



**GRADO EN INGENIERÍA MECÁNICA**

TRABAJO FIN DE GRADO

2016 / 2017

**CONSTRUCCIÓN DE NAVE INDUSTRIAL CON GRÚA  
PUENTE PARA LA EMPRESA DE FABRICACIÓN DE  
VENTANAS INGEVEN S.A.**

**DOCUMENTO 4: PLANOS**

**DATOS DE LA ALUMNA O DEL ALUMNO**

NOMBRE DELIA  
APELLIDOS PRADA RICO  
DNI 45890632C

FDO.:

FECHA: 7-09-2017

**DATOS DEL DIRECTOR O DE LA DIRECTORA**

NOMBRE JUAN ESTEBAN  
APELLIDOS LARAUDOGOITIA ALZAGA  
DEPARTAMENTO INGENIERÍA MECÁNICA

FDO.:

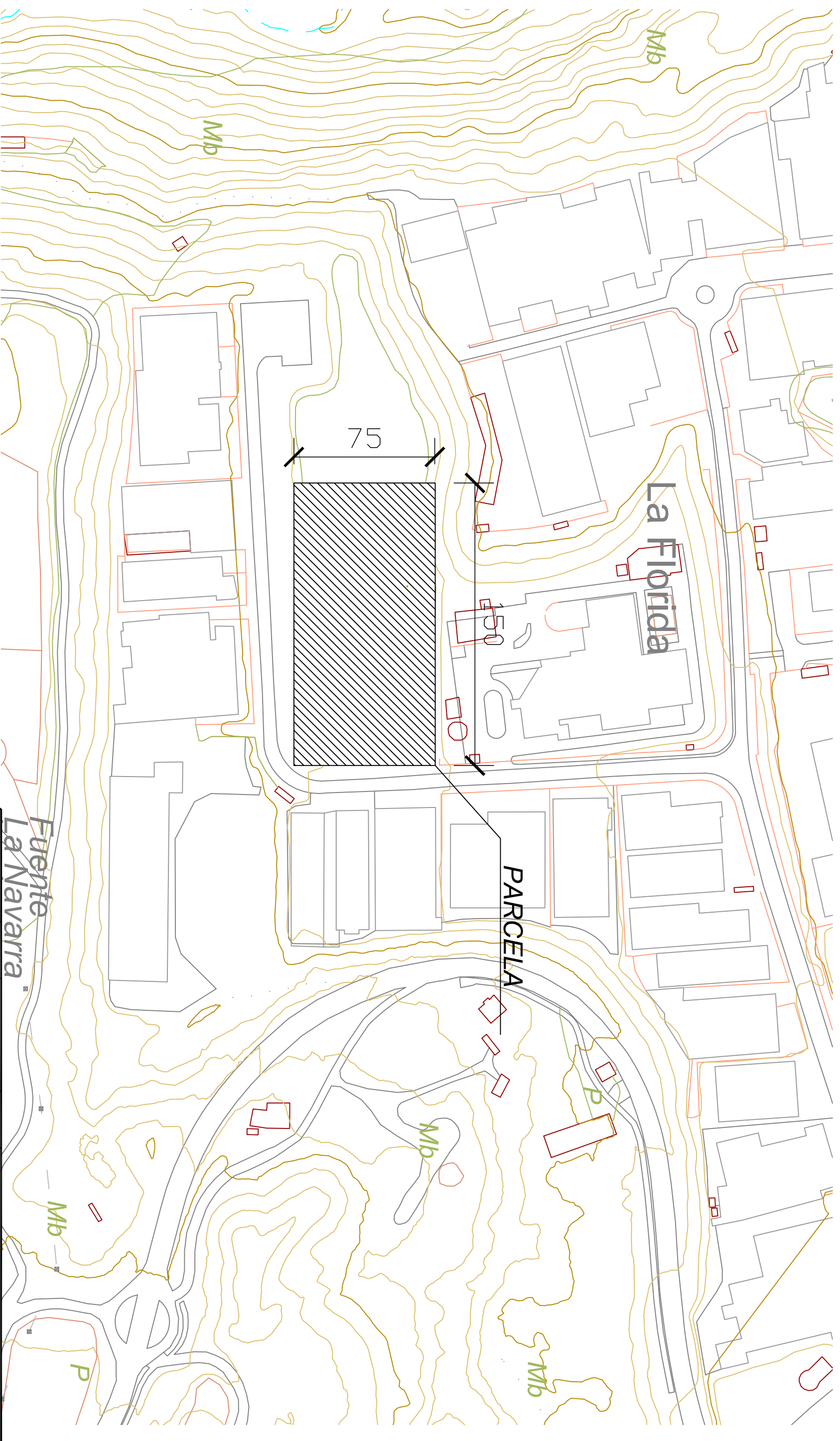
FECHA: 7-09-2017





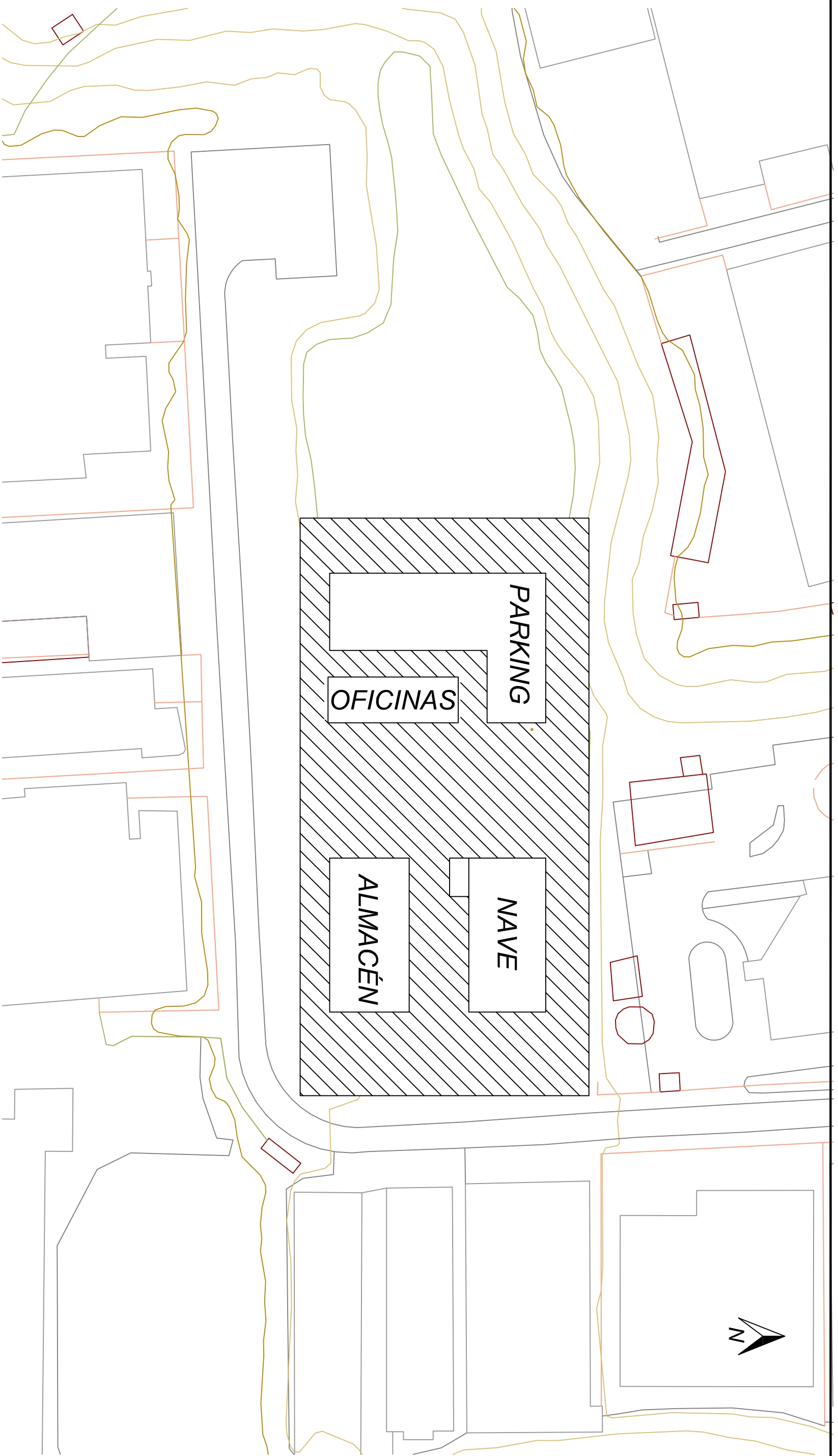
## 4. PLANOS

### 4.1. LISTA DE PLANOS

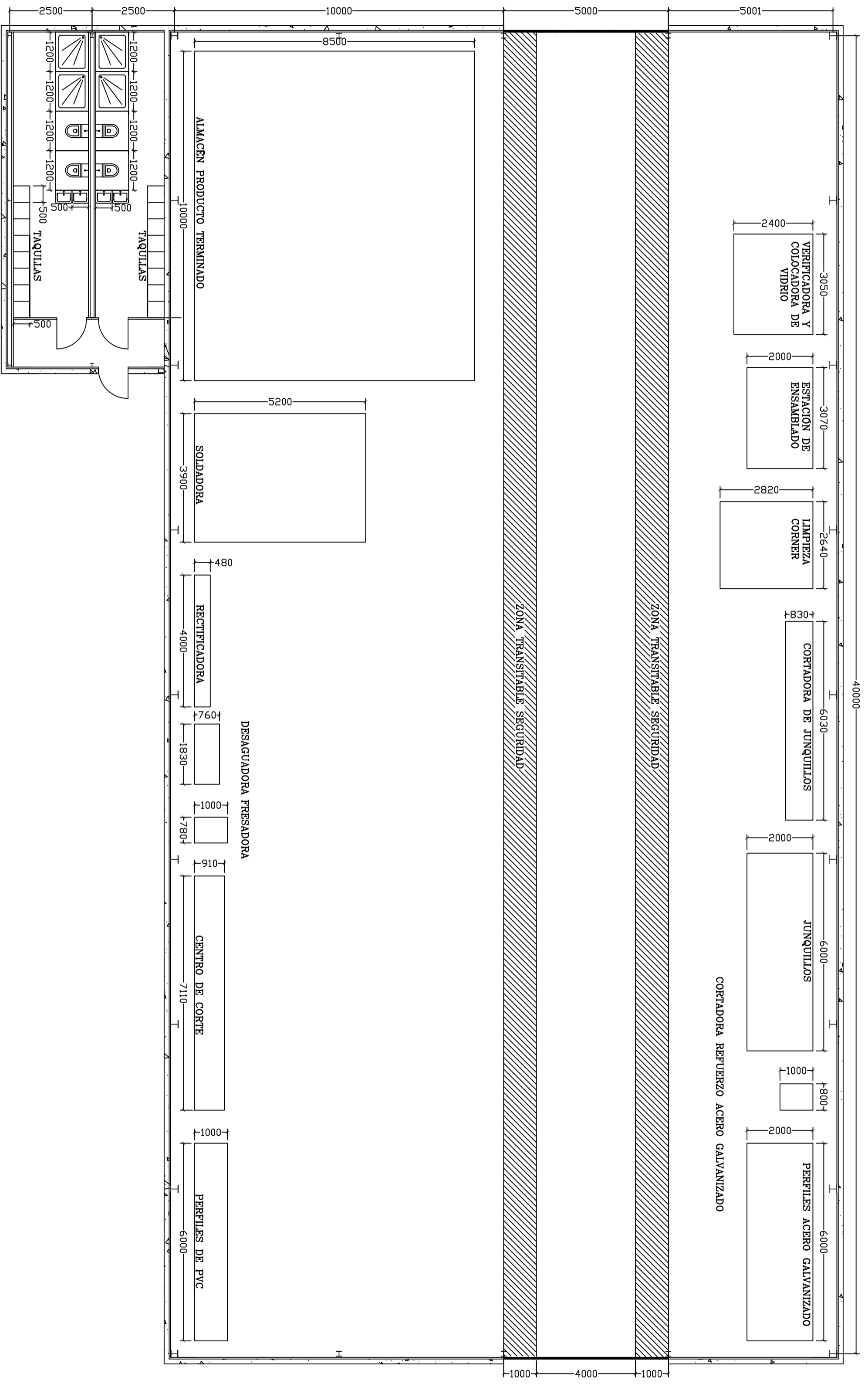
Nº DE PLANO	DESCRIPCIÓN	FORMATO
1	SITUACIÓN	A3
2	PARCELA	A3
3	DISTRIBUCIÓN	A2
4	PLANTA CUBIERTA Y ALZADOS	A2
5	CIMENTACIÓN	A2
6	ZAPATAS Y VIGAS DE ATADO	A2
7	PLACAS DE ANCLAJE	A1
8	3D	A2
9	PÓRTICO 9 Y UNIONES	A1
10	PÓRTICO 9 Y UNIONES	A1
11	PÓRTICO 9 Y UNIONES	A1
12	PÓRTICO 9 Y UNIONES	A1
13	PÓRTICO 8 Y UNIONES	A1
14	PÓRTICO 8 Y UNIONES	A1
15	PÓRTICO 7 Y UNIONES	A1
16	PÓRTICO 7 Y UNIONES	A1
17	PÓRTICO 6 Y UNIONES	A1
18	PÓRTICO 6 Y UNIONES	A1
19	PÓRTICO 5 Y UNIONES	A1
20	PÓRTICO 4 Y UNIONES	A1
21	PÓRTICO 4 Y UNIONES	A1
22	PÓRTICO 3 Y UNIONES	A1
23	PÓRTICO 3 Y UNIONES	A1
24	PÓRTICO 3 Y UNIONES	A1
25	PÓRTICO 2 Y UNIONES	A1
26	PÓRTICO 2 Y UNIONES	A1
27	PÓRTICO 2 Y UNIONES	A1
28	PÓRTICO 1 Y UNIONES	A1
29	PÓRTICO 1 Y UNIONES	A1
30	PÓRTICO 1 Y UNIONES	A1
31	PÓRTICO 1 Y UNIONES	A1
32	PÓRTICO 1 Y UNIONES	A1
33	ENTRAMADO LATERAL	A2
34	ESTRUCTURA DE CUBIERTA	A2
35	SOLERA	A2
36	VIGA CARRIL	A2
37	SECCIÓN NAVE	A1
38	DETALLE PANEL SÁNDWICH	A4
39	SUMINISTRO DE AGUA	A3
40	SANEAMIENTO	A2
41	EVACUACIÓN	A2



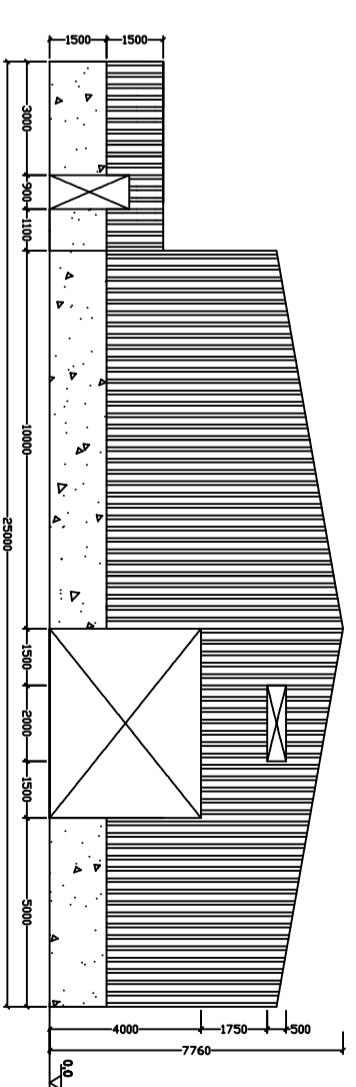
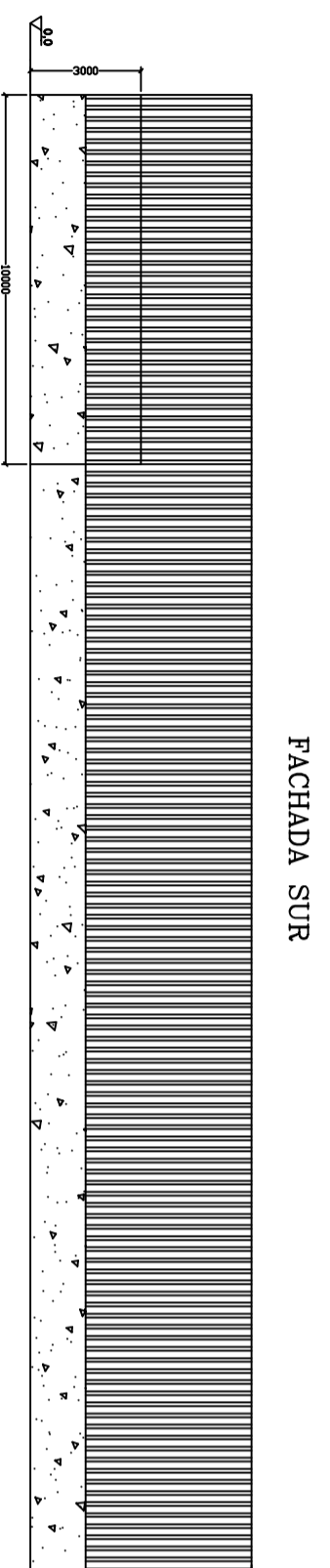
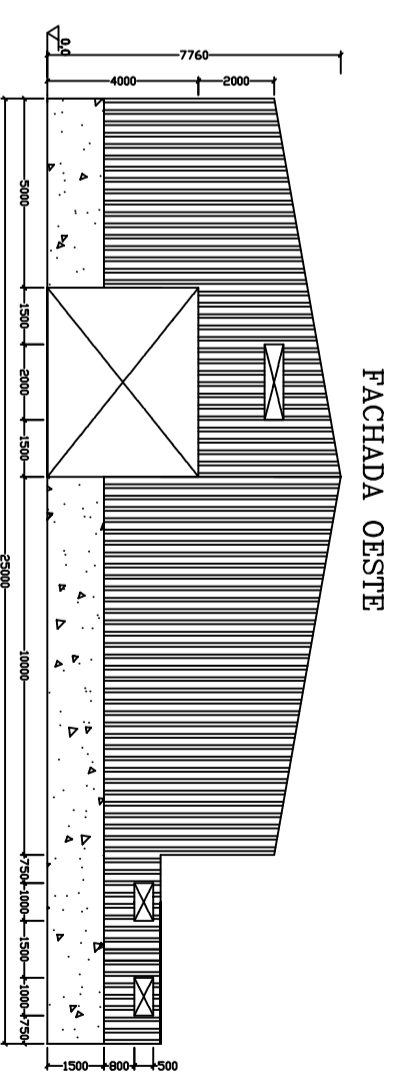
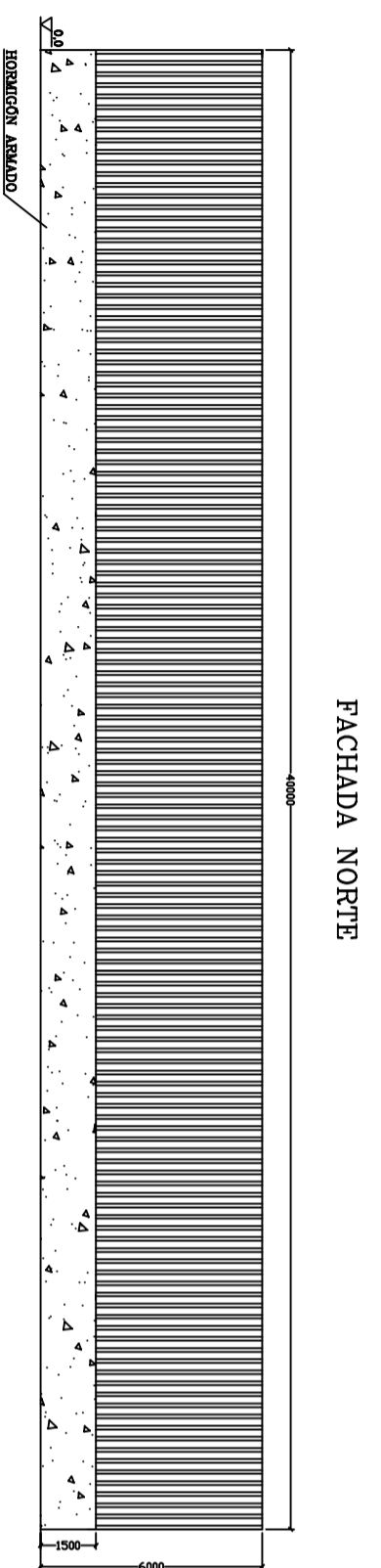
 Escala		Fecha		Nombre		 UNIVERSIDAD DE PAIS VASCO ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL. BILBAO
Tol. gen. A3 1:2000		Comprobado: 07/2017 J.E.LARAUDOGOTIA		D. PRADA		
Dibujado:		07/2017		J.E.LARAUDOGOTIA		
<b>SITUACION</b>				CONSTRUCCION DE NAVE INDUSTRIAL CON GRUA PUENTE PARA EMPRESA DE FABRICACION DE VENTANAS INGENVEN S.A.		Plano N°.P01 N° Planos. 41



		<b>Fecha</b>		 <b>UNIVERSIDAD DE PAIS VASCO</b> <b>ESCUELA UNIVERSITARIA DE INGENIERIA</b> <b>TECNICA INDUSTRIAL. BILBAO</b>
		<b>Nombre</b>		
<b>Dibujado:</b>	07/2017	<b>D. PRADA</b>		CONSTRUCCIÓN DE NAVE INDUSTRIAL CON GRÚA PUENTE PARA EMPRESA DE FABRICACION DE VENTANAS INGEVEN S.A.
<b>Comprobado:</b>	07/2017	<b>JELARAUDOGOITIA</b>		
		<b>Escala</b>	<b>PARCELA</b>	
<b>Tol. gen.</b>	A3 1:1.000			
		<b>Piano N°.P02</b>	<b>N° Planos.41</b>	

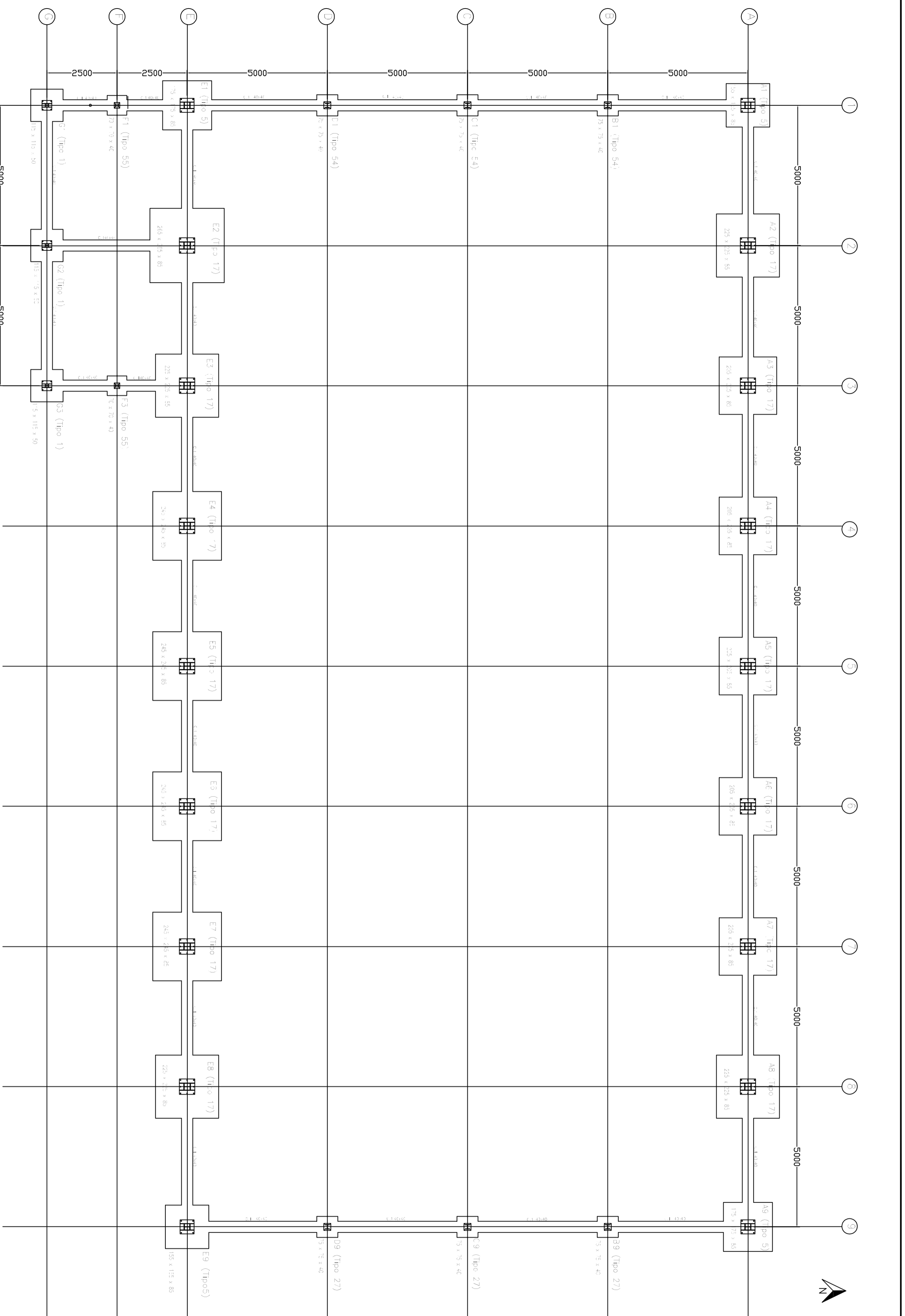


<b>UNIVERSIDAD DE PAÍS VASCO</b> ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL, BILBAO	
<b>Nombre</b> D. PRADA	<b>Fecha</b> 07/2017
<b>Comprobado:</b> JELARAUDOGOTIA	<b>Comprobado:</b> 07/2017
<b>Dibujado:</b> 07/2017	<b>Dibujado:</b> 07/2017
<b>Escala</b> A2	<b>Tol. gen.</b> 1:100
<b>DISTRIBUCIÓN</b>	
CONSTRUCCION DE NAVE INDUSTRIAL CON GRUA PUENTE PARA EMPRESA DE FABRICACION DE VENTANAS INGEN SA.	
<b>Piano N.º P03</b> <b>N.º Planos: 41</b>	

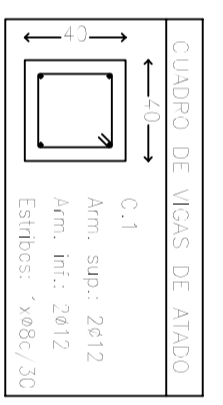


		<b>UNIVERSIDAD DE PAIS VASCO</b>	
		<b>ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL. BILBAO</b>	
<b>Nombre</b>	D. PRADA	<b>Fecha</b>	07/2017
<b>Comprobado:</b>	J.E.LARAUZOGOTIA	<b>Dibujado:</b>	07/2017
<b>Escala</b>	A2	<b>Tol. gen.</b>	1:200
<b>PLANTA CUBIERTA Y ALZADOS</b>			
Punto N.º.P04			
N.º Planos:41			

CONSTRUCCION DE NAVE INDUSTRIAL CON GRUA  
PUENTE PARA EMPRESA DE FABRICACION DE  
VENTANAS INGENIERIA S.A.



ELEMENTO		MATERIAL	COEFICIENTE PONDERACIÓN
HORMIGÓN	ENCEPADO	HA-30/B/20/IIa	1,5
	HORMIGÓN LIMPIEZA	HM-20	
ACERO	PERNOS	B 400 S	1,15
	ARMADURAS	B 400 S	

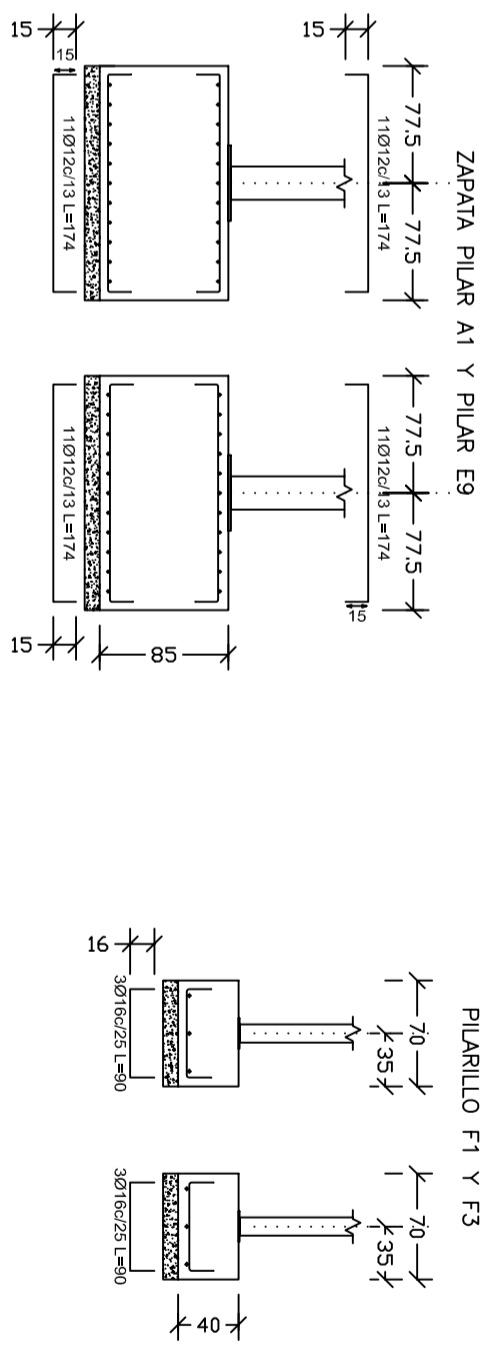
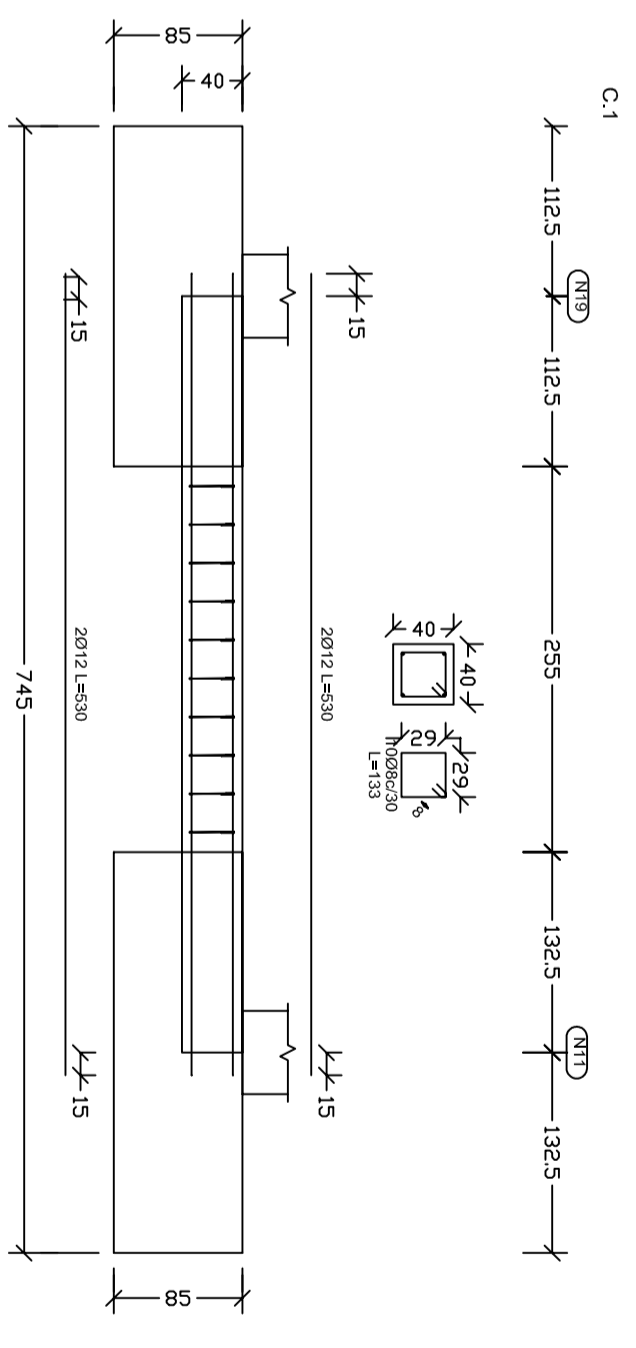
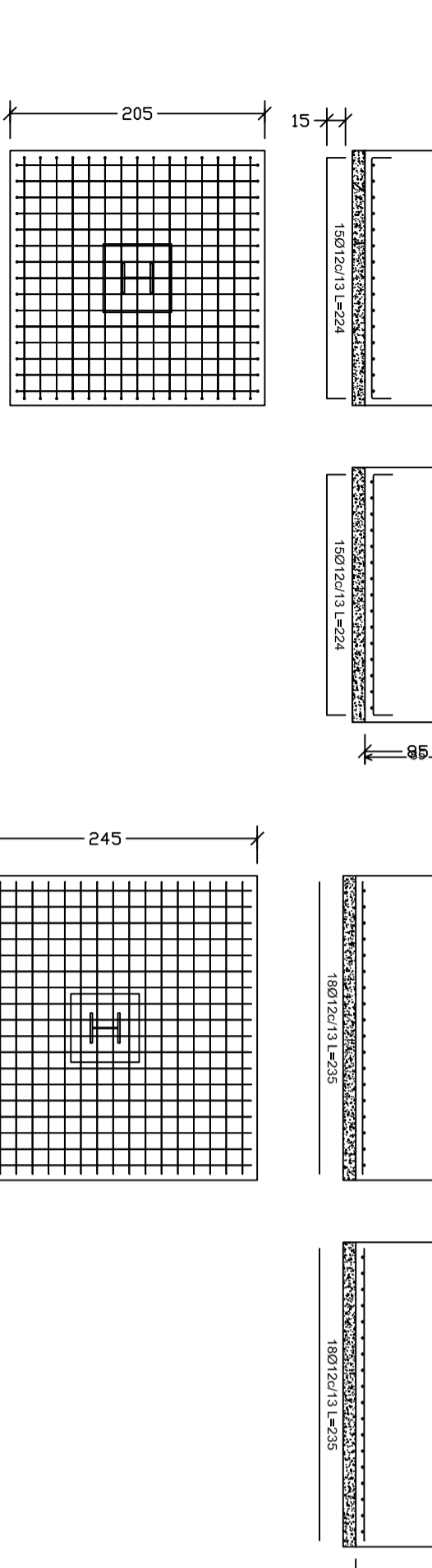
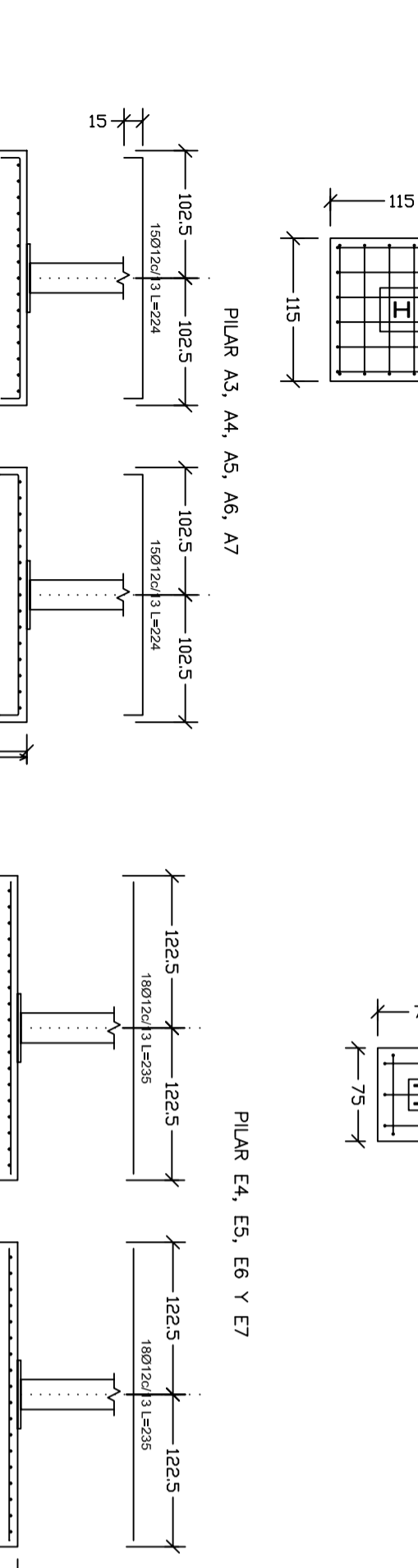
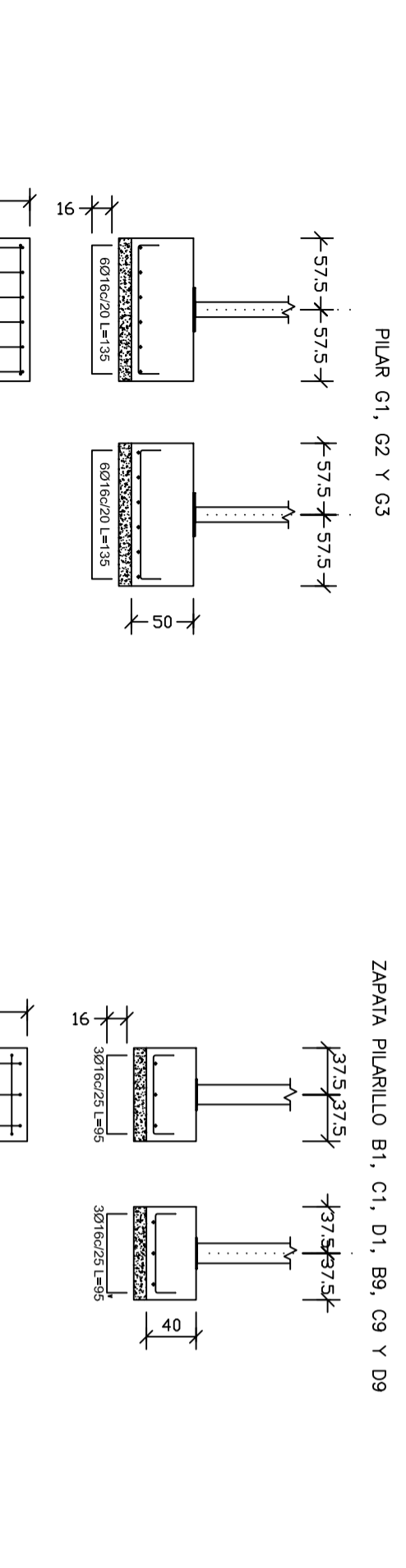
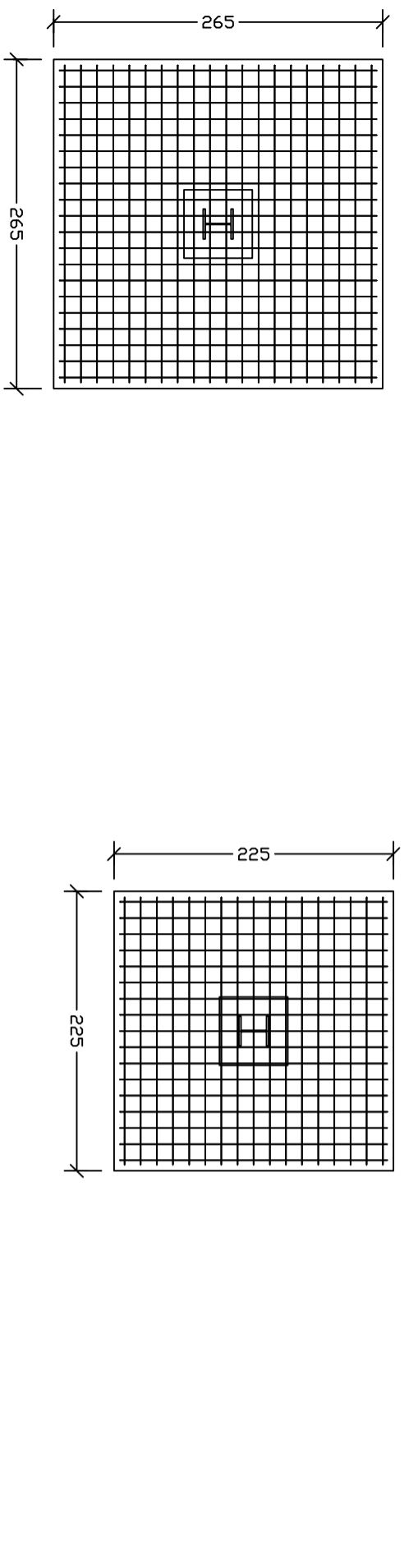
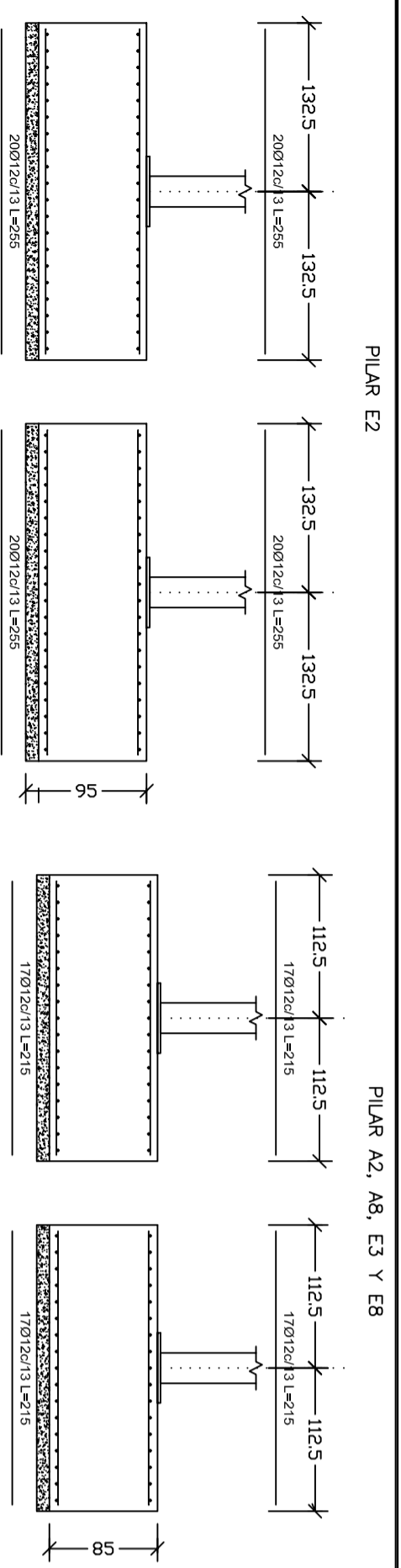
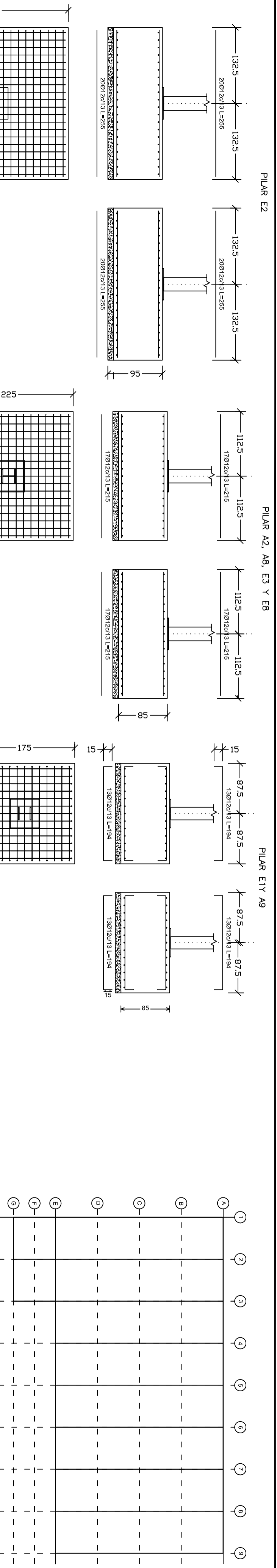


GRUPO	DIMENSIONES	ARMADOS
GRUPO 1 A1, F9	15x15x85	Xs=11Ø12c/13 Ys=11Ø12c/13 Xl=11Ø12c/13 Yl=11Ø12c/13
GRUPO 2 A9, E1	17x17x85	Xs=13Ø12c/13 Ys=13Ø12c/13 Xl=13Ø12c/13 Yl=13Ø12c/13
GRUPO 3 A2, A8, E3, E8	22x22x85	Xs=17Ø12c/13 Ys=17Ø12c/13 Xl=17Ø12c/13 Yl=17Ø12c/13
GRUPO 4 A3, A4, A5, A6, A7	20x50x85	Xs=15Ø12c/13 Ys=15Ø12c/13 Xl=15Ø12c/13 Yl=15Ø12c/13
GRUPO 5 E2	26x26x85	Xs=20Ø12c/13 Ys=20Ø12c/13 Xl=20Ø12c/13 Yl=20Ø12c/13
GRUPO 6 E4, E5, E6, E7	24x24x85	Xs=18Ø12c/13 Ys=18Ø12c/13 Xl=18Ø12c/13 Yl=18Ø12c/13
GRUPO 7 B1, C1, D1, B9, C9, D9	7x7x40	X=3Ø16c/25 Y=3Ø16c/25
GRUPO 8 F1, F3	70x70x40	X=3Ø16c/25 Y=3Ø16c/25
GRUPO 9 G1, G2, G3	11x11x50	Xs=5Ø12c/22 Ys=5Ø12c/22 Xl=5Ø12c/22 Yl=5Ø12c/22

GRUPO	DIMENSIONES	PERNOS
GRUPO 1 A1, A9, E1, E9	500x500x18mm	4Ø25mm L=55cm Prolongación recta
GRUPO 2 A2, A3, A4, A5, A6, A7, A8, E2, E3, E4, E5, E6, E7, E8	500x500x25mm	8Ø25mm L=75cm Prolongación recta
GRUPO 3 B1, C1, D1, B9, C9, D9	C350x250x9mm	4Ø10mm L=30cm Prolongación recta
GRUPO 4 F1, F3	200x200x7mm	4Ø8mm L=30cm Prolongación recta
GRUPO 5 G1, G2, G3	350x350x15mm	4Ø16mm L=40cm Prolongación recta

Comprobado: 07/2017		Fecha: 07/2017		Nombre: D. PRADA	
Dibujado: 07/2017		Escala: A2		Tol. gen.: 1:100	
<b>CIMENTACIÓN</b>					
UNIVERSIDAD DE PAIS VASCO		ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL DURIO		CONSTRUCCION DE NAVE INDUSTRIAL CON GRUA PUENTE PARA LA EMPRESA DE FABRICACION DE VENTANAS INGENIE S.L.	
Plano N.º P05		N.º Planos 41			



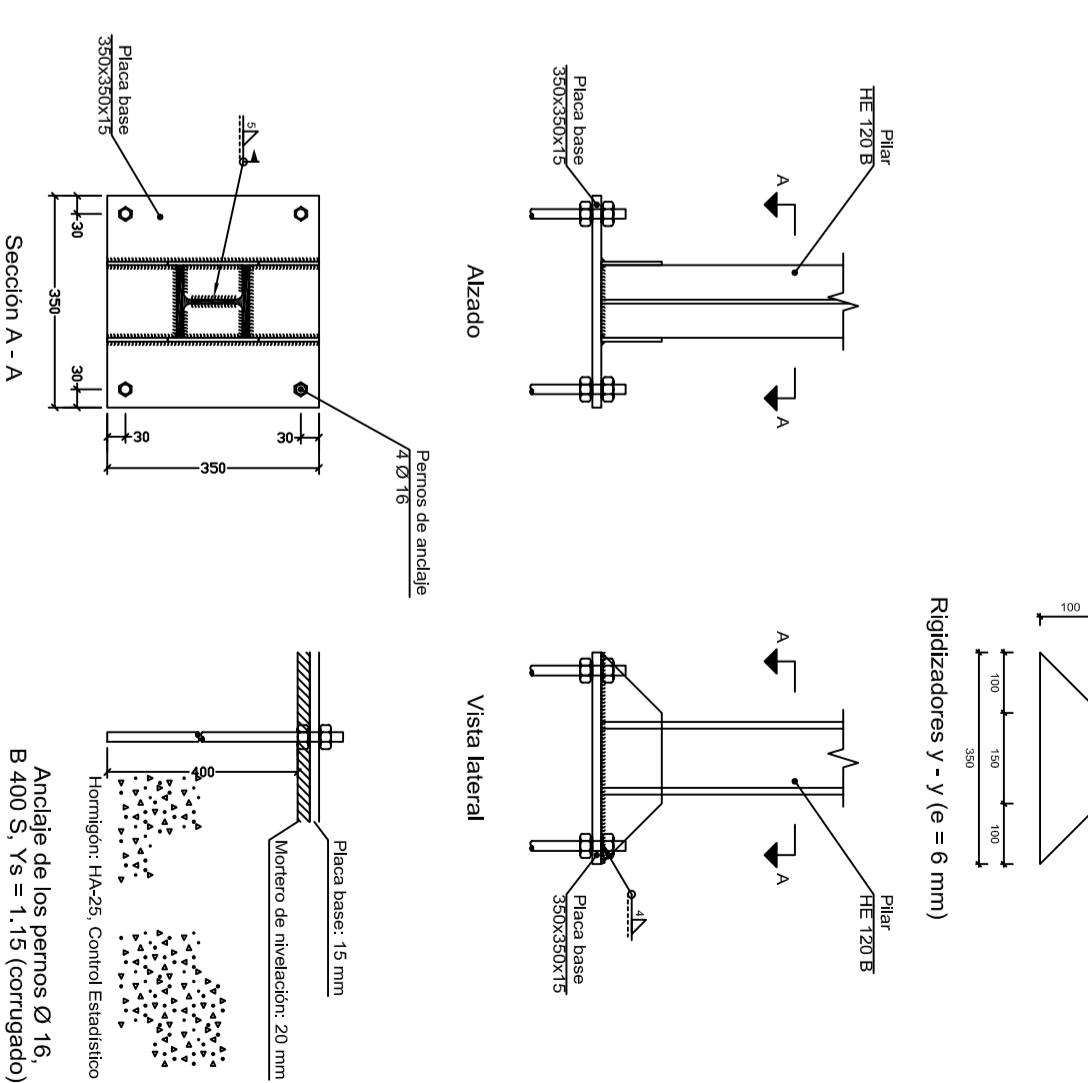
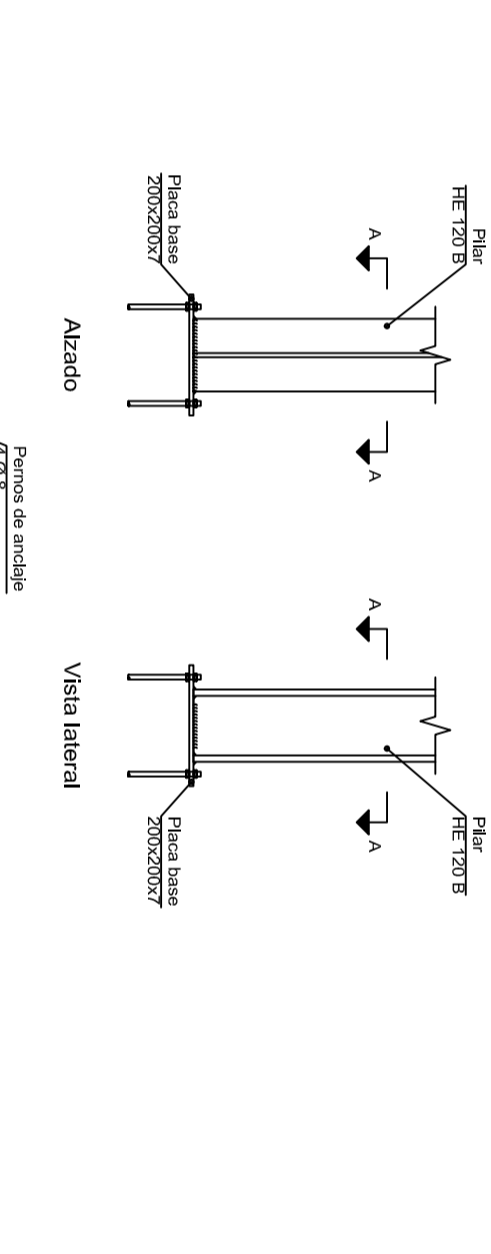
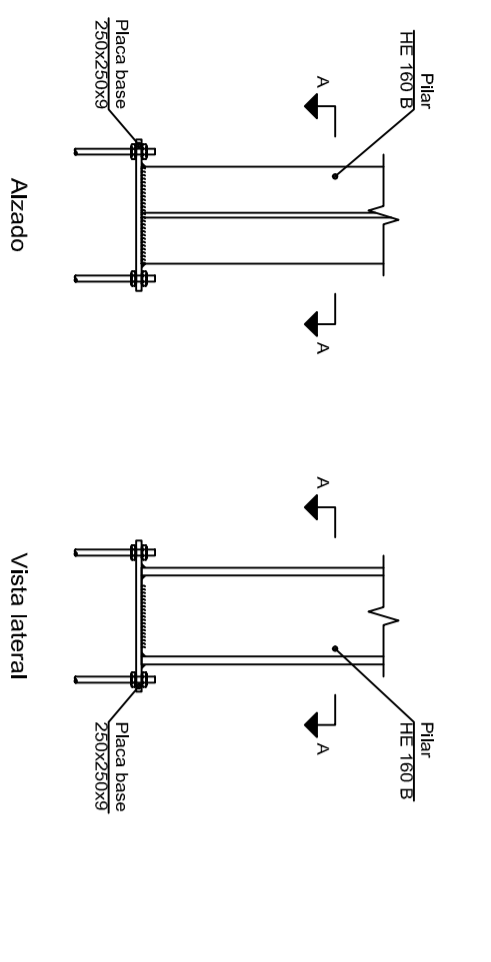
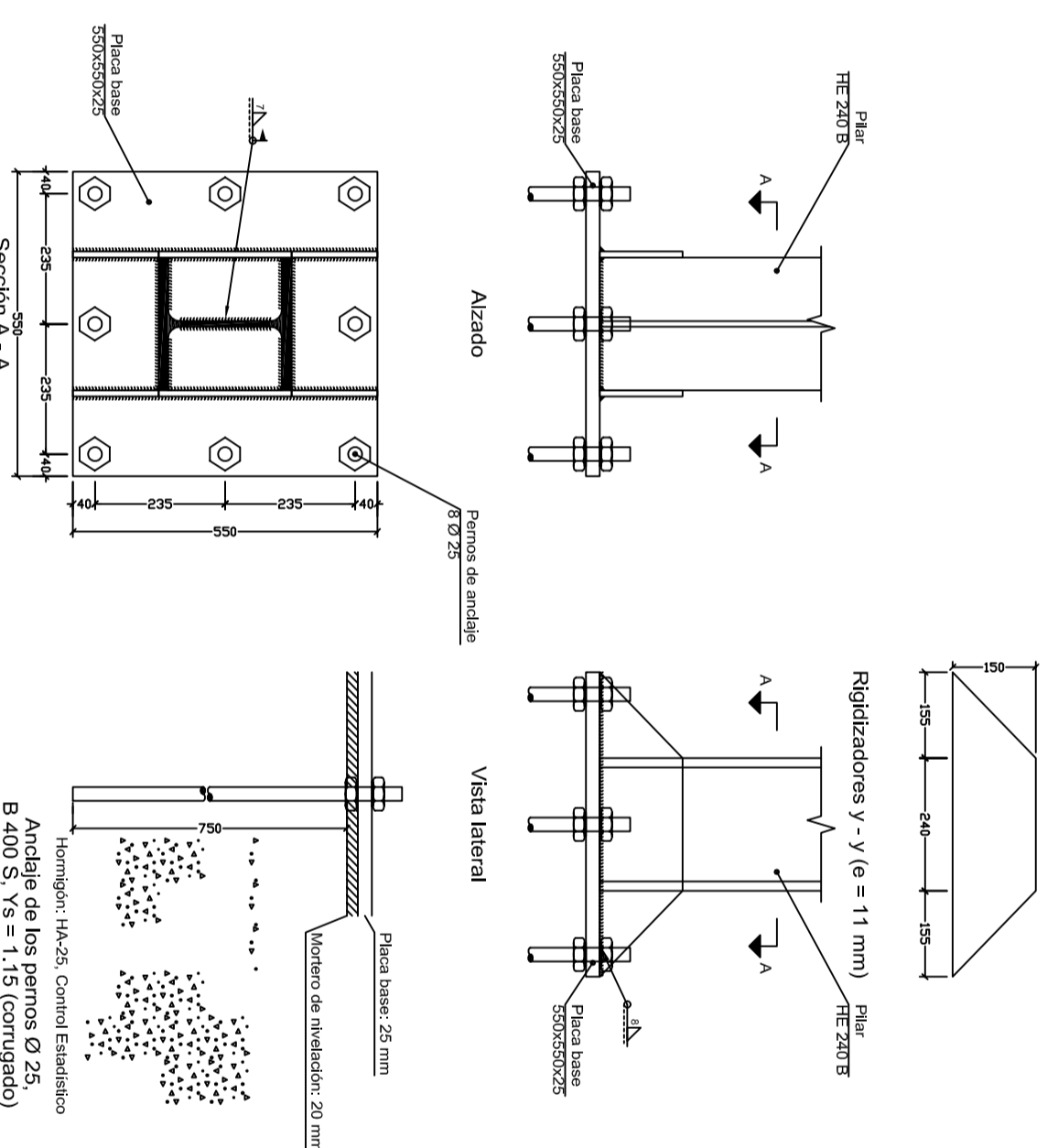
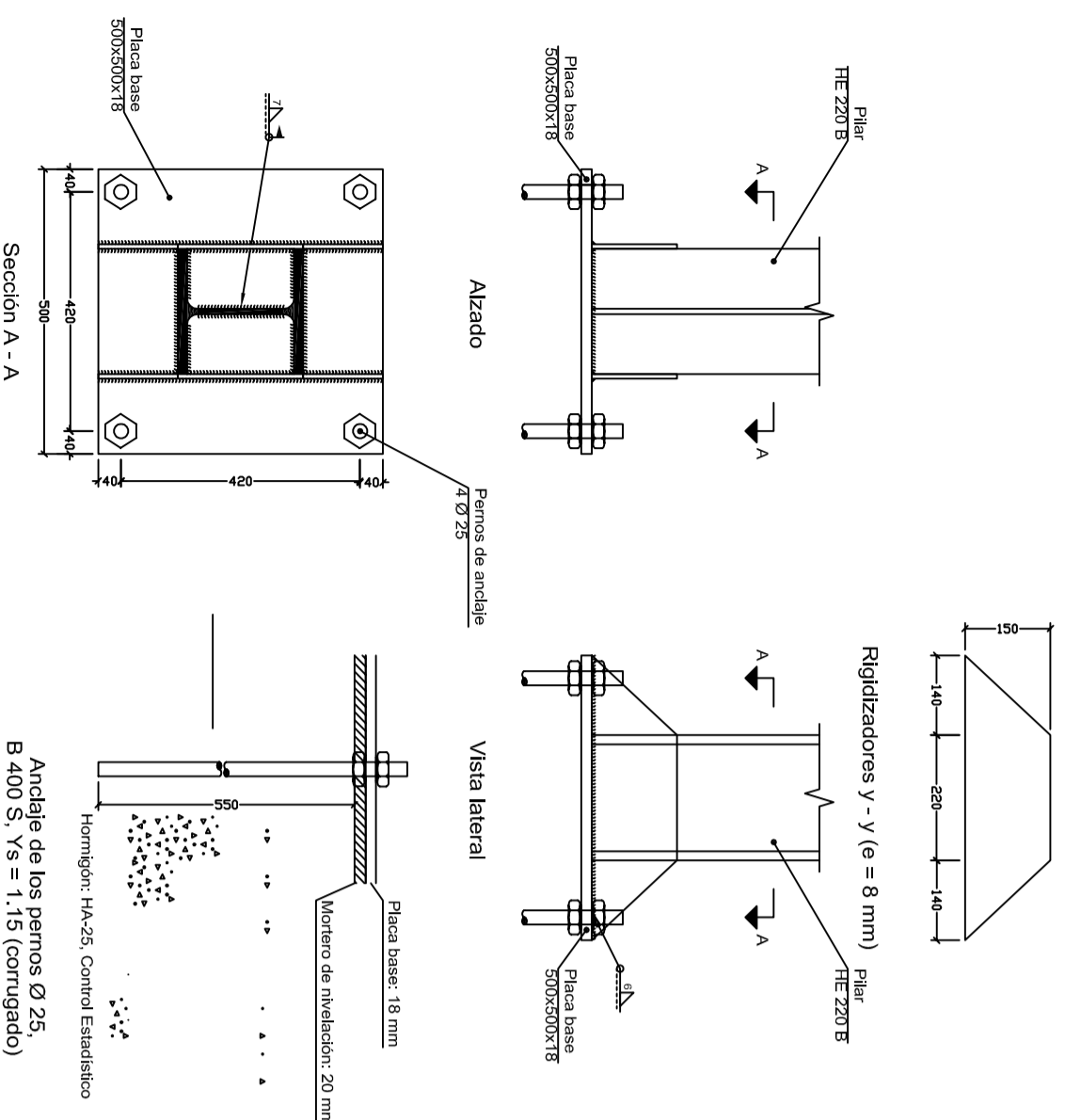


GRUPO	DIMENSIONES	ARMADOS
GRUPO 1 A1, P9	155x155x85	Xs=110/120/13 Ys=110/120/13 Xi=110/120/13 Yi=110/120/13
GRUPO 2 A9, E1	175x175x85	Xs=130/120/13 Ys=130/120/13 Xi=130/120/13 Yi=130/120/13
GRUPO 3 A2, A8, E3 Y E8	225x225x85	Xs=170/120/13 Ys=170/120/13 Xi=170/120/13 Yi=170/120/13
GRUPO 4 A3, A4, A5, A6 Y A7	205x505x85	Xs=150/120/13 Ys=150/120/13 Xi=150/120/13 Yi=150/120/13
GRUPO 5 E2	255x255x85	Xs=200/120/13 Ys=200/120/13 Xi=200/120/13 Yi=200/120/13
GRUPO 6 E4, E5, E6 Y E7	245x245x85	Xs=180/120/13 Ys=180/120/13 Xi=180/120/13 Yi=180/120/13
GRUPO 7 B1, C1, D1, B9, C9 Y D9	75x75x40	X=30/160/25 Y=30/160/25
GRUPO 8 F1 Y F3	70x70x40	X=30/160/25 Y=30/160/25
GRUPO 9 G1, G2 Y G3	115x115x50	Xs=50/120/22 Ys=50/120/22 Xi=50/120/22 Yi=50/120/22

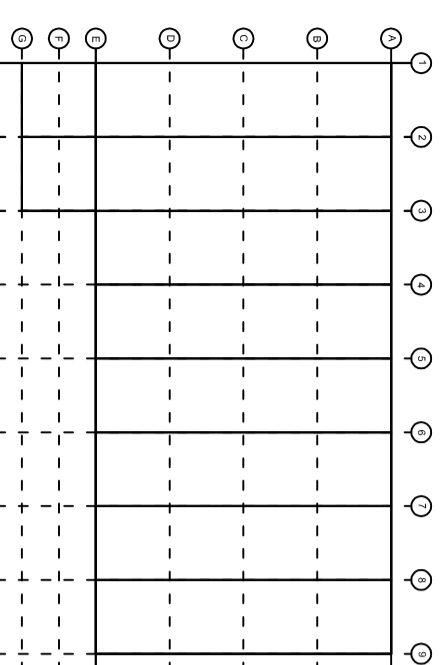
CUADRO DE CARACTERÍSTICAS S/EHE-08-CTE DB-S-E-A			
HORMIGÓN		ACERO	
CONTROL PONDERADO	COEFICIENTE PONDERADO 1.5	TIPO HA-30	ARIGO MÁXIMO 20mm
CONTROL	COEFICIENTE PONDERADO 1.5	TIPO B 400 S	BLANDA
		POSICIÓN IIa	CONTROL NORMAL
Máxima relación de agua cemento 0.6 Cantidad mínima de cemento 275 Kg/m <sup>3</sup>			
Tensión máxima admisible de terreno de 0.3Mpa			

ELEMENTO	MATERIAL	COEFICIENTE PONDERACIÓN
HORMIGÓN ENCEPADO	HA-30/B/20/IIa	1.5
HORMIGÓN LIMPIEZA	HM-20	
PERNOS	B 400 S	1.15
ARMADURAS	B 400 S	

ZAPATAS Y VIGAS DE ATADO		Fecha		Nombre	
Dibujado:	07/2017	07/2017	D. PRADA		
Comprobado:	07/2017	JE LARAUDOGOTIA			
Escala: 1:50		UNIVERSIDAD DE PAIS VASCO			
Escdci		ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL, BILBAO			
Tol. gen. 1:50		CONSTRUCCION DE NAVE INDUSTRIAL CON GRUA PUENTE PARA LA EMPRESA DE FABRICACION DE VENTANAS INGENIERIA SA			
Plano N.º P06		N.º Planos: 41			



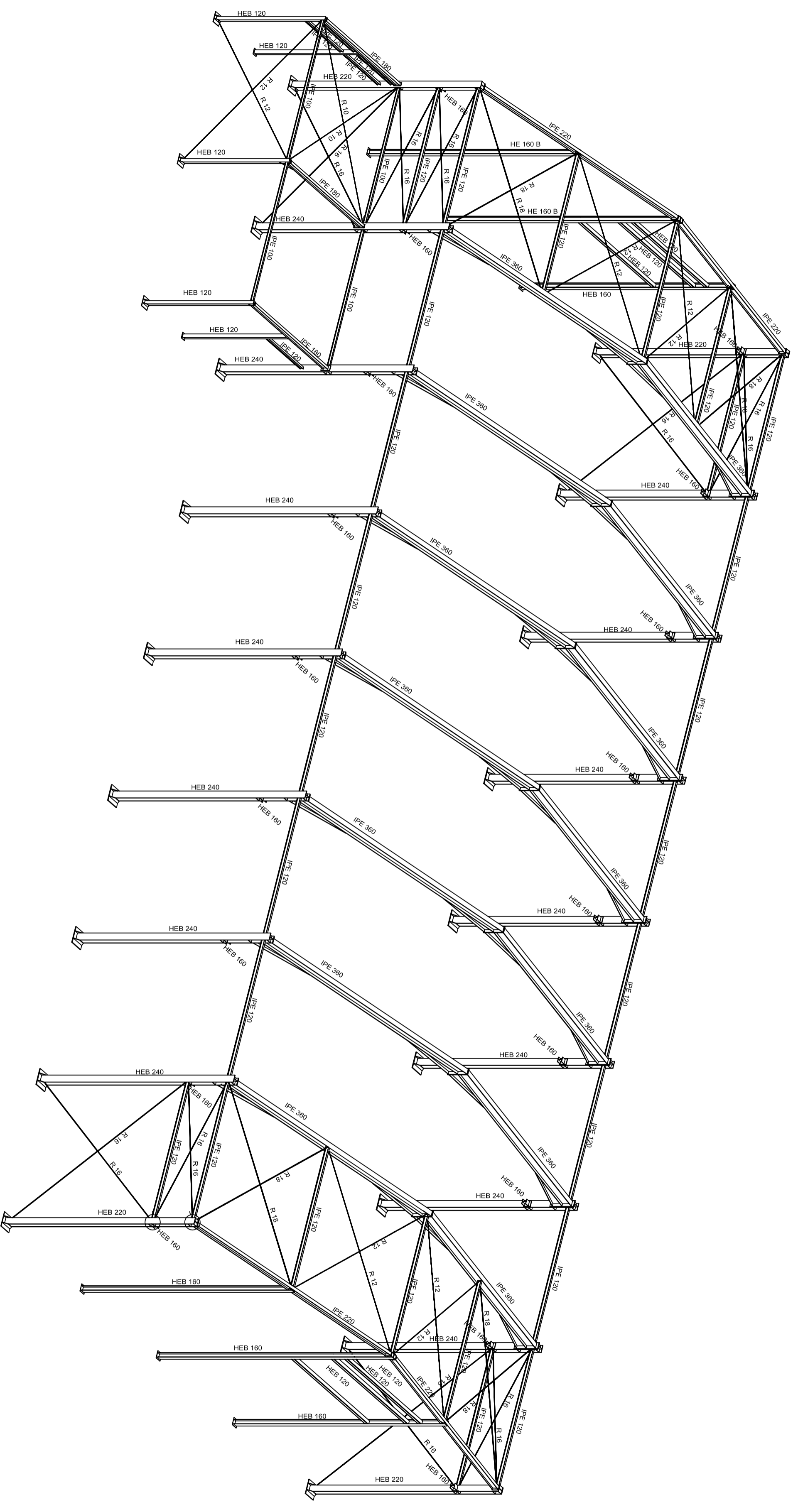
ESQUEMA





PLACAS DE ANCLAJE		
ELEMENTO	MATERIAL	COEFICIENTE DE PONDERACION
PLACA BASE	S 275	1.15
RIGILIZADOR	S 275	1.15
PERNO	B 400 S	1.15

GRUPO	DIMENSIONES	PERNO
GRUPO 1 A1, A9, E1 Y E9	500mmx500mmx18mm	4Ø25mm L=75cm Prolongación recta
GRUPO 2 B1,C1 Y D1	250mmx250mmx9mm	4Ø10mm L=30cm Prolongación recta
GRUPO 3 F1 Y F3	200mmx200mmx7mm	4Ø8mm L=30cm Prolongación recta
GRUPO 4 A2, A3, A4, A5, A6, A7, A8, E2, E3, E4, E5, E6, E7 Y E8	550mmx550mmx25mm	8Ø25mm L=75cm Prolongación recta
GRUPO 5 B9, C9 Y D9	250mmx250mmx9mm	4Ø10mm L=30cm Prolongación recta
GRUPO 6 G1, G2 Y G3	350mmx350mmx15mm	4Ø15mm L=40cm Prolongación recta

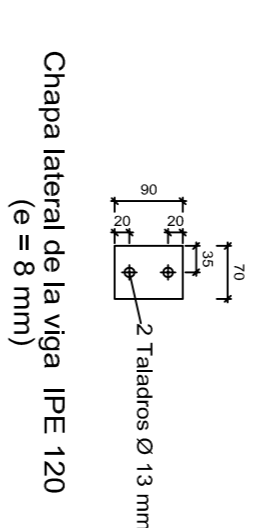
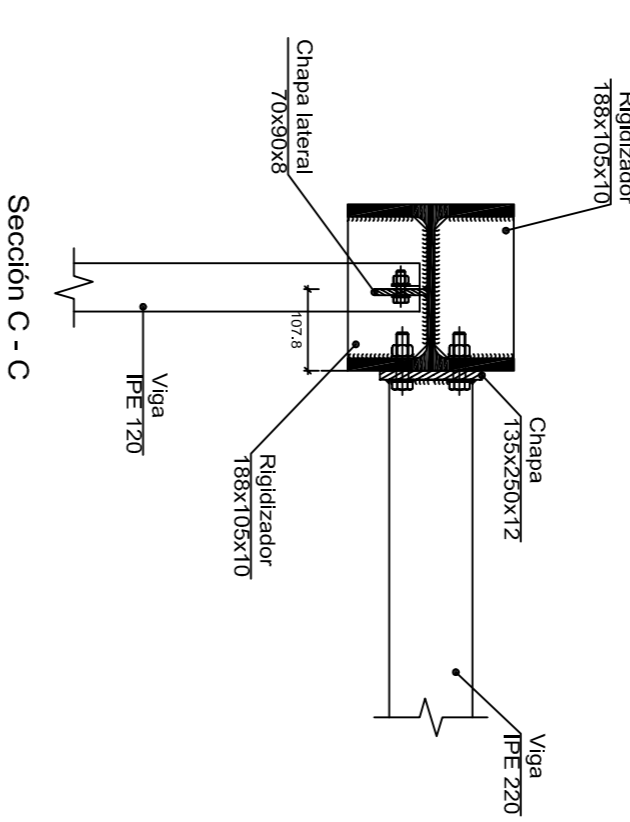
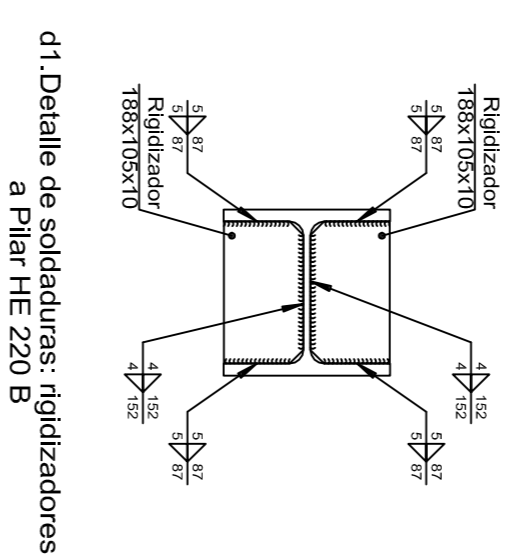
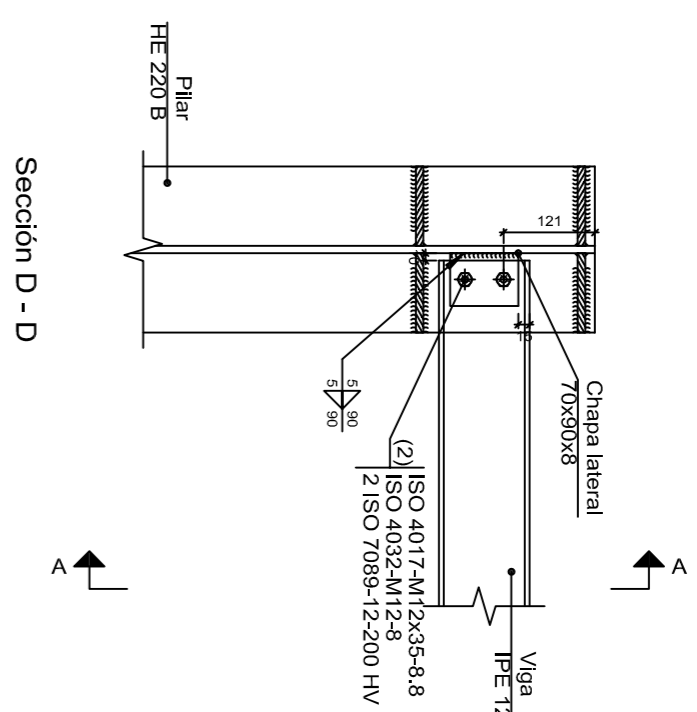
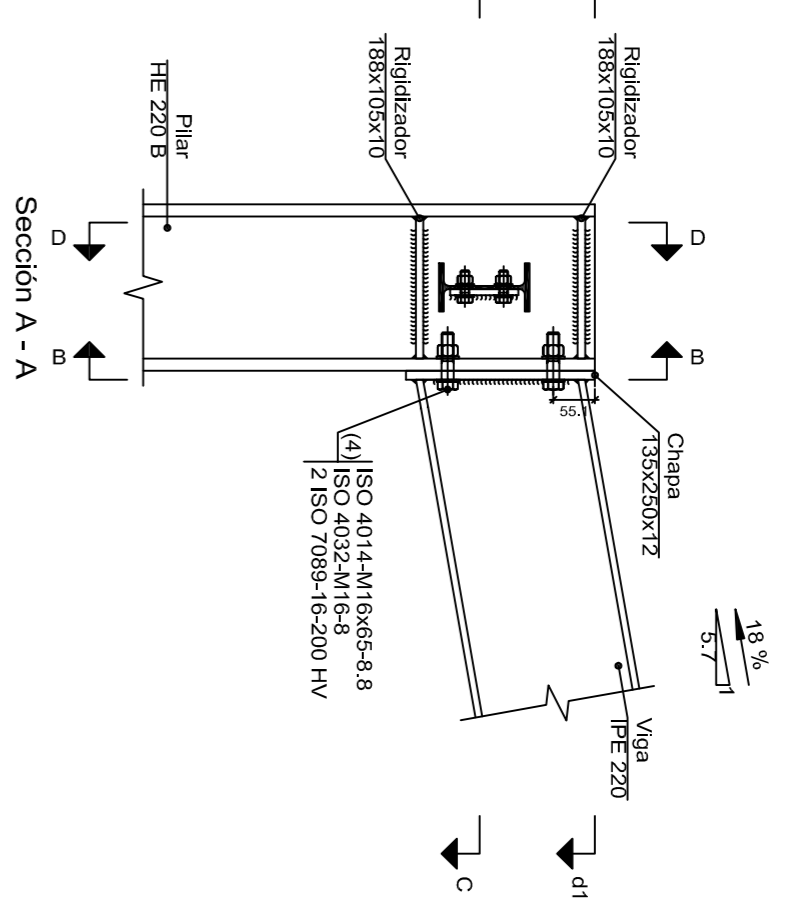
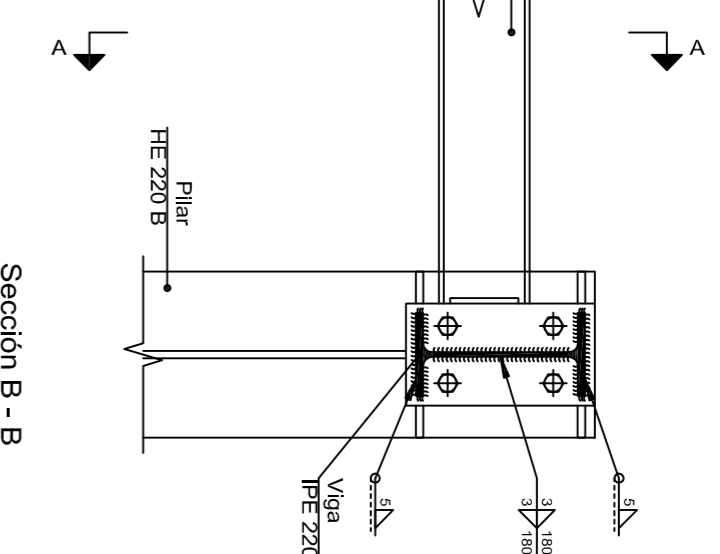
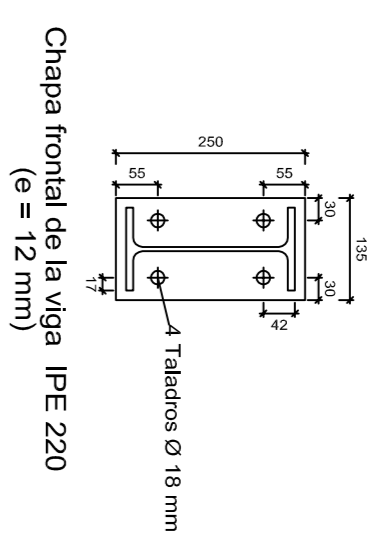
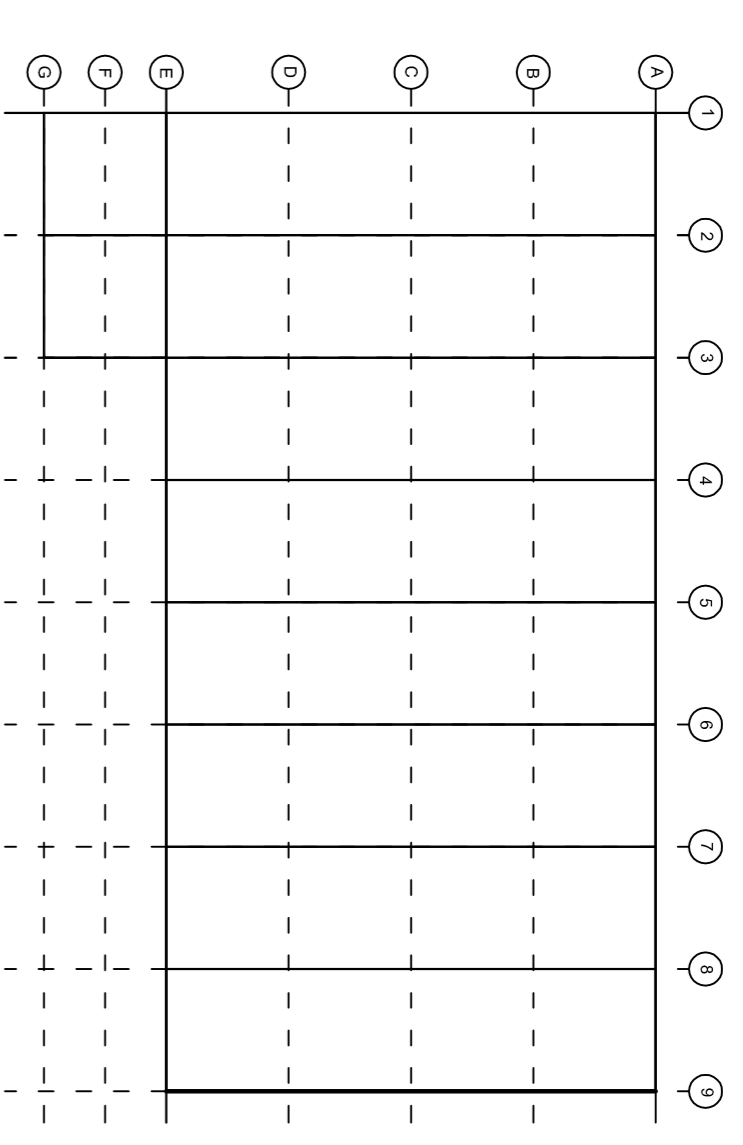
<b>PLACAS DE ANCLAJE</b>			
<b>Dibujado:</b> D. PRADA	<b>Fecha:</b> 07/20/17	<b>UNIVERSIDAD DE PAIS VASCO</b> ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL. BILBAO	
<b>Comprobado:</b> J.E. LARAUDOGOTIA	<b>Nombre:</b> D. PRADA		
<b>Tol. gen.:</b> 1:125	<b>Escala:</b> A1	CONSTRUCCION DE NAVE INDUSTRIAL CON GRUA PUENTE PARA LA EMPRESA DE FABRICACION DE VENTANAS INGENIERIA S.A.	
<b>Nº Planos: 41</b>		<b>Plano Nº: P07</b>	



		<b>UNIVERSIDAD DE PAIS VASCO</b>	
		 ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL. BILBAO	
			
<b>Dibujado:</b>	07/2017	<b>Nombre</b>	
<b>Comprobado:</b>	07/2017	JELARAUDEGOTIA	
<b>Tol. gen.</b>	A2 1:100	<b>3D</b>	
		<b>Plano N°.P08</b>	
		<b>N° Planos:41</b>	

CONSTRUCCION DE NAVE INDUSTRIAL CON GRUA  
 PUENTE PARA EMPRESA DE FABRICACION DE  
 VENTANAS INGENIERIA S.A

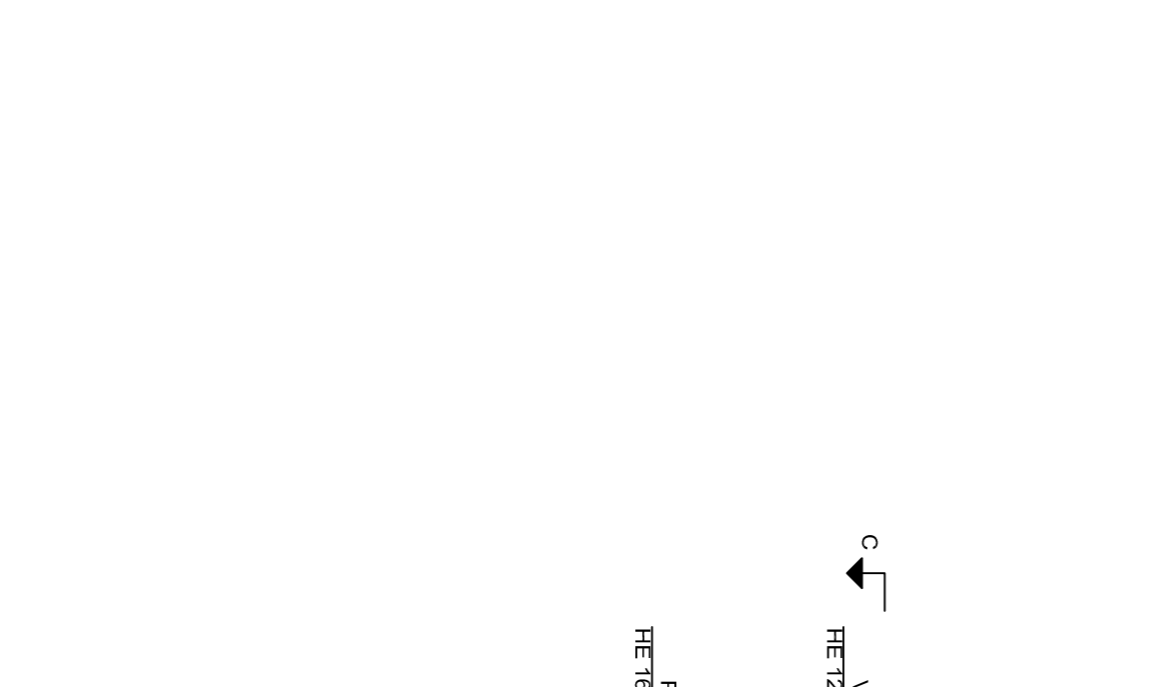
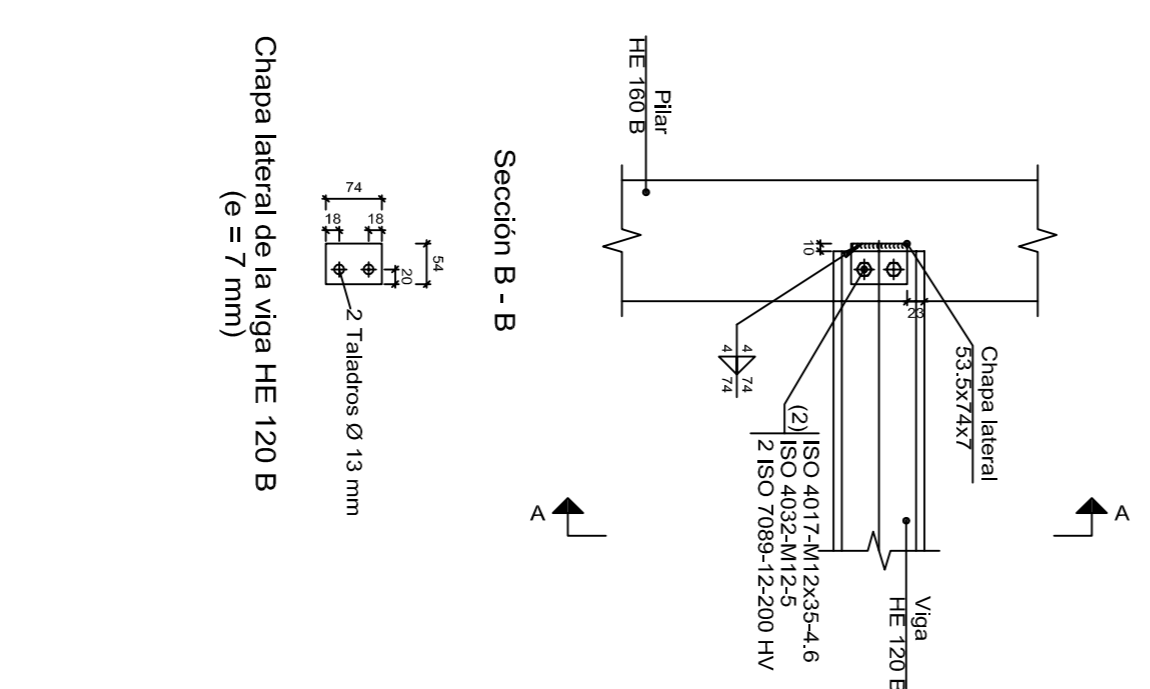
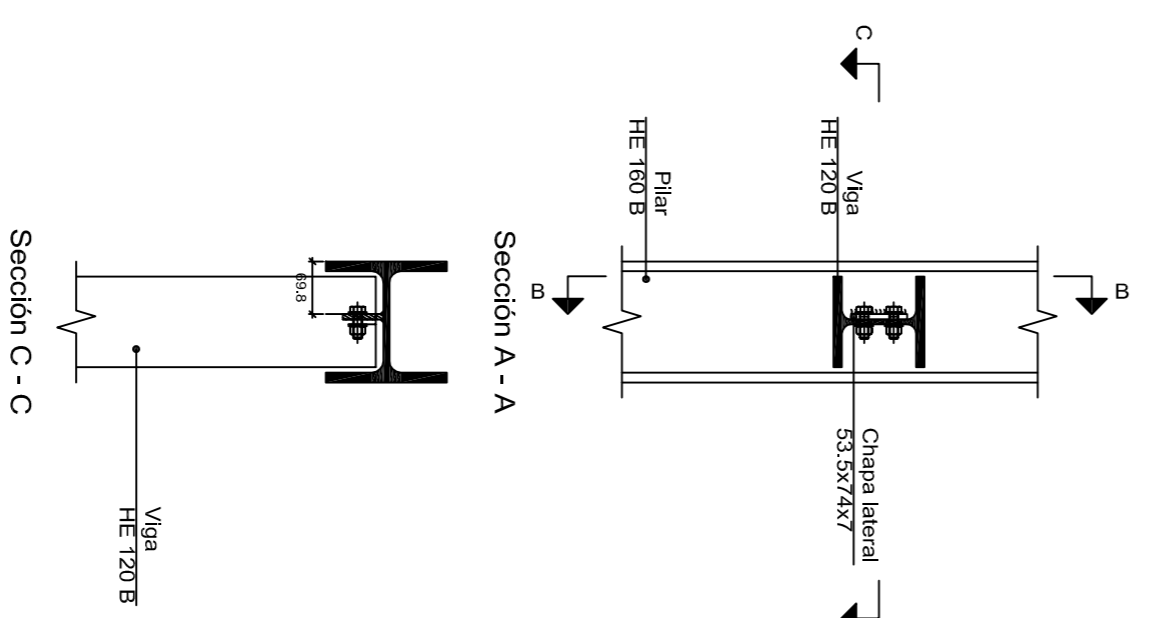




Escala 1:10

Tipo 9

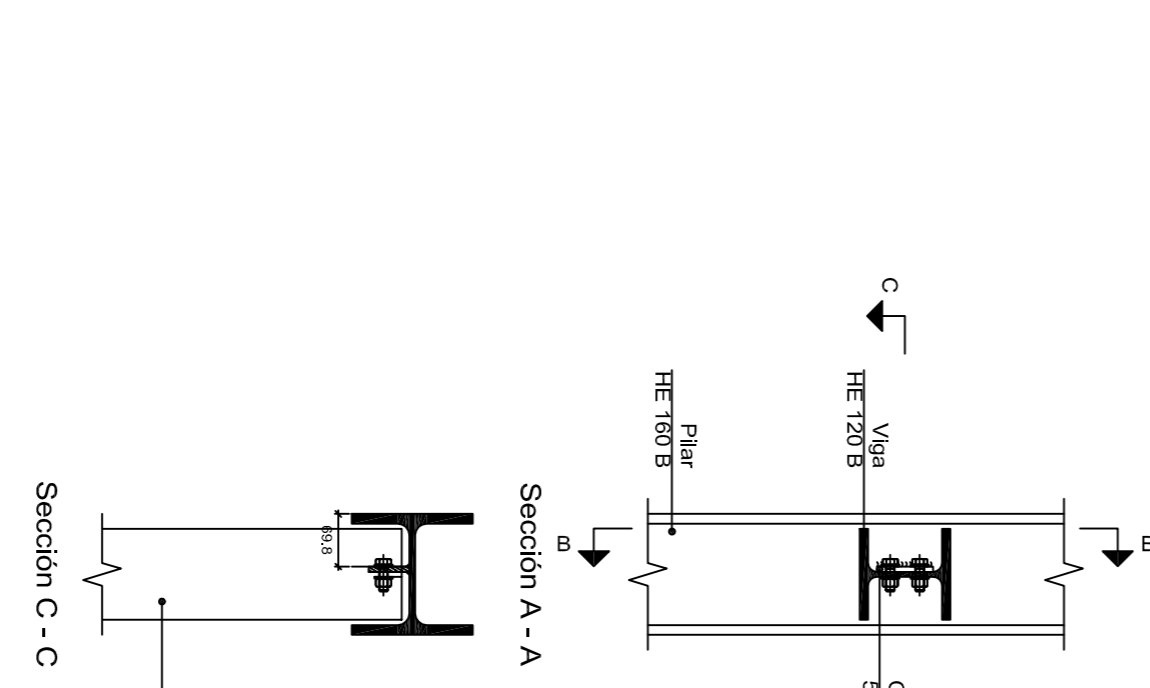
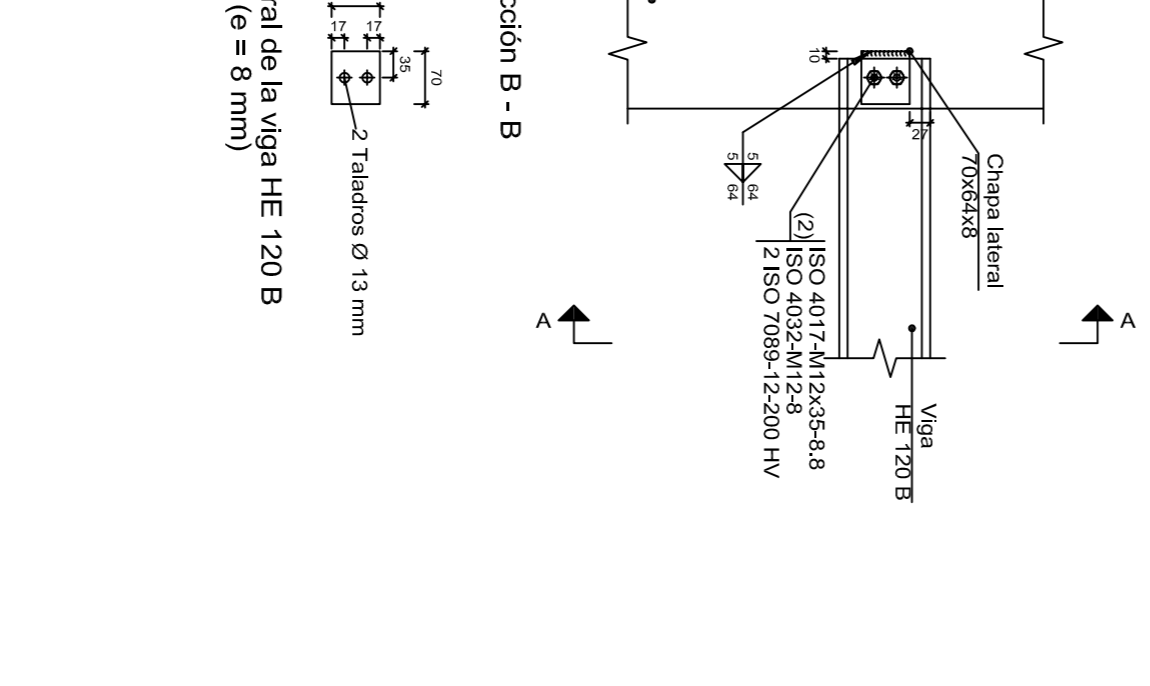
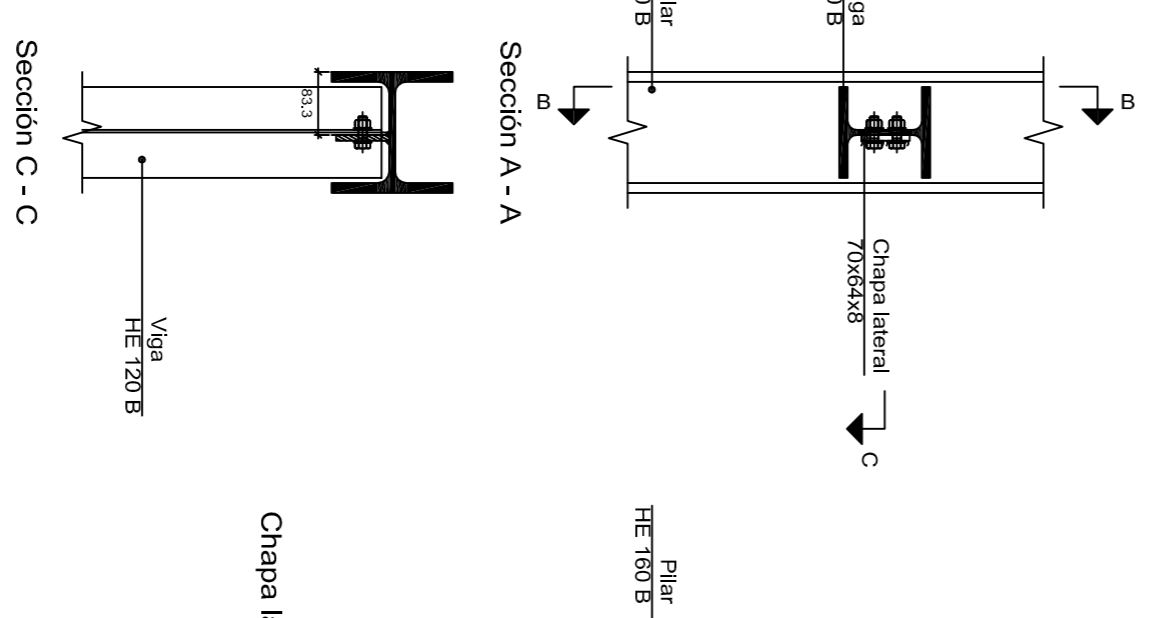
Tipo 76



Chapa lateral de la viga HE 120 B  
(e = 7 mm)

Escala 1:10

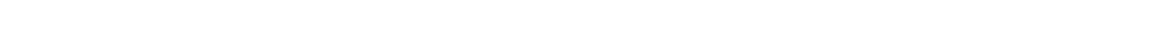
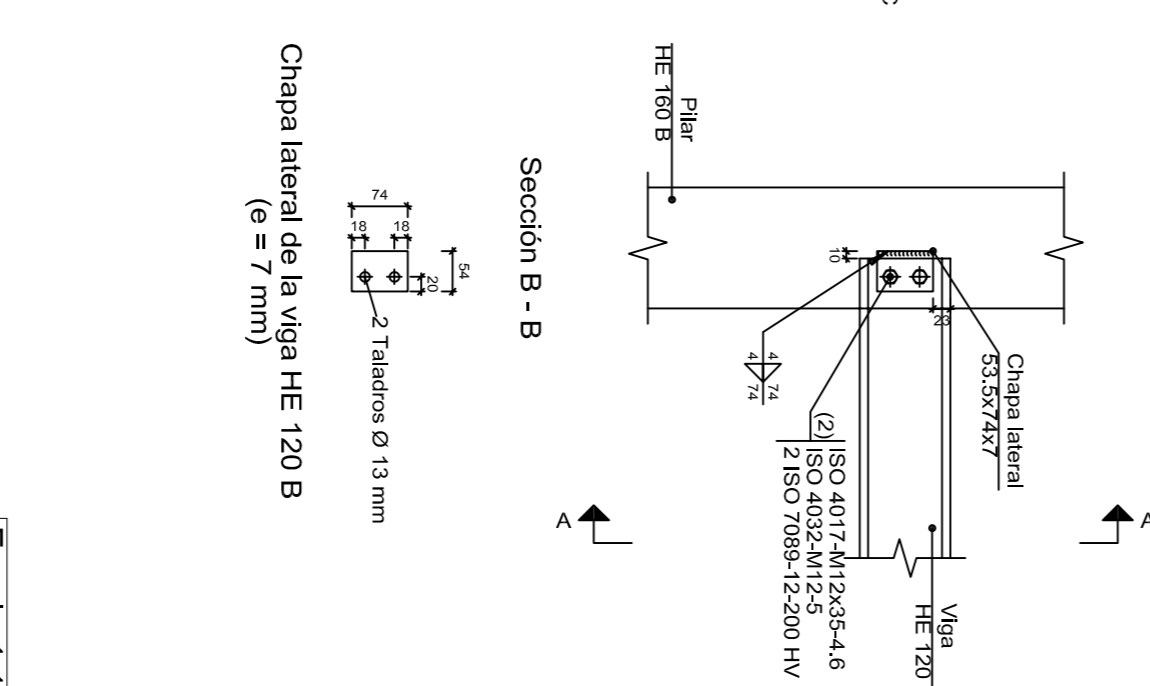
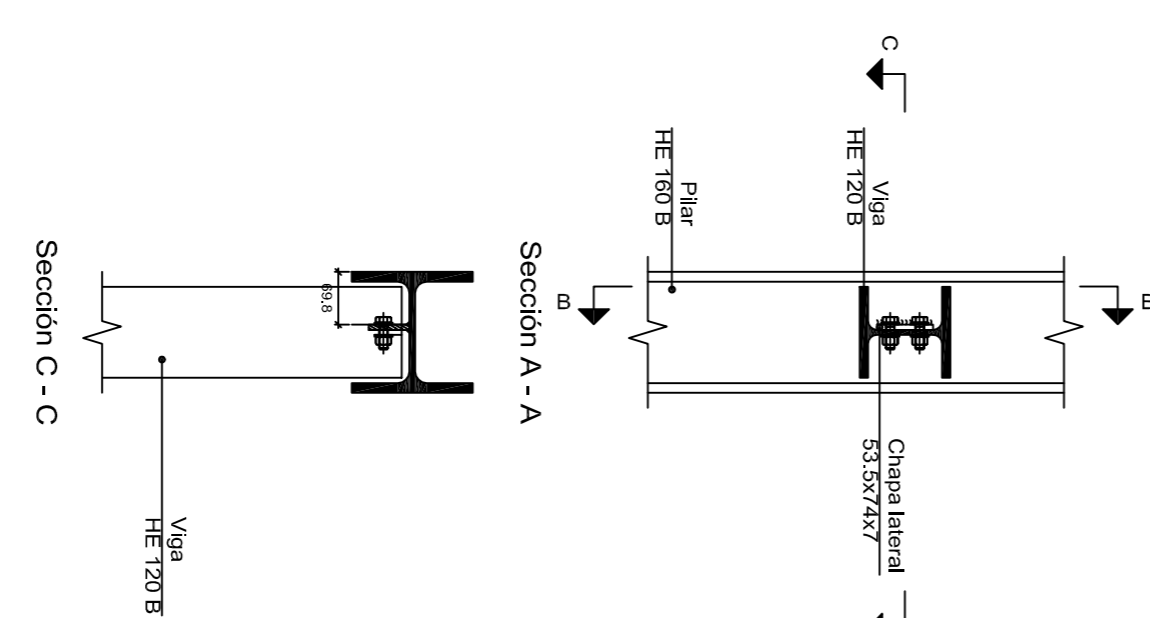
Tipo 33



Chapa lateral de la viga HE 120 B  
(e = 6 mm)

Escala 1:10

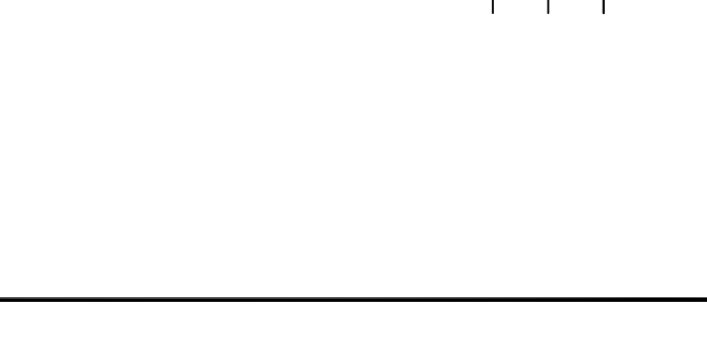
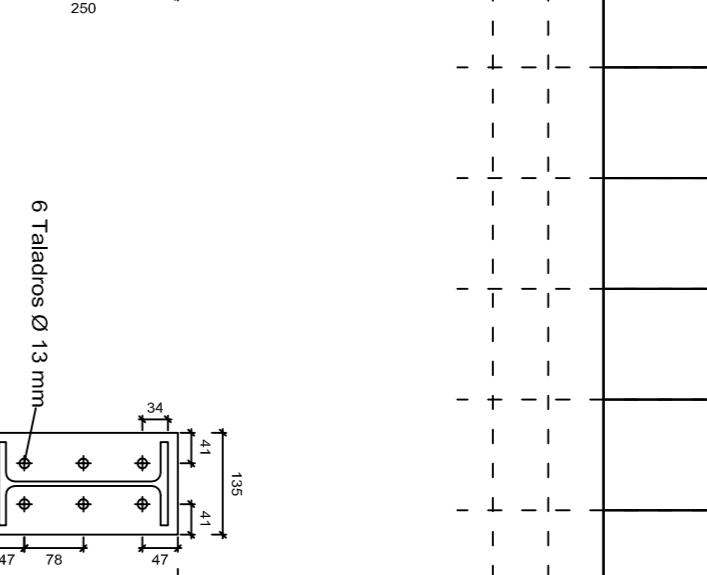
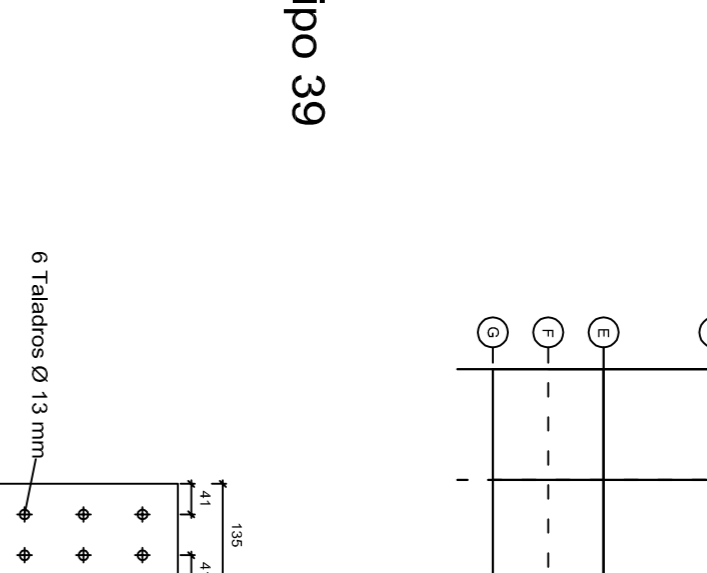
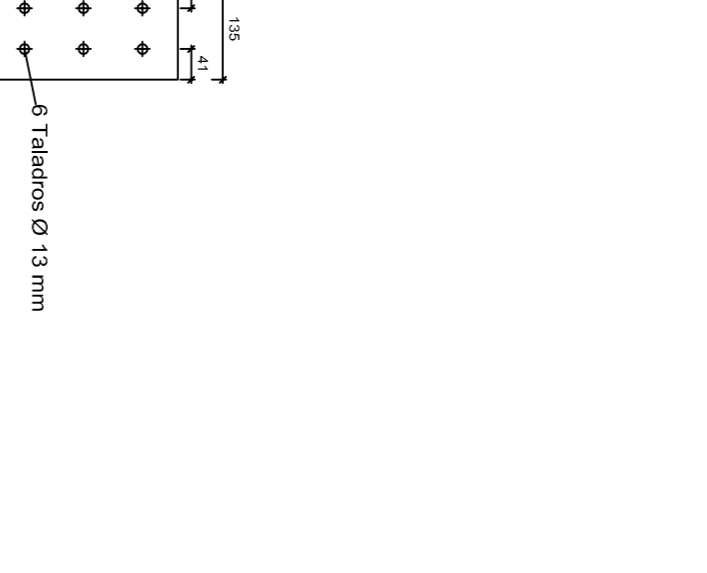
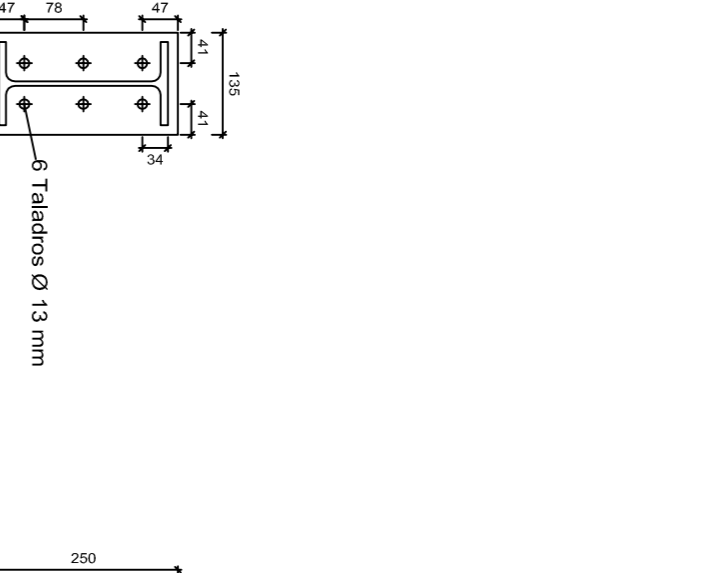
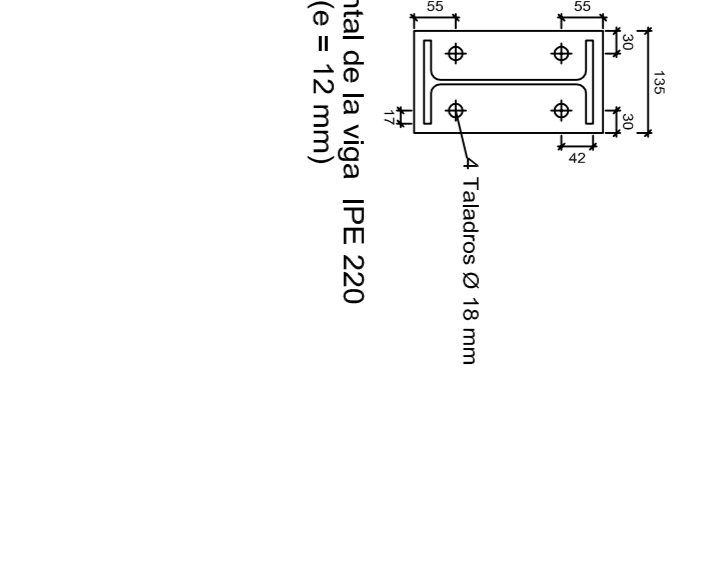
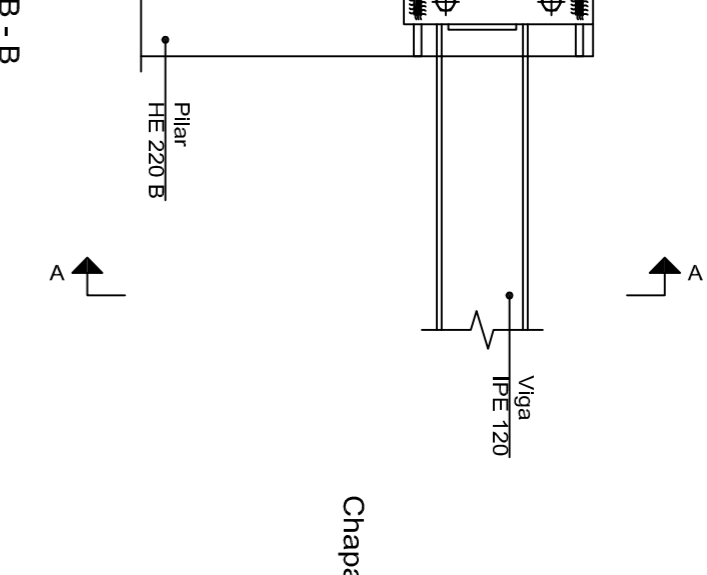
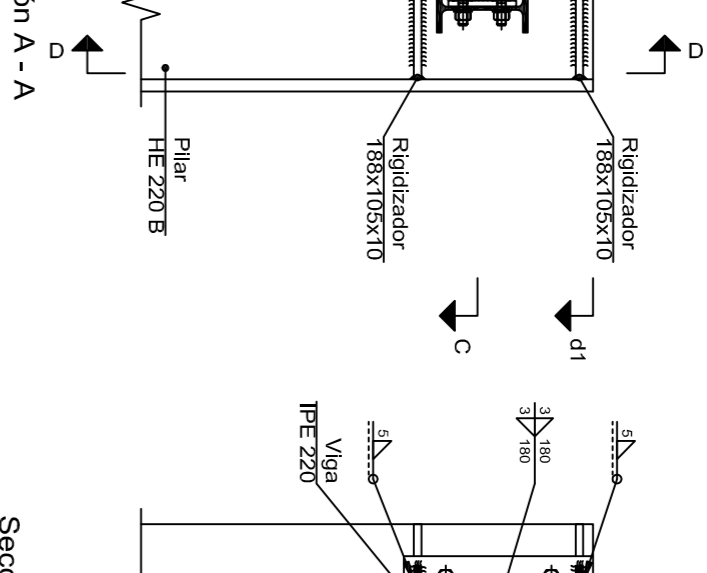
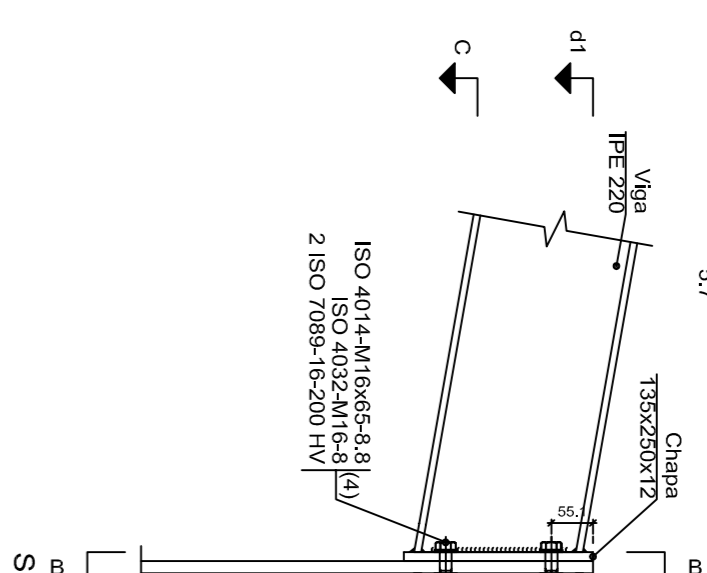
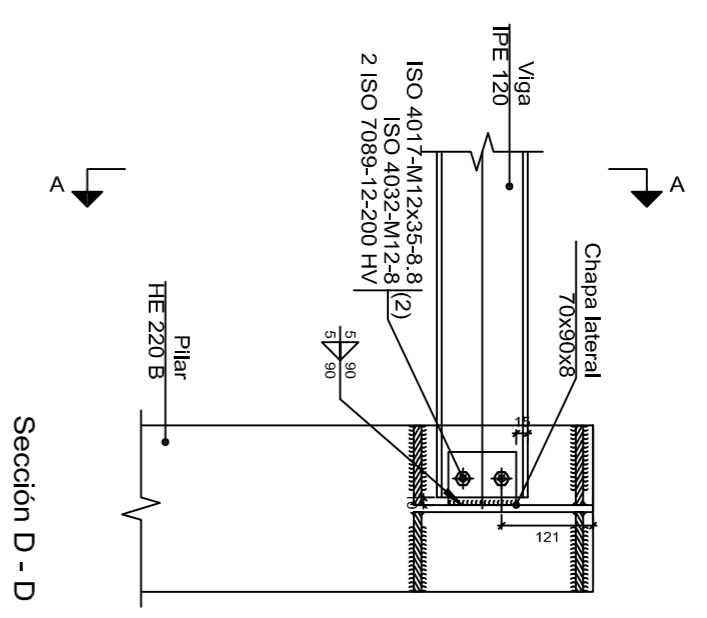
Tipo 77



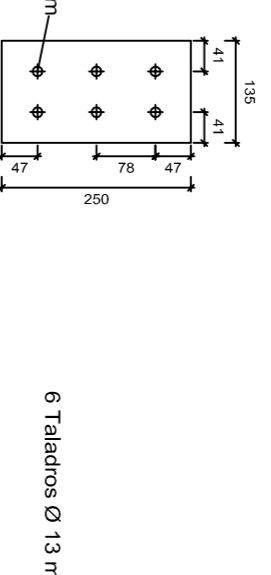
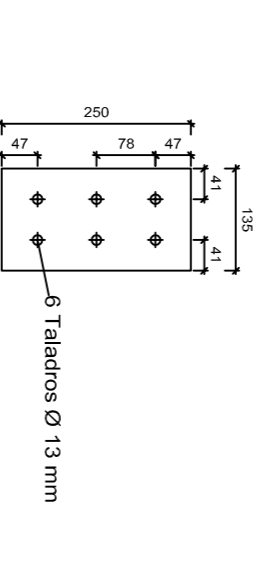
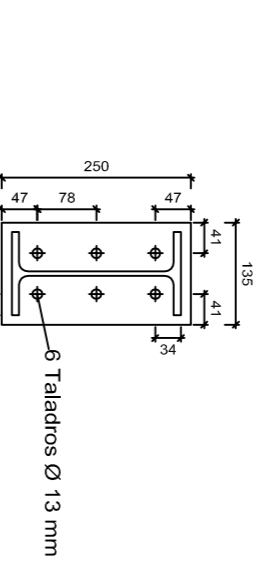
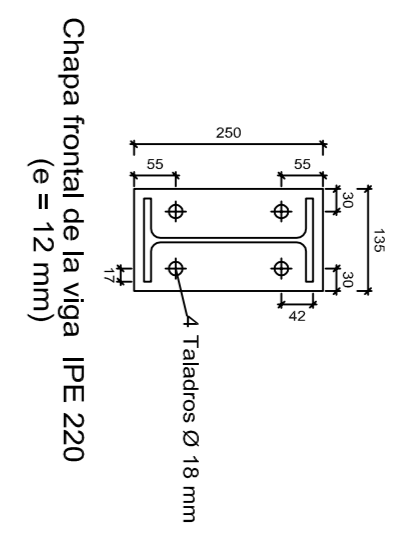
Chapa lateral de la viga HE 120 B  
(e = 7 mm)

Escala 1:10

Fecha		Nombre		UNIVERSIDAD DE LAS ISLAS CAROLINAS DE ESPAÑA ESCUELA TÉCNICA INDUSTRIAL DE LAS ISLAS CAROLINAS DE ESPAÑA	
Dibujado: 07/2017		D. PRADA		CONSTRUCCIÓN DE MARTE INDUSTRIAL, CON CIDA FUENTE PARA LA EMPRESA DE FABRICACIÓN DE MANTENIMIENTO S.A.	
Comprobado: 07/2017		J. ELAVALDODGOTIA		Nº Planos: 41	
Escala: A1		1:10		Plano Nº: P10	
<b>PORTICO 9 Y UNIONES</b>					



Tipo 12



Tipo 39

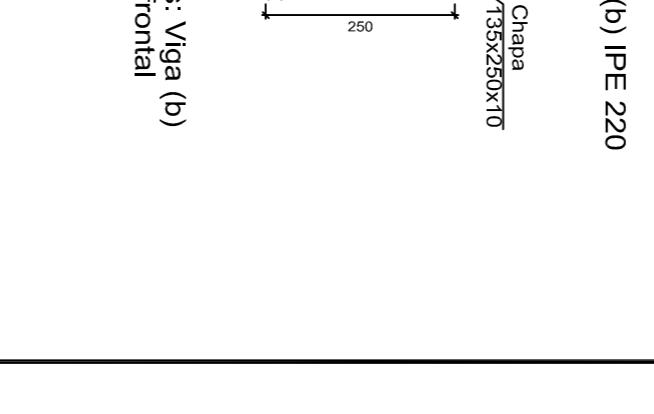
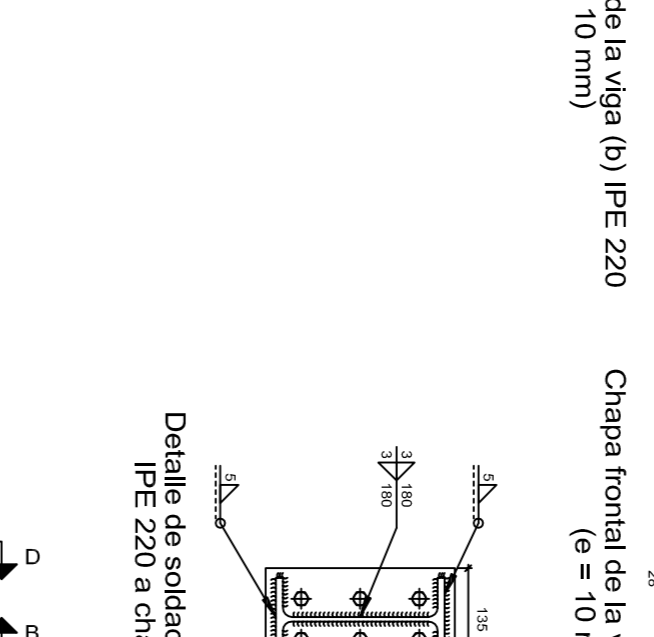
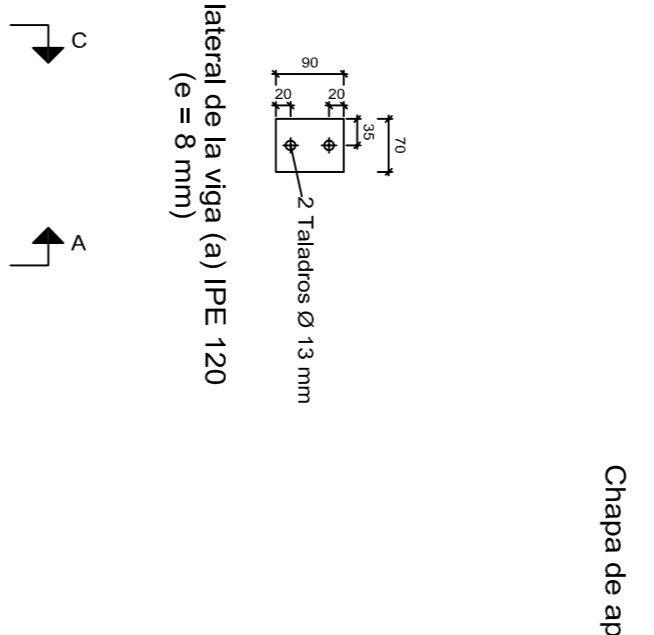
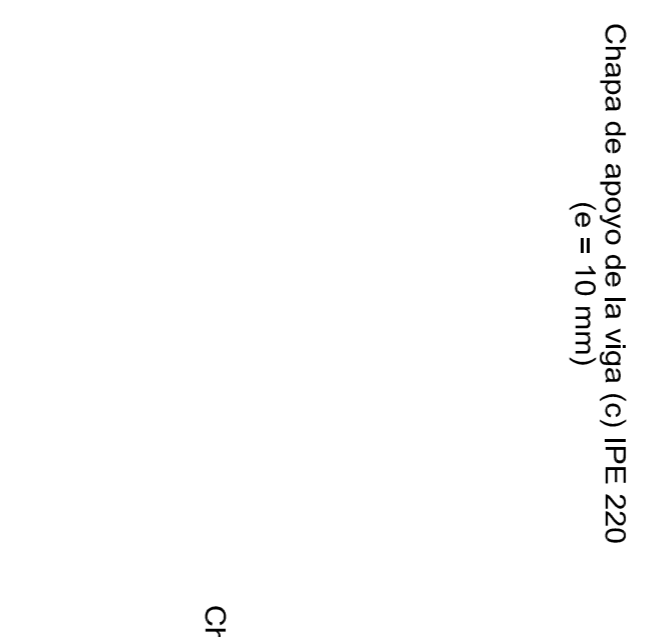
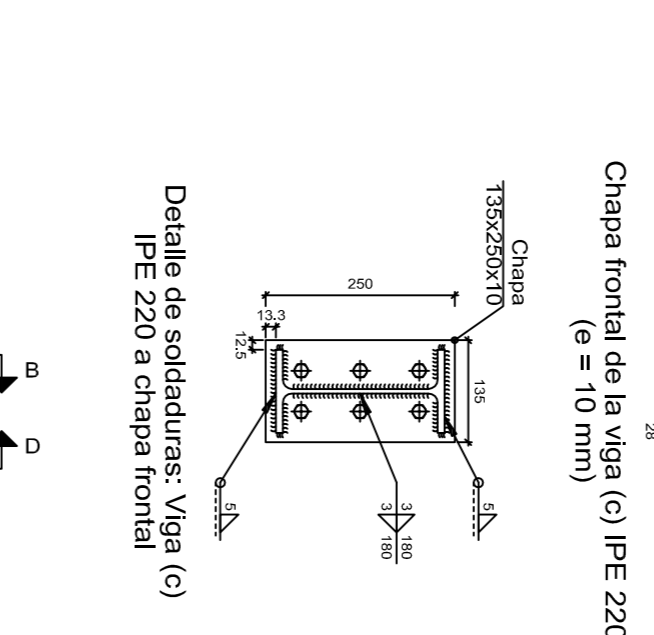
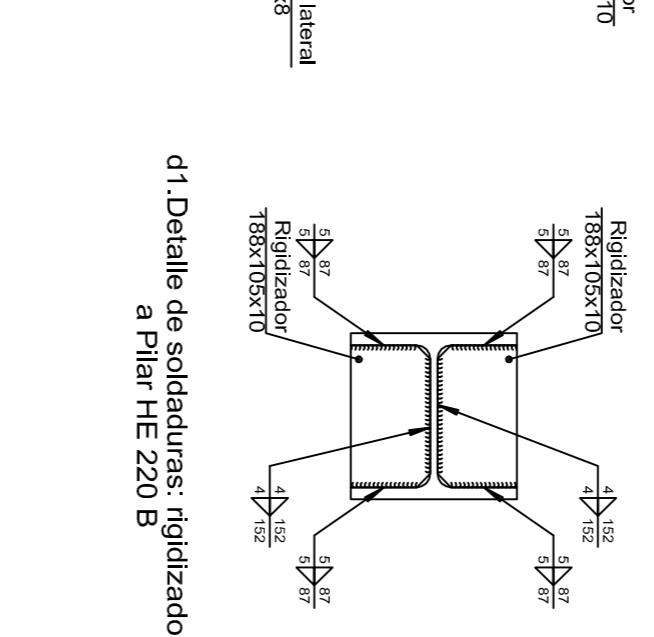
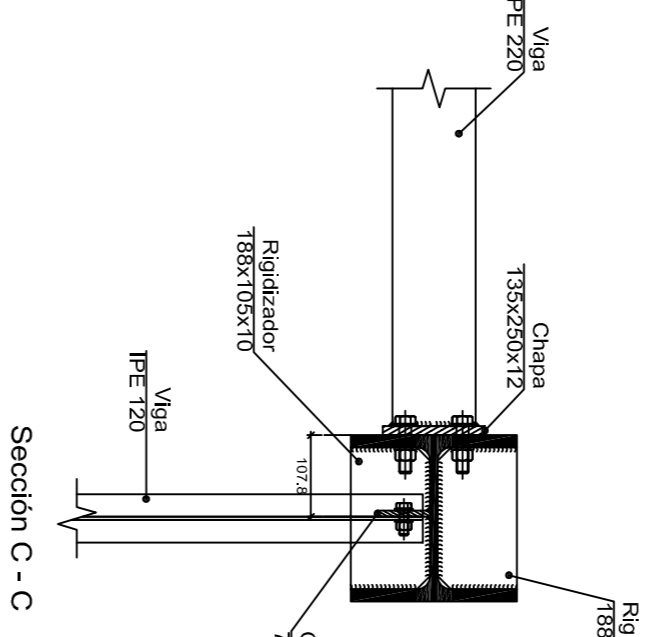
Chapa frontal de la viga (c) IPE 220 (e = 10 mm)

Chapa de apoyo de la viga (c) IPE 220 (e = 10 mm)

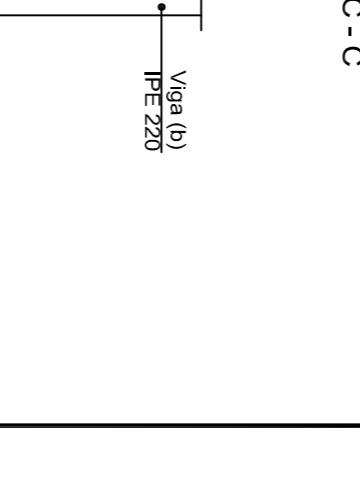
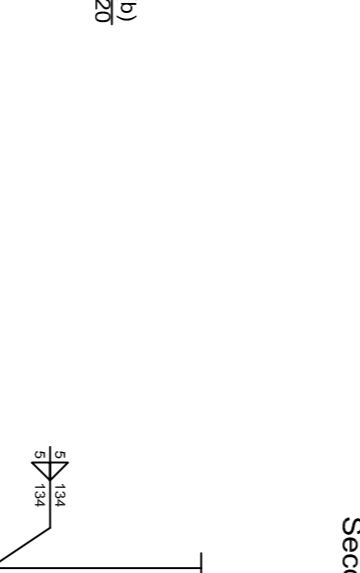
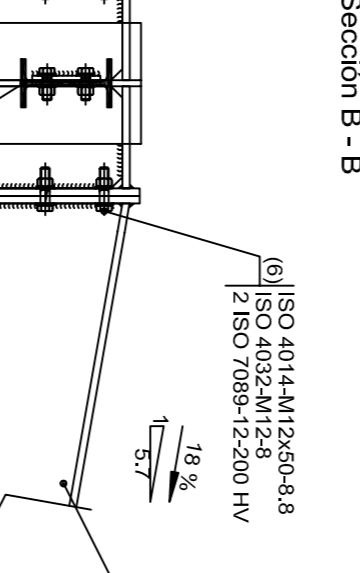
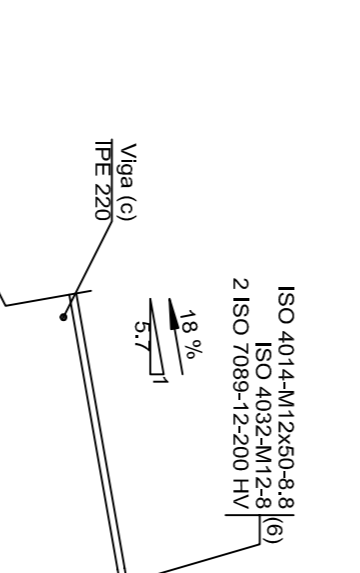
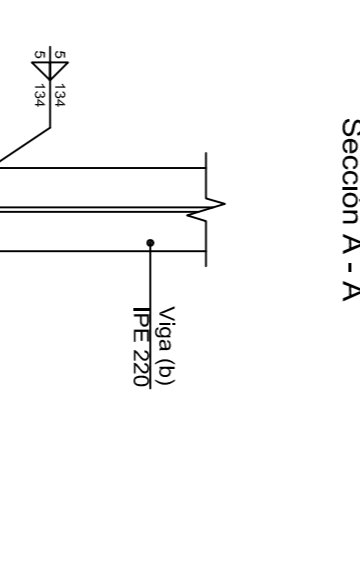
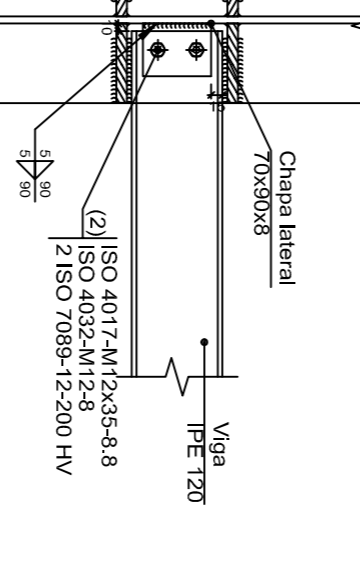
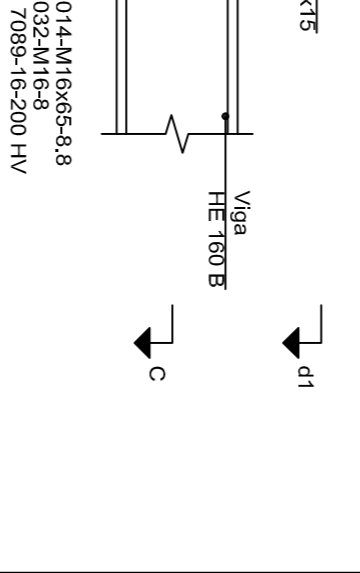
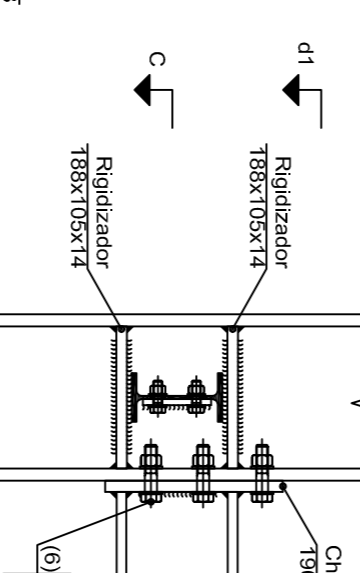
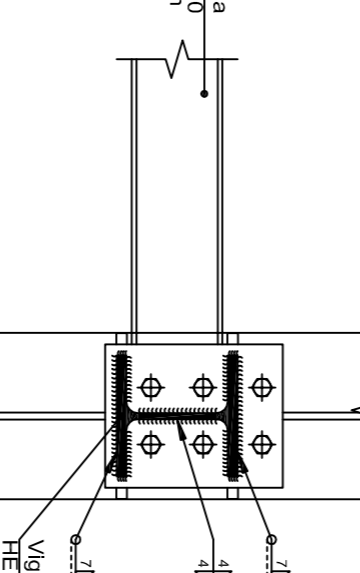
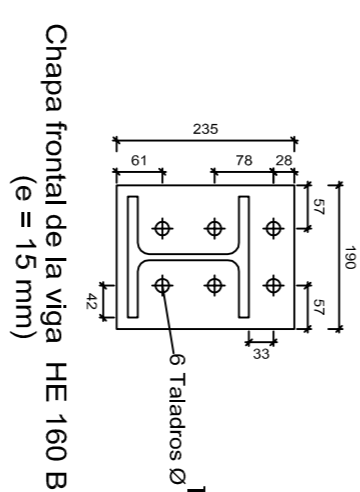
Chapa de apoyo de la viga (b) IPE 220 (e = 10 mm)

Chapa frontal de la viga (b) IPE 220 (e = 10 mm)

Chapa lateral de la viga IPE 120 (e = 8 mm)



Tipo 43



Escala 1:10

Escala 1:10

d1:Detalle de soldaduras: rigidizadores a Pilar HE 220 B

d1:Detalle de soldaduras: rigidizadores a Pilar HE 220 B

d1:Detalle de soldaduras: rigidizadores a Pilar HE 220 B

Detalle de soldaduras: Viga (c) IPE 220 a chapa frontal

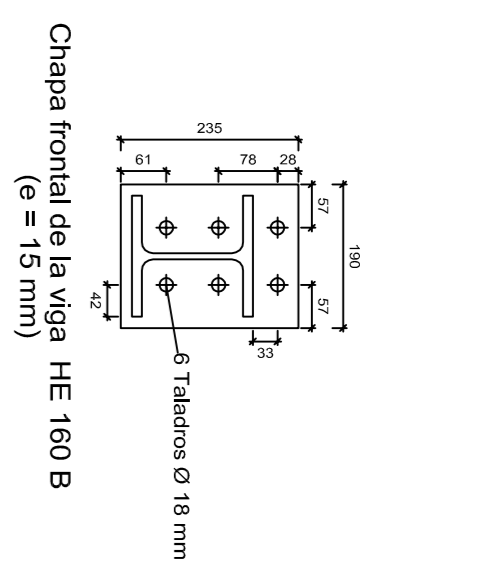
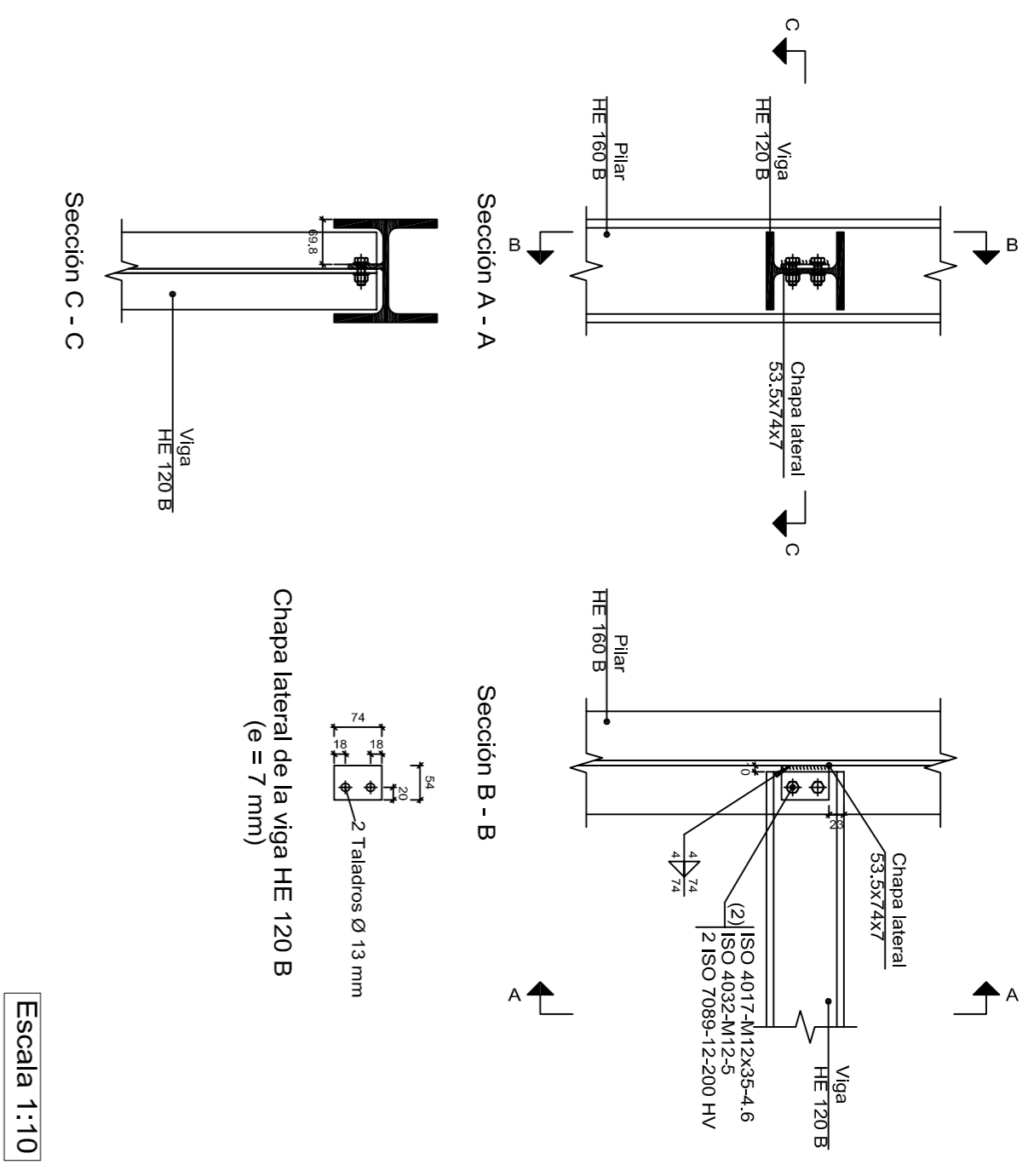
Chapa lateral de la viga (a) IPE 120 (e = 8 mm)

Detalle de soldaduras: Viga (b) IPE 220 a chapa frontal

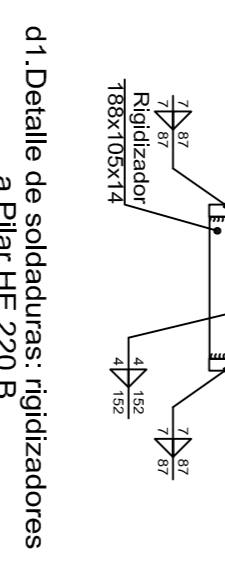
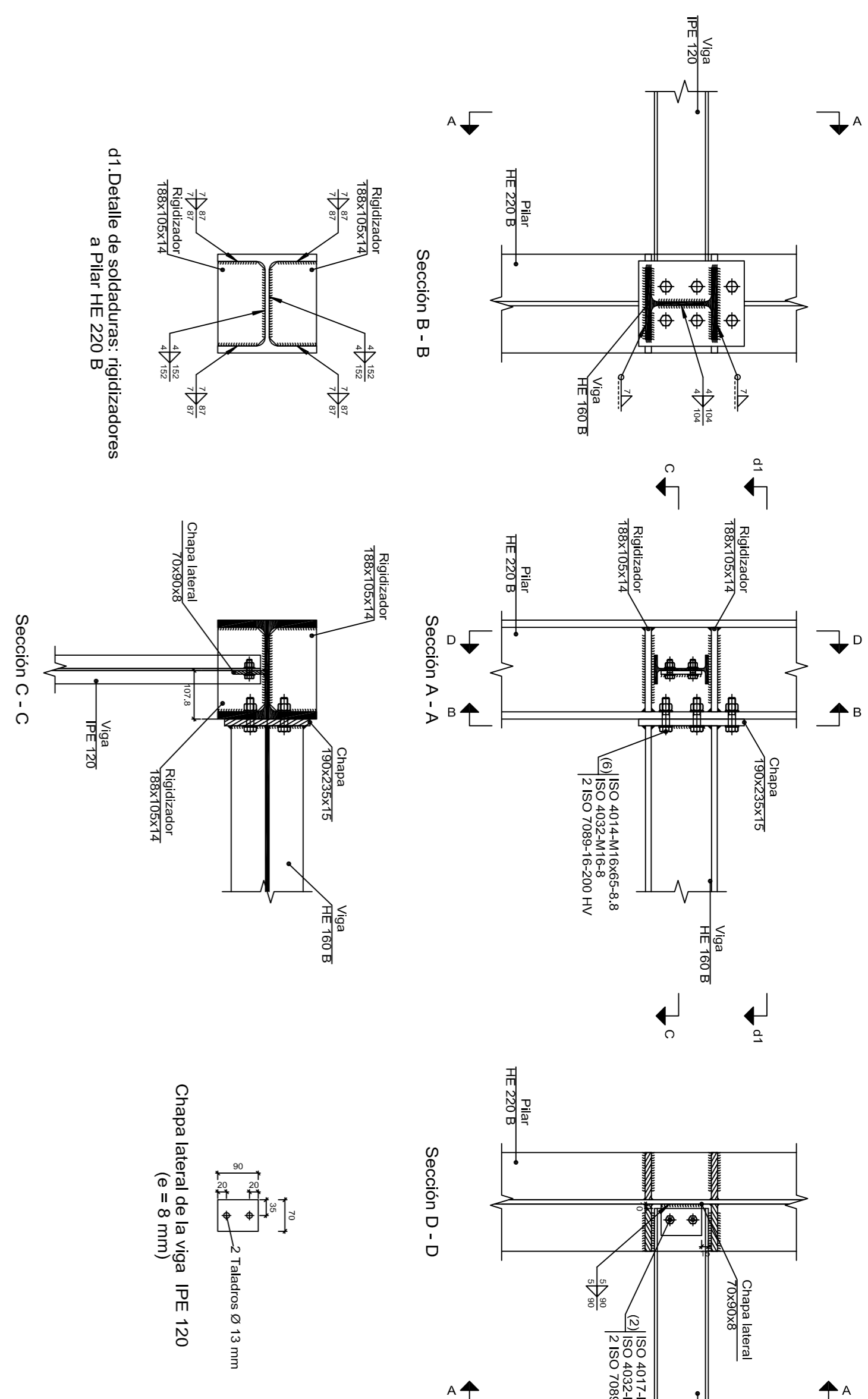
Escala 1:10

Fecha		Nombre		UNIVERSIDAD DE LAS ISLAS	
07/2017		D. PRADA		CENTRO TECNICO INDUSTRIAL BARRIO	
Dibujado:		Comprobado:		Tol. gen. 1:10	
07/2017		J.ELARAUOCOTITA		Escala A1	
<b>PÓRTICO 9 Y UNIONES</b>					
Plano N° P11					
N° Planos: 41					

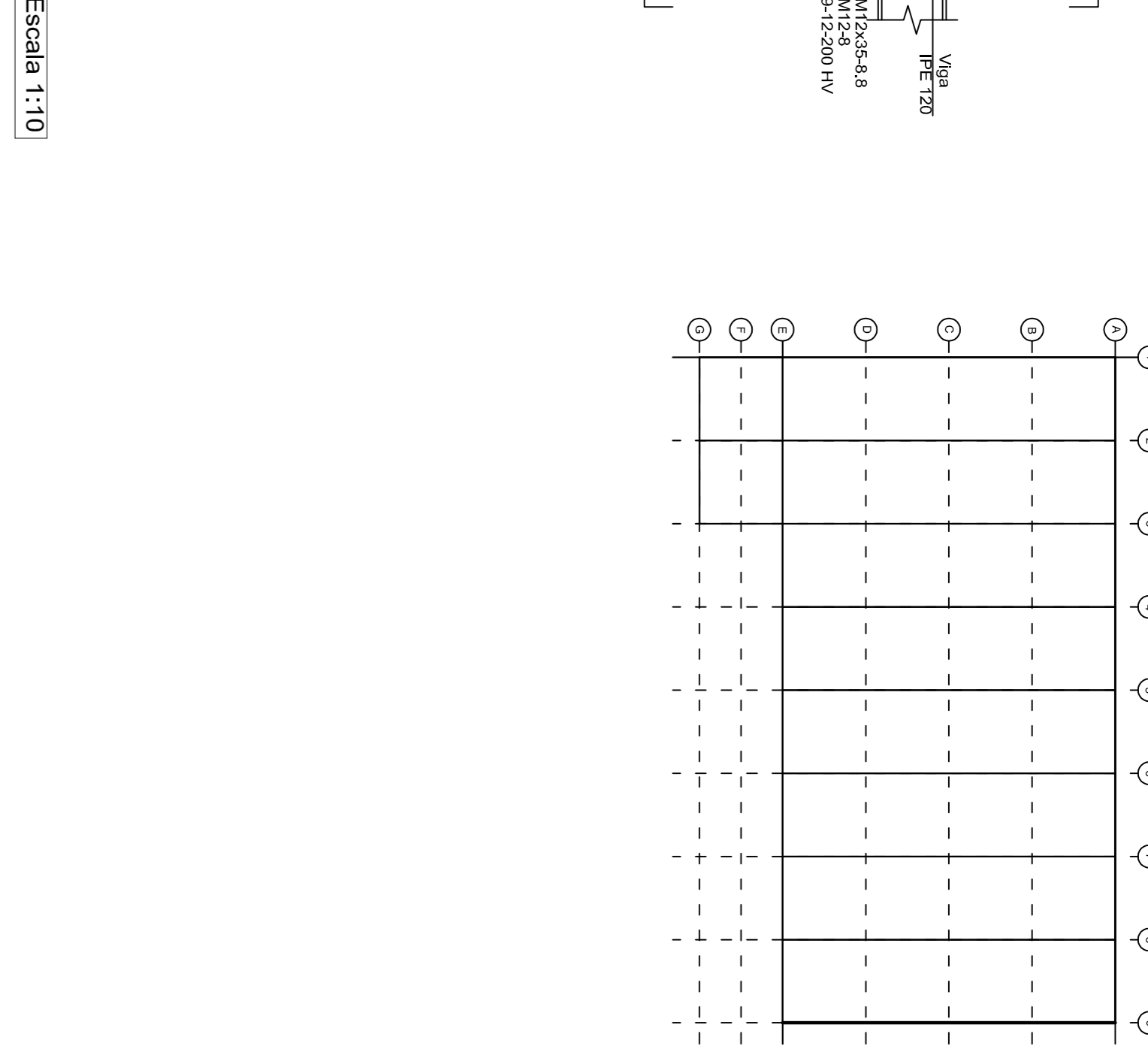
Tipo 50



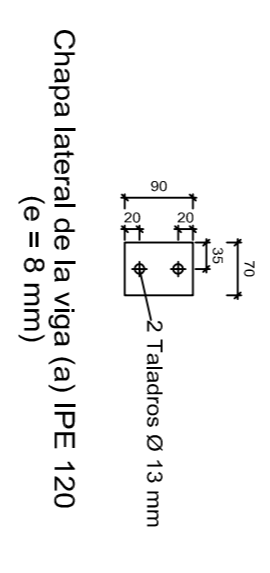
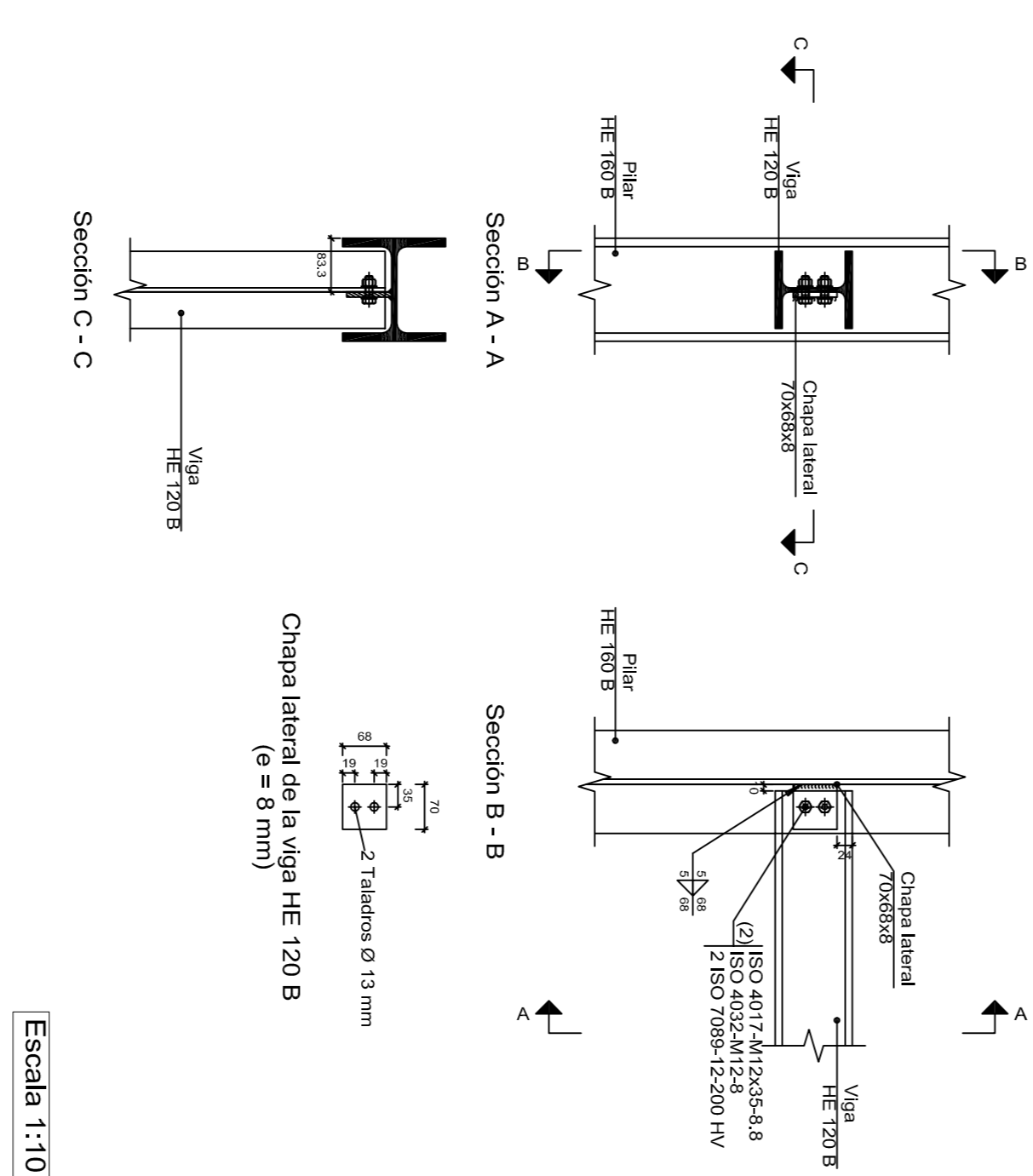
Tipo 43



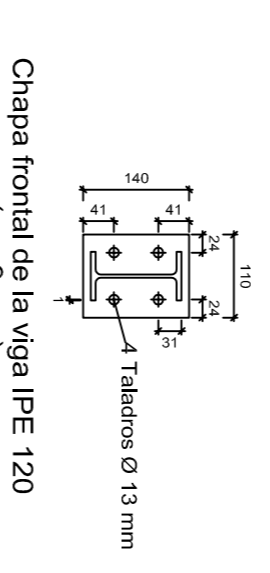
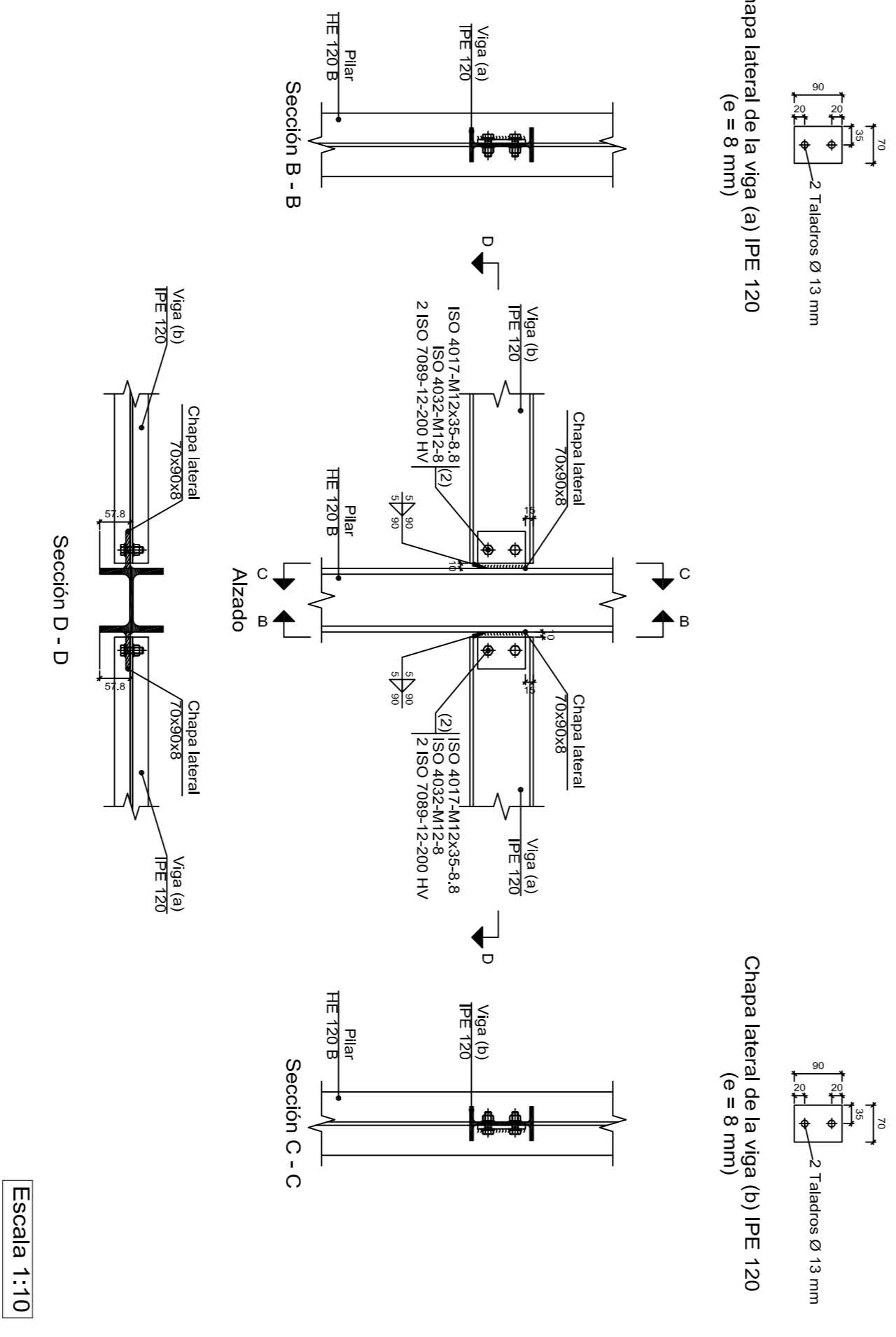
Tipo 56



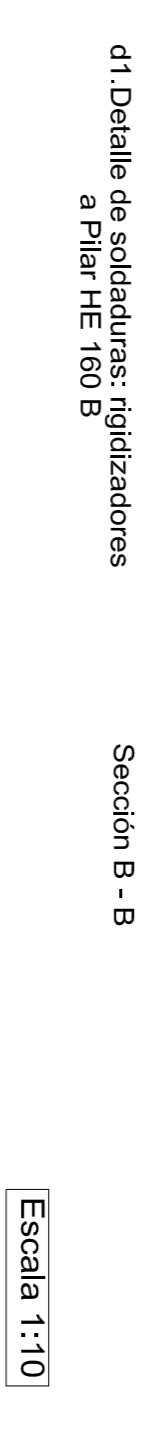
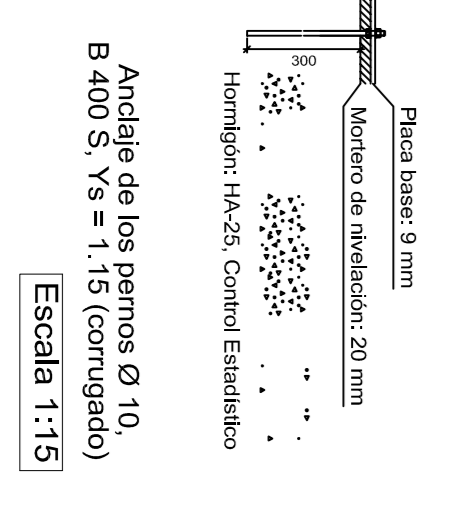
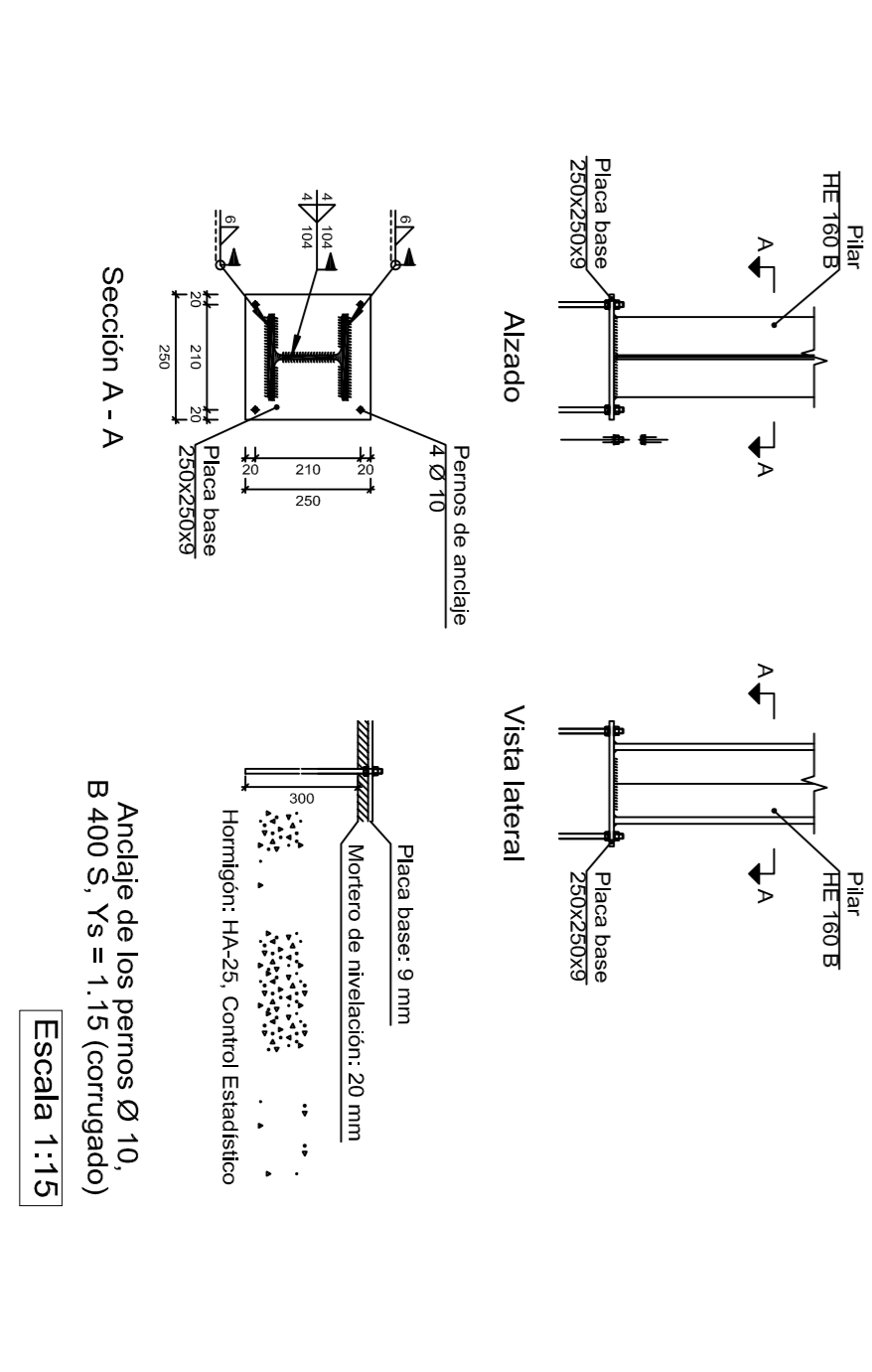
Tipo 48



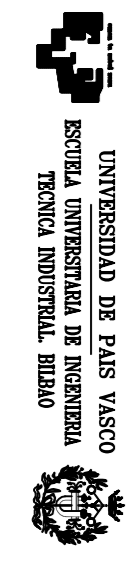
Tipo 46



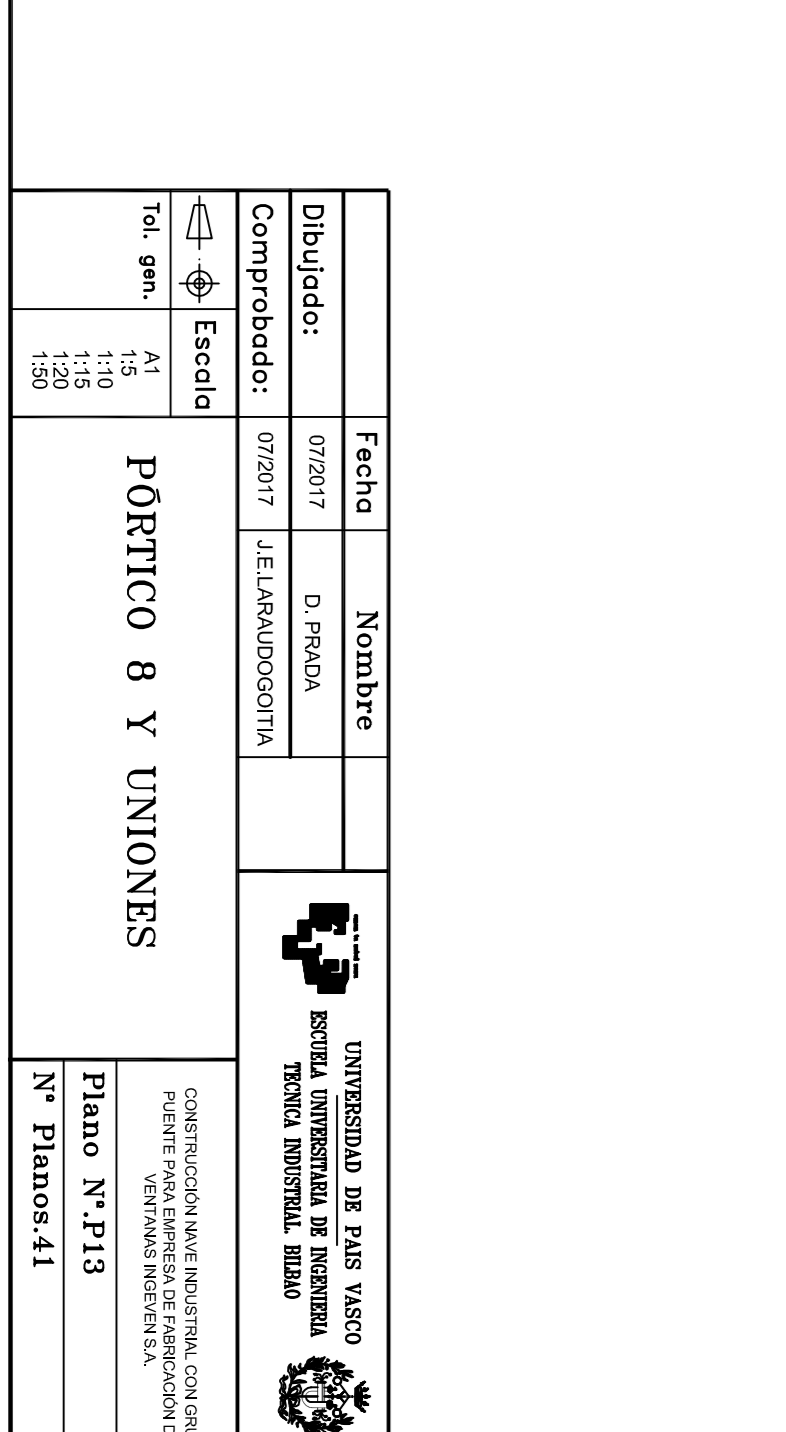
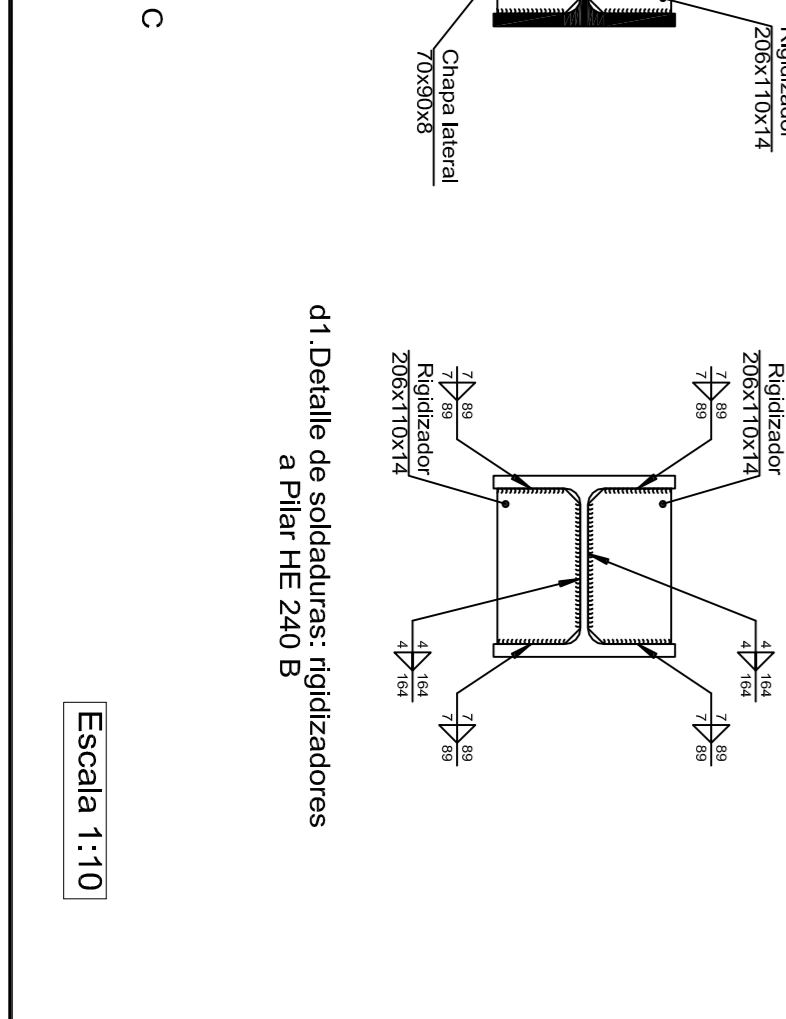
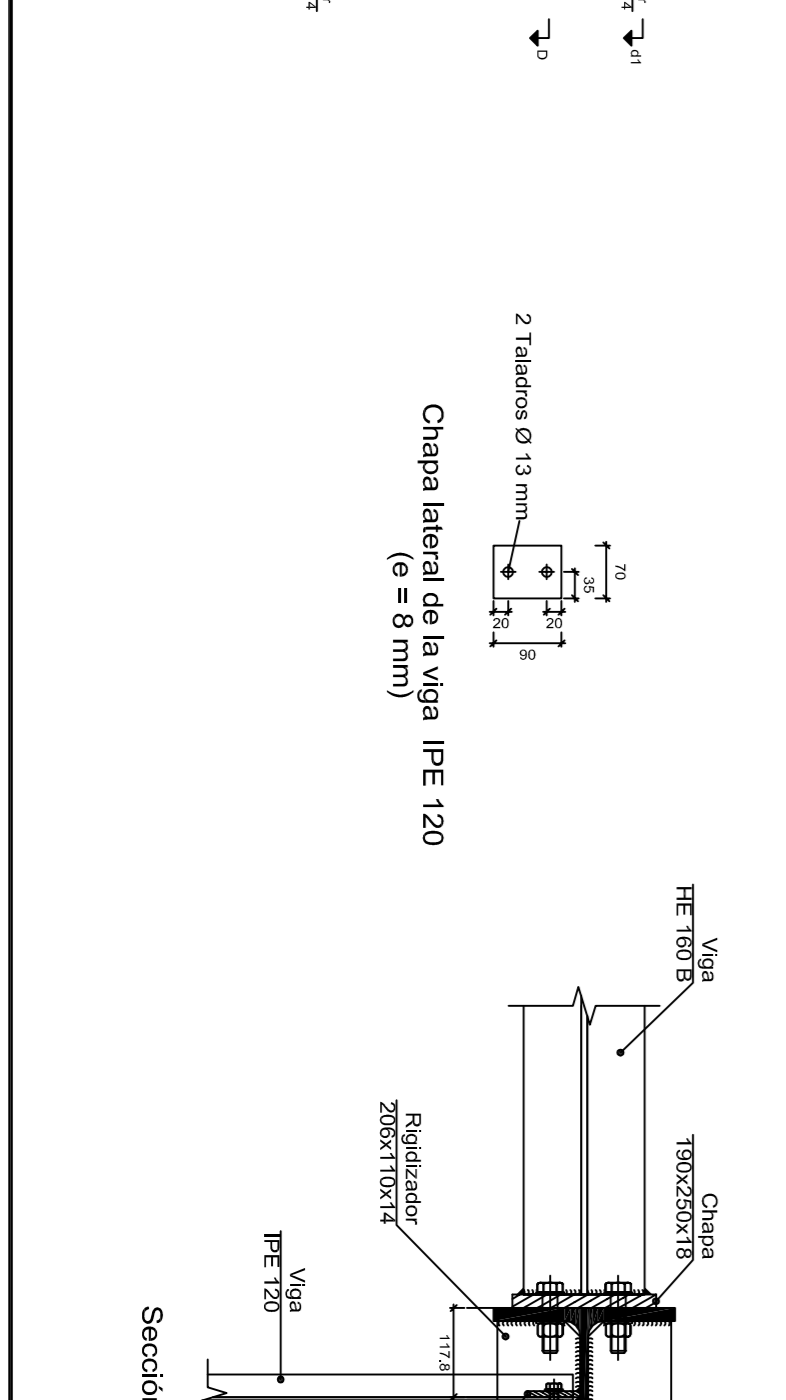
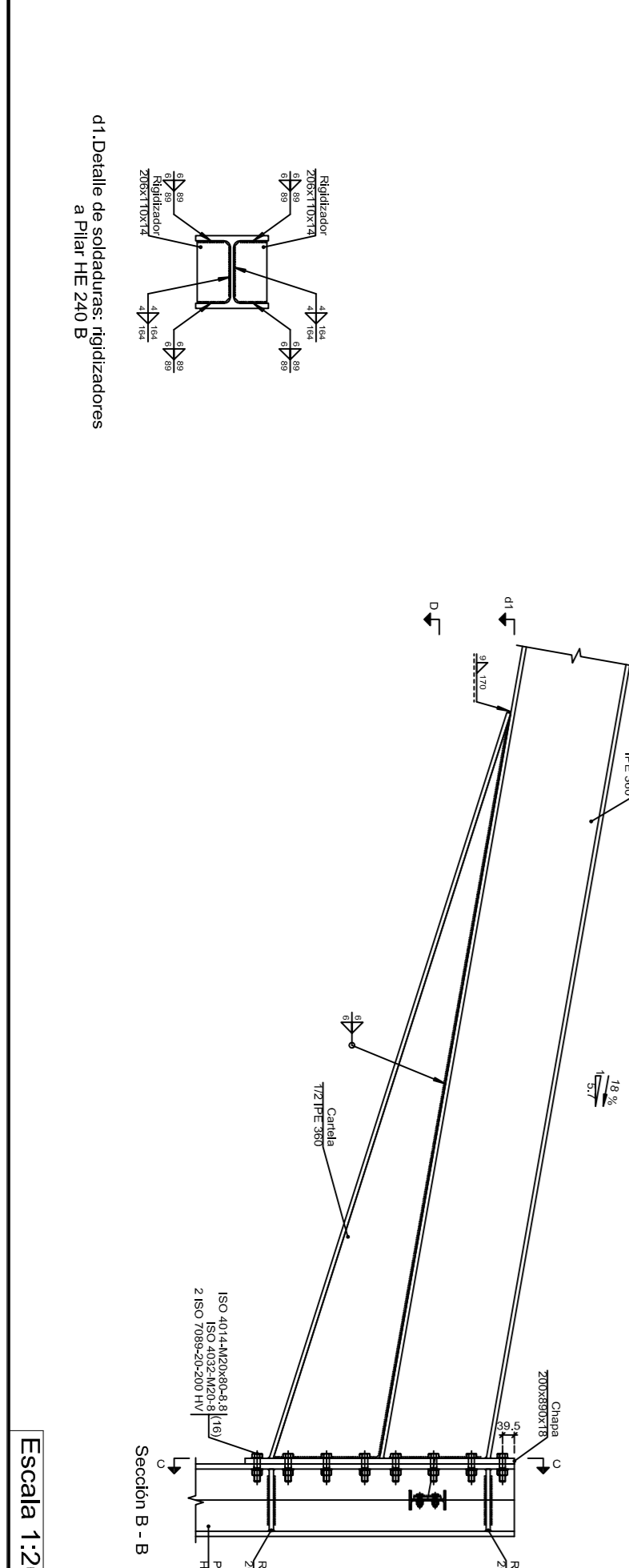
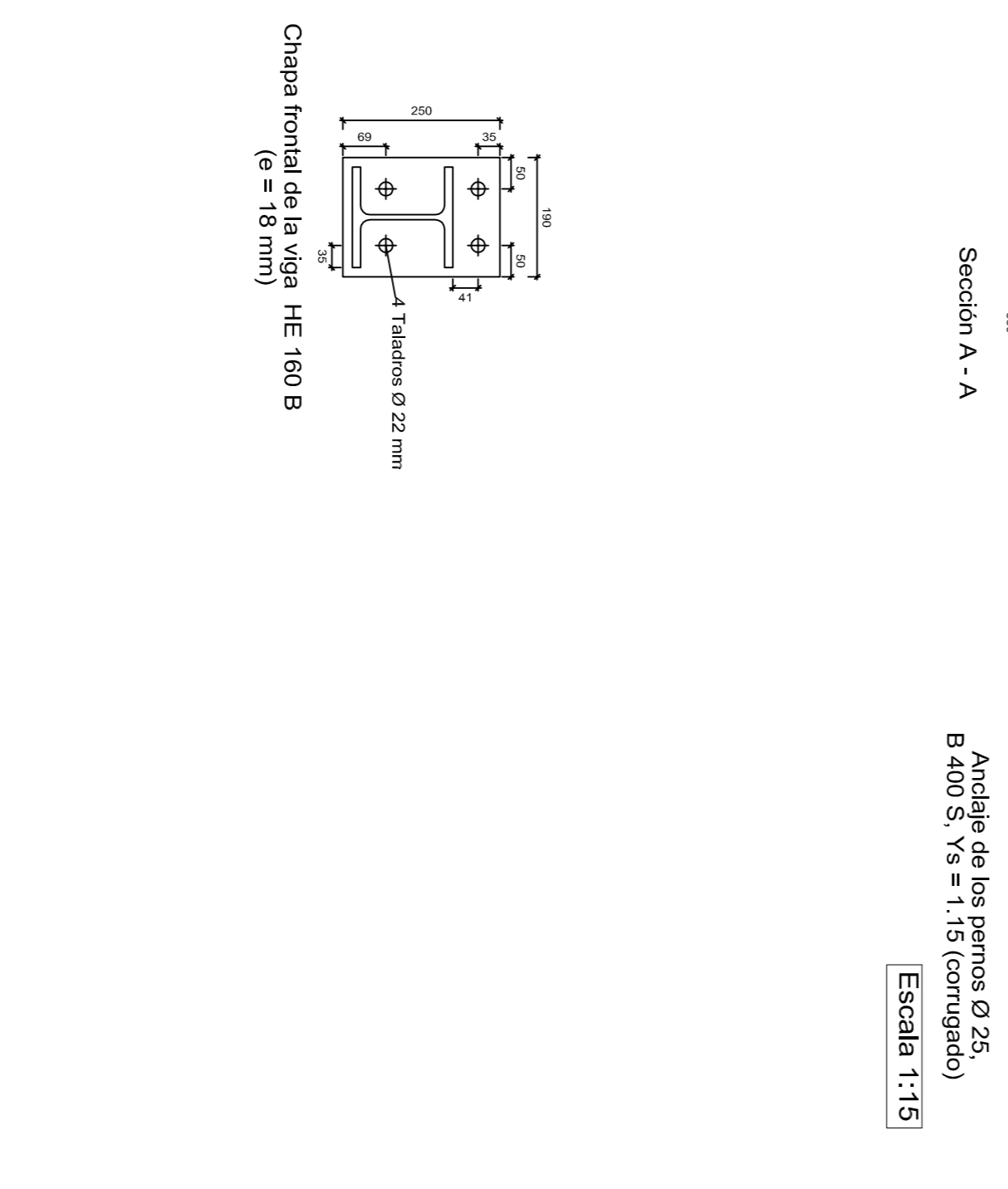
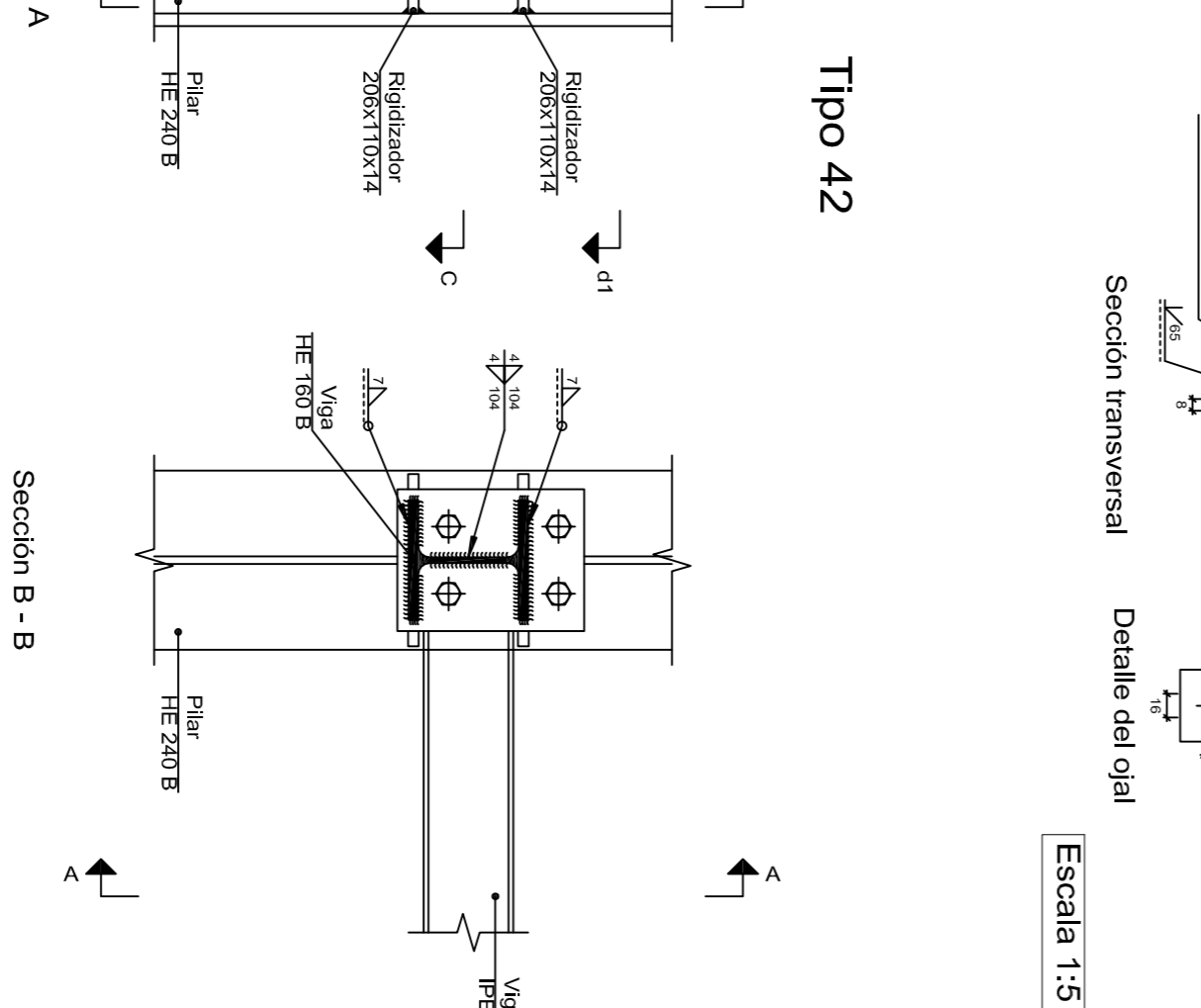
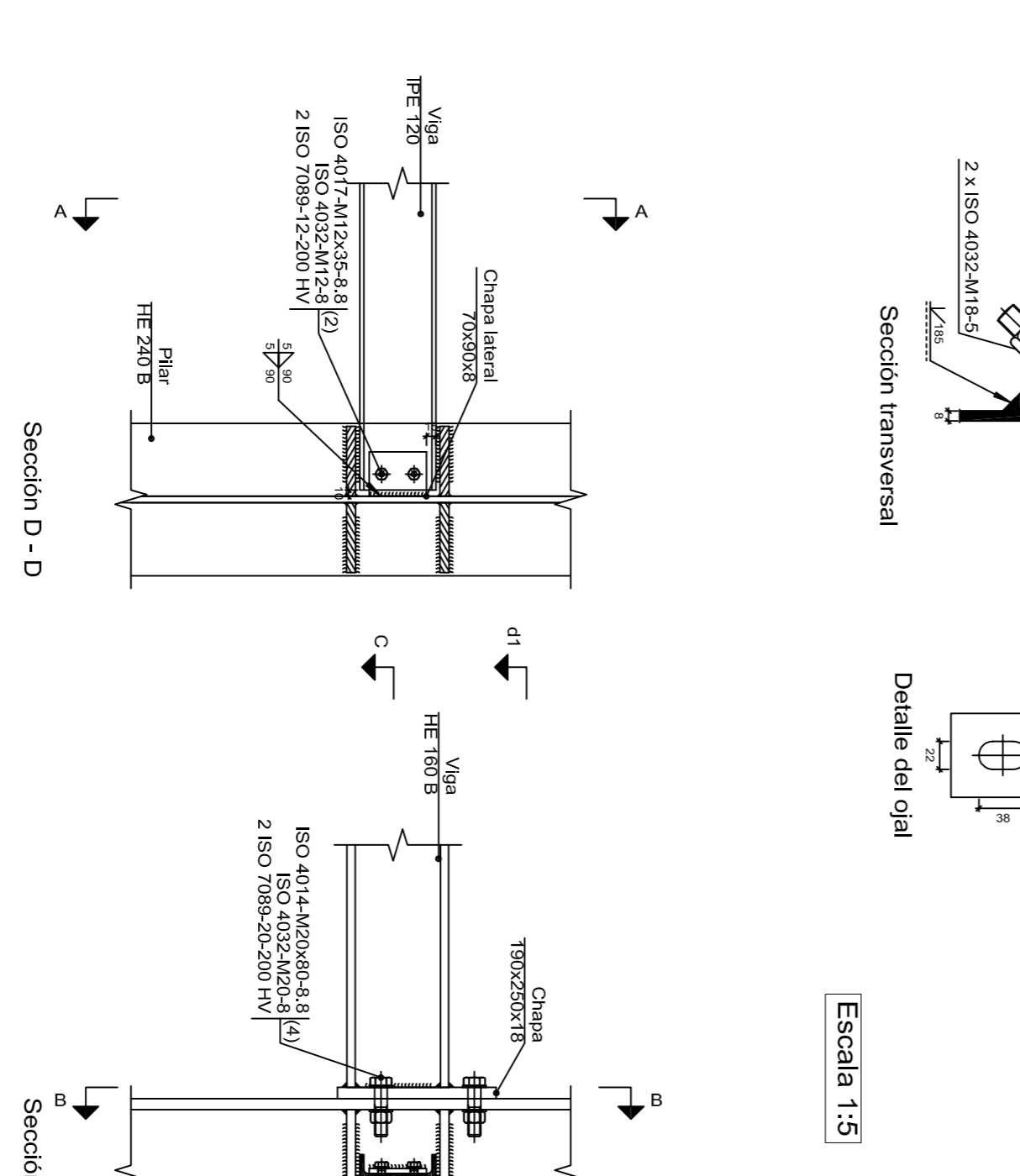
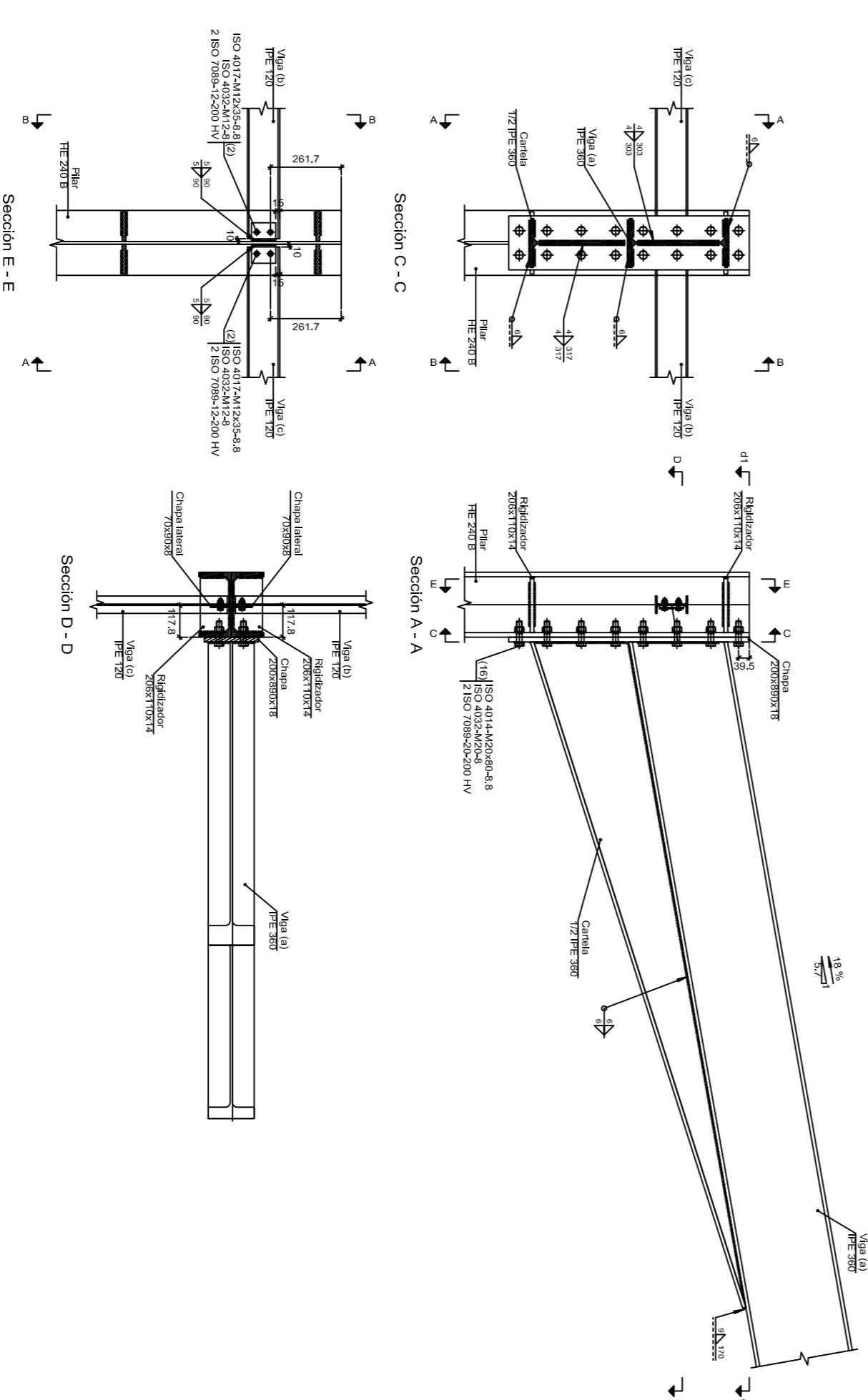
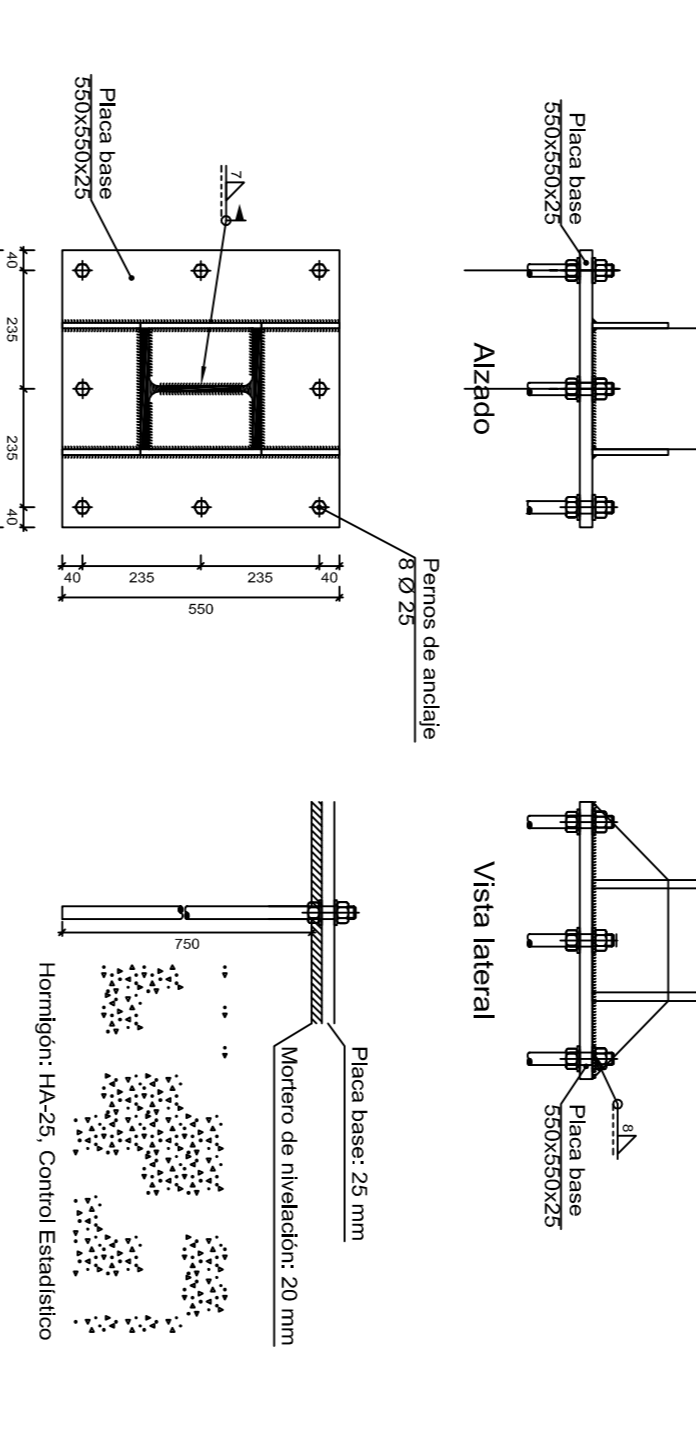
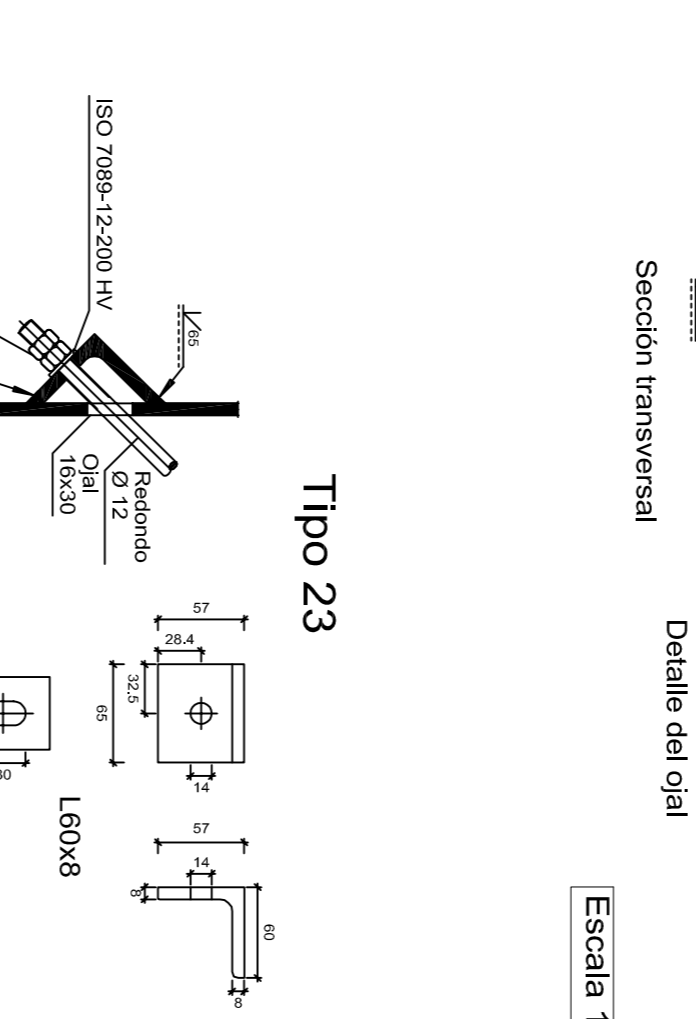
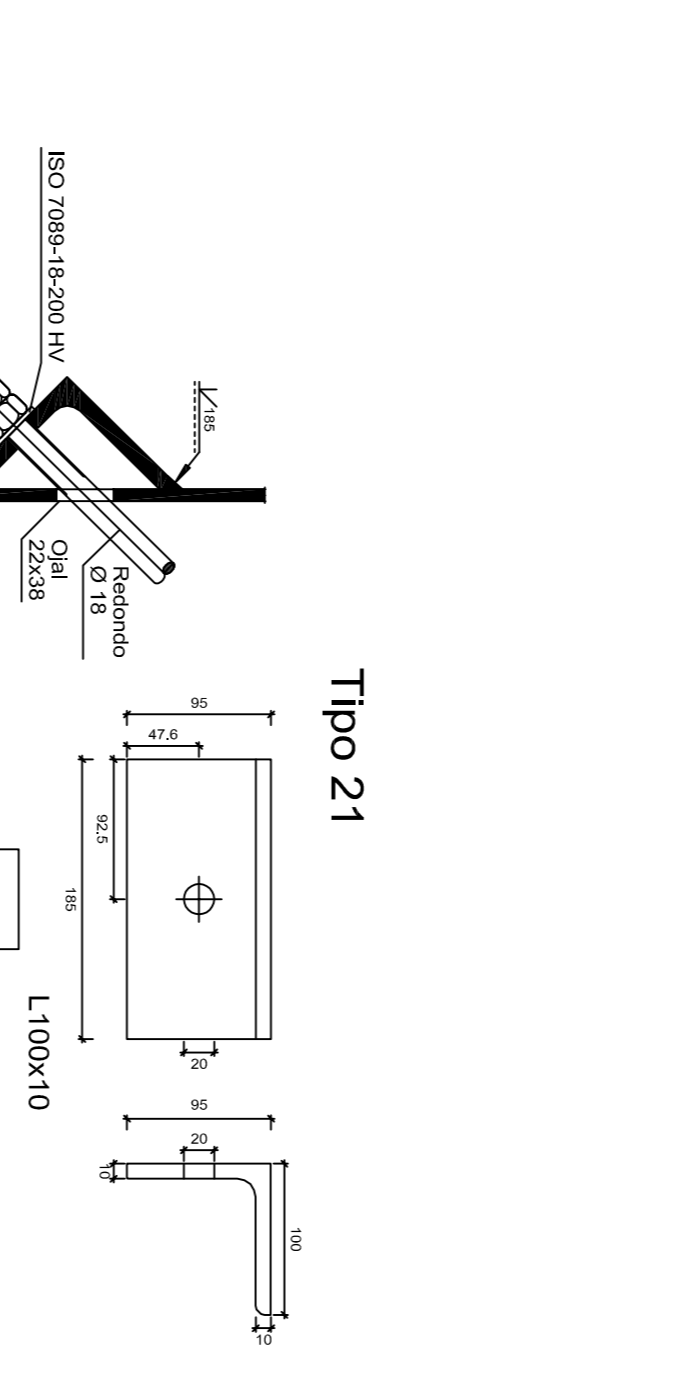
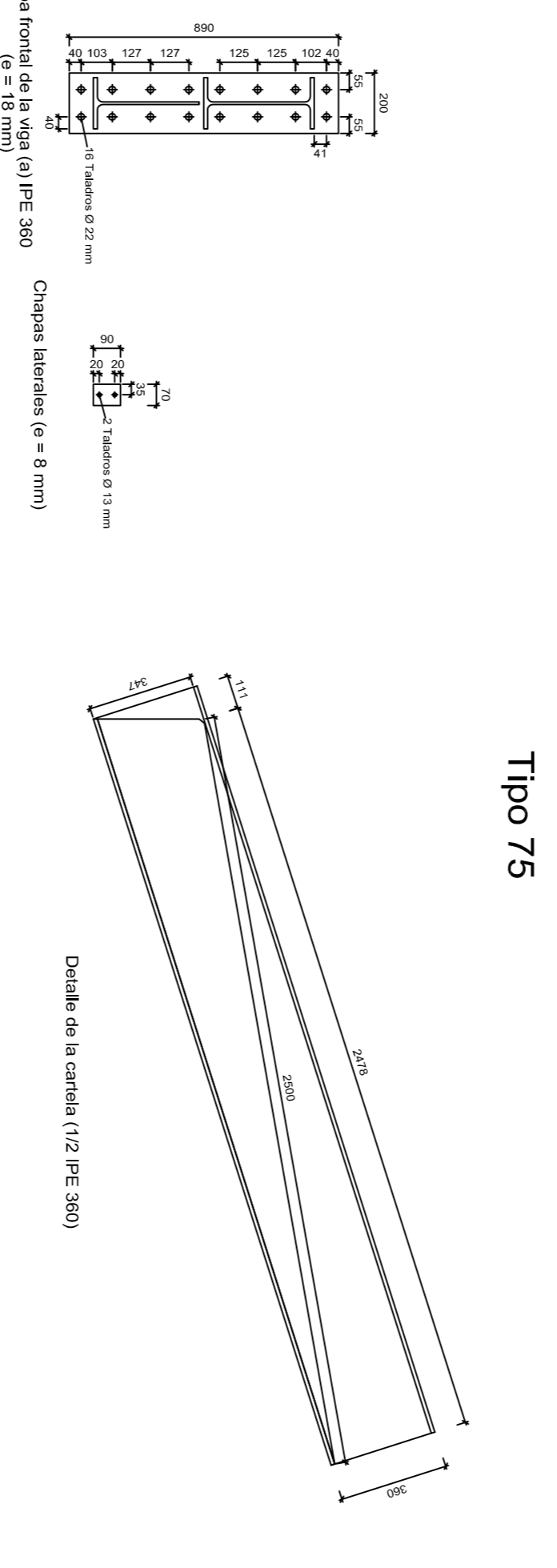
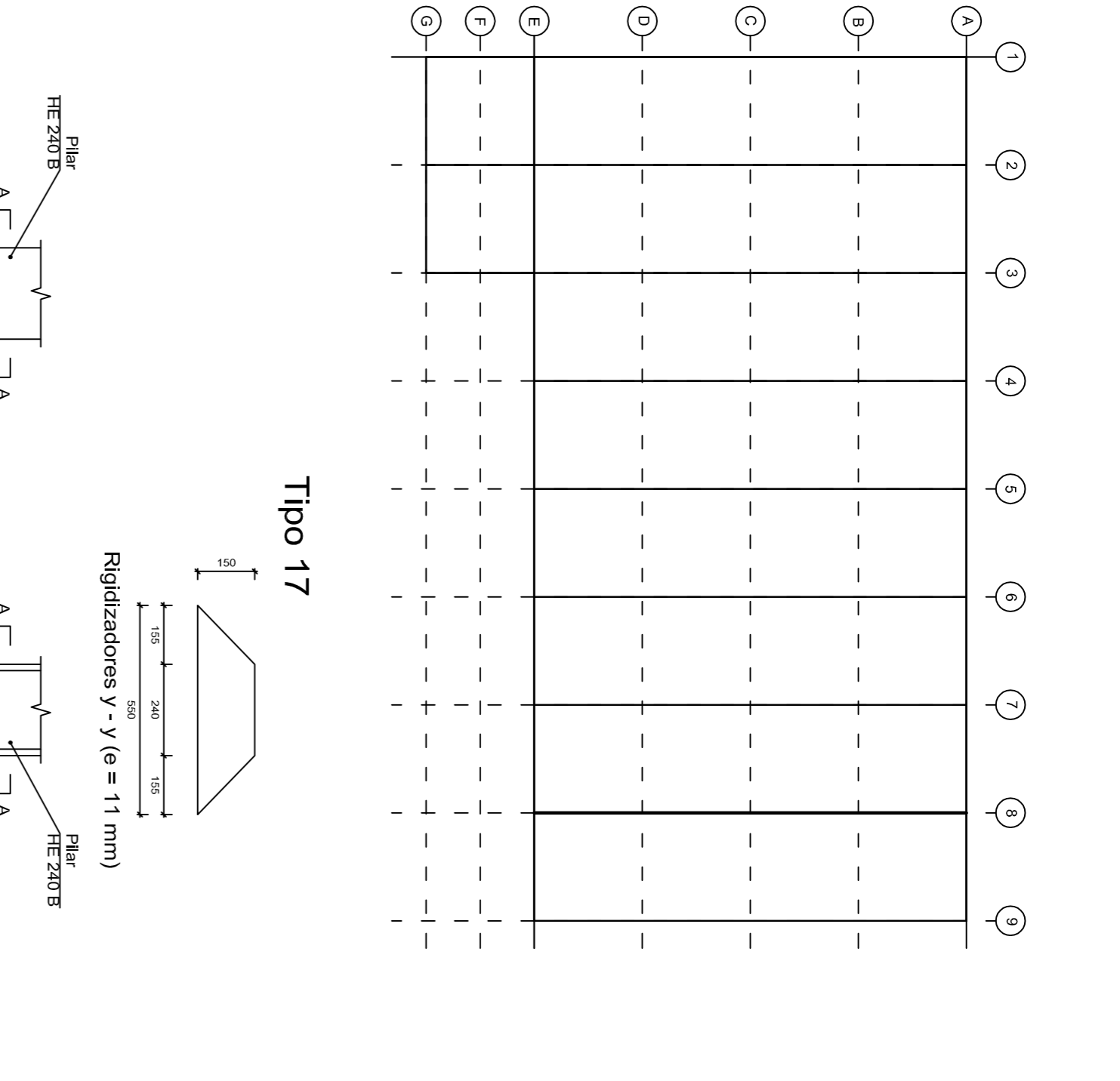
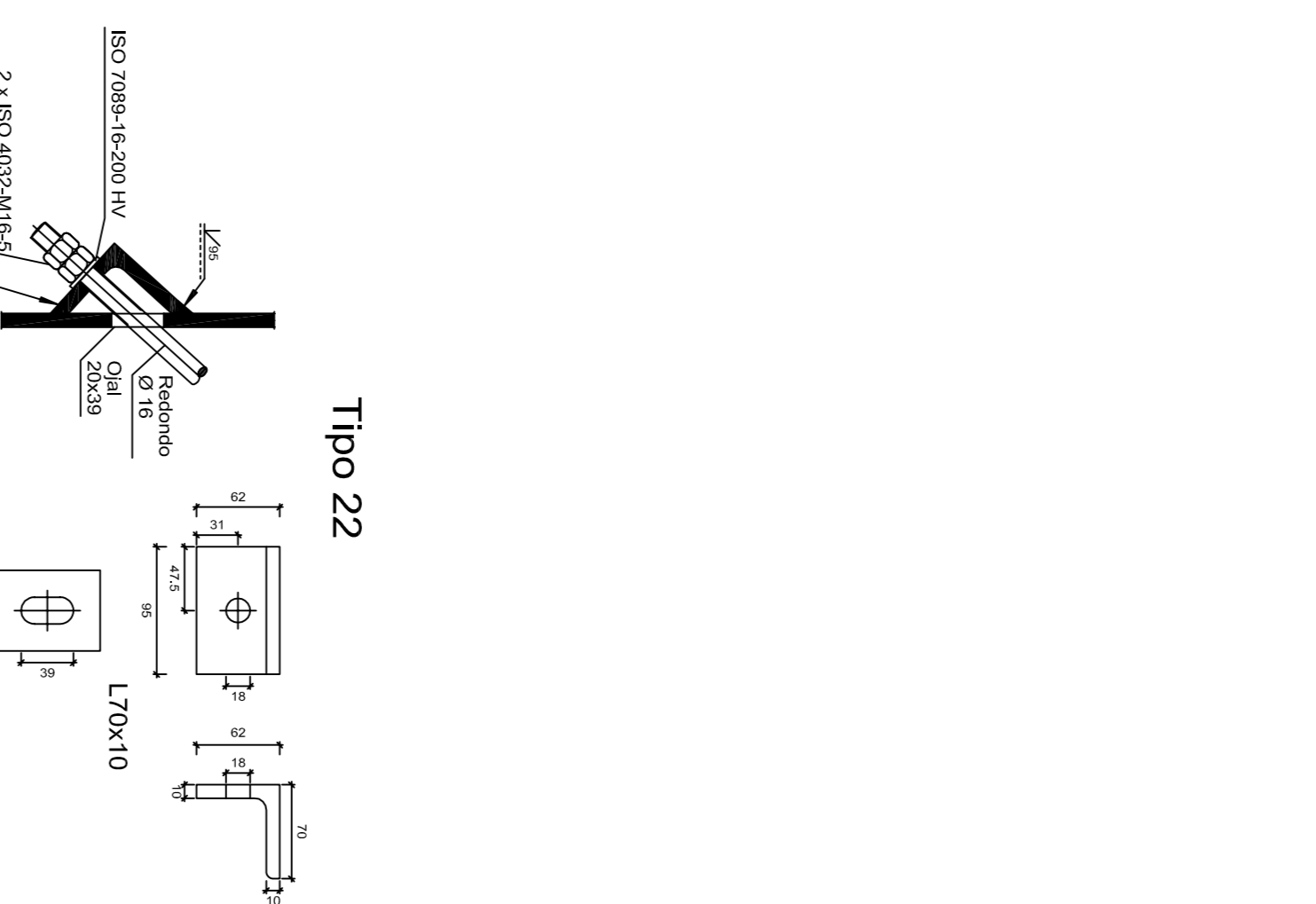
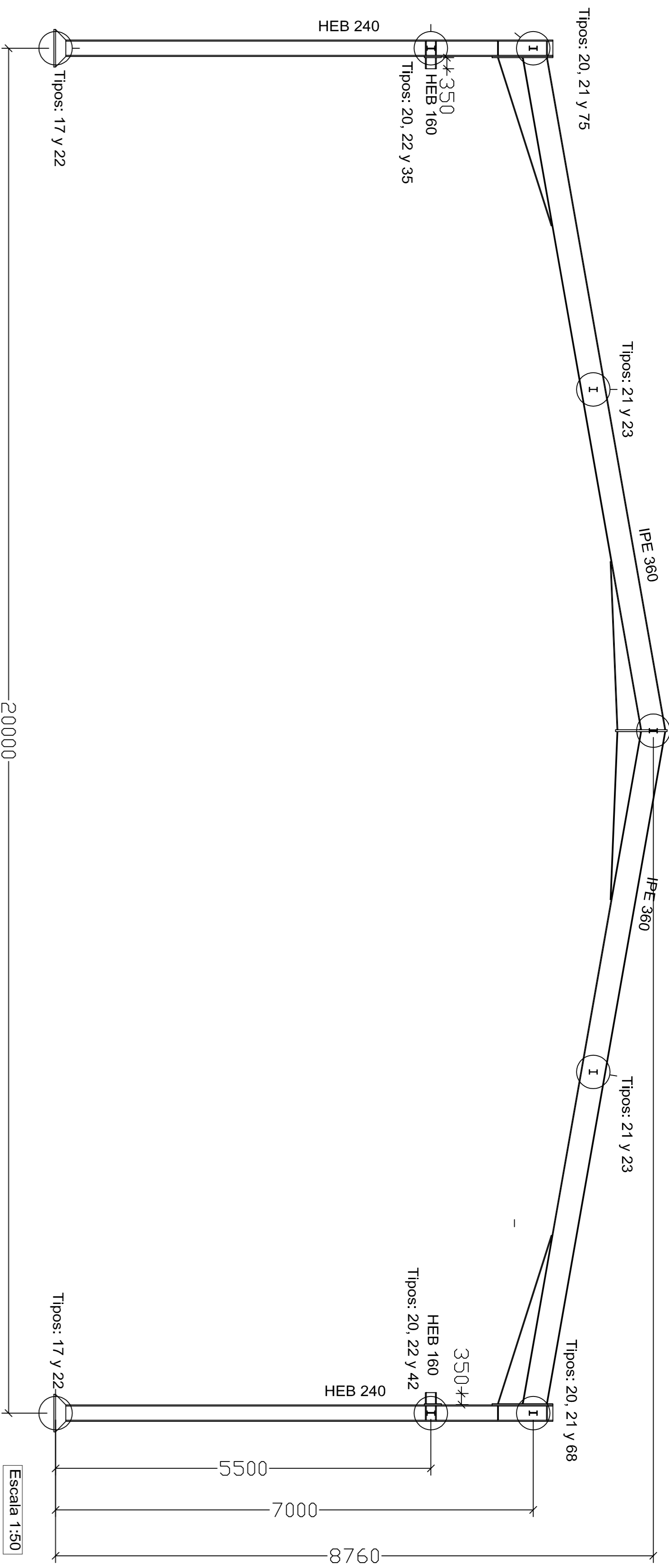
Tipo 27



Fecha		Nombre	
Dibujado:	07/2017	D. PRADA	
Comprobado:	07/2017	J. ELBARAUDDOGOTIA	
Tol. gen:	1:10	AI	Escala
<b>PÓRTICO 9 Y UNIONES</b>			
Nº Planos: 41		Plano Nº: p12	



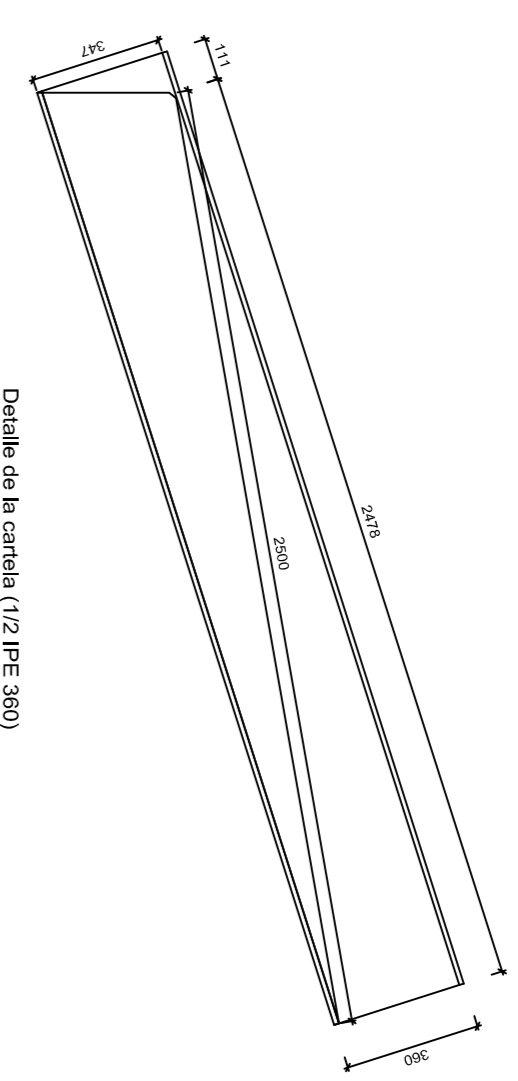
CONTRATACION DE SERVICIOS DE INGENIERIA TECNICA PARA LA GERENCIA DE FABRICACION DE MANTENIMIENTO EN BURGOS



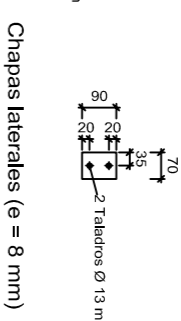
Dibujado:		Fecha:		Nombre:	
Comprobado:		07/2017		D. FRAGA	
Escala:		07/2017		J. ELIASEGUITA	
Tol. g/m:		1:5		UNIVERSIDAD DE LAS ISLAS	
1:10		1:20		INSTITUTO TECNOLÓGICO DE LAS ISLAS	
1:50		1:100		CONSTRUCCIÓN Y MANTENIMIENTO INDUSTRIAL	
PORTICO 8 Y UNIONES		Plano N° P13		N° Planos: 41	



Tipo 68

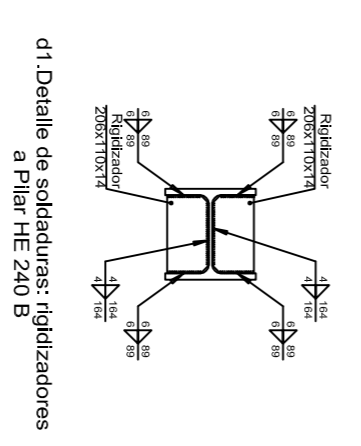
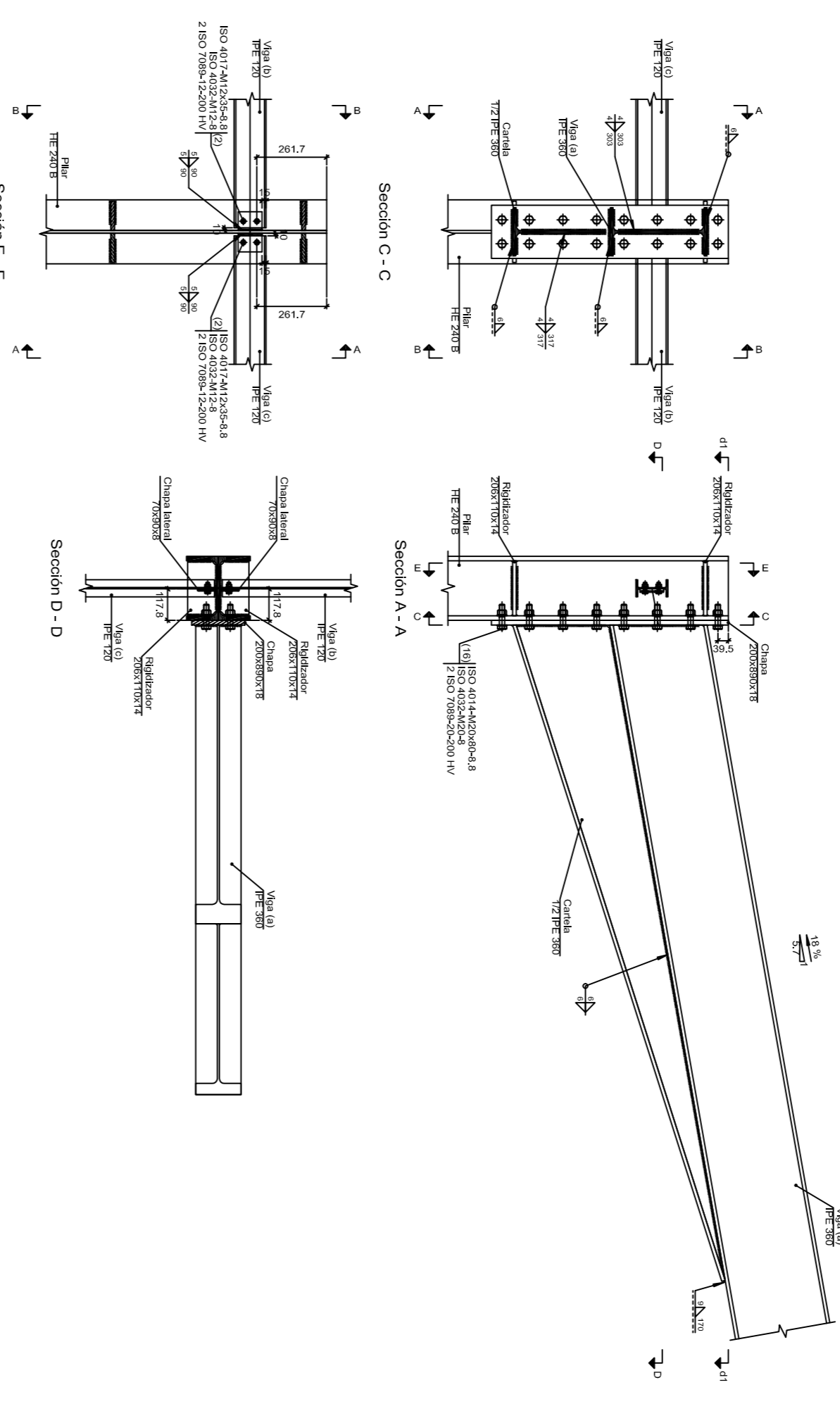


Chapa frontal de la viga (a) IPE 360  
(e = 18 mm)



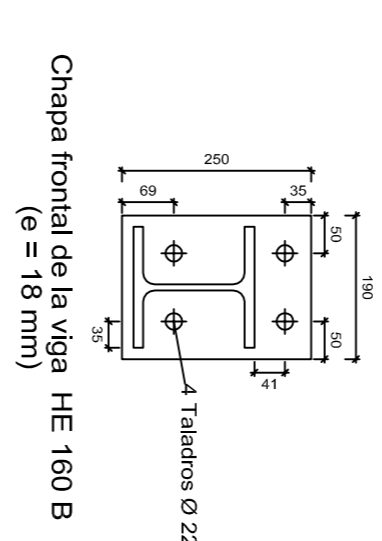
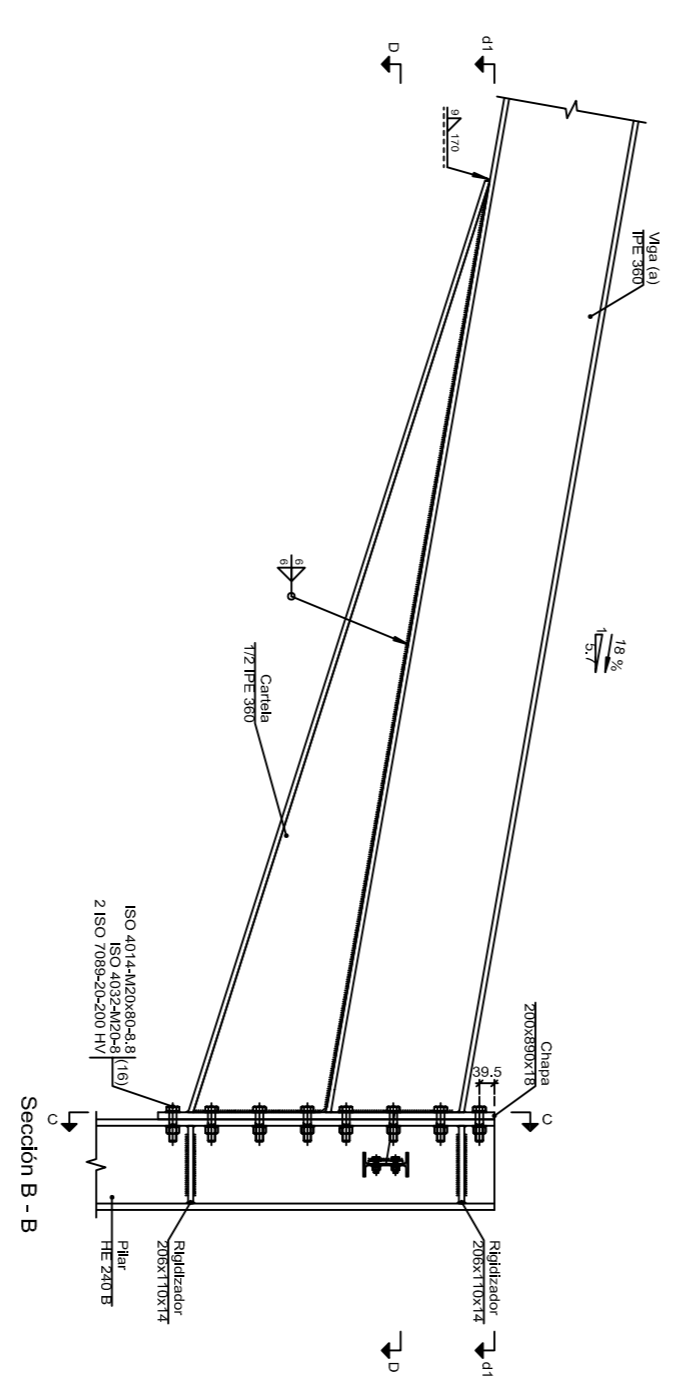
Chapas laterales (e = 8 mm)

Detalle de la carnia (I12 IPE 360)

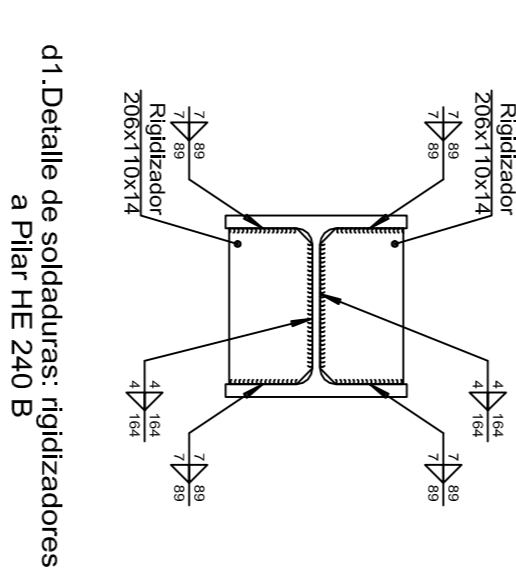
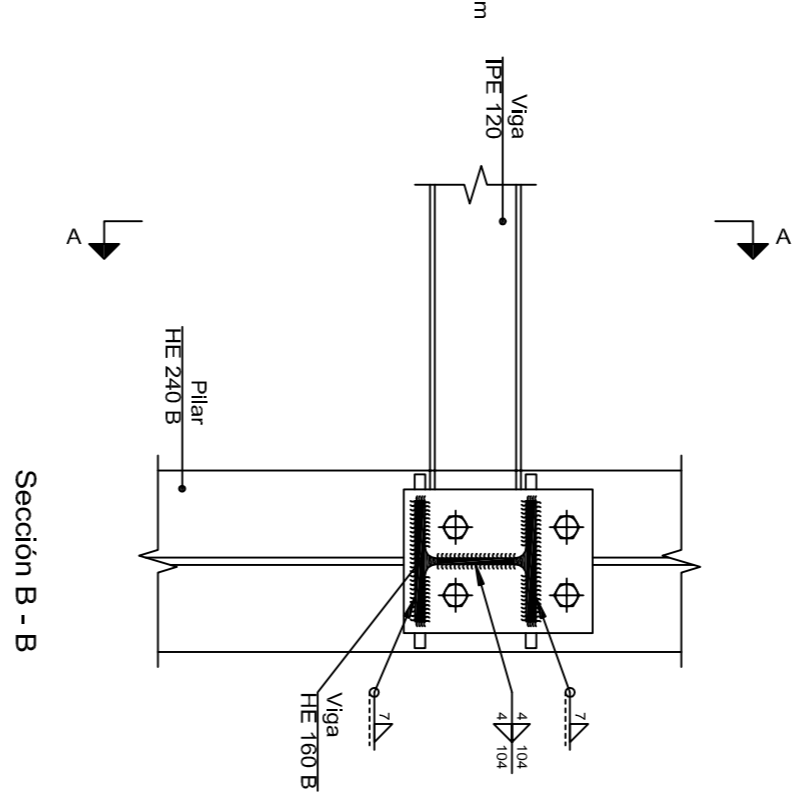


d1. Detalle de soldaduras: rigidizadores a Pilar HE 240 B

Escala 1:20

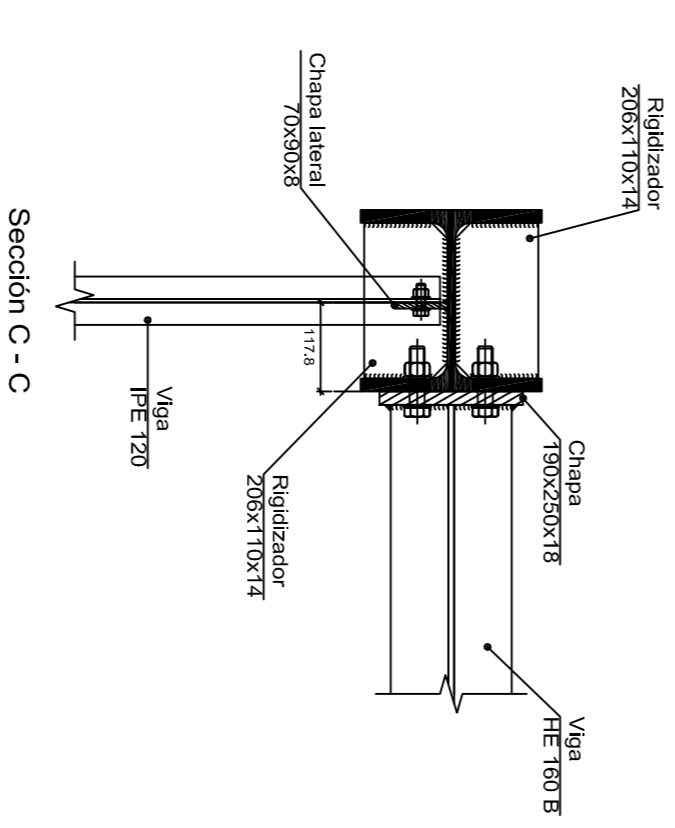


Chapa frontal de la viga HE 160 B  
(e = 18 mm)

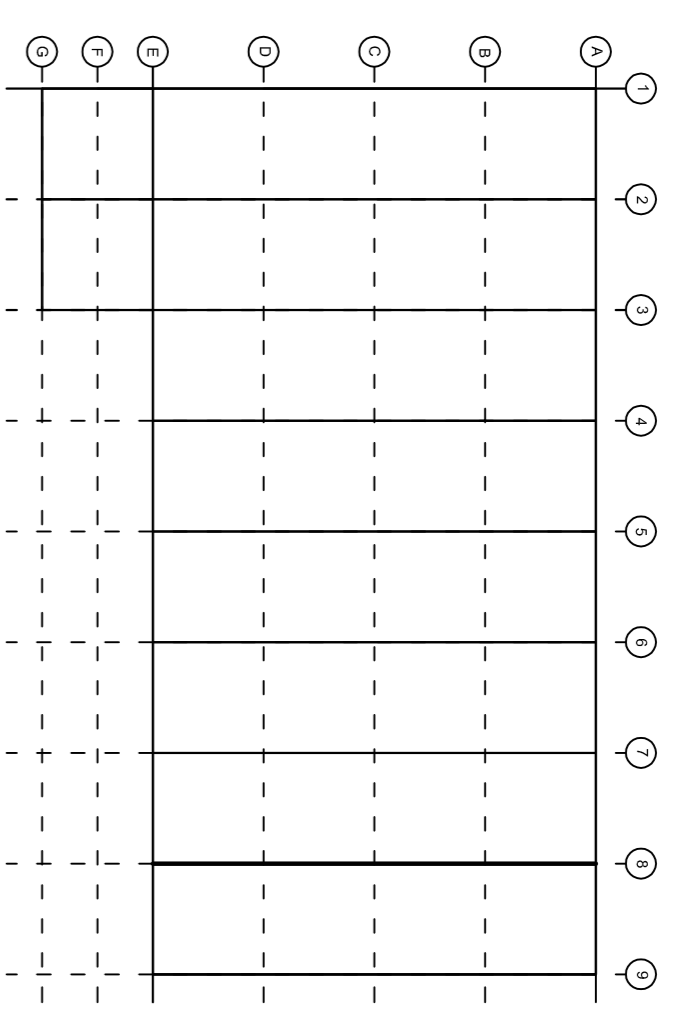


d1. Detalle de soldaduras: rigidizadores a Pilar HE 240 B

Escala 1:10

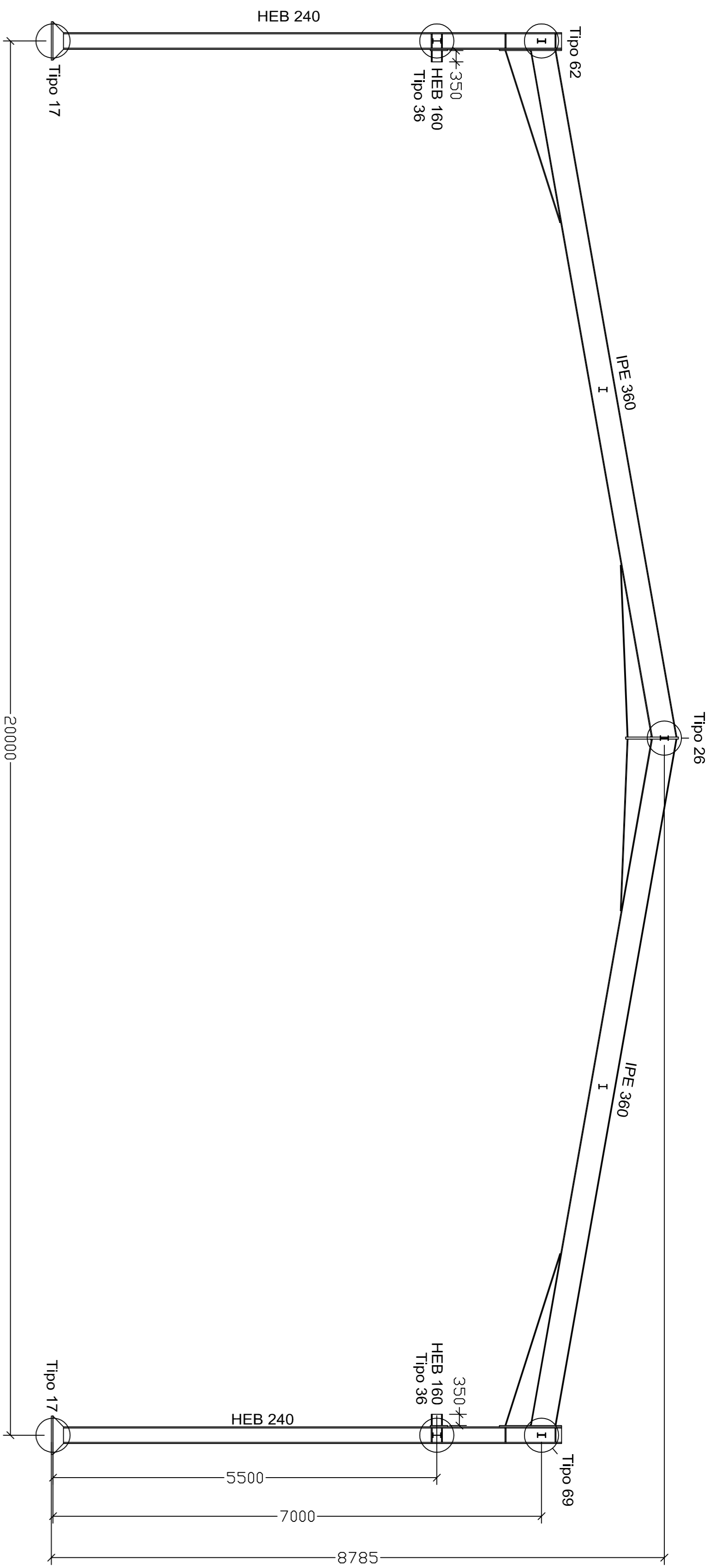


Chapa lateral de la viga IPE 120  
(e = 8 mm)

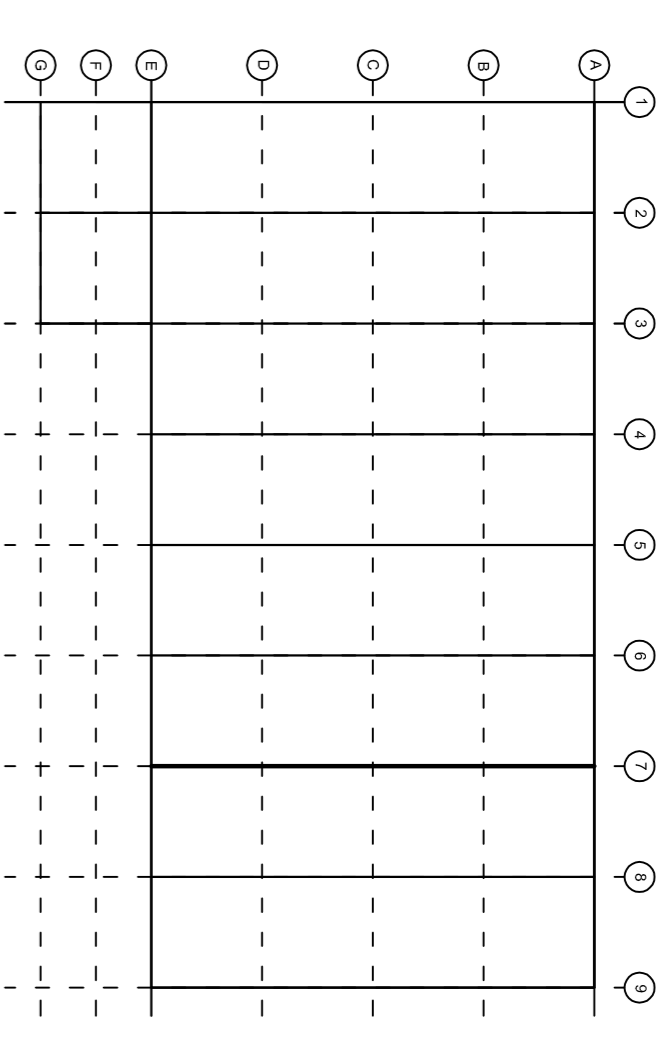


Tipo 35

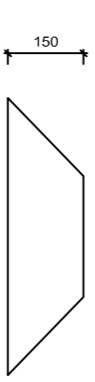
UNIVERSIDAD DE LAS AMÉRICAS FACULTAD DE INGENIERÍA TECNIA INDUSTRIAL, BUCAR	
Nombre	D. PABLO J. ELAURDOGOTIA
Fecha	07/2017
Dibujado:	07/2017
Comprobado:	07/2017
Escala	A1 1:20
Tol. gmn	1:20
<b>PÓRTICO 8 Y UNIONES</b>	
Plano N° P14	
N° Planos: 41	



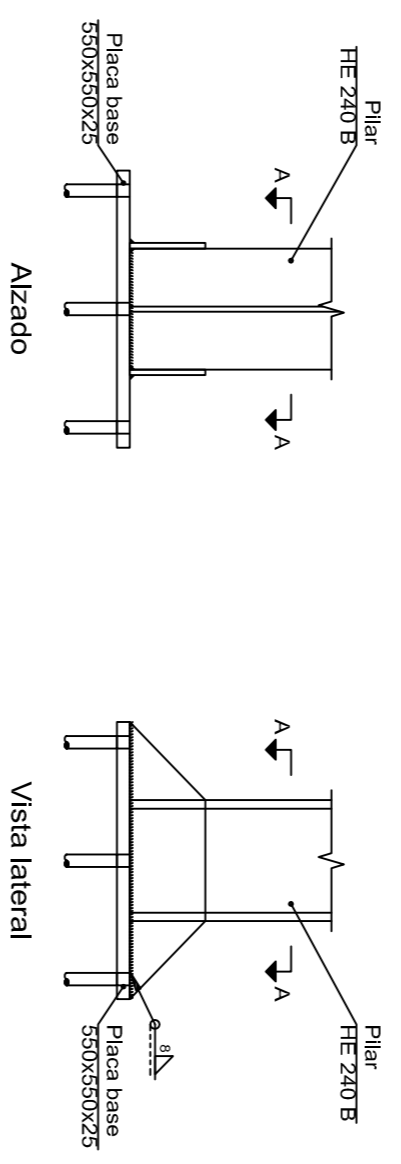
Escala 1:20



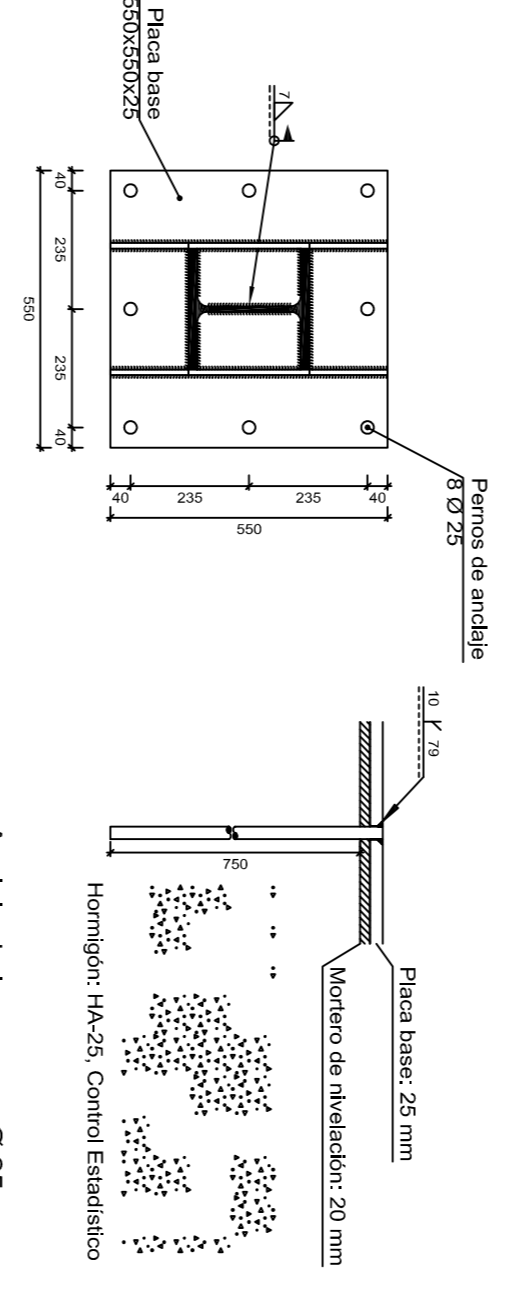
Tipo 17



Rigidizadores y - y (e = 11 mm)



Visia lateral

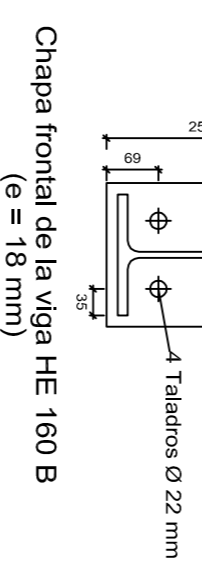


Sección A - A

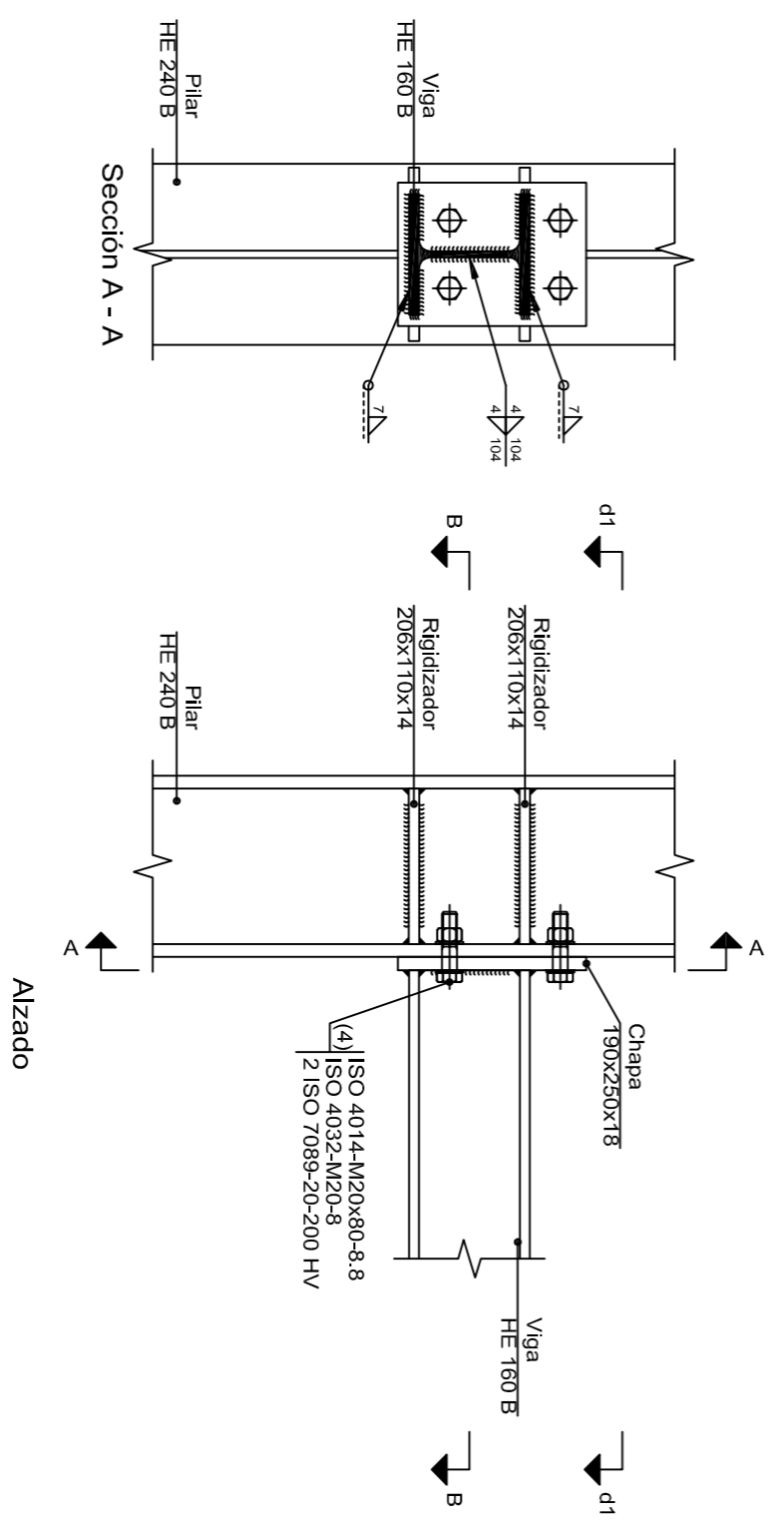
Anchura de los pernos Ø 25, B 400 S,  $\gamma_s = 1,13$  (corrugado)

Escala 1:15

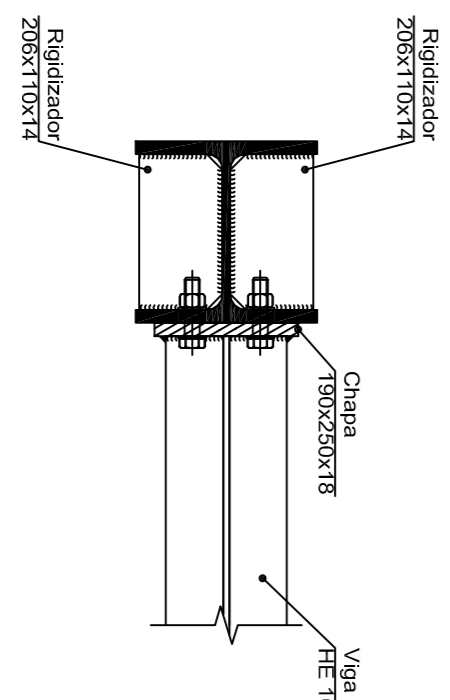
Tipo 36



Chapa frontal de la viga HE 160 B (e = 18 mm)



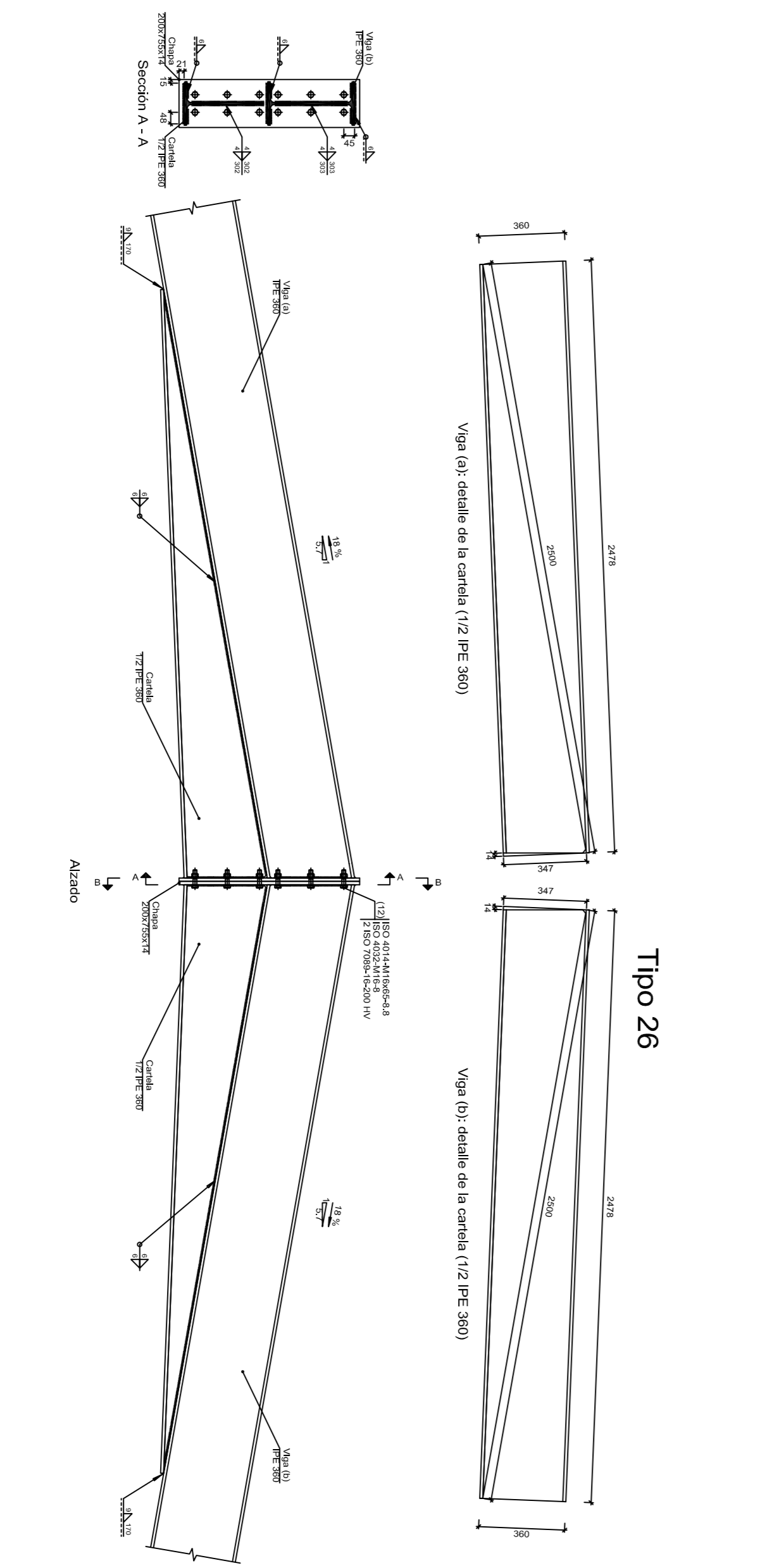
Alzado



Sección B - B

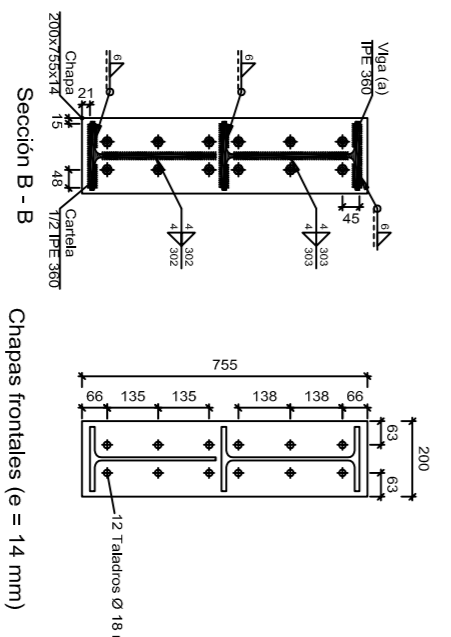
Escala 1:10

d1, Detalle de soldaduras: rigidizadores a Pilar HE 240 B

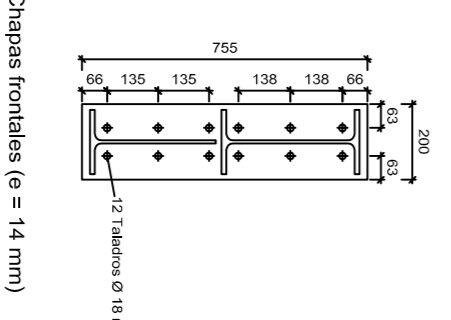


Tipo 26

Escala 1:20



Sección B - B



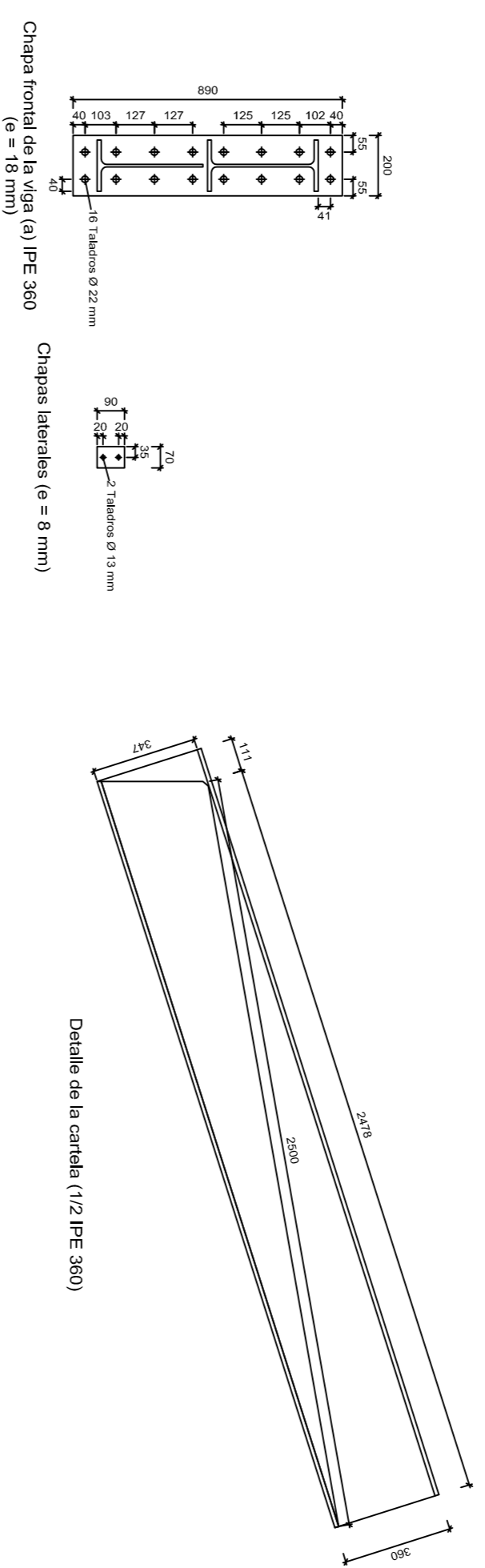
Chapas frontales (e = 14 mm)

Fecha		Nombre		 UNIVERSIDAD DE LAS AMÉRICAS ESCUELA DE INGENIERÍA DE SISTEMAS TÉCNICA INDUSTRIAL, IBAJO
Dibujado: 07/2017		D. PABLO		
Comprobado: 07/2017		J. ELVARADO GONZALEZ		CONTRIBUCIÓN DE INGENIERÍA INDUSTRIAL, CON CÉDULA PUENTE PARA EMPRESAS DE FABRICACIÓN DE MATERIA PLÁSTICA.
Escala		Escala		
Tot. qm <sup>2</sup>		A1		Plano N.º P15 N.º Planos: 41
		1:15		
		1:30		

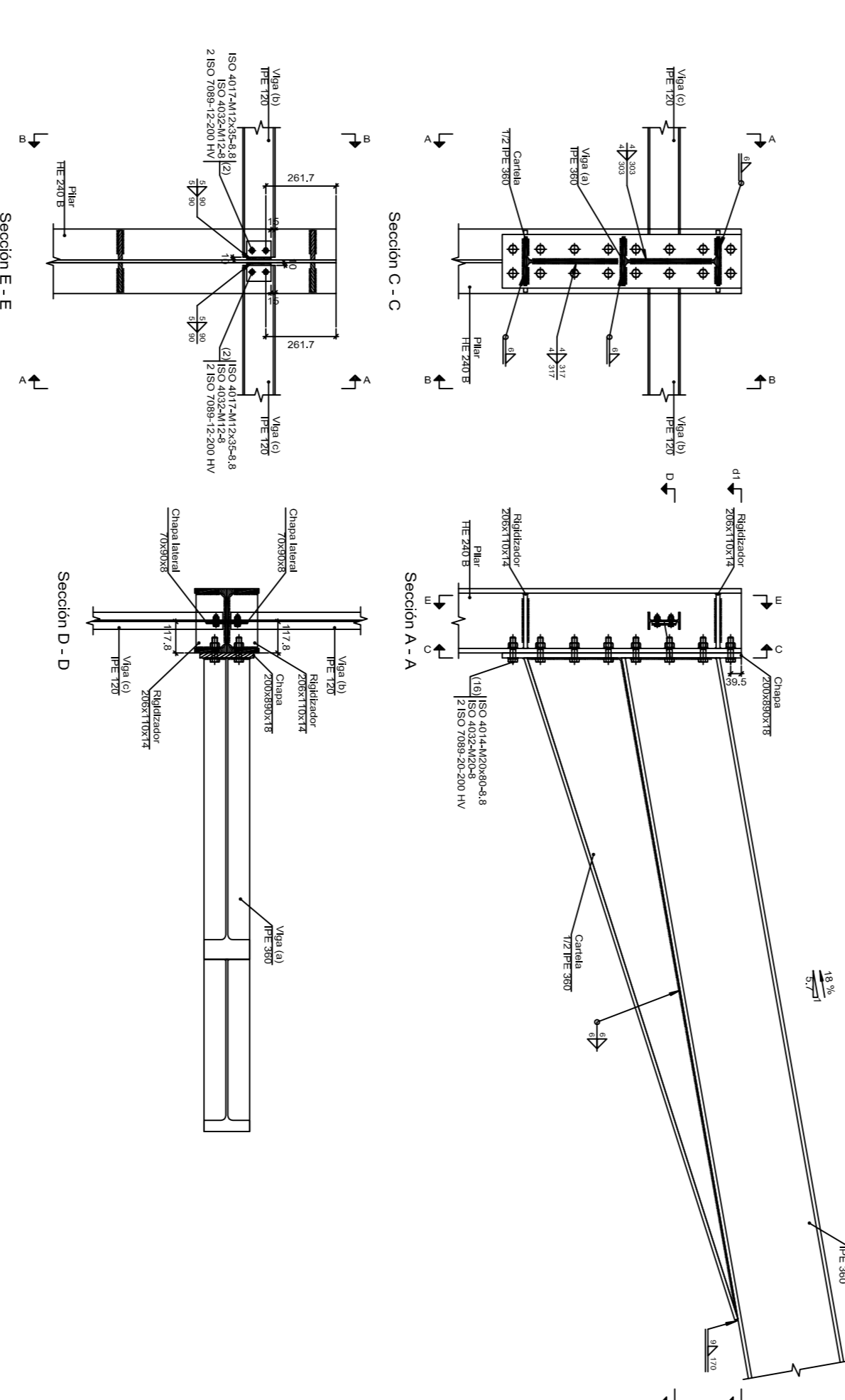
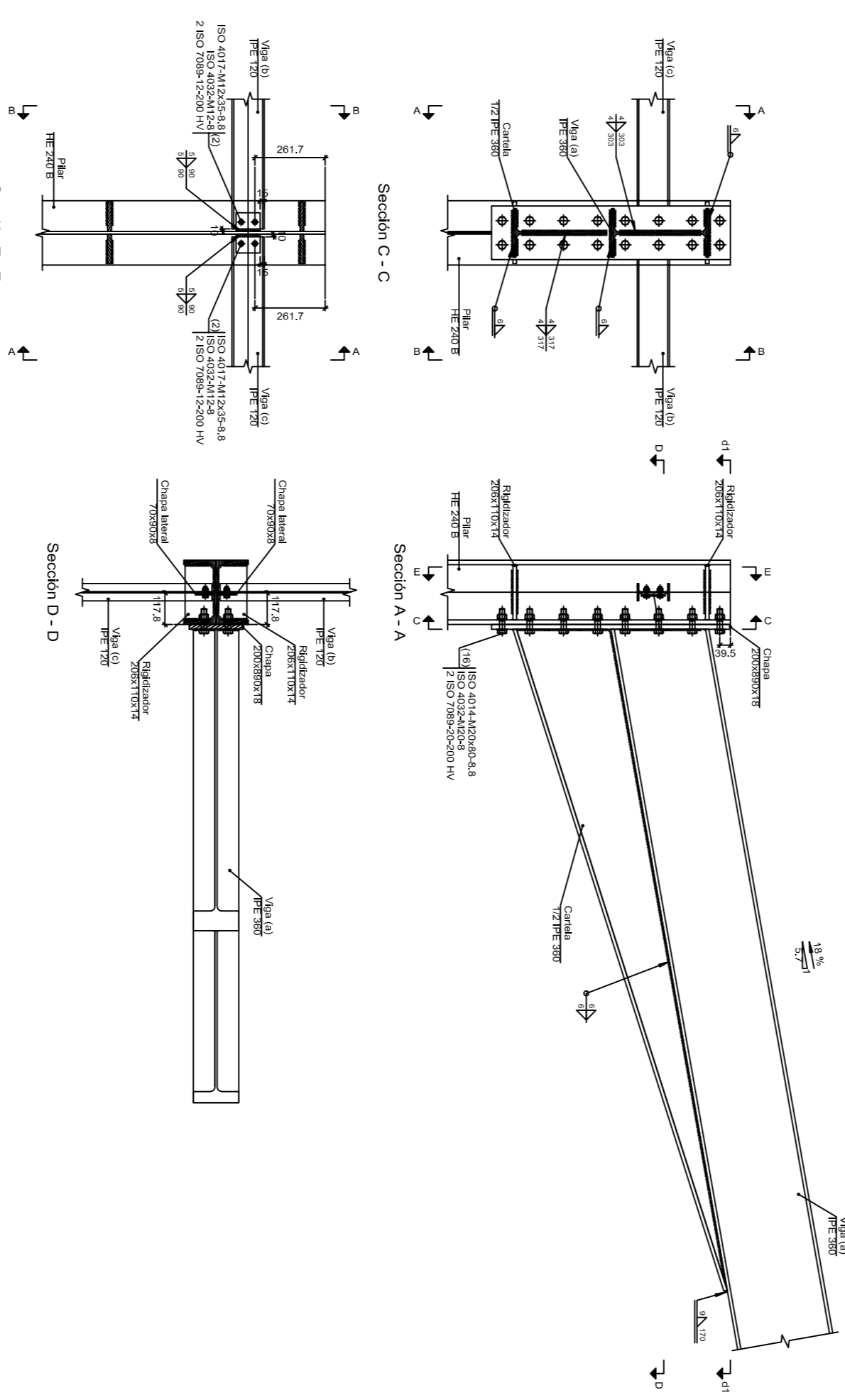
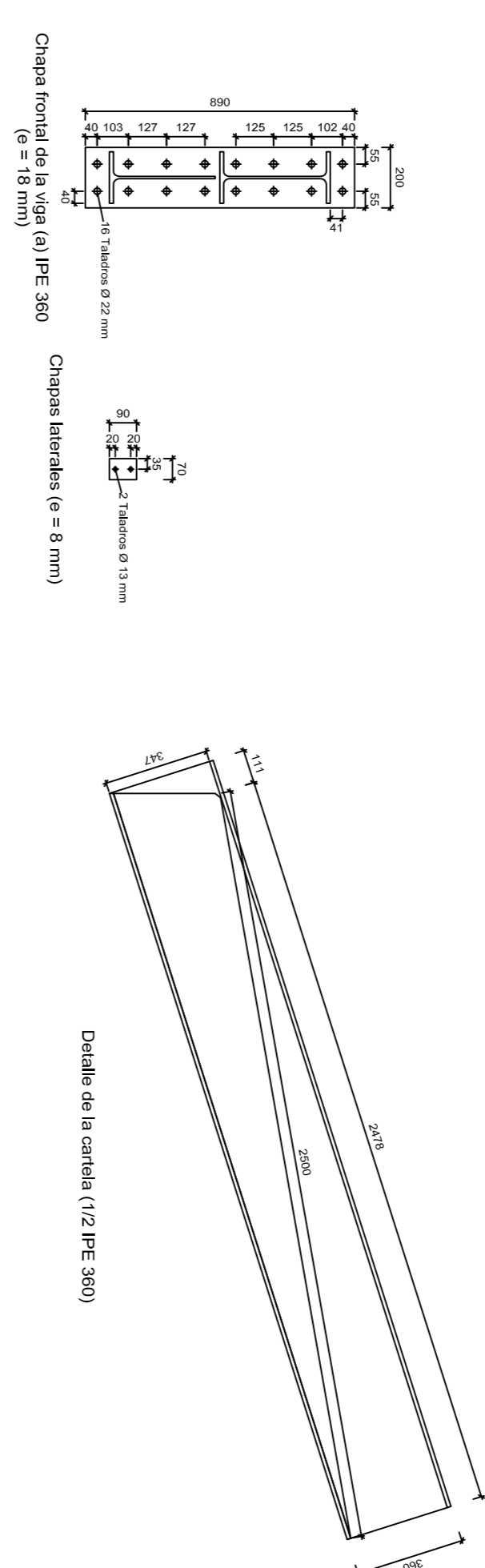
PORTICO 7 Y UNIONES

1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

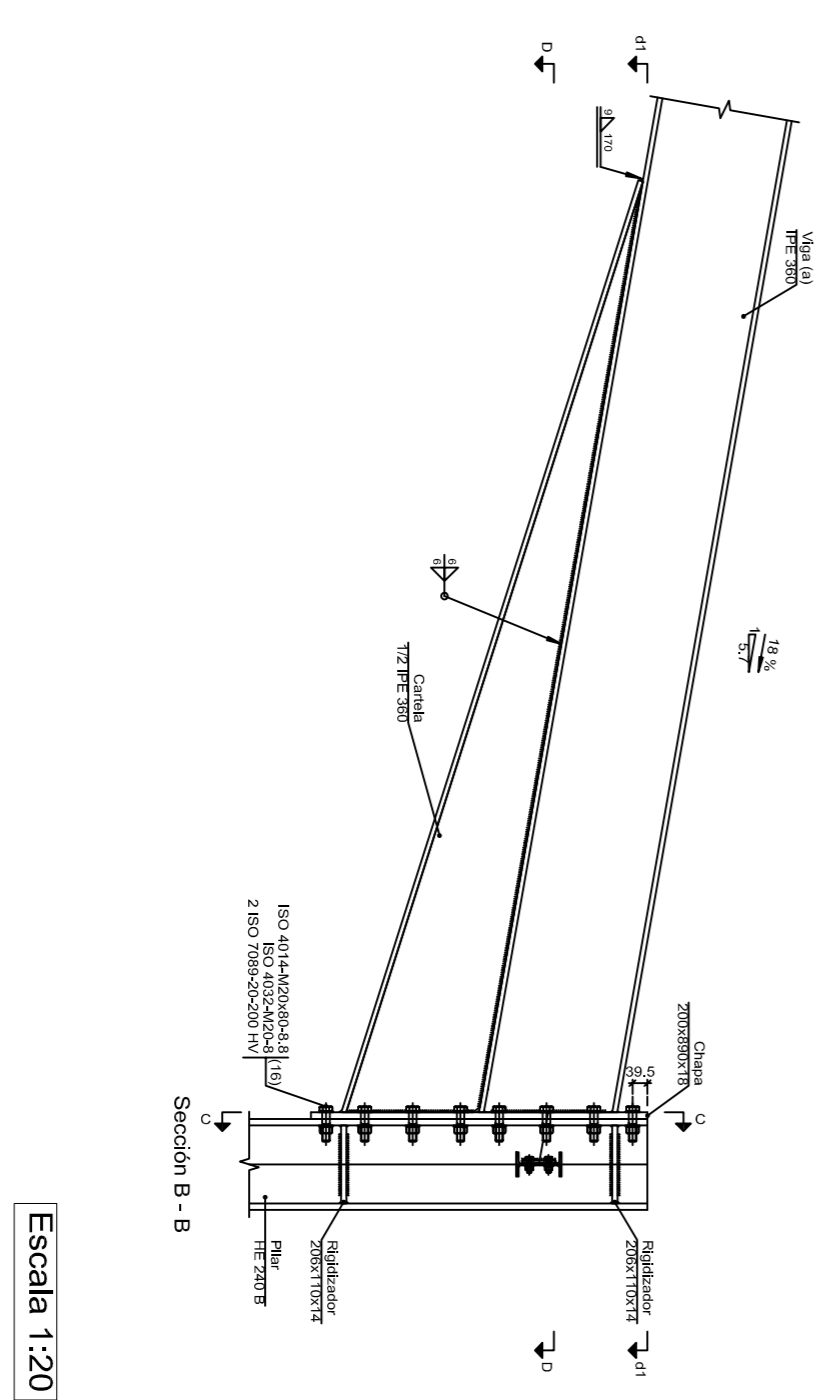
Tipo 69



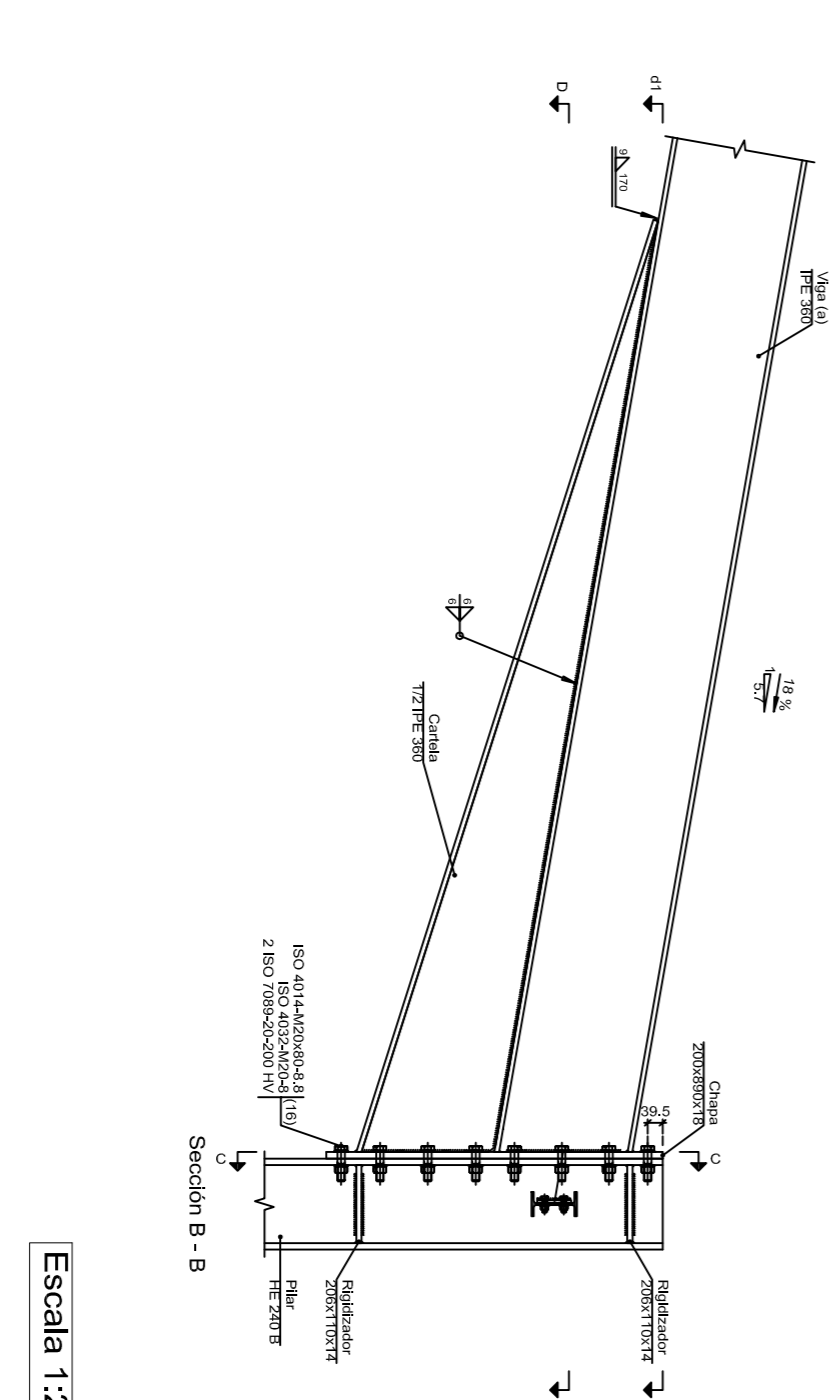
Tipo 62



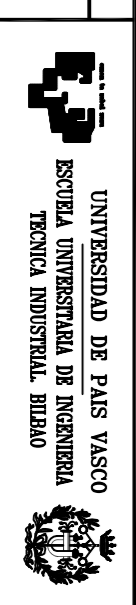
d1 Detalle de soldaduras: rigidizadores a Pilar HE 240 B



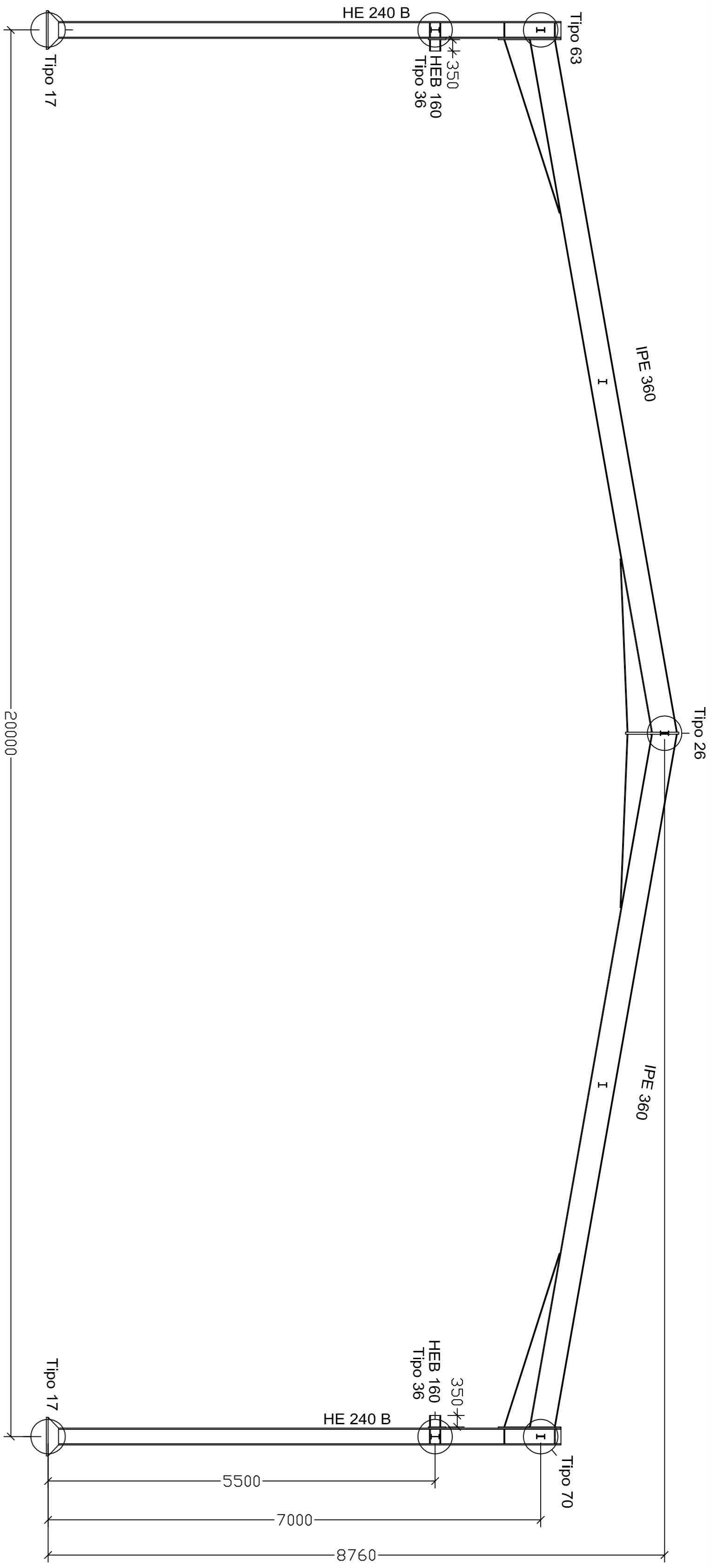
d1 Detalle de soldaduras: rigidizadores a Pilar HE 240 B



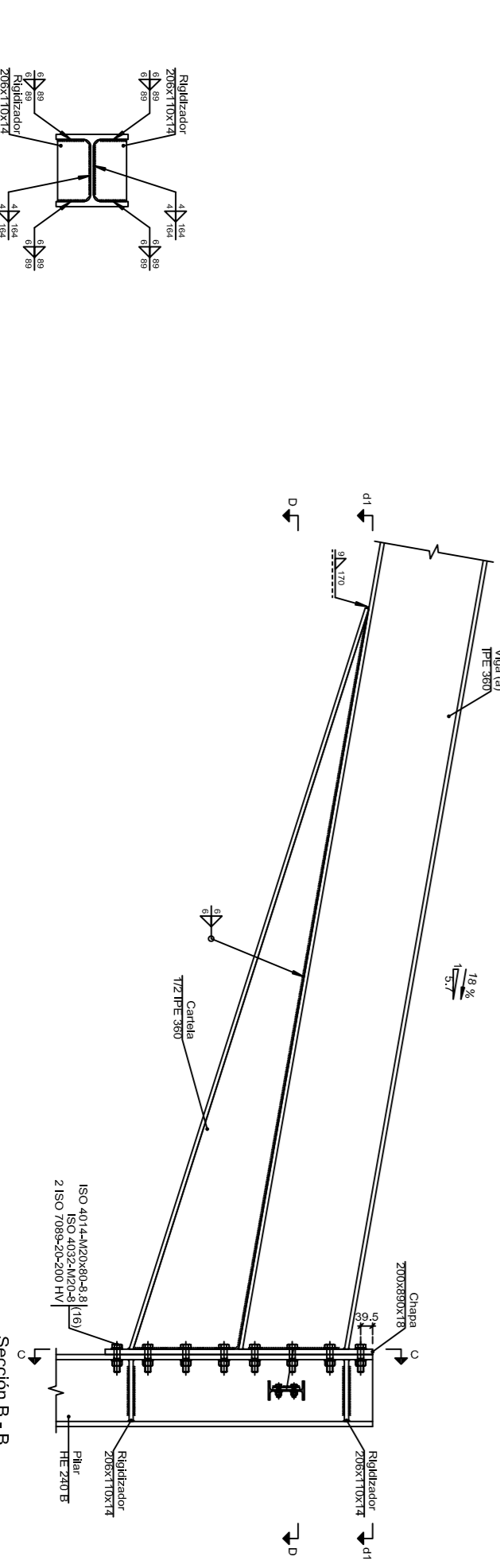
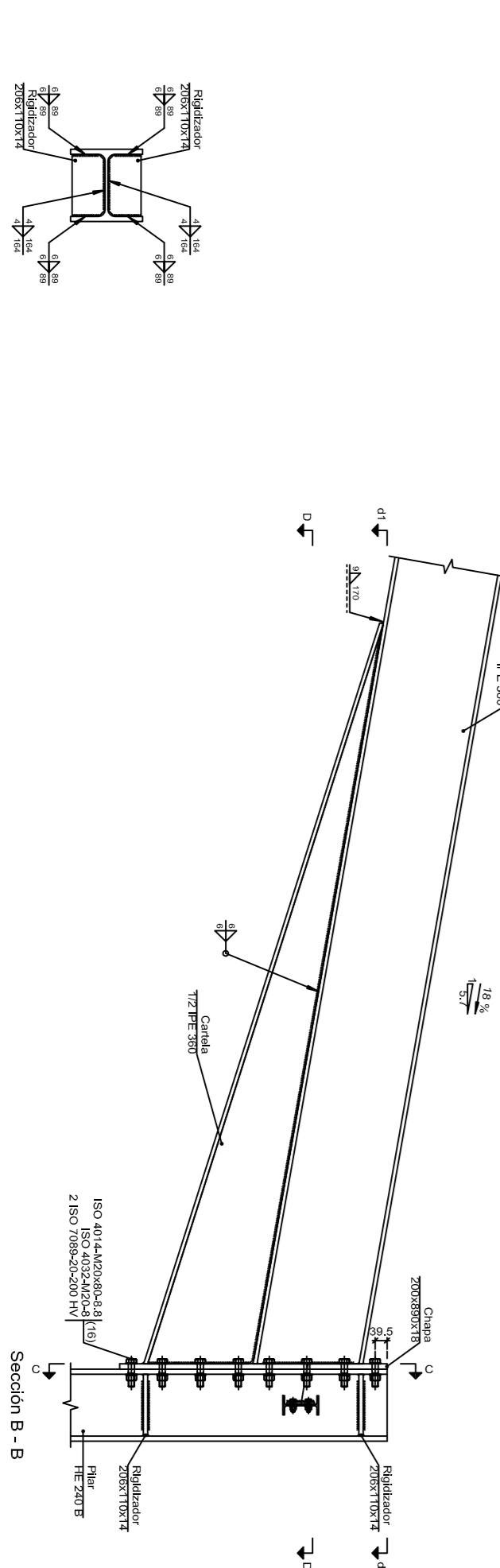
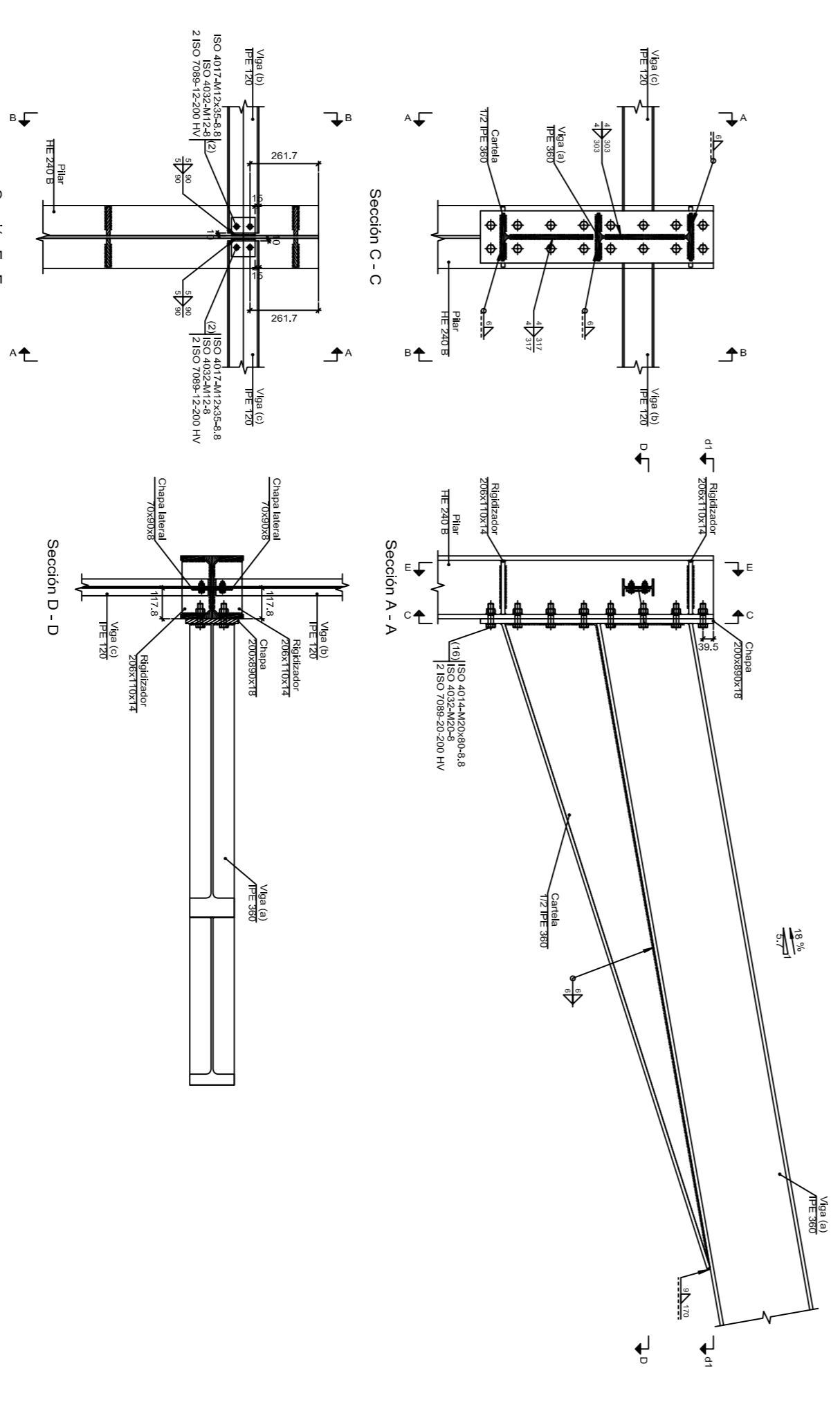
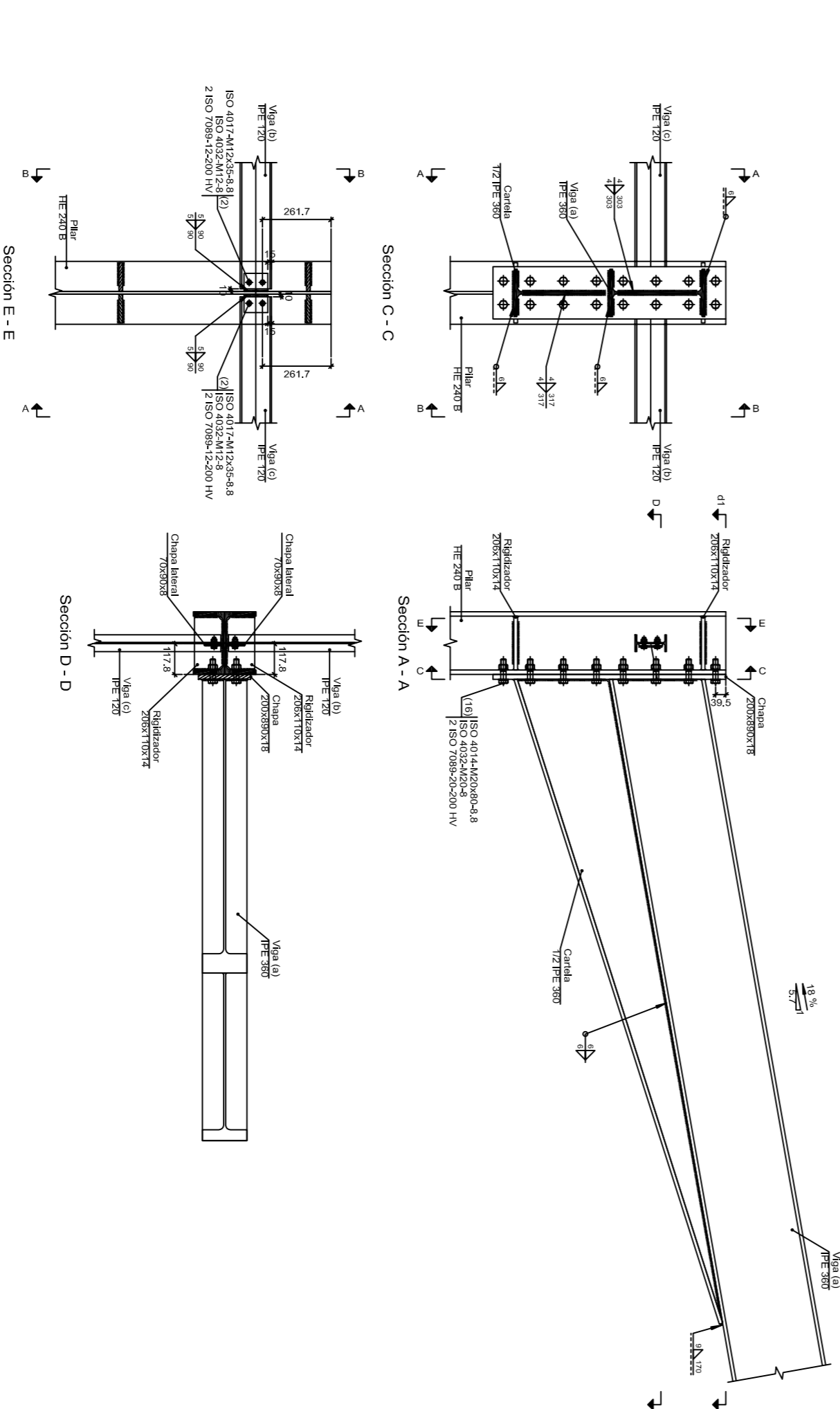
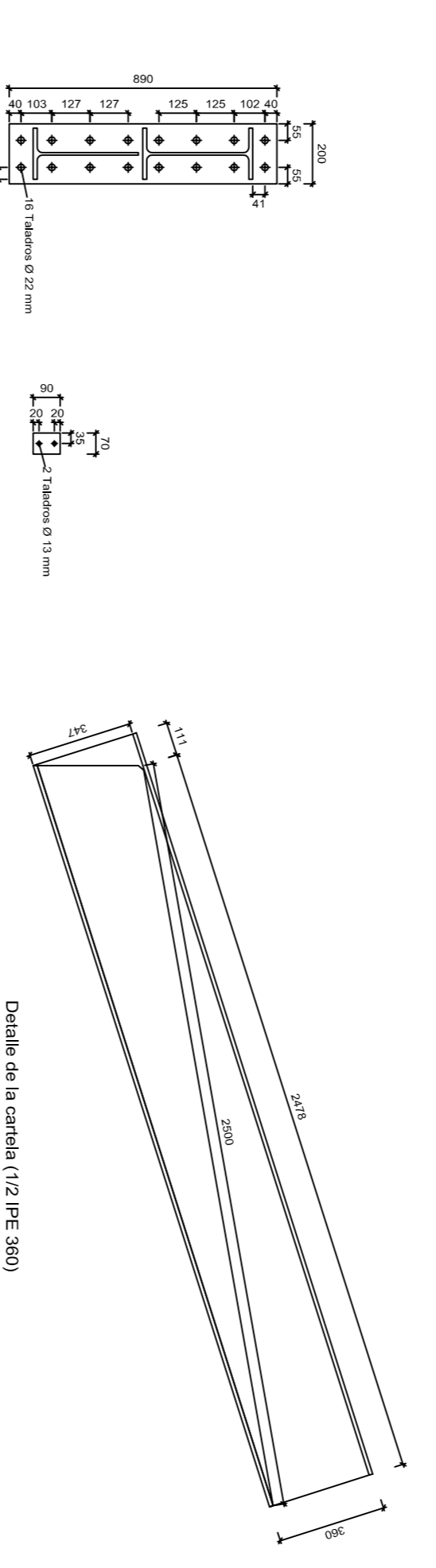
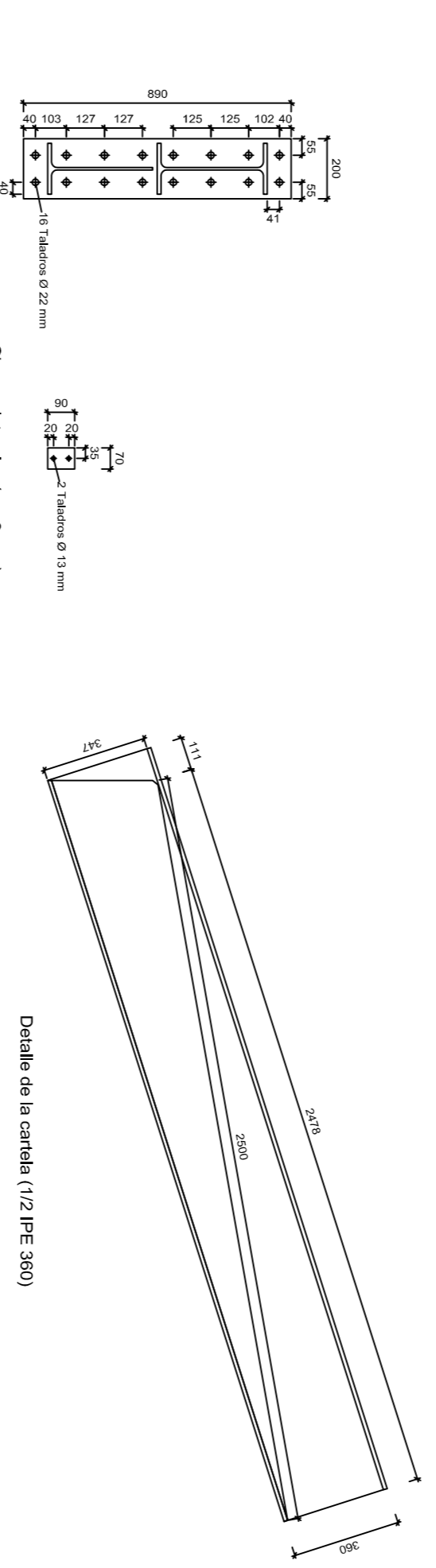
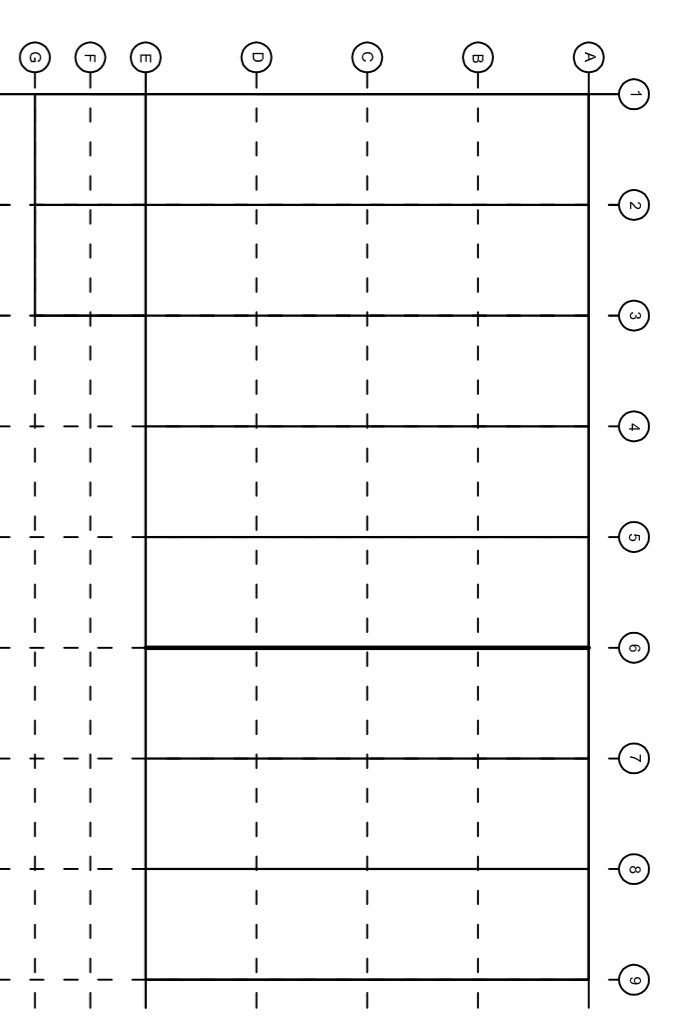
Fecha	Nombre	
07/2017	D. PRADA	
Comprobado:	J. LARAUDOCOTIA	
Escala		
Tol. gen.	A1	1:20
<b>PÓRTRICO Y UNIONES</b>		
Plano N°.PI6		
N° Planos: 41		



CONSTRUCCIÓN DE MAQUINARIA INDUSTRIAL CON GRUAS  
PLANTEO EN LA EMPRESA DE FABRICACIÓN DE  
MÁQUINAS INDUSTRIALES



Escala 1:50



Detalle de soldaduras: refizadores a Plur HE 240 B

Detalle de soldaduras: refizadores a Plur HE 240 B

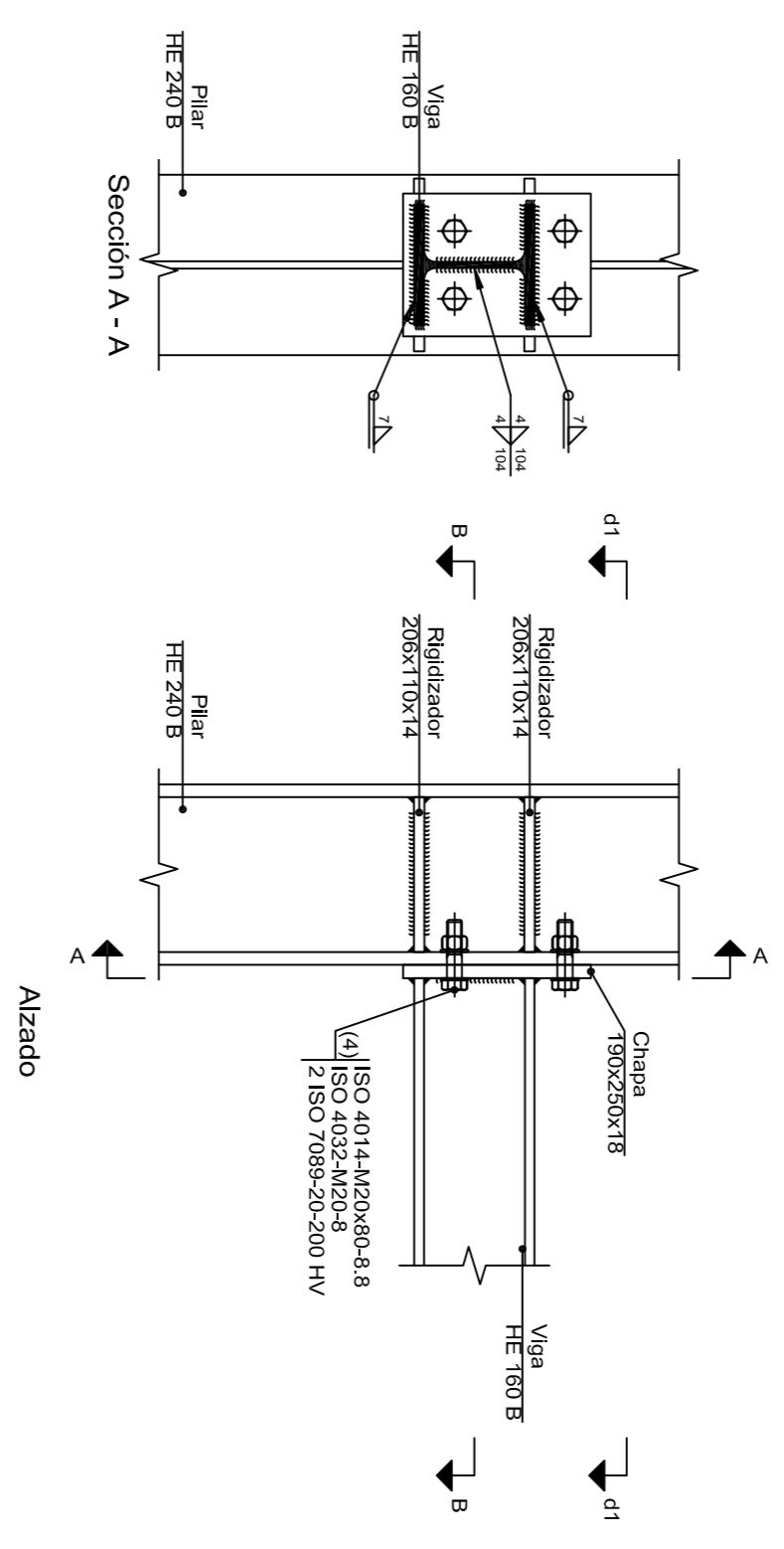
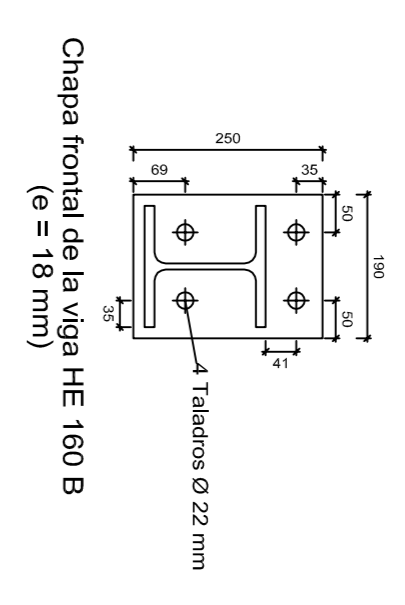
Escala 1:20

Escala 1:20

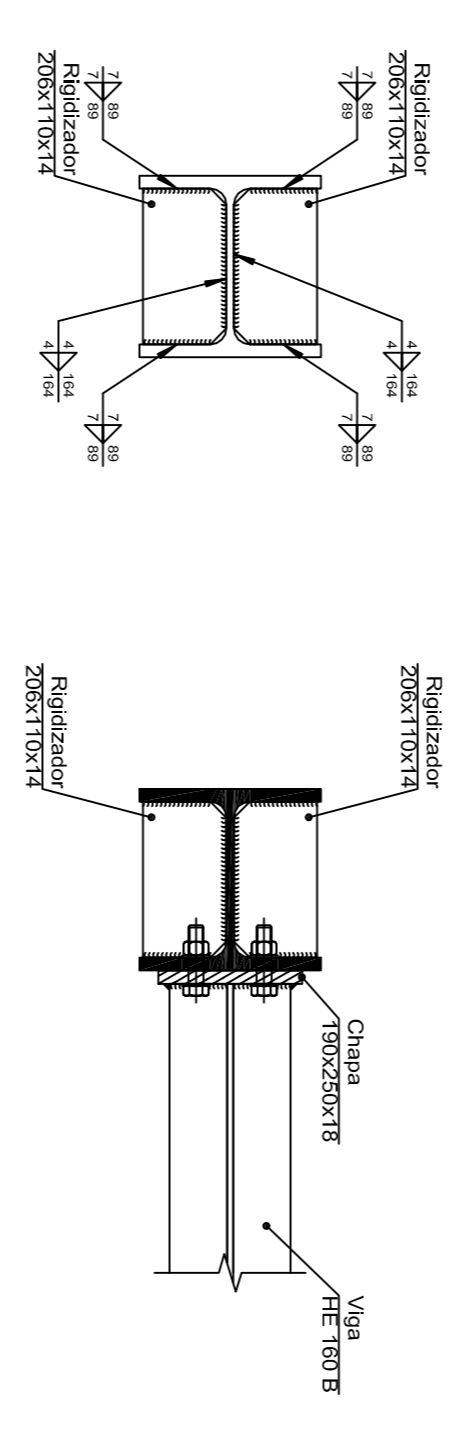
<b>UNIVERSIDAD DE LAS ISLAS</b> <b>INSTITUTO VENEZOLANO DE INVESTIGACIONES</b> <b>TECNICO INDUSTRIAL MARINO</b>	
<b>Fecha:</b> 07/2017 <b>Nombre:</b> D. PRADA <b>Comprobado:</b> J. ELABUDDOGITIA	<b>Fecha:</b> <b>Nombre:</b> <b>Comprobado:</b>
<b>Tol. gen:</b> A1 1:50	<b>Escala:</b>
<b>PORTICO 6 Y UNIONES</b>	
CONTRIBUCIONES MARITIMAS INDUSTRIALES PUENTE PARA LA EMPRESA DE FABRICACION DE NAVIENAVES MARITIMAS	
<b>Plano N° P17</b>	
<b>N° Planos: 41</b>	

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Tipo 36

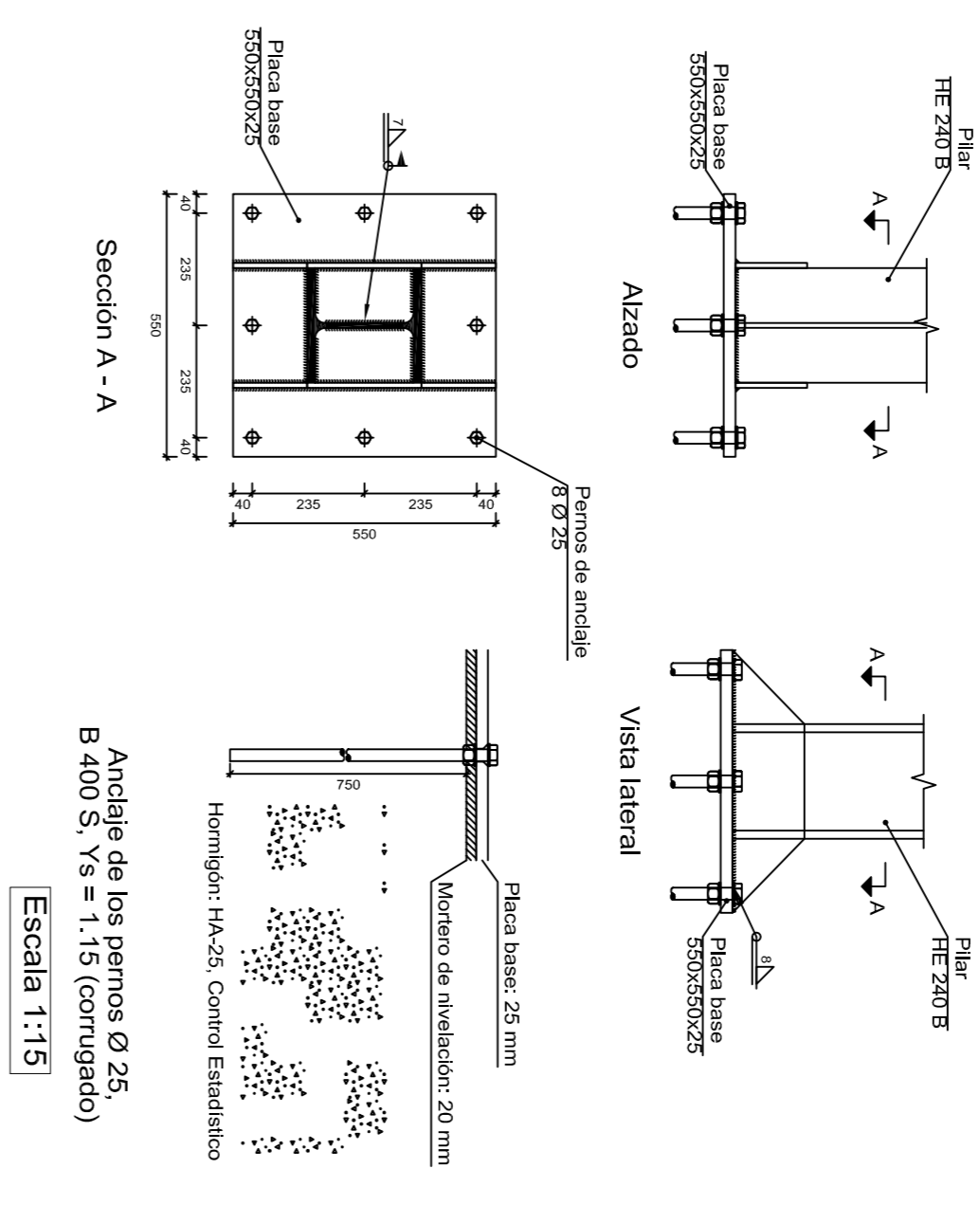
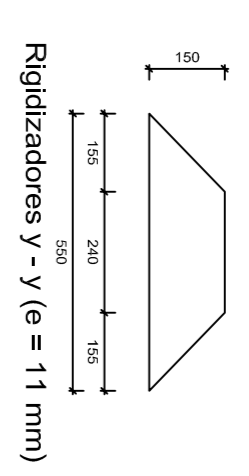


d1. Detalle de soldaduras: rigidizadores a Pilar HE 240 B

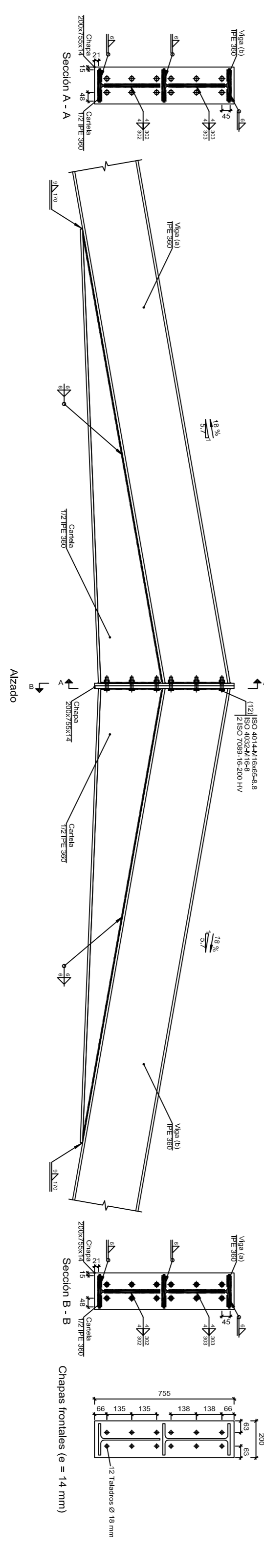
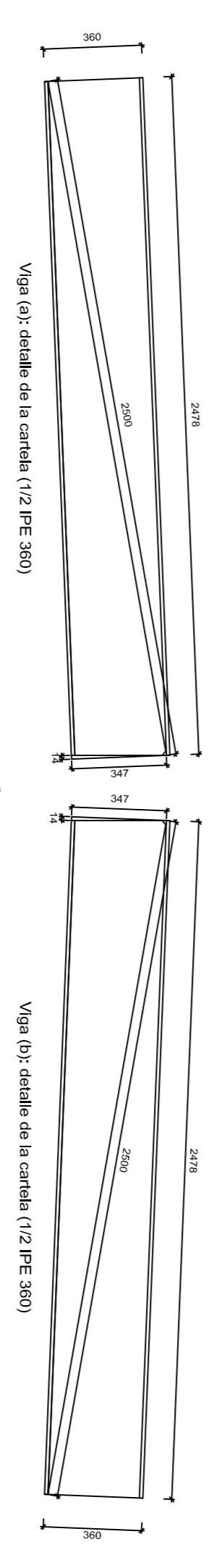


Escala 1:10

Tipo 17



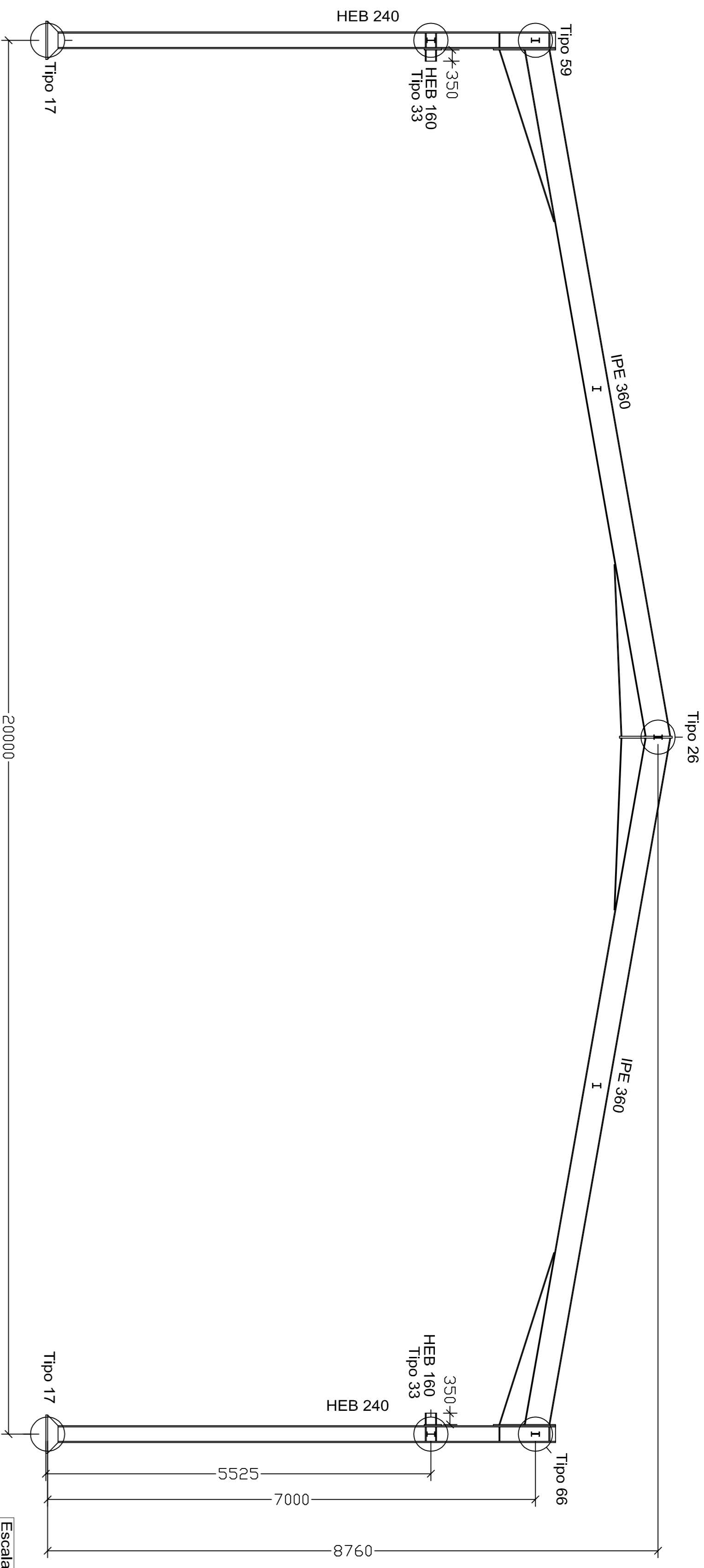
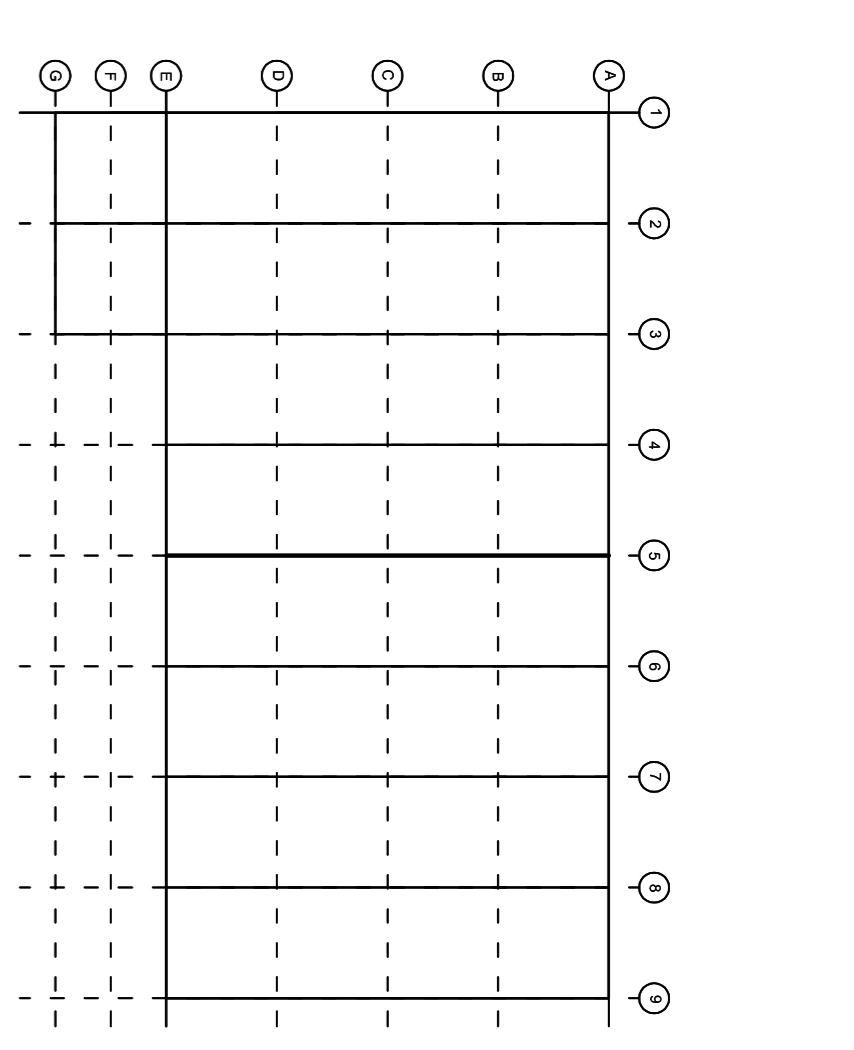
Tipo 26



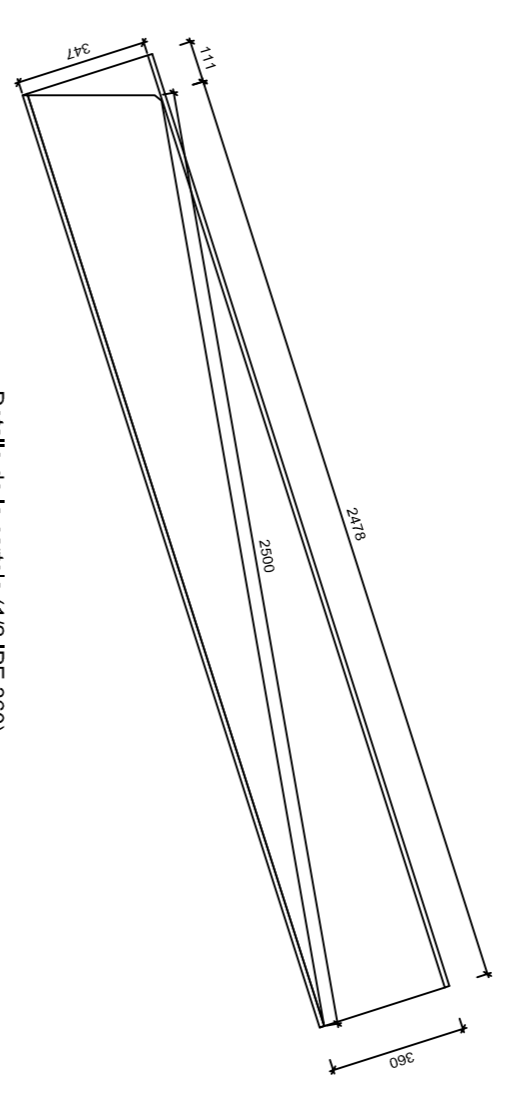
Fecha:	07/2017	Nombre:	D. PRADA
Dibujado:	07/2017	Comprobado:	J.E.LARAUROGOTIA
Tol. gen:	A1 1:10 1:20	Escala:	
<b>PÓRTICO 6 Y UNIONES</b>			
Plano N.º P18			
N.º Planos:41			

UNIVERSIDAD DE PAIS VASCO  
ESCUELA UNIVERSITARIA DE INGENIERIA  
TECNICA SUPERIOR DE BARRIOS

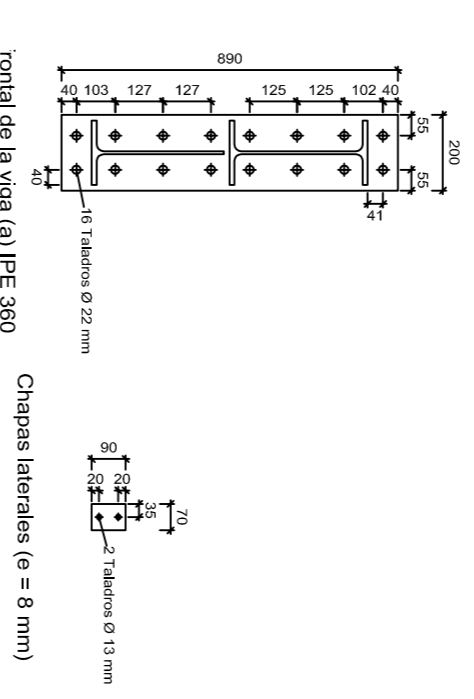
CONSTRUCCION DE MAQUINARIA INDUSTRIAL, CON GRUA  
PIENRE PARA LA EMPRESA DE FABRICACION DE  
VARIANTES INDUSTRIALES



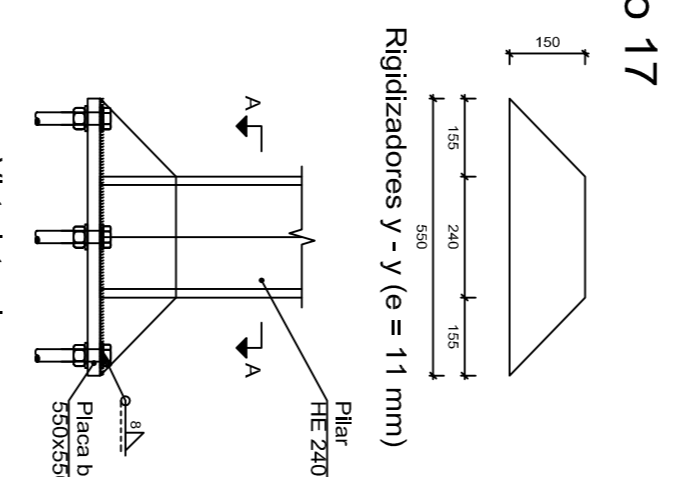
Escala 1:50



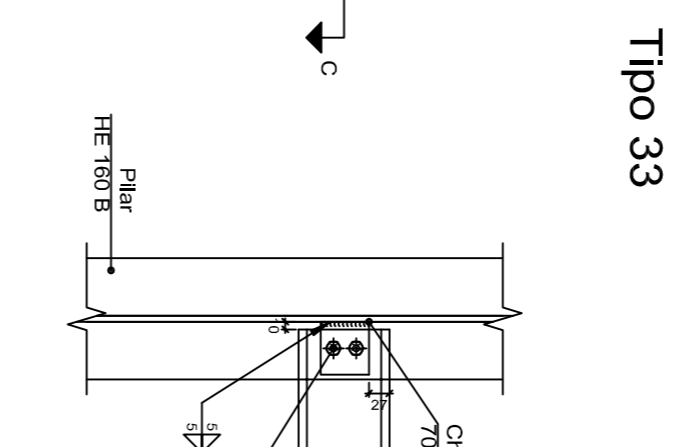
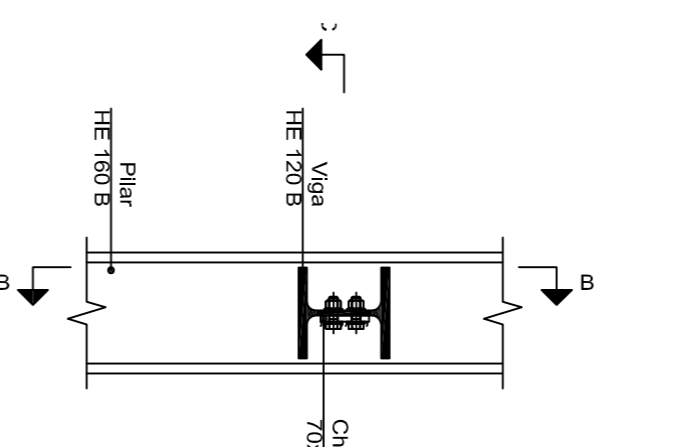
Tipo 66



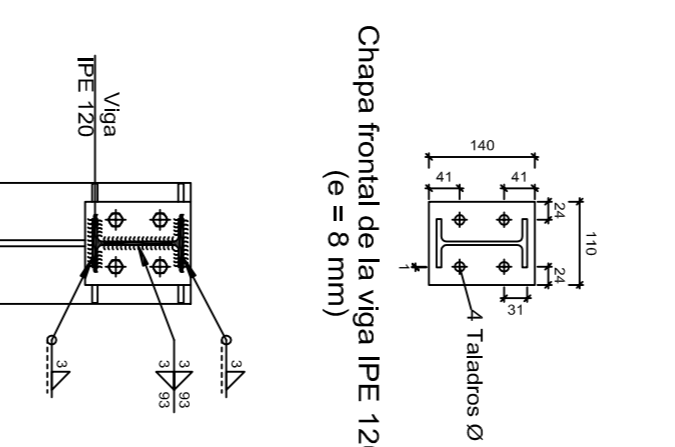
Chapas laterales (e = 8 mm)



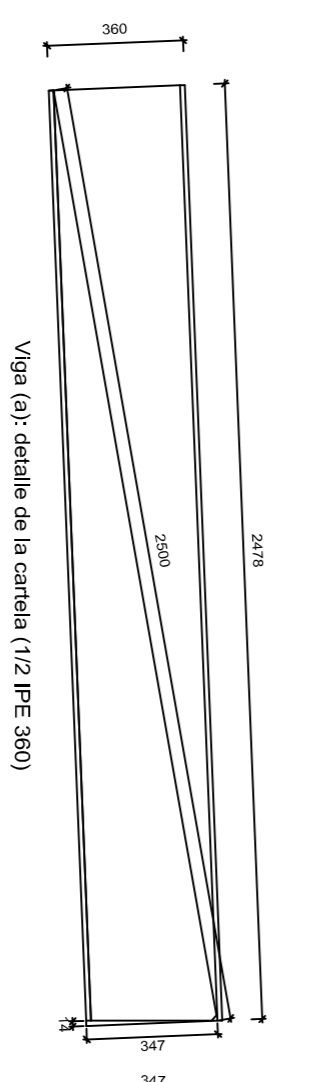
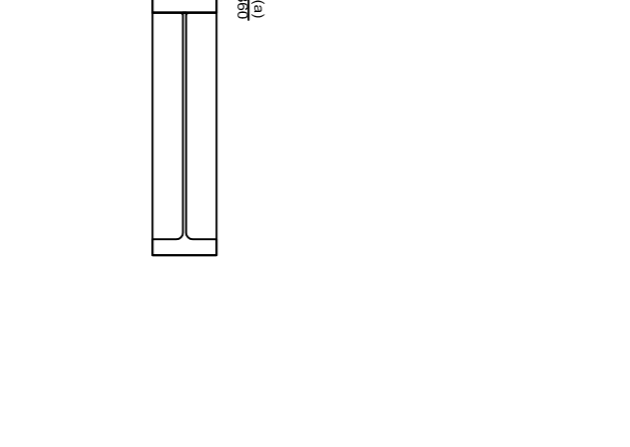
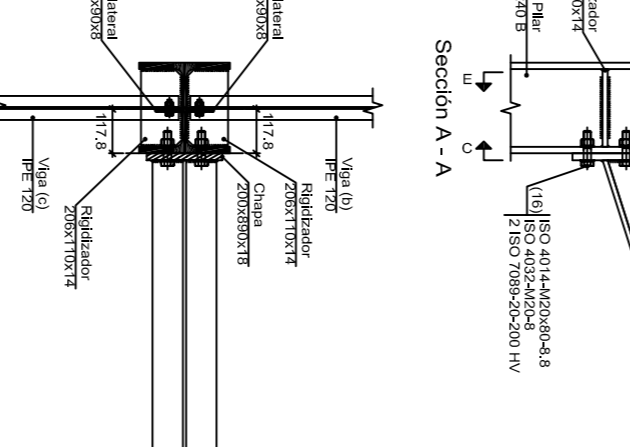
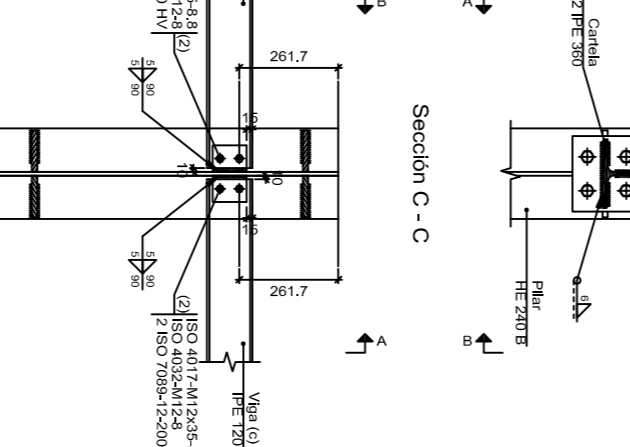
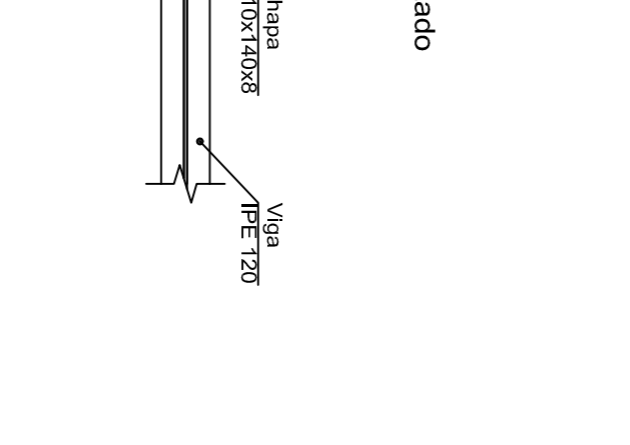
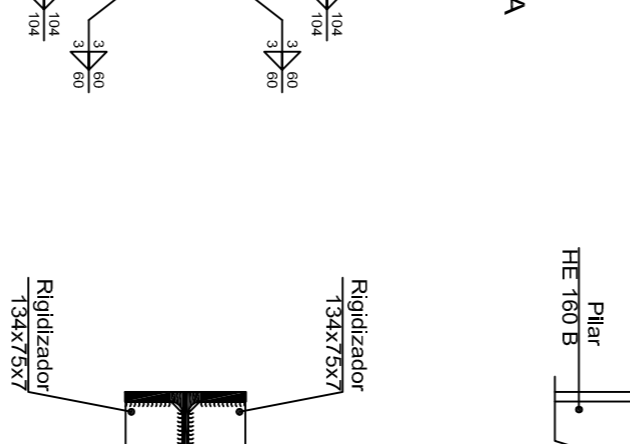
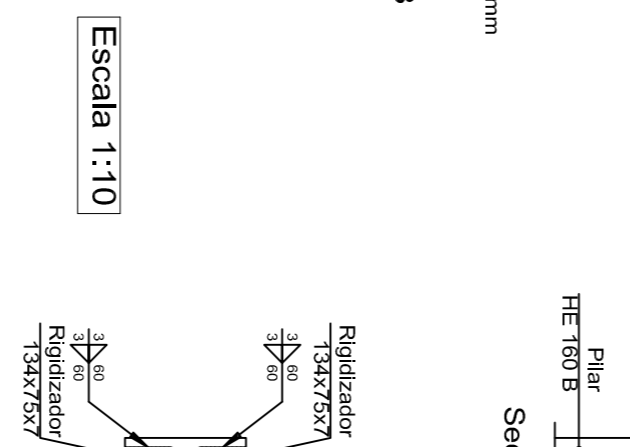
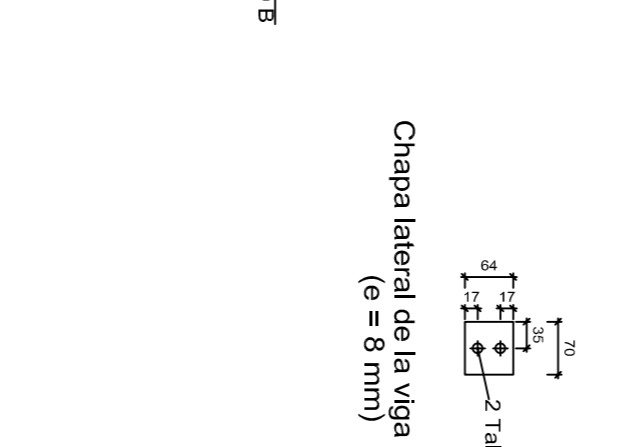
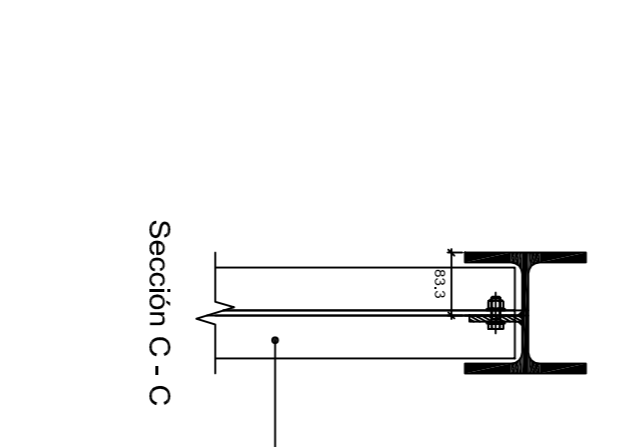
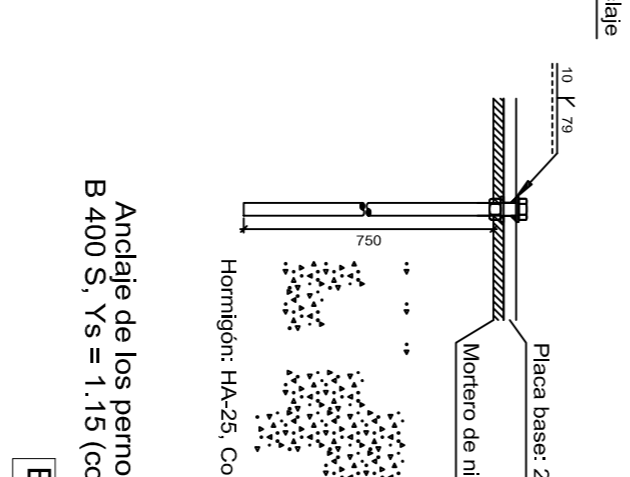
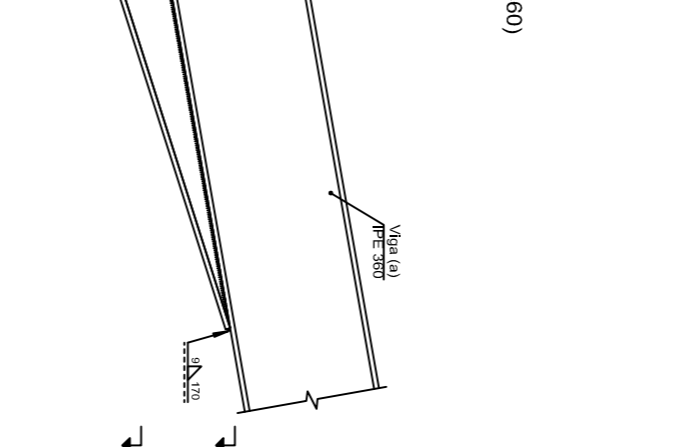
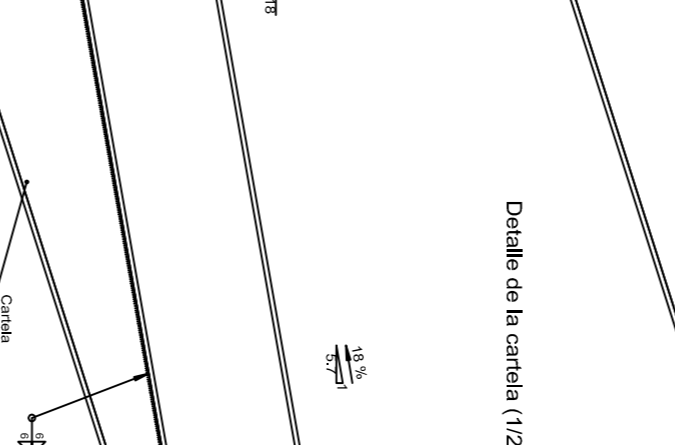
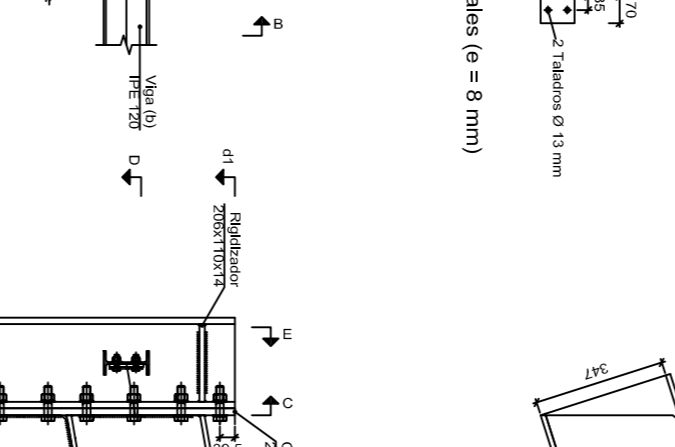
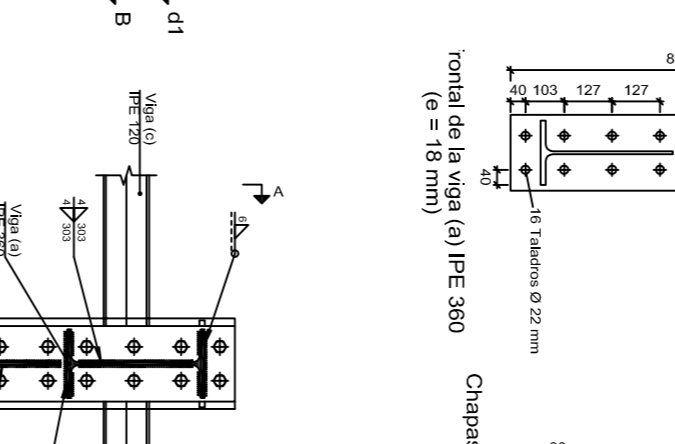
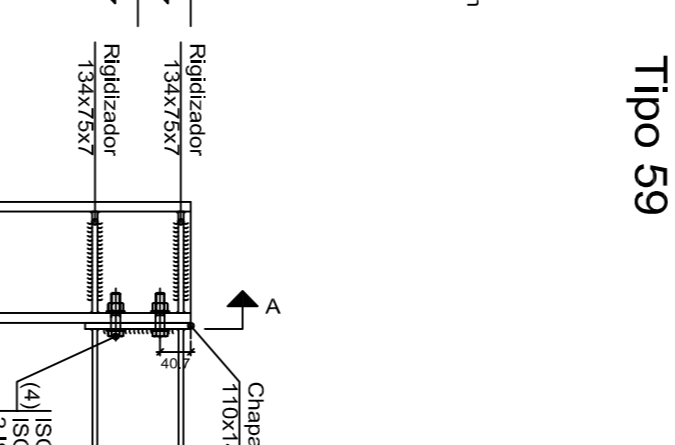
Tipo 17



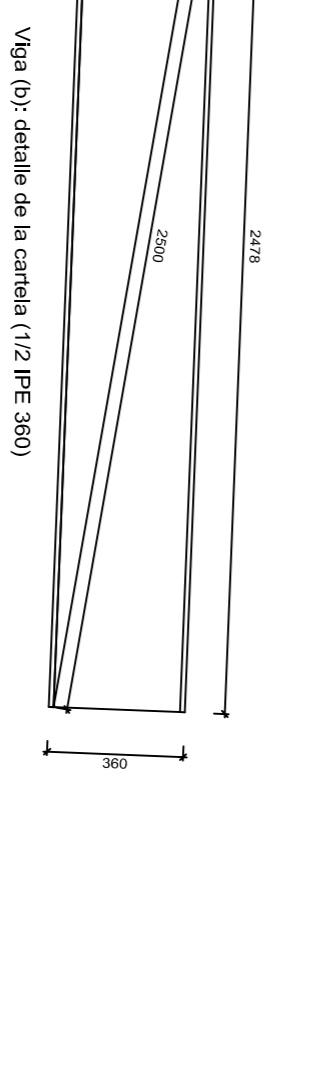
Tipo 33



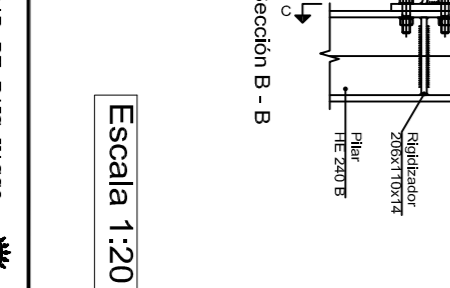
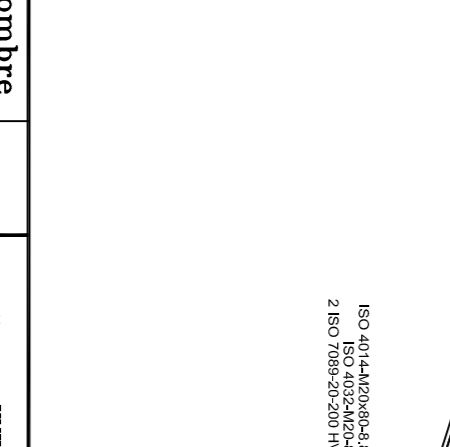
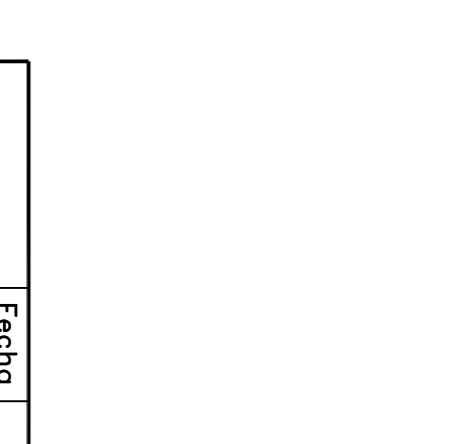
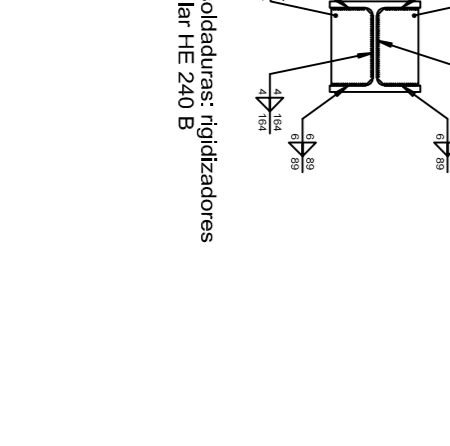
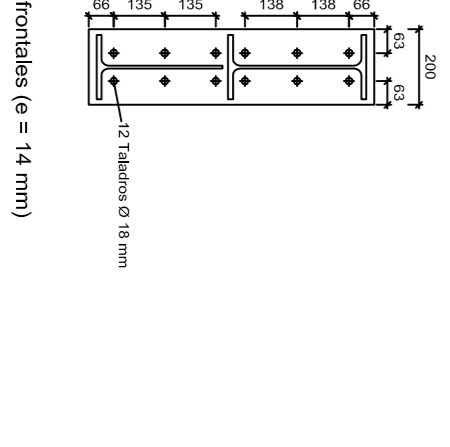
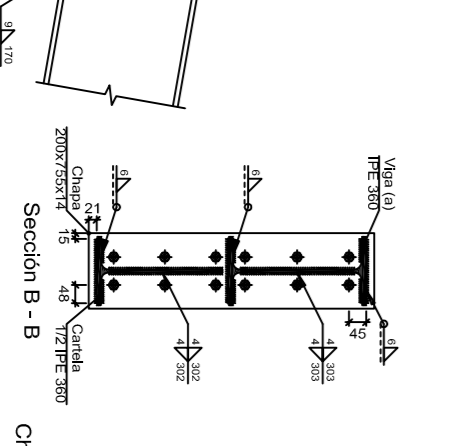
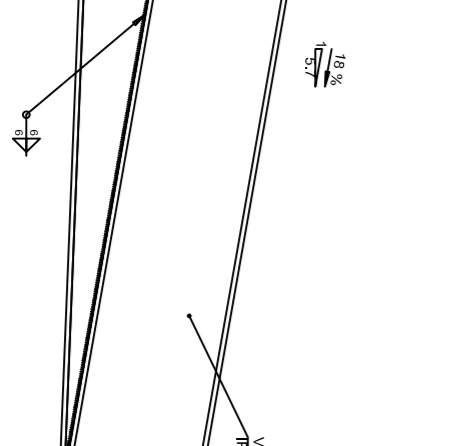
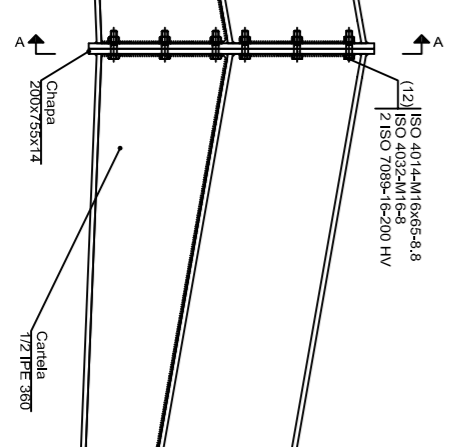
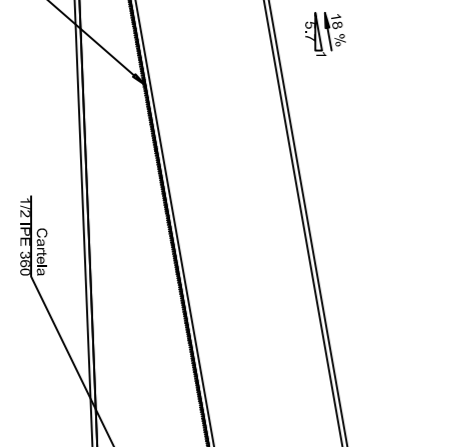
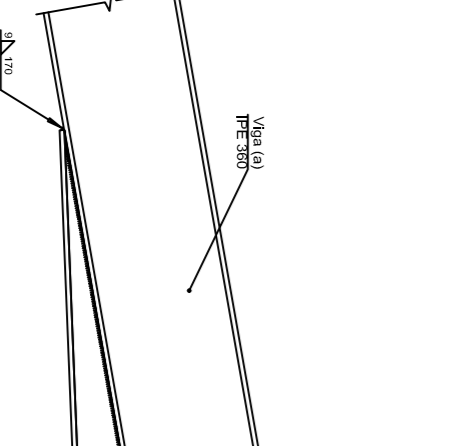
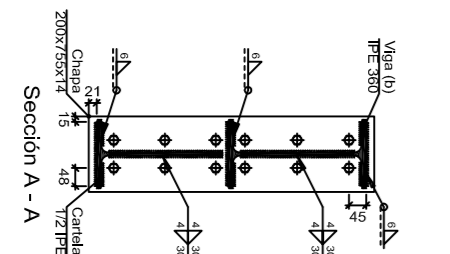
Tipo 59



Tipo 26



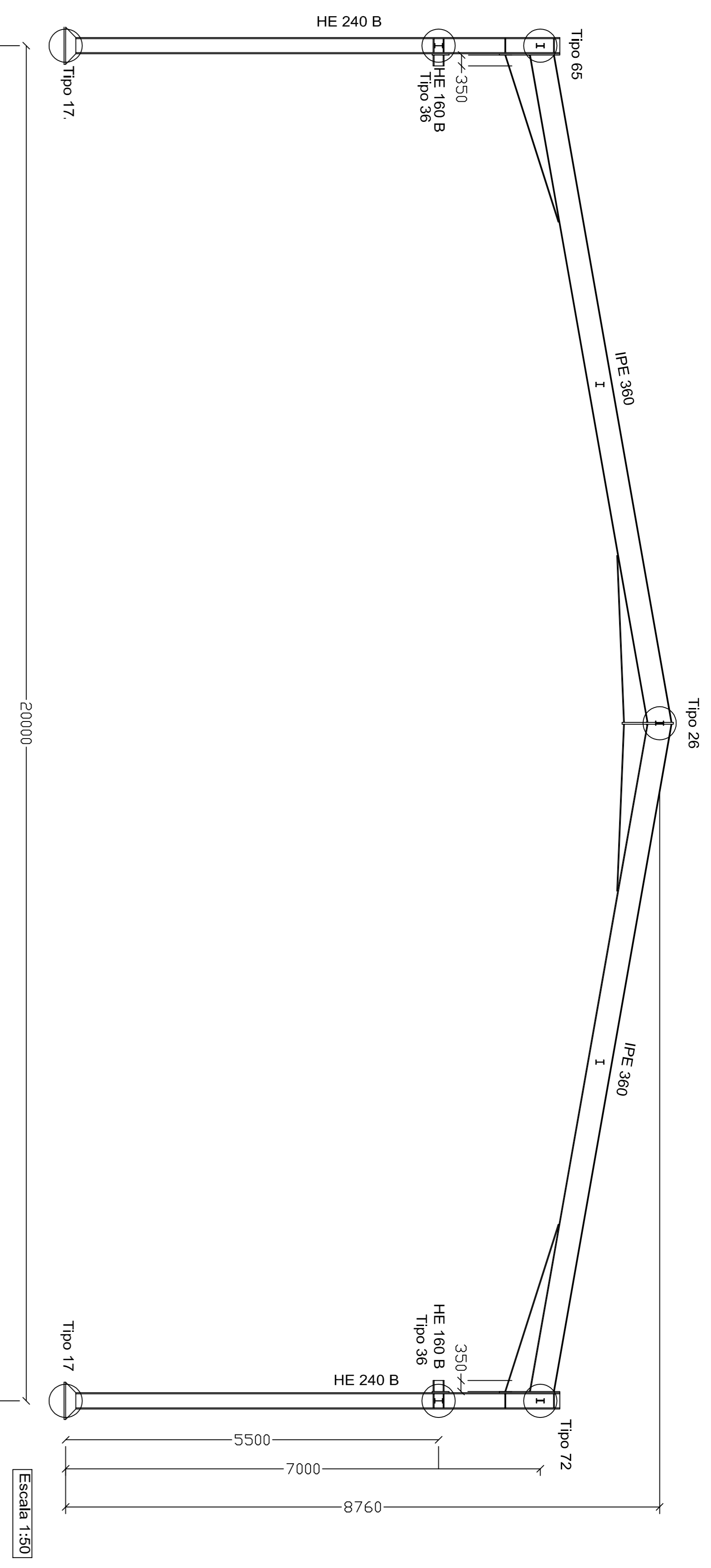
Tipo 26



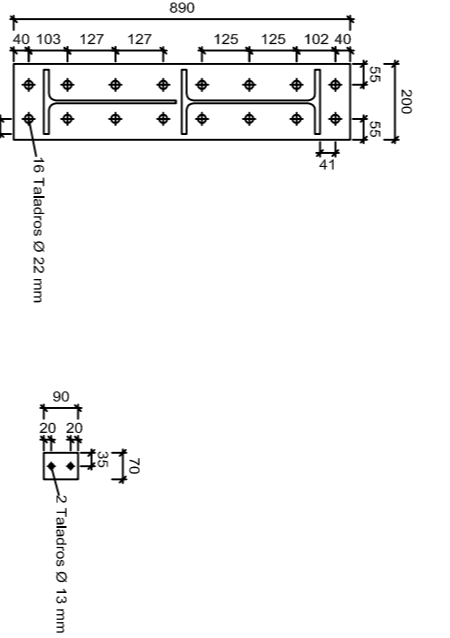
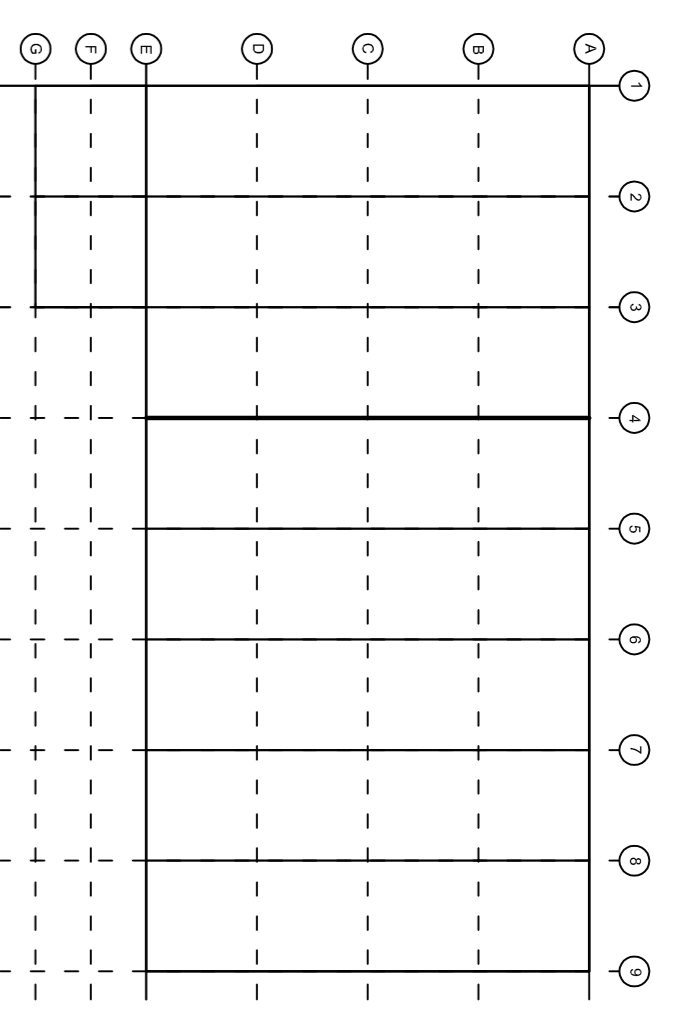
Escala 1:20

		<b>UNIVERSIDAD DE BURGOS</b> ESCUELA TÉCNICA SUPERIOR DE INGENIERIA TÉCNICA INDUSTRIAL (MIDIO)
<b>Fecha:</b> 07/2017 <b>Comprobado:</b> 07/2017 <b>Escala:</b> A1 1:15 1:20	<b>Nombre:</b> D. PABLO J. ELAVALUOCOTTA <b>Escuela:</b>	<b>CONTRIBUCIÓN DE INGENIERÍA INDUSTRIAL, CON ESPECIALIDAD EN INGENIERÍA DE FABRICACIÓN INDUSTRIAL</b> <b>PLANO N.º P19</b> N.º Planos: 41

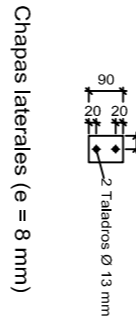
**PÓRTICO 5 Y UNIONES**



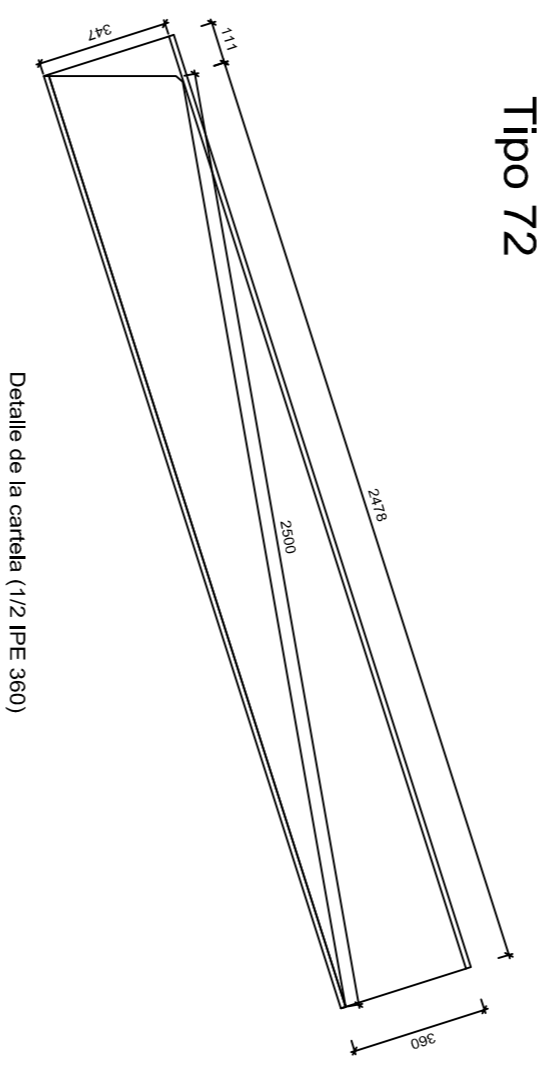
Escala 1:50



Chapa frontal de la viga (a) IPE 360  
(e = 18 mm)

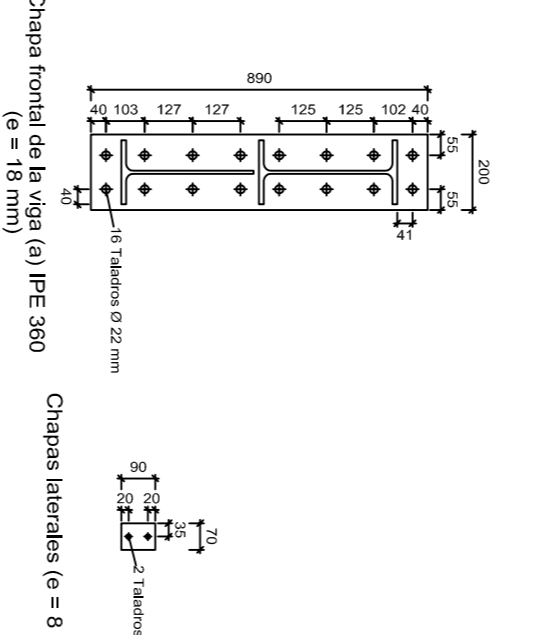


Chapas laterales (e = 8 mm)

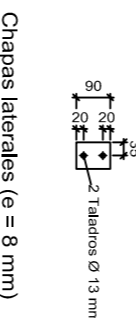


Detalle de la carola (172 IPE 360)

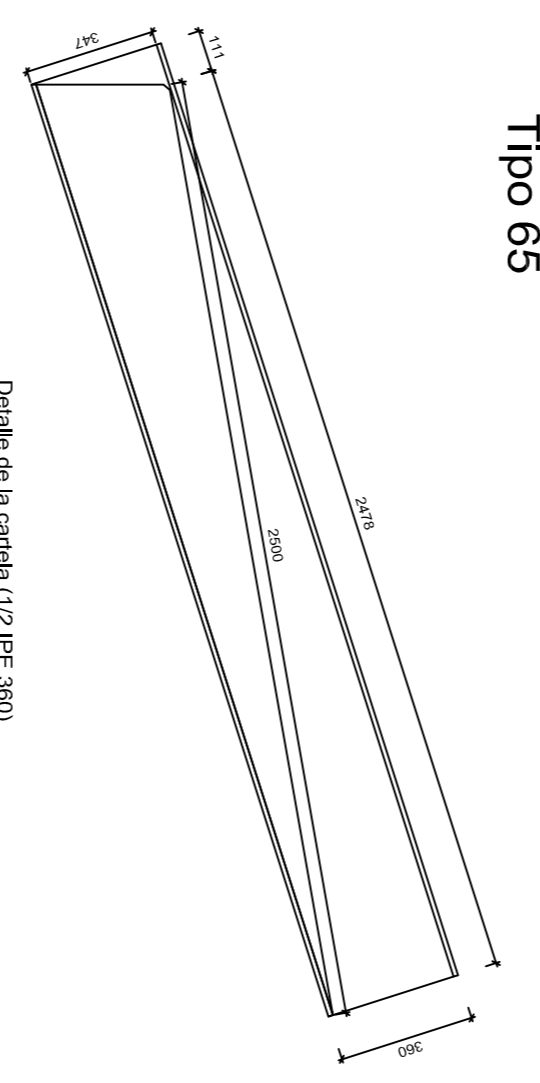
Tipo 72



Chapa frontal de la viga (a) IPE 360  
(e = 18 mm)

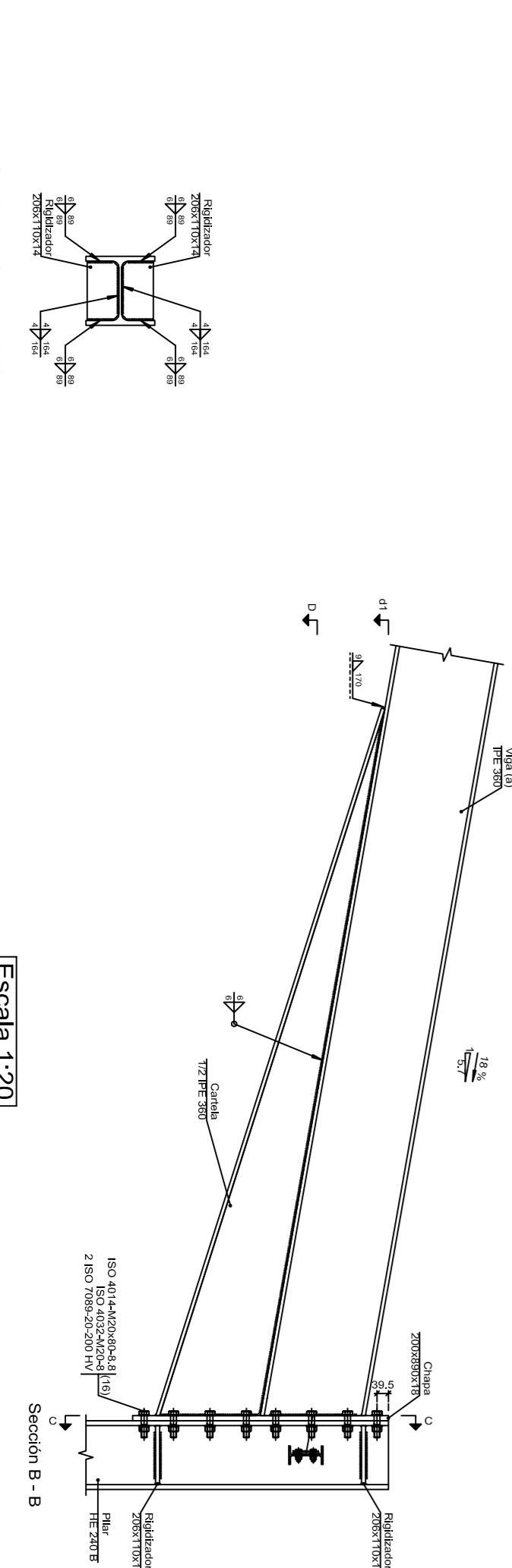
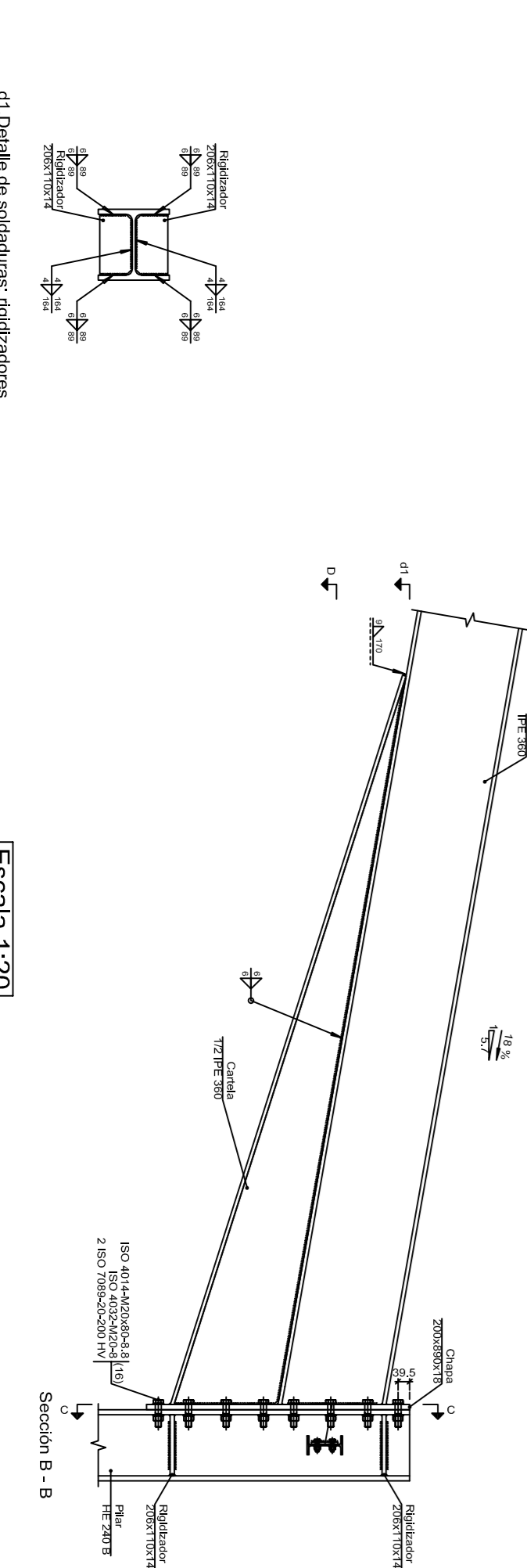
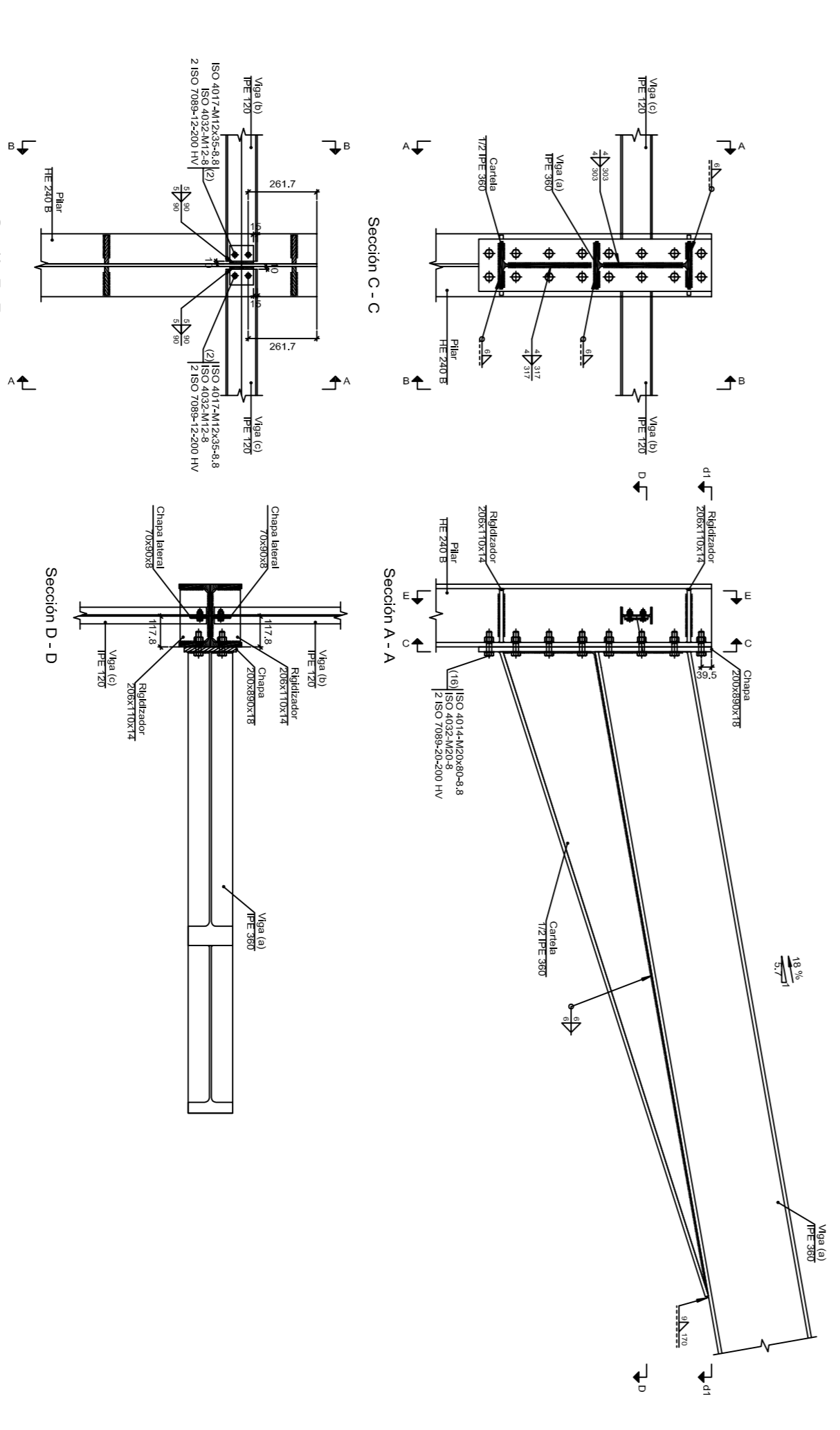
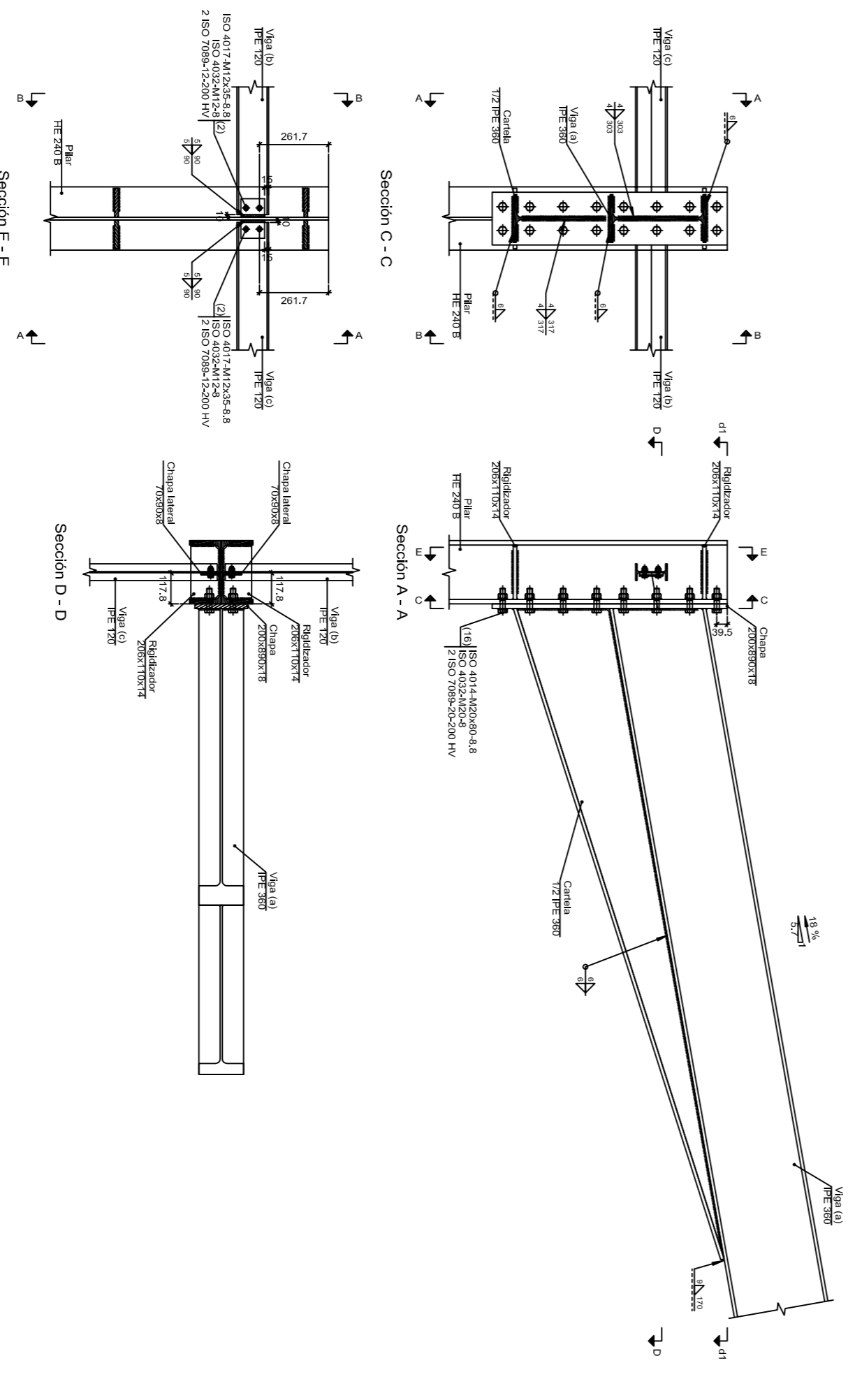


Chapas laterales (e = 8 mm)



Detalle de la carola (172 IPE 360)

Tipo 65



Escala 1:20

Escala 1:20

d1. Detalle de soldaduras: rigidizadores a Pilar HE 240 B

d1. Detalle de soldaduras: rigidizadores a Pilar HE 240 B

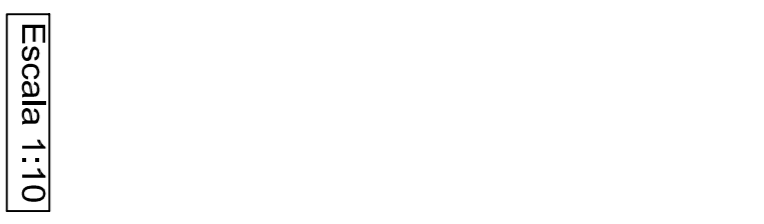
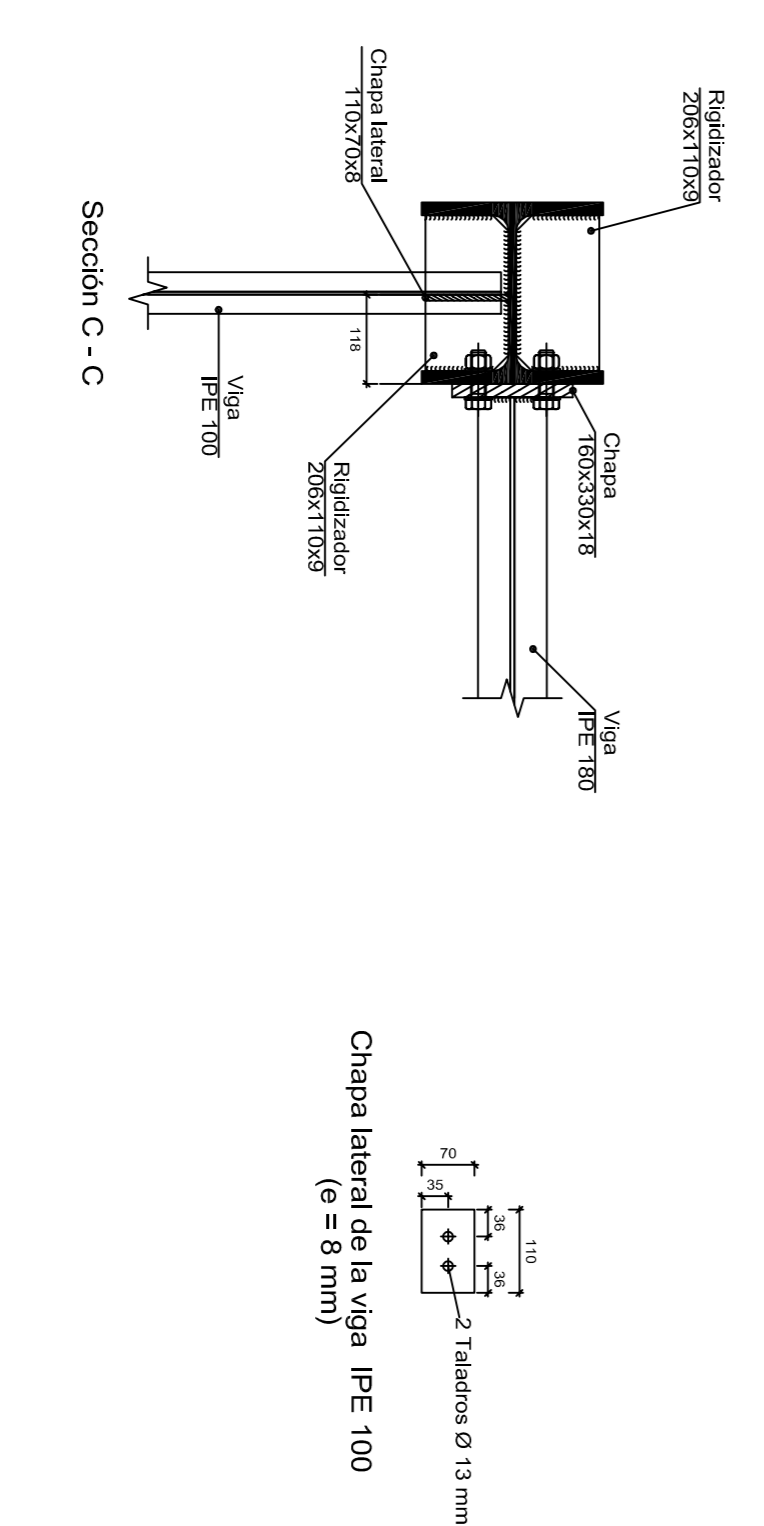
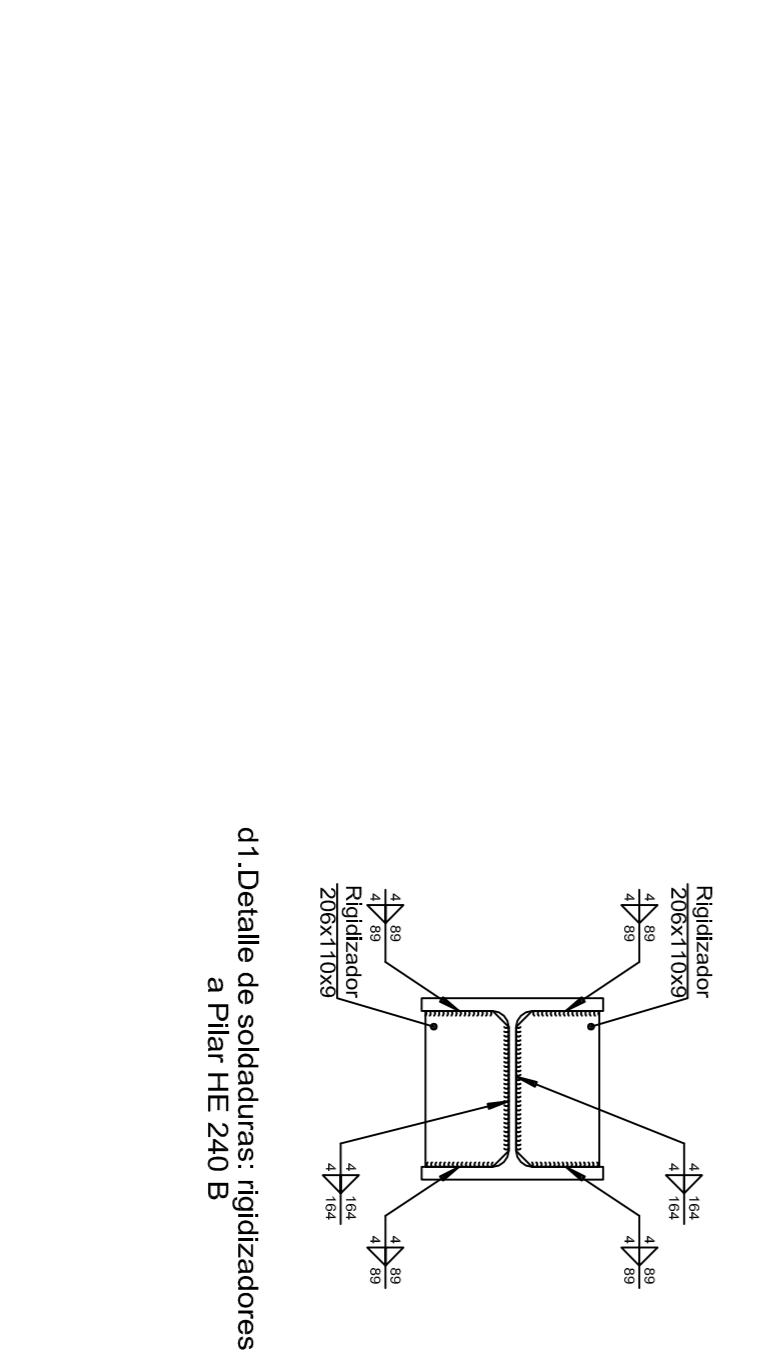
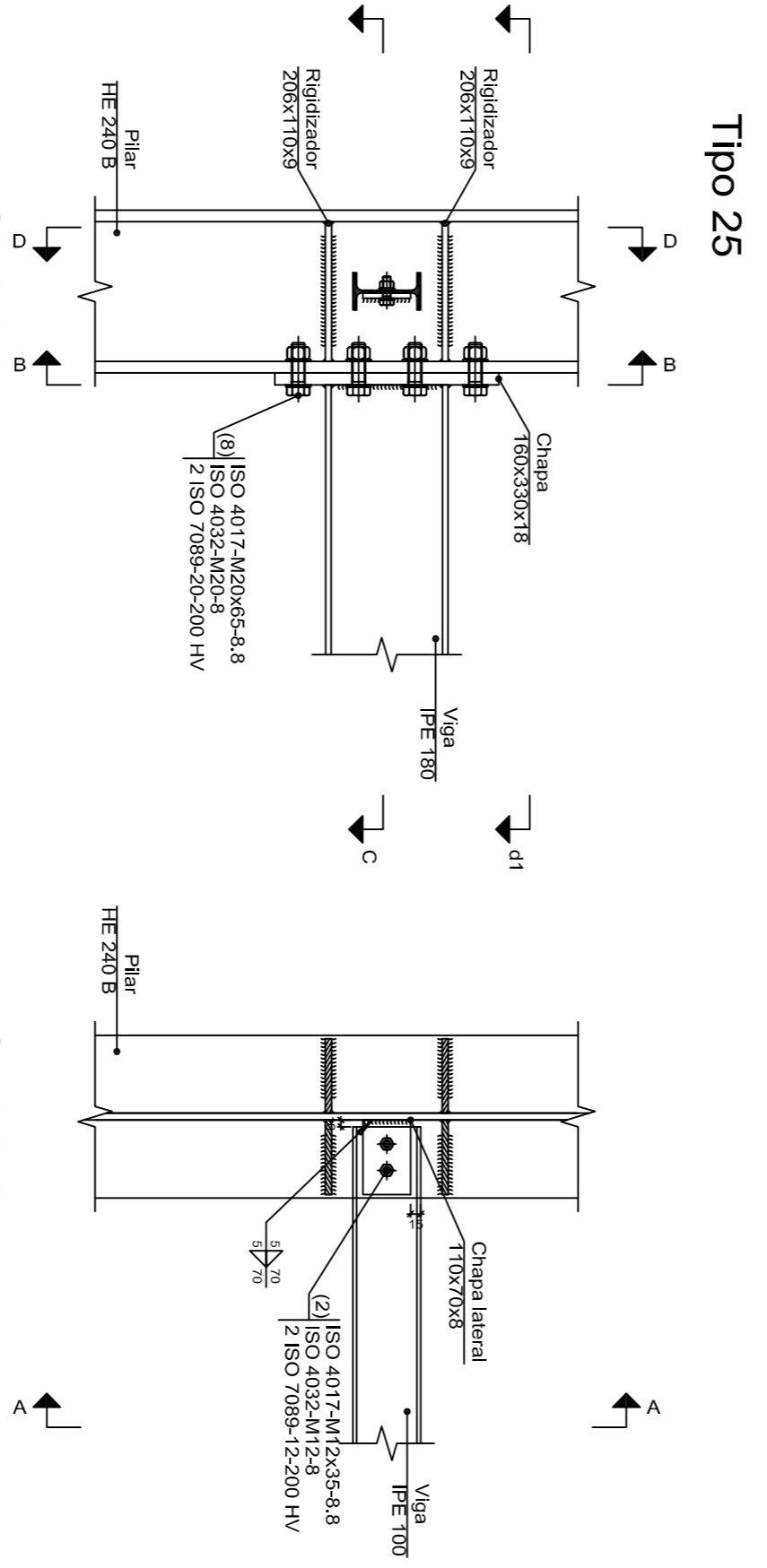
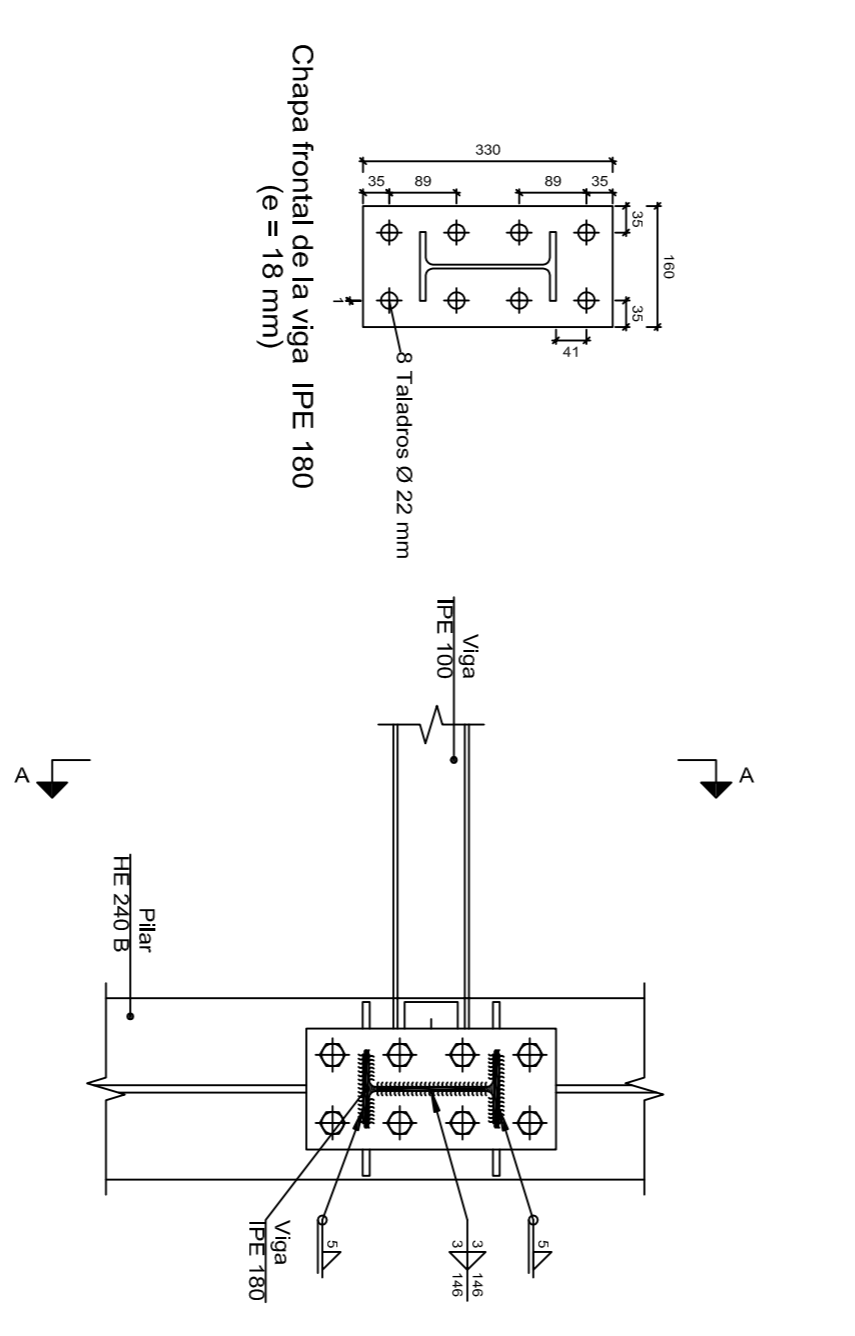
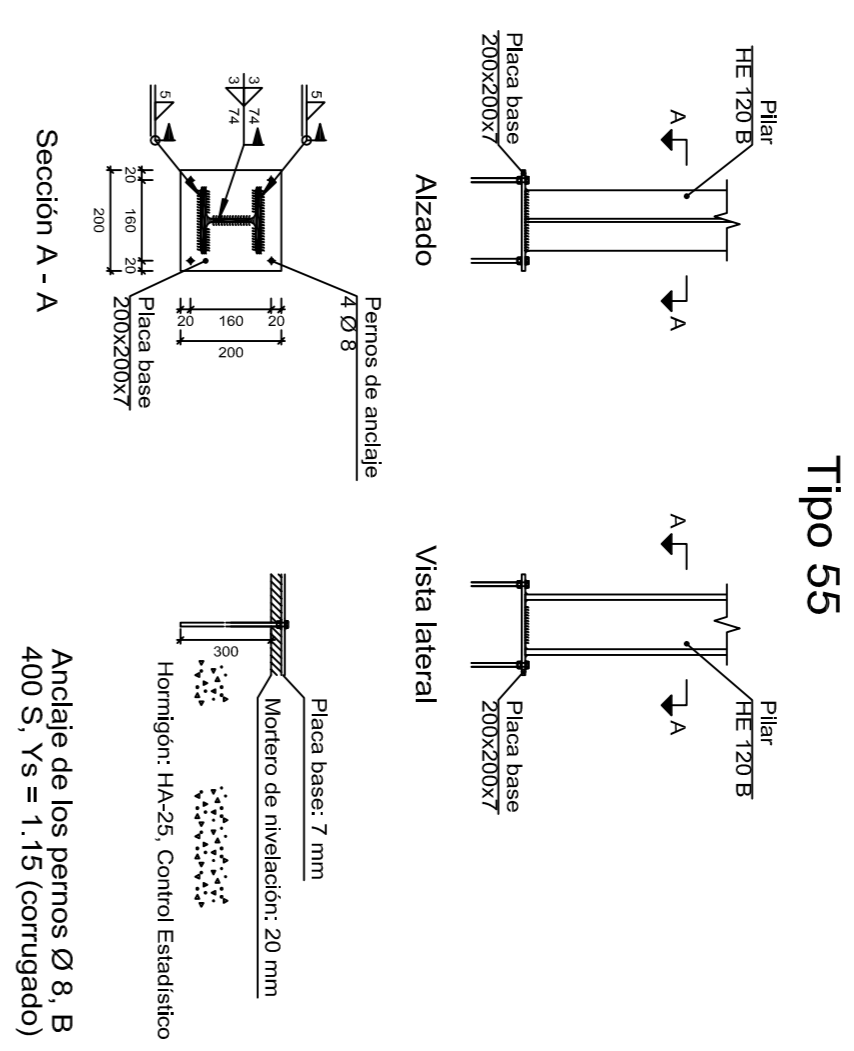
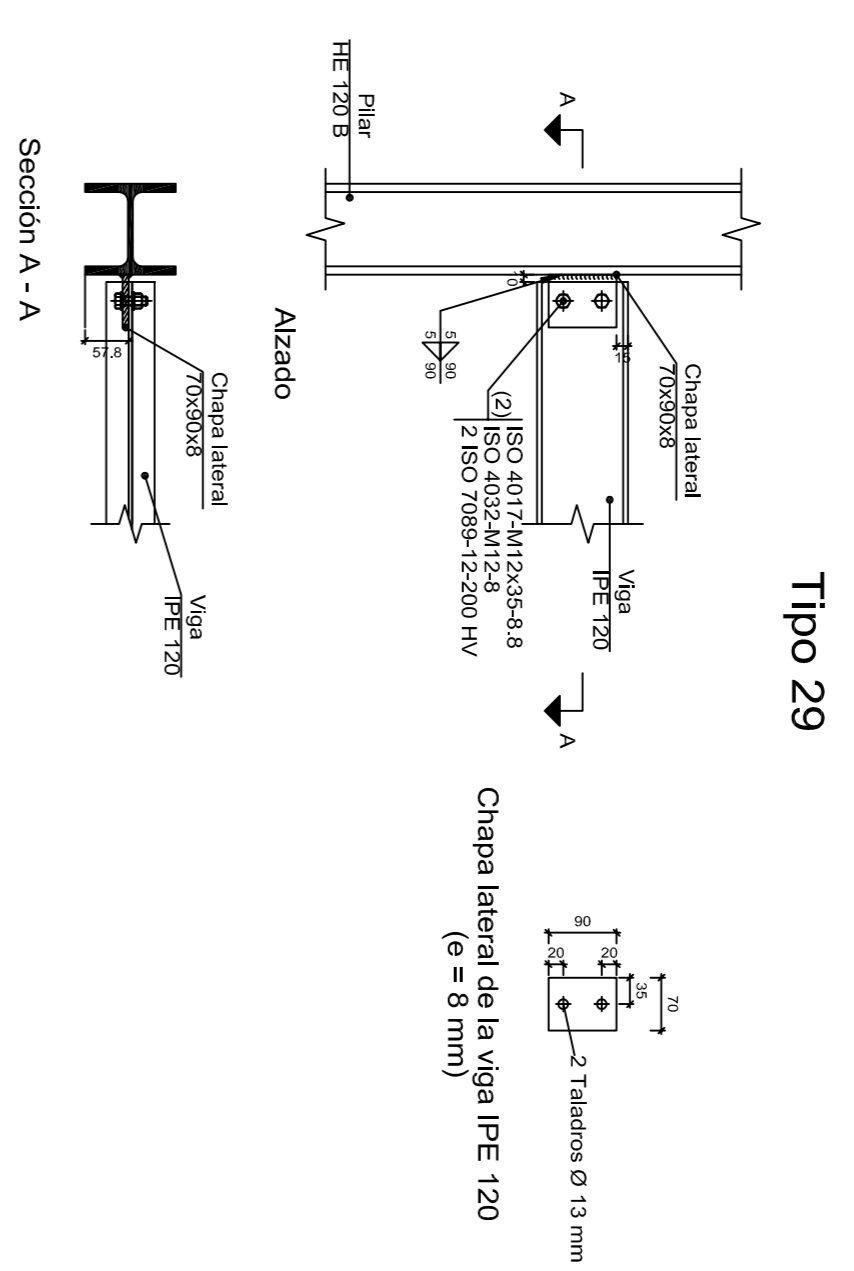
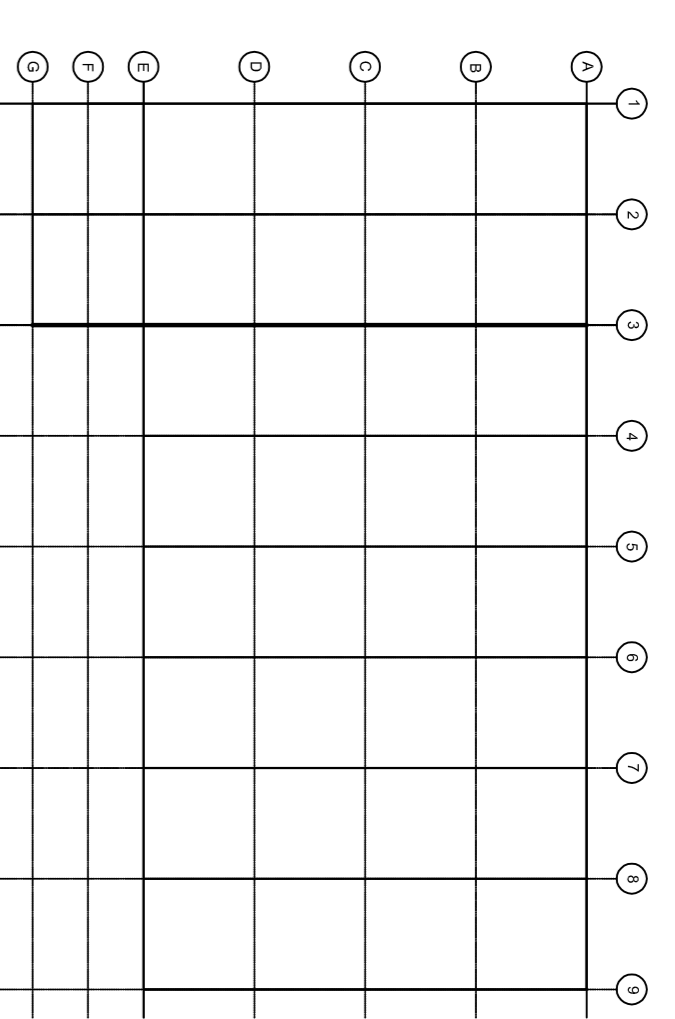
Fecha		Nombre		 UNIVERSIDAD DE LAS AMÉRICAS ESCUELA DE INGENIERÍA TÉCNICA INDUSTRIAL (Módulo)
Dibujado:		D. PRODA		
Comprobado:		J. ELAURUCIOGOTIA		CONSTRUCCIÓN DE MARTE INDUSTRIAL, CON CONSULTA FUENTE PARA LA EMPRESA DE FABRICACIÓN DE MANEJO INDUSTRIAL S.A.
Escala		A1		
Tol. gmm		1:50		Plano N° P20 N° Planos: 41

PÓRTICO 4 Y UNIONES



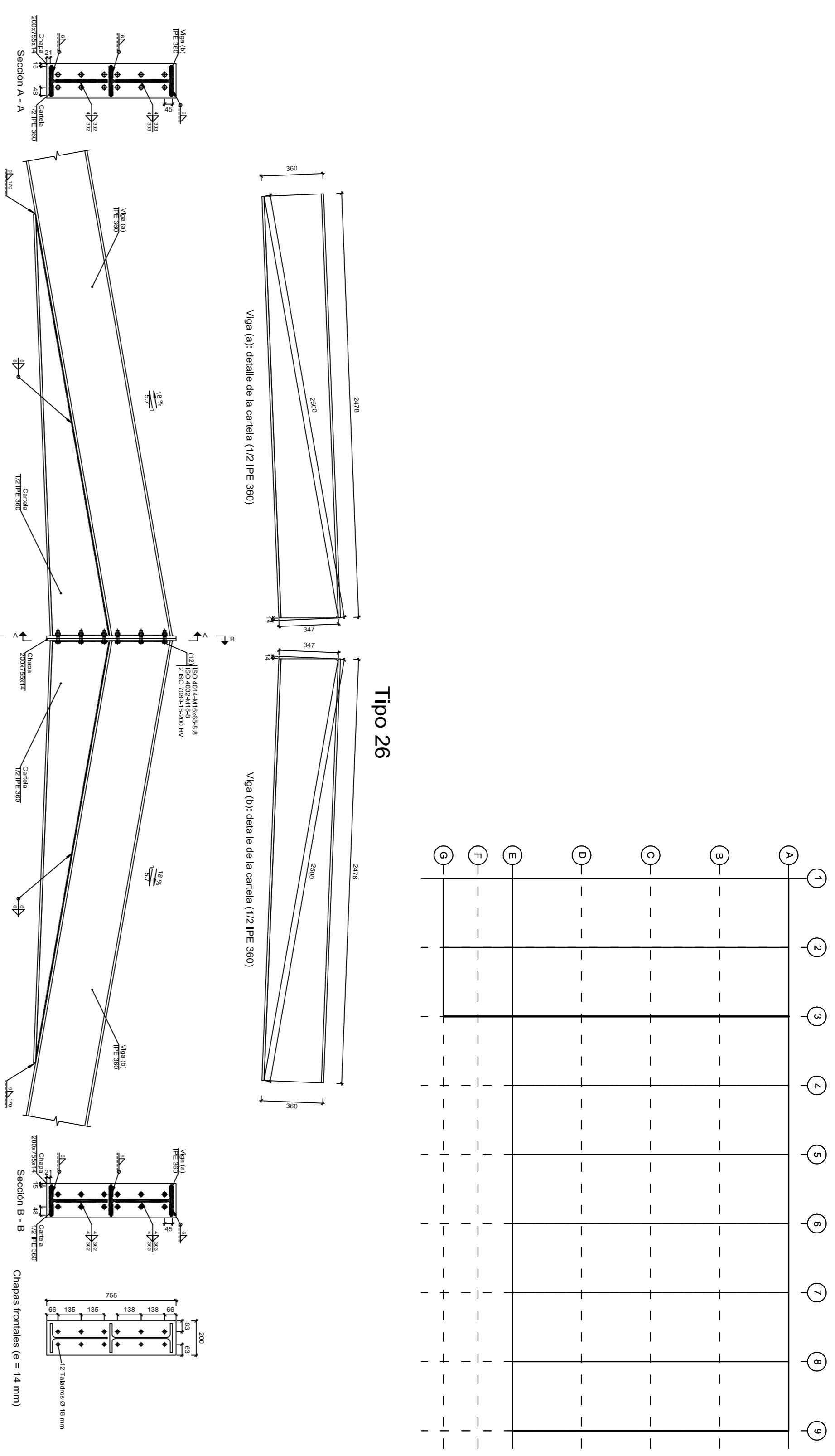
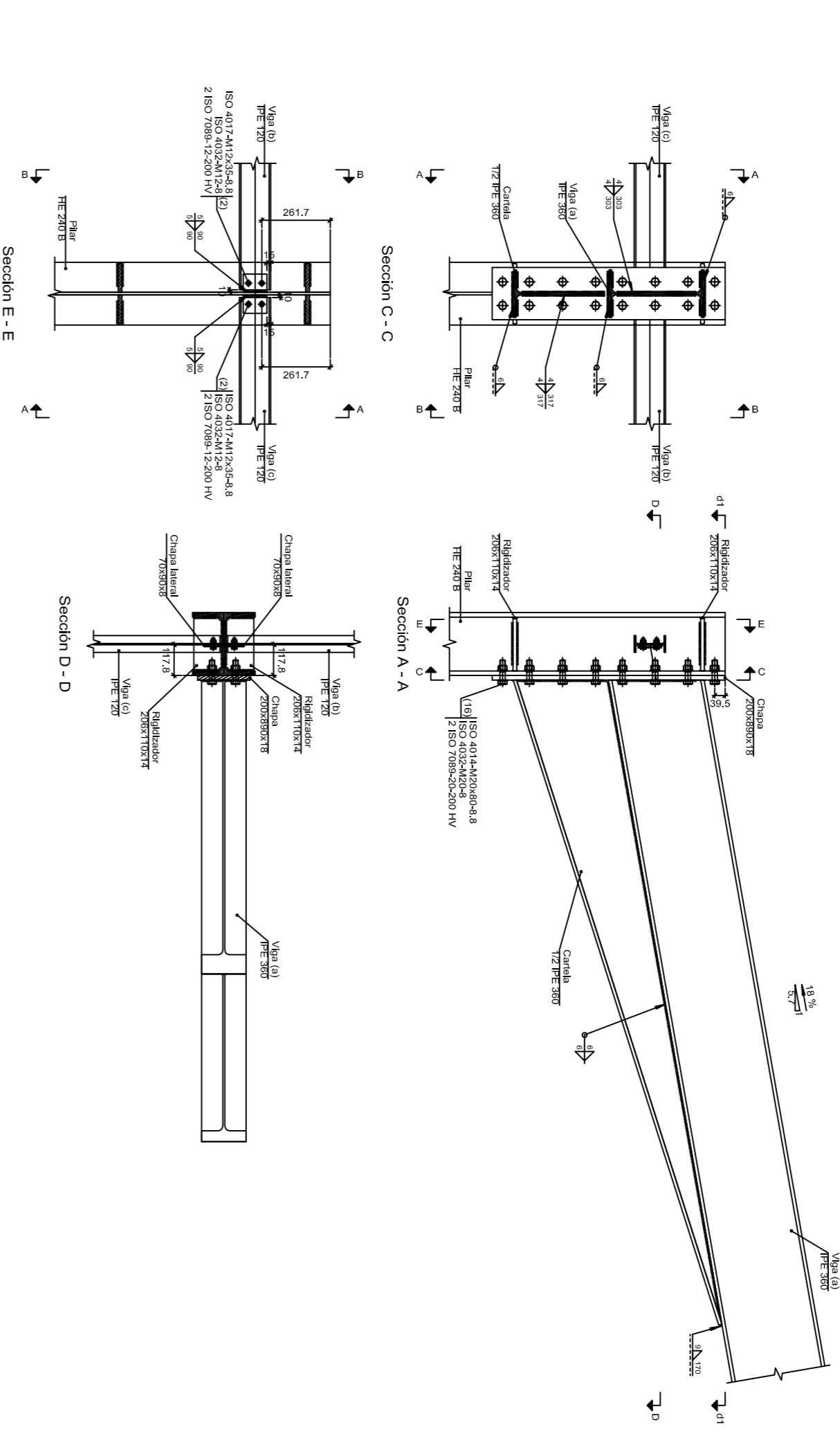
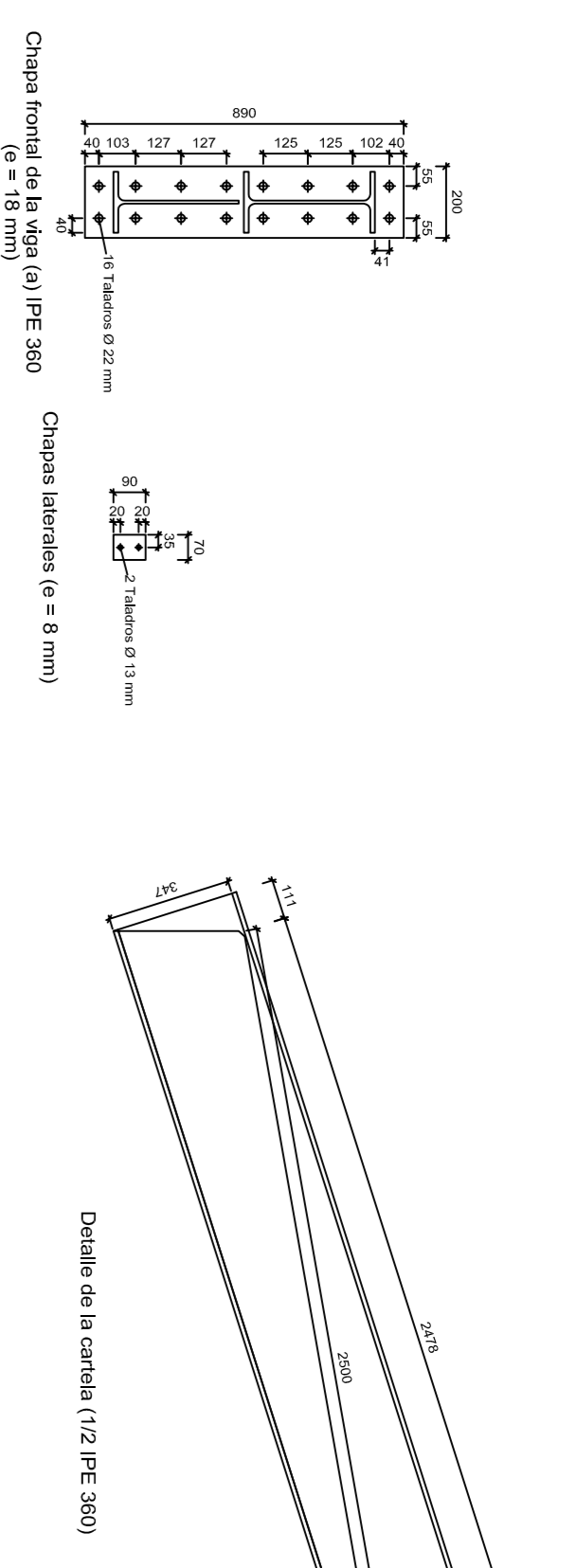




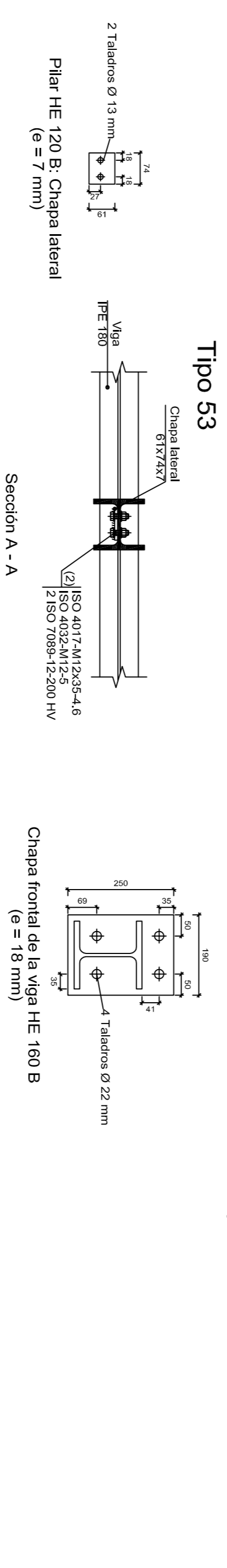


<b>Fecha:</b> 07/2017	<b>Nombre:</b> D. PRADA		UNIVERSIDAD DE PAÍS VASCO ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL, LEIUA
<b>Dibujado:</b> 07/2017	<b>Comprobado:</b> 07/2017 JELVARAUDOGORTIA		
<b>Tol. gen:</b> A1 1:10 1:15	<b>Escala:</b>	CONSTRUCCION DE UN VIVE INDUSTRIAL CON GUARDA PLANTER PARA ENTRENAMIENTO EN INGENIERIA	
<b>PORTICO 3 Y UNIONES</b>			
<b>Nº Planos: 41</b>		<b>Plano N.º P23</b>	

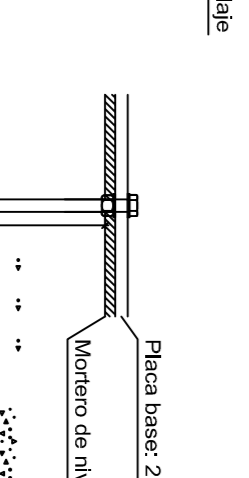
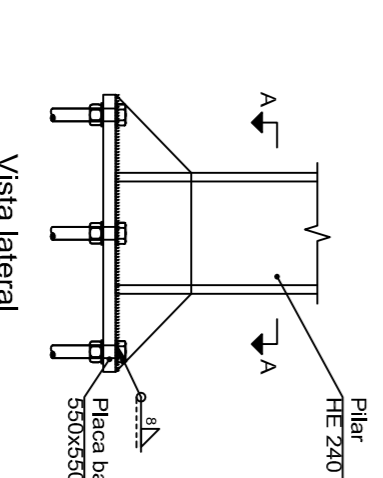
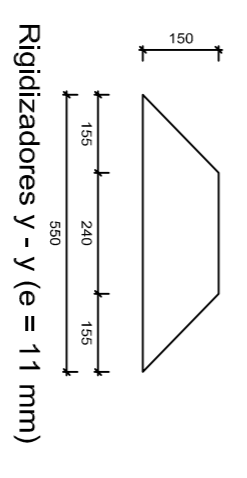
Tipo 66



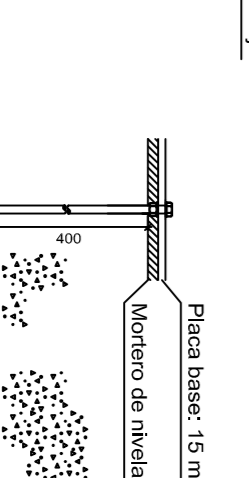
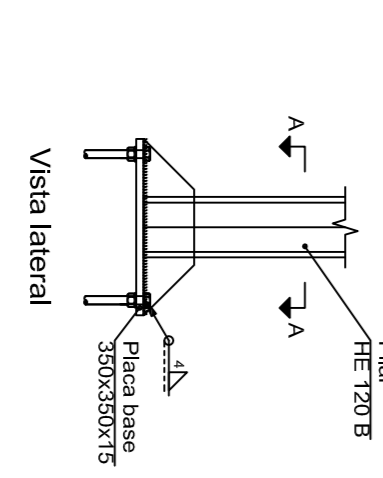
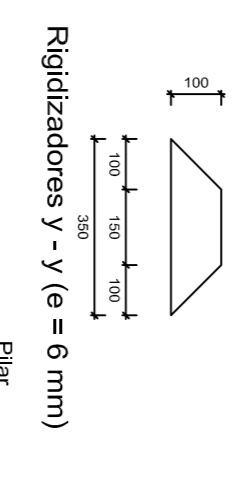
Tipo 36



Tipo 17



Tipo 1



Escala 1:20

Escala 1:10

Escala 1:10

<p>Placa base 550X350X15</p> <p>Sección A - A</p>		<p>Placa base 550X350X15</p> <p>Sección A - A</p>		<p>Placa base 700X300X8</p> <p>Sección A - A</p>	
<p>Placa base 15 mm</p> <p>Mortero de anclado: 20 mm</p> <p>Hormigón: HA-25, Control Estadístico</p> <p>Anclaje de los pernos Ø 16, B 400 S, Ys = 1,15 (corrugado)</p> <p>Escala 1:15</p>		<p>Placa base 25 mm</p> <p>Mortero de anclado: 20 mm</p> <p>Hormigón: HA-25, Control Estadístico</p> <p>Anclaje de los pernos Ø 25, B 400 S, Ys = 1,15 (corrugado)</p> <p>Escala 1:15</p>		<p>Chapa lateral 70X300X8</p> <p>Viga IPE 120</p> <p>Sección A - A</p>	
<p>Placa base 15 mm</p> <p>Mortero de anclado: 20 mm</p> <p>Hormigón: HA-25, Control Estadístico</p> <p>Anclaje de los pernos Ø 16, B 400 S, Ys = 1,15 (corrugado)</p> <p>Escala 1:15</p>		<p>Placa base 25 mm</p> <p>Mortero de anclado: 20 mm</p> <p>Hormigón: HA-25, Control Estadístico</p> <p>Anclaje de los pernos Ø 25, B 400 S, Ys = 1,15 (corrugado)</p> <p>Escala 1:15</p>		<p>Chapa lateral 70X300X8</p> <p>Viga IPE 120</p> <p>Sección A - A</p>	
<p>Placa base 15 mm</p> <p>Mortero de anclado: 20 mm</p> <p>Hormigón: HA-25, Control Estadístico</p> <p>Anclaje de los pernos Ø 16, B 400 S, Ys = 1,15 (corrugado)</p> <p>Escala 1:15</p>		<p>Placa base 25 mm</p> <p>Mortero de anclado: 20 mm</p> <p>Hormigón: HA-25, Control Estadístico</p> <p>Anclaje de los pernos Ø 25, B 400 S, Ys = 1,15 (corrugado)</p> <p>Escala 1:15</p>		<p>Chapa lateral 70X300X8</p> <p>Viga IPE 120</p> <p>Sección A - A</p>	
<p>Placa base 15 mm</p> <p>Mortero de anclado: 20 mm</p> <p>Hormigón: HA-25, Control Estadístico</p> <p>Anclaje de los pernos Ø 16, B 400 S, Ys = 1,15 (corrugado)</p> <p>Escala 1:15</p>		<p>Placa base 25 mm</p> <p>Mortero de anclado: 20 mm</p> <p>Hormigón: HA-25, Control Estadístico</p> <p>Anclaje de los pernos Ø 25, B 400 S, Ys = 1,15 (corrugado)</p> <p>Escala 1:15</p>		<p>Chapa lateral 70X300X8</p> <p>Viga IPE 120</p> <p>Sección A - A</p>	

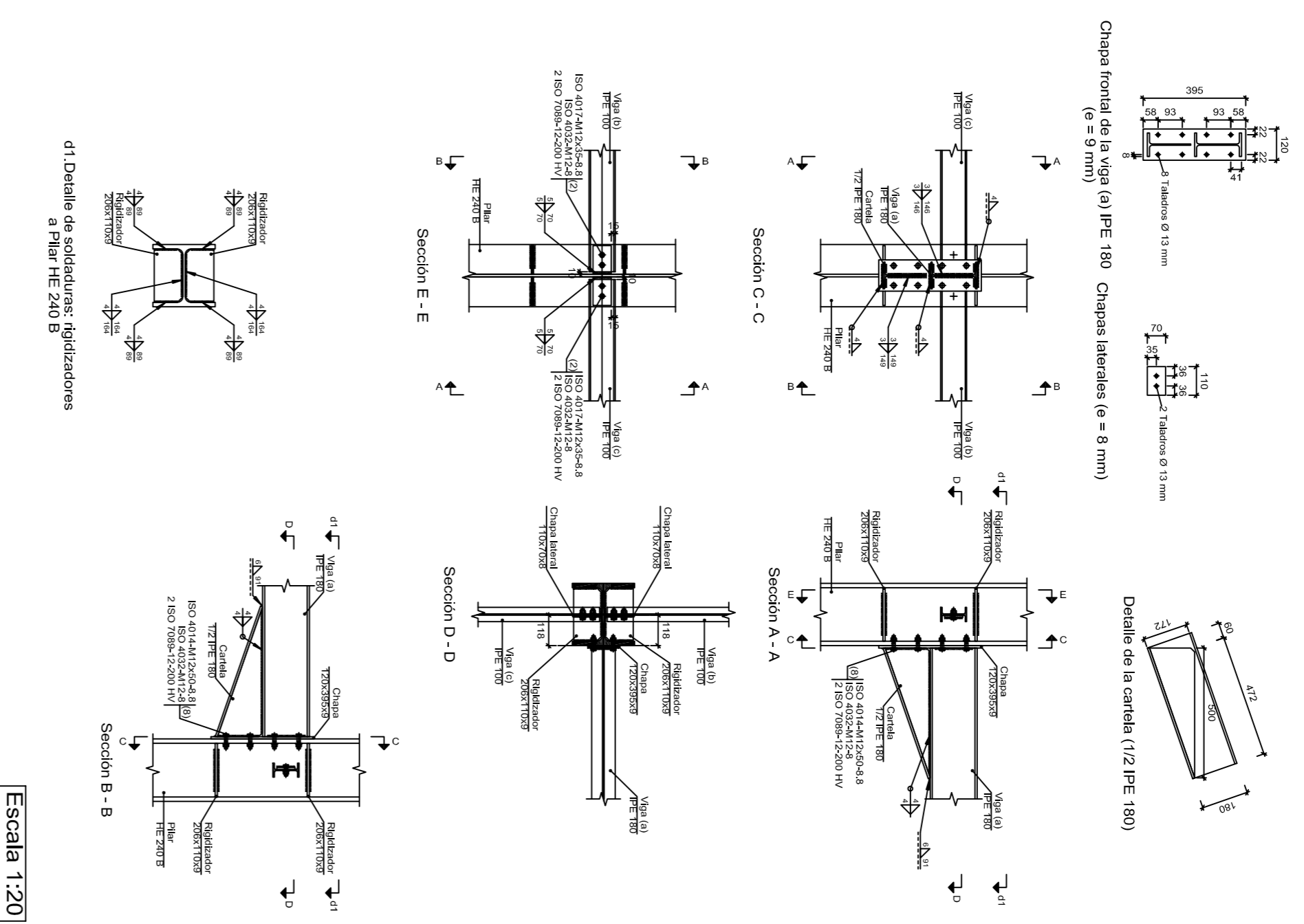
<p>UNIVERSIDAD DE LAS ISLAS</p> <p>INSTITUTO TECNOLÓGICO DE INGENIERÍA</p> <p>TECNOLÓGICO INDUSTRIAL, INDAI</p>		<p>UNIVERSIDAD DE LAS ISLAS</p> <p>INSTITUTO TECNOLÓGICO DE INGENIERÍA</p> <p>TECNOLÓGICO INDUSTRIAL, INDAI</p>	
<p>CONSTRUCCIÓN DE MAQUINARIA INDUSTRIAL, CONSTRUCCIÓN DE PUENTES PARA EMERGENCIAS DE EVACUACIÓN DE PASAJEROS EN AVIONES</p>		<p>CONSTRUCCIÓN DE MAQUINARIA INDUSTRIAL, CONSTRUCCIÓN DE PUENTES PARA EMERGENCIAS DE EVACUACIÓN DE PASAJEROS EN AVIONES</p>	
<p>Plano N° P24</p> <p>N° Planos: 41</p>		<p>Plano N° P24</p> <p>N° Planos: 41</p>	

<p>Nombre: PORTICO 3 Y UNIONES</p>		<p>Nombre: PORTICO 3 Y UNIONES</p>	
<p>Fecha: 07/2017</p>		<p>Fecha: 07/2017</p>	
<p>Comprobado: D. RAMON J. LARAURO GONZALEZ</p>		<p>Comprobado: D. RAMON J. LARAURO GONZALEZ</p>	
<p>Escala: 1:10</p>		<p>Escala: 1:10</p>	
<p>Tol. gmm: 1:10</p>		<p>Tol. gmm: 1:10</p>	
<p>1:20</p>		<p>1:20</p>	

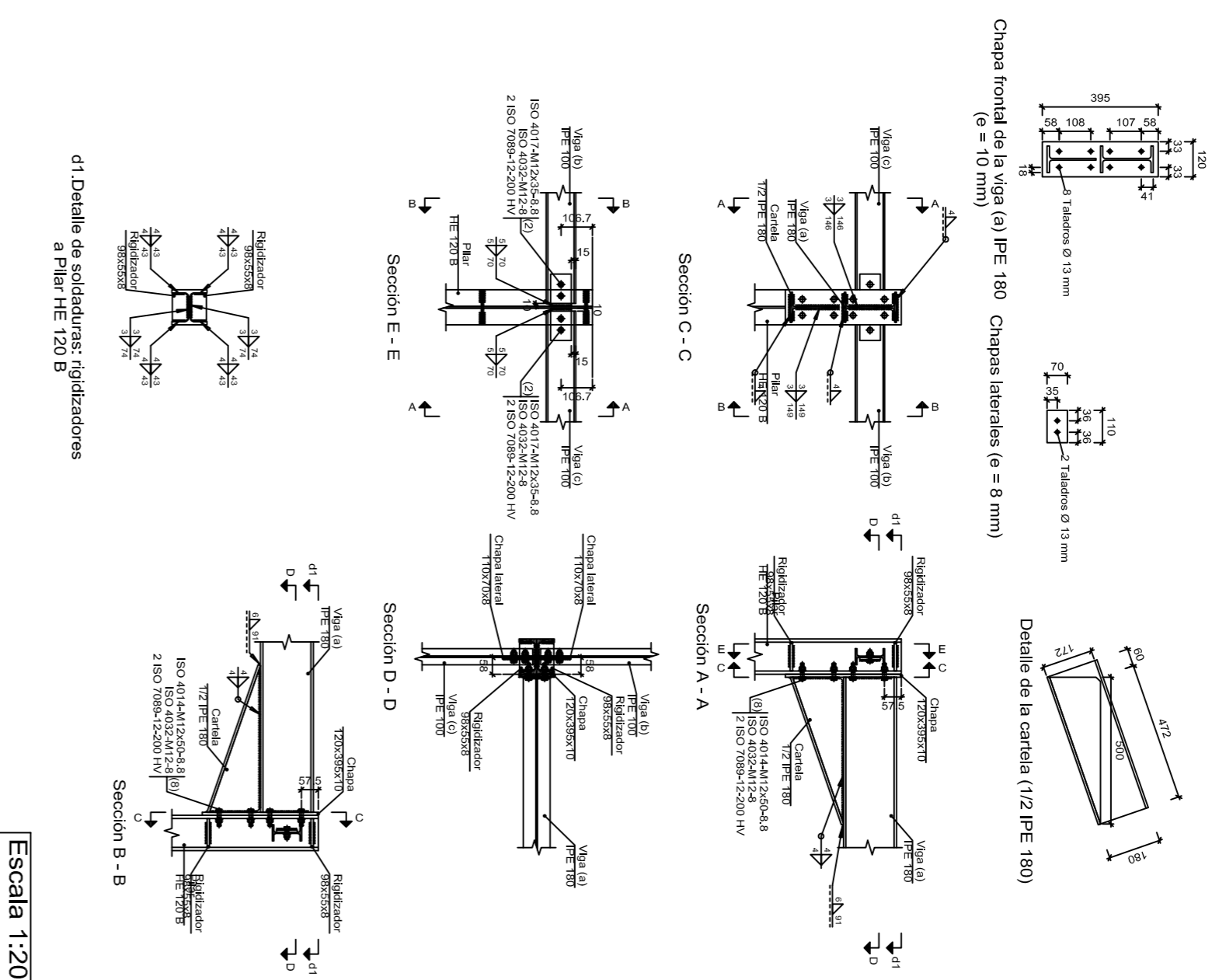




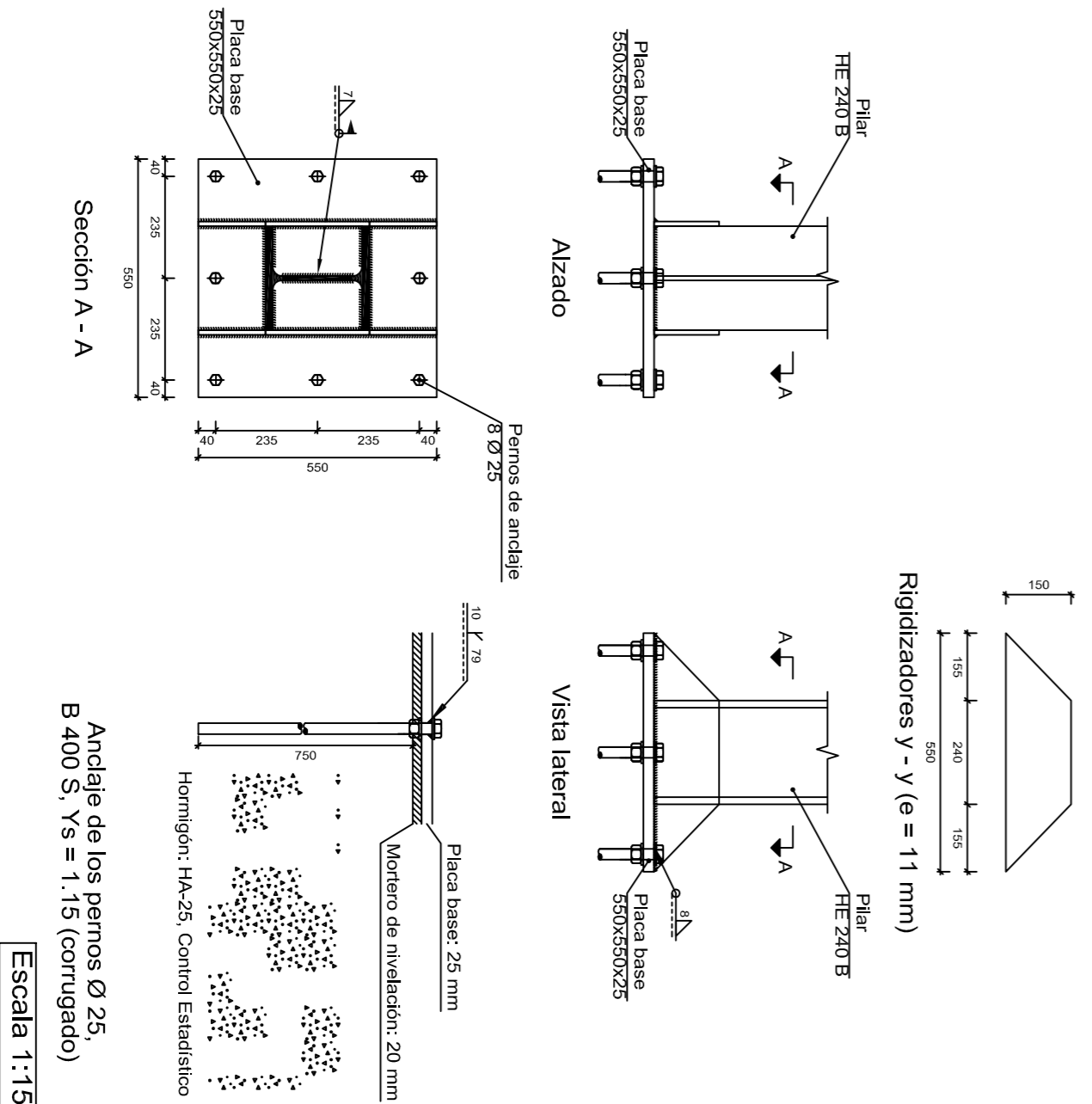
Tipo 19



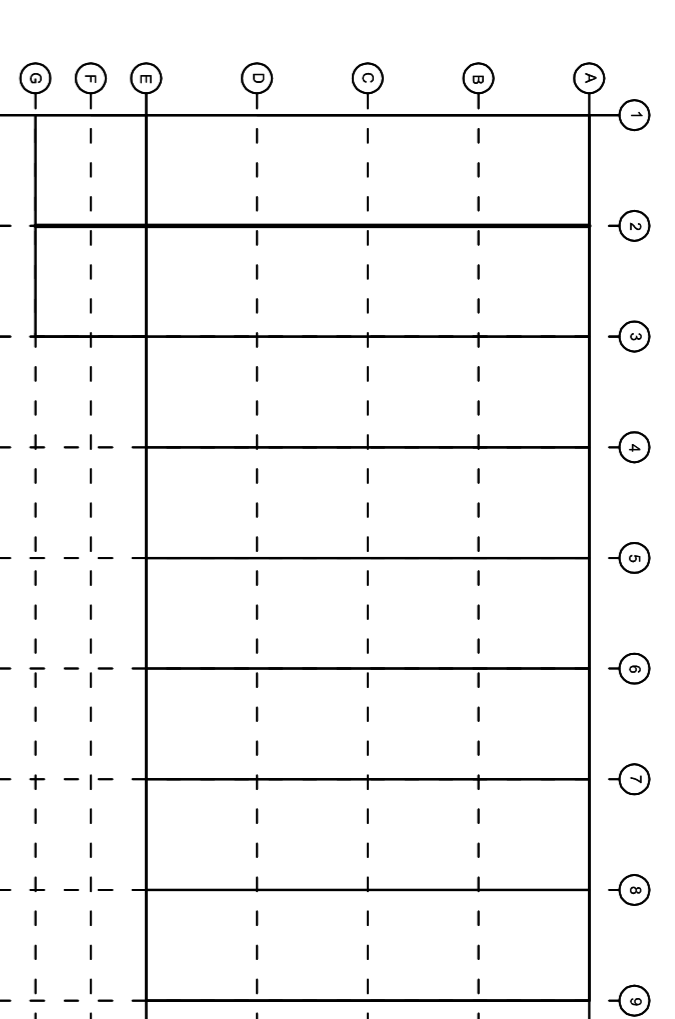
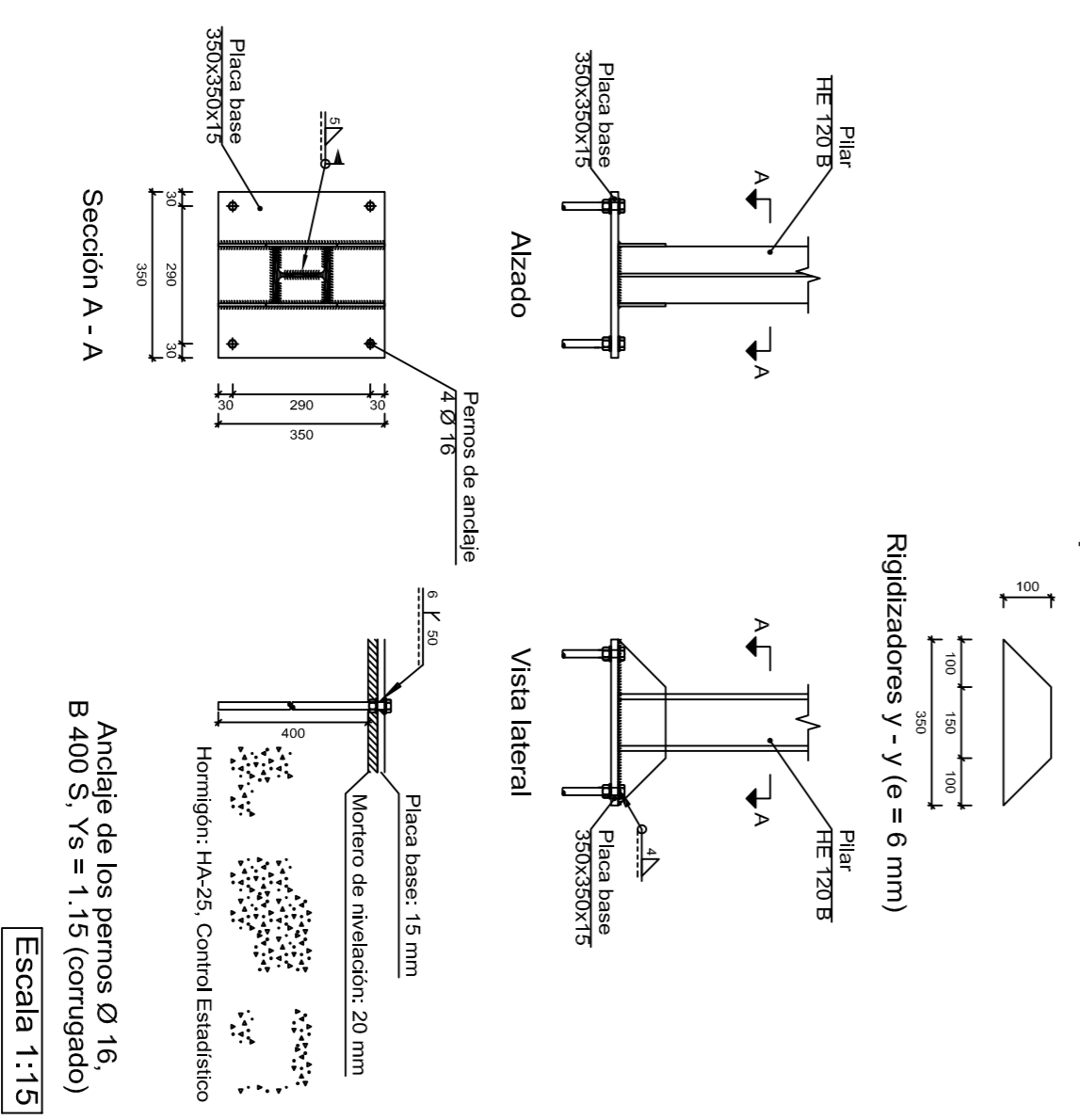
Tipo 15



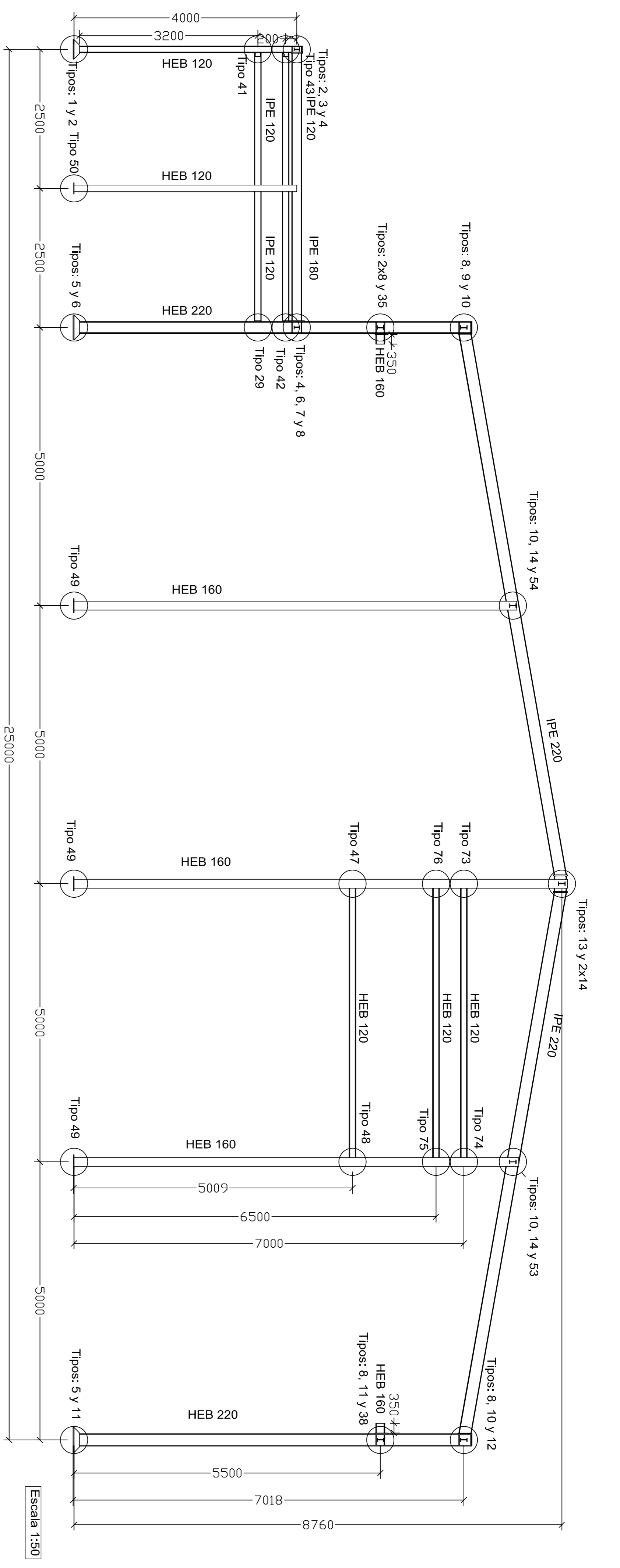
Tipo 17



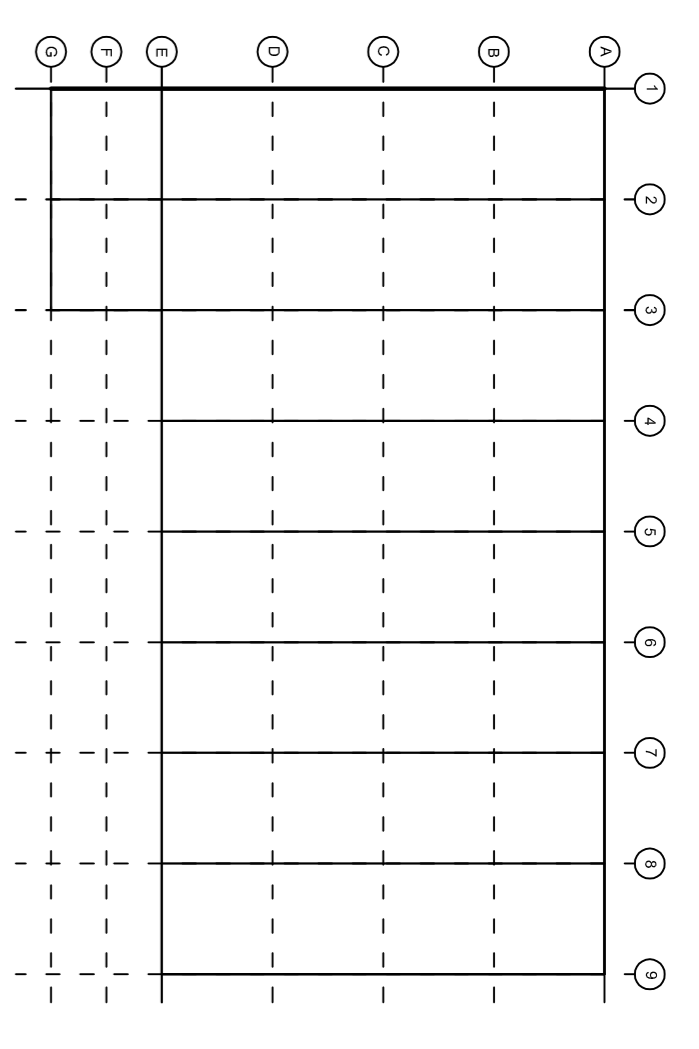
Tipo 1



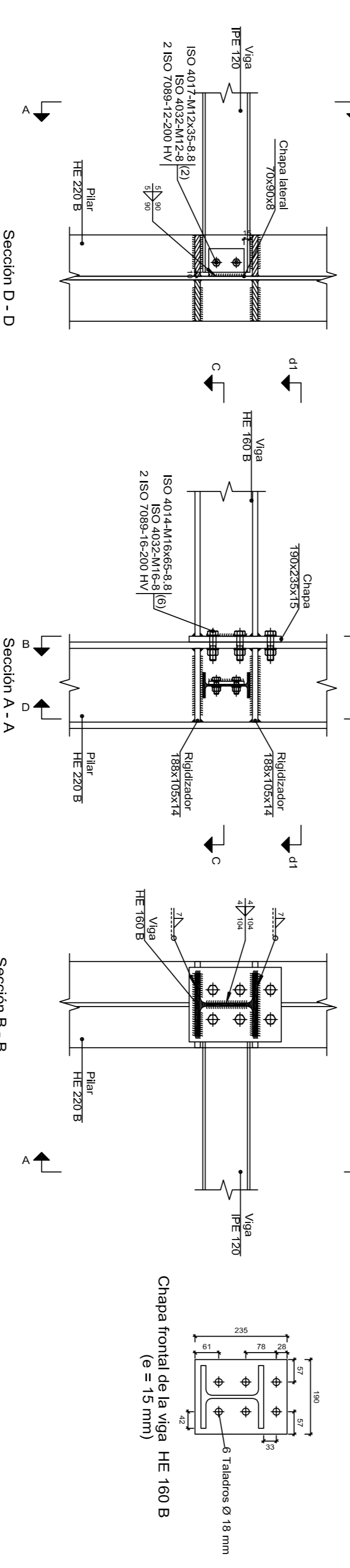
Dibujado:	07/2017	D. PRADA	UNIVERSIDAD DE LAS ISLAS BALEARES ESCUELA TÉCNICA INDUSTRIAL DE INGENIERÍA
Comprobado:	07/2017	J. ELARAUDDOGOTIA	
Tot. gms:	A1 1:15		
Escala			
PÓRTICO 2 Y UNIONES			
Plano N.º P27			
N.º Planos: 41			



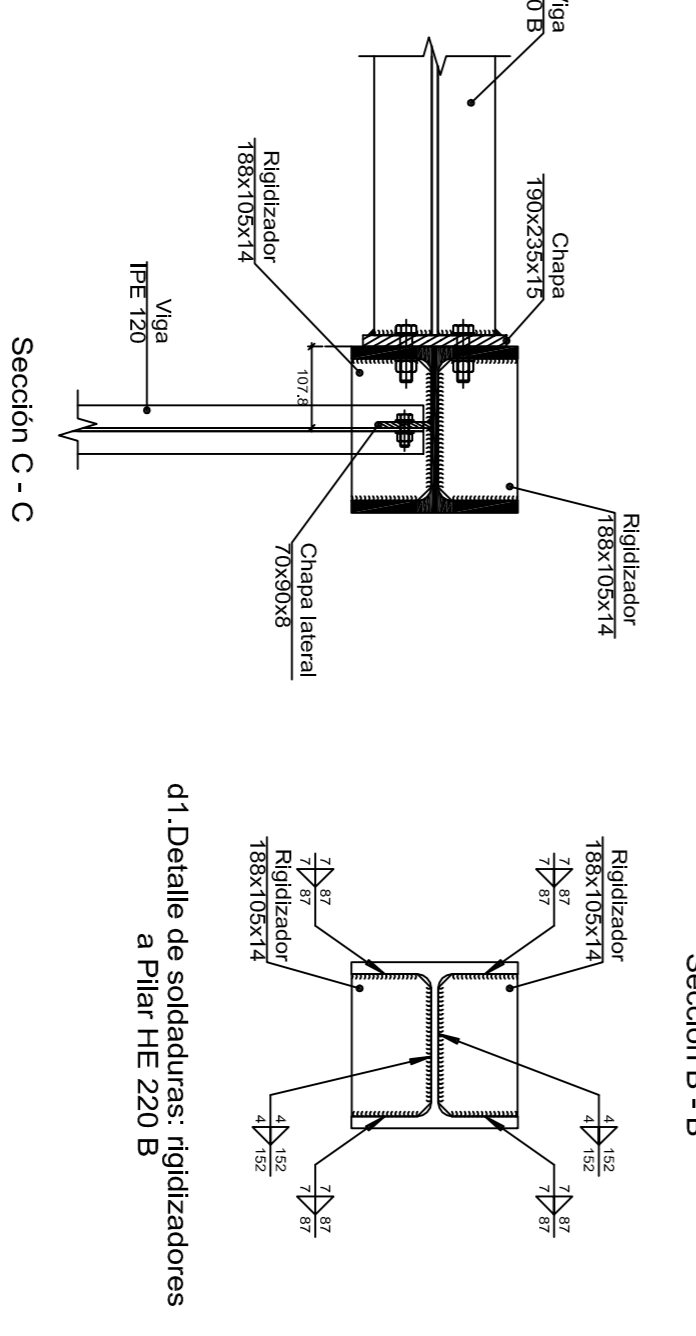
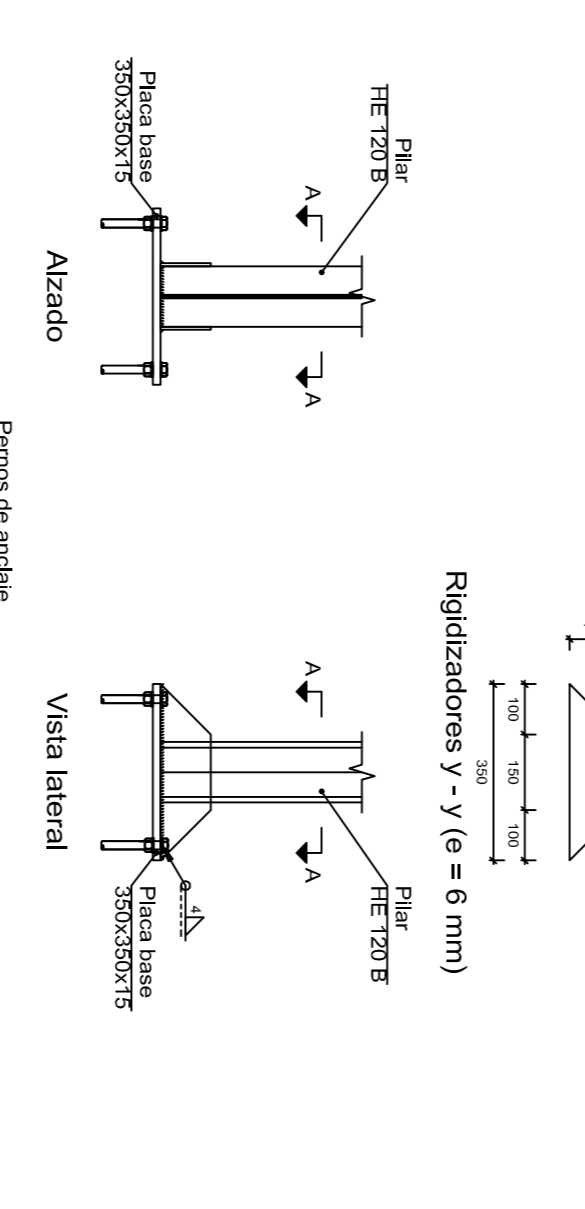
Escala 1:50



Tipo 41



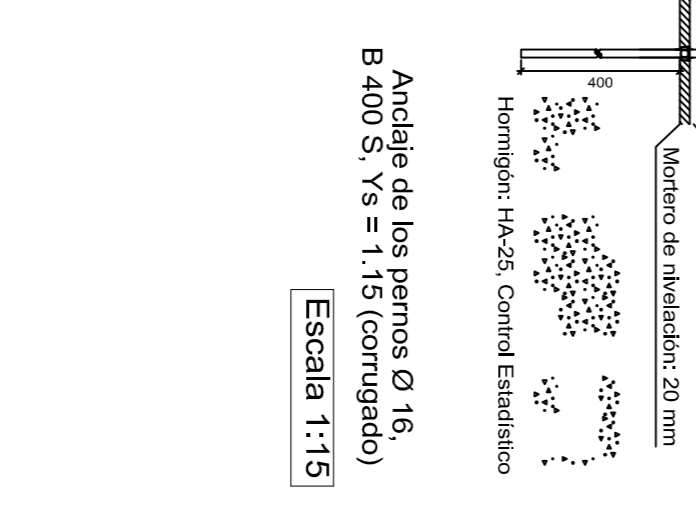
Tipo 1



Sección C - C

Sección D - D

Escala 1:10



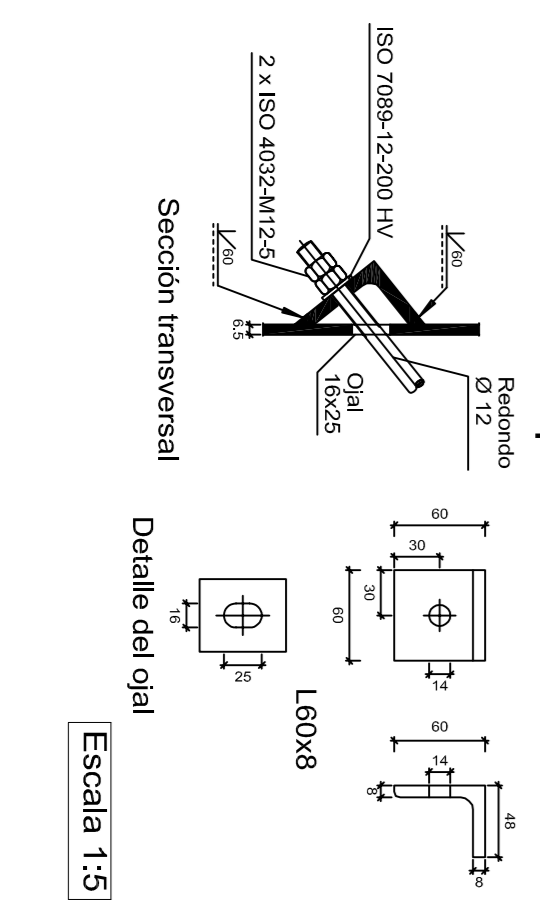
Sección A - A

Alzado

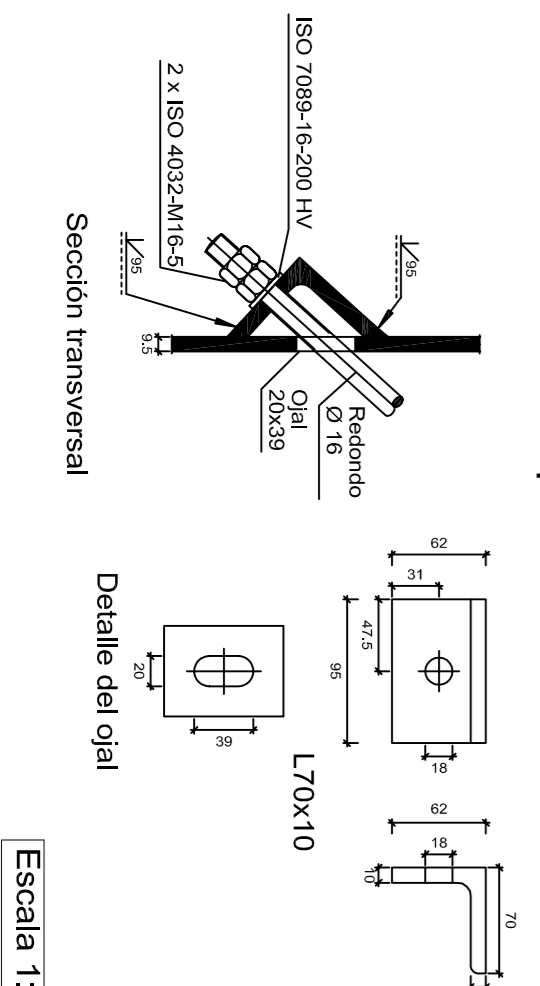
Vista lateral

Escala 1:15

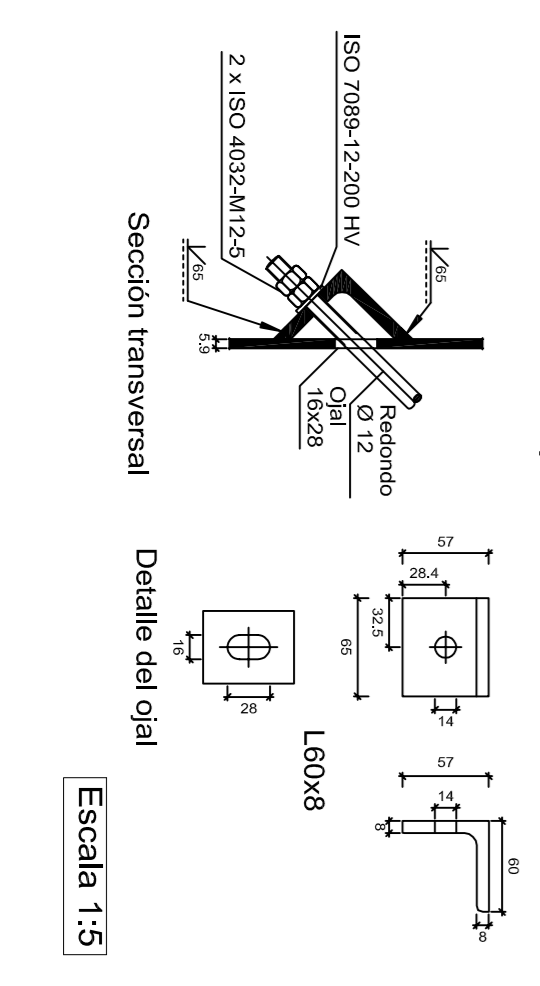
Tipo 2



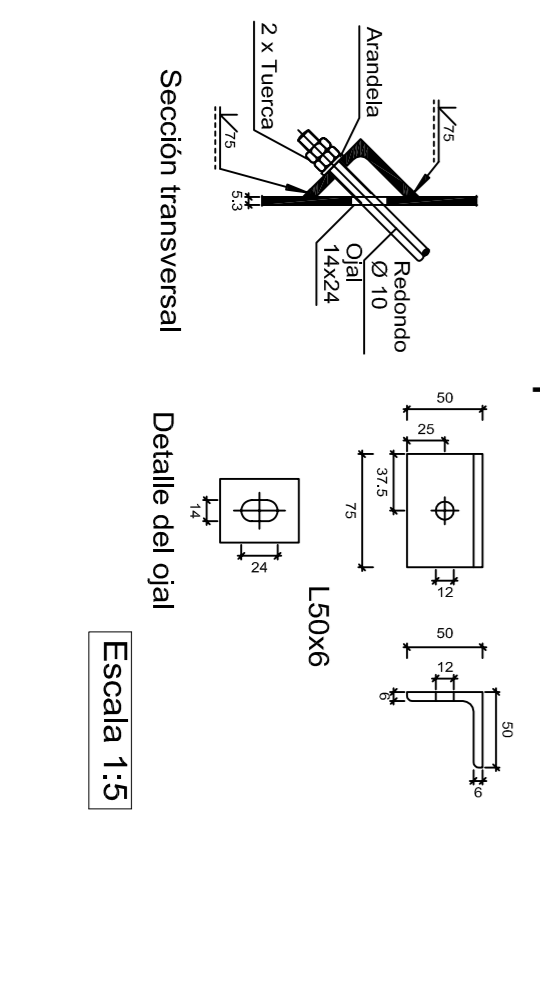
Tipo 11



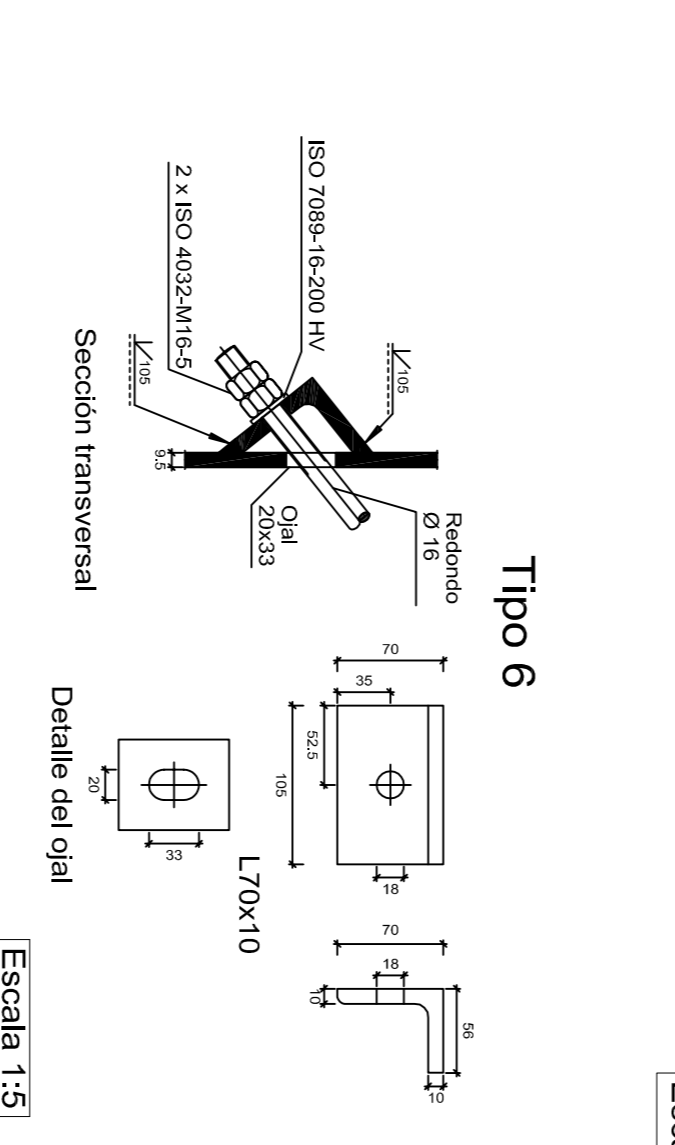
Tipo 14



Tipo 4

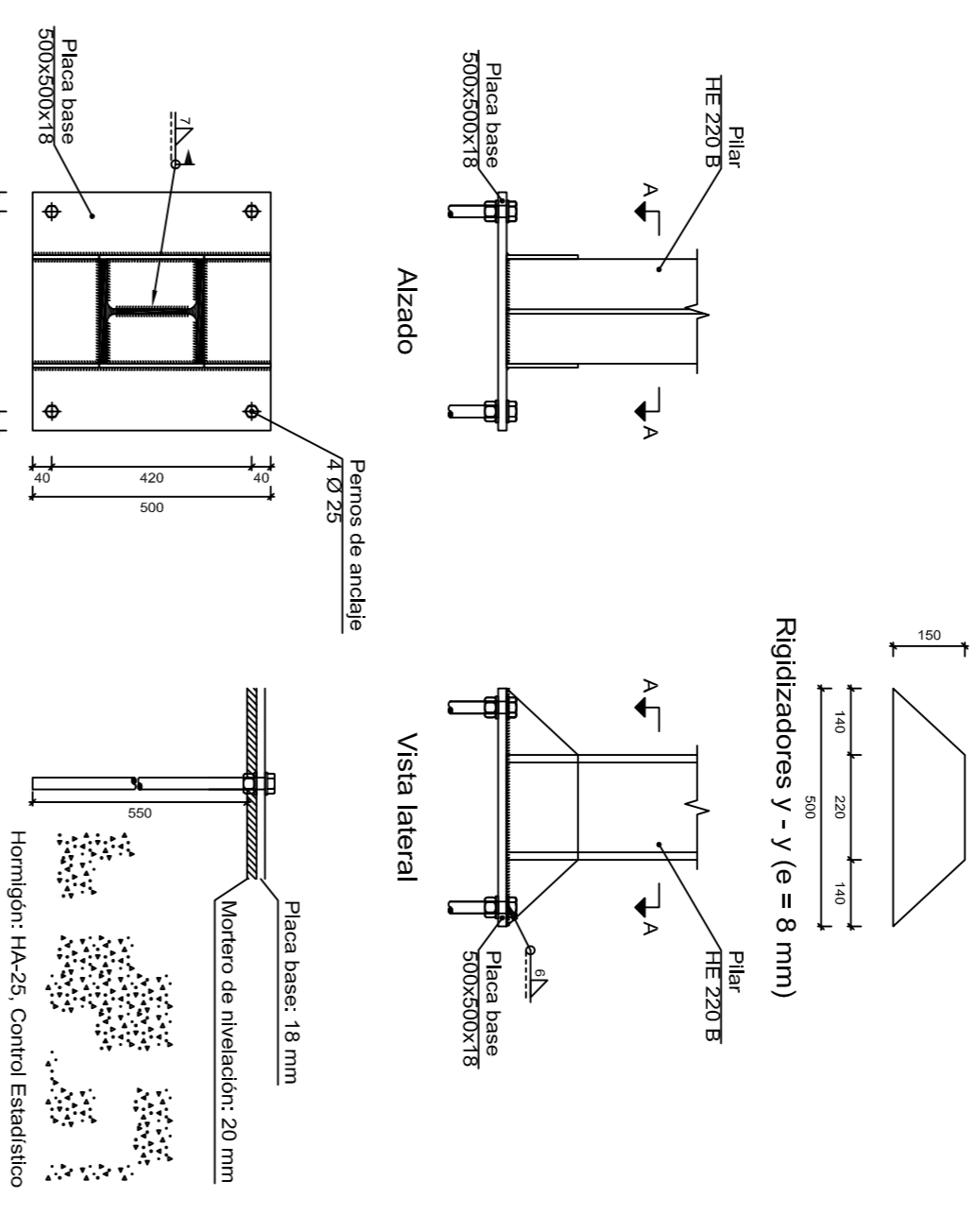


Tipo 6



Escala 1:15

Tipo 5



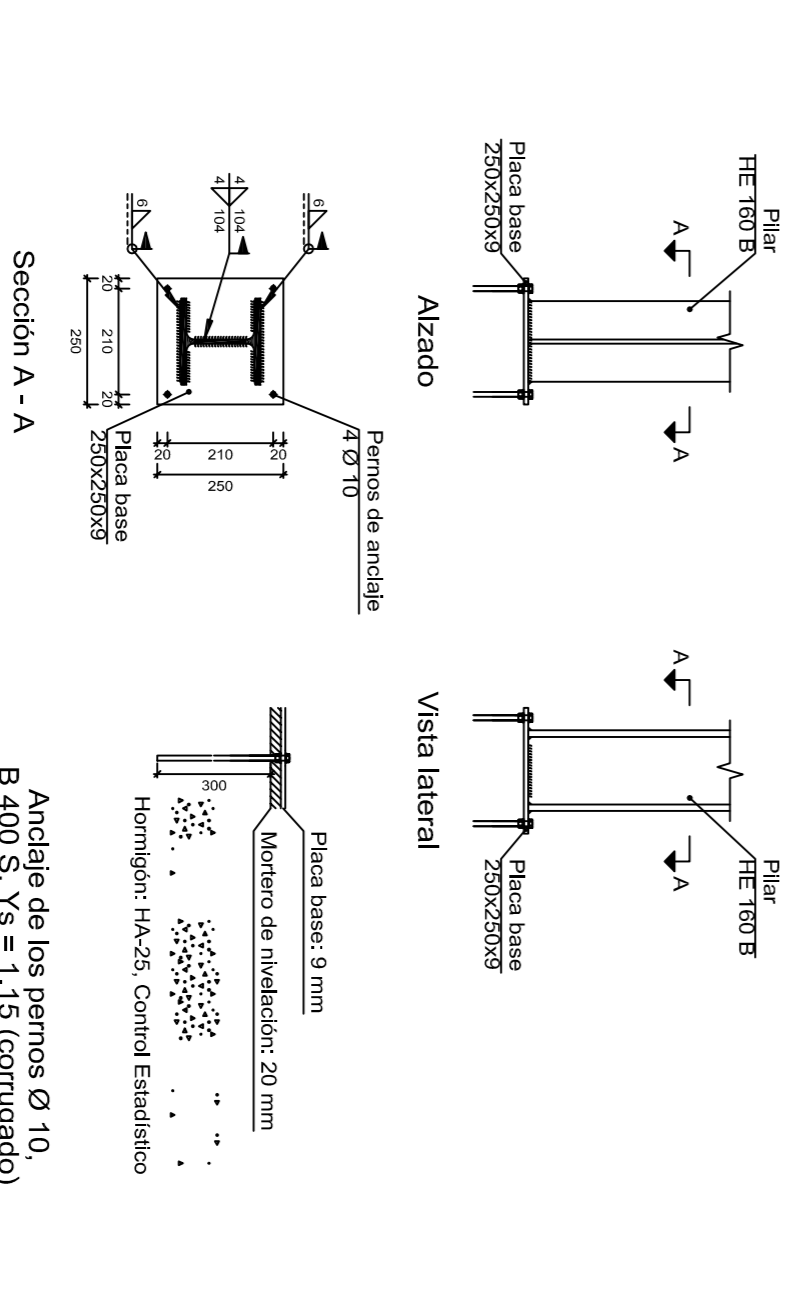
Sección A - A

Alzado

Vista lateral

Escala 1:15

Tipo 49



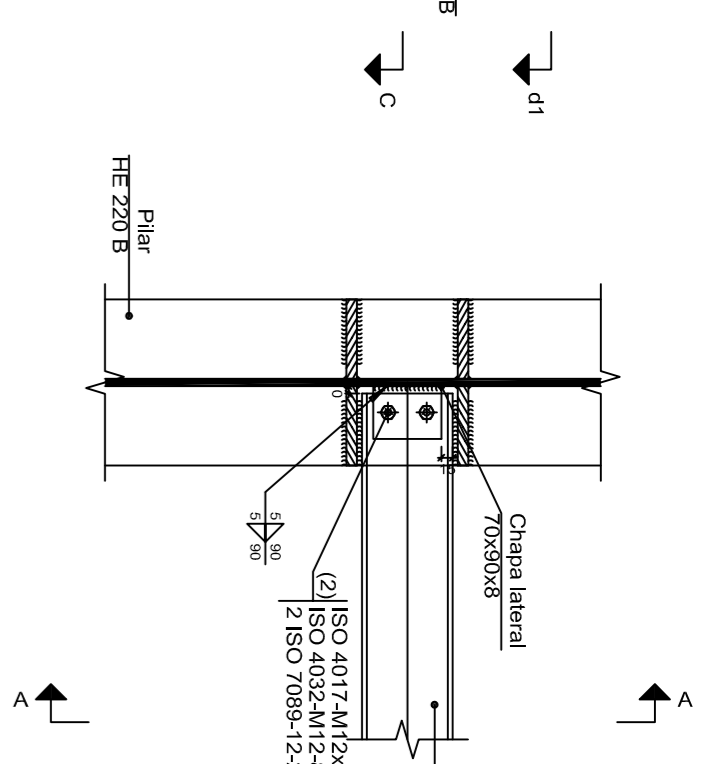
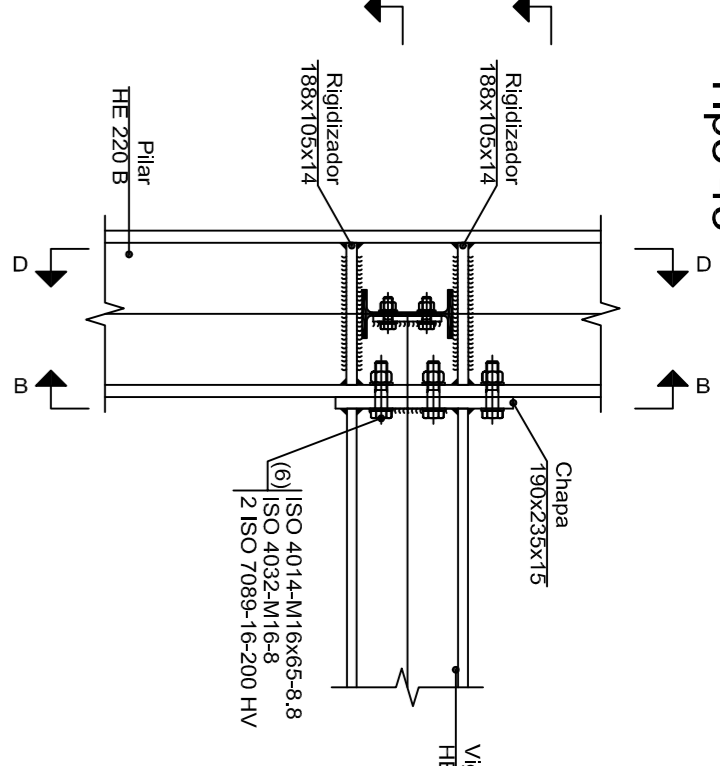
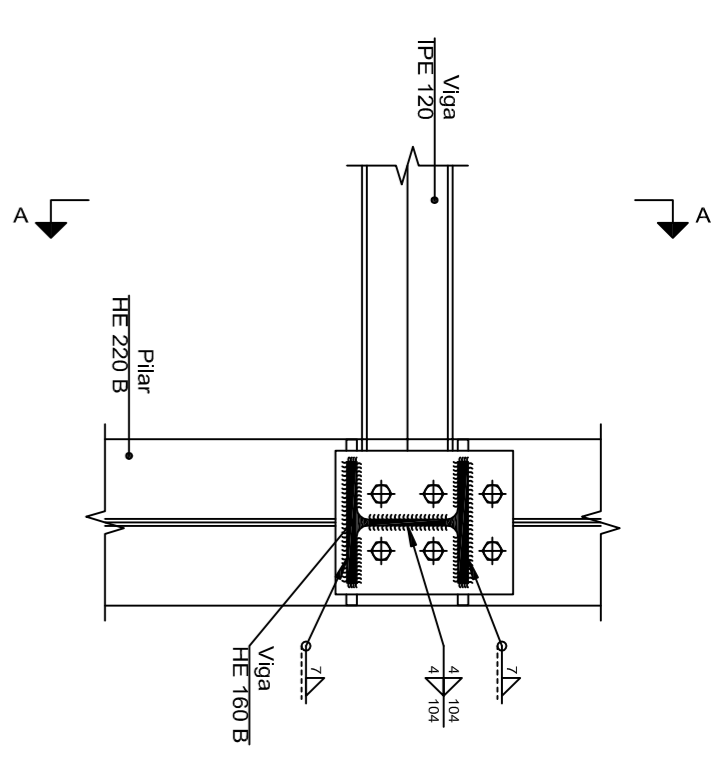
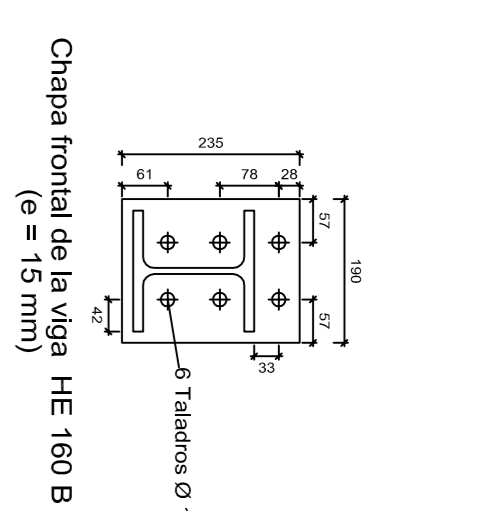
Sección A - A

Alzado

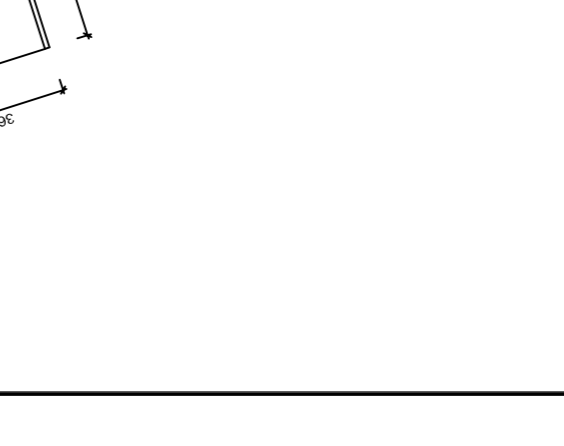
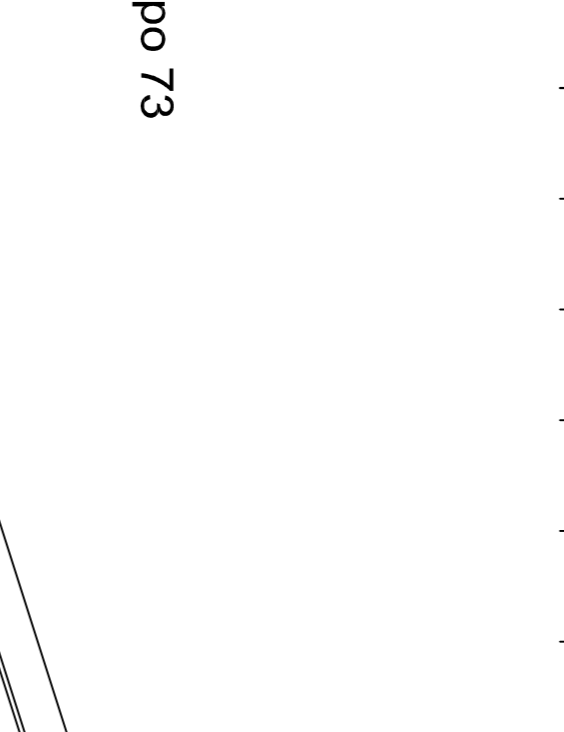
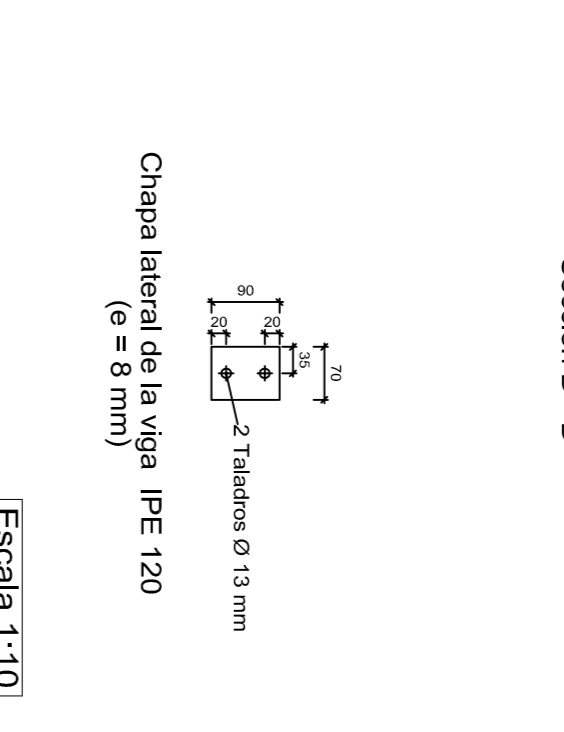
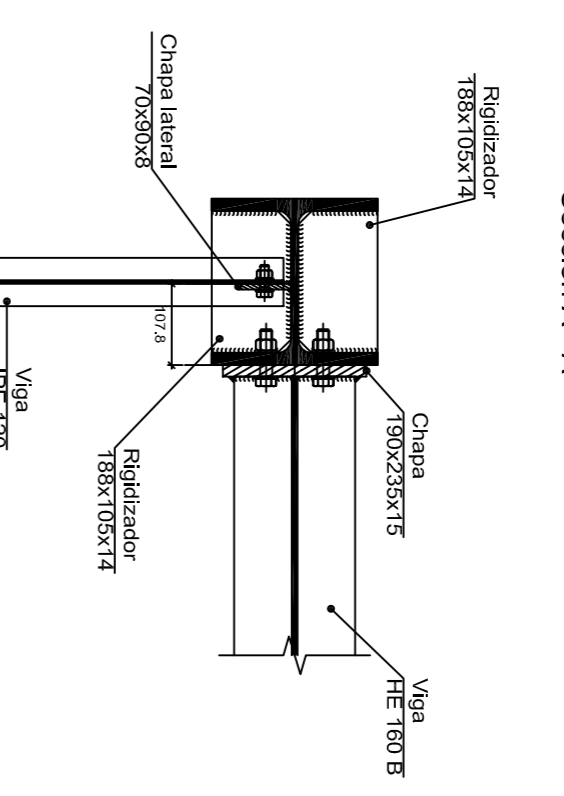
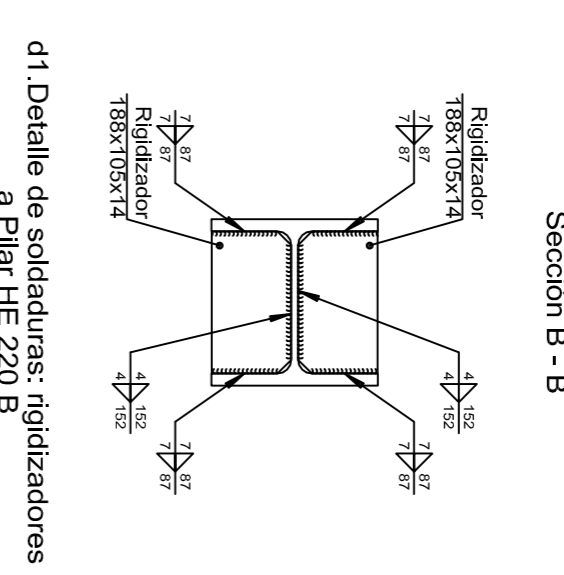
Vista lateral

Escala 1:15

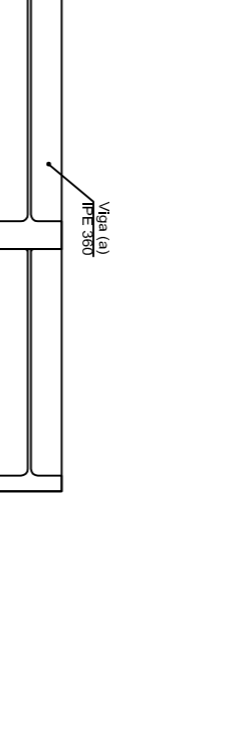
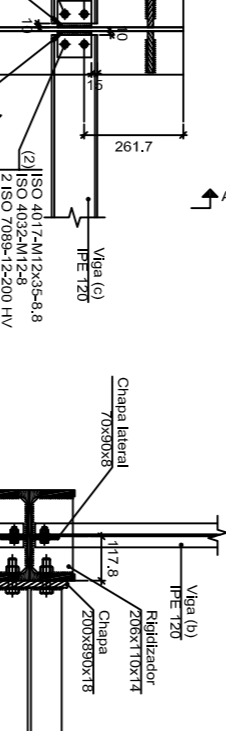
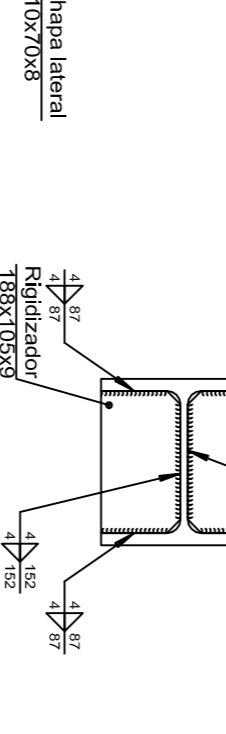
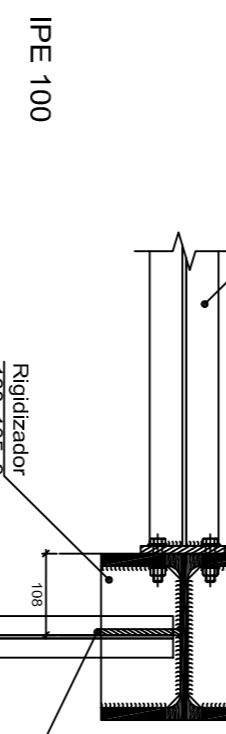
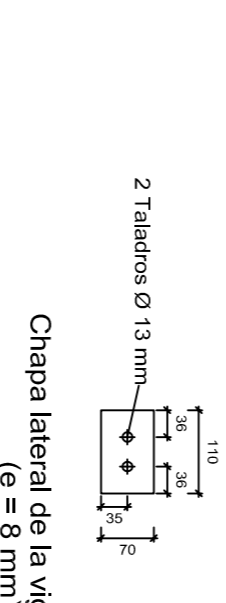
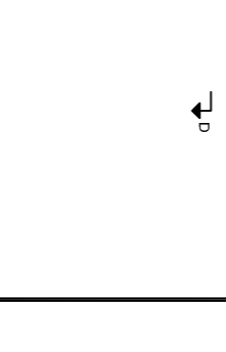
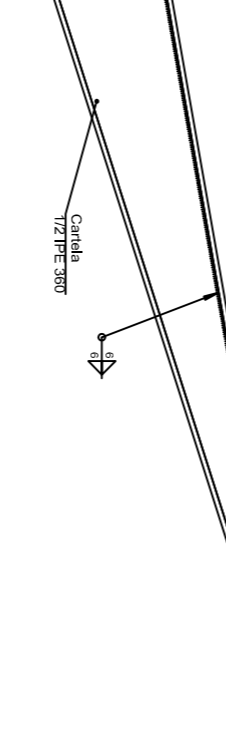
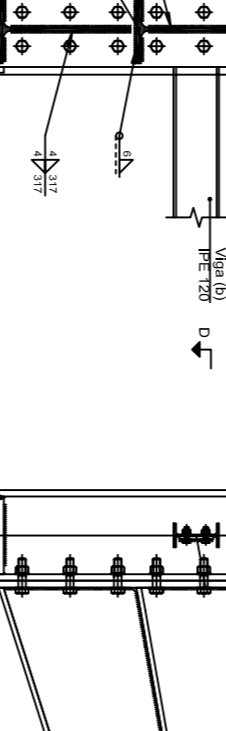
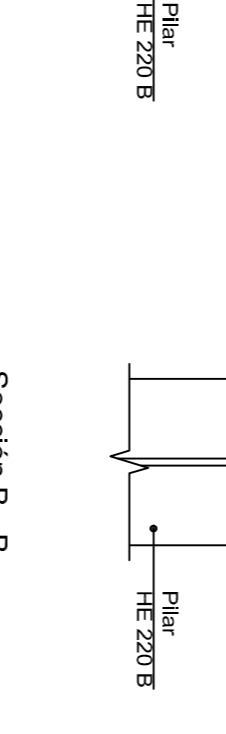
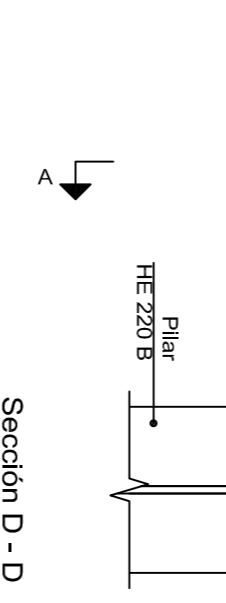
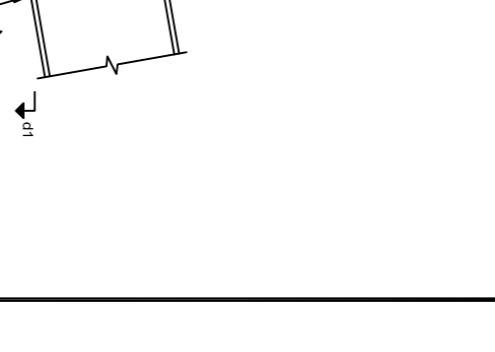
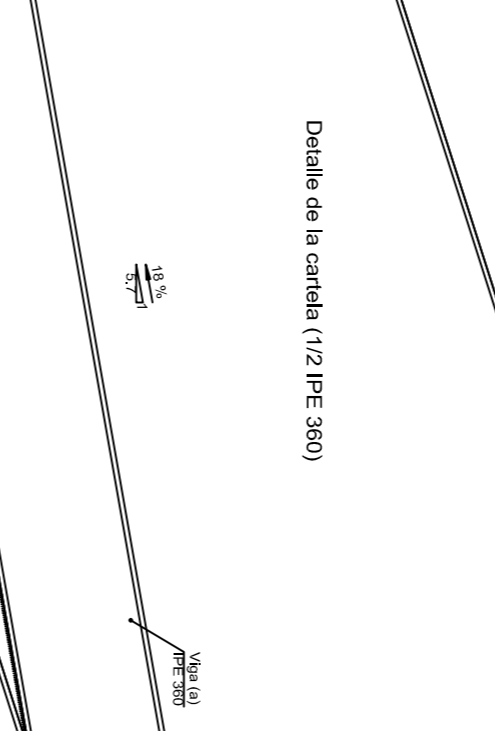
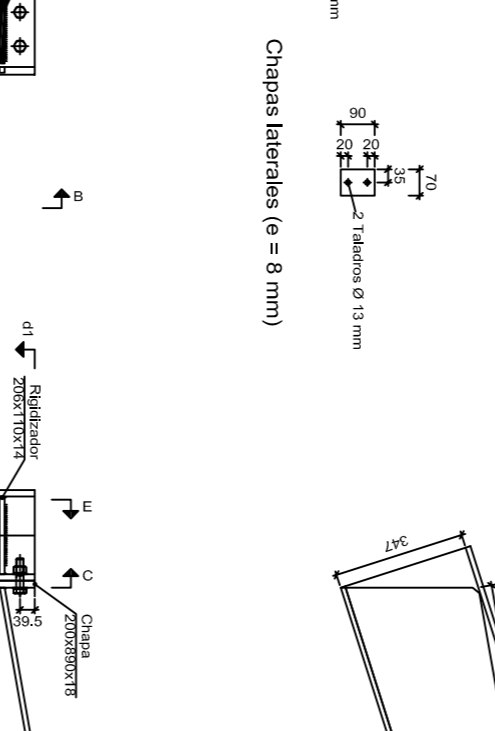
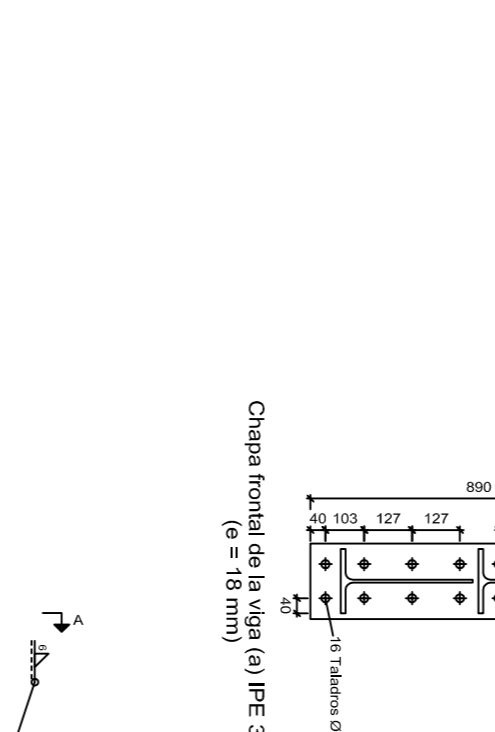
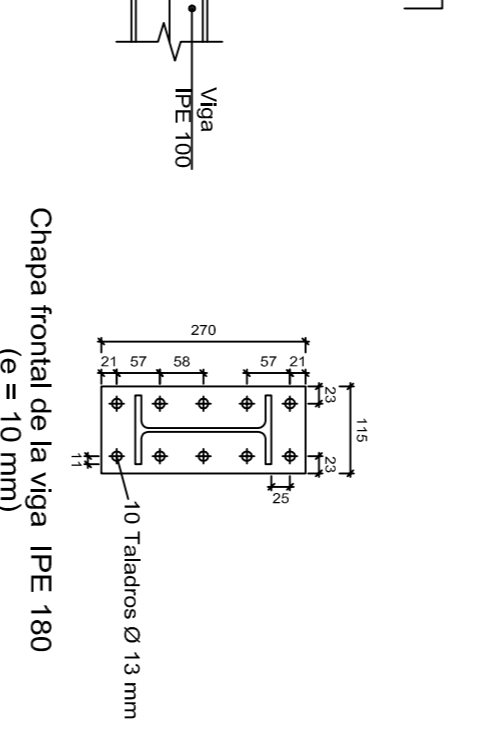
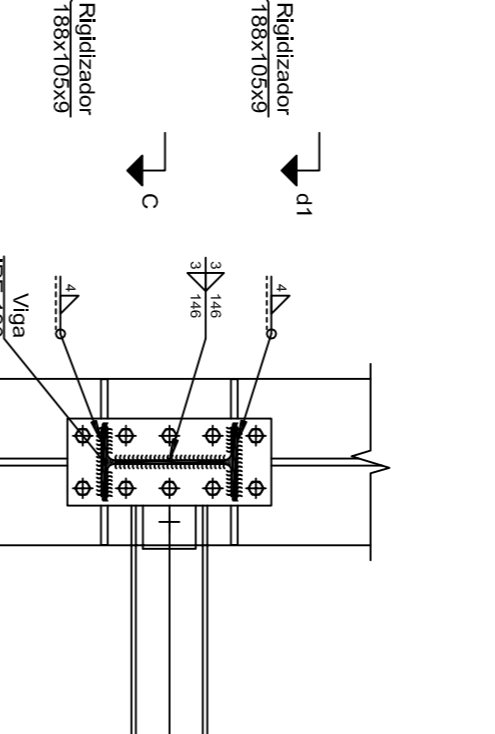
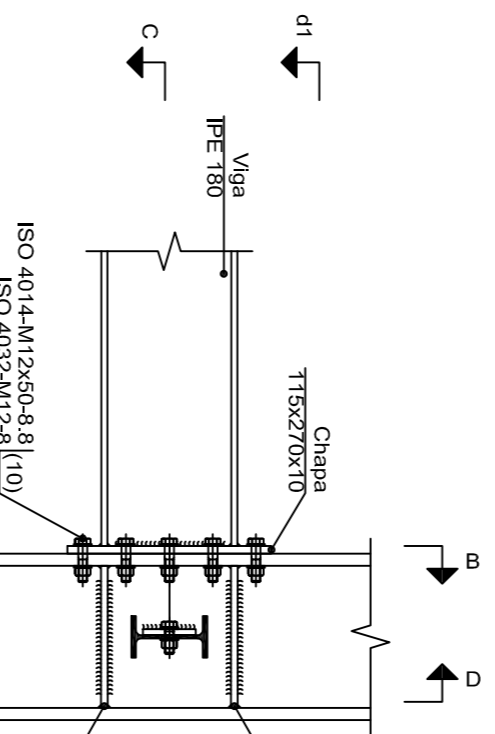
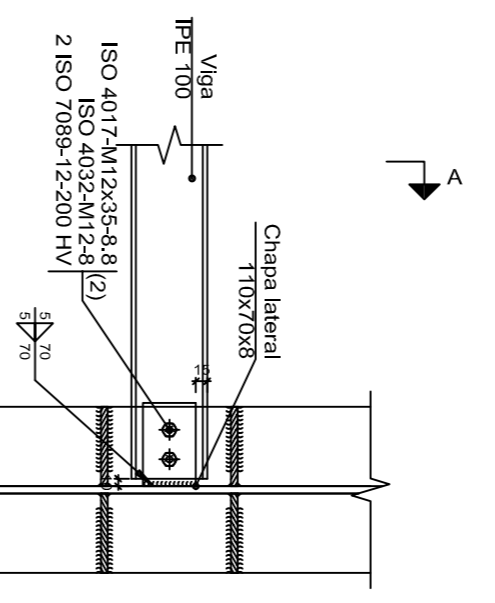
UNIVERSIDAD DE LAS ISLAS CAROLINAS DE ESPAÑA ESCUELA TÉCNICA SUPERIOR DE INGENIERIA INDUSTRIAL DE SAN CRISTÓBAL DE LA LAGUNA											
Nombre	PÓRTICO 1 Y UNIONES										
Fecha	07/2017										
Comprobado:	D. PASCAL J. LELARUDDO GUTIERA										
<table border="1"> <tr> <th>Escala</th> <th>Fecha</th> </tr> <tr> <td>AT</td> <td>15</td> </tr> <tr> <td>1:10</td> <td>15</td> </tr> <tr> <td>1:15</td> <td>15</td> </tr> <tr> <td>1:50</td> <td>15</td> </tr> </table>		Escala	Fecha	AT	15	1:10	15	1:15	15	1:50	15
Escala	Fecha										
AT	15										
1:10	15										
1:15	15										
1:50	15										
Construcción de Ingeniería Industrial, con especialidad en Ingeniería de Edificación de Edificios Industriales. Plano N.º P28 N.º Planos: 41											



Tipo 43



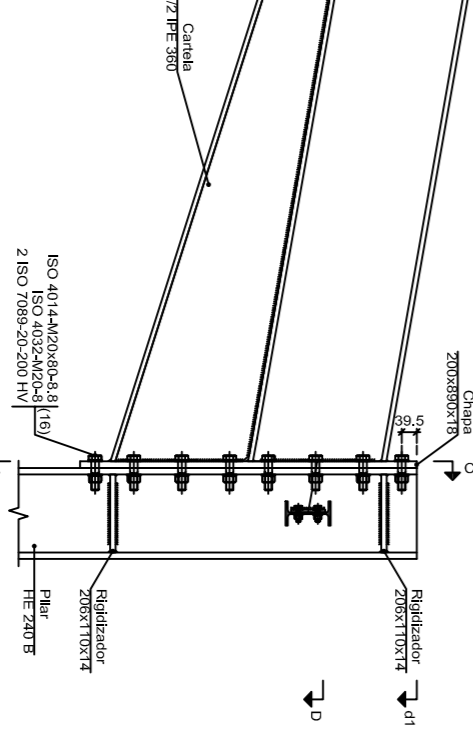
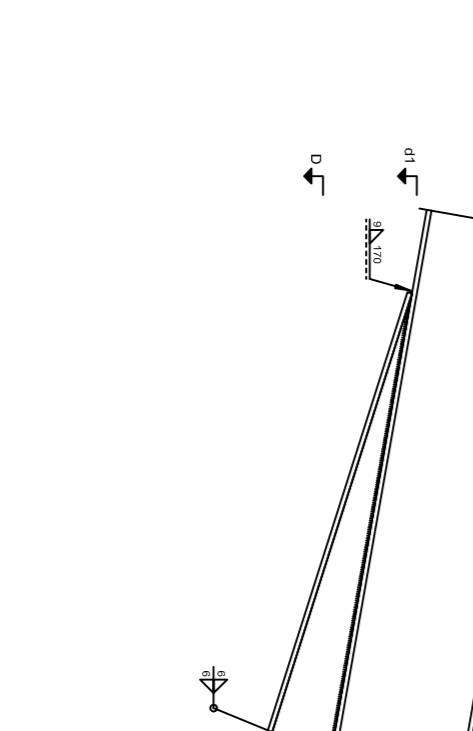
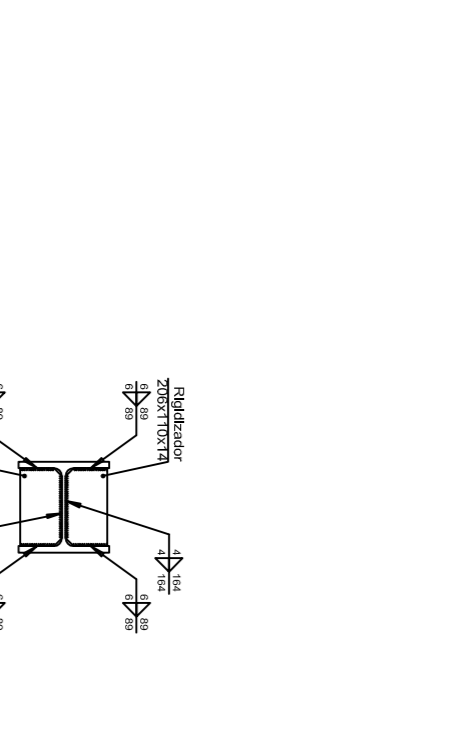
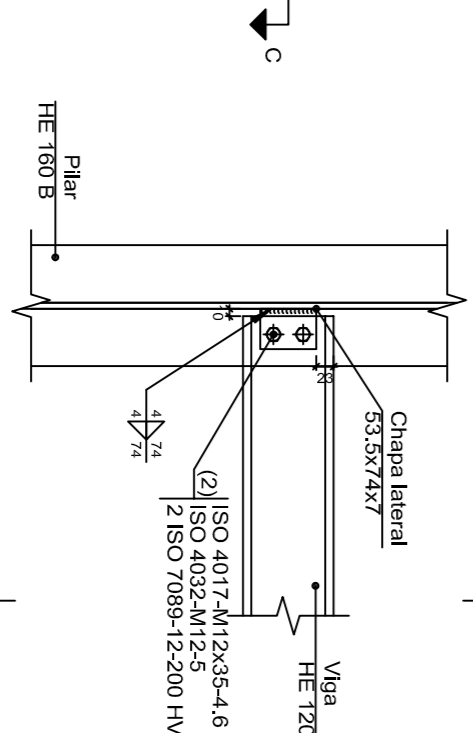
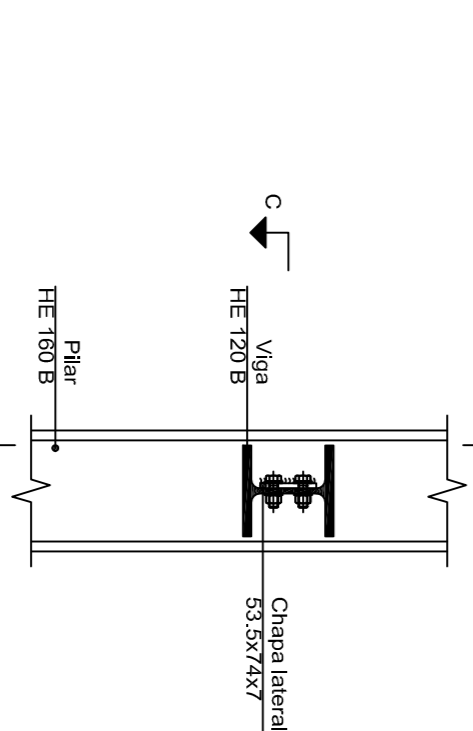
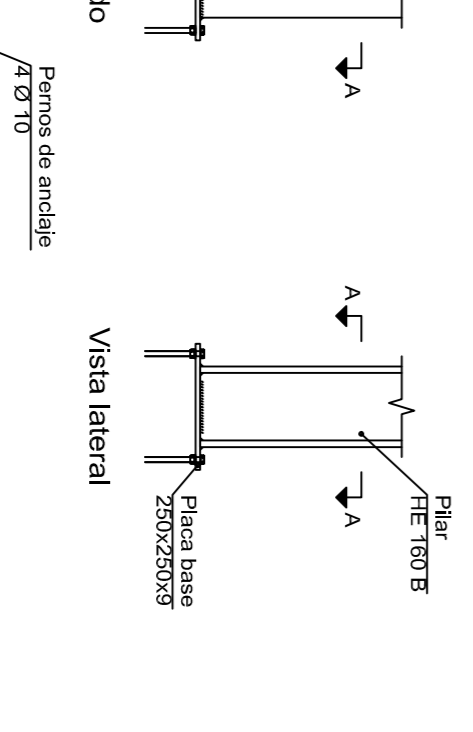
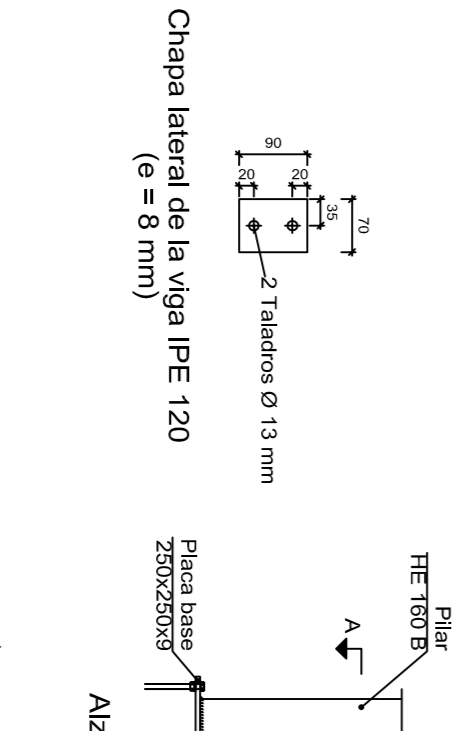
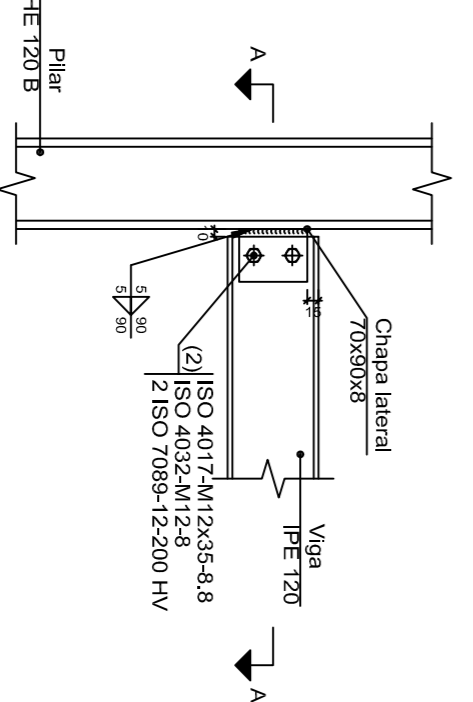
Tipo 73



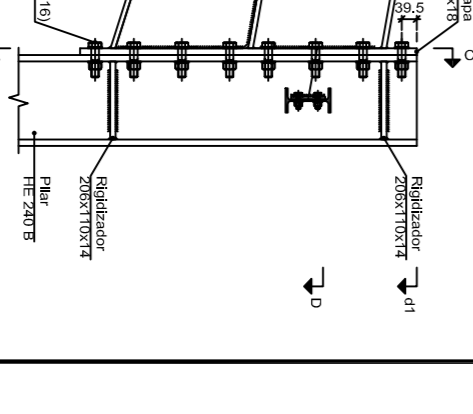
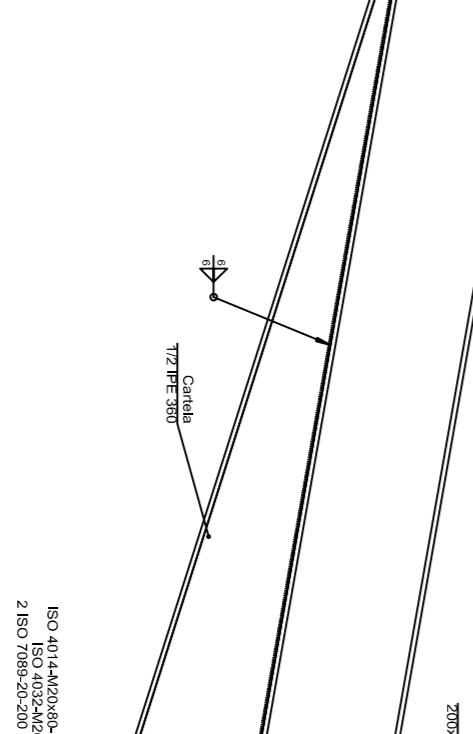
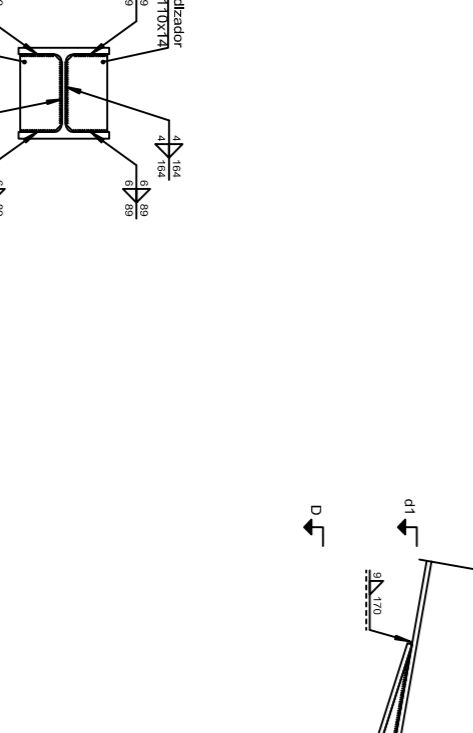
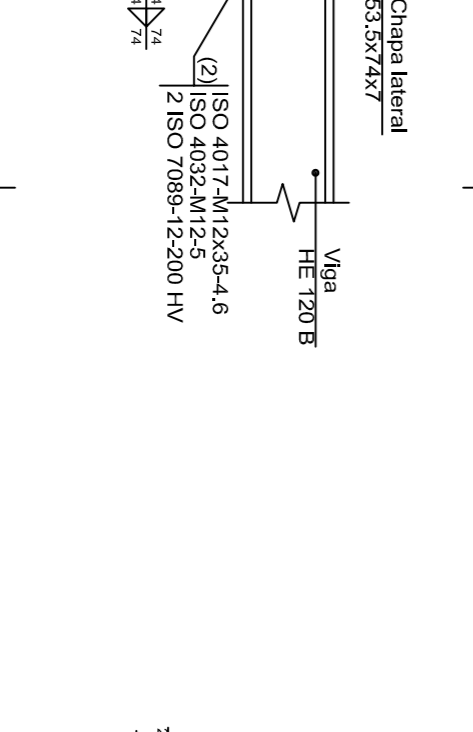
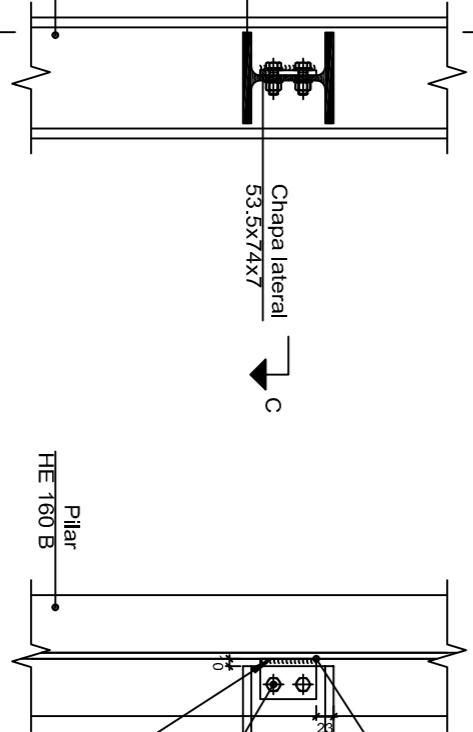
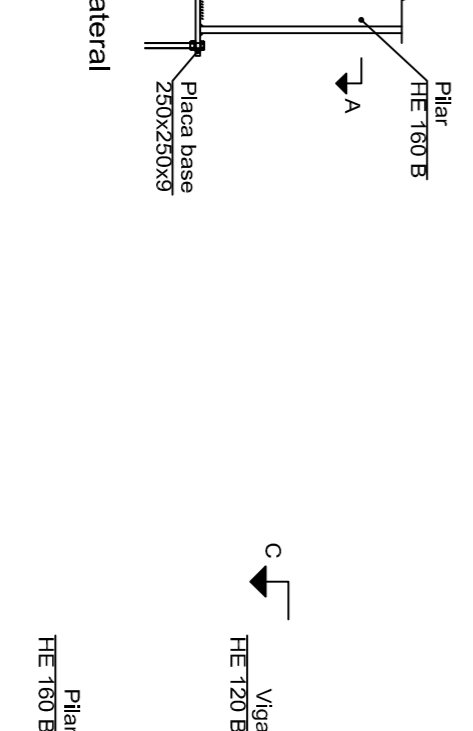
d1 Detalle de soldaduras: rigidizadores a Pilar HE 220 B

Escala 1:10

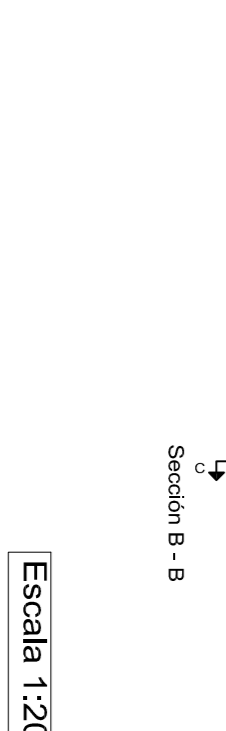
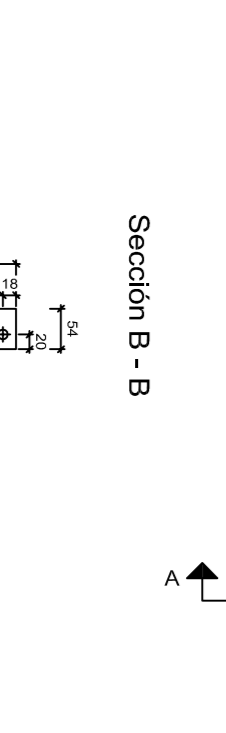
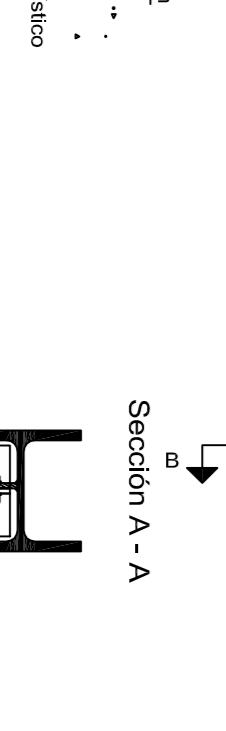
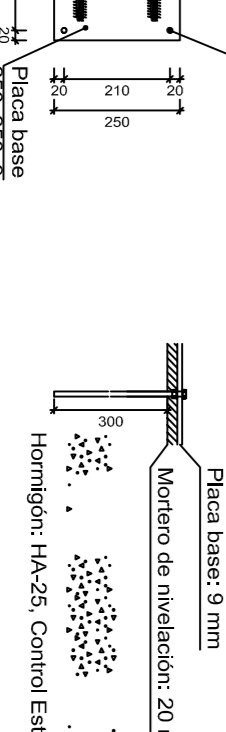
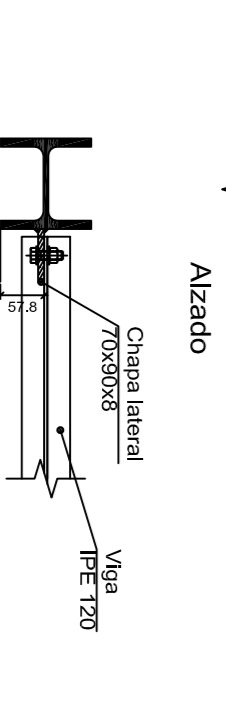
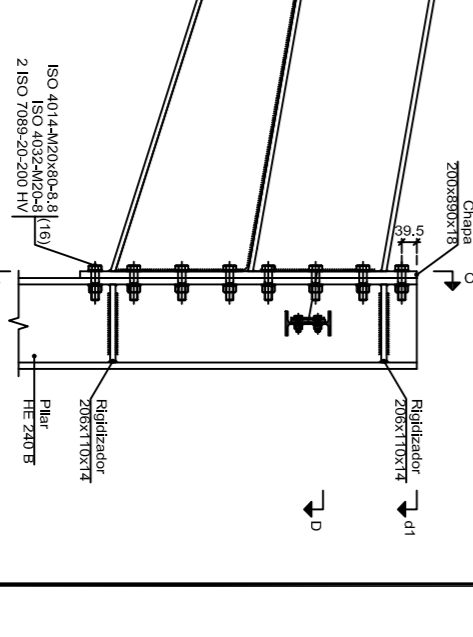
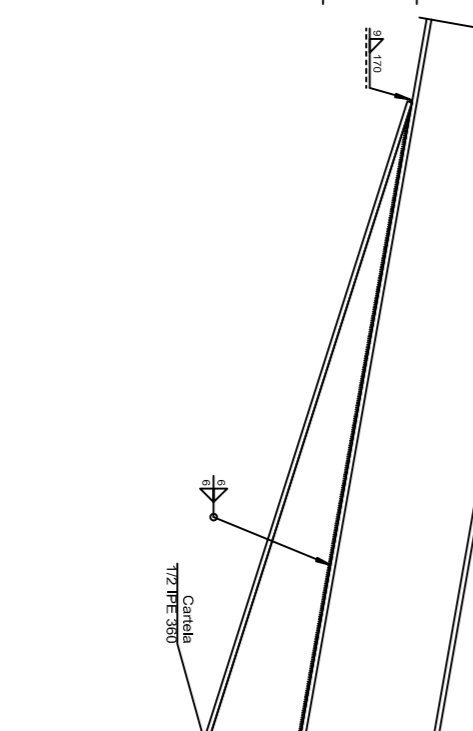
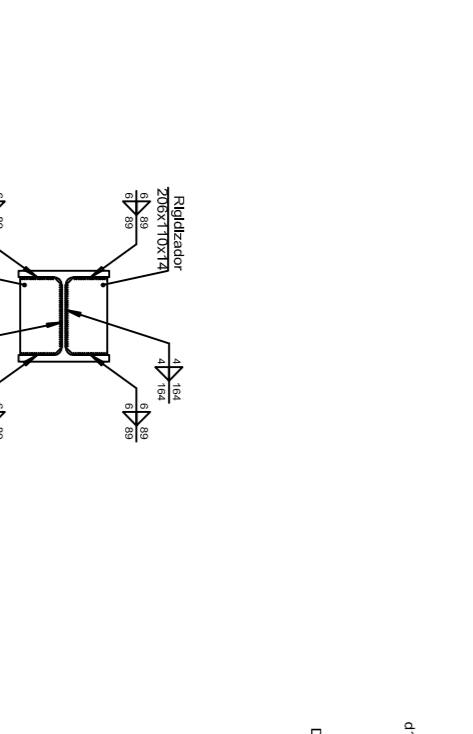
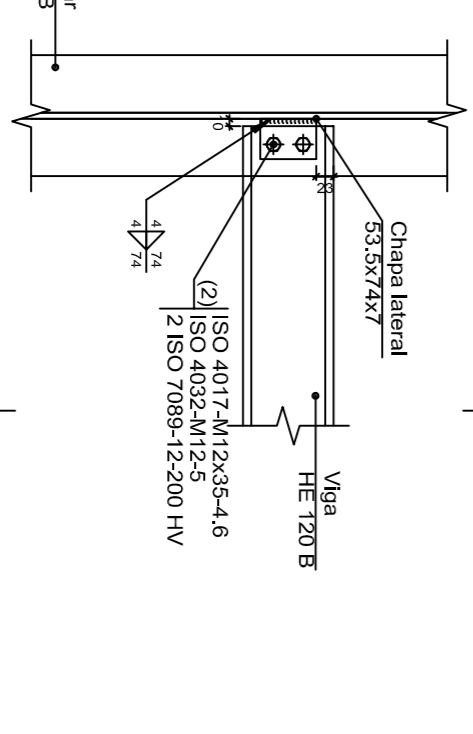
Tipo 29



Tipo 54



Tipo 76




Escala 1:10

Escala 1:15

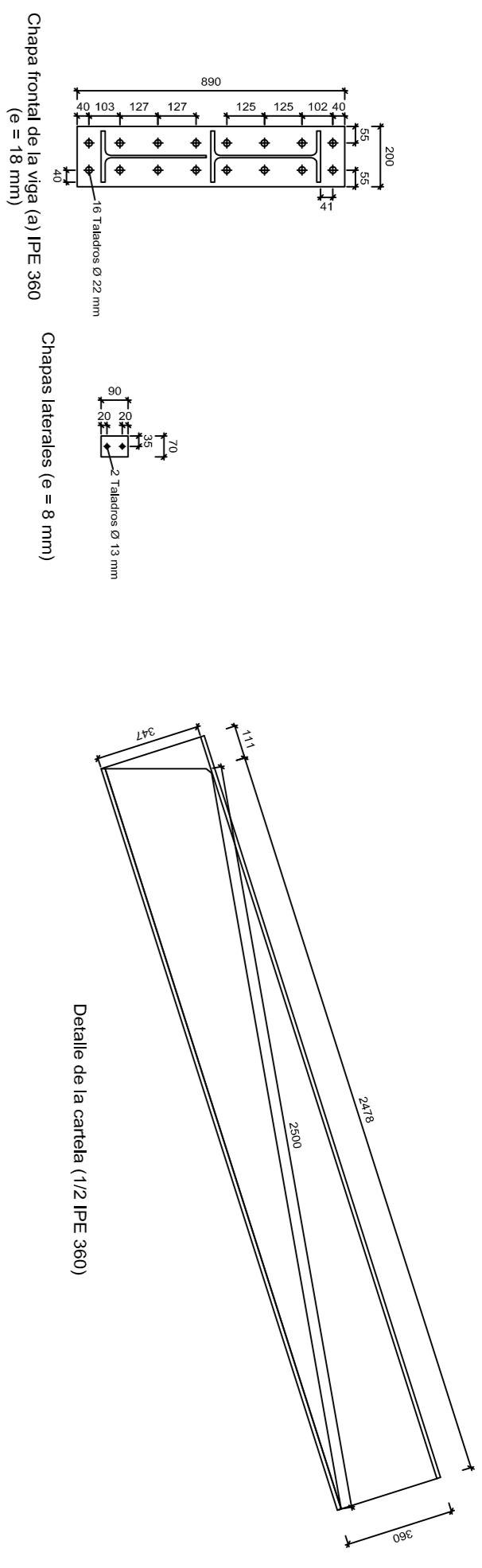
Escala 1:10

Escala 1:20

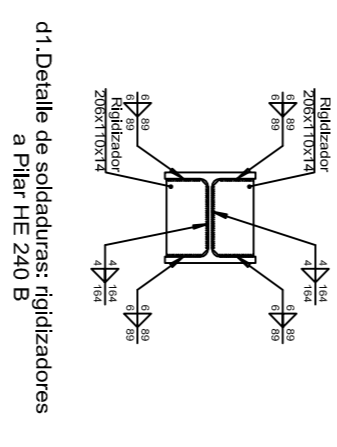
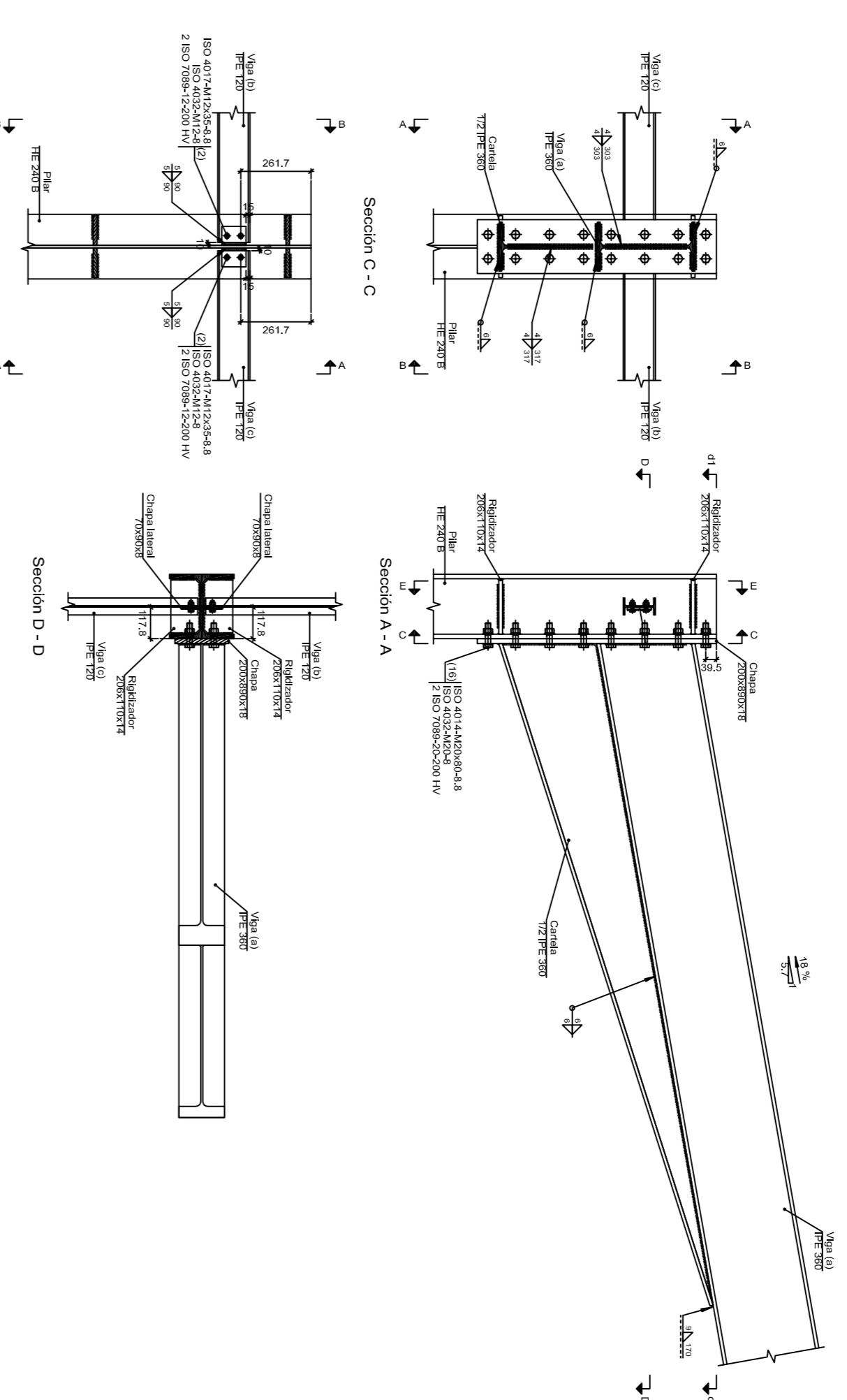
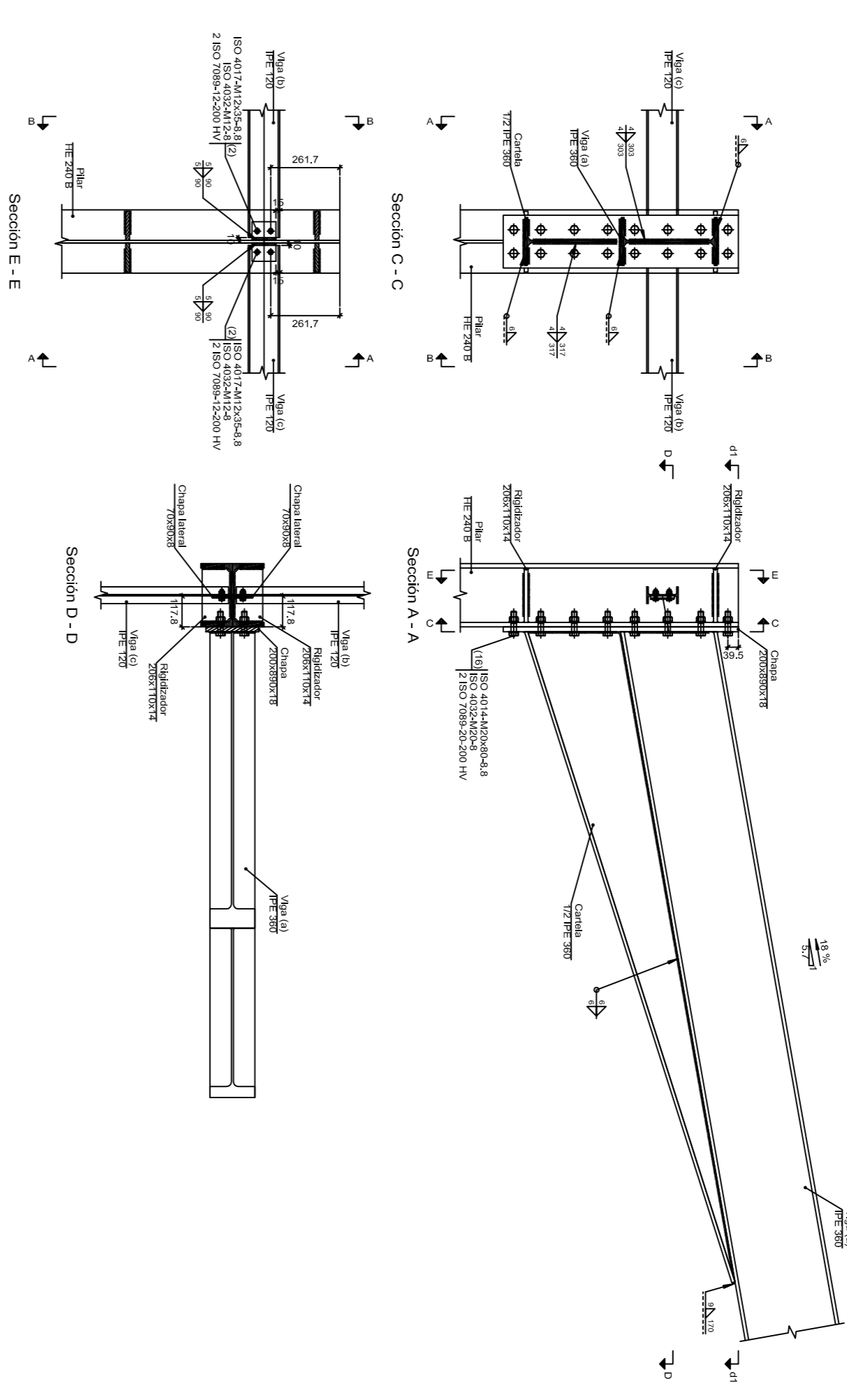
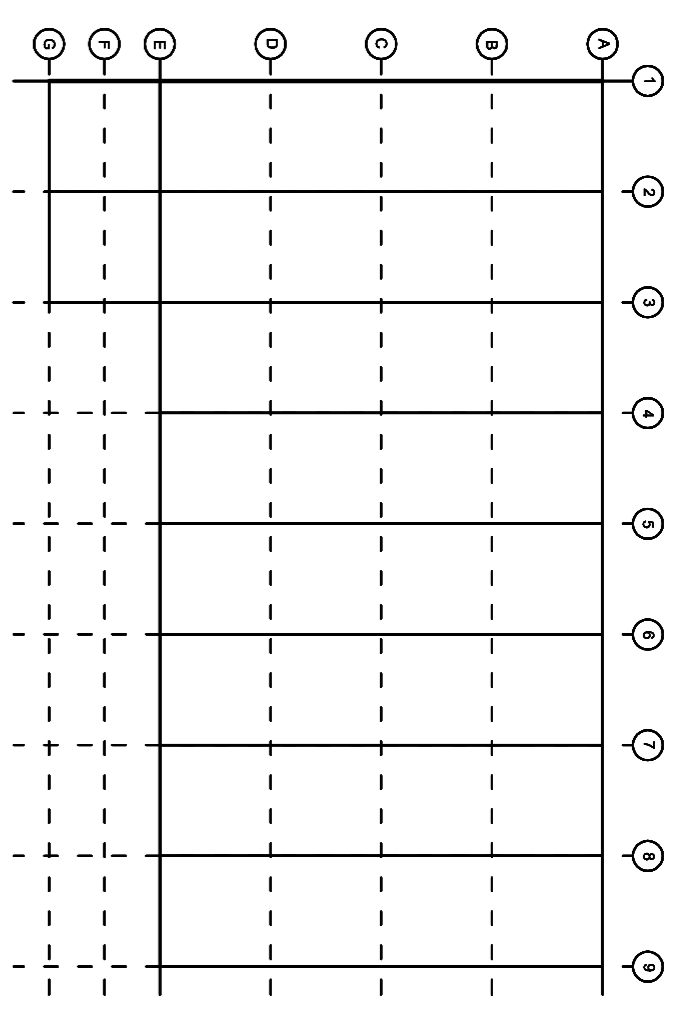
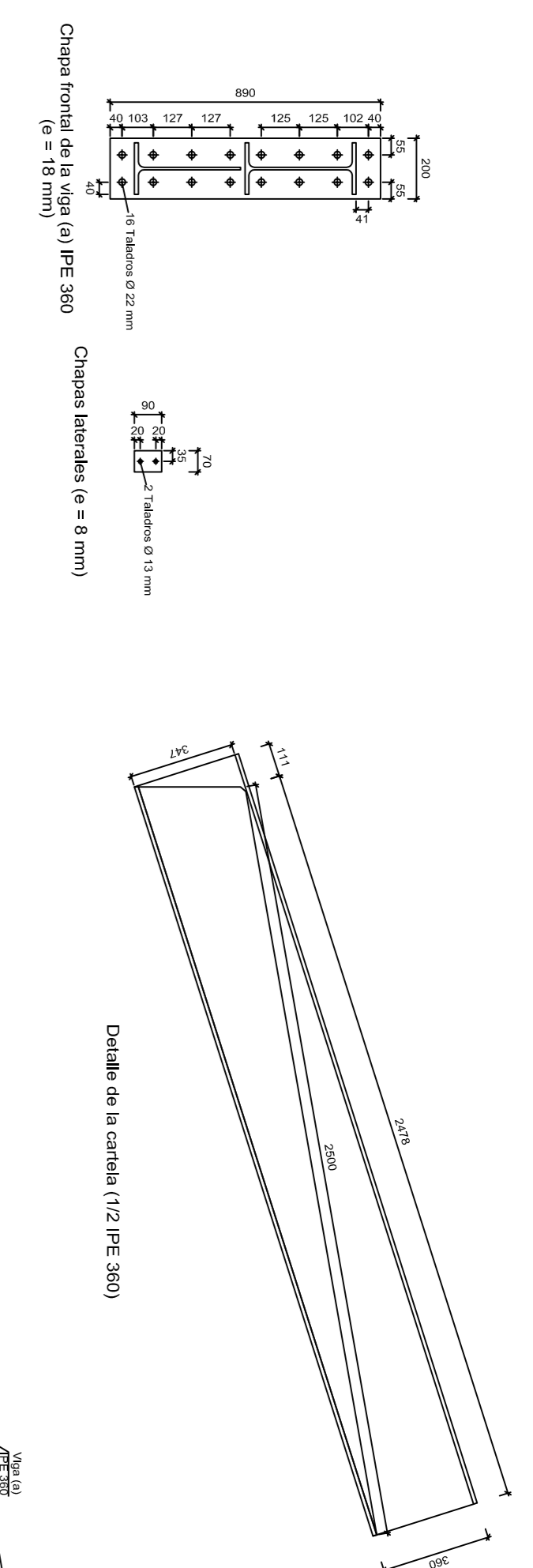
Fecha		Nombre		 UNIVERSIDAD DE BURGOS ESCUELA TÉCNICA INDUSTRIAL DE ALABAMA DEPARTAMENTO DE INGENIERÍA TÉCNICA DE BARRIDOS
Dibujado:		D. PEÑAS		
Comprobado:		J. ELBARQUIDOGOTIA		CONTRIBUCIÓN DE INGENIERÍA INDUSTRIAL, CON CALIDAD PLANTE PARA EMPRESAS DE FABRICACIÓN DE MANUFABRIAS INDUSTRIALES
Escala		Escala		
Tol. g/m		Tol. g/m		
1:10		1:15		Plano N.º P29 N.º Planos: 41
1:20		1:20		



Tipo 75



Tipo 74



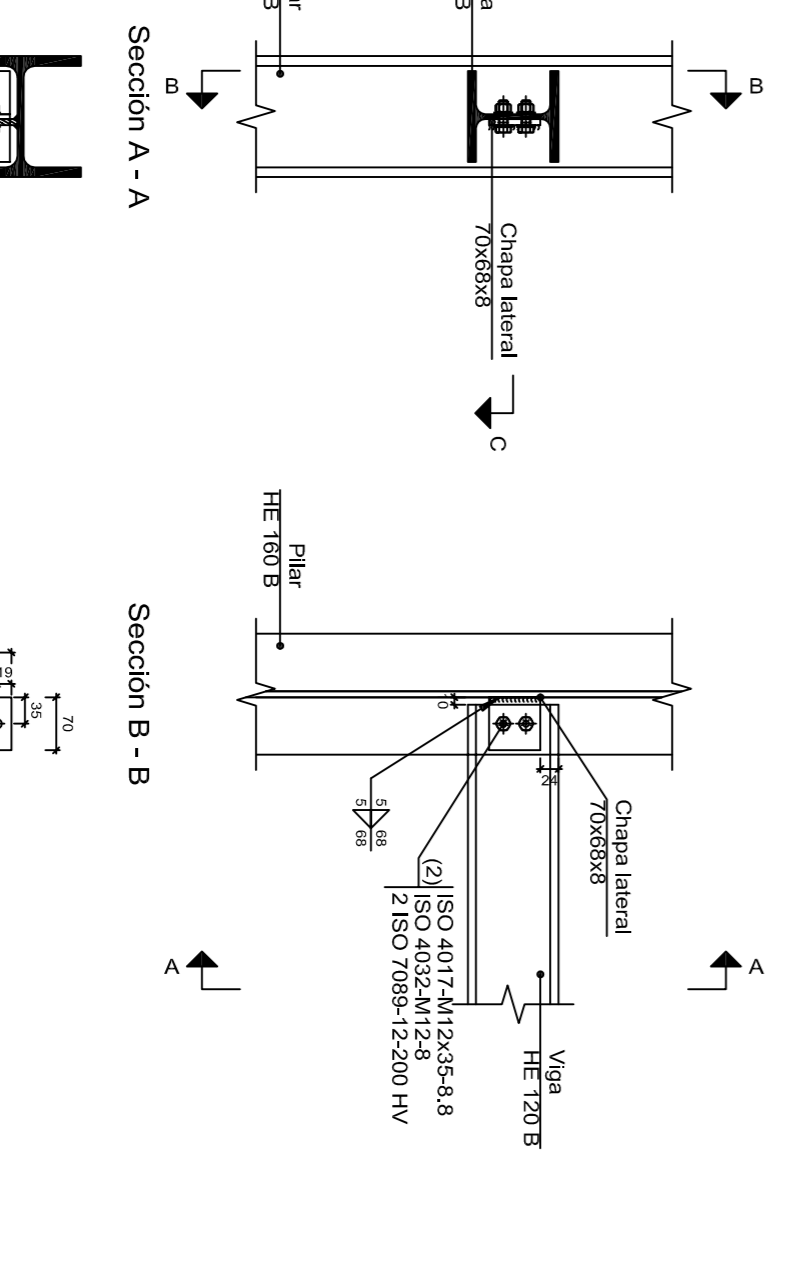
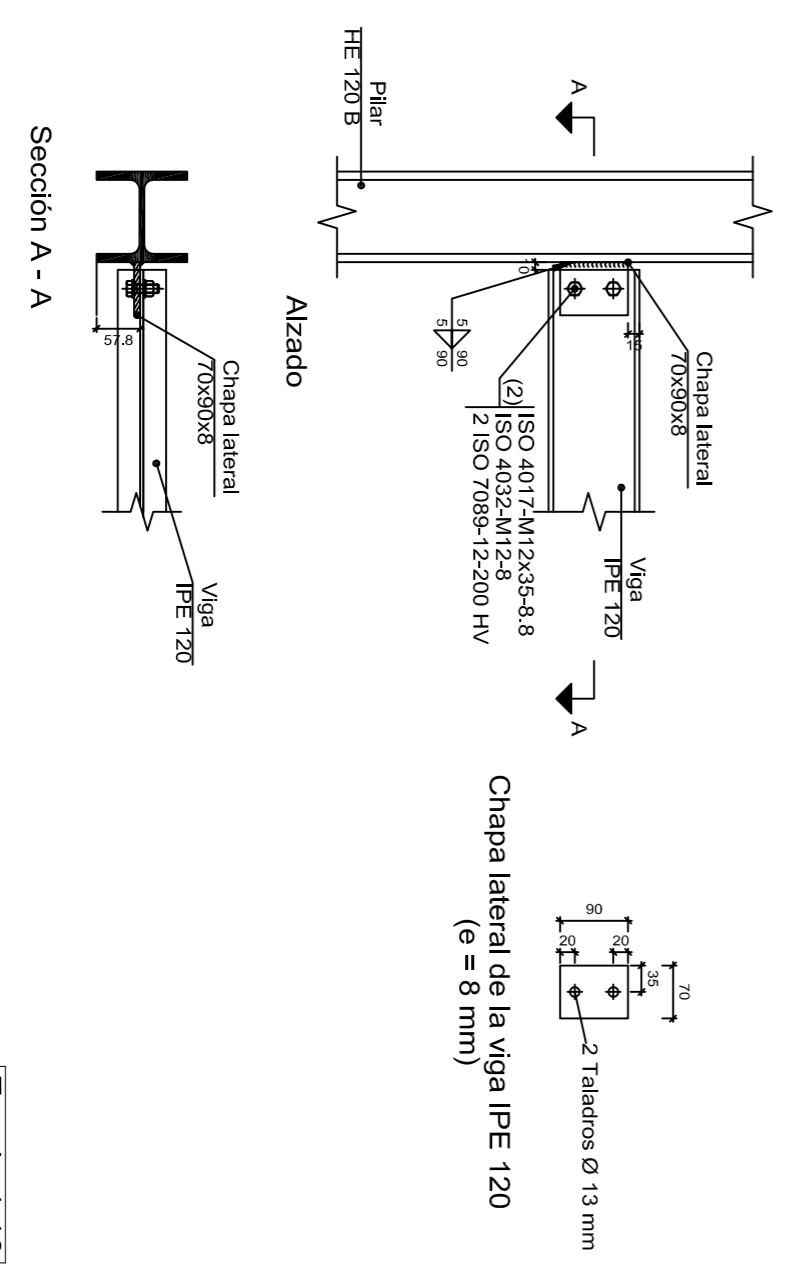
Escala 1:20

Escala 1:20

Escala 1:20

Tipo 47

Tipo 48

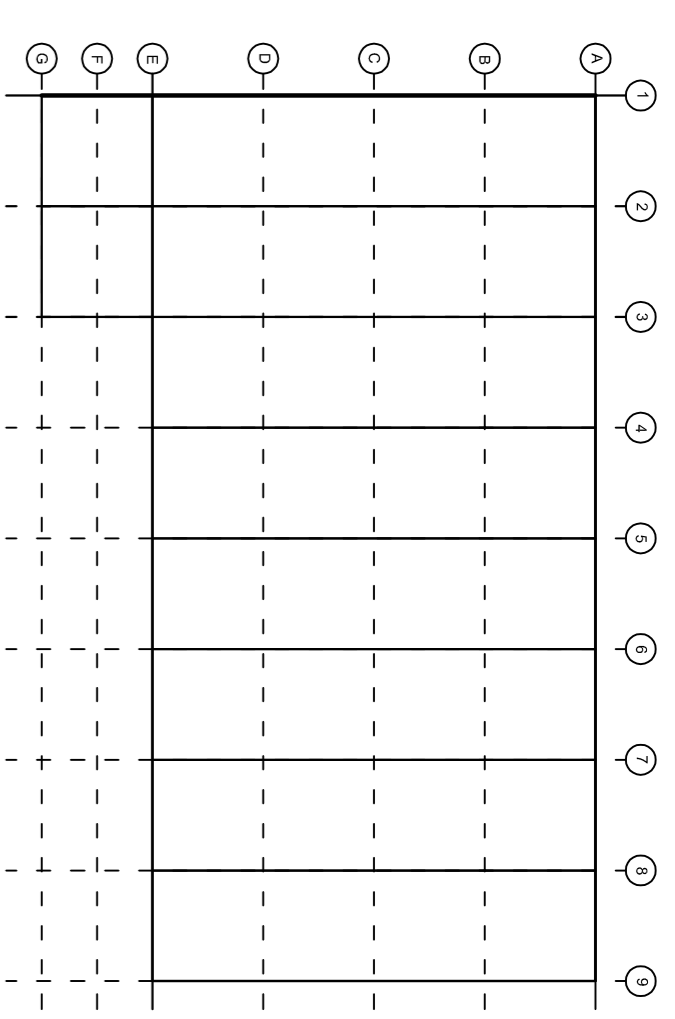


Escala 1:10

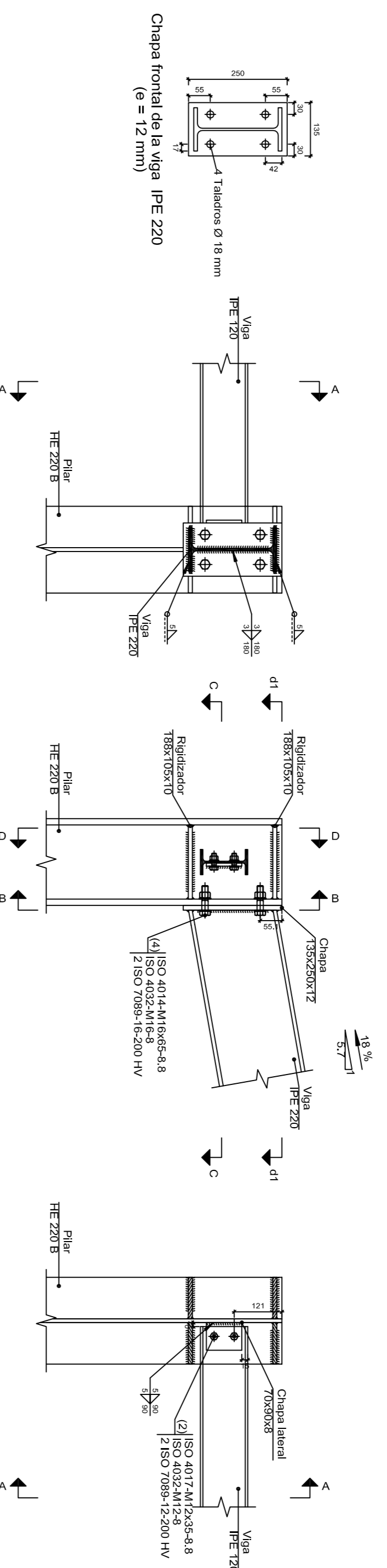
Escala 1:10

Fecha		Nombre		 UNIVERSIDAD DE LAS AMÉRICAS ESCUELA DE INGENIERÍA DE SISTEMAS TÉCNICA INDUSTRIAL (Módulo)
07/2017		D. PRADA		
Dibujado:		Comprobado:		CONSTRUCCIONES INDUSTRIAL, CONSULTA PUENTE PARA EMPRESA DE FABRICACION DE VEHICULOS PASAJEROS.
07/2017		J. ELAURADOCOTTA		
Escala		Plano N° P30		N° Planos: 41
A1 1:20				

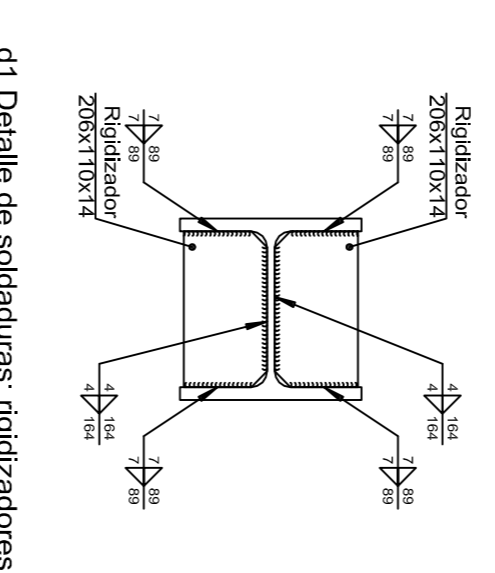
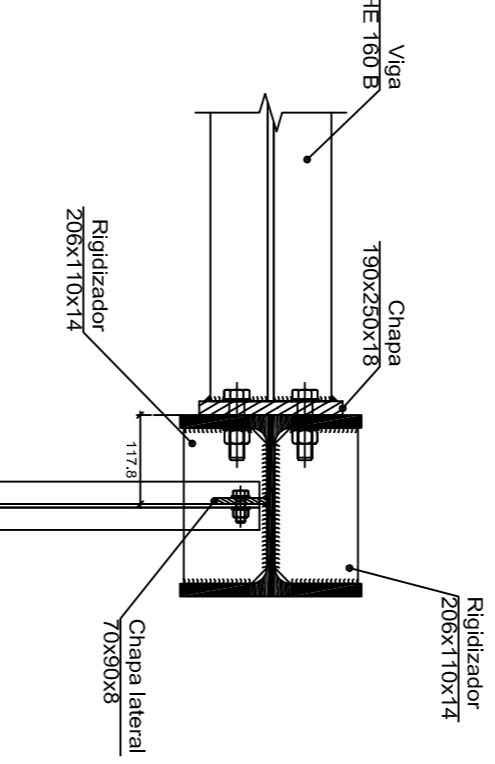
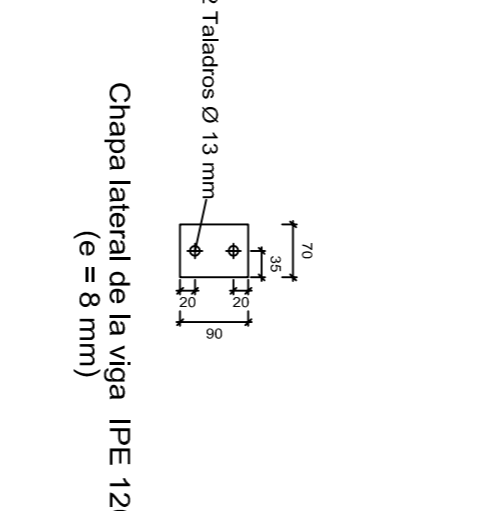
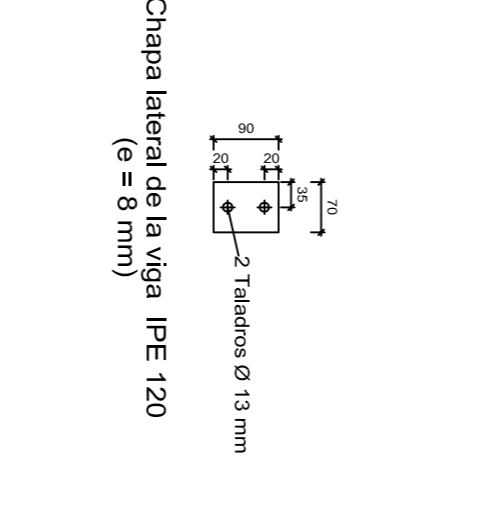
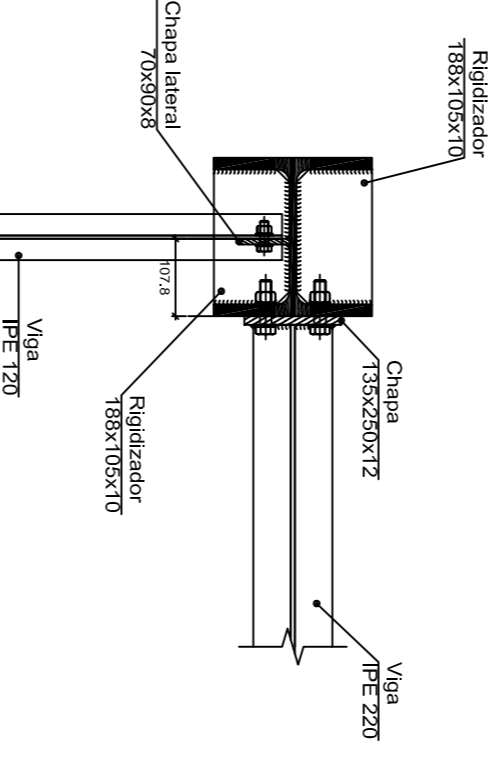
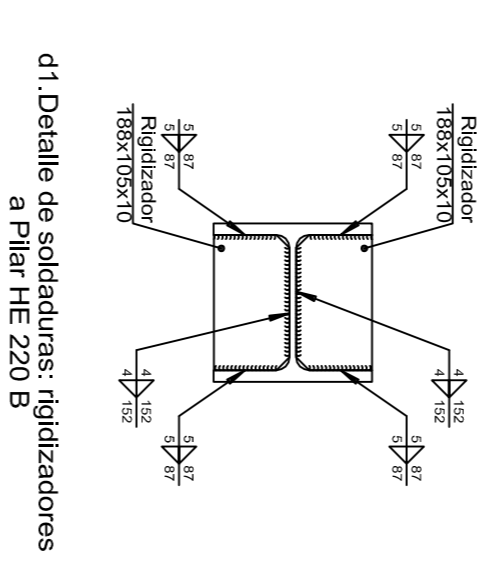
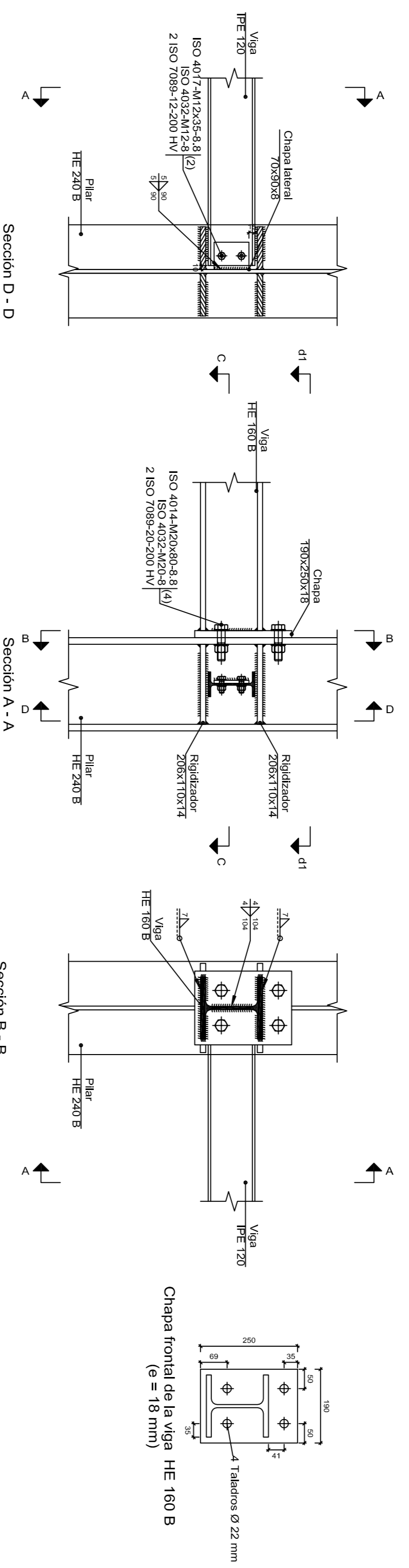
PÓRTICO 1 Y UNIONES



Tipo 9



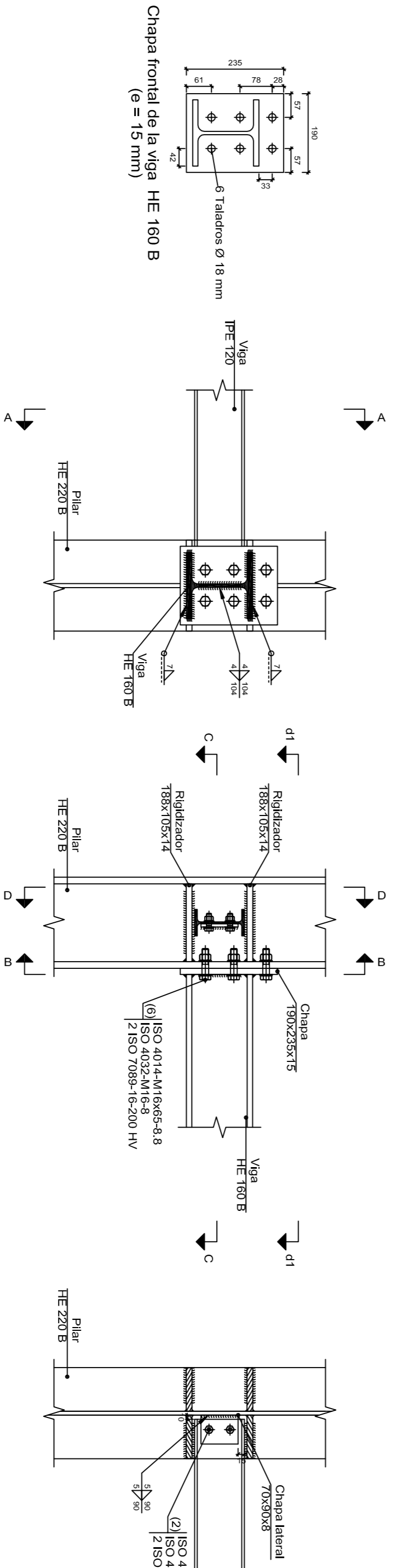
Tipo 42



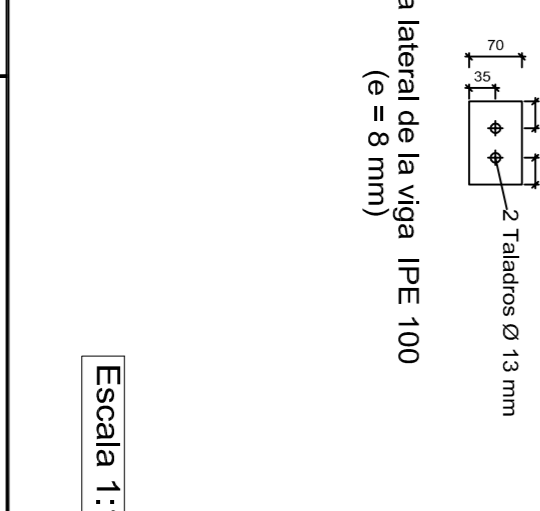
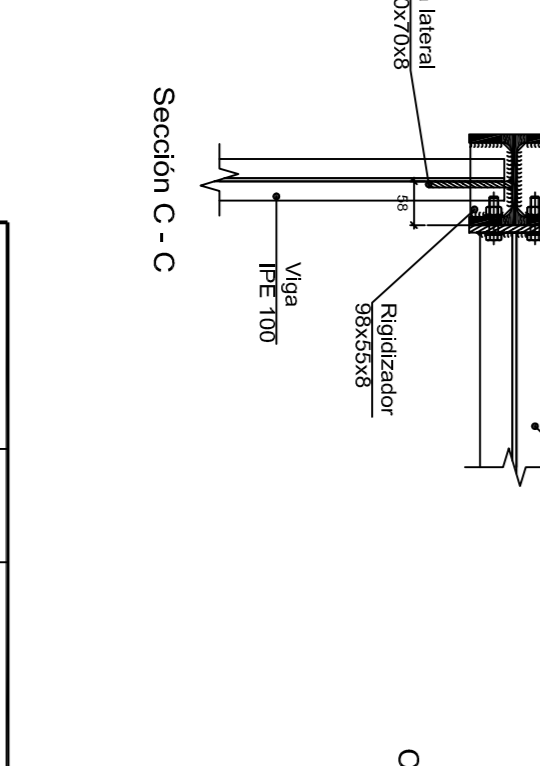
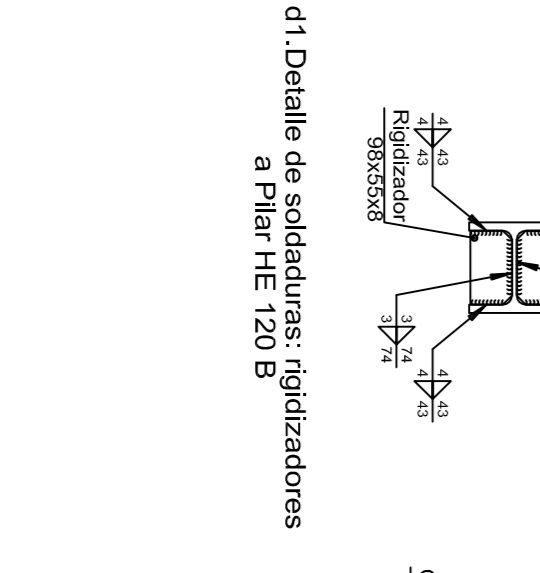
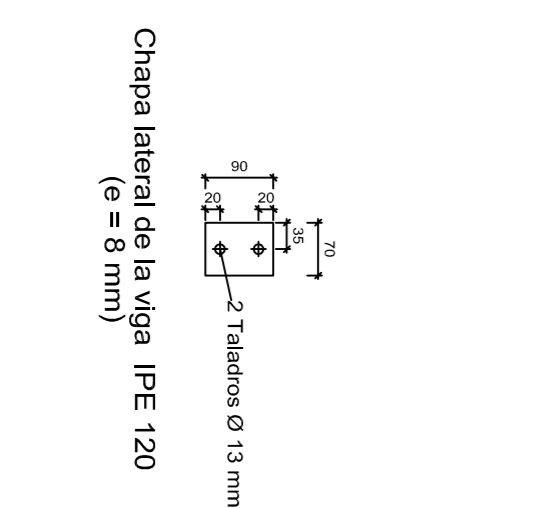
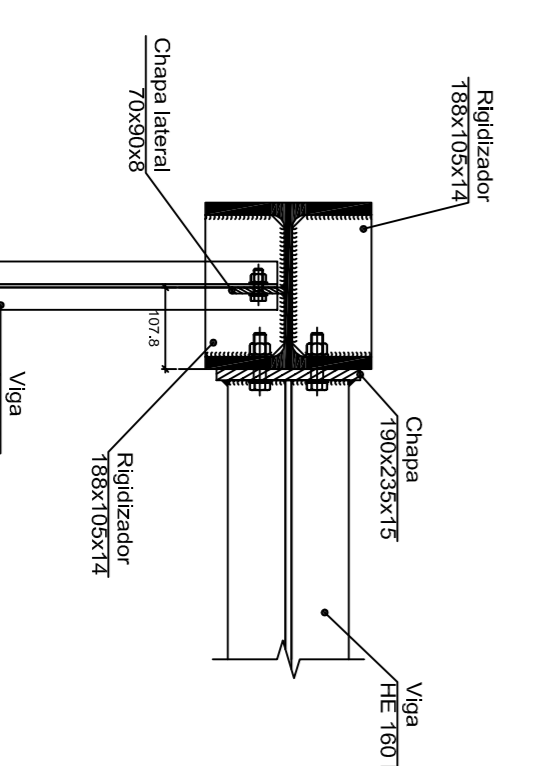
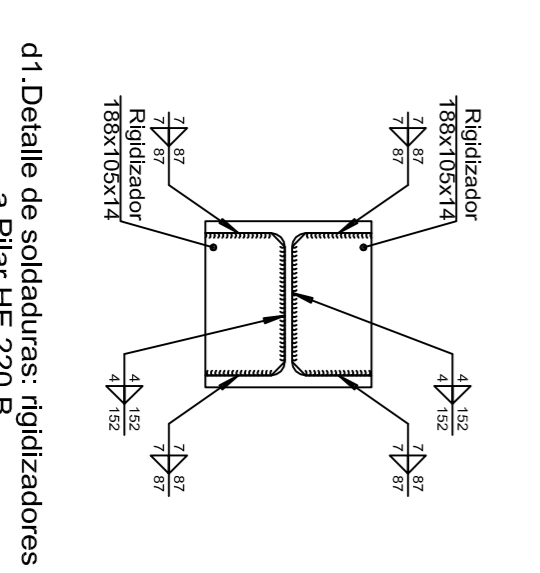
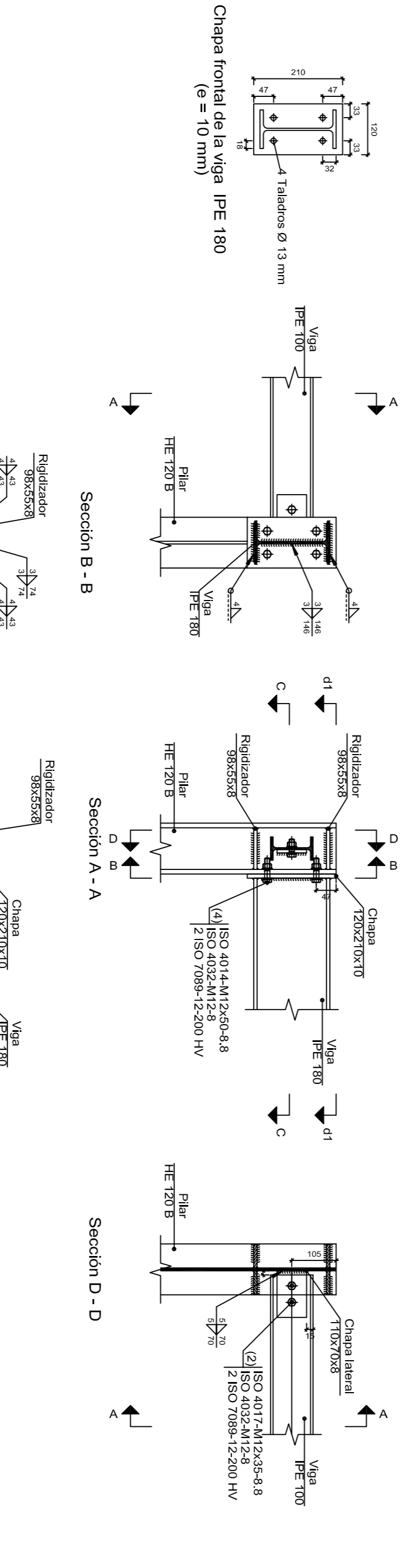
Escala 1:10

Escala 1:10

Tipo 38



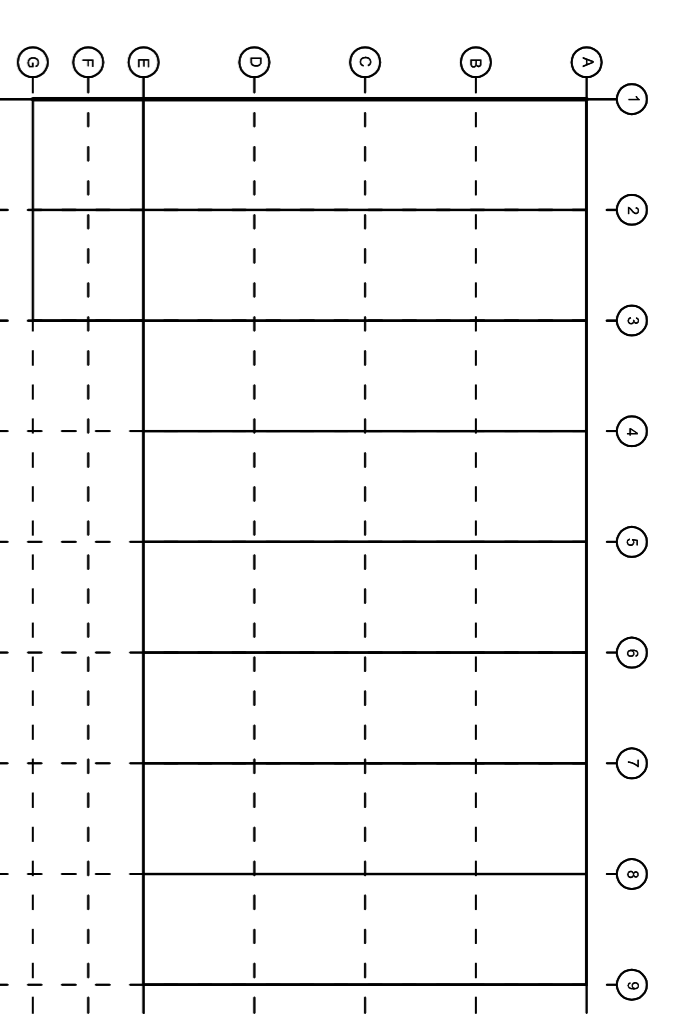
Tipo 3



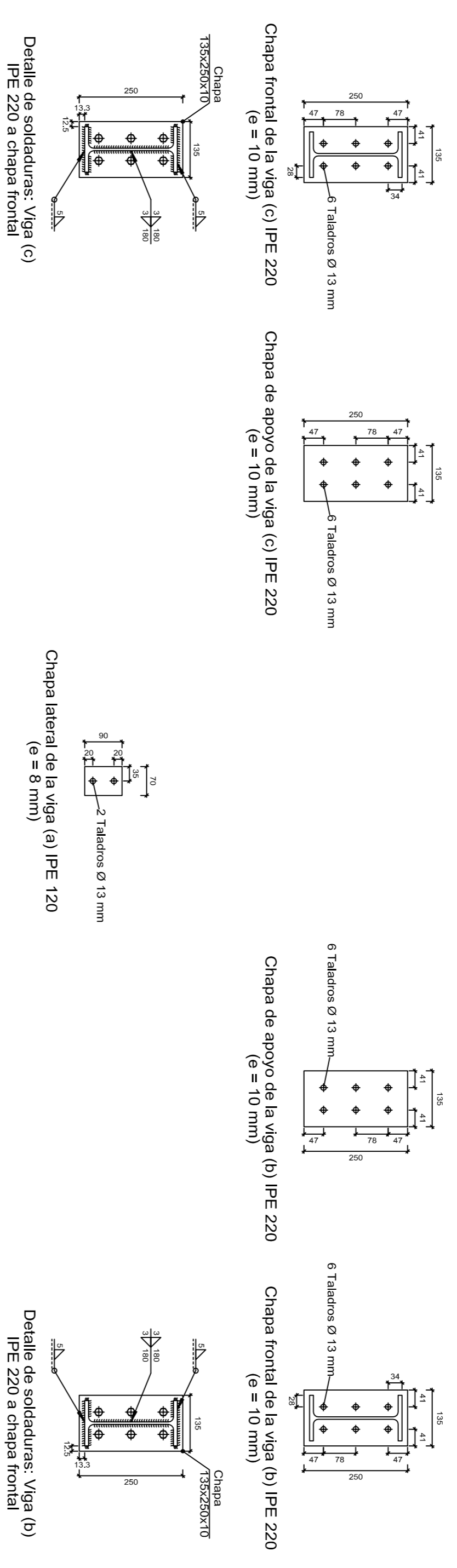
Escala 1:10

Escala 1:10

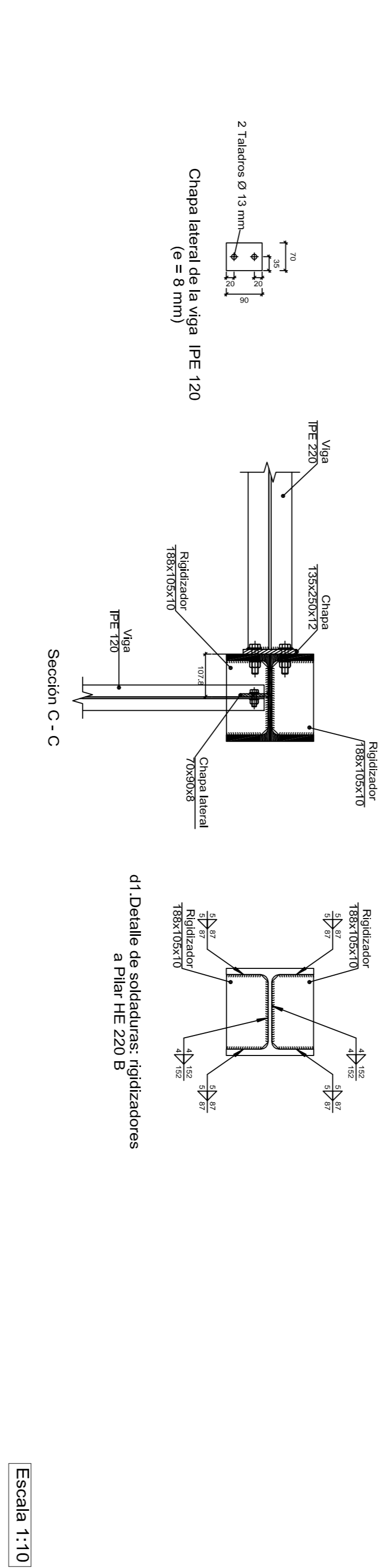
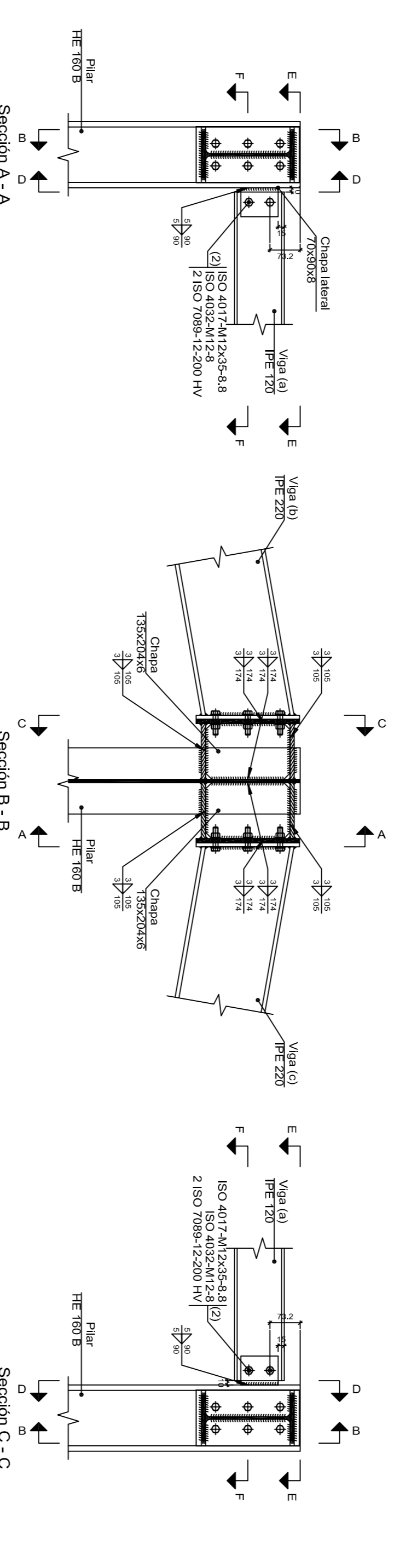
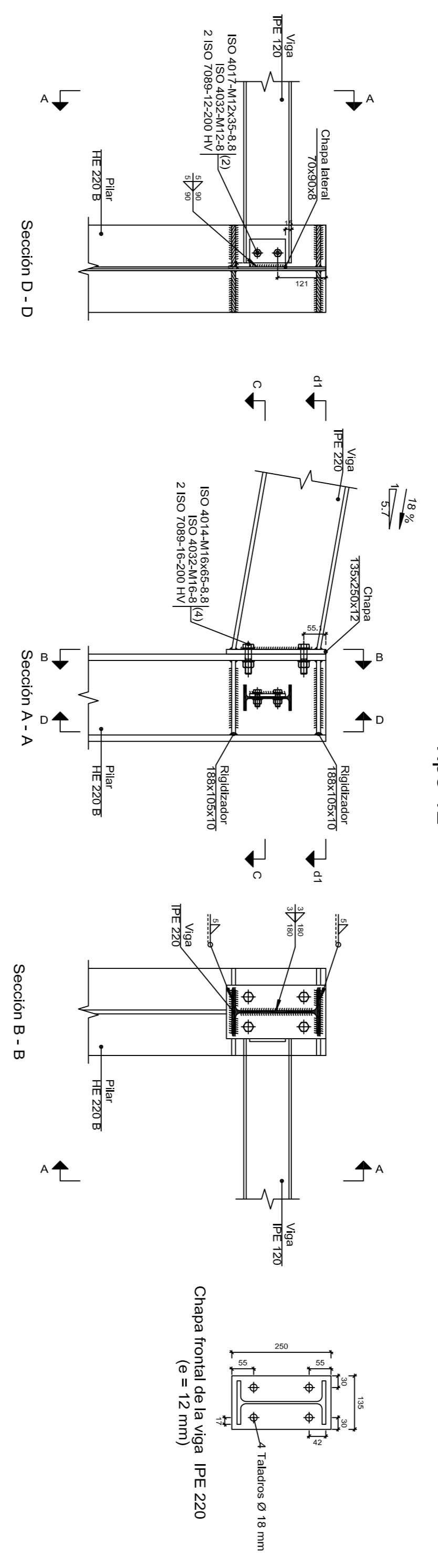
Fecha		Nombre		 UNIVERSIDAD DE LAS AMÉRICAS ESCUELA DE INGENIERÍA DE SISTEMAS TECNOLOGÍA INDUSTRIAL - BAHÍA
07/2017		D. PRADA		
Dibujado:		Comprobado:		CONSTRUCCIÓN DE MAQUINARIA INDUSTRIAL, CON CALIDAD PUENTE PARA EMPRESAS DE FABRICACIÓN DE MAQUINARIA INDUSTRIAL
07/2017		J. ELVARADO GÓTTIA		
Escala		Escala		Plano N° P31 N° Planos: 41
A1		1:10		
<b>PÓRTICO 1 Y UNIONES</b>				



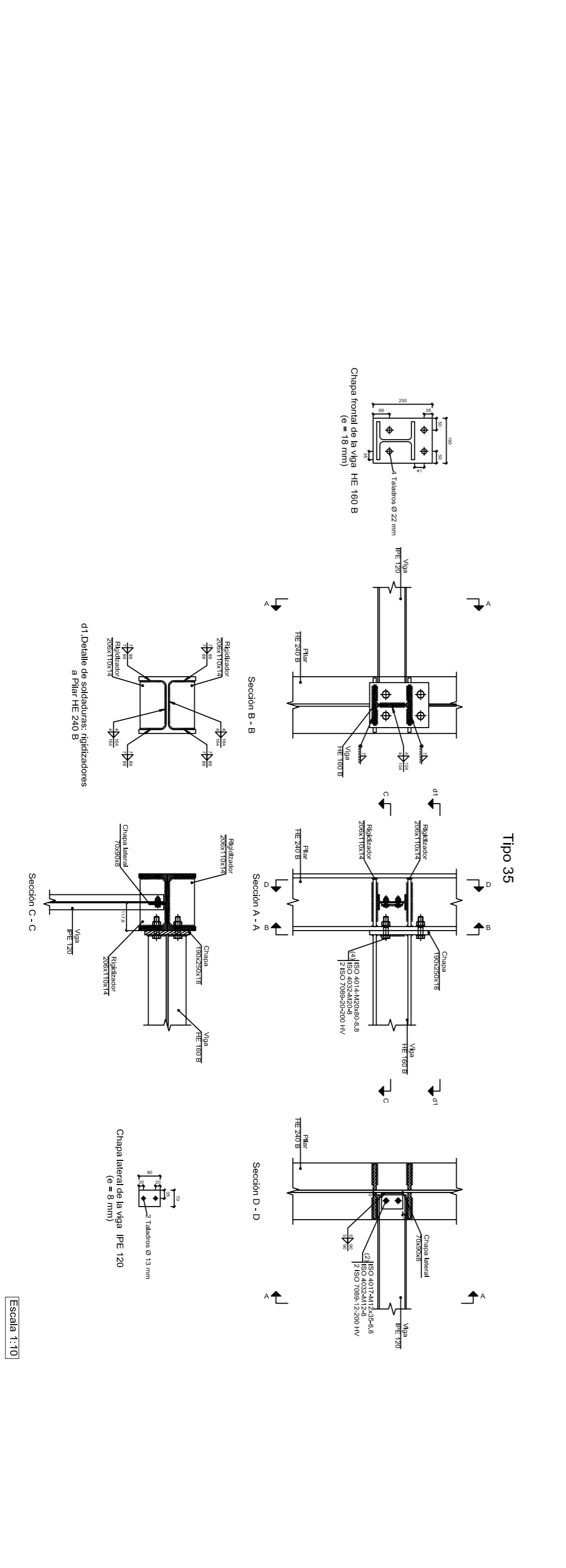
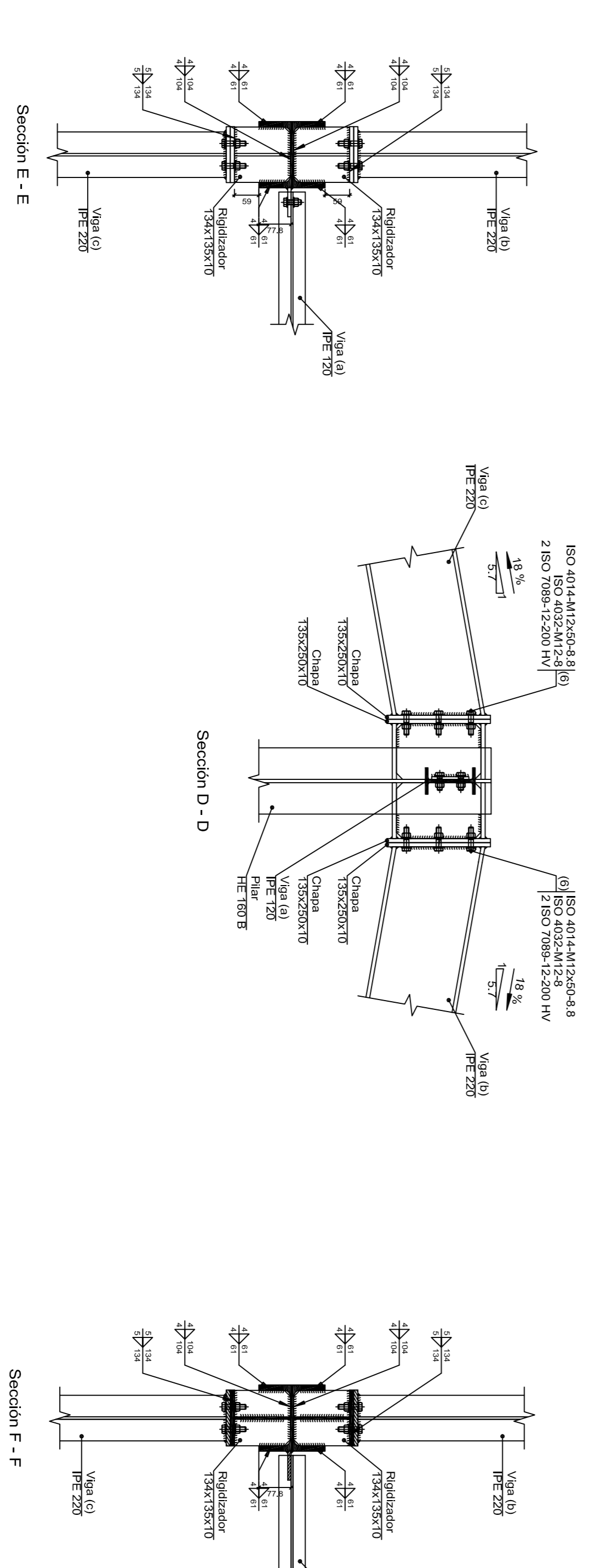
Tipo 13



Tipo 12



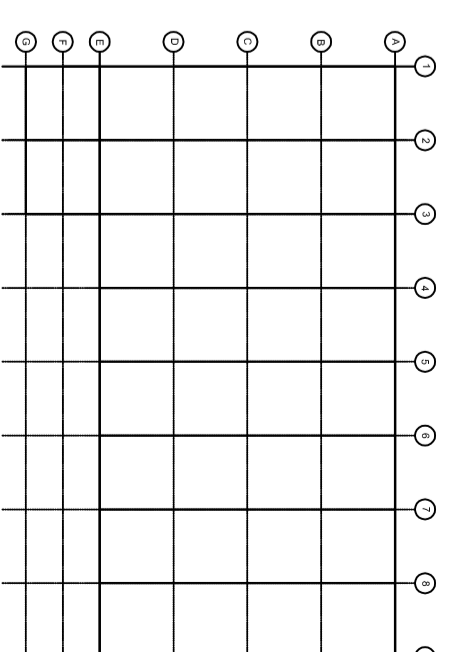
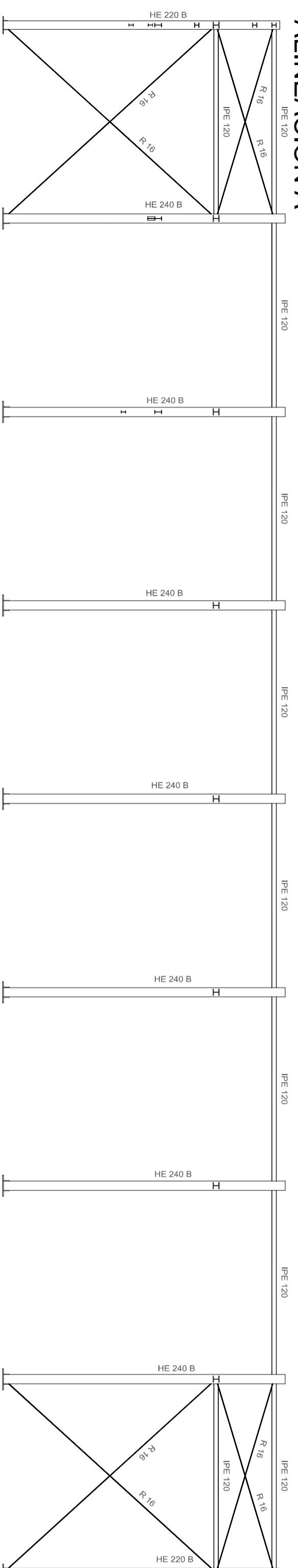
Escala 1:10



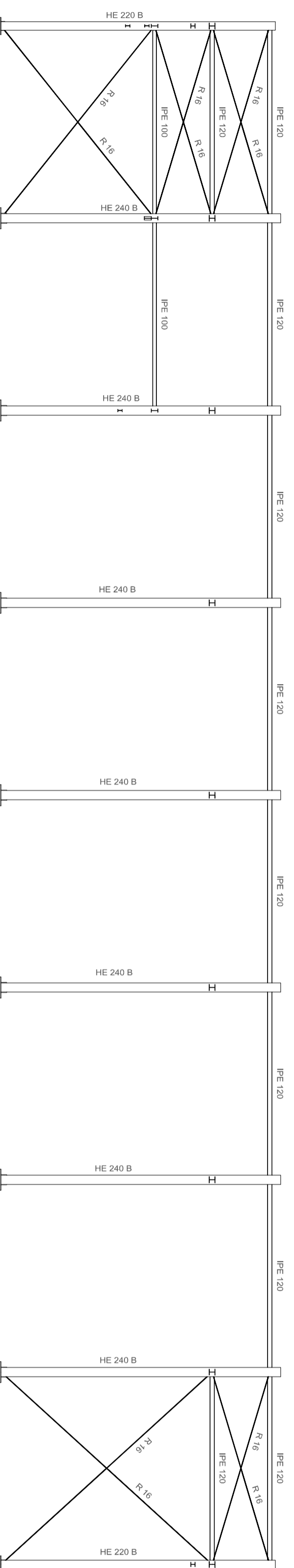
Escala 1:10

Fecha	Nombre	 UNIVERSIDAD DE LAS AMÉRICAS ESCUELA DE INGENIERÍA DE SISTEMAS TECNOLÓGICA INDUSTRIAL - IMAIO
07/2017	D. PABLO	
Dibujado:	J. ELVARADO GONZALEZ	 UNIVERSIDAD DE LAS AMÉRICAS ESCUELA DE INGENIERÍA DE SISTEMAS TECNOLÓGICA INDUSTRIAL - IMAIO
Comprobado:	J. ELVARADO GONZALEZ	
Escala	1:10	CONTRIBUCIONES MADE INDUSTRIAL, CON CONSULTA FUENTE: MANA, EMPRESA DE CONSULTORÍA DE MANEJO AMBIENTAL S.A.
Tol. gsm	A1	
Plano N° P32		N° Planos: 41
PÓRTICO 1 Y UNIONES		

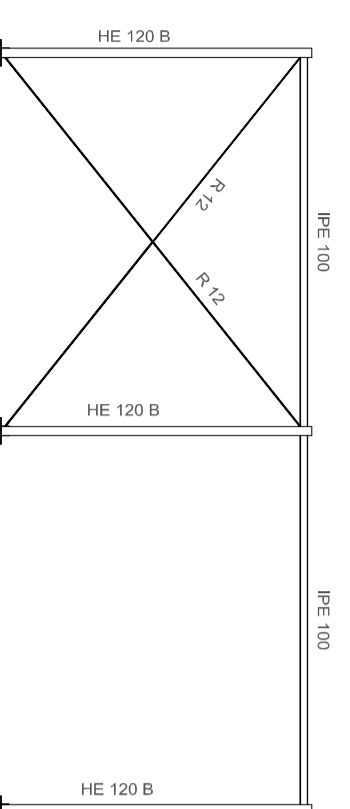
# ALINEACIÓN A



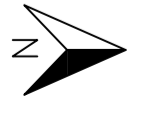
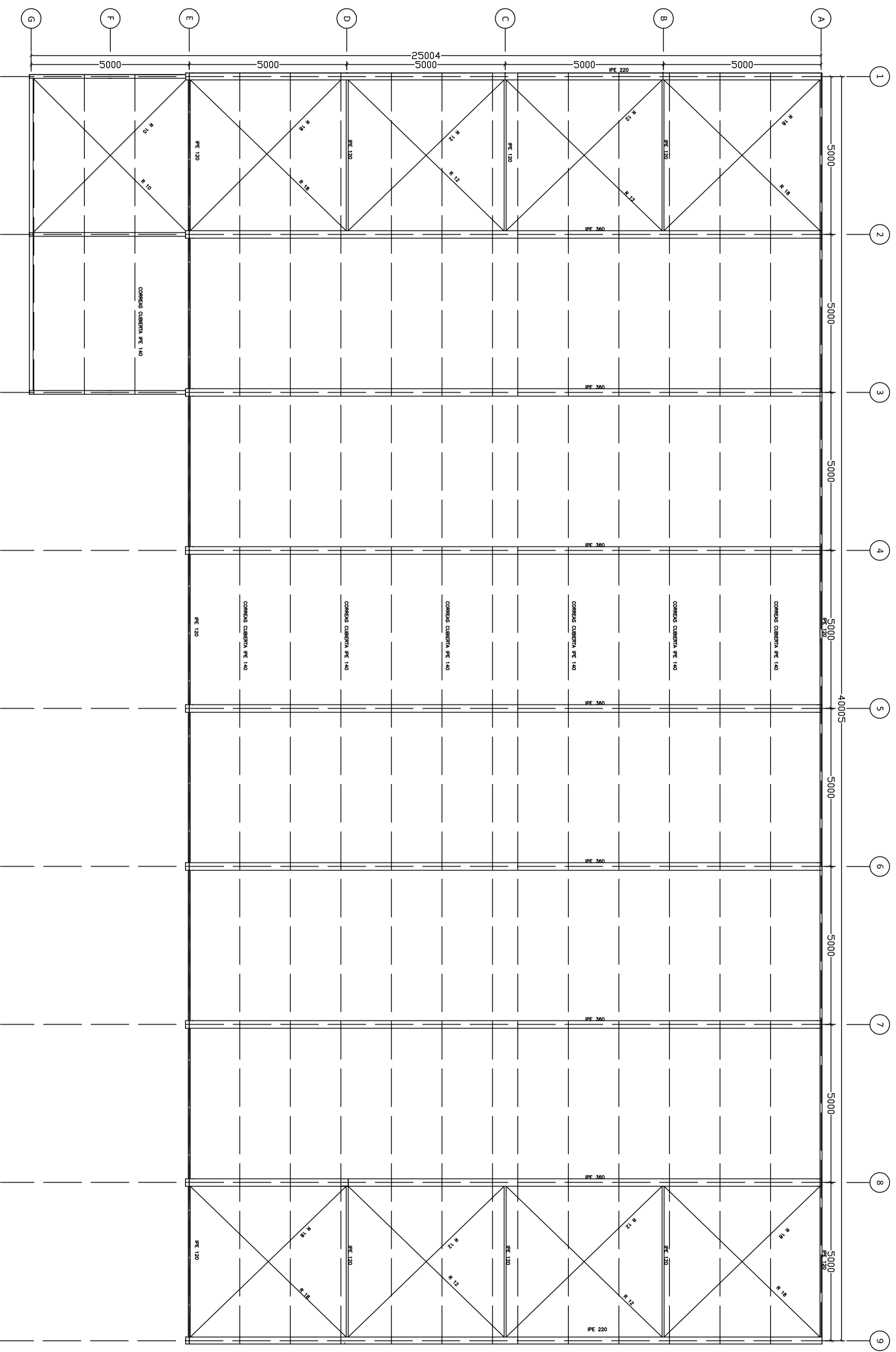
# ALINEACIÓN E



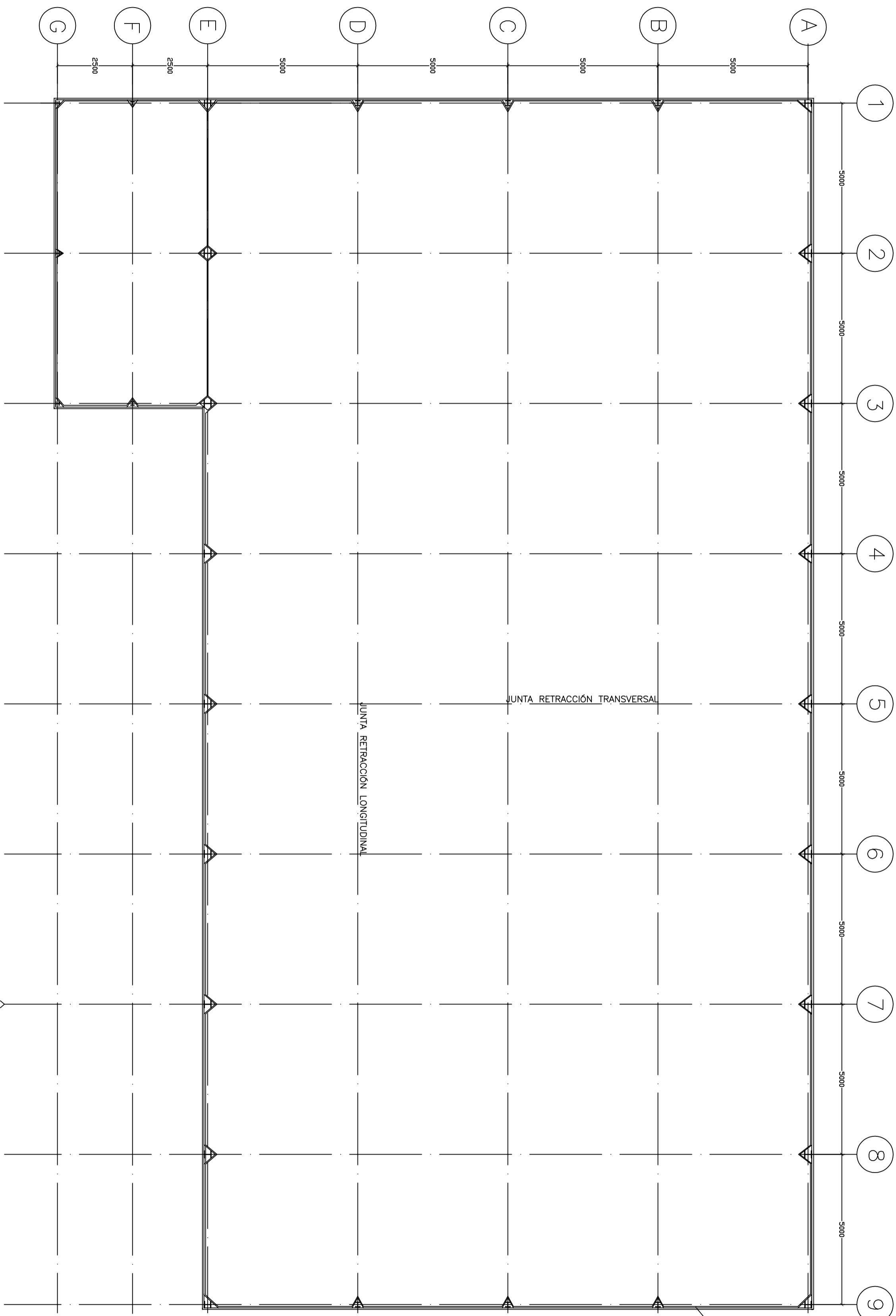
# ALINEACIÓN G



		<b>UNIVERSIDAD DE PAÍS VASCO</b> ESCUELA UNIVERSITARIA DE INGENIERIA TÉCNICA INDUSTRIAL, BILBAO		
<b>Fecha</b> 07/2017	<b>Nombre</b> D. PRADA	<b>ENTRAMADO LATERAL</b>  CONSTRUCCIÓN DE NAVE INDUSTRIAL CON GRUA PUENTE PARA EMPRESA DE FABRICACIÓN DE VENTANAS INGENIERIA S.A.		
<b>Dibujado:</b> 07/2017	<b>Comprobado:</b> 07/2017			<b>J.E. LARAUZOGOTIA</b>
<b>Tol. gen.</b> A2 1:100	<b>Escala</b> A2 1:100			<b>Nº Planos:</b> 41

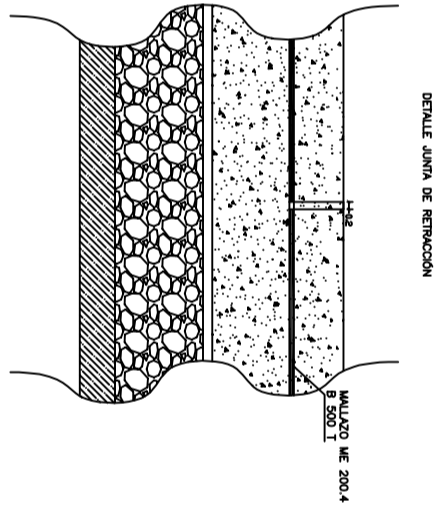


		<b>UNIVERSIDAD DE PAÍS VASCO</b> ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL. BILBAO	
<b>Nombre</b> D. PRAADA	<b>Fecha</b> 07/2017		
<b>Comprobado:</b> J.E. LARAUDOGOTIA	<b>Dibujado:</b> 07/2017	<b>ESTRUCTURA DE CUBIERTA</b> Plano N°.P34	
<b>Escala</b> A2	<b>Tol. gen.</b> 1:100	CONSTRUCCION NAVE INDUSTRIAL CON GRUA PUENTE PARA EMPRESA DE FABRICACION DE VENTANAS INGENIERIA S.A.	
<b>N° Planos:41</b>			



CUADRO DE CARACTERÍSTICAS S/EHE-08 Y CTE DB-SE-A

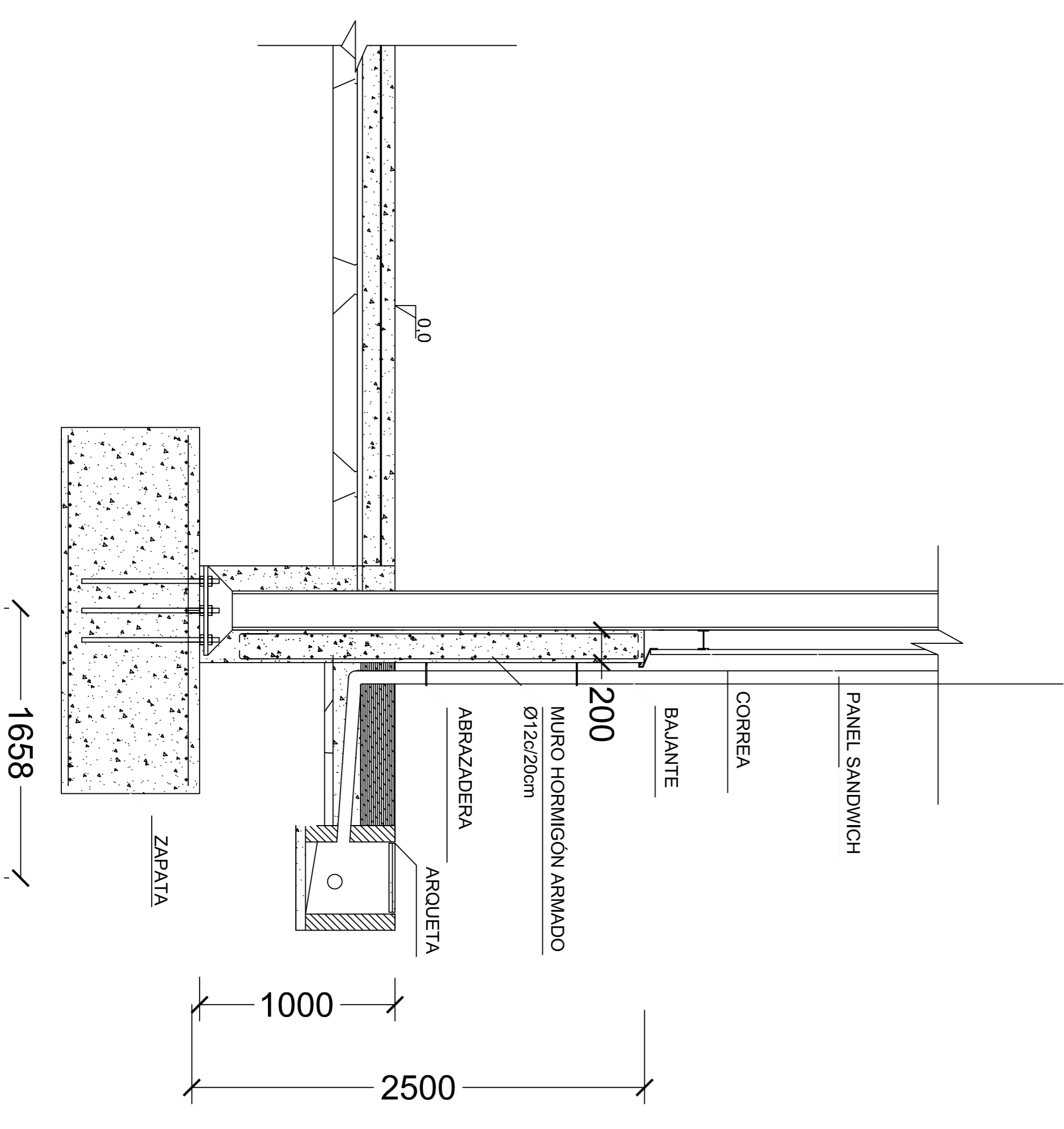
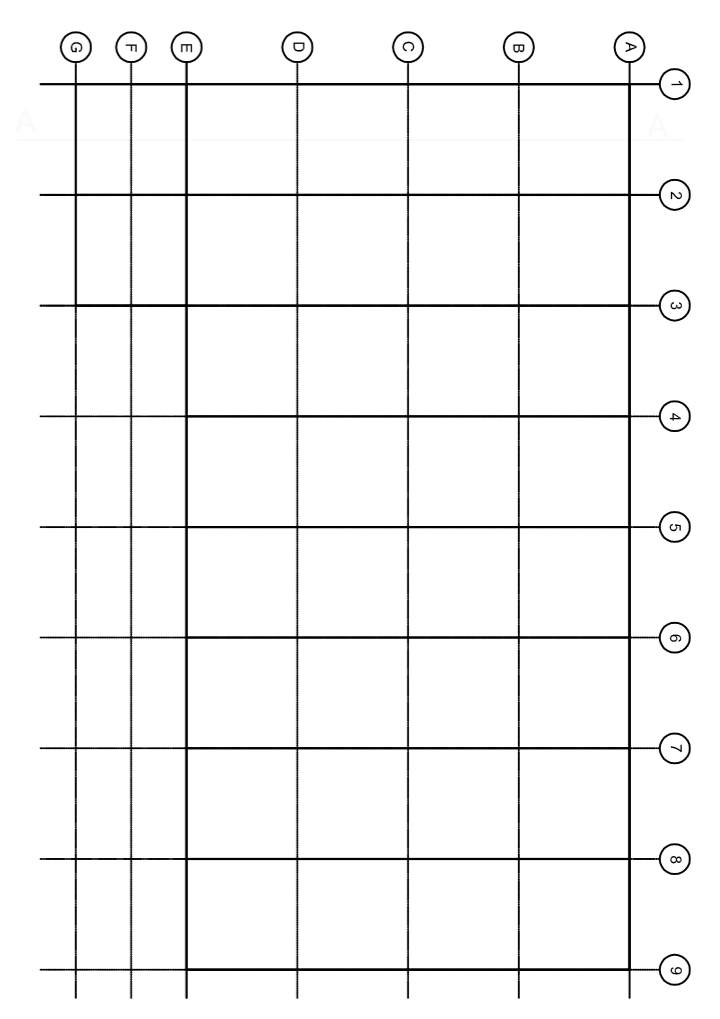
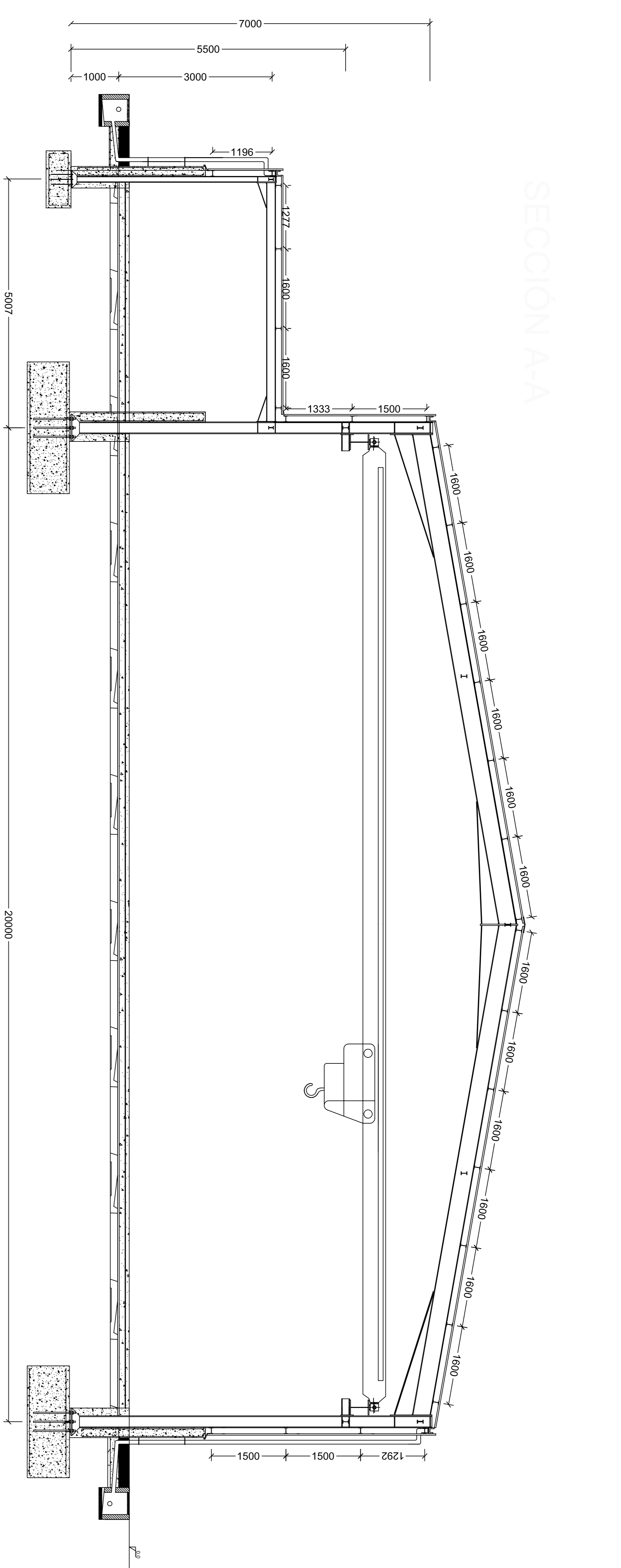
HORMIGÓN			ACERO	
Tipo	Características	Tamaño máximo del árido	Exposición	Características Tipo
HA-25	Blanda	20mm	Ila	B 500 T



 <b>UNIVERSIDAD DE PAÍS VASCO</b> ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL. BILBAO		 <b>UNIVERSIDAD DE PAÍS VASCO</b> CONSTRUCCION DE NAVE INDUSTRIAL CON GRUA PUENTE PARA EMPRESA DE FABRICACION DE VENTANAS INGENIERIA S.A.	
Dibujado:	07/2017	Nombre:	D. PRADA
Comprobado:	07/2017	Fecha:	07/2017
Escala:		A2	
Tol. gen.:		1:100	
<b>SOLERA</b>			
Plano N°.P35			
N° Planos:41			



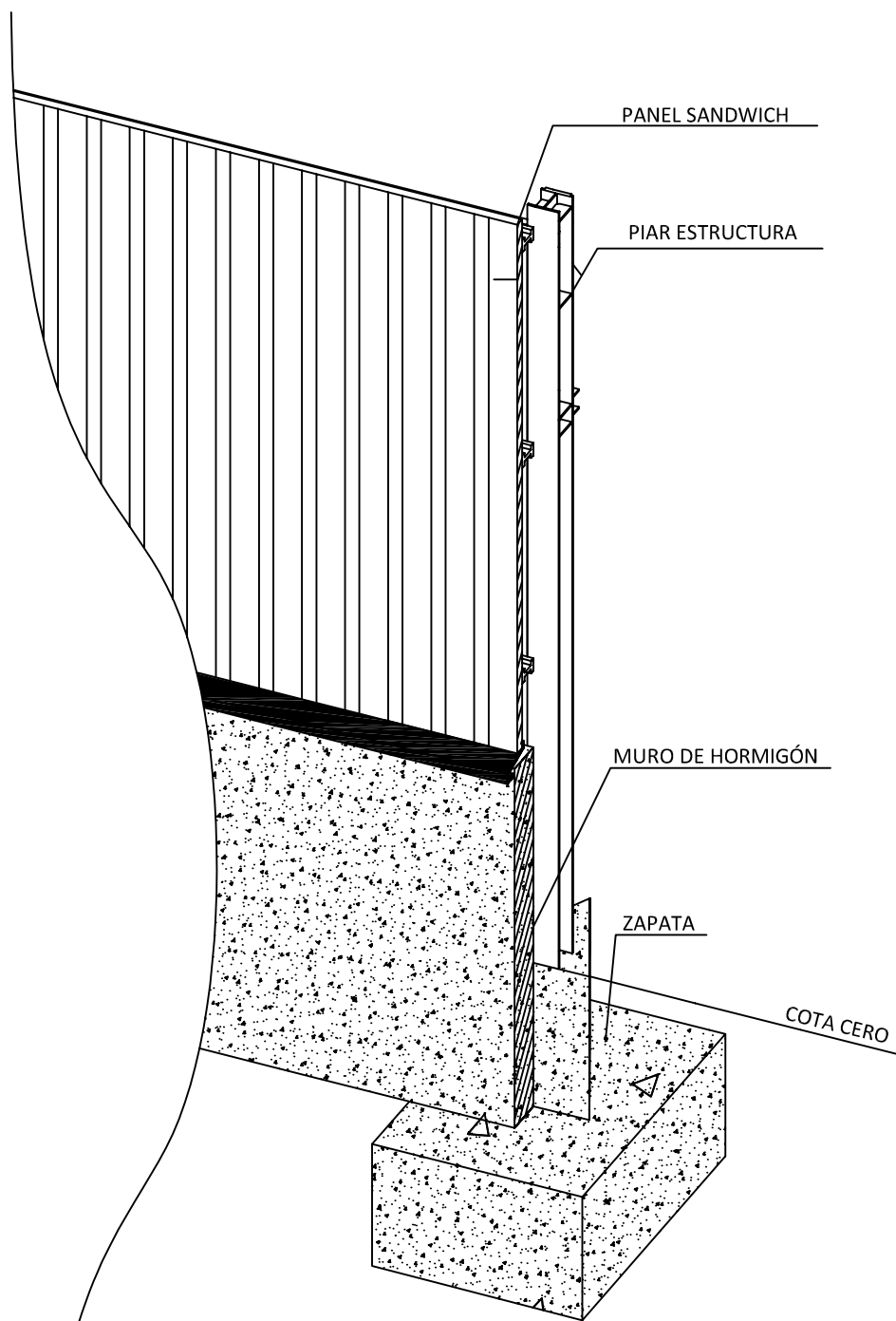
# SECCIÓN A-A



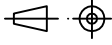


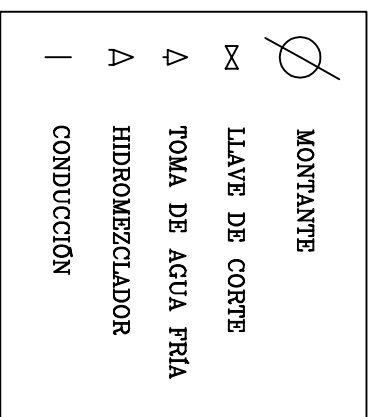
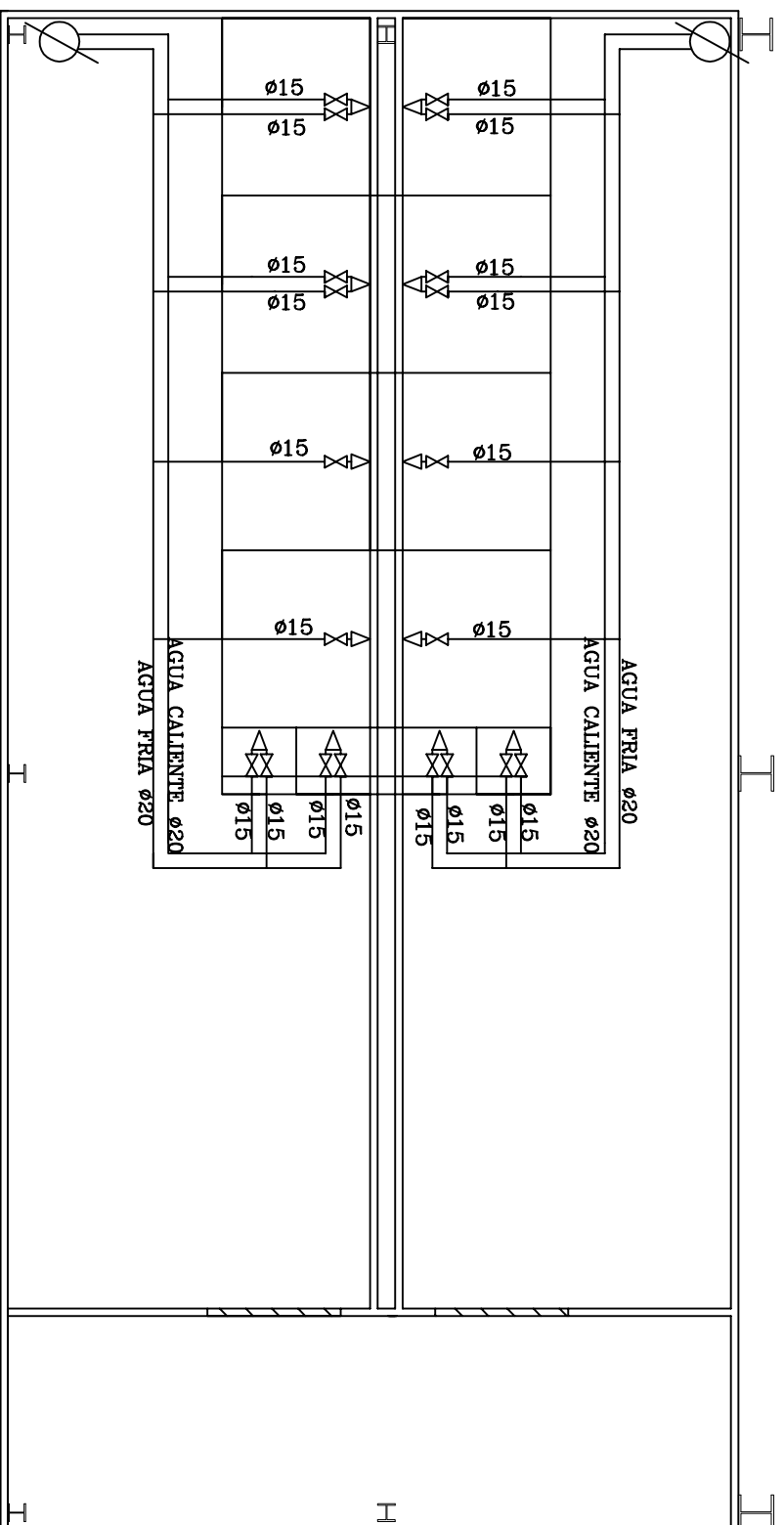
<b>Dibujado:</b> 07/2017		<b>Fecha:</b> 07/2017		<b>Nombre:</b> D. FRAJA	
<b>Comprobado:</b> 07/2017		<b>Escuela:</b> 125 130		<b>UNIVERSIDAD DE PAIS VASCO</b> <small>ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL - BILBAO</small>	
<b>SECCION NAVE</b>				<small>CONSTRUCCION DE LA INGENIERIA CIVIL EN EL PAIS VASCO</small> <small>ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL - BILBAO</small>	
<b>Nº Planos: 41</b>				<b>Plano Nº: P37</b>	



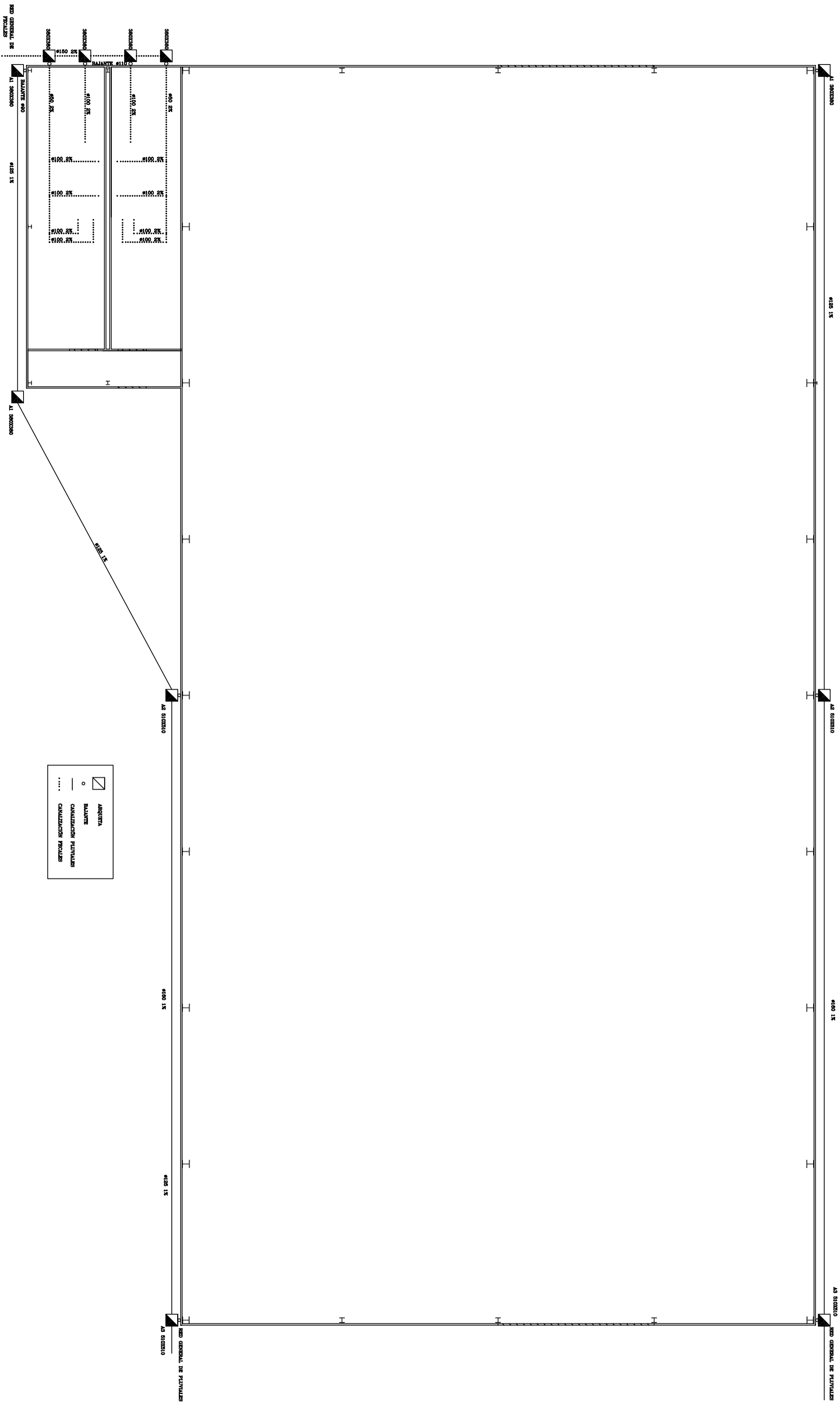
# DETALLE UNIÓN PANEL SANDWICH CON MURO DE HORMIGÓN



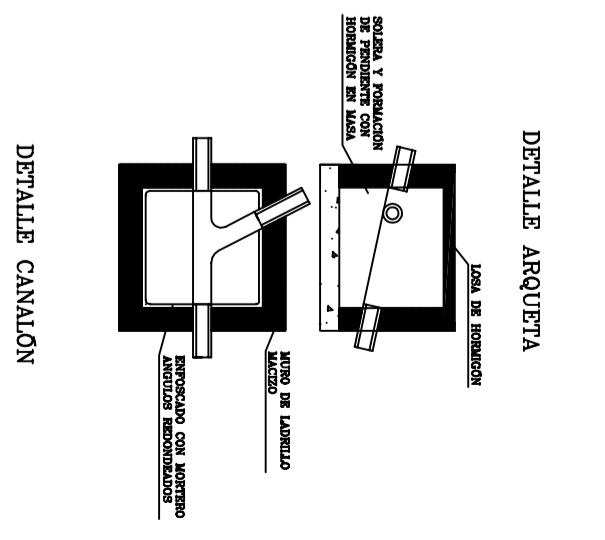
	Fecha	Nombre		 UNIVERSIDAD DE PAIS VASCO ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL. BILBAO 
Dibujado:	07/2017	D. PRADA		
Comprobado:	07/2017	J.E.LARAUDOGOITIA		
 Tol. gen.	Escala A4 1:50	<b>DETALLE PANEL SANDWICH</b>		CONSTRUCCIÓN DE NAVE INDUSTRIAL CON GRÚA PUENTE PARA EMPRESA DE FABRICACIÓN DE VENTANAS INGEVEN S.A.
				<b>Plano N°.P38</b>
				<b>N° Planos.41</b>



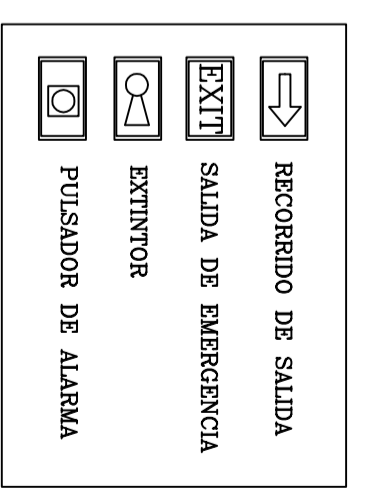
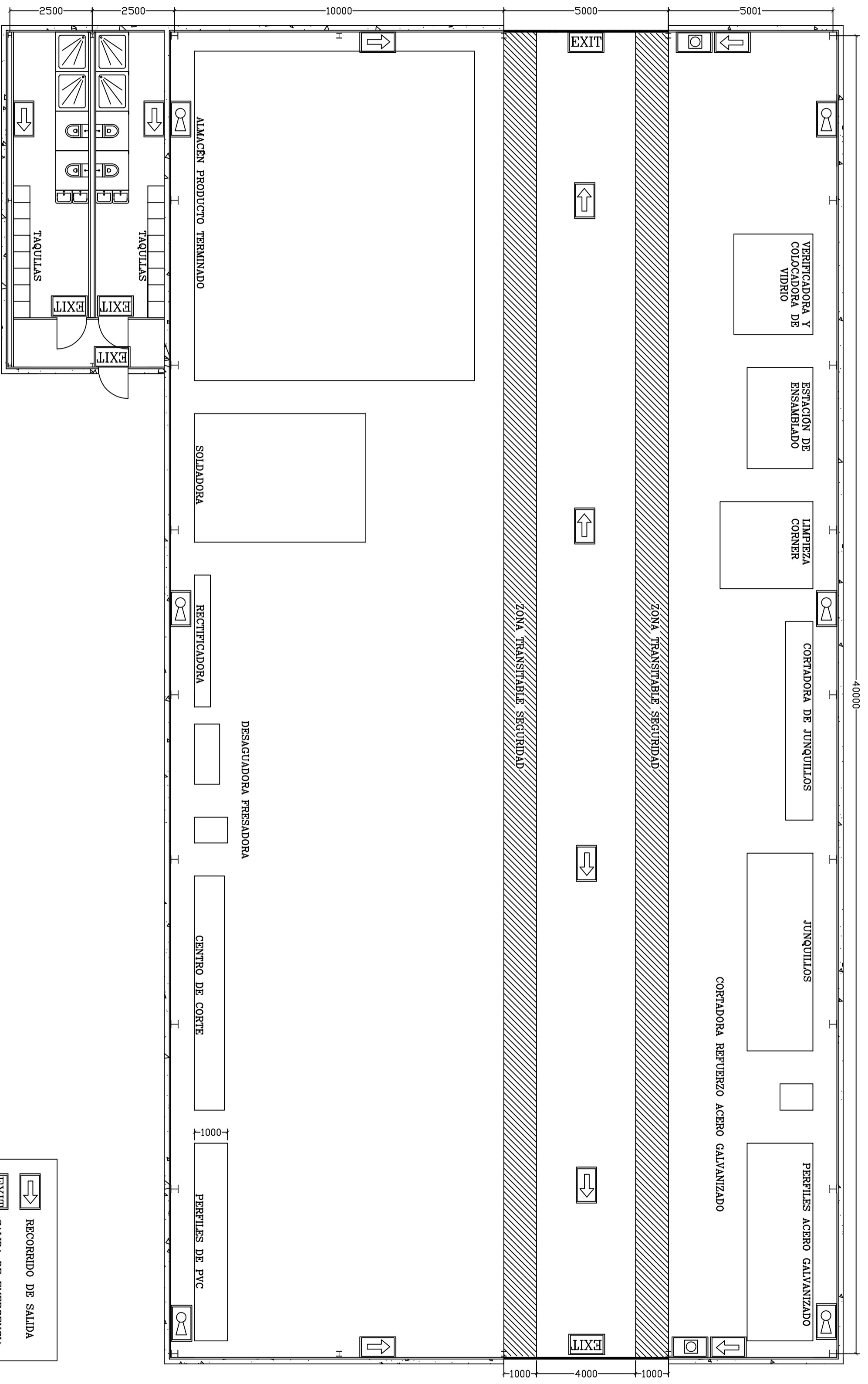
		<b>Fecha</b>	<b>Nombre</b>	 UNIVERSIDAD DE PAIS VASCO ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL. BILBAO
<b>Dibujado:</b>		07/2017	D. PRADA	
<b>Comprobado:</b>		07/2017	J.E.LARAUDOGOITIA	CONSTRUCCIÓN DE NAVE INDUSTRIAL CON GRUA PUENTE PARA EMPRESA DE FABRICACIÓN DE VENTANAS INGENVEN S.A.
	<b>Escala</b>	<b>SUMINISTRO DE AGUA</b>		
Tol. gen.	A3 1:50			



□ AGUAS  
 ○ GASES  
 - CANTONAMIENTO FUTURO  
 ... CANTONAMIENTO PROBLEMA



		<b>UNIVERSIDAD DE PAIS VASCO</b> ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL. BILBAO	
Nombre:	D. PRADA	Fecha:	07/2017
Comprobado:	JELARAUDEGOTIA	Escala:	A2 1:50 1:100
<b>SANEAMIENTO</b> Construcción de nave industrial con grúa puente para la empresa de fabricación de ventanillas Ingenier S.A.		N° Planos: 41	



UNIVERSIDAD DE PAIS VASCO		UNIVERSIDAD DE PAIS VASCO	
ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL BILBAO		ESCUELA UNIVERSITARIA DE INGENIERIA TECNICA INDUSTRIAL BILBAO	
CONSTRUCCION DE MAQUINARIA INDUSTRIAL CON GRUA PUENTE PARA EMPRESA DE FABRICACION DE VEHICULOS INDUSTRIALES		CONSTRUCCION DE MAQUINARIA INDUSTRIAL CON GRUA PUENTE PARA EMPRESA DE FABRICACION DE VEHICULOS INDUSTRIALES	
Plano N.º P41		Plano N.º P41	
N.º Planos: 41		N.º Planos: 41	
Nombre:	D. PRADA	Fecha:	07/2017
Comprobado:	J. ELARAUDEGOTIA	Comprobado:	07/2017
Escala:	A2	Escala:	A2
Tol. gen.:	1:100	Tol. gen.:	1:100

**EVACUACION**

