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JUMBO HOLLOW SQUARE SECTION



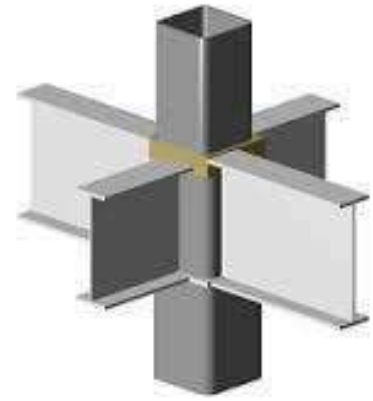
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JUMBO HOLLOW SQUARE SECTION

Squares pipes are manufactured under strict quality control using high quality steel plates and have performance seismic performance product that ensures optimal price, delivery and quality in response to customer custom requirements.

Our HSS proposes an excellent strength to weight ratio, which provide high quality efficient utilization of the cross section, excellent axial capacity and longer spans compared to H-shaped steel sections.

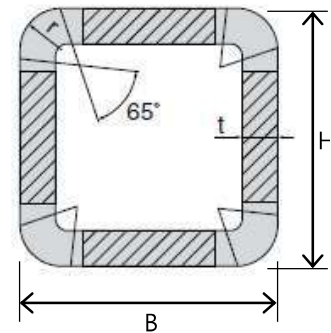


Product Standards

Standard	Type	Grade	Size Range	Remarks
AS/NZS1163 :2016	Cold Press Formed Hollow Structural Section	AS/NZS3678:300	400mm x 400mm ~ 1000mm x 1000mm	
		AS/NZS3678:350		

Production Range

Wall Thick		9	12	15	18	19	22	25	28	30	32	36	38	40	46	50	55	Remarks
A	B																	
400	400																	
450	450																	
500	500																	
550	550																	
600	600																	
650	650																	
700	700																	
750	750																	
800	800																	
850	850																	
900	900																	
950	950																	
1,000	1,000																	
700	600																	
800	600																	
800	700																	
900	650																	
900	700																	
1,000	700																	
1,000	800																	



· Maximum Capa. : Length 13.6m, Thickness 60mm

Chemical Composition

GRADE	Chemical Composition (%)						Carbon Equivalent (%)	Weld crack Sensitivity Composition (%)
	C	Si	Mn	P	S	N		
G300	0.18 max.	0.55 max.	1.60 max.	0.020 max.	0.005 max.	0.006 max.	0.44 max.	0.29 max.

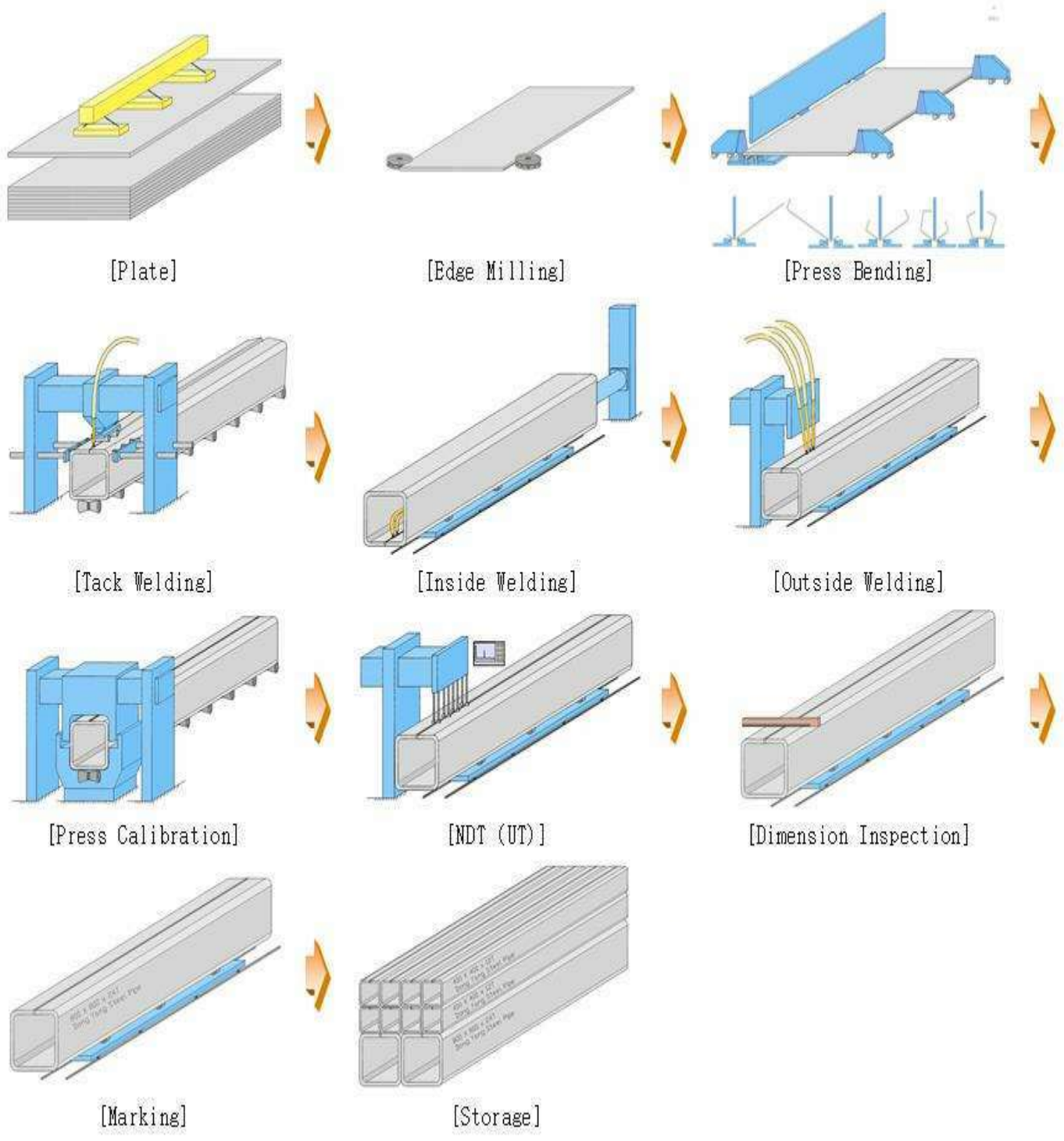
Mechanical Properties

GRADE	Thickness Mm	Yield point or Proof stress N/mm ²	Tensile strength N/mm ²	Yield ratio %	Elongation			Charpy absorbed energy	
					Thickness mm	Test piece	%	Test Temperature (°C)	Absorbed Energy (J)
G300	6 ≤ t < 12	275 min.	410 min. 530 max.	-	t ≤ 16	No. 1A	18 min.	0	27
	12 ≤ t ≤ 40	275 min. 395 max.	410 min. 530 max.	80 max.	16 < t ≤ 40	No. 1A	22 min.	0	27
G350	6 ≤ t < 12	355 min.	490 min. 610 max.	-	t ≤ 16	No. 1A	17 min.	0	27
	12 ≤ t ≤ 40	355 min. 475 max.	490 min. 610 max.	80 max.	16 < t ≤ 40	No. 1A	21 min.	0	27

Dimensional tolerance

Item and classification		Dimensional tolerance
Length of side		±1.0 % and ±3.0mm
Unevenness of flat portion of each side		Less than 0.5% of side length, but less than 3mm
Angularity made by adjacent flat plate portions		±1.0°
Length		-0, + not specified
Camber	Product length less than 9m	1/1500 of total length, max.
	Product length 9m or more	1/1250 of total length, max.
Torsion		{ 1.5 x Length of side(mm)/1000 } x Total length(m), mm, max.
Thickness	12mm or more, less than 16mm	-0.3 + 1.0mm
	16mm or more, less than 25mm	-0.3 + 1.2mm
	25mm or more, less than 19mm	-0.3 + 1.3mm
Angular radius of curvature	12mm or more, less than 19mm	(3.5±0.5) x Thickness(mm)
	Over 19mm, up to 40mm	(3.5±0.4) x Thickness(mm)

Production Process



Available Size and Section Modul

H x B		t	w	mm ² (x10 ²)	mm ⁴ (x10 ⁶) Ix, Iy	mm(x10)	(x10 ³) Zx, Zy	mm ³ (x10 ³) Zpx - Zpy	
mm	mm	mm	kg/m			lx, ly	Zx, Zy	Zpx - Zpy	
400	x	400	16	183	232.6	55,200	15.4	2,760	3,280
400	x	400	19	213	271	62,800	15.2	3,140	3,770
400	x	400	22	242	307.7	69,500	15	3,480	4,220
400	x	400	25	269	342.8	75,400	14.8	3,770	2,640
400	x	400	28	295	376.3	80,600	14.6	4,030	5,010
400	x	400	32	328	418.3	86,200	14.4	4,310	5,460
450	x	450	16	208	264.6	80,600	17.5	3,580	4,230
450	x	450	19	243	309	92,200	17.3	4,100	4,880
450	x	450	22	276	351.7	103,000	17.1	4,560	5,490
450	x	450	25	308	392.8	112,000	16.9	4,980	6,050
450	x	450	28	339	432.3	121,000	16.7	5,360	6,580
450	x	450	32	379	482.3	130,000	16.4	5,780	7,210
450	x	450	36	416	529.4	138,000	16.1	6,140	7,770
500	x	500	16	233	296.6	113,000	19.5	4,510	5,290
500	x	500	19	272	347	130,000	19.3	5,180	6,130
500	x	500	22	311	395.7	145,000	19.1	5,800	6,920
500	x	500	25	348	442.8	159,000	18.9	6,360	7,660
500	x	500	28	383	488.3	172,000	18.8	6,870	8,360
500	x	500	32	429	546.3	187,000	18.5	7,470	9,210
500	x	500	36	472	601.4	200,000	18.2	7,990	9,970
500	x	500	38	493	627.9	205,000	18.1	8,210	10,300
500	x	500	40	513	653.6	210,000	17.9	8,420	10,700
550	x	550	16	258	328.6	153,000	21.5	5,550	6,480
550	x	550	19	302	385	176,000	21.4	6,390	7,530
550	x	550	22	345	439.7	197,000	21.2	7,180	8,520
550	x	550	25	387	492.8	217,000	21	7,900	9,460
550	x	550	28	427	544.3	236,000	20.8	8,570	10,300
550	x	550	32	479	610.3	258,000	20.6	9,380	11,400
550	x	550	36	529	673.4	277,000	20.3	10,100	12,400
550	x	550	38	553	703.9	286,000	20.2	10,400	12,900
550	x	550	40	576	733.6	294,000	20	10,700	13,400
600	x	600	16	283	360.6	201,000	23.6	6,690	7,790
600	x	600	19	332	423	232,000	23.4	7,730	9,070
600	x	600	22	380	483.7	261,000	23.2	8,710	10,300
600	x	600	25	426	542.8	288,000	23.1	9,620	11,400
600	x	600	28	471	600.3	314,000	22.9	10,500	12,500
600	x	600	32	529	674.3	345,000	22.6	11,500	13,900
600	x	600	36	585	745.4	372,000	22.4	12,400	15,200
600	x	600	38	612	779.9	385,000	22.2	12,800	15,800
600	x	600	40	639	813.6	397,000	22.1	13,200	16,400
650	x	650	16	308	392.6	258,000	25.6	7,940	9,220
650	x	650	19	362	461	299,000	25.5	9,200	10,700
650	x	650	22	414	527.7	337,000	25.3	10,400	12,200
650	x	650	25	465	592.8	374,000	25.1	11,500	13,600
650	x	650	28	515	656.3	407,000	24.9	12,500	14,900
650	x	650	32	580	738.3	449,000	24.7	13,800	16,600
650	x	650	36	642	817.4	487,000	24.4	15,000	18,200
650	x	650	38	672	855.9	505,000	24.3	15,500	19,000
650	x	650	40	702	893.6	521,000	24.1	16,000	19,700
700	x	700	16	333	424.6	325,000	27.7	9,300	10,800
700	x	700	19	392	499	378,000	27.5	10,800	12,600
700	x	700	22	449	571.7	427,000	27.3	12,200	14,300
700	x	700	25	505	642.8	474,000	27.1	13,500	16,000
700	x	700	28	559	712.3	518,000	27	14,800	17,600
700	x	700	32	630	802.3	573,000	26.7	16,400	19,600

H x B		t	w	mm ² (x10 ²)	mm ⁴ (x10 ⁶) Ix, Iy	mm(x10)	(x10 ³) Zx, Zy	mm ³ (x10 ³) Zpx - Zpy	
mm	mm	mm	kg/m			lx, ly	Zx, Zy	Zpx - Zpy	
700	x	700	36	698	889.4	623,000	26.5	17,800	21,500
700	x	700	38	732	931.9	646,000	26.3	18,500	22,400
700	x	700	40	764	973.6	669,000	26.2	19,100	23,300
750	x	750	16	358	456.6	403,000	29.7	10,800	12,400
750	x	750	19	422	537	469,000	29.6	12,500	14,500
750	x	750	22	483	615.7	531,000	29.4	14,200	16,600
750	x	750	25	544	692.8	591,000	29.2	15,700	18,500
750	x	750	28	603	768.3	647,000	29	17,200	20,400
750	x	750	32	680	866.3	717,000	28.8	19,100	22,800
750	x	750	36	755	961.4	782,000	28.5	20,900	25,000
750	x	750	38	791	1,008.00	813,000	28.4	21,700	26,100
750	x	750	40	827	1,054.00	842,000	28.3	22,400	27,200
800	x	800	16	384	488.6	493,000	31.8	12,300	14,200
800	x	800	19	451	575	574,000	31.6	14,300	16,600
800	x	800	22	518	659.7	651,000	31.4	16,300	19,000
800	x	800	25	583	742.8	725,000	31.2	18,100	21,200
800	x	800	28	647	824.3	795,000	31.1	19,900	23,400
800	x	800	32	730	930.3	884,000	30.8	22,100	26,200
800	x	800	36	811	1,033.00	966,000	30.6	24,100	28,000
800	x	800	38	851	1,084.00	1,000,000	30.4	25,100	30,100
800	x	800	40	890	1,134.00	1,040,000	30.3	26,100	31,400
850	x	850	16	409	530.6	595,000	33.8	14,000	16,100
850	x	850	19	481	613	694,000	33.6	16,300	18,900
850	x	850	22	552	703.7	788,000	33.5	18,500	21,600
850	x	850	25	622	792.8	879,000	33.3	20,700	24,200
850	x	850	28	691	880.3	965,000	33.1	22,700	26,700
850	x	850	32	781	994.3	1,070,000	32.9	25,300	29,900
850	x	850	36	868	1,105.00	1,180,000	32.6	27,700	33,000
850	x	850	38	911	1,160.00	1,220,000	32.5	28,800	34,400
850	x	850	40	953	1,214.00	1,270,000	32.4	29,900	35,900
900	x	900	16	434	552.6	710,000	35.9	15,800	18,200
900	x	900	19	511	651	829,000	35.7	18,400	21,300
900	x	900	22	587	747.7	943,000	35.5	21,000	24,300
900	x	900	25	662	842.8	1,050,000	35.3	23,400	27,300
900	x	900	28	735	936.3	1,160,000	35.2	25,700	30,100
900	x	900	32	831	1,058.00	1,290,000	34.9	28,700	33,800
900	x	900	36	924	1,177.00	1,420,000	34.7	31,500	37,300
900	x	900	38	970	1,236.00	1,480,000	34.5	32,800	39,000
900	x	900	40	1016	1,294.00	1,530,000	34.4	34,100	40,700
950	x	950	19	541	689	981,000	37.7	20,600	23,800
950	x	950	22	622	791.7	1,120,000	37.6	23,500	27,200
950	x	950	25	701	892.8	1,250,000	37.4	26,300	30,600
950	x	950	28	779	992.3	1,370,000	37.2	28,900	33,800
950	x	950	32	881	1,122.00	1,530,000	37	32,300	38,000
950	x	950	36	981	1,249.00	1,680,000	36.7	35,500	42,000
950	x	950	38	1030	1,312.00	1,760,000	36.6	37,000	43,900
950	x	950	40	1078	1,374.00	1,830,000	36.5	38,500	45,800
1000	x	1000	19	571	727	1,150,000	39.8	23,000	26,500
1000	x	1000	22	656	835.7	1,310,000	39.6	26,200	30,300
1000	x	1000	25	740	942.8	1,470,000	39.4	29,300	34,000
1000	x	1000	28	823	1,048.00	1,610,000	39.2	32,300	37,700
1000	x	1000	32	931	1,186.00	1,810,000	39	36,100	42,400
1000	x	1000	36	1037	1,321.00	1,990,000	38.8	39,700	46,900
1000	x	1000	38	1090	1,388.00	2,070,000	38.6	41,500	49,100
1000	x	1000	40	1141	1,454.00	2,160,000	38.5	43,100	51,200