NIPPON STEEL

www.nipponsteel.com

https://www.nipponsteel.com/en/product/construction/catalog/

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STRUCTURAL SHAPES
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STRUCTURAL SHAPES

NIPPON STEEL CORPORATION

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STRUCTURAL SHAPES

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NIPPON STEEL
Green Transformation
initiative

NIPPON STEEL CORPORATION

STRUCTURAL SHAPES

Leading the New Era on Structural Shapes with Pioneer Spirits.

We, NIPPON STEEL, since the dawn of the Japanese steel industry, when we started producing Japan's first railroad rails in 1901, and through the nation's reconstruction period after World War II, have been the sole producer of rails and sheet piles in Japan and have contributed to the development of the Japanese economy. Based on our technological advantages and credibility, which were built-up during this process, we pioneered the production and sale of Japan's first rolled wide flanges and, with our half a century of technological innovation, have been responding to a wide variety of customers needs both in Japan and across the globe.

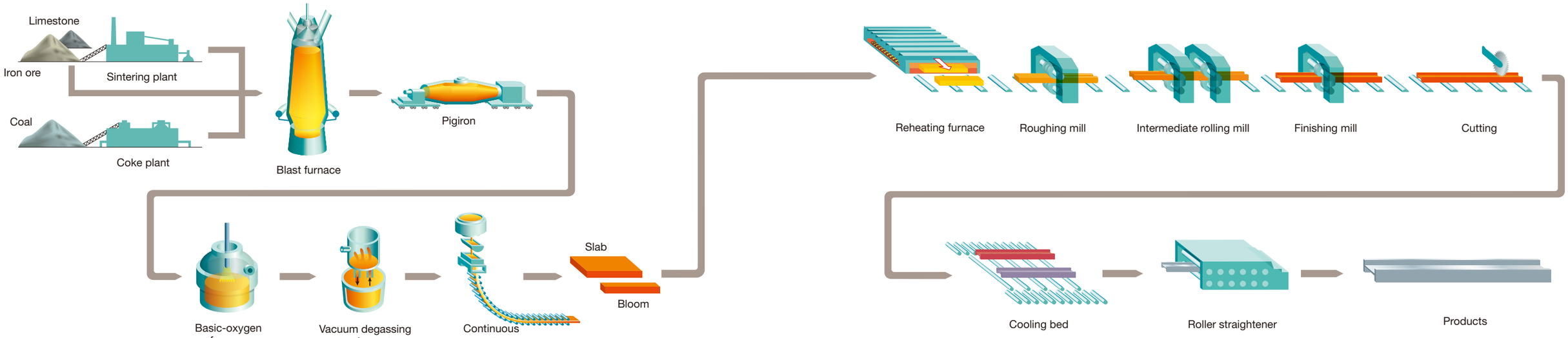
We have also produced and marketed: structural H-shapes with incremental depth and width of 50mm pitch (NSHYPER BEAM™, 1989); structural H-shapes with fire-resistance (NSFR™ steel, 1990); and other innovative products that span the history of construction in Japan. Working together with end users, we have also endeavored to spread the use of steel structures in building construction and promoted the use of structural H-shapes as well as developed key technologies in design, fabrication and construction fields.

Not resting on our laurels gained through history and experience, we have determined to lead the new era with pioneer spirits and express the hope that NIPPON STEEL's structural H-shapes will continue to enjoy your company's patronage.

INDEX

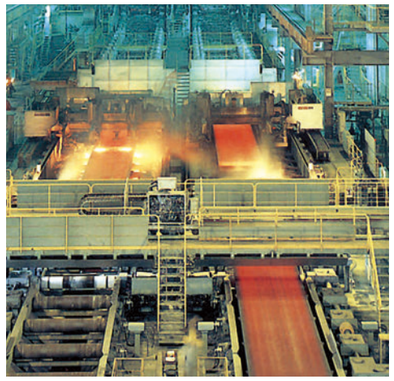
Conventional Technology: Universal Rolling

From Raw Materials to Products

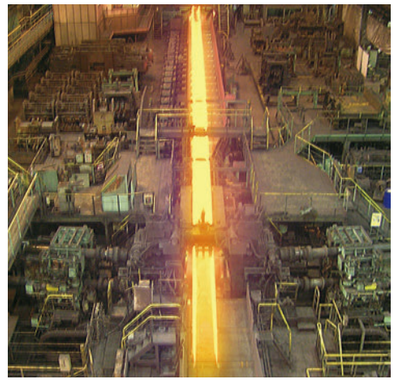


Blast furnace

Basic-oxygen furnace

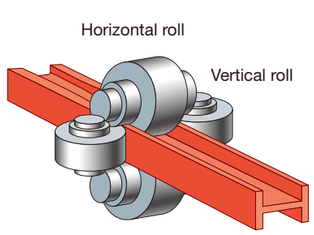


Continuous caster

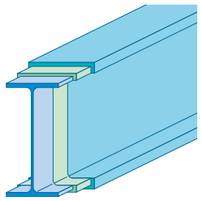


Finishing mill

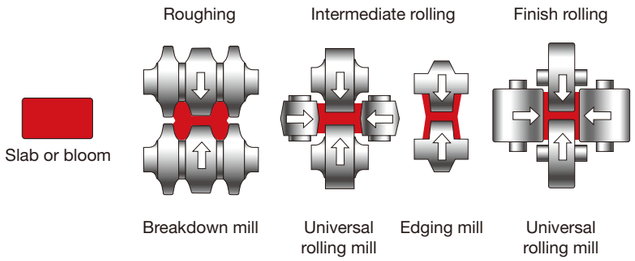
Universal Rolling



Universal roll for rolling wide-flange beam



Conventional wide-flange beam
(Synchronous change of beam depth and width)



Innovative Technology:
NSHYPER BEAM™ and MEGA NSHYPER BEAM™

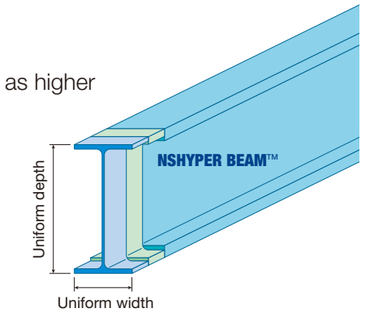
Features of NSHYPER BEAM™ and MEGA NSHYPER BEAM™

World's Largest Rolled H-Shapes
- Max. web height: 1200mm, Max. flange width: 500mm

Depth and Width with 50mm Incremental Unit
- Increased depth and width by 50mm (app. 2 inch) pitch

Rolled H-shapes to be replaced Built-up H-shapes
- Advantages on saving labor force and fabrication term as well as higher quality due to elimination of welding operations

Uniform Depth and Width within a Same Size Series
- The world's first rolled wide-flange beams with uniform depth and width in a same size series



Wider Size Availabilities (77 series and 816 sizes)*
- Helping structural design optimize for less steel weight and better cost performance

*Regular sizes: 444 sizes, Available sizes: 372 sizes

Experience for more than 30 years in Japan
- Popular H-shapes in steel structures covering building and factory as well as onshore & offshore plant fields

Standard sectional dimensions of JIS G 3192
- Registered with standard sectional dimensions of JIS G 3192

Production Process (Case of Kansai Works (Sakai))

① Edge rolling mill
(Variable caliber depth of upper and lower rolls)
- Meeting the need for widely ranging web thicknesses by varying upper and lower roll positions to produce fixed widths

② Skewed roll rolling mill
- Flexible control of depth using skew rolls

③ Finish rolling mill
- Provision of wide-ranging flange thicknesses by controlling the depth to a fixed level and changing upper/lower roll-body widths

Kansai Works (Sakai), rolling freely to achieve due to size by variable-width rolls and skew-roll rolling, a first-of-its-kind rolling, has established the manufacturing technology of the "NSHYPER BEAM™".

Steel Grade & Section Profile

						Section Profile						
						NSHYPER BEAM™	MEGA NSHYPER BEAM™	EN		ASTM	JIS	HC400
								EN10365		A6/A6M	JIS G 3192 JIS G 3136	
								UB UC	HL HE IPE	W	H	
						Product Availability		Page 18	Page 19	Page 20	Page 21	Page 22
						Dimensions and Properties		Page 60~62	Page 63~65	Page 66~76	Page 77~78	Page 79~81
Steel Grade	EN	EN10025-2	S235	JR	Page 8~9	✓		✓	✓	✓	✓	✓
				J0		✓		✓	✓	✓	✓	✓
				J2		✓*2		✓*2	✓*2	✓*2	✓*2	✓*2
			S275	JR		✓		✓	✓	✓	✓	✓
				J0		✓		✓	✓	✓	✓	✓
				J2		✓*2		✓*2	✓*2	✓*2	✓*2	✓*2
			S355	JR		✓	✓	✓	✓	✓	✓	✓
				J0		✓	✓	✓	✓	✓	✓	✓
				J2		✓*2		✓*2	✓*2	✓*2	✓*2	✓*2
				K2		✓*2		✓*2	✓*2	✓*2	✓*2	✓*2
		EN10025-4	S460M					✓*1		✓*1		
		EN10225-2	S355MLO			✓		✓*1	✓*1	✓*1	✓*1	✓*1
	ASTM		A36		Page 10~11	✓		✓	✓	✓	✓	
			A572 Gr50			✓	✓	✓	✓	✓	✓	✓
			A992			✓	✓	✓	✓	✓	✓	✓
	JIS	JIS G 3101	SS400		Page 12	✓		✓	✓	✓	✓	✓
		JIS G 3106	SM400A			✓		✓	✓	✓	✓	✓
			SM400B			✓		✓	✓	✓	✓	✓
			SM490A			✓		✓	✓	✓	✓	✓
			SM490B			✓		✓	✓	✓	✓	✓
			SM490YA			✓		✓	✓	✓	✓	✓
			SM490YB			✓		✓	✓	✓	✓	✓
		JIS G 3136	SN400A			✓		✓	✓	✓	✓	✓
			SN400B			✓		✓	✓	✓	✓	✓
			SN490B			✓	✓	✓	✓	✓	✓	✓

*1 Please contact us in advance to order these combinations.
*2 Please contact us in advance to order "J2" and "K2" grade with flange greater than 40mm thick.

Steel Grades

Chemical Composition & Mechanical Properties

The information is extracts of the standard. Please refer to the latest edition for details.

EN10025-2

Chemical Compositions

(Max content in %)

Designation	C Nominal Thickness (mm) ≦ 16	C 16 < ≦ 40	C 40 < *2	Si	Mn	P *2	S *2	N *2	Cu*2	Other Elements *2	CEV Nominal Thickness (mm) ≦ 30	CEV 30 < ≦ 40	CEV 40 < ≦ 150
S235JR	0.17	0.17	0.20	—	1.40	0.035	0.035	0.012	0.55	—	0.35	0.35	0.38
S235J0	0.17	0.17	0.17	—	1.40	0.030	0.030	0.012	0.55	—	0.35	0.35	0.38
S235J2	0.17	0.17	0.17	—	1.40	0.025	0.025	—	0.55	—	0.35	0.35	0.38
S275JR	0.21	0.21	0.22	—	1.50	0.035	0.035	0.012	0.55	—	0.40	0.40	0.42
S275J0	0.18	0.18	0.18	—	1.50	0.030	0.030	0.012	0.55	—	0.40	0.40	0.42
S275J2	0.18	0.18	0.18	—	1.50	0.025	0.025	—	0.55	—	0.40	0.40	0.42
S355JR	0.24	0.24	0.24	0.55	1.60	0.035	0.035	0.012	0.55	—	0.45	0.47	0.47
S355J0	0.20	0.20 *1	0.22	0.55	1.60	0.030	0.030	0.012	0.55	—	0.45	0.47	0.47
S355J2	0.20	0.20 *1	0.22	0.55	1.60	0.025	0.025	—	0.55	—	0.45	0.47	0.47
S355K2	0.20	0.20 *1	0.22	0.55	1.60	0.025	0.025	—	0.55	—	0.45	0.47	0.47

*1 For nominal thickness > 30 mm : C = 0.22% max..
*2 See specific limitation in the standard.

Mechanical Properties

Designation	Minimum Yield Strength (MPa) Nominal Thickness (mm) ≦ 16	16 < ≦ 40	40 < ≦ 63	63 < ≦ 80	80 < ≦ 100	100 < ≦ 150	Tensile Strength (MPa) Nominal Thickness (mm) < 3	3 ≦ ≦ 100	100 < ≦ 150	Impact Test Temperature °C	Impact Test Minimum Energy (J)	Minimum Elongation (%) $L_0 = 5.65\sqrt{S_0}$ Nominal Thickness (mm) 3 ≦ ≦ 40	40 < ≦ 63	63 < ≦ 100	100 < ≦ 150
S235JR	235	225	215	215	215	195	360/510	360/510	350/500	20	27	26	25	24	22
S235J0	235	225	215	215	215	195	360/510	360/510	350/500	0	27	26	25	24	22
S235J2	235	225	215	215	215	195	360/510	360/510	350/500	-20	27	26	25	24	22
S275JR	275	265	255	245	235	225	430/580	410/560	400/540	20	27	23	22	21	19
S275J0	275	265	255	245	235	225	430/580	410/560	400/540	0	27	23	22	21	19
S275J2	275	265	255	245	235	225	430/580	410/560	400/540	-20	27	23	22	21	19
S355JR	355	345	335	325	315	295	510/680	470/630	450/600	20	27	22	21	20	18
S355J0	355	345	335	325	315	295	510/680	470/630	450/600	0	27	22	21	20	18
S355J2	355	345	335	325	315	295	510/680	470/630	450/600	-20	27	22	21	20	18
S355K2	355	345	335	325	315	295	510/680	470/630	450/600	-20	40 *3	20	19	18	18

*3 See specific limitation in the standard.

EN10025-4

Chemical Compositions

(Max content in %)

Designation	C	Si	Mn	P *2	S *2	N	Cu *2	Other Elements *2	CEV Nominal Thickness (mm) ≦ 16	16 < ≦ 40	40 < ≦ 63	63 < ≦ 120
S460M	0.16 *1	0.60	1.70	0.030	0.025	0.025	0.55	—	0.45	0.46	0.47	0.48

*1 *2 See specific limitation in the standard.

Mechanical Properties

Designation	Minimum Yield Strength (MPa) Nominal Thickness (mm) ≦ 16	16 < ≦ 40	40 < ≦ 63	63 < ≦ 80	80 < ≦ 100	100 < ≦ 120	Tensile Strength (MPa) Nominal Thickness (mm) 40 <	40 < ≦ 63	63 < ≦ 80	80 < ≦ 100	100 < ≦ 120	Impact Test Temperature °C	Impact Test Minimum Energy (J)	Minimum Elongation (%) $L_0 = 5.65\sqrt{S_0}$
S460M	460	440	430	410	400	385	540/720	530/710	510/690	500/680	490/660	20	55	17
												0	47	
												-10	43	
												-20	40 *1	

*1 This value corresponds with 27J at - 30℃ (see Eurocode 3).

EN10225-2

Chemical Compositions

(Max content in %)

Designation	C	Si	Mn	P	S	N	Cu	Other Elements *1	Nb+V	Nb+V+Ti	CEV
S355MLO (S355G11+M)	0.14	0.55	1.65	0.025	0.015	0.012	0.30	—	0.06	0.08	0.43

*1 See specific limitation in the standard.

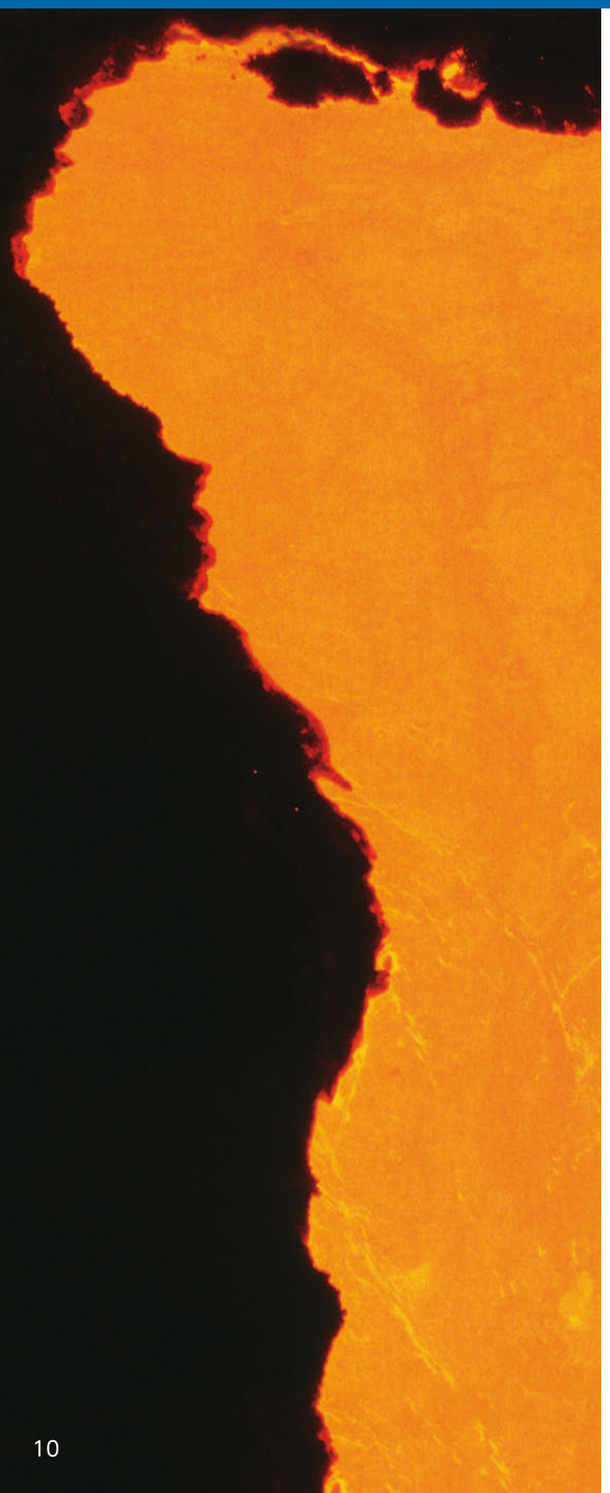
Mechanical Properties

Designation	Minimum Yield Strength (MPa) Nominal Thickness (mm) ≦ 16	16 < ≦ 25	25 < ≦ 40	40 < ≦ 63	Tensile Strength (MPa)	Yield to Tensile Ratio, Max (%)	Impact Test Temperature °C	Impact Test Minimum Energy (J)	Minimum Elongation (%) $L_0 = 5.65\sqrt{S_0}$
S355MLO (S355G11+M)	355	355	345	335	470/630	0.87	-40	50	22

Steel Grades

Chemical Composition & Mechanical Properties

The information is extracts of the standard. Please refer to the latest edition for details.



ASTM A36

Chemical Requirements

Elements	Max. content in %
Carbon	0.26
Manganese	*1
Silicon	0.40 *1
Phosphorus	0.04
Sulfur	0.05

*1 Flange thickness over 3in. ;min. 0.15% to 0.4%, Mn 0.85-1.35%

Tensile Requirements

Tensile strength, min ksi [MPa]	58-80 [400-550] *1
Yield point,	36 [250]
Elongation in 8 in. [200mm], min, %	20
Elongation in 2 in. [50mm], min, %	21*1

*1 For wide flange shapes with flange thickness over 3in. The 80 ksi maximum tensile strength dose not apply and a min.elongation in 2 in. [50 mm] of 19% applies.

ASTM A572 Gr.50

Chemical Requirements

Elements	Max. content in %
Carbon	0.23
Manganese	1.35 *1
Silicon	0.40 *2
Vanadium	*1
Columbium	*1
Phosphorus	0.04
Sulfur	0.05
other elements	*1

*1 See specific limitations in the standard.
*2 Flange thickness over 3in. ;min. 0.15% to 0.4%

Tensile Requirements

Tensile strength, min ksi [MPa]	65 [450] *1
Yield point,	50 [345]
Elongation in 8 in. [200mm], min, %	18
Elongation in 2 in. [50mm], min, %	21*1

*1 For wide flange shapes over 426lbs ,elongation in 2 in. [50 mm] of 19% minimum applies.

ASTM A992

Chemical Requirements

Elements	Max. content in %
Carbon	0.23
Manganese	1.60 *1
Silicon	0.40
Vanadium	0.15 *1
Columbium	0.05 *1
Phosphorus	0.035
Sulfur	0.045
Copper	0.60
Nickel	0.45
Chromium	0.35
Molybdenum	0.15

*1 See specific limitations in the standard.

Tensile Requirements

Tensile strength, min ksi [MPa]	65 [450]
Yield point,	50 to 65 [345 to 450] *1
Yield to tensile ratio, max	0.85 *1
Elongation in 8 in. [200mm], min, %	18
Elongation in 2 in. [50mm], min, %	21

*1 See specific limitations in the standard.

Supplementary Requirments

Charpy V Notch Impact Tests

20ft-lbf [27J] at 70℉ [21℃]

Steel Grades

Chemical Composition & Mechanical Properties

The information is extracts of the standard. Please refer to the latest edition for details.

JIS G 3101, 3106, 3136

Chemical Compositions

(Max content in %)

Designation	C Nominal Thickness (mm) 6 ≦ ≦ 50	C Nominal Thickness (mm) 50 < ≦ 100	Si	Mn	P	S
SS400	—	—	—	—	0.050	0.050
SM400A	0.23	0.25	—	2.5 x C	0.035	0.035
SM400B	0.20	0.22	0.35	0.60/1.50	0.035	0.035
SM490A	0.20	0.22	0.55	1.65	0.035	0.035
SM490B	0.18	0.20	0.55	1.65	0.035	0.035
SN400A	0.24	0.24	—	—	0.050	0.050
SN400B	0.20	0.22	0.35	0.60/1.50	0.030	0.015
SN490B	0.18	0.20	0.55	1.65	0.030	0.015
SM490YA	0.20	0.20	0.55	1.65	0.035	0.035
SM490YB	0.20	0.20	0.55	1.65	0.035	0.035

Mechanical Properties

Designation	Minimum Yield Strength (N/mm²) Nominal Thickness (mm) 6 ≦ < 12	12 ≦ < 16	16	16 < ≦ 40	40 < ≦ 75	75 < ≦ 100	Tensile Strength (N/mm²) ≦ 100	Yield to Tensile Ratio, Max (%) Nominal Thickness (mm) 6 ≦ < 12	12 ≦ < 16	16	16 < ≦ 40	40 < ≦ 100	Impact Test Temperature °C	Impact Test Minimum Energy (J)	Minimum Elongation (%) * Nominal Thickness (mm) 5 < ≦ 16	16 < ≦ 40	40 <
SS400	245	245	245	235	215	215	400/510	—	—	—	—	—	—	—	17	21	23
SM400A	245	245	245	235	215	215	400/510	—	—	—	—	—	—	—	18	22	24
SM400B	245	245	245	235	215	215	400/510	—	—	—	—	—	0	27	18	22	24
SM490A	325	325	325	315	295	295	490/610	—	—	—	—	—	—	—	17	21	23
SM490B	325	325	325	315	295	295	490/610	—	—	—	—	—	0	27	17	21	23
SN400A	235	235	235	235	215	215	400/510	—	—	—	—	—	—	—	17	21	23
SN400B	235	235/355	235/355	235/355	215/335	215/335	400/510	—	80	80	80	80	0	27	18	22	24
SN490B	325	325/445	325/445	325/445	295/415	295/415	490/610	—	80	80	80	80	0	27	17	21	23
SM490YA	365	365	365	355	335	325	490/610	—	—	—	—	—	—	—	15	19	21
SM490YB	365	365	365	355	335	325	490/610	—	—	—	—	—	0	27	15	19	21

* Refer to the standard.

Classification Society Standards

ABS

Chemical Compositions

(Max content in %)

Designation	C	Si	Mn	P	S*2	Other Elements*1	C+Mn/6	CE t≦50mm
A	0.21*1	0.50	2.5×C/	0.035	0.035	—	0.40	—
B	0.21	0.35	0.80/*1	0.035	0.035	—	0.40	—
D	0.21	0.10 - 0.35*1	0.60/	0.035	0.035	—	0.40	—
AH32, DH32	0.18	0.10 - 0.50*1	0.90/1.60*1	0.035	0.035	—	—	0.36
AH36, DH36	0.18	0.10 - 0.50*1	0.90/1.60*1	0.035	0.035	—	—	0.38

*1 See specific limitation in the standard.
*2 For steels of cold flanging quality, the maximum sulfur content is 0.020%.

Mechanical Properties

Designation	Minimum Yield Strength (MPa)	Tensile Strength (MPa)	Impact Test (J) Nominal Thickness ≦ 50 (mm) Temperature °C	Impact Test Minimum Energy (Average) Long'l*2	Impact Test Minimum Energy (Average) Transv*2	Minimum Elongation*3 (%)
A	235	400/520*1	20	—	—	22
B	235	400/520	0	27	20	22
D	235	400/520	-20	27	20	22
AH32	315	440/590	0	31	22	22
DH32	315	440/590	-20	31	22	22
AH36	355	490/620	0	34	24	21
DH36	355	490/620	-20	34	24	21

*1 For Grade A sections, the upper limit of tensile strength may be 550N/mm².
*2 Either direction is acceptable.
*3 See specific limitation in the standard.

DNV GL

Chemical Compositions

(Max content in %)

Designation	C	Si	Mn	P	S	Other Elements*1	C+Mn/6	CE t≦50mm
A	0.21*1	0.50	2.5×C/	0.035	0.035	—	0.40	—
B	0.21	0.35	0.80/*1	0.035	0.035	—	0.40	—
D	0.21	0.10 - 0.35	0.60/	0.035	0.035	—	0.40	—
E*2	0.18	0.10 - 0.35	0.70/	0.035	0.035	—	0.40	—
A32, D32, E32*2	0.18	0.50	0.90/1.60*1	0.035	0.035	—	—	0.36
A36, D36, E36*2	0.18	0.50	0.90/1.60*1	0.035	0.035	—	—	0.38

*1 See specific limitation in the standard.
*2 Please contact us in advance to order these designations.

Mechanical Properties

Designation	Minimum Yield Strength (MPa)	Tensile Strength (MPa)	Impact Test (J) Nominal Thickness ≦ 50 (mm) Temperature °C	Impact Test Minimum Energy (Average) Long'l*1	Impact Test Minimum Energy (Average) Transv*1	Minimum Elongation*1 (%)
A	235	400/520	20	—	—	22
B	235	400/520	0	27	20	22
D	235	400/520	-20	27	20	22
E*2	235	400/520	-40	27	20	22
A32	315	440/570	0	31	22	22
D32	315	440/570	-20	31	22	22
E32*2	315	440/570	-40	31	22	22
A36	355	490/630	0	34	24	21
D36	355	490/630	-20	34	24	21
E36*2	355	490/630	-40	34	24	21

*1 See specific limitation in the standard.
*2 Please contact us in advance to order these designations.

Product Availability

Size Structures

NSHYPER BEAM™

NSHYPER BEAM™ Size Table (EN10025-2 S355JR, J0, J2, K2)

D \ Flange / Web	t \ B / T	200						250								300								350						400					
		12	16	19	22	25	28	16	19	22	25	28	32	36	40	16	19	22	25	28	32	36	40	22	25	28	32	36	40	22	25	28	32	36	40
1000	16								○	○	○	○						○	○	○	○			○	○	○	○			○	○	○	○			
	19									○	○	○	○						○	○	○	○	○		○	○	○	○	○		○	○	○	○	○	○
	22																																		
950	16								○	○	○	○						○	○	○	○			○	○	○	○			○	○	○	○			
	19									○	○	○	○						○	○	○	○	○		○	○	○	○	○		○	○	○	○	○	○
	22																																		
900	14							○	○	○	○					○	○	○	○						○	○					○	○				
	16							○	○	○	○	○				○	○	○	○	○				○	○	○	○	○			○	○				
	19																	○	○	○	○	○	○		○	○	○	○	○			○	○	○	○	○
	22																																		
850	14								○	○	○						○	○	○						○	○										
	16								○	○	○	○					○	○	○	○					○	○	○	○			○	○	○				
	19																		○	○	○	○														
800	12								○	○							○	○																		
	14								○	○	○						○	○	○	○					○	○	○				○	○				
	16								○	○	○	○					○	○	○	○	○				○	○	○	○			○	○				
	19																								○	○	○	○	○			○	○	○	○	○
	22																																		
750	12								○	○	○						○	○	○																	
	14								○	○	○	○	○				○	○	○	○					○	○	○									
	16																	○	○	○	○				○	○	○	○								
700	9	○	○	○	○			○	○																										
	12		○	○	○	○	○	○	○	○	○						○	○	○	○				○	○										
	14								○	○	○	○	○				○	○	○	○	○			○	○	○	○									
	16																	○	○	○	○	○			○	○	○	○								
	19																																		
	22																																		
650	9																																		
	12																																		
	16																																		
600	9	○	○	○	○			○	○								○																		
	12		○	○	○	○	○	○	○	○	○	○					○	○	○	○	○														
	14																	○	○	○																
	16									○	○	○	○					○	○	○	○																
550	9																																		
	12																																		
	16																																		
500	9	○	○	○	○			○	○	○						○	○																		
	12		○	○	○	○		○	○	○	○	○				○	○	○	○	○															
	16																○	○	○	○	○															
450	9	○	○	○	○			○	○	○																									
	12		○	○	○	○		○	○	○	○	○																							
400	9	○	○	○	○																														
	12		○	○	○																														

○ : Regular sizes (343 sizes) : Available sizes (213 sizes, Please contact us in advance to order these section sizes) : Extra large sizes

Please contact us in advance to order other steel grades.

NSHYPER BEAM™

NSHYPER BEAM™ Size Table (EN10225-2 S355MLO)

D \ Flange / Web	t \ B / T	200						250								300								350						400					
		12	16	19	22	25	28	16	19	22	25	28	32	36	40	16	19	22	25	28	32	36	40	22	25	28	32	36	40	22	25	28	32	36	40
1000	16									○	○	○	○					○	○	○				○	○	○	○			○	○	○			
	19									○	○	○	○					○	○	○	○			○	○	○	○	○			○	○	○		
	22																																		
950	16									○	○	○	○					○	○	○				○	○	○	○			○	○	○			
	19									○	○	○	○					○	○	○	○			○	○	○	○	○			○	○	○		
	22																																		
900	14								○	○	○	○					○	○	○	○					○	○					○	○			
	16								○	○	○	○	○				○	○	○	○	○				○	○	○	○			○	○			
	19																	○	○	○	○	○	○		○	○	○	○	○			○	○	○	
	22																																		
850	14								○	○	○						○	○	○						○	○									
	16								○	○	○	○					○	○	○	○					○	○	○	○				○	○		
	19																		○	○	○	○													
800	12								○	○							○	○																	
	14								○	○	○						○	○	○	○					○	○	○								
	16								○	○	○	○					○	○	○	○	○				○	○	○	○							
	19																								○	○	○	○	○			○	○	○	
	22																																		
750	12								○	○	○						○	○	○																
	14								○	○	○	○	○				○	○	○	○					○	○	○								
	16																	○	○	○					○	○	○	○							
700	9																																		
	12		○	○	○	○	○	○	○	○	○						○	○	○	○				○	○									
	14								○	○	○	○	○				○	○	○	○	○			○	○	○	○							
	16																	○	○	○	○	○			○	○	○	○							
	19																																		
	22																																		
650	9																																		
	12																																		
	16																																		
600	9	○		○	○			○	○																										
	12		○	○	○	○	○	○	○	○	○	○					○	○	○	○	○														
	14																	○	○	○																
	16									○	○	○	○					○	○	○	○																
550	9																																		
	12																																		
	16																																		
500	9	○		○	○			○	○	○														○	○										
	12		○	○	○	○		○	○	○	○	○												○	○	○	○	○							
	16																								○	○	○	○	○							
450	9	○		○	○			○	○	○																									
	12		○	○	○	○		○	○	○	○	○																							
400	9	○		○	○																														
	12		○	○	○																														

○ : Regular sizes (315 sizes) : Available sizes (192 sizes, Please contact us in advance to order these section sizes) : Extra large sizes

Product Availability

Size Structures

MEGA NSHYPER BEAM™

MEGA NSHYPER BEAM™ Size Table (EN10025-2 S355JR, J0)

D \ Web t / Flange B / T	16	19	22	25	28	32	36	40
300								
1200	○	○	○	■	○	○	○	○
1150	■	■	■	■	■	■	■	■
1100	○	○	○	■	○	○	○	○
1050	■	■	■	■	■	■	■	■
1000								
950								
900								
850								
800								
350								
1200	■	○	○	○	○	○	○	○
1150	■	■	■	■	■	■	■	■
1100	■	○	○	○	○	○	○	○
1050	■	■	■	■	■	■	■	■
1000								
950								
900								
850								
800								
400								
1200	■	■	○	○	○	○	○	○
1150	■	■	■	■	■	■	■	■
1100	■	○	○	○	○	○	○	○
1050	■	■	■	■	■	■	■	■
1000								
950								
900								
850								
800								
450								
1200								
1150								
1100								
1050								
1000								
950								
900								
850								
800								
500								
1200								
1150								
1100								
1050								
1000								
950								
900								
850								
800								

D \ Web t / Flange B / T	22	25	28	32	36	40
300						
1200		■	○	○	○	○
1150		■	■	■	■	■
1100		■	○	○	○	○
1050		■	■	■	■	■
1000						
950						
900						
850						
800						
350						
1200		■	■	○	○	○
1150		■	■	■	■	■
1100		■	■	○	○	○
1050		■	■	■	■	■
1000						
950						
900						
850						
800						
400						
1200		■	■	■	■	■
1150		■	■	■	■	■
1100		■	■	■	■	■
1050		■	■	■	■	■
1000						
950						
900						
850						
800						
450						
1200			■	■	■	■
1150			■	■	■	■
1100			■	■	■	■
1050			■	■	■	■
1000			■	■	■	■
950			■	■	■	■
900			■	■	■	■
850			■	■	■	■
800			■	■	■	■
500						
1200						
1150						
1100						
1050						
1000						
950						
900						
850						
800						

○: Regular sizes (44 sizes) ■: Available sizes (56 sizes, Please contact us in advance to order these section sizes) ■: Mega sizes

■: Sizes to be commercialized (16 sizes)

Please contact us in advance to order other steel grades.

MEGA NSHYPER BEAM™

MEGA NSHYPER BEAM™ Size Table (JIS G 3136 SN490B)

D \ Web t / Flange B / T	16	19	22	25	28	32	36	40
300								
1200	○	○	○	■	○	○	○	○
1150	■	■	■	■	■	■	■	■
1100	○	○	○	■	○	○	○	○
1050	■	■	■	■	■	■	■	■
1000								
950								
900								
850								
800								
350								
1200	■	○	○	○	○	○	○	○
1150	■	■	■	■	■	■	■	■
1100	■	○	○	○	○	○	○	○
1050	■	■	■	■	■	■	■	■
1000								
950								
900								
850								
800								
400								
1200	■	■	○	○	○	○	○	○
1150	■	■	■	■	■	■	■	■
1100	■	○	○	○	○	○	○	○
1050	■	■	■	■	■	■	■	■
1000								
950								
900								
850								
800								
450								
1200								
1150								
1100								
1050								
1000								
950								
900								
850								
800								
500								
1200								
1150								
1100								
1050								
1000								
950								
900								
850								
800								

D \ Web t / Flange B / T	22	25	28	32	36	40
300						
1200		■	○	○	○	○
1150		■	■	■	■	■
1100		■	○	○	○	○
1050		■	■	■	■	■
1000						
950						
900						
850						
800						
350						
1200		■	■	○	○	○
1150		■	■	■	■	■
1100		■	■	○	○	○
1050		■	■	■	■	■
1000						
950						
900						
850						
800						
400						
1200		■	■	■	■	■
1150		■	■	■	■	■
1100		■	■	■	■	■
1050		■	■	■	■	■
1000						
950						
900						
850						
800						
450						
1200			■	■	■	■
1150			■	■	■	■
1100			■	■	■	■
1050			■	■	■	■
1000			■	■	■	■
950			■	■	■	■
900			■	■	■	■
850			■	■	■	■
800			■	■	■	■
500						
1200						
1150						
1100						
1050						
1000						
950						
900						
850						
800						

○: Regular sizes (101sizes) ■: Available sizes (159sizes, Please contact us in advance to order these section sizes) ■: Mega sizes

■: Sizes to be commercialized (24 sizes)

Please contact us in advance to order other steel grades.

Product Availability

Size Structures

UB & UC sections

Nominal Size		Mass per Meter [kg/m]														
UB 1016 x 305	x	222	249	272	314	350	393	415	438	494	*584*					
UB 914 x 419	x	343	388													
UB 914 x 305	x	201	224	238	253	271	289	313	345	381	*425*	*474*	*521*	*576*		
UB 838 x 292	x	176	194	226												
UB 762 x 267	x	134	147	173	197											
UB 686 x 254	x	125	140	152	170											
UB 610 x 305	x	149	179	238												
UB 610 x 229	x	101	113	125	140											
UB 533 x 210	x	82	92	101	109	122										
UB 457 x 191	x	67	74	82												
UB 457 x 152	x	60	67	74												
UB 406 x 178	x	60	67	74												
UC 356 x 406	x	235	287	340	393	467	509	551	592	634	677	744	818	900	990	1086
UC 356 x 368	x	129	153	177	202											
UC 305 x 305	x	97	118	137	158	198	240	283								
UBP 356 x 368	x	*109*	*133*	*152*	*174*											
UBP 305 x 305	x	79	88	95	110	126	149	186	223							

Please contact us in advance to order these *underlined sizes*.

HL & HE & IPE sections

Section						
HL 1000	HL 1000 AA	HL 1000 A	HL 1000 B	HL 1000 M	HL 1000 x 443	HL 1000 x 483
	HL 1000 x 539	*HL 1000 x 554*	*HL 1000 x 591*	*HL 1000 x 642*	*HL 1000 x 748*	*HL 1000 x 883*
HL 920	HL 920 x 344	HL 920 x 368	HL 920 x 390	HL 920 x 420	HL 920 x 449	HL 920 x 491
	HL 920 x 537	*HL 920 x 588*	*HL 920 x 656*	*HL 920 x 725*	*HL 920 x 787*	*HL 920 x 970*
HE 1000	HE 1000 AA	HE 1000 x 249	HE 1000 A	HE 1000 B	HE 1000 M	HE 1000 x 393
	HE 1000 x 415	HE 1000 x 438	HE 1000 x 494	*HE 1000 x 584*		
HE 900	HE 900 AA	HE 900 A	HE 900 B	HE 900 M	*HE 900 x 391*	*HE 900 x 466*
HE 800	HE 800 AA	HE 800 A	HE 800 B	HE 800 M		
HE 700	HE 700 AA	HE 700 A	HE 700 B	HE 700 M		
HE 650	HE 650 AA	HE 650 A	HE 650 B	HE 650 M		
HE 600	HE 600 AA	HE 600 A	HE 600 B	HE 600 M		
HE 550	HE 550 AA	HE 550 A	HE 550 B	HE 550 M		
HE 500	HE 500 AA	HE 500 A	HE 500 B	HE 500 M		
HE 450	HE 450 AA	HE 450 A	HE 450 B	HE 450 M		
HE 400	HE 400 AA	HE 400 A	HE 400 B	HE 400 M		
IPE 750	*IPE 750 x 134*	*IPE 750 x 147*	*IPE 750 x 173*	*IPE 750 x 196*		
IPE 600	IPE A 600	IPE 600	IPE O 600			
IPE 550	IPE A 550	IPE 550	IPE O 550			
IPE 500	IPE A 500	IPE 500	IPE O 500			
IPE 450	IPE A 450	IPE 450	IPE O 450			
IPE 400	IPE A 400	IPE 400	IPE O 400			

Please contact us in advance to order these *underlined sizes*.

Product Availability

Size Structures

ASTM W sections

Nominal Size [Imperial Unit] ☆[(Metric Unit)]		Mass per Foot [lbs/ft] (Mass per Meter [kg/m])												
W40 (x 16) (1016 x 406)	x	199 (296)	215 (320)	249 (371)	277 (412)	297 (442)	324 (482)	*362* *(539)*	*372* *(554)*	*397* *(591)*	*431* *(641)*	*503* *(749)*	*593* *(883)*	
W40 (x 12) (1016 x 305)	x	149 (222)	167 (249)	183 (272)	211 (314)	235 (350)	264 (393)	278 (414)	294 (438)	327 (487)	331 (493)	*392* *(583)*		
W36 (x 16.5) (914 x 419)	x	231 (344)	247 (368)	262 (390)	282 (420)	302 (449)	330 (491)	361 (537)	*395* *(588)*	*441* *(656)*	*487* *(725)*	*529* *(787)*	*652* *(970)*	
W36 (x 12) (914 x 305)	x	135 (201)	150 (223)	160 (238)	170 (253)	182 (271)	194 (289)	210 (313)	232 (345)	256 (381)	*286* *(425)*	*318* *(474)*	*350* *(521)*	*387* *(576)*
W33 (x 15.75) (838 x 400)	x	201 (299)	221 (329)	241 (359)										
W33 (x 11.5) (838 x 292)	x	118 (176)	130 (194)	141 (210)	152 (226)	169 (252)								
W30 (x 15) (762 x 381)	x	*173* *(258)*	*191* *(284)*	*211* *(314)*	*235* *(350)*									
W30 (x 10.5) (762 x 267)	x	90 (134)	99 (147)	108 (161)	116 (173)	124 (185)	132 (196)	148 (220)						
W27 (x 14) (686 x 356)	x	146 (217)	161 (240)	178 (265)	194 (289)	217 (323)								
W27 (x 10) (686 x 254)	x	84 (125)	94 (140)	102 (152)	114 (170)	129 (192)								
W24 (x 12.75) (610 x 324)	x	104 (155)	117 (174)	131 (195)	146 (217)	162 (241)	176 (262)	192 (286)						
W24 (x 9) (610 x 229)	x	68 (101)	76 (113)	84 (125)	94 (140)	103 (153)								
W24 (x 7) (610 x 178)	x	55 (82)	62 (92)											
W21 (x 12.25) (533 x 312)	x	101 (150)	111 (165)	122 (182)	132 (196)	147 (219)	166 (247)	182 (271)						
W21 (x 8.25) (533 x 210)	x	48 (71)	55 (82)	62 (92)	68 (101)	73 (109)	83 (124)	93 (138)						
W21 (x 6.5) (533 x 165)	x	44 (65)	50 (74)	57 (85)										
W18 (x 11) (457 x 279)	x	76 (113)	86 (128)	97 (144)	106 (158)	119 (177)	*130* *(194)*	*143* *(213)*	*158* *(235)*	*175* *(260)*	*192* *(286)*			
W18 (x 7.5) (457 x 191)	x	50 (74)	55 (82)											
W18 (x 6) (457 x 152)	x	40 (60)	46 (68)											
W16 (x 10.25) (406 x 260)	x	67 (100)	77 (115)											
W16 (x 7) (406 x 178)	x	40 (60)	45 (67)	50 (74)	57 (85)									
W14 (x 16) (356 x 406)	x	145 (216)	159 (237)	176 (262)	193 (287)	211 (314)	233 (347)	257 (383)	283 (421)	311 (463)	342 (509)	370 (551)	398 (592)	426 (634)	455 (677)	500 (744)	550 (819)	605 (900)
		665 (990)	730 (1086)															
W14 (x 14.5) (356 x 368)	x	90 (134)	99 (147)	109 (162)	120 (179)	132 (196)												
W12 (x 12) (305 x 305)	x	65 (97)	72 (107)	79 (118)	87 (130)	96 (143)	106 (158)	120 (179)	136 (202)	152 (226)	170 (253)	190 (283)	*210* *(313)*	*230* *(342)*	*252* *(375)*	*279* *(415)*	*305* *(454)*	*336* *(500)*
HP14 (HP356)	x	*73* *(109)*	*89* *(132)*	*102* *(152)*	*117* *(174)*													
HP12 (HP305)	x	53 (79)	63 (94)	74 (110)	84 (125)													

Please contact us in advance to order these *underlined sizes*.
☆: Values in metric unit are exact conversions of ones in imperial unit.

JIS H sections

Nominal Size					
900 x 300	210 (H890 x 299 x 15 x 23)	240 (H900 x 300 x 16 x 28)	283 (H912 x 302 x 18 x 34)	304 (H918 x 303 x 19 x 37)	
800 x 300	207 (H800 x 300 x 14 x 26)				
700 x 300	182 (H700 x 300 x 13 x 24)				
600 x 300	147 (H588 x 300 x 12 x 20)				
600 x 200	103 (H600 x 200 x 11 x 17)				
500 x 300	125 (H488 x 300 x 11 x 18)				
500 x 200	88.2 (H500 x 200 x 10 x 16)				
450 x 300	121 (H440 x 300 x 11 x 18)				
450 x 200	74.9 (H450 x 200 x 9 x 14)				
400 x 400	172 (H400 x 400 x 13 x 21)	232 (H414 x 405 x 18 x 28)	283 (H428 x 407 x 20 x 35)	415 (H458 x 417 x 30 x 50)	605 (H498 x 432 x 45 x 70)
400 x 300	105 (H390 x 300 x 10 x 16)				
400 x 200	65.4 (H400 x 200 x 8 x 13)				
350 x 350	135 (H350 x 350 x 12 x 19)				
300 x 300	93 (H300 x 300 x 10 x 15)				

Please contact us in advance to other sizes than the above-mentioned, described in the JIS G 3192 dated 2000 or before.

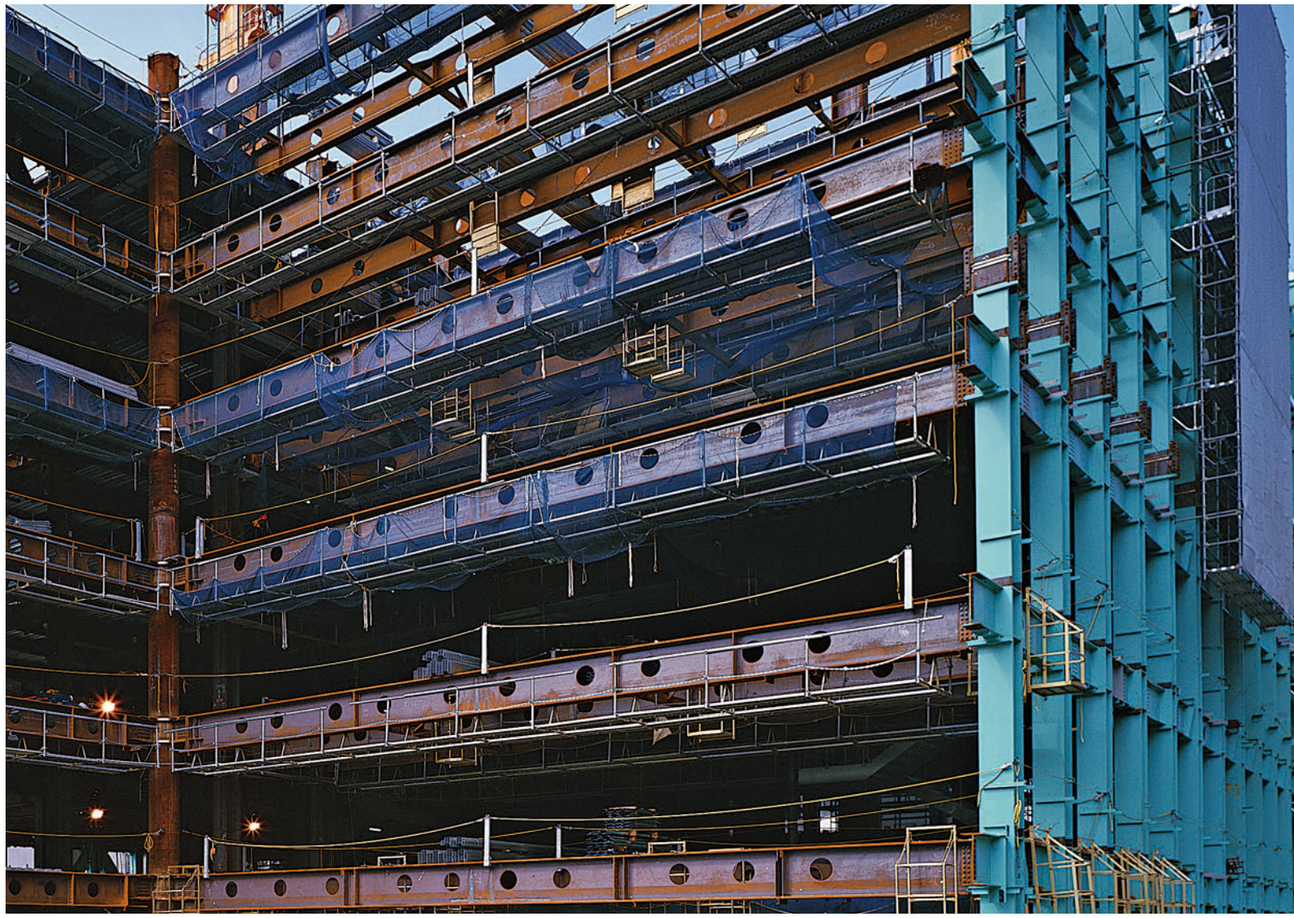
Product Availability

Size Structures

HC400

Section					
508	508 x 432 x 45 x 75	508 x 437 x 50 x 75	508 x 442 x 55 x 75	508 x 447 x 60 x 75	508 x 452 x 65 x 75
	508 x 457 x 70 x 75	508 x 462 x 75 x 75			
498	498 x 427 x 40 x 70	498 x 432 x 45 x 70	498 x 437 x 50 x 70	498 x 442 x 55 x 70	498 x 447 x 60 x 70
	498 x 452 x 65 x 70	498 x 457 x 70 x 70			
488	488 x 422 x 35 x 65	488 x 427 x 40 x 65	488 x 432 x 45 x 65	488 x 437 x 50 x 65	488 x 442 x 55 x 65
	488 x 447 x 60 x 65	488 x 452 x 65 x 65			
478	478 x 417 x 30 x 60	478 x 422 x 35 x 60	478 x 427 x 40 x 60	478 x 432 x 45 x 60	478 x 437 x 50 x 60
	478 x 442 x 55 x 60	478 x 447 x 60 x 60			
468	468 x 417 x 30 x 55	468 x 422 x 35 x 55	468 x 427 x 40 x 55	468 x 432 x 45 x 55	468 x 437 x 50 x 55
	468 x 442 x 55 x 55				
458	458 x 412 x 25 x 50	458 x 417 x 30 x 50	458 x 422 x 35 x 50	458 x 427 x 40 x 50	458 x 432 x 45 x 50
	458 x 437 x 50 x 50	458 x 442 x 55 x 50			
448	448 x 412 x 25 x 45	448 x 417 x 30 x 45	448 x 422 x 35 x 45	448 x 427 x 40 x 45	448 x 432 x 45 x 45
	448 x 437 x 50 x 45				
438	438 x 407 x 20 x 40	438 x 412 x 25 x 40	438 x 417 x 30 x 40	438 x 422 x 35 x 40	438 x 427 x 40 x 40
	438 x 432 x 45 x 40				
428	428 x 407 x 20 x 35	428 x 412 x 25 x 35	428 x 417 x 30 x 35	428 x 422 x 35 x 35	428 x 427 x 40 x 35
	428 x 432 x 45 x 35				
418	418 x 402 x 15 x 30	418 x 407 x 20 x 30	418 x 412 x 25 x 30	418 x 417 x 30 x 30	418 x 422 x 35 x 30
	418 x 427 x 40 x 30				
408	408 x 417 x 30 x 25	408 x 422 x 35 x 25			
398	398 x 412 x 25 x 20	398 x 417 x 30 x 20			

Please contact us in advance to order all sizes.



Rolling Tolerances

- ASTM A6
- EN10034
- JIS G 3192

Certificate

- Bearing Piles: Grade S450J0 Steel Bearing Piles in Hong Kong
- CE Mark
  Factory Production Control Certificate（FPC）based on Construction Products Regulation -CPR 305/2011/EU
- FPC based on BC1: 2012, Singapore
- IS (Indian Standards)
- ISO9001
- JIS (Japanese Industrial Standards)
- MS (Malaysian Standards; SIRIM Certification)

Classification Society Standards

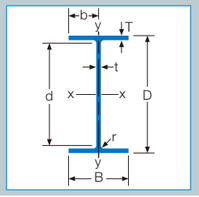
- ABS (American Bureau of Shipping, USA)
- BV (Bureau Veritas, France)
- CR (CR Classification Society , Taiwan)
- DNV GL (Det Norske Veritas, Germanischer Lloyd, Norway Germany)
- KR (Korean Resister of Shipping, Korea)
- LR (Lloyd's Register of Shipping, United Kingdom)
- NK (Nippon Kaiji Kyokai, Japan)

Environmental Products Declaration

- EcoLeaf
  EcoLeaf Declaration is an Environmental Product Declaration (EPD) certification program for disclosing quantitative environmental information that covers the entire lifecycle of a product, from resource extraction to manufacturing/assembly, distribution, use, disposal and recycling, by using the Life Cycle Assessment (LCA) methodology.
  Nippon Steel has obtained the EcoLeaf Declaration certification under the Japan EPD Program, which is run by the Sustainable Management Promotion Organization or SuMPO, for our wide flange shapes, jumbo wide flange shapes, NSHYPER BEAM™, and MEGA NSHYPER BEAM™

Wide frange shapes : JR-AJ-19002E-A
Jumbo wide frange shapes : JR-AJ-19004E-A
NSHYPER BEAM™ and MEGA NSHYPER BEAM™ : JR-AJ-19003E-B

Dimensions and Properties



NSHYPER BEAM™ [50mm Incremental Unit]

NSHYPER BEAM™ Size Table (EN10025-2 S355JR, J0, J2, K2)

D	t \ Flange B	200						250								300								350						400					
	T	12	16	19	22	25	28	16	19	22	25	28	32	36	40	16	19	22	25	28	32	36	40	22	25	28	32	36	40	22	25	28	32	36	40
1000	16									○	○	○	○					○	○	○	○			○	○	○	○			○	○	○	○		
	19										○	○	○	○	○				○	○	○	○	○		○	○	○	○	○		○	○	○	○	○
	22																																		
950	16									○	○	○	○					○	○	○	○			○	○	○	○			○	○	○	○		
	19										○	○	○	○	○				○	○	○	○	○		○	○	○	○	○		○	○	○	○	○
	22																																		
900	14							○	○	○	○					○	○	○	○						○	○					○	○			
	16							○	○	○	○	○				○	○	○	○	○				○	○	○	○	○			○	○	○	○	
	19																	○	○	○	○	○	○		○	○	○	○	○			○	○	○	○
	22																																		
850	14									○	○	○						○	○	○					○	○									
	16									○	○	○	○					○	○	○	○				○	○	○	○			○	○	○		
	19																		○	○	○	○			○	○	○	○	○						
800	12									○	○							○	○																
	14									○	○	○						○	○	○	○				○	○	○				○	○			
	16									○	○	○	○					○	○	○	○	○			○	○	○	○			○	○	○	○	
	19																								○	○	○	○	○			○	○	○	○
	22																																		
750	12									○	○	○						○	○	○															
	14									○	○	○	○	○				○	○	○					○	○	○								
	16																		○	○	○	○	○		○	○	○	○	○						
700	9	○	○	○	○			○	○																										
	12		○	○	○	○	○	○	○	○	○							○	○	○	○			○	○										
	14							○	○	○	○	○						○	○	○	○	○		○	○	○	○								
	16																	○	○	○	○	○			○	○	○	○							
	19																																		
	22																																		
650	9																																		
	12																																		
	16																																		
600	9	○	○	○	○			○	○								○																		
	12		○	○	○	○	○	○	○	○	○	○				○	○	○	○	○															
	14																	○	○	○															
	16									○	○	○	○					○	○	○	○															
550	9																																		
	12																																		
	16																																		
500	9	○	○	○	○			○	○	○						○	○																		
	12		○	○	○	○		○	○	○	○	○				○	○	○	○	○															
	16																○	○	○	○	○															
450	9	○	○	○	○			○	○	○																									
	12		○	○	○	○		○	○	○	○	○																							
400	9	○	○	○	○																														
	12		○	○	○																														

○ : Regular sizes (343 sizes) : Available sizes (213 sizes, Please contact us in advance to order these section sizes) : Extra large sizes

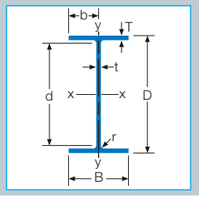
Please contact us in advance to order other steel grades.

NSHYPER BEAM™ Size Table (EN10225-2 S355MLO)

D	t \ Flange B	200						250								300								350						400					
	T	12	16	19	22	25	28	16	19	22	25	28	32	36	40	16	19	22	25	28	32	36	40	22	25	28	32	36	40	22	25	28	32	36	40
1000	16									○	○	○	○					○	○	○				○	○	○	○			○	○	○			
	19										○	○	○	○					○	○	○	○			○	○	○	○	○			○	○	○		
	22																																		
950	16									○	○	○	○					○	○	○				○	○	○	○			○	○	○			
	19										○	○	○	○					○	○	○	○			○	○	○	○	○			○	○	○		
	22																																		
900	14							○	○	○	○					○	○	○	○						○	○					○	○			
	16							○	○	○	○	○				○	○	○	○	○				○	○	○	○	○			○	○			
	19																	○	○	○	○	○			○	○	○	○	○				○	○	○
	22																																		
850	14									○	○	○						○	○	○					○	○									
	16									○	○	○	○					○	○	○	○				○	○	○	○				○	○		
	19																								○	○	○	○					○	○	○
800	12									○	○							○	○																
	14									○	○	○						○	○	○	○				○	○	○					○			
	16									○	○	○	○					○	○	○	○	○			○	○	○	○				○	○		
	19																								○	○	○	○	○				○	○	○
	22																																		
750	12									○	○	○						○	○	○															
	14									○	○	○	○	○				○	○	○	○				○	○	○								
	16																		○	○	○				○	○	○	○							
700	9																																		
	12		○	○	○	○	○	○	○	○	○							○	○	○	○			○	○										
	14								○	○	○	○	○					○	○	○	○	○		○	○	○	○								
	16																		○	○	○	○	○			○	○	○	○							
	19																																		
	22																																		
650	9																																		
	12																																		
	16																																		
600	9	○		○	○			○	○								○																		
	12		○	○	○	○	○	○	○	○	○	○				○	○	○	○	○															
	14																	○	○	○															
	16										○	○	○	○				○	○	○	○															
550	9																																		
	12																																		
	16																																		
500	9	○		○	○			○	○	○														○	○										
	12		○	○	○	○		○	○	○	○	○												○	○	○	○	○							
	16																								○	○	○	○	○						
450	9	○		○	○			○	○	○																									
	12		○	○	○	○		○	○	○	○	○																							
400	9	○		○	○																														
	12		○	○	○																														

○ : Regular sizes (315 sizes) : Available sizes (192 sizes, Please contact us in advance to order these section sizes) : Extra large sizes

Dimensions and Properties



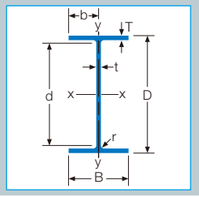
NSHYPER BEAM™ [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 1000 x 400	HY1000 x 400 x 22 x 40 *	412	1000	400	22	40	18	884.0	5.00	40.2	886,000	42,800	41.1	9.02	17,700	2,140	20,100	3,320	0.883	27.5	98.5	2,060	525.2	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 22 x 36 *	388	1000	400	22	36	18	892.0	5.56	40.5	822,000	38,500	40.7	8.82	16,400	1,920	18,700	3,000	0.876	30.2	89.4	1,610	494.9	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 22 x 32 *	365	1000	400	22	32	18	900.0	6.25	40.9	756,000	34,200	40.3	8.58	15,100	1,710	17,300	2,680	0.868	33.4	80.2	1,250	464.7	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 22 x 28 *	341	1000	400	22	28	18	908.0	7.14	41.3	690,000	30,000	39.8	8.30	13,800	1,500	15,900	2,360	0.859	36.9	70.8	969	434.5	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 19 x 40	391	1000	400	19	40	18	884.0	5.00	46.5	867,000	42,700	41.7	9.27	17,300	2,140	19,500	3,290	0.892	27.7	98.4	1,920	497.6	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 19 x 36	367	1000	400	19	36	18	892.0	5.56	46.9	802,000	38,500	41.4	9.07	16,000	1,920	18,100	2,970	0.886	30.7	89.3	1,480	467.1	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 19 x 32	343	1000	400	19	32	18	900.0	6.25	47.4	736,000	34,200	41.0	8.85	14,700	1,710	16,700	2,650	0.878	34.2	80.1	1,120	436.6	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 19 x 28	319	1000	400	19	28	18	908.0	7.14	47.8	669,000	29,900	40.6	8.58	13,400	1,500	15,200	2,330	0.869	38.3	70.7	838	406.1	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 19 x 25	301	1000	400	19	25	18	914.0	8.00	48.1	617,000	26,700	40.1	8.35	12,300	1,340	14,200	2,090	0.861	41.8	63.5	670	383.3	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 16 x 32	321	1000	400	16	32	18	900.0	6.25	56.3	715,000	34,200	41.8	9.15	14,300	1,710	16,000	2,620	0.889	34.7	80.0	1,020	408.5	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 16 x 28	297	1000	400	16	28	18	908.0	7.14	56.8	647,000	29,900	41.4	8.90	12,900	1,500	14,600	2,300	0.881	39.3	70.6	740	377.8	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 16 x 25	279	1000	400	16	25	18	914.0	8.00	57.1	596,000	26,700	41.0	8.68	11,900	1,340	13,500	2,060	0.873	43.4	63.5	573	354.8	C	C	C	C	c1	c4	c1	c1
	HY1000 x 400 x 16 x 22	260	1000	400	16	22	18	920.0	9.09	57.5	544,000	23,500	40.5	8.42	10,900	1,180	12,400	1,820	0.864	48.1	56.2	440	331.7	C	C	C	C	c2	c4	c2	c1
HY 1000 x 350	HY1000 x 350 x 22 x 40 *	381	1000	350	22	40	18	884.0	4.38	40.2	794,000	28,700	40.5	7.69	15,900	1,640	18,200	2,570	0.876	27.9	66.1	1,840	485.2	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 22 x 36 *	360	1000	350	22	36	18	892.0	4.86	40.5	738,000	25,800	40.1	7.50	14,800	1,480	17,000	2,320	0.869	30.6	60.0	1,460	458.9	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 22 x 32 *	340	1000	350	22	32	18	900.0	5.47	40.9	681,000	23,000	39.7	7.28	13,600	1,310	15,800	2,080	0.861	33.7	53.8	1,140	432.7	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 22 x 28 *	319	1000	350	22	28	18	908.0	6.25	41.3	623,000	20,100	39.2	7.03	12,500	1,150	14,600	1,830	0.851	37.1	47.5	896	406.5	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 19 x 40	359	1000	350	19	40	18	884.0	4.38	46.5	775,000	28,600	41.1	7.91	15,500	1,640	17,600	2,540	0.886	28.2	66.0	1,710	457.6	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 19 x 36	338	1000	350	19	36	18	892.0	4.86	46.9	718,000	25,800	40.8	7.73	14,400	1,470	16,400	2,290	0.879	31.2	59.9	1,320	431.1	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 19 x 32	318	1000	350	19	32	18	900.0	5.47	47.4	661,000	22,900	40.4	7.53	13,200	1,310	15,100	2,050	0.871	34.7	53.7	1,010	404.6	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 19 x 28	297	1000	350	19	28	18	908.0	6.25	47.8	602,000	20,100	39.9	7.28	12,000	1,150	13,900	1,800	0.862	38.7	47.4	764	378.1	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 19 x 25	281	1000	350	19	25	18	914.0	7.00	48.1	558,000	17,900	39.5	7.07	11,200	1,020	12,900	1,620	0.854	42.1	42.6	618	358.3	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 16 x 32	296	1000	350	16	32	18	900.0	5.47	56.3	640,000	22,900	41.2	7.80	12,800	1,310	14,500	2,020	0.883	35.2	53.7	911	376.5	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 16 x 28	275	1000	350	16	28	18	908.0	6.25	56.8	581,000	20,000	40.8	7.57	11,600	1,150	13,200	1,780	0.874	39.9	47.3	666	349.8	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 16 x 25	259	1000	350	16	25	18	914.0	7.00	57.1	536,000	17,900	40.3	7.37	10,700	1,020	12,300	1,600	0.866	43.9	42.5	521	329.8	C	C	C	C	c1	c4	c1	c1
	HY1000 x 350 x 16 x 22	243	1000	350	16	22	18	920.0	7.95	57.5	491,000	15,800	39.8	7.13	9,820	900	11,300	1,410	0.857	48.4	37.7	405	309.7	C	C	C	C	c1	c4	c1	c1
HY 1000 x 300	HY1000 x 300 x 22 x 40 *	349	1000	300	22	40	18	884.0	3.75	40.2	702,000	18,100	39.7	6.37	14,000	1,210	16,300	1,920	0.868	28.4	41.7	1,630	445.2	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 22 x 36 *	332	1000	300	22	36	18	892.0	4.17	40.5	654,000	16,300	39.3	6.21	13,100	1,090	15,300	1,740	0.860	31.1	37.8	1,300	422.9	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 22 x 32 *	315	1000	300	22	32	18	900.0	4.69	40.9	606,000	14,500	38.9	6.01	12,100	966	14,200	1,560	0.852	34.1	33.9	1,040	400.7	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 22 x 28 *	297	1000	300	22	28	18	908.0	5.36	41.3	557,000	12,700	38.4	5.79	11,100	846	13,200	1,380	0.842	37.3	30.0	823	378.5	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 19 x 40	328	1000	300	19	40	18	884.0	3.75	46.5	682,000	18,100	40.4	6.58	13,600	1,200	15,700	1,890	0.878	28.8	41.6	1,490	417.6	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 19 x 36	310	1000	300	19	36	18	892.0	4.17	46.9	634,000	16,300	40.1	6.41	12,700	1,080	14,600	1,710	0.871	31.8	37.8	1,170	395.1	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 19 x 32	292	1000	300	19	32	18	900.0	4.69	47.4	586,000	14,500	39.6	6.23	11,700	964	13,600	1,530	0.862	35.2	33.9	902	372.6	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 19 x 28	275	1000	300	19	28	18	908.0	5.36	47.8	536,000	12,700	39.1	6.01	10,700	844	12,500	1,350	0.853	39.2	29.9	691	350.1	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 19 x 25	262	1000	300	19	25	18	914.0	6.00	48.1	498,000	11,300	38.7	5.83	9,970	754	11,700	1,210	0.845	42.4	26.9	566	333.3	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 16 x 32	270	1000	300	16	32	18	900.0	4.69	56.3	565,000	14,400	40.5	6.47	11,300	962	12,900	1,500	0.875	35.9	33.8	802	344.5	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 16 x 28	253	1000	300	16	28	18	908.0	5.36	56.8	515,000	12,600	40.0	6.27	10,300	842	11,900	1,320	0.865	40.5	29.8	593	321.8	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 16 x 25	239	1000	300	16	25	18	914.0	6.00	57.1	477,000	11,300	39.6	6.09	9,540	752	11,100	1,190	0.857	44.5	26.8	469	304.8	C	C	C	C	c1	c4	c1	c1
	HY1000 x 300 x 16 x 22	226	1000	300	16	22	18	920.0	6.82	57.5	438,000	9,940	39.0	5.88	8,770	662	10,200	1,050	0.848	48.9	23.8	369	287.7	C	C	C	C	c1	c4	c1	c1
HY 1000 x 250	HY1000 x 250 x 19 x 36	282	1000	250	19	36	18	892.0	3.47	46.9	551,000	9,430	39.2	5.13	11,000	755	12,900	1,210	0.859	32.5	21.9	1,010	359.1	C	C	C	C	c1	c4	c1	c1
	HY1000 x 250 x 19 x 32	267	1000	250	19	32	18	900.0	3.91	47.4	511,000	8,390	38.7	4.96	10,200	671	12,000	1,090	0.851	35.9	19.7	793	340.6	C	C	C	C	c1	c4	c1	c1
	HY1000 x 250 x 19 x 28	253	1000	250	19	28	18	908.0	4.46	47.8	470,000	7,350	38.2	4.78	9,400	588	11,200	964	0.841	39.7	17.4	618	322.1	C	C	C	C	c1	c4	c1	c1
	HY1000 x 250 x 19 x 25	242	1000	250	19	25	18	914.0	5.00	48.1	439,000	6,570	37.7	4.62	8,780	526	10,500	871	0.833	42.8	15.6	514	308.3	C	C	C	C	c1	c4	c1	c1
	HY1000 x 250 x 16 x 32	245	1000	250	16	32	18	900.0	3.91	56.3	490,000	8,370	39.6	5.17	9,810	670	11,400	1,060	0.864	36.8	19.6	693	312.5	C	C	C	C	c1	c4	c1	c1
	HY1000 x 250 x 16 x 28	231	1000	250	16	28	18	908.0	4.46	56.8	449,000	7,330	39.1	4.99	8,980	586	10,500	939	0.854	41.4	17.3	520	293.8	C	C	C	C	c1	c4	c1	c1
	HY1000 x 250 x 16 x 25	220	1000	250	16	25	18	914.0	5.00	57.1	418,000	6,550	38.6	4.84	8,350	524	9,830	845	0.846	45.2	15.6	417	279.8	C	C	C	C	c1	c4	c1	c1
	HY1000 x 250 x 16 x 22	209	1000	250	16	22	18	920.0	5.68	57.5	386,000	5,770	38.1	4.66	7,720	461	9,170	752	0.837	49.4	13.8	334	265.7	C	C	C	C	c1	c4	c1	c1
HY 950 x 400	HY950 x 400 x 22 x 40 *	404	950	400	22	40	18	834.0	5.00	37.9	789,000	42,800	39.2	9.12	16,600	2,140	18,800	3,310	0.885	25.9	88.5	2,040	514.2	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 22 x 36 *	380	950	400	22	36	18	842.0	5.56	38.3	731,000	38,500	38.9	8.92	15,400	1,920	17,500	2,990	0.878	28.5	80.4	1,600	483.9	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 22 x 32 *	356	950	400	22	32	18	850.0	6.25	38.6	672,000	34,200	38.5	8.68	14,200	1,710	16,200	2,670	0.870	31.5	72.1	1,240	453.7	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 22 x 28 *	332	950	400	22	28	18	858.0	7.14	39.0	613,000	30,000	38.0	8.41	12,900	1,500	14,800	2,350	0.861	34.8	63.7	951	423.5	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 19 x 40	383	950	400	19	40	18	834.0	5.00	43.9	772,000	42,700	39.8	9.36	16,300	2,140	18,300	3,280	0.894	26.1	88.4	1,910	488.1	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 19 x 36	359	950	400	19	36	18	842.0	5.56	44.3	714,000	38,500	39.5	9.17	15,000	1,920	16,900	2,960	0.888	28.9	80.3	1,470	457.6	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 19 x 32	335	950	400	19	32	18	850.0	6.25	44.7	655,000	34,200	39.2	8.95	13,800	1,710	15,600	2,640	0.880	32.3	72.0	1,110	427.1	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 19 x 28	311	950	400	19	28	18	858.0	7.14	45.2	595,000	29,900	38.7	8.69	12,500	1,500	14,200	2,320	0.871	36.2	63.6	826	396.6	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 19 x 25	293	950	400	19	25	18	864.0	8.00	45.5	549,000	26,700	38.3	8.46	11,600	1,340	13,200	2,080	0.864	39.5	57.2	658	373.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 16 x 36 *	339	950	400	16	36	18	842.0	5.56	52.6	697,000	38,400	40.2	9.44	14,700	1,920	16,400	2,940	0.898	29.0	80.3	1,370	431.3	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 16 x 32	314	950	400	16	32	18	850.0	6.25	53.1	638,000	34,200	39.9	9.24	13,400	1,710	15,000	2,620	0.891	32.7	72.0	1,010	400.5	C	C	C	C	c1	c4	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



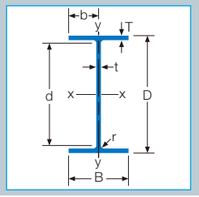
NSHYPER BEAM™ [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 950 x 400	HY950 x 400 x 16 x 28	290	950	400	16	28	18	858.0	7.14	53.6	577,000	29,900	39.5	8.99	12,100	1,500	13,600	2,300	0.883	37.1	63.5	733	369.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 16 x 25	272	950	400	16	25	18	864.0	8.00	54.0	531,000	26,700	39.1	8.77	11,200	1,340	12,600	2,060	0.875	41.0	57.1	566	346.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 400 x 16 x 22	254	950	400	16	22	18	870.0	9.09	54.4	484,000	23,500	38.7	8.52	10,200	1,180	11,600	1,820	0.867	45.4	50.6	434	323.7	C	C	C	C	c2	c4	c2	c1
HY 950 x 350	HY950 x 350 x 22 x 40 *	372	950	350	22	40	18	834.0	4.38	37.9	706,000	28,700	38.6	7.78	14,900	1,640	17,000	2,560	0.879	26.3	59.3	1,830	474.2	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 22 x 36 *	352	950	350	22	36	18	842.0	4.86	38.3	656,000	25,800	38.3	7.59	13,800	1,470	15,900	2,320	0.872	28.9	53.9	1,440	447.9	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 22 x 32 *	331	950	350	22	32	18	850.0	5.47	38.6	605,000	23,000	37.9	7.38	12,700	1,310	14,700	2,070	0.864	31.8	48.4	1,130	421.7	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 22 x 28 *	310	950	350	22	28	18	858.0	6.25	39.0	553,000	20,100	37.4	7.13	11,600	1,150	13,600	1,830	0.854	35.0	42.7	878	395.5	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 19 x 40	352	950	350	19	40	18	834.0	4.38	43.9	689,000	28,600	39.2	7.99	14,500	1,640	16,500	2,530	0.889	26.5	59.3	1,700	448.1	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 19 x 36	331	950	350	19	36	18	842.0	4.86	44.3	639,000	25,800	38.9	7.82	13,500	1,470	15,300	2,290	0.882	29.3	53.8	1,310	421.6	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 19 x 32	310	950	350	19	32	18	850.0	5.47	44.7	588,000	22,900	38.6	7.62	12,400	1,310	14,100	2,040	0.874	32.7	48.3	1,000	395.1	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 19 x 28	289	950	350	19	28	18	858.0	6.25	45.2	535,000	20,100	38.1	7.38	11,300	1,150	13,000	1,800	0.865	36.5	42.6	753	368.6	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 19 x 25	274	950	350	19	25	18	864.0	7.00	45.5	495,000	17,900	37.7	7.17	10,400	1,020	12,100	1,620	0.857	39.7	38.3	606	348.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 16 x 32	289	950	350	16	32	18	850.0	5.47	53.1	570,000	22,900	39.3	7.88	12,000	1,310	13,500	2,020	0.886	33.2	48.2	905	368.5	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 16 x 28	268	950	350	16	28	18	858.0	6.25	53.6	517,000	20,000	38.9	7.66	10,900	1,150	12,400	1,780	0.877	37.6	42.6	660	341.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 16 x 25	253	950	350	16	25	18	864.0	7.00	54.0	477,000	17,900	38.5	7.46	10,000	1,020	11,500	1,590	0.869	41.4	38.3	514	321.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 350 x 16 x 22	237	950	350	16	22	18	870.0	7.95	54.4	436,000	15,800	38.0	7.23	9,190	900	10,600	1,410	0.860	45.8	33.9	398	301.7	C	C	C	C	c1	c4	c1	c1
HY 950 x 300	HY950 x 300 x 22 x 40 *	341	950	300	22	40	18	834.0	3.75	37.9	623,000	18,100	37.9	6.45	13,100	1,210	15,200	1,910	0.871	26.7	37.4	1,610	434.2	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 22 x 36 *	323	950	300	22	36	18	842.0	4.17	38.3	581,000	16,300	37.5	6.29	12,200	1,090	14,200	1,730	0.863	29.3	34.0	1,280	411.9	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 22 x 32 *	306	950	300	22	32	18	850.0	4.69	38.6	538,000	14,500	37.1	6.10	11,300	966	13,300	1,550	0.855	32.2	30.5	1,020	389.7	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 22 x 28 *	288	950	300	22	28	18	858.0	5.36	39.0	494,000	12,700	36.7	5.88	10,400	846	12,300	1,370	0.845	35.3	27.0	805	367.5	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 19 x 40	320	950	300	19	40	18	834.0	3.75	43.9	607,000	18,100	38.6	6.65	12,800	1,200	14,600	1,880	0.881	27.0	37.4	1,480	408.1	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 19 x 36	303	950	300	19	36	18	842.0	4.17	44.3	564,000	16,300	38.2	6.49	11,900	1,080	13,700	1,700	0.874	29.9	33.9	1,160	385.6	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 19 x 32	285	950	300	19	32	18	850.0	4.69	44.7	520,000	14,500	37.8	6.31	11,000	964	12,700	1,520	0.866	33.2	30.5	890	363.1	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 19 x 28	267	950	300	19	28	18	858.0	5.36	45.2	476,000	12,700	37.4	6.10	10,000	844	11,700	1,340	0.856	37.0	26.9	680	340.6	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 19 x 25	254	950	300	19	25	18	864.0	6.00	45.5	442,000	11,300	36.9	5.91	9,300	754	10,900	1,210	0.848	40.0	24.2	554	323.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 16 x 32	264	950	300	16	32	18	850.0	4.69	53.1	503,000	14,400	38.7	6.55	10,600	962	12,100	1,500	0.878	33.8	30.4	795	336.5	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 16 x 28	246	950	300	16	28	18	858.0	5.36	53.6	458,000	12,600	38.2	6.35	9,640	842	11,100	1,320	0.868	38.2	26.9	586	313.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 16 x 25	233	950	300	16	25	18	864.0	6.00	54.0	424,000	11,300	37.8	6.17	8,920	752	10,300	1,190	0.860	42.0	24.1	462	296.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 300 x 16 x 22	220	950	300	16	22	18	870.0	6.82	54.4	389,000	9,940	37.3	5.96	8,190	662	9,530	1,050	0.851	46.2	21.4	363	279.7	C	C	C	C	c1	c4	c1	c1
HY 950 x 250	HY950 x 250 x 19 x 36	274	950	250	19	36	18	842.0	3.47	44.3	489,000	9,430	37.4	5.19	10,300	754	12,000	1,210	0.863	30.6	19.7	1,000	349.6	C	C	C	C	c1	c4	c1	c1
	HY950 x 250 x 19 x 32	260	950	250	19	32	18	850.0	3.91	44.7	453,000	8,390	37.0	5.03	9,530	671	11,200	1,080	0.854	33.8	17.7	781	331.1	C	C	C	C	c1	c4	c1	c1
	HY950 x 250 x 19 x 28	245	950	250	19	28	18	858.0	4.46	45.2	416,000	7,350	36.5	4.85	8,760	588	10,400	959	0.845	37.5	15.6	607	312.6	C	C	C	C	c1	c4	c1	c1
	HY950 x 250 x 19 x 25	235	950	250	19	25	18	864.0	5.00	45.5	388,000	6,570	36.1	4.69	8,180	525	9,750	866	0.837	40.4	14.0	502	298.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 250 x 16 x 32	239	950	250	16	32	18	850.0	3.91	53.1	435,000	8,370	37.8	5.24	9,160	669	10,600	1,060	0.867	34.6	17.6	686	304.5	C	C	C	C	c1	c4	c1	c1
	HY950 x 250 x 16 x 28	224	950	250	16	28	18	858.0	4.46	53.6	398,000	7,330	37.3	5.06	8,390	586	9,770	936	0.857	39.0	15.6	513	285.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 250 x 16 x 25	213	950	250	16	25	18	864.0	5.00	54.0	370,000	6,550	36.9	4.91	7,790	524	9,150	842	0.849	42.7	14.0	410	271.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 250 x 16 x 22	202	950	250	16	22	18	870.0	5.68	54.4	342,000	5,760	36.4	4.73	7,190	461	8,510	749	0.840	46.7	12.4	327	257.7	C	C	C	C	c1	c4	c1	c1
HY 900 x 400	HY900 x 400 x 22 x 40 *	395	900	400	22	40	18	784.0	5.00	35.6	698,000	42,700	37.2	9.22	15,500	2,140	17,600	3,300	0.887	24.3	79.0	2,020	503.2	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 22 x 36 *	371	900	400	22	36	18	792.0	5.56	36.0	647,000	38,500	37.0	9.02	14,400	1,920	16,300	2,980	0.880	26.8	71.8	1,580	472.9	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 22 x 32 *	348	900	400	22	32	18	800.0	6.25	36.4	594,000	34,200	36.6	8.79	13,200	1,710	15,100	2,670	0.873	29.6	64.4	1,220	442.7	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 22 x 28 *	324	900	400	22	28	18	808.0	7.14	36.7	541,000	29,900	36.2	8.52	12,000	1,500	13,800	2,350	0.864	32.8	56.9	934	412.5	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 19 x 40	376	900	400	19	40	18	784.0	5.00	41.3	684,000	42,700	37.8	9.45	15,200	2,140	17,100	3,280	0.896	24.5	79.0	1,900	478.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 19 x 36	352	900	400	19	36	18	792.0	5.56	41.7	632,000	38,500	37.6	9.26	14,100	1,920	15,800	2,960	0.890	27.2	71.8	1,460	448.1	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 19 x 32	328	900	400	19	32	18	800.0	6.25	42.1	580,000	34,200	37.3	9.05	12,900	1,710	14,500	2,640	0.882	30.3	64.4	1,100	417.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 19 x 28	304	900	400	19	28	18	808.0	7.14	42.5	526,000	29,900	36.9	8.79	11,700	1,500	13,300	2,320	0.874	34.0	56.9	815	387.1	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 19 x 25 *	286	900	400	19	25	18	814.0	8.00	42.8	485,000	26,700	36.5	8.56	10,800	1,340	12,300	2,080	0.866	37.2	51.1	647	364.3	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 16 x 36	332	900	400	16	36	18	792.0	5.56	49.5	618,000	38,400	38.2	9.53	13,700	1,920	15,300	2,940	0.900	27.3	71.7	1,360	423.3	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 16 x 32	308	900	400	16	32	18	800.0	6.25	50.0	565,000	34,200	37.9	9.33	12,600	1,710	14,000	2,620	0.893	30.7	64.4	1,010	392.5	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 16 x 28	284	900	400	16	28	18	808.0	7.14	50.5	511,000	29,900	37.6	9.09	11,400	1,490	12,700	2,300	0.885	34.9	56.8	726	361.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 16 x 25	266	900	400	16	25	18	814.0	8.00	50.9	470,000	26,700	37.2	8.88	10,400	1,340	11,800	2,060	0.878	38.6	51.1	559	338.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 16 x 22 *	248	900	400	16	22	18	820.0	9.09	51.3	428,000	23,500	36.8	8.63	9,510	1,180	10,800	1,820	0.869	42.8	45.3	427	315.7	C	C	C	C	c2	c4	c2	c1
	HY900 x 400 x 14 x 28	271	900	400	14	28	18	808.0	7.14	57.7	501,000	29,900	38.1	9.31	11,100	1,490	12,400	2,280	0.893	35.1	56.8	681	344.9	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 14 x 25	253	900	400	14	25	18	814.0	8.00	58.1	459,000	26,700	37.8	9.11	10,200	1,330	11,400	2,040	0.886	39.2	51.1	515	321.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 400 x 14 x 22 *	234	900	400	14	22	18	820.0	9.09	58.6	417,000	23,500	37.4	8.87	9,280	1,170	10,400	1,810	0.878	43.9	45.3	383	298.6	C	C	C	C	c2	c4	c2	c1
HY 900 x 350	HY900 x 350 x 22 x 40 *	364	900	350	22	40	18	784.0	4.38	35.6	624,000	28,700	36.7	7.87	13,900	1,640	15,900	2,550	0.882	24.6	53.0	1,810	463.2	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 22 x 36 *	343	900	350	22	36	18	792.0	4.86	36.0	579,000	25,800	36.4	7.68	12,900	1,470	14,800	2,310	0.875	27.1	48.2	1,420	436.9	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 22 x 32 *	322	900	350	22	32	18	800.0	5.47	36.4	534,000	22,900	36.1	7.47	11,900	1,310	13,700	2,070	0.867	29.9	43.2	1,110	410.7	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 22 x 28 *	302	900	350	22	28	18	808.0	6.25	36.7	488,000	20,100	35.6	7.23	10,800	1,150	12,600	1,820	0.857	33.0	38.2	860	384.5	C	C	C	C	c1	c4	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



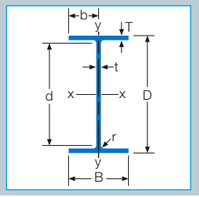
NSHYPER BEAM™ [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 900 x 350	HY900 x 350 x 19 x 40	344	900	350	19	40	18	784.0	4.38	41.3	610,000	28,600	37.3	8.08	13,600	1,640	15,300	2,530	0.891	24.9	52.9	1,680	438.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 19 x 36	323	900	350	19	36	18	792.0	4.86	41.7	565,000	25,800	37.0	7.91	12,600	1,470	14,300	2,280	0.885	27.6	48.1	1,300	412.1	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 19 x 32	303	900	350	19	32	18	800.0	5.47	42.1	519,000	22,900	36.7	7.71	11,500	1,310	13,200	2,040	0.877	30.7	43.2	988	385.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 19 x 28	282	900	350	19	28	18	808.0	6.25	42.5	473,000	20,100	36.3	7.47	10,500	1,150	12,000	1,790	0.868	34.4	38.1	741	359.1	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 19 x 25	266	900	350	19	25	18	814.0	7.00	42.8	437,000	17,900	35.9	7.27	9,720	1,020	11,200	1,610	0.860	37.4	34.3	595	339.3	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 16 x 36	304	900	350	16	36	18	792.0	4.86	49.5	551,000	25,800	37.7	8.16	12,200	1,470	13,700	2,260	0.896	27.7	48.1	1,210	387.3	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 16 x 32	283	900	350	16	32	18	800.0	5.47	50.0	505,000	22,900	37.4	7.97	11,200	1,310	12,600	2,020	0.888	31.2	43.1	898	360.5	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 16 x 28	262	900	350	16	28	18	808.0	6.25	50.5	458,000	20,000	37.0	7.75	10,200	1,150	11,500	1,770	0.879	35.3	38.1	653	333.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 16 x 25	246	900	350	16	25	18	814.0	7.00	50.9	422,000	17,900	36.7	7.55	9,370	1,020	10,700	1,590	0.872	39.0	34.3	507	313.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 16 x 22	231	900	350	16	22	18	820.0	7.95	51.3	385,000	15,800	36.2	7.32	8,570	900	9,810	1,410	0.863	43.1	30.4	391	293.7	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 14 x 28	249	900	350	14	28	18	808.0	6.25	57.7	448,000	20,000	37.6	7.95	9,950	1,140	11,200	1,760	0.888	35.7	38.1	608	316.9	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 14 x 25	233	900	350	14	25	18	814.0	7.00	58.1	412,000	17,900	37.2	7.76	9,150	1,020	10,300	1,580	0.881	39.7	34.2	463	296.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 350 x 14 x 22 *	217	900	350	14	22	18	820.0	7.95	58.6	375,000	15,700	36.8	7.54	8,330	900	9,440	1,390	0.872	44.3	30.3	348	276.6	C	C	C	C	c1	c4	c1	c1
HY 900 x 300	HY900 x 300 x 22 x 40 *	332	900	300	22	40	18	784.0	3.75	35.6	550,000	18,100	36.0	6.54	12,200	1,210	14,100	1,900	0.874	25.1	33.4	1,600	423.2	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 22 x 36 *	315	900	300	22	36	18	792.0	4.17	36.0	512,000	16,300	35.7	6.37	11,400	1,090	13,200	1,720	0.866	27.5	30.4	1,270	400.9	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 22 x 32 *	297	900	300	22	32	18	800.0	4.69	36.4	474,000	14,500	35.4	6.18	10,500	965	12,300	1,550	0.858	30.3	27.3	1,000	378.7	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 22 x 28 *	280	900	300	22	28	18	808.0	5.36	36.7	435,000	12,700	34.9	5.96	9,660	845	11,400	1,370	0.849	33.2	24.1	787	356.5	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 19 x 40	313	900	300	19	40	18	784.0	3.75	41.3	536,000	18,100	36.7	6.73	11,900	1,200	13,600	1,880	0.884	25.4	33.4	1,470	398.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 19 x 36	295	900	300	19	36	18	792.0	4.17	41.7	498,000	16,300	36.4	6.57	11,100	1,080	12,700	1,700	0.877	28.1	30.3	1,140	376.1	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 19 x 32	278	900	300	19	32	18	800.0	4.69	42.1	459,000	14,500	36.0	6.39	10,200	964	11,800	1,520	0.869	31.2	27.2	879	353.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 19 x 28	260	900	300	19	28	18	808.0	5.36	42.5	420,000	12,700	35.6	6.18	9,320	844	10,800	1,340	0.859	34.8	24.1	668	331.1	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 19 x 25	247	900	300	19	25	18	814.0	6.00	42.8	389,000	11,300	35.2	6.00	8,650	754	10,100	1,210	0.851	37.7	21.6	543	314.3	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 19 x 22	233	900	300	19	22	18	820.0	6.82	43.2	359,000	9,950	34.7	5.79	7,970	664	9,390	1,070	0.842	40.8	19.2	442	297.4	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 16 x 36 *	276	900	300	16	36	18	792.0	4.17	49.5	484,000	16,200	37.1	6.80	10,700	1,080	12,200	1,680	0.889	28.3	30.3	1,050	351.3	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 16 x 32	258	900	300	16	32	18	800.0	4.69	50.0	444,000	14,400	36.8	6.63	9,880	962	11,200	1,500	0.881	31.7	27.2	789	328.5	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 16 x 28	240	900	300	16	28	18	808.0	5.36	50.5	404,000	12,600	36.4	6.43	8,990	842	10,300	1,320	0.872	35.9	24.0	580	305.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 16 x 25	227	900	300	16	25	18	814.0	6.00	50.9	374,000	11,300	36.0	6.25	8,310	752	9,570	1,180	0.864	39.5	21.6	455	288.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 16 x 22	213	900	300	16	22	18	820.0	6.82	51.3	343,000	9,930	35.5	6.05	7,620	662	8,840	1,050	0.855	43.5	19.1	356	271.7	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 16 x 19	200	900	300	16	19	18	826.0	7.89	51.6	312,000	8,580	35.0	5.81	6,930	572	8,110	914	0.844	47.7	16.7	278	254.7	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 14 x 28	227	900	300	14	28	18	808.0	5.36	57.7	394,000	12,600	36.9	6.61	8,770	842	9,930	1,300	0.881	36.3	24.0	535	288.9	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 14 x 25	213	900	300	14	25	18	814.0	6.00	58.1	364,000	11,300	36.6	6.44	8,080	752	9,210	1,170	0.873	40.3	21.6	411	271.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 14 x 22	200	900	300	14	22	18	820.0	6.82	58.6	333,000	9,920	36.1	6.24	7,390	662	8,480	1,040	0.864	44.9	19.1	313	254.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 300 x 14 x 19	186	900	300	14	19	18	826.0	7.89	59.0	301,000	8,570	35.6	6.01	6,690	572	7,740	900	0.854	50.1	16.6	236	237.5	C	C	C	C	c1	c4	c1	c2
HY 900 x 250	HY900 x 250 x 19 x 36 *	267	900	250	19	36	18	792.0	3.47	41.7	431,000	9,430	35.6	5.27	9,570	754	11,100	1,200	0.866	28.7	17.6	989	340.1	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 19 x 32 *	252	900	250	19	32	18	800.0	3.91	42.1	399,000	8,390	35.2	5.11	8,860	671	10,400	1,080	0.858	31.8	15.8	770	321.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 19 x 28 *	238	900	250	19	28	18	808.0	4.46	42.5	366,000	7,350	34.8	4.92	8,140	588	9,600	955	0.848	35.2	14.0	595	303.1	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 19 x 25 *	227	900	250	19	25	18	814.0	5.00	42.8	341,000	6,560	34.4	4.76	7,590	525	9,020	862	0.840	38.0	12.6	491	289.3	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 19 x 22 *	216	900	250	19	22	18	820.0	5.68	43.2	316,000	5,780	33.9	4.58	7,030	463	8,430	769	0.831	40.9	11.1	407	275.4	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 16 x 32	233	900	250	16	32	18	800.0	3.91	50.0	384,000	8,370	36.0	5.31	8,540	669	9,850	1,060	0.870	32.5	15.8	679	296.5	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 16 x 28	218	900	250	16	28	18	808.0	4.46	50.5	351,000	7,320	35.6	5.13	7,810	586	9,070	932	0.861	36.6	13.9	506	277.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 16 x 25	207	900	250	16	25	18	814.0	5.00	50.9	326,000	6,540	35.2	4.98	7,250	524	8,480	839	0.853	40.1	12.5	403	263.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 16 x 22	196	900	250	16	22	18	820.0	5.68	51.3	301,000	5,760	34.7	4.80	6,680	461	7,880	746	0.844	43.9	11.1	320	249.7	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 16 x 19	185	900	250	16	19	18	826.0	6.58	51.6	275,000	4,980	34.1	4.60	6,110	399	7,280	652	0.833	47.9	9.67	256	235.7	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 14 x 28	205	900	250	14	28	18	808.0	4.46	57.7	341,000	7,310	36.2	5.29	7,580	585	8,710	919	0.870	37.1	13.9	462	260.9	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 14 x 25	194	900	250	14	25	18	814.0	5.00	58.1	316,000	6,530	35.8	5.15	7,020	523	8,110	826	0.862	41.1	12.5	359	246.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 14 x 22	183	900	250	14	22	18	820.0	5.68	58.6	290,000	5,750	35.3	4.97	6,450	460	7,510	733	0.853	45.6	11.1	277	232.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 250 x 14 x 19	172	900	250	14	19	18	826.0	6.58	59.0	264,000	4,970	34.8	4.77	5,870	398	6,900	639	0.843	50.5	9.65	213	218.5	C	C	C	C	c1	c4	c1	c2
HY 850 x 400	HY850 x 400 x 19 x 40	368	850	400	19	40	18	734.0	5.00	38.6	602,000	42,700	35.8	9.54	14,200	2,140	15,900	3,270	0.898	22.9	70.1	1,890	469.1	C	C	C	C	c1	c4	c1	c1
	HY850 x 400 x 19 x 36	344	850	400	19	36	18	742.0	5.56	39.1	556,000	38,400	35.6	9.36	13,100	1,920	14,700	2,950	0.891	25.4	63.7	1,440	438.6	C	C	C	C	c1	c4	c1	c1
	HY850 x 400 x 19 x 32	320	850	400	19	32	18	750.0	6.25	39.5	510,000	34,200	35.3	9.15	12,000	1,710	13,500	2,630	0.884	28.4	57.2	1,090	408.1	C	C	C	C	c1	c4	c1	c1
	HY850 x 400 x 19 x 28	296	850	400	19	28	18	758.0	7.14	39.9	462,000	29,900	35.0	8.90	10,900	1,500	12,300	2,320	0.876	31.9	50.5	803	377.6	C	C	C	C	c1	c4	c1	c1
	HY850 x 400 x 16 x 32	302	850	400	16	32	18	750.0	6.25	46.9	497,000	34,200	36.0	9.43	11,700	1,710	13,000	2,610	0.895	28.7	57.2	1,000	384.5	C	C	C	C	c1	c4	c1	c1
	HY850 x 400 x 16 x 28	278	850	400	16	28	18	758.0	7.14	47.4	450,000	29,900	35.6	9.19	10,600	1,490	11,800	2,290	0.887	32.7	50.5	719	353.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 400 x 16 x 25	260	850	400	16	25	18	764.0	8.00	47.8	413,000	26,700	35.3	8.98	9,720	1,330	10,900	2,050	0.880	36.2	45.4	553	330.8	C	C	C	C	c1	c4	c1	c1
HY 850 x 350	HY850 x 350 x 19 x 40	337	850	350	19	40	18	734.0	4.38	38.6	536,000	28,600	35.3	8.17	12,600	1,640	14,300	2,520	0.894	23.2	47.0	1,670	429.1	C	C	C	C	c1	c4	c1	c1
	HY850 x 350 x 19 x 36	316	850	350	19	36	18	742.0	4.86	39.1	496,000	25,800	35.1	8.00	11,700	1,470	13,200	2,280	0.887	25.8	42.7	1,290	402.6	C	C	C	C	c1	c4	c1	c1
	HY850 x 350 x 19 x 32	295	850	350	19	32	18	750.0	5.47	39.5	456,000	22,900	34.8	7.81	10,700	1,310	12,200	2,030	0.879	28.7	38.3	977	376.1	C	C	C	C	c1	c4	c1	c1
	HY850 x 350 x 19 x 28	274	850	350	19	28	18	758.0	6.25	39.9	415,000	20,100	34.4	7.57	9,760	1,150	11,200	1,790	0.870	32.2	33.9	730	349.6	C	C	C	C	c1	c4	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



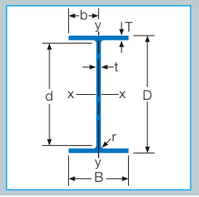
NSHYPER BEAM™ [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 850 x 350	HY850 x 350 x 16 x 36	298	850	350	16	36	18	742.0	4.86	46.4	485,000	25,800	35.7	8.24	11,400	1,470	12,800	2,260	0.898	25.9	42.7	1,200	379.3	C	C	C	C	c1	c4	c1	c1
	HY850 x 350 x 16 x 32	277	850	350	16	32	18	750.0	5.47	46.9	444,000	22,900	35.5	8.06	10,400	1,310	11,700	2,010	0.891	29.1	38.3	891	352.5	C	C	C	C	c1	c4	c1	c1
	HY850 x 350 x 16 x 28	256	850	350	16	28	18	758.0	6.25	47.4	402,000	20,000	35.1	7.84	9,460	1,150	10,700	1,770	0.882	33.1	33.9	646	325.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 350 x 16 x 25	240	850	350	16	25	18	764.0	7.00	47.8	370,000	17,900	34.8	7.65	8,720	1,020	9,890	1,590	0.875	36.5	30.5	500	305.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 350 x 14 x 28	243	850	350	14	28	18	758.0	6.25	54.1	394,000	20,000	35.6	8.04	9,270	1,140	10,400	1,760	0.891	33.4	33.8	604	309.9	C	C	C	C	c1	c4	c1	c1
	HY850 x 350 x 14 x 25	227	850	350	14	25	18	764.0	7.00	54.6	362,000	17,900	35.3	7.86	8,520	1,020	9,570	1,570	0.883	37.1	30.4	459	289.8	C	C	C	C	c1	c4	c1	c1
HY 850 x 300	HY850 x 300 x 19 x 40 *	305	850	300	19	40	18	734.0	3.75	38.6	470,000	18,000	34.8	6.81	11,100	1,200	12,600	1,870	0.887	23.7	29.6	1,460	389.1	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 19 x 36 *	288	850	300	19	36	18	742.0	4.17	39.1	437,000	16,200	34.5	6.66	10,300	1,080	11,800	1,690	0.880	26.2	26.9	1,130	366.6	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 19 x 32 *	270	850	300	19	32	18	750.0	4.69	39.5	402,000	14,500	34.2	6.48	9,470	963	10,900	1,510	0.872	29.2	24.2	868	344.1	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 19 x 28 *	252	850	300	19	28	18	758.0	5.36	39.9	367,000	12,700	33.8	6.27	8,650	843	10,000	1,340	0.863	32.6	21.4	657	321.6	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 19 x 25 *	239	850	300	19	25	18	764.0	6.00	40.2	341,000	11,300	33.4	6.09	8,020	753	9,340	1,200	0.855	35.4	19.2	531	304.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 19 x 22 *	226	850	300	19	22	18	770.0	6.82	40.5	314,000	9,950	33.0	5.88	7,380	663	8,660	1,070	0.846	38.3	17.1	431	287.9	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 16 x 36 *	269	850	300	16	36	18	742.0	4.17	46.4	425,000	16,200	35.2	6.88	10,000	1,080	11,300	1,670	0.891	26.4	26.9	1,050	343.3	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 16 x 32	252	850	300	16	32	18	750.0	4.69	46.9	390,000	14,400	34.9	6.71	9,180	962	10,400	1,490	0.884	29.7	24.1	782	320.5	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 16 x 28	234	850	300	16	28	18	758.0	5.36	47.4	355,000	12,600	34.5	6.51	8,350	842	9,540	1,310	0.875	33.6	21.3	573	297.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 16 x 25	220	850	300	16	25	18	764.0	6.00	47.8	328,000	11,300	34.2	6.34	7,720	752	8,860	1,180	0.867	37.0	19.2	448	280.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 16 x 22	207	850	300	16	22	18	770.0	6.82	48.1	301,000	9,930	33.8	6.14	7,070	662	8,170	1,040	0.858	40.8	17.0	349	263.7	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 14 x 28	221	850	300	14	28	18	758.0	5.36	54.1	347,000	12,600	35.1	6.69	8,160	841	9,220	1,300	0.884	33.9	21.3	530	281.9	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 14 x 25	208	850	300	14	25	18	764.0	6.00	54.6	319,000	11,300	34.7	6.52	7,520	751	8,540	1,170	0.876	37.7	19.2	407	264.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 300 x 14 x 22	194	850	300	14	22	18	770.0	6.82	55.0	292,000	9,920	34.3	6.33	6,870	661	7,850	1,030	0.868	42.1	17.0	308	247.6	C	C	C	C	c1	c4	c1	c1
HY 850 x 250	HY850 x 250 x 19 x 40 *	274	850	250	19	40	18	734.0	3.13	38.6	405,000	10,500	34.0	5.48	9,520	837	11,000	1,320	0.877	24.3	17.2	1,250	349.1	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 19 x 36 *	260	850	250	19	36	18	742.0	3.47	39.1	377,000	9,420	33.8	5.34	8,870	754	10,300	1,200	0.870	26.8	15.6	978	330.6	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 19 x 32 *	245	850	250	19	32	18	750.0	3.91	39.5	349,000	8,380	33.4	5.18	8,210	671	9,590	1,070	0.861	29.7	14.0	758	312.1	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 19 x 28 *	230	850	250	19	28	18	758.0	4.46	39.9	320,000	7,340	33.0	5.00	7,530	587	8,860	950	0.852	33.0	12.4	584	293.6	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 19 x 25 *	220	850	250	19	25	18	764.0	5.00	40.2	298,000	6,560	32.6	4.84	7,020	525	8,310	857	0.844	35.7	11.2	479	279.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 19 x 22 *	209	850	250	19	22	18	770.0	5.68	40.5	276,000	5,780	32.2	4.66	6,490	462	7,750	764	0.835	38.5	9.91	395	265.9	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 16 x 32	226	850	250	16	32	18	750.0	3.91	46.9	337,000	8,360	34.2	5.38	7,920	669	9,120	1,050	0.874	30.3	14.0	673	288.5	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 16 x 28	212	850	250	16	28	18	758.0	4.46	47.4	308,000	7,320	33.8	5.21	7,240	586	8,390	929	0.864	34.2	12.4	500	269.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 16 x 25	201	850	250	16	25	18	764.0	5.00	47.8	285,000	6,540	33.4	5.06	6,720	523	7,830	836	0.856	37.5	11.1	396	255.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 16 x 22	190	850	250	16	22	18	770.0	5.68	48.1	263,000	5,760	33.0	4.88	6,180	461	7,260	742	0.847	41.2	9.87	313	241.7	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 14 x 28	199	850	250	14	28	18	758.0	4.46	54.1	299,000	7,310	34.3	5.37	7,040	585	8,070	917	0.874	34.7	12.4	457	253.9	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 14 x 25	188	850	250	14	25	18	764.0	5.00	54.6	277,000	6,530	34.0	5.22	6,510	523	7,510	824	0.866	38.4	11.1	355	239.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 250 x 14 x 22	177	850	250	14	22	18	770.0	5.68	55.0	254,000	5,750	33.6	5.05	5,980	460	6,940	730	0.857	42.7	9.86	272	225.6	C	C	C	C	c1	c4	c1	c1
HY 800 x 400	HY800 x 400 x 22 x 40 *	378	800	400	22	40	18	684.0	5.00	31.1	534,000	42,700	33.3	9.42	13,400	2,140	15,100	3,290	0.890	21.2	61.7	1,990	481.2	C	C	C	C	c1	c2	c1	c1
	HY800 x 400 x 22 x 36 *	354	800	400	22	36	18	692.0	5.56	31.5	495,000	38,500	33.1	9.24	12,400	1,920	14,000	2,970	0.884	23.4	56.1	1,540	450.9	C	C	C	C	c1	c3	c1	c1
	HY800 x 400 x 22 x 32 *	330	800	400	22	32	18	700.0	6.25	31.8	454,000	34,200	32.9	9.02	11,400	1,710	12,900	2,650	0.877	25.9	50.4	1,180	420.7	C	C	C	C	c1	c3	c1	c1
	HY800 x 400 x 22 x 28 *	307	800	400	22	28	18	708.0	7.14	32.2	413,000	29,900	32.5	8.76	10,300	1,500	11,800	2,330	0.868	28.8	44.6	898	390.5	C	C	C	C	c1	c3	c1	c1
	HY800 x 400 x 19 x 40	361	800	400	19	40	18	684.0	5.00	36.0	525,000	42,700	33.8	9.64	13,100	2,140	14,700	3,270	0.899	21.3	61.7	1,870	459.6	C	C	C	C	c1	c4	c1	c1
	HY800 x 400 x 19 x 36	337	800	400	19	36	18	692.0	5.56	36.4	485,000	38,400	33.6	9.47	12,100	1,920	13,600	2,950	0.893	23.7	56.1	1,430	429.1	C	C	C	C	c1	c4	c1	c1
	HY800 x 400 x 19 x 32	313	800	400	19	32	18	700.0	6.25	36.8	445,000	34,200	33.4	9.26	11,100	1,710	12,500	2,630	0.886	26.5	50.4	1,070	398.6	C	C	C	C	c1	c4	c1	c1
	HY800 x 400 x 19 x 28	289	800	400	19	28	18	708.0	7.14	37.3	403,000	29,900	33.1	9.01	10,100	1,500	11,400	2,310	0.878	29.8	44.6	792	368.1	C	C	C	C	c1	c4	c1	c1
	HY800 x 400 x 19 x 25 *	271	800	400	19	25	18	714.0	8.00	37.6	371,000	26,700	32.8	8.80	9,280	1,340	10,500	2,070	0.871	32.6	40.1	624	345.3	C	C	C	C	c1	c4	c1	c1
	HY800 x 400 x 16 x 36	320	800	400	16	36	18	692.0	5.56	43.3	476,000	38,400	34.2	9.71	11,900	1,920	13,200	2,930	0.903	23.8	56.1	1,350	407.3	C	C	C	C	c1	c4	c1	c1
	HY800 x 400 x 16 x 32	296	800	400	16	32	18	700.0	6.25	43.8	435,000	34,200	34.0	9.53	10,900	1,710	12,100	2,610	0.896	26.8	50.4	993	376.5	C	C	C	C	c1	c4	c1	c1
	HY800 x 400 x 16 x 28	271	800	400	16	28	18	708.0	7.14	44.3	393,000	29,900	33.7	9.30	9,810	1,490	11,000	2,290	0.888	30.5	44.5	712	345.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 400 x 16 x 25	253	800	400	16	25	18	714.0	8.00	44.6	360,000	26,700	33.4	9.09	9,010	1,330	10,100	2,050	0.882	33.8	40.1	546	322.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 400 x 14 x 28	260	800	400	14	28	18	708.0	7.14	50.6	386,000	29,900	34.1	9.50	9,640	1,490	10,700	2,280	0.896	30.7	44.5	672	330.9	C	C	C	C	c1	c4	c1	c1
	HY800 x 400 x 14 x 25	242	800	400	14	25	18	714.0	8.00	51.0	353,000	26,700	33.9	9.31	8,840	1,330	9,820	2,040	0.890	34.2	40.1	506	307.8	C	C	C	C	c1	c4	c1	c1
HY 800 x 350	HY800 x 350 x 22 x 40 *	346	800	350	22	40	18	684.0	4.38	31.1	477,000	28,700	32.9	8.06	11,900	1,640	13,600	2,540	0.887	21.5	41.4	1,770	441.2	C	C	C	C	c1	c2	c1	c1
	HY800 x 350 x 22 x 36 *	326	800	350	22	36	18	692.0	4.86	31.5	442,000	25,800	32.7	7.88	11,100	1,470	12,600	2,300	0.880	23.7	37.6	1,390	414.9	C	C	C	C	c1	c3	c1	c1
	HY800 x 350 x 22 x 32 *	305	800	350	22	32	18	700.0	5.47	31.8	407,000	22,900	32.4	7.68	10,200	1,310	11,700	2,050	0.872	26.2	33.8	1,070	388.7	C	C	C	C	c1	c3	c1	c1
	HY800 x 350 x 22 x 28 *	285	800	350	22	28	18	708.0	6.25	32.2	371,000	20,100	32.0	7.44	9,290	1,150	10,700	1,810	0.863	29.0	29.9	825	362.5	C	C	C	C	c1	c3	c1	c1
	HY800 x 350 x 19 x 40	329	800	350	19	40	18	684.0	4.38	36.0	467,000	28,600	33.4	8.26	11,700	1,640	13,200	2,520	0.896	21.6	41.3	1,660	419.6	C	C	C	C	c1	c4	c1	c1
	HY800 x 350 x 19 x 36	309	800	350	19	36	18	692.0	4.86	36.4	433,000	25,800	33.2	8.10	10,800	1,470	12,200	2,270	0.889	24.0	37.6	1,280	393.1	C	C	C	C	c1	c4	c1	c1
	HY800 x 350 x 19 x 32	288	800	350	19	32	18	700.0	5.47	36.8	397,000	22,900	32.9	7.91	9,930	1,310	11,300	2,030	0.882	26.8	33.8	965	366.6	C	C	C	C	c1	c4	c1	c1
	HY800 x 350 x 19 x 28	267	800	350	19	28	18	708.0	6.25	37.3	361,000	20,100	32.6	7.68	9,030	1,150	10,300	1,790	0.873	30.1	29.9	719	340.1	C	C	C	C	c1	c4	c1	c1
	HY800 x 350 x 19 x 25	251	800	350	19	25	18	714.0	7.00	37.6	333,000	17,900	32.3	7.48	8,340	1,020	9,560	1,600	0.865	32.8	26.9	572	320.3	C	C	C	C	c1	c4	c1	c1
	HY800 x 350 x 16 x 36	291	800	350	16	36	18	692.0	4.86	43.3	423,000	25,800	33.8	8.33	10,600	1,470	11,800	2,250	0.900	24.1	37.6	1,190	371.3	C	C	C	C	c1	c4	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



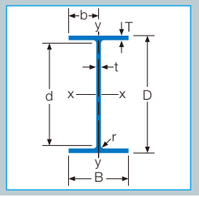
NSHYPER BEAM™ [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 800 x 350	HY800 x 350 x 16 x 32	270	800	350	16	32	18	700.0	5.47	43.8	387,000	22,900	33.5	8.15	9,680	1,310	10,900	2,010	0.893	27.2	33.8	884	344.5	C	C	C	C	c1	c4	c1	c1
	HY800 x 350 x 16 x 28	249	800	350	16	28	18	708.0	6.25	44.3	351,000	20,000	33.2	7.94	8,770	1,150	9,880	1,770	0.884	30.8	29.9	639	317.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 350 x 16 x 25	234	800	350	16	25	18	714.0	7.00	44.6	323,000	17,900	32.9	7.75	8,070	1,020	9,130	1,580	0.877	34.1	26.9	494	297.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 350 x 14 x 32	259	800	350	14	32	18	700.0	5.47	50.0	381,000	22,900	34.0	8.33	9,520	1,310	10,600	2,000	0.901	27.2	33.7	843	329.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 350 x 14 x 28	238	800	350	14	28	18	708.0	6.25	50.6	344,000	20,000	33.7	8.13	8,600	1,140	9,610	1,750	0.893	31.1	29.8	599	302.9	C	C	C	C	c1	c4	c1	c1
	HY800 x 350 x 14 x 25	222	800	350	14	25	18	714.0	7.00	51.0	316,000	17,900	33.4	7.95	7,900	1,020	8,850	1,570	0.886	34.6	26.9	454	282.8	C	C	C	C	c1	c4	c1	c1
HY 800 x 300	HY800 x 300 x 22 x 40 *	315	800	300	22	40	18	684.0	3.75	31.1	419,000	18,100	32.3	6.71	10,500	1,200	12,100	1,890	0.880	21.8	26.1	1,560	401.2	C	C	C	C	c1	c2	c1	c1
	HY800 x 300 x 22 x 36 *	297	800	300	22	36	18	692.0	4.17	31.5	390,000	16,300	32.1	6.55	9,740	1,080	11,300	1,710	0.873	24.0	23.7	1,230	378.9	C	C	C	C	c1	c3	c1	c1
	HY800 x 300 x 22 x 32 *	280	800	300	22	32	18	700.0	4.69	31.8	360,000	14,500	31.8	6.37	9,000	965	10,500	1,530	0.865	26.5	21.3	964	356.7	C	C	C	C	c1	c3	c1	c1
	HY800 x 300 x 22 x 28 *	263	800	300	22	28	18	708.0	5.36	32.2	330,000	12,700	31.4	6.16	8,240	845	9,630	1,350	0.855	29.2	18.9	752	334.5	C	C	C	C	c1	c3	c1	c1
	HY800 x 300 x 22 x 25 *	249	800	300	22	25	18	714.0	6.00	32.5	306,000	11,300	31.1	5.97	7,660	755	9,010	1,220	0.847	31.3	17.0	625	317.8	C	C	C	C	c1	c3	c1	c1
	HY800 x 300 x 19 x 40 *	298	800	300	19	40	18	684.0	3.75	36.0	410,000	18,000	32.8	6.90	10,200	1,200	11,700	1,870	0.890	22.0	26.1	1,450	379.6	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 19 x 36 *	280	800	300	19	36	18	692.0	4.17	36.4	380,000	16,200	32.6	6.75	9,500	1,080	10,900	1,690	0.883	24.4	23.7	1,120	357.1	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 19 x 32 *	263	800	300	19	32	18	700.0	4.69	36.8	350,000	14,400	32.3	6.57	8,750	963	10,000	1,510	0.875	27.2	21.3	856	334.6	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 19 x 28 *	245	800	300	19	28	18	708.0	5.36	37.3	319,000	12,600	32.0	6.37	7,980	843	9,220	1,330	0.866	30.4	18.8	645	312.1	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 19 x 25 *	232	800	300	19	25	18	714.0	6.00	37.6	296,000	11,300	31.7	6.19	7,400	753	8,590	1,200	0.858	33.1	17.0	520	295.3	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 19 x 22 *	219	800	300	19	22	18	720.0	6.82	37.9	272,000	9,950	31.3	5.98	6,800	663	7,950	1,060	0.849	35.9	15.1	419	278.4	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 16 x 36	263	800	300	16	36	18	692.0	4.17	43.3	370,000	16,200	33.2	6.96	9,260	1,080	10,500	1,670	0.894	24.6	23.7	1,040	335.3	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 16 x 32	245	800	300	16	32	18	700.0	4.69	43.8	340,000	14,400	33.0	6.79	8,500	962	9,640	1,490	0.887	27.6	21.3	775	312.5	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 16 x 28	227	800	300	16	28	18	708.0	5.36	44.3	309,000	12,600	32.7	6.60	7,730	842	8,800	1,310	0.878	31.3	18.8	566	289.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 16 x 25	214	800	300	16	25	18	714.0	6.00	44.6	285,000	11,300	32.3	6.43	7,130	752	8,170	1,180	0.870	34.5	16.9	442	272.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 16 x 22	201	800	300	16	22	18	720.0	6.82	45.0	261,000	9,930	32.0	6.23	6,530	662	7,520	1,040	0.861	38.1	15.0	342	255.7	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 14 x 32	234	800	300	14	32	18	700.0	4.69	50.0	333,000	14,400	33.5	6.96	8,340	961	9,370	1,480	0.895	27.7	21.3	734	297.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 14 x 28	216	800	300	14	28	18	708.0	5.36	50.6	302,000	12,600	33.2	6.78	7,560	841	8,520	1,300	0.887	31.6	18.8	526	274.9	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 14 x 25	202	800	300	14	25	18	714.0	6.00	51.0	278,000	11,300	32.9	6.61	6,960	751	7,880	1,160	0.879	35.1	16.9	402	257.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 14 x 22	189	800	300	14	22	18	720.0	6.82	51.4	254,000	9,920	32.5	6.42	6,350	661	7,240	1,030	0.871	39.2	15.0	303	240.6	C	C	C	C	c1	c4	c1	c1
	HY800 x 300 x 12 x 25	191	800	300	12	25	18	714.0	6.00	59.5	271,000	11,300	33.4	6.81	6,780	751	7,600	1,150	0.890	35.5	16.9	372	242.8	C	C	C	C	c1	c4	c1	c2
	HY800 x 300 x 12 x 22	177	800	300	12	22	18	720.0	6.82	60.0	247,000	9,910	33.1	6.63	6,170	661	6,950	1,020	0.881	40.0	15.0	273	225.5	C	C	C	C	c1	c4	c1	c2
HY 800 x 250	HY800 x 250 x 19 x 36 *	252	800	250	19	36	18	692.0	3.47	36.4	328,000	9,420	31.9	5.42	8,190	754	9,490	1,190	0.873	24.9	13.7	966	321.1	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 19 x 32 *	238	800	250	19	32	18	700.0	3.91	36.8	303,000	8,380	31.6	5.26	7,570	670	8,820	1,070	0.865	27.7	12.4	747	302.6	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 19 x 28 *	223	800	250	19	28	18	708.0	4.46	37.3	278,000	7,340	31.3	5.08	6,940	587	8,140	946	0.856	30.8	10.9	572	284.1	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 19 x 25 *	212	800	250	19	25	18	714.0	5.00	37.6	258,000	6,560	30.9	4.93	6,460	525	7,620	853	0.847	33.4	9.85	468	270.3	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 19 x 22 *	201	800	250	19	22	18	720.0	5.68	37.9	239,000	5,780	30.5	4.75	5,970	462	7,100	759	0.838	36.0	8.74	384	256.4	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 16 x 32	220	800	250	16	32	18	700.0	3.91	43.8	293,000	8,360	32.3	5.46	7,320	669	8,410	1,050	0.877	28.2	12.3	666	280.5	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 16 x 28	206	800	250	16	28	18	708.0	4.46	44.3	267,000	7,320	32.0	5.29	6,680	586	7,720	926	0.868	31.9	10.9	493	261.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 16 x 25	195	800	250	16	25	18	714.0	5.00	44.6	248,000	6,540	31.6	5.14	6,200	523	7,200	833	0.860	35.0	9.82	389	247.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 16 x 22	183	800	250	16	22	18	720.0	5.68	45.0	228,000	5,760	31.2	4.96	5,700	461	6,670	739	0.851	38.5	8.72	307	233.7	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 14 x 28	194	800	250	14	28	18	708.0	4.46	50.6	260,000	7,310	32.5	5.44	6,510	585	7,440	915	0.877	32.3	10.9	453	246.9	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 14 x 25	183	800	250	14	25	18	714.0	5.00	51.0	241,000	6,530	32.2	5.30	6,020	523	6,920	821	0.870	35.8	9.81	350	232.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 14 x 22	172	800	250	14	22	18	720.0	5.68	51.4	221,000	5,750	31.8	5.13	5,520	460	6,380	728	0.861	39.8	8.70	268	218.6	C	C	C	C	c1	c4	c1	c1
	HY800 x 250 x 12 x 25	171	800	250	12	25	18	714.0	5.00	59.5	234,000	6,520	32.8	5.47	5,840	522	6,630	811	0.880	36.2	9.80	320	217.8	C	C	C	C	c1	c4	c1	c2
	HY800 x 250 x 12 x 22	160	800	250	12	22	18	720.0	5.68	60.0	214,000	5,740	32.4	5.31	5,340	459	6,100	718	0.872	40.7	8.69	238	203.5	C	C	C	C	c1	c4	c1	c2
HY 750 x 400	HY750 x 400 x 16 x 36 *	313	750	400	16	36	18	642.0	5.56	40.1	412,000	38,400	32.1	9.81	11,000	1,920	12,200	2,930	0.903	22.1	49.0	1,340	399.3	C	C	C	C	c1	c4	c1	c1
	HY750 x 400 x 16 x 32 *	289	750	400	16	32	18	650.0	6.25	40.6	376,000	34,200	32.0	9.63	10,000	1,710	11,200	2,610	0.897	24.9	44.0	987	368.5	C	C	C	C	c1	c4	c1	c1
	HY750 x 400 x 16 x 28 *	265	750	400	16	28	18	658.0	7.14	41.1	340,000	29,900	31.7	9.41	9,060	1,490	10,100	2,290	0.890	28.3	39.0	705	337.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 400 x 16 x 25 *	247	750	400	16	25	18	664.0	8.00	41.5	312,000	26,700	31.5	9.21	8,320	1,330	9,310	2,050	0.883	31.4	35.1	539	314.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 400 x 14 x 32 *	279	750	400	14	32	18	650.0	6.25	46.4	371,000	34,200	32.3	9.81	9,890	1,710	10,900	2,600	0.904	24.9	44.0	947	354.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 400 x 14 x 28 *	254	750	400	14	28	18	658.0	7.14	47.0	334,000	29,900	32.1	9.61	8,920	1,490	9,870	2,280	0.897	28.5	38.9	668	323.9	C	C	C	C	c1	c4	c1	c1
	HY750 x 400 x 14 x 25 *	236	750	400	14	25	18	664.0	8.00	47.4	306,000	26,700	31.9	9.42	8,170	1,330	9,060	2,040	0.891	31.8	35.1	502	300.8	C	C	C	C	c1	c4	c1	c1
HY 750 x 350	HY750 x 350 x 16 x 36	285	750	350	16	36	18	642.0	4.86	40.1	366,000	25,800	31.7	8.42	9,760	1,470	10,900	2,250	0.901	22.4	32.8	1,190	363.3	C	C	C	C	c1	c4	c1	c1
	HY750 x 350 x 16 x 32	264	750	350	16	32	18	650.0	5.47	40.6	335,000	22,900	31.6	8.25	8,940	1,310	10,000	2,010	0.895	25.2	29.5	877	336.5	C	C	C	C	c1	c4	c1	c1
	HY750 x 350 x 16 x 28	243	750	350	16	28	18	658.0	6.25	41.1	303,000	20,000	31.3	8.04	8,090	1,140	9,100	1,760	0.887	28.6	26.1	632	309.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 350 x 16 x 25	227	750	350	16	25	18	664.0	7.00	41.5	279,000	17,900	31.0	7.86	7,440	1,020	8,400	1,580	0.880	31.7	23.5	487	289.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 350 x 14 x 32	253	750	350	14	32	18	650.0	5.47	46.4	330,000	22,900	32.0	8.42	8,790	1,310	9,780	2,000	0.902	25.2	29.5	838	322.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 350 x 14 x 28	232	750	350	14	28	18	658.0	6.25	47.0	298,000	20,000	31.7	8.23	7,940	1,140	8,860	1,750	0.895	28.9	26.1	594	295.9	C	C	C	C	c1	c4	c1	c1
	HY750 x 350 x 14 x 25	217	750	350	14	25	18	664.0	7.00	47.4	273,000	17,900	31.5	8.05	7,290	1,020	8,150	1,570	0.888	32.2	23.5	450	275.8	C	C	C	C	c1	c4	c1	c1
HY 750 x 300	HY750 x 300 x 16 x 36	257	750	300	16	36	18	642.0	4.17	40.1	320,000	16,200	31.3	7.04	8,540	1,080	9,640	1,670	0.897	22.8	20.7	1,030	327.3	C	C	C	C	c1	c4	c1	c1
	HY750 x 300 x 16 x 32	239	750	300	16	32	18	650.0	4.69	40.6	294,000	14,400	31.1	6.88	7,840	962	8,870	1,490	0.889	25.6	18.6	768	304.5	C	C	C	C	c1	c4	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



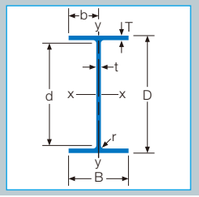
NSHYPER BEAM™ [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 750 x 300	HY750 x 300 x 16 x 28	221	750	300	16	28	18	658.0	5.36	41.1	267,000	12,600	30.8	6.69	7,120	842	8,090	1,310	0.881	29.0	16.5	559	281.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 300 x 16 x 25	208	750	300	16	25	18	664.0	6.00	41.5	246,000	11,300	30.5	6.53	6,570	752	7,490	1,170	0.873	32.0	14.8	435	264.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 300 x 16 x 22 *	194	750	300	16	22	18	670.0	6.82	41.9	225,000	9,930	30.2	6.33	6,010	662	6,900	1,040	0.865	35.4	13.2	335	247.7	C	C	C	C	c1	c4	c1	c1
	HY750 x 300 x 14 x 32 *	228	750	300	14	32	18	650.0	4.69	46.4	288,000	14,400	31.5	7.04	7,690	961	8,630	1,480	0.898	25.7	18.6	729	290.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 300 x 14 x 28	210	750	300	14	28	18	658.0	5.36	47.0	261,000	12,600	31.2	6.86	6,970	841	7,850	1,300	0.890	29.3	16.4	521	267.9	C	C	C	C	c1	c4	c1	c1
	HY750 x 300 x 14 x 25	197	750	300	14	25	18	664.0	6.00	47.4	241,000	11,300	31.0	6.70	6,410	751	7,250	1,160	0.882	32.6	14.8	398	250.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 300 x 14 x 22	183	750	300	14	22	18	670.0	6.82	47.9	219,000	9,920	30.6	6.52	5,850	661	6,650	1,030	0.874	36.5	13.1	299	233.6	C	C	C	C	c1	c4	c1	c1
	HY750 x 300 x 14 x 19	170	750	300	14	19	18	676.0	7.89	48.3	198,000	8,570	30.2	6.29	5,280	571	6,040	893	0.864	40.9	11.4	222	216.5	C	C	C	C	c1	c4	c1	c1
	HY750 x 300 x 12 x 25	186	750	300	12	25	18	664.0	6.00	55.3	235,000	11,300	31.5	6.90	6,260	751	7,000	1,150	0.892	32.9	14.8	369	236.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 300 x 12 x 22	172	750	300	12	22	18	670.0	6.82	55.8	214,000	9,910	31.2	6.72	5,690	661	6,400	1,020	0.884	37.1	13.1	271	219.5	C	C	C	C	c1	c4	c1	c1
	HY750 x 300 x 12 x 19	159	750	300	12	19	18	676.0	7.89	56.3	192,000	8,560	30.8	6.51	5,120	571	5,790	883	0.875	42.2	11.4	195	202.2	C	C	C	C	c1	c4	c1	c1
HY 750 x 250	HY750 x 250 x 16 x 32 *	214	750	250	16	32	18	650.0	3.91	40.6	253,000	8,360	30.4	5.54	6,740	669	7,720	1,050	0.881	26.2	10.8	659	272.5	C	C	C	C	c1	c4	c1	c1
	HY750 x 250 x 16 x 28 *	199	750	250	16	28	18	658.0	4.46	41.1	230,000	7,320	30.1	5.37	6,140	586	7,080	923	0.872	29.6	9.54	486	253.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 250 x 16 x 25 *	188	750	250	16	25	18	664.0	5.00	41.5	213,000	6,540	29.8	5.22	5,690	523	6,590	829	0.864	32.5	8.59	383	239.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 250 x 16 x 22 *	177	750	250	16	22	18	670.0	5.68	41.9	196,000	5,760	29.5	5.05	5,230	461	6,090	736	0.855	35.8	7.63	300	225.7	C	C	C	C	c1	c4	c1	c1
	HY750 x 250 x 14 x 32	203	750	250	14	32	18	650.0	3.91	46.4	247,000	8,350	30.9	5.68	6,590	668	7,490	1,040	0.890	26.3	10.8	620	258.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 250 x 14 x 28	188	750	250	14	28	18	658.0	4.46	47.0	225,000	7,310	30.6	5.52	5,990	585	6,840	912	0.881	29.9	9.53	448	239.9	C	C	C	C	c1	c4	c1	c1
	HY750 x 250 x 14 x 25	177	750	250	14	25	18	664.0	5.00	47.4	208,000	6,530	30.3	5.38	5,540	522	6,340	819	0.873	33.2	8.58	345	225.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 250 x 14 x 22	166	750	250	14	22	18	670.0	5.68	47.9	190,000	5,750	30.0	5.21	5,070	460	5,850	725	0.864	37.0	7.62	263	211.6	C	C	C	C	c1	c4	c1	c1
	HY750 x 250 x 14 x 19	155	750	250	14	19	18	676.0	6.58	48.3	172,000	4,970	29.6	5.02	4,600	397	5,340	632	0.854	41.2	6.64	199	197.5	C	C	C	C	c1	c4	c1	c1
	HY750 x 250 x 12 x 25	166	750	250	12	25	18	664.0	5.00	55.3	202,000	6,520	30.9	5.55	5,390	522	6,100	809	0.884	33.6	8.57	317	211.8	C	C	C	C	c1	c4	c1	c1
	HY750 x 250 x 12 x 22	155	750	250	12	22	18	670.0	5.68	55.8	184,000	5,740	30.6	5.39	4,920	459	5,600	716	0.875	37.8	7.61	235	197.5	C	C	C	C	c1	c4	c1	c1
	HY750 x 250 x 12 x 19	144	750	250	12	19	18	676.0	6.58	56.3	166,000	4,960	30.1	5.20	4,440	397	5,090	622	0.865	42.8	6.63	172	183.2	C	C	C	C	c1	c4	c1	c1
HY 700 x 400	HY700 x 400 x 22 x 36 *	337	700	400	22	36	18	592.0	5.56	26.9	366,000	38,500	29.2	9.47	10,500	1,920	11,800	2,960	0.886	20.1	42.4	1,510	428.9	C	C	C	C	c1	c1	c1	c1
	HY700 x 400 x 22 x 32 *	313	700	400	22	32	18	600.0	6.25	27.3	336,000	34,200	29.0	9.26	9,590	1,710	10,900	2,640	0.879	22.3	38.1	1,150	398.7	C	C	C	C	c1	c2	c1	c1
	HY700 x 400 x 22 x 28 *	289	700	400	22	28	18	608.0	7.14	27.6	305,000	29,900	28.8	9.01	8,710	1,500	9,900	2,320	0.871	24.9	33.8	863	368.5	C	C	C	C	c1	c2	c1	c1
	HY700 x 400 x 19 x 36 *	322	700	400	19	36	18	592.0	5.56	31.2	360,000	38,400	29.6	9.68	10,300	1,920	11,500	2,940	0.894	20.3	42.4	1,410	410.1	C	C	C	C	c1	c2	c1	c1
	HY700 x 400 x 19 x 32 *	298	700	400	19	32	18	600.0	6.25	31.6	329,000	34,200	29.5	9.49	9,410	1,710	10,600	2,620	0.888	22.7	38.1	1,050	379.6	C	C	C	C	c1	c3	c1	c1
	HY700 x 400 x 19 x 28 *	274	700	400	19	28	18	608.0	7.14	32.0	298,000	29,900	29.2	9.26	8,520	1,500	9,580	2,300	0.880	25.6	33.8	769	349.1	C	C	C	C	c1	c3	c1	c1
	HY700 x 400 x 16 x 36 *	307	700	400	16	36	18	592.0	5.56	37.0	353,000	38,400	30.1	9.91	10,100	1,920	11,200	2,920	0.903	20.4	42.4	1,340	391.3	C	C	C	C	c1	c4	c1	c1
	HY700 x 400 x 16 x 32 *	283	700	400	16	32	18	600.0	6.25	37.5	323,000	34,200	29.9	9.73	9,220	1,710	10,300	2,600	0.897	23.0	38.1	980	360.5	C	C	C	C	c1	c4	c1	c1
	HY700 x 400 x 16 x 28 *	259	700	400	16	28	18	608.0	7.14	38.0	291,000	29,900	29.7	9.52	8,330	1,490	9,270	2,280	0.890	26.2	33.7	699	329.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 400 x 16 x 25 *	241	700	400	16	25	18	614.0	8.00	38.4	267,000	26,700	29.5	9.33	7,640	1,330	8,530	2,040	0.884	29.0	30.4	532	306.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 400 x 16 x 22 *	223	700	400	16	22	18	620.0	9.09	38.8	243,000	23,500	29.3	9.10	6,940	1,170	7,780	1,810	0.877	32.4	27.0	399	283.7	C	C	C	C	c2	c4	c2	c1
	HY700 x 400 x 14 x 32 *	273	700	400	14	32	18	600.0	6.25	42.9	319,000	34,200	30.3	9.91	9,100	1,710	10,100	2,590	0.904	23.0	38.1	943	347.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 400 x 14 x 28 *	249	700	400	14	28	18	608.0	7.14	43.4	287,000	29,900	30.1	9.71	8,200	1,490	9,070	2,270	0.898	26.3	33.7	663	316.9	C	C	C	C	c1	c4	c1	c1
	HY700 x 400 x 14 x 25 *	231	700	400	14	25	18	614.0	8.00	43.9	263,000	26,700	29.9	9.53	7,510	1,330	8,320	2,030	0.892	29.4	30.4	497	293.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 400 x 14 x 22 *	212	700	400	14	22	18	620.0	9.09	44.3	238,000	23,500	29.7	9.32	6,810	1,170	7,560	1,800	0.885	33.1	27.0	365	270.6	C	C	C	C	c2	c4	c2	c1
	HY700 x 400 x 12 x 25 *	220	700	400	12	25	18	614.0	8.00	51.2	258,000	26,700	30.3	9.75	7,380	1,330	8,110	2,030	0.900	29.5	30.4	470	280.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 400 x 12 x 22 *	202	700	400	12	22	18	620.0	9.09	51.7	233,000	23,500	30.1	9.55	6,670	1,170	7,350	1,790	0.893	33.5	27.0	339	257.5	C	C	C	C	c2	c4	c2	c1
HY 700 x 350	HY700 x 350 x 22 x 36 *	308	700	350	22	36	18	592.0	4.86	26.9	326,000	25,800	28.8	8.10	9,320	1,470	10,600	2,290	0.884	20.3	28.4	1,350	392.9	C	C	C	C	c1	c1	c1	c1
	HY700 x 350 x 22 x 32 *	288	700	350	22	32	18	600.0	5.47	27.3	300,000	22,900	28.6	7.91	8,570	1,310	9,790	2,040	0.877	22.5	25.6	1,040	366.7	C	C	C	C	c1	c2	c1	c1
	HY700 x 350 x 22 x 28 *	267	700	350	22	28	18	608.0	6.25	27.6	273,000	20,100	28.3	7.68	7,810	1,150	8,960	1,800	0.868	25.0	22.7	789	340.5	C	C	C	C	c1	c2	c1	c1
	HY700 x 350 x 19 x 36 *	294	700	350	19	36	18	592.0	4.86	31.2	320,000	25,800	29.2	8.30	9,140	1,470	10,300	2,270	0.893	20.5	28.4	1,250	374.1	C	C	C	C	c1	c2	c1	c1
	HY700 x 350 x 19 x 32 *	273	700	350	19	32	18	600.0	5.47	31.6	294,000	22,900	29.1	8.12	8,390	1,310	9,490	2,020	0.886	23.0	25.6	942	347.6	C	C	C	C	c1	c3	c1	c1
	HY700 x 350 x 19 x 28 *	252	700	350	19	28	18	608.0	6.25	32.0	267,000	20,100	28.8	7.90	7,610	1,150	8,640	1,780	0.878	25.9	22.6	696	321.1	C	C	C	C	c1	c3	c1	c1
	HY700 x 350 x 16 x 36	279	700	350	16	36	18	592.0	4.86	37.0	314,000	25,800	29.7	8.51	8,960	1,470	10,000	2,250	0.903	20.6	28.4	1,180	355.3	C	C	C	C	c1	c4	c1	c1
	HY700 x 350 x 16 x 32	258	700	350	16	32	18	600.0	5.47	37.5	287,000	22,900	29.6	8.35	8,200	1,310	9,190	2,000	0.896	23.2	25.5	870	328.5	C	C	C	C	c1	c4	c1	c1
	HY700 x 350 x 16 x 28	237	700	350	16	28	18	608.0	6.25	38.0	260,000	20,000	29.3	8.15	7,420	1,140	8,330	1,760	0.888	26.4	22.6	625	301.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 350 x 16 x 25	221	700	350	16	25	18	614.0	7.00	38.4	239,000	17,900	29.1	7.97	6,830	1,020	7,690	1,580	0.882	29.3	20.4	480	281.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 350 x 16 x 22 *	205	700	350	16	22	18	620.0	7.95	38.8	218,000	15,700	28.8	7.76	6,220	900	7,030	1,390	0.874	32.6	18.1	364	261.7	C	C	C	C	c1	c4	c1	c1
	HY700 x 350 x 14 x 32	248	700	350	14	32	18	600.0	5.47	42.9	283,000	22,900	29.9	8.51	8,080	1,310	8,980	1,990	0.904	23.3	25.5	834	315.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 350 x 14 x 28	227	700	350	14	28	18	608.0	6.25	43.4	255,000	20,000	29.7	8.33	7,300	1,140	8,130	1,750	0.896	26.6	22.6	590	288.9	C	C	C	C	c1	c4	c1	c1
	HY700 x 350 x 14 x 25	211	700	350	14	25	18	614.0	7.00	43.9	234,000	17,900	29.5	8.16	6,700	1,020	7,470	1,570	0.890	29.7	20.4	445	268.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 350 x 14 x 22	195	700	350	14	22	18	620.0	7.95	44.3	213,000	15,700	29.3	7.96	6,080	899	6,820	1,380	0.882	33.3	18.1	330	248.6	C	C	C	C	c1	c4	c1	c1
	HY700 x 350 x 12 x 25	201	700	350	12	25	18	614.0	7.00	51.2	230,000	17,900	30.0	8.36	6,560	1,020	7,260	1,560	0.899	29.9	20.4	418	255.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 350 x 12 x 22	185	700	350	12	22	18	620.0	7.95	51.7	208,000	15,700	29.7	8.17	5,950	899	6,600	1,370	0.892	33.8	18.1	303	235.5	C	C	C	C	c1	c4	c1	c1
HY 700 x 300	HY700 x 300 x 22 x 36 *	280	700	300	22	36	18	592.0	4.17	26.9	286,000	16,300	28.3	6.75	8,180	1,080	9,430	1,700	0.879	20.5	17.9	1,200	356.9	C	C	C	C	c1	c1	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



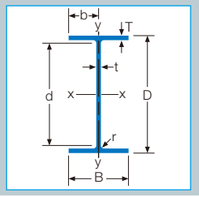
NSHYPER BEAM™ [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 700 x 300	HY700 x 300 x 22 x 32 *	263	700	300	22	32	18	600.0	4.69	27.3	264,000	14,500	28.1	6.57	7,550	964	8,720	1,520	0.871	22.7	16.1	929	334.7	C	C	C	C	c1	c2	c1	c1
	HY700 x 300 x 22 x 28 *	245	700	300	22	28	18	608.0	5.36	27.6	242,000	12,700	27.8	6.37	6,900	844	8,010	1,340	0.862	25.1	14.3	716	312.5	C	C	C	C	c1	c2	c1	c1
	HY700 x 300 x 22 x 25 *	232	700	300	22	25	18	614.0	6.00	27.9	224,000	11,300	27.5	6.18	6,400	754	7,480	1,210	0.854	27.1	12.9	590	295.8	C	C	C	C	c1	c2	c1	c1
	HY700 x 300 x 19 x 36 *	265	700	300	19	36	18	592.0	4.17	31.2	280,000	16,200	28.8	6.93	8,010	1,080	9,130	1,680	0.889	20.9	17.9	1,100	338.1	C	C	C	C	c1	c2	c1	c1
	HY700 x 300 x 19 x 32 *	248	700	300	19	32	18	600.0	4.69	31.6	258,000	14,400	28.6	6.76	7,370	963	8,420	1,500	0.881	23.3	16.1	833	315.6	C	C	C	C	c1	c3	c1	c1
	HY700 x 300 x 19 x 28 *	230	700	300	19	28	18	608.0	5.36	32.0	235,000	12,600	28.3	6.57	6,710	843	7,700	1,320	0.872	26.1	14.3	623	293.1	C	C	C	C	c1	c3	c1	c1
	HY700 x 300 x 19 x 25 *	217	700	300	19	25	18	614.0	6.00	32.3	217,000	11,300	28.0	6.39	6,210	753	7,160	1,190	0.865	28.5	12.9	497	276.3	C	C	C	C	c1	c3	c1	c1
	HY700 x 300 x 16 x 36	251	700	300	16	36	18	592.0	4.17	37.0	274,000	16,200	29.3	7.13	7,830	1,080	8,830	1,660	0.899	21.0	17.9	1,020	319.3	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 16 x 32	233	700	300	16	32	18	600.0	4.69	37.5	251,000	14,400	29.1	6.97	7,180	962	8,120	1,480	0.892	23.6	16.1	761	296.5	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 16 x 28	215	700	300	16	28	18	608.0	5.36	38.0	228,000	12,600	28.9	6.79	6,520	842	7,390	1,300	0.884	26.8	14.3	552	273.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 16 x 25	202	700	300	16	25	18	614.0	6.00	38.4	210,000	11,300	28.6	6.63	6,010	752	6,840	1,170	0.876	29.6	12.8	428	256.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 16 x 22	188	700	300	16	22	18	620.0	6.82	38.8	192,000	9,930	28.3	6.43	5,490	662	6,290	1,040	0.868	32.8	11.4	328	239.7	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 14 x 32	223	700	300	14	32	18	600.0	4.69	42.9	247,000	14,400	29.5	7.13	7,060	961	7,920	1,470	0.900	23.7	16.1	724	283.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 14 x 28	205	700	300	14	28	18	608.0	5.36	43.4	224,000	12,600	29.3	6.95	6,390	841	7,180	1,290	0.892	27.0	14.2	517	260.9	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 14 x 25	191	700	300	14	25	18	614.0	6.00	43.9	206,000	11,300	29.1	6.80	5,880	751	6,630	1,160	0.885	30.1	12.8	393	243.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 14 x 22	178	700	300	14	22	18	620.0	6.82	44.3	188,000	9,920	28.8	6.62	5,360	661	6,070	1,030	0.877	33.7	11.4	294	226.6	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 14 x 19	164	700	300	14	19	18	626.0	7.89	44.7	169,000	8,570	28.4	6.40	4,830	571	5,510	891	0.867	37.8	9.93	218	209.5	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 12 x 28	195	700	300	12	28	18	608.0	5.36	50.7	219,000	12,600	29.7	7.13	6,270	841	6,980	1,290	0.902	27.1	14.2	489	248.1	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 12 x 25	181	700	300	12	25	18	614.0	6.00	51.2	201,000	11,300	29.5	6.99	5,750	751	6,420	1,150	0.895	30.4	12.8	366	230.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 12 x 22	168	700	300	12	22	18	620.0	6.82	51.7	183,000	9,910	29.3	6.81	5,230	661	5,860	1,020	0.887	34.3	11.4	268	213.5	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 12 x 19	154	700	300	12	19	18	626.0	7.89	52.2	164,000	8,560	28.9	6.61	4,690	571	5,290	882	0.878	39.0	9.93	192	196.2	C	C	C	C	c1	c4	c1	c1
	HY700 x 300 x 12 x 16 *	140	700	300	12	16	18	632.0	9.38	52.7	145,000	7,210	28.5	6.35	4,150	481	4,710	747	0.867	44.6	8.44	135	178.9	C	nC	C	C	c2	c4	c2	c1
HY 700 x 250	HY700 x 250 x 22 x 25 *	213	700	250	22	25	18	614.0	5.00	27.9	196,000	6,570	26.9	4.93	5,590	526	6,630	864	0.845	27.1	7.49	537	270.8	C	C	C	C	c1	c2	c1	c1
	HY700 x 250 x 19 x 32 *	223	700	250	19	32	18	600.0	3.91	31.6	222,000	8,380	28.0	5.43	6,350	670	7,350	1,060	0.873	23.7	9.34	724	283.6	C	C	C	C	c1	c3	c1	c1
	HY700 x 250 x 19 x 28 *	208	700	250	19	28	18	608.0	4.46	32.0	203,000	7,330	27.7	5.26	5,810	587	6,760	937	0.863	26.4	8.28	549	265.1	C	C	C	C	c1	c3	c1	c1
	HY700 x 250 x 19 x 25 *	197	700	250	19	25	18	614.0	5.00	32.3	189,000	6,550	27.4	5.11	5,390	524	6,310	844	0.855	28.7	7.46	445	251.3	C	C	C	C	c1	c3	c1	c1
	HY700 x 250 x 16 x 32 *	208	700	250	16	32	18	600.0	3.91	37.5	216,000	8,360	28.6	5.62	6,160	669	7,050	1,040	0.884	24.1	9.33	652	264.5	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 16 x 28 *	193	700	250	16	28	18	608.0	4.46	38.0	197,000	7,320	28.3	5.46	5,620	585	6,450	920	0.875	27.3	8.26	479	245.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 16 x 25 *	182	700	250	16	25	18	614.0	5.00	38.4	182,000	6,540	28.0	5.31	5,200	523	6,000	826	0.868	30.0	7.45	376	231.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 16 x 22 *	171	700	250	16	22	18	620.0	5.68	38.8	167,000	5,760	27.7	5.14	4,770	460	5,540	733	0.859	33.1	6.61	293	217.7	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 14 x 32	198	700	250	14	32	18	600.0	3.91	42.9	211,000	8,350	29.0	5.76	6,040	668	6,850	1,030	0.893	24.2	9.32	615	251.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 14 x 28	183	700	250	14	28	18	608.0	4.46	43.4	192,000	7,310	28.7	5.60	5,490	585	6,240	910	0.885	27.6	8.25	443	232.9	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 14 x 25	172	700	250	14	25	18	614.0	5.00	43.9	177,000	6,530	28.5	5.46	5,070	522	5,790	816	0.877	30.6	7.44	341	218.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 14 x 22	161	700	250	14	22	18	620.0	5.68	44.3	162,000	5,750	28.2	5.30	4,640	460	5,330	723	0.868	34.1	6.61	259	204.6	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 14 x 19	150	700	250	14	19	18	626.0	6.58	44.7	147,000	4,970	27.8	5.11	4,200	397	4,860	629	0.858	38.1	5.76	195	190.5	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 12 x 28 *	173	700	250	12	28	18	608.0	4.46	50.7	188,000	7,300	29.2	5.76	5,360	584	6,040	901	0.895	27.7	8.25	416	220.1	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 12 x 25	162	700	250	12	25	18	614.0	5.00	51.2	173,000	6,520	29.0	5.63	4,940	522	5,580	807	0.887	31.0	7.43	314	205.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 12 x 22	150	700	250	12	22	18	620.0	5.68	51.7	158,000	5,740	28.7	5.48	4,500	459	5,110	714	0.879	34.9	6.60	232	191.5	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 12 x 19	139	700	250	12	19	18	626.0	6.58	52.2	142,000	4,960	28.3	5.29	4,060	397	4,640	620	0.869	39.5	5.75	169	177.2	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 12 x 16	128	700	250	12	16	18	632.0	7.81	52.7	126,000	4,180	27.9	5.06	3,610	334	4,170	527	0.857	44.9	4.89	121	162.9	C	C	C	C	c1	c4	c1	c1
	HY700 x 250 x 9 x 19	124	700	250	9	19	18	626.0	6.58	69.6	135,000	4,950	29.3	5.61	3,850	396	4,310	610	0.889	40.6	5.74	142	157.4	C	C	C	C	c1	c4	c1	c3
	HY700 x 250 x 9 x 16	112	700	250	9	16	18	632.0	7.81	70.2	119,000	4,170	28.9	5.40	3,400	334	3,830	516	0.878	47.4	4.88	95.5	142.9	C	C	C	C	c1	c4	c1	c3
HY 700 x 200	HY700 x 200 x 14 x 28 *	161	700	200	14	28	18	608.0	3.57	43.4	160,000	3,750	28.0	4.28	4,590	375	5,300	595	0.872	28.3	4.24	370	204.9	C	C	C	C	c1	c4	c1	c1
	HY700 x 200 x 14 x 25 *	152	700	200	14	25	18	614.0	4.00	43.9	149,000	3,350	27.7	4.16	4,250	335	4,940	535	0.864	31.3	3.82	289	193.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 200 x 14 x 22 *	143	700	200	14	22	18	620.0	4.55	44.3	137,000	2,950	27.4	4.02	3,910	295	4,580	475	0.855	34.7	3.39	223	182.6	C	C	C	C	c1	c4	c1	c1
	HY700 x 200 x 14 x 19 *	135	700	200	14	19	18	626.0	5.26	44.7	125,000	2,550	27.0	3.86	3,570	255	4,210	416	0.845	38.5	2.96	172	171.5	C	C	C	C	c1	c4	c1	c1
	HY700 x 200 x 12 x 28	151	700	200	12	28	18	608.0	3.57	50.7	156,000	3,750	28.5	4.42	4,460	375	5,100	586	0.883	28.5	4.23	342	192.1	C	C	C	C	c1	c4	c1	c1
	HY700 x 200 x 12 x 25	142	700	200	12	25	18	614.0	4.00	51.2	144,000	3,350	28.3	4.30	4,120	335	4,730	526	0.875	31.8	3.81	262	180.8	C	C	C	C	c1	c4	c1	c1
	HY700 x 200 x 12 x 22	133	700	200	12	22	18	620.0	4.55	51.7	132,000	2,950	27.9	4.17	3,780	295	4,360	466	0.867	35.6	3.39	197	169.5	C	C	C	C	c1	c4	c1	c1
	HY700 x 200 x 12 x 19	124	700	200	12	19	18	626.0	5.26	52.2	120,000	2,550	27.6	4.01	3,430	255	3,990	407	0.856	40.2	2.95	146	158.2	C	C	C	C	c1	c4	c1	c1
	HY700 x 200 x 12 x 16	115	700	200	12	16	18	632.0	6.25	52.7	108,000	2,150	27.1	3.82	3,080	215	3,620	347	0.844	45.2	2.51	108	146.9	C	C	C	C	c1	c4	c1	c1
	HY700 x 200 x 9 x 22	118	700	200	9	22	18	620.0	4.55	68.9	125,000	2,940	28.9	4.43	3,580	294	4,040	456	0.887	36.1	3.38	169	149.8	C	C	C	C	c1	c4	c1	c3
	HY700 x 200 x 9 x 19	109	700	200	9	19	18	626.0	5.26	69.6	113,000	2,540	28.6	4.28	3,220	254	3,660	396	0.877	41.5	2.94	119	138.4	C	C	C	C	c1	c4	c1	c3
	HY700 x 200 x 9 x 16	99.6	700	200	9	16	18	632.0	6.25	70.2	100,000	2,140	28.1	4.11	2,860	214	3,280	336	0.865	48.2	2.50	81.8	126.9	C	C	C	C	c1	c4	c1	c3
	HY700 x 200 x 9 x 12	87.6	700	200	9	12	18	640.0	8.33	71.1	83,100	1,610	27.3	3.79	2,370	161	2,770	256	0.846	59.2	1.90	48.3	111.6	C	C	C	C	c1	c4	c1	c3
HY 650 x 300	HY650 x 300 x 16 x 32 *	225	650	300	16	32	13	560.0	4.69	35.0	212,000	14,400	27.1	7.09	6,510	961	7,350	1,480	0.894	21.9	13.8	734	287.2	C	C	C	C	c1	c4	c1	c1
	HY650 x 300 x 16 x 28 *	208	650	300	16	28	13	568.0	5.36	35.5	192,000	12,600	26.9	6.91	5,900	841	6,680	1,300	0.886	24.9	12.2	529	264.5	C	C	C	C	c1	c4	c1	c1
	HY650 x 300 x 16 x 25 *	194	650	300	16	25	13	574.0	6.00	35.9	177,000	11,300	26.7	6.75	5,440	751	6,170	1,160	0.879	27.6	11.0	406	247.5	C	C	C	C	c1	c4	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



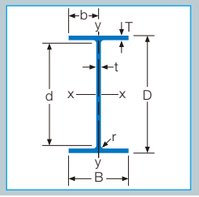
NSHYPER BEAM™ [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 650 x 300	HY650 x 300 x 16 x 22 *	181	650	300	16	22	13	580.0	6.82	36.3	161,000	9,920	26.4	6.56	4,960	661	5,660	1,030	0.870	30.7	9.78	309	230.4	C	C	C	C	c1	c4	c1	c1
	HY650 x 300 x 12 x 25 *	175	650	300	12	25	13	574.0	6.00	47.8	169,000	11,300	27.5	7.10	5,210	751	5,810	1,150	0.897	28.2	11.0	351	223.5	C	C	C	C	c1	c4	c1	c1
	HY650 x 300 x 12 x 22 *	162	650	300	12	22	13	580.0	6.82	48.3	154,000	9,910	27.3	6.93	4,730	661	5,290	1,010	0.889	32.0	9.77	255	206.2	C	C	C	C	c1	c4	c1	c1
	HY650 x 300 x 12 x 19 *	148	650	300	12	19	13	586.0	7.89	48.8	138,000	8,560	27.0	6.73	4,240	571	4,760	878	0.880	36.6	8.52	180	188.9	C	C	C	C	c1	c4	c1	c1
	HY650 x 300 x 12 x 16 *	135	650	300	12	16	13	592.0	9.38	49.3	121,000	7,210	26.6	6.48	3,740	481	4,230	744	0.869	42.1	7.25	125	171.6	C	nC	C	C	c3	c4	c3	c1
HY 650 x 250	HY650 x 250 x 16 x 32 *	200	650	250	16	32	13	560.0	3.91	35.0	181,000	8,360	26.6	5.72	5,570	668	6,360	1,040	0.887	22.4	7.98	625	255.2	C	C	C	C	c1	c4	c1	c1
	HY650 x 250 x 16 x 28 *	186	650	250	16	28	13	568.0	4.46	35.5	165,000	7,310	26.4	5.56	5,070	585	5,810	915	0.879	25.4	7.07	455	236.5	C	C	C	C	c1	c4	c1	c1
	HY650 x 250 x 16 x 25 *	175	650	250	16	25	13	574.0	5.00	35.9	152,000	6,530	26.2	5.42	4,680	523	5,390	821	0.871	28.0	6.38	354	222.5	C	C	C	C	c1	c4	c1	c1
	HY650 x 250 x 16 x 22 *	164	650	250	16	22	13	580.0	5.68	36.3	139,000	5,750	25.9	5.25	4,290	460	4,970	728	0.862	31.0	5.67	274	208.4	C	C	C	C	c1	c4	c1	c1
	HY650 x 250 x 12 x 28 *	167	650	250	12	28	13	568.0	4.46	47.3	158,000	7,300	27.2	5.86	4,850	584	5,460	898	0.897	25.7	7.06	399	212.7	C	C	C	C	c1	c4	c1	c1
	HY650 x 250 x 12 x 25 *	156	650	250	12	25	13	574.0	5.00	47.8	145,000	6,520	27.0	5.73	4,460	522	5,030	804	0.890	28.8	6.37	299	198.5	C	C	C	C	c1	c4	c1	c1
	HY650 x 250 x 12 x 22 *	145	650	250	12	22	13	580.0	5.68	48.3	132,000	5,740	26.8	5.58	4,060	459	4,600	711	0.882	32.6	5.66	219	184.2	C	C	C	C	c1	c4	c1	c1
	HY650 x 250 x 12 x 19 *	133	650	250	12	19	13	586.0	6.58	48.8	119,000	4,960	26.4	5.40	3,660	397	4,160	617	0.872	37.1	4.94	157	169.9	C	C	C	C	c1	c4	c1	c1
	HY650 x 250 x 12 x 16 *	122	650	250	12	16	13	592.0	7.81	49.3	105,000	4,180	26.0	5.18	3,240	334	3,730	524	0.860	42.4	4.20	111	155.6	C	C	C	C	c1	c4	c1	c1
HY 650 x 200	HY650 x 200 x 12 x 28 *	145	650	200	12	28	13	568.0	3.57	47.3	131,000	3,740	26.6	4.50	4,020	374	4,580	583	0.887	26.5	3.62	326	184.7	C	C	C	C	c1	c4	c1	c1
	HY650 x 200 x 12 x 25 *	136	650	200	12	25	13	574.0	4.00	47.8	121,000	3,340	26.4	4.39	3,710	334	4,250	523	0.879	29.7	3.26	247	173.5	C	C	C	C	c1	c4	c1	c1
	HY650 x 200 x 12 x 22 *	127	650	200	12	22	13	580.0	4.55	48.3	110,000	2,940	26.1	4.26	3,400	294	3,910	463	0.870	33.4	2.90	184	162.2	C	C	C	C	c1	c4	c1	c1
	HY650 x 200 x 12 x 19 *	118	650	200	12	19	13	586.0	5.26	48.8	99,900	2,540	25.7	4.11	3,070	254	3,570	403	0.860	37.9	2.53	134	150.9	C	C	C	C	c1	c4	c1	c1
	HY650 x 200 x 12 x 16 *	110	650	200	12	16	13	592.0	6.25	49.3	89,300	2,140	25.3	3.92	2,750	214	3,220	344	0.848	42.9	2.15	97.7	139.6	C	C	C	C	c1	c4	c1	c1
	HY650 x 200 x 9 x 22 *	113	650	200	9	22	13	580.0	4.55	64.4	105,000	2,940	27.0	4.52	3,220	294	3,630	453	0.890	33.8	2.90	159	144.0	C	C	C	C	c1	c4	c1	c2
	HY650 x 200 x 9 x 19 *	104	650	200	9	19	13	586.0	5.26	65.1	94,200	2,540	26.7	4.38	2,900	254	3,280	393	0.880	39.1	2.53	111	132.5	C	C	C	C	c1	c4	c1	c2
	HY650 x 200 x 9 x 16 *	95.1	650	200	9	16	13	592.0	6.25	65.8	83,400	2,140	26.2	4.20	2,570	214	2,930	334	0.868	45.8	2.15	74.5	121.1	C	C	C	C	c1	c4	c1	c2
	HY650 x 200 x 9 x 12 *	83.1	650	200	9	12	13	600.0	8.33	66.7	68,600	1,600	25.5	3.89	2,110	160	2,460	254	0.848	57.0	1.63	42.5	105.8	C	C	C	C	c1	c4	c1	c2
HY 600 x 300	HY600 x 300 x 16 x 32	219	600	300	16	32	13	510.0	4.69	31.9	177,000	14,400	25.1	7.19	5,890	961	6,640	1,480	0.896	19.9	11.6	728	279.2	C	C	C	C	c1	c3	c1	c1
	HY600 x 300 x 16 x 28	201	600	300	16	28	13	518.0	5.36	32.4	160,000	12,600	25.0	7.01	5,330	841	6,030	1,300	0.888	22.7	10.3	522	256.5	C	C	C	C	c1	c3	c1	c1
	HY600 x 300 x 16 x 25	188	600	300	16	25	13	524.0	6.00	32.8	147,000	11,300	24.8	6.86	4,910	751	5,560	1,160	0.881	25.2	9.32	400	239.5	C	C	C	C	c1	c3	c1	c1
	HY600 x 300 x 16 x 22	175	600	300	16	22	13	530.0	6.82	33.1	134,000	9,920	24.6	6.68	4,480	661	5,090	1,030	0.873	28.1	8.29	302	222.4	C	C	C	C	c1	c3	c1	c1
	HY600 x 300 x 14 x 28	193	600	300	14	28	13	518.0	5.36	37.0	157,000	12,600	25.3	7.17	5,250	841	5,880	1,290	0.896	22.9	10.3	492	245.6	C	C	C	C	c1	c4	c1	c1
	HY600 x 300 x 14 x 25	179	600	300	14	25	13	524.0	6.00	37.4	145,000	11,300	25.2	7.02	4,820	751	5,410	1,150	0.889	25.6	9.31	371	228.5	C	C	C	C	c1	c4	c1	c1
	HY600 x 300 x 14 x 22	166	600	300	14	22	13	530.0	6.82	37.9	131,000	9,910	24.9	6.85	4,380	661	4,940	1,020	0.882	28.8	8.28	274	211.3	C	C	C	C	c1	c4	c1	c1
	HY600 x 300 x 12 x 28	184	600	300	12	28	13	518.0	5.36	43.2	155,000	12,600	25.7	7.33	5,160	841	5,730	1,280	0.905	22.9	10.3	469	234.7	C	C	C	C	c1	c4	c1	c1
	HY600 x 300 x 12 x 25	171	600	300	12	25	13	524.0	6.00	43.7	142,000	11,300	25.5	7.20	4,730	751	5,260	1,150	0.898	25.7	9.31	348	217.5	C	C	C	C	c1	c4	c1	c1
	HY600 x 300 x 12 x 22	157	600	300	12	22	13	530.0	6.82	44.2	129,000	9,910	25.3	7.04	4,290	661	4,780	1,010	0.891	29.2	8.28	252	200.2	C	C	C	C	c1	c4	c1	c1
	HY600 x 300 x 12 x 19	144	600	300	12	19	13	536.0	7.89	44.7	115,000	8,560	25.1	6.84	3,840	571	4,300	877	0.882	33.4	7.22	177	182.9	C	C	C	C	c1	c4	c1	c1
	HY600 x 300 x 12 x 16	130	600	300	12	16	13	542.0	9.38	45.2	101,000	7,210	24.7	6.60	3,380	481	3,810	742	0.872	38.5	6.15	122	165.6	C	nC	C	C	c3	c4	c3	c1
	HY600 x 300 x 9 x 19	130	600	300	9	19	13	536.0	7.89	59.6	111,000	8,550	25.8	7.18	3,690	570	4,060	867	0.900	34.0	7.22	155	166.0	C	C	C	C	c1	c4	c1	c2
HY 600 x 250	HY600 x 250 x 16 x 32	194	600	250	16	32	13	510.0	3.91	31.9	151,000	8,350	24.7	5.81	5,020	668	5,730	1,040	0.891	20.3	6.74	618	247.2	C	C	C	C	c1	c3	c1	c1
	HY600 x 250 x 16 x 28	179	600	250	16	28	13	518.0	4.46	32.4	137,000	7,310	24.5	5.66	4,570	585	5,230	911	0.882	23.1	5.98	449	228.5	C	C	C	C	c1	c3	c1	c1
	HY600 x 250 x 16 x 25	168	600	250	16	25	13	524.0	5.00	32.8	127,000	6,530	24.3	5.52	4,220	522	4,840	818	0.875	25.6	5.40	348	214.5	C	C	C	C	c1	c3	c1	c1
	HY600 x 250 x 16 x 22	157	600	250	16	22	13	530.0	5.68	33.1	116,000	5,750	24.1	5.36	3,860	460	4,460	725	0.866	28.4	4.80	267	200.4	C	C	C	C	c1	c3	c1	c1
	HY600 x 250 x 12 x 28	162	600	250	12	28	13	518.0	4.46	43.2	132,000	7,300	25.2	5.94	4,390	584	4,930	896	0.900	23.4	5.97	396	206.7	C	C	C	C	c1	c4	c1	c1
	HY600 x 250 x 12 x 25	151	600	250	12	25	13	524.0	5.00	43.7	121,000	6,520	25.1	5.82	4,040	522	4,540	802	0.893	26.3	5.39	296	192.5	C	C	C	C	c1	c4	c1	c1
	HY600 x 250 x 12 x 22	140	600	250	12	22	13	530.0	5.68	44.2	110,000	5,740	24.9	5.68	3,670	459	4,150	709	0.885	29.7	4.79	216	178.2	C	C	C	C	c1	c4	c1	c1
	HY600 x 250 x 12 x 19	129	600	250	12	19	13	536.0	6.58	44.7	99,100	4,960	24.6	5.50	3,300	397	3,750	615	0.876	33.9	4.18	154	163.9	C	C	C	C	c1	c4	c1	c1
	HY600 x 250 x 12 x 16	117	600	250	12	16	13	542.0	7.81	45.2	87,700	4,180	24.2	5.28	2,920	334	3,340	522	0.864	38.8	3.56	108	149.6	C	C	C	C	c1	c4	c1	c1
	HY600 x 250 x 9 x 19	115	600	250	9	19	13	536.0	6.58	59.6	94,600	4,950	25.4	5.80	3,150	396	3,510	606	0.895	34.7	4.18	132	147.0	C	C	C	C	c1	c4	c1	c2
	HY600 x 250 x 9 x 16	104	600	250	9	16	13	542.0	7.81	60.2	83,100	4,170	25.0	5.61	2,770	334	3,100	513	0.884	40.8	3.56	86.9	132.6	C	C	C	C	c1	c4	c1	c2
HY 600 x 200	HY600 x 200 x 12 x 28	140	600	200	12	28	13	518.0	3.57	43.2	109,000	3,740	24.7	4.58	3,630	374	4,130	581	0.891	24.1	3.06	323	178.7	C	C	C	C	c1	c4	c1	c1
	HY600 x 200 x 12 x 25	131	600	200	12	25	13	524.0	4.00	43.7	100,000	3,340	24.5	4.47	3,350	334	3,820	521	0.884	27.0	2.76	244	167.5	C	C	C	C	c1	c4	c1	c1
	HY600 x 200 x 12 x 22	123	600	200	12	22	13	530.0	4.55	44.2	91,800	2,940	24.2	4.34	3,060	294	3,510	461	0.875	30.4	2.46	181	156.2	C	C	C	C	c1	c4	c1	c1
	HY600 x 200 x 12 x 19	114	600	200	12	19	13	536.0	5.26	44.7	83,000	2,540	23.9	4.19	2,770	254	3,200	402	0.865	34.5	2.15	132	144.9	C	C	C	C	c1	c4	c1	c1
	HY600 x 200 x 12 x 16	105	600	200	12	16	13	542.0	6.25	45.2	74,100	2,140	23.5	4.00	2,470	214	2,880	342	0.853	39.3	1.83	94.8	133.6	C	C	C	C	c1	c4	c1	c1
	HY600 x 200 x 9 x 22	110	600	200	9	22	13	530.0	4.55	58.9	87,500	2,940	25.0	4.59	2,920	294	3,280	452	0.894	30.8	2.45	158	139.5	C	C	C	C	c1	c4	c1	c2
	HY600 x 200 x 9 x 19	100	600	200	9	19	13	536.0	5.26	59.6	78,600	2,540	24.8	4.45	2,620	254	2,960	392	0.885	35.6	2.14	109	128.0	C	C	C	C	c1	c4	c1	c2
	HY600 x 200 x 9 x 16	91.5	600	200	9	16	13	542.0	6.25	60.2	69,500	2,140	24.4	4.28	2,320	214	2,640	333	0.873	41.7	1.82	73.3	116.6	C	C	C	C	c1	c4	c1	c2
	HY600 x 200 x 9 x 12	79.5	600	200	9	12	13	550.0	8.33	61.1	57,000	1,600	23.7	3.98	1,900	160	2,200	253	0.853	52.1	1.39	41.3	101.3	C	C	C	C	c1	c4	c1	c2
HY 550 x 300	HY550 x 300 x 16 x 32 *	213	550	300	16	32	13	460.0	4.69	28.8	145,000	14,400	23.1	7.29	5,280	961	5,950	1,470	0.897	18.0	9.67	721	271.2	C	C	C	C	c1	c2	c1	c1
	HY550 x 300 x 16 x 28 *	195	550	300	16	28	13	468.0	5.36	29.3	131,000	12,600	23.0	7.13	4,780	841	5,400	1,290	0.889	20.5	8.60	515	248.5	C	C	C	C	c1	c2	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



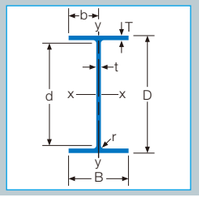
NSHYPER BEAM™ [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 550 x 300	HY550 x 300 x 16 x 25 ＊	182	550	300	16	25	13	474.0	6.00	29.6	121,000	11,300	22.9	6.98	4,400	751	4,970	1,160	0.883	22.8	7.76	393	231.5	C	C	C	C	c1	c2	c1	c1
	HY550 x 300 x 16 x 22 ＊	168	550	300	16	22	13	480.0	6.82	30.0	110,000	9,920	22.7	6.80	4,010	661	4,550	1,020	0.875	25.5	6.91	295	214.4	C	C	C	C	c1	c2	c1	c1
	HY550 x 300 x 12 x 28 ＊	180	550	300	12	28	13	468.0	5.36	39.0	127,000	12,600	23.6	7.42	4,640	841	5,150	1,280	0.905	20.7	8.59	466	228.7	C	C	C	C	c1	c4	c1	c1
	HY550 x 300 x 12 x 25 ＊	166	550	300	12	25	13	474.0	6.00	39.5	117,000	11,300	23.5	7.30	4,250	751	4,720	1,140	0.899	23.3	7.76	345	211.5	C	C	C	C	c1	c4	c1	c1
	HY550 x 300 x 12 x 22 ＊	152	550	300	12	22	13	480.0	6.82	40.0	106,000	9,910	23.4	7.14	3,850	661	4,290	1,010	0.893	26.4	6.91	249	194.2	C	C	C	C	c1	c4	c1	c1
	HY550 x 300 x 12 x 19 ＊	139	550	300	12	19	13	486.0	7.89	40.5	94,700	8,560	23.1	6.96	3,450	571	3,850	875	0.884	30.3	6.03	174	176.9	C	C	C	C	c1	c4	c1	c1
	HY550 x 300 x 12 x 16 ＊	125	550	300	12	16	13	492.0	9.38	41.0	83,300	7,210	22.8	6.72	3,030	481	3,410	740	0.874	35.0	5.14	119	159.6	C	nC	C	C	c3	c4	c3	c1
	HY550 x 300 x 9 x 19 ＊	127	550	300	9	19	13	486.0	7.89	54.0	91,400	8,550	23.8	7.28	3,320	570	3,650	866	0.901	30.8	6.03	154	161.5	C	C	C	C	c1	c4	c1	c1
	HY550 x 300 x 9 x 16 ＊	113	550	300	9	16	13	492.0	9.38	54.7	79,800	7,200	23.5	7.07	2,900	480	3,200	732	0.891	36.4	5.14	99.4	144.1	C	nC	C	C	c3	c4	c3	c1
HY 550 x 250	HY550 x 250 x 16 x 32 ＊	188	550	250	16	32	13	460.0	3.91	28.8	124,000	8,350	22.7	5.91	4,490	668	5,120	1,030	0.894	18.3	5.60	612	239.2	C	C	C	C	c1	c2	c1	c1
	HY550 x 250 x 16 x 28 ＊	173	550	250	16	28	13	468.0	4.46	29.3	112,000	7,310	22.6	5.76	4,090	585	4,670	908	0.885	20.9	4.98	442	220.5	C	C	C	C	c1	c2	c1	c1
	HY550 x 250 x 16 x 25 ＊	162	550	250	16	25	13	474.0	5.00	29.6	104,000	6,530	22.4	5.62	3,770	522	4,320	815	0.878	23.1	4.50	341	206.5	C	C	C	C	c1	c2	c1	c1
	HY550 x 250 x 16 x 22 ＊	151	550	250	16	22	13	480.0	5.68	30.0	94,900	5,750	22.2	5.47	3,450	460	3,960	721	0.870	25.7	4.01	260	192.4	C	C	C	C	c1	c2	c1	c1
	HY550 x 250 x 12 x 28 ＊	158	550	250	12	28	13	468.0	4.46	39.0	108,000	7,300	23.2	6.03	3,940	584	4,420	894	0.903	21.1	4.97	393	200.7	C	C	C	C	c1	c4	c1	c1
	HY550 x 250 x 12 x 25 ＊	146	550	250	12	25	13	474.0	5.00	39.5	99,600	6,520	23.1	5.91	3,620	522	4,070	801	0.896	23.7	4.49	293	186.5	C	C	C	C	c1	c4	c1	c1
	HY550 x 250 x 12 x 22 ＊	135	550	250	12	22	13	480.0	5.68	40.0	90,600	5,740	22.9	5.77	3,290	459	3,710	707	0.889	26.9	4.00	213	172.2	C	C	C	C	c1	c4	c1	c1
	HY550 x 250 x 12 x 19 ＊	124	550	250	12	19	13	486.0	6.58	40.5	81,300	4,960	22.7	5.60	2,960	397	3,350	613	0.879	30.7	3.49	152	157.9	C	C	C	C	c1	c4	c1	c1
	HY550 x 250 x 12 x 16 ＊	113	550	250	12	16	13	492.0	7.81	41.0	71,900	4,180	22.4	5.39	2,610	334	2,980	520	0.868	35.3	2.98	106	143.6	C	C	C	C	c1	c4	c1	c1
	HY550 x 250 x 9 x 22 ＊	123	550	250	9	22	13	480.0	5.68	53.3	87,300	5,730	23.6	6.04	3,180	459	3,520	699	0.906	27.0	4.00	192	157.0	C	C	C	C	c1	c4	c1	c1
	HY550 x 250 x 9 x 19 ＊	112	550	250	9	19	13	486.0	6.58	54.0	78,000	4,950	23.4	5.89	2,840	396	3,150	605	0.897	31.4	3.49	131	142.5	C	C	C	C	c1	c4	c1	c1
	HY550 x 250 x 9 x 16 ＊	101	550	250	9	16	13	492.0	7.81	54.7	68,400	4,170	23.1	5.71	2,490	334	2,780	512	0.887	37.0	2.97	85.7	128.1	C	C	C	C	c1	c4	c1	c1
HY 550 x 200	HY550 x 200 x 12 x 25 ＊	127	550	200	12	25	13	474.0	4.00	39.5	82,300	3,340	22.6	4.55	2,990	334	3,410	519	0.888	24.3	2.30	241	161.5	C	C	C	C	c1	c4	c1	c1
	HY550 x 200 x 12 x 22 ＊	118	550	200	12	22	13	480.0	4.55	40.0	75,200	2,940	22.4	4.43	2,740	294	3,130	460	0.879	27.5	2.05	178	150.2	C	C	C	C	c1	c4	c1	c1
	HY550 x 200 x 12 x 19 ＊	109	550	200	12	19	13	486.0	5.26	40.5	67,900	2,540	22.1	4.28	2,470	254	2,840	400	0.869	31.2	1.79	129	138.9	C	C	C	C	c1	c4	c1	c1
	HY550 x 200 x 12 x 16 ＊	100	550	200	12	16	13	492.0	6.25	41.0	60,500	2,140	21.8	4.10	2,200	214	2,550	340	0.858	35.6	1.53	91.9	127.6	C	C	C	C	c1	c4	c1	c1
	HY550 x 200 x 9 x 22 ＊	106	550	200	9	22	13	480.0	4.55	53.3	72,000	2,940	23.1	4.66	2,620	294	2,940	451	0.898	27.7	2.05	157	135.0	C	C	C	C	c1	c4	c1	c1
	HY550 x 200 x 9 x 19 ＊	96.9	550	200	9	19	13	486.0	5.26	54.0	64,600	2,540	22.9	4.53	2,350	254	2,640	391	0.889	32.1	1.79	108	123.5	C	C	C	C	c1	c4	c1	c1
	HY550 x 200 x 9 x 16 ＊	88.0	550	200	9	16	13	492.0	6.25	54.7	57,000	2,140	22.6	4.37	2,070	214	2,350	332	0.878	37.7	1.52	72.1	112.1	C	C	C	C	c1	c4	c1	c1
	HY550 x 200 x 9 x 12 ＊	76.0	550	200	9	12	13	500.0	8.33	55.6	46,600	1,600	22.0	4.07	1,700	160	1,950	252	0.858	47.3	1.16	40.1	96.79	C	C	C	C	c1	c4	c1	c1
HY 500 x 300	HY500 x 300 x 16 x 32	207	500	300	16	32	13	410.0	4.69	25.6	117,000	14,400	21.1	7.40	4,680	961	5,280	1,470	0.896	16.1	7.89	714	263.2	C	C	C	C	c1	c1	c1	c1
	HY500 x 300 x 16 x 28	189	500	300	16	28	13	418.0	5.36	26.1	106,000	12,600	21.0	7.24	4,240	841	4,790	1,290	0.890	18.4	7.03	508	240.5	C	C	C	C	c1	c1	c1	c1
	HY500 x 300 x 16 x 25	175	500	300	16	25	13	424.0	6.00	26.5	97,600	11,300	20.9	7.10	3,900	751	4,400	1,160	0.884	20.5	6.36	386	223.5	C	C	C	C	c1	c1	c1	c1
	HY500 x 300 x 16 x 22	162	500	300	16	22	13	430.0	6.82	26.9	88,800	9,920	20.7	6.93	3,550	661	4,020	1,020	0.876	22.9	5.66	289	206.4	C	C	C	C	c1	c1	c1	c1
	HY500 x 300 x 16 x 19	149	500	300	16	19	13	436.0	7.89	27.3	79,900	8,570	20.5	6.73	3,200	571	3,630	886	0.868	25.7	4.96	213	189.4	C	C	C	C	c1	c2	c1	c1
	HY500 x 300 x 12 x 28	175	500	300	12	28	13	418.0	5.36	34.8	103,000	12,600	21.5	7.52	4,130	841	4,590	1,280	0.904	18.5	7.02	463	222.7	C	C	C	C	c1	c4	c1	c1
	HY500 x 300 x 12 x 25	161	500	300	12	25	13	424.0	6.00	35.3	94,500	11,300	21.4	7.40	3,780	751	4,200	1,140	0.899	20.8	6.35	342	205.5	C	C	C	C	c1	c4	c1	c1
	HY500 x 300 x 12 x 22	148	500	300	12	22	13	430.0	6.82	35.8	85,700	9,910	21.3	7.26	3,430	661	3,810	1,010	0.893	23.7	5.66	246	188.2	C	C	C	C	c1	c4	c1	c1
	HY500 x 300 x 12 x 19	134	500	300	12	19	13	436.0	7.89	36.3	76,600	8,560	21.2	7.08	3,060	571	3,420	873	0.885	27.2	4.95	171	170.9	C	C	C	C	c1	c4	c1	c1
	HY500 x 300 x 12 x 16	121	500	300	12	16	13	442.0	9.38	36.8	67,300	7,210	20.9	6.85	2,690	481	3,010	738	0.875	31.5	4.22	116	153.6	C	nC	C	C	c3	c4	c3	c1
	HY500 x 300 x 9 x 19	123	500	300	9	19	13	436.0	7.89	48.4	74,100	8,550	21.7	7.38	2,960	570	3,260	865	0.900	27.6	4.95	153	157.0	C	C	C	C	c1	c4	c1	c1
	HY500 x 300 x 9 x 16	110	500	300	9	16	13	442.0	9.38	49.1	64,700	7,200	21.5	7.18	2,590	480	2,850	731	0.892	32.7	4.22	98.2	139.6	C	nC	C	C	c3	c4	c3	c1
HY 500 x 250	HY500 x 250 x 12 x 28	153	500	250	12	28	13	418.0	4.46	34.8	87,500	7,300	21.2	6.12	3,500	584	3,930	892	0.905	18.9	4.07	390	194.7	C	C	C	C	c1	c4	c1	c1
	HY500 x 250 x 12 x 25	142	500	250	12	25	13	424.0	5.00	35.3	80,400	6,520	21.1	6.01	3,220	521	3,610	799	0.898	21.2	3.68	290	180.5	C	C	C	C	c1	c4	c1	c1
	HY500 x 250 x 12 x 22	130	500	250	12	22	13	430.0	5.68	35.8	73,100	5,740	21.0	5.88	2,920	459	3,290	705	0.891	24.1	3.28	210	166.2	C	C	C	C	c1	c4	c1	c1
	HY500 x 250 x 12 x 19	119	500	250	12	19	13	436.0	6.58	36.3	65,600	4,960	20.8	5.71	2,620	396	2,960	612	0.882	27.5	2.87	149	151.9	C	C	C	C	c1	c4	c1	c1
	HY500 x 250 x 12 x 16	108	500	250	12	16	13	442.0	7.81	36.8	57,900	4,170	20.5	5.51	2,320	334	2,630	518	0.872	31.7	2.44	103	137.6	C	C	C	C	c1	c4	c1	c1
	HY500 x 250 x 9 x 22	120	500	250	9	22	13	430.0	5.68	47.8	70,700	5,730	21.5	6.13	2,830	459	3,130	698	0.907	24.2	3.27	191	152.5	C	C	C	C	c1	c4	c1	c1
	HY500 x 250 x 9 x 19	108	500	250	9	19	13	436.0	6.58	48.4	63,100	4,950	21.4	5.99	2,530	396	2,800	604	0.900	28.1	2.86	130	138.0	C	C	C	C	c1	c4	c1	c1
	HY500 x 250 x 9 x 16	97.0	500	250	9	16	13	442.0	7.81	49.1	55,300	4,170	21.2	5.81	2,210	334	2,460	511	0.890	33.1	2.44	84.5	123.6	C	C	C	C	c1	c4	c1	c1
HY 500 x 200	HY500 x 200 x 12 x 25	122	500	200	12	25	13	424.0	4.00	35.3	66,300	3,340	20.6	4.64	2,650	334	3,010	517	0.892	21.7	1.88	238	155.5	C	C	C	C	c1	c4	c1	c1
	HY500 x 200 x 12 x 22	113	500	200	12	22	13	430.0	4.55	35.8	60,500	2,940	20.5	4.52	2,420	294	2,760	458	0.884	24.6	1.68	175	144.2	C	C	C	C	c1	c4	c1	c1
	HY500 x 200 x 12 x 19	104	500	200	12	19	13	436.0	5.26	36.3	54,600	2,540	20.3	4.37	2,180	254	2,500	398	0.874	28.0	1.47	126	132.9	C	C	C	C	c1	c4	c1	c1
	HY500 x 200 x 12 x 16	95.5	500	200	12	16	13	442.0	6.25	36.8	48,500	2,140	20.0	4.20	1,940	214	2,240	338	0.863	32.0	1.25	89.1	121.6	C	C	C	C	c1	c4	c1	c1
	HY500 x 200 x 9 x 22	102	500	200	9	22	13	430.0	4.55	47.8	58,100	2,940	21.1	4.74	2,330	294	2,600	450	0.902	24.8	1.68	156	130.5	C	C	C	C	c1	c4	c1	c1
	HY500 x 200 x 9 x 19	93.4	500	200	9	19	13	436.0	5.26	48.4	52,100	2,540	20.9	4.62	2,090	254	2,340	390	0.893	28.7	1.47	107	119.0	C	C	C	C	c1	c4	c1	c1
	HY500 x 200 x 9 x 16	84.5	500	200	9	16	13	442.0	6.25	49.1	46,000	2,140	20.7	4.46	1,840	214	2,080	331	0.882	33.8	1.25	70.9	107.6	C	C	C	C	c1	c4	c1	c1
	HY500 x 200 x 9 x 12	72.4	500	200	9	12	13	450.0	8.33	50.0	37,500	1,600	20.2	4.17	1,500	160	1,720	251	0.863	42.6	0.955	38.9	92.29	C	C	C	C	c1	c4	c1	c1
HY 450 x 300	HY450 x 300 x 12 x 25 ＊	157	450	300	12	25	13	374.0	6.00	31.2	74,800	11,300	19.4	7.51	3,320	750	3,700	1,140	0.897	18.5	5.08	339	199.5	C	C	C	C	c1	c2	c1	c1

Please contact us in advance to order these sizes with "＊" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



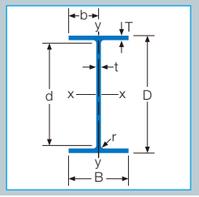
NSHYPER BEAM™ [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 450 x 300	HY450 x 300 x 12 x 22 *	143	450	300	12	22	13	380.0	6.82	31.7	67,800	9,910	19.3	7.37	3,010	660	3,350	1,010	0.891	21.0	4.54	243	182.2	C	C	C	C	c1	c3	c1	c1
	HY450 x 300 x 12 x 19 *	129	450	300	12	19	13	386.0	7.89	32.2	60,600	8,560	19.2	7.20	2,690	570	3,000	871	0.884	24.1	3.97	169	164.9	C	C	C	C	c1	c3	c1	c1
	HY450 x 300 x 12 x 16 *	116	450	300	12	16	13	392.0	9.38	32.7	53,100	7,210	19.0	6.99	2,360	480	2,640	736	0.875	28.0	3.39	113	147.6	C	nC	C	C	c3	c3	c3	c1
HY 450 x 250	HY450 x 250 x 12 x 28	148	450	250	12	28	13	368.0	4.46	30.7	69,100	7,300	19.1	6.22	3,070	584	3,450	890	0.905	16.7	3.25	387	188.7	C	C	C	C	c1	c2	c1	c1
	HY450 x 250 x 12 x 25	137	450	250	12	25	13	374.0	5.00	31.2	63,500	6,520	19.1	6.11	2,820	521	3,160	797	0.899	18.8	2.94	287	174.5	C	C	C	C	c1	c2	c1	c1
	HY450 x 250 x 12 x 22	126	450	250	12	22	13	380.0	5.68	31.7	57,700	5,740	19.0	5.98	2,560	459	2,880	703	0.893	21.3	2.63	208	160.2	C	C	C	C	c1	c3	c1	c1
	HY450 x 250 x 12 x 19	115	450	250	12	19	13	386.0	6.58	32.2	51,700	4,960	18.8	5.83	2,300	396	2,590	610	0.884	24.4	2.30	146	145.9	C	C	C	C	c1	c3	c1	c1
	HY450 x 250 x 12 x 16	103	450	250	12	16	13	392.0	7.81	32.7	45,600	4,170	18.6	5.63	2,030	334	2,290	516	0.874	28.2	1.97	99.8	131.6	C	C	C	C	c1	c3	c1	c1
	HY450 x 250 x 9 x 22	116	450	250	9	22	13	380.0	5.68	42.2	56,000	5,730	19.5	6.22	2,490	459	2,750	697	0.908	21.4	2.63	190	148.0	C	C	C	C	c1	c4	c1	c1
	HY450 x 250 x 9 x 19	105	450	250	9	19	13	386.0	6.58	42.9	50,000	4,950	19.3	6.09	2,220	396	2,460	603	0.901	24.9	2.30	129	133.5	C	C	C	C	c1	c4	c1	c1
	HY450 x 250 x 9 x 16	93.5	450	250	9	16	13	392.0	7.81	43.6	43,800	4,170	19.2	5.92	1,950	334	2,160	510	0.892	29.4	1.96	83.3	119.1	C	C	C	C	c1	c4	c1	c1
HY 450 x 200	HY450 x 200 x 12 x 25	117	450	200	12	25	13	374.0	4.00	31.2	52,200	3,340	18.7	4.73	2,320	334	2,630	516	0.896	19.2	1.51	235	149.5	C	C	C	C	c1	c2	c1	c1
	HY450 x 200 x 12 x 22	108	450	200	12	22	13	380.0	4.55	31.7	47,600	2,940	18.6	4.61	2,120	294	2,410	456	0.888	21.7	1.35	172	138.2	C	C	C	C	c1	c3	c1	c1
	HY450 x 200 x 12 x 19	99.6	450	200	12	19	13	386.0	5.26	32.2	42,900	2,540	18.4	4.47	1,910	254	2,180	396	0.879	24.8	1.18	123	126.9	C	C	C	C	c1	c3	c1	c1
	HY450 x 200 x 12 x 16	90.7	450	200	12	16	13	392.0	6.25	32.7	38,100	2,140	18.1	4.30	1,690	214	1,940	336	0.867	28.5	1.01	86.2	115.6	C	C	C	C	c1	c3	c1	c1
	HY450 x 200 x 9 x 22	98.9	450	200	9	22	13	380.0	4.55	42.2	45,900	2,940	19.1	4.83	2,040	294	2,280	449	0.905	21.9	1.34	154	126.0	C	C	C	C	c1	c4	c1	c1
	HY450 x 200 x 9 x 19	89.9	450	200	9	19	13	386.0	5.26	42.9	41,200	2,540	19.0	4.71	1,830	254	2,050	389	0.897	25.4	1.18	106	114.5	C	C	C	C	c1	c4	c1	c1
	HY450 x 200 x 9 x 16	80.9	450	200	9	16	13	392.0	6.25	43.6	36,200	2,140	18.8	4.55	1,610	214	1,810	330	0.886	29.9	1.01	69.6	103.1	C	C	C	C	c1	c4	c1	c1
	HY450 x 200 x 9 x 12	68.9	450	200	9	12	13	400.0	8.33	44.4	29,500	1,600	18.3	4.27	1,310	160	1,490	250	0.868	37.9	0.769	37.7	87.79	C	C	C	C	c1	c4	c1	c1
HY 400 x 300	HY400 x 300 x 12 x 22 *	138	400	300	12	22	13	330.0	6.82	27.5	52,200	9,910	17.2	7.50	2,610	660	2,900	1,000	0.885	18.3	3.54	240	176.2	C	C	C	C	c1	c2	c1	c1
	HY400 x 300 x 12 x 19 *	125	400	300	12	19	13	336.0	7.89	28.0	46,600	8,560	17.1	7.34	2,330	570	2,590	869	0.879	21.1	3.11	166	158.9	C	C	C	C	c1	c2	c1	c1
	HY400 x 300 x 9 x 22 *	130	400	300	9	22	13	330.0	6.82	36.7	51,000	9,900	17.6	7.74	2,550	660	2,810	998	0.897	18.4	3.54	224	165.5	C	C	C	C	c1	c4	c1	c1
	HY400 x 300 x 9 x 19 *	116	400	300	9	19	13	336.0	7.89	37.3	45,400	8,550	17.5	7.60	2,270	570	2,490	863	0.892	21.4	3.10	150	148.0	C	C	C	C	c1	c4	c1	c1
HY 400 x 250	HY400 x 250 x 12 x 22 *	121	400	250	12	22	13	330.0	5.68	27.5	44,300	5,740	17.0	6.10	2,210	459	2,480	702	0.892	18.6	2.05	205	154.2	C	C	C	C	c1	c2	c1	c1
	HY400 x 250 x 12 x 19 *	110	400	250	12	19	13	336.0	6.58	28.0	39,700	4,950	16.8	5.95	1,990	396	2,230	608	0.885	21.4	1.80	143	139.9	C	C	C	C	c1	c2	c1	c1
	HY400 x 250 x 9 x 22 *	113	400	250	9	22	13	330.0	5.68	36.7	43,200	5,730	17.3	6.32	2,160	459	2,390	696	0.906	18.7	2.05	189	143.5	C	C	C	C	c1	c4	c1	c1
	HY400 x 250 x 9 x 19 *	101	400	250	9	19	13	336.0	6.58	37.3	38,500	4,950	17.3	6.19	1,930	396	2,130	602	0.900	21.7	1.80	127	129.0	C	C	C	C	c1	c4	c1	c1
HY 400 x 200	HY400 x 200 x 12 x 22	104	400	200	12	22	13	330.0	4.55	27.5	36,400	2,940	16.6	4.72	1,820	294	2,070	454	0.891	18.9	1.05	169	132.2	C	C	C	C	c1	c2	c1	c1
	HY400 x 200 x 12 x 19	94.9	400	200	12	19	13	336.0	5.26	28.0	32,800	2,540	16.5	4.58	1,640	254	1,870	394	0.882	21.7	0.922	120	120.9	C	C	C	C	c1	c2	c1	c1
	HY400 x 200 x 12 x 16	86.0	400	200	12	16	13	342.0	6.25	28.5	29,100	2,140	16.3	4.42	1,450	214	1,660	335	0.872	24.9	0.789	83.3	109.6	C	C	C	C	c1	c2	c1	c1
	HY400 x 200 x 9 x 22	95.4	400	200	9	22	13	330.0	4.55	36.7	35,300	2,940	17.0	4.92	1,760	294	1,970	448	0.907	19.1	1.05	153	121.5	C	C	C	C	c1	c4	c1	c1
	HY400 x 200 x 9 x 19	86.4	400	200	9	19	13	336.0	5.26	37.3	31,600	2,540	17.0	4.80	1,580	254	1,770	388	0.900	22.1	0.920	105	110.0	C	C	C	C	c1	c4	c1	c1
	HY400 x 200 x 9 x 16	77.4	400	200	9	16	13	342.0	6.25	38.0	27,800	2,140	16.8	4.66	1,390	214	1,560	329	0.890	26.1	0.788	68.4	98.57	C	C	C	C	c1	c4	c1	c1
	HY400 x 200 x 9 x 12	65.4	400	200	9	12	13	350.0	8.33	38.9	22,600	1,600	16.5	4.39	1,130	160	1,280	249	0.872	33.2	0.603	36.5	83.29	C	C	C	C	c1	c4	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



MEGA NSHYPER BEAM™ [50mm Incremental Unit]

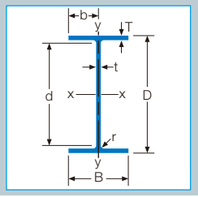
MEGA NSHYPER BEAM™ Size Table (EN10025-2 S355JR, J0)

D \ Flange B / Web t T	300								350						400						450					500				
	16	19	22	25	28	32	36	40	22	25	28	32	36	40	22	25	28	32	36	40	25	28	32	36	40	25	28	32	36	40
1200	16					○	○																							
	19					○	○	○	○			○	○	○				○	○	○										
	22						○	○	○				○	○	○				○	○	○										
1150	16																													
	19																													
	22																													
1100	16					○	○																							
	19					○	○	○	○			○	○	○				○	○	○										
	22						○	○	○				○	○	○				○	○	○										
1050	16																													
	19																													
	22																													
1000	16																													
	19																													
	22																													
950	16																													
	19																													
	22																													
900	14																													
	16																													
	19																													
	22																													
850	14																													
	16																													
	19																													
	22																													
800	12																													
	14																													
	16																													
	19																													
	22																													

○: Regular sizes (44 sizes) : Available sizes (56 sizes, Please contact us in advance to order these section sizes) : Mega sizes

: Sizes to be commercialized (16 sizes)

Please contact us in advance to order other steel grades.



MEGA NSHYPER BEAM™ Size Table (JIS G 3136 SN490B)

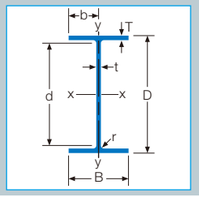
D \ Flange B / Web t T	300								350						400						450					500				
	16	19	22	25	28	32	36	40	22	25	28	32	36	40	22	25	28	32	36	40	25	28	32	36	40	25	28	32	36	40
1200	16					○	○																							
	19					○	○	○	○			○	○	○				○	○	○										
	22						○	○	○				○	○	○				○	○	○										
1150	16																													
	19																													
	22																													
1100	16					○	○																							
	19					○	○	○	○			○	○	○				○	○	○										
	22						○	○	○				○	○	○				○	○	○										
1050	16																													
	19																													
	22																													
1000	16																					○	○				○			
	19																					○	○	○	○		○		○	
	22																						○	○	○			○	○	○
950	16																													
	19																													
	22																													
900	14																													
	16																					○	○				○	○		
	19																					○	○	○	○		○	○	○	
	22																						○	○	○			○	○	○
850	14																													
	16																													
	19																													
	22																													
800	12																													
	14																													
	16																													
	19																													
	22																													

○: Regular sizes (101sizes) : Available sizes (159sizes, Please contact us in advance to order these section sizes) : Mega sizes

: Sizes to be commercialized (24 sizes)

Please contact us in advance to order other steel grades.

Dimensions and Properties



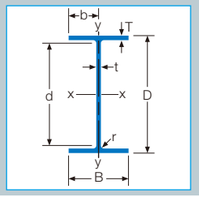
MEGA NSHYPER BEAM™ [50mm Incremental Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 1200 x 500	HY1200 x 500 x 22 x 40	513	1200	500	22	40	30	1060.0	6.25	48.2	1,630,000	83,500	49.9	11.3	27,100	3,340	30,500	5,150	0.885	32.5	281	2,680	654.1	C	C	C	C	c1	c4	c1	c1
	HY1200 x 500 x 22 x 36	483	1200	500	22	36	30	1068.0	6.94	48.5	1,510,000	75,100	49.5	11.0	25,100	3,010	28,400	4,650	0.879	35.7	254	2,110	615.9	C	C	C	C	c1	c4	c1	c1
	HY1200 x 500 x 22 x 32	453	1200	500	22	32	30	1076.0	7.81	48.9	1,380,000	66,800	49.0	10.8	23,100	2,670	26,200	4,150	0.871	39.3	228	1,640	577.6	C	C	C	C	c1	c4	c1	c1
	HY1200 x 500 x 22 x 28	423	1200	500	22	28	30	1084.0	8.93	49.3	1,260,000	58,500	48.3	10.4	21,000	2,340	24,000	3,650	0.862	43.3	201	1,270	539.4	C	C	C	C	c2	c4	c2	c1
	HY1200 x 500 x 19 x 36	to be commercialized																				to be commercialized								
	HY1200 x 500 x 19 x 32	427	1200	500	19	32	30	1076.0	7.81	56.6	1,350,000	66,800	49.8	11.1	22,500	2,670	25,300	4,120	0.881	40.2	228	1,470	543.6	C	C	C	C	c1	c4	c1	c1
	HY1200 x 500 x 19 x 28	397	1200	500	19	28	30	1084.0	8.93	57.1	1,220,000	58,400	49.2	10.8	20,400	2,340	23,100	3,620	0.872	44.9	201	1,100	505.1	C	C	C	C	c2	c4	c2	c1
	HY1200 x 500 x 19 x 25 *	374	1200	500	19	25	30	1090.0	10.00	57.4	1,130,000	52,200	48.7	10.5	18,800	2,090	21,400	3,240	0.864	48.8	180	886	476.2	C	nC	C	C	c3	c4	c3	c1
HY 1200 x 450	HY1200 x 450 x 22 x 40	482	1200	450	22	40	30	1060.0	5.63	48.2	1,490,000	60,900	49.3	10.0	24,900	2,710	28,200	4,200	0.881	32.8	205	2,470	614.1	C	C	C	C	c1	c4	c1	c1
	HY1200 x 450 x 22 x 36	455	1200	450	22	36	30	1068.0	6.25	48.5	1,380,000	54,800	48.9	9.72	23,100	2,440	26,300	3,800	0.874	35.9	186	1,950	579.9	C	C	C	C	c1	c4	c1	c1
	HY1200 x 450 x 22 x 32	428	1200	450	22	32	30	1076.0	7.03	48.9	1,280,000	48,700	48.4	9.45	21,300	2,170	24,400	3,390	0.866	39.5	166	1,530	545.6	C	C	C	C	c1	c4	c1	c1
	HY1200 x 450 x 19 x 40	to be commercialized																				to be commercialized								
	HY1200 x 450 x 19 x 36	429	1200	450	19	36	30	1068.0	6.25	56.2	1,350,000	54,800	49.7	10.0	22,500	2,430	25,300	3,760	0.884	36.5	185	1,780	546.0	C	C	C	C	c1	c4	c1	c1
	HY1200 x 450 x 19 x 32	402	1200	450	19	32	30	1076.0	7.03	56.6	1,240,000	48,700	49.2	9.76	20,600	2,160	23,400	3,360	0.876	40.5	166	1,360	511.6	C	C	C	C	c1	c4	c1	c1
	HY1200 x 450 x 19 x 28	375	1200	450	19	28	30	1084.0	8.04	57.1	1,130,000	42,600	48.6	9.45	18,800	1,890	21,400	2,950	0.867	45.1	146	1,030	477.1	C	C	C	C	c1	c4	c1	c1
HY 1200 x 400	HY1200 x 400 x 22 x 40	451	1200	400	22	40	30	1060.0	5.00	48.2	1,360,000	42,800	48.6	8.63	22,600	2,140	25,900	3,350	0.875	33.2	144	2,250	574.1	C	C	C	C	c1	c4	c1	c1
	HY1200 x 400 x 22 x 36	427	1200	400	22	36	30	1068.0	5.56	48.5	1,260,000	38,500	48.2	8.42	21,000	1,930	24,200	3,030	0.867	36.3	130	1,790	543.9	C	C	C	C	c1	c4	c1	c1
	HY1200 x 400 x 22 x 32	403	1200	400	22	32	30	1076.0	6.25	48.9	1,170,000	34,300	47.7	8.17	19,400	1,710	22,500	2,710	0.859	39.8	117	1,420	513.6	C	C	C	C	c1	c4	c1	c1
	HY1200 x 400 x 22 x 28	379	1200	400	22	28	30	1084.0	7.14	49.3	1,070,000	30,000	47.0	7.88	17,800	1,500	20,800	2,390	0.850	43.6	103	1,120	483.4	C	C	C	C	c1	c4	c1	c1
	HY1200 x 400 x 19 x 36	400	1200	400	19	36	30	1068.0	5.56	56.2	1,230,000	38,500	49.0	8.69	20,500	1,920	23,200	2,990	0.878	36.9	130	1,620	510.0	C	C	C	C	c1	c4	c1	c1
	HY1200 x 400 x 19 x 32	376	1200	400	19	32	30	1076.0	6.25	56.6	1,130,000	34,200	48.5	8.45	18,800	1,710	21,500	2,680	0.870	40.9	117	1,250	479.6	C	C	C	C	c1	c4	c1	c1
	HY1200 x 400 x 19 x 28	353	1200	400	19	28	30	1084.0	7.14	57.1	1,030,000	30,000	47.9	8.17	17,200	1,500	19,800	2,360	0.861	45.4	103	958	449.1	C	C	C	C	c1	c4	c1	c1
	HY1200 x 400 x 19 x 25 *	335	1200	400	19	25	30	1090.0	8.00	57.4	956,000	26,800	47.4	7.92	15,900	1,340	18,500	2,120	0.853	49.1	92.3	781	426.2	C	C	C	C	c1	c4	c1	c1
	HY1200 x 400 x 16 x 32	to be commercialized																				to be commercialized								
	HY1200 x 400 x 16 x 28																													
	HY1200 x 400 x 16 x 25 *	307	1200	400	16	25	30	1090.0	8.00	68.1	918,000	26,700	48.4	8.26	15,300	1,340	17,500	2,080	0.865	51.3	92.2	660	391.7	C	C	C	C	c1	c4	c1	c3
HY 1200 x 350	HY1200 x 350 x 22 x 40	419	1200	350	22	40	30	1060.0	4.38	48.2	1,220,000	28,700	47.9	7.33	20,400	1,640	23,600	2,600	0.867	33.6	96.6	2,040	534.1	C	C	C	C	c1	c4	c1	c1
	HY1200 x 350 x 22 x 36	399	1200	350	22	36	30	1068.0	4.86	48.5	1,140,000	25,900	47.4	7.13	19,000	1,480	22,100	2,360	0.860	36.7	87.6	1,640	507.9	C	C	C	C	c1	c4	c1	c1
	HY1200 x 350 x 22 x 32	378	1200	350	22	32	30	1076.0	5.47	48.9	1,060,000	23,000	46.9	6.91	17,600	1,310	20,600	2,110	0.851	40.1	78.4	1,310	481.6	C	C	C	C	c1	c4	c1	c1
	HY1200 x 350 x 19 x 36	372	1200	350	19	36	30	1068.0	4.86	56.2	1,110,000	25,800	48.3	7.38	18,400	1,470	21,100	2,320	0.870	37.5	87.4	1,470	474.0	C	C	C	C	c1	c4	c1	c1
	HY1200 x 350 x 19 x 32	351	1200	350	19	32	30	1076.0	5.47	56.6	1,020,000	23,000	47.8	7.16	17,000	1,310	19,600	2,080	0.862	41.4	78.3	1,140	447.6	C	C	C	C	c1	c4	c1	c1
	HY1200 x 350 x 19 x 28	331	1200	350	19	28	30	1084.0	6.25	57.1	935,000	20,100	47.1	6.91	15,600	1,150	18,100	1,830	0.853	45.8	69.0	885	421.1	C	C	C	C	c1	c4	c1	c1
	HY1200 x 350 x 16 x 32	to be commercialized																				to be commercialized								
	HY1200 x 350 x 16 x 28																													
	HY1200 x 350 x 16 x 25 *	288	1200	350	16	25	30	1090.0	7.00	68.1	832,000	17,900	47.6	6.99	13,900	1,020	16,000	1,620	0.857	51.7	61.9	608	366.7	C	C	C	C	c1	c4	c1	c3
HY 1200 x 300	HY1200 x 300 x 22 x 40	388	1200	300	22	40	30	1060.0	3.75	48.2	1,090,000	18,100	46.9	6.06	18,100	1,210	21,200	1,950	0.857	34.2	61.0	1,830	494.1	C	C	C	C	c1	c4	c1	c1
	HY1200 x 300 x 22 x 36	370	1200	300	22	36	30	1068.0	4.17	48.5	1,020,000	16,300	46.5	5.88	17,000	1,090	20,000	1,770	0.850	37.2	55.3	1,480	471.9	C	C	C	C	c1	c4	c1	c1
	HY1200 x 300 x 22 x 32	353	1200	300	22	32	30	1076.0	4.69	48.9	948,000	14,500	45.9	5.68	15,800	968	18,700	1,590	0.842	40.5	49.5	1,200	449.6	C	C	C	C	c1	c4	c1	c1
	HY1200 x 300 x 19 x 40	361	1200	300	19	40	30	1060.0	3.75	55.8	1,050,000	18,100	47.8	6.27	17,600	1,210	20,300	1,910	0.868	34.7	60.8	1,650	460.5	C	C	C	C	c1	c4	c1	c1
	HY1200 x 300 x 19 x 36	344	1200	300	19	36	30	1068.0	4.17	56.2	983,000	16,300	47.4	6.10	16,400	1,090	19,000	1,730	0.861	38.1	55.2	1,310	438.0	C	C	C	C	c1	c4	c1	c1
	HY1200 x 300 x 19 x 32	326	1200	300	19	32	30	1076.0	4.69	56.6	911,000	14,500	46.8	5.90	15,200	966	17,800	1,560	0.852	41.9	49.4	1,030	415.6	C	C	C	C	c1	c4	c1	c1
	HY1200 x 300 x 19 x 28	309	1200	300	19	28	30	1084.0	5.36	57.1	839,000	12,700	46.2	5.68	14,000	846	16,500	1,380	0.843	46.2	43.6	812	393.1	C	C	C	C	c1	c4	c1	c1
	HY1200 x 300 x 16 x 32	299	1200	300	16	32	30	1076.0	4.69	67.3	875,000	14,500	47.9	6.16	14,600	964	16,800	1,520	0.865	42.9	49.3	908	381.5	C	C	C	C	c1	c4	c1	c2
	HY1200 x 300 x 16 x 28	282	1200	300	16	28	30	1084.0	5.36	67.8	801,000	12,700	47.3	5.94	13,400	844	15,500	1,340	0.856	47.9	43.5	688	358.8	C	C	C	C	c1	c4	c1	c3
	HY1200 x 300 x 16 x 25 *	268	1200	300	16	25	30	1090.0	6.00	68.1	746,000	11,300	46.7	5.75	12,400	754	14,500	1,210	0.848	52.2	39.0	556	341.7	C	C	C	C	c1	c4	c1	c3
HY 1150 x 500	HY1150 x 500 x 22 x 40 *	505	1150	500	22	40	30	1010.0	6.25	45.9	1,480,000	83,500	48.0	11.4	25,700	3,340	28,900	5,140	0.887	30.9	257	2,660	643.1	C	C	C	C	c1	c4	c1	c1
	HY1150 x 500 x 22 x 36 *	475	1150	500	22	36	30	1018.0	6.94	46.3	1,370,000	75,100	47.6	11.1	23,800	3,000	26,900	4,640	0.880	34.0	233	2,090	604.9	C	C	C	C	c1	c4	c1	c1
	HY1150 x 500 x 22 x 32 *	445	1150	500	22	32	30	1026.0	7.81	46.6	1,260,000	66,800	47.1	10.9	21,900	2,670	24,800	4,150	0.873	37.4	209	1,620	566.6	C	C	C	C	c1	c4	c1	c1
	HY1150 x 500 x 22 x 28 *	415	1150	500	22	28	30	1034.0	8.93	47.0	1,140,000	58,500	46.5	10.5	19,900	2,340	22,700	3,650	0.864	41.3	184	1,250	528.4	C	C	C	C	c2	c4	c2	c1
	HY1150 x 500 x 19 x 36	to be commercialized																				to be commercialized								
	HY1150 x 500 x 19 x 32 *	419	1150	500	19	32	30	1026.0	7.81	54.0	1,230,000	66,800	47.9	11.2	21,300	2,670	23,900	4,110	0.882	38.3	209	1,460	534.1	C	C	C	C	c1	c4	c1	c1
	HY1150 x 500 x 19 x 28 *	389	1150	500	19	28	30	1034.0	8.93	54.4	1,110,000	58,400	47.4	10.9	19,300	2,340	21,800	3,610	0.874	42.8	184	1,090	495.6	C	C	C	C	c2	c4	c2	c1
	HY1150 x 500 x 19 x 25 *	366	1150	500	19	25	30	1040.0	10.00	54.7	1,020,000	52,200	46.9	10.6	17,800	2,090	20,200	3,240	0.866	46.6	165	874	466.7	C	nC	C	C	c3	c4	c3	c1
HY 1150 x 450	HY1150 x 450 x 22 x 40 *	473	1150	450	22	40	30	1010.0	5.63	45.9	1,360,000	60,900	47.4	10.0	23,600	2,710	26,700	4,190	0.883	31.2	187	2,450	603.1	C	C	C	C	c1	c4	c1	c1
	HY1150 x 450 x 22 x 36 *	447	1150	450	22	36	30	1018.0	6.25	46.3	1,260,000	54,800	47.0	9.81	21,900	2,440	24,800	3,790	0.876	34.2	170	1,930	568.9	C	C	C	C	c1	c4	c1	c1
	HY1150 x 450 x 22 x 32 *	420	1150	450	22	32	30	1026.0	7.03	46.6	1,160,000	48,700	46.5	9.55	20,100	2,170	23,000	3,390	0.868	37.7	152	1,510	534.6	C	C	C	C	c1	c4	c1	c1
	HY1150 x 450 x 19 x 40	to be commercialized																				to be commercialized								
	HY1150 x 450 x 19 x 36 *	421	1150	450	19	36	30	1018.0	6.25	53.6	1,230,000	54,800	47.8	10.1	21,300	2,430	24,000	3,750	0.886	34.8	170	1,770	536.5	C	C	C	C	c1	c4	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



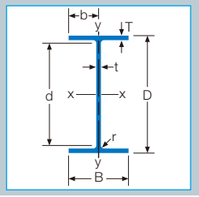
MEGA NSHYPER BEAM™ [50mm Incremental Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 1150 x 450	HY1150 x 450 x 19 x 32 *	394	1150	450	19	32	30	1026.0	7.03	54.0	1,130,000	48,700	47.3	9.85	19,600	2,160	22,100	3,350	0.878	38.6	152	1,350	502.1	C	C	C	C	c1	c4	c1	c1
	HY1150 x 450 x 19 x 28 *	367	1150	450	19	28	30	1034.0	8.04	54.4	1,020,000	42,600	46.8	9.55	17,800	1,890	20,200	2,950	0.869	43.0	134	1,020	467.6	C	C	C	C	c1	c4	c1	c1
HY 1150 x 400	HY1150 x 400 x 22 x 40 *	442	1150	400	22	40	30	1010.0	5.00	45.9	1,230,000	42,800	46.8	8.72	21,400	2,140	24,500	3,340	0.877	31.6	132	2,240	563.1	C	C	C	C	c1	c4	c1	c1
	HY1150 x 400 x 22 x 36 *	418	1150	400	22	36	30	1018.0	5.56	46.3	1,150,000	38,500	46.4	8.50	19,900	1,930	22,800	3,020	0.870	34.6	120	1,780	532.9	C	C	C	C	c1	c4	c1	c1
	HY1150 x 400 x 22 x 32 *	395	1150	400	22	32	30	1026.0	6.25	46.6	1,060,000	34,300	45.9	8.26	18,400	1,710	21,200	2,710	0.862	37.9	107	1,400	502.6	C	C	C	C	c1	c4	c1	c1
	HY1150 x 400 x 22 x 28 *	371	1150	400	22	28	30	1034.0	7.14	47.0	968,000	30,000	45.3	7.97	16,800	1,500	19,600	2,390	0.853	41.6	94.4	1,100	472.4	C	C	C	C	c1	c4	c1	c1
	HY1150 x 400 x 19 x 36 *	393	1150	400	19	36	30	1018.0	5.56	53.6	1,110,000	38,500	47.2	8.77	19,400	1,920	22,000	2,990	0.880	35.2	119	1,610	500.5	C	C	C	C	c1	c4	c1	c1
	HY1150 x 400 x 19 x 32 *	369	1150	400	19	32	30	1026.0	6.25	54.0	1,030,000	34,200	46.7	8.53	17,800	1,710	20,300	2,670	0.872	39.0	107	1,240	470.1	C	C	C	C	c1	c4	c1	c1
	HY1150 x 400 x 19 x 28 *	345	1150	400	19	28	30	1034.0	7.14	54.4	935,000	30,000	46.1	8.25	16,300	1,500	18,700	2,350	0.863	43.3	94.3	947	439.6	C	C	C	C	c1	c4	c1	c1
	HY1150 x 400 x 19 x 25 *	327	1150	400	19	25	30	1040.0	8.00	54.7	866,000	26,800	45.6	8.01	15,100	1,340	17,400	2,110	0.855	46.9	84.6	770	416.7	C	C	C	C	c1	c4	c1	c1
	HY1150 x 400 x 16 x 32	to be commercialized													to be commercialized																
	HY1150 x 400 x 16 x 28																														
HY 1150 x 350	HY1150 x 350 x 22 x 40 *	411	1150	350	22	40	30	1010.0	4.38	45.9	1,110,000	28,700	46.0	7.41	19,300	1,640	22,200	2,590	0.870	32.0	88.4	2,020	523.1	C	C	C	C	c1	c4	c1	c1
	HY1150 x 350 x 22 x 36 *	390	1150	350	22	36	30	1018.0	4.86	46.3	1,030,000	25,800	45.6	7.21	18,000	1,480	20,800	2,350	0.862	34.9	80.2	1,620	496.9	C	C	C	C	c1	c4	c1	c1
	HY1150 x 350 x 22 x 32 *	369	1150	350	22	32	30	1026.0	5.47	46.6	957,000	23,000	45.1	6.99	16,600	1,310	19,400	2,110	0.854	38.2	71.8	1,290	470.6	C	C	C	C	c1	c4	c1	c1
	HY1150 x 350 x 19 x 36 *	365	1150	350	19	36	30	1018.0	4.86	53.6	1,000,000	25,800	46.5	7.45	17,400	1,470	20,000	2,310	0.873	35.6	80.1	1,460	464.5	C	C	C	C	c1	c4	c1	c1
	HY1150 x 350 x 19 x 32 *	344	1150	350	19	32	30	1026.0	5.47	54.0	925,000	23,000	46.0	7.24	16,100	1,310	18,500	2,070	0.865	39.4	71.7	1,130	438.1	C	C	C	C	c1	c4	c1	c1
	HY1150 x 350 x 19 x 28 *	323	1150	350	19	28	30	1034.0	6.25	54.4	847,000	20,100	45.4	6.99	14,700	1,150	17,100	1,830	0.855	43.6	63.2	873	411.6	C	C	C	C	c1	c4	c1	c1
	HY1150 x 350 x 16 x 32	to be commercialized													to be commercialized																
	HY1150 x 350 x 16 x 28																														
HY 1150 x 300	HY1150 x 300 x 22 x 40 *	379	1150	300	22	40	30	1010.0	3.75	45.9	986,000	18,100	45.2	6.12	17,100	1,210	20,000	1,940	0.860	32.5	55.8	1,810	483.1	C	C	C	C	c1	c4	c1	c1
	HY1150 x 300 x 22 x 36 *	362	1150	300	22	36	30	1018.0	4.17	46.3	922,000	16,300	44.7	5.95	16,000	1,090	18,800	1,760	0.853	35.4	50.6	1,470	460.9	C	C	C	C	c1	c4	c1	c1
	HY1150 x 300 x 22 x 32 *	344	1150	300	22	32	30	1026.0	4.69	46.6	857,000	14,500	44.2	5.75	14,900	968	17,600	1,590	0.844	38.5	45.4	1,180	438.6	C	C	C	C	c1	c4	c1	c1
	HY1150 x 300 x 19 x 40 *	354	1150	300	19	40	30	1010.0	3.75	53.2	955,000	18,100	46.0	6.33	16,600	1,210	19,200	1,910	0.871	33.0	55.7	1,640	451.0	C	C	C	C	c1	c4	c1	c1
	HY1150 x 300 x 19 x 36 *	336	1150	300	19	36	30	1018.0	4.17	53.6	891,000	16,300	45.6	6.16	15,500	1,090	18,000	1,730	0.863	36.2	50.5	1,300	428.5	C	C	C	C	c1	c4	c1	c1
	HY1150 x 300 x 19 x 32 *	319	1150	300	19	32	30	1026.0	4.69	54.0	825,000	14,500	45.1	5.97	14,400	966	16,700	1,550	0.855	39.9	45.3	1,020	406.1	C	C	C	C	c1	c4	c1	c1
	HY1150 x 300 x 19 x 28 *	301	1150	300	19	28	30	1034.0	5.36	54.4	759,000	12,700	44.5	5.75	13,200	846	15,500	1,370	0.846	44.0	39.9	800	383.6	C	C	C	C	c1	c4	c1	c1
	HY1150 x 300 x 16 x 32 *	293	1150	300	16	32	30	1026.0	4.69	64.1	793,000	14,500	46.1	6.22	13,800	964	15,900	1,520	0.868	40.8	45.2	901	373.5	C	C	C	C	c1	c4	c1	c2
	HY1150 x 300 x 16 x 28 *	275	1150	300	16	28	30	1034.0	5.36	64.6	726,000	12,700	45.5	6.01	12,600	844	14,600	1,340	0.858	45.6	39.8	681	350.8	C	C	C	C	c1	c4	c1	c2
	HY1150 x 300 x 16 x 25 *	262	1150	300	16	25	30	1040.0	6.00	65.0	675,000	11,300	45.0	5.82	11,700	754	13,700	1,210	0.851	49.7	35.8	549	333.7	C	C	C	C	c1	c4	c1	c2
HY 1100 x 500	HY1100 x 500 x 22 x 40	496	1100	500	22	40	30	960.0	6.25	43.6	1,340,000	83,500	46.0	11.5	24,300	3,340	27,300	5,140	0.888	29.4	234	2,640	632.1	C	C	C	C	c1	c4	c1	c1
	HY1100 x 500 x 22 x 36	466	1100	500	22	36	30	968.0	6.94	44.0	1,240,000	75,100	45.7	11.2	22,500	3,000	25,400	4,640	0.882	32.3	213	2,070	593.9	C	C	C	C	c1	c4	c1	c1
	HY1100 x 500 x 22 x 32	436	1100	500	22	32	30	976.0	7.81	44.4	1,140,000	66,800	45.2	11.0	20,700	2,670	23,400	4,140	0.874	35.6	190	1,600	555.6	C	C	C	C	c1	c4	c1	c1
	HY1100 x 500 x 22 x 28	406	1100	500	22	28	30	984.0	8.93	44.7	1,030,000	58,500	44.7	10.6	18,800	2,340	21,400	3,640	0.866	39.3	168	1,230	517.4	C	C	C	C	c2	c4	c2	c1
	HY1100 x 500 x 19 x 36	to be commercialized													to be commercialized																
	HY1100 x 500 x 19 x 32	412	1100	500	19	32	30	976.0	7.81	51.4	1,110,000	66,700	46.0	11.3	20,200	2,670	22,600	4,110	0.884	36.4	190	1,450	524.6	C	C	C	C	c1	c4	c1	c1
	HY1100 x 500 x 19 x 28	382	1100	500	19	28	30	984.0	8.93	51.8	1,010,000	58,400	45.5	11.0	18,300	2,340	20,600	3,610	0.876	40.7	168	1,080	486.1	C	C	C	C	c2	c4	c2	c1
	HY1100 x 500 x 19 x 25 *	359	1100	500	19	25	30	990.0	10.00	52.1	926,000	52,200	45.0	10.7	16,800	2,090	19,100	3,230	0.868	44.3	151	863	457.2	C	nC	C	C	c3	c4	c3	c1
HY 1100 x 450	HY1100 x 450 x 22 x 40	465	1100	450	22	40	30	960.0	5.63	43.6	1,230,000	60,900	45.5	10.1	22,300	2,710	25,200	4,190	0.885	29.6	171	2,430	592.1	C	C	C	C	c1	c4	c1	c1
	HY1100 x 450 x 22 x 36	438	1100	450	22	36	30	968.0	6.25	44.0	1,140,000	54,800	45.1	9.91	20,700	2,440	23,400	3,780	0.878	32.5	155	1,910	557.9	C	C	C	C	c1	c4	c1	c1
	HY1100 x 450 x 22 x 32	411	1100	450	22	32	30	976.0	7.03	44.4	1,050,000	48,700	44.7	9.65	19,000	2,170	21,700	3,380	0.870	35.8	139	1,490	523.6	C	C	C	C	c1	c4	c1	c1
	HY1100 x 450 x 19 x 40	to be commercialized													to be commercialized																
	HY1100 x 450 x 19 x 36	414	1100	450	19	36	30	968.0	6.25	50.9	1,110,000	54,800	45.9	10.2	20,200	2,430	22,600	3,750	0.887	33.0	155	1,760	527.0	C	C	C	C	c1	c4	c1	c1
	HY1100 x 450 x 19 x 32	387	1100	450	19	32	30	976.0	7.03	51.4	1,020,000	48,700	45.5	9.94	18,500	2,160	20,900	3,350	0.880	36.7	139	1,340	492.6	C	C	C	C	c1	c4	c1	c1
	HY1100 x 450 x 19 x 28	360	1100	450	19	28	30	984.0	8.04	51.8	925,000	42,600	44.9	9.64	16,800	1,890	19,100	2,940	0.871	40.9	122	1,010	458.1	C	C	C	C	c1	c4	c1	c1
HY 1100 x 400	HY1100 x 400 x 22 x 40	433	1100	400	22	40	30	960.0	5.00	43.6	1,110,000	42,800	44.9	8.80	20,200	2,140	23,100	3,340	0.879	30.0	120	2,220	552.1	C	C	C	C	c1	c4	c1	c1
	HY1100 x 400 x 22 x 36	410	1100	400	22	36	30	968.0	5.56	44.0	1,030,000	38,500	44.5	8.59	18,800	1,930	21,500	3,020	0.872	32.8	109	1,760	521.9	C	C	C	C	c1	c4	c1	c1
	HY1100 x 400 x 22 x 32	386	1100	400	22	32	30	976.0	6.25	44.4	954,000	34,300	44.1	8.35	17,400	1,710	20,000	2,700	0.864	36.0	97.7	1,380	491.6	C	C	C	C	c1	c4	c1	c1
	HY1100 x 400 x 22 x 28	362	1100	400	22	28	30	984.0	7.14	44.7	873,000	30,000	43.5	8.06	15,900	1,500	18,400	2,380	0.855	39.6	86.1	1,090	461.4	C	C	C	C	c1	c4	c1	c1
	HY1100 x 400 x 19 x 36	385	1100	400	19	36	30	968.0	5.56	50.9	1,010,000	38,500	45.3	8.85	18,300	1,920	20,700	2,990	0.882	33.4	109	1,600	491.0	C	C	C	C	c1	c4	c1	c1
	HY1100 x 400 x 19 x 32	362	1100	400	19	32	30	976.0	6.25	51.4	926,000	34,200	44.9	8.62	16,800	1,710	19,200	2,670	0.874	37.0	97.6	1,230	460.6	C	C	C	C	c1	c4	c1	c1
	HY1100 x 400 x 19 x 28	338	1100	400	19	28	30	984.0	7.14	51.8	844,000	29,900	44.3	8.34	15,400	1,500	17,600	2,350	0.865	41.2	86.0	935	430.1	C	C	C	C	c1	c4	c1	c1
	HY1100 x 400 x 19 x 25 *	320	1100	400	19	25	30	990.0	8.00	52.1	782,000	26,700	43.8	8.10	14,200	1,340	16,400	2,110	0.858	44.6	77.3	759	407.2	C	C	C	C	c1	c4	c1	c1
	HY1100 x 400 x 16 x 32	to be commercialized													to be commercialized																
	HY1100 x 400 x 16 x 28																														
	HY1100 x 400 x 16 x 25 *	295	1100	400	16	25	30	990.0	8.00	61.9	753,000	26,700	44.8	8.43	13,700	1,340	15,600	2,080	0.870	46.4	77.2	647	375.7	C	C	C	C	c1	c4	c1	c2
HY 1100 x 350	HY1100 x 350 x 22 x 40	402	1100	350	22	40	30	960.0	4.38	43.6	1,000,000	28,700	44.2	7.49	18,200	1,640	21,000	2,590	0.872	30.3	80.6	2,000	512.1	C	C	C	C	c1	c4	c1	c1
	HY1100 x 350 x 22 x 36	381	1100	350	22	36	30	968.0	4.86	44.0	933,000	25,800	43.8	7.29	17,000	1,480	19,600	2,340	0.865	33.2	73.1	1,600	485.9	C	C	C	C	c1	c4	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



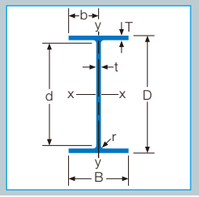
MEGA NSHYPER BEAM™ [50mm Incremental Unit]

Nominal Size		Mass per Meter kg/m	Depth of section D mm	Width of section B mm	Thickness Web t mm	Thickness Flange T mm	Root Radius r mm	Depth between Fillets d=(D-2R) mm	Ratios for Local Buckling Flange B/T for AISC	Ratios for Local Buckling Web d/t for AISC	Second Moment of Area Axis x-x Ix cm^4	Second Moment of Area Axis y-y Iy cm^4	Radius of Gyration Axis x-x rx cm	Radius of Gyration Axis y-y ry cm	Elastic Modulus Axis x-x Zx cm^3	Elastic Modulus Axis y-y Zy cm^3	Plastic Modulus Axis x-x Sx cm^3	Plastic Modulus Axis y-y Sy cm^3	Buckling Parameter u	Torsional Index x	Warping Constant H dm^6	Torsional Constant J cm^4	Area of Section A cm^2	Section Classification: AISC360-16 A572 Gr50, A992 Axial Compression Flange	AISC360-16 A572 Gr50, A992 Axial Compression Web	AISC360-16 A572 Gr50, A992 Pure Bending Flange	AISC360-16 A572 Gr50, A992 Pure Bending Web	BS EN 1993-1-1 S355 Axial Compression Flange	BS EN 1993-1-1 S355 Axial Compression Web	BS EN 1993-1-1 S355 Pure Bending Flange	BS EN 1993-1-1 S355 Pure Bending Web
HY 1100 x 350	HY1100 x 350 x 22 x 32	361	1100	350	22	32	30	976.0	5.47	44.4	863,000	23,000	43.3	7.07	15,700	1,310	18,300	2,100	0.857	36.3	65.5	1,280	459.6	C	C	C	C	c1	c4	c1	c1
	HY1100 x 350 x 19 x 36	357	1100	350	19	36	30	968.0	4.86	50.9	905,000	25,800	44.6	7.53	16,500	1,470	18,800	2,310	0.875	33.8	73.0	1,450	455.0	C	C	C	C	c1	c4	c1	c1
	HY1100 x 350 x 19 x 32	336	1100	350	19	32	30	976.0	5.47	51.4	835,000	22,900	44.1	7.32	15,200	1,310	17,500	2,070	0.867	37.4	65.4	1,120	428.6	C	C	C	C	c1	c4	c1	c1
	HY1100 x 350 x 19 x 28	316	1100	350	19	28	30	984.0	6.25	51.8	764,000	20,100	43.6	7.07	13,900	1,150	16,100	1,820	0.858	41.5	57.7	862	402.1	C	C	C	C	c1	c4	c1	c1
	HY1100 x 350 x 16 x 32	to be commercialized													to be commercialized																
	HY1100 x 350 x 16 x 28																														
	HY1100 x 350 x 16 x 25 *	275	1100	350	16	25	30	990.0	7.00	61.9	681,000	17,900	44.1	7.15	12,400	1,020	14,200	1,610	0.863	46.8	51.8	594	350.7	C	C	C	C	c1	c4	c1	c2
HY 1100 x 300	HY1100 x 300 x 22 x 40	371	1100	300	22	40	30	960.0	3.75	43.6	889,000	18,100	43.4	6.19	16,200	1,210	18,800	1,940	0.863	30.8	50.9	1,790	472.1	C	C	C	C	c1	c4	c1	c1
	HY1100 x 300 x 22 x 36	353	1100	300	22	36	30	968.0	4.17	44.0	831,000	16,300	43.0	6.02	15,100	1,090	17,700	1,760	0.856	33.6	46.2	1,450	449.9	C	C	C	C	c1	c4	c1	c1
	HY1100 x 300 x 22 x 32	336	1100	300	22	32	30	976.0	4.69	44.4	772,000	14,500	42.5	5.83	14,000	968	16,600	1,580	0.847	36.6	41.4	1,170	427.6	C	C	C	C	c1	c4	c1	c1
	HY1100 x 300 x 19 x 40	347	1100	300	19	40	30	960.0	3.75	50.5	862,000	18,100	44.2	6.40	15,700	1,210	18,100	1,900	0.874	31.2	50.8	1,630	441.5	C	C	C	C	c1	c4	c1	c1
	HY1100 x 300 x 19 x 36	329	1100	300	19	36	30	968.0	4.17	50.9	803,000	16,300	43.8	6.23	14,600	1,090	16,900	1,730	0.866	34.3	46.1	1,290	419.0	C	C	C	C	c1	c4	c1	c1
	HY1100 x 300 x 19 x 32	311	1100	300	19	32	30	976.0	4.69	51.4	744,000	14,500	43.3	6.04	13,500	965	15,700	1,550	0.858	37.9	41.3	1,010	396.6	C	C	C	C	c1	c4	c1	c1
	HY1100 x 300 x 19 x 28	294	1100	300	19	28	30	984.0	5.36	51.8	683,000	12,700	42.7	5.82	12,400	845	14,600	1,370	0.849	41.8	36.4	789	374.1	C	C	C	C	c1	c4	c1	c1
	HY1100 x 300 x 16 x 32	287	1100	300	16	32	30	976.0	4.69	61.0	716,000	14,500	44.3	6.29	13,000	964	14,900	1,520	0.871	38.7	41.2	894	365.5	C	C	C	C	c1	c4	c1	c2
	HY1100 x 300 x 16 x 28	269	1100	300	16	28	30	984.0	5.36	61.5	655,000	12,700	43.7	6.08	11,900	844	13,800	1,340	0.861	43.3	36.4	674	342.8	C	C	C	C	c1	c4	c1	c2
	HY1100 x 300 x 16 x 25 *	256	1100	300	16	25	30	990.0	6.00	61.9	609,000	11,300	43.2	5.89	11,100	754	12,900	1,200	0.853	47.2	32.7	542	325.7	C	C	C	C	c1	c4	c1	c2
HY 1050 x 500	HY1050 x 500 x 22 x 40 *	488	1050	500	22	40	30	910.0	6.25	41.4	1,210,000	83,400	44.1	11.6	23,000	3,340	25,700	5,130	0.890	27.8	213	2,630	621.1	C	C	C	C	c1	c4	c1	c1
	HY1050 x 500 x 22 x 36 *	458	1050	500	22	36	30	918.0	6.94	41.7	1,120,000	75,100	43.7	11.4	21,200	3,000	23,900	4,630	0.883	30.6	193	2,050	582.9	C	C	C	C	c1	c4	c1	c1
	HY1050 x 500 x 22 x 32 *	428	1050	500	22	32	30	926.0	7.81	42.1	1,020,000	66,800	43.3	11.1	19,500	2,670	22,000	4,130	0.876	33.8	173	1,590	544.6	C	C	C	C	c1	c4	c1	c1
	HY1050 x 500 x 22 x 28 *	398	1050	500	22	28	30	934.0	8.93	42.5	930,000	58,400	42.9	10.7	17,700	2,340	20,100	3,630	0.868	37.4	153	1,220	506.4	C	C	C	C	c2	c4	c2	c1
	HY1050 x 500 x 19 x 36	to be commercialized													to be commercialized																
	HY1050 x 500 x 19 x 32 *	404	1050	500	19	32	30	926.0	7.81	48.7	999,000	66,700	44.0	11.4	19,000	2,670	21,300	4,100	0.886	34.5	173	1,440	515.1	C	C	C	C	c1	c4	c1	c1
	HY1050 x 500 x 19 x 28 *	374	1050	500	19	28	30	934.0	8.93	49.2	905,000	58,400	43.6	11.1	17,200	2,340	19,400	3,600	0.877	38.6	153	1,070	476.6	C	C	C	C	c2	c4	c2	c1
	HY1050 x 500 x 19 x 25 *	351	1050	500	19	25	30	940.0	10.00	49.5	834,000	52,200	43.2	10.8	15,900	2,090	17,900	3,230	0.870	42.1	137	851	447.7	C	nC	C	C	c3	c4	c3	c1
HY 1050 x 450	HY1050 x 450 x 22 x 40 *	456	1050	450	22	40	30	910.0	5.63	41.4	1,100,000	60,900	43.6	10.2	21,000	2,710	23,700	4,180	0.886	28.1	155	2,410	581.1	C	C	C	C	c1	c4	c1	c1
	HY1050 x 450 x 22 x 36 *	429	1050	450	22	36	30	918.0	6.25	41.7	1,020,000	54,800	43.2	10.0	19,500	2,440	22,100	3,780	0.880	30.8	141	1,900	546.9	C	C	C	C	c1	c4	c1	c1
	HY1050 x 450 x 22 x 32 *	402	1050	450	22	32	30	926.0	7.03	42.1	940,000	48,700	42.8	9.75	17,900	2,170	20,400	3,370	0.872	34.0	126	1,480	512.6	C	C	C	C	c1	c4	c1	c1
	HY1050 x 450 x 19 x 40	to be commercialized													to be commercialized																
	HY1050 x 450 x 19 x 36 *	406	1050	450	19	36	30	918.0	6.25	48.3	999,000	54,800	43.9	10.3	19,000	2,430	21,300	3,750	0.889	31.3	141	1,750	517.5	C	C	C	C	c1	c4	c1	c1
	HY1050 x 450 x 19 x 32 *	379	1050	450	19	32	30	926.0	7.03	48.7	916,000	48,700	43.6	10.0	17,500	2,160	19,700	3,340	0.882	34.8	126	1,330	483.1	C	C	C	C	c1	c4	c1	c1
	HY1050 x 450 x 19 x 28 *	352	1050	450	19	28	30	934.0	8.04	49.2	832,000	42,600	43.1	9.75	15,900	1,890	17,900	2,940	0.873	38.8	111	997	448.6	C	C	C	C	c1	c4	c1	c1
HY 1050 x 400	HY1050 x 400 x 22 x 40 *	425	1050	400	22	40	30	910.0	5.00	41.4	1,000,000	42,800	43.0	8.89	19,100	2,140	21,700	3,330	0.882	28.4	109	2,200	541.1	C	C	C	C	c1	c4	c1	c1
	HY1050 x 400 x 22 x 36 *	401	1050	400	22	36	30	918.0	5.56	41.7	930,000	38,500	42.7	8.68	17,700	1,930	20,200	3,010	0.875	31.1	99.0	1,740	510.9	C	C	C	C	c1	c4	c1	c1
	HY1050 x 400 x 22 x 32 *	377	1050	400	22	32	30	926.0	6.25	42.1	857,000	34,200	42.2	8.44	16,300	1,710	18,800	2,690	0.867	34.2	88.7	1,370	480.6	C	C	C	C	c1	c4	c1	c1
	HY1050 x 400 x 22 x 28 *	354	1050	400	22	28	30	934.0	7.14	42.5	784,000	30,000	41.7	8.16	14,900	1,500	17,300	2,370	0.858	37.6	78.3	1,070	450.4	C	C	C	C	c1	c4	c1	c1
	HY1050 x 400 x 19 x 36 *	378	1050	400	19	36	30	918.0	5.56	48.3	907,000	38,500	43.4	8.94	17,300	1,920	19,500	2,980	0.884	31.6	98.9	1,590	481.5	C	C	C	C	c1	c4	c1	c1
	HY1050 x 400 x 19 x 32 *	354	1050	400	19	32	30	926.0	6.25	48.7	834,000	34,200	43.0	8.71	15,900	1,710	18,000	2,660	0.877	35.1	88.6	1,220	451.1	C	C	C	C	c1	c4	c1	c1
	HY1050 x 400 x 19 x 28 *	330	1050	400	19	28	30	934.0	7.14	49.2	759,000	29,900	42.5	8.44	14,500	1,500	16,500	2,340	0.868	39.1	78.2	924	420.6	C	C	C	C	c1	c4	c1	c1
	HY1050 x 400 x 19 x 25 *	312	1050	400	19	25	30	940.0	8.00	49.5	703,000	26,700	42.0	8.20	13,400	1,340	15,400	2,100	0.860	42.4	70.3	747	397.7	C	C	C	C	c1	c4	c1	c1
	HY1050 x 400 x 16 x 32	to be commercialized													to be commercialized																
	HY1050 x 400 x 16 x 28																														
HY 1050 x 350	HY1050 x 350 x 22 x 40 *	393	1050	350	22	40	30	910.0	4.38	41.4	899,000	28,700	42.4	7.57	17,100	1,640	19,700	2,580	0.875	28.7	73.2	1,990	501.1	C	C	C	C	c1	c4	c1	c1
	HY1050 x 350 x 22 x 36 *	373	1050	350	22	36	30	918.0	4.86	41.7	838,000	25,800	42.0	7.38	16,000	1,480	18,400	2,340	0.868	31.4	66.4	1,590	474.9	C	C	C	C	c1	c4	c1	c1
	HY1050 x 350 x 22 x 32 *	352	1050	350	22	32	30	926.0	5.47	42.1	775,000	23,000	41.6	7.16	14,800	1,310	17,100	2,090	0.859	34.4	59.5	1,260	448.6	C	C	C	C	c1	c4	c1	c1
	HY1050 x 350 x 19 x 36 *	350	1050	350	19	36	30	918.0	4.86	48.3	814,000	25,800	42.7	7.61	15,500	1,470	17,700	2,310	0.878	32.0	66.3	1,430	445.5	C	C	C	C	c1	c4	c1	c1
	HY1050 x 350 x 19 x 32 *	329	1050	350	19	32	30	926.0	5.47	48.7	751,000	22,900	42.3	7.40	14,300	1,310	16,400	2,060	0.870	35.4	59.4	1,110	419.1	C	C	C	C	c1	c4	c1	c1
	HY1050 x 350 x 19 x 28 *	308	1050	350	19	28	30	934.0	6.25	49.2	686,000	20,100	41.8	7.15	13,100	1,150	15,100	1,820	0.861	39.3	52.5	851	392.6	C	C	C	C	c1	c4	c1	c1
	HY1050 x 350 x 16 x 32	to be commercialized													to be commercialized																
	HY1050 x 350 x 16 x 28																														
HY 1050 x 300	HY1050 x 300 x 22 x 40 *	362	1050	300	22	40	30	910.0	3.75	41.4	797,000	18,100	41.6	6.27	15,200	1,210	17,700	1,930	0.866	29.2	46.2	1,770	461.1	C	C	C	C	c1	c4	c1	c1
	HY1050 x 300 x 22 x 36 *	345	1050	300	22	36	30	918.0	4.17	41.7	745,000	16,300	41.2	6.10	14,200	1,090	16,600	1,750	0.859	31.8	41.9	1,430	438.9	C	C	C	C	c1	c4	c1	c1
	HY1050 x 300 x 22 x 32 *	327	1050	300	22	32	30	926.0	4.69	42.1	692,000	14,500	40.7	5.90	13,200	968	15,500	1,570	0.850	34.7	37.6	1,150	416.6	C	C	C	C	c1	c4	c1	c1
	HY1050 x 300 x 19 x 40 *	339	1050	300	19	40	30	910.0	3.75	47.9	775,000	18,100	42.3	6.47	14,800	1,210	17,000	1,900	0.876	29.6	46.1	1,620	432.0	C	C	C	C	c1	c4	c1	c1
	HY1050 x 300 x 19 x 36 *	321	1050	300	19	36	30	918.0	4.17	48.3	722,000	16,300	42.0	6.30	13,700	1,090	15,900	1,720	0.869	32.5	41.8	1,280	409.5	C	C	C	C	c1	c4	c1	c1
	HY1050 x 300 x 19 x 32 *	304	1050	300	19	32	30	926.0	4.69	48.7	668,000	14,500	41.5	6.12	12,700	965	14,800	1,540	0.861	35.9	37.5	1,000	387.1	C	C	C	C	c1	c4	c1	c1
	HY1050 x 300 x 19 x 28 *	286	1050	300	19	28	30	934.0	5.36	49.2	613,000	12,700	41.0	5.90	11,700	845	13,700	1,360	0.852	39.6	33.1	777	364.6	C	C	C	C	c1	c4	c1	c1
	HY1050 x 300 x 16 x 32 *	281	1050	300	16	32	30	926.0	4.69	57.9	644,000	14,500	42.4	6.36	12,300	964	14,000	1,510	0.873	36.6	37.4	887	357.5	C	C	C	C	c1	c4	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



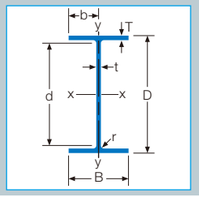
MEGA NSHYPER BEAM™ [50mm Incremental Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 1050 x 300	HY1050 x 300 x 16 x 28 *	263	1050	300	16	28	30	934.0	5.36	58.4	588,000	12,700	41.9	6.15	11,200	844	12,900	1,330	0.864	41.0	33.0	668	334.8	C	C	C	C	c1	c4	c1	c1
	HY1050 x 300 x 16 x 25 *	249	1050	300	16	25	30	940.0	6.00	58.8	546,000	11,300	41.5	5.96	10,400	754	12,100	1,200	0.856	44.7	29.7	536	317.7	C	C	C	C	c1	c4	c1	c2
HY 1000 x 500	HY1000 x 500 x 22 x 40	479	1000	500	22	40	30	860.0	6.25	39.1	1,080,000	83,400	42.1	11.7	21,600	3,340	24,200	5,120	0.891	26.3	192	2,610	610.1	C	C	C	C	c1	c4	c1	c1
	HY1000 x 500 x 22 x 36	449	1000	500	22	36	30	868.0	6.94	39.5	999,000	75,100	41.8	11.5	20,000	3,000	22,400	4,630	0.885	28.9	174	2,030	571.9	C	C	C	C	c1	c4	c1	c1
	HY1000 x 500 x 22 x 32	419	1000	500	22	32	30	876.0	7.81	39.8	917,000	66,800	41.4	11.2	18,300	2,670	20,700	4,130	0.878	32.0	156	1,570	533.6	C	C	C	C	c1	c4	c1	c1
	HY1000 x 500 x 19 x 36	427	1000	500	19	36	30	868.0	6.94	45.7	979,000	75,100	42.4	11.7	19,600	3,000	21,800	4,600	0.894	29.3	174	1,890	544.0	C	C	C	C	c1	c4	c1	c1
	HY1000 x 500 x 19 x 32	397	1000	500	19	32	30	876.0	7.81	46.1	896,000	66,700	42.1	11.5	17,900	2,670	20,000	4,100	0.887	32.6	156	1,430	505.6	C	C	C	C	c1	c4	c1	c1
	HY1000 x 500 x 19 x 28	367	1000	500	19	28	30	884.0	8.93	46.5	811,000	58,400	41.7	11.2	16,200	2,340	18,200	3,600	0.879	36.6	138	1,060	467.1	C	C	C	C	c2	c4	c2	c1
	HY1000 x 500 x 19 x 25 *	344	1000	500	19	25	30	890.0	10.00	46.8	747,000	52,200	41.3	10.9	14,900	2,090	16,800	3,220	0.872	39.9	124	840	438.2	C	nC	C	C	c3	c4	c3	c1
	HY1000 x 500 x 16 x 28	344	1000	500	16	28	30	884.0	8.93	55.3	790,000	58,400	42.4	11.5	15,800	2,340	17,500	3,570	0.890	37.3	138	953	438.8	C	C	C	C	c2	c4	c2	c1
	HY1000 x 500 x 16 x 25 *	322	1000	500	16	25	30	890.0	10.00	55.6	726,000	52,100	42.1	11.3	14,500	2,090	16,200	3,200	0.883	41.2	124	737	409.7	C	nC	C	C	c3	c4	c3	c1
HY 1000 x 450	HY1000 x 450 x 22 x 40	448	1000	450	22	40	30	860.0	5.63	39.1	989,000	60,900	41.6	10.3	19,800	2,700	22,300	4,170	0.888	26.5	140	2,400	570.1	C	C	C	C	c1	c4	c1	c1
	HY1000 x 450 x 22 x 36	421	1000	450	22	36	30	868.0	6.25	39.5	916,000	54,800	41.3	10.1	18,300	2,430	20,700	3,770	0.882	29.2	127	1,880	535.9	C	C	C	C	c1	c4	c1	c1
	HY1000 x 450 x 22 x 32	394	1000	450	22	32	30	876.0	7.03	39.8	842,000	48,700	41.0	9.85	16,800	2,160	19,100	3,370	0.874	32.2	114	1,460	501.6	C	C	C	C	c1	c4	c1	c1
	HY1000 x 450 x 19 x 40	426	1000	450	19	40	30	860.0	5.63	45.3	969,000	60,800	42.3	10.6	19,400	2,700	21,700	4,150	0.897	26.7	140	2,250	542.5	C	C	C	C	c1	c4	c1	c1
	HY1000 x 450 x 19 x 36	399	1000	450	19	36	30	868.0	6.25	45.7	896,000	54,800	42.0	10.4	17,900	2,430	20,100	3,740	0.891	29.6	127	1,730	508.0	C	C	C	C	c1	c4	c1	c1
	HY1000 x 450 x 19 x 32	372	1000	450	19	32	30	876.0	7.03	46.1	821,000	48,700	41.6	10.1	16,400	2,160	18,500	3,340	0.884	32.9	114	1,320	473.6	C	C	C	C	c1	c4	c1	c1
	HY1000 x 450 x 19 x 28	345	1000	450	19	28	30	884.0	8.04	46.5	745,000	42,600	41.2	9.85	14,900	1,890	16,800	2,930	0.875	36.7	101	985	439.1	C	C	C	C	c1	c4	c1	c1
	HY1000 x 450 x 19 x 25 *	324	1000	450	19	25	30	890.0	9.00	46.8	688,000	38,000	40.8	9.60	13,800	1,690	15,600	2,630	0.868	40.0	90.4	788	413.2	C	C	C	C	c1	c4	c1	c1
	HY1000 x 450 x 16 x 32	350	1000	450	16	32	30	876.0	7.03	54.8	801,000	48,700	42.4	10.5	16,000	2,160	17,800	3,310	0.894	33.3	114	1,210	445.5	C	C	C	C	c1	c4	c1	c1
	HY1000 x 450 x 16 x 28	322	1000	450	16	28	30	884.0	8.04	55.3	724,000	42,600	42.0	10.2	14,500	1,890	16,200	2,910	0.887	37.6	101	880	410.8	C	C	C	C	c1	c4	c1	c1
	HY1000 x 450 x 16 x 25 *	302	1000	450	16	25	30	890.0	9.00	55.6	666,000	38,000	41.6	9.94	13,300	1,690	14,900	2,600	0.880	41.4	90.4	685	384.7	C	C	C	C	c2	c4	c2	c1
HY 950 x 500	HY950 x 500 x 22 x 40 *	470	950	500	22	40	30	810.0	6.25	36.8	964,000	83,400	40.1	11.8	20,300	3,340	22,700	5,120	0.892	24.8	173	2,590	599.1	C	C	C	C	c1	c4	c1	c1
	HY950 x 500 x 22 x 36 *	440	950	500	22	36	30	818.0	6.94	37.2	891,000	75,100	39.9	11.6	18,800	3,000	21,000	4,620	0.886	27.3	157	2,020	560.9	C	C	C	C	c1	c4	c1	c1
	HY950 x 500 x 22 x 32 *	410	950	500	22	32	30	826.0	7.81	37.5	817,000	66,800	39.5	11.3	17,200	2,670	19,300	4,120	0.879	30.2	141	1,550	522.6	C	C	C	C	c1	c4	c1	c1
	HY950 x 500 x 19 x 36 *	420	950	500	19	36	30	818.0	6.94	43.1	874,000	75,100	40.4	11.9	18,400	3,000	20,400	4,590	0.895	27.6	157	1,880	534.5	C	C	C	C	c1	c4	c1	c1
	HY950 x 500 x 19 x 32 *	389	950	500	19	32	30	826.0	7.81	43.5	799,000	66,700	40.1	11.6	16,800	2,670	18,800	4,090	0.888	30.8	141	1,410	496.1	C	C	C	C	c1	c4	c1	c1
	HY950 x 500 x 19 x 28 *	359	950	500	19	28	30	834.0	8.93	43.9	723,000	58,400	39.8	11.3	15,200	2,340	17,000	3,590	0.880	34.5	124	1,050	457.6	C	C	C	C	c2	c4	c2	c1
	HY950 x 500 x 19 x 25 *	337	950	500	19	25	30	840.0	10.00	44.2	666,000	52,200	39.4	11.0	14,000	2,090	15,800	3,220	0.873	37.7	112	828	428.7	C	nC	C	C	c3	c4	c3	c1
	HY950 x 500 x 16 x 28 *	338	950	500	16	28	30	834.0	8.93	52.1	705,000	58,400	40.5	11.6	14,900	2,340	16,400	3,570	0.891	35.2	124	947	430.8	C	C	C	C	c2	c4	c2	c1
	HY950 x 500 x 16 x 25 *	315	950	500	16	25	30	840.0	10.00	52.5	647,000	52,100	40.1	11.4	13,600	2,090	15,100	3,190	0.884	38.9	112	730	401.7	C	nC	C	C	c3	c4	c3	c1
HY 950 x 450	HY950 x 450 x 22 x 40 *	439	950	450	22	40	30	810.0	5.63	36.8	881,000	60,900	39.7	10.4	18,500	2,700	20,900	4,170	0.890	25.0	126	2,380	559.1	C	C	C	C	c1	c4	c1	c1
	HY950 x 450 x 22 x 36 *	412	950	450	22	36	30	818.0	6.25	37.2	816,000	54,800	39.4	10.2	17,200	2,430	19,400	3,760	0.883	27.5	114	1,860	524.9	C	C	C	C	c1	c4	c1	c1
	HY950 x 450 x 22 x 32 *	385	950	450	22	32	30	826.0	7.03	37.5	749,000	48,700	39.1	10.0	15,800	2,160	17,900	3,360	0.876	30.3	103	1,440	490.6	C	C	C	C	c1	c4	c1	c1
	HY950 x 450 x 19 x 40 *	418	950	450	19	40	30	810.0	5.63	42.6	864,000	60,800	40.3	10.7	18,200	2,700	20,300	4,140	0.898	25.2	126	2,240	533.0	C	C	C	C	c1	c4	c1	c1
	HY950 x 450 x 19 x 36 *	391	950	450	19	36	30	818.0	6.25	43.1	799,000	54,700	40.0	10.5	16,800	2,430	18,800	3,740	0.892	27.9	114	1,720	498.5	C	C	C	C	c1	c4	c1	c1
	HY950 x 450 x 19 x 32 *	364	950	450	19	32	30	826.0	7.03	43.5	732,000	48,700	39.7	10.2	15,400	2,160	17,300	3,330	0.885	31.0	103	1,300	464.1	C	C	C	C	c1	c4	c1	c1
	HY950 x 450 x 19 x 28 *	337	950	450	19	28	30	834.0	8.04	43.9	664,000	42,600	39.3	10.0	14,000	1,890	15,800	2,930	0.877	34.7	90.5	974	429.6	C	C	C	C	c1	c4	c1	c1
	HY950 x 450 x 16 x 32 *	343	950	450	16	32	30	826.0	7.03	51.6	714,000	48,600	40.4	10.5	15,000	2,160	16,700	3,310	0.896	31.4	102	1,200	437.5	C	C	C	C	c1	c4	c1	c1
	HY950 x 450 x 16 x 28 *	316	950	450	16	28	30	834.0	8.04	52.1	646,000	42,600	40.0	10.3	13,600	1,890	15,200	2,900	0.888	35.5	90.5	873	402.8	C	C	C	C	c1	c4	c1	c1
	HY950 x 450 x 16 x 25 *	296	950	450	16	25	30	840.0	9.00	52.5	594,000	38,000	39.7	10.0	12,500	1,690	14,000	2,600	0.881	39.0	81.3	678	376.7	C	C	C	C	c2	c4	c2	c1
HY 900 x 500	HY900 x 500 x 22 x 40	462	900	500	22	40	30	760.0	6.25	34.5	854,000	83,400	38.1	11.9	19,000	3,340	21,200	5,110	0.893	23.3	154	2,570	588.1	C	C	C	C	c1	c3	c1	c1
	HY900 x 500 x 22 x 36	432	900	500	22	36	30	768.0	6.94	34.9	789,000	75,100	37.9	11.7	17,500	3,000	19,600	4,610	0.887	25.7	140	2,000	549.9	C	C	C	C	c1	c4	c1	c1
	HY900 x 500 x 22 x 32	402	900	500	22	32	30	776.0	7.81	35.3	723,000	66,800	37.6	11.4	16,100	2,670	18,000	4,110	0.880	28.4	126	1,530	511.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 500 x 22 x 28 *	372	900	500	22	28	30	784.0	8.93	35.6	656,000	58,400	37.2	11.1	14,600	2,340	16,400	3,620	0.872	31.5	111	1,160	473.4	C	C	C	C	c2	c4	c2	c1
	HY900 x 500 x 19 x 36	412	900	500	19	36	30	768.0	6.94	40.4	775,000	75,100	38.4	12.0	17,200	3,000	19,100	4,590	0.895	26.0	140	1,870	525.0	C	C	C	C	c1	c4	c1	c1
	HY900 x 500 x 19 x 32	382	900	500	19	32	30	776.0	7.81	40.8	709,000	66,700	38.2	11.7	15,700	2,670	17,500	4,090	0.889	29.0	126	1,400	486.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 500 x 19 x 28	352	900	500	19	28	30	784.0	8.93	41.3	641,000	58,400	37.8	11.4	14,200	2,340	15,900	3,590	0.881	32.5	111	1,040	448.1	C	C	C	C	c2	c4	c2	c1
	HY900 x 500 x 19 x 25 *	329	900	500	19	25	30	790.0	10.00	41.6	589,000	52,200	37.5	11.2	13,100	2,090	14,700	3,210	0.875	35.5	99.8	817	419.2	C	nC	C	C	c3	c4	c3	c1
	HY900 x 500 x 16 x 32	362	900	500	16	32	30	776.0	7.81	48.5	694,000	66,700	38.8	12.0	15,400	2,670	17,000	4,060	0.898	29.2	126	1,300	461.5	C	C	C	C	c1	c4	c1	c1
	HY900 x 500 x 16 x 28	332	900	500	16	28	30	784.0	8.93	49.0	626,000	58,400	38.5	11.8	13,900	2,340	15,400	3,570	0.891	33.1	111	940	422.8	C	C	C	C	c2	c4	c2	c1
	HY900 x 500 x 16 x 25 *	309	900	500	16	25	30	790.0	10.00	49.4	574,000	52,100	38.2	11.5	12,800	2,090	14,200	3,190	0.885	36.6	99.8	723	393.7	C	nC	C	C	c3	c4	c3	c1
HY 900 x 450	HY900 x 450 x 22 x 40	430	900	450	22	40	30	760.0	5.63	34.5	780,000	60,800	37.7	10.5	17,300	2,700	19,500	4,160	0.891	23.5	113	2,360	548.1	C	C	C	C	c1	c3	c1	c1
	HY900 x 450 x 22 x 36	403	900	450	22	36	30	768.0	6.25	34.9	722,000	54,800	37.5	10.3	16,000	2,430	18,100	3,760	0.885	25.8	102	1,840	513.9	C	C	C	C	c1	c4	c1	c1
	HY900 x 450 x 22 x 32	376	900	450	22	32	30	776.0	7.03	35.3	663,000	48,700	37.2	10.1	14,700	2,160	16,700	3,350	0.878	28.5	91.7	1,420	479.6	C	C	C	C	c1	c4	c1	c1
	HY900 x 450 x 19 x 40	411	900	450	19	40	30	760.0	5.63	40.0	766,000	60,800	38.3	10.8	17,000	2,700	19,000	4,140	0.900	23.6	112	2,220	523.5	C	C	C	C	c1	c4	c1	c1
	HY900 x 450 x 19 x 36	384	900	450	19	36	30	768.0	6.25	40.4	708,000	54,700	38.0	10.6	15,700	2,430	17,600	3,730	0.894	26.2	102	1,710	489.0	C	C	C	C	c1	c4	c1	c1
	HY900 x 450 x 19 x 32	357	900	450	19	32	30	776.0	7.03	40.8	648,000	48,700	37.8	10.3	14,400	2,160	16,100	3,330	0.887	29.1	91.7	1,290	454.6	C	C	C	C	c1	c4	c1	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

Dimensions and Properties



MEGA NSHYPER BEAM™ [50mm Incremental Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Depth between Fillets	Ratios for Local Buckling		Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Buckling Parameter	Torsional Index	Warping Constant	Torsional Constant	Area of Section	Section Classification							
																								AISC360-16				BS EN 1993-1-1			
																								A572 Gr50, A992				S355			
																								Axial Compression		Pure Bending		Axial Compression		Pure Bending	
		kg/m	D mm	B mm	Web t mm	Flange T mm	r mm	d=(D-2R) mm	Flange B/T for AISC	Web d/t for AISC	Axis x-x Ix cm^4	Axis y-y Iy cm^4	Axis x-x rx cm	Axis y-y ry cm	Axis x-x Zx cm^3	Axis y-y Zy cm^3	Axis x-x Sx cm^3	Axis y-y Sy cm^3	u	x	H dm^6	J cm^4	A cm^2	Flange	Web	Flange	Web	Flange	Web	Flange	Web
HY 900 x 450	HY900 x 450 x 19 x 28	330	900	450	19	28	30	784.0	8.04	41.3	588,000	42,600	37.4	10.1	13,100	1,890	14,700	2,920	0.879	32.6	81.0	963	420.1	C	C	C	C	c1	c4	c1	c1
	HY900 x 450 x 16 x 32	337	900	450	16	32	30	776.0	7.03	48.5	634,000	48,600	38.4	10.6	14,100	2,160	15,600	3,300	0.897	29.5	91.6	1,190	429.5	C	C	C	C	c1	c4	c1	c1
	HY900 x 450 x 16 x 28	310	900	450	16	28	30	784.0	8.04	49.0	573,000	42,600	38.1	10.4	12,700	1,890	14,200	2,900	0.890	33.3	80.9	867	394.8	C	C	C	C	c1	c4	c1	c1
	HY900 x 450 x 16 x 25 *	289	900	450	16	25	30	790.0	9.00	49.4	526,000	38,000	37.8	10.2	11,700	1,690	13,100	2,600	0.883	36.7	72.8	671	368.7	C	C	C	C	c2	c4	c2	c1
HY 850 x 500	HY850 x 500 x 22 x 40 *	453	850	500	22	40	30	710.0	6.25	32.3	751,000	83,400	36.1	12.0	17,700	3,340	19,800	5,110	0.893	21.8	137	2,560	577.1	C	C	C	C	c1	c3	c1	c1
	HY850 x 500 x 22 x 36 *	423	850	500	22	36	30	718.0	6.94	32.6	694,000	75,100	35.9	11.8	16,300	3,000	18,300	4,610	0.887	24.0	124	1,980	538.9	C	C	C	C	c1	c3	c1	c1
	HY850 x 500 x 22 x 32 *	393	850	500	22	32	30	726.0	7.81	33.0	636,000	66,800	35.6	11.5	15,000	2,670	16,800	4,110	0.881	26.6	112	1,510	500.6	C	C	C	C	c1	c3	c1	c1
	HY850 x 500 x 19 x 36 *	405	850	500	19	36	30	718.0	6.94	37.8	683,000	75,100	36.4	12.1	16,100	3,000	17,800	4,580	0.895	24.3	124	1,850	515.5	C	C	C	C	c1	c4	c1	c1
	HY850 x 500 x 19 x 32 *	375	850	500	19	32	30	726.0	7.81	38.2	624,000	66,700	36.2	11.8	14,700	2,670	16,300	4,080	0.889	27.1	112	1,390	477.1	C	C	C	C	c1	c4	c1	c1
	HY850 x 500 x 19 x 28 *	344	850	500	19	28	30	734.0	8.93	38.6	564,000	58,400	35.9	11.5	13,300	2,340	14,800	3,580	0.882	30.5	98.7	1,020	438.6	C	C	C	C	c2	c4	c2	c1
	HY850 x 500 x 19 x 25 *	322	850	500	19	25	30	740.0	10.00	38.9	519,000	52,200	35.6	11.3	12,200	2,090	13,700	3,210	0.875	33.3	88.7	806	409.7	C	nC	C	C	c3	c4	c3	c1
	HY850 x 500 x 16 x 32 *	356	850	500	16	32	30	726.0	7.81	45.4	612,000	66,700	36.7	12.1	14,400	2,670	15,900	4,060	0.898	27.4	112	1,300	453.5	C	C	C	C	c1	c4	c1	c1
	HY850 x 500 x 16 x 28 *	326	850	500	16	28	30	734.0	8.93	45.9	552,000	58,400	36.5	11.9	13,000	2,340	14,300	3,560	0.892	31.0	98.6	933	414.8	C	C	C	C	c2	c4	c2	c1
	HY850 x 500 x 16 x 25 *	303	850	500	16	25	30	740.0	10.00	46.3	506,000	52,100	36.2	11.6	11,900	2,090	13,200	3,190	0.886	34.3	88.7	717	385.7	C	nC	C	C	c3	c4	c3	c1
	HY850 x 500 x 14 x 25 *	290	850	500	14	25	30	740.0	10.00	52.9	497,000	52,100	36.7	11.9	11,700	2,080	12,900	3,170	0.893	34.7	88.7	671	369.7	C	nC	C	C	c3	c4	c3	c1
HY 850 x 450	HY850 x 450 x 22 x 40 *	422	850	450	22	40	30	710.0	5.63	32.3	686,000	60,800	35.7	10.6	16,100	2,700	18,100	4,160	0.892	22.0	99.8	2,340	537.1	C	C	C	C	c1	c3	c1	c1
	HY850 x 450 x 22 x 36 *	395	850	450	22	36	30	718.0	6.25	32.6	635,000	54,800	35.5	10.4	14,900	2,430	16,800	3,750	0.886	24.2	90.7	1,830	502.9	C	C	C	C	c1	c3	c1	c1
	HY850 x 450 x 22 x 32 *	368	850	450	22	32	30	726.0	7.03	33.0	583,000	48,700	35.3	10.2	13,700	2,160	15,500	3,350	0.879	26.8	81.5	1,410	468.6	C	C	C	C	c1	c3	c1	c1
	HY850 x 450 x 19 x 40 *	403	850	450	19	40	30	710.0	5.63	37.4	674,000	60,800	36.2	10.9	15,900	2,700	17,700	4,130	0.900	22.1	99.8	2,210	514.0	C	C	C	C	c1	c4	c1	c1
	HY850 x 450 x 19 x 36 *	376	850	450	19	36	30	718.0	6.25	37.8	623,000	54,700	36.0	10.7	14,700	2,430	16,400	3,730	0.895	24.5	90.7	1,700	479.5	C	C	C	C	c1	c4	c1	c1
	HY850 x 450 x 19 x 32 *	349	850	450	19	32	30	726.0	7.03	38.2	570,000	48,700	35.8	10.5	13,400	2,160	15,000	3,320	0.888	27.3	81.4	1,280	445.1	C	C	C	C	c1	c4	c1	c1
	HY850 x 450 x 19 x 28 *	322	850	450	19	28	30	734.0	8.04	38.6	517,000	42,600	35.5	10.2	12,200	1,890	13,700	2,920	0.880	30.6	71.9	951	410.6	C	C	C	C	c1	c4	c1	c1
	HY850 x 450 x 19 x 25 *	302	850	450	19	25	30	740.0	9.00	38.9	476,000	38,000	35.2	9.94	11,200	1,690	12,600	2,620	0.874	33.4	64.7	754	384.7	C	C	C	C	c1	c4	c1	c1
	HY850 x 450 x 16 x 32 *	331	850	450	16	32	30	726.0	7.03	45.4	558,000	48,600	36.4	10.7	13,100	2,160	14,500	3,300	0.898	27.6	81.4	1,190	421.5	C	C	C	C	c1	c4	c1	c1
	HY850 x 450 x 16 x 28 *	304	850	450	16	28	30	734.0	8.04	45.9	504,000	42,600	36.1	10.5	11,900	1,890	13,200	2,900	0.891	31.2	71.9	860	386.8	C	C	C	C	c1	c4	c1	c1
	HY850 x 450 x 16 x 25 *	283	850	450	16	25	30	740.0	9.00	46.3	463,000	38,000	35.8	10.3	10,900	1,690	12,100	2,590	0.884	34.4	64.7	664	360.7	C	C	C	C	c2	c4	c2	c1
	HY850 x 450 x 14 x 28 *	291	850	450	14	28	30	734.0	8.04	52.4	496,000	42,600	36.6	10.7	11,700	1,890	12,900	2,880	0.898	31.5	71.9	813	370.9	C	C	C	C	c1	c4	c1	c1
	HY850 x 450 x 14 x 25 *	271	850	450	14	25	30	740.0	9.00	52.9	455,000	38,000	36.3	10.5	10,700	1,690	11,800	2,580	0.892	34.9	64.7	619	344.7	C	C	C	C	c2	c4	c2	c1
HY 800 x 500	HY800 x 500 x 22 x 40 *	444	800	500	22	40	30	660.0	6.25	30.0	656,000	83,400	34.0	12.1	16,400	3,340	18,300	5,100	0.892	20.3	120	2,540	566.1	C	C	C	C	c1	c2	c1	c1
	HY800 x 500 x 22 x 36 *	414	800	500	22	36	30	668.0	6.94	30.4	606,000	75,100	33.9	11.9	15,200	3,000	16,900	4,600	0.887	22.4	110	1,960	527.9	C	C	C	C	c1	c2	c1	c1
	HY800 x 500 x 22 x 32 *	384	800	500	22	32	30	676.0	7.81	30.7	555,000	66,800	33.7	11.7	13,900	2,670	15,500	4,100	0.881	24.9	98.4	1,500	489.6	C	C	C	C	c1	c2	c1	c1
	HY800 x 500 x 19 x 36 *	397	800	500	19	36	30	668.0	6.94	35.2	597,000	75,100	34.3	12.2	14,900	3,000	16,500	4,580	0.895	22.7	110	1,840	506.0	C	C	C	C	c1	c4	c1	c1
	HY800 x 500 x 19 x 32 *	367	800	500	19	32	30	676.0	7.81	35.6	545,000	66,700	34.2	11.9	13,600	2,670	15,100	4,080	0.889	25.3	98.4	1,380	467.6	C	C	C	C	c1	c4	c1	c1
	HY800 x 500 x 19 x 28 *	337	800	500	19	28	30	684.0	8.93	36.0	493,000	58,400	33.9	11.7	12,300	2,340	13,700	3,580	0.882	28.5	87.0	1,010	429.1	C	C	C	C	c2	c4	c2	c1
	HY800 x 500 x 19 x 25 *	314	800	500	19	25	30	690.0	10.00	36.3	453,000	52,100	33.6	11.4	11,300	2,090	12,600	3,210	0.876	31.2	78.3	794	400.2	C	nC	C	C	c3	c4	c3	c1
	HY800 x 500 x 16 x 32 *	350	800	500	16	32	30	676.0	7.81	42.3	535,000	66,700	34.7	12.2	13,400	2,670	14,700	4,060	0.898	25.6	98.4	1,290	445.5	C	C	C	C	c1	c4	c1	c1
	HY800 x 500 x 16 x 28 *	319	800	500	16	28	30	684.0	8.93	42.8	483,000	58,400	34.4	12.0	12,100	2,340	13,300	3,560	0.891	29.0	87.0	926	406.8	C	C	C	C	c2	c4	c2	c1
	HY800 x 500 x 16 x 25 *	296	800	500	16	25	30	690.0	10.00	43.1	442,000	52,100	34.2	11.7	11,100	2,090	12,200	3,180	0.886	32.0	78.3	710	377.7	C	nC	C	C	c3	c4	c3	c1
	HY800 x 500 x 16 x 28 *	319	800	500	16	28	30	684.0	8.93	42.8	483,000	58,400	34.4	12.0	12,100	2,340	13,300	3,560	0.891	29.0	87.0	926	406.8	C	C	C	C	c2	c4	c2	c1
	HY800 x 500 x 14 x 25 *	285	800	500	14	25	30	690.0	10.00	49.3	435,000	52,100	34.6	12.0	10,900	2,080	11,900	3,170	0.893	32.4	78.3	666	362.7	C	nC	C	C	c3	c4	c3	c1
HY 800 x 450	HY800 x 450 x 22 x 40 *	413	800	450	22	40	30	660.0	5.63	30.0	598,000	60,800	33.7	10.8	15,000	2,700	16,800	4,150	0.893	20.5	87.9	2,320	526.1	C	C	C	C	c1	c2	c1	c1
	HY800 x 450 x 22 x 36 *	386	800	450	22	36	30	668.0	6.25	30.4	554,000	54,800	33.6	10.6	13,800	2,430	15,600	3,750	0.887	22.6	79.9	1,810	491.9	C	C	C	C	c1	c2	c1	c1
	HY800 x 450 x 22 x 32 *	359	800	450	22	32	30	676.0	7.03	30.7	508,000	48,700	33.3	10.3	12,700	2,160	14,300	3,340	0.880	25.0	71.8	1,390	457.6	C	C	C	C	c1	c2	c1	c1
	HY800 x 450 x 19 x 40 *	396	800	450	19	40	30	660.0	5.63	34.7	589,000	60,800	34.2	11.0	14,700	2,700	16,400	4,130	0.900	20.6	87.8	2,200	504.5	C	C	C	C	c1	c4	c1	c1
	HY800 x 450 x 19 x 36 *	369	800	450	19	36	30	668.0	6.25	35.2	544,000	54,700	34.0	10.8	13,600	2,430	15,200	3,720	0.895	22.8	79.9	1,690	470.0	C	C	C	C	c1	c4	c1	c1
	HY800 x 450 x 19 x 32 *	342	800	450	19	32	30	676.0	7.03	35.6	498,000	48,700	33.8	10.6	12,500	2,160	13,900	3,320	0.889	25.5	71.8	1,270	435.6	C	C	C	C	c1	c4	c1	c1
	HY800 x 450 x 19 x 28 *	315	800	450	19	28	30	684.0	8.04	36.0	451,000	42,600	33.5	10.3	11,300	1,890	12,600	2,910	0.881	28.6	63.5	940	401.1	C	C	C	C	c1	c4	c1	c1
	HY800 x 450 x 16 x 32 *	325	800	450	16	32	30	676.0	7.03	42.3	488,000	48,600	34.4	10.8	12,200	2,160	13,500	3,300	0.898	25.7	71.7	1,180	413.5	C	C	C	C	c1	c4	c1	c1
	HY800 x 450 x 16 x 28 *	297	800	450	16	28	30	684.0	8.04	42.8	441,000	42,600	34.1	10.6	11,000	1,890	12,200	2,890	0.891	29.1	63.4	853	378.8	C	C	C	C	c1	c4	c1	c1
	HY800 x 450 x 16 x 25 *	277	800	450	16	25	30	690.0	9.00	43.1	405,000	38,000	33.9	10.4	10,100	1,690	11,300	2,590	0.885	32.1	57.1	658	352.7	C	C	C	C	c2	c4	c2	c1
	HY800 x 450 x 14 x 28 *	286	800	450	14	28	30	684.0	8.04	48.9	434,000	42,600	34.5	10.8	10,800	1,890	11,900	2,880	0.899	29.3	63.4	808	363.9	C	C	C	C	c1	c4	c1	c1
	HY800 x 450 x 14 x 25 *	265	800	450	14	25	30	690.0	9.00	49.3	398,000	38,000	34.3	10.6	9,940	1,690	11,000	2,580	0.893	32.5	57.1	614	337.7	C	C	C	C	c2	c4	c2	c1

Please contact us in advance to order these sizes with "*" mark.

[nS] non Slender [S] Slender [C] Compact [nC] not Compact [c1-4] Class1-4 [nc4] not Class4

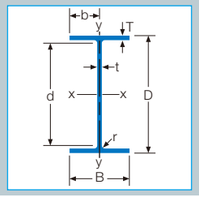
Dimensions and Properties

UB & UC sections [Metric Unit]

Nominal Size		Mass per Meter [kg/m]														
UB 1016 x 305	x	222	249	272	314	350	393	415	438	494	*584*					
UB 914 x 419	x	343	388													
UB 914 x 305	x	201	224	238	253	271	289	313	345	381	*425*	*474*	*521*	*576*		
UB 838 x 292	x	176	194	226												
UB 762 x 267	x	134	147	173	197											
UB 686 x 254	x	125	140	152	170											
UB 610 x 305	x	149	179	238												
UB 610 x 229	x	101	113	125	140											
UB 533 x 210	x	82	92	101	109	122										
UB 457 x 191	x	67	74	82												
UB 457 x 152	x	60	67	74												
UB 406 x 178	x	60	67	74												
UC 356 x 406	x	235	287	340	393	467	509	551	592	634	677	744	818	900	990	1086
UC 356 x 368	x	129	153	177	202											
UC 305 x 305	x	97	118	137	158	198	240	283								
UBP 356 x 368	x	*109*	*133*	*152*	*174*											
UBP 305 x 305	x	79	88	95	110	126	149	186	223							

Please contact us in advance to order these *underlined sizes*.

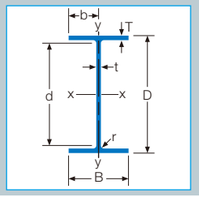
UB & UC sections [Metric Unit]



Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Area of Section	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus	
					Web	Flange			Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y
		kg/m	D mm	B mm	t mm	T mm	r mm	A cm^2	Ix cm^4	Iy cm^4	rx cm	ry cm	Zx cm^3	Zy cm^3	Sx cm^3	Sy cm^3
UB 1016 x 305 x	584 *	584.0	1,056.0	314.0	36.0	64.0	30.0	743.7	1,250,000	33,400	40.9	6.70	23,600	2,130	28,000	3,470
	494	494.0	1,036.0	309.0	31.0	54.0	30.0	629.1	1,030,000	26,800	40.4	6.53	19,800	1,740	23,400	2,820
	438	438.0	1,026.0	305.0	26.9	49.0	30.0	556.3	909,000	23,400	40.4	6.48	17,700	1,530	20,700	2,460
	415	415.0	1,020.0	304.0	26.0	46.0	30.0	528.7	853,000	21,700	40.2	6.41	16,700	1,430	19,600	2,300
	393	393.0	1,016.0	303.0	24.4	43.9	30.0	500.2	808,000	20,500	40.2	6.40	15,900	1,350	18,500	2,170
	350	350.0	1,008.0	302.0	21.1	40.0	30.0	445.1	723,000	18,500	40.3	6.44	14,300	1,220	16,600	1,940
	314	314.0	1,000.0	300.0	19.1	35.9	30.0	400.4	644,000	16,200	40.1	6.37	12,900	1,080	14,900	1,710
	272	272.0	990.0	300.0	16.5	31.0	30.0	346.8	554,000	14,000	40.0	6.35	11,200	934	12,800	1,470
	249	249.0	980.0	300.0	16.5	26.0	30.0	316.8	481,000	11,800	39.0	6.09	9,820	784	11,300	1,240
	222	222.0	970.0	300.0	16.0	21.1	30.0	282.8	408,000	9,550	38.0	5.81	8,410	636	9,800	1,020
UB 914 x 419 x	388	388.0	921.0	420.5	21.4	36.6	18.0	492.0	716,000	45,400	38.1	9.61	15,500	2,160	17,600	3,340
	343	343.3	911.8	418.5	19.4	32.0	18.0	435.1	622,000	39,100	37.8	9.49	13,600	1,870	15,400	2,890
UB 914 x 305 x	576	576.0	993.0	322.0	36.1	65.0	24.0	735.1	1,110,000	36,500	38.8	7.05	22,300	2,270	26,400	3,660
	521	521.0	981.0	319.0	33.0	58.9	24.0	665.6	986,000	32,100	38.5	6.95	20,100	2,020	23,700	3,240
	474	474.0	971.0	316.0	30.0	54.1	24.0	605.7	889,000	28,700	38.3	6.88	18,300	1,810	21,500	2,910
	425	425.0	961.0	313.0	26.9	49.0	24.0	543.8	791,000	25,200	38.1	6.81	16,500	1,610	19,200	2,570
	381	381.0	951.0	310.0	24.4	43.9	24.0	487.7	700,000	21,900	37.9	6.70	14,700	1,410	17,100	2,250
	345	345.0	943.0	308.0	22.1	39.9	24.0	441.5	629,000	19,500	37.7	6.65	13,300	1,270	15,400	2,010
	313	313.0	932.0	309.0	21.1	34.5	24.0	400.2	552,000	17,000	37.1	6.53	11,800	1,100	13,700	1,750
	289	289.1	926.6	307.7	19.5	32.0	24.0	370.1	507,000	15,600	37.0	6.49	11,000	1,010	12,600	1,600
	271	271.0	923.0	307.0	18.4	30.0	24.0	347.9	475,000	14,500	36.9	6.46	10,300	946	11,900	1,490
	253	253.4	918.4	305.5	17.3	27.9	24.0	324.6	440,000	13,300	36.8	6.40	9,570	871	11,000	1,370
	238	238.0	915.0	305.0	16.5	25.9	24.0	305.4	410,000	12,300	36.6	6.34	8,960	806	10,300	1,270
	224	224.2	910.4	304.1	15.9	23.9	24.0	287.5	380,000	11,200	36.3	6.25	8,340	739	9,610	1,170
	201	200.9	903.0	303.3	15.1	20.2	24.0	257.7	329,000	9,430	35.7	6.05	7,280	622	8,430	985
UB 838 x 292 x	226	226.5	850.9	293.8	16.1	26.8	18.0	288.6	340,000	11,400	34.3	6.27	7,990	773	9,160	1,210
	194	193.8	840.7	292.4	14.7	21.7	18.0	246.9	279,000	9,070	33.6	6.06	6,640	620	7,640	974
	176	175.9	834.9	291.7	14.0	18.8	18.0	224.1	246,000	7,800	33.1	5.90	5,900	535	6,810	842
UB 762 x 267 x	197	196.8	769.8	268.0	15.6	25.4	18.0	251.1	241,000	8,180	30.9	5.71	6,250	610	7,180	959
	173	173.0	762.2	266.7	14.3	21.6	18.0	220.8	206,000	6,850	30.5	5.57	5,400	514	6,210	808
	147	146.9	754.0	265.2	12.8	17.5	18.0	187.6	169,000	5,460	30.0	5.39	4,480	411	5,170	648
	134	133.9	750.0	264.4	12.0	15.5	18.0	171.0	151,000	4,790	29.7	5.29	4,030	362	4,660	570
UB 686 x 254 x	170	170.2	692.9	255.8	14.5	23.7	18.0	217.6	171,000	6,630	28.0	5.52	4,940	519	5,660	812
	152	152.4	687.5	254.5	13.2	21.0	18.0	194.9	151,000	5,790	27.9	5.45	4,400	455	5,030	711
	140	140.1	683.5	253.7	12.4	19.0	18.0	179.2	137,000	5,180	27.7	5.38	4,010	409	4,580	639
	125	125.2	677.9	253.0	11.7	16.2	18.0	160.3	119,000	4,380	27.2	5.23	3,500	347	4,020	543
UB 610 x 305 x	238	238.1	635.8	311.4	18.4	31.4	13.0	302.4	209,000	15,800	26.3	7.24	6,570	1,020	7,460	1,570
	179	179.0	620.2	307.1	14.1	23.6	13.0	227.2	152,000	11,400	25.9	7.09	4,910	743	5,520	1,140
	149	149.1	612.4	304.8	11.8	19.7	13.0	189.2	125,000	9,310	25.7	7.01	4,090	611	4,570	936
UB 610 x 229 x	140	139.9	617.2	230.2	13.1	22.1	13.0	178.3	112,000	4,510	25.0	5.03	3,620	391	4,140	612
	125	125.1	612.2	229.0	11.9	19.6	13.0	159.4	98,700	3,930	24.9	4.97	3,220	343	3,680	535
	113	113.0	607.6	228.2	11.1	17.3	13.0	144.0	87,400	3,430	24.6	4.88	2,880	301	3,280	469
	101	101.2	602.6	227.6	10.5	14.8	13.0	129.0	75,800	2,910	24.2	4.75	2,520	256	2,880	400
UB 533 x 210 x	122	122.0	544.5	211.9	12.7	21.3	13.0	155.5	76,100	3,390	22.1	4.67	2,790	320	3,200	500
	109	109.0	539.5	210.8	11.6	18.8	13.0	138.9	66,900	2,940	21.9	4.60	2,480	279	2,830	436
	101	101.0	536.7	210.0	10.8	17.4	13.0	128.7	61,600	2,690	21.9	4.57	2,290	256	2,610	400
	92	92.1	533.1	209.3	10.1	15.6	13.0	117.4	55,300	2,390	21.7	4.51	2,070	228	2,360	356
	82	82.2	528.3	208.8	9.6	13.2	13.0	104.8	47,600	2,010	21.3	4.38	1,800	192	2,060	300
UB 457 x 191 x	82	82.0	460.0	191.3	9.9	16.0	13.0	105.0	37,300	1,870	18.8	4.22	1,620	196	1,840	304
	74	74.3	457.0	190.4	9.0	14.5	13.0	95.19	33,600	1,670	18.8	4.19	1,470	176	1,660	273
	67	67.1	453.4	189.9	8.5	12.7	13.0	86.07	29,600	1,450	18.6	4.11	1,310	153	1,480	238
UB 457 x 152 x	74	74.2	462.0	154.4	9.6	17.0	13.0	95.04	32,900	1,050	18.6	3.32	1,430	136	1,640	214
	67	67.2	458.0	153.8	9.0	15.0	13.0	86.11	29,200	913	18.4	3.26	1,270	119	1,460	187
	60	59.8	454.6	152.9	8.1	13.3	13.0	76.79	25,700	795	18.3	3.22	1,130	104	1,300	163
UB 406 x 178 x	74	74.2	412.8	179.5	9.5	16.0	12.0	94.85	27,400	1,550	17.0	4.04	1,330	172	1,510	267
	67	67.1	409.4	178.8	8.8	14.3	12.0	85.88	24,500	1,370	16.9	3.99	1,190	153	1,350	237
	60	60.1	406.4	177.9	7.9	12.8	12.0	76.86	21,700	1,200	16.8	3.96	1,070	135	1,210	209

Please contact us in advance to order these sizes with "*" mark.
Dimensions except for root radius referred to BS EN 10365.

Dimensions and Properties



UB & UC sections [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Area of Section	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus	
					Web	Flange			Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y
		kg/m	D mm	B mm	t mm	T mm	r mm	A cm^2	Ix cm^4	Iy cm^4	rx cm	ry cm	Zx cm^3	Zy cm^3	Sx cm^3	Sy cm^3
UC 356 x 406 x	1086	1,086.0	569.0	454.0	78.0	125.0	15.2	1,385.8	596,000	196,000	20.7	11.9	20,900	8,650	27,200	13,400
	990	990.0	550.0	448.0	71.9	115.0	15.2	1,262.5	519,000	173,000	20.3	11.7	18,900	7,740	24,300	12,000
	900	900.0	531.0	442.0	65.9	106.0	15.2	1,149.2	450,000	153,000	19.8	11.6	17,000	6,940	21,600	10,700
	818	818.0	514.0	437.0	60.5	97.0	15.2	1,043.4	392,000	136,000	19.4	11.4	15,300	6,200	19,300	9,560
	744	744.0	498.0	432.0	55.6	88.9	15.2	948.1	342,000	120,000	19.0	11.2	13,700	5,550	17,200	8,550
	677	677.0	483.0	428.0	51.2	81.5	15.2	863.5	299,000	107,000	18.6	11.1	12,400	4,990	15,300	7,680
	634	633.9	474.6	424.0	47.6	77.0	15.2	807.5	275,000	98,100	18.4	11.0	11,600	4,630	14,200	7,110
	592	592.0	465.0	421.0	45.0	72.3	15.2	754.9	250,000	90,200	18.2	10.9	10,800	4,280	13,100	6,570
	551	551.0	455.6	418.5	42.1	67.5	15.2	701.9	227,000	82,700	18.0	10.9	9,960	3,950	12,100	6,060
	509	509.0	446.0	416.0	39.1	62.7	15.2	649.0	205,000	75,400	17.8	10.8	9,170	3,630	11,000	5,550
	467	467.0	436.6	412.2	35.8	58.0	15.2	594.9	183,000	67,800	17.5	10.7	8,380	3,290	10,000	5,030
	393	393.0	419.0	407.0	30.6	49.2	15.2	500.6	147,000	55,400	17.1	10.5	7,000	2,720	8,220	4,150
	340	339.9	406.4	403.0	26.6	42.9	15.2	433.0	123,000	46,900	16.8	10.4	6,030	2,330	7,000	3,540
	287	287.1	393.6	399.0	22.6	36.5	15.2	365.7	99,900	38,700	16.5	10.3	5,070	1,940	5,810	2,950
	235	235.1	381.0	394.8	18.4	30.2	15.2	299.4	79,100	31,000	16.3	10.2	4,150	1,570	4,690	2,380
UC 356 x 368 x	202	201.9	374.6	374.7	16.5	27.0	15.2	257.2	66,300	23,700	16.1	9.60	3,540	1,260	3,970	1,920
	177	177.0	368.2	372.6	14.4	23.8	15.2	225.5	57,100	20,500	15.9	9.54	3,100	1,100	3,460	1,670
	153	152.9	362.0	370.5	12.3	20.7	15.2	194.8	48,600	17,600	15.8	9.49	2,680	948	2,960	1,430
	129	129.0	355.6	368.6	10.4	17.5	15.2	164.3	40,200	14,600	15.6	9.43	2,260	793	2,480	1,200
UC 305 x 305 x	283	282.9	365.3	322.2	26.8	44.1	15.2	360.4	78,900	24,600	14.8	8.27	4,320	1,530	5,110	2,340
	240	240.0	352.5	318.4	23.0	37.7	15.2	305.8	64,200	20,300	14.5	8.15	3,640	1,280	4,250	1,950
	198	198.1	339.9	314.5	19.1	31.4	15.2	252.4	50,900	16,300	14.2	8.04	3,000	1,040	3,440	1,580
	158	158.1	327.1	311.2	15.8	25.0	15.2	201.4	38,700	12,600	13.9	7.90	2,370	808	2,680	1,230
	137	136.9	320.5	309.2	13.8	21.7	15.2	174.4	32,800	10,700	13.7	7.83	2,050	692	2,300	1,050
	118	117.9	314.5	307.4	12.0	18.7	15.2	150.2	27,700	9,060	13.6	7.77	1,760	589	1,960	895
	97	96.9	307.9	305.3	9.9	15.4	15.2	123.4	22,200	7,310	13.4	7.69	1,450	479	1,590	726
UBP 356 x 368 x	174 *	173.9	361.4	378.5	20.3	20.4	15.2	221.5	51,000	18,500	15.2	9.13	2,820	976	3,190	1,500
	152 *	152.0	356.4	376.0	17.8	17.9	15.2	193.7	44,000	15,900	15.1	9.05	2,470	845	2,770	1,290
	133 *	133.0	352.0	373.8	15.6	15.7	15.2	169.4	38,000	13,700	15.0	8.99	2,160	732	2,410	1,120
	109 *	108.9	346.4	371.0	12.8	12.9	15.2	138.7	30,600	11,000	14.9	8.90	1,770	592	1,960	903
UBP 305 x 305 x	223	222.9	337.9	325.7	30.3	30.4	15.2	284.0	52,700	17,600	13.6	7.87	3,120	1,080	3,650	1,680
	186	186.0	328.3	320.9	25.5	25.6	15.2	236.9	42,600	14,100	13.4	7.73	2,600	881	3,000	1,370
	149	149.1	318.5	316.0	20.6	20.7	15.2	189.9	33,100	10,900	13.2	7.58	2,080	691	2,370	1,070
	126	126.1	312.3	312.9	17.5	17.6	15.2	160.6	27,400	9,000	13.1	7.49	1,760	575	1,990	885
	110	110.0	307.9	310.7	15.3	15.4	15.2	140.1	23,600	7,710	13.0	7.42	1,530	496	1,720	762
	95	94.9	303.7	308.7	13.3	13.3	15.2	121.0	20,000	6,530	12.9	7.35	1,320	423	1,470	648
	88	88.0	301.7	307.8	12.4	12.3	15.2	112.1	18,400	5,980	12.8	7.31	1,220	389	1,360	595
	79	78.9	299.3	306.4	11.0	11.1	15.2	100.5	16,400	5,330	12.8	7.28	1,100	348	1,220	531

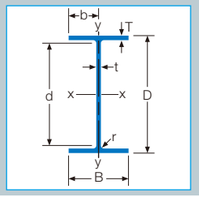
Please contact us in advance to order these sizes with "*" mark.
Dimensions except for root radius referred to BS EN 10365.

HL & HE & IPE sections [Metric Unit]

Section						
HL 1000	HL 1000 AA	HL 1000 A	HL 1000 B	HL 1000 M	HL 1000 x 443	HL 1000 x 483
	HL 1000 x 539	*HL 1000 x 554*	*HL 1000 x 591*	*HL 1000 x 642*	*HL 1000 x 748*	*HL 1000 x 883*
HL 920	HL 920 x 344	HL 920 x 368	HL 920 x 390	HL 920 x 420	HL 920 x 449	HL 920 x 491
	HL 920 x 537	*HL 920 x 588*	*HL 920 x 656*	*HL 920 x 725*	*HL 920 x 787*	*HL 920 x 970*
HE 1000	HE 1000 AA	HE 1000 x 249	HE 1000 A	HE 1000 B	HE 1000 M	HE 1000 x 393
	HE 1000 x 415	HE 1000 x 438	HE 1000 x 494	*HE 1000 x 584*		
HE 900	HE 900 AA	HE 900 A	HE 900 B	HE 900 M	*HE 900 x 391*	*HE 900 x 466*
HE 800	HE 800 AA	HE 800 A	HE 800 B	HE 800 M		
HE 700	HE 700 AA	HE 700 A	HE 700 B	HE 700 M		
HE 650	HE 650 AA	HE 650 A	HE 650 B	HE 650 M		
HE 600	HE 600 AA	HE 600 A	HE 600 B	HE 600 M		
HE 550	HE 550 AA	HE 550 A	HE 550 B	HE 550 M		
HE 500	HE 500 AA	HE 500 A	HE 500 B	HE 500 M		
HE 450	HE 450 AA	HE 450 A	HE 450 B	HE 450 M		
HE 400	HE 400 AA	HE 400 A	HE 400 B	HE 400 M		
IPE 750	*IPE 750 x 134*	*IPE 750 x 147*	*IPE 750 x 173*	*IPE 750 x 196*		
IPE 600	IPE A 600	IPE 600	IPE O 600			
IPE 550	IPE A 550	IPE 550	IPE O 550			
IPE 500	IPE A 500	IPE 500	IPE O 500			
IPE 450	IPE A 450	IPE 450	IPE O 450			
IPE 400	IPE A 400	IPE 400	IPE O 400			

Please contact us in advance to order these *underlined sizes*.

Dimensions and Properties

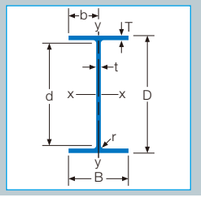


HL & HE & IPE sections [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Area of Section	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus	
					Web	Flange			Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y
		kg/m	D mm	B mm	t mm	T mm	r mm	A cm^2	Ix cm^4	Iy cm^4	rx cm	ry cm	Zx cm^3	Zy cm^3	Sx cm^3	Sy cm^3
HL 1000	HL 1000 x 883 *	883	1,092	424	45.5	82.0	30.0	1,125.3	2,100,000	105,000	43.2	9.66	38,400	4,950	45,300	7,870
	HL 1000 x 748 *	748	1,068	417	39.0	70.0	30.0	953.4	1,730,000	85,100	42.6	9.45	32,400	4,080	37,900	6,460
	HL 1000 x 642 *	642	1,048	412	34.0	60.0	30.0	817.6	1,450,000	70,300	42.1	9.27	27,700	3,410	32,100	5,380
	HL 1000 x 591 *	591	1,040	409	31.0	55.9	30.0	752.7	1,330,000	64,000	42.1	9.22	25,600	3,130	29,500	4,920
	HL 1000 x 554 *	554	1,032	408	29.5	52.0	30.0	705.8	1,230,000	59,100	41.8	9.15	23,900	2,900	27,500	4,550
	HL 1000 x 539 *	539	1,030	407	28.4	51.1	30.0	687.2	1,200,000	57,600	41.8	9.16	23,400	2,830	26,800	4,440
	HL 1000 x 483	483	1,020	404	25.4	46.0	30.0	615.1	1,070,000	50,700	41.7	9.08	20,900	2,510	23,900	3,920
	HL 1000 x 443	442	1,012	402	23.6	41.9	30.0	563.7	967,000	45,500	41.4	8.98	19,100	2,260	21,800	3,530
	HL 1000 M	412	1,008	402	21.1	40.0	30.0	525.1	910,000	43,400	41.6	9.09	18,100	2,160	20,500	3,350
	HL 1000 B	371	1,000	400	19.0	36.1	30.0	472.8	814,000	38,600	41.5	9.03	16,300	1,930	18,400	2,980
	HL 1000 A	321	990	400	16.5	31.0	30.0	408.8	696,000	33,100	41.3	9.00	14,100	1,660	15,800	2,550
	HL 1000 AA	296	982	400	16.5	27.1	30.0	377.6	620,000	29,000	40.5	8.76	12,600	1,450	14,300	2,240
HL 920	HL 920 x 970 *	972	1,043	446	50.0	89.9	24.0	1,238.5	2,100,000	134,000	41.2	10.4	40,300	6,000	47,700	9,500
	HL 920 x 787 *	788	1,011	437	40.9	73.9	24.0	1,003.9	1,650,000	103,000	40.5	10.1	32,600	4,730	38,100	7,430
	HL 920 x 725 *	726	999	434	38.1	68.1	24.0	924.8	1,500,000	93,200	40.2	10.0	29,900	4,300	34,800	6,740
	HL 920 x 656 *	657	987	431	34.5	62.0	24.0	837.1	1,340,000	83,100	40.0	9.96	27,100	3,850	31,400	6,030
	HL 920 x 588 *	589	975	427	31.0	55.9	24.0	749.9	1,180,000	72,800	39.7	9.85	24,300	3,410	27,900	5,310
	HL 920 x 537	537	965	425	28.4	51.1	24.0	684.3	1,070,000	65,600	39.5	9.79	22,200	3,090	25,300	4,800
	HL 920 x 491	491	957	422	25.9	47.0	24.0	625.1	970,000	59,000	39.4	9.72	20,300	2,800	23,100	4,340
	HL 920 x 449	450	948	423	24.0	42.7	24.0	573.2	878,000	54,000	39.1	9.70	18,500	2,550	21,000	3,950
	HL 920 x 420	421	943	422	22.5	39.9	24.0	535.9	817,000	50,100	39.0	9.67	17,300	2,370	19,600	3,670
	HL 920 x 390	389	936	420	21.3	36.6	24.0	496.2	745,000	45,300	38.8	9.55	15,900	2,160	18,000	3,330
	HL 920 x 368	367	931	419	20.3	34.3	24.0	467.4	696,000	42,100	38.6	9.49	14,900	2,010	16,900	3,110
	HL 920 x 344	345	927	418	19.3	32.0	24.0	439.0	648,000	39,000	38.4	9.43	14,000	1,870	15,800	2,880
HE 1000	HE 1000 x 584 *	584	1,056	314	36.0	64.0	30.0	743.7	1,250,000	33,400	40.9	6.70	23,600	2,130	28,000	3,470
	HE 1000 x 494	494	1,036	309	31.0	54.0	30.0	629.1	1,030,000	26,800	40.4	6.53	19,800	1,740	23,400	2,820
	HE 1000 x 438	437	1,026	305	26.9	49.0	30.0	556.3	909,000	23,400	40.4	6.48	17,700	1,530	20,700	2,460
	HE 1000 x 415	415	1,020	304	26.0	46.0	30.0	528.7	853,000	21,700	40.2	6.41	16,700	1,430	19,600	2,300
	HE 1000 x 393	393	1,016	303	24.4	43.9	30.0	500.2	808,000	20,500	40.2	6.40	15,900	1,350	18,500	2,170
	HE 1000 M	349	1,008	302	21.0	40.0	30.0	444.2	722,000	18,500	40.3	6.45	14,300	1,220	16,600	1,940
	HE 1000 B	314	1,000	300	19.0	36.0	30.0	400.0	645,000	16,300	40.1	6.38	12,900	1,090	14,900	1,720
	HE 1000 A	272	990	300	16.5	31.0	30.0	346.8	554,000	14,000	40.0	6.35	11,200	934	12,800	1,470
	HE 1000 x 249	249	980	300	16.5	26.0	30.0	316.8	481,000	11,800	39.0	6.09	9,820	784	11,300	1,240
	HE 1000 AA	222	970	300	16.0	21.0	30.0	282.2	406,000	9,500	38.0	5.80	8,380	633	9,780	1,020
HE 900	HE 900 x 466 *	462	938	312	30.0	54.0	18.0	588.7	807,000	27,500	37.0	6.84	17,200	1,760	20,200	2,820
	HE 900 x 391 *	387	922	307	25.0	46.0	18.0	492.7	666,000	22,300	36.8	6.73	14,500	1,450	16,800	2,300
	HE 900 M	329	910	302	21.0	40.0	18.0	418.7	562,000	18,400	36.6	6.64	12,400	1,220	14,200	1,920
	HE 900 B	288	900	300	18.5	35.0	18.0	366.3	486,000	15,800	36.4	6.57	10,800	1,050	12,400	1,650
	HE 900 A	248	890	300	16.0	30.0	18.0	315.6	414,000	13,500	36.2	6.55	9,300	902	10,600	1,410
	HE 900 AA	194	870	300	15.0	20.0	18.0	247.3	293,000	9,030	34.4	6.04	6,730	602	7,800	950
HE 800	HE 800 M	313	814	303	21.0	40.0	18.0	399.3	436,000	18,600	33.1	6.83	10,700	1,230	12,300	1,920
	HE 800 B	258	800	300	17.5	33.0	18.0	329.2	353,000	14,900	32.7	6.72	8,820	993	10,100	1,540
	HE 800 A	220	790	300	15.0	28.0	18.0	280.9	297,000	12,600	32.5	6.70	7,520	842	8,520	1,300
	HE 800 AA	168	770	300	14.0	18.0	18.0	213.5	203,000	8,120	30.8	6.17	5,260	541	6,050	849
HE 700	HE 700 M	298	716	304	21.0	40.0	18.0	379.5	326,000	18,800	29.3	7.04	9,100	1,240	10,400	1,920
	HE 700 B	238	700	300	17.0	32.0	18.0	302.9	254,000	14,400	28.9	6.90	7,240	962	8,220	1,490
	HE 700 A	202	690	300	14.5	27.0	18.0	257.0	212,000	12,200	28.7	6.88	6,140	811	6,920	1,250
	HE 700 AA	147	670	300	13.0	17.0	18.0	187.5	139,000	7,670	27.3	6.39	4,160	511	4,730	795
HE 650	HE 650 M	290	668	305	21.0	40.0	13.0	368.9	278,000	19,000	27.4	7.17	8,310	1,240	9,520	1,930
	HE 650 B	221	650	300	16.0	31.0	13.0	281.5	207,000	14,000	27.1	7.04	6,360	931	7,180	1,430
	HE 650 A	186	640	300	13.5	26.0	13.0	236.8	171,000	11,700	26.9	7.03	5,350	781	6,000	1,200
	HE 650 AA	134	620	300	12.5	16.0	13.0	171.0	110,000	7,210	25.4	6.49	3,550	481	4,020	744

Please contact us in advance to order these sizes with "*" mark.
Dimensions except for root radius referred to BS EN 10365.

HL & HE & IPE sections [Metric Unit]

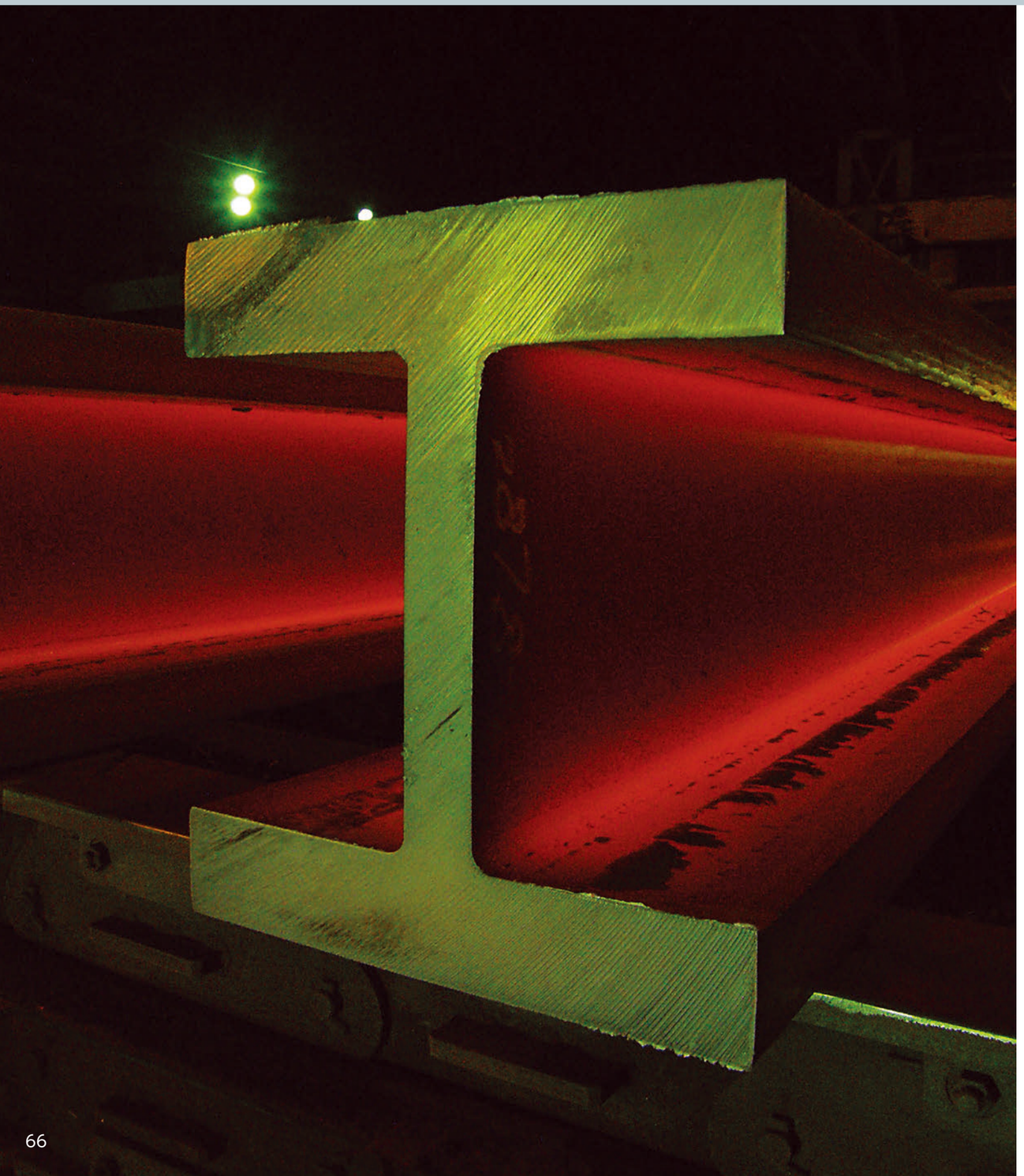


Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Area of Section	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus	
					Web	Flange			Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y
		kg/m	D mm	B mm	t mm	T mm	r mm	A cm^2	Ix cm^4	Iy cm^4	rx cm	ry cm	Zx cm^3	Zy cm^3	Sx cm^3	Sy cm^3
HE 600	HE 600 M	282	620	305	21.0	40.0	13.0	358.9	234,000	19,000	25.5	7.27	7,550	1,240	8,650	1,920
	HE 600 B	208	600	300	15.5	30.0	13.0	265.2	168,000	13,500	25.2	7.14	5,590	901	6,300	1,380
	HE 600 A	174	590	300	13.0	25.0	13.0	221.7	138,000	11,300	24.9	7.13	4,670	751	5,220	1,150
	HE 600 AA	125	571	300	12.0	15.5	13.0	159.3	88,500	6,980	23.6	6.62	3,100	466	3,500	718
HE 550	HE 550 M	274	572	306	21.0	40.0	13.0	349.6	195,000	19,100	23.6	7.40	6,830	1,250	7,820	1,930
	HE 550 B	196	550	300	15.0	29.0	13.0	249.3	134,000	13,100	23.2	7.24	4,870	871	5,480	1,330
	HE 550 A	162	540	300	12.5	24.0	13.0	207.0	109,000	10,800	23.0	7.23	4,040	721	4,510	1,100
	HE 550 AA	116	522	300	11.5	15.0	13.0	148.0	70,100	6,760	21.8	6.76	2,690	450	3,010	693
HE 500	HE 500 M	266	524	306	21.0	40.0	13.0	339.5	160,000	19,100	21.7	7.51	6,100	1,250	6,990	1,920
	HE 500 B	184	500	300	14.5	28.0	13.0	233.8	105,000	12,600	21.2	7.34	4,200	841	4,710	1,280
	HE 500 A	151	490	300	12.0	23.0	13.0	192.7	84,800	10,400	21.0	7.33	3,460	691	3,850	1,050
	HE 500 AA	104	472	300	10.5	14.0	13.0	132.1	52,400	6,310	19.9	6.91	2,220	420	2,470	643
HE 450	HE 450 M	260	478	307	21.0	40.0	13.0	330.6	130,000	19,300	19.8	7.64	5,430	1,260	6,240	1,930
	HE 450 B	167	450	300	14.0	26.0	13.0	213.2	78,100	11,700	19.1	7.41	3,470	781	3,890	1,190
	HE 450 A	136	440	300	11.5	21.0	13.0	173.2	61,900	9,460	18.9	7.39	2,820	630	3,120	959
	HE 450 AA	96	425	300	10.0	13.5	13.0	122.3	40,100	6,080	18.1	7.05	1,890	405	2,090	619
HE 400	HE 400 M	252	432	307	21.0	40.0	12.0	320.8	103,000	19,300	17.9	7.76	4,750	1,260	5,490	1,930
	HE 400 B	151	400	300	13.5	24.0	12.0	192.8	56,200	10,800	17.1	7.49	2,810	721	3,150	1,100
	HE 400 A	121	390	300	11.0	19.0	12.0	154.0	43,600	8,550	16.8	7.45	2,240	570	2,480	867
	HE 400 AA	88	378	300	9.5	13.0	12.0	112.7	29,800	5,850	16.3	7.21	1,580	390	1,740	594
IPE750	IPE 750 x 196 *	197	770	268	15.6	25.4	18.0	251.1	241,000	8,180	31.0	5.71	6,250	610	7,180	959
	IPE 750 x 173 *	174	762	267	14.4	21.6	18.0	221.6	206,000	6,870	30.5	5.57	5,410	515	6,230	810
	IPE 750 x 147 *	147	753	265	13.2	17.0	18.0	187.8	166,000	5,290	29.8	5.31	4,420	399	5,120	631
	IPE 750 x 134 *	134	750	264	12.0	15.5	18.0	170.9	151,000	4,770	29.7	5.28	4,030	361	4,660	569
IPE 600	IPE O 600	152	610	224	15.0	24.0	13.0	193.3	116,000	4,510	24.5	4.83	3,790	403	4,380	635
	IPE 600	120	600	220	12.0	19.0	13.0	152.5	89,400	3,380	24.2	4.71	2,980	307	3,420	481
	IPE A 600	105	597	220	9.8	17.5	13.0	133.5	80,300	3,110	24.5	4.83	2,690	283	3,050	438
IPE 550	IPE O 550	120	556	212	12.7	20.2	13.0	152.6	76,900	3,220	22.5	4.59	2,770	304	3,180	476
	IPE 550	103	550	210	11.1	17.2	13.0	130.9	64,900	2,660	22.3	4.51	2,360	254	2,700	396
	IPE A 550	89.3	547	210	9.0	15.7	13.0	113.8	57,800	2,430	22.5	4.62	2,110	231	2,390	358
IPE 500	IPE O 500	105	506	202	12.0	19.0	13.0	134.4	56,600	2,620	20.5	4.41	2,240	259	2,560	406
	IPE 500	88.9	500	200	10.2	16.0	13.0	113.2	47,000	2,140	20.4	4.35	1,880	214	2,140	333
	IPE A 500	77.5	497	200	8.4	14.5	13.0	98.76	41,700	1,940	20.6	4.43	1,680	194	1,890	299
IPE 450	IPE O 450	90.5	456	192	11.0	17.6	13.0	115.3	39,900	2,080	18.6	4.25	1,750	217	2,000	338
	IPE 450	75.7	450	190	9.4	14.6	13.0	96.49	32,800	1,670	18.4	4.16	1,460	176	1,650	274
	IPE A 450	65.3	447	190	7.6	13.1	13.0	83.21	28,800	1,500	18.6	4.25	1,290	158	1,450	244
IPE 400	IPE O 400	73.7	404	182	9.7	15.5	12.0	93.84	25,900	1,560	16.6	4.08	1,280	172	1,460	266
	IPE 400	64.3	400	180	8.6	13.5	12.0	81.91	22,300	1,310	16.5	4.01	1,110	146	1,260	226
	IPE A 400	55.4	397	180	7.0	12.0	12.0	70.55	19,500	1,170	16.6	4.07	980	130	1,100	200

Please contact us in advance to order these sizes with "*" mark.
Dimensions except for root radius referred to BS EN 10365.

Dimensions and Properties

ASTM W sections [Imperial Unit]

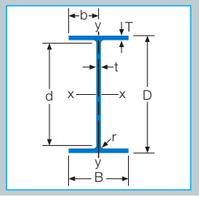


Nominal Size [Imperial Unit]			Mass per Foot [lbs/ft]													
W40	(x 16)	x	199	215	249	277	297	324	*362*	*372*	*397*	*431*	*503*	*593*		
W40	(x 12)	x	149	167	183	211	235	264	278	294	327	331	*392*			
W36	(x 16.5)	x	231	247	262	282	302	330	*361*	*395*	*441*	*487*	*529*	*652*		
W36	(x 12)	x	135	150	160	170	182	194	210	232	256	*286*	*318*	*350*	*387*	
W33	(x 15.75)	x	201	221	241											
W33	(x 11.5)	x	118	130	141	152	169									
W30	(x 15)	x	*173*	*191*	*211*	*235*										
W30	(x 10.5)	x	90	99	108	116	124	132	148							
W27	(x 14)	x	146	161	178	194	217									
W27	(x 10)	x	84	94	102	114	129									
W24	(x 12.75)	x	104	117	131	146	162	176	192							
W24	(x 9)	x	68	76	84	94	103									
W24	(x 7)	x	55	62												
W21	(x 12.25)	x	101	111	122	132	147	166	182							
W21	(x 8.25)	x	48	55	62	68	73	83	93							
W21	(x 6.5)	x	44	50	57											
W18	(x 11)	x	76	86	97	106	119	*130*	*143*	*158*	*175*	*192*				
W18	(x 7.5)	x	50	55												
W18	(x 6)	x	40	46												
W16	(x 10.25)	x	67	77												
W16	(x 7)	x	40	45	50	57										
W14	(x 16)	x	145	159	176	193	211	233	257	283	311	342	370	398	426	455
			500	550	605	665	730									
W14	(x 14.5)	x	90	99	109	120	132									
W12	(x 12)	x	65	72	79	87	96	106	120	136	152	170	190	*210*	*230*	*252*
			279	*305*	*336*											
HP14		x	*73*	*89*	*102*	*117*										
HP12		x	53	63	74	84										

Please contact us in advance to order these *underlined sizes*.

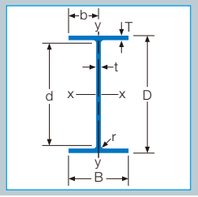
Dimensions and Properties

ASTM W sections [Imperial Unit]



Nominal Size		Mass per Foot lbs	Depth of Section D inch	Width of Section B inch	Thickness Web t inch	Thickness Flange T inch	Root Radius r inch	Area of Section A inch^2	Second Moment of Area Axis x-x Ix inch^4	Second Moment of Area Axis y-y Iy inch^4	Radius of Gyration Axis x-x rx inch	Radius of Gyration Axis y-y ry inch	Elastic Modulus Axis x-x Zx inch^3	Elastic Modulus Axis y-y Zy inch^3	Plastic Modulus Axis x-x Zx inch^3	Plastic Modulus Axis y-y Zy inch^3
W40 x 16 x	593 *	593	42.99	16.690	1.790	3.230	1.181	174.4	50,400	2,520	17.0	3.80	2,340	302	2,760	481
	503 *	503	42.05	16.415	1.535	2.755	1.181	147.8	41,600	2,040	16.8	3.72	1,980	249	2,310	394
	431 *	431	41.26	16.220	1.340	2.360	1.181	126.7	34,800	1,690	16.6	3.65	1,690	208	1,960	328
	397 *	397	40.95	16.120	1.220	2.200	1.181	117.0	32,000	1,540	16.5	3.63	1,560	191	1,800	300
	372 *	372	40.63	16.065	1.160	2.045	1.181	109.4	29,600	1,420	16.4	3.60	1,460	177	1,680	277
	362 *	362	40.55	16.020	1.120	2.010	1.181	107.0	28,900	1,380	16.4	3.59	1,420	173	1,640	270
	324	324	40.16	15.910	1.000	1.810	1.181	95.3	25,600	1,220	16.4	3.58	1,280	153	1,460	239
	297	297	39.84	15.825	0.930	1.650	1.181	87.4	23,200	1,090	16.3	3.54	1,170	138	1,330	215
	277	277	39.69	15.830	0.830	1.575	1.181	81.3	21,900	1,040	16.4	3.58	1,100	132	1,250	204
	249	249	39.38	15.750	0.750	1.420	1.181	73.3	19,600	926	16.3	3.56	993	118	1,120	182
	215	215	38.98	15.750	0.650	1.220	1.181	63.3	16,700	796	16.3	3.55	859	101	964	156
	199	199	38.67	15.750	0.650	1.065	1.181	58.4	14,900	695	16.0	3.45	770	88.2	869	137
W40 x 12 x	392 *	392	41.57	12.360	1.415	2.520	1.181	115.3	29,900	803	16.1	2.64	1,440	130	1,710	212
	331	331	40.79	12.165	1.220	2.125	1.181	97.5	24,700	644	15.9	2.57	1,210	106	1,430	172
	327	327	40.79	12.130	1.180	2.130	1.181	95.9	24,500	640	16.0	2.58	1,200	105	1,410	170
	294	294	40.39	12.010	1.060	1.930	1.181	86.2	21,900	562	15.9	2.55	1,080	93.5	1,270	150
	278	278	40.16	11.970	1.025	1.810	1.181	81.9	20,500	521	15.8	2.52	1,020	87.1	1,190	140
	264	264	40.00	11.930	0.960	1.730	1.181	77.6	19,400	493	15.8	2.52	971	82.6	1,130	132
	235	235	39.69	11.890	0.830	1.575	1.181	68.9	17,400	444	15.9	2.54	875	74.6	1,010	118
	211	211	39.37	11.810	0.750	1.415	1.181	62.0	15,500	390	15.8	2.51	786	66.1	906	105
	183	183	38.98	11.810	0.650	1.200	1.181	53.7	13,200	331	15.7	2.48	675	56.0	774	88.3
	167	167	38.59	11.810	0.650	1.025	1.181	49.1	11,600	283	15.4	2.40	600	47.9	693	76.0
	149	149	38.20	11.810	0.630	0.830	1.181	43.8	9,800	229	15.0	2.29	513	38.8	598	62.2
W36 x 16.5 x	652 *	652	41.05	17.575	1.970	3.540	0.945	191.7	50,500	3,230	16.2	4.10	2,460	367	2,910	581
	529 *	529	39.79	17.220	1.610	2.910	0.945	155.6	39,600	2,490	16.0	4.00	1,990	289	2,330	454
	487 *	487	39.33	17.105	1.500	2.680	0.945	143.2	36,000	2,250	15.8	3.96	1,830	263	2,130	412
	441 *	441	38.85	16.965	1.360	2.440	0.945	129.7	32,100	1,990	15.7	3.92	1,650	235	1,910	368
	395 *	395	38.37	16.830	1.220	2.200	0.945	116.2	28,500	1,750	15.6	3.88	1,480	208	1,700	325
	361	361	37.99	16.730	1.120	2.010	0.945	106.1	25,700	1,570	15.6	3.85	1,350	188	1,550	293
	330	330	37.67	16.630	1.020	1.850	0.945	97.0	23,300	1,420	15.5	3.83	1,240	171	1,410	265
	302	302	37.33	16.655	0.945	1.680	0.945	88.8	21,100	1,300	15.4	3.82	1,130	156	1,280	241
	282	282	37.11	16.595	0.885	1.570	0.945	82.9	19,600	1,200	15.4	3.80	1,050	144	1,190	223
	262	262	36.85	16.550	0.840	1.440	0.945	77.0	17,900	1,090	15.3	3.76	972	132	1,100	204
	247	247	36.67	16.510	0.800	1.350	0.945	72.5	16,700	1,010	15.2	3.74	913	123	1,030	190
	231	231	36.49	16.470	0.760	1.260	0.945	68.0	15,600	940	15.1	3.72	854	114	963	176
W36 x 12 x	387	387	39.09	12.677	1.421	2.559	0.945	113.6	26,500	878	15.3	2.78	1,360	138	1,610	223
	350	350	38.62	12.559	1.299	2.319	0.945	102.9	23,700	772	15.2	2.74	1,230	123	1,450	198
	318	318	38.23	12.441	1.181	2.130	0.945	93.6	21,400	689	15.1	2.71	1,120	111	1,310	177
	286	286	37.83	12.323	1.059	1.929	0.945	84.0	19,000	605	15.0	2.68	1,000	98.3	1,170	157
	256	256	37.43	12.215	0.960	1.730	0.945	75.4	16,800	528	14.9	2.65	899	86.5	1,040	137
	232	232	37.12	12.120	0.870	1.570	0.945	68.1	15,100	468	14.9	2.62	813	77.2	940	122
	210	210	36.69	12.180	0.830	1.360	0.945	61.8	13,300	412	14.7	2.58	723	67.6	838	107
	194	194	36.49	12.115	0.765	1.260	0.945	57.0	12,200	375	14.6	2.56	668	61.9	771	97.9
	182	182	36.33	12.075	0.725	1.180	0.945	53.6	11,400	348	14.6	2.55	627	57.6	723	90.9
	170	170	36.17	12.030	0.680	1.100	0.945	50.0	10,600	320	14.5	2.53	585	53.3	673	83.9
	160	160	36.01	12.000	0.650	1.020	0.945	47.0	9,830	295	14.5	2.50	546	49.1	629	77.4
	150	150	35.85	11.975	0.625	0.940	0.945	44.2	9,120	270	14.4	2.47	509	45.1	586	71.1
	135	135	35.55	11.950	0.600	0.790	0.945	39.7	7,880	226	14.1	2.38	443	37.7	514	59.9
W33 x 15.75 x	241	241	34.18	15.860	0.830	1.400	0.709	70.9	14,200	933	14.1	3.63	830	118	939	182
	221	221	33.93	15.805	0.775	1.275	0.709	65.0	12,800	840	14.1	3.60	757	106	856	164
	201	201	33.68	15.745	0.715	1.150	0.709	59.1	11,500	749	14.0	3.56	685	95.2	772	147
W33 x 11.5 x	169	169	33.82	11.500	0.670	1.220	0.709	49.5	9,290	310	13.7	2.50	549	53.9	629	84.4
	152	152	33.49	11.565	0.635	1.055	0.709	44.7	8,160	273	13.5	2.47	487	47.2	559	73.9
	141	141	33.30	11.535	0.605	0.960	0.709	41.6	7,450	246	13.4	2.43	448	42.7	514	66.9
	130	130	33.09	11.510	0.580	0.855	0.709	38.3	6,710	218	13.2	2.39	406	37.9	467	59.5
	118	118	32.86	11.480	0.550	0.740	0.709	34.7	5,900	187	13.0	2.32	359	32.6	415	51.3
W30 x 15 x	235 *	235	31.30	15.055	0.830	1.500	0.709	69.0	11,700	855	13.0	3.52	747	114	845	175
	211 *	211	30.94	15.105	0.775	1.315	0.709	62.0	10,300	757	12.9	3.49	664	100	750	155
	191 *	191	30.68	15.040	0.710	1.185	0.709	56.1	9,180	673	12.8	3.46	599	89.5	674	138
	173 *	173	30.44	14.985	0.655	1.065	0.709	50.8	8,210	598	12.7	3.43	540	79.8	606	123

Please contact us in advance to order these sizes with "*" mark.
Dimensions except for root radius referred to ASTM A6.



Nominal Size		Mass per Foot lbs	Depth of Section D inch	Width of Section B inch	Thickness Web t inch	Thickness Flange T inch	Root Radius r inch	Area of Section A inch^2	Second Moment of Area Axis x-x Ix inch^4	Second Moment of Area Axis y-y Iy inch^4	Radius of Gyration Axis x-x rx inch	Radius of Gyration Axis y-y ry inch	Elastic Modulus Axis x-x Zx inch^3	Elastic Modulus Axis y-y Zy inch^3	Plastic Modulus Axis x-x Sx inch^3	Plastic Modulus Axis y-y Sy inch^3
W30 x 10.5 x	148	148	30.67	10.480	0.650	1.180	0.709	43.5	6,690	227	12.4	2.29	436	43.3	501	68.0
	132	132	30.31	10.545	0.615	1.000	0.709	38.9	5,780	196	12.2	2.25	381	37.2	438	58.5
	124	124	30.17	10.515	0.585	0.930	0.709	36.5	5,370	181	12.1	2.23	356	34.4	409	54.0
	116	116	30.01	10.495	0.565	0.850	0.709	34.2	4,950	164	12.0	2.19	330	31.3	379	49.3
	108	108	29.83	10.475	0.545	0.760	0.709	31.7	4,480	146	11.9	2.15	300	27.9	347	44.0
	99	99	29.65	10.450	0.520	0.670	0.709	29.1	4,010	128	11.7	2.10	270	24.5	313	38.7
	90	90	29.53	10.400	0.470	0.610	0.709	26.4	3,630	115	11.7	2.08	246	22.1	284	34.7
W27 x 14 x	217	217	28.43	14.115	0.830	1.500	0.709	63.8	8,890	704	11.8	3.32	625	99.8	710	154
	194	194	28.11	14.035	0.750	1.340	0.709	57.0	7,840	618	11.7	3.29	558	88.1	630	136
	178	178	27.81	14.085	0.725	1.190	0.709	52.3	7,000	555	11.6	3.26	504	78.8	569	122
	161	161	27.59	14.020	0.660	1.080	0.709	47.4	6,300	497	11.5	3.24	456	70.9	514	109
	146	146	27.38	13.965	0.605	0.975	0.709	42.9	5,650	443	11.5	3.21	412	63.5	463	97.6
W27 x 10 x	129	129	27.63	10.010	0.610	1.100	0.709	37.8	4,780	184	11.2	2.21	346	36.9	396	57.7
	114	114	27.29	10.070	0.570	0.930	0.709	33.5	4,100	159	11.1	2.18	301	31.5	344	49.4
	102	102	27.09	10.015	0.515	0.830	0.709	30.0	3,640	139	11.0	2.16	269	27.8	307	43.5
	94	94	26.92	9.990	0.490	0.745	0.709	27.7	3,290	124	10.9	2.12	244	24.8	279	38.9
	84	84	26.71	9.960	0.460	0.640	0.709	24.8	2,860	106	10.7	2.06	215	21.2	246	33.3
W24 x 12.75 x	192	192	25.47	12.950	0.810	1.460	0.512	56.3	6,260	530	10.5	3.07	491	81.8	559	126
	176	176	25.24	12.890	0.750	1.340	0.512	51.7	5,680	479	10.5	3.04	450	74.3	511	115
	162	162	25.00	12.955	0.705	1.220	0.512	47.7	5,180	443	10.4	3.05	414	68.4	468	105
	146	146	24.74	12.900	0.650	1.090	0.512	43.0	4,590	391	10.3	3.01	371	60.5	418	93.2
	131	131	24.48	12.855	0.605	0.960	0.512	38.5	4,020	340	10.2	2.97	329	53.0	370	81.5
	117	117	24.26	12.800	0.550	0.850	0.512	34.4	3,540	297	10.1	2.94	292	46.5	327	71.4
	104	104	24.06	12.750	0.500	0.750	0.512	30.6	3,110	259	10.1	2.91	258	40.7	289	62.5
W24 x 9 x	103	103	24.53	9.000	0.550	0.980	0.512	30.3	3,000	119	9.95	1.99	245	26.5	280	41.5
	94	94	24.31	9.065	0.515	0.875	0.512	27.7	2,700	109	9.87	1.98	222	24.0	254	37.5
	84	84	24.10	9.020	0.470	0.770	0.512	24.7	2,370	94.4	9.79	1.96	197	20.9	224	32.6
	76	76	23.92	8.990	0.440	0.680	0.512	22.4	2,100	82.5	9.68	1.92	176	18.4	201	28.6
	68	68	23.73	8.965	0.415	0.585	0.512	20.1	1,830	70.4	9.54	1.87	154	15.7	177	24.6
W24 x 7 x	62	62	23.74	7.040	0.430	0.590	0.512	18.2	1,550	34.5	9.24	1.38	131	9.80	153	15.7
	55	55	23.57	7.005	0.395	0.505	0.512	16.2	1,350	29.1	9.12	1.34	114	8.30	134	13.3
W21 x 12.25 x	182	182	22.72	12.500	0.830	1.480	0.512	53.7	4,730	483	9.39	3.00	417	77.2	476	119
	166	166	22.48	12.420	0.750	1.360	0.512	48.9	4,280	435	9.35	2.98	380	70.1	432	108
	147	147	22.06	12.510	0.720	1.150	0.512	43.2	3,630	376	9.17	2.95	329	60.1	373	92.7
	132	132	21.83	12.440	0.650	1.035	0.512	38.8	3,230	333	9.12	2.93	296	53.5	333	82.3
	122	122	21.68	12.390	0.600	0.960	0.512	35.9	2,960	305	9.08	2.91	273	49.2	307	75.6
	111	111	21.51	12.340	0.550	0.875	0.512	32.7	2,680	274	9.05	2.90	249	44.5	279	68.2
	101	101	21.36	12.290	0.500	0.800	0.512	29.8	2,420	248	9.02	2.88	227	40.3	253	61.7
W21 x 8.25 x	93	93	21.62	8.420	0.580	0.930	0.512	27.3	2,070	92.9	8.71	1.84	192	22.1	221	34.7
	83	83	21.43	8.355	0.515	0.835	0.512	24.3	1,830	81.4	8.68	1.83	171	19.5	196	30.5
	73	73	21.24	8.295	0.455	0.740	0.512	21.5	1,600	70.6	8.64	1.81	151	17.0	172	26.6
	68	68	21.13	8.270	0.430	0.685	0.512	20.0	1,480	64.7	8.61	1.80	140	15.7	160	24.4
	62	62	20.99	8.240	0.400	0.615	0.512	18.3	1,330	57.5	8.53	1.77	127	14.0	144	21.7
	55	55	20.80	8.220	0.375	0.522	0.512	16.2	1,140	48.4	8.41	1.73	110	11.8	126	18.4
	48	48	20.62	8.140	0.350	0.430	0.512	14.1	960	38.7	8.25	1.66	93.1	9.52	107	14.9
W21 x 6.5 x	57	57	21.06	6.555	0.405	0.650	0.512	16.7	1,170	30.6	8.37	1.35	111	9.35	129	14.8
	50	50	20.83	6.530	0.380	0.535	0.512	14.7	985	24.9	8.19	1.30	94.6	7.64	110	12.2
	44	44	20.66	6.500	0.350	0.450	0.512	13.0	844	20.7	8.06	1.26	81.7	6.37	95.5	10.2
W18 x 11 x	192	192	20.35	11.455	0.960	1.750	0.512	56.4	3,880	440	8.29	2.79	381	76.8	443	119
	175	175	20.04	11.375	0.890	1.590	0.512	51.3	3,460	391	8.21	2.76	345	68.8	399	106
	158	158	19.72	11.300	0.810	1.440	0.512	46.3	3,060	347	8.13	2.74	311	61.4	357	94.8
	143	143	19.49	11.220	0.730	1.320	0.512	42.1	2,760	311	8.09	2.72	283	55.5	323	85.4
	130 *	130	19.25	11.160	0.670	1.200	0.512	38.2	2,470	278	8.04	2.70	256	49.9	291	76.7
	119	119	18.97	11.265	0.655	1.060	0.512	35.1	2,190	253	7.91	2.68	231	44.9	262	69.2
	106	106	18.73	11.200	0.590	0.940	0.512	31.1	1,920	220	7.85	2.66	205	39.4	231	60.5
	97	97	18.59	11.145	0.535	0.870	0.512	28.5	1,750	201	7.84	2.66	189	36.1	212	55.3
	86	86	18.39	11.090	0.480	0.770	0.512	25.3	1,530	175	7.78	2.63	167	31.6	186	48.4
	76	76	18.21	11.035	0.425	0.680	0.512	22.3	1,340	152	7.75	2.61	147	27.6	164	42.2

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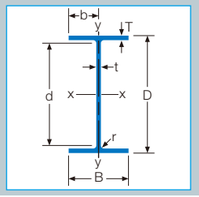
Dimensions except for root radius referred to ASTM A6.

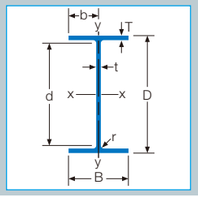
Dimensions and Properties



ASTM W sections [Imperial Unit]

Nominal Size		Mass per Foot lbs	Depth of Section D inch	Width of Section B inch	Thickness Web t inch	Thickness Flange T inch	Root Radius r inch	Area of Section A inch^2	Second Moment of Area Axis x-x Ix inch^4	Second Moment of Area Axis y-y Iy inch^4	Radius of Gyration Axis x-x rx inch	Radius of Gyration Axis y-y ry inch	Elastic Modulus Axis x-x Zx inch^3	Elastic Modulus Axis y-y Zy inch^3	Plastic Modulus Axis x-x Sx inch^3	Plastic Modulus Axis y-y Sy inch^3
W18 x 7.5 x	55	55	18.11	7.530	0.390	0.630	0.512	16.2	896	44.9	7.44	1.67	99.0	11.9	112	18.6
	50	50	17.99	7.495	0.355	0.570	0.512	14.7	805	40.1	7.40	1.65	89.5	10.7	101	16.6
W18 x 6 x	46	46	18.06	6.060	0.360	0.605	0.512	13.5	718	22.5	7.29	1.29	79.5	7.43	91.4	11.7
	40	40	17.90	6.015	0.315	0.525	0.512	11.8	618	19.1	7.24	1.27	69.0	6.35	79.1	10.0
W16 x 10.25 x	77	77	16.52	10.295	0.455	0.760	0.472	22.6	1,110	138	7.01	2.47	134	26.9	150	41.1
	67	67	16.33	10.235	0.395	0.665	0.472	19.7	957	119	6.97	2.46	117	23.2	130	35.5
W16 x 7 x	57	57	16.43	7.120	0.430	0.715	0.472	16.8	760	43.1	6.73	1.60	92.6	12.1	106	18.9
	50	50	16.26	7.070	0.380	0.630	0.472	14.7	662	37.2	6.71	1.59	81.4	10.5	92.4	16.3
	45	45	16.13	7.035	0.345	0.565	0.472	13.3	589	32.9	6.66	1.57	73.1	9.34	82.7	14.5
	40	40	16.01	6.995	0.305	0.505	0.472	11.8	521	28.9	6.64	1.56	65.1	8.25	73.3	12.8
W14 x 16 x	730	730	22.42	17.890	3.070	4.910	0.598	215.0	14,300	4,720	8.17	4.68	1,280	527	1,660	816
	665	665	21.64	17.650	2.830	4.520	0.598	196.0	12,400	4,170	7.97	4.61	1,150	472	1,480	730
	605	605	20.92	17.415	2.595	4.160	0.598	178.0	10,800	3,680	7.80	4.55	1,040	423	1,320	652
	550	550	20.24	17.200	2.380	3.820	0.598	162.0	9,430	3,250	7.63	4.48	931	378	1,180	583
	500	500	19.60	17.010	2.190	3.500	0.598	147.0	8,210	2,880	7.48	4.43	838	339	1,050	522
	455	455	19.02	16.835	2.015	3.210	0.598	134.0	7,190	2,560	7.33	4.37	756	304	936	468
	426	426	18.67	16.695	1.875	3.035	0.598	125.0	6,600	2,360	7.26	4.35	707	283	869	434
	398	398	18.29	16.590	1.770	2.845	0.598	117.0	6,000	2,170	7.16	4.31	656	262	801	402
	370	370	17.92	16.475	1.655	2.660	0.598	109.0	5,440	1,990	7.07	4.27	607	241	736	370
	342	342	17.54	16.360	1.540	2.470	0.598	101.0	4,900	1,810	6.96	4.23	559	221	672	338
	311	311	17.12	16.230	1.410	2.260	0.598	91.4	4,330	1,610	6.88	4.20	506	199	603	304
	283	283	16.74	16.110	1.290	2.070	0.598	83.3	3,840	1,440	6.79	4.16	459	179	542	274
	257	257	16.38	15.995	1.175	1.890	0.598	75.6	3,400	1,290	6.71	4.13	415	161	487	246
	233	233	16.04	15.890	1.070	1.720	0.598	68.5	3,010	1,150	6.62	4.10	375	145	436	221
	211	211	15.72	15.800	0.980	1.560	0.598	62.0	2,660	1,030	6.55	4.07	338	130	390	198
	193	193	15.48	15.710	0.890	1.440	0.598	56.8	2,400	931	6.50	4.05	310	119	355	180
	176	176	15.22	15.650	0.830	1.310	0.598	51.8	2,140	838	6.43	4.02	281	107	320	163
	159	159	14.98	15.565	0.745	1.190	0.598	46.7	1,900	748	6.38	4.00	254	96.2	287	146
	145	145	14.78	15.500	0.680	1.090	0.598	42.7	1,710	677	6.33	3.98	232	87.3	260	133
W14 x 14.5 x	132	132	14.66	14.725	0.645	1.030	0.598	38.8	1,530	548	6.28	3.76	209	74.5	234	113
	120	120	14.48	14.670	0.590	0.940	0.598	35.3	1,380	495	6.24	3.74	190	67.5	212	102
	109	109	14.32	14.605	0.525	0.860	0.598	32.0	1,240	447	6.22	3.74	173	61.2	192	92.7
	99	99	14.16	14.565	0.485	0.780	0.598	29.1	1,110	402	6.18	3.72	157	55.2	173	83.6
	90	90	14.02	14.520	0.440	0.710	0.598	26.5	999	362	6.14	3.70	143	49.9	157	75.6
W12 x 12 x	336 *	336	16.82	13.385	1.775	2.955	0.598	98.8	4,060	1,190	6.41	3.47	483	177	603	274
	305 *	305	16.32	13.235	1.625	2.705	0.598	89.6	3,550	1,050	6.29	3.42	435	159	537	244
	279 *	279	15.85	13.140	1.530	2.470	0.598	81.9	3,110	937	6.16	3.38	393	143	481	220
	252 *	252	15.41	13.005	1.395	2.250	0.598	74.1	2,720	828	6.06	3.34	353	127	428	196
	230 *	230	15.05	12.895	1.285	2.070	0.598	67.7	2,420	742	5.97	3.31	321	115	386	177
	210 *	210	14.71	12.790	1.180	1.900	0.598	61.8	2,140	664	5.89	3.28	292	104	348	159
	190	190	14.38	12.670	1.060	1.735	0.598	55.8	1,890	589	5.82	3.25	263	93.0	311	143
	170	170	14.03	12.570	0.960	1.560	0.598	50.0	1,650	517	5.74	3.22	235	82.3	275	126
	152	152	13.71	12.480	0.870	1.400	0.598	44.7	1,430	454	5.66	3.19	209	72.8	243	111
	136	136	13.41	12.400	0.790	1.250	0.598	39.9	1,240	398	5.58	3.16	186	64.2	214	98.0
	120	120	13.12	12.320	0.710	1.105	0.598	35.3	1,070	345	5.51	3.13	163	56.0	186	85.4
	106	106	12.89	12.220	0.610	0.990	0.598	31.2	933	301	5.47	3.11	145	49.3	164	75.1
	96	96	12.71	12.160	0.550	0.900	0.598	28.2	833	270	5.43	3.09	131	44.4	147	67.5
	87	87	12.53	12.125	0.515	0.810	0.598	25.6	740	241	5.38	3.07	118	39.7	132	60.4
	79	79	12.38	12.080	0.470	0.735	0.598	23.2	662	216	5.34	3.05	107	35.8	119	54.3
	72	72	12.25	12.040	0.430	0.670	0.598	21.1	597	195	5.32	3.04	97.4	32.4	108	49.2
	65	65	12.12	12.000	0.390	0.605	0.598	19.1	533	174	5.28	3.02	87.9	29.1	96.8	44.1

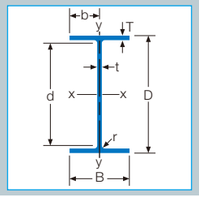
Please contact us in advance to order these sizes with "*" mark.
Dimensions except for root radius referred to ASTM A6.



Nominal Size		Mass per Foot lbs	Depth of Section D inch	Width of Section B inch	Thickness Web t inch	Thickness Flange T inch	Root Radius r inch	Area of Section A inch^2	Second Moment of Area Axis x-x Ix inch^4	Second Moment of Area Axis y-y Iy inch^4	Radius of Gyration Axis x-x rx inch	Radius of Gyration Axis y-y ry inch	Elastic Modulus Axis x-x Zx inch^3	Elastic Modulus Axis y-y Zy inch^3	Plastic Modulus Axis x-x Sx inch^3	Plastic Modulus Axis y-y Sy inch^3
HP14 x	117 *	117	14.21	14.885	0.805	0.805	0.598	34.4	1,220	443	5.96	3.59	172	59.5	194	91.4
	102 *	102	14.01	14.785	0.705	0.705	0.598	30.0	1,050	380	5.92	3.56	150	51.4	169	78.8
	89 *	89	13.83	14.695	0.615	0.615	0.598	26.1	904	326	5.88	3.53	131	44.3	146	67.7
	73 *	73	13.61	14.585	0.505	0.505	0.598	21.4	729	261	5.84	3.49	107	35.8	118	54.6
HP12 x	84	84	12.28	12.295	0.685	0.685	0.598	24.6	650	213	5.14	2.94	106	34.6	120	53.2
	74	74	12.13	12.215	0.605	0.610	0.598	21.8	569	186	5.11	2.92	93.8	30.4	105	46.6
	63	63	11.94	12.125	0.515	0.515	0.598	18.4	472	153	5.07	2.89	79.1	25.3	88.3	38.7
	53	53	11.78	12.045	0.435	0.435	0.598	15.5	393	127	5.04	2.86	66.7	21.1	74.0	32.2

Please contact us in advance to order these sizes with "*" mark.
Dimensions except for root radius referred to ASTM A6.

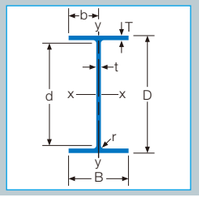
Dimensions and Properties



Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Area of Section	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus	
					Web	Flange			Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y
		kg/m	D mm	B mm	t mm	T mm	r mm	A cm^2	Ix cm^4	Iy cm^4	rx cm	ry cm	Zx cm^3	Zy cm^3	Zx cm^3	Zy cm^3
W40 x 16 x	593 *	882.5	1,091.9	423.9	45.47	82.04	30.0	1,125.2	2,100,000	105,000	43.2	9.66	38,400	4,950	45,300	7,870
	503 *	748.5	1,068.1	416.9	38.99	69.98	30.0	953.5	1,730,000	85,000	42.6	9.44	32,400	4,080	37,900	6,460
	431 *	641.4	1,048.0	412.0	34.04	59.94	30.0	817.4	1,450,000	70,200	42.1	9.27	27,700	3,410	32,100	5,370
	397 *	590.8	1,040.1	409.4	30.99	55.88	30.0	754.8	1,330,000	64,200	42.0	9.22	25,600	3,140	29,500	4,920
	372 *	553.6	1,032.0	408.1	29.46	51.94	30.0	705.8	1,230,000	59,100	41.8	9.15	23,900	2,890	27,500	4,540
	362 *	538.7	1,030.0	406.9	28.45	51.05	30.0	690.3	1,200,000	57,500	41.7	9.13	23,300	2,830	26,800	4,430
	324	482.2	1,020.1	404.1	25.40	45.97	30.0	614.8	1,070,000	50,700	41.7	9.08	20,900	2,510	23,900	3,920
	297	442.0	1,011.9	402.0	23.62	41.91	30.0	563.9	967,000	45,500	41.4	8.98	19,100	2,260	21,800	3,530
	277	412.2	1,008.1	402.1	21.08	40.01	30.0	524.5	911,000	43,400	41.7	9.10	18,100	2,160	20,500	3,350
	249	370.6	1,000.3	400.1	19.05	36.07	30.0	472.9	814,000	38,600	41.5	9.03	16,300	1,930	18,400	2,980
	215	320.0	990.1	400.1	16.51	30.99	30.0	408.4	697,000	33,100	41.3	9.01	14,100	1,660	15,800	2,550
	199	296.1	982.2	400.1	16.51	27.05	30.0	376.8	620,000	28,900	40.6	8.76	12,600	1,450	14,200	2,240
W40 x 12 x	392 *	583.4	1,055.9	313.9	35.94	64.01	30.0	743.9	1,250,000	33,400	40.9	6.70	23,600	2,130	28,000	3,470
	331	492.6	1,036.1	309.0	30.99	53.98	30.0	629.0	1,030,000	26,800	40.4	6.53	19,800	1,740	23,400	2,820
	327	486.6	1,036.1	308.1	29.97	54.10	30.0	618.7	1,020,000	26,600	40.6	6.56	19,700	1,730	23,200	2,790
	294	437.5	1,025.9	305.1	26.92	49.02	30.0	556.1	910,000	23,400	40.4	6.48	17,700	1,530	20,800	2,460
	278	413.7	1,020.1	304.0	26.04	45.97	30.0	528.4	853,000	21,700	40.2	6.41	16,700	1,430	19,600	2,300
	264	392.9	1,016.0	303.0	24.38	43.94	30.0	500.6	808,000	20,500	40.2	6.40	15,900	1,350	18,500	2,170
	235	349.7	1,008.1	302.0	21.08	40.01	30.0	444.5	723,000	18,500	40.3	6.44	14,300	1,220	16,600	1,940
	211	314.0	1,000.0	300.0	19.05	35.94	30.0	400.0	644,000	16,200	40.1	6.37	12,900	1,080	14,800	1,710
	183	272.3	990.1	300.0	16.51	30.48	30.0	346.5	548,000	13,800	39.8	6.30	11,100	918	12,700	1,450
	167	248.5	980.2	300.0	16.51	26.04	30.0	316.8	482,000	11,800	39.0	6.09	9,830	785	11,400	1,250
	149	221.7	970.3	300.0	16.00	21.08	30.0	282.6	408,000	9,540	38.0	5.81	8,400	636	9,800	1,020
W36 x 16.5 x	652 *	970.3	1,042.7	446.4	50.04	89.92	24.0	1,236.8	2,100,000	134,000	41.2	10.4	40,400	6,020	47,800	9,510
	529 *	787.2	1,010.7	437.4	40.89	73.91	24.0	1,003.9	1,650,000	104,000	40.5	10.2	32,600	4,740	38,100	7,440
	487 *	724.7	999.0	434.5	38.10	68.07	24.0	923.9	1,500,000	93,500	40.2	10.1	30,000	4,300	34,800	6,750
	441 *	656.3	986.8	430.9	34.54	61.98	24.0	836.8	1,340,000	83,000	40.0	9.96	27,100	3,850	31,300	6,020
	395 *	587.8	974.6	427.5	30.99	55.88	24.0	749.7	1,180,000	73,000	39.7	9.87	24,300	3,410	27,900	5,320
	361	537.2	964.9	424.9	28.45	51.05	24.0	684.5	1,070,000	65,500	39.5	9.78	22,100	3,080	25,300	4,790
	330	491.1	956.8	422.4	25.91	46.99	24.0	625.8	970,000	59,200	39.4	9.72	20,300	2,800	23,100	4,350
	302	449.4	948.2	423.0	24.00	42.67	24.0	572.9	878,000	54,000	39.1	9.70	18,500	2,550	21,000	3,950
	282	419.7	942.6	421.5	22.48	39.88	24.0	534.8	815,000	49,900	39.0	9.66	17,300	2,370	19,600	3,660
	262	389.9	936.0	420.4	21.34	36.58	24.0	496.8	745,000	45,400	38.7	9.56	15,900	2,160	18,000	3,340
	247	367.6	931.4	419.4	20.32	34.29	24.0	467.7	697,000	42,200	38.6	9.50	15,000	2,010	16,900	3,110
	231	343.8	926.8	418.3	19.30	32.00	24.0	438.7	649,000	39,100	38.4	9.44	14,000	1,870	15,800	2,890
W36 x 12 x	387	575.9	992.9	322.0	36.09	65.00	24.0	732.9	1,100,000	36,500	38.8	7.06	22,300	2,270	26,300	3,660
	350	520.9	980.9	319.0	33.00	58.90	24.0	663.9	986,000	32,200	38.5	6.96	20,100	2,020	23,700	3,240
	318	473.2	971.0	316.0	30.00	54.10	24.0	603.9	889,000	28,700	38.4	6.89	18,300	1,810	21,500	2,910
	286	425.6	960.9	313.0	26.90	49.00	24.0	541.9	791,000	25,200	38.2	6.82	16,500	1,610	19,200	2,570
	256	381.0	950.7	310.3	24.38	43.94	24.0	486.5	700,000	22,000	37.9	6.72	14,700	1,420	17,100	2,250
	232	345.3	942.8	307.8	22.10	39.88	24.0	439.4	628,000	19,500	37.8	6.66	13,300	1,270	15,400	2,000
	210	312.5	931.9	309.4	21.08	34.54	24.0	398.7	552,000	17,100	37.2	6.55	11,900	1,110	13,700	1,760
	194	288.7	926.8	307.7	19.43	32.00	24.0	367.7	507,000	15,600	37.1	6.51	11,000	1,010	12,600	1,600
	182	270.8	922.8	306.7	18.42	29.97	24.0	345.8	474,000	14,500	37.0	6.47	10,300	943	11,800	1,490
	170	253.0	918.7	305.6	17.27	27.94	24.0	322.6	440,000	13,300	36.9	6.43	9,580	873	11,000	1,380
	160	238.1	914.7	304.8	16.51	25.91	24.0	303.2	409,000	12,300	36.7	6.36	8,950	805	10,300	1,270
	150	223.2	910.6	304.2	15.88	23.88	24.0	285.2	380,000	11,200	36.5	6.28	8,340	739	9,600	1,170
	135	200.9	903.0	303.5	15.24	20.07	24.0	256.1	328,000	9,390	35.8	6.05	7,260	619	8,420	981
W33 x 15.75 x	241	358.6	868.2	402.8	21.08	35.56	18.0	457.4	590,000	38,800	35.9	9.21	13,600	1,930	15,400	2,980
	221	328.9	861.8	401.4	19.69	32.39	18.0	419.4	535,000	35,000	35.7	9.13	12,400	1,740	14,000	2,690
	201	299.1	855.5	399.9	18.16	29.21	18.0	381.3	480,000	31,200	35.5	9.04	11,200	1,560	12,600	2,410
W33 x 11.5 x	169	251.5	859.0	292.1	17.02	30.99	18.0	319.4	387,000	12,900	34.8	6.36	9,000	884	10,300	1,380
	152	226.2	850.6	293.8	16.13	26.80	18.0	288.4	340,000	11,400	34.3	6.27	7,980	773	9,160	1,210
	141	209.8	845.8	293.0	15.37	24.38	18.0	268.4	310,000	10,200	34.0	6.18	7,340	700	8,420	1,100
	130	193.5	840.5	292.4	14.73	21.72	18.0	247.1	279,000	9,070	33.6	6.06	6,650	620	7,650	974
	118	175.6	834.6	291.6	13.97	18.80	18.0	223.9	246,000	7,790	33.1	5.90	5,890	534	6,800	841
W30 x 15 x	235 *	349.7	795.0	382.4	21.08	38.10	18.0	445.2	486,000	35,600	33.1	8.94	12,200	1,860	13,800	2,870
	211 *	314.0	785.9	383.7	19.69	33.40	18.0	400.0	428,000	31,500	32.7	8.87	10,900	1,640	12,300	2,530
	191 *	284.2	779.3	382.0	18.03	30.10	18.0	361.9	382,000	28,000	32.5	8.80	9,810	1,470	11,000	2,260
	173 *	257.5	773.2	380.6	16.64	27.05	18.0	327.7	342,000	24,900	32.3	8.71	8,840	1,310	9,930	2,010

Please contact us in advance to order these sizes with "*" mark.
Dimensions except for root radius are exact conversions of ones in imperial unit.

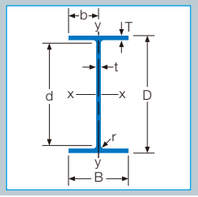
Dimensions and Properties



ASTM W sections [Metric Unit]

Nominal Size		Mass per Meter kg/m	Depth of section D mm	Width of section B mm	Thickness Web t mm	Thickness Flange T mm	Root Radius r mm	Area of Section A cm²	Second Moment of Area Axis x-x Ix cm⁴	Second Moment of Area Axis y-y Iy cm⁴	Radius of Gyration Axis x-x rx cm	Radius of Gyration Axis y-y ry cm	Elastic Modulus Axis x-x Zx cm³	Elastic Modulus Axis y-y Zy cm³	Plastic Modulus Axis x-x Sx cm³	Plastic Modulus Axis y-y Sy cm³
W30 x 10.5 x	148	220.2	779.0	266.2	16.51	29.97	18.0	280.6	279,000	9,450	31.5	5.80	7,150	710	8,210	1,110
	132	196.4	769.9	267.8	15.62	25.40	18.0	251.0	241,000	8,160	31.0	5.70	6,250	609	7,180	958
	124	184.5	766.3	267.1	14.86	23.62	18.0	235.5	224,000	7,520	30.8	5.65	5,840	563	6,710	885
	116	172.6	762.3	266.6	14.35	21.59	18.0	220.6	206,000	6,840	30.5	5.57	5,400	513	6,220	807
	108	160.7	757.7	266.1	13.84	19.30	18.0	204.5	186,000	6,080	30.2	5.45	4,920	457	5,680	721
	99	147.3	753.1	265.4	13.21	17.02	18.0	187.7	167,000	5,320	29.8	5.32	4,430	401	5,130	634
	90	133.9	750.1	264.2	11.94	15.49	18.0	170.3	151,000	4,770	29.8	5.29	4,020	361	4,650	569
W27 x 14 x	217	322.9	722.1	358.5	21.08	38.10	18.0	411.6	370,000	29,300	30.0	8.44	10,200	1,640	11,600	2,520
	194	288.7	714.0	356.5	19.05	34.04	18.0	367.7	326,000	25,700	29.8	8.37	9,140	1,440	10,300	2,230
	178	264.9	706.4	357.8	18.42	30.23	18.0	337.4	292,000	23,100	29.4	8.28	8,250	1,290	9,320	1,990
	161	239.6	700.8	356.1	16.76	27.43	18.0	305.8	262,000	20,700	29.3	8.22	7,480	1,160	8,420	1,790
	146	217.3	695.5	354.7	15.37	24.77	18.0	276.8	235,000	18,400	29.1	8.16	6,760	1,040	7,580	1,600
W27 x 10 x	129	192.0	701.8	254.3	15.49	27.94	18.0	243.9	199,000	7,680	28.6	5.61	5,670	604	6,490	945
	114	169.7	693.2	255.8	14.48	23.62	18.0	216.1	171,000	6,610	28.1	5.53	4,930	517	5,640	810
	102	151.8	688.1	254.4	13.08	21.08	18.0	193.5	152,000	5,800	28.0	5.47	4,400	456	5,030	713
	94	139.9	683.8	253.7	12.45	18.92	18.0	178.7	137,000	5,170	27.7	5.38	4,010	407	4,580	637
	84	125.0	678.4	253.0	11.68	16.26	18.0	160.0	119,000	4,400	27.3	5.24	3,520	348	4,030	545
W24 x 12.75 x	192	285.7	646.9	328.9	20.57	37.08	13.0	363.2	260,000	22,000	26.8	7.79	8,050	1,340	9,170	2,070
	176	261.9	641.1	327.4	19.05	34.04	13.0	333.5	237,000	19,900	26.6	7.73	7,380	1,220	8,370	1,880
	162	241.1	635.0	329.1	17.91	30.99	13.0	307.7	215,000	18,400	26.5	7.74	6,780	1,120	7,670	1,730
	146	217.3	628.4	327.7	16.51	27.69	13.0	277.4	191,000	16,300	26.2	7.65	6,070	992	6,850	1,530
	131	194.9	621.8	326.5	15.37	24.38	13.0	248.4	167,000	14,200	26.0	7.55	5,380	868	6,060	1,340
	117	174.1	616.2	325.1	13.97	21.59	13.0	221.9	147,000	12,400	25.8	7.47	4,780	762	5,360	1,170
	104	154.8	611.1	323.9	12.70	19.05	13.0	197.4	129,000	10,800	25.6	7.39	4,230	667	4,740	1,020
W24 x 9 x	103	153.3	623.1	228.6	13.97	24.89	13.0	195.5	125,000	4,970	25.3	5.04	4,010	435	4,590	680
	94	139.9	617.5	230.3	13.08	22.23	13.0	178.7	112,000	4,530	25.1	5.04	3,640	394	4,160	615
	84	125.0	612.1	229.1	11.94	19.56	13.0	159.4	98,600	3,930	24.9	4.97	3,220	343	3,680	535
	76	113.1	607.6	228.3	11.18	17.27	13.0	144.5	87,400	3,440	24.6	4.88	2,880	301	3,290	469
	68	101.2	602.7	227.7	10.54	14.86	13.0	129.7	76,200	2,930	24.2	4.75	2,530	257	2,900	402
W24 x 7 x	62	92.27	603.0	178.8	10.92	14.99	13.0	117.4	64,600	1,440	23.5	3.50	2,140	161	2,510	258
	55	81.85	598.7	177.9	10.03	12.83	13.0	104.5	56,100	1,210	23.2	3.40	1,870	136	2,200	219
W21 x 12.25 x	182	270.8	577.1	317.5	21.08	37.59	13.0	346.5	197,000	20,100	23.9	7.62	6,830	1,270	7,800	1,950
	166	247.0	571.0	315.5	19.05	34.54	13.0	315.5	178,000	18,100	23.8	7.58	6,230	1,150	7,080	1,770
	147	218.8	560.3	317.8	18.29	29.21	13.0	278.7	151,000	15,600	23.3	7.49	5,400	985	6,120	1,520
	132	196.4	554.5	316.0	16.51	26.29	13.0	250.3	134,000	13,800	23.2	7.44	4,840	876	5,460	1,350
	122	181.6	550.7	314.7	15.24	24.38	13.0	231.6	123,000	12,700	23.1	7.40	4,480	806	5,030	1,240
	111	165.2	546.4	313.4	13.97	22.23	13.0	211.0	111,000	11,400	23.0	7.36	4,080	729	4,570	1,120
	101	150.3	542.5	312.2	12.70	20.32	13.0	192.3	101,000	10,300	22.9	7.32	3,720	661	4,150	1,010
W21 x 8.25 x	93	138.4	549.1	213.9	14.73	23.62	13.0	176.1	86,200	3,870	22.1	4.69	3,140	362	3,620	569
	83	123.5	544.3	212.2	13.08	21.21	13.0	156.8	76,300	3,390	22.1	4.65	2,800	319	3,210	500
	73	108.6	539.5	210.7	11.56	18.80	13.0	138.7	66,800	2,940	21.9	4.60	2,480	279	2,830	435
	68	101.2	536.7	210.1	10.92	17.40	13.0	129.0	61,700	2,690	21.9	4.57	2,300	257	2,620	400
	62	92.27	533.1	209.3	10.16	15.62	13.0	118.1	55,400	2,390	21.7	4.50	2,080	229	2,370	356
	55	81.85	528.3	208.8	9.53	13.26	13.0	104.5	47,600	2,020	21.4	4.39	1,800	193	2,060	301
	48	71.43	523.7	206.8	8.89	10.92	13.0	91.0	40,000	1,610	21.0	4.21	1,530	156	1,750	244
W21 x 6.5 x	57	84.83	534.9	166.5	10.29	16.51	13.0	107.7	48,700	1,280	21.3	3.44	1,820	153	2,110	243
	50	74.41	529.1	165.9	9.65	13.59	13.0	94.8	41,000	1,040	20.8	3.31	1,550	125	1,810	200
	44	65.48	524.8	165.1	8.89	11.43	13.0	83.9	35,100	861	20.5	3.20	1,340	104	1,560	167
W18 x 11 x	192	285.7	516.9	291.0	24.38	44.45	13.0	363.9	161,000	18,300	21.1	7.09	6,240	1,260	7,260	1,950
	175	260.4	509.0	288.9	22.61	40.39	13.0	331.0	144,000	16,300	20.9	7.01	5,650	1,130	6,540	1,740
	158	235.1	500.9	287.0	20.57	36.58	13.0	298.7	127,000	14,400	20.7	6.95	5,090	1,010	5,850	1,550
	143	212.8	495.0	285.0	18.54	33.53	13.0	271.6	115,000	13,000	20.5	6.91	4,630	909	5,290	1,400
	130 *	193.5	489.0	283.5	17.02	30.48	13.0	246.5	103,000	11,600	20.4	6.86	4,200	818	4,770	1,260
	119	177.1	481.8	286.1	16.64	26.92	13.0	226.5	91,300	10,500	20.1	6.82	3,790	736	4,300	1,130
	106	157.7	475.7	284.5	14.99	23.88	13.0	200.6	79,800	9,180	19.9	6.76	3,360	645	3,790	992
	97	144.4	472.2	283.1	13.59	22.10	13.0	183.9	72,900	8,370	19.9	6.75	3,090	591	3,470	907
	86	128.0	467.1	281.7	12.19	19.56	13.0	163.2	63,800	7,290	19.8	6.68	2,730	518	3,050	793
	76	113.1	462.5	280.3	10.80	17.27	13.0	143.9	55,700	6,340	19.7	6.64	2,410	453	2,680	692

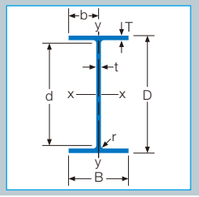
Please contact us in advance to order these sizes with "*" mark.
Dimensions except for root radius are exact conversions of ones in imperial unit.



Nominal Size		Mass per Meter kg/m	Depth of section D mm	Width of section B mm	Thickness Web t mm	Thickness Flange T mm	Root Radius r mm	Area of Section A cm²	Second Moment of Area Axis x-x Ix cm⁴	Second Moment of Area Axis y-y Iy cm⁴	Radius of Gyration Axis x-x rx cm	Radius of Gyration Axis y-y ry cm	Elastic Modulus Axis x-x Zx cm³	Elastic Modulus Axis y-y Zy cm³	Plastic Modulus Axis x-x Sx cm³	Plastic Modulus Axis y-y Sy cm³
W18 x 7.5 x	55	81.85	460.0	191.3	9.91	16.00	13.0	104.5	37,300	1,870	18.9	4.23	1,620	196	1,840	304
	50	74.41	456.9	190.4	9.02	14.48	13.0	94.8	33,500	1,670	18.8	4.19	1,470	175	1,660	272
W18 x 6 x	46	68.46	458.7	153.9	9.14	15.37	13.0	87.1	29,900	938	18.5	3.28	1,300	122	1,500	192
	40	59.53	454.7	152.8	8.00	13.34	13.0	76.1	25,700	795	18.4	3.23	1,130	104	1,300	163
W16 x 10.25 x	77	114.6	419.6	261.5	11.56	19.30	12.0	145.8	46,200	5,760	17.8	6.28	2,200	440	2,460	674
	67	99.71	414.8	260.0	10.03	16.89	12.0	127.1	39,800	4,950	17.7	6.24	1,920	381	2,130	581
W16 x 7 x	57	84.83	417.3	180.8	10.92	18.16	12.0	108.4	31,700	1,800	17.1	4.07	1,520	199	1,730	309
	50	74.41	413.0	179.6	9.65	16.00	12.0	94.8	27,500	1,550	17.0	4.04	1,330	172	1,510	268
	45	66.97	409.7	178.7	8.76	14.35	12.0	85.8	24,500	1,370	16.9	3.99	1,200	153	1,360	237
	40	59.53	406.7	177.7	7.75	12.83	12.0	76.1	21,700	1,200	16.9	3.97	1,070	135	1,200	209
W14 x 16 x	730	1,086.4	569.5	454.4	77.98	124.7	15.2	1,387.1	597,000	196,000	20.7	11.9	21,000	8,640	27,200	13,400
	665	989.6	549.7	448.3	71.88	114.8	15.2	1,264.5	518,000	173,000	20.2	11.7	18,900	7,740	24,300	12,000
	605	900.3	531.4	442.3	65.91	105.7	15.2	1,148.4	451,000	153,000	19.8	11.6	17,000	6,930	21,600	10,700
	550	818.5	514.1	436.9	60.45	97.03	15.2	1,045.2	392,000	135,000	19.4	11.4	15,300	6,200	19,300	9,560
	500	744.1	497.8	432.1	55.63	88.90	15.2	948.4	342,000	120,000	19.0	11.2	13,700	5,550	17,200	8,550
	455	677.1	483.1	427.6	51.18	81.53	15.2	864.5	299,000	107,000	18.6	11.1	12,400	4,990	15,300	7,670
	426	634.0	474.2	424.1	47.63	77.09	15.2	806.5	275,000	98,300	18.4	11.0	11,600	4,640	14,200	7,120
	398	592.3	464.6	421.4	44.96	72.26	15.2	754.8	250,000	90,400	18.2	10.9	10,800	4,290	13,100	6,580
	370	550.6	455.2	418.5	42.04	67.56	15.2	703.2	227,000	82,700	17.9	10.8	9,950	3,950	12,100	6,060
	342	509.0	445.5	415.5	39.12	62.74	15.2	651.6	204,000	75,200	17.7	10.7	9,150	3,620	11,000	5,540
	311	462.8	434.8	412.2	35.81	57.40	15.2	589.7	180,000	67,200	17.5	10.7	8,280	3,260	9,880	4,980
	283	421.2	425.2	409.2	32.77	52.58	15.2	537.4	160,000	60,100	17.2	10.6	7,520	2,940	8,890	4,490
	257	382.5	416.1	406.3	29.85	48.01	15.2	487.7	141,000	53,700	17.0	10.5	6,800	2,650	7,970	4,040
	233	346.7	407.4	403.6	27.18	43.69	15.2	441.9	125,000	47,900	16.8	10.4	6,140	2,380	7,140	3,620
	211	314.0	399.3	401.3	24.89	39.62	15.2	400.0	111,000	42,700	16.6	10.3	5,540	2,130	6,390	3,240
	193	287.2	393.2	399.0	22.61	36.58	15.2	366.5	99,800	38,800	16.5	10.3	5,080	1,940	5,810	2,960
	176	261.9	386.6	397.5	21.08	33.27	15.2	334.2	89,000	34,900	16.3	10.2	4,610	1,750	5,240	2,670
	159	236.6	380.5	395.4	18.92	30.23	15.2	301.3	79,100	31,200	16.2	10.2	4,160	1,580	4,700	2,390
	145	215.8	375.4	393.7	17.27	27.69	15.2	275.5	71,200	28,200	16.1	10.1	3,800	1,430	4,260	2,170
W14 x 14.5 x	132	196.4	372.4	374.0	16.38	26.16	15.2	250.3	63,700	22,800	16.0	9.55	3,420	1,220	3,840	1,850
	120	178.6	367.8	372.6	14.99	23.88	15.2	227.7	57,300	20,600	15.9	9.51	3,110	1,110	3,470	1,680
	109	162.2	363.7	371.0	13.35	21.84	15.2	206.5	51,600	18,600	15.8	9.49	2,830	1,000	3,140	1,520
	99	147.3	359.7	370.0	12.32	19.81	15.2	187.7	46,200	16,700	15.7	9.44	2,570	904	2,840	1,370
	90	133.9	356.1	368.8	11.18	18.03	15.2	171.0	41,600	15,100	15.6	9.39	2,340	818	2,570	1,240
W12 x 12 x	336 *	500.0	427.2	340.0	45.09	75.06	15.2	637.4	169,000	49,400	16.3	8.80	7,910	2,910	9,880	4,480
	305 *	453.9	414.5	336.2	41.28	68.71	15.2	578.1	148,000	43,700	16.0	8.69	7,120	2,600	8,810	4,010
	279 *	415.2	402.6	333.8	38.86	62.74	15.2	528.4	130,000	39,000	15.7	8.59	6,440	2,340	7,890	3,600
	252 *	375.0	391.4	330.3	35.43	57.15	15.2	478.1	113,000	34,400	15.4	8.49	5,780	2,090	7,020	3,210
	230 *	342.3	382.3	327.5	32.64	52.58	15.2	436.8	101,000	30,900	15.2	8.41	5,260	1,890	6,330	2,900
	210 *	312.5	373.6	324.9	29.97	48.26	15.2	398.7	89,300	27,600	15.0	8.33	4,780	1,700	5,700	2,610
	190	282.8	365.3	321.8	26.92	44.07	15.2	360.0	78,700	24,500	14.8	8.25	4,310	1,520	5,100	2,340
	170	253.0	356.4	319.3	24.38	39.62	15.2	322.6	68,500	21,500	14.6	8.17	3,840	1,350	4,500	2,060
	152	226.2	348.2	317.0	22.10	35.56	15.2	288.4	59,600	18,900	14.4	8.10	3,420	1,190	3,980	1,820
	136	202.4	340.6	315.0	20.07	31.75	15.2	257.4	51,800	16,600	14.2	8.02	3,040	1,050	3,500	1,610
	120	178.6	333.2	312.9	18.03	28.07	15.2	227.7	44,600	14,400	14.0	7.94	2,680	917	3,050	1,400
	106	157.7	327.4	310.4	15.49	25.15	15.2	201.3	38,800	12,500	13.9	7.89	2,370	808	2,680	1,230
	96	142.9	322.8	308.9	13.97	22.86	15.2	181.9	34,700	11,200	13.8	7.86	2,150	727	2,410	1,110
	87	129.5	318.3	308.0	13.08	20.57	15.2	165.2	30,800	10,000	13.7	7.79	1,940	651	2,160	990
	79	117.6	314.5	306.8	11.94	18.67	15.2	149.7	27,600	8,990	13.6	7.75	1,750	586	1,950	891
	72	107.1	311.2	305.8	10.92	17.02	15.2	136.1	24,800	8,120	13.5	7.72	1,600	531	1,770	806
	65	96.73	307.8	304.8	9.91	15.37	15.2	123.2	22,200	7,260	13.4	7.67	1,440	476	1,590	722

Please contact us in advance to order these sizes with "*" mark.
Dimensions except for root radius are exact conversions of ones in imperial unit.

Dimensions and Properties



ASTM W sections [Metric Unit]

Nominal Size		Mass per Meter kg/m	Depth of section D mm	Width of section B mm	Thickness Web t mm	Thickness Flange T mm	Root Radius r mm	Area of Section A cm^2	Second Moment of Area Axis x-x Ix cm^4	Second Moment of Area Axis y-y Iy cm^4	Radius of Gyration Axis x-x rx cm	Radius of Gyration Axis y-y ry cm	Elastic Modulus Axis x-x Zx cm^3	Elastic Modulus Axis y-y Zy cm^3	Plastic Modulus Axis x-x Sx cm^3	Plastic Modulus Axis y-y Sy cm^3
HP14 x	117 *	174.1	360.9	378.1	20.45	20.45	15.2	221.9	50,900	18,400	15.1	9.12	2,820	976	3,190	1,500
	102 *	151.8	355.9	375.5	17.91	17.91	15.2	193.5	43,800	15,800	15.0	9.04	2,460	843	2,760	1,290
	89 *	132.4	351.3	373.3	15.62	15.62	15.2	168.4	37,600	13,600	14.9	8.97	2,140	726	2,390	1,110
	73 *	108.6	345.7	370.5	12.83	12.83	15.2	138.1	30,300	10,900	14.8	8.88	1,750	587	1,940	895
HP12 x	84	125.0	311.9	312.3	17.40	17.40	15.2	158.7	27,000	8,850	13.1	7.47	1,730	567	1,960	872
	74	110.1	308.1	310.3	15.37	15.49	15.2	140.6	23,700	7,720	13.0	7.41	1,540	498	1,730	764
	63	93.75	303.3	308.0	13.08	13.08	15.2	118.7	19,700	6,380	12.9	7.33	1,300	414	1,450	634
	53	78.87	299.2	305.9	11.05	11.05	15.2	100.0	16,400	5,280	12.8	7.27	1,090	345	1,210	527

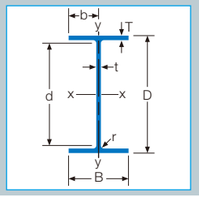
Please contact us in advance to order these sizes with "*" mark.
Dimensions except for root radius are exact conversions of ones in imperial unit.

JIS H sections [Metric Unit]

Nominal Size				
900 x 300	210 (H890 x 299 x 15 x 23)	240 (H900 x 300 x 16 x 28)	283 (H912 x 302 x 18 x 34)	304 (H918 x 303 x 19 x 37)
800 x 300	207 (H800 x 300 x 14 x 26)			
700 x 300	182 (H700 x 300 x 13 x 24)			
600 x 300	147 (H588 x 300 x 12 x 20)			
600 x 200	103 (H600 x 200 x 11 x 17)			
500 x 300	125 (H488 x 300 x 11 x 18)			
500 x 200	88.2 (H500 x 200 x 10 x 16)			
450 x 300	121 (H440 x 300 x 11 x 18)			
450 x 200	74.9 (H450 x 200 x 9 x 14)			
400 x 400	172 (H400 x 400 x 13 x 21)	232 (H414 x 405 x 18 x 28)	283 (H428 x 407 x 20 x 35)	415 (H458 x 417 x 30 x 50)	605 (H498 x 432 x 45 x 70)
400 x 300	105 (H390 x 300 x 10 x 16)			
400 x 200	65.4 (H400 x 200 x 8 x 13)			
350 x 350	135 (H350 x 350 x 12 x 19)			
300 x 300	93 (H300 x 300 x 10 x 15)			

Please contact us in advance to other sizes than the above-mentioned, described in the JIS G 3192 dated 2000 or before.

Dimensions and Properties



JIS H sections [Metric Unit]

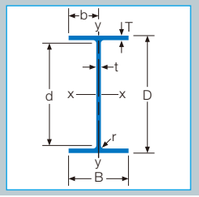
Nominal Size			Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Area of Section	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus	
						Web	Flange			Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y
			kg/m	D mm	B mm	t mm	T mm	r mm	A cm^2	Ix cm^4	Iy cm^4	rx cm	ry cm	Zx cm^3	Zy cm^3	Sx cm^3	Sy cm^3
900 x 300	x 304	H918 x 303 x 19 x 37	304	918	303	19	37	18	387.4	535,000	17,200	37.2	6.67	11,700	1,140	13,400	1,780
	x 283	H912 x 302 x 18 x 34	283	912	302	18	34	18	360.1	491,000	15,700	36.9	6.59	10,800	1,040	12,300	1,620
	x 240	H900 x 300 x 16 x 28	240	900	300	16	28	18	305.8	404,000	12,600	36.4	6.43	8,990	842	10,300	1,320
	x 210	H890 x 299 x 15 x 23	210	890	299	15	23	18	266.9	339,000	10,300	35.6	6.20	7,610	687	8,750	1,080
800 x 300	x 207	H800 x 300 x 14 x 26	207	800	300	14	26	18	263.5	286,000	11,700	33.0	6.67	7,160	781	8,100	1,210
700 x 300	x 182	H700 x 300 x 13 x 24	182	700	300	13	24	18	231.5	197,000	10,800	29.2	6.83	5,640	721	6,340	1,110
600 x 300	x 147	H588 x 300 x 12 x 20	147	588	300	12	20	13	187.2	114,000	9,010	24.7	6.94	3,890	601	4,350	921
600 x 200	x 103	H600 x 200 x 11 x 17	103	600	200	11	17	13	131.7	75,600	2,270	24.0	4.16	2,520	227	2,900	358
500 x 300	x 125	H488 x 300 x 11 x 18	125	488	300	11	18	13	159.2	68,900	8,110	20.8	7.14	2,820	540	3,130	825
500 x 200	x 88	H500 x 200 x 10 x 16	88.2	500	200	10	16	13	112.3	46,800	2,140	20.4	4.36	1,870	214	2,130	333
450 x 300	x 121	H440 x 300 x 11 x 18	121	440	300	11	18	13	153.9	54,700	8,110	18.9	7.26	2,490	540	2,760	823
450 x 200	x 75	H450 x 200 x 9 x 14	74.9	450	200	9	14	13	95.43	32,900	1,870	18.6	4.43	1,460	187	1,650	290
400 x 400	x 605	H498 x 432 x 45 x 70	605	498	432	45	70	22	770.1	298,000	94,400	19.7	11.1	12,000	4,370	14,500	6,720
	x 415	H458 x 417 x 30 x 50	415	458	417	30	50	22	528.6	187,000	60,500	18.8	10.7	8,170	2,900	9,540	4,440
	x 283	H428 x 407 x 20 x 35	283	428	407	20	35	22	360.7	119,000	39,400	18.2	10.4	5,570	1,930	6,310	2,940
	x 232	H414 x 405 x 18 x 28	232	414	405	18	28	22	295.4	92,800	31,000	17.7	10.2	4,480	1,530	5,030	2,330
	x 172	H400 x 400 x 13 x 21	172	400	400	13	21	22	218.7	66,600	22,400	17.5	10.1	3,330	1,120	3,670	1,700
400 x 300	x 105	H390 x 300 x 10 x 16	105	390	300	10	16	13	133.2	37,900	7,200	16.9	7.35	1,940	480	2,140	730
400 x 200	x 65	H400 x 200 x 8 x 13	65.4	400	200	8	13	13	83.37	23,500	1,740	16.8	4.56	1,170	174	1,310	267
350 x 350	x 135	H350 x 350 x 12 x 19	135	350	350	12	19	13	171.9	39,800	13,600	15.2	8.89	2,280	776	2,520	1,180
300 x 300	x 93	H300 x 300 x 10 x 15	93.0	300	300	10	15	13	118.4	20,200	6,750	13.1	7.55	1,350	450	1,480	683

HC400 [Metric Unit]

Section					
508	508 x 432 x 45 x 75	508 x 437 x 50 x 75	508 x 442 x 55 x 75	508 x 447 x 60 x 75	508 x 452 x 65 x 75
	508 x 457 x 70 x 75	508 x 462 x 75 x 75			
498	498 x 427 x 40 x 70	498 x 432 x 45 x 70	498 x 437 x 50 x 70	498 x 442 x 55 x 70	498 x 447 x 60 x 70
	498 x 452 x 65 x 70	498 x 457 x 70 x 70			
488	488 x 422 x 35 x 65	488 x 427 x 40 x 65	488 x 432 x 45 x 65	488 x 437 x 50 x 65	488 x 442 x 55 x 65
	488 x 447 x 60 x 65	488 x 452 x 65 x 65			
478	478 x 417 x 30 x 60	478 x 422 x 35 x 60	478 x 427 x 40 x 60	478 x 432 x 45 x 60	478 x 437 x 50 x 60
	478 x 442 x 55 x 60	478 x 447 x 60 x 60			
468	468 x 417 x 30 x 55	468 x 422 x 35 x 55	468 x 427 x 40 x 55	468 x 432 x 45 x 55	468 x 437 x 50 x 55
	468 x 442 x 55 x 55				
458	458 x 412 x 25 x 50	458 x 417 x 30 x 50	458 x 422 x 35 x 50	458 x 427 x 40 x 50	458 x 432 x 45 x 50
	458 x 437 x 50 x 50	458 x 442 x 55 x 50			
448	448 x 412 x 25 x 45	448 x 417 x 30 x 45	448 x 422 x 35 x 45	448 x 427 x 40 x 45	448 x 432 x 45 x 45
	448 x 437 x 50 x 45				
438	438 x 407 x 20 x 40	438 x 412 x 25 x 40	438 x 417 x 30 x 40	438 x 422 x 35 x 40	438 x 427 x 40 x 40
	438 x 432 x 45 x 40				
428	428 x 407 x 20 x 35	428 x 412 x 25 x 35	428 x 417 x 30 x 35	428 x 422 x 35 x 35	428 x 427 x 40 x 35
	428 x 432 x 45 x 35				
418	418 x 402 x 15 x 30	418 x 407 x 20 x 30	418 x 412 x 25 x 30	418 x 417 x 30 x 30	418 x 422 x 35 x 30
	418 x 427 x 40 x 30				
408	408 x 417 x 30 x 25	408 x 422 x 35 x 25			
398	398 x 412 x 25 x 20	398 x 417 x 30 x 20			

Please contact us in advance to order all sizes.

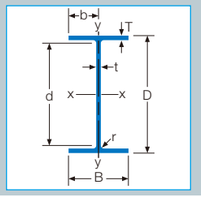
Dimensions and Properties



HC400 [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Area of Section	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus	
					Web	Flange			Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y
		kg/m	D mm	B mm	t mm	T mm	r mm	A cm^2	Ix cm^4	Iy cm^4	rx cm	ry cm	Zx cm^3	Zy cm^3	Sx cm^3	Sy cm^3
508	508 x 462 x 75 x 75	758	508	462	75.0	75.0	22.0	965.7	358,000	125,000	19.3	11.4	14,100	5,390	17,500	8,530
	508 x 457 x 70 x 75	738	508	457	70.0	75.0	22.0	940.3	353,000	120,000	19.4	11.3	13,900	5,270	17,200	8,290
	508 x 452 x 65 x 75	718	508	452	65.0	75.0	22.0	914.9	347,000	116,000	19.5	11.3	13,700	5,150	16,800	8,060
	508 x 447 x 60 x 75	698	508	447	60.0	75.0	22.0	889.5	342,000	112,000	19.6	11.2	13,400	5,030	16,500	7,830
	508 x 442 x 55 x 75	678	508	442	55.0	75.0	22.0	864.1	336,000	108,000	19.7	11.2	13,200	4,910	16,200	7,610
	508 x 437 x 50 x 75	658	508	437	50.0	75.0	22.0	838.7	331,000	105,000	19.9	11.2	13,000	4,790	15,900	7,400
	508 x 432 x 45 x 75	638	508	432	45.0	75.0	22.0	813.3	325,000	101,000	20.0	11.1	12,800	4,680	15,500	7,190
498	498 x 457 x 70 x 70	702	498	457	70.0	70.0	22.0	894.6	324,000	112,000	19.0	11.2	13,000	4,920	16,000	7,760
	498 x 452 x 65 x 70	683	498	452	65.0	70.0	22.0	869.7	318,000	109,000	19.1	11.2	12,800	4,810	15,700	7,540
	498 x 447 x 60 x 70	663	498	447	60.0	70.0	22.0	844.8	313,000	105,000	19.3	11.1	12,600	4,690	15,400	7,330
	498 x 442 x 55 x 70	644	498	442	55.0	70.0	22.0	819.9	308,000	101,000	19.4	11.1	12,400	4,580	15,100	7,120
	498 x 437 x 50 x 70	624	498	437	50.0	70.0	22.0	795.0	303,000	97,800	19.5	11.1	12,200	4,470	14,800	6,920
	498 x 432 x 45 x 70	604	498	432	45.0	70.0	22.0	770.1	298,000	94,400	19.7	11.1	12,000	4,370	14,500	6,720
	498 x 427 x 40 x 70	585	498	427	40.0	70.0	22.0	745.2	293,000	91,000	19.8	11.1	11,800	4,260	14,100	6,540
488	488 x 452 x 65 x 65	647	488	452	65.0	65.0	22.0	824.5	291,000	101,000	18.8	11.1	11,900	4,470	14,600	7,030
	488 x 447 x 60 x 65	628	488	447	60.0	65.0	22.0	800.1	286,000	97,500	18.9	11.0	11,700	4,360	14,300	6,830
	488 x 442 x 55 x 65	609	488	442	55.0	65.0	22.0	775.7	281,000	94,100	19.0	11.0	11,500	4,260	14,000	6,630
	488 x 437 x 50 x 65	590	488	437	50.0	65.0	22.0	751.3	277,000	90,800	19.2	11.0	11,300	4,160	13,700	6,440
	488 x 432 x 45 x 65	571	488	432	45.0	65.0	22.0	726.9	272,000	87,600	19.3	11.0	11,100	4,060	13,400	6,260
	488 x 427 x 40 x 65	551	488	427	40.0	65.0	22.0	702.5	267,000	84,600	19.5	11.0	10,900	3,960	13,100	6,080
	488 x 422 x 35 x 65	532	488	422	35.0	65.0	22.0	678.1	262,000	81,600	19.7	11.0	10,700	3,870	12,800	5,910
478	478 x 447 x 60 x 60	593	478	447	60.0	60.0	22.0	755.4	260,000	90,000	18.6	10.9	10,900	4,030	13,200	6,330
	478 x 442 x 55 x 60	574	478	442	55.0	60.0	22.0	731.5	256,000	86,900	18.7	10.9	10,700	3,930	12,900	6,150
	478 x 437 x 50 x 60	555	478	437	50.0	60.0	22.0	707.6	251,000	83,900	18.8	10.9	10,500	3,840	12,600	5,970
	478 x 432 x 45 x 60	537	478	432	45.0	60.0	22.0	683.7	246,000	80,900	19.0	10.9	10,300	3,750	12,300	5,790
	478 x 427 x 40 x 60	518	478	427	40.0	60.0	22.0	659.8	242,000	78,100	19.1	10.9	10,100	3,660	12,100	5,620
	478 x 422 x 35 x 60	499	478	422	35.0	60.0	22.0	635.9	237,000	75,300	19.3	10.9	9,930	3,570	11,800	5,460
	478 x 417 x 30 x 60	480	478	417	30.0	60.0	22.0	612.0	233,000	72,600	19.5	10.9	9,740	3,480	11,500	5,310
468	468 x 442 x 55 x 55	539	468	442	55.0	55.0	22.0	687.3	231,000	79,700	18.3	10.8	9,870	3,610	11,900	5,660
	468 x 437 x 50 x 55	521	468	437	50.0	55.0	22.0	663.9	227,000	76,900	18.5	10.8	9,680	3,520	11,600	5,490
	468 x 432 x 45 x 55	503	468	432	45.0	55.0	22.0	640.5	222,000	74,200	18.6	10.8	9,500	3,440	11,300	5,320
	468 x 427 x 40 x 55	484	468	427	40.0	55.0	22.0	617.1	218,000	71,600	18.8	10.8	9,320	3,350	11,100	5,170
	468 x 422 x 35 x 55	466	468	422	35.0	55.0	22.0	593.7	214,000	69,000	19.0	10.8	9,130	3,270	10,800	5,020
	468 x 417 x 30 x 55	448	468	417	30.0	55.0	22.0	570.3	209,000	66,600	19.2	10.8	8,950	3,190	10,500	4,870
458	458 x 442 x 55 x 50	505	458	442	55.0	50.0	22.0	643.1	207,000	72,500	17.9	10.6	9,050	3,280	10,900	5,170
	458 x 437 x 50 x 50	487	458	437	50.0	50.0	22.0	620.2	203,000	70,000	18.1	10.6	8,870	3,200	10,600	5,010
	458 x 432 x 45 x 50	469	458	432	45.0	50.0	22.0	597.3	199,000	67,500	18.3	10.6	8,700	3,120	10,300	4,860
	458 x 427 x 40 x 50	451	458	427	40.0	50.0	22.0	574.4	195,000	65,100	18.4	10.6	8,520	3,050	10,100	4,710
	458 x 422 x 35 x 50	433	458	422	35.0	50.0	22.0	551.5	191,000	62,800	18.6	10.7	8,350	2,980	9,800	4,570
	458 x 417 x 30 x 50	415	458	417	30.0	50.0	22.0	528.6	187,000	60,500	18.8	10.7	8,170	2,900	9,540	4,440
	458 x 412 x 25 x 50	397	458	412	25.0	50.0	22.0	505.7	183,000	58,300	19.0	10.7	8,000	2,830	9,280	4,310

Please contact us and confirm minimum lot in advance to order all sizes.



HC400 [Metric Unit]

Nominal Size		Mass per Meter	Depth of section	Width of section	Thickness		Root Radius	Area of Section	Second Moment of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus	
					Web	Flange			Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y	Axis x-x	Axis y-y
		kg/m	D mm	B mm	t mm	T mm	r mm	A cm^2	Ix cm^4	Iy cm^4	rx cm	ry cm	Zx cm^3	Zy cm^3	Sx cm^3	Sy cm^3
448	448 x 437 x 50 x 45	453	448	437	50.0	45.0	22.0	576.5	181,000	63,000	17.7	10.5	8,070	2,880	9,600	4,530
	448 x 432 x 45 x 45	435	448	432	45.0	45.0	22.0	554.1	177,000	60,800	17.9	10.5	7,900	2,810	9,350	4,390
	448 x 427 x 40 x 45	417	448	427	40.0	45.0	22.0	531.7	173,000	58,600	18.1	10.5	7,730	2,750	9,100	4,260
	448 x 422 x 35 x 45	400	448	422	35.0	45.0	22.0	509.3	169,000	56,500	18.2	10.5	7,570	2,680	8,850	4,130
	448 x 417 x 30 x 45	382	448	417	30.0	45.0	22.0	486.9	166,000	54,500	18.5	10.6	7,400	2,610	8,600	4,000
	448 x 412 x 25 x 45	365	448	412	25.0	45.0	22.0	464.5	162,000	52,500	18.7	10.6	7,230	2,550	8,340	3,880
438	438 x 432 x 45 x 40	401	438	432	45.0	40.0	22.0	510.9	156,000	54,100	17.5	10.3	7,110	2,500	8,390	3,930
	438 x 427 x 40 x 40	384	438	427	40.0	40.0	22.0	489.0	152,000	52,100	17.6	10.3	6,950	2,440	8,150	3,800
	438 x 422 x 35 x 40	367	438	422	35.0	40.0	22.0	467.1	149,000	50,300	17.8	10.4	6,790	2,380	7,910	3,680
	438 x 417 x 30 x 40	349	438	417	30.0	40.0	22.0	445.2	145,000	48,400	18.1	10.4	6,630	2,320	7,670	3,570
	438 x 412 x 25 x 40	332	438	412	25.0	40.0	22.0	423.3	142,000	46,700	18.3	10.5	6,470	2,270	7,430	3,460
	438 x 407 x 20 x 40	315	438	407	20.0	40.0	22.0	401.4	138,000	45,000	18.6	10.6	6,310	2,210	7,190	3,350
428	428 x 432 x 45 x 35	367	428	432	45.0	35.0	22.0	467.7	136,000	47,300	17.0	10.1	6,330	2,190	7,460	3,460
	428 x 427 x 40 x 35	350	428	427	40.0	35.0	22.0	446.3	132,000	45,600	17.2	10.1	6,180	2,140	7,230	3,340
	428 x 422 x 35 x 35	334	428	422	35.0	35.0	22.0	424.9	129,000	44,000	17.4	10.2	6,030	2,080	7,000	3,240
	428 x 417 x 30 x 35	317	428	417	30.0	35.0	22.0	403.5	126,000	42,400	17.7	10.3	5,880	2,030	6,770	3,130
	428 x 412 x 25 x 35	300	428	412	25.0	35.0	22.0	382.1	122,000	40,900	17.9	10.3	5,720	1,980	6,540	3,030
	428 x 407 x 20 x 35	283	428	407	20.0	35.0	22.0	360.7	119,000	39,400	18.2	10.4	5,570	1,930	6,310	2,940
418	418 x 427 x 40 x 30	317	418	427	40.0	30.0	22.0	403.6	113,000	39,100	16.7	9.85	5,410	1,830	6,320	2,890
	418 x 422 x 35 x 30	300	418	422	35.0	30.0	22.0	382.7	110,000	37,700	17.0	9.93	5,270	1,790	6,110	2,790
	418 x 417 x 30 x 30	284	418	417	30.0	30.0	22.0	361.8	107,000	36,400	17.2	10.0	5,120	1,740	5,890	2,700
	418 x 412 x 25 x 30	268	418	412	25.0	30.0	22.0	340.9	104,000	35,000	17.5	10.1	4,980	1,700	5,670	2,610
	418 x 407 x 20 x 30	251	418	407	20.0	30.0	22.0	320.0	101,000	33,700	17.8	10.3	4,830	1,660	5,450	2,530
	418 x 402 x 15 x 30	235	418	402	15.0	30.0	22.0	299.1	98,000	32,500	18.1	10.4	4,690	1,620	5,230	2,450
408	408 x 422 x 35 x 25	267	408	422	35.0	25.0	22.0	340.5	92,100	31,500	16.5	9.61	4,520	1,490	5,230	2,340
	408 x 417 x 30 x 25	251	408	417	30.0	25.0	22.0	320.1	89,300	30,300	16.7	9.73	4,380	1,450	5,030	2,260
398	398 x 417 x 30 x 20	219	398	417	30.0	20.0	22.0	278.4	72,400	24,300	16.1	9.34	3,640	1,160	4,190	1,830
	398 x 412 x 25 x 20	203	398	412	25.0	20.0	22.0	258.5	69,700	23,400	16.4	9.51	3,500	1,130	3,990	1,760

Please contact us and confirm minimum lot in advance to order all sizes.

Applications

OIL & GAS ENERGY FACILITIES

As the development environment for subsea resource deposits becomes increasingly severe, needs have arisen for offshore structures made from structural steel with high strength and toughness at low temperatures. NIPPON STEEL contributes to the solution of such customer issues through a wide range of structural H-shapes with high strength and toughness for offshore structures used in the North Sea and the Arctic zones.

Excellent Low-Temperature Toughness

High safety against fracture is required for members of offshore structures even in super-cold environments. We have developed **H-shapes with excellent low-temperature toughness, such as one conforming to EN10225-2, S355MLO**, that can keep sufficient toughness down to -40°C.

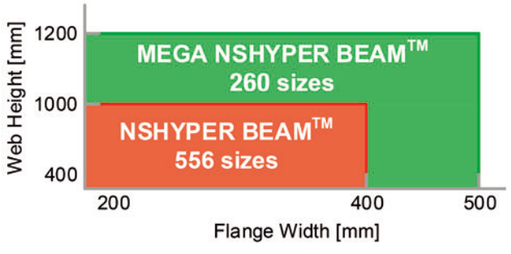
- **Charpy value: Min 50J at -40˚C**
- **Example of CVN Requirement**

Project	Grade	Temperature	CVN
A	**JIS SM490YB**	-20˚C	34J
B	**ASTM A572 Gr50**	-20˚C	40J
C	**EN10225 S355MLO**	-40˚C	50J

Extra Large Cross-Sections

NSHYPER BEAM™ with extra-large cross-sections and a number of size selections can be used as an alternative to built-up sections to shorten construction periods by avoiding welding and quality inspection.

- **Other dimensions and section sizes**



Special Certification

Our structural H-shapes are certified by classification societies as having met their regulatory requirements.

- **Classfication society standards**
  - ABS (USA)
  - BV (France)
  - CR (Taiwan)
  - DNV GL (Noway, Germany)
  - KR (Korea)
  - LR (United Kingdom)
  - NK (Japan)

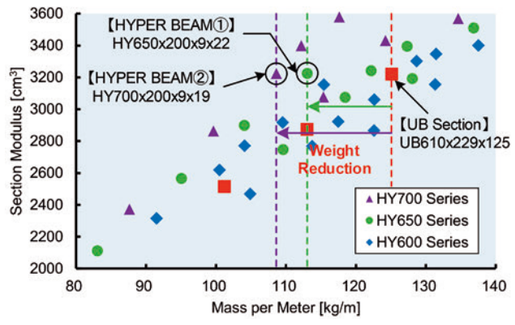
INFRASTRUCTURE BUILDINGS

Structural steel products must continue to progress with seismic resistance capabilities and design qualities to satisfy higher and larger scale construction needs. NIPPON STEEL, as a pioneer in structural H-shapes, contributes to optimize design and fabrication works, shorten work periods and enhance cost savings with wide size variations, improved strength and weldability, and high dimensional accuracy.

Highly Economical Cross-Sections (NSHYPER BEAM™)

With a large number of section sizes and thin webs of NSHYPER BEAM™, steel weight can be reduced further than conventional H-shapes such as ASTM W and UB sections.

- **Cross-section sizes: 840 sizes**
- **Width-to-Thikness ratio: Max 77.8**



Jumbo Cross-Sections

Larger cross-sections may be required for columns, trusses, out-riggers and belt trusses, where the design is governed by axial compression. We have provided **super Jumbo H-shapes with extremely thick plate elements**.

- **Flange thikness: Max 125mm**
- **Maximum per mater:**
  Max 1086kg/m (W14×16×730)

High Strength Steel Grade (S460M)

High strength steel enables significant weight and cost reductions especially for the structural members subjected to compression force. **S460M specified in EN10025-4 as a high strength steel grade is applicable** to UC356x406 series and W14x16 series.

- **Applicable series: UC356×406 (≤634kg/m)**
  W14×16 (≤426lbs)

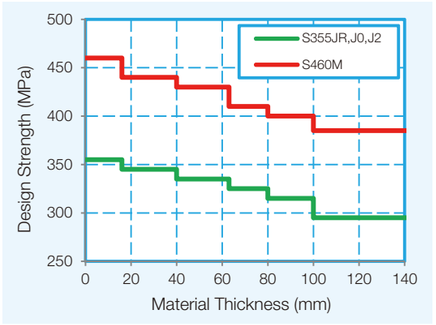
Applications

High Strength Steel Grade (S460M)

Features of High Strength Steel Grade

High strength H-shapes with guaranteed high toughness

"S460M" is a grade of steel produced by thermomechanical rolling specified in EN10025-4 (Technical delivery conditions for thermomechanical rolled weldable fine grain structural steels). The design strength of "S460M" is about 27% greater than those of "S355JR, J0, and J2" and the minimum Charpy value as 40 J at -20°C is guaranteed. Therefore, economical design is possible in such a case that flexural buckling is a decisive failure mode as the member is subjected to large compressive forces.



Current available size

The current available sizes in S460M are UC356 x 406 (≤ 634 kg/m) and W14 x 16 (≤ 426 lbs/ft). These members are often used in columns, king posts, trusses and outriggers which are subjected to large compressive forces.

Nominal Size	Mass per Meter [kg/m] (Mass per Foot [lbs/ft])									
UC356 x 406 x	**235**	**287**	**340**	**393**	**467**	**509**	**551**	**592**	**634**	**677**
	744	**818**	**900**	**990**	**1086**					
W14 x 16 x	**216 (145)**	**237 (159)**	**262 (176)**	**287 (193)**	**314 (211)**	**347 (233)**	**383 (257)**	**421 (283)**	**463 (311)**	**509 (342)**
	551 (370)	**592 (398)**	**634 (426)**	677 (455)	744 (500)	819 (550)	900 (605)	990 (665)	1086 (730)	

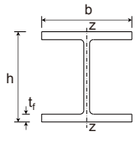
Sections highlighted in red color are current available sizes.

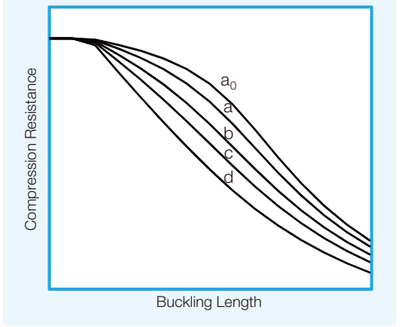
Design Advantage of EN10025-4, S460M based on EN 1993-1-1

Favorable buckling curves for compression resistance

In Euro Code EN 1993-1-1, there are five categories in buckling curves related to calculation of compression resistance. These buckling curves are classified into a_0, a, b, c, and d according to imperfection factors based on steel grades and section profiles. For structural H-shapes with S460, more favorable buckling curves are set, compared with S355, especially where tf ≤ 100 mm.

Limits(mm)		Axis	Buckling Curve			
			S355		S460	
			Rolled	Welded	Rolled	Welded
h/b ≤1.2	tf<40	z-z	c	c	a	c
	tf<100		c	d	a	d
h/b >1.2	tf<40		c	c	a_0	c
	tf<100		c	d	a	d

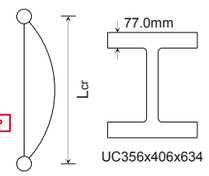




Thanks to favorable buckling curves, the rate of increase of compression resistance ($N_{b,z,Rd}$) compared with S355 is greater than that of design strength (f_y). As a result, a significant reduction of steel weight is achieved by replacing "S355" with "S460".

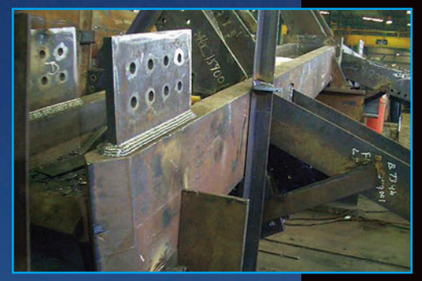
*Buckling length L_{cr} : 4.0m

Section	Steel Grade	Design Strength f_y (MPa)	Buckling Curve	Compression Resistance* $N_{b,z,Rd}$ (kN)
UC356x406x634	S355	325	c	22784
		26%UP		34%UP
	S460	**410**	**a**	**30494**



Worldwide Experience

Buildings

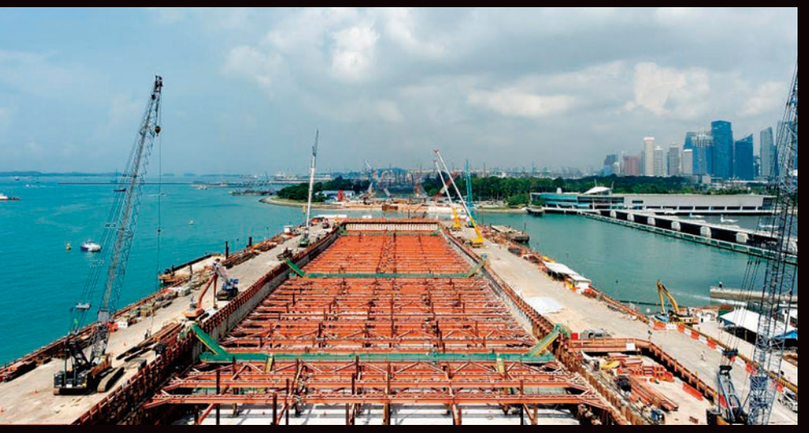


【High-rise Building】
Country : **United Arab Emirates**
Product : **W14x16 series**

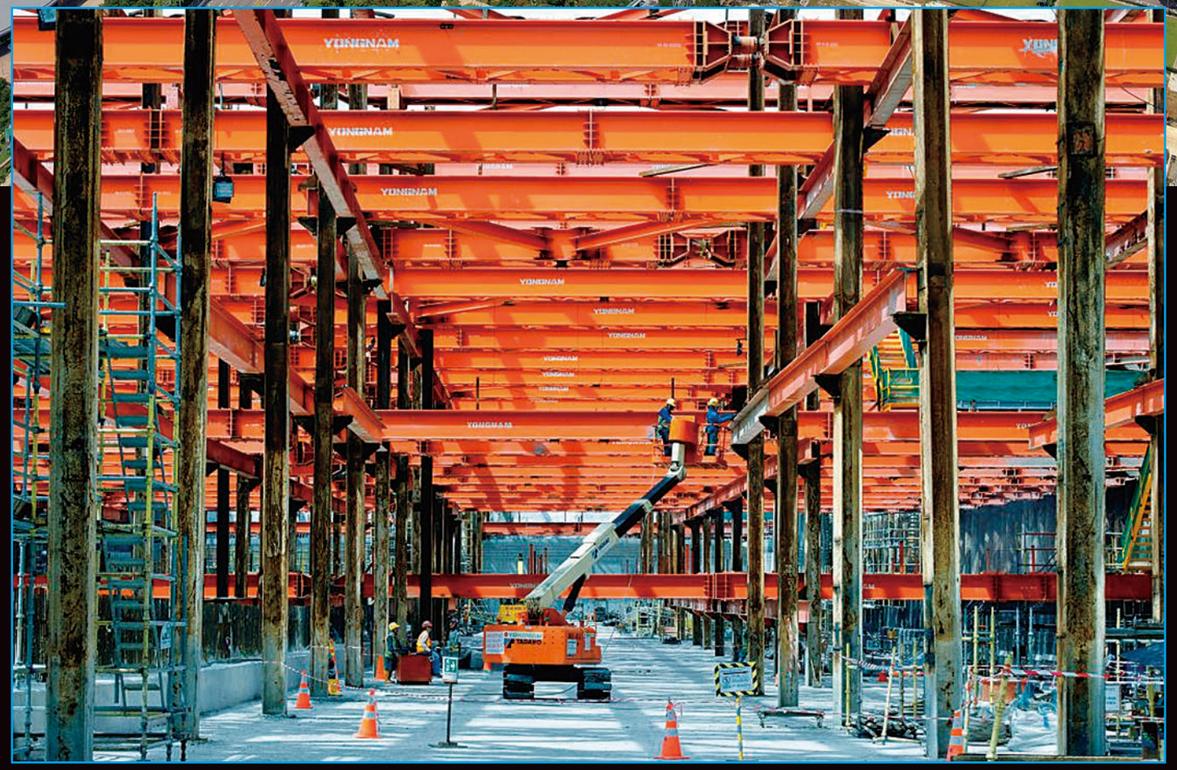
【High-rise Building】
Country : **Indonesia**
Product : **W14x16 series**

【High-rise Building】
Country : **Japan**
Product : **NSHYPER BEAM™**

Soil Retaining Structures



【Temporary Retaining Wall】
Country : Singapore
Product : NSHYPER BEAM™
UC356x406 series



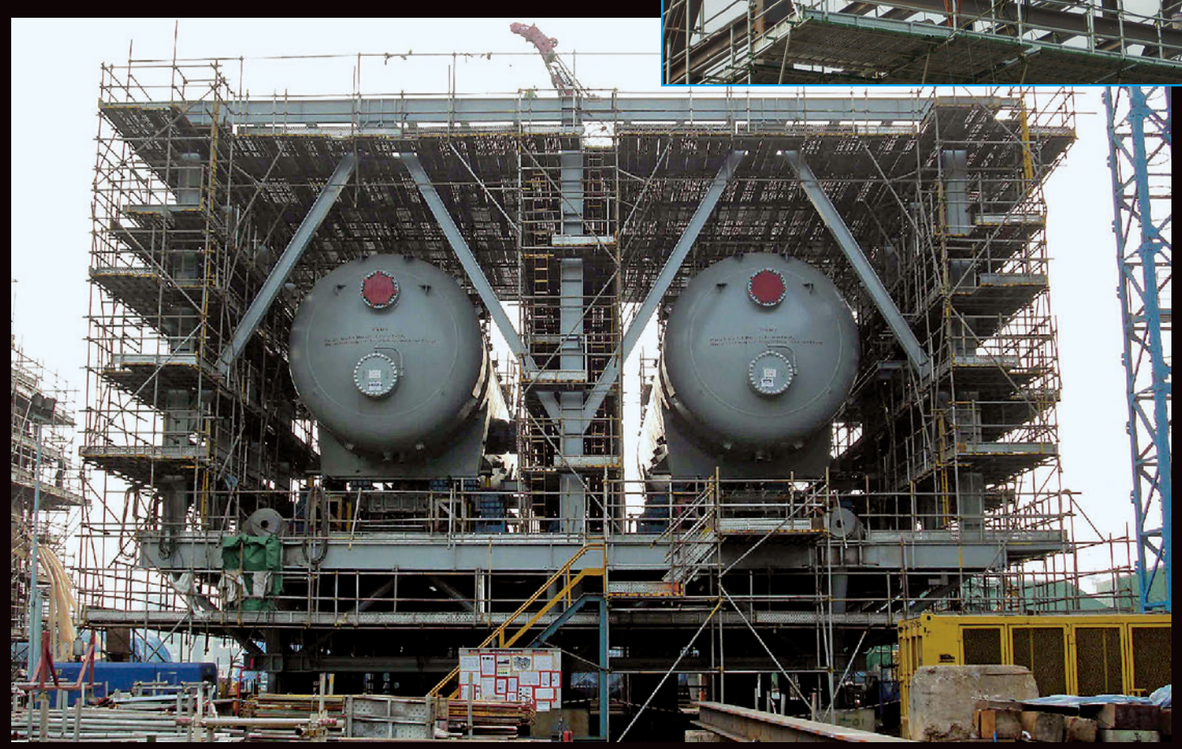
Industrial Facilities

【Heat Recovery Steam Generator】
Country : Thailand
Product : NSHYPER BEAM™

【Steel Finishing Plant】
Country : Indonesia
Product : NSHYPER BEAM™

Oil & Gas Facilities

【Offshore Structure】
Country : Singapore
Product : NSHYPER BEAM™



【Onshore Module Structure】
Country : Australia
Product : NSHYPER BEAM™

Image courtesy of INPEX CORPORATION