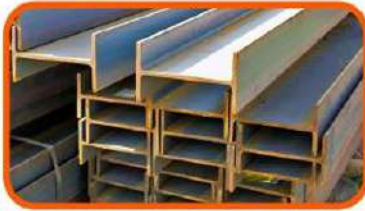


TRADE ACERO 



CATÁLOGO de **PRODUCTOS**



Vigas
WF Beams p.2



Ángulos / Angles
Canal CPS / CPS Channel
Canal MC / MC Channel p. 3



Tubo estructural cuadrado y rectangular
Hollow Structural Section p.4



Placa / Plate p. 5



Tubos con Costura longitudinal
Rolled & Welded Pipe p. 6



Tablestaca formada en frío
Cold Formed Sheet Pile p. 7



Tablestaca rolada en caliente
Hot rolled sheet pile p. 8



Muros Combinados
Combi Wall p. 10



Sistema de Tensores
Tie Rod System p. 11



Accesorios
Accesories p. 12



H-Pile p.13



Soporte Técnico
Technical support p.14



Tabla de Conversiones
Conversion Chart p. 15



VIGAS

WF BEAMS

Dimensiones Size	Peso en lb/pie Footweights																			
4x4	13																			
5x5	16	19																		
6x4	8.5	9	12*	16*																
6x6	15*	20*	25*																	
8x4	10	13*	15*																	
8x5 1/2"	18*	21*																		
8x6 1/2"	24	28																		
8x8	31	35	40	48	58	67														
10x4	12	15*	17*	19*																
10x5 3/4"	22*	26*	30*																	
10x8	33	39	45																	
10x10	49	54	60	68	77	88	100	112												
12x4	14	16*	19*	22*																
12x6 1/2"	26*	30*	35*																	
12x8	40*	40*	50*																	
12x10	53	58																		
12x12	65	72	79	87	96	106	120	136	152	170	190	210	230	252	279	305	336			
14x5	22	26																		
14x6 3/4"	30*	34*	38*																	
14x8	43*	48*	53*																	
14x10	61	68	74	82																
14x14 1/2"	90	99	109	120	132															
14x16	145	159	176	193	211	233	257	283	311	342	370	398	426	455	500	550	605	665	730	
16x5 1/2"	26	31																		
16x7	36*	40*	45*	50*	57*															
16x10 3/4"	67	77	89	100																
18x6	35*	40*	46*																	
18x7 1/2"	41	45	50*	55*	60*	65*	71*													
18x11	76	86	97	106	119	130	143	158	175	192	211	234	258	283	311					
21x6 1/2"	44	50	57																	
21x8 3/4"	48	55	62	68	73	83	93													
21x12 3/4"	101	111																		
21x12 1/2"	122	132	147	166	182	201	223	248	275											
24x7	55	62																		
24x9	56	61	68	76	84	94	103													
24x12 3/4"	104	117	131	146	162	176	192	207	229	250	279	306	335	370						
27x10	84	94	102	114	129															
27x14	146	161	178	194	217	235	258	281	307	336	368									
30x10 1/2"	90	99	108	116	124	132	148													
30x15	173	191	211	235	261	292	326	357	391											
33x11 1/2"	118	130	141	152	169															
33x15 3/4"	201	221	241	263	291	318	354	387												
36x12	135	150	160	170	182	194	210	232	256											
36x16 1/2"	231	247	262	282	302	330	361	395	441	487	529	652								
40x12	149	167	183	211	235	249	264	278	294	327	331	392								
40x16	199	215	249	277	297	324	362	372	397	431	503	593								
44x16	230	262	290	335																

Calidades Disponibles
Available Qualities

ASTM A572 Gr. 50 / A992
Certificación ABS

ASTM A709
*CVN (25 ft-lb) @ - 20 °C

ÁNGULOS / ANGLES

Tamaño Pulgadas Inches		Milímetros Milimeters		Peso Weight Kg/m
3/16x	3	4.8x	76.2	5.52
	3		76.2	7.29
1/4x	3 ½	6.3x	88.9	8.83
	4		101.6	9.90
5/16x	3	7.9x	76.2	9.08
	4		101.6	12.20
	5		127.0	15.51
3/8x	3	9.5x	76.2	10.72
	4		101.6	14.60
	5		127.0	18.30
	6		152.4	22.17
1/2x	3	9.5x	76.2	13.99
	4		101.6	19.05
	5		127.0	24.11
	6		152.4	29.17
5/8x	6	15.9x	152.4	36.10
	8		203.2	48.40
3/4x	6	19.1x	152.4	42.71
	8		203.2	58.08
	10		254.0	73.10
7/8x	8	22.2x	203.2	66.97
	10		254.0	84.60
1 1/8	8	28.6x	203.2	84.68
	10		254.0	108.00
1 1/4	10	31.8x	254.0	119.00
1 3/8	10	34.9x	254.0	130.00

Calidades Disponibles
Available Qualities

ASTM A36 ASTM A572 Gr. 50 ASTM A709 Gr. 50

CANAL CPS / CPS CHANNEL

Medida Size	Peso / Weight Lb/ft Kg/m	
6"	8.2	12.2
6"	10.5	15.63
6"	13	19.36
8"	11.5	17.1
8"	13.75	20.5
8"	18.75	27.9
10"	15.3	22.8
10"	20	30
10"	25	37
10"	30	45
12"	20.7	30.8
12"	25	37
12"	30	45
15"	33.9	50.4
15"	40	60
15"	50	74

CANAL MC / MC CHANNEL

Medida Size	Peso / Weight Lb/ft	Medida Size	Peso / Weight Lb/ft
3"	7.1	10"	6.5
4"	13.8	10"	8.4
6"	6.5	10"	22
6"	7	10"	25
6"	12	10"	28.5
6"	15.1	10"	33.6
6"	15.3	10"	41.1
6"	16.3	12"	10.6
6"	18	12"	31
7"	17.6	12"	35
7"	19.1	12"	40
7"	22.7	12"	45
8"	6.6	12"	50
8"	8.5	13"	31.8
8"	18.7	13"	35
8"	20	13"	40
8"	21.4	13"	50
8"	22.8	18"	42.7
9"	23.9	18"	45.8
9"	25.4	18"	51.9





TUBO ESTRUCTURAL CUADRADO Y RECTANGULAR (HSS)

HOLLOW STRUCTURAL SECTION

Peso por pieza de 12.20 m de largo
Weight per piece of 40 ft length

Sección Pared

Size	Thickness pulgadas (in.)							
	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"
4 x 4	171	222	269	314	393			
5 x 5	217	284	346	406	516			
6 x 2	171	222	269	314	393			
6 x 3	194	253	308	360	454			
6 x 4	217	284	346	406	516			
6 x 6	264	345	424	499	640	770		
7 x 5	264	345	424	499	640	770		
7 x 7	310	407	501	591	763			
8 x 4	264	345	424	499	640	770		
8 x 6	310	407	501	591	763			
8 x 8	356	469	578	684	887	1,078		
10 x 4	310	407	501	591	763			
10 x 6	356	469	578	684	887	1,078		
10 x 8	403	531	655	777	1,011	1,233		
10 x 10	449	592	733	870	1,134	1,388	1,624	
12 x 4	356	469	578	684	887	1,078		
12 x 6	403	531	655	777	1,011	1,233		
12 x 8	449	592	733	870	1,134	1,388	1,624	
12 x 12	542	716	887	1,055	1,381	1,697	1,992	
14 x 6	449	592	733	870	1,134	1,388	1,624	
14 x 10	542	716	887	1,055	1,381	1,697	1,992	
14 x 14			1,040	1,240	1,628	2,000	2,364	2,712
16 x 8	542	716	887	1,055	1,381	1,697	1,992	
16 x 12			1,040	1,240	1,628	2,000	2,364	2,712
16 x 16			1,196	1,426	1,876	2,308	2,732	3,144
18 x 18					2,120	2,616	3,104	3,576
20 x 12			1,196	1,426	1,876	2,308	2,732	3,144
20 x 20					2,364	2,924	3,472	4,000
22 x 22							3,844	4,440
24 x 12					2,120	2,616	3,104	3,576

Calidades Disponibles
Available Qualities

ASTM A 500 Gr. B

ASTM A 500 Gr. C

PLACA

PLATE

Espesor Thickness	Inch mm	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"
		4.8	6.4	7.9	9.5	12.7	15.9	19.1	22.2	25.4	31.8
Kg / m ²		37.68	50.24	62.01	74.58	99.70	124.82	149.94	174.27	199.39	249.63
Espesor Thickness	Inch mm	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"	3 1/2"	4"
		38.1	44.5	50.8	57.2	63.6	69.9	76.2	82.6	89.0	101.6
Kg / m ²		299.08	349.33	398.78	449.02	498.48	548.72	598.17	648.41	697.87	797.56

Peso en Kg por Pieza
(Weight Kg per Piece)

Pies Feet	Metros Meters	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1 1/4"	
6 x 20	1.83 x 6.10	420	561	694	833	1,113	1,393	1,674	1,945	2,226	2,787	
6 x 30	1.83 x 9.15	630	842	1,041	1,250	1,670	2,090	2,511	2,918	3,339	4,181	
6 x 40	1.83 x 12.20	840	1,122	1,388	1,666	2,226	2,786	3,348	3,890	4,452	5,574	
8 x 20	2.44 x 6.10	552	748	923	1,110	1,484	1,858	2,232	2,594	2,968	3,715	
8 x 30	2.44 x 9.15	828	1,122	1,385	1,665	2,226	2,787	3,348	3,891	4,452	5,573	
8 x 40	2.44 x 12.20	1,104	1,496	1,846	2,220	2,968	3,716	4,464	5,188	5,936	7,430	
10 x 20	3.05 x 6.10	690	935	1,154	1,388	1,855	2,323	2,790	3,243	3,710	4,644	
10 x 30	3.05 x 9.15	1,035	1,403	1,731	2,081	2,783	3,484	4,185	4,864	5,565	6,966	
10 x 40	3.05 x 12.20	1,380	1,870	2,308	2,775	3,710	4,645	5,580	6,485	7,420	9,288	
			1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"	3 1/2"	4"
6 x 20	1.83 x 6.10	3,339	3,900	4,452	5,013	5,565	6,126	6,678	7,239	7,791	8,904	
6 x 30	1.83 x 9.15	5,009	5,850	6,678	7,520	8,348	9,189	10,017	10,859	11,687		
6 x 40	1.83 x 12.20	6,678	7,800	8,904	10,026	11,130	12,252	13,356	14,478	15,582		
8 x 16	2.44 x 4.88										9,497	
8 x 20	2.44 x 6.10	4,452	5,200	5,935	6,683	7,419	8,167	8,903	9,650	10,387		
8 x 30	2.44 x 9.15	6,678	7,800	8,903	10,025	11,129						
8 x 40	2.44 x 12.20	8,904	10,400	11,870								
10 x 20	3.05 x 6.10	5,565	6,500	7,419	8,354	9,274	10,209	11,129				
10 x 30	3.05 x 9.15	8,348	9,750	11,128								
10 x 40	3.05 x 12.20	11,130										

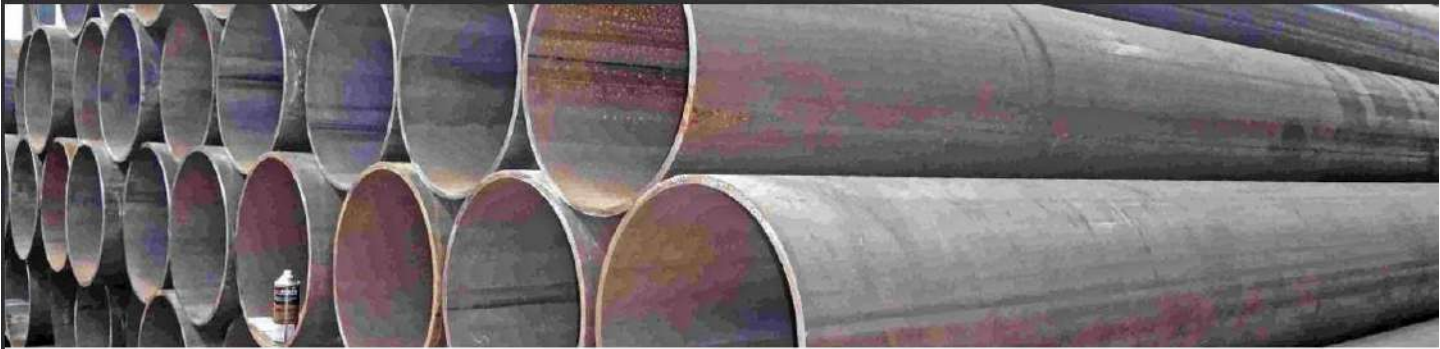
Calidades Disponibles
Available Qualities

ASTM A36
ASTM A572 Gr. 50, 60, 70
ASTM A709 Gr. 50
ASTM A516 Gr. 50, 65, 70
ASTM A710
ASTM A656 Gr. 80
ASTM A514 Gr. B, F, H, Q

API 2H Gr. 50
API 2W Gr. 50, 60
ABS AH36, DH36, EH36, EH40
ABS FH40, EQ47, EQ56, FQ70
DNV NV D36, NV E36, NV F40
DNV NV F500
AR400, AR500

ACEROS APROBADOS POR CATERPILLAR
Medidas disponibles para grados ABS
Para espesores mayores a 4" favor de preguntar





TUBERÍA CON COSTURA

ROLLED & WELDED PIPE (ERW & DSAW)

Peso de tubería en lbs/ft
Pipe weights lbs/ft

Diámetro exterior Outside diameter	Espesor de pared (pulgadas) Wall thickness (in)											
	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"
24"	63.47	125.61	186.41	245.87								
30"	79.51	157.68	234.51	310.01	384.18							
36"	95.54	189.75	282.62	374.15	464.35	553.21	640.74	726.93				
42"	111.58	221.82	330.73	438.30	544.53	649.43	752.99	855.21				
48"	127.61	253.89	378.83	502.44	624.71	745.64	865.23	983.49				
54"	143.65	285.96	426.94	566.58	704.88	841.85	977.48	1111.77	1244.73			
60"	159.68	318.03	475.04	630.72	785.06	938.06	1089.73	1240.06	1389.05	1536.71		
66"	175.72	350.10	523.15	694.86	865.23	1034.27	1201.97	1368.34	1533.37	1697.06	1859.42	2020.44
72"	191.75	382.17	571.25	759.00	945.41	1130.48	1314.22	1496.62	1677.68	1857.41	2035.80	2212.86
78"	207.79	414.24	619.36	823.14	1025.59	1226.69	1426.47	1624.90	1822.00	2017.76	2212.19	2405.28
84"	223.82	446.31	667.47	887.28	1105.76	1322.91	1538.71	1753.18	1966.32	2178.12	2388.58	2597.70
90"	239.86	478.38	715.57	951.42	1185.94	1419.12	1650.96	1881.46	2110.63	2338.47	2564.97	2790.13
96"	255.90	510.45	763.68	1015.56	1266.11	1515.33	1763.21	2009.75	2254.95	2498.82	2741.35	2982.55
108"	287.97	574.60	859.89	1143.85	1426.47	1707.75	1987.70	2266.31	2543.59	2819.52	3094.13	3367.39

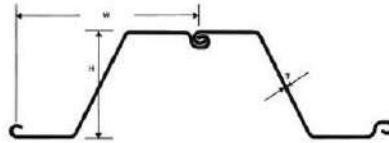
Calidades Disponibles
Available Qualities

ASTM A53 Gr. A, B
ASTM A252 Gr. 2, 3
ASTM A671 Gr. CC60, CC65, CC70
API 5L (PSL-1, PSL-2) Gr. X42, X52, X56, B
API 5L (PSL-1, PSL-2) Gr. X60, X65, X70
ASTM B619
ASTM B705

ASTM A691 Gr. 1-1/4CR, 2-1/4CR, 5CR, 9CR, 91
ASTM A672 Gr. C60, C70
ASTM A790 Gr. UNS S31803/ S32205 Duplex
API 2B Gr. X42, X52, X56, X60, X65, X70, X80
AR 220, 240 Brinell
ASTM B464
ASTM B725
ASTM A500 GR. B

TABLESTACA FORMADA EN FRÍO

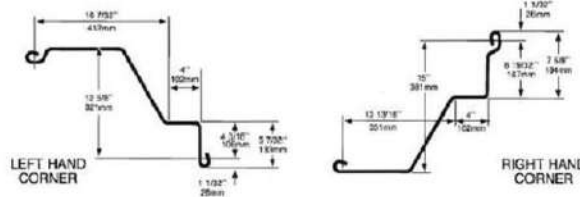
COLD FORMED SHEET PILE



Propiedades Físicas
Physical properties

Section	Thickness T in (mm)	Height H in (mm)	N. Width W in (mm)	Section Area in ² (mm ²)	Weight lbs/lin ft (kg/lin m)	Weight lbs/ft ² (kg/m ²)	Moment of Inertia in ⁴ /wall ft (in ⁴ /wall m)	Radius of Gyration in (mm)	Section Modulus in ³ /wall ft (cm ³ /wall m)
Z55	0.217 (5.50)	8.64 (219)	24.0 (610)	7.57 (48.8)	25.8 (38.4)	12.9 (63.0)	49.7 (6790)	3.61 (91.7)	11.4 (613)
Z60	0.236 (6.00)	8.66 (220)	24.0 (610)	8.26 (53.3)	28.2 (42.0)	14.1 (68.8)	54.2 (7400)	3.62 (91.9)	12.4 (667)
Z65	0.256 (6.50)	8.68 (220)	24.0 (610)	8.95 (57.7)	30.6 (45.5)	15.3 (74.7)	58.7 (8010)	3.62 (91.9)	13.4 (720)
Z70	0.276 (7.00)	8.70 (221)	24.0 (610)	9.64 (62.2)	33.0 (49.1)	16.5 (80.6)	63.2 (8630)	3.62 (91.9)	14.4 (774)
Z75	0.295 (7.50)	8.72 (221)	24.0 (610)	10.3 (66.5)	35.2 (52.4)	17.6 (85.9)	67.7 (9250)	3.63 (92.2)	15.6 (839)
XZ85	0.335 (8.50)	14.06 (357)	25.0 (635)	13.6 (87.9)	46.4 (69.0)	22.3 (109)	212 (29000)	5.70 (145)	30.2 (1630)
XZ90	0.354 (9.00)	14.09 (358)	25.0 (635)	14.4 (93.0)	48.9 (72.7)	23.5 (115)	225 (30800)	5.70 (145)	31.8 (1710)
XZ95	0.375 (9.50)	14.12 (359)	25.0 (635)	15.2 (98.2)	51.7 (76.9)	24.8 (121)	237 (32400)	5.70 (145)	33.5 (1800)
XZ100	0.394 (10.0)	14.15 (360)	25.0 (635)	15.9 (103.0)	54.2 (80.7)	26.0 (127)	250 (34200)	5.70 (145)	35.3 (1900)
XZ105	0.413 (10.5)	14.17 (360)	25.0 (635)	16.7 (108.0)	56.9 (84.7)	27.3 (133)	263 (35900)	5.70 (145)	37.1 (2000)
JZ112	0.441 (11.2)	16.44 (418)	26.5 (673)	20.1 (129.7)	68.2 (101)	30.9 (151)	374 (51100)	6.41 (163)	45.3 (2430)
JZ120	0.472 (12.0)	16.47 (418)	26.5 (673)	21.5 (138.7)	73.0 (109)	33.0 (161)	401 (54700)	6.41 (163)	48.5 (2610)
JZ127	0.500 (12.7)	16.50 (419)	26.5 (673)	22.7 (146.5)	77.3 (115)	35.0 (171)	424 (57900)	6.41 (163)	51.4 (2760)

Esquineros y Conectores
Corners & Connectors





TABLESTACA ROLADA EN CALIENTE

HOT ROLLED SHEET PILE



Propiedades Físicas Physical Properties

Section	Width b	Height h	Thickness t	s	Mass		Section Modulus	Moment of Inertia
					G Wall kg/m ²	G Single kg/m	Wy Wall cm ³ /m	Iy Wall cm ⁴ /m
Z 12-770	770	343,5	8,6	8,5	72,8	94,5	21.496	1.252
Z 13-770	770	344,0	9,1	9,0	76,2	99,0	22.433	1.304
Z 14-770	770	344,5	9,6	9,5	79,6	103,4	23.370	1.357
*Z 17-700	700	420,0	8,5	8,4	73,3	104,7	36.425	1.735
Z 18-700	700	420,5	9,1	9,0	76,7	109,6	38.001	1.807
*Z 19-700	700	421,0	9,6	9,5	80,2	114,6	39.578	1.880
Z 20-700	700	421,5	10,1	10,0	83,7	119,6	41.155	1.953
Z 24-700	700	459,2	11,3	11,2	95,8	136,9	55.949	2.437
*Z 26-700	700	460,2	12,3	12,2	103,0	147,1	59.843	2.601
Z 27-700	700	460,7	12,8	12,7	106,4	152,0	61.641	2.676
Z 28-700	700	461,7	13,3	13,2	110,1	157,3	63.740	2.764
Z 36-700	700	499,2	15,1	11,2	118,7	169,6	89.753	3.596
Z 38-700	700	500,2	16,1	12,2	126,5	180,7	94.984	3.798
Z 40-700	700	501,2	17,1	13,2	134,3	191,9	100.219	3.999
Z 42-700	700	499,2	18,1	14,0	143,0	204,3	104.543	4.228
Z 44-700	700	500,2	19,1	15,0	150,7	215,3	110.942	4.436
Z 46-700	700	501,2	20,1	16,0	158,5	226,4	116.159	4.635
Z 48-700	700	503,2	22,1	15,0	159,3	227,6	120.467	4.788
Z 50-700	700	504,2	23,1	16,0	166,7	238,1	125.358	4.973
Z 52-700	700	505,2	24,1	17,0	174,3	249,0	130.403	5.162

* IN STOCK



Calidades Disponibles
Available Qualities

Americana
American

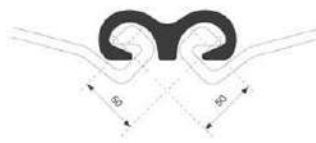
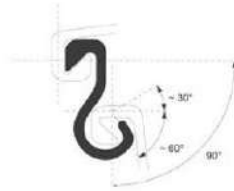
Europea
European

ASTM	Yield Strength	
	KSI	Mpa.
A 572 Gr. 50	50	345
A 572 Gr. 55	55	380
A 572 Gr. 60	60	415
A 572 Gr. 65	65	450

EN 102448	Yield Strength	
	KSI	Mpa.
S 320 GP	46	320
S 355 GP	51	355
S 390 GP	57	390
S 430 GP	62	430

E20XL 11,73 kg/m

OMEGA 17,33 kg/m

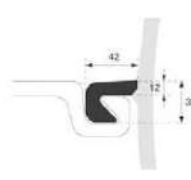
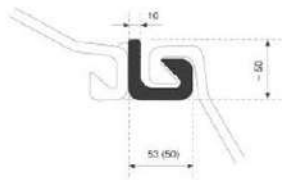


Tolerances on shape and dimensions for hot-rolled sheet piles according to EN 10248-2

Tolerances	Z Profile	VL / ZU Profile
Weight	± 5 %	± 5 %
Length (L)	± 200 mm	± 200 mm
Height (h)	h ≤ 300 mm: ± 7 mm	h ≤ 200 mm: ± 4 mm h > 200 mm: ± 5 mm
Wall thickness	t,s ≤ 8,5 mm: ± 0,5 mm t,s > 8,5 mm: ± 6 %	t,s ≤ 8,5 mm: ± 0,5 mm t,s > 8,5 mm: ± 6 %
Width Single pile	± 2 % b	± 2 % b
Width Double pile	± 3 % (2b)	± 3 % (2b)
Straightness	≤ 0,2 % L	≤ 0,2 % L
	± 2 % b	± 2 % b

E22 (C9) 10,22 kg/m (9,27 kg/m)

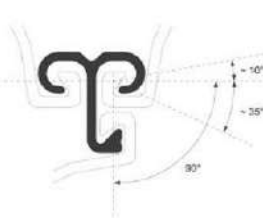
E21 6,70 kg/m



Squareness of ends for all profiles

VT 17,70 kg/m

VTS 17,60 kg/m

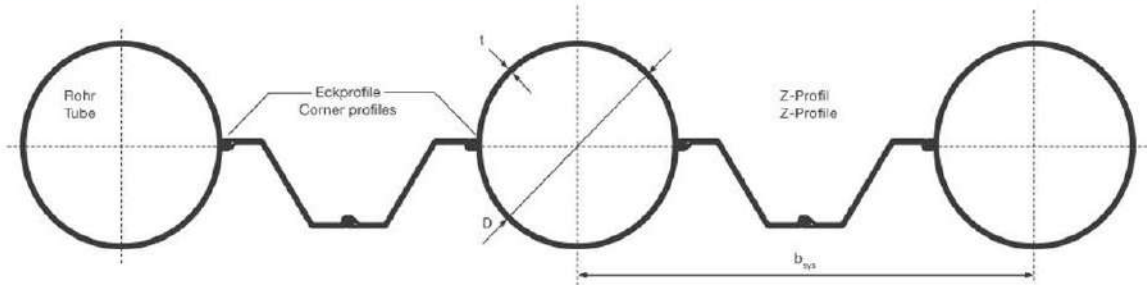


Standardabmessungen Lochung
Standard dimension lifting hole

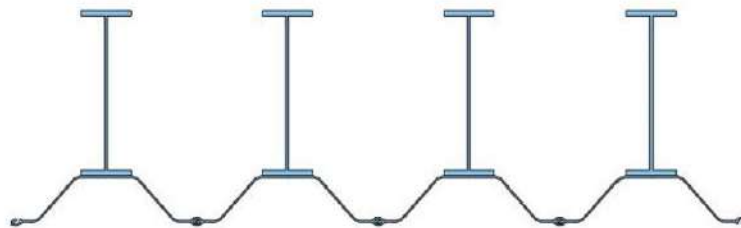
Diameter D (mm)	40	40	50	50	40
Distance Y (mm)	75	300	200	250	150

MUROS COMBINADOS

COMBI WALL



TUBERÍA + TABLESTACA



VIGA W (IPR) + TABLESTACA



SISTEMAS DE TENSORES

TIE ROD SYSTEM



Old Style A36 Tie Rods

Grade 75 All-Thread Rebar

150 KSI All-Thread-Bar

Actual Tie Rod Dia.	Heavy Upset Thread Dia.	Weight per Linear Foot (Meters)	Min. Ultimate Strength of Bar	Bar Desig. & Nominal Dia.	Approx. Thread Major Diameter	Weight per Linear Foot (Meters)	Min. Yield Strength of Rebar	Min. Ultimate Strength of Rebar	Bar Dia.	Approx. Thread Major Diameter	Weight per Linear Foot (Meters)	Min. Yield Strength of Rebar	Min. Ultimate Strength of Rebar
1-1/4" (32 mm)	1-1/2" (38 mm)	4.17 lbs. (1.9 KG)	71.2 kips (317 kN)	#8 - 1" (25 mm)	1-1/8" (28.6 mm)	2.7 lbs. (3.94 Kg)	59.3 kips (264 kN)	79 kips (351 kN)	1" (26 mm)	1-1/8" (28.6 mm)	3.09 lbs. (4.6 Kg)	102 kips (454 kN)	128 kips (567 kN)
1-3/8" (35 mm)	1-3/4" (44 mm)	5.05 lbs. (2.3 KG)	86.2 kips (383 kN)	#9-1-1/8" (29 mm)	1-1/4" (31.8 mm)	3.4 lbs. (5.06 Kg)	75 kips (334 kN)	100 kips (445 kN)					
1-1/2" (38 mm)	2" (51 mm)	6.01 lbs. (2.7 KG)	103 kips (456 kN)	#10-1-1/4" (32 mm)	1-3/8" (34.9 mm)	4.3 lbs. (5.50 Kg)	95.3 kips (424 kN)	127 kips (565 kN)					
1-5/8" (41 mm)	2" (51 mm)	7.05 lbs. (3.2 KG)	120 kips (535 kN)										
1-3/4" (44 mm)	2-1/4" (57 mm)	8.18 lbs. (3.7 KG)	140 kips (620 kN)	#11-1-3/8" (36 mm)	1-1/2" (38.1 mm)	5.3 lbs. (7.85 Kg)	117 kips (521 kN)	156 kips (694 kN)	1-1/4" (32 mm)	1-7/16" (36.5 mm)	4.51 lbs. (6.71 Kg)	150 kips (667 kN)	188 kips (834 kN)
1-7/8" (48 mm)	2-1/4" (57 mm)	9.39 lbs. (4.3 KG)	160 kips (712 kN)	#14-1-3/4" (43 mm)	1-7/8" (47.6 mm)	7.65 lbs. (11.8 Kg)	169 kips (750 kN)	225 kips (1001 kN)					
2" (51 mm)	2-1/2" (64 mm)	10.7 lbs. (4.8 KG)	182 kips (810 kN)										
2-1/8" (54 mm)	2-1/2" (64 mm)	12.1 lbs. (5.5 KG)	206 kips (915 kN)						1-3/8" (36 mm)	1-9/16" (39.7 mm)	5.71 lbs. (8.50 Kg)	190 kips (843 kN)	237 kips (1054 kN)
2-1/4" (57 mm)	2-3/4" (70 mm)	13.5 lbs. (6.1 KG)	231 kips (1026 kN)	#18-2-1/4" (57 mm)	2-7/16" (61.9 mm)	13.6 lbs. (19.6 Kg)	300 kips (1335 kN)	400 kips (1780 kN)					
2-3/8" (60 mm)	2-3/4" (70 mm)	15.1 lbs. (6.8 KG)	257 kips (1143 kN)						1-3/4" (46 mm)	2" (50.8 mm)	9.06 lbs. (13.5 Kg)	312 kips (1388 kN)	390 kips (1734 kN)
2-1/2" (64 mm)	3-1/4" (83 mm)	16.7 lbs. (7.6 KG)	285 kips (1266 kN)										
2-5/8" (67 mm)	3-1/4" (83 mm)	18.4 lbs. (8.3 KG)	314 kips (1396 kN)										
2-3/4" (70 mm)	3-1/2" (89 mm)	20.2 lbs. (9.2 KG)	346 kips (1532 kN)										
2-7/8" (73 mm)	3-1/2" (89 mm)	22.1 lbs. (10.0 KG)	376 kips (1675 kN)										
3" (76 mm)	3-3/4" (95 mm)	24.0 lbs. (10.9 KG)	410 kips (1823 kN)	#20-2-1/2" (64 mm)	2-3/4" (69.9 mm)	16.7 lbs. (24.8 Kg)	368 kips (1637 kN)	491 kips (2184 kN)	2-1/4" (57 mm)	2-1/2" (63.5 mm)	14.1 lbs. (20.8 Kg/M)	490 kips (2181 kN)	613 kips (2727 kN)
3-1/8" (80 mm)	3-3/4" (95 mm)	26.1 lbs. (11.8 KG)	445 kips (1979 kN)										
3-1/4" (83 mm)	4" (102 mm)	28.2 lbs. (12.8 KG)	481 kips (2141 kN)										
3-3/8" (86 mm)	4" (102 mm)	30.4 lbs. (13.8 KG)	519 kips (2309 kN)	#24 - 3" (76 mm)	3-3/16" (81.0 mm)	24.0 lbs. (35.8 Kg)	512 kips (2277 kN)	682 kips (3034 kN)					
3-1/2" (89 mm)	4-1/4" (108 mm)	32.7 lbs. (14.8 KG)	558 kips (2482 kN)										
3-5/8" (92 mm)	4-1/4" (108 mm)	35.1 lbs. (15.9 KG)	599 kips (2663 kN)										
3-3/4" (95 mm)	4-1/2" (114 mm)	37.6 lbs. (17.0 KG)	641 kips (2851 kN)						2-1/2" (65 mm)	2-3/4" (69.9 mm)	18.2 lbs. (27.1 Kg)	622 kips (2766 kN)	778 kips (3457 kN)
4" (102 mm)	4-1/2" (114 mm)	42.7 lbs. (19.4 KG)	729 kips (3242 kN)	#28-3-1/2" (89 mm)	3-3/4" (95.3 mm)	32.7 lbs. (48.6 Kg)	720 kips (3206 kN)	961 kips (4274 kN)					

ACCESORIOS

ACCESORIES



Grade 75 All-Thread Rebar

150 KSI All-Thread-Bar

Bar Size	Turnbuckles Length	Part No.	Sleeve Nuts	
			Across Flats	Length
#8 - 1" (25 mm)	12-5/8" (321 mm)	32044	1-5/8" (41 mm)	6-1/2" (165 mm)
#9 - 1-1/8" (28 mm)	13-1/2" (343 mm)	32045	1-7/8" (48 mm)	6-3/4" (171 mm)
#10 - 1-1/4" (32 mm)	14-3/8" (365 mm)	32059	2-1/8" (54 mm)	7-1/2" (191 mm)
#11 - 1-3/8" (35 mm)	14-3/4" (375 mm)	32048	2-3/8" (60 mm)	8-1/4" (210 mm)
#14 - 1-3/4" (45 mm)	16-7/8" (429 mm)	32085	2-7/8" (73 mm)	10-1/2" (267 mm)
#18 - 2-1/4" (55 mm)	22-1/2" (572 mm)	32098	3-3/4" (95 mm)	12-1/4" (311 mm)
#20 - 2-1/2" (64 mm)	Note 1	N.A.	4" (102 mm)	14-1/2" (368 mm)

Bar Size	Turnbuckles Length	Part No.	Sleeve Nuts	
			Across Flats	Length
1" (26 mm)	14-3/8" (365 mm)	32059	2" (51 mm)	6-1/2" (165 mm)
1-1/4" (32 mm)	14-5/8" (371 mm)	32049	2-1/4" (57 mm)	8" (203 mm)
1-3/8" (36 mm)	16-7/8" (429 mm)	32085	2-3/4" (70 mm)	9-1/2" (241 mm)
1-3/4" (46 mm)	22-1/2" (572 mm)	32098	3-1/2" (89 mm)	13" (330 mm)
2-1/2" (65 mm)	Note 1	N.A.	4-1/2" (114 mm)	16-1/2" (419 mm)

Methods of Corrosion Protection

Corrosion Protection Type	Abrasion Resistance (4=best)	Typical Thickness	Can be applied to accessories?	Applied in the Field?
Hot Dip				
Galvanizing	4	3-4 mils	yes	no
Epoxy Coating	1	7-12 mils	yes	no
Pre-Grouted Bars	3	2", 3" or 4" tubing	no	yes
Extruded				
Polyethylene Coating	2	23-25 mils	no	no
Corrosion Inhibiting Compound	2	N.A.	yes	yes



WASHERS



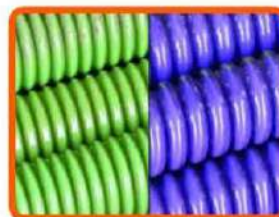
HEX NUT



SPHERICAL HEX NUT



CLEVIS





H-PILE

Sección Section in x lb/ft	Peso Weight Kg/m	Área Area cm ²	Alto Depth (d) mm	Ancho Width (b) mm	Esp. Patín Flange T. (t _f) mm	Esp. Alma Web T. (t _w) mm	A. de Contacto Coating Area m ² /m	Eje X-X / Axis X-X			Eje Y-Y / Axis Y-Y		
								I cm ⁴	S cm ³	r cm	I cm ⁴	S cm ³	r cm
8 x 36	54	68.4	204	207	11.3	11.3	1.19	4,950	487	8.53	1,680	162	4.60
10 x 42	63	80	246	256	10.7	10.5	1.47	8,740	711	10.50	2,980	233	6.12
10 x 57	85	108	254	260	14.4	14.4	1.50	12,200	969	10.60	4,200	323	6.22
12 x 53	79	100	299	306	11.0	11.0	1.77	16,400	1090	12.80	5,290	346	7.26
12 x 63	94	119	303	308	13.1	13.1	1.79	19,600	1290	12.90	6,370	415	7.32
12 x 74	110	141	308	310	15.5	15.4	1.80	23,700	1530	13.00	7,740	498	7.42
12 x 84	125	159	312	312	17.4	17.4	1.82	27,100	1730	13.10	8,870	567	7.47
14 x 73	109	138	346	370	12.8	12.8	2.12	30,300	1770	14.80	10,900	587	8.86
14 x 89	132	168	351	373	15.6	15.6	2.14	37,600	2150	14.90	13,600	726	8.97
14 x 102	152	194	356	376	17.9	17.9	2.15	43,700	2480	15.00	15,800	842	9.04
14 x 117	174	222	361	378	20.4	20.4	2.17	50,800	2830	15.10	18,400	975	9.12
16 x 88	131	167	389	398	13.7	13.7	2.59	46,295	2378	16.70	14,425	725	9.31
16 x 101	151	192	394	400	15.9	15.9	2.30	53,978	2742	16.80	16,971	848	9.40
16 x 121	181	230	400	403	19.1	19.1	2.32	65,675	3283	16.90	20,859	1035	9.52
16 x 141	211	269	406	406	22.2	22.2	2.34	77,859	3832	17.00	24,923	1227	9.63
16 x 162	242	308	413	410	25.4	25.4	2.36	90,542	4387	17.20	29,167	1424	9.74
16 x 183	272	347	419	413	28.6	28.6	2.38	103,738	4951	17.30	33,595	1628	9.84
18 x 135	202	257	445	451	19.1	19.1	2.60	91,423	4114	18.90	29,143	1293	10.70
18 x 157	234	298	451	454	22.1	22.1	2.62	107,516	4772	19.00	34,512	1521	10.80
18 x 181	269	343	457	457	25.4	25.4	2.64	125,579	5493	19.10	40,545	1774	10.90
18 x 204	304	387	464	460	28.6	28.6	2.66	143,598	6196	19.30	46,585	2024	11.80

Calidades Disponibles Available Qualities

Americana American

ASTM

A 572 Gr. 50
A 572 Gr. 55
A 572 Gr. 60
A 572 Gr. 65

Yield Strength

KSI	Mpa.
50	345
55	380
60	415
65	450

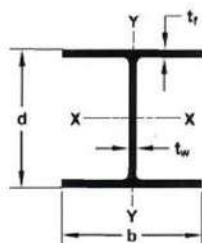
Europea European

EN 102448

S 320 GP
S 355 GP
S 390 GP
S 430 GP

Yield Strength

KSI	Mpa.
46	320
51	355
57	390
62	430



SOPORTE TÉCNICO

TECHNICAL SUPPORT

- ✓ Propuesta de secciones, largos y cantidades estimadas a partir de datos muy preliminares.
- ✓ Presentación de ingeniería básica (planos, cuantificación y memoria técnica) usando información mas detallada como mecánica de suelos plantas y cortes del proyecto.
- ✓ Apoyo técnico durante la elaboración de proyectos ejecutivos en el diseño de tablestaca metálica.
- ✓ Proporcionar al cliente un abanico de opciones de diferentes compañías instaladoras para la elección más adecuada de acuerdo con el trabajo y la zona de ejecución.
- ✓ De ser necesario, apoyo presencial en la obra durante diferentes etapas del hincado para hacer recomendaciones y lograr una correcta ejecución de los trabajos.

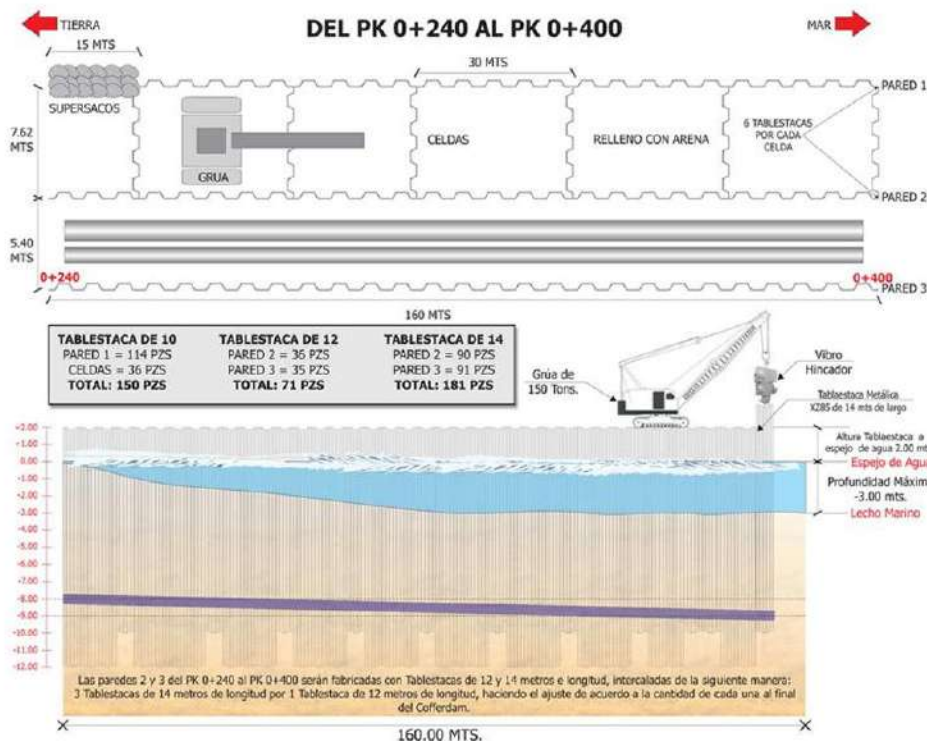
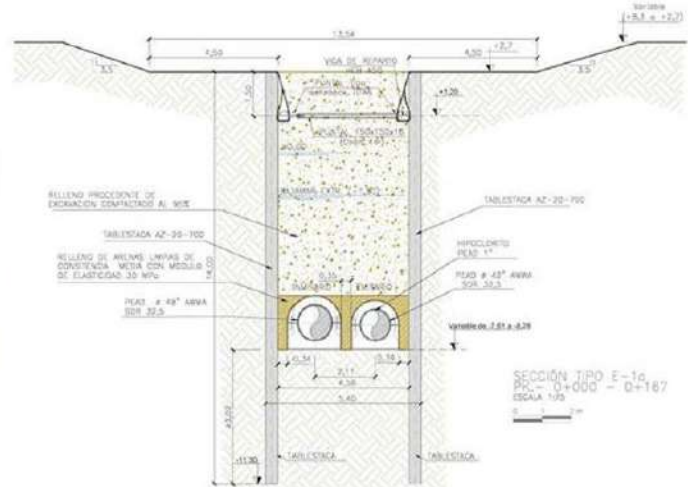
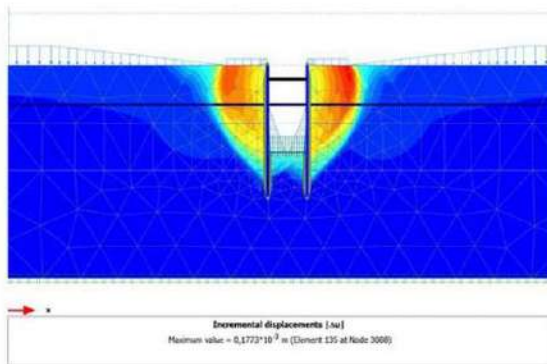




TABLA DE CONVERSIONES

CONVERSION CHART

Longitud / Length

1m	100cm	3.2808pies/ft	39.37pulgadas/in
1km	3280.8pies/ft	0.6214millas/miles	1000m
1pie/ft	12pulgadas/in	30.48cm	0.3048m
1milla/mile	5280pies/ft	1609.3m	

Volumen / Volume

1m ³	1000lt	35.3146pies ³ /ft ³	264.2gal
1lt	1dm ³	0.2642gal	
1cm ³	1ml	0.061pulgada ³ /in ³	
1pie ³ /ft ³	1728pulgadas ³ /in ³	7.48gal	28.315lt
1pulgada ³ /in ³	16.386cm ³		
1gal	3.785lt	0.1338pies ³ /ft ³	231pulgadas ³ /in ³

Fuerza / Force

1N	0.2248lbr	0.102kgf	100000dinas
1lbr	4.45N	0.454kgf	32.174pdl (poundal)
1kgf	9.81N	2.205lbr	

Viscosidad / Viscosity

1Pa-s (N*seg/m ²)	10poises	0.209lbr-seg/pie ²
1poise	0.0021slug/pie-s	0.1kg/m*seg
1stoke	0.00108pie ² /s	0.0001m ² /s
1m2/s	1x10 ⁴ stokes	10.76pie ² /s

Superficie/Area

1cm ²	0.155pulgada ² /in ²		
1m ²	10.7639pie ² /ft ²	10,000cm ²	1550pulgada ² /in ²
1pie ² /ft ²	144pulgada ² /in ²	928.997cm ²	0.0929m ²
1pulgada ² /in ²	0.00694pies ² /ft ²		

Masa / Mass

1kg	1000gr	0.0685slug	2.2015lb _m
1UTM	1kgf-s ² /m	9.81kg	21.62lb _m
1slug	1lbr-s ² /pie	14.6kg	32.174lb _m
1lb _m	0.4536kg	0.031slug	

Densidad / Density

1kg/m ³	0.102UTM/m ³	0.0624lb _m /pie ³
1slug/pie ³	32.174lb _m /pie ³	515.3kg/m ³

Presión / Pressure

1Pa (N/m ²)	0.209psf	0.987x10 ⁻⁵ atm	1x10 ⁻⁵ bar
1kgf/m ²	9,81 Pa	0.014psi	0.205psf
1kgf/cm ²	1000kgf/m ²	14.228lb/in ² (psi)	32.174lb _m
1mH ₂ O	9806.7Pa	0.09807bar	
1atm	29.92in Hg	14.669psi	
1atm	10.34m H ₂ O	0.76m Hg	
1bar	0.987 atm	1.0197kgf/cm ²	
1psi	144psf	0.07031kgf/cm ²	6895Pa

1 lb/ft = 0.671957 Kg/m
1 Kg/m = 1.48818 lb/ft

PROYECTOS MÉXICO Y CENTAM / MEXICO AND CENTAM PROJECTS



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