SIAM YAMATO STEEL

Steel you can trust



SIAM YAMATO STEEL

INTERNATIONAL STANDARD



INTRODUCTION

SIAM YAMATO STEEL

Steel you can trust

Siam Yamato Steel Co., Ltd. (SYS), the manufacturer of premium hot rolled structural steel and sheet pile, is a joint venture of Siam Cement Public Co., Ltd, Yamato Kogyo Co., Ltd., Mitsui & Co., Ltd., Sumitomo Corporation and Mitsui & Co. (Thailand) Ltd. SYS is located in Map Ta Phut Industrial Estate and WHA Eastern Industrial Estate (Map Ta Phut), Rayong with the total annual capacity of 1.1 million matric tons.

SYS utilizes the modern and advance technologies to produce structural steel section in various standards, such as, **TIS, JIS, BS, ASTM, EURONORM, AS/NZS, MS and SNI** in order to serve various requirements from both domestic and international markets. SYS is located in strategic area where is nearby Rayong Bulk Terminal deep-sea port (RBT), which enables SYS to efficiently serve for international cargo arrangement. In addition, SYS also has a large depot in WHA Easten Seaboard Industrial Estate2, Chonburi to facilitate prompt service for our domestic customers.

SYS's quality and products management system has been certified to **ISO 9001, ISO 14001, TIS 18001, OHSAS 18001, CE Mark, and ABS.** This can be assured that customers are always served with the premium products and services from SYS.



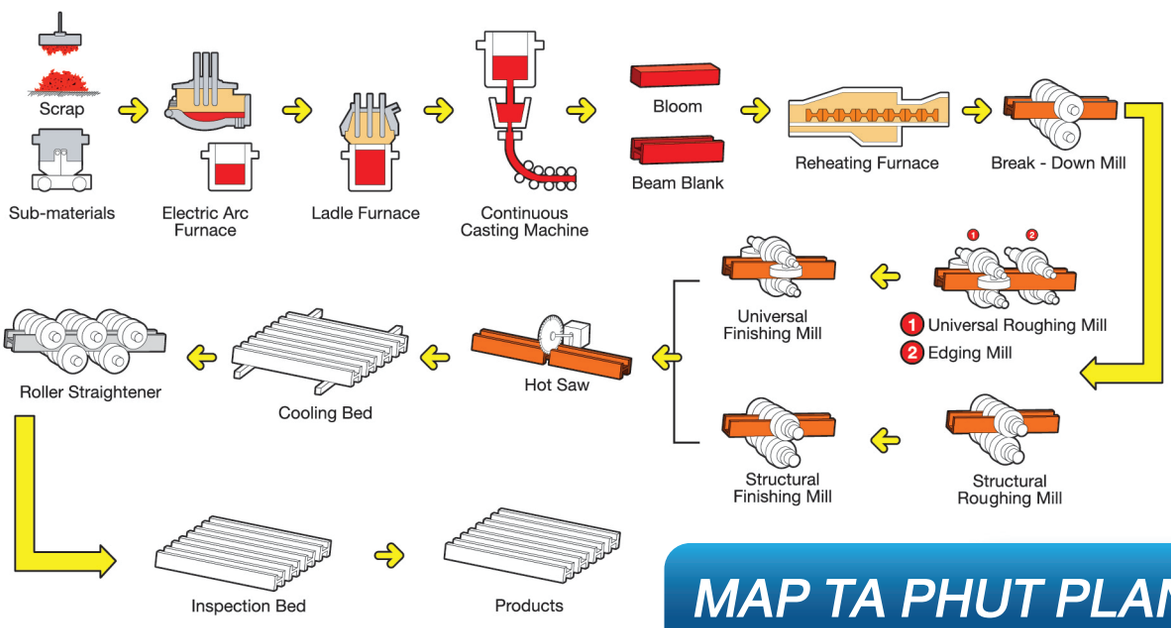


SIAM YAMATO STEEL

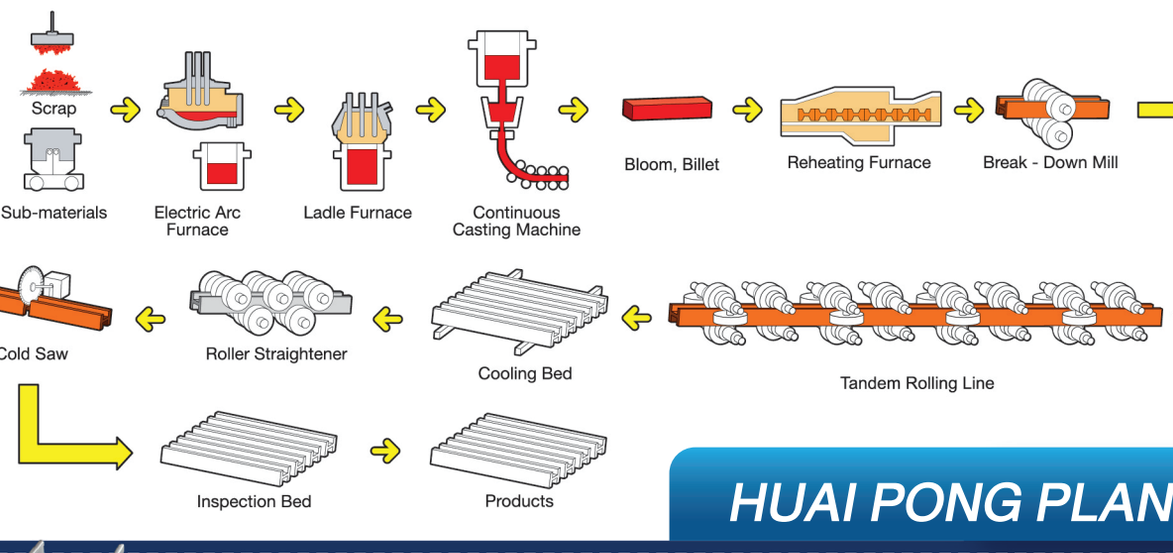
SIAM YAMATO STEEL CO., LTD.

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MANUFACTURING PROCESS



MAP TA PHUT PLANT



HUAI PONG PLANT



PRODUCT SPECIFICATIONS

(Structural and Sheet Pile)

MECHANICAL PROPERTIES

Type of Product	Classifications		Mechanical Properties								
			Yield Point N/mm^2(min.)		Tensile Strength	Yield Ratio%	Elongation % (min.)			Impact	
			Thickness		N/mm^2	(max.)	Thickness			Thickness ≥ 12 mm.	
			t ≤ 16	16 < t ≤ 40			t ≤ 5	5 < t ≤ 16	t > 16	Temp°C	Energy J (min.)
Structural Steel	JIS G 3101[A] : 2015	SS400	245	235	400-510	-	21	17	21	-	-
		SS490	285	275	490-610	-	19	15	19	-	-
		SS540	400	390	540 min.	-	16	13	17	-	-
	JIS G 3106 : 2015	SM400A	245	235	400-510	-	23	18	22	-	-
		SM400B	245	235	400-510	-	23	18	22	0	27
		SM490A	325	315	490-610	-	22	17	21	-	-
		SM490B	325	315	490-610	-	22	17	21	0	27
		SM490YA	365	355	490-610	-	19	15	19	-	-
		SM490YB	365	355	490-610	-	19	15	19	0	27
		SM520B	365	355	520-640	-	19	15	19	0	27
		SM520C	365	355	520-640	-	19	15	19	0	47
		SM570	460	450	570-720	-	19	19	26	-5	47
	JIS G 3136 : 2012	SN400A	235	235	400-510	-	-	17	21	-	-
		SN400B	235	235-355[B]	400-510	80[C]	-	18	22	0	27
		SN490B	325	325-445[B]	490-610	80[C]	-	17	21	0	27
	BS EN 10025-2[F] : 2004	S235JR	235	225	360-510	-	26			+20	27[E]
		S235J0	235	225	360-510	-	26			0	27
		S235J2	235	225	360-510	-	24			-20	27
		S275JR	275	265	410-560	-	23			+20	27[E]
		S275J0	275	265	410-560	-	23			0	27
		S275J2	275	265	410-560	-	21			-20	27
		S355JR	355	345	470-630	-	22			+20	27[E]
		S355J0	355	345	470-630	-	22			0	27
		S355J2	355	345	470-630	-	22			-20	27
		S355K2	355	345	470-630	-	20			-20	40
		S450J0[D]	450	430	550-720	-	17			0	27

Remark

A : Bend test on material grades SS400, SS490, SS540.
B : For the H section, when the t1 is 9 mm. or less, the upper limit of the yield point or proof stress shall not be applied.
C : For the H section, when the t1 is 9 mm. or less, the upper limit of the yield ratio shall be 85%
D : Please contact us in advance for these items.
E : Verified only when specified at the time of order.
F : Deliver condition type is +AR

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PRODUCT SPECIFICATIONS

(Structural and Sheet Pile)

CHEMICAL COMPOSITIONS

Type of Product	Classifications		Chemical Compositions (ladle analysis), %																
			C	Si	Mn	P	S	CE[A]	CEV[A]	PCM[B]	Nb	V	N	Cu	Ni	Cr	Mo	Grain refining element	Micro-alloying element
			max.			max.	max.	%max.	%max.	%max.			max.	max.	max.	max.	max.	max.	max.
Structural Steel	JIS G 3101 : 2015	SS400	-	-	-	0.050	0.050	-	-	-	-	-	-	-	-	-	-	-	-
		SS490	-	-	-	0.050	0.050	-	-	-	-	-	-	-	-	-	-	-	-
		SS540	0.30	-	1.60	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	-
	JIS G 3106 : 2015	SM400A	0.23	-	2.50*C min.	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-
		SM400B	0.20	0.35	0.60-1.50	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-
		SM490A	0.20	0.55	0.60-1.50	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-
		SM490B	0.18	0.55	1.65	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-
		SM490YA	0.20	0.55	1.65	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-
		SM490YB	0.20	0.55	1.65	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-
		SM520B	0.20	0.55	1.65	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-
		SM520C	0.20	0.55	1.65	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-
		SM570	0.18	0.55	1.70	0.035	0.035	0.44	-	0.28	-	-	-	-	-	-	-	-	-
	JIS G 3136 : 2012	SN400A	0.24	-	-	0.050	0.050	-	-	-	-	-	-	-	-	-	-	-	-
		SN400B	0.20	0.35	0.60-1.50	0.030	0.015	0.36	-	0.26	-	-	-	-	-	-	-	-	-
		SN490B	0.18	0.55	1.65	0.030	0.015	0.44	-	0.29	-	-	-	-	-	-	-	-	-
	BS EN 10025-2 : 2004	S235JR	0.17	-	1.40	0.035	0.035	-	0.35	-	-	-	0.012	0.55	-	-	-	-	-
		S235J0	0.17	-	1.40	0.030	0.030	-	0.35	-	-	-	0.012	0.55	-	-	-	-	-
		S235J2	0.17	-	1.40	0.025	0.025	-	0.35	-	-	-	-	0.55	-	-	-	-	-
		S275JR	0.21	-	1.50	0.035	0.035	-	0.40	-	-	-	0.012	0.55	-	-	-	-	-
		S275J0	0.18	-	1.50	0.030	0.030	-	0.40	-	-	-	0.012	0.55	-	-	-	-	-
		S275J2	0.18	-	1.50	0.025	0.025	-	0.40	-	-	-	-	0.55	-	-	-	-	-
		S355JR	0.24	0.55	1.60	0.035	0.035	-	0.45[C]	-	-	-	0.012	0.55	-	-	-	-	-
		S355J0	0.20	0.55	1.60	0.030	0.030	-	0.45[C]	-	-	-	0.012	0.55	-	-	-	-	-
		S355J2	0.20	0.55	1.60	0.025	0.025	-	0.45[C]	-	-	-	-	0.55	-	-	-	-	-
		S355K2	0.20	0.55	1.60	0.025	0.025	-	0.45[C]	-	-	-	-	0.55	-	-	-	-	-
		S450J0	0.20	0.55	1.70	0.030	0.030	-	0.47[D]	-	0.05	0.13	0.025	0.55	-	-	-	-	-

Remark

A : Carbon Equivalent : (JIS Version) CE = C+Mn/6+Si/24+Ni/40+Cr/5+Mo/4+V/14 (AS,ASTM,BS Standard) CE=C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15

B : Weld-crack sensitivity composition = C+Si/30+Mn/20+Cu/20+Ni/60+Cr/20+Mo/15+V/10+5B

C : The max. Carbon Equivalent content for t > 30 mm. is 0.47%

D : The max. Carbon equivalent content for t > 30 mm. is 0.49%

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PRODUCT SPECIFICATIONS
(Structural and Sheet Pile)

MECHANICAL PROPERTIES

Type of Product	Classifications		Mechanical Properties						
			Yield Point N/mm^2(min.) Thickness			Tensile Strength N/mm^2	Yield Ratio% (max.)	Elongation % (min.) Thickness	Impact thickness t ≥ 12 mm.
			t ≤ 16	16 ≤ t < 40				t ≤ 5 | 5 < t ≤ 16 | t > 16	Temp °C / Energy J (min.)
Structural Steel	ASTM A36/A36M-05	A36	250			400-550	-	20	- / -
	ASTM A36/A36M-19	A36	250			400-550	-	20	- / -
	ASTM A992/A992M-04a[C]	A992	345-450			450 min.	85	18	- / -
	ASTM A992/A992M-20[D]	A992	345-450[A]			450 min.	85[B]	18	- / -
	ASTM A572/A572M-13a[D]	Gr.42	290			415 min.	-	20	- / -
		Gr.50	345			450 min.[C]	-	18	- / -
		Gr.55[C]	380			485 min.	-	17	- / -
		Gr.60[C]	415			520 min.	-	16	- / -
		Gr.65[C]	450			550 min.	-	15	- / -
	ASTM A572/A572M-21[D]	Gr.42	290			415 min.	-	20	- / -
		Gr.50	345			450 min.[C]	-	18	- / -
		Gr.55[C]	380			485 min.	-	17	- / -
		Gr.60[C]	415			520 min.	-	16	- / -
		Gr.65[C]	450			550 min.	-	15	- / -
	AS/NZS 3679.1 : 2016		t<11	11 ≤ t ≤ 17	17<t<40 / 40≤t				
		300	320	300	280 / 280	440 min.	-	22	- / -
		300L0	320	300	280 / 280	440 min.	-	22	0 / 27
		300L15	320	300	280 / 280	440 min.	-	25	-15 / 27
		300S0[E]	320	300	280 / 280	440 min.	80	25	0 / 70
		350	360	340	340 / 330	480 min.	-	20	- / -
		350L0	360	340	340 / 330	480 min.	-	20	0 / 27
Sheet Pile	JIS A 5528 : 2012	SY295	295			450 min.	-	18	- / -
		SY390	390			490 min.	-	16	- / -
	BS SN 10248-1 : 1996	S240GP	240			340 min.	-	26	- / -
		S270GP	270			410 min.	-	24	- / -
		S320GP	320			440 min.	-	23	- / -
		S355GP	355			480 min.	-	22	- / -
		S390GP	390			490 min.	-	20	- / -
		S430GP	430			510 min.	-	19	- / -
	MS 2674-1 : 2017	S270GP	270			410 min.	-	24	20 / 27
		S320GP	320			440 min.	-	23	20 / 27
		S355GP	355			480 min.	-	22	0 / 27
		S390GP	390			490 min.	-	20	0 / 27

Remark

A : Maximum yield point of 480 MPa is permitted for structural shapes that are tested form the Web location.
B : Maximum Ratio of 0.87 (87%) is permitted for structural shapes that are tested form the Web location.
C : Please contact us in advance for these items
D : Verified only when specified at the time of order.
E : Maximum yield stress <1.33fy (fy is the grade minimum yield stress)

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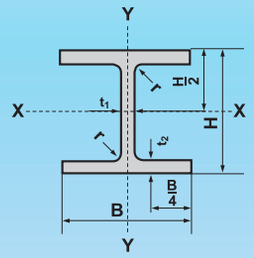
PRODUCT SPECIFICATIONS
(Structural and Sheet Pile)

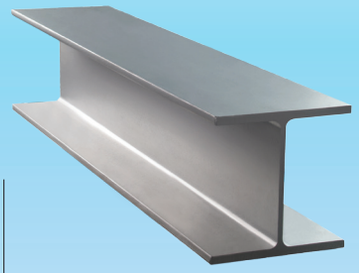
CHEMICAL COMPOSITIONS

Type of Product	Classifications		Chemical Compositions (ladle analysis), %																
			C	Si	Mn	P	S	CE[A]	CEV[A]	PCM[B]	Nb	V	N	Cu	Ni	Cr	Mo	Grain refining element	Micro-alloying element
			max.			max.	max.	%max.	%max.	%max.			max.	max.	max.	max.	max.	max.	max.
Structural Steel	ASTM A36/A36M-05	A36	0.26	0.40	-	0.040	0.050	-	-	-	-	-	-	0.20	-	-	-	-	-
	ASTM A36/A36M-19	A36	0.26	0.40	-	0.040	0.050	-	-	-	-	-	-	0.20	-	-	-	-	-
	ASTM A992/A992M-04a	A992	0.23	0.40	0.50-1.50	0.035	0.045	-	0.45	-	0.05	0.15	-	0.6	0.45	0.35	0.15	-	-
	ASTM A992/A992M-20	A992	0.23	0.40	0.50-1.60	0.035	0.045	-	0.45	-	0.05	0.15	-	0.6	0.45	0.35	0.15	-	-
	ASTM A572/A572M-13a	Gr.42	0.21	0.40	1.35[G]	0.040	0.050	-	-	-	-	-	-	0.20	-	-	-	-	-
		Gr.50	0.23	0.40	1.35[G]	0.040	0.050	-	-	-	-	-	-	0.20	-	-	-	-	-
		Gr.55	0.25	0.40 Max.	1.35[G]	0.040	0.050	-	-	-	-	-	-	0.20	-	-	-	-	-
		Gr.60	0.26	0.40	1.35[G]	0.040	0.050	-	-	-	-	-	-	0.20	-	-	-	-	-
		Gr.65	0.23	0.40	1.65 Max.	0.040	0.050	-	-	-	-	-	-	0.20	-	-	-	-	-
	ASTM A572/A572M-21	Gr.42	0.21	0.40	1.35[G]	0.030	0.030	-	-	-	-	-	-	0.20	-	-	-	-	-
		Gr.50	0.23	0.40	1.35[G]	0.030	0.030	-	-	-	-	-	-	0.20	-	-	-	-	-
		Gr.55	0.25	0.40	1.35[G]	0.030	0.030	-	-	-	-	-	-	0.20	-	-	-	-	-
		Gr.60	0.26	0.40	1.35[G]	0.030	0.030	-	-	-	-	-	-	0.20	-	-	-	-	-
		Gr.65	0.23	0.40	1.65	0.030	0.030	-	-	-	-	-	-	0.20	-	-	-	-	-
	AS/NZS[H] 3679.1:2016[E F G]	300	0.25	0.50	1.60	0.040	0.040	-	0.44	-	-	-	-	-	-	-	-	0.15	x
		300L0	0.25	0.50	1.60	0.040	0.040	-	0.44	-	-	-	-	-	-	-	-	0.15	x
		300L15	0.25	0.50	1.60	0.040	0.040	-	0.44	-	-	-	-	-	-	-	-	0.15	x
		300S0	0.25	0.50	1.60	0.040	0.040	-	0.44	-	-	-	-	-	-	-	-	0.15	x
		350	0.22	0.50	1.60	0.040	0.040	-	0.45	-	-	-	-	-	-	-	-	0.15	0.15
		350L0	0.22	0.50	1.60	0.040	0.040	-	0.45	-	-	-	-	-	-	-	-	0.15	0.15
Sheet Pile	JIS A5528 : 2012	SY295	-	-	-	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	-
		SY390	-	-	-	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	-
	BS EN 10248-1 : 1996	S240GP	0.20	-	-	0.045	0.045	-	-	-	-	-	-	-	-	-	-	-	-
		S270GP	0.24	-	-	0.045	0.045	-	-	-	-	-	-	-	-	-	-	-	-
		S320GP	0.24	0.55	1.60	0.045	0.045	-	-	-	-	-	-	-	-	-	-	-	-
		S355GP	0.24	0.55	1.60	0.045	0.045	-	-	-	-	-	-	-	-	-	-	-	-
		S390GP	0.24	0.55	1.60	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	-
		S430GP	0.24	0.55	1.60	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	-
	MS 2674-1 : 2017[H I]	S270GP	0.24	-	-	0.040	0.040	-	0.47	-	-	-	0.012	-	-	-	-	-	-
		S320GP	0.24	0.55	1.60	0.040	0.040	-	0.47	-	-	-	0.012	-	-	-	-	-	-
		S355GP	0.24	0.55	1.60	0.040	0.040	-	0.47	-	-	-	0.012	-	-	-	-	-	-
		S390GP	0.24	0.55 Max.	1.60	0.035	0.035	-	0.47	-	-	-	0.012	-	-	-	-	-	-

Remark

A : Carbon Equivalent : (JIS Version) CE = C+Mn/6+Si/24+Ni/40+Cr/5+Mo/4+V/14 (AS,ASTM,BS,MS standard) CE=C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15
B : Weld-crack sensitivity composition = C+Si/30+Mn/20+Cu/20+Ni/60+Cr/20+Mo/15+V/10+5B
C : The Maximum sum of Niobium and Vanadium is 0.15 %
D : Niobium content shall be 0.005-0.050% or Vanadium content shall be 0.01- 0.15%
E : The following elements may be present to the limits stated subject to a maximum total of 1.00% by Cu Max. 0.50%, Ni Max. 0.50%, Cr Max. 0.30%, Mo Max 0.10%
F : The following elements are not micro-alloying for grade 300, 300L0 and 300S0 when Ti Max. 0.040%, Nb Max. 0.020%, V Max. 0.030% and Nb plus V Max. 0.30%
G : Micro-alloying element are not permitted in grade 300 and 300S0 except in thickness greater than or equal to 15 mm, where the maximum content is 0.15%
H : If necessary for obtaining certain properties, some additions of V, Nb, Ti can be made at the discretion of the manufacturer.
I : The maximum value for nitrogen does not apply if the chemical composition shows a minimum total Al content of 0.020 % or if sufficient other N binding elements are present. The N binding elements shall be mentioned in the inspection document.





UNIVERSAL BEAMS

BS EN 10365:2017

BS STANDARD

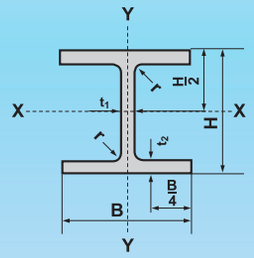
Nominal Size	Weight		Standard Sectional Dimension										Sectional Area
			H		B		t_1		t_2		r		
mmxmmxkg/m	kg/m	lb/ft	mm	in	mm	in	mm	in	mm	in	mm	in	cm^2
203x102x23	23.1	15.5	203.2	8.00	101.8	4.01	5.4	0.21	9.3	0.37	7.6	0.3	29.4
203x133x25	25.1	16.9	203.2	8.00	133.2	5.24	5.7	0.22	7.8	0.31	7.6	0.3	32.0
x30	30.0	20.2	206.8	8.14	133.9	5.27	6.4	0.25	9.6	0.38	7.6	0.3	38.2
254x102x22	22.0	14.8	254.0	10.00	101.6	4.00	5.7	0.22	6.8	0.27	7.6	0.3	28.0
x25	25.2	16.9	257.2	10.13	101.9	4.01	6.0	0.24	8.4	0.33	7.6	0.3	32.0
x28	28.3	19.0	260.4	10.25	102.2	4.02	6.3	0.25	10.0	0.39	7.6	0.3	36.1
254x146x31	31.1	20.9	251.4	9.90	146.1	5.75	6.0	0.24	8.6	0.34	7.6	0.3	39.7
x37	37.0	24.9	256.0	10.08	146.4	5.76	6.3	0.25	10.9	0.43	7.6	0.3	47.2
x43	43.0	28.9	259.6	10.22	147.3	5.80	7.2	0.28	12.7	0.50	7.6	0.3	54.8
305x102x25	24.8	16.7	305.1	12.01	101.6	4.00	5.8	0.23	7.0	0.28	7.6	0.3	31.6
x28	28.2	18.9	308.7	12.15	101.8	4.01	6.0	0.24	8.8	0.35	7.6	0.3	35.9
x33	32.8	22.0	312.7	12.31	102.4	4.03	6.6	0.26	10.8	0.43	7.6	0.3	41.8
305x165x40	40.3	27.1	303.4	11.94	165.0	6.50	6.0	0.24	10.2	0.40	8.9	0.4	51.3
x46	46.1	31.0	306.6	12.07	165.7	6.52	6.7	0.26	11.8	0.46	8.9	0.4	58.7
x54	54.0	36.3	310.4	12.22	166.9	6.57	7.9	0.31	13.7	0.54	8.9	0.4	68.8
356x127x33	33.1	22.2	349.0	13.74	125.4	4.94	6.0	0.24	8.5	0.33	10.2	0.4	42.1
x39	39.1	26.3	353.4	13.91	126.0	4.96	6.6	0.26	10.7	0.42	10.2	0.4	49.8
356x171x45	45.0	30.2	351.4	13.83	171.1	6.74	7.0	0.28	9.7	0.38	10.2	0.4	57.3
x51	51.0	34.3	355.0	13.98	171.5	6.75	7.4	0.29	11.5	0.45	10.2	0.4	64.9
x57	57.0	38.3	358.0	14.09	172.2	6.78	8.1	0.32	13.0	0.51	10.2	0.4	72.6
x67	67.1	45.1	363.4	14.31	173.2	6.82	9.1	0.36	15.7	0.62	10.2	0.4	85.5
406x140x39	39.0	26.2	398.0	15.67	141.8	5.58	6.4	0.25	8.6	0.34	10.2	0.4	49.7
x46	46.0	30.9	403.2	15.87	142.2	5.60	6.8	0.27	11.2	0.44	10.2	0.4	58.6
406x178x54	54.1	36.4	402.6	15.85	177.7	7.00	7.7	0.30	10.9	0.43	10.2	0.4	69.0
x60	60.1	40.4	406.4	16.00	177.9	7.00	7.9	0.31	12.8	0.50	10.2	0.4	76.5
x67	67.1	45.1	409.4	16.12	178.8	7.04	8.8	0.35	14.3	0.56	10.2	0.4	85.5
x74	74.2	49.9	412.8	16.25	179.5	7.07	9.5	0.37	16.0	0.63	10.2	0.4	94.5
457x152x52	52.3	35.1	449.8	17.71	152.4	6.00	7.6	0.30	10.9	0.43	10.2	0.4	66.6
x60	59.8	40.2	454.6	17.90	152.9	6.02	8.1	0.32	13.3	0.52	10.2	0.4	76.2
x67	67.2	45.2	458.0	18.03	153.8	6.06	9.0	0.35	15.0	0.59	10.2	0.4	85.6
x74	74.2	49.9	462.0	18.19	154.4	6.08	9.6	0.38	17.0	0.67	10.2	0.4	94.5
x82	82.1	55.1	465.8	18.34	155.3	6.11	10.5	0.41	18.9	0.74	10.2	0.4	104.5
457x191x67	67.1	45.1	453.4	17.85	189.9	7.48	8.5	0.33	12.7	0.50	10.2	0.4	85.5
x74	74.3	49.9	457.0	17.99	190.4	7.50	9.0	0.35	14.5	0.57	10.2	0.4	94.6
x82	82.0	55.1	460.0	18.11	191.3	7.53	9.9	0.39	16.0	0.63	10.2	0.4	104.0
x89	89.3	60.0	463.4	18.24	191.9	7.56	10.5	0.41	17.7	0.70	10.2	0.4	113.8
x98	98.3	66.1	467.2	18.39	192.8	7.59	11.4	0.45	19.6	0.77	10.2	0.4	125.3
533x210x82	82.2	55.2	528.3	20.80	208.8	8.22	9.6	0.38	13.2	0.52	12.7	0.5	104.7
x92	92.1	61.9	533.1	20.99	209.3	8.24	10.1	0.40	15.6	0.61	12.7	0.5	117.4
x101	101.0	67.9	536.7	21.13	210.0	8.27	10.8	0.43	17.4	0.69	12.7	0.5	128.9
x109	109.0	73.2	539.5	21.24	210.8	8.30	11.6	0.46	18.8	0.74	12.7	0.5	138.9
x122	122.0	82.0	544.5	21.44	211.9	8.34	12.7	0.50	21.3	0.84	12.7	0.5	155.4
610x229x101	101.0	67.9	602.6	23.72	227.6	8.96	10.5	0.41	14.8	0.58	12.7	0.5	128.9
x113	113.0	75.9	607.6	23.92	228.2	8.98	11.1	0.44	17.3	0.68	12.7	0.5	143.9
x125	125.0	84.0	612.2	24.10	229.0	9.02	11.9	0.47	19.6	0.77	12.7	0.5	159.3
x140	140.0	94.1	617.2	24.30	230.2	9.06	13.1	0.52	22.1	0.87	12.7	0.5	178.2
610x305x149	149.0	100.1	612.4	24.11	304.8	12.00	11.8	0.46	19.7	0.78	16.5	0.6	190.0
x179	179.0	120.3	620.2	24.42	307.1	12.09	14.1	0.56	23.6	0.93	16.5	0.6	228.1
x238	238.0	159.9	635.8	25.03	311.4	12.26	18.4	0.72	31.4	1.24	16.5	0.6	303.3
686x254x125	125.0	84.0	677.9	26.69	253.0	9.96	11.7	0.46	16.2	0.64	15.2	0.6	159.5
x140	140.0	94.1	683.5	26.91	253.7	9.99	12.4	0.49	19.0	0.75	15.2	0.6	178.4
x152	152.0	102.1	687.5	27.07	254.5	10.02	13.2	0.52	21.0	0.83	15.2	0.6	194.1
x170	170.0	114.2	692.9	27.28	255.8	10.07	14.5	0.57	23.7	0.93	15.2	0.6	216.8

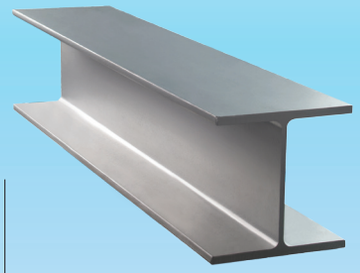
Note

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- Contact us for product availability, rolling frequency and other pertinent information.

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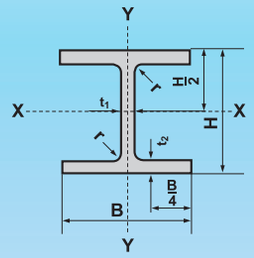
Sectional Area	Moment of Inertia				Radius of Gyration				Elastic Section Modulus				Nominal Size
	I_x		I_y		i_x		i_y		Z_x		Z_y		
in^2	cm^4	in^4	cm^4	in^4	cm	in	cm	in	cm^3	in^3	cm^3	in^3	mmxmmxkg/m
4.56	2,105	50.57	164	3.94	8.46	3.33	2.36	0.93	207	12.63	32	1.95	203x102x23
4.96	2,340	56.22	308	7.40	8.56	3.37	3.10	1.22	230	14.04	46	2.81	203x133x25
5.92	2,896	69.58	385	9.25	8.71	3.43	3.17	1.25	280	17.09	58	3.54	x30
4.34	2,841	68.26	119	2.86	10.07	3.96	2.06	0.81	224	13.67	23	1.40	254x102x22
4.96	3,415	82.05	149	3.58	10.32	4.06	2.15	0.85	266	16.23	29	1.77	x25
5.60	4,005	96.22	179	4.30	10.54	4.15	2.22	0.87	308	18.80	35	2.14	x28
6.15	4,413	106.02	448	10.76	10.55	4.15	3.36	1.32	351	21.42	61	3.72	254x146x31
7.32	5,537	133.03	571	13.72	10.83	4.26	3.48	1.37	433	26.42	78	4.76	x37
8.49	6,544	157.22	677	16.26	10.93	4.30	3.52	1.39	504	30.76	92	5.61	x43
4.90	4,455	107.03	123	2.96	11.87	4.67	1.97	0.78	292	17.82	24	1.46	305x102x25
5.56	5,366	128.92	155	3.72	12.23	4.81	2.08	0.82	348	21.24	31	1.89	x28
6.48	6,501	156.19	194	4.66	12.47	4.91	2.15	0.85	416	25.39	38	2.32	x33
7.95	8,503	204.29	764	18.36	12.87	5.07	3.86	1.52	561	34.23	93	5.68	305x165x40
9.10	9,899	237.82	896	21.53	12.98	5.11	3.90	1.54	646	39.42	108	6.59	x46
10.66	11,700	281.09	1,063	25.54	13.04	5.13	3.93	1.55	754	46.01	127	7.75	x54
6.53	8,249	198.18	280	6.73	13.99	5.51	2.58	1.02	473	28.86	45	2.75	356x127x33
7.72	10,170	244.34	358	8.60	14.30	5.63	2.68	1.06	576	35.15	57	3.48	x39
8.88	12,070	289.98	811	19.48	14.51	5.71	3.76	1.48	687	41.92	95	5.80	356x171x45
10.06	14,140	339.71	968	23.26	14.76	5.81	3.86	1.52	796	48.57	113	6.90	x51
11.25	16,040	385.36	1,108	26.62	14.87	5.85	3.91	1.54	896	54.68	129	7.87	x57
13.25	19,460	467.53	1,362	32.72	15.09	5.94	3.99	1.57	1,071	65.36	157	9.58	x67
7.70	12,510	300.55	410	9.85	15.87	6.25	2.87	1.13	629	38.38	58	3.54	406x140x39
9.08	15,690	376.95	538	12.93	16.35	6.44	3.03	1.19	778	47.48	76	4.64	x46
10.70	18,720	449.75	1,021	24.53	16.48	6.49	3.85	1.52	930	56.75	115	7.02	406x178x54
11.86	21,600	518.94	1,203	28.90	16.80	6.61	3.97	1.56	1,063	64.87	135	8.24	x60
13.25	24,330	584.53	1,365	32.79	16.87	6.64	3.99	1.57	1,189	72.56	153	9.34	x67
14.65	27,310	656.13	1,545	37.12	17.00	6.69	4.04	1.59	1,323	80.73	172	10.50	x74
10.32	21,370	513.42	645	15.50	17.91	7.05	3.11	1.22	950	57.97	85	5.19	457x152x52
11.81	25,500	612.64	795	19.10	18.29	7.20	3.23	1.27	1,122	68.47	104	6.35	x60
13.27	28,930	695.05	913	21.93	18.39	7.24	3.27	1.29	1,263	77.07	119	7.26	x67
14.65	32,670	784.90	1,047	25.15	18.60	7.32	3.33	1.31	1,414	86.29	136	8.30	x74
16.20	36,590	879.08	1,185	28.47	18.71	7.37	3.37	1.33	1,571	95.87	153	9.34	x82
13.25	29,380	705.86	1,452	34.88	18.54	7.30	4.12	1.62	1,296	79.09	153	9.34	457x191x67
14.66	33,320	800.52	1,671	40.15	18.76	7.39	4.20	1.65	1,458	88.97	176	10.74	x74
16.12	37,050	890.13	1,871	44.95	18.83	7.41	4.23	1.67	1,611	98.31	196	11.96	x82
17.64	41,020	985.51	2,089	50.19	18.99	7.48	4.29	1.69	1,770	108.01	218	13.30	x89
19.42	45,730	1,098.67	2,347	56.39	19.11	7.52	4.33	1.70	1,957	119.42	243	14.83	x98
16.23	47,540	1,142.15	2,007	48.22	21.31	8.39	4.38	1.72	1,800	109.84	192	11.72	533x210x82
18.20	55,230	1,326.91	2,389	57.40	21.69	8.54	4.51	1.78	2,072	126.44	228	13.91	x92
19.95	61,520	1,478.02	2,692	64.68	21.87	8.61	4.57	1.80	2,292	139.87	256	15.62	x101
21.53	66,820	1,605.36	2,943	70.71	21.94	8.64	4.60	1.81	2,477	151.16	279	17.03	x109
24.09	76,040	1,826.87	3,388	81.40	22.12	8.71	4.67	1.84	2,793	170.44	320	19.53	x122
19.98	75,780	1,820.62	2,915	70.03	24.24	9.54	4.75	1.87	2,515	153.47	256	15.62	610x229x101
22.30	87,320	2,097.87	3,434	82.50	24.63	9.70	4.88	1.92	2,874	175.38	301	18.37	x113
24.69	98,610	2,369.11	3,932	94.47	24.88	9.80	4.97	1.96	3,221	196.56	343	20.93	x125
27.62	111,800	2,686.01	4,505	108.23	25.05	9.86	5.03	1.98	3,622	221.03	391	23.86	x140
29.45	125,900	3,024.76	9,308	223.63	25.74	10.13	7.00	2.76	4,111	250.87	611	37.29	610x305x149
35.36	153,000	3,675.84	11,410	274.13	25.90	10.20	7.07	2.78	4,935	301.15	743	45.34	x179
47.01	209,500	5,033.26	15,840	380.56	26.28	10.35	7.23	2.85	6,589	402.09	1,017	62.06	x238
24.72	118,000	2,834.96	4,383	105.30	27.20	10.71	5.24	2.06	3,481	212.42	346	21.11	686x254x125
27.65	136,300	3,274.62	5,183	124.52	27.64	10.88	5.39	2.12	3,987	243.30	409	24.96	x140
30.09	150,400	3,613.37	5,784	138.96	27.83	10.96	5.46	2.15	4,374	266.92	455	27.77	x152
33.60	170,300	4,091.47	6,630	159.29	28.03	11.04	5.53	2.18	4,916	299.99	518	31.61	x170

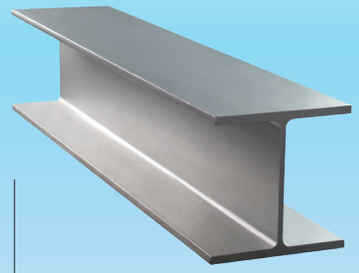
Note

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Nominal Size	Weight		Standard Sectional Dimension										Sectional Area
			H		B		t_1		t_2		r		
mmxmmxkg/m	kg/m	lb/ft	mm	in	mm	in	mm	in	mm	in	mm	in	cm²
762x267x134	134.0	90.0	750.0	29.53	264.4	10.41	12.0	0.47	15.5	0.61	16.5	0.6	170.6
x147	147.0	98.8	754.0	29.69	265.2	10.44	12.8	0.50	17.5	0.69	16.5	0.6	187.2
x173	173.0	116.3	762.2	30.01	266.7	10.50	14.3	0.56	21.6	0.85	16.5	0.6	220.4
x197	197.0	132.4	769.8	30.31	268.0	10.55	15.6	0.61	25.4	1.00	16.5	0.6	250.6
838x292x176	176.0	118.3	834.9	32.87	291.7	11.48	14.0	0.55	18.8	0.74	17.8	0.7	224.0
x194	194.0	130.4	840.7	33.10	292.4	11.51	14.7	0.58	21.7	0.85	17.8	0.7	247.0
x226	226.0	151.9	850.9	33.50	293.8	11.57	16.1	0.63	26.8	1.06	17.8	0.7	289.0

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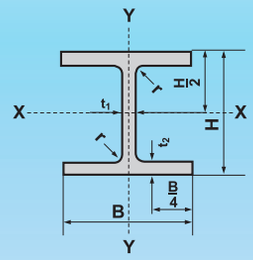
Nominal Size	Weight		Standard Sectional Dimension										Sectional Area
			H		B		t_1		t_2		r		
mmxmmxkg/m	kg/m	lb/ft	mm	in	mm	in	mm	in	mm	in	mm	in	cm²
152x152x23	23.0	15.5	152.4	6.00	152.2	5.99	5.8	0.23	6.8	0.27	7.6	0.30	29.3
x30	30.0	20.2	157.6	6.20	152.9	6.02	6.5	0.26	9.4	0.37	7.6	0.30	38.3
x37	37.0	24.9	161.8	6.37	154.4	6.08	8.0	0.31	11.5	0.45	7.6	0.30	47.1
203x203x46	46.1	31.0	203.2	8.00	203.6	8.02	7.2	0.28	11.0	0.43	10.2	0.40	58.7
x52	52.0	34.9	206.2	8.12	204.3	8.04	7.9	0.31	12.5	0.49	10.2	0.40	66.3
x60	60.0	40.3	209.6	8.25	205.8	8.10	9.4	0.37	14.2	0.56	10.2	0.40	76.4
x71	71.0	47.7	215.8	8.50	206.4	8.13	10.0	0.39	17.3	0.68	10.2	0.40	90.4
x86	86.1	57.9	222.2	8.75	209.1	8.23	12.7	0.50	20.5	0.81	10.2	0.40	109.6
254x254x73	73.1	49.1	254.1	10.00	254.6	10.02	8.6	0.34	14.2	0.56	12.7	0.50	93.1
x89	88.9	59.7	260.3	10.25	256.3	10.09	10.3	0.41	17.3	0.68	12.7	0.50	113.3
x107	107.0	71.9	266.7	10.50	258.8	10.19	12.8	0.50	20.5	0.81	12.7	0.50	136.4
x132	132.0	88.7	276.3	10.88	261.3	10.29	15.3	0.60	25.3	1.00	12.7	0.50	168.1
x167	167.0	112.2	289.1	11.38	265.2	10.44	19.2	0.76	31.7	1.25	12.7	0.50	212.9
305x305x97	96.9	65.1	307.9	12.12	305.3	12.02	9.9	0.39	15.4	0.61	15.2	0.60	123.4
x118	118.0	79.3	314.5	12.38	307.4	12.10	12.0	0.47	18.7	0.74	15.2	0.60	150.2
x137	137.0	92.1	320.5	12.62	309.2	12.17	13.8	0.54	21.7	0.85	15.2	0.60	174.4
x158	158.0	106.2	327.1	12.88	311.2	12.25	15.8	0.62	25.0	0.98	15.2	0.60	201.4
x198	198.0	133.0	339.9	13.38	314.5	12.38	19.1	0.75	31.4	1.24	15.2	0.60	252.4
x240	240.0	161.3	352.5	13.88	318.4	12.54	23.0	0.91	37.7	1.48	15.2	0.60	305.8
x283	283.0	190.2	365.3	14.38	322.2	12.69	26.8	1.06	44.1	1.74	15.2	0.60	360.4
356x368x129	129.0	86.7	355.6	14.00	368.6	14.51	10.4	0.41	17.5	0.69	15.2	0.60	164.3
x153	153.0	102.8	362.0	14.25	370.5	14.59	12.3	0.48	20.7	0.81	15.2	0.60	194.8
x177	177.0	118.9	368.2	14.50	372.6	14.67	14.4	0.57	23.8	0.94	15.2	0.60	225.5
x202	202.0	135.7	374.6	14.75	374.7	14.75	16.5	0.65	27.0	1.06	15.2	0.60	257.2
356x406x235	235.0	157.9	381.0	15.00	394.8	15.54	18.4	0.72	30.2	1.19	15.2	0.60	299.0
356x406x287	287.0	193.0	393.6	15.50	399.0	15.71	22.6	0.89	36.5	1.44	20.0	0.79	367.0

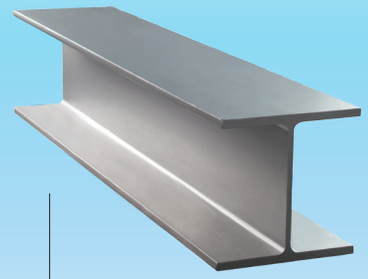
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UNIVERSAL BEAMS

BS EN 10365:2017 | BS STANDARD

Sectional Area	Moment of Inertia				Radius of Gyration				Elastic Section Modulus				Nominal Size
	I_x		I_y		i_x		i_y		Z_x		Z_y		
in^2	cm^4	in^4	cm^4	in^4	cm	in	cm	in	cm^3	in^3	cm^3	in^3	mmxmmxkg/m
26.44	150,700	3,620.58	4,788	115.03	29.72	11.70	5.30	2.09	4,018	245.19	362	22.09	762x267x134
29.02	168,500	4,048.23	5,455	131.06	30.00	11.81	5.40	2.13	4,470	272.78	411	25.08	x147
34.16	205,300	4,932.35	6,850	164.57	30.52	12.02	5.58	2.20	5,387	328.73	514	31.37	x173
38.84	240,000	5,766.02	8,175	196.41	30.94	12.18	5.71	2.25	6,234	380.42	610	37.22	x197
34.72	246,000	5,910.17	7,799	187.37	33.14	13.05	5.90	2.32	5,893	359.61	535	32.65	838x292x176
38.29	279,200	6,707.81	9,066	217.81	33.63	13.24	6.06	2.39	6,641	405.26	620	37.83	x194
44.80	339,700	8,161.33	11,360	272.93	34.31	13.51	6.27	2.47	7,985	487.27	773	47.17	x226

UNIVERSAL COLUMNS

BS EN 10365:2017 | BS STANDARD

Sectional Area	Moment of Inertia				Radius of Gyration				Elastic Section Modulus				Nominal Size
	I_x		I_y		i_x		i_y		Z_x		Z_y		
in^2	cm^4	in^4	cm^4	in^4	cm	in	cm	in	cm^3	in^3	cm^3	in^3	mmxmmxkg/m
4.53	1,250	30.03	399.9	9.61	6.54	2.57	3.70	1.46	164	10.01	53	3.23	152x152x23
5.94	1,748	42.00	560.5	13.47	6.76	2.66	3.83	1.51	222	13.55	73	4.45	x30
7.30	2,210	53.10	706.2	16.97	6.85	2.70	3.87	1.52	273	16.66	92	5.61	x37
9.10	4,568	109.75	1,548	37.19	8.82	3.47	5.13	2.02	450	27.46	152	9.28	203x203x46
10.28	5,259	126.35	1,778	42.72	8.91	3.51	5.18	2.04	510	31.12	174	10.62	x52
11.84	6,125	147.15	2,065	49.61	8.96	3.53	5.20	2.05	584	35.64	201	12.27	x60
14.01	7,618	183.02	2,537	60.95	9.18	3.61	5.30	2.09	706	43.08	246	15.01	x71
16.99	9,449	227.01	3,127	75.13	9.28	3.65	5.34	2.10	850	51.87	299	18.25	x86
14.43	11,410	274.13	3,908	93.89	11.07	4.36	6.48	2.55	898	54.80	307	18.73	254x254x73
17.56	14,270	342.84	4,857	116.69	11.22	4.42	6.55	2.58	1,096	66.88	379	23.13	x89
21.14	17,510	420.68	5,928	142.42	11.33	4.46	6.59	2.59	1,313	80.12	458	27.95	x107
26.06	22,530	541.29	7,531	180.93	11.58	4.56	6.69	2.63	1,631	99.53	576	35.15	x132
33.00	30,000	720.75	9,870	237.13	11.87	4.67	6.81	2.68	2,075	126.62	744	45.40	x167
19.13	22,250	534.56	7,308	175.58	13.42	5.28	7.69	3.03	1,445	88.18	479	29.23	305x305x97
23.28	27,670	664.77	9,059	217.64	13.57	5.34	7.77	3.06	1,760	107.40	589	35.94	x118
27.03	32,810	788.26	10,700	257.07	13.72	5.40	7.83	3.08	2,048	124.98	692	42.23	x137
31.22	38,750	930.97	12,570	302.00	13.87	5.46	7.90	3.11	2,369	144.57	808	49.31	x158
39.12	50,900	1,222.88	16,300	391.61	14.20	5.59	8.04	3.17	2,995	182.77	1,037	63.28	x198
47.40	64,200	1,542.41	20,310	487.95	14.49	5.70	8.15	3.21	3,643	222.31	1,276	77.87	x240
55.86	78,870	1,894.86	24,630	591.74	14.79	5.82	8.27	3.26	4,318	263.50	1,529	93.31	x283
25.47	40,250	967.01	14,610	351.01	15.65	6.16	9.43	3.71	2,264	138.16	793	48.39	356x368x129
30.19	48,590	1,167.38	17,550	421.64	15.79	6.22	9.49	3.74	2,684	163.79	948	57.85	x153
34.95	57,120	1,372.31	20,530	493.24	15.91	6.26	9.54	3.76	3,103	189.36	1,102	67.25	x177
39.87	66,260	1,591.90	23,690	569.15	16.05	6.32	9.60	3.78	3,538	215.90	1,264	77.13	x202
46.35	79,080	1,899.90	30,990	744.54	16.25	6.40	10.20	4.02	4,151	253.31	1,570	95.81	356x406x235
56.89	100,221	2,408.00	38,682	929.00	16.50	6.50	10.30	4.06	5,093	310.79	1,939	118.33	x287

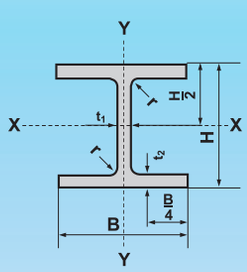
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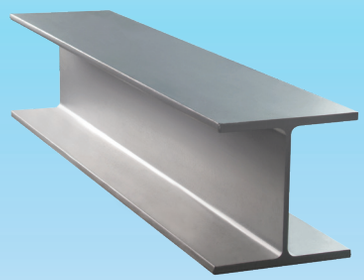
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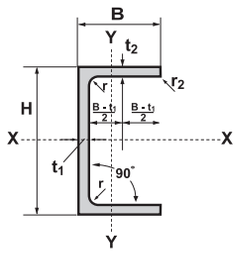
BS EN 10365:2017 | BS STANDARD

Nominal Size	Weight	Standard Sectional Dimension											
		H		B		t_1		t_2		r			
mmxmmxkg/m	kg/m	lb/ft	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
203x203x45	44.9	30.2	200.2	7.88	205.9	8.11	9.50	0.37	9.50	0.37	10.2	0.4
x54	53.9	36.2	204.0	8.03	207.7	8.18	11.30	0.44	11.40	0.45	10.2	0.4
254x254x63	63.0	42.3	247.1	9.73	256.6	10.10	10.60	0.42	10.70	0.42	12.7	0.5
x71	71.0	47.7	249.7	9.83	258.0	10.16	12.00	0.47	12.00	0.47	12.7	0.5
x85	85.1	57.2	254.3	10.01	260.4	10.25	14.40	0.57	14.30	0.56	12.7	0.5
305x305x79	78.9	53.0	299.3	11.78	306.4	12.06	11.00	0.43	11.10	0.44	15.2	0.6
x88	88.0	59.1	301.7	11.88	307.8	12.12	12.40	0.49	12.30	0.48	15.2	0.6
x95	94.9	63.8	303.7	11.96	308.7	12.15	13.30	0.52	13.30	0.52	15.2	0.6
x110	110.0	73.9	307.9	12.12	310.7	12.23	15.30	0.60	15.40	0.61	15.2	0.6
x126	126.0	84.7	312.3	12.30	312.9	12.32	17.50	0.69	17.60	0.69	15.2	0.6
x149	149.0	100.1	318.5	12.54	316.0	12.44	20.60	0.81	20.70	0.81	15.2	0.6
x186	186.0	125.0	328.3	12.93	320.9	12.63	25.50	1.00	25.60	1.01	15.2	0.6
x223	223.0	149.8	337.9	13.30	325.7	12.82	30.30	1.19	30.40	1.20	15.2	0.6
356x368x109	109.0	73.2	346.4	13.64	371.0	14.61	12.80	0.50	12.90	0.51	15.2	0.6
x133	133.0	89.4	352.0	13.86	373.8	14.72	15.60	0.61	15.70	0.62	15.2	0.6
x152	152.0	102.1	356.4	14.03	376.0	14.80	17.80	0.70	17.90	0.70	15.2	0.6
x174	174.0	116.9	361.4	14.23	378.5	14.90	20.30	0.80	20.40	0.80	15.2	0.6

Note

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PARALLEL FLANGE CHANNELS





BS EN 10365:2017 | BS STANDARD

Nominal Size	Weight	Standard Sectional Dimension												Sectional Area
		H		B		t_1		t_2		r				
mmxmmxkg/m	kg/m	lb/ft	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	cm^2
100x50x10	10.2	6.9	100.0	3.94	50.0	1.97	5.0	0.20	8.5	0.33	9.0	0.35	13.0
150x75x18	17.9	12.0	150.0	5.91	75.0	2.95	5.5	0.22	10.0	0.39	12.0	0.47	22.8
180x75x20	20.3	13.6	180.0	7.09	75.0	2.95	6.0	0.24	10.5	0.41	12.0	0.47	25.9
200x75x23	23.4	15.7	200.0	7.87	75.0	2.95	6.0	0.24	12.5	0.49	12.0	0.47	29.9
230x75x26	25.7	17.3	230.0	9.06	75.0	2.95	6.5	0.26	12.5	0.49	12.0	0.47	32.7
300x90x41	41.4	27.8	300.0	11.81	90.0	3.54	9.0	0.35	15.5	0.61	12.0	0.47	52.7

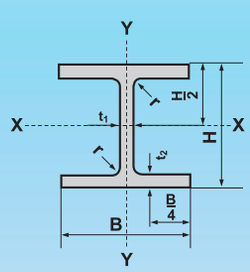
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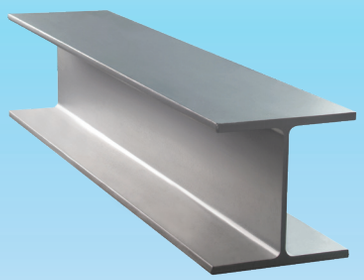
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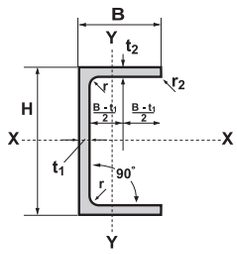
BS EN 10365:2017 | BS STANDARD

Sectional Area		Moment of Inertia				Radius of Gyration				Elastic Section Modulus			
		I_x		I_y		i_x		i_y		Z_x		Z_y	
cm^2	in^2	cm^4	in^4	cm^4	in^4	cm	in	cm	in	cm^3	in^3	cm^3	in^3
57.2	8.87	4,100	98.50	1,384	33.25	8.46	3.33	4.92	1.94	409.6	25.00	134.4	8.20
68.7	10.65	5,027	120.77	1,705	40.96	8.55	3.37	4.98	1.96	492.8	30.07	164.2	10.02
80.2	12.43	8,860	212.86	3,016	72.46	10.51	4.14	6.13	2.41	717.2	43.77	235.1	14.35
90.4	14.01	10,070	241.93	3,439	82.62	10.56	4.16	6.17	2.43	806.7	49.23	266.6	16.27
108.4	16.80	12,280	295.03	4,215	101.27	10.65	4.19	6.24	2.46	966.1	58.96	323.8	19.76
100.5	15.58	16,440	394.97	5,326	127.96	12.79	5.04	7.28	2.87	1099	67.07	347.7	21.22
112.1	17.38	18,420	442.54	5,984	143.77	12.82	5.05	7.31	2.88	1221	74.51	388.9	23.73
120.9	18.74	20,040	481.46	6,529	156.86	12.87	5.07	7.35	2.89	1320	80.55	423.0	25.81
140.1	21.72	23,560	566.03	7,709	185.21	12.97	5.11	7.42	2.92	1531	93.43	496.2	30.28
160.6	24.89	27,410	658.53	9,002	216.27	13.06	5.14	7.49	2.95	1755	107.10	575.4	35.11
189.9	29.43	33,070	794.51	10,910	262.11	13.20	5.20	7.58	2.98	2076	126.69	690.5	42.14
236.9	36.72	42,610	1,023.71	14,140	339.71	13.41	5.28	7.73	3.04	2596	158.42	881.5	53.79
284.0	44.02	52,700	1,266.12	17,580	422.36	13.62	5.36	7.87	3.10	3119	190.33	1079.0	65.84
138.7	21.50	30,630	735.89	10,990	264.04	14.86	5.85	8.90	3.50	1769	107.95	592.3	36.14
169.4	26.26	37,980	912.47	13,680	328.66	14.98	5.90	8.99	3.54	2158	131.69	731.9	44.66
193.7	30.02	43,970	1,056.38	15,880	381.52	15.07	5.93	9.05	3.56	2468	150.61	844.5	51.53
221.5	34.33	51,010	1,225.52	18,460	443.50	15.18	5.98	9.13	3.59	2823	172.27	975.6	59.53

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PARALLEL FLANGE CHANNELS





BS EN 10365:2017 | BS STANDARD

Nominal Size	Sectional Area	Moment of Inertia				Radius of Gyration				Elastic Section Modulus			
		I_x		I_y		i_x		i_y		Z_x		Z_y	
mmxmmxkg/m	in^2	cm^4	in^4	cm^4	in^4	cm	in	cm	in	cm^3	in^3	cm^3	in^3
100x50x10	2.02	208	4.99	32.3	0.78	4.00	1.57	1.58	0.62	41.5	2.53	9.89	0.60
150x75x18	3.53	861	20.69	131	3.15	6.15	2.42	2.40	0.94	115	7.02	26.6	1.62
180x75x20	4.01	1,370	32.91	146	3.51	7.27	2.86	2.38	0.94	152	9.28	28.8	1.76
200x75x23	4.63	1,963	47.16	170	4.08	8.11	3.19	2.39	0.94	196	11.96	33.8	2.06
230x75x26	5.07	2,748	66.02	181	4.35	9.17	3.61	2.35	0.93	239	14.58	34.8	2.12
300x90x41	8.17	7,218	173.41	404	9.71	11.70	4.61	2.77	1.09	481	29.35	63.1	3.85

Note

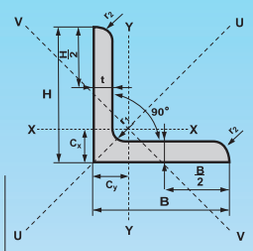
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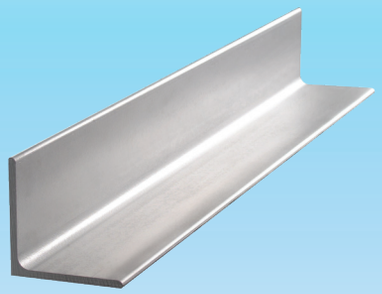
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EQUAL-LEG ANGLES

BS EN 10056-1:2017 | BS STANDARD





Nominal Size	Weight		Standard Sectional Dimension						Section area		Moment of Inertia					
			H = B		t		r_1				$I_x = I_y$		I_u		I_v	
mmxmmxmm	kg/m	lb/ft	mm	in	mm	in	mm	in	cm^2	in^2	cm^4	in^4	cm^4	in^4	cm^4	in^4
100x100x8	12.2	8.20	100	3.94	8	0.31	12	0.47	15.5	2.4	145	3.48	230	5.53	59.9	1.44
120x120x10	18.2	12.23	120	4.72	10	0.39	13	0.51	23.2	3.6	313	7.52	497	11.94	129	3.10
x12	21.6	14.51	120	4.72	12	0.47	13	0.51	27.5	4.3	368	8.84	584	14.03	152	3.65
130x130x10	*19.8	13.24	130	5.12	10	0.39	14	0.55	25.2	3.9	401	9.63	638	15.33	165	3.95
x12	23.6	15.86	130	5.12	12	0.47	14	0.55	30.0	4.7	472	11.34	750	18.02	194	4.66
150x150x10	23.0	15.46	150	5.91	10	0.39	16	0.63	29.3	4.5	624	14.99	990	23.78	258	6.20
x12	27.3	18.34	150	5.91	12	0.47	16	0.63	34.8	5.4	737	17.71	1170	28.11	303	7.28
x15	33.8	22.71	150	5.91	15	0.59	16	0.63	43.0	6.7	898	21.57	1430	34.36	370	8.89
200x200x16	48.5	32.59	200	7.87	16	0.63	18	0.71	61.8	9.6	2340	56.22	3720	89.37	960	23.06
x18	54.3	36.49	200	7.87	18	0.71	18	0.71	69.1	10.7	2600	62.47	4150	99.70	1050	25.23
x20	59.9	40.25	200	7.87	20	0.79	18	0.71	76.3	11.8	2850	68.47	4530	108.83	1170	28.11
x24	71.1	47.78	200	7.87	24	0.94	18	0.71	90.6	14.0	3330	80.00	5280	126.85	1380	33.15
250x250x28	104.0	69.88	250	9.84	28	1.10	18	0.71	133.0	20.6	7700	184.99	12200	293.11	3170	76.16
x35	128.0	86.01	250	9.84	35	1.38	18	0.71	163.0	25.3	9260	222.47	14700	353.17	3860	92.74

Note

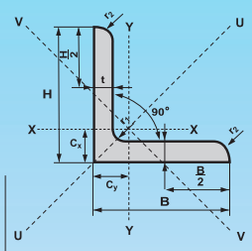
- The Hot-rolled sections listed in this table are rolled at specific intervals determined by Siam Yamato Steel.
- Contact us for product availability, rolling frequency and other pertinent information.

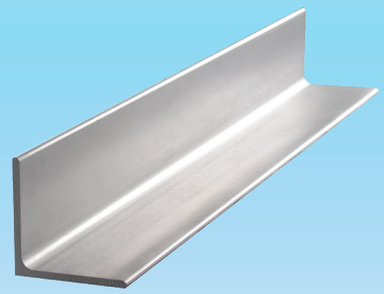
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EQUAL-LEG ANGLES

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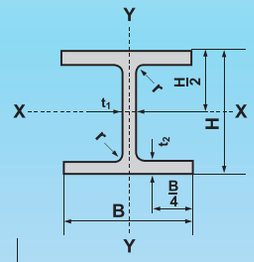


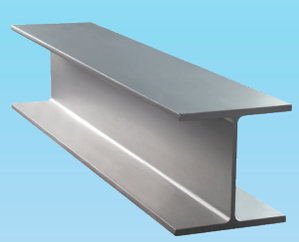


Radius of Gyration						Elastic Section Modulus				Distance of center of gravity						Nominal Size
$r_x = r_y$		r_u		r_v		$Z_x = Z_y$		Z_v		$C_x = C_y$		C_u		C_v		
cm	in	cm	in	cm	in	cm^3	in^3	cm^3	in^3	cm	in	cm	in	cm	in	mmxmmxmm
3.06	1.20	3.85	1.52	1.96	0.77	19.9	1.21	15.5	0.95	2.74	1.08	7.07	2.78	3.87	1.52	100x100x8
3.67	1.44	4.63	1.82	2.36	0.93	36.0	2.20	27.5	1.68	3.31	1.30	8.49	3.34	4.69	1.85	120x120x10
3.65	1.44	4.60	1.81	2.35	0.93	42.7	2.61	31.6	1.93	3.40	1.34	8.49	3.34	4.80	1.89	x12
3.99	1.57	5.03	1.98	2.55	1.00	42.5	2.59	32.7	2.00	3.55	1.40	9.19	3.62	5.03	1.98	130x130x10
3.97	1.56	5.00	1.97	2.54	1.00	50.4	3.08	37.7	2.30	3.64	1.43	9.19	3.62	5.15	2.03	x12
4.62	1.82	5.82	2.29	2.97	1.17	56.9	3.47	45.1	2.75	4.03	1.59	10.6	4.17	5.71	2.25	150x150x10
4.60	1.81	5.80	2.28	2.95	1.16	67.7	4.13	52.0	3.17	4.12	1.62	10.6	4.17	5.83	2.30	x12
4.57	1.80	5.76	2.27	2.93	1.15	83.5	5.10	61.6	3.76	4.25	1.67	10.6	4.17	6.01	2.37	x15
6.16	2.43	7.76	3.06	3.94	1.55	162.0	9.89	123.0	7.51	5.52	2.17	14.1	5.55	7.81	3.07	200x200x16
6.13	2.41	7.75	3.05	3.90	1.54	181.0	11.05	133.0	8.12	5.60	2.20	14.1	5.55	7.92	3.12	x18
6.11	2.41	7.70	3.03	3.92	1.54	199.0	12.14	146.0	8.91	5.68	2.24	14.1	5.55	8.04	3.17	x20
6.06	2.39	7.64	3.01	3.90	1.54	235.0	14.34	167.0	10.19	5.84	2.30	14.1	5.55	8.26	3.25	x24
7.62	3.00	9.61	3.78	4.89	1.93	433.0	26.42	309.0	18.86	7.24	2.85	17.7	6.97	10.2	4.02	250x250x28
7.54	2.97	9.48	3.73	4.87	1.92	529.0	32.28	364.0	22.21	7.50	2.95	17.7	6.97	10.6	4.17	x35

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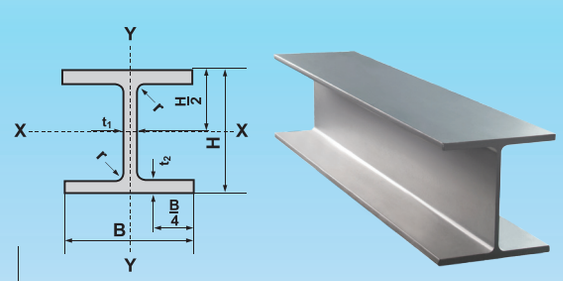


W-SHAPES | ASTM A6/A6M-03 | ASTM STANDARD

Nominal size	Weight		Sectional Dimension										Sectional Area
			d		b_f		t_w		t_f		r (Radius of Fillet)		
	kg/m	lb/ft	mm	in	mm	in	mm	in	mm	in	mm	in	cm^2
W4 (4"x4") (102x102)	19.3	13	106	4.16	103	4.060	7.1	0.280	8.8	0.345	6.4	0.25	24.7
W5 (5"x5") (127x127)	23.8	16	127	5.01	127	5.000	6.1	0.240	9.1	0.360	7.6	0.30	30.4
	28.1	19	131	5.15	128	5.030	6.9	0.270	10.9	0.430	7.6	0.30	35.9
W6 (6"x4") (152x102)	13.5	9	150	5.90	100	3.937	4.3	0.170	5.5	0.215	6.0	0.24	17.3
	18.0	12	153	6.03	102	4.000	5.8	0.230	7.1	0.280	6.4	0.25	22.9
	24.0	16	160	6.28	102	4.030	6.6	0.260	10.3	0.405	6.4	0.25	30.6
W6 (6"x6") (152x152)	22.5	15	152	5.99	152	5.990	5.8	0.230	6.6	0.260	7.6	0.30	28.6
	29.8	20	157	6.20	153	6.020	6.6	0.260	9.3	0.365	7.6	0.30	37.9
	37.1	25	162	6.38	154	6.080	8.1	0.320	11.6	0.455	7.6	0.30	47.4
W8 (8"x4") (203x102)	15.0	10	200	7.87	100	3.937	4.3	0.169	5.2	0.205	8.0	0.31	19.1
	19.3	13	203	7.99	102	4.000	5.8	0.230	6.5	0.255	7.6	0.30	24.8
	22.5	15	206	8.11	102	4.015	6.2	0.245	8.0	0.315	7.6	0.30	28.6
W8 (8"x5 1/4") (203x133)	26.6	18	207	8.14	133	5.250	5.8	0.230	8.4	0.330	7.6	0.30	33.9
	31.3	21	210	8.28	134	5.270	6.4	0.250	10.2	0.400	7.6	0.30	39.7
W8 (8"x6 1/2") (203x165)	35.9	24	201	7.93	165	6.495	6.2	0.245	10.2	0.400	7.6	0.30	45.7
	41.7	28	205	8.06	166	6.535	7.2	0.285	11.8	0.465	7.6	0.30	53.2
W8 (8"x8") (203x203)	46.1	31	203	8.00	203	7.995	7.2	0.285	11.0	0.435	10.2	0.40	58.9
	52.0	35	206	8.12	204	8.020	7.9	0.310	12.6	0.495	10.2	0.40	66.5
	59.0	40	210	8.25	205	8.070	9.1	0.360	14.2	0.560	10.2	0.40	75.5
	71.0	48	216	8.50	206	8.110	10.2	0.400	17.4	0.685	10.2	0.40	91.0
	86.0	58	222	8.75	209	8.220	13.0	0.510	20.6	0.810	10.2	0.40	110.0
	100.0	67	229	9.00	210	8.280	14.5	0.570	23.7	0.935	10.2	0.40	127.0
W10 (10"x8") (254x203)	49.1	33	247	9.72	202	7.953	7.4	0.291	11.0	0.433	13	0.51	62.5
	58.0	39	252	9.92	203	7.992	8.0	0.315	13.5	0.531	13	0.51	74.3
	67.0	45	257	10.12	204	8.031	8.9	0.350	15.7	0.618	13	0.51	85.6
W10 (10"x4") (254x102)	17.9	12	251	9.87	101	3.960	4.8	0.190	5.3	0.210	7.6	0.30	22.8
	22.3	15	254	9.99	102	4.000	5.8	0.230	6.9	0.270	7.6	0.30	28.5
	25.3	17	257	10.11	102	4.010	6.1	0.240	8.4	0.330	7.6	0.30	32.2
	28.4	19	260	10.24	102	4.020	6.4	0.250	10.0	0.395	7.6	0.30	36.3
W10 (10"x5 3/4") (254x146)	32.7	22	258	10.17	146	5.750	6.1	0.240	9.1	0.360	7.6	0.30	41.9
	38.5	26	262	10.33	147	5.770	6.6	0.260	11.2	0.440	7.6	0.30	49.1
	44.8	30	266	10.47	148	5.810	7.6	0.300	13.0	0.510	7.6	0.30	57.0
W10 (10"x10") (254x254)	73.0	49	253	9.98	254	10.000	8.6	0.340	14.2	0.560	12.7	0.50	92.9
	80.0	54	256	10.09	255	10.030	9.4	0.370	15.6	0.615	12.7	0.50	102.0
	89.0	60	260	10.22	256	10.080	10.7	0.420	17.3	0.680	12.7	0.50	114.0
	101.0	68	264	10.40	257	10.130	11.9	0.470	19.6	0.770	12.7	0.50	129.0
	115.0	77	269	10.60	259	10.190	13.5	0.530	22.1	0.870	12.7	0.50	146.0
	131.0	88	275	10.84	261	10.265	15.4	0.605	25.1	0.990	12.7	0.50	167.0
	149.0	100	282	11.10	263	10.340	17.3	0.680	28.4	1.120	12.7	0.50	190.0
	167.0	112	289	11.36	265	10.415	19.2	0.755	31.8	1.250	12.7	0.50	212.0
W12 (12"x4") (305x102)	21.0	14	303	11.91	101	3.970	5.1	0.200	5.7	0.225	7.6	0.30	26.8
	23.8	16	305	11.99	101	3.990	5.6	0.220	6.7	0.265	7.6	0.30	30.4
	28.3	19	309	12.16	102	4.005	6.0	0.235	8.9	0.350	7.6	0.30	35.9
	32.7	22	313	12.31	102	4.030	6.6	0.260	10.8	0.425	7.6	0.30	41.8
W12 (12"x6 1/2") (305x165)	38.7	26	310	12.22	165	6.490	5.8	0.230	9.7	0.380	8.9	0.35	49.4
	44.5	30	313	12.34	166	6.520	6.6	0.260	11.2	0.440	8.9	0.35	56.7
	52.0	35	317	12.50	167	6.560	7.6	0.300	13.2	0.520	8.9	0.35	66.5
W12 (12"x8") (305x203)	60.0	40	303	11.94	203	8.005	7.5	0.295	13.1	0.515	15.2	0.60	76.1
	67.0	45	306	12.06	204	8.045	8.5	0.335	14.6	0.575	15.2	0.60	85.2
	74.0	50	310	12.19	205	8.080	9.4	0.375	16.3	0.640	15.2	0.60	94.8

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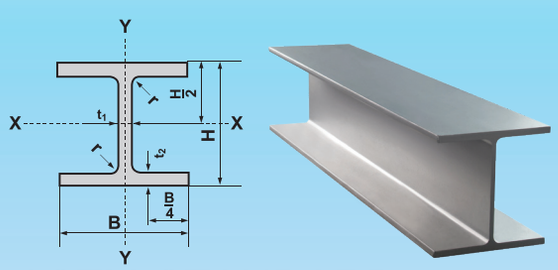


W-SHAPES | ASTM A6/A6M-03 | ASTM STANDARD

Sectional Area	Moment of Inertia				Elastic Section Modulus				Modulus of Section				Nominal Size
	I_x		I_y		r_x		r_y		S_x		S_y		
in^2	cm^4	in^4	cm^4	in^4	cm	in	cm	in	cm^3	in^3	cm^3	in^3	
3.83	475	11.41	160	3.84	4.39	1.73	2.55	1.00	90	5.47	31	1.90	W4 (4"x4") (102x102)
4.68	883	21.21	312	7.50	5.41	2.13	3.21	1.26	139	8.48	49	3.00	W5 (5"x5") (127x127)
5.54	1,090	26.19	381	9.15	5.53	2.18	3.27	1.29	166	10.13	60	3.63	
2.68	686	16.00	92	2.20	6.30	2.48	2.30	0.91	91	5.57	18	1.12	W6 (6"x4") (152x102)
3.55	919	22.08	126	3.03	6.33	2.49	2.35	0.93	120	7.32	25	1.51	
4.74	1,340	32.19	183	4.40	6.62	2.61	2.45	0.96	168	10.25	36	2.19	
4.43	1,210	29.07	387	9.30	6.50	2.56	3.68	1.45	159	9.70	51	3.11	W6 (6"x6") (152x152)
5.87	1,710	41.08	554	13.31	6.72	2.65	3.82	1.50	218	13.30	72	4.42	
7.34	2,220	53.34	707	16.99	6.85	2.70	3.87	1.52	274	16.72	92	5.60	
2.96	1,280	30.75	87	2.09	8.18	3.22	2.13	0.84	128	7.81	17.38	1.06	W8 (8"x4") (203x102)
3.84	1,650	39.64	115	2.76	8.16	3.21	2.15	0.85	163	9.95	23	1.37	
4.44	2,000	48.05	142	3.41	8.36	3.29	2.23	0.88	194	11.84	28	1.70	
5.26	2,580	61.98	329	7.90	8.71	2.43	3.11	1.22	249	15.19	50	3.02	W8 (8"x5 1/4") (203x133)
6.16	3,130	75.20	410	9.85	8.87	3.49	3.21	1.26	298	18.19	61	3.73	
7.08	3,438	82.60	764	18.36	8.67	3.41	4.09	1.61	342	20.87	93	5.68	W8 (8"x6 1/2") (203x165)
8.25	4,088	98.21	900	21.62	8.77	3.45	4.12	1.61	399	24.35	109	6.62	
9.13	4,550	109.31	1,530	36.76	8.79	3.46	5.10	2.01	448	27.34	151	9.21	
10.30	5,270	126.61	1,780	42.76	8.91	3.51	5.18	2.04	512	31.24	175	10.68	
11.70	6,120	147.03	2,040	49.01	8.99	3.54	5.19	2.04	583	35.58	199	12.14	W8 (8"x8") (203x203)
14.10	7,660	184.03	2,540	61.02	9.17	3.61	5.28	2.08	709	43.27	247	15.07	
17.10	9,470	227.52	3,140	75.44	9.28	3.65	5.34	2.10	853	52.05	300	18.31	
19.70	11,300	271.48	3,660	87.93	9.43	3.71	5.37	2.11	987	60.23	349	21.30	
9.69	7,069	169.83	1,513	36.35	10.63	4.19	4.92	1.94	572.4	34.93	149.8	9.14	W10 (10"x8") (254x203)
11.51	8,736	209.88	1,884	45.26	10.85	4.27	5.04	1.98	693.4	42.31	185.6	11.33	
13.27	10,360	248.90	2,224	53.43	11.00	4.33	5.10	2.01	806.6	49.22	218.0	13.30	
3.54	2,250	54.05	91	2.19	9.9	3.90	2.00	0.79	179	10.92	20	1.21	
4.41	2,880	69.19	121	2.91	10.10	3.98	2.06	0.81	227	13.85	24	1.45	W10 (10"x4") (254x102)
4.99	3,420	82.17	149	3.58	10.30	4.06	2.15	0.85	266	16.23	29	1.78	
5.62	3,990	95.86	178	4.28	10.50	4.13	2.22	0.87	307	18.73	35	2.13	
6.49	4,910	117.96	475	11.41	10.80	4.25	3.37	1.33	381	23.25	65	3.97	W10 (10"x5 3/4") (254x146)
7.61	6,010	144.39	594	14.27	11.10	4.37	3.48	1.37	459	28.01	81	4.93	
8.84	7,110	170.82	703	16.89	11.20	4.41	3.51	1.38	535	32.65	95	5.80	
14.40	11,300	271.48	3,880	93.22	11.00	4.33	6.46	2.54	893	54.49	306	18.67	
15.80	12,600	302.72	4,310	103.55	11.10	4.37	6.50	2.56	984	60.05	338	20.63	
17.60	14,300	343.56	4,840	116.28	11.20	4.41	6.52	2.57	1,100	67.13	378	23.07	
20.00	16,400	394.01	5,550	133.34	11.30	4.45	6.56	2.58	1,240	75.67	432	26.36	W10 (10"x10") (254x254)
22.60	18,900	454.07	6,410	154.00	11.40	4.49	6.63	2.61	1,410	86.04	495	30.21	
25.90	22,100	530.95	7,450	178.99	11.50	4.53	6.68	2.63	1,610	98.25	571	34.84	
29.40	25,900	622.25	8,620	207.10	11.70	4.61	6.74	2.65	1,840	112.28	656	40.03	
32.90	30,000	720.75	9,880	237.37	11.90	4.69	6.81	2.68	2,080	126.93	746	45.52	
4.16	3,690	88.60	98	2.36	11.70	4.62	1.91	0.75	244	14.90	20	1.19	W12 (12"x4") (305x102)
4.71	4,290	103.00	117	2.82	11.90	4.67	1.96	0.77	280	17.10	23	1.41	
5.57	5,410	130.00	157	3.73	12.20	4.82	2.09	0.82	349	21.30	31	1.88	
6.48	6,490	156.00	194	4.66	12.50	4.91	2.15	0.85	416	25.40	38	2.31	
7.65	8,480	203.73	723	17.37	13.10	0.52	3.83	1.51	547	33.38	88	5.35	W12 (12"x6 1/2") (305x165)
8.79	9,920	238.33	588	14.13	13.20	0.52	3.88	1.53	634	38.69	103	6.29	
10.30	11,900	285.90	1,030	24.75	13.40	0.53	3.93	1.55	748	45.65	123	7.51	
11.80	12,900	309.92	1,830	43.97	13.00	5.12	4.91	1.93	851	51.93	180	10.98	W12 (12"x8") (305x203)
13.20	14,500	348.36	2,070	49.73	13.00	5.12	4.93	1.94	948	57.85	203	12.39	
14.70	16,500	396.41	2,340	56.22	13.20	5.20	4.97	1.96	1,060	64.69	228	13.91	

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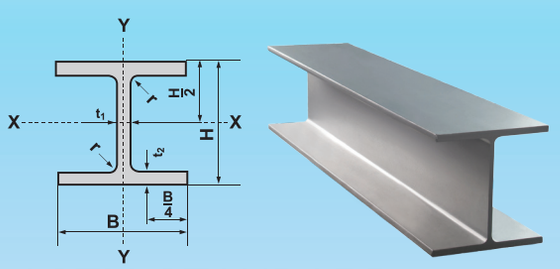


W-SHAPES | ASTM A6/A6M-03 | ASTM STANDARD

Nominal size	Weight		Sectional Dimension										Sectional Area
			d		b_f		t_w		t_f		r (Radius of Fillet)		
	kg/m	lb/ft	mm	in	mm	in	mm	in	mm	in	mm	in	cm^2
W12 (12"x12") (305x305)	97.0	65	308	12.12	305	12.000	9.9	0.390	15.4	0.605	15.2	0.60	123.0
	107.0	72	311	12.25	306	12.040	10.9	0.430	17.0	0.670	15.2	0.60	136.0
	117.0	79	314	12.38	307	12.080	11.9	0.470	18.7	0.735	15.2	0.60	150.0
	129.0	87	318	12.53	308	12.125	13.1	0.515	20.6	0.810	15.2	0.60	165.0
	143.0	96	323	12.71	309	12.160	14.0	0.550	22.9	0.900	15.2	0.60	182.0
	158.0	106	327	12.89	310	12.220	15.5	0.610	25.1	0.990	15.2	0.60	201.0
	179.0	120	333	13.12	313	12.320	18.0	0.710	28.1	1.105	15.2	0.60	228.0
	202.0	136	341	13.41	315	12.400	20.1	0.790	31.8	1.250	15.2	0.60	257.0
	226.0	152	348	13.71	317	12.480	22.1	0.870	35.6	1.400	15.2	0.60	288.0
	253.0	170	356	14.03	319	12.570	24.4	0.960	39.6	1.560	15.2	0.60	323.0
	283.0	190	365	14.38	322	12.670	26.9	1.060	44.1	1.735	15.2	0.60	360.0
W14 (14"x5") (356x127)	32.9	22	349	13.74	127	5.000	5.8	0.230	8.5	0.335	10.2	0.40	41.9
	39.0	26	353	13.91	128	5.025	6.5	0.255	10.7	0.420	10.2	0.40	49.6
W14 (14"x6 3/4") (356x171)	44.0	30	352	13.84	171	6.730	6.9	0.270	9.8	0.385	10.2	0.40	57.1
	51.0	34	355	13.98	171	6.745	7.2	0.285	11.6	0.455	10.2	0.40	64.5
	58.0	38	358	14.10	172	6.770	7.9	0.310	13.1	0.515	10.2	0.40	72.3
W14 (14"x10") (356x254)	91.0	61	353	13.89	254	9.995	9.5	0.375	16.4	0.645	15.2	0.60	115.0
	101.0	68	357	14.04	255	10.035	10.5	0.415	18.3	0.720	15.2	0.60	129.0
	110.0	74	360	14.17	256	10.070	11.4	0.450	19.9	0.785	15.2	0.60	141.0
	122.0	82	363	14.31	257	10.130	13.0	0.510	21.7	0.855	15.2	0.60	155.0
W14 (14"x14 1/2") (356x368)	134.0	90	356	14.02	369	14.520	11.2	0.440	18.0	0.710	15.2	0.60	171.0
	147.0	99	360	14.16	370	14.565	12.3	0.485	19.8	0.780	15.2	0.60	188.0
	162.0	109	364	14.32	371	14.605	13.3	0.525	21.8	0.860	15.2	0.60	206.0
	179.0	120	368	14.48	373	14.670	15.0	0.590	23.9	0.940	15.2	0.60	228.0
	196.0	132	372	14.66	374	14.725	16.4	0.645	26.2	1.030	15.2	0.60	250.0
W14 (14"x16") (356x406)	216.0	145	375	14.78	394	15.500	17.3	0.680	27.7	1.09	15.2	0.60	275.0
	237.0	159	380	14.98	395	15.565	18.9	0.745	30.2	1.19	15.2	0.60	301.0
W16 (16"x5 1/2") (406x140)	38.8	26	399	15.69	140	5.500	6.4	0.250	8.8	0.345	10.2	0.40	49.5
	46.1	31	403	15.88	140	5.525	7.0	0.275	11.2	0.440	10.2	0.40	58.8
W16 (16"x7") (406x178)	53.0	36	403	15.86	177	6.985	7.5	0.295	10.9	0.430	10.2	0.40	68.4
	60.0	40	407	16.01	178	6.995	7.7	0.305	12.8	0.505	10.2	0.40	76.1
	67.0	45	410	16.13	179	7.035	8.8	0.345	14.4	0.565	10.2	0.40	85.8
	75.0	50	413	16.26	180	7.070	9.7	0.380	16.0	0.630	10.2	0.40	94.8
	85.0	57	417	16.43	181	7.120	10.9	0.430	18.2	0.715	10.2	0.40	108.0
W18 (18"x6") (457x152)	52.0	35	450	17.70	152	6.000	7.6	0.300	10.8	0.425	10.2	0.40	66.5
	60.0	40	455	17.90	153	6.015	8.0	0.315	13.3	0.525	10.2	0.40	76.1
	68.0	46	459	18.06	154	6.060	9.1	0.360	15.4	0.605	10.2	0.40	87.1
W18 (18"x7 1/2") (457x191)	74.0	50	457	17.99	190	7.495	9.0	0.355	14.5	0.570	10.2	0.40	94.8
	82.0	55	460	18.11	191	7.530	9.9	0.390	16.0	0.630	10.2	0.40	105.0
	89.0	60	463	18.24	192	7.555	10.5	0.415	17.7	0.695	10.2	0.40	114.0
	97.0	65	466	18.35	193	7.590	11.4	0.450	19.0	0.750	10.2	0.40	123.0
	106.0	71	469	18.47	194	7.635	12.6	0.495	20.6	0.810	10.2	0.40	134.0
W21 (21"x6 1/2") (533x165)	66.0	44	525	20.66	165	6.500	8.9	0.350	11.4	0.450	12.7	0.50	83.9
	74.0	50	529	20.83	166	6.530	9.7	0.380	13.6	0.535	12.7	0.50	94.8
	85.0	57	535	21.06	166	6.555	10.3	0.405	16.5	0.650	12.7	0.50	108.0

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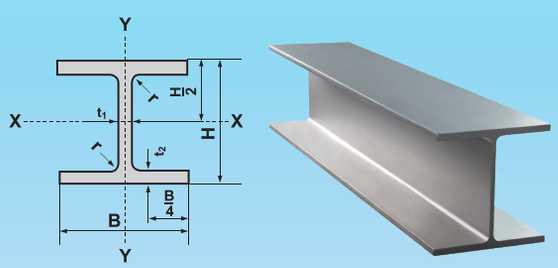


W-SHAPES | ASTM A6/A6M-03 | ASTM STANDARD

Sectional Area	Moment of Inertia				Radius of Gyration				Elastic Section Modulus				Nominal Size
	I_x		I_y		r_x		r_y		S_x		S_y		
in^2	cm^4	in^4	cm^4	in^4	cm	in	cm	in	cm^3	in^3	cm^3	in^3	
19.10	22,200	533.36	7,290	175.14	13.40	5.28	7.70	3.03	1,440	87.87	478	29.17	
21.10	24,800	595.82	8,120	195.08	13.50	5.31	7.73	3.04	1,590	97.03	531	32.40	
23.20	27,500	660.69	9,020	216.71	13.50	5.31	7.75	3.05	1,750	106.79	588	35.88	
25.60	30,800	739.97	10,000	240.25	13.70	5.39	7.78	3.06	1,940	118.39	649	39.60	
28.20	34,800	836.07	11,300	271.48	13.80	5.43	7.88	3.10	2,150	131.20	731	44.61	W12 (12"x12") (305x305)
31.20	38,600	927.37	12,500	300.31	13.90	5.47	7.89	3.11	2,360	144.02	806	49.19	
35.30	44,500	1,690.12	14,400	345.96	14.00	5.51	7.95	3.13	2,670	162.93	920	56.14	
39.90	52,000	1,249.30	16,600	398.82	14.20	5.59	8.02	3.16	3,050	186.12	1,050	64.07	
44.70	59,600	1,431.90	18,900	454.07	14.40	5.67	8.09	3.19	3,430	209.31	1,190	72.62	
50.00	68,200	1,638.51	21,500	516.54	14.50	5.71	8.16	3.21	3,830	233.72	1,350	82.38	
55.80	78,700	1,890.78	24,600	591.02	14.80	5.83	8.27	3.26	4,310	263.01	1,530	93.37	
6.49	8,290	199.17	291	6.99	14.10	5.55	2.64	1.04	475	28.99	46	2.81	W14 (14"x5") (356x127)
7.69	10,200	245.06	375	9.01	14.30	5.63	2.75	1.08	578	35.27	59	3.58	
8.85	12,100	290.70	816	19.60	14.60	5.75	3.78	1.49	688	41.98	95	5.77	W14 (14"x6 3/4") (356x171)
10.00	14,100	338.75	968	23.26	14.80	5.83	3.87	1.52	794	48.45	113	6.90	
11.20	16,000	384.40	1,110	26.67	14.90	5.87	3.93	1.55	894	54.56	129	7.87	
17.90	26,700	641.47	4,480	107.63	15.20	5.98	6.21	2.44	1,510	92.15	353	21.54	
20.00	30,200	725.56	5,060	121.57	15.30	6.02	6.26	2.46	1,690	103.13	397	24.23	W14 (14"x10") (356x254)
21.80	33,100	795.23	5,570	133.82	15.30	6.02	6.29	2.48	1,840	112.28	435	26.55	
24.10	36,500	876.92	6,150	147.75	15.30	6.02	6.30	2.48	2,010	122.66	479	29.23	
26.50	41,500	997.04	15,100	362.78	15.60	6.14	9.40	3.70	2,330	142.19	818	49.92	
29.10	46,300	1,112.36	16,700	401.22	15.70	6.18	9.42	3.71	2,570	156.83	903	55.10	W14 (14"x14 1/2") (356x368)
32.00	51,600	1,239.69	18,600	446.87	15.80	6.22	9.48	3.73	2,840	173.31	1,000	61.02	
35.30	57,500	1,381.44	20,700	497.32	15.90	6.26	9.53	3.75	3,130	191.00	1,110	67.74	
38.80	63,600	1,528.00	22,900	550.17	15.90	6.26	9.57	3.77	3,420	208.70	1,220	74.45	
42.70	71,200	1,710	28,200	677.00	16.10	6.33	10.1	3.98	3,800	232	1,430	87.30	W14 (14"x16") (356x406)
46.70	79,100	1,900	31,100	748.00	16.20	6.38	10.2	4.00	4,160	254	1,580	96.20	
7.68	12,600	302.72	402	9.66	15.90	6.26	2.85	1.12	632	38.57	57.4	3.50	W16 (16"x5 1/2") (406x140)
9.12	15,600	374.79	514	12.35	16.30	6.42	2.95	1.16	774	47.23	73.0	4.48	
10.60	18,600	446.87	1,010	24.27	16.50	6.50	3.85	1.52	923	56.32	114	6.96	
11.80	21,600	518.94	1,200	28.83	16.90	6.65	3.97	1.56	1,060	64.69	135	8.24	
13.30	24,500	588.61	1,380	33.15	16.90	6.65	4.02	1.58	1,200	73.23	154	9.40	W16 (16"x7") (406x178)
14.70	27,500	660.69	1,560	37.48	17.00	6.69	4.05	1.59	1,330	81.16	173	10.56	
16.80	31,500	756.79	1,800	43.25	17.10	6.73	4.08	1.61	1,510	92.15	199	12.14	
10.30	21,200	509.33	634	15.23	17.90	7.05	3.09	1.22	942	57.48	83	5.09	W18 (18"x6") (457x152)
11.80	25,500	612.64	796	19.12	18.30	7.20	3.24	1.28	1,120	68.35	104	6.35	
13.50	29,700	713.55	941	22.61	18.40	7.24	3.28	1.29	1,290	78.72	122	7.44	
14.70	33,300	800.04	1,660	39.88	18.80	7.40	4.19	1.65	1,460	89.09	175	10.68	
16.20	37,000	888.93	1,860	44.69	18.90	7.44	4.23	1.67	1,610	98.25	195	11.90	
17.60	41,000	985.03	2,090	50.21	19.00	7.48	4.28	1.69	1,770	108.01	218	13.30	W18 (18"x7 1/2") (457x191)
19.10	44,500	1,069.12	2,280	54.78	19.00	7.48	4.31	1.70	1,910	116.56	236	14.40	
20.80	48,800	1,172.42	2,510	60.30	19.10	7.52	4.33	1.70	2,080	126.93	259	15.81	
13.00	35,000	840.88	857	20.59	20.40	8.03	3.20	1.26	1,330	81.16	104	6.35	W21 (21"x6 1/2") (533x165)
14.70	41,000	985.03	1,040	24.99	20.80	8.19	3.31	1.30	1,550	94.59	125	7.63	
16.70	48,500	1,165.22	1,260	30.27	21.20	8.35	3.42	1.35	1,810	110.45	152	9.28	

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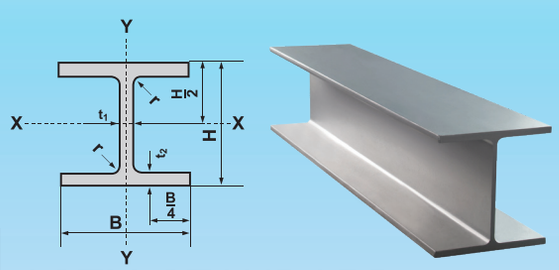
Nominal size	Weight		Sectional Dimension										Sectional Area
			d		b_f		t_w		t_f		r (Radius of Fillet)		
	kg/m	lb/ft	mm	in	mm	in	mm	in	mm	in	mm	in	cm^2
W21 (21"x8 1/4") (533x210)	92.0	62	533	20.99	209	8.240	10.2	0.400	15.6	0.615	12.7	0.50	118.0
	101.0	68	537	21.13	210	8.270	10.9	0.430	17.4	0.685	12.7	0.50	129.0
	109.0	73	539	21.24	211	8.295	11.6	0.455	18.8	0.740	12.7	0.50	139.0
	123.0	83	544	21.43	212	8.355	13.1	0.515	21.2	0.835	12.7	0.50	157.0
	138.0	93	549	21.62	214	8.420	14.7	0.580	23.6	0.930	12.7	0.50	176.0
W21 (21"x12 1/4") (533x312)	150.0	101	543	21.36	312	12.290	12.7	0.500	20.3	0.800	12.7	0.50	192.0
	165.0	111	546	21.51	313	12.340	14	0.550	22.2	0.875	12.7	0.50	211.0
	182.0	122	551	21.68	315	12.39	15.2	0.6	24.4	0.960	12.7	0.50	232.0
	196.0	132	554	21.83	316	12.44	16.5	0.65	26.3	1.035	12.7	0.50	250.0
	219.0	147	560	22.06	318	12.510	18.3	0.720	29.2	1.15	12.7	0.50	279.0
	248.0	166	571	22.48	315	12.42	19	0.75	34.5	1.360	12.7	0.50	315.0
	272.0	182	577	22.72	317	12.500	21.1	0.830	37.6	1.480	12.7	0.50	346.0
W24 (24"x7") (610x178)	82.0	55	599	23.57	178	7.005	10.0	0.395	12.8	0.505	12.7	0.50	105.0
	92.0	62	603	23.74	179	7.040	10.9	0.430	15.0	0.590	12.7	0.50	117.0
W24 (24"x9") (610x229)	101.0	68	603	23.73	228	8.965	10.5	0.415	14.9	0.585	12.7	0.50	130.0
	113.0	76	608	23.92	228	8.990	11.2	0.440	17.3	0.680	12.7	0.50	145.0
	125.0	84	612	24.10	229	9.020	11.9	0.470	19.6	0.770	12.7	0.50	159.0
	140.0	94	617	24.31	230	9.065	13.1	0.515	22.2	0.875	12.7	0.50	179.0
	153.0	103	623	24.53	229	9.000	14.0	0.550	24.9	0.980	12.7	0.50	196.0
W24 (24"x12 3/4") (610x324)	155.0	104	611	24.06	324	12.750	12.7	0.500	19.0	0.750	12.7	0.50	197.0
	174.0	117	616	24.26	325	12.800	14.0	0.550	21.6	0.850	12.7	0.50	222.0
	195.0	131	622	24.48	327	12.855	15.4	0.605	24.4	0.960	12.7	0.50	248.0
	217.0	146	628	24.74	328	12,900	16.5	0.650	27.7	1,090	12.7	0.50	277.0
	241.0	162	635	25.00	329	12.955	17.9	0.705	31.0	1.220	12.7	0.50	308.0
W27 (27"x10") (686x254)	125.0	84	678	26.71	253	9.960	11.7	0.460	16.3	0.640	15.2	0.60	160.0
	140.0	94	684	26.92	254	9.990	12.4	0.490	18.9	0.745	15.2	0.60	179.0
	152.0	102	688	27.09	254	10.015	13.1	0.515	21.1	0.830	15.2	0.60	194.0
	170.0	114	693	27.29	256	10.070	14.5	0.570	23.6	0.930	15.2	0.60	216.0
	192.0	129	702	27.63	254	10.010	15.5	0.610	27.9	1.100	15.2	0.60	244.0
W30 (30"x10 1/2") (762x267)	134.0	90	750	29.53	264	10.400	11.9	0.470	15.5	0.610	16.5	0.65	170.0
	147.0	99	753	29.65	265	10.450	13.2	0.520	17.0	0.670	16.5	0.65	188.0
	161.0	108	758	29.83	266	10.475	13.8	0.545	19.3	0.760	16.5	0.65	205.0
	173.0	116	762	30.01	267	10.495	14.4	0.565	21.6	0.850	16.5	0.65	221.0
	185.0	124	766	30.17	267	10.515	14.9	0.585	23.6	0.930	16.5	0.65	235.0
	196.0	132	770	30.31	268	10.545	15.6	0.615	25.4	1.000	16.5	0.65	251.0
	220.0	148	779	30.67	266	10.480	16.5	0.650	30.0	1.180	16.5	0.65	281.0
W33 (33"x11 1/2") (838x292)	176.0	118	835	32.86	292	11.480	14.0	0.550	18.8	0.740	17.8	0.70	224.0
	193.0	130	840	33.09	292	11.510	14.7	0.580	21.7	0.855	17.8	0.70	247.0
	210.0	141	846	33.30	293	11,535	15.4	0.605	24.4	0.960	17.8	0.70	268.0
	226.0	152	851	33.49	294	11.565	16.1	0.635	26.8	1.050	17.8	0.70	288.0
	251.0	169	859	33.82	292	11.500	17.0	0.670	31.0	1.220	17.8	0.70	319.0

Note

- The Hot-rolled sections listed in this table are rolled at specific intervals determined by Siam Yamato Steel.
- Contact us for product availability, rolling frequency and other pertinent information.

SIAM YAMATO STEEL

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www.syssteel.com



W-SHAPES | ASTM A6/A6M-03 | ASTM STANDARD

Sectional Area	Moment of Inertia I_x		Moment of Inertia I_y		Radius of Gyration r_x		Radius of Gyration r_y		Elastic Section Modulus S_x		Elastic Section Modulus S_y		Nominal Size
in^2	cm^4	in^4	cm^4	in^4	cm	in	cm	in	cm^3	in^3	cm^3	in^3	
18.30	55,200	1,326.19	2,380	57.18	21.60	8.50	4.49	1.77	2,070	126.32	228	13.91	W21 (21"x8 1/4") (533x210)
20.00	61,700	1,482.35	2,690	64.63	21.90	8.62	4.57	1.80	2,300	140.35	256	15.62	
21.50	66,700	1,602.47	2,950	70.87	21.90	8.62	4.61	1.81	2,470	150.73	280	17.09	
24.30	76,100	1,828.31	3,380	81.20	22.00	8.66	4.64	1.83	2,800	170.87	319	19.47	
27.30	86,100	2,068.56	3,870	92.98	22.10	8.70	4.69	1.85	3,140	191.61	362	22.09	
29.80	101,000	2,420.00	10,300	248	22.90	9.02	7.33	2.89	3,720	227	660	40.3	
32.70	111,000	2,680.00	11,490	274	22.90	9.05	7.35	2.90	4,560	249	729	44.5	
35.90	123,000	2,960.00	12,700	305	23.10	9.08	7.41	2.92	5,030	273	806	49.2	W21 (21"x12 1/4") (533x312)
38.80	134,000	3,230.00	13,900	333	23.10	9.12	7.45	2.93	5,460	295	877	53.5	
43.20	151,000	3,630.00	15,600	376	23.30	9.17	7.48	2.95	6,120	329	985	60.1	
48.90	178,100	4,280.00	18,100	435	23.70	9.36	7.59	2.99	6,220	380	1147	70.0	
53.70	196,800	4,730.00	20,100	483	23.80	9.40	7.62	3.00	6,830	417	1265	77.2	
16.20	56,000	1,345.41	1,210	29.07	23.10	9.09	3.39	1.33	1,870	114.11	136	8.30	W24 (24"x7") (610x178)
18.20	64,600	1,552.02	1,440	34.60	23.40	9.21	3.49	1.37	2,140	130.59	161	9.82	
20.10	76,400	1,835.52	2,950	70.87	24.30	9.57	4.78	1.88	2,530	154.39	259	15.81	
22.40	87,500	2,102.20	3,430	82.41	24.70	9.72	4.88	1.92	2,880	175.75	301	18.37	W24 (24"x9") (610x229)
24.70	98,500	2,366.47	3,930	94.42	24.90	9.80	4.97	1.96	3,220	196.50	343	20.93	
27.70	112,000	2,690.81	4,510	108.35	25.00	9.84	5.02	1.98	3,630	221.52	392	23.92	
30.30	125,000	3,003.14	5,000	120.13	25.30	9.96	5.06	1.99	4,010	244.71	437	26.67	
30.60	129,000	3,099.24	10,800	259.47	25.50	10.04	7.39	2.91	4,220	257.52	667	40.70	W24 (24"x12 3/4") (610x324)
34.40	147,000	3,531.69	12,400	297.91	25.70	10.12	7.47	2.94	4,770	291.08	763	46.56	
38.50	168,000	4,036.22	14,200	341.16	26.00	10.24	7.55	2.97	5,400	329.53	869	53.03	
43.30	191,000	4,588.79	16,300	391.61	26.30	10.35	7.67	3.02	6,080	371.02	994	60.66	
47.70	215,000	5,165.40	18,400	442.06	26.40	10.39	7.73	3.04	6,770	413.13	1.120	68.35	
24.80	119,000	2,858.99	4,410	105.95	27.30	10.75	5.25	2.07	3,510	214.19	349	21.30	
27.70	136,000	3,267.41	5,170	124.21	27.60	10.87	5.39	2.12	3,980	242.87	407	24.84	W27 (27"x10") (686x254)
30.00	151,000	3,627.79	5,780	138.87	27.90	10.98	5.46	2.15	4,390	267.89	455	27.77	
33.50	170,000	4,084.27	6,620	159.05	28.10	11.06	5.54	2.18	4,910	299.63	517	31.55	
37.80	198,000	4,756.97	7,640	183.55	28.50	11.22	5.60	2.20	5,640	344.17	602	36.74	
26.40	150,000	3,603.76	4,770	114.60	29.70	11.69	5.30	2.09	4,000	244.09	361	22.03	W30 (30"x10 1/2") (762x267)
29.10	166,000	3,988.17	5,290	127.09	29.70	11.69	5.30	2.09	4,410	269.11	399	24.35	
31.70	186,000	4,468.67	6,070	145.83	30.10	11.85	5.44	2.14	4,910	299.63	456	27.83	
34.20	206,000	4,949.17	6,870	165.05	30.50	12.01	5.58	2.20	5,410	330.14	515	31.43	
36.50	223,000	5,357.60	7,510	180.43	30.80	12.13	5.65	2.22	5,820	355.16	563	34.36	
38.90	240,000	5,766.02	8,170	196.29	30.90	12.17	5.71	2.25	6,230	380.18	610	37.22	
43.50	278,000	6,678.98	9,440	226.80	31.50	12.40	5.80	2.28	7,140	435.71	710	43.33	
34.70	246,000	5,910.17	7,820	187.88	33.10	13.03	5.91	2.33	5,890	359.43	536	32.71	W33 (33"x11 1/2") (838x292)
38.30	278,000	6,678.98	9,030	216.95	33.50	13.19	6.05	2.38	6,620	403.98	618	37.71	
41.60	311,000	7,471.80	10,300	247.46	34.10	13.43	6.20	2.44	7,350	448.52	703	42.90	
44.70	340,000	8,168.53	11,400	273.89	34.30	13.50	6.28	2.47	7,990	487.58	776	47.35	
49.50	386,000	9,273.69	12,900	309.92	34.80	13.70	6.36	2.50	8,990	548.60	884	53.94	

Note

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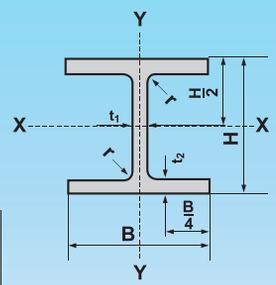
SIAM YAMATO STEEL

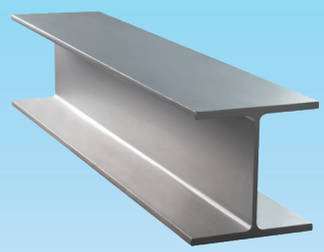
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HP-shapes

ASTM A6/A6M-03

ASTM STANDARD





Nominal Size	Weight		Standard Sectional Dimension								Sectional Area	
			d		b_f		t_w		t_f			
	kg/m	lb/ft	mm	in	mm	in	mm	in	mm	in	cm^2	in^2
HP8 (8"x8")	53	36	204	8.02	207	8.155	11.3	0.445	11.3	0.445	68.4	10.6
HP10 (10"x10")	62	42	246	9.70	256	10.075	10.5	0.415	10.7	0.420	80.0	12.4
	85	57	254	9.99	260	10.225	14.4	0.565	14.4	0.565	108.0	16.8
HP12 (12"x12")	79	53	299	11.78	306	12.045	11.0	0.435	11.0	0.435	100.0	15.5
	93	63	303	11.94	308	12.125	13.1	0.515	13.1	0.515	119.0	18.4
	110	74	308	12.13	310	12.215	15.4	0.605	15.5	0.610	141.0	21.8
	125	84	312	12.28	312	12.295	17.4	0.685	17.4	0.685	159.0	24.6
HP14 (14"x14-1/2")	108	73	346	13.61	370	14.585	12.8	0.505	12.8	0.505	138.0	21.4
	132	89	351	13.83	373	14.695	15.6	0.615	15.6	0.615	168.0	26.1
	152	102	356	14.01	376	14.785	17.9	0.705	17.9	0.705	194.0	30.0
	174	117	361	14.21	378	14.885	20.4	0.805	20.4	0.805	222.0	34.4

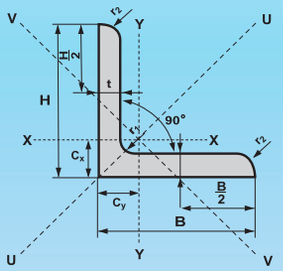
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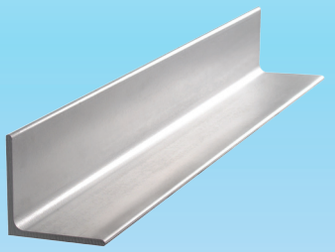
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L-Shapes (Equal Leg Angles)





ASTM A6/A6M-03 | ASTM STANDARD

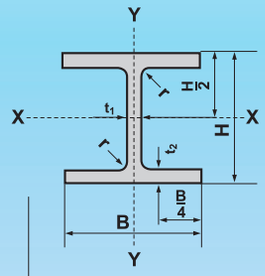
Nominal Size	Weight		Standard Sectional Dimension				Sectional Area		Moment of Inertia				Radius of Gyration				Elastic Section Modulus		Distance of center of gravity	
			H=B		t				I_x	I_y	I_u	I_v	r_x	r_y	r_u	r_v	S_x	S_y	C_x	C_y
	kg/m	lb/ft	mm	in	mm	in	cm^2	in^2	cm^4	cm^4	cm^4	cm^4	cm	cm	cm	cm	cm^3	cm^3	cm	cm
L4 (4"x4") (102x102)	9.8	6.60	102	4	6.4	0.25	12.50	1.94	125	125	197	51	3.17	3.17	4.00	2.02	17.0	17.0	2.76	2.76
	12.2	8.20	102	4	7.9	0.313	15.50	2.40	154	154	243	63	3.15	3.15	3.98	2.01	21.0	21.0	2.82	2.82
	14.6	9.80	102	4	9.5	0.375	18.50	2.86	180	180	284	72	3.12	3.12	3.93	2.00	24.7	24.7	2.87	2.87
L6 (6"x6") (152x152)	29.2	19.6	152	6	12.7	0.500	37.10	5.75	822	822	1,294	347	4.71	4.71	5.90	3.06	75.1	75.1	4.27	4.27
	32.6	21.9	152	6	14.3	0.563	41.50	6.43	912	912	1,434	387	4.69	4.69	5.88	3.05	83.8	83.8	4.33	4.33
	36.0	24.2	152	6	15.9	0.625	45.90	7.11	999	999	1,569	425	4.67	4.67	5.85	3.04	92.3	92.3	4.39	4.39
	42.7	28.7	152	6	19.0	0.750	54.50	8.44	1,160	1,160	1,849	466	4.62	4.62	5.82	2.92	108.0	108.0	4.50	4.50
L8 (8"x8") (203x203)	48.7	32.7	203	8	15.9	0.625	62.00	9.61	2,470	2,470	3,909	1,040	6.31	6.31	7.94	4.09	169.0	169.0	5.66	5.66
	57.9	38.9	203	8	19.0	0.750	73.60	11.4	2,890	2,890	4,566	1,225	6.26	6.26	7.87	4.08	199.0	199.0	5.78	5.78
	67.0	45.0	203	8	22.2	0.875	85.00	13.2	3,300	3,300	5,207	1,406	6.22	6.22	7.82	4.06	229.0	229.0	5.89	5.89
	75.9	51.0	203	8	25.4	1.000	96.80	15.0	3,690	3,690	5,765	1,631	6.17	6.17	7.72	4.10	258.0	258.0	6.01	6.01

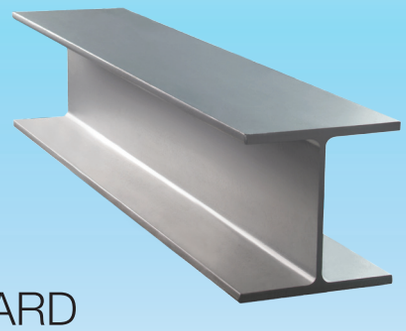
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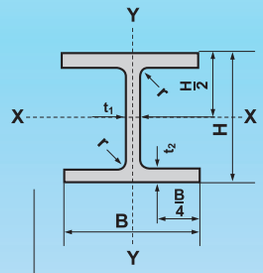
H-BEAMS

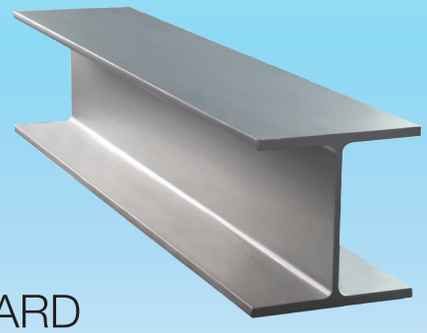
JIS G 3192 : 1990 | JIS STANDARD

Nominal Size	Weight	Sectional Dimension					Sectional Area	Moment of Inertia		Radius of Gyration		Elastic Section Modulus	
		H	B	t_1	t_2	r		I_x	I_y	i_x	i_y	Z_x	Z_y
mm	kg/m	mm	mm	mm	mm	mm	cm^2	cm^4	cm^4	cm	cm	cm^3	cm^3
100x50	9.3	100	50	5.0	7	8	11.85	187	14.8	3.98	1.12	37.5	5.91
100x100	17.2	100	100	6.0	8	10	21.90	383	134	4.18	2.47	76.5	26.7
125x125	23.8	125	125	6.5	9	10	30.31	847	293	5.29	3.11	136	47
150x75	14.0	150	75	5.0	7	8	17.85	666	49.5	6.11	1.66	88.8	13.2
150x100	21.1	148	100	6.0	9	11	26.84	1,020	151	6.17	2.37	138	30.1
150x150	31.5	150	150	7.0	10	11	40.14	1,640	563	6.39	3.75	219	75.1
175x90	18.1	175	90	5.0	8	9	23.04	1,210	98	7.26	2.06	139	21.7
175x175	40.2	175	175	7.5	11	12	51.21	2,880	984	7.5	4.38	330	112
200x100	18.2	198	99	4.5	7	11	23.18	1,580	114	8.26	2.21	160	23
	21.3	200	100	5.5	8	11	27.16	1,840	134	8.24	2.22	184	26.8
200x150	30.6	194	150	6.0	9	13	39.01	2,690	507	8.3	3.61	277	67.6
200x200	49.9	200	200	8.0	12	13	63.53	4,720	1,600	8.62	5.02	472	160
	56.2	200	204	12.0	12	13	71.53	4,980	1,700	8.35	4.88	498	167
	65.7	208	202	10.0	16	13	83.69	6,530	2,200	8.8	5.13	628	218
250x125	25.7	248	124	5.0	8	12	32.68	3,540	255	10.4	2.79	285	41.1
	29.6	250	125	6.0	9	12	37.66	4,050	294	10.4	2.79	324	47
250x175	44.1	244	175	7.0	11	16	56.24	6,120	984	10.4	4.18	502	113
250x250	64.4	244	252	11.0	11	16	82.06	8,790	2,940	10.3	5.98	720	233
	66.5	248	249	8.0	13	16	84.70	9,930	3,350	10.8	6.29	801	269
	72.4	250	250	9.0	14	16	92.18	10,800	3,650	10.8	6.29	867	292
	82.2	250	255	14.0	14	16	104.70	11,500	3,880	10.5	6.09	919	304
300x150	32.0	298	149	5.5	8	13	40.80	6,320	442	12.4	3.29	424	59.3
	36.7	300	150	6.5	9	13	46.78	7,210	508	12.4	3.29	481	67.7
300x200	56.8	294	200	8.0	12	18	72.38	11,300	1,600	12.5	4.71	771	160
	65.4	298	201	9.0	14	18	83.36	13,300	1,900	12.6	4.77	893	189
300x300	84.5	294	302	12.0	12	18	107.70	16,900	5,520	12.5	7.16	1,150	365
	87.0	298	299	9.0	14	18	110.80	18,800	6,240	13.0	7.51	1,270	417
	94.0	300	300	10.0	15	18	119.80	20,400	6,750	13.1	7.51	1,360	450
	106.0	300	305	15.0	15	18	134.80	21,500	7,100	12.6	7.26	1,440	466
	106.0	304	301	11.0	17	18	134.80	23,400	7,730	13.2	7.57	1,540	514
350x175	41.4	346	174	6.0	9	14	52.68	11,100	792	14.5	3.88	641	91
	49.6	350	175	7.0	11	14	63.14	13,600	984	14.7	3.95	775	112
	57.8	354	176	8.0	13	14	73.68	16,100	1,180	14.8	4.01	909	134
350x250	69.2	336	249	8.0	12	20	88.15	18,500	3,090	14.5	5.92	1,100	248
	79.7	340	250	9.0	14	20	101.50	21,700	3,650	14.6	6.00	1,280	292
350x350	106.0	338	351	13.0	13	20	135.30	28,200	9,380	14.4	8.33	1,670	534
	115.0	344	348	10.0	16	20	146.00	33,300	11,200	15.1	8.78	1,940	646
	131.0	344	354	16.0	16	20	166.60	35,300	11,800	14.6	8.43	2,050	669
	137.0	350	350	12.0	19	20	173.90	40,300	13,600	15.2	8.84	2,300	776
	156.0	350	357	19.0	19	20	198.40	42,800	14,400	14.7	8.53	2,450	809

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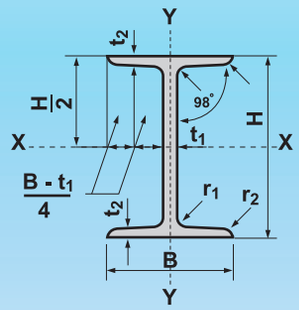
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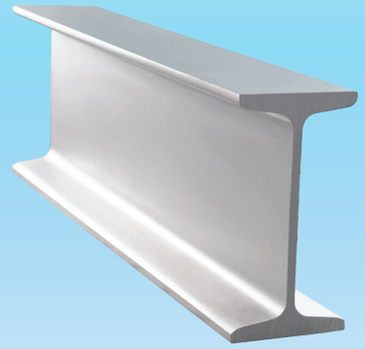
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Nominal Size	Weight	Sectional Dimension					Sectional Area	Moment of Inertia		Radius of Gyration		Elastic Section Modulus	
		H	B	t_1	t_2	r		I_x	I_y	i_x	i_y	Z_x	Z_y
mm	kg/m	mm	mm	mm	mm	mm	cm^2	cm^4	cm^4	cm	cm	cm^3	cm^3
400x200	56.6	396	199	7.0	11	16	72.16	20,000	1,450	16.7	4.48	1,010	145
	66.0	400	200	8.0	13	16	84.12	23,700	1,740	16.8	4.54	1,190	174
	75.5	404	201	9.0	15	16	96.16	27,500	2,030	16.9	4.60	1,360	202
400x300	94.3	386	299	9.0	14	22	120.10	33,700	6,240	16.7	7.21	1,740	418
	107.0	390	300	10.0	16	22	136.00	38,700	7,210	16.9	7.28	1,980	481
400x400	140.0	388	402	15.0	15	22	178.50	49,000	16,300	16.6	9.54	2,520	809
	147.0	394	398	11.0	18	22	186.80	56,100	18,900	17.3	10.10	2,850	951
	168.0	394	405	18.0	18	22	214.40	59,700	20,000	16.7	9.65	3,030	985
	172.0	400	400	13.0	21	22	218.70	66,600	22,400	17.5	10.10	3,330	1,120
	197.0	400	408	21.0	21	22	250.70	70,900	23,800	16.8	9.75	3,540	1,170
	232.0	414	405	18.0	28	22	295.40	92,800	31,000	17.7	10.20	4,480	1,530
	283.0	428	407	20.0	35	22	360.70	119,000	39,400	18.2	10.40	5,570	1,930
450x200	66.2	446	199	8.0	12	18	84.30	28,700	1,580	18.5	4.33	1,290	159
	76.0	450	200	9.0	14	18	96.76	33,500	1,870	18.6	4.40	1,490	187
	88.9	456	201	10.0	17	18	113.30	40,400	2,310	18.9	4.51	1,770	230
450x300	106.0	434	299	10.0	15	24	135.00	46,800	6,690	18.6	7.04	2,160	448
	124.0	440	300	11.0	18	24	157.40	56,100	8,110	18.9	7.18	2,550	541
	145.0	446	302	13.0	21	24	184.30	66,400	9,660	19.0	7.24	2,980	639
500x200	79.5	496	199	9.0	14	20	101.30	41,900	1,840	20.3	4.27	1,690	185
	89.6	500	200	10.0	16	20	114.20	47,800	2,140	20.5	4.33	1,910	214
	103.0	506	201	11.0	19	20	131.30	56,500	2,580	20.7	4.43	2,230	257
500x300	114.0	482	300	11.0	15	26	145.50	60,400	6,760	20.4	6.82	2,500	451
	128.0	488	300	11.0	18	26	163.50	71,000	8,110	20.8	7.04	2,910	541
	150.0	494	302	13.0	21	26	191.40	83,800	9,660	20.9	7.10	3,390	640
600x200	94.6	596	199	10.0	15	22	120.50	68,700	1,980	23.9	4.05	2,310	199
	106.0	600	200	11.0	17	22	134.40	77,600	2,280	24.0	4.12	2,590	228
	120.0	606	201	12.0	20	22	152.50	90,400	2,720	24.3	4.22	2,980	271
	134.0	612	202	13.0	23	22	170.70	103,000	3,180	24.6	4.31	3,380	314
600x300	137.0	582	300	12.0	17	28	174.50	103,000	7,670	24.3	6.63	3,530	511
	151.0	588	300	12.0	20	28	192.50	118,000	9,020	24.8	6.85	4,020	601
	175.0	594	302	14.0	23	28	222.40	137,000	10,600	24.9	6.90	4,620	701
700x300	166.0	692	300	13.0	20	28	211.50	172,000	9,020	28.6	6.53	4,980	602
	185.0	700	300	13.0	24	28	235.50	201,000	10,800	29.3	6.78	5,760	722
800x300	191.0	792	300	14.0	22	28	243.40	254,000	9,930	32.3	6.39	6,410	662
	210.0	800	300	14.0	26	28	267.40	292,000	11,700	33.0	6.62	7,290	782
900x300	213.0	890	299	15.0	23	28	270.90	345,000	10,300	35.7	6.16	7,760	688
	243.0	900	300	16.0	28	28	309.80	411,000	12,600	36.4	6.39	9,140	843
	286.0	912	302	18.0	34	28	364.00	498,000	15,700	37.0	6.56	10,900	1,040

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I-BEAMS

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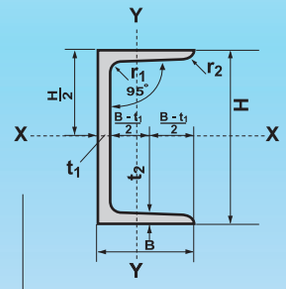
Nominal Size	Weight	Standard Sectional Dimension					Sectional Area	Moment of Inertia		Radius of Gyration		Elastic Section Modulus	
		HxB	t_1	t_2	r_1	r_2		I_x	I_y	i_x	i_y	Z_x	Z_y
mm	kg/m	mm	mm	mm	mm	mm	cm^2	cm^4	cm^4	cm	cm	cm^3	cm^3
150x75	17.1	150x75	5.5	9.5	9	4.5	21.83	819	57.5	6.12	1.62	109	15.3
200x100	26.0	200x100	7.0	10.0	10	5.0	33.06	2,170	138	8.11	2.05	217	27.7
200x150	50.4	200x150	9.0	16.0	15	7.5	64.16	4,460	753	8.34	3.43	446	100.0
250x125	38.3	250x125	7.5	12.5	12	6.0	48.79	5,180	337	10.30	2.63	414	53.9
	55.5	250x125	10.0	19.0	21	10.5	70.73	7,310	538	10.20	2.76	585	86.0
300x150	48.3	300x150	8.0	13.0	12	6.0	61.58	9,480	588	12.40	3.09	632	78.4
	65.5	300x150	10.0	18.5	19	9.5	83.47	12,700	886	12.30	3.26	849	118.0
	76.8	300x150	11.5	22.0	23	11.5	97.88	14,700	1,080	12.20	3.32	978	143.0
350x150	58.5	350x150	9.0	15.0	13	6.5	74.58	15,200	702	14.30	3.07	870	93.5
	87.2	350x150	12.0	24.0	25	12.5	111.10	22,400	1,180	14.20	3.26	1,280	158.0
400x150	72.0	400x150	10.0	18.0	17	8.5	91.73	24,100	864	16.20	3.07	1,200	115.0
	95.8	400x150	12.5	25.0	27	13.5	122.10	31,700	1,240	16.10	3.18	1,580	165.0
450x175	91.7	450x175	11.0	20.0	19	9.5	116.80	39,200	1,510	18.30	3.60	1,740	173.0
	115.0	450X175	13.0	26.0	27	13.5	146.10	48,800	2,020	18.30	3.72	2,170	231.0
600x190	133.0	600x190	13.0	25.0	25	12.5	169.40	98,400	2,460	24.10	3.81	3,280	259.0
	176.0	600x190	16.0	35.0	38	19.0	224.50	130,000	3,540	24.10	3.97	4,330	373.0

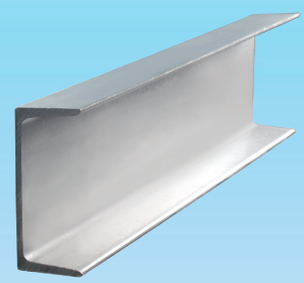
Note

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CHANNELS

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Nominal Size	Weight	Standard Sectional Dimension					Sectional Area	Moment of Inertia		Radius of Gyration		Elastic Section Modulus	
		HxB	t_1	t_2	r_1	r_2		I_x	I_y	i_x	i_y	Z_x	Z_y
mm			mm	mm	mm	mm	cm^2	cm^4	cm^4	cm	cm	cm^3	cm^3
75x40	6.92	75x40	*5.0	7.0	8	4.0	8.818	75.3	12.2	2.92	1.17	20.1	4.47
100x50	9.36	100x50	5.0	7.5	8	4.0	11.92	188	26.0	3.97	1.48	37.6	7.52
125x65	13.40	125x65	6.0	8.0	8	4.0	17.11	424	61.8	4.98	1.90	67.8	13.4
150x75	18.60	150x75	6.5	10.0	10	5.0	23.71	861	117.0	6.03	2.22	115.0	22.4
	24.00	150x75	9.0	12.5	15	7.5	30.59	1,050	147.0	5.86	2.19	140.0	28.3
180x75	21.4	180X75	7.0	10.5	11	5.5	27.20	1,380	131	7.12	2.19	153	24.3
200x80	24.6	200X80	7.5	11.0	12	6.0	31.33	1,950	168	7.88	2.32	195	29.1
200x90	30.3	200X90	8.0	13.5	14	7.0	38.65	2,490	277	8.02	2.68	249	44.2
250x90	34.6	250X90	9.0	13.0	14	7.0	44.07	4,180	294	9.74	2.58	334	44.5
	40.2	250X90	11.0	14.5	17	8.5	51.17	4,680	329	9.56	2.54	374	49.9
300x90	38.1	300X90	9.0	13.0	14	7.0	48.57	6,440	309	11.50	2.52	429	45.7
	43.8	300X90	10.0	15.5	19	9.5	55.74	7,410	360	11.50	2.54	494	54.1
	48.6	300X90	12.0	16.0	19	9.5	61.90	7,870	379	11.30	2.48	525	56.4
380x100	54.5	380X100	10.5	16.0	18	9.0	69.39	14,500	535	14.50	2.78	763	70.5
	62.0	380X100	13.0	16.5	18	9.0	78.96	15,600	565	14.10	2.67	823	73.6
	67.3	380X100	13.0	20.0	24	12.0	85.71	17,600	655	14.30	2.76	926	87.8

Note

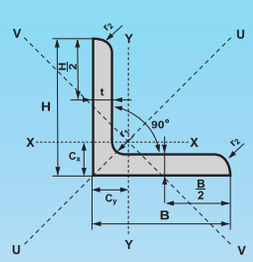
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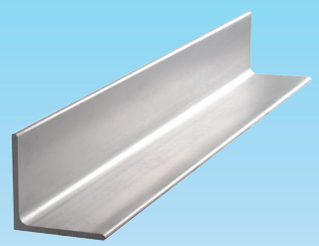
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EQUAL-LEG ANGLES

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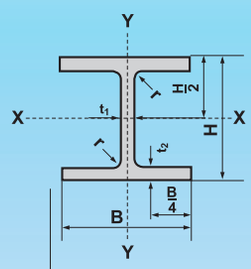
Nominal Size	Weight	Standard Sectional Dimension				Sectional Area	Moment of Inertia				Radius of Gyration				Elastic Section Modulus		Distance of center of gravity	
		HxB	t	r_1	r_2		I_x	I_y	I_u	I_v	i_x	i_y	i_u	i_v	Z_x	Z_y	C_x	C_y
mm	kg/m		mm	mm	mm	cm^2	cm^4	cm^4	cm^4	cm^4	cm	cm	cm	cm	cm^3	cm^3	cm	cm
100x100	10.7	100x100	7	10	5.0	13.62	129	129	205	53.2	3.08	3.08	3.88	1.98	17.7	17.7	2.71	2.71
	14.9	100x100	10	10	7.0	19.00	175	175	278	72.0	3.04	3.04	3.83	1.95	24.4	24.4	2.82	2.82
	17.8	100x100	12	12	4.8	22.70	207	207	328	85.7	3.02	3.02	3.80	1.94	29.1	29.1	2.90	2.90
	19.1	100x100	13	10	7.0	24.31	220	220	248	91.1	3.00	3.00	3.78	1.94	31.1	31.1	2.94	2.94
120x120	14.7	120x120	8	12	5.0	18.76	258	258	410	106	3.71	3.71	4.67	2.38	29.5	29.5	3.24	3.24
130x130	17.9	130x130	9	12	6.0	22.74	366	366	583	150	4.01	4.01	5.06	2.57	38.7	38.7	3.53	3.53
	23.4	130x130	12	12	8.5	29.76	467	467	743	192	3.96	3.96	5.00	2.54	49.9	49.9	3.64	3.64
	28.8	130x130	15	12	8.5	36.75	568	568	902	234	3.93	3.93	4.95	2.53	61.5	61.5	3.76	3.76
150x150	27.3	150x150	12	14	7.0	34.77	740	740	1,180	304	4.61	4.61	5.82	2.96	68.1	68.1	4.14	4.14
	33.6	150x150	15	14	10.0	42.74	888	888	1,410	365	4.56	4.56	5.75	2.92	82.6	82.6	4.24	4.24
	41.9	150x150	19	14	10.0	53.38	1,090	1,090	1,730	451	4.52	4.52	5.69	2.91	103.0	103.0	4.40	4.40
175x175	31.8	175x175	12	15	11.0	40.52	1,170	1,170	1,860	480	5.38	5.38	6.78	3.44	91.8	91.8	4.73	4.73
	39.4	175x175	15	15	11.0	50.21	1,440	1,440	2,290	589	5.35	5.35	6.75	3.42	114.0	114.0	4.85	4.85
200x200	45.3	200x200	15	17	12.0	57.75	2,180	2,180	3,470	891	6.14	6.14	7.75	3.93	150.0	150.0	5.46	5.46
	59.7	200x200	20	17	12.0	76.00	2,820	2,820	4,490	1,160	6.09	6.09	7.68	3.90	197.0	197.0	5.67	5.67
	73.6	200x200	25	17	12.0	93.75	3,420	3,420	5,420	1,410	6.04	6.04	7.61	3.88	242.0	242.0	5.86	5.86
250x250	93.7	250x250	25	24	12.0	119.40	6,950	6,950	11,000	2,860	7.63	7.63	9.62	4.90	388.0	388.0	7.10	7.10
	128.0	250x250	35	24	18.0	162.60	9,110	9,110	14,400	3,790	7.49	7.49	9.42	4.83	519.0	519.0	7.45	7.45

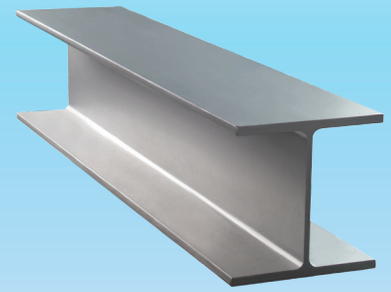
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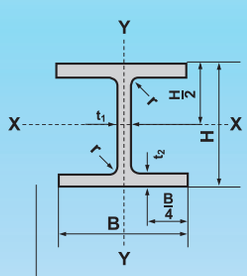
H-BEAMS

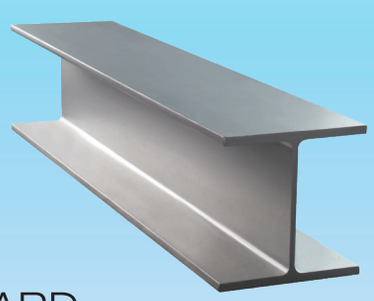
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Nominal Size	Weight	Sectional Dimension					Sectional Area	Moment of Inertia		Radius of Gyration		Elastic Section Modulus	
		H	B	t_1	t_2	r		I_x	I_y	i_x	i_y	Z_x	Z_y
mm	kg/m	mm	mm	mm	mm	mm	cm^2	cm^4	cm^4	cm	cm	cm^3	cm^3
100x50	9.3	100	50	5.0	7	8	11.85	187	14.8	3.98	1.12	37.5	5.91
100x100	16.9	100	100	6.0	8	8	21.59	378	134	4.18	2.49	75.6	26.7
125x125	23.6	125	125	6.5	9	8	30.00	839	293	5.29	3.13	134	46.9
150x75	14.0	150	75	5.0	7	8	17.85	666	49.5	6.11	1.66	88.8	13.2
150x100	20.7	148	100	6.0	9	8	26.35	1,000	150	6.17	2.39	135	30.1
150x150	31.1	150	150	7.0	10	8	39.65	1,620	563	6.4	3.77	216	75.1
175x90	18.0	175	90	5.0	8	8	22.90	1,210	98	7.26	2.06	138	21.7
175x175	40.4	175	175	7.5	11	13	51.42	2,900	984	7.5	4.37	331	112
200x100	17.8	198	99	4.5	7	8	22.69	1,540	113	8.25	2.24	156	22.9
	20.9	200	100	5.5	8	8	26.67	1,810	134	8.23	2.24	181	26.7
200x150	29.9	194	150	6.0	9	8	38.11	2,630	507	8.3	3.65	271	67.6
200x200	49.9	200	200	8.0	12	13	63.53	4,720	1,600	8.62	5.02	472	160
	56.2	200	204	12.0	12	13	71.53	4,980	1,700	8.43	4.88	498	167
250x125	25.1	248	124	5.0	8	8	31.99	3,450	255	10.4	2.82	278	41.1
	29.0	250	125	6.0	9	8	36.97	3,960	294	10.4	2.82	317	47
250x175	43.6	244	175	7.0	11	13	55.49	6,040	984	10.4	4.21	495	112
250x250	71.8	250	250	9.0	14	13	91.43	10,700	3,650	10.8	6.32	860	292
	81.6	250	255	14.0	14	13	103.90	11,400	3,880	10.5	6.11	912	304
300x150	32.0	298	149	5.5	8	13	40.80	6,320	442	12.4	3.29	424	59.3
	36.7	300	150	6.5	9	13	46.78	7,210	508	12.4	3.29	481	67.7
300x200	55.8	294	200	8.0	12	13	71.05	11,100	1,600	12.5	4.75	756	160
300x300	83.4	294	302	12.0	12	13	106.30	16,600	5,510	12.5	7.20	1,130	365
	93.0	300	300	10.0	15	13	118.40	20,200	6,750	13.1	7.55	1,350	450
	105.0	300	305	15.0	15	13	133.40	21,300	7,100	12.6	7.30	1,420	466
350x175	41.2	346	174	6.0	9	13	52.45	11,000	791	14.5	3.88	638	91
	49.4	350	175	7.0	11	13	62.91	13,500	984	14.6	3.96	771	112
350x250	78.1	340	250	9.0	14	13	99.53	21,200	3,650	14.6	6.05	1,250	292
350x350	113.0	344	348	10.0	16	13	144.00	32,800	11,200	15.1	8.84	1,910	646
	135.0	350	350	12.0	19	13	171.90	39,800	13,600	15.2	8.89	2,280	776

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H-BEAMS

JIS G 3192 : 1994 | JIS STANDARD

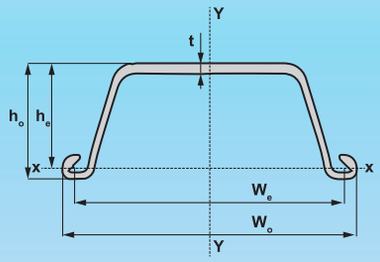
Nominal Size	Weight	Sectional Dimension					Sectional Area	Moment of Inertia		Radius of Gyration		Elastic Section Modulus	
		H	B	t_1	t_2	r		I_x	I_y	i_x	i_y	Z_x	Z_y
mm	kg/m	mm	mm	mm	mm	mm	cm^2	cm^4	cm^4	cm	cm	cm^3	cm^3
400x200	56.1	396	199	7.0	11	13	71.41	19,800	1,450	16.6	4.50	999	145
	65.4	400	200	8.0	13	13	83.37	23,500	1,740	16.8	4.56	1,170	174
400x300	105.0	390	300	10.0	16	13	133.20	37,900	7,200	16.9	7.35	1,940	480
400x400	140.0	388	402	15.0	15	22	178.50	49,000	16,300	16.6	9.55	2,520	809
	147.0	394	398	11.0	18	22	186.80	56,100	18,900	17.3	10.10	2,850	951
	172.0	400	400	13.0	21	22	218.70	66,600	22,400	17.5	10.10	3,330	1,120
	197.0	400	408	21.0	21	22	250.70	70,900	23,800	16.8	9.75	3,540	1,170
	232.0	414	405	18.0	28	22	295.40	92,800	31,000	17.7	10.20	4,480	1,530
	283.0	428	407	20.0	35	22	360.70	119,000	39,400	18.2	10.40	5,570	1,930
450x200	65.1	446	199	8.0	12	13	82.97	28,100	1,580	18.4	4.36	1,260	159
	74.9	450	200	9.0	14	13	95.43	32,900	1,870	18.6	4.43	1,460	187
450x300	121.0	440	300	11.0	18	13	153.90	54,700	8,110	18.9	7.26	2,490	540
500x200	77.9	496	199	9.0	14	13	99.29	40,800	1,840	20.3	4.31	1,650	185
	88.2	500	200	10.0	16	13	112.20	46,800	2,140	20.4	4.36	1,870	214
	102.0	506	201	11.0	19	13	129.30	55,500	2,580	20.7	4.46	2,190	256
500x300	111.0	482	300	11.0	15	13	141.20	58,300	6,760	20.3	6.92	2,420	450
	125.0	488	300	11.0	18	13	159.20	68,900	8,110	20.8	7.14	2,820	540
600x200	92.5	596	199	10.0	15	13	117.80	66,600	1,980	23.8	4.10	2,240	199
	103.0	600	200	11.0	17	13	131.70	75,600	2,270	24.0	4.16	2.520	227
	118.0	606	201	12.0	20	13	149.80	88,300	2,720	24.3	4.26	2,910	270
600x300	133.0	582	300	12.0	17	13	169.20	98,900	7,660	24.2	6.73	3,400	511
	147.0	588	300	12.0	20	13	187.20	114,000	9,010	24.7	6.94	3,890	601
	170.0	594	302	14.0	23	13	217.10	134,000	10,600	24.8	6.98	4,500	700
700x300	163.0	692	300	13.0	20	18	207.50	168,000	9,020	28.5	6.59	4,870	601
	182.0	700	300	13.0	24	18	231.50	197,000	10,800	29.2	6.83	5,640	721
800x300	188.0	792	300	14.0	22	18	239.50	248,000	9,920	32.2	6.44	6,270	661
	207.0	800	300	14.0	26	18	263.50	286,000	11,700	33.0	6.67	7,160	781
900x300	210.0	890	299	15.0	23	18	266.90	339,000	10,300	35.6	6.20	7,610	687
	240.0	900	300	16.0	28	18	305.80	404,000	12,600	36.4	6.43	8,990	842
	283.0	912	302	18.0	34	18	360.10	491,000	15,700	36.9	6.59	10,800	1,040

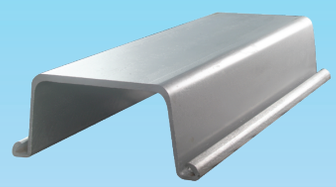
SIAM YAMATO STEEL

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STEEL SHEET PILES

(Grade SY295 or SY390)





JIS A 5528 : 2012

JIS STANDARD

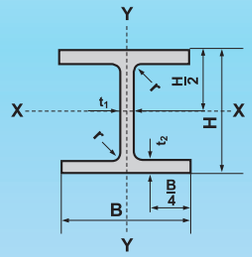
Section	Weight		Dimensions					Sectional Area	Moment of Inertia		Elastic Section Modulus	
	per pile	per wall width	W_e	W_o	h_e	h_o	t	per pile	per pile	per wall width	per pile	per wall width
	kg/m	kg/m^2	mm	mm	mm	mm	mm	cm^2	cm^4	cm^4/m	cm^3	cm^3/m
SP-II	48.0	120.0	400	437.5	100	122.5	10.5	61.18	1,240.0	8,740	152.0	874.0
SP-IIIA	58.4	146.0	400	437.5	150	170	13.1	74.40	2,790.0	22,800	250.0	1,520.0
SP-III	60.0	150.0	400	439	125	149	13.0	76.42	2,220.0	16,800	223.0	1,340.0
SP-IV	76.1	190.0	400	443	170	193.5	15.5	96.99	4,670.0	38,600	362.0	2,270.0

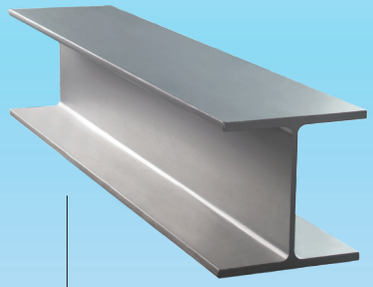
Note

- Weight per linear length of wall is rounded off using the JIS Z 8401 - specified formula : $\frac{\text{Weight per section}}{\text{w(effective width)}} \times 1{,}000$
- The Hot - rolled sections listed in this table are rolled at specific intervals determined by Siam Yamato Steel.
- Contact us for product availability, rolling frequency and other pertinent information.

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UNIVERSAL BEAMS

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Nominal Size	Weight	Sectional Dimension					Sectional Area	Moment of Inertia		Radius of Gyration		Elastic Section Modulus	
		H	B	t_1	t_2	r		I_x	I_y	r_x	r_y	Z_x	Z_y
	kg/m	mm	mm	mm	mm	mm	cm^2	cm^4	cm^4	cm	cm	cm^3	cm^3
150 UB	14.0	150.0	75	5.0	7.0	8.0	17.8	666	49.5	6.11	1.66	88.8	13.2
	18.0	155.0	75	6.0	9.5	8.0	23.0	905	67.2	6.28	1.71	117	17.9
180 UB	16.1	173.0	90	4.5	7.0	8.9	20.4	1,060	85.3	7.20	2.04	123	19.0
	18.1	175.0	90	5.0	8.0	8.9	23.0	1,210	97.5	7.26	2.06	139	21.7
	22.2	178.8	90	6.0	10.0	8.9	28.2	1,530	122	7.36	2.08	171	27.1
200 UB	18.2	198.0	99	4.5	7.0	11.0	23.2	1,580	114	8.26	2.21	160	23.0
	22.3	201.6	133	5.0	7.0	8.9	28.7	2,100	275	8.55	3.10	208	41.3
	25.4	203.2	133	5.8	7.8	8.9	32.3	2,360	306	8.54	3.08	232	46.1
	29.8	207.0	134	6.3	9.6	8.9	38.2	2,910	386	8.73	3.18	281	57.5
250 UB	25.7	248.0	124	5.0	8.0	12.0	32.7	3,540	255	10.40	2.79	285	41.1
	31.4	251.6	146	6.1	8.6	8.9	40.1	4,450	447	10.50	3.34	354	61.2
	37.3	256.2	146	6.4	10.9	8.9	47.5	5,570	566	10.80	3.45	435	77.5
310 UB	32.0	298.0	149	5.5	8.0	11.4	40.8	6,320	442	12.40	3.29	424	59.3
	40.4	304.0	165	6.1	10.2	11.4	52.1	8,640	765	12.90	3.83	569	92.7
	46.2	307.2	166	6.7	11.8	11.4	59.3	10,000	901	13.00	3.90	654	109.0
360 UB	44.7	352.0	171	6.9	9.7	11.4	57.2	12,100	810	14.60	3.76	689	94.7
	50.7	355.6	171	7.3	11.5	11.4	64.7	14,200	960	14.80	3.85	798	112.0
	56.7	358.6	172	8.0	13.0	11.4	72.4	16,100	1,100	14.90	3.90	899	128.0
410 UB	53.7	402.6	178	7.6	10.9	11.4	68.9	18,800	1,030	16.50	3.86	933	115.0
	59.7	406.4	178	7.8	12.8	11.4	76.4	21,600	1,210	16.80	3.97	1,060	135.0
460 UB	67.1	453.8	190	8.5	12.7	11.4	85.8	29,600	1,450	18.60	4.12	1,300	153.0
	74.6	457.4	190	9.1	14.5	11.4	95.2	33,500	1,660	18.80	4.18	1,460	175.0
	82.1	460.4	191	9.9	16.0	11.4	105.0	37,200	1,860	18.80	4.22	1,610	195.0
530 UB	82.0	528.2	209	9.6	13.2	14.0	105.0	47,700	2,010	21.30	4.38	1,810	193.0
	92.4	533.0	209	10.2	15.6	14.0	118.0	55,400	2,380	21.70	4.49	2,080	228.0
610 UB	101.0	602.0	228	10.6	14.8	14.0	130.0	76,100	2,930	24.20	4.75	2,530	257.0
	113.0	607.0	228	11.2	17.3	14.0	145.0	87,500	3,430	24.60	4.87	2,880	300.0
	125.0	611.6	229	11.9	19.6	14.0	160.0	98,600	3,930	24.90	4.96	3,230	343.0

UNIVERSAL COLUMNS

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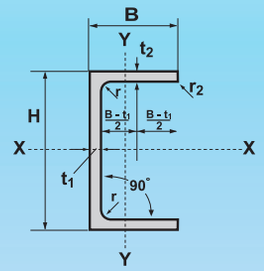
Nominal Size	Weight	Sectional Dimension					Sectional Area	Moment of Inertia		Radius of Gyration		Elastic Section Modulus	
		H	B	t_1	t_2	r		I_x	I_y	r_x	r_y	Z_x	Z_y
	kg/m	mm	mm	mm	mm	mm	cm^2	cm^4	cm^4	cm	cm	cm^3	cm^3
100 UC	14.8	97.0	99	5.00	7.0	10.0	18.9	318	114	4.11	2.45	65.6	22.9
150 UC	23.4	152.4	152	6.10	6.8	8.9	29.8	1,260	398	6.51	3.66	166	52.4
	30.0	157.6	153	6.60	9.4	8.9	38.6	1,760	562	6.75	3.81	223	73.4
	37.2	161.8	154	8.10	11.5	8.9	47.3	2,220	701	6.84	3.85	274	91
200 UC	46.2	203.4	203	7.30	11.0	11.4	59.0	4,590	1,530	8.82	5.10	451	151
	52.2	206.4	204	8.00	12.5	11.4	66.6	5,280	1,770	8.91	5.15	512	174
	59.5	209.8	205	9.30	14.2	11.4	76.2	6,130	2,040	8.97	5.17	584	199
250 UC	72.9	253.8	254	8.60	14.2	14.0	93.2	11,400	3,880	11.10	6.45	897	306
	89.5	260.0	256	10.50	17.3	14.0	114.0	14,300	4,840	11.20	6.52	1,100	378
310 UC	96.8	308.0	305	9.90	15.4	16.5	124.0	22,300	7,290	13.40	7.67	1,450	478
	118.0	314.6	307	11.90	18.7	16.5	150.0	27,700	9,020	13.60	7.75	1,760	588
	137.0	320.6	309	13.80	21.7	16.5	175.0	32,900	10,700	13.70	7.82	2,050	691
	158.0	327.2	311	15.70	25.0	16.5	201.0	38,800	12,500	13.90	7.89	2,370	807

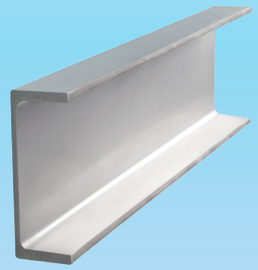
Note

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PARALLEL FLANGE CHANNELS

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Nominal Size	Weight	Standard Sectional Dimension					Sectional Area	Moment of Inertia		Radius of Gyration		Elastic Section Modulus	
		H	B	t_1	t_2	r		I_x	I_y	rx	ry	Z_x	Z_y
	kg/m	mm	mm	mm	mm	mm	cm^2	cm^4	cm^4	cm	cm	cm^3	cm^3
100 PFC	8.31	100	50	4.2	6.7	8.0	10.60	174	26.7	4.04	1.59	34.7	8.01
125 PFC	11.9	125	65	4.7	7.5	8.0	15.20	397	65.8	5.11	2.08	63.5	15.2
150 PFC	17.7	150	75	6.0	9.5	10.0	22.50	834	129	6.08	2.39	111	25.7
180 PFC	20.9	180	75	6.0	11.0	12.0	26.60	1,410	151	7.29	2.38	157	29.9
200 PFC	22.9	200	75	6.0	12.0	12.0	29.20	1,910	165	8.09	2.38	191	32.7
230 PFC	25.1	230	75	6.5	12.0	12.0	32.00	2,680	176	9.14	2.35	233	33.6
250 PFC	35.5	250	90	8.0	15.0	12.0	45.20	4,510	364	9.99	2.84	361	59.3
300 PFC	40.1	300	90	8.0	16.0	14.0	51.10	7,240	404	11.90	2.81	483	64.4
380 PFC	55.2	380	100	10.0	17.5	14.0	70.30	15,200	648	14.70	3.04	798	89.4

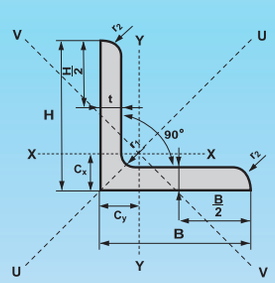
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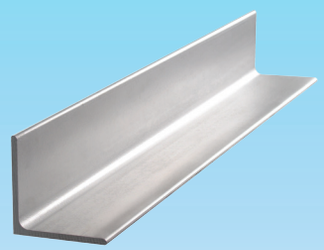
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EQUAL-LEG ANGLES





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Nominal Size	Weight	Standard Sectional Dimension				Sectional Area	Moment of Inertia			Radius of Gyration			Elastic Section Modulus		Distance of center of gravity		
		H = B	t	r_1	r_2		$I_x = I_y$	I_u	I_v	$r_x = r_y$	r_u	r_v	$Z_x = Z_y$	Z_v	$C_x = C_y$	C_u	C_v
mm	kg/m	mm	mm	mm	mm	cm^2	cm^4	cm^4	cm^4	cm	cm	cm	cm^3	cm^3	cm	cm	cm
90x90x6	8.22	90	6.0	8	5	10.5	80.5	128	33	2.77	3.50	1.78	12.3	9.62	2.43	6.36	3.43
8	10.60	90	7.8	8	5	13.5	102	163	41.9	2.76	3.48	1.76	15.7	11.8	2.50	6.36	3.54
10	12.70	90	9.5	8	5	16.2	122	193	50.0	2.74	3.45	1.76	18.9	13.8	2.57	6.36	3.64
100x100x6	9.16	100	6.0	8	5	11.7	112	178	45.8	3.10	3.91	1.98	15.3	12.1	2.68	7.07	3.79
8	11.80	100	7.8	8	5	15.0	142	227	58.2	3.08	3.88	1.97	19.6	14.9	2.75	7.07	3.89
10	14.20	100	9.5	8	5	18.1	170	270	69.5	3.06	3.86	1.96	23.6	17.4	2.82	7.07	3.99
12	17.70	100	12.0	8	5	22.6	208	329	85.7	3.03	3.82	1.95	29.3	20.8	2.92	7.07	4.13
125x125x8	14.90	125	7.8	10	5	19.0	286	455	117	3.88	4.89	2.48	31.3	24.5	3.37	8.84	4.77
10	18.00	125	9.5	10	5	23.0	342	544	140	3.86	4.87	2.47	37.8	28.8	3.44	8.84	4.87
12	22.50	125	12.0	10	5	28.7	421	669	173	3.83	4.83	2.45	47.0	34.5	3.54	8.84	5.01
16	29.10	125	15.8	10	5	37.1	532	843	220	3.79	4.77	2.44	60.3	42.3	3.68	8.84	5.21
150x150x10	21.90	150	9.5	13	5	27.9	604	961	248	4.66	5.87	2.98	55.2	43.3	4.05	10.6	5.73
12	27.30	150	12.0	13	5	34.8	746	1190	306	4.63	5.84	2.96	68.8	52.1	4.15	10.6	5.87
16	35.40	150	15.8	13	5	45.2	948	1510	391	4.58	5.78	2.94	88.7	64.2	4.30	10.6	6.08
19	42.10	150	19.0	13	5	53.6	1110	1760	460	4.54	5.72	2.93	105	73.5	4.42	10.6	6.26
200x200x13	40.00	200	13.0	18	5	50.9	1970	3120	808	6.22	7.83	3.98	135	105	5.42	14.1	7.66
16	48.70	200	16.0	18	5	62.0	2370	3760	972	6.18	7.79	3.96	164	124	5.54	14.1	7.84
18	54.40	200	18.0	18	5	69.3	2630	4170	1080	6.15	7.76	3.94	183	136	5.62	14.1	7.95
20	60.10	200	20.0	18	5	76.6	2880	4570	1180	6.13	7.72	3.93	201	147	5.70	14.1	8.06
26	76.80	200	26.0	18	5	97.8	3580	5680	1490	6.05	7.62	3.90	255	178	5.93	14.1	8.38

Note

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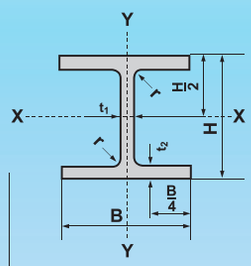
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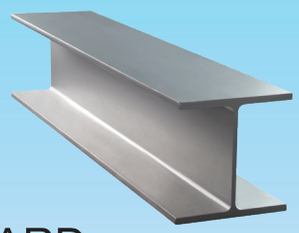
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H-BEAMS

BS EN 10365 : 2017

EN STANDARD





EURONORM Size	Weight	Standard Sectional Dimension					Sectional Area	Moment of Inertia		Radius of Gyration		Elastic Section Modulus	
		H	B	t_1	t_2	r		I_x	I_y	r_x	r_y	Z_x	Z_y
	kg/m	mm	mm	mm	mm	mm	cm^2	cm^4	cm^4	cm	cm	cm^3	cm^3
*IPEAA100	6.7	97.6	55	3.6	4.5	7	8.6	136	12.6	3.98	1.21	27.9	4.6
*IPEA100	6.9	98	55	3.6	4.7	7	8.8	141	13.1	4.01	1.22	28.8	4.8
IPE 100	8.1	100	55	4.1	5.7	7	10.3	171	15.9	4.07	1.24	34.2	5.8
IPEAA 180	14.9	176.4	91	4.3	6.2	9	19.0	1020	78.1	7.32	2.03	116	17.2
IPEA 180	15.4	177	91	4.3	6.5	9	19.6	1063	81.9	7.37	2.05	120	18
IPE 180	18.8	180	91	5.3	8.0	9	23.9	1317	101	7.42	2.05	146	22.2
IPEAA 200	18.0	196.4	100	4.5	6.7	12	22.9	1533	112	8.19	2.21	156	22.4
IPEA 200	18.4	197	100	4.5	7.0	12	23.5	1591	117	8.23	2.23	162	23.4
IPE 200	22.4	200	100	5.6	8.5	12	28.5	1943	142	8.26	2.24	194	29
IPE 240	30.7	240	120	6.2	9.8	15	39.1	3892	284	9.97	2.69	324	47
IPE 300	42.2	300	150	7.1	10.7	15	53.8	8356	604	12.50	3.35	557	81
IPE 330	49.1	330	160	7.5	11.5	18	62.6	11770	788	13.70	3.55	713	99
IPE 360	57.1	360	170	8.0	12.7	18	72.7	16270	1043	15.00	3.79	904	123
IPE 400	66.3	400	180	8.6	13.5	21	84.5	23130	1318	16.50	3.95	1160	146
IPE 450	77.6	450	190	9.4	14.6	21	98.8	33740	1676	18.50	4.12	1500	176
IPE 500	90.7	500	200	10.2	16.0	21	115.5	48200	2142	20.40	4.31	1930	214
IPE 550	106.0	550	210	11.1	17.2	24	134.4	67120	2668	22.30	4.45	2440	254
IPE 600	122.0	600	220	12.0	19.0	24	156.0	92080	3387	24.30	4.66	3070	308
HE 100 A	16.7	96	100	5.0	8.0	12	21.2	349	134	4.06	2.51	73	27
HE 100 B	20.4	100	100	6.0	10.0	12	26.0	450	167	4.16	2.53	90	33
HE 160 A	30.4	152	160	6.0	9.0	15	38.8	1673	616	6.57	3.98	220	77
HE 160 B	42.6	160	160	8.0	13.0	15	54.3	2492	889	6.78	4.05	311	111
HE 180 A	35.5	171	180	6.0	9.5	15	45.3	2510	925	7.45	4.52	294	103
HE 180 B	51.2	180	180	8.5	14.0	15	65.3	3831	1363	7.66	4.57	426	151
HE 200 A	42.3	190	200	6.5	10.0	18	53.8	3692	1336	8.28	4.98	389	134
HE 200 B	61.3	200	200	9.0	15.0	18	78.1	5696	2003	8.54	5.07	570	200
HE 260 A	68.2	250	260	7.5	12.5	24	86.8	10455	3668	11.00	6.50	836	282
HE 260 B	93.0	260	260	10.0	17.5	24	118.4	14919	5135	11.20	6.58	1150	395
HE 300 A	88.3	290	300	8.5	14.0	27	112.5	18263	6310	12.70	7.49	1260	421
HE 300 B	117.0	300	300	11.0	19.0	27	149.1	25156	8563	13.00	7.58	1680	571
HE 320 A	97.6	310	300	9.0	15.5	27	124.4	22928	6985	13.60	7.49	1480	466
HE 320 B	127.0	320	300	11.5	20.5	27	161.3	30823	9239	13.80	7.57	1930	616
HE 360 A	112.0	350	300	10.0	17.5	27	142.8	33090	7887	15.20	7.43	1890	526
HE 360 B	142.0	360	300	12.5	22.5	27	180.6	43193	10141	15.50	7.49	2400	676
HE 400 A	125.0	390	300	11.0	19.0	27	159.0	45069	8564	16.80	7.34	2310	571
HE 400 B	155.0	400	300	13.5	24.0	27	197.8	57680	10819	17.10	7.40	2880	721
HE 450 A	140.0	440	300	11.5	21.0	27	178.0	63722	9465	18.90	7.29	2900	631
HE 450 B	171.0	450	300	14.0	26.0	27	218.0	79887	11721	19.10	7.33	3550	781
HE 500 A	155.0	490	300	12.0	23.0	27	197.5	86975	10367	21.00	7.24	3550	691
HE 500 B	187.0	500	300	14.5	28.0	27	238.6	107176	12624	21.20	7.27	4290	847
HE 600 A	178.0	590	300	13.0	25.0	27	226.5	141208	11271	25.00	7.05	47.90	751
HE 600 B	212.0	600	300	15.5	30.0	27	270.0	171041	13530	25.20	7.08	5700	902

Note

- The Hot-rolled sections listed in this table are rolled at specific intervals determined by Siam Yamato Steel.
- Contact us for product availability, rolling frequency and other pertinent information.

* In accordance with Siam Yamato Steel(SYS) Standard

SIAM YAMATO STEEL

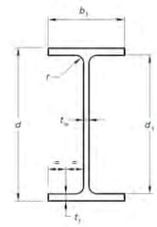
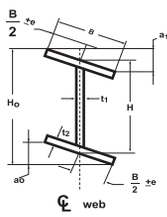
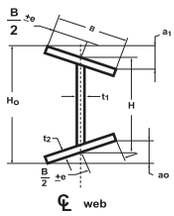
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TOLERANCES

AS/NZS 3679.1 : 2016 | Unit : mm.

Sectional Dimension

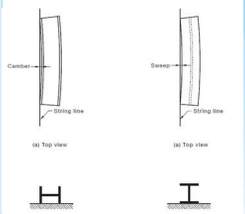
Permissible

Designation		Variation of				Maximum difference of flange over four flanges	out-of-Square on each flange	total out-of-Square	Web off-center	Over all Depth Over Specified Depth	Remark
		Depth	Flange Width	Web Thickness	Flange Thickness						
Nominal Size	Nominal Mass	H	B	t_1	t_2	mm	a1 or a0	a1 + a0	e	H_0–H	
610 UB	125.0	±3	+6 to - 5	± 0.7	±1.5	1.5	5	8	5	6	
	113.0										
	101.0				±1.0	1.0					
530 UB	92.4				±1.5	1.5					
	82.0				±1.0	1.0					
460 UB	82.1				±1.5	1.5					
	74.6				±1.0	1.00					
	67.1										
410 UB	59.7										
	53.7										
360 UB	56.7										
	50.7										
	44.7										
310 UB	46.2										
	40.4										
	32.0										
250 UB	37.3										
	31.4						4	6			
	25.7										
200 UB	29.8										
	25.4										
	22.3										
	18.2										
180 UB	22.2	+2.5 to -1.5	±3				2	2.5	2.5	4	
	18.1										
	16.1										
150 UB	18.0						1.5				
	14.0										
310 UC	158.0	±3	+6 to - 5	±1.0	±1.5	1.5	5	8	5	6	
	137.0			±0.7							
	118.0										
	96.8										
250 UC	89.5						4	6			
	72.9				±1.0	1.0					
200 UC	59.5										
	52.2										
	46.2										
150 UC	37.2										
	30.0										
	23.4										
100 UC	14.8										

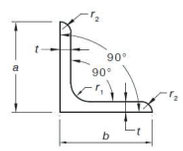
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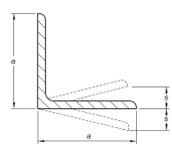
TOLERANCES | AS/NZS 3679.1 : 2016 | Unit : mm.

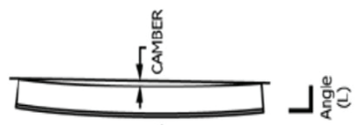
Norminal Size		Sweep	Camber		Remark
Sections with Flange width less than 150 mm		Length/500	Length/1000	Sections	
Sections with Flange Equal to Depth	Length equal and less than 14 m	Length/1000, Max 10 mm			
	Length more than 14 m	10 mm + [(Length-14000)/1000]			
All Other Sections		Length/1000			
Mass	All Sections within +2.5%			All Sections	

Lengt	Length (m)	Permissible variation (mm)		
Sections	L ≤ 7	+50	-0	All Sections
	7 < L ≤ 12	+75	-0	
	L > 12	+100	-0	
Universal Sections are normally supplied to a tolerance of +150 mm, -0 mm				

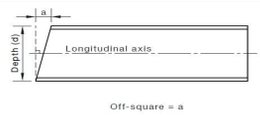
Norminal leg size	Permissible variation (mm) Leg length over	Leg length under	Out of square (s)		Remark
≤ 40	2.5	1.5	1	Equal Angles	
40 < leg ≤ 75	2.5	1.5	2		
75 < leg ≤ 125	3.0	3.0	3		
125 < leg ≤ 150	3.0	3.0	4		
leg < 150	3.0	3.0	5		

Norminal leg size	Permissible variation (mm) Thickness	
≤ 10	+0.5	-0.5
10 < leg ≤ 15	+0.7	-0.7
75 < leg ≤ 125	+1.0	-1.7
leg < 25	+1.5	-1.5



Equal Angles or Parallel Flange Channels or Other Sections Than Universal Sections*****		Remark
Camber **	Permissible variation (mm) Length/500	**** For Sweep Please see AS/NZS 3679.1: 2016
** For angles having a combined leg length of greater than 150 mm, this is straightness tolerance.		

Equal Angles	Permissible off square for end cut (mm) 0.030 per mm of leg length
Parallel Flange Channels	Permissible off square for end cut (mm) 0.030 per mm of Depth



PARALLEL FLANGE CHANNELS | AS/NZS 3679.1 : 2016 | Unit : mm.

Width (B)				Flange and Web Thickness t1, t2	Out of square (a1 or a0)	Out of square (a1 + a0)	PFC	Remark
Norminal leg size	Permissible variation (mm)	Norminal leg size	Permissible variation (mm)	Permissible variation (mm)				
75 ≤ H ≤ 120	+3.0, -1.5	35 < B ≤ 55	+3.0, -3.0	±0.7	±1.0	±0.3		
120 < H ≤ 360	+3.0, -1.5	55 < B ≤ 80	+3.0, -3.0	±1.0	±1.5	±0.3		
360 < H ≤ 390	+5.0, -3.0	80 < B ≤ 105	+3.0, -4.0	±1.0	±2.0	±0.3		

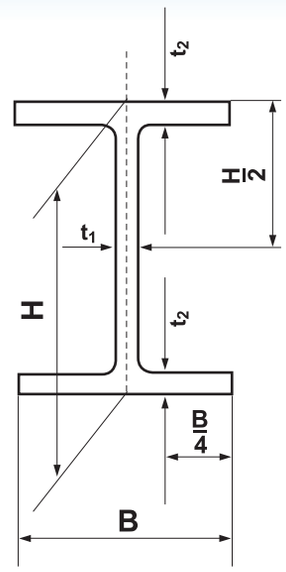
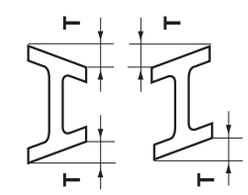
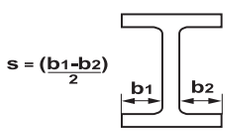
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TOLERANCES

BS EN 10034:1993 | Unit : mm.

EN 10034 : 1993
H and I Sections

		Dimension	Tolerance	Remark
Depth (H)		H ≤ 180	+3.0, -2.0	
		180 < H ≤ 400	+4.0, -2.0	
		400 < H ≤ 700	+5.0, -3.0	
		H > 700	+5.0, -5.0	
Width (B)		B ≤ 110	+4.0, -1.0	
		110 < B ≤ 210	+4.0, -2.0	
		210 < B ≤ 325	+4.0, -4.0	
		B > 325	+6.0, -5.0	
Thickness	Web Thickness t_1	t_1 < 7	±0.7	
		7 ≤ t_1 < 10	±1.0	
		10 ≤ t_1 < 20	±1.5	
		20 ≤ t_1 < 40	±2.0	
		40 ≤ t_1 < 60	±2.5	
		t_1 ≥ 60	±3.0	
	Flange Thickness t_2	t_2 < 6.5	+1.5, -0.5	
		6.5 ≤ t_2 < 10	+2.0, -1.0	
		10 ≤ t_2 < 20	+2.5, -1.5	
		20 ≤ t_2 < 30	+2.5, -2.0	
		30 ≤ t_2 < 40	+2.5, -2.5	
		40 ≤ t_2 < 60	+3.0, -3.0	
		t_2 ≥ 60	+4.0, -4.0	
Length (L)		-	±50	
		Minimum Length are Requested	0, +100	
Out-of-square (K+K')		B ≤ 110	1.5	
		B > 110	2% of B (Max 6.5)	
Web-off-center	t < 40	B ≤ 110	2.5	
		110 < B ≤ 325	3.5	
		B > 325	5.0	
	t ≥ 40	110 < B ≤ 325	5.0	
		B > 325	8.0	
Bend		80 < H ≤ 180	0.30% of L	To be applied to bend such as sweep and camber
		180 < H ≤ 360	0.15% of L	
		H > 360	0.10% of L	
Mass (kg/m.)		-	±4%	The calculated mass shall be determined using a density of 7.85 kg/cm^3

SIAM YAMATO STEEL

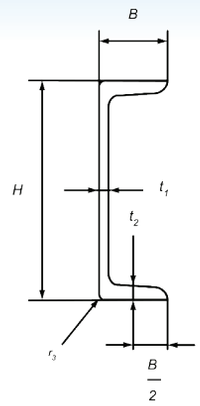
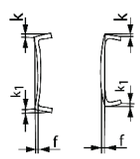
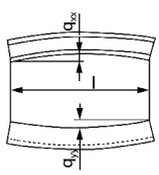
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TOLERANCES

BS EN 10279:2000 | Unit : mm.

EN 10279: 2000

Taper Flange Channels

Dimension			Tolerance	Designation
Heigth (H)		H ≤ 65 65 < H ≤ 200 200 < H ≤ 400 H > 400	±1.5 ±2.0 ±3.0 ±4.0	 Example Taper Flange Channel Shape
Flange Width (B)		B ≤ 50 50 < B ≤ 100 100 < B ≤ 125 B > 125	±1.5 ±2.0 ±2.5 ±3.0	
Thickness	Web Thickness t_1	t_1 ≤ 10 10 ≤ t_1 < 15 t_1 > 15	±0.5 ±0.7 ±1.0	
	Flange Thickness t_2	t_2 ≤ 10 10 ≤ t_2 < 15 t_2 > 15	*a, -0.5 *a, -1.0 *a, -1.5	
Heel Radius r_3		All Sizes	< 0.3t	
Out of squareness (K+K')		B ≤ 110 B > 110	2.0 2% of B	
Web Flatness f		H ≤ 100 100 < H ≤ 200 200 < H ≤ 400 H > 400	±0.5 ±1.0 ±1.5 ±1.5	
Straightness	Camber (q_{xx})	H ≤ 150 150 < H ≤ 300 H > 300	±0.30 of L ±0.20 of L ±0.15 of L	
	Sweep (q_{xx})	H ≤ 150 150 < H ≤ 300 H > 300	±0.50 of L ±0.30 of L ±0.20 of L	
Length L		All Size	0, +100	STANDARD
		Agreement between the purchaser	±50	ALTERNATIVE STANDARD (by agreement)
Mass		H < 125 H ≥ 125	±6% ±4%	MASS PER UNIT LENGTH

Note *a Plus Tolerances are limited by weight

SIAM YAMATO STEEL

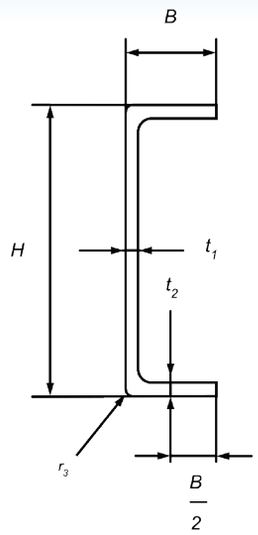
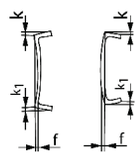
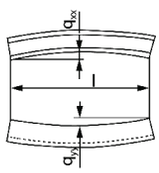
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TOLERANCES

BS EN 10279:2000 | Unit : mm.

EN 10279: 2000

Parallel Flange Channels

Dimension			Tolerance	Designation
Heigth (H)		H ≤ 65 65 < H ≤ 200 200 < H ≤ 400 H > 400	±1.5 ±2.0 ±3.0 ±4.0	
Flange Width (B)		B ≤ 50 50 < B ≤ 100 100 < B ≤ 125 B > 125	±1.5 ±2.0 ±2.5 ±3.0	
Thickness	Web Thickness t_1	t_1 ≤ 10 10 ≤ t_1 < 15 t_1 > 15	±0.5 ±0.7 ±1.0	
	Flange Thickness t_2	t_2 ≤ 10 10 ≤ t_2 < 15 t_2 > 15	*a -0.5 *a -1.0 *a -1.5	
Heel Radius r_3		All Sizes	< 0.3t	
Out of squareness(K+K')		B ≤ 110 B > 110	2.0 2% of B	
Web Flatness f		H ≤ 100 100 < H ≤ 200 200 < H ≤ 400 H > 400	±0.5 ±1.0 ±1.5 ±1.5	
Straightness	Camber (q_{xx})	H ≤ 150 150 < H ≤ 300 H > 300	±0.3% of L ±0.2% of L ±0.15% of L	
	Sweep (q_{xx})	H ≤ 150 150 < H ≤ 300 H > 300	±0.5% of L ±0.3% of L ±0.2% of L	
Length L		All Size	0, +100	STANDARD
		Alternative Standard (by agreement)	±50	ALTERNATIVE STANDARD (by agreement)
Mass Per Unit Length kg/m		H < 125 H ≥ 125	±6% ±4%	MASS PER UNIT LENGTH

Note *a Plus Tolerances are limited by weight

SIAM YAMATO STEEL

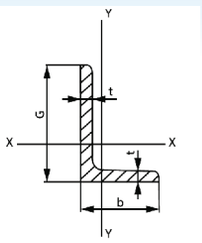
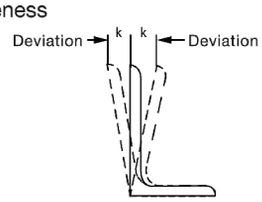
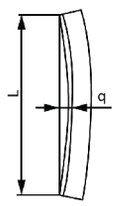
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TOLERANCES

BS EN 10056-2:1993 | Unit : mm.

EN 100056-2 : 1993

Equal Leg Angles

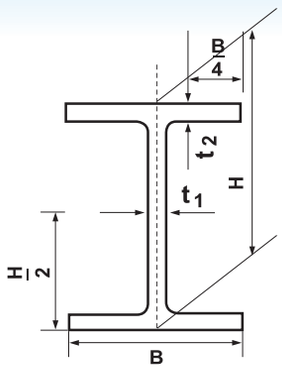
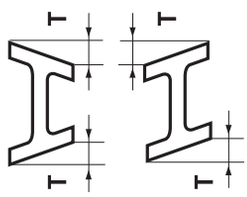
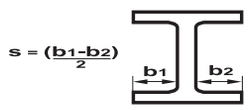
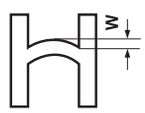
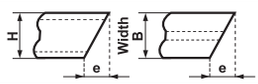
		Dimension	Tolerance	Designation
Leg Length		Leg ≤ 50 50 < Leg ≤ 100 100 < Leg ≤ 150 150 < Leg ≤ 200 Leg > 200	±1.0 ±2.0 ±3.0 ±4.0 -4.0, +6.0	Dimensions 
Thickness		t ≤ 5 5 < t ≤ 10 10 < t ≤ 15 t > 15	±5.0 ±0.75 ±1.00 ±1.20	
Out-of-square(K+K')		Leg ≤ 100 100 < Leg ≤ 150 150 < Leg ≤ 200 Leg > 200	1.0 1.5 2.0 3.0	Squareness 
Straightness	Full Bar Length	Leg ≤ 150 150 < Leg ≤ 200 Leg > 200	0.4% L 0.2% L 0.1% L	
	Any part	Leg ≤ 150 at 1.5 m 150 < Leg ≤ 200 at 2.0 m Leg > 200 at 3.0 m	6 3 3	
Length L		All Sizes	±50	Straightness 
		Minimum Length are Requested	0,+100	
Mass		t ≤ 4 t > 4	±6% ±4%	

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TOLERANCES

JIS G 3192 : 1990, JIS A 5526 : 1988 | Unit : mm.

		JIS G 3192 H-BEAMS		JIS A 5526 H-PILES		Remark
Dimension			Tolerance	Dimension	Tolerance	
Depth (H)		H < 400 400 ≤ H < 600 H ≥ 600	±2.0 ±3.0 ±4.0	H < 400 H ≥ 400	±3.0 ±4.0	
Width (B)		B < 100 100 ≤ B < 200 B ≥ 200	±2.0 ±2.5 ±3.0	-	±3.0	
Thickness (t_1,t_2)	Web Thickness t_1	t_1 <16 16 ≤ t_1 < 25 25 ≤ t_1 < 40 t_1 ≥ 40	±0.7 ±1.0 ±1.5 ±2.0	t_1 ≤ 13 t_1 > 13	+Not specified -0.8 +Not specified -6%	
	Flange Thickness t_2	t_2 < 16 16 ≤ t_2 < 25 25 ≤ t_2 < 40 t_2 > 40	±1.0 ±1.5 ±1.7 ±2.0	t_2 ≤ 13 t_2 > 13	+Not specified -0.8 +Not specified -6%	
Length (L)		L ≤ 7 m.	+40 0	-	+Not specified 0	
		L > 7 m.	40 mm + [(No.of meter of L-7) x 5mm.] 0			
Out-of-square (T)		H ≤ 300	1.0% of B, Provided that 1.5 mm. Max.	H ≤ 300	1.2% of B	
		H > 300	1.2% of B, Provided that 1.5 mm. Max.	H > 300	1.5% of B	
Bend		H ≤ 300	0.15% of L	H ≤ 300	0.20% of L	
		H > 300	0.10% of L	H > 300	0.10% of L	
Web-off-center (S)		H≤300&B≤200	±2.5	H ≤ 300	+3.0	
		H≤300&B>200	±3.5	H > 300	+4.5	
Concavity of Web (W)		H < 400	2.0	-	Not specified	
		400 ≤ H < 600	2.5			
		H ≥ 600	3.0			
Ends-Out-of square (e)		All Section	1.6% of B or H Max.3mm.	-	1.6% of B or H	
Mass (kg/m.)		t < 10	±5%	-	Not specified	1. Thicker nominal values shall be applied. 2. To be applied to one lot of the same size (1t or over), provided that, when the number of pieces corresponding to 1t does not amount to 10 pieces, it shall be applied to each lot of 10 or more pieces.
		t ≥ 10	±4%			

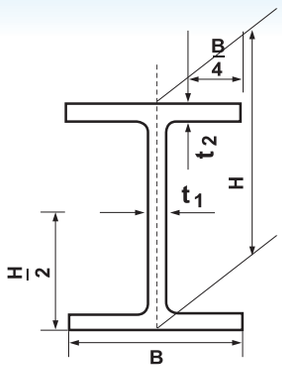
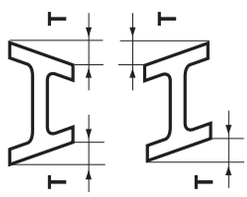
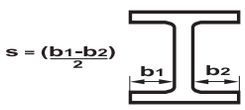
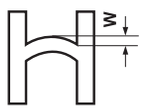
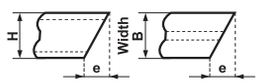
Note * Figure of Depth (H) and Width (B) stipulated above are applied for nominal size

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TOLERANCES

JIS G 3192:1994, JIS A 5526:1988 | Unit : mm.

		JIS G 3192 H-BEAMS		JIS A 5526 H-PILES		Remark
Dimension			Tolerance	Dimension	Tolerance	
Depth (H)		H < 400 400 ≤ H < 600 H ≥ 600	±2.0 ±3.0 ±4.0	H < 400 H ≥ 400	±3.0 ±4.0	
Width (B)		B < 100 100 ≤ B < 200 B ≥ 200	±2.0 ±2.5 ±3.0	-	±3.0	
Thickness (t_1,t_2)	Web Thickness t_1	t_1 <16 16 ≤ t_1 < 25 25 ≤ t_1 < 40 t_1 ≥ 40	±0.7 ±1.0 ±1.5 ±2.0	t_1 ≤ 13 t_1 > 13	+Not specified -0.8 +Not specified -6%	
	Flange Thickness t_2	t_2 < 16 16 ≤ t_2 < 25 25 ≤ t_2 < 40 t_2 > 40	±1.0 ±1.5 ±1.7 ±2.0	t_2 ≤ 13 t_2 > 13	+Not specified -0.8 +Not specified -6%	
Length (L)		L ≤ 7 m.	+40 0	-	+Not specified 0	
		L > 7 m.	40 mm + [(No.of meter of L-7) x 5mm.] 0			
Out-of-square (T)		H ≤ 300	1.0% of B, Provided that 1.5 mm. Min.	H ≤ 300 H > 300	1.2% of B 1.5% of B	
		H > 300	1.2% of B, Provided that 1.5 mm. Min.			
Bend		H ≤ 300	0.15% of L	H ≤ 300 H > 300	0.20% of L 0.10% of L	
		H > 300	0.10% of L			
Web-off-center (S)		H≤300&B≤200	±2.5	H ≤ 300	+3.0	
		H≤300&B>200	±3.5	H > 300	+4.5	
Concavity of Web (W)		H < 400	2.0	-	Not specified	
		400 ≤ H < 600	2.5			
		H ≥ 600	3.0			
Ends-Out-of square (e)		All Section	1.6% of B or H Min. 3mm.	-	1.6% of B or H	
Mass (kg/m.)		t < 10	±5%	-	Not specified	1. Thicker nominal values shall be applied. 2. To be applied to one lot of the same size (1t or over), provided that, when the number of pieces corresponding to 1t does not amount to 10 pieces, it shall be applied to each lot of 10 or more pieces.
		t ≥ 10	±4%			

Note * Figure of Depth (H) and Width (B) stipulated above are applied for nominal size

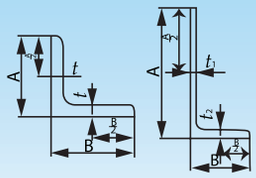
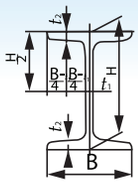
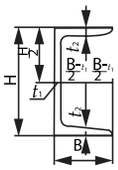
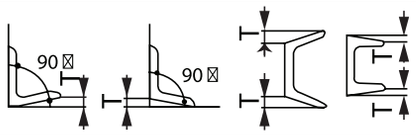
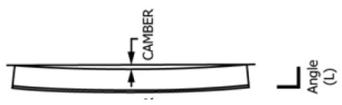
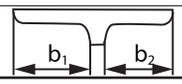
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TOLERANCES | JIS G 3192 : 1990/1994 | Unit : mm.

JIS G 3192

Angles, Channels, I and T Sections

		Dimension	Tolerance	Remark
Depth (H)		H < 100 100 ≤ H < 200 200 ≤ H < 400 H ≥ 400	±1.5 ±2.0 ±3.0 ±4.0	
Width (B) or Leg Length		H < 50 50 ≤ H < 100 100 ≤ H < 200 H ≥ 200	±1.5 ±2.0 ±3.0 ±4.0	
Thickness (t)	Leg Length or B < 130	t_1 < 6.3 6.3 ≤ t < 10 10 ≤ t < 16 t ≥ 16	±0.6 ±0.7 ±0.8 ±1.0	
	Leg Length or B ≥ 130	t < 6.3 6.3 ≤ t < 10 10 ≤ t < 16 16 ≤ t < 25 t ≥ 25	±0.7 ±0.8 ±1.0 ±1.2 ±1.5	
Length (L)		L ≤ 7 m.	+40 0	
		L < 7m.	(No.of meter of L-7) x 5 mm.	
Out-of-square (T)		I Sections	≤ 2.0% of B	
		Other Sections Exclude I & T Section	≤ 2.5% of B	
Bend		I and T Sections	≤ 2.0% of L	
		Other Sections Exclude I & T Section	≤ 3.0% of L	
Web-off-center (S)		T Sections	±3	$S = \frac{b_1 - b_2}{2}$ 

TOLERANCES | JIS A 5528 : 2012 | Unit : mm.

JIS A 5528 : 2012

HOT ROLLED STEEL SHEET PILE "U" SHAPE

Dimension		Tolerance
Height		±4%
Width (W.)		±10 -5
Thickness	t < 10 10 ≤ t < 16 t ≥ 16	±1.0 ±1.2 ±1.5
Length (L)		+Not Specified 0
Deflection	L ≤ 10 m. L > 10 m.	Full Length (M) x 0.12% max. Full length - 10 m. x 0.10% + 12 mm. max.
Camber	L ≤ 10 m. L > 10 m.	Full length (M) x 0.25% max. Full Length - 10 m. x 0.20% + 25 mm. max.
Difference in Vertically Cut Sections		Within 4% of Width

Note - The Defection shall be in the direction parallel to the sheet pile wall and the camber shall be in the direction vertical to the sheet pile wall.

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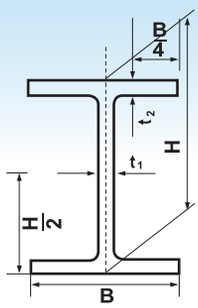
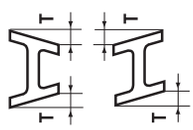
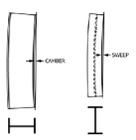
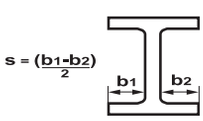
TOLERANCES

ASTM A6/A6M : 2003

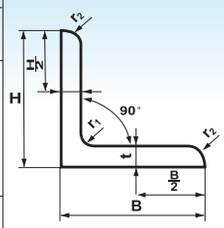
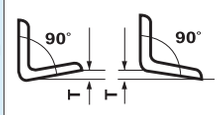
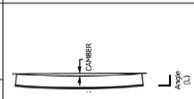
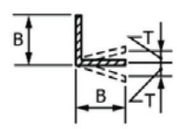
Unit : mm.

ASTM A 6 : 2003

W-Shapes, HP-Shapes

Dimension			Tolerance	Remark
Depth (H)		H ≤ 310	-3.0 +4.0	
		H > 310	-3.0 +4.0	
Width (B)		B ≤ 310	-5.0 +6.0	
		B > 310	-5.0 +6.0	
Length (L)	H ≤ 610	L ≤ 9 m.	+10 -10	
		L > 9 m.	10+(no.of meter of L-9) -10	
	H > 610	L ≤ 9 m.	+13 -13	
		L > 9 m.	13+(no.of meter of L-9	
Out-of-square (T)		H ≤ 310	≤6.0	
		H > 310	≤8.0	
Bend		L ≤ 14 m.	1 mm. x no. of meters of L, Max 10 mm.	
		L > 14 m.	10 mm. + [1 mm. x (no. of meters of L-14 m.)]	
Web-off-center (S)		H ≤ 310	≤5.0	
		H > 310	≤5.0	
Mass (kg/m.)		-	±2.5%	

Angles

Dimension			Tolerance	Remark
Leg Length		75 ≤ Leg < 100	-2.0 +3.0	
		100 < Leg ≤ 150	-3.0 +3.0	
		Leg > 150	-3.0 +5.0	
Length (L)	Leg < 75	1.5 < L < 3	+16	
		3 ≤ L < 6	+25	
		6 ≤ L ≤ 9	+38	
		9 < L ≤ 12	+51	
		12 < L ≤ 20	+64	
	Leg ≥ 75	1.5 < L < 3	+25	
		3 ≤ L < 6	+38	
		6 ≤ L ≤ 9	+45	
		9 < L ≤ 12	+57	
		12 < L ≤ 20	+70	
Out-of-square (T)		-	2.6% of Leg Legth	
Bend		Leg < 75	4xNo.of meters of L	
		Leg ≥ 75	2xNo.of meters of L	
Ends-Out-of Square (e)		-	0.026 x Leg Length	
Mass (kg./m.)		-	±2.5%	

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Summary of Universal Beam in SYS Production Range

Nominal Size		WEIGHT																
		BS EN STANDARD					ASTM STANDARD							AS STANDARD				
838x292	Kg/m	176	194	226			176	193	210	226	251							
33"x11-1/2"	Lb/ft	118	130	152			118	130	141	152	169							
762x267		134	147	173	197		134	147	161	173	185	196	220					
30"x10-1/2"		90	99	116	132		90	99	108	116	124	132	148					
686x254		125	140	152	170		125	140	152	170	192							
27"x10"		84	94	102	114		84	94	102	114	129							
610x324							155	174	195	217	241							
24"x12-3/4"							104	117	131	146	162							
610x305		149	179	238														
24"x12"		100	120	160														
610x229		101	113	125	140		101	113	125	140	153			610UB	101	113	125	
24"x9"		68	76	84	94		68	76	84	94	103				68	76	84	
610x178							82	92										
24"x7"							55	62										
533x312							150.3	165.2	181.6	196.4	218.8							
21"x12-1/4"							101	111	122	132	147							
533x210		82	92	101	109	122	92	101	109	123	138			530UB	82	92		
21"x8-1/4"		55	62	68	73	82	62	68	73	83	93				55	62		
533x165							66	74	85									
21"x6-1/2"							44	50	57									
457x191		67	74	82	89	98	74	82	89	97	106			460UB	67	75	82	
18"x7-1/2"		45	50	55	60	66	50	55	60	65	71				45	50	55	
457x152		52	60	67	74	82	52	60	68									
18"x6"		35	40	45	50	55	35	40	46									
406x178		54	60	67	74		53	60	67	75	85			410UB	54	60		
16"x7"		36	40	45	50		36	40	45	50	57				36	40		
406x140		39	46				38.8	46.1										
16"x5-1/2"		26	31				26	31										
356x254							91	101	110	122								
14"x10"							61	68	74	82								
356x171		45	51	57	67		44	51	57.8					360UB	45	51	57	
14"x6-3/4"		30	34	38	45		30	34	38						30	34	38	
356x127		33	39				32.9	39										
14"x5"		22	26				22	26										
305x203							60	67	74									
12"x8"							40	45	50									
305x165		40	46	54			38.7	44.5	52					310UB	32	40	46	
12"x6-1/2		27	31	36			26	30	35						21	27	31	
305x102		25	28	33			21	23.8	28.3	32.7								
12"x4"		17	19	22			14	16	19	22								
254x203							49.1	58	67									
10"x8"							33	39	45									
254x146		31	37	43			33.7	38.5	44.8					250UB	26	31	37	
10"x5-3/4"		21	25	29			22	26	30						17	21	25	
254x102		22	25	28			22.3	25.3	28.4									
10"x4"		15	17	19			15	17	19									
203x165							35.9	41.7										
8"x6"-1/2"							24	28										
203x133		25	30				26.6	31.3						200UB	18	22	25	
8"x5-1/4"		17	20				18	21							12	15	17	
203x102		23					15	19.3	22.5									
8"x4"		15.5					10	13	15									
152x102							13.5	18	24									
6"x4"							9	12	16									

SIAM YAMATO STEEL

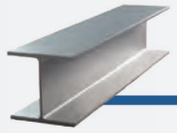
SIAM YAMATO STEEL CO., LTD.
1 Siam Cement Road, Bangsue,
Bangkok, 10800, Thailand
Tel : (662) 586-7777
Fax : (662) 586-2687
www.syssteel.com

Summary of Universal Column / Universal Bearing Pile in SYS Production Range

Nominal Size		WEIGHT		
		BS EN STANDARD	ASTM STANDARD	AS STANDARD
356x406 14"x16"	Kg/m Lb/ft	235 287 158 193	216 237 145 159	
356x368 14"x14-1/2"		129 153 177 202 87 103 119 136	134 147 162 179 196 90 99 109 120 132	
		109 133 152 174 73 89 102 117	108 132 152 174 73 89 102 117	
305x305 12"x12"		97 118 137 158 198 240 283 65 79 92 106 133 161 190	97 107 117 129 143 158 179 202 226 253 283 65 72 79 87 96 106 120 136 152 170 190	310UC 96.8 118 137 158
		79 88 95 110 126 149 186 223 53 59 64 74 85 100 125 150	79 93 110 125 53 63 74 84	
254x254 10"x10"		73 89 107 132 167 49 60 72 89 112	73 80 89 101 115 131 149 167 49 54 60 68 77 88 100 112	250UC 72.9 89.5
		63 71 85 42 48 57	62 85 42 57	
203x203 8"x8"		46 52 60 71 86 31 35 40 48 58	46.1 52 59 71 86 100 31 35 40 48 58 67	200UC 46.2 52.2 59.5
		45 54 30 36	53 36	
152x152 6"x6"		23 30 37 16 20 25	22.5 29.8 37.1 15 20 25	150UC 23.4 30 37.2
127x127 5"x5"			23.8 28.1 16 19	
102x102 4"x4"			19.3 13	100UC 14.8

Steel you can trust

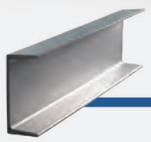
SIAM YAMATO STEEL



Use as construction work pillar, beam and truss structure **H–BEAM**



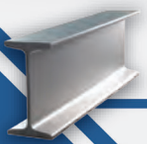




Use as a part of stair and purlin **CHANNEL**



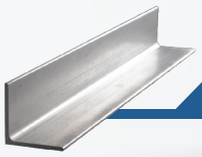




Use as groove crane **I–BEAM**



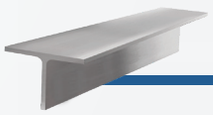




Use as the construction of transmission line tower and telecom towers

ANGLE

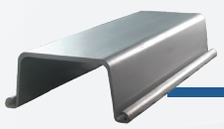




Use as truss

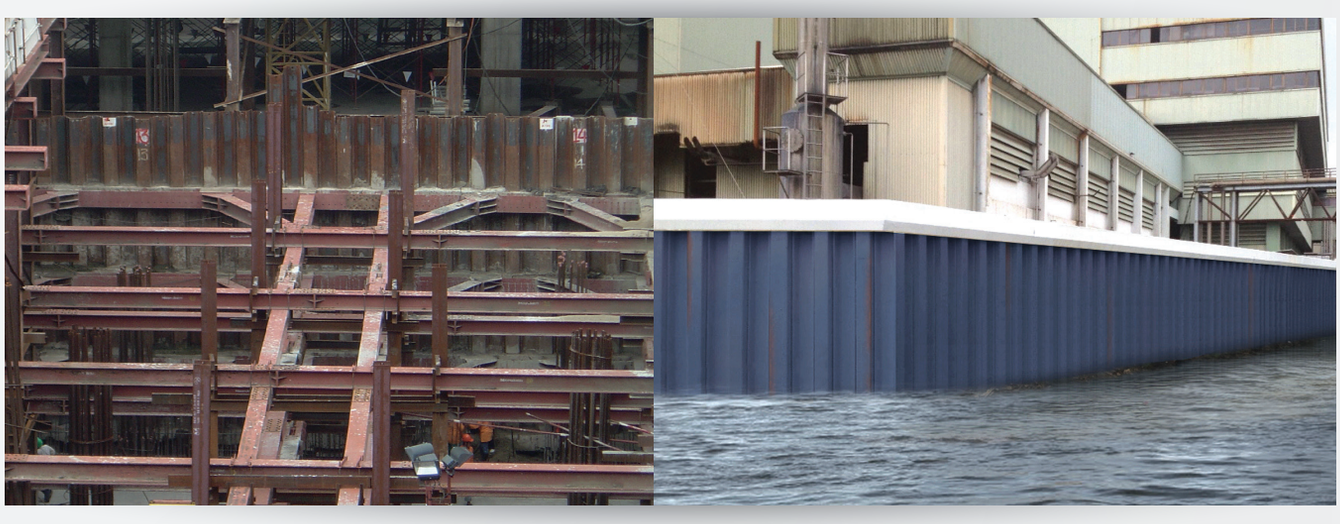
CUT BEAM





Use as the construction of retaining walls
of soil erosion and run off prevention

STEEL SHEET PILE



STEEL Solution by SYS



Apart from producing high-quality hot-rolled structural steel, SYS also initiated a comprehensive steel structure service under the name “Steel Solution by SYS”.



STEEL SOLUTION PRODUCTS

PARKING SOLUTION

Prefabricated structural steel car park for residential area as well as for large parking space for commercial buildings.



Residential Type



Commercial Type

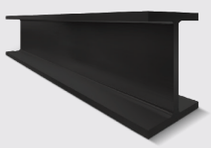


Carpark Solution

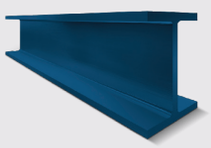
CORROSION SOLUTION

Hot-rolled structural steel solutions ensure a long useful service life of a struction frame. They boast high resistance to atmospheric corrosion in each specific location.

SYS PRIMERBOND



PRIMERBOND



PRIMERBOND PREMIUM



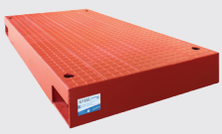
GALVANIZED STEEL

UNDERGROUND WORK SOLUTION

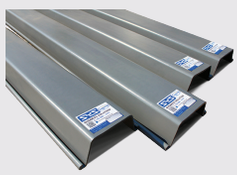
Robust and durable finished products for underground work.



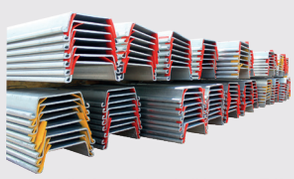
Platform



Steel Deck



Coated Sheet Pile



Galvanized Sheet Pile

ENGINEERING SOLUTION

This involves the application of techniques in material engineering, design, and construction to address the various application needs of building users.



Cellular Beam



Composite Structrue



Castellated Beam

SIAM YAMATO STEEL

GREEN STEEL FOR YOUR GREEN CONSTRUCTION



SYS Circular Way

SYS pays high attention to product quality along with environmental concern as well as social and community responsibility.
We therefore support an investment in green building materials that can be reused and 100% recyclable, which is the circular economy by maximizing the efficiency of resource utilization as well as creating sustainable value for the organization and stakeholders.



Reduce Reuse Recycle

Eco-Friendly manufacturing

SYS production process is Electric Arc Furnace (EAF), using electricity for melting steel scrap with chemical composition control to meet required standards. The EAF process will be able to precisely control the quality of steel, resulting in high quality structural steel as well as cost saving on energy compared to other steel production technologies.



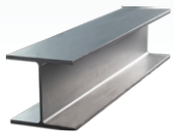
EAF (Electric Arc Furnace)

Green Certificates

SYS has received various environmental certificates from both domestic and international organizations, which demonstrates that SYS would like to be a leader in transforming Thai industry towards 'GREEN' industry for national development along with sustainable environmental protection.







H-Beam



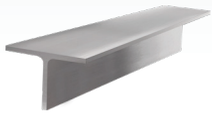
Channel



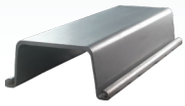
I-Beam



Angle



Cut Beam



Sheet Pile



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"Effective : June 2023"

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SYS STEEL

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