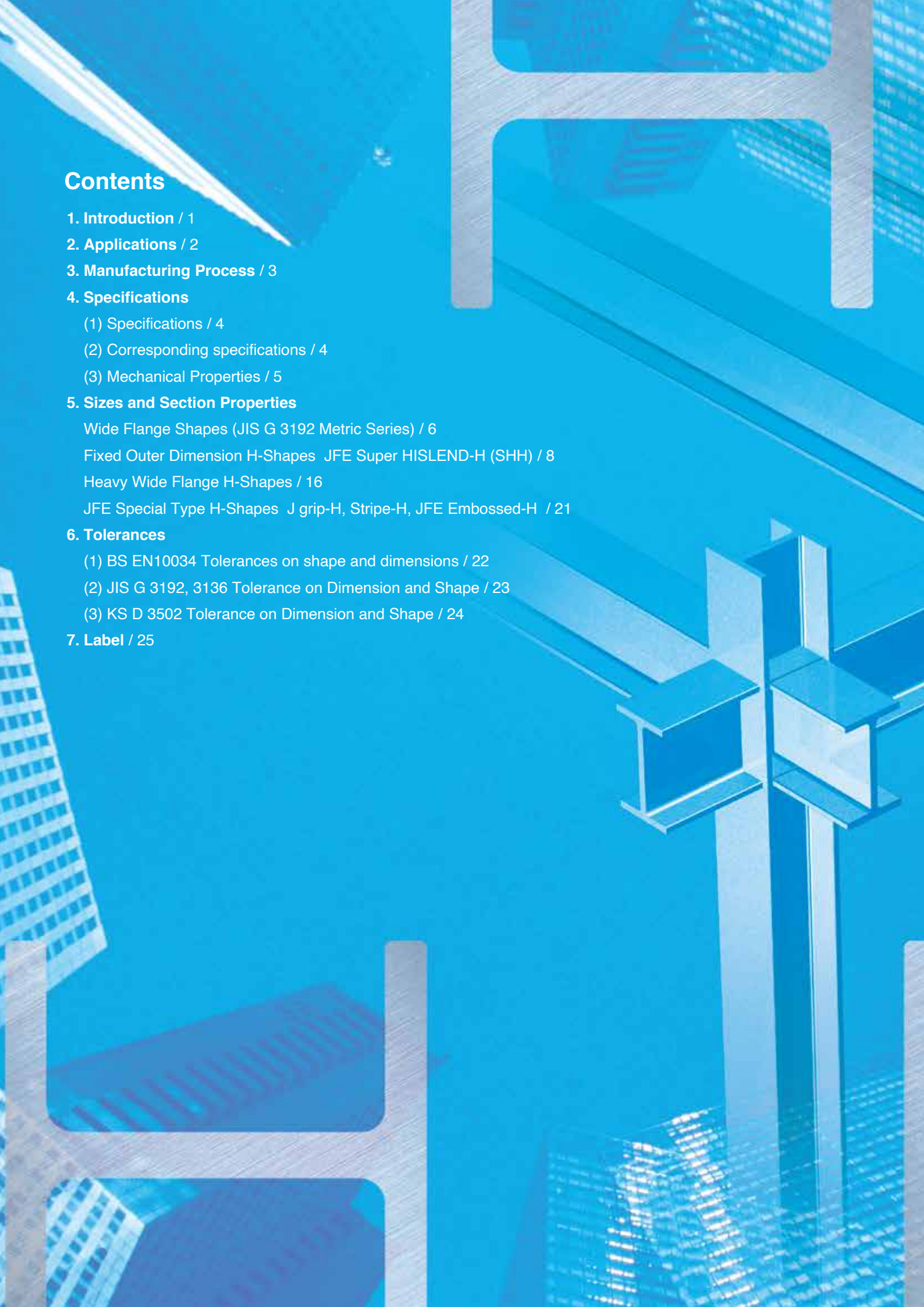
JFE

WIDE FLANGE SHAPES

JFE Steel Corporation



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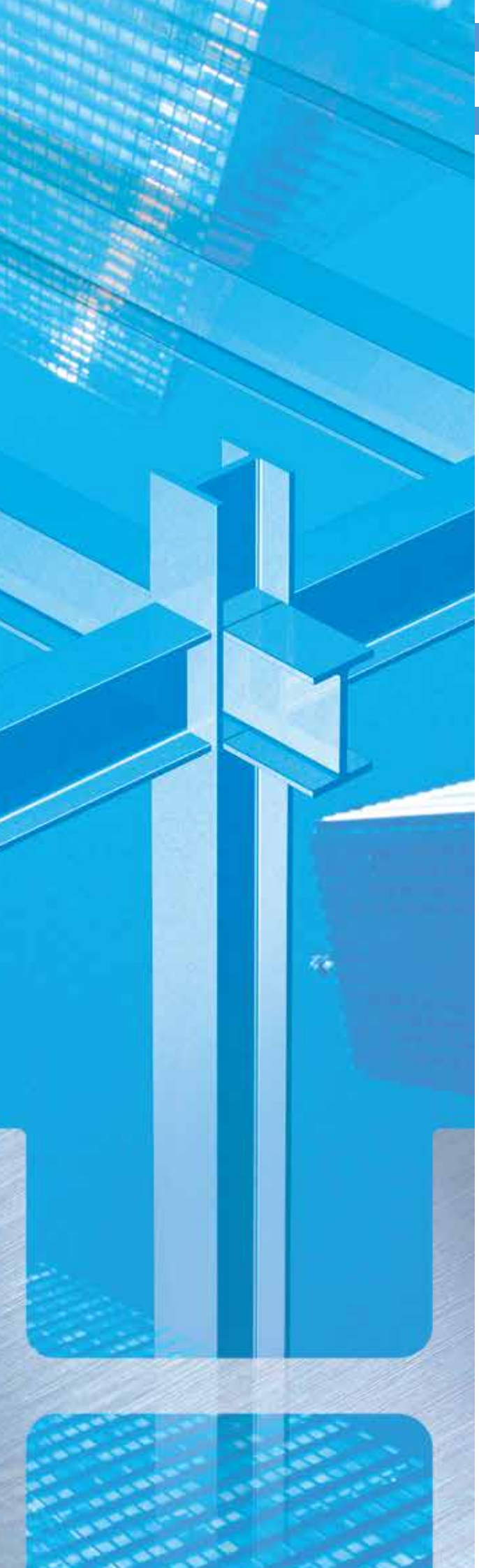


1 Introduction

Cities in redevelopment, high-rise buildings under construction, freeways undergoing modernization – these and many other projects call for wide flange shapes. Because of their outstanding properties, wide flange shapes are widely used for beams, columns and other architectural members, as well as in pile foundations, bridges and other civil engineering works.

Japan's first wide flange shapes were produced in 1961 on JFE Steel Corporation's universal mill. Since then, JFE Steel has been supplying superior quality wide flange shapes based on advanced technology, efficient equipment and intensive research and development activities. JFE Steel's wide flange shapes are available up to 1000 mm in web height and 515 mm in flange width.

Further, JFE Steel's whole production process for order booking through shipment is handled by an advanced computer-controlled order processing system, so the company can provide customers with better service for any requirement.

Features of JFE Steel's Wide Flange Shapes:

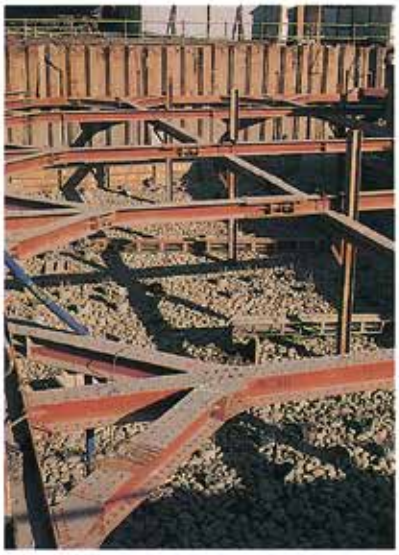
1. Sophisticated properties that satisfy the needs of the day perfectly.
2. A simple configuration, yet excellent cross-sectional performance.
3. Multipurpose application in broad range of crosssectional configurations with other shapes.
4. Marked reduction in construction costs and time through rationalized design work, faster fabrication, and easier on-site execution.

2 Applications

Metropolitan Government Office building

Opera House

Sound insulating walls



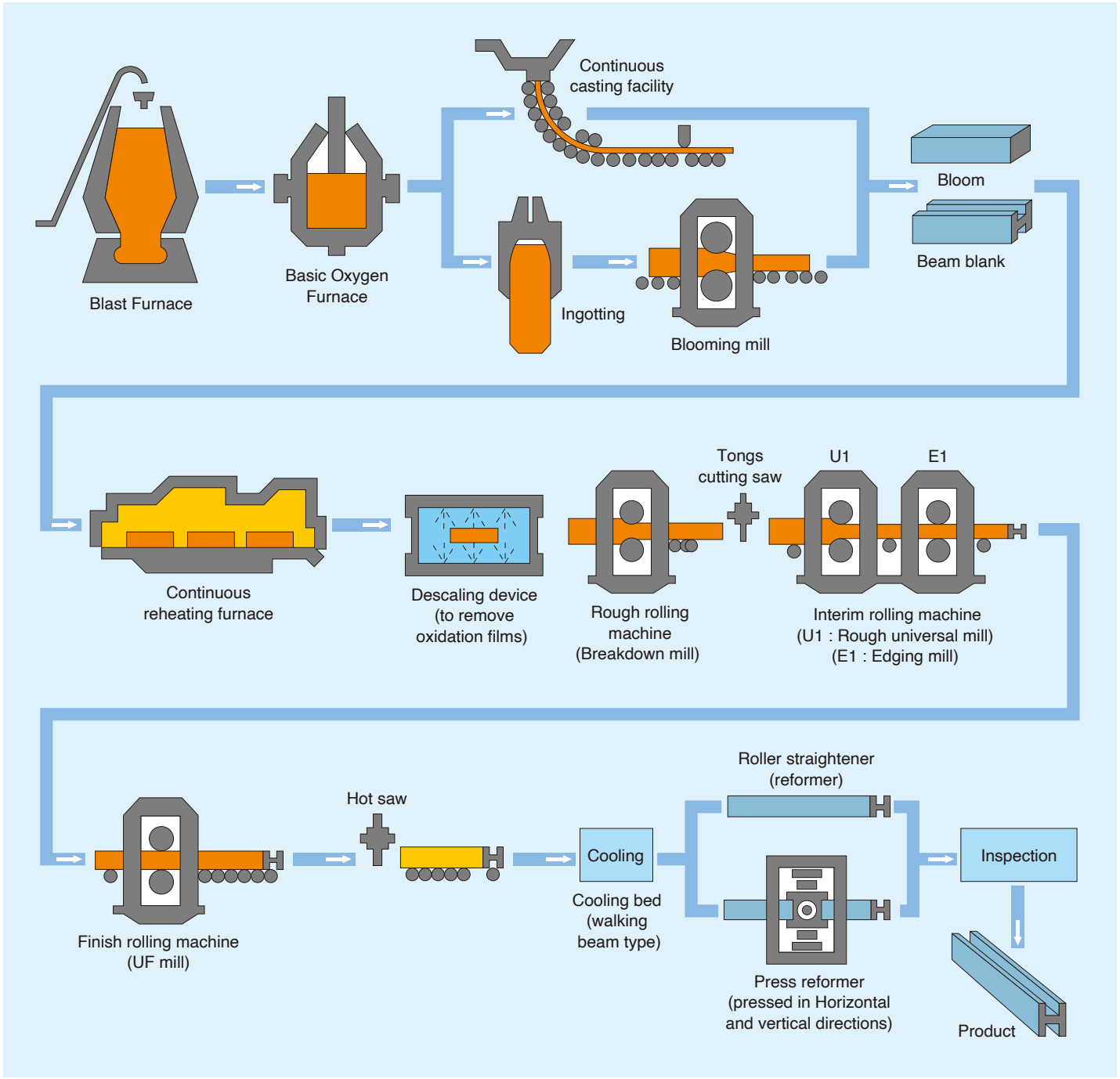
Cofferdams

High-rise building

Station building

Warehouse

3 Manufacturing Process




Rough universal mill


Cooling bed


Roller straightener


Shipment of products

4 Specifications

(1) Specifications

ASTM — ASTM A36, A572

BS — BS EN10025-2

JIS — JIS G 3136 (SN400A, B, C, SN490B, C)
JIS G 3101 (SS400)
JIS G 3106 (SM400A, B, C, SM490A, B, C,SM490YA, YB)

KS — KS D 3503 (SS275)
KS D 3515 (SM275A, SM275B, SM355A, SM355B)
KS D 3866 (SHN355)

(2) Corresponding Specifications

Specification		JIS H JIS G 3192	Fixed Dimension	Heavy Wide Flange	Special Type		
					J grip-H	Stripe-H	Embossed H
ASTM	A36	○					
	A572 Gr.50	○					
	A992	○					
BS EN10025-2	S275JR	○	△				△*
	S275J0	○	△				△*
	S355JR	○	△				△*
	S355J0	○	△				△*
JIS G 3101	SS400	○	○	○			△
JIS G 3106	SM400A	○	○	○		△	
	SM400B	○	○	○			
	SM490A	○	○	○	△	△	△
	SM490B	○	○	○			△*
	SM490YA	○				△	
	SM490YB	○					
JIS G 3136	SN400A	○	○	○			
	SN400B	○	○	○			
	SN490B	○	○	○			
KS D 3503	SS275	○		○			
KS D 3515	SM275A	○		○			
	SM275B	○		○			
	SM355A	○		○			
	SM355B	○		○			
KSD3866	SHN355	○		○			

Some sizes are not manufacturable ; consult us in advance.
Please consult us in advance about the tolerances of the shapes and dimensions marked with △.
* : Test pieces for charpy v-notch testing applies 1/2 size specimens.

(3) Mechanical Properties

ASTM

Type	Yield Strength (MPa) min/max	Tensile Strength (MPa) min/max	Yield to Tensile Ratio (%) max
A36	250/	400/550 *	-
A572 Gr.50	345/	450/	-

* : For wide flange shapes with flange thickness over 3 in. [75mm], the 80 ksi [550MPa] maximum tensile strength does not apply.

BS EN10025-2

Designation	Yield Strength (MPa) min/max						Tensile Strength (MPa) min/max		Impact Test	
	≦16mm	16mm＜ ≦40mm	40mm＜ ≦63mm	63mm＜ ≦80mm	80mm＜ ≦100mm	100mm＜ ≦150mm	3mm≦ ≦100mm	100mm＜ ≦150mm	Tempe-rature (℃)	Minimum Energy (J)
S275JR	275/	265/	255/	245/	235/	225/	410/560	400/540	20	27
S275J0	275/	265/	255/	245/	235/	225/	410/560	400/540	0	27
S355JR	355/	345/	335/	325/	315/	295/	470/630	450/600	20	27
S355J0	355/	345/	335/	325/	315/	295/	470/630	450/600	0	27

JIS G 3101, 3106, 3136

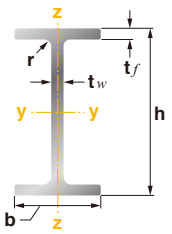
Designation	Yield Strength (MPa) min/max					Tensile Strength (MPa)	Yield to Tensile Ratio max (%)	Impact Test	
	6mm≦ ＜12mm	12mm＜ ≦16mm	16mm＜ ≦40mm	40mm＜ ≦75mm	75mm＜ ≦100mm	≦100mm	12≦	Tempe-rature (℃)	Minimum Energy (J)
SS400	245/	245/	235/	215/	215/	400/510	-	-	-
SM400A	245/	245/	235/	215/	215/	400/510	-	-	-
SM400B	245/	245/	235/	215/	215/	400/510	-	0	27
SM490A	325/	325/	315/	295/	295/	490/610	-	-	-
SM490B	325/	325/	315/	295/	295/	490/610	-	0	27
SM490YA	365/	365/	355/	335/	325/	490/610	-	-	-
SM490YB	365/	365/	355/	335/	325/	490/610	-	0	27
SN400A	235/	235/	235/	215/	215/	400/510	-	-	-
SN400B	235/	235/355	235/355	215/335	215/335	400/510	80	0	27
SN490B	325/	325/445	325/445	295/415	295/415	490/610	80	0	27

KS D 3503, 3515, 3866

Designation	Yield Strength (MPa) min/max					Tensile Strength (MPa)	Yield to Tensile Ratio max (%)	Impact Test	
	6mm≦ ＜12mm	12mm＜ ≦16mm	16mm＜ ≦40mm	40mm＜ ≦75mm	75mm＜ ≦100mm	≦100mm		Tempe-rature (℃)	Minimum Energy (J)
SS275	275/	275/	265/	245/	245/	410/550	-	-	-
SM275A	275/	275/	265/	255/	245/	410/550	-	20	27
SM275B	275/	275/	265/	255/	245/	410/550	-	0	27
SM355A	355/	355/	345/	335/	325/	490/630	-	20	27
SM355B	355/	355/	345/	335/	325/	490/630	-	0	27
SHN355	355/475	355/475	355/475	355/475	-	490/610	85	0	27

Refer to each standard for chemical composition.

5 Sizes and Section Properties



Wide Flange Shapes (JIS G 3192 Metric Series)

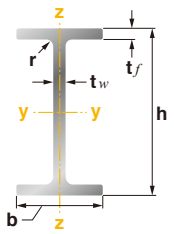
	Nominal Size	Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
	h x b	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
Large Width	400 x 400	*498	432	45	70	22	770.1	605	298,000	94,400	12,000	4,370	14,500	6,720
		*458	417	30	50	22	528.6	415	187,000	60,500	8,170	2,900	9,540	4,440
		428	407	20	35	22	360.7	283	119,000	39,400	5,570	1,930	6,310	2,940
		414	405	18	28	22	295.4	232	92,800	31,000	4,480	1,530	5,030	1,980
		*406	403	16	24	22	254.9	200	78,000	26,200	3,840	1,300	4,280	1,980
		*400	408	21	21	22	250.7	197	70,900	23,800	3,540	1,170	3,990	1,790
		400	400	13	21	22	218.7	172	66,600	22,400	3,330	1,120	3,670	1,700
		*394	405	18	18	22	214.4	168	59,700	20,000	3,030	985	3,390	1,510
		*394	398	11	18	22	186.8	147	56,100	18,900	2,850	951	3,120	1,440
		*388	402	15	15	22	178.5	140	49,000	16,300	2,520	809	2,800	1,240
	350 x 350	*356	352	14	22	13	200.0	157	47,100	16,000	2,650	909	2,950	1,380
		*350	357	19	19	13	196.4	154	42,300	14,400	2,420	808	2,730	1,240
		350	350	12	19	13	171.9	135	39,800	13,600	2,280	776	2,520	1,180
		*344	354	16	16	13	164.7	129	34,900	11,800	2,030	669	2,270	1,020
		*344	348	10	16	13	144.0	113	32,800	11,200	1,910	646	2,090	978
		*338	351	13	13	13	133.3	105	27,700	9,380	1,640	534	1,820	815
	300 x 300	*304	301	11	17	13	133.5	105	23,200	7,730	1,520	514	1,690	779
		*300	305	15	15	13	133.4	105	21,300	7,100	1,420	466	1,600	714
		300	300	10	15	13	118.5	93.0	20,200	6,750	1,350	450	1,480	683
		*298	299	9	14	13	109.5	86.0	18,600	6,240	1,250	417	1,370	632
		*294	302	12	12	13	106.3	83.4	16,600	5,510	1,130	365	1,260	558
	250 x 250	*250	255	14	14	13	103.9	81.6	11,400	3,880	912	304	1,030	467
		250	250	9	14	13	91.43	71.8	10,700	3,650	860	292	953	443
		*248	249	8	13	13	83.95	65.9	9,850	3,350	794	269	875	408
		*244	252	11	11	13	81.31	63.8	8,700	2,940	713	233	797	357
	200 x 200	*208	202	10	16	13	83.69	65.7	6,530	2,200	628	218	710	332
		*200	204	12	12	13	71.53	56.2	4,980	1,700	498	167	565	257
		200	200	8	12	13	63.53	49.9	4,720	1,600	472	160	525	244
	175 x 175	175	175	7.5	11	13	51.43	40.4	2,900	984	331	112	370	172
Medium Width	900 x 300	*918	303	19	37	18	387.4	304	535,000	17,200	11,700	1,140	13,400	1,780
		912	302	18	34	18	360.1	283	491,000	15,700	10,800	1,040	12,300	1,620
		900	300	16	28	18	305.8	240	404,000	12,600	8,990	842	10,300	1,320
		*890	299	15	23	18	266.9	210	339,000	10,300	7,610	687	8,750	1,080
	800 x 300	*816	303	17	34	18	336.0	264	378,000	15,800	9,270	1,040	10,500	1,620
		*808	302	16	30	18	303.7	238	334,000	13,800	8,270	914	9,390	1,420
		800	300	14	26	18	263.5	207	286,000	11,700	7,160	781	8,100	1,210
		*792	300	14	22	18	239.5	188	248,000	9,920	6,270	661	7,140	1,030
	700 x 300	*708	302	15	28	18	269.7	212	233,000	12,900	6,590	853	7,430	1,320
		700	300	13	24	18	231.5	182	197,000	10,800	5,640	721	6,340	1,110
		*692	300	13	20	18	207.5	163	168,000	9,020	4,870	601	5,500	930

Notes : Some sizes are not manufactured constantly, so please contact us in advance.
Standard of sizes marked with * are SS and SM.

	Nominal Size	Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
	h x b	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
Medium Width	600 x 300	*594	302	14	23	13	217.1	170	134,000	10,600	4,500	700	5,060	1,080
		588	300	12	20	13	187.2	147	114,000	9,010	3,890	601	4,350	921
		*582	300	12	17	13	169.2	133	98,900	7,660	3,400	511	3,820	786
	500 x 300	*494	302	13	21	13	187.0	147	81,700	9,650	3,310	639	3,700	978
		488	300	11	18	13	159.2	125	68,900	8,110	2,820	540	3,130	825
		*482	300	11	15	13	141.2	111	58,300	6,760	2,420	450	2,700	690
	450 x 300	*446	302	13	21	13	180.8	142	65,000	9,650	2,920	639	3,250	976
		440	300	11	18	13	153.9	121	54,700	8,110	2,490	540	2,760	976
		*434	299	10	15	13	131.6	103	45,500	6,690	2,090	447	2,320	682
	400 x 300	390	300	10	16	13	133.3	105	37,900	7,200	1,940	480	2,140	730
		*386	299	9	14	13	117.4	92.2	32,900	6,240	1,700	417	1,870	634
	350 x 250	340	250	9	14	13	99.53	78.1	21,200	3,650	1,250	292	1,380	445
		*336	249	8	12	13	86.17	67.6	18,100	3,090	1,070	248	1,190	378
	300 x 200	*298	201	9	14	13	82.03	64.4	13,100	1,900	878	189	982	289
		294	200	8	12	13	71.05	55.8	11,100	1,600	756	160	842	245
	250 x 175	244	175	7	11	13	55.49	43.6	6,040	984	495	112	550	172
	200 x 150	194	150	6	9	8	38.11	29.9	2,630	507	271	67.6	301	103
Small Width	600 x 200	*612	202	13	23	13	168.0	132	101,000	3,170	3,310	314	3,820	495
		*606	201	12	20	13	149.8	118	88,300	2,720	2,910	270	3,360	426
		600	200	11	17	13	131.7	103	75,600	2,270	2,520	227	2,900	358
		*596	199	10	15	13	117.8	92.4	66,600	1,980	2,240	199	2,580	312
	500 x 200	*506	201	11	19	13	129.3	102	55,500	2,580	2,190	256	2,500	399
		500	200	10	16	13	112.3	88.2	46,800	2,140	1,870	214	2,130	333
		*496	199	9	14	13	99.29	77.9	40,800	1,840	1,650	185	1,870	288
	450 x 200	*456	201	10	17	13	112.0	87.9	39,800	2,310	1,750	229	1,980	355
		450	200	9	14	13	95.43	74.9	32,900	1,870	1,460	187	1,650	290
		*446	199	8	12	13	82.97	65.1	28,100	1,580	1,260	159	1,420	245
	400 x 200	*404	201	9	15	13	95.41	74.9	27,200	2,030	1,350	202	1,510	312
		400	200	8	13	13	83.37	65.4	23,500	1,740	1,170	174	1,310	267
		*396	199	7	11	13	71.41	56.1	19,800	1,450	999	145	1,110	223
	350 x 175	*354	176	8	13	13	73.45	57.7	16,000	1,180	906	134	1,020	208
		350	175	7	11	13	62.91	49.4	13,500	984	771	112	864	173
		*346	174	6	9	13	52.45	41.2	11,000	791	638	91.0	712	140
	300 x 150	300	150	6.5	9	13	46.78	36.7	7,210	508	481	67.7	542	105
		*298	149	5.5	8	13	40.80	32.0	6,320	442	424	59.3	475	91.8

Notes : Some sizes are not manufactured constantly, so please contact us in advance.
Standard of sizes marked with * are SS and SM.

5 Sizes and Section Properties



Fixed Outer Dimension H-Shapes –1

JFE Super HISLEND-H (SHH)

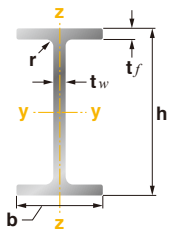
Nominal Size	Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
SH 1000 x 400	1000	400	19	40	18	497.6	391	867,000	42,700	17,300	2,140	19,500	3,290
	1000	400	19	36	18	467.1	367	802,000	38,500	16,000	1,920	18,100	2,970
	1000	400	19	32	18	436.6	343	736,000	34,200	14,700	1,710	16,700	2,650
	1000	400	19	28	18	406.1	319	669,000	29,900	13,400	1,500	15,200	2,330
	1000	400	19	25	18	383.3	301	617,000	26,700	12,300	1,340	14,200	2,090
	1000	400	16	32	18	408.5	321	715,000	34,200	14,300	1,710	16,000	2,620
	1000	400	16	28	18	377.8	297	647,000	29,900	12,900	1,500	14,600	2,300
	1000	400	16	25	18	354.8	279	596,000	26,700	11,900	1,340	13,500	2,060
	1000	400	16	22	18	331.7	260	544,000	23,500	10,900	1,180	12,400	1,820
SH 1000 x 350	1000	350	19	40	18	457.6	359	775,000	28,600	15,500	1,460	17,600	2,540
	1000	350	19	36	18	431.1	338	718,000	25,800	14,400	1,470	16,400	2,290
	1000	350	19	32	18	404.6	318	661,000	22,900	13,200	1,310	15,100	2,050
	1000	350	19	28	18	378.1	297	602,000	20,100	12,000	1,150	13,900	1,800
	1000	350	19	25	18	358.3	281	558,000	17,900	11,200	1,020	12,900	1,620
	1000	350	16	32	18	376.5	296	640,000	22,900	12,800	1,310	14,500	2,020
	1000	350	16	28	18	349.8	275	581,000	20,000	11,600	1,150	13,200	1,780
	1000	350	16	25	18	329.8	259	536,000	17,900	10,700	1,020	12,300	1,600
	1000	350	16	22	18	309.7	243	491,000	15,800	9,820	900	11,300	1,410
SH 1000 x 300	1000	300	19	40	18	417.6	328	682,000	18,100	13,600	1,200	15,700	1,890
	1000	300	19	36	18	395.1	310	634,000	16,300	12,700	1,080	14,600	1,710
	1000	300	19	32	18	372.6	292	586,000	14,500	11,700	964	13,600	1,530
	1000	300	19	28	18	350.1	275	536,000	12,700	10,700	844	12,500	1,350
	1000	300	19	25	18	333.3	262	498,000	11,300	9,970	754	11,700	1,210
	1000	300	16	32	18	344.5	270	565,000	14,400	11,300	962	12,900	1,500
	1000	300	16	28	18	321.8	253	515,000	12,600	10,300	842	11,900	1,320
	1000	300	16	25	18	304.8	239	477,000	11,300	9,540	752	11,100	1,190
	1000	300	16	22	18	287.7	226	438,000	9,940	8,770	662	10,200	1,050
SH 1000 x 250	1000	250	19	40	18	377.6	296	590,000	10,500	11,800	838	13,700	1,340
	1000	250	19	36	18	359.1	282	551,000	9,430	11,000	755	12,900	1,210
	1000	250	19	32	18	340.6	267	511,000	8,390	10,200	671	12,000	1,090
	1000	250	19	28	18	322.1	253	470,000	7,350	9,400	588	11,200	964
	1000	250	19	25	18	308.3	242	439,000	6,570	8,780	526	10,500	871
	1000	250	16	32	18	312.5	245	490,000	8,370	9,810	670	11,400	1,060
	1000	250	16	28	18	293.8	231	449,000	7,330	8,980	586	10,500	939
	1000	250	16	25	18	279.8	220	418,000	6,550	8,350	524	9,830	845
	1000	250	16	22	18	265.7	209	386,000	5,770	7,720	461	9,170	752
SH 950 x 400	950	400	19	40	18	488.1	383	772,000	42,700	16,300	2,140	18,300	3,280
	950	400	19	36	18	457.6	359	714,000	38,500	15,000	1,920	16,900	2,960
	950	400	19	32	18	427.1	335	655,000	34,200	13,800	1,710	15,600	2,640
	950	400	19	28	18	396.6	311	595,000	29,900	12,500	1,500	14,200	2,320
	950	400	19	25	18	373.8	293	549,000	26,700	11,600	1,340	13,200	2,080
	950	400	16	32	18	400.5	314	638,000	34,200	13,400	1,710	15,000	2,620
	950	400	16	28	18	369.8	290	577,000	29,900	12,100	1,500	13,600	2,300
	950	400	16	25	18	346.8	272	531,000	26,700	11,200	1,340	12,600	2,060
	950	400	16	22	18	323.7	254	484,000	23,500	10,200	1,180	11,600	1,820

Notes : Some sizes are not manufactured constantly, so please contact us in advance.

Nominal Size	Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
SH 950 x 350	950	350	19	40	18	448.1	352	689,000	28,600	14,500	1,640	16,500	2,530
	950	350	19	36	18	421.6	331	639,000	25,800	13,500	1,470	15,300	2,290
	950	350	19	32	18	395.1	310	588,000	22,900	12,400	1,310	14,100	2,040
	950	350	19	28	18	368.6	289	535,000	20,100	11,300	1,150	13,000	1,800
	950	350	19	25	18	348.8	274	495,000	17,900	10,400	1,020	12,100	1,620
	950	350	16	32	18	368.5	289	570,000	22,900	12,000	1,310	13,500	2,020
	950	350	16	28	18	341.8	268	517,000	20,000	10,900	1,150	12,400	1,780
	950	350	16	25	18	321.8	253	477,000	17,900	10,000	1,020	11,500	1,590
	950	350	16	22	18	301.7	237	436,000	15,800	9,190	900	10,600	1,410
SH 950 x 300	950	300	19	40	18	408.1	320	607,000	18,100	12,800	1,200	14,600	1,880
	950	300	19	36	18	385.6	303	564,000	16,300	11,900	1,080	13,700	1,700
	950	300	19	32	18	363.1	285	520,000	14,500	11,000	964	12,700	1,520
	950	300	19	28	18	340.6	267	476,000	12,700	10,000	844	11,700	1,340
	950	300	19	25	18	323.8	254	442,000	11,300	9,300	754	10,900	1,210
	950	300	16	32	18	336.5	264	503,000	14,400	10,600	962	12,100	1,500
	950	300	16	28	18	313.8	246	458,000	12,600	9,640	842	11,100	1,320
	950	300	16	25	18	296.8	233	424,000	11,300	8,920	752	10,300	1,190
	950	300	16	22	18	279.7	220	389,000	9,940	8,190	662	9,530	1,050
SH 950 x 250	950	250	19	40	18	368.1	289	524,000	10,500	11,000	838	12,800	1,330
	950	250	19	36	18	349.6	274	489,000	9,430	10,300	754	12,000	1,210
	950	250	19	32	18	331.1	260	453,000	8,390	9,530	671	11,200	1,080
	950	250	19	28	18	312.6	245	416,000	7,350	8,760	588	10,400	959
	950	250	19	25	18	298.8	235	388,000	6,570	8,180	525	9,750	866
	950	250	16	32	18	304.5	239	435,000	8,370	9,160	669	10,600	1,060
	950	250	16	28	18	285.8	224	398,000	7,330	8,390	586	9,770	936
	950	250	16	25	18	271.8	213	370,000	6,550	7,790	524	9,150	842
	950	250	16	22	18	257.7	202	342,000	5,760	7,190	461	8,510	749
SH 900 x 400	900	400	19	40	18	478.6	376	684,000	42,700	15,200	2,140	17,100	3,280
	900	400	19	36	18	448.1	352	632,000	38,500	14,100	1,920	15,800	2,960
	900	400	19	32	18	417.6	328	580,000	34,200	12,900	1,710	14,500	2,640
	900	400	19	28	18	387.1	304	526,000	29,900	11,700	1,500	13,300	2,320
	900	400	16	32	18	392.5	308	565,000	34,200	12,600	1,710	14,000	2,620
	900	400	16	28	18	361.8	284	511,000	29,900	11,400	1,490	12,700	2,300
	900	400	16	25	18	338.8	266	470,000	26,700	10,400	1,340	11,800	2,060
SH 900 x 350	900	350	19	40	18	438.6	344	610,000	28,600	13,600	1,640	15,300	2,530
	900	350	19	36	18	412.1	323	565,000	25,800	12,600	1,470	14,300	2,280
	900	350	19	32	18	385.6	303	519,000	22,900	11,500	1,310	13,200	2,040
	900	350	19	28	18	359.1	282	473,000	20,100	10,500	1,150	12,000	1,790
	900	350	19	25	18	339.3	266	437,000	17,900	9,720	1,020	11,200	1,610
	900	350	16	32	18	360.5	283	505,000	22,900	11,200	1,310	12,600	2,020
	900	350	16	28	18	333.8	262	458,000	20,000	10,200	1,150	11,500	1,770
	900	350	16	25	18	313.8	246	422,000	17,900	9,370	1,020	10,700	1,590

Notes : Some sizes are not manufactured constantly, so please contact us in advance.

5 Sizes and Section Properties



Fixed Outer Dimension H-Shapes – 2

JFE Super HISLEND-H (SHH)

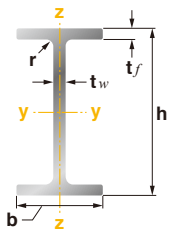
Nominal Size	Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
SH 900 x 300	900	300	19	32	18	353.6	278	459,000	14,500	10,200	964	11,800	1,520
	900	300	19	28	18	331.1	260	420,000	12,700	9,320	844	10,800	1,340
	900	300	19	25	18	314.3	247	389,000	11,300	8,650	754	10,100	1,210
	900	300	19	22	18	297.4	233	359,000	9,950	7,970	664	9,390	1,070
	900	300	16	32	18	328.5	258	444,000	14,400	9,880	962	11,200	1,500
	900	300	16	28	18	305.8	240	404,000	12,600	8,990	842	10,300	1,320
	900	300	16	25	18	288.8	227	374,000	11,300	8,310	752	9,570	1,180
	900	300	16	22	18	271.7	213	343,000	9,930	7,620	662	8,840	1,050
	900	300	16	19	18	254.7	200	312,000	8,580	6,930	572	8,110	914
SH 900 x 250	900	250	16	28	18	277.8	218	351,000	7,320	7,810	586	9,070	932
	900	250	16	25	18	263.8	207	326,000	6,540	7,250	524	8,480	839
	900	250	16	22	18	249.7	196	301,000	5,760	6,680	461	7,880	746
	900	250	16	19	18	235.7	185	275,000	4,980	6,110	399	7,280	652
SH 850 x 400	850	400	19	40	18	469.1	368	602,000	42,700	14,200	2,140	15,900	3,270
	850	400	19	36	18	438.6	344	556,000	38,400	13,100	1,920	14,700	2,950
	850	400	19	32	18	408.1	320	510,000	34,200	12,000	1,710	13,500	2,630
	850	400	19	28	18	377.6	296	462,000	29,900	10,900	1,500	12,300	2,320
	850	400	16	32	18	384.5	302	497,000	34,200	11,700	1,710	13,000	2,610
	850	400	16	28	18	353.8	278	450,000	29,900	10,600	1,490	11,800	2,290
	850	400	16	25	18	330.8	260	413,000	26,700	9,720	1,330	10,900	2,050
SH 850 x 350	850	350	19	40	18	429.1	337	536,000	28,600	12,600	1,640	14,300	2,520
	850	350	19	36	18	402.6	316	496,000	25,800	11,700	1,470	13,200	2,280
	850	350	19	32	18	376.1	295	456,000	22,900	10,700	1,310	12,200	2,030
	850	350	19	28	18	349.6	274	415,000	20,100	9,760	1,150	11,200	1,790
	850	350	16	32	18	352.5	277	444,000	22,900	10,400	1,310	11,700	2,010
	850	350	16	28	18	325.8	256	402,000	20,000	9,460	1,150	10,700	1,770
	850	350	16	25	18	305.8	240	370,000	17,900	8,720	1,020	9,890	1,590
SH 850 x 300	850	300	16	32	18	320.5	252	390,000	14,400	9,180	962	10,400	1,490
	850	300	16	28	18	297.8	234	355,000	12,600	8,350	842	9,540	1,310
	850	300	16	25	18	280.8	220	328,000	11,300	7,720	752	8,860	1,180
	850	300	16	22	18	263.7	207	301,000	9,930	7,070	662	8,170	1,040
SH 850 x 250	850	250	16	28	18	269.8	212	308,000	7,320	7,240	586	8,390	929
	850	250	16	25	18	255.8	201	285,000	6,540	6,720	523	7,830	836
	850	250	16	22	18	241.7	190	263,000	5,760	6,180	461	7,260	742
	850	250	14	25	18	239.8	188	277,000	6,530	6,510	523	7,510	824
	850	250	14	22	18	225.6	177	254,000	5,750	5,980	460	6,940	730

Notes : Some sizes are not manufactured constantly, so please contact us in advance.

Nominal Size	Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
SH 800 x 400	800	400	19	40	18	459.6	361	525,000	42,700	13,100	2,140	14,700	3,270
	800	400	19	36	18	429.1	337	485,000	38,400	12,100	1,920	13,600	2,950
	800	400	19	32	18	398.6	313	445,000	34,200	11,100	1,710	12,500	2,630
	800	400	19	28	18	368.1	289	403,000	29,900	10,100	1,500	11,400	2,310
	800	400	16	36	18	407.3	320	476,000	38,400	11,900	1,920	13,200	2,930
	800	400	16	32	18	376.5	296	435,000	34,200	10,900	1,710	12,100	2,610
	800	400	16	28	18	345.8	271	393,000	29,900	9,810	1,490	11,000	2,290
	800	400	16	25	18	322.8	253	360,000	26,700	9,010	1,330	10,100	2,050
	800	400	14	28	18	330.9	260	386,000	29,900	9,640	1,490	10,700	2,280
	800	400	14	25	18	307.8	242	353,000	26,700	8,840	1,330	9,820	2,040
SH 800 x 350	800	350	19	40	18	419.6	329	467,000	28,600	11,700	1,640	13,200	2,520
	800	350	19	36	18	393.1	309	433,000	25,800	10,800	1,470	12,200	2,270
	800	350	19	32	18	366.6	288	397,000	22,900	9,930	1,310	11,300	2,030
	800	350	19	28	18	340.1	267	361,000	20,100	9,030	1,150	10,300	1,790
	800	350	19	25	18	320.3	251	333,000	17,900	8,340	1,020	9,560	1,600
	800	350	16	36	18	371.3	291	423,000	25,800	10,600	1,470	11,800	2,250
	800	350	16	32	18	344.5	270	387,000	22,900	9,680	1,310	10,900	2,010
	800	350	16	28	18	317.8	249	351,000	20,000	8,770	1,150	9,880	1,770
	800	350	16	25	18	297.8	234	323,000	17,900	8,070	1,020	9,130	1,580
	800	350	14	28	18	302.9	238	344,000	20,000	8,600	1,140	9,610	1,750
	800	350	14	25	18	282.8	222	316,000	17,900	7,900	1,020	8,850	1,570
SH 800 x 300	800	300	16	32	18	312.5	245	340,000	14,400	8,500	962	9,640	1,490
	800	300	16	28	18	289.8	227	309,000	12,600	7,730	842	8,800	1,310
	800	300	16	25	18	272.8	214	285,000	11,300	7,130	752	8,170	1,180
	800	300	16	22	18	255.7	201	261,000	9,930	6,530	662	7,520	1,040
	800	300	14	28	18	274.9	216	302,000	12,600	7,560	841	8,520	1,300
	800	300	14	25	18	257.8	202	278,000	11,300	6,960	751	7,880	1,160
	800	300	14	22	18	240.6	189	254,000	9,920	6,350	661	7,240	1,030
SH 800 x 250	800	250	16	32	18	280.5	220	293,000	8,360	7,320	669	8,410	1,050
	800	250	16	28	18	261.8	206	267,000	7,320	6,680	586	7,720	926
	800	250	16	25	18	247.8	195	248,000	6,540	6,200	523	7,200	833
	800	250	16	22	18	233.7	183	228,000	5,760	5,700	461	6,670	739
	800	250	14	28	18	246.9	194	260,000	7,310	6,510	585	7,440	915
	800	250	14	25	18	232.8	183	241,000	6,530	6,020	523	6,920	821
	800	250	14	22	18	218.6	172	221,000	5,750	5,520	460	6,380	728
SH 750 x 350	750	350	16	36	18	363.3	285	366,000	25,800	9,760	1,470	10,900	2,250
	750	350	16	32	18	336.5	264	335,000	22,900	8,940	1,310	10,000	2,010
	750	350	16	28	18	309.8	243	303,000	20,000	8,090	1,140	9,100	1,760
	750	350	14	32	18	322.8	253	330,000	22,900	8,790	1,310	9,780	2,000
	750	350	14	28	18	295.9	232	298,000	20,000	7,940	1,140	8,860	1,750
	750	350	14	25	18	275.8	217	273,000	17,900	7,290	1,020	8,150	1,570

Notes : Some sizes are not manufactured constantly, so please contact us in advance.

5 Sizes and Section Properties



Fixed Outer Dimension H-Shapes –3

JFE Super HISLEND-H (SHH)

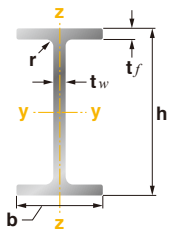
Nominal Size	Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
SH 750 x 300	750	300	16	32	18	304.5	239	294,000	14,400	7,840	962	8,870	1,490
	750	300	16	28	18	281.8	221	267,000	12,600	7,120	842	8,090	1,310
	750	300	16	25	18	264.8	208	246,000	11,300	6,570	752	7,490	1,170
	750	300	14	28	18	267.9	210	261,000	12,600	6,970	841	7,850	1,300
	750	300	14	25	18	250.8	197	241,000	11,300	6,410	751	7,250	1,160
	750	300	14	22	18	233.6	183	219,000	9,920	5,850	661	6,650	1,030
SH 750 x 250	750	250	14	28	18	239.9	188	225,000	7,310	5,990	585	6,840	912
	750	250	14	25	18	225.8	177	208,000	6,530	5,540	522	6,340	819
	750	250	14	22	18	211.6	166	190,000	5,750	5,070	460	5,850	725
	750	250	12	25	18	211.8	166	202,000	6,520	5,390	522	6,100	809
	750	250	12	22	18	197.5	155	184,000	5,740	4,920	459	5,600	716
	750	250	12	19	18	183.2	144	166,000	4,960	4,440	397	5,090	622
SH 700 x 350	700	350	16	36	18	355.3	279	314,000	25,800	8,960	1,470	10,000	2,250
	700	350	16	32	18	328.5	258	287,000	22,900	8,200	1,310	9,190	2,000
	700	350	16	28	18	301.8	237	260,000	20,000	7,420	1,140	8,330	1,760
	700	350	16	25	18	281.8	221	239,000	17,900	6,830	1,020	7,690	1,580
	700	350	14	32	18	315.8	248	283,000	22,900	8,080	1,310	8,980	1,990
	700	350	14	28	18	288.9	227	255,000	20,000	7,300	1,140	8,130	1,750
	700	350	14	25	18	268.8	211	234,000	17,900	6,700	1,020	7,470	1,570
	700	350	14	22	18	248.6	195	213,000	15,700	6,080	899	6,820	1,380
	700	350	12	25	18	255.8	201	230,000	17,900	6,560	1,020	7,260	1,560
	700	350	12	22	18	235.5	185	208,000	15,700	5,950	899	6,600	1,370
SH 700 x 300	700	300	16	32	18	296.5	233	251,000	14,400	7,180	962	8,120	1,480
	700	300	16	28	18	273.8	215	228,000	12,600	6,520	842	7,390	1,300
	700	300	16	25	18	256.8	202	210,000	11,300	6,010	752	6,840	1,170
	700	300	16	22	18	239.7	188	192,000	9,930	5,490	662	6,290	1,040
	700	300	14	32	18	283.8	223	247,000	14,400	7,060	961	7,920	1,470
	700	300	14	28	18	260.9	205	224,000	12,600	6,390	841	7,180	1,290
	700	300	14	25	18	243.8	191	206,000	11,300	5,880	751	6,630	1,160
	700	300	14	22	18	226.6	178	188,000	9,920	5,360	661	6,070	1,030
	700	300	12	25	18	230.8	181	201,000	11,300	5,750	751	6,420	1,150
	700	300	12	22	18	213.5	168	183,000	9,910	5,230	661	5,860	1,020
	700	300	12	19	18	196.2	154	164,000	8,560	4,690	571	5,290	882
SH 700 x 250	700	250	14	28	18	232.9	183	192,000	7,310	5,490	585	6,240	910
	700	250	14	25	18	218.8	172	177,000	6,530	5,070	522	5,790	816
	700	250	14	22	18	204.6	161	162,000	5,750	4,640	460	5,330	723
	700	250	12	25	18	205.8	162	173,000	6,520	4,940	522	5,580	807
	700	250	12	22	18	191.5	150	158,000	5,740	4,500	459	5,110	714
	700	250	12	19	18	177.2	139	142,000	4,960	4,060	397	4,640	620
	700	250	9	19	18	157.4	124	135,000	4,950	3,850	396	4,310	610
	700	250	9	16	18	142.9	112	119,000	4,170	3,400	334	3,830	516

Notes : Some sizes are not manufactured constantly, so please contact us in advance.

Nominal Size	Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
SH 700 x 200	700	200	12	28	18	192.1	151	156,000	3,750	4,460	375	5,100	586
	700	200	12	25	18	180.8	142	144,000	3,350	4,120	335	4,730	526
	700	200	12	22	18	169.5	133	132,000	2,950	3,780	295	4,360	466
	700	200	9	22	18	149.8	118	125,000	2,940	3,580	294	4,040	456
	700	200	9	19	18	138.4	109	113,000	2,540	3,220	254	3,660	396
	700	200	9	16	18	126.9	099.6	100,000	2,140	2,860	214	3,280	336
	700	200	9	12	18	111.6	087.6	83,100	1,610	2,370	161	2,770	256
SH 650 x 300	650	300	16	32	13	287.2	225	212,000	14,400	6,510	961	7,350	1,480
	650	300	16	28	13	264.5	208	192,000	12,600	5,900	841	6,680	1,300
	650	300	16	25	13	247.4	194	177,000	11,300	5,440	751	6,170	1,160
	650	300	16	22	13	230.4	181	161,000	9,920	4,960	662	5,660	1,030
	650	300	12	25	13	223.4	175	169,000	11,300	5,210	751	5,810	1,150
	650	300	12	22	13	206.2	162	154,000	9,910	4,730	661	5,290	1,010
	650	300	12	19	13	188.9	148	138,000	8,560	4,240	571	4,760	878
	650	300	12	16	13	171.6	135	121,000	7,210	3,740	481	4,230	744
SH 650 x 250	650	250	16	28	13	236.5	186	165,000	7,310	5,070	585	5,810	915
	650	250	12	28	13	212.7	167	158,000	7,300	4,850	584	5,460	898
	650	250	12	25	13	198.4	156	145,000	6,520	4,460	522	5,030	804
	650	250	12	22	13	184.2	145	132,000	5,740	4,060	459	4,600	711
	650	250	12	19	13	169.9	133	119,000	4,960	3,660	397	4,160	617
SH 650 x 200	650	200	12	28	13	184.7	145	131,000	3,740	4,020	374	4,580	583
	650	200	12	25	13	173.4	136	121,000	3,340	3,710	334	4,250	523
	650	200	12	22	13	162.2	127	110,000	2,940	3,400	294	3,910	463
	650	200	12	19	13	150.9	118	99,900	2,540	3,070	254	3,570	403
	650	200	9	22	13	144.0	113	105,000	2,940	3,220	294	3,630	453
	650	200	9	19	13	132.5	104	94,200	2,540	2,900	254	3,280	393
	650	200	9	16	13	121.1	095.1	83,400	2,140	2,570	214	2,930	334
	650	200	9	12	13	105.8	083.1	68,600	1,600	2,110	160	2,460	254
SH 600 x 300	600	300	16	32	13	279.2	219	177,000	14,400	5,890	961	6,640	1,480
	600	300	16	28	13	256.5	201	160,000	12,600	5,330	841	6,030	1,300
	600	300	14	28	13	245.6	193	157,000	12,600	5,250	841	5,880	1,290
	600	300	14	25	13	228.4	179	145,000	11,300	4,820	751	5,410	1,150
	600	300	14	22	13	211.3	166	131,000	9,910	4,380	661	4,940	1,020
	600	300	12	28	13	234.7	184	155,000	12,600	5,160	841	5,730	1,280
	600	300	12	25	13	217.4	171	142,000	11,300	4,730	751	5,260	1,150
	600	300	12	22	13	200.2	157	129,000	9,910	4,290	661	4,780	1,010
	600	300	12	19	13	182.9	144	115,000	8,560	3,840	571	4,300	877

Notes : Some sizes are not manufactured constantly, so please contact us in advance.

5 Sizes and Section Properties



Fixed Outer Dimension H-Shapes –4

JFE Super HISLEND-H (SHH)

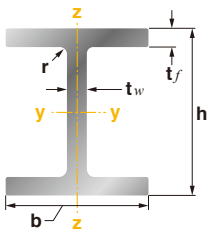
Nominal Size	Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
SH 600 x 250	600	250	16	32	13	247.2	194	151,000	8,350	5,020	668	5,730	1,040
	600	250	16	28	13	228.5	179	137,000	7,310	4,570	585	5,230	911
	600	250	16	25	13	214.4	168	127,000	6,530	4,220	522	4,840	818
	600	250	12	28	13	206.7	162	132,000	7,300	4,390	584	4,930	896
	600	250	12	25	13	192.4	151	121,000	6,520	4,040	522	4,540	802
	600	250	12	22	13	178.2	140	110,000	5,740	3,670	459	4,150	709
	600	250	12	19	13	163.9	129	99,100	4,960	3,300	397	3,750	615
	600	250	9	19	13	147.0	115	94,600	4,950	3,150	396	3,510	606
	600	250	9	16	13	132.6	104	83,100	4,170	2,770	334	3,100	513
SH 600 x 200	600	200	12	28	13	178.7	140	109,000	3,740	3,630	374	4,130	581
	600	200	12	25	13	167.4	131	100,000	3,340	3,350	334	3,820	521
	600	200	12	22	13	156.2	123	91,800	2,940	3,060	294	3,510	461
	600	200	12	19	13	144.9	114	83,000	2,540	2,770	254	3,200	402
	600	200	12	16	13	133.6	105	74,100	2,140	2,470	214	2,880	342
	600	200	9	22	13	139.5	110	87,500	2,940	2,920	294	3,280	452
	600	200	9	19	13	128.0	100	78,600	2,540	2,620	254	2,960	392
	600	200	9	16	13	116.6	091.5	69,500	2,140	2,320	214	2,640	333
	600	200	9	12	13	101.3	079.5	57,000	1,600	1,900	160	2,200	253
SH 550 x 300	550	300	16	28	13	248.5	195	131,000	12,600	4,780	841	5,400	1,290
	550	300	16	25	13	231.4	182	121,000	11,300	4,400	751	4,970	1,160
	550	300	16	22	13	214.4	168	110,000	9,920	4,010	661	4,550	1,020
	550	300	12	25	13	211.4	166	117,000	11,300	4,250	751	4,720	1,140
	550	300	12	22	13	194.2	152	106,000	9,910	3,850	661	4,290	1,010
	550	300	12	19	13	176.9	139	94,700	8,560	3,450	571	3,850	875
	550	300	12	16	13	159.6	125	83,300	7,210	3,030	481	3,410	740
SH 550 x 250	550	250	12	28	13	200.7	158	108,000	7,300	3,940	584	4,420	894
	550	250	12	25	13	186.4	146	99,600	6,520	3,620	522	4,070	801
	550	250	12	22	13	172.2	135	90,600	5,740	3,290	459	3,710	707
	550	250	9	22	13	157.0	123	87,300	5,730	3,180	459	3,520	699
	550	250	9	19	13	142.5	112	78,000	4,950	2,840	396	3,150	605
	550	250	9	16	13	128.1	101	68,400	4,170	2,490	334	2,780	512
SH 550 x 200	550	200	12	25	13	161.4	127	82,300	3,340	2,990	334	3,410	519
	550	200	12	22	13	150.2	118	75,200	2,940	2,740	294	3,130	460
	550	200	12	19	13	138.9	109	67,900	2,540	2,470	254	2,840	400
	550	200	9	22	13	135.0	106	72,000	2,940	2,620	294	2,940	451
	550	200	9	19	13	123.5	096.9	64,600	2,540	2,350	254	2,640	391
	550	200	9	16	13	112.1	088.0	57,000	2,140	2,070	214	2,350	332
	550	200	9	12	13	096.79	076.0	46,600	1,600	1,700	160	1,950	252

Notes : Some sizes are not manufactured constantly, so please contact us in advance.

Nominal Size	Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
SH 500 x 300	500	300	16	32	13	263.2	207	117,000	14,400	4,680	961	5,280	1,470
	500	300	16	28	13	240.5	189	106,000	12,600	4,240	841	4,790	1,290
	500	300	16	25	13	223.4	175	97,600	11,300	3,900	751	4,400	1,160
	500	300	16	22	13	206.4	162	88,800	9,920	3,550	661	4,020	1,020
	500	300	12	25	13	205.4	161	94,500	11,300	3,780	751	4,200	1,140
	500	300	12	22	13	188.2	148	85,700	9,910	3,430	661	3,810	1,010
	500	300	12	19	13	170.9	134	76,600	8,560	3,060	571	3,420	873
	500	300	12	16	13	153.6	121	67,300	7,210	2,690	481	3,010	738
SH 500 x 250	500	250	12	28	13	194.7	153	87,500	7,300	3,500	584	3,930	892
	500	250	12	25	13	180.4	142	80,400	6,520	3,220	521	3,610	799
	500	250	12	22	13	166.2	130	73,100	5,740	2,920	459	3,290	705
	500	250	9	22	13	152.5	120	70,700	5,730	2,830	459	3,130	698
	500	250	9	19	13	138.0	108	63,100	4,950	2,530	396	2,800	604
	500	250	9	16	13	123.6	097.0	55,300	4,170	2,210	334	2,460	511
SH 500 x 200	500	200	12	25	13	155.4	122	66,300	3,340	2,650	334	3,010	517
	500	200	12	22	13	144.2	113	60,500	2,940	2,420	294	2,760	458
	500	200	12	19	13	132.9	104	54,600	2,540	2,180	254	2,500	398
	500	200	9	22	13	130.5	102	58,100	2,940	2,330	294	2,600	450
	500	200	9	19	13	119.0	093.4	52,100	2,540	2,090	254	2,340	390
	500	200	9	16	13	107.6	084.5	46,000	2,140	1,840	214	2,080	331
	500	200	9	12	13	092.29	072.4	37,500	1,600	1,500	160	1,720	251
SH 450 x 250	450	250	12	28	13	188.7	148	69,100	7,300	3,070	584	3,450	890
	450	250	12	25	13	174.4	137	63,500	6,520	2,820	521	3,160	797
	450	250	12	22	13	160.2	126	57,700	5,740	2,560	459	2,880	703
	450	250	9	22	13	148.0	116	56,000	5,730	2,490	459	2,750	697
	450	250	9	19	13	133.5	105	50,000	4,950	2,220	396	2,460	603
	450	250	9	16	13	119.1	093.5	43,800	4,170	1,950	334	2,160	510
SH 450 x 200	450	200	12	25	13	149.4	117	52,200	3,340	2,320	334	2,630	516
	450	200	12	22	13	138.2	108	47,600	2,940	2,120	294	2,410	456
	450	200	12	19	13	126.9	099.6	42,900	2,540	1,910	254	2,180	396
	450	200	9	22	13	126.0	098.9	45,900	2,940	2,040	294	2,280	449
	450	200	9	19	13	114.5	089.9	41,200	2,540	1,830	254	2,050	389
	450	200	9	16	13	103.1	080.9	36,200	2,140	1,610	214	1,810	330
	450	200	9	12	13	087.79	068.9	29,500	1,600	1,310	160	1,490	250
SH 400 x 200	400	200	12	22	13	132.2	104	36,400	2,940	1,820	294	2,070	454
	400	200	9	22	13	121.5	095.4	35,300	2,940	1,760	294	1,970	448
	400	200	9	19	13	110.0	086.4	31,600	2,540	1,580	254	1,770	388
	400	200	9	16	13	098.57	077.4	27,800	2,140	1,390	214	1,560	329
	400	200	9	12	13	083.29	065.4	22,600	1,600	1,130	160	1,280	249

Notes : Some sizes are not manufactured constantly, so please contact us in advance.

5 Sizes and Section Properties



Heavy Wide Flange H-Shapes – 1

(700 x 500 series)

Nominal Size		Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	Web Thickness	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
700 x 500	70	770	520	70	80	26	1,265	993	1,130,000	189,000	29,400	7,280	35,400	11,600
		760	520	70	75	26	1,213	952	1,060,000	178,000	27,800	6,830	33,400	10,900
		750	520	70	70	26	1,161	911	982,000	166,000	26,200	6,380	31,400	10,200
	65	770	515	65	80	26	1,226	962	1,110,000	184,000	28,900	7,130	34,600	11,300
		760	515	65	75	26	1,175	922	1,040,000	172,000	27,300	6,690	32,700	10,600
		750	515	65	70	26	1,123	882	965,000	161,000	25,700	6,250	30,700	9,950
		740	515	65	65	26	1,072	842	893,000	149,000	24,100	5,800	28,800	9,290
	60	770	510	60	80	26	1,188	933	1,090,000	178,000	28,400	6,980	33,900	11,000
		760	510	60	75	26	1,137	893	1,020,000	167,000	26,800	6,550	32,000	10,300
		750	510	60	70	26	1,086	853	947,000	156,000	25,300	6,120	30,000	9,670
		740	510	60	65	26	1,035	812	876,000	145,000	23,700	5,680	28,100	9,020
		730	510	60	60	26	983.8	772	807,000	134,000	22,100	5,250	26,300	8,370
	55	760	505	55	75	26	1,099	863	1,000,000	162,000	26,400	6,410	31,200	10,000
		750	505	55	70	26	1,048	823	929,000	151,000	24,800	5,990	29,300	9,410
		740	505	55	65	26	997.8	783	859,000	140,000	23,200	5,560	27,400	8,770
		730	505	55	60	26	947.3	744	791,000	130,000	21,700	5,140	25,600	8,130
		720	505	55	55	26	896.8	704	725,000	119,000	20,100	4,710	23,800	7,490
	50	740	500	50	65	26	960.8	754	842,000	136,000	22,800	5,440	26,800	8,520
		730	500	50	60	26	910.8	715	775,000	126,000	21,200	5,030	24,900	7,900
		720	500	50	55	26	860.8	676	709,000	115,000	19,700	4,610	23,100	7,270
		710	500	50	50	26	810.8	636	645,000	105,000	18,200	4,190	21,300	6,650
	45	730	495	45	60	26	874.3	686	759,000	122,000	20,800	4,920	24,300	7,680
		720	495	45	55	26	824.8	647	694,000	112,000	19,300	4,510	22,500	7,060
		710	495	45	50	26	775.3	609	630,000	102,000	17,800	4,100	20,700	6,450
		700	495	45	45	26	725.8	570	569,000	91,500	16,300	3,700	18,900	5,840
	40	720	490	40	55	26	788.8	619	678,000	108,000	18,800	4,420	21,800	6,860
		710	490	40	50	26	739.8	581	615,000	98,400	17,300	4,020	20,100	6,260
		700	490	40	45	26	690.8	542	555,000	88,600	15,800	3,620	18,300	5,660
		690	490	40	40	26	641.8	504	495,000	78,800	14,400	3,220	16,600	5,060
	35	700	485	35	45	26	655.8	515	540,000	85,800	15,400	3,540	17,700	5,490
		690	485	35	40	26	607.3	477	482,000	76,300	14,000	3,150	16,000	4,900
		680	485	35	35	26	558.8	439	425,000	66,800	12,500	2,750	14,400	4,320
	30	690	480	30	40	26	572.8	450	468,000	73,900	13,600	3,080	15,400	4,760
		680	480	30	35	26	524.8	412	412,000	64,700	12,100	2,690	13,800	4,180
		670	480	30	30	26	476.8	374	357,000	55,500	10,700	2,310	12,200	3,610
	25	680	475	25	35	26	490.8	385	399,000	62,600	11,700	2,640	13,200	4,050
		670	475	25	30	26	443.3	348	345,000	53,700	10,300	2,260	11,600	3,490

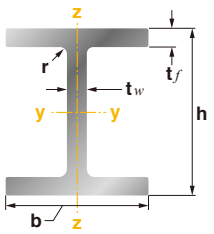
Notes : Some sizes are not manufactured constantly, so please contact us in advance.

(500 x 500 series)

Nominal Size		Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	Web Thickness	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
500 x 500	60	572	510	60	60	26	889.0	698	452,000	134,000	15,800	5,240	18,900	8,230
	55	572	505	55	60	26	860.4	675	444,000	129,000	15,500	5,130	18,500	8,010
		562	505	55	55	26	809.9	636	404,000	119,000	14,400	4,700	17,000	7,370
	50	572	500	50	60	26	831.8	653	436,000	126,000	15,300	5,020	18,000	7,800
		562	500	50	55	26	781.8	614	396,000	115,000	14,100	4,600	16,600	7,180
		552	500	50	50	26	731.8	574	357,000	105,000	12,900	4,190	15,200	6,550
	45	572	495	45	60	26	803.2	631	429,000	122,000	15,000	4,920	17,600	7,600
		562	495	45	55	26	753.7	592	389,000	112,000	13,800	4,510	16,200	6,980
		552	495	45	50	26	704.2	553	350,000	101,000	12,700	4,100	14,900	6,370
		542	495	45	45	26	654.7	514	313,000	91,400	11,600	3,690	13,500	5,760
	40	572	490	40	60	26	774.6	608	421,000	118,000	14,700	4,810	17,200	7,400
		562	490	40	55	26	725.6	570	381,000	108,000	13,600	4,410	15,800	6,800
		552	490	40	50	26	676.6	531	343,000	98,300	12,400	4,010	14,500	6,200
		542	490	40	45	26	627.6	493	307,000	88,500	11,300	3,610	13,100	5,600
		532	490	40	40	26	578.6	454	271,000	78,700	10,200	3,210	11,800	5,000

Notes : Some sizes are not manufactured constantly, so please contact us in advance.

5 Sizes and Section Properties



Heavy Wide Flange H-Shapes – 2

(500 x 500 series)

Nominal Size		Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	Web Thickness	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
500 x 500	35	572	485	35	60	26	746.0	586	413,000	114,000	14,400	4,710	16,800	7,210
		562	485	35	55	26	697.5	548	374,000	105,000	13,300	4,320	15,400	6,620
		552	485	35	50	26	649.0	509	336,000	95,300	12,200	3,930	14,100	6,030
		542	485	35	45	26	600.5	471	300,000	85,800	11,100	3,540	12,800	5,440
		532	485	35	40	26	552.0	433	265,000	76,300	9,960	3,140	11,500	4,860
		522	485	35	35	26	503.5	395	231,000	66,700	8,870	2,750	10,200	4,270
	30	572	480	30	60	26	717.4	563	405,000	111,000	14,200	4,610	16,400	7,030
		562	480	30	55	26	669.4	525	367,000	102,000	13,000	4,230	15,000	6,450
		552	480	30	50	26	621.4	488	329,000	92,300	11,900	3,850	13,700	5,870
		542	480	30	45	26	573.4	450	293,000	83,100	10,800	3,460	12,400	5,300
		532	480	30	40	26	525.4	412	259,000	73,900	9,730	3,080	11,100	4,720
		522	480	30	35	26	477.4	375	225,000	64,600	8,640	2,690	9,840	4,150
		512	480	30	30	26	429.4	337	193,000	55,400	7,550	2,310	8,600	3,570
	25	552	475	25	50	26	593.8	466	322,000	89,400	11,700	3,760	13,300	5,720
		542	475	25	45	26	546.3	429	287,000	80,500	10,600	3,390	12,000	5,160
		532	475	25	40	26	498.8	392	253,000	71,500	9,490	3,010	10,800	4,590
		522	475	25	35	26	451.3	354	220,000	62,600	8,410	2,640	9,500	4,030
		512	475	25	30	26	403.8	317	188,000	53,700	7,340	2,260	8,270	3,470
		502	475	25	25	26	356.3	280	157,000	44,700	6,270	1,880	7,070	2,900
	20	532	470	20	40	26	472.2	371	246,000	69,300	9,260	2,950	10,400	4,470
		522	470	20	35	26	425.2	334	214,000	60,600	8,180	2,580	9,160	3,920
		512	470	20	30	26	378.2	297	182,000	52,000	7,120	2,210	7,950	3,370
		502	470	20	25	26	331.2	260	152,000	43,300	6,060	1,840	6,750	2,820
	15	512	465	15	30	26	352.6	277	177,000	50,300	6,900	2,160	7,620	3,280
		502	465	15	25	26	306.1	240	147,000	41,900	5,850	1,800	6,440	2,740
		492	465	15	20	26	259.6	204	118,000	33,500	4,800	1,440	5,280	2,200

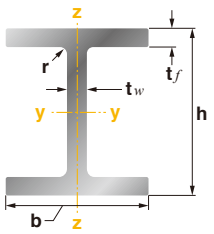
Notes : Some sizes are not manufactured constantly, so please contact us in advance.

(400 x 400 series)

Nominal Size		Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	Web Thickness	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
400 x 400	50	478	437	50	60	22	707.6	555	251,000	83,900	10,500	3,840	12,600	5,970
		468	437	50	55	22	663.9	521	227,000	76,900	9,680	3,520	11,600	5,490
		458	437	50	50	22	620.2	487	203,000	70,000	8,870	3,200	10,600	5,010
	45	498	432	45	70	22	770.1	604	298,000	94,400	12,000	4,370	14,500	6,720
		488	432	45	65	22	726.9	571	272,000	87,600	11,100	4,060	13,400	6,260
		478	432	45	60	22	683.7	537	246,000	80,900	10,300	3,750	12,300	5,790
		468	432	45	55	22	640.5	503	222,000	74,200	9,500	3,440	11,300	5,320
		458	432	45	50	22	597.3	469	199,000	67,500	8,700	3,120	10,300	4,860
		448	432	45	45	22	554.1	435	177,000	60,800	7,900	2,810	9,350	4,390
	40	498	427	40	70	22	745.2	585	293,000	91,000	11,800	4,260	14,100	6,540
		488	427	40	65	22	702.5	551	267,000	84,600	10,900	3,960	13,100	6,080
		478	427	40	60	22	659.8	518	242,000	78,100	10,100	3,660	12,100	5,620
		468	427	40	55	22	617.1	484	218,000	71,600	9,320	3,350	11,100	5,170
		458	427	40	50	22	574.4	451	195,000	65,100	8,520	3,050	10,100	4,710
		448	427	40	45	22	531.7	417	173,000	58,600	7,730	2,750	9,100	4,260
		438	427	40	40	22	489.0	384	152,000	52,100	6,950	2,440	8,150	3,800

Notes : Some sizes are not manufactured constantly, so please contact us in advance.

5 Sizes and Section Properties

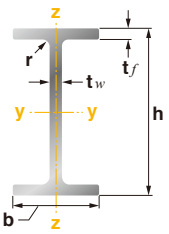


Heavy Wide Flange H-Shapes – 3

(400 x 400 series)

Nominal Size		Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
h x b	Web Thickness	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
400 x 400	35	498	422	35	70	22	720.3	565	288,000	87,800	11,600	4,160	13,800	6,350
		488	422	35	65	22	678.1	532	262,000	81,600	10,700	3,870	12,800	5,910
		478	422	35	60	22	635.9	499	237,000	75,300	9,930	3,570	11,800	5,460
		468	422	35	55	22	593.7	466	214,000	69,000	9,130	3,270	10,800	5,020
		458	422	35	50	22	551.5	433	191,000	62,800	8,350	2,980	9,800	4,570
		448	422	35	45	22	509.3	400	169,000	56,500	7,570	2,680	8,850	4,130
		438	422	35	40	22	467.1	367	149,000	50,300	6,790	2,380	7,910	3,680
		428	422	35	35	22	424.9	334	129,000	44,000	6,030	2,080	7,000	3,240
	30	478	417	30	60	22	612.0	480	233,000	72,600	9,740	3,480	11,500	5,310
		468	417	30	55	22	570.3	448	209,000	66,600	8,950	3,190	10,500	4,870
		458	417	30	50	22	528.6	415	187,000	60,500	8,170	2,900	9,540	4,440
		448	417	30	45	22	486.9	382	166,000	54,500	7,400	2,610	8,600	4,000
		438	417	30	40	22	445.2	349	145,000	48,400	6,630	2,320	7,670	3,570
		428	417	30	35	22	403.5	317	126,000	42,400	5,880	2,030	6,770	3,130
		418	417	30	30	22	361.8	284	107,000	36,400	5,120	1,740	5,890	2,700
	25	458	412	25	50	22	505.7	397	183,000	58,300	8,000	2,830	9,280	4,310
		448	412	25	45	22	464.5	365	162,000	52,500	7,230	2,550	8,340	3,880
		438	412	25	40	22	423.3	332	142,000	46,700	6,470	2,270	7,430	3,460
		428	412	25	35	22	382.1	300	122,000	40,900	5,720	1,980	6,540	3,030
		418	412	25	30	22	340.9	268	104,000	35,000	4,980	1,700	5,670	2,610
	20	438	407	20	40	22	401.4	315	138,000	45,000	6,310	2,210	7,190	3,350
		428	407	20	35	22	360.7	283	119,000	39,400	5,570	1,930	6,310	2,940
		418	407	20	30	22	320.0	251	101,000	33,700	4,830	1,660	5,450	2,530
	15	418	402	15	30	22	299.1	235	98,000	32,500	4,690	1,620	5,230	2,450

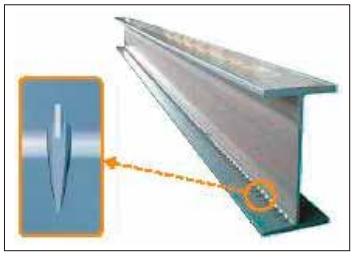
Notes : Some sizes are not manufactured constantly, so please contact us in advance.



JFE Special Type H-Shapes
J grip-H, Stripe-H, JFE Embossed-H

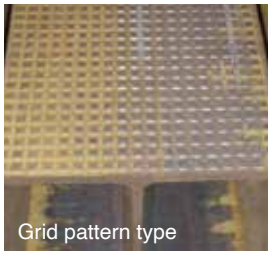
	Nominal Size	Section Dimensions (mm)					Area of Section (cm^2)	Mass per Metre (kg/m)	Second Moment of Area (cm^4)		Elastic Modulus (cm^3)		Plastic Modulus (cm^3)	
	h x b	h	b	t_w	t_f	r			Axis y-y Iy	Axis z-z Iz	Axis y-y Wel.y	Axis z-z Wel.z	Axis y-y Wpl.y	Axis z-z Wpl.z
J grip-H	600 x 300	640	307	19	40	13	353.5	555	250,000	19,300	7,820	1,260	8,900	1,940
		632	307	19	36	13	328.9	258	225,000	17,400	7,130	1,130	8,120	1,750
		624	304	16	32	13	285.6	448	195,000	15,000	6,260	987	7,050	1,520
		616	302	14	28	13	249.0	195	168,000	12,900	5,450	852	6,110	1,310
		610	300	12	25	13	218.7	172	147,000	11,300	4,820	751	5,370	1,150
Stripe-H	300 x 300	350	333	35	40	13	362.4	287	70,400	24,700	4,020	1,480	4,790	2,300
		348	332	34	39	13	352.2	279	68,000	23,900	3,910	1,440	4,640	2,230
		344	330	32	37	13	332.1	263	63,300	22,200	3,680	1,350	4,350	2,090
		340	328	30	35	13	312.1	248	58,800	20,700	3,460	1,260	4,070	1,950
		336	326	28	33	13	292.2	232	54,400	19,100	3,240	1,170	3,790	1,810
		332	324	26	31	13	272.5	217	50,200	17,600	3,020	1,090	3,520	1,680
		328	322	24	29	13	253.0	201	46,100	16,200	2,810	1,010	3,250	1,540
		324	320	22	27	13	233.7	186	42,100	14,800	2,600	925	2,990	1,420
		320	323	25	25	13	230.5	184	39,600	14,100	2,480	873	2,860	1,350
		318	317	19	24	13	204.9	163	36,300	12,800	2,280	808	2,600	1,230
		316	316	18	23	13	195.4	156	34,500	12,100	2,180	766	2,480	1,170
		312	314	16	21	13	176.5	141	30,800	10,800	1,970	688	2,230	1,050
		308	312	14	19	13	157.8	126	27,300	9,630	1,770	617	1,990	939
		304	310	12	17	13	139.3	112	24,000	8,450	1,580	545	1,750	828
		300	308	10	15	13	120.9	97.4	20,700	7,310	1,380	475	1,520	719
	200 x 200	212	208	12	18	13	97.45	78.0	7,720	2,700	728	260	832	397
		210	207	11	17	13	91.19	73.1	7,180	2,520	684	243	777	371
		208	206	10	16	13	84.97	68.2	6,650	2,330	639	226	723	345
		204	205	9	14	13	74.69	60.1	5,700	2,010	559	196	627	299
		200	204	8	12	13	64.49	52.1	4,800	1,700	480	167	535	254
	150 x 150	160	159	12	15	8	63.85	51.4	2,760	1,010	345	127	400	195
		158	158	11	14	8	59.09	47.6	2,520	922	319	117	368	179
		154	157	10	12	8	51.23	41.4	2,110	775	274	98.7	313	152
		150	155	8	10	8	41.95	34.1	1,690	621	225	80.1	254	123
Embossed-H	Grid pattern	190	197	5.4	7.7	13	41.22	34.3	3,050	1,040	321	106	330	152
	Longitudinal type	190	197	5.4	7.8	13	45.60	35.5	3,250	1,100	342	113	372	155

Notes : Some sizes are not manufactured constantly, so please contact us in advance.



J grip-H

Stripe-H



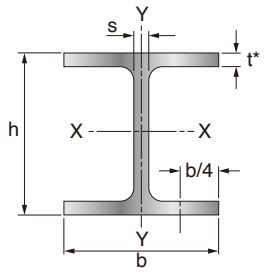
JFE Embossed-H

JFE Embossed-H

J-grip H and Stripe-H have been developed for steel-concrete composite structure.
Embossed H-Shapes have been developed for Steel Road Deck.
For more information, please consult us.

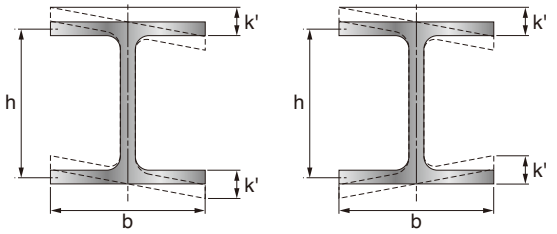
(1) BS EN10034 Tolerances on shape and dimensions

Table 1 Dimensional tolerance



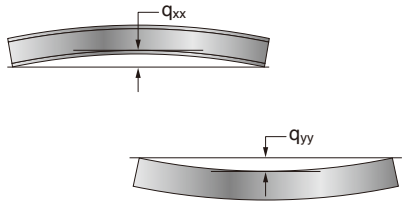
Section height h		Flange width b		Web thickness s		Flange thickness t	
height mm	tolerance mm	width mm	tolerance mm	thickness mm	tolerance mm	tickness mm	tolerance mm
h≦180	+3.0, −2.0	b≦110	+4.0, −1.0	s< 7	±0.7	t< 6.5	+1.5, −0.5
180 < h≦400	+4.0, −2.0	110 < b≦210	+4.0, −2.0	7≦s < 10	±1.0	6.5≦t < 10	+2.0, −1.0
400 < h≦700	+5.0, −3.0	210 < b≦325	+4.0, −4.0	10≦s < 20	±1.5	10 ≦t < 20	+2.5, −1.5
h > 700	+5.0, −5.0	b > 325	+6.0, −5.0	20≦s < 40	±2.0	20 ≦t < 30	+2.5, −2.0
				40≦s < 60	±2.5	30 ≦t < 40	+2.5, −2.5
				s≧60	±3.0	40 ≦t < 60	+3.0, −3.0
						t≧60	+4.0, −4.0

Table 2 Tolerance on out-of-square and web off-centre



out-of-square k + k'		web off-centre e where $e = \frac{b_1 - b_2}{2}$	
flange width b mm	tolerance mm	flange width b mm	tolerance mm
b≦110	1.5	Where t< 40	
b > 110	2% of b (max 6.5mm)	b≦110	2.5
		110 < b≦325	3.5
		b > 325	5.0
		Where t≧ 40	
		110 < b≦325	5.0
		b > 325	8.0

Table 3 Tolerance on straightness



Section height h mm	Tolerance on straightness q_{xx} and q_{yy} on length L %
80 < h≦180	0.30L
180 < h≦360	0.15L
h > 360	0.10L

Tolerance on length

The sections shall be cut to ordered lengths to tolerance of:

a) ±50mm; or

b) +100mm where minimum lengths are required

L represents the longest useable length of the section assuming that the ends of the section have been cut square (see Figure 1)

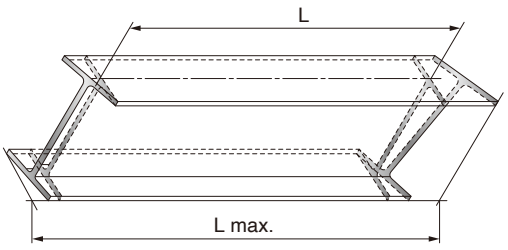


Figure 1 Measurement of length L

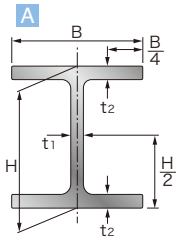
(2) JIS G 3192, 3136 Tolerance on Dimension and Shape

unit : mm

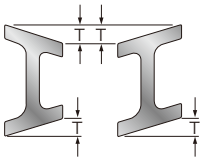
		JIS G3136 : SN JIS G3192:SS, SM			Fixd Outer Dimension (Super HISLEND-H)		Heavy Wide Flange H-Shapes		Remarks
		Range	Tolerance JIS G3136	Tolerance JIS G3192	Range	Tolerance	Range	Tolerance	
Width (B)		B≦400	±2.0		—	±2.0	—	±3.0	
		400＜B	±3.0						
Depth (H)	H＜800	B≦400	±2.0		—	±2.0	—	±3.0	
		400＜B	±3.0						
	800≦H		±3.0						
Thick-ness	Flange (t_2)	$6 \leqq t_2 < 16$	+1.7 −0.3	±1.0	* $t_2 < 16$	+1.7 −0.3	—	—	A
		$16 \leqq t_2 < 25$	+2.3 −0.7	±1.5	* $16 \leqq t_2 < 40$	+2.3 −0.7	$16 \leqq t_2 < 40$	+2.3 −0.7	
		$25 \leqq t_2 < 40$		±1.7					
		$40 \leqq t_2$	+2.5 −1.5	±2.0	* $40 \leqq t_2$	+2.5 −1.5	$40 \leqq t_2$	+2.5 −1.5	
	Web (t_1)	$t_1 < 16$	±0.7		$t_1 < 16$	±0.7	$t_1 < 16$	±0.7	
		$16 \leqq t_1 < 25$	±1.0		$16 \leqq t_1 < 25$	±1.0	$16 \leqq t_1 < 25$	±1.0	
		$25 \leqq t_1 < 40$	±1.5		$25 \leqq t_1 < 40$	±1.5	$25 \leqq t_1 < 40$	±1.5	
		$40 \leqq t_1$	±2.0		—	—	$40 \leqq t_1$	±2.0	
Length (L)		L≦7000	+40.0 −0		L≦7000	+40.0 −0	L≦7000	+40.0 −0	
		7000＜L	+ tolerance increases 5mm for the increment of every 1m or fraction thereof.		7000＜L	+ tolerance increases 5mm for the increment of every 1m or fraction thereof.	7000＜L	+ tolerance increases 5mm for the increment of every 1m or fraction thereof.	
Flange Out-of-squareness (T)		H≦300	≦0.01B The minimum tolerance shall be 1.5mm.		B≦200	≦0.01B	—	≦4.0	B
					200＜B≦300	≦2.0			
		300＜H	≦0.012B The minimum tolerance shall be 1.5mm.		300＜B	≦3.0			
Bend (t)		B≦400	0.015b and ≦1.5		—	0.01b and ≦1.5	—	0.01b and ≦1.5	C
Out-of-squareness (t)		H≦300	≦0.0015L		—	≦0.001L	—	≦0.001L	
		300＜H	≦0.001L						
Web off Center (S)		B≦400	±2.0		—	±2.0	—	±2.0	D
		400＜B	±3.5						
Ends Out-of-square (e)		—	≦0.016H or ≦0.016B The minimum tolerance shall be 3.0mm.		—	≦0.016H or ≦0.016B The minimum tolerance shall be 3.0mm.	—	≦0.016H or ≦0.016B The minimum tolerance shall be 3.0mm.	E
Comber of Web (δ)		H≦350	≦2.0		H＜600	≦2.0	≧400 appellative depth	≦2.0	F
		350＜H＜550	≦2.5						
		550≦H	≦3.0		600≦H	≦3.0			

Items marked with * are the tolerances of SN standard. SS and SM standards conform to JIS G3192.

A



B



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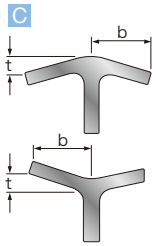
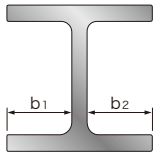
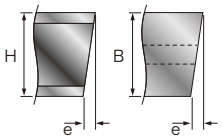


D

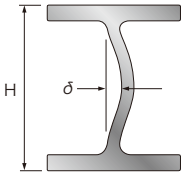


$$S = \frac{b_1 - b_2}{2}$$

E

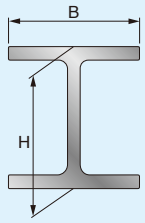
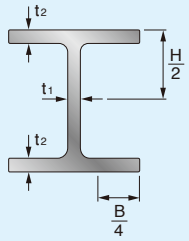
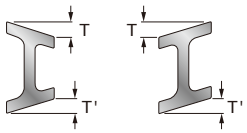
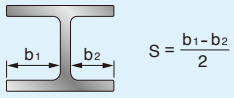
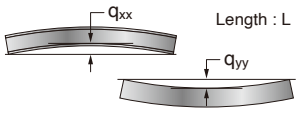
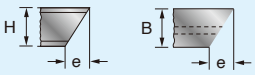
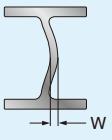
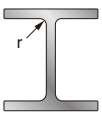


F



(3) KS D 3502 Tolerance on Dimension and Shape

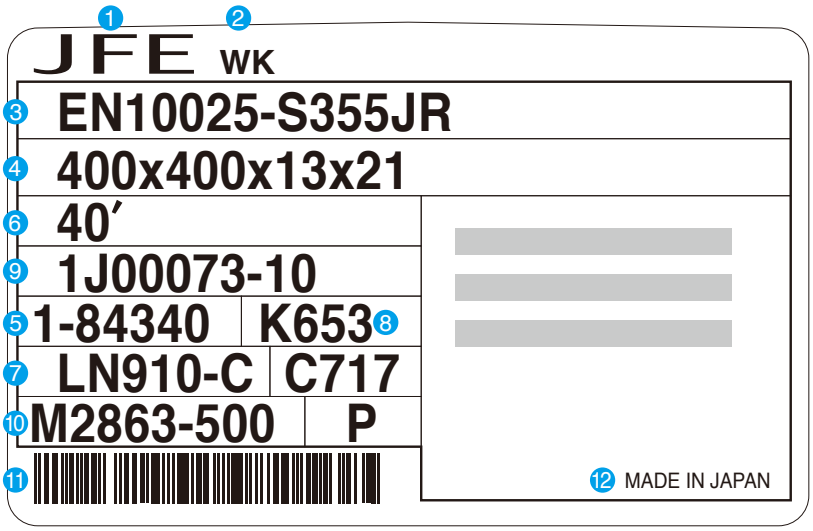
unit : mm

Classification			Tolerance	Remarks
Width (B)		Flange, under 100	±2.0	
		100 to 200, excl.	±2.5	
		200 & over	±3.0	
Depth (H)		Height, under 200	±2.0	
		200 to 400, excl.	±2.5	
		400 to 600, excl.	±3.0	
		600 & over	±4.0	
Thickness	Wob (t_1)	under 16	±0.7	
		16 to 25, excl.	±1.0	
		25 to 40, excl.	±1.5	
		40 & over	±2.0	
	Flange (t_2)	under 16	±1.0	
		16 to 25, excl.	±1.5	
		25 to 40, excl.	±1.7	
		40 & over	±2.0	
Out-of-square (T)		Height, 300 & under	T+T'=1.5mm ≦ B × 1.0%	
		Over 300	T+T'=2%×(B) ≦ B × 1.2%	
			(min. 1.5mm)	
Web off Center (S)		Flange, 200 & under	±2.5	
		Over 200	±3.5	
Camber and Sweep		Height, 300 & under	≦ L × 0.20%	
		Over 300	≦ L × 0.10%	
Ends Out-of-square			≦ (B, H) × 1.6%	
			(min. 3.0mm)	
Length		L≦7000	+40.0, −0	
		7000<L	+ tolerance increases 5mm for the increment of every 1m or fraction thereof.	
Web flatness (W)		Nominal Depth, under 350	2.0	
		350 to 550, excl.	2.5	
		550 & over	3.0	
Radius (r)		Radius. 10 & under	±1.0	
		Over 10 to 20, incl.	±2.0	
		Over 20	±3.0	

7 Label

A label is attached to the web center at the end of the Wide Flange Shape.
The description of the label is as follows.

● Senior Size



1. Corporate insignia
2. Works code
3. Standard designation
4. Cross-sectional dimension
5. Heat No.
6. Length
7. Codes for production control
8. Lot No.
9. Contract No. – Order item No.
10. Product No.
11. Bar code
12. Shipping information

● **For further information, please contact our nearest office or send your inquiries to :**

Export Dept. Plate & Structural Sec. **Phone : (03) 3597–4132** **Fax : (03) 3597–4159**

Cat.No.D1E-101-04

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