	240.02	229.12	10.03
Rigidizador1 - 3 (Placa) - Frontal	9.0	8.0	18.4	482.80	20.69	133.92	15.45	240.02	229.12	9.03
Rigidizador1 - 3 (Placa) - Trasero	9.0	8.0	18.4	482.80	20.69	133.92	15.45	240.02	229.12	9.03
Rigidizador1 - 3 (Perfil) - Trasero	9.0	5.0	7.7	482.80	23.63	112.89	20.93	240.02	229.12	10.31
Rigidizador1 - 3 (Perfil) - Frontal	9.0	5.0	7.7	482.80	23.63	112.89	20.93	240.02	229.12	10.31
Rigidizador1 - 4 (Placa) - Frontal	9.0	8.0	18.4	482.80	20.86	136.08	15.33	240.02	229.12	9.10
Rigidizador1 - 4 (Placa) - Trasero	9.0	8.0	18.4	482.80	20.86	136.08	15.33	240.02	229.12	9.10
Rigidizador1 - 4 (Perfil) - Trasero	9.0	5.0	7.7	482.80	22.55	113.00	19.96	240.02	229.12	9.84
Rigidizador1 - 4 (Perfil) - Frontal	9.0	5.0	7.7	482.80	22.55	113.00	19.96	240.02	229.12	9.84
Anclaje1 - Ala Sup.	9.0	3.0	5.0	482.80	25.58	146.45	17.47	240.02	171.84	14.89
Anclaje1 - Ala inf.	9.0	3.0	5.0	482.80	23.40	146.26	16.00	240.02	171.84	13.62
Anclaje1 - Alma izq.	9.0	3.0	5.0	482.80	18.30	143.04	12.79	240.02	515.52	3.55
Anclaje1 - Alma der.	9.0	3.0	5.0	482.80	17.59	142.67	12.33	240.02	515.52	3.41

Notación

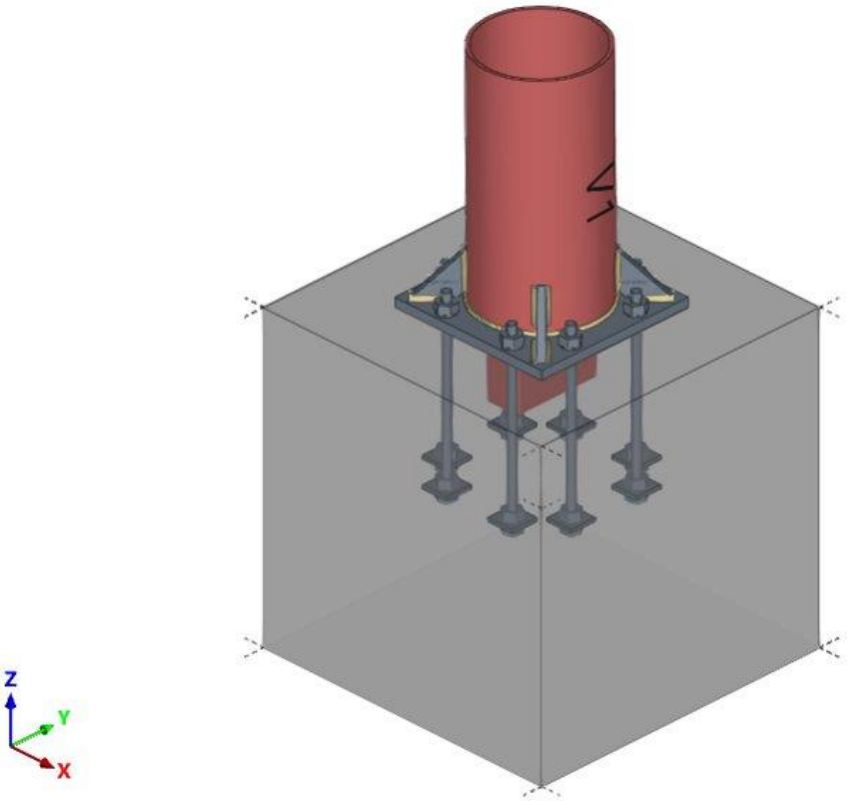
R_u: Resistencia requerida
Φ: Coeficiente de reducción de resistencia
R_n: Resistencia nominal
w: Tamaño nominal de la soldadura de filete
w_{min}: Tamaño mínimo de la soldadura de filete
w_{max}: Tamaño máximo de la soldadura de filete
F_{EXX}: Número de clasificación del electrodo
F_{nBM}: Resistencia nominal del metal base

Resistencia - Anclajes				
Elemento	Tracción			
	ΦN_{sa} (kN)	ΦN_{cbg} (kN)	ΦN_{pn} (kN)	Aprov. (%)
Anclaje1	252.73	733.39	608.30	46.54

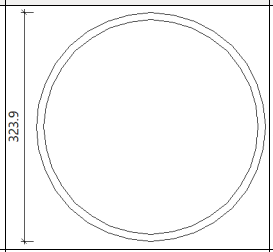
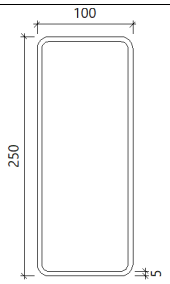
Notación

ΦN_{sa}: resistencia de diseño de un solo anclaje o de un anclaje individual dentro de un grupo de anclajes en tracción determinada por la resistencia del acero
ΦN_{cbg}: resistencia de diseño al arrancamiento del concreto en tracción de un grupo de anclajes
ΦN_{pn}: resistencia de diseño a la extracción por deslizamiento por tracción de un solo anclaje

1. COMPONENTES DE LA UNIÓN

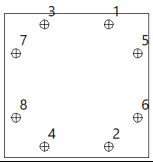


PLACA BASE 02

Perfiles de acero					
Elemento	Descripción	Geometría	Acero		
			Tipo	f_y (MPa)	f_u (MPa)
V1	ESTRUC RED 12" x 10.3mm		ASTM 500 GC (Redondos)	317.94	426.54
Llave de cortante - Anclaje1	ESTRUC RECT 250x100x5.0mm		ASTM 500 GC	248.30	400.03

Placas					
Elemento	Material	Espesor (mm)	Agujeros (mm)	Área (mm²)	Peso (kg)
Placa1	ASTM 500 GC	25.4	8 x 26.00	202500.00	40.38
Rigidizador1 - 1	ASTM 500 GC	20.0	--	7499.87	1.18
Rigidizador1 - 2	ASTM 500 GC	20.0	--	7499.89	1.18
Rigidizador1 - 3	ASTM 500 GC	20.0	--	7499.87	1.18
Rigidizador1 - 4	ASTM 500 GC	20.0	--	7499.89	1.18

Cordones de soldadura						
Elemento	Tipo	Electrodo	a (mm)	l (mm)	t (mm)	Ángulo (°)
Ajuste1	Soldadura de filete	E70XX	8.0	1016.9	10.3	--
Rigidizador1 - 1 (Placa) - Frontal Rigidizador1 - 3 (Placa) - Trasero	Soldadura de filete	E70XX	8.0	100.0	20.0	89.7
Rigidizador1 - 1 (Placa) - Trasero Rigidizador1 - 3 (Placa) - Frontal	Soldadura de filete	E70XX	8.0	100.0	20.0	90.3
Rigidizador1 - 1 (Perfil) - Trasero Rigidizador1 - 2 (Perfil) - Trasero Rigidizador1 - 3 (Perfil) - Trasero Rigidizador1 - 4 (Perfil) - Trasero	Soldadura de filete	E70XX	8.0	100.0	10.3	92.0
Rigidizador1 - 1 (Perfil) - Frontal Rigidizador1 - 2 (Perfil) - Frontal Rigidizador1 - 3 (Perfil) - Frontal Rigidizador1 - 4 (Perfil) - Frontal	Soldadura de filete	E70XX	8.0	100.0	10.3	94.9
Rigidizador1 - 2 (Placa) - Frontal Rigidizador1 - 4 (Placa) - Trasero	Soldadura de filete	E70XX	8.0	100.0	20.0	90.3
Rigidizador1 - 2 (Placa) - Trasero Rigidizador1 - 4 (Placa) - Frontal	Soldadura de filete	E70XX	8.0	100.0	20.0	89.7
Anclaje1 - Ala Sup. Anclaje1 - Ala Sup. Anclaje1 - Ala inf. Anclaje1 - Ala inf.	Soldadura de filete	E70XX	5.0	75.0	5.0	90.0
Anclaje1 - Alma izq. Anclaje1 - Alma izq. Anclaje1 - Alma der. Anclaje1 - Alma der.	Soldadura de filete	E70XX	5.0	225.0	5.0	90.0

Anclaje preinstalado						
Elemento	Tipo	Serie	Material	Dimensiones	Longitud (mm)	Cantidad
Anclaje1 	Anclaje		A325	M24	528.6	8
	Tuerca	ASTM A563M	/	M24	--	24
	Arandela	ASTM F436M	/	M24	--	8
	Chapa	--	--	75.0x75.0x10.0 mm	--	8

2. CARGAS

V1 (ESTRUC RED 12" x 10.3mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1-0.3·SX-SY	-929.54	-4.81	17.31	0.79	-78.82	-16.49
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	156.81	-28.62	-5.48	4.79	17.79	-87.30
[1] 1.2·PP+1.2·CM1+0.3·SX+SY	786.43	4.69	-21.72	-0.83	81.55	16.48
[1] 1.2·PP+1.2·CM1+SX+0.3·SY	-306.02	28.09	1.45	-4.85	-15.99	86.42
[1] 0.9·PP+0.9·CM1-0.3·SX-SY	-911.65	-4.79	17.86	0.80	-79.17	-16.49
[1] 0.9·PP+0.9·CM1-SX-0.3·SY	180.80	-28.20	-5.32	4.82	18.38	-86.43
[1] 0.9·PP+0.9·CM1+0.3·SX+SY	804.31	4.70	-21.17	-0.82	81.21	16.48
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	-282.04	28.51	1.61	-4.82	-15.40	87.28

3. ESFUERZOS EN LOS ANCLAJES

Esfuerzos en los anclajes				
Anclaje	Caso de carga	N (kN)	Vx (kN)	Vy (kN)
Anclaje1 - 1	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 1	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	80.74	0.00	0.00
Anclaje1 - 1	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	162.55	0.00	0.00
Anclaje1 - 1	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 1	[1] 0.9·PP+0.9·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 1	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	83.43	0.00	0.00
Anclaje1 - 1	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	162.87	0.00	0.00
Anclaje1 - 1	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 2	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	3.76	0.00	0.00
Anclaje1 - 2	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	44.70	0.00	0.00
Anclaje1 - 2	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	26.08	0.00	0.00
Anclaje1 - 2	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 2	[1] 0.9·PP+0.9·CM1-0.3·SX-SY	4.87	0.00	0.00
Anclaje1 - 2	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	46.11	0.00	0.00
Anclaje1 - 2	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	27.87	0.00	0.00
Anclaje1 - 2	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 3	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 3	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	17.59	0.00	0.00
Anclaje1 - 3	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	163.44	0.00	0.00
Anclaje1 - 3	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	10.82	0.00	0.00
Anclaje1 - 3	[1] 0.9·PP+0.9·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 3	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	19.77	0.00	0.00
Anclaje1 - 3	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	163.90	0.00	0.00
Anclaje1 - 3	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	12.77	0.00	0.00
Anclaje1 - 4	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 4	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 4	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	38.54	0.00	0.00
Anclaje1 - 4	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	31.29	0.00	0.00
Anclaje1 - 4	[1] 0.9·PP+0.9·CM1-0.3·SX-SY	0.00	0.00	0.00

Esfuerzos en los anclajes				
Anclaje	Caso de carga	N (kN)	Vx (kN)	Vy (kN)
Anclaje1 - 4	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 4	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	41.08	0.00	0.00
Anclaje1 - 4	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	33.42	0.00	0.00
Anclaje1 - 5	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 5	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	109.46	0.00	0.00
Anclaje1 - 5	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	126.72	0.00	0.00
Anclaje1 - 5	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 5	[1] 0.9·PP+0.9·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 5	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	111.77	0.00	0.00
Anclaje1 - 5	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	131.94	0.00	0.00
Anclaje1 - 5	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 6	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 6	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	91.90	0.00	0.00
Anclaje1 - 6	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	52.35	0.00	0.00
Anclaje1 - 6	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 6	[1] 0.9·PP+0.9·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 6	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	93.64	0.00	0.00
Anclaje1 - 6	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	54.75	0.00	0.00
Anclaje1 - 6	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	0.00	0.00	0.00
Anclaje1 - 7	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 7	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 7	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	162.00	0.00	0.00
Anclaje1 - 7	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	42.51	0.00	0.00
Anclaje1 - 7	[1] 0.9·PP+0.9·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 7	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 7	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	162.41	0.00	0.00
Anclaje1 - 7	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	45.71	0.00	0.00
Anclaje1 - 8	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 8	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 8	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	90.12	0.00	0.00
Anclaje1 - 8	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	54.78	0.00	0.00
Anclaje1 - 8	[1] 0.9·PP+0.9·CM1-0.3·SX-SY	0.00	0.00	0.00
Anclaje1 - 8	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.00	0.00	0.00
Anclaje1 - 8	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	95.61	0.00	0.00
Anclaje1 - 8	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	57.77	0.00	0.00

4. COMPROBACIONES

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 1	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.10051	5.00000	2.01
V1 - Lado - 2	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.09838	5.00000	1.97
V1 - Lado - 3	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.09033	5.00000	1.81

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 4	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.08883	5.00000	1.78
V1 - Lado - 5	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.07265	5.00000	1.45
V1 - Lado - 6	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.06333	5.00000	1.27
V1 - Lado - 7	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.07273	5.00000	1.45
V1 - Lado - 8	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.07152	5.00000	1.43
V1 - Lado - 9	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.05193	5.00000	1.04
V1 - Lado - 10	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.04147	5.00000	0.83
V1 - Lado - 11	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.04905	5.00000	0.98
V1 - Lado - 12	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.04985	5.00000	1.00
V1 - Lado - 13	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.05866	5.00000	1.17
V1 - Lado - 14	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.04563	5.00000	0.91
V1 - Lado - 15	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.04873	5.00000	0.97
V1 - Lado - 16	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.04111	5.00000	0.82
V1 - Lado - 17	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.04228	5.00000	0.85
V1 - Lado - 18	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.03738	5.00000	0.75
V1 - Lado - 19	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.04990	5.00000	1.00
V1 - Lado - 20	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.06125	5.00000	1.23
V1 - Lado - 21	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.06223	5.00000	1.24
V1 - Lado - 22	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.06361	5.00000	1.27
V1 - Lado - 23	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.08453	5.00000	1.69
V1 - Lado - 24	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.11233	5.00000	2.25
V1 - Lado - 25	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.10660	5.00000	2.13
V1 - Lado - 26	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.13529	5.00000	2.71
V1 - Lado - 27	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.13008	5.00000	2.60
V1 - Lado - 28	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.13882	5.00000	2.78
V1 - Lado - 29	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.12961	5.00000	2.59
V1 - Lado - 30	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.12077	5.00000	2.42
V1 - Lado - 31	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.10770	5.00000	2.15
V1 - Lado - 32	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.14013	5.00000	2.80
V1 - Lado - 33	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.21872	5.00000	4.37
V1 - Lado - 34	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.21244	5.00000	4.25
V1 - Lado - 35	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.12870	5.00000	2.57
V1 - Lado - 36	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.15306	5.00000	3.06
V1 - Lado - 37	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.16031	5.00000	3.21
V1 - Lado - 38	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.19025	5.00000	3.81
V1 - Lado - 39	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.21945	5.00000	4.39
V1 - Lado - 40	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.21990	5.00000	4.40
V1 - Lado - 41	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.19665	5.00000	3.93
V1 - Lado - 42	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.19642	5.00000	3.93
V1 - Lado - 43	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.17475	5.00000	3.49
V1 - Lado - 44	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.13095	5.00000	2.62
V1 - Lado - 45	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.12573	5.00000	2.51
V1 - Lado - 46	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.18225	5.00000	3.65
V1 - Lado - 47	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.17119	5.00000	3.42
V1 - Lado - 48	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.11446	5.00000	2.29

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 49	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.09065	5.00000	1.81
V1 - Lado - 50	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.10174	5.00000	2.03
V1 - Lado - 51	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.10193	5.00000	2.04
V1 - Lado - 52	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.09529	5.00000	1.91
Llave de cortante - Anclaje1 - Ala Sup.	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.15764	5.00000	3.15
Llave de cortante - Anclaje1 - Ala inf.	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.27737	5.00000	5.55
Llave de cortante - Anclaje1 - Alma izq.	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.18330	5.00000	3.67
Llave de cortante - Anclaje1 - Alma der.	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.14667	5.00000	2.93
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Izq.) - 1	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.13400	5.00000	2.68
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Izq.) - 2	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	0.11682	5.00000	2.34
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Der.) - 1	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.23139	5.00000	4.63
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Der.) - 2	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.09727	5.00000	1.95
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Izq.) - 1	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.92499	5.00000	18.50
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Izq.) - 2	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.57974	5.00000	11.59
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Der.) - 1	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.33410	5.00000	6.68
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Der.) - 2	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.57580	5.00000	11.52

Esfuerzo de compresión en el concreto				
Elemento	Comb.	f_{cu} (MPa)	f_{ce} (MPa)	Aprov. (%)
Anclaje1 - Hormigón	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	17.47	17.85	97.88
Anclaje1 - Hormigón (Llave de cortante-1)	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	45.22	17.85	92.52
Anclaje1 - Hormigón (Llave de cortante-2)	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	21.00	17.85	87.62
Anclaje1 - Hormigón (Llave de cortante-3)	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	19.49	17.85	99.16
Anclaje1 - Hormigón (Llave de cortante-4)	[1] 0.9·PP+0.9·CM1+SX+0.3·SY	12.17	17.85	68.18

Deformación - Placas				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
Placa1	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.10709	5.00000	2.14
Rigidizador1 - 1	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.21289	5.00000	4.26
Rigidizador1 - 2	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.26280	5.00000	5.26
Rigidizador1 - 3	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.05184	5.00000	1.04
Rigidizador1 - 4	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.06267	5.00000	1.25

Cordones en ángulo										
Elemento	Dimensiones			Metal de soldadura				Metal base		
	w (mm)	w_{min} (mm)	w_{max} (mm)	F_{EXX} (MPa)	R_u (kN)	ΦR_n (kN)	Aprov. (%)	F_{MB} (MPa)	ΦR_n (kN)	Aprov. (%)
Ajuste1 - 1	8.0	5.0	8.7	482.80	29.77	49.35	60.32	240.02	38.56	77.20
Ajuste1 - 2	8.0	5.0	8.7	482.80	26.32	49.36	53.31	240.02	38.56	68.24
Ajuste1 - 3	8.0	5.0	8.7	482.80	21.59	49.36	43.74	240.02	38.56	55.98
Ajuste1 - 4	8.0	5.0	8.7	482.80	20.40	49.35	41.33	240.02	38.56	52.89

Cordones en ángulo										
Elemento	Dimensiones			Metal de soldadura				Metal base		
	w (mm)	w_{min} (mm)	w_{max} (mm)	F_{EXX} (MPa)	R_u (kN)	ΦR_n (kN)	Aprov. (%)	F_{MB} (MPa)	ΦR_n (kN)	Aprov. (%)
Ajuste1 - 5	8.0	5.0	8.7	482.80	17.13	49.34	34.71	240.02	38.56	44.42
Ajuste1 - 6	8.0	5.0	8.7	482.80	12.77	49.28	25.91	240.02	38.56	33.11
Ajuste1 - 7	8.0	5.0	8.7	482.80	10.42	48.98	21.28	240.02	38.56	27.03
Ajuste1 - 8	8.0	5.0	8.7	482.80	9.72	49.36	19.69	240.02	38.56	25.21
Ajuste1 - 9	8.0	5.0	8.7	482.80	8.86	49.36	17.95	240.02	38.56	22.97
Ajuste1 - 10	8.0	5.0	8.7	482.80	6.56	49.30	13.30	240.02	38.56	17.01
Ajuste1 - 11	8.0	5.0	8.7	482.80	7.38	42.85	17.23	240.02	38.56	19.15
Ajuste1 - 12	8.0	5.0	8.7	482.80	7.48	43.55	17.18	240.02	38.56	19.41
Ajuste1 - 13	8.0	5.0	8.7	482.80	5.67	37.46	15.14	240.02	38.56	14.71
Ajuste1 - 14	8.0	5.0	8.7	482.80	5.42	34.81	15.57	240.02	38.56	14.06
Ajuste1 - 15	8.0	5.0	8.7	482.80	5.68	37.20	15.27	240.02	38.56	14.73
Ajuste1 - 16	8.0	5.0	8.7	482.80	6.94	42.65	16.27	240.02	38.56	17.99
Ajuste1 - 17	8.0	5.0	8.7	482.80	7.06	43.78	16.13	240.02	38.56	18.31
Ajuste1 - 18	8.0	5.0	8.7	482.80	6.81	44.89	15.16	240.02	38.56	17.65
Ajuste1 - 19	8.0	5.0	8.7	482.80	8.19	47.24	17.34	240.02	38.56	21.25
Ajuste1 - 20	8.0	5.0	8.7	482.80	8.57	48.42	17.71	240.02	38.56	22.23
Ajuste1 - 21	8.0	5.0	8.7	482.80	9.79	49.22	19.89	240.02	38.56	25.38
Ajuste1 - 22	8.0	5.0	8.7	482.80	11.21	49.35	22.71	240.02	38.56	29.07
Ajuste1 - 23	8.0	5.0	8.7	482.80	14.44	49.36	29.25	240.02	38.56	37.45
Ajuste1 - 24	8.0	5.0	8.7	482.80	16.31	48.22	33.82	240.02	38.56	42.29
Ajuste1 - 25	8.0	5.0	8.7	482.80	16.30	49.02	33.26	240.02	38.56	42.28
Ajuste1 - 26	8.0	5.0	8.7	482.80	20.11	49.17	40.89	240.02	38.56	52.14
Ajuste1 - 27	8.0	5.0	8.7	482.80	25.60	49.23	52.01	240.02	38.56	66.40
Ajuste1 - 28	8.0	5.0	8.7	482.80	25.46	49.11	51.84	240.02	38.56	66.01
Ajuste1 - 29	8.0	5.0	8.7	482.80	21.95	49.04	44.77	240.02	38.56	56.93
Ajuste1 - 30	8.0	5.0	8.7	482.80	23.14	49.10	47.12	240.02	38.56	60.00
Ajuste1 - 31	8.0	5.0	8.7	482.80	22.54	49.02	45.98	240.02	38.56	58.45
Ajuste1 - 32	8.0	5.0	8.7	482.80	22.27	49.27	45.20	240.02	38.56	57.76
Ajuste1 - 33	8.0	5.0	8.7	482.80	22.48	49.35	45.55	240.02	38.56	58.30
Ajuste1 - 34	8.0	5.0	8.7	482.80	23.40	49.36	47.42	240.02	38.56	60.69
Ajuste1 - 35	8.0	5.0	8.7	482.80	27.78	49.34	56.30	240.02	38.56	72.03
Ajuste1 - 36	8.0	5.0	8.7	482.80	31.98	49.35	64.80	240.02	38.56	82.93
Ajuste1 - 37	8.0	5.0	8.7	482.80	32.91	49.36	66.67	240.02	38.56	85.35
Ajuste1 - 38	8.0	5.0	8.7	482.80	33.54	49.36	67.95	240.02	38.56	86.98
Ajuste1 - 39	8.0	5.0	8.7	482.80	36.39	49.36	73.72	240.02	38.56	94.37
Ajuste1 - 40	8.0	5.0	8.7	482.80	35.07	49.36	71.04	240.02	38.56	90.94
Ajuste1 - 41	8.0	5.0	8.7	482.80	31.14	49.36	63.08	240.02	38.56	80.75
Ajuste1 - 42	8.0	5.0	8.7	482.80	30.08	49.36	60.94	240.02	38.56	78.01
Ajuste1 - 43	8.0	5.0	8.7	482.80	29.27	49.36	59.31	240.02	38.56	75.91
Ajuste1 - 44	8.0	5.0	8.7	482.80	26.74	49.36	54.18	240.02	38.56	69.35
Ajuste1 - 45	8.0	5.0	8.7	482.80	23.18	49.36	46.97	240.02	38.56	60.12
Ajuste1 - 46	8.0	5.0	8.7	482.80	18.92	49.35	38.33	240.02	38.56	49.06

Cordones en ángulo										
Elemento	Dimensiones			Metal de soldadura				Metal base		
	w (mm)	w_{min} (mm)	w_{max} (mm)	F_{EXX} (MPa)	R_u (kN)	ΦR_n (kN)	Aprov. (%)	F_{MB} (MPa)	ΦR_n (kN)	Aprov. (%)
Ajuste1 - 47	8.0	5.0	8.7	482.80	16.79	49.24	34.10	240.02	38.56	43.54
Ajuste1 - 48	8.0	5.0	8.7	482.80	18.38	49.31	37.27	240.02	38.56	47.66
Ajuste1 - 49	8.0	5.0	8.7	482.80	22.17	49.32	44.95	240.02	38.56	57.49
Ajuste1 - 50	8.0	5.0	8.7	482.80	24.00	49.33	48.65	240.02	38.56	62.23
Ajuste1 - 51	8.0	5.0	8.7	482.80	24.85	49.31	50.39	240.02	38.56	64.43
Ajuste1 - 52	8.0	5.0	8.7	482.80	28.23	49.33	57.22	240.02	38.56	73.20
Rigidizador1 - 1 (Placa) - Frontal	8.0	8.0	18.4	482.80	46.66	113.32	41.17	240.02	203.66	22.91
Rigidizador1 - 1 (Placa) - Trasero	8.0	8.0	18.4	482.80	46.66	113.32	41.17	240.02	203.66	22.91
Rigidizador1 - 1 (Perfil) - Trasero	8.0	5.0	8.7	482.80	49.87	106.23	46.95	240.02	203.66	24.49
Rigidizador1 - 1 (Perfil) - Frontal	8.0	5.0	8.7	482.80	49.87	106.23	46.95	240.02	203.66	24.49
Rigidizador1 - 2 (Placa) - Frontal	8.0	8.0	18.4	482.80	54.52	115.94	47.02	240.02	203.66	26.77
Rigidizador1 - 2 (Placa) - Trasero	8.0	8.0	18.4	482.80	54.52	115.94	47.02	240.02	203.66	26.77
Rigidizador1 - 2 (Perfil) - Trasero	8.0	5.0	8.7	482.80	53.76	106.67	50.39	240.02	203.66	26.40
Rigidizador1 - 2 (Perfil) - Frontal	8.0	5.0	8.7	482.80	53.76	106.67	50.39	240.02	203.66	26.40
Rigidizador1 - 3 (Placa) - Frontal	8.0	8.0	18.4	482.80	26.67	117.22	22.75	240.02	203.66	13.09
Rigidizador1 - 3 (Placa) - Trasero	8.0	8.0	18.4	482.80	26.67	117.22	22.75	240.02	203.66	13.09
Rigidizador1 - 3 (Perfil) - Trasero	8.0	5.0	8.7	482.80	21.77	105.17	20.70	240.02	203.66	10.69
Rigidizador1 - 3 (Perfil) - Frontal	8.0	5.0	8.7	482.80	21.77	105.17	20.70	240.02	203.66	10.69
Rigidizador1 - 4 (Placa) - Frontal	8.0	8.0	18.4	482.80	25.32	119.49	21.19	240.02	203.66	12.43
Rigidizador1 - 4 (Placa) - Trasero	8.0	8.0	18.4	482.80	25.32	119.49	21.19	240.02	203.66	12.43
Rigidizador1 - 4 (Perfil) - Trasero	8.0	5.0	8.7	482.80	26.72	102.49	26.07	240.02	203.66	13.12
Rigidizador1 - 4 (Perfil) - Frontal	8.0	5.0	8.7	482.80	26.72	102.49	26.07	240.02	203.66	13.12
Anclaje1 - Ala Sup.	5.0	3.0	5.0	482.80	21.35	81.47	26.20	240.02	95.47	22.36
Anclaje1 - Ala inf.	5.0	3.0	5.0	482.80	6.77	66.39	10.20	240.02	95.47	7.09
Anclaje1 - Alma izq.	5.0	3.0	5.0	482.80	12.61	81.36	15.50	240.02	286.40	4.40
Anclaje1 - Alma der.	5.0	3.0	5.0	482.80	12.23	81.42	15.02	240.02	286.40	4.27

Notación

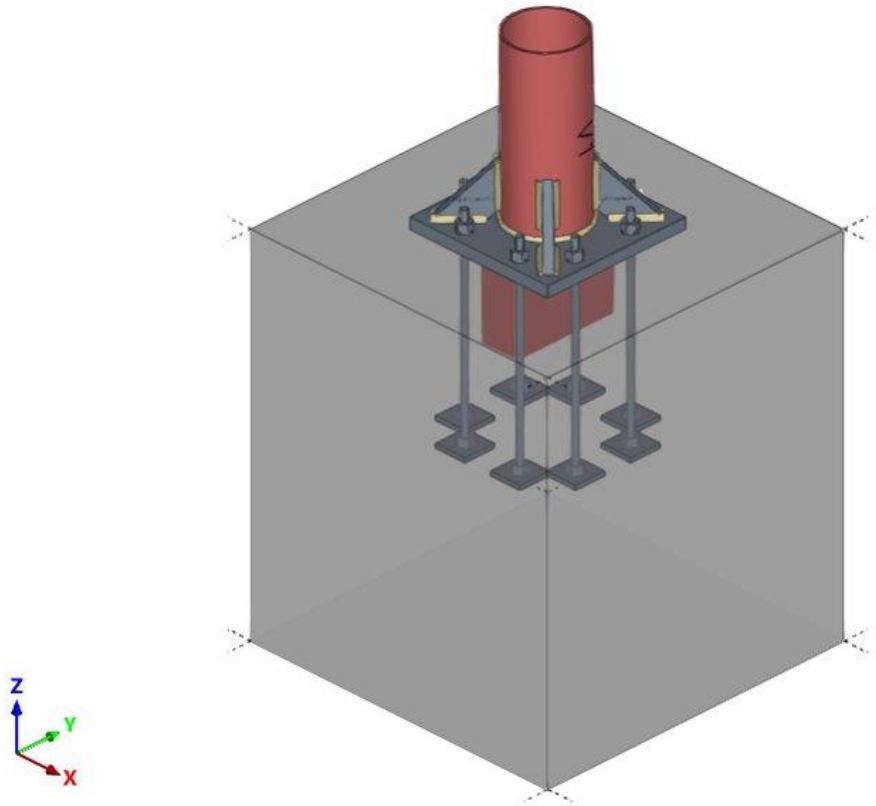
R_u: Resistencia requerida
Φ: Coeficiente de reducción de resistencia
R_n: Resistencia nominal
w: Tamaño nominal de la soldadura de filete
w_{min}: Tamaño mínimo de la soldadura de filete
w_{max}: Tamaño máximo de la soldadura de filete
F_{EXX}: Número de clasificación del electrodo
F_{nBM}: Resistencia nominal del metal base

Resistencia - Anclajes				
Elemento	Tracción			
	ΦN_{sa} (kN)	ΦN_{cbg} (kN)	ΦN_{pn} (kN)	Aprov. (%)
Anclaje1	252.73	776.33	608.30	88.94

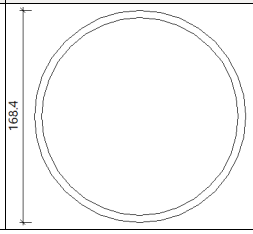
Notación

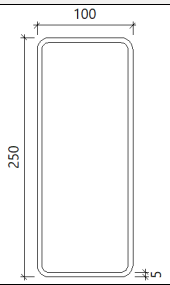
ΦN_{sa}: resistencia de diseño de un solo anclaje o de un anclaje individual dentro de un grupo de anclajes en tracción determinada por la resistencia del acero
ΦN_{cbg}: resistencia de diseño al arrancamiento del concreto en tracción de un grupo de anclajes
ΦN_{pn}: resistencia de diseño a la extracción por deslizamiento por tracción de un solo anclaje

1. COMPONENTES DE LA UNIÓN



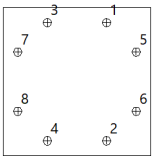
PLACA BASE 03

Perfiles de acero					
Elemento	Descripción	Geometría	Acero		
			Tipo	f_y (MPa)	f_u (MPa)
V1	ESTRUC RED 6" x 6.0mm		ASTM 500 GC (Redondos)	317.94	426.54

Perfiles de acero					
Elemento	Descripción	Geometría	Acero		
			Tipo	f_y (MPa)	f_u (MPa)
Llave de cortante - Anclaje1	ESTRUC RECT 250x100x5.0mm		ASTM 500 GC	248.30	400.03

Placas					
Elemento	Material	Espesor (mm)	Agujeros (mm)	Área (mm²)	Peso (kg)
Placa1	ASTM 500 GC	25.4	8 x 18.00	122500.00	24.43
Rigidizador1 - 1	ASTM 500 GC	20.0	--	7499.69	1.18
Rigidizador1 - 2	ASTM 500 GC	20.0	--	7499.79	1.18
Rigidizador1 - 3	ASTM 500 GC	20.0	--	7499.69	1.18
Rigidizador1 - 4	ASTM 500 GC	20.0	--	7499.79	1.18

Cordones de soldadura						
Elemento	Tipo	Electrodo	a (mm)	l (mm)	t (mm)	Ángulo (°)
Ajuste1	Soldadura de filete	E70XX	8.0	527.9	6.0	--
Rigidizador1 - 1 (Placa) - Frontal Rigidizador1 - 3 (Placa) - Trasero	Soldadura de filete	E70XX	8.0	100.0	20.0	89.5
Rigidizador1 - 1 (Placa) - Trasero Rigidizador1 - 3 (Placa) - Frontal	Soldadura de filete	E70XX	8.0	100.0	20.0	90.5
Rigidizador1 - 1 (Perfil) - Trasero Rigidizador1 - 2 (Perfil) - Trasero Rigidizador1 - 3 (Perfil) - Trasero Rigidizador1 - 4 (Perfil) - Trasero	Soldadura de filete	E70XX	8.0	100.0	6.0	95.0
Rigidizador1 - 1 (Perfil) - Frontal Rigidizador1 - 2 (Perfil) - Frontal Rigidizador1 - 3 (Perfil) - Frontal Rigidizador1 - 4 (Perfil) - Frontal	Soldadura de filete	E70XX	8.0	100.0	6.0	97.9
Rigidizador1 - 2 (Placa) - Frontal Rigidizador1 - 4 (Placa) - Trasero	Soldadura de filete	E70XX	8.0	100.0	20.0	90.4
Rigidizador1 - 2 (Placa) - Trasero Rigidizador1 - 4 (Placa) - Frontal	Soldadura de filete	E70XX	8.0	100.0	20.0	89.6
Anclaje1 - Ala Sup. Anclaje1 - Ala Sup. Anclaje1 - Ala inf. Anclaje1 - Ala inf.	Soldadura de filete	E70XX	8.0	75.0	5.0	90.0
Anclaje1 - Alma izq. Anclaje1 - Alma izq. Anclaje1 - Alma der. Anclaje1 - Alma der.	Soldadura de filete	E70XX	8.0	225.0	5.0	90.0

Anclaje preinstalado						
Elemento	Tipo	Serie	Material	Dimensiones	Longitud (mm)	Cantidad
Anclaje1 	Anclaje		A325	M16	521.8	8
	Tuerca	ASTM A563M	/	M16	--	24
	Arandela	ASTM F436M	/	M16	--	8
	Chapa	--	--	75.0x75.0x10.0 mm	--	8

2. CARGAS

V1 (ESTRUC RED 6'' x 6.0mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
LC1	-150.00	22.50	1.00	5.40	-10.00	52.00

3. ESFUERZOS EN LOS ANCLAJES

Esfuerzos en los anclajes				
Anclaje	Caso de carga	N (kN)	Vx (kN)	Vy (kN)
Anclaje1 - 1	LC1	0.00	0.00	0.00
Anclaje1 - 2	LC1	0.00	0.00	0.00
Anclaje1 - 3	LC1	11.08	0.00	0.00
Anclaje1 - 4	LC1	40.85	0.00	0.00
Anclaje1 - 5	LC1	0.00	0.00	0.00
Anclaje1 - 6	LC1	0.00	0.00	0.00
Anclaje1 - 7	LC1	42.37	0.00	0.00
Anclaje1 - 8	LC1	60.93	0.00	0.00

4. COMPROBACIONES

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 1	LC1	1.67416	5.00000	33.48
V1 - Lado - 2	LC1	1.57307	5.00000	31.46
V1 - Lado - 3	LC1	1.44475	5.00000	28.90
V1 - Lado - 4	LC1	1.40872	5.00000	28.17
V1 - Lado - 5	LC1	1.20043	5.00000	24.01
V1 - Lado - 6	LC1	0.68779	5.00000	13.76
V1 - Lado - 7	LC1	0.27235	5.00000	5.45
V1 - Lado - 8	LC1	0.19373	5.00000	3.87
V1 - Lado - 9	LC1	0.48440	5.00000	9.69
V1 - Lado - 10	LC1	0.83492	5.00000	16.70
V1 - Lado - 11	LC1	1.20879	5.00000	24.18
V1 - Lado - 12	LC1	1.19402	5.00000	23.88
V1 - Lado - 13	LC1	0.91185	5.00000	18.24

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 14	LC1	0.82003	5.00000	16.40
V1 - Lado - 15	LC1	0.78343	5.00000	15.67
V1 - Lado - 16	LC1	0.65563	5.00000	13.11
V1 - Lado - 17	LC1	0.46431	5.00000	9.29
V1 - Lado - 18	LC1	0.32661	5.00000	6.53
V1 - Lado - 19	LC1	0.18803	5.00000	3.76
V1 - Lado - 20	LC1	0.15109	5.00000	3.02
V1 - Lado - 21	LC1	0.38656	5.00000	7.73
V1 - Lado - 22	LC1	0.73793	5.00000	14.76
V1 - Lado - 23	LC1	1.08118	5.00000	21.62
V1 - Lado - 24	LC1	1.66175	5.00000	33.23
V1 - Lado - 25	LC1	2.15458	5.00000	43.09
V1 - Lado - 26	LC1	2.29123	5.00000	45.82
V1 - Lado - 27	LC1	2.01671	5.00000	40.33
V1 - Lado - 28	LC1	1.64955	5.00000	32.99
Llave de cortante - Anclaje1 - Ala Sup.	LC1	0.08517	5.00000	1.70
Llave de cortante - Anclaje1 - Ala inf.	LC1	0.12337	5.00000	2.47
Llave de cortante - Anclaje1 - Alma izq.	LC1	0.15132	5.00000	3.03
Llave de cortante - Anclaje1 - Alma der.	LC1	0.05829	5.00000	1.17
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Izq.) - 1	LC1	0.16988	5.00000	3.40
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Izq.) - 2	LC1	0.30262	5.00000	6.05
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Der.) - 1	LC1	0.06459	5.00000	1.29
Llave de cortante - Anclaje1 - Tramo curvo (Sup. Der.) - 2	LC1	0.05876	5.00000	1.18
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Izq.) - 1	LC1	0.21449	5.00000	4.29
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Izq.) - 2	LC1	0.10692	5.00000	2.14
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Der.) - 1	LC1	0.07812	5.00000	1.56
Llave de cortante - Anclaje1 - Tramo curvo (Inf. Der.) - 2	LC1	0.07985	5.00000	1.60

Esfuerzo de compresión en el concreto				
Elemento	Comb.	f_{cu} (MPa)	f_{ce} (MPa)	Aprov. (%)
Anclaje1 - Hormigón	LC1	16.55	17.85	92.74
Anclaje1 - Hormigón (Llave de cortante-1)	LC1	11.08	17.85	62.09
Anclaje1 - Hormigón (Llave de cortante-2)	LC1	16.51	17.85	92.50
Anclaje1 - Hormigón (Llave de cortante-3)	LC1	6.91	17.85	38.70
Anclaje1 - Hormigón (Llave de cortante-4)	LC1	22.43	17.85	75.68

Deformación - Placas				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
Placa1	LC1	0.05636	5.00000	1.13
Rigidizador1 - 1	LC1	0.28023	5.00000	5.60
Rigidizador1 - 2	LC1	0.12288	5.00000	2.46

Deformación - Placas				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
Rigidizador1 - 3	LC1	0.16496	5.00000	3.30
Rigidizador1 - 4	LC1	0.17809	5.00000	3.56

Cordones en ángulo											
Elemento	Dimensiones			Metal de soldadura				Metal base			
	w (mm)	w_{min} (mm)	w_{max} (mm)	F_{EXX} (MPa)	R_u (kN)	ΦR_n (kN)	Aprov. (%)	F_{MB} (MPa)	ΦR_n (kN)	Aprov. (%)
Ajuste1 - 1	8.0	3.0	6.0	482.80	35.12	47.38	74.13	240.02	37.04	94.83
Ajuste1 - 2	8.0	3.0	6.0	482.80	35.48	47.35	74.94	240.02	37.04	95.81
Ajuste1 - 3	8.0	3.0	6.0	482.80	28.51	47.36	60.19	240.02	37.04	76.98
Ajuste1 - 4	8.0	3.0	6.0	482.80	18.47	47.40	38.97	240.02	37.04	49.88
Ajuste1 - 5	8.0	3.0	6.0	482.80	10.15	46.28	21.92	240.02	37.03	27.40
Ajuste1 - 6	8.0	3.0	6.0	482.80	4.71	34.53	13.63	240.02	37.03	12.71
Ajuste1 - 7	8.0	3.0	6.0	482.80	5.40	37.26	14.49	240.02	37.03	14.58
Ajuste1 - 8	8.0	3.0	6.0	482.80	6.23	39.18	15.91	240.02	37.03	16.83
Ajuste1 - 9	8.0	3.0	6.0	482.80	6.21	40.26	15.43	240.02	37.03	16.77
Ajuste1 - 10	8.0	3.0	6.0	482.80	8.05	44.60	18.06	240.02	37.03	21.75
Ajuste1 - 11	8.0	3.0	6.0	482.80	13.22	46.82	28.23	240.02	37.04	35.68
Ajuste1 - 12	8.0	3.0	6.0	482.80	20.15	47.41	42.50	240.02	37.04	54.40
Ajuste1 - 13	8.0	3.0	6.0	482.80	27.69	47.34	58.49	240.02	37.04	74.76
Ajuste1 - 14	8.0	3.0	6.0	482.80	32.71	47.32	69.14	240.02	37.04	88.33
Ajuste1 - 15	8.0	3.0	6.0	482.80	34.06	47.26	72.06	240.02	37.04	91.95
Ajuste1 - 16	8.0	3.0	6.0	482.80	30.50	46.98	64.92	240.02	37.04	82.36
Ajuste1 - 17	8.0	3.0	6.0	482.80	22.55	46.40	48.61	240.02	37.04	60.89
Ajuste1 - 18	8.0	3.0	6.0	482.80	13.32	41.06	32.45	240.02	37.04	35.97
Ajuste1 - 19	8.0	3.0	6.0	482.80	10.40	33.31	31.22	240.02	37.03	28.08
Ajuste1 - 20	8.0	3.0	6.0	482.80	13.42	42.32	31.71	240.02	37.03	36.24
Ajuste1 - 21	8.0	3.0	6.0	482.80	20.91	46.03	45.41	240.02	37.03	56.45
Ajuste1 - 22	8.0	3.0	6.0	482.80	24.34	46.89	51.91	240.02	37.03	65.73
Ajuste1 - 23	8.0	3.0	6.0	482.80	23.11	46.95	49.22	240.02	37.03	62.39
Ajuste1 - 24	8.0	3.0	6.0	482.80	23.26	47.07	49.42	240.02	37.03	62.80
Ajuste1 - 25	8.0	3.0	6.0	482.80	22.48	47.14	47.69	240.02	37.04	60.70
Ajuste1 - 26	8.0	3.0	6.0	482.80	24.42	47.26	51.67	240.02	37.04	65.93
Ajuste1 - 27	8.0	3.0	6.0	482.80	30.26	47.32	63.95	240.02	37.04	81.71
Ajuste1 - 28	8.0	3.0	6.0	482.80	33.83	47.37	71.42	240.02	37.04	91.35
Rigidizador1 - 1 (Placa) - Frontal	8.0	8.0	18.4	482.80	25.09	124.44	20.17	240.02	203.66	12.32
Rigidizador1 - 1 (Placa) - Trasero	8.0	8.0	18.4	482.80	25.09	124.44	20.17	240.02	203.66	12.32
Rigidizador1 - 1 (Perfil) - Trasero	8.0	3.0	6.0	482.80	23.94	93.54	25.59	240.02	203.66	11.75
Rigidizador1 - 1 (Perfil) - Frontal	8.0	3.0	6.0	482.80	23.94	93.54	25.59	240.02	203.66	11.75
Rigidizador1 - 2 (Placa) - Frontal	8.0	8.0	18.4	482.80	10.94	123.10	8.89	240.02	203.66	5.37
Rigidizador1 - 2 (Placa) - Trasero	8.0	8.0	18.4	482.80	10.94	123.10	8.89	240.02	203.66	5.37
Rigidizador1 - 2 (Perfil) - Trasero	8.0	3.0	6.0	482.80	16.51	96.59	17.10	240.02	203.67	8.11

Cordones en ángulo										
Elemento	Dimensiones			Metal de soldadura				Metal base		
	w (mm)	w_{min} (mm)	w_{max} (mm)	F_{EXX} (MPa)	R_u (kN)	ΦR_n (kN)	Aprov. (%)	F_{MB} (MPa)	ΦR_n (kN)	Aprov. (%)
Rigidizador1 - 2 (Perfil) - Frontal	8.0	3.0	6.0	482.80	16.51	96.59	17.10	240.02	203.67	8.11
Rigidizador1 - 3 (Placa) - Frontal	8.0	8.0	18.4	482.80	25.20	122.87	20.51	240.02	203.66	12.37
Rigidizador1 - 3 (Placa) - Trasero	8.0	8.0	18.4	482.80	25.20	122.87	20.51	240.02	203.66	12.37
Rigidizador1 - 3 (Perfil) - Trasero	8.0	3.0	6.0	482.80	28.92	97.64	29.62	240.02	203.66	14.20
Rigidizador1 - 3 (Perfil) - Frontal	8.0	3.0	6.0	482.80	28.92	97.64	29.62	240.02	203.66	14.20
Rigidizador1 - 4 (Placa) - Frontal	8.0	8.0	18.4	482.80	19.74	124.89	15.80	240.02	203.66	9.69
Rigidizador1 - 4 (Placa) - Trasero	8.0	8.0	18.4	482.80	19.74	124.89	15.80	240.02	203.66	9.69
Rigidizador1 - 4 (Perfil) - Trasero	8.0	3.0	6.0	482.80	24.28	96.06	25.28	240.02	203.67	11.92
Rigidizador1 - 4 (Perfil) - Frontal	8.0	3.0	6.0	482.80	24.28	96.06	25.28	240.02	203.67	11.92
Anclaje1 - Ala Sup.	8.0	3.0	5.0	482.80	4.47	120.56	3.71	240.02	152.75	2.93
Anclaje1 - Ala inf.	8.0	3.0	5.0	482.80	8.33	97.36	8.56	240.02	152.75	5.45
Anclaje1 - Alma izq.	8.0	3.0	5.0	482.80	15.73	130.35	12.07	240.02	458.24	3.43
Anclaje1 - Alma der.	8.0	3.0	5.0	482.80	15.59	127.78	12.20	240.02	458.24	3.40

Notación

R_u: Resistencia requerida
Φ: Coeficiente de reducción de resistencia
R_n: Resistencia nominal
w: Tamaño nominal de la soldadura de filete
w_{min}: Tamaño mínimo de la soldadura de filete
w_{max}: Tamaño máximo de la soldadura de filete
F_{EXX}: Número de clasificación del electrodo
F_{nBM}: Resistencia nominal del metal base

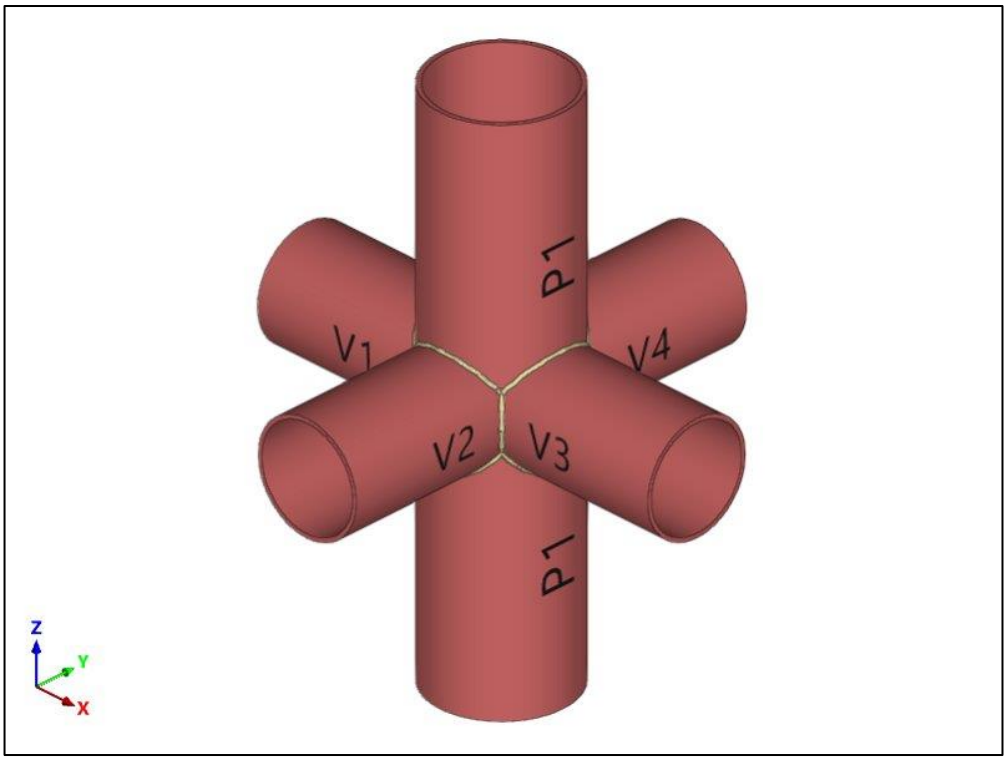
Resistencia - Anclajes				
Elemento	Tracción			
	ΦN_{sa} (kN)	ΦN_{cbg} (kN)	ΦN_{pn} (kN)	Aprov. (%)
Anclaje1	112.33	805.50	1190.66	54.24

Notación

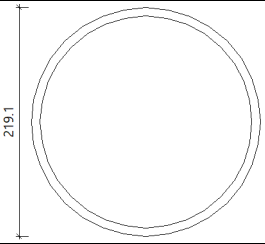
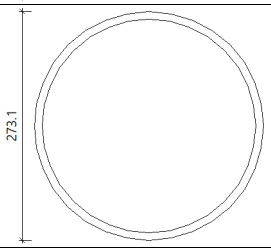
ΦN_{sa}: resistencia de diseño de un solo anclaje o de un anclaje individual dentro de un grupo de anclajes en tracción determinada por la resistencia del acero
ΦN_{cbg}: resistencia de diseño al arrancamiento del concreto en tracción de un grupo de anclajes
ΦN_{pn}: resistencia de diseño a la extracción por deslizamiento por tracción de un solo anclaje

realizada por el usuario.

1. COMPONENTES DE LA UNIÓN



CENTRAL 01

Perfiles de acero					
Elemento	Descripción	Geometría	Acero		
			Tipo	f_y (MPa)	f_u (MPa)
V1 V2 V3 V4	ESTRUC RED 8" x 8.2mm		ASTM 500 GC (Redondos)	317.94	426.54
P1	ESTRUC RED 10" x 9.3mm		ASTM 500 GC (Redondos)	317.94	426.54

Cordones de soldadura					
Elemento	Tipo	Electrodo	a (mm)	l (mm)	t (mm)
Ajuste1 Ajuste2	Soldadura de filete	E70XX	6.0	728.7	8.1
Ajuste3	Soldadura de filete	E70XX	6.0	110.2	8.1
Ajuste4	Soldadura de filete	E70XX	6.0	113.6	8.1
Ajuste5	Soldadura de filete	E70XX	6.0	504.2	8.1
Ajuste7	Soldadura de filete	E70XX	6.0	113.9	8.1
Ajuste6	Soldadura de filete	E70XX	6.0	110.1	8.1
Ajuste8	Soldadura de filete	E70XX	6.0	504.4	8.1

2. CARGAS

V1 (ESTRUC RED 8'' x 8.2mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+1.6·Q1	-37.61	-0.63	-13.52	0.09	4.29	-0.39
[1] 1.2·PP+1.2·CM1-0.3·SX-SY	-20.85	-65.06	22.21	10.65	-7.72	-38.61
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	-26.17	16.70	101.54	-2.73	-34.56	9.95
[1] 1.2·PP+1.2·CM1+0.3·SX+SY	-14.96	-57.91	-60.96	9.48	20.46	-34.44
[1] 1.2·PP+1.2·CM1+SX+0.3·SY	-10.89	-16.97	-115.62	2.76	39.01	-10.13
[1] 0.9·PP+0.9·CM1-0.3·SX-SY	-17.52	57.38	48.90	-9.41	-16.66	34.11
[1] 0.9·PP+0.9·CM1-SX-0.3·SY	-21.60	16.44	103.56	-2.69	-35.21	9.81
[1] 0.9·PP+0.9·CM1+0.3·SX+SY	-11.63	64.53	-34.27	-10.58	11.52	38.28
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	-6.31	-17.22	-113.60	2.80	38.36	-10.28

V2 (ESTRUC RED 8'' x 8.2mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+1.6·Q1	-37.24	0.53	-13.91	-0.05	4.49	0.28
[1] 1.2·PP+1.2·CM1-0.3·SX-SY	-29.34	-31.88	90.67	5.25	-31.92	-19.12
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	-13.34	-57.89	-62.69	9.43	21.70	-34.68
[1] 1.2·PP+1.2·CM1+0.3·SX+SY	-29.92	17.92	103.26	-2.85	-36.32	10.68
[1] 1.2·PP+1.2·CM1+SX+0.3·SY	-23.56	58.50	48.39	-9.49	-17.11	35.00
[1] 0.9·PP+0.9·CM1-0.3·SX-SY	-2.36	-17.45	-115.67	2.81	40.30	-10.42
[1] 0.9·PP+0.9·CM1-SX-0.3·SY	-8.72	-58.02	-60.80	9.45	21.09	-34.75
[1] 0.9·PP+0.9·CM1+0.3·SX+SY	-2.95	32.35	-103.08	-5.29	35.90	19.38
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	-18.95	58.37	50.28	-9.47	-17.72	34.94

V3 (ESTRUC RED 8'' x 8.2mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+1.6·Q1	-38.14	0.82	-13.25	-0.12	4.17	0.45
[1] 1.2·PP+1.2·CM1-0.3·SX-SY	-15.63	65.17	-36.47	-10.53	12.17	38.60
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	-7.31	-17.23	-115.68	2.80	39.15	-10.06
[1] 1.2·PP+1.2·CM1+0.3·SX+SY	-24.53	58.40	47.16	-9.44	-16.24	34.52

V3 (ESTRUC RED 8'' x 8.2mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+SX+0.3·SY	-30.51	18.45	100.94	-2.99	-34.48	10.70
[1] 0.9·PP+0.9·CM1-0.3·SX-SY	-8.43	-57.72	-58.99	9.35	19.95	-34.14
[1] 0.9·PP+0.9·CM1-SX-0.3·SY	-2.45	-17.77	-112.77	2.89	38.19	-10.33
[1] 0.9·PP+0.9·CM1+0.3·SX+SY	-17.34	-64.49	24.65	10.43	-8.46	-38.22
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	-25.65	17.91	103.86	-2.90	-35.44	10.43

V4 (ESTRUC RED 8'' x 8.2mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+1.6·Q1	-37.94	-0.58	-12.68	0.04	3.94	-0.32
[1] 1.2·PP+1.2·CM1-0.3·SX-SY	-13.21	32.45	-100.21	-5.21	33.20	19.20
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	-23.06	58.73	45.19	-9.47	-15.21	34.69
[1] 1.2·PP+1.2·CM1+0.3·SX+SY	-11.81	-18.15	-111.09	2.91	36.84	-10.65
[1] 1.2·PP+1.2·CM1+SX+0.3·SY	-14.44	-60.25	-57.52	9.64	19.00	-35.51
[1] 0.9·PP+0.9·CM1-0.3·SX-SY	-21.04	17.64	99.74	-2.88	-33.33	10.37
[1] 0.9·PP+0.9·CM1-SX-0.3·SY	-18.40	59.74	46.16	-9.61	-15.49	35.23
[1] 0.9·PP+0.9·CM1+0.3·SX+SY	-19.63	-32.95	88.85	5.25	-29.69	-19.48
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	-9.79	-59.24	-56.55	9.50	18.72	-34.97

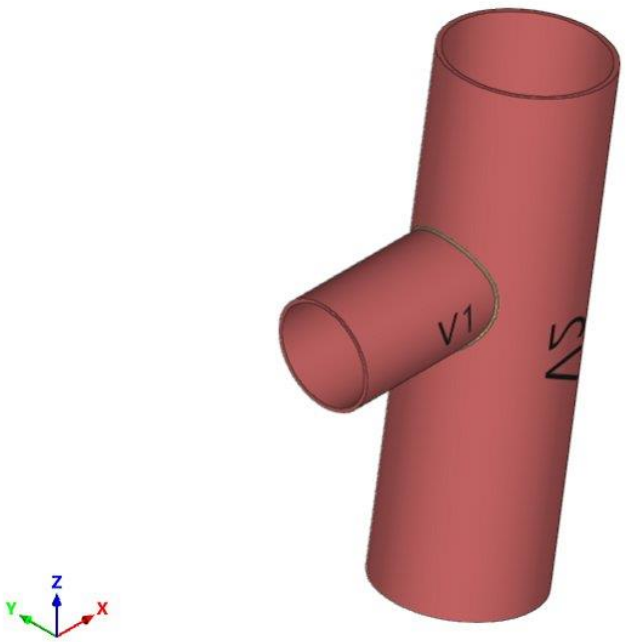
3. COMPROBACIONES

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 1	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.16850	5.00000	3.37
V1 - Lado - 2	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11752	5.00000	2.35
V1 - Lado - 3	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.14534	5.00000	2.91
V1 - Lado - 4	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.05404	5.00000	1.08
V1 - Lado - 5	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.53892	5.00000	10.78
V1 - Lado - 6	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.13422	5.00000	2.68
V1 - Lado - 7	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.10543	5.00000	2.11
V1 - Lado - 8	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.13527	5.00000	2.71
V1 - Lado - 9	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11085	5.00000	2.22
V1 - Lado - 10	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.10811	5.00000	2.16
V1 - Lado - 11	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.09063	5.00000	1.81
V1 - Lado - 12	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11236	5.00000	2.25
V1 - Lado - 13	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.12603	5.00000	2.52
V1 - Lado - 14	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.05551	5.00000	1.11
V1 - Lado - 15	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.04845	5.00000	0.97
V1 - Lado - 16	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.22134	5.00000	4.43
V1 - Lado - 17	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.07760	5.00000	1.55
V1 - Lado - 18	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.21144	5.00000	4.23
V1 - Lado - 19	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11788	5.00000	2.36
V1 - Lado - 20	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.07579	5.00000	1.52

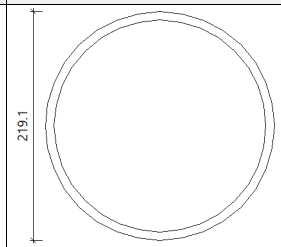
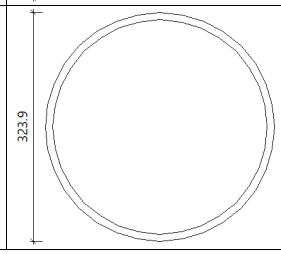
Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V2 - Lado - 1	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	2.56895	5.00000	51.38
V2 - Lado - 2	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	1.23391	5.00000	24.68
V2 - Lado - 3	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.11779	5.00000	2.36
V2 - Lado - 4	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.12280	5.00000	2.46
V2 - Lado - 5	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.08635	5.00000	1.73
V2 - Lado - 6	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.17812	5.00000	3.56
V2 - Lado - 7	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.28814	5.00000	5.76
V2 - Lado - 8	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.18951	5.00000	3.79
V2 - Lado - 9	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.23730	5.00000	4.75
V2 - Lado - 10	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.15818	5.00000	3.16
V2 - Lado - 11	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.67415	5.00000	13.48
V2 - Lado - 12	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.10585	5.00000	2.12
V2 - Lado - 13	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.20420	5.00000	4.08
V2 - Lado - 14	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.18514	5.00000	3.70
V2 - Lado - 15	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.72966	5.00000	14.59
V2 - Lado - 16	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.32030	5.00000	6.41
V2 - Lado - 17	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.17144	5.00000	3.43
V2 - Lado - 18	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.11306	5.00000	2.26
V2 - Lado - 19	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.28256	5.00000	5.65
V2 - Lado - 20	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	3.87242	5.00000	77.45
V3 - Lado - 1	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.17094	5.00000	3.42
V3 - Lado - 2	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.09191	5.00000	1.84
V3 - Lado - 3	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.10352	5.00000	2.07
V3 - Lado - 4	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.04346	5.00000	0.87
V3 - Lado - 5	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.34113	5.00000	6.82
V3 - Lado - 6	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11878	5.00000	2.38
V3 - Lado - 7	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.09198	5.00000	1.84
V3 - Lado - 8	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11726	5.00000	2.35
V3 - Lado - 9	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.10868	5.00000	2.17
V3 - Lado - 10	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.10784	5.00000	2.16
V3 - Lado - 11	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11868	5.00000	2.37
V3 - Lado - 12	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.15160	5.00000	3.03
V3 - Lado - 13	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.16274	5.00000	3.25
V3 - Lado - 14	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.06092	5.00000	1.22
V3 - Lado - 15	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.04287	5.00000	0.86
V3 - Lado - 16	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.12978	5.00000	2.60
V3 - Lado - 17	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.06850	5.00000	1.37
V3 - Lado - 18	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.16250	5.00000	3.25
V3 - Lado - 19	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.12649	5.00000	2.53
V3 - Lado - 20	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.09495	5.00000	1.90
V4 - Lado - 1	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	1.02667	5.00000	20.53
V4 - Lado - 2	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.26288	5.00000	5.26
V4 - Lado - 3	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.10412	5.00000	2.08

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V4 - Lado - 4	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.06456	5.00000	1.29
V4 - Lado - 5	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.05715	5.00000	1.14
V4 - Lado - 6	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11850	5.00000	2.37
V4 - Lado - 7	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.10060	5.00000	2.01
V4 - Lado - 8	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11060	5.00000	2.21
V4 - Lado - 9	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.80255	5.00000	16.05
V4 - Lado - 10	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	1.99240	5.00000	39.85
V4 - Lado - 11	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.25805	5.00000	5.16
V4 - Lado - 12	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.14346	5.00000	2.87
V4 - Lado - 13	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.06775	5.00000	1.36
V4 - Lado - 14	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.10474	5.00000	2.09
V4 - Lado - 15	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.13030	5.00000	2.61
V4 - Lado - 16	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.12887	5.00000	2.58
V4 - Lado - 17	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.07980	5.00000	1.60
V4 - Lado - 18	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11503	5.00000	2.30
V4 - Lado - 19	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.10757	5.00000	2.15
V4 - Lado - 20	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	1.31314	5.00000	26.26
P1 - Lado - 1	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.06720	5.00000	1.34
P1 - Lado - 2	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.07825	5.00000	1.56
P1 - Lado - 3	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.07490	5.00000	1.50
P1 - Lado - 4	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11913	5.00000	2.38
P1 - Lado - 5	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11146	5.00000	2.23
P1 - Lado - 6	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.13270	5.00000	2.65
P1 - Lado - 7	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.13427	5.00000	2.69
P1 - Lado - 8	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.09197	5.00000	1.84
P1 - Lado - 9	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.07929	5.00000	1.59
P1 - Lado - 10	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.06728	5.00000	1.35
P1 - Lado - 11	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.05456	5.00000	1.09
P1 - Lado - 12	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.06845	5.00000	1.37
P1 - Lado - 13	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.09957	5.00000	1.99
P1 - Lado - 14	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.14244	5.00000	2.85
P1 - Lado - 15	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.12613	5.00000	2.52
P1 - Lado - 16	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.12339	5.00000	2.47
P1 - Lado - 17	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.12054	5.00000	2.41
P1 - Lado - 18	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.08687	5.00000	1.74
P1 - Lado - 19	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.07572	5.00000	1.51
P1 - Lado - 20	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.07111	5.00000	1.42

1. COMPONENTES DE LA UNIÓN



BRAZO

Perfiles de acero					
Elemento	Descripción	Geometría	Acero		
			Tipo	f_y (MPa)	f_u (MPa)
V1	ESTRUC RED 8" x 8.2mm		ASTM 500 GC (Redondos)	317.94	426.54
V2	ESTRUC RED 12" x 10.3mm		ASTM 500 GC (Redondos)	317.94	426.54

Cordones de soldadura					
Elemento	Tipo	Electrodo	a (mm)	l (mm)	t (mm)
Ajuste1	Soldadura de filete	E70XX	8.0	1378.2	8.2

2. CARGAS

V2 (ESTRUC RED 12" x 10.3mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+1.6·Q1	-132.11	-0.15	7.79	-0.09	-8.43	0.20
[1] 1.2·PP+1.2·CM1-0.3·SX-SY	-185.92	-24.56	19.59	-10.65	-7.56	12.12
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	-268.00	6.47	59.75	2.62	-14.89	-3.09
[1] 1.2·PP+1.2·CM1+SX+0.3·SY	332.57	-6.61	-52.08	-2.71	6.51	3.28
[1] 0.9·PP+0.9·CM1-SX-0.3·SY	-330.00	6.48	58.79	2.63	-13.85	-3.11
[1] 0.9·PP+0.9·CM1+0.3·SX+SY	67.24	24.44	-12.88	10.57	0.23	-11.96
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	349.52	-6.59	-53.04	-2.70	7.56	3.25

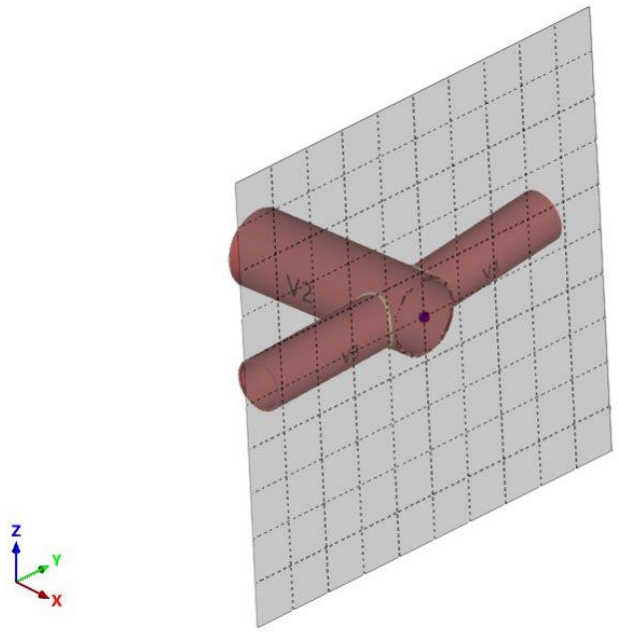
3. COMPROBACIONES

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 1	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.16130	5.00000	3.23
V1 - Lado - 2	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.15074	5.00000	3.01
V1 - Lado - 3	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.18863	5.00000	3.77
V1 - Lado - 4	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.27860	5.00000	5.57
V1 - Lado - 5	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.17004	5.00000	3.40
V1 - Lado - 6	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.21615	5.00000	4.32
V1 - Lado - 7	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.27195	5.00000	5.44
V1 - Lado - 8	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.36348	5.00000	7.27
V1 - Lado - 9	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	14.96911	5.00000	99.38
V1 - Lado - 10	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.44831	5.00000	8.97
V1 - Lado - 11	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.38784	5.00000	7.76
V1 - Lado - 12	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.29315	5.00000	5.86
V1 - Lado - 13	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.27242	5.00000	5.45
V1 - Lado - 14	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.19516	5.00000	3.90
V1 - Lado - 15	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.16567	5.00000	3.31
V1 - Lado - 16	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.18820	5.00000	3.76
V1 - Lado - 17	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.24183	5.00000	4.84
V1 - Lado - 18	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.17860	5.00000	3.57
V1 - Lado - 19	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.23646	5.00000	4.73
V1 - Lado - 20	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.23956	5.00000	4.79
V1 - Lado - 21	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.33465	5.00000	6.69
V1 - Lado - 22	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.32068	5.00000	6.41
V1 - Lado - 23	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.20027	5.00000	4.01
V1 - Lado - 24	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.28640	5.00000	5.73
V1 - Lado - 25	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.42271	5.00000	8.45

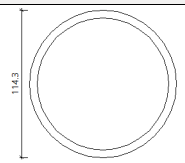
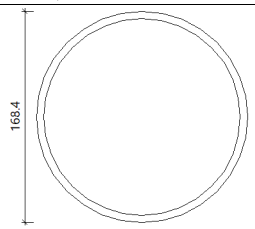
Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 26	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.66444	5.00000	13.29
V1 - Lado - 27	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.56496	5.00000	11.30
V1 - Lado - 28	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.63249	5.00000	12.65
V1 - Lado - 29	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.59951	5.00000	11.99
V1 - Lado - 30	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.46583	5.00000	9.32
V1 - Lado - 31	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.32628	5.00000	6.53
V1 - Lado - 32	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.24020	5.00000	4.80
V1 - Lado - 33	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.17548	5.00000	3.51
V1 - Lado - 34	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.18909	5.00000	3.78
V1 - Lado - 35	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.25394	5.00000	5.08
V1 - Lado - 36	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.17121	5.00000	3.42
V2 - Lado - 1	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.03998	5.00000	0.80
V2 - Lado - 2	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04158	5.00000	0.83
V2 - Lado - 3	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04232	5.00000	0.85
V2 - Lado - 4	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04219	5.00000	0.84
V2 - Lado - 5	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04179	5.00000	0.84
V2 - Lado - 6	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04819	5.00000	0.96
V2 - Lado - 7	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.05242	5.00000	1.05
V2 - Lado - 8	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.05361	5.00000	1.07
V2 - Lado - 9	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.05297	5.00000	1.06
V2 - Lado - 10	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04999	5.00000	1.00
V2 - Lado - 11	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04443	5.00000	0.89
V2 - Lado - 12	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.03674	5.00000	0.73
V2 - Lado - 13	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.03191	5.00000	0.64
V2 - Lado - 14	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.03148	5.00000	0.63
V2 - Lado - 15	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.03194	5.00000	0.64
V2 - Lado - 16	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.03232	5.00000	0.65
V2 - Lado - 17	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.03260	5.00000	0.65
V2 - Lado - 18	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.03754	5.00000	0.75
V2 - Lado - 19	[1] 0.9·PP+0.9·CM1+0.3·SX+SY	0.04268	5.00000	0.85
V2 - Lado - 20	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04700	5.00000	0.94
V2 - Lado - 21	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04933	5.00000	0.99
V2 - Lado - 22	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04970	5.00000	0.99
V2 - Lado - 23	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04828	5.00000	0.97
V2 - Lado - 24	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04430	5.00000	0.89
V2 - Lado - 25	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04054	5.00000	0.81
V2 - Lado - 26	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04150	5.00000	0.83
V2 - Lado - 27	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04227	5.00000	0.85
V2 - Lado - 28	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.04628	5.00000	0.93
V2 - Lado - 29	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.05260	5.00000	1.05
V2 - Lado - 30	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.06881	5.00000	1.38
V2 - Lado - 31	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.09872	5.00000	1.97
V2 - Lado - 32	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.13602	5.00000	2.72

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V2 - Lado - 33	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.35291	5.00000	7.06
V2 - Lado - 34	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.15731	5.00000	3.15
V2 - Lado - 35	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.11777	5.00000	2.36
V2 - Lado - 36	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.08049	5.00000	1.61
V2 - Lado - 37	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.06098	5.00000	1.22
V2 - Lado - 38	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.05237	5.00000	1.05
V2 - Lado - 39	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.04816	5.00000	0.96
V2 - Lado - 40	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.04952	5.00000	0.99
V2 - Lado - 41	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.05349	5.00000	1.07
V2 - Lado - 42	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.05983	5.00000	1.20
V2 - Lado - 43	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.08287	5.00000	1.66
V2 - Lado - 44	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.11205	5.00000	2.24
V2 - Lado - 45	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.15935	5.00000	3.19
V2 - Lado - 46	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.22637	5.00000	4.53
V2 - Lado - 47	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.14462	5.00000	2.89
V2 - Lado - 48	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.09973	5.00000	1.99
V2 - Lado - 49	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.06500	5.00000	1.30
V2 - Lado - 50	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.05055	5.00000	1.01
V2 - Lado - 51	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.04574	5.00000	0.91
V2 - Lado - 52	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.04080	5.00000	0.82

1. COMPONENTES DE LA UNIÓN



Conexion de Montantes

Perfiles de acero					
Elemento	Descripción	Geometría	Acero		
			Tipo	f_y (MPa)	f_u (MPa)
V1 V3	ESTRUC RED 4" x 6.0mm		ASTM 500 GC (Redondos)	317.94	426.54
V2	ESTRUC RED 6" x 6.0mm		ASTM 500 GC (Redondos)	317.94	426.54

Cordones de soldadura					
Elemento	Tipo	Electrodo	a (mm)	l (mm)	t (mm)
Ajuste2	Soldadura de filete	E70XX	4.0	371.4	6.0
Ajuste3	Soldadura de filete	E70XX	4.0	371.5	6.0

2. CARGAS

V1 (ESTRUC RED 4'' x 6.0mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+1.6·Q1	-29.58	-6.34	-8.72	1.74	10.03	-2.57
[1] 1.2·PP+1.2·CM1-0.3·SX-SY	-28.95	-5.72	-7.25	1.62	8.45	-2.38
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	-25.04	-8.42	-7.29	1.91	8.92	-3.03
[1] 1.2·PP+1.2·CM1+SX+0.3·SY	-2.49	2.25	-1.34	-0.13	0.92	0.56
[1] 0.9·PP+0.9·CM1+0.3·SX+SY	4.58	0.49	-0.15	-0.13	0.08	0.24
[1] 0.9·PP+0.9·CM1-0.3·SX+SY	4.81	-0.58	-0.22	0.01	0.32	-0.01
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	0.66	3.19	-0.10	-0.42	-0.39	0.90

V3 (ESTRUC RED 4'' x 6.0mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+1.6·Q1	-38.30	-3.15	9.25	1.02	6.45	0.41
[1] 1.2·PP+1.2·CM1-0.3·SX-SY	-38.18	-2.30	9.21	0.98	5.45	0.48
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	-34.63	-6.15	8.91	1.16	4.93	-0.33
[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.05	3.46	-0.03	-0.17	1.21	0.77
[1] 0.9·PP+0.9·CM1+0.3·SX+SY	6.70	-0.21	-1.40	-0.11	0.01	-0.11
[1] 0.9·PP+0.9·CM1-0.3·SX+SY	-9.75	-3.00	2.27	0.38	1.46	-0.34
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	3.15	3.64	-1.09	-0.29	0.54	0.71

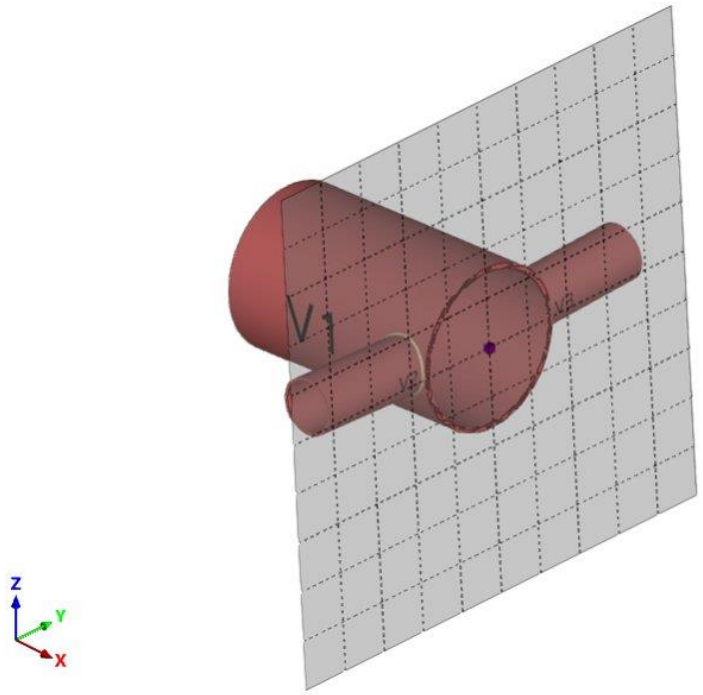
3. COMPROBACIONES

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 1	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.10133	5.00000	2.03
V1 - Lado - 2	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.36922	5.00000	7.38
V1 - Lado - 3	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.91355	5.00000	18.27
V1 - Lado - 4	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.99769	5.00000	19.95
V1 - Lado - 5	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.99974	5.00000	19.99
V1 - Lado - 6	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.94827	5.00000	18.97
V1 - Lado - 7	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	1.05323	5.00000	21.06
V1 - Lado - 8	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	1.94676	5.00000	38.94
V1 - Lado - 9	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.13052	5.00000	2.61
V1 - Lado - 10	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.06753	5.00000	1.35
V1 - Lado - 11	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.06048	5.00000	1.21
V1 - Lado - 12	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.10421	5.00000	2.08
V1 - Lado - 13	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.12430	5.00000	2.49
V1 - Lado - 14	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.16074	5.00000	3.21
V1 - Lado - 15	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.23696	5.00000	4.74
V1 - Lado - 16	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.46244	5.00000	9.25
V1 - Lado - 17	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.93987	5.00000	18.80
V1 - Lado - 18	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	1.06376	5.00000	21.28

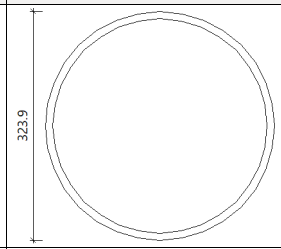
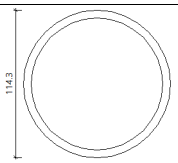
Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 19	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.16950	5.00000	3.39
V1 - Lado - 20	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.09891	5.00000	1.98
V2 - Lado - 1	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.12288	5.00000	2.46
V2 - Lado - 2	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.21888	5.00000	4.38
V2 - Lado - 3	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.42273	5.00000	8.45
V2 - Lado - 4	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.99754	5.00000	39.95
V2 - Lado - 5	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.35224	5.00000	7.04
V2 - Lado - 6	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.33137	5.00000	6.63
V2 - Lado - 7	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.49702	5.00000	9.94
V2 - Lado - 8	[1] 1.2·PP+1.2·CM1+1.6·Q1	2.52381	5.00000	50.48
V2 - Lado - 9	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.85471	5.00000	17.09
V2 - Lado - 10	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.65030	5.00000	13.01
V2 - Lado - 11	[1] 1.2·PP+1.2·CM1+1.6·Q1	2.50682	5.00000	50.14
V2 - Lado - 12	[1] 1.2·PP+1.2·CM1+1.6·Q1	2.07927	5.00000	41.59
V2 - Lado - 13	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.60549	5.00000	12.11
V2 - Lado - 14	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.22631	5.00000	4.53
V2 - Lado - 15	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.13793	5.00000	2.76
V2 - Lado - 16	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.14138	5.00000	2.83
V2 - Lado - 17	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.20161	5.00000	4.03
V2 - Lado - 18	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.38393	5.00000	7.68
V2 - Lado - 19	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.81882	5.00000	16.38
V2 - Lado - 20	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.16898	5.00000	3.38
V2 - Lado - 21	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.08579	5.00000	1.72
V2 - Lado - 22	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.08543	5.00000	1.71
V2 - Lado - 23	[1] 1.2·PP+1.2·CM1-SX-0.3·SY	0.08917	5.00000	1.78
V2 - Lado - 24	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.10120	5.00000	2.02
V2 - Lado - 25	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.20473	5.00000	4.09
V2 - Lado - 26	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.09901	5.00000	1.98
V2 - Lado - 27	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.08001	5.00000	1.60
V2 - Lado - 28	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.08237	5.00000	1.65
V3 - Lado - 1	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.06959	5.00000	1.39
V3 - Lado - 2	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.20596	5.00000	4.12
V3 - Lado - 3	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.59058	5.00000	11.81
V3 - Lado - 4	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.10449	5.00000	22.09
V3 - Lado - 5	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.38859	5.00000	27.77
V3 - Lado - 6	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.54335	5.00000	30.87
V3 - Lado - 7	[1] 1.2·PP+1.2·CM1+1.6·Q1	3.01066	5.00000	60.21
V3 - Lado - 8	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.47921	5.00000	9.58
V3 - Lado - 9	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.06143	5.00000	1.23
V3 - Lado - 10	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.06023	5.00000	1.20
V3 - Lado - 11	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.20418	5.00000	4.08
V3 - Lado - 12	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.09197	5.00000	1.84
V3 - Lado - 13	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.21418	5.00000	4.28

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V3 - Lado - 14	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.18576	5.00000	3.72
V3 - Lado - 15	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.26627	5.00000	5.33
V3 - Lado - 16	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.30480	5.00000	6.10
V3 - Lado - 17	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.10367	5.00000	2.07
V3 - Lado - 18	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.07999	5.00000	1.60
V3 - Lado - 19	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.08630	5.00000	1.73
V3 - Lado - 20	[1] 1.2·PP+1.2·CM1-0.3·SX-SY	0.04448	5.00000	0.89

1. COMPONENTES DE LA UNIÓN



Conexion de montantes 02

Perfiles de acero					
Elemento	Descripción	Geometría	Acero		
			Tipo	f_y (MPa)	f_u (MPa)
V1	ESTRUC RED 12" x 10.3mm		ASTM 500 GC (Redondos)	317.94	426.54
V2 V3	ESTRUC RED 4" x 6.0mm		ASTM 500 GC (Redondos)	317.94	426.54

Cordones de soldadura					
Elemento	Tipo	Electrodo	a (mm)	l (mm)	t (mm)
Ajuste2 Ajuste3	Soldadura de filete	E70XX	4.0	360.7	5.9

2. CARGAS

V2 (ESTRUC RED 4" x 6.0mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+1.6·Q1	-38.34	3.16	-9.94	-1.02	10.67	1.80
[1] 1.2·PP+1.2·CM1-0.3·SX-SY	-36.83	3.75	-9.36	-1.03	9.55	1.85
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	-32.78	3.95	-9.18	-1.06	8.74	1.80
[1] 1.2·PP+1.2·CM1+SX+0.3·SY	-34.27	6.84	-8.83	-1.15	8.67	2.53
[1] 0.9·PP+0.9·CM1-SX-0.3·SY	2.74	-4.33	0.42	0.28	0.37	-1.05
[1] 0.9·PP+0.9·CM1+0.3·SX+SY	5.31	-1.23	0.95	0.15	-0.51	-0.37
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	-29.62	6.48	-7.58	-1.02	7.34	2.32

V3 (ESTRUC RED 4" x 6.0mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+1.6·Q1	-38.33	-3.15	-9.94	1.02	10.67	-1.80
[1] 1.2·PP+1.2·CM1-0.3·SX-SY	-36.46	-3.33	-9.08	0.99	9.00	-1.69
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	-36.05	-6.33	-9.30	1.17	9.05	-2.44
[1] 1.2·PP+1.2·CM1+SX+0.3·SY	-1.37	3.28	-0.37	-0.16	1.40	0.69
[1] 0.9·PP+0.9·CM1-SX-0.3·SY	-30.14	-5.79	-8.05	1.04	7.64	-2.16
[1] 0.9·PP+0.9·CM1+0.3·SX+SY	4.95	0.82	0.66	-0.12	0.04	0.21
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	3.69	3.68	0.59	-0.26	0.17	0.91

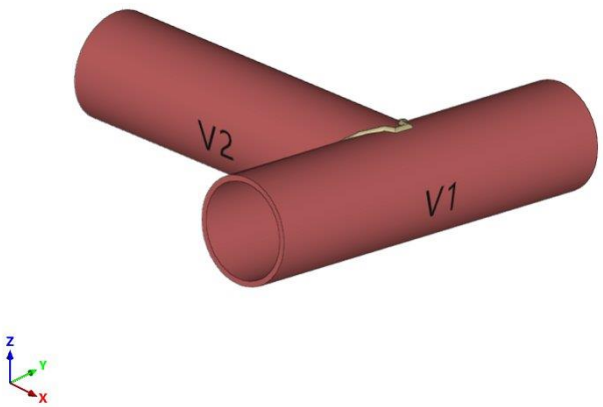
3. COMPROBACIONES

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 1	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.92238	5.00000	18.45
V1 - Lado - 2	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.59664	5.00000	31.93
V1 - Lado - 3	[1] 1.2·PP+1.2·CM1+1.6·Q1	4.47977	5.00000	89.60
V1 - Lado - 4	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.80803	5.00000	16.16
V1 - Lado - 5	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.48680	5.00000	9.74
V1 - Lado - 6	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.40168	5.00000	8.03
V1 - Lado - 7	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.33731	5.00000	6.75
V1 - Lado - 8	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.30549	5.00000	6.11
V1 - Lado - 9	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.44462	5.00000	8.89
V1 - Lado - 10	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.40569	5.00000	8.11
V1 - Lado - 11	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.48809	5.00000	9.76
V1 - Lado - 12	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.39861	5.00000	7.97
V1 - Lado - 13	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.51151	5.00000	10.23
V1 - Lado - 14	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.41037	5.00000	8.21
V1 - Lado - 15	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.44400	5.00000	8.88
V1 - Lado - 16	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.38414	5.00000	7.68
V1 - Lado - 17	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.42749	5.00000	8.55
V1 - Lado - 18	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.34589	5.00000	6.92
V1 - Lado - 19	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.30134	5.00000	6.03
V1 - Lado - 20	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.33253	5.00000	6.65
V1 - Lado - 21	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.39652	5.00000	7.93
V1 - Lado - 22	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.48474	5.00000	9.69
V1 - Lado - 23	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.08105	5.00000	21.62
V1 - Lado - 24	[1] 1.2·PP+1.2·CM1+1.6·Q1	3.87153	5.00000	77.43
V1 - Lado - 25	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.55078	5.00000	31.02
V1 - Lado - 26	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.88794	5.00000	17.76
V1 - Lado - 27	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.75858	5.00000	15.17
V1 - Lado - 28	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.83734	5.00000	16.75
V1 - Lado - 29	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.18968	5.00000	23.79
V1 - Lado - 30	[1] 1.2·PP+1.2·CM1+1.6·Q1	2.66463	5.00000	53.29
V1 - Lado - 31	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.61029	5.00000	32.21
V1 - Lado - 32	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.23557	5.00000	4.71
V1 - Lado - 33	[1] 0.9·PP+0.9·CM1-SX-0.3·SY	0.15479	5.00000	3.10
V1 - Lado - 34	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.09289	5.00000	1.86
V1 - Lado - 35	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.10208	5.00000	2.04
V1 - Lado - 36	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.10954	5.00000	2.19
V1 - Lado - 37	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.14404	5.00000	2.88
V1 - Lado - 38	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.12017	5.00000	2.40
V1 - Lado - 39	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.14067	5.00000	2.81
V1 - Lado - 40	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.11881	5.00000	2.38
V1 - Lado - 41	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.12055	5.00000	2.41

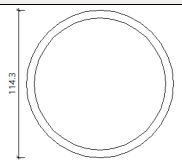
Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 42	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.10877	5.00000	2.18
V1 - Lado - 43	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.10903	5.00000	2.18
V1 - Lado - 44	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.08689	5.00000	1.74
V1 - Lado - 45	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.11230	5.00000	2.25
V1 - Lado - 46	[1] 1.2·PP+1.2·CM1+SX+0.3·SY	0.14534	5.00000	2.91
V1 - Lado - 47	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.22453	5.00000	4.49
V1 - Lado - 48	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.11222	5.00000	22.24
V1 - Lado - 49	[1] 1.2·PP+1.2·CM1+1.6·Q1	2.74934	5.00000	54.99
V1 - Lado - 50	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.05472	5.00000	21.09
V1 - Lado - 51	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.82581	5.00000	16.52
V1 - Lado - 52	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.77586	5.00000	15.52
V2 - Lado - 1	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.23917	5.00000	4.78
V2 - Lado - 2	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.39030	5.00000	7.81
V2 - Lado - 3	[1] 1.2·PP+1.2·CM1+1.6·Q1	3.46403	5.00000	69.28
V2 - Lado - 4	[1] 1.2·PP+1.2·CM1+1.6·Q1	2.13710	5.00000	42.74
V2 - Lado - 5	[1] 1.2·PP+1.2·CM1+1.6·Q1	2.25200	5.00000	45.04
V2 - Lado - 6	[1] 1.2·PP+1.2·CM1+1.6·Q1	2.56606	5.00000	51.32
V2 - Lado - 7	[1] 1.2·PP+1.2·CM1+1.6·Q1	3.70784	5.00000	74.16
V2 - Lado - 8	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.77053	5.00000	35.41
V2 - Lado - 9	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.84362	5.00000	36.87
V2 - Lado - 10	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.29263	5.00000	5.85
V2 - Lado - 11	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.14327	5.00000	2.87
V2 - Lado - 12	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.06812	5.00000	21.36
V2 - Lado - 13	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.65611	5.00000	13.12
V2 - Lado - 14	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.56908	5.00000	31.38
V2 - Lado - 15	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.85557	5.00000	17.11
V2 - Lado - 16	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.66170	5.00000	13.23
V2 - Lado - 17	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.82311	5.00000	36.46
V2 - Lado - 18	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.22836	5.00000	4.57
V2 - Lado - 19	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.19322	5.00000	3.86
V2 - Lado - 20	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.17920	5.00000	3.58
V3 - Lado - 1	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.27273	5.00000	5.45
V3 - Lado - 2	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.70352	5.00000	34.07
V3 - Lado - 3	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.94282	5.00000	18.86
V3 - Lado - 4	[1] 1.2·PP+1.2·CM1+1.6·Q1	3.65595	5.00000	73.12
V3 - Lado - 5	[1] 1.2·PP+1.2·CM1+1.6·Q1	2.75572	5.00000	55.11
V3 - Lado - 6	[1] 1.2·PP+1.2·CM1+1.6·Q1	2.25279	5.00000	45.06
V3 - Lado - 7	[1] 1.2·PP+1.2·CM1+1.6·Q1	2.13367	5.00000	42.67
V3 - Lado - 8	[1] 1.2·PP+1.2·CM1+1.6·Q1	3.29267	5.00000	65.85
V3 - Lado - 9	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.27750	5.00000	5.55
V3 - Lado - 10	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.24726	5.00000	4.95
V3 - Lado - 11	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.46206	5.00000	9.24
V3 - Lado - 12	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.18966	5.00000	3.79

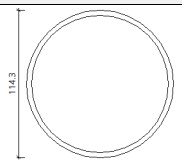
Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V3 - Lado - 13	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.25432	5.00000	5.09
V3 - Lado - 14	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.77777	5.00000	35.56
V3 - Lado - 15	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.76731	5.00000	15.35
V3 - Lado - 16	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.79540	5.00000	15.91
V3 - Lado - 17	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.84822	5.00000	36.96
V3 - Lado - 18	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.39290	5.00000	27.86
V3 - Lado - 19	[1] 1.2·PP+1.2·CM1+1.6·Q1	1.14189	5.00000	22.84
V3 - Lado - 20	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.14232	5.00000	2.85

1. COMPONENTES DE LA UNIÓN



Vista 3D

Perfiles de acero					
Elemento	Descripción	Geometría	Acero		
			Tipo	f_y (MPa)	f_u (MPa)
V1	ESTRUC RED 4" x 6.0mm		ASTM 500 GC (Redondos)	317.94	426.54

Perfiles de acero					
Elemento	Descripción	Geometría	Acero		
			Tipo	f_y (MPa)	f_u (MPa)
V2	ESTRUC RED 4" x 4.0mm		ASTM 500 GC (Redondos)	317.94	426.54

Cordones de soldadura					
Elemento	Tipo	Electrodo	a (mm)	l (mm)	t (mm)
Ajuste1	Soldadura de filete	E70XX	4.0	808.5	4.0

2. CARGAS

V1 (ESTRUC RED 4" x 6.0mm) - Esfuerzos en el extremo de la barra						
Casos de carga	N (kN)	Vy (kN)	Vz (kN)	Mx (kN·m)	My (kN·m)	Mz (kN·m)
[1] 1.2·PP+1.2·CM1+1.6·Q1	-14.78	4.73	-7.91	-1.92	7.72	1.39
[1] 1.2·PP+1.2·CM1-SX-0.3·SY	2.90	1.36	-2.13	-0.52	2.69	0.29
[1] 1.2·PP+1.2·CM1+0.3·SX+SY	-21.11	3.99	-6.00	-1.42	5.55	1.31
[1] 0.9·PP+0.9·CM1-0.3·SX-SY	9.10	-0.11	-0.71	-0.23	1.03	-0.16
[1] 0.9·PP+0.9·CM1+SX+0.3·SY	-14.91	2.52	-4.58	-1.13	3.89	0.86

3. COMPROBACIONES

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 1	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.04621	5.00000	0.92
V1 - Lado - 2	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.05395	5.00000	1.08
V1 - Lado - 3	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.06104	5.00000	1.22
V1 - Lado - 4	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.06524	5.00000	1.30
V1 - Lado - 5	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.06809	5.00000	1.36
V1 - Lado - 6	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.09816	5.00000	1.96
V1 - Lado - 7	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.11122	5.00000	2.22
V1 - Lado - 8	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.11225	5.00000	2.24
V1 - Lado - 9	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.08573	5.00000	1.71
V1 - Lado - 10	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.08114	5.00000	1.62
V1 - Lado - 11	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.07316	5.00000	1.46
V1 - Lado - 12	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.08621	5.00000	1.72
V1 - Lado - 13	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.09438	5.00000	1.89
V1 - Lado - 14	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.08894	5.00000	1.78
V1 - Lado - 15	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.06519	5.00000	1.30
V1 - Lado - 16	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.06049	5.00000	1.21
V1 - Lado - 17	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.05721	5.00000	1.14
V1 - Lado - 18	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.05060	5.00000	1.01

Deformación - Perfiles				
Elemento	Comb.	Deformación plástica (%)	Límite (%)	Aprov. (%)
V1 - Lado - 19	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.03743	5.00000	0.75
V1 - Lado - 20	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.03570	5.00000	0.71
V2 - Lado - 1	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.16926	5.00000	3.39
V2 - Lado - 2	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.16906	5.00000	3.38
V2 - Lado - 3	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.15397	5.00000	3.08
V2 - Lado - 4	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.20974	5.00000	4.19
V2 - Lado - 5	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.12119	5.00000	2.42
V2 - Lado - 6	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.12794	5.00000	2.56
V2 - Lado - 7	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.13084	5.00000	2.62
V2 - Lado - 8	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.13233	5.00000	2.65
V2 - Lado - 9	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.13343	5.00000	2.67
V2 - Lado - 10	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.13670	5.00000	2.73
V2 - Lado - 11	[1] 1.2·PP+1.2·CM1+0.3·SX+SY	0.11461	5.00000	2.29
V2 - Lado - 12	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.09266	5.00000	1.85
V2 - Lado - 13	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.06906	5.00000	1.38
V2 - Lado - 14	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.09172	5.00000	1.83
V2 - Lado - 15	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.12625	5.00000	2.53
V2 - Lado - 16	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.11461	5.00000	2.29
V2 - Lado - 17	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.17605	5.00000	3.52
V2 - Lado - 18	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.17487	5.00000	3.50
V2 - Lado - 19	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.15322	5.00000	3.06
V2 - Lado - 20	[1] 1.2·PP+1.2·CM1+1.6·Q1	0.14568	5.00000	2.91