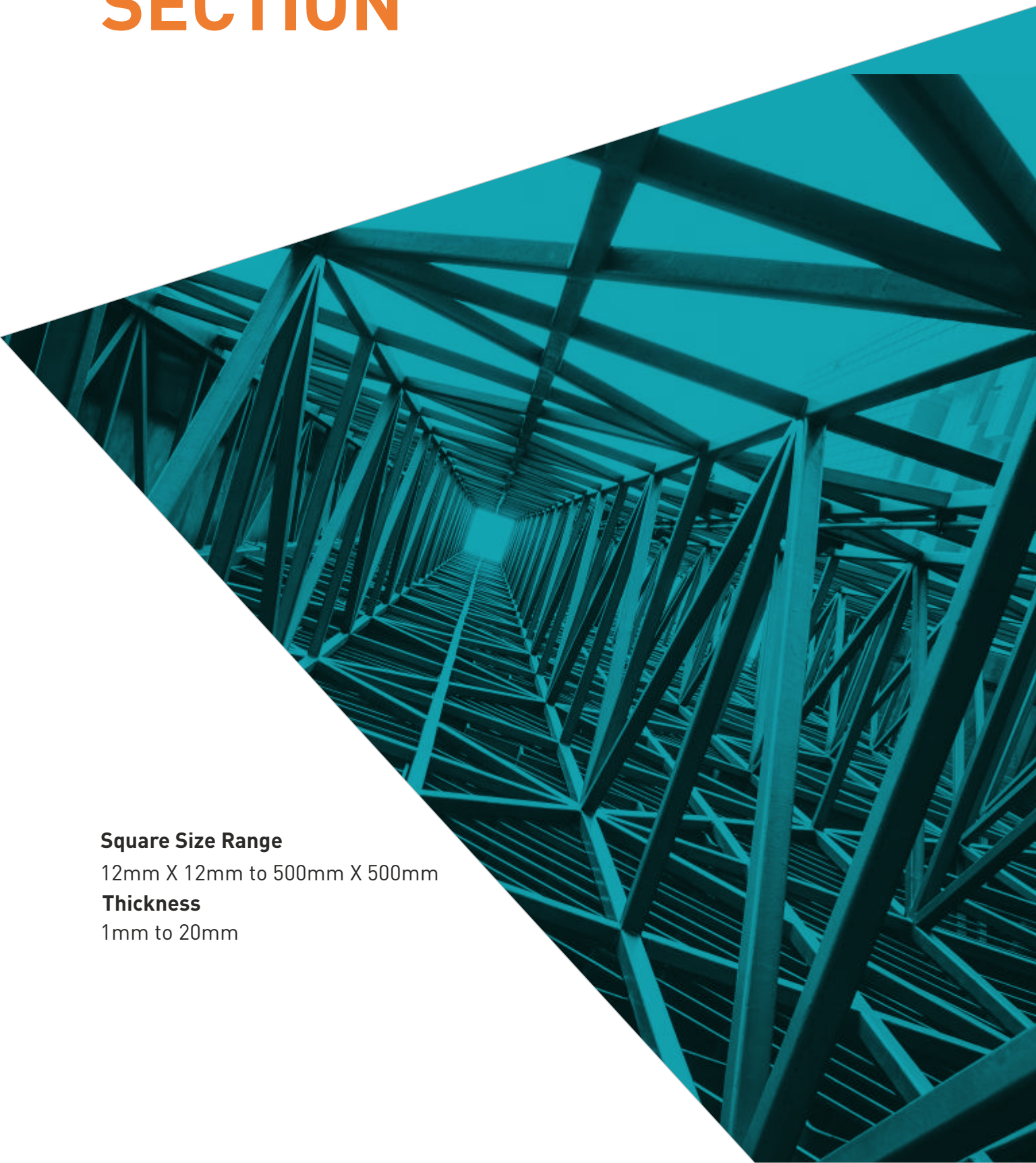


SQUARE HOLLOW SECTION



Square Size Range
 12mm X 12mm to 500mm X 500mm
Thickness
 1mm to 20mm

SQUARE HOLLOW SECTION (SHS) IS : 4923 : 2017/EN 10219-1 : 2006*/ASTM A-500

Dimension	Weight	Area	Moment of Inertia		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constants	
			I _{xx} cm ⁴	I _{yy} cm ⁴	R _{xx} cm	R _{yy} cm	Z _{xx} cm ³	Z _{yy} cm ³	S _{xx} cm ³	S _{yy} cm ³	J cm ⁴	C cm ³
12X12X1.6	0.47	0.60	0.10	0.10	0.41	0.41	0.17	0.17	0.22	0.22	0.12	0.18
12X12X2.0	0.55	0.70	0.11	0.11	0.40	0.40	0.19	0.19	0.25	0.25	0.07	0.13
15X15X1.6	0.62	0.79	0.23	0.23	0.54	0.54	0.31	0.31	0.39	0.39	0.32	0.38
15X15X2.0	0.74	0.94	0.25	0.25	0.52	0.52	0.34	0.34	0.44	0.44	0.28	0.35
15X15X2.2	0.79	1.00	0.25	0.25	0.50	0.50	0.34	0.34	0.46	0.46	0.24	0.32
20X20X1.6	0.87	1.11	0.61	0.61	0.74	0.74	0.61	0.61	0.75	0.75	0.95	0.84
20X20X2.0	1.05	1.34	0.69	0.69	0.72	0.72	0.69	0.69	0.88	0.88	1.01	0.90
20X20X2.2	1.13	1.44	0.73	0.73	0.71	0.71	0.73	0.73	0.93	0.93	1.00	0.90
20X20X2.5	1.25	1.59	0.77	0.77	0.70	0.70	0.77	0.77	1.00	1.00	0.95	0.87
25X25X1.6	1.12	1.43	1.28	1.28	0.95	0.95	1.03	1.03	1.24	1.24	2.05	1.46
25X25X2.0	1.37	1.74	1.48	1.48	0.92	0.92	1.19	1.19	1.47	1.47	2.32	1.64
25X25X2.2	1.48	1.88	1.57	1.57	0.91	0.91	1.26	1.26	1.57	1.57	2.40	1.70
25X25X2.5	1.64	2.09	1.69	1.69	0.90	0.90	1.36	1.36	1.71	1.71	2.46	1.75
25X25X2.8	1.79	2.28	1.79	1.79	0.89	0.89	1.44	1.44	1.84	1.84	2.44	1.76
30X30X1.6	1.37	1.75	2.31	2.31	1.15	1.15	1.54	1.54	1.84	1.84	3.73	2.24
30X30X2.0	1.68	2.14	2.72	2.72	1.13	1.13	1.82	1.82	2.21	2.21	4.35	2.59
30X30X2.2	1.82	2.32	2.91	2.91	1.12	1.12	1.94	1.94	2.37	2.37	4.60	2.72
30X30X2.5	2.03	2.59	3.16	3.16	1.10	1.10	2.11	2.11	2.61	2.61	4.89	2.89
30X30X2.8	2.23	2.84	3.37	3.37	1.09	1.09	2.25	2.25	2.83	2.83	5.06	2.99
30X30X3.2	2.49	3.17	3.62	3.62	1.07	1.07	2.42	2.42	3.08	3.08	5.10	3.05
30X30X3.6	2.72	3.47	3.82	3.82	1.05	1.05	2.55	2.55	3.31	3.31	4.92	2.99
30X30X4.0	2.94	3.75	3.97	3.97	1.03	1.03	2.65	2.65	3.50	3.50	4.52	2.84
30X30X4.5	3.19	4.07	4.09	4.09	1.00	1.00	2.73	2.73	3.70	3.70	3.72	2.49
30X30X5.0	3.42	4.36	4.16	4.16	0.98	0.98	2.78	2.78	3.84	3.84	2.69	1.98
30X30X5.4	3.58	4.56	4.17	4.17	0.96	0.96	2.78	2.78	3.93	3.93	1.80	1.49
30X30X6.0	3.79	4.83	4.12	4.12	0.92	0.92	2.75	2.75	4.01	4.01	0.69	0.76
32X32X1.6	1.48	1.88	2.84	2.84	1.23	1.23	1.78	1.78	2.12	2.12	4.59	2.60
32X32X2.0	1.81	2.30	3.36	3.36	1.21	1.21	2.10	2.10	2.54	2.54	5.40	3.02
32X32X2.2	1.96	2.50	3.60	3.60	1.20	1.20	2.25	2.25	2.74	2.74	5.74	3.19
32X32X2.5	2.19	2.79	3.92	3.92	1.19	1.19	2.45	2.45	3.02	3.02	6.15	3.41
32X32X2.8	2.41	3.07	4.21	4.21	1.17	1.17	2.64	2.64	3.28	3.28	6.44	3.56
32X32X3.2	2.68	3.42	4.54	4.54	1.15	1.15	2.84	2.84	3.59	3.59	6.62	3.68
38X38X1.6	1.77	2.26	4.92	4.92	1.48	1.48	2.59	2.59	3.06	3.06	7.93	3.82
38X38X2.0	2.18	2.78	5.88	5.88	1.45	1.45	3.10	3.10	3.70	3.70	9.49	4.51
38X38X2.2	2.38	3.03	6.32	6.32	1.44	1.44	3.33	3.33	4.00	4.00	10.19	4.81
38X38X2.5	2.66	3.39	6.94	6.94	1.43	1.43	3.66	3.66	4.44	4.44	11.11	5.21
38X38X2.8	2.94	3.74	7.51	7.51	1.42	1.42	3.96	3.96	4.84	4.84	11.88	5.55
38X38X3.2	3.29	4.19	8.18	8.18	1.40	1.40	4.31	4.31	5.34	5.34	12.64	5.89
38X38X3.6	3.63	4.62	8.76	8.76	1.38	1.38	4.62	4.62	5.80	5.80	13.07	6.10
40X40X1.6	1.88	2.39	5.79	5.79	1.56	1.56	2.90	2.90	3.41	3.41	9.32	4.28
40X40X2.0	2.31	2.94	6.94	6.94	1.54	1.54	3.47	3.47	4.13	4.13	11.20	5.07
40X40X2.2	2.51	3.20	7.47	7.47	1.53	1.53	3.74	3.74	4.48	4.48	12.05	5.42

SQUARE SIZE RANGE

SQUARE SIZE RANGE

SQUARE HOLLOW SECTION (SHS) IS : 4923 : 2017/EN 10219-1 : 2006*/ASTM A-500												
Dimension mm	Weight kg/m	Area cm ²	Moment of Inertia		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constants	
			I _{xx} cm ⁴	I _{yy} cm ⁴	R _{xx} cm	R _{yy} cm	Z _{xx} cm ³	Z _{yy} cm ³	S _{xx} cm ³	S _{yy} cm ³	J cm ⁴	C cm ³
40X40X2.5	2.82	3.59	8.22	8.22	1.51	1.51	4.11	4.11	4.97	4.97	13.19	5.90
40X40X2.8	3.11	3.96	8.90	8.90	1.50	1.50	4.45	4.45	5.43	5.43	14.17	6.30
40X40X3.2	3.49	4.45	9.72	9.72	1.48	1.48	4.86	4.86	6.01	6.01	15.19	6.73
40X40X3.6	3.85	4.91	10.45	10.45	1.46	1.46	5.23	5.23	6.53	6.53	15.86	7.02
40X40X4.0	4.20	5.35	11.07	11.07	1.44	1.44	5.54	5.54	7.01	7.01	16.15	7.19
40X40X4.5	4.61	5.87	11.73	11.73	1.41	1.41	5.87	5.87	7.55	7.55	15.97	7.20
40X40X5.0	4.99	6.36	12.26	12.26	1.39	1.39	6.13	6.13	8.02	8.02	15.15	6.99
40X40X5.4	5.28	6.72	12.59	12.59	1.37	1.37	6.30	6.30	8.35	8.35	14.06	6.66
40X40X6.0	5.68	7.23	12.94	12.94	1.34	1.34	6.47	6.47	8.76	8.76	11.76	5.89
40X40X8.0	6.74	8.59	13.03	13.03	1.23	1.23	6.52	6.52	9.50	9.50	2.17	1.81
45X45X1.6	2.13	2.71	8.41	8.41	1.76	1.76	3.74	3.74	4.38	4.38	13.47	5.54
45X45X2.0	2.62	3.34	10.12	10.12	1.74	1.74	4.50	4.50	5.32	5.32	16.31	6.61
45X45X2.2	2.86	3.64	10.92	10.92	1.73	1.73	4.86	4.86	5.78	5.78	17.63	7.10
45X45X2.5	3.21	4.09	12.06	12.06	1.72	1.72	5.36	5.36	6.43	6.43	19.45	7.77
45X45X2.8	3.55	4.52	13.12	13.12	1.70	1.70	5.84	5.84	7.05	7.05	21.07	8.37
45X45X3.2	4.00	5.09	14.41	14.41	1.68	1.68	6.41	6.41	7.83	7.83	22.91	9.05
45X45X3.6	4.42	5.63	15.57	15.57	1.66	1.66	6.92	6.92	8.55	8.55	24.33	9.58
45X45X4.0	4.83	6.15	16.61	16.61	1.64	1.64	7.39	7.39	9.22	9.22	25.31	9.96
50X50X1.6	2.38	3.03	11.71	11.71	1.97	1.97	4.69	4.69	5.46	5.46	18.68	6.95
50X50X2.0	2.94	3.74	14.15	14.15	1.95	1.95	5.66	5.66	6.66	6.66	22.75	8.35
50X50X2.2	3.20	4.08	15.30	15.30	1.94	1.94	6.12	6.12	7.24	7.24	24.66	9.00
50X50X2.5	3.60	4.59	16.94	16.94	1.92	1.92	6.78	6.78	8.07	8.07	27.35	9.90
50X50X2.8	3.99	5.08	18.49	18.49	1.91	1.91	7.40	7.40	8.87	8.87	29.81	10.72
50X50X3.2	4.50	5.73	20.40	20.40	1.89	1.89	8.16	8.16	9.89	9.89	32.72	11.68
50X50X3.6	4.98	6.35	22.15	22.15	1.87	1.87	8.86	8.86	10.84	10.84	35.16	12.49
50X50X4.0	5.46	6.95	23.74	23.74	1.85	1.85	9.50	9.50	11.73	11.73	37.09	13.14
50X50X4.5	6.02	7.67	25.50	25.50	1.82	1.82	10.20	10.20	12.76	12.76	38.72	13.72
50X50X5.0	6.56	8.36	27.04	27.04	1.80	1.80	10.82	10.82	13.70	13.70	39.43	14.04
50X50X5.4	6.97	8.88	28.11	28.11	1.78	1.78	11.25	11.25	14.39	14.39	39.32	14.10
50X50X6.0	7.56	9.63	29.45	29.45	1.75	1.75	11.78	11.78	15.32	15.32	37.97	13.86
50X50X8.0	9.26	11.79	31.94	31.94	1.65	1.65	12.78	12.78	17.55	17.55	24.10	10.19
60X60X2.0	3.56	4.54	25.14	25.14	2.35	2.35	8.38	8.38	9.79	9.79	40.19	12.44
60X60X2.2	3.89	4.96	27.27	27.27	2.34	2.34	9.09	9.09	10.66	10.66	43.74	13.46
60X60X2.5	4.39	5.59	30.34	30.34	2.33	2.33	10.12	10.12	11.93	11.93	48.84	14.91
60X60X2.8	4.87	6.20	33.27	33.27	2.32	2.32	11.09	11.09	13.16	13.16	53.66	16.26
60X60X3.2	5.50	7.01	36.94	36.94	2.30	2.30	12.32	12.32	14.73	14.73	59.61	17.92
60X60X3.6	6.12	7.79	40.37	40.37	2.28	2.28	13.46	13.46	16.22	16.22	64.96	19.39
60X60X4.0	6.71	8.55	43.55	43.55	2.26	2.26	14.52	14.52	17.64	17.64	69.66	20.68
60X60X4.5	7.43	9.47	47.20	47.20	2.23	2.23	15.74	15.74	19.32	19.32	74.54	22.04
60X60X5.0	8.13	10.36	50.49	50.49	2.21	2.21	16.83	16.83	20.88	20.88	78.24	23.09
60X60X5.4	8.67	11.04	52.88	52.88	2.19	2.19	17.63	17.63	22.05	22.05	80.29	23.71
60X60X6.0	9.44	12.03	56.07	56.07	2.16	2.16	18.69	18.69	23.68	23.68	81.77	24.26

SQUARE HOLLOW SECTION (SHS) IS : 4923 : 2017/EN 10219-1 : 2006*/ASTM A-500												
Dimension mm	Weight kg/m	Area cm ²	Moment of Inertia		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constants	
			I _{xx} cm ⁴	I _{yy} cm ⁴	R _{xx} cm	R _{yy} cm	Z _{xx} cm ³	Z _{yy} cm ³	S _{xx} cm ³	S _{yy} cm ³	J cm ⁴	C cm ³
60X60X8.0	11.77	14.99	63.48	63.48	2.06	2.06	21.16	21.16	28.01	28.01	72.24	22.68
72X72X2.0	4.32	5.50	44.46	44.46	2.84	2.84	12.35	12.35	14.34	14.34	70.60	18.39
72X72X2.2	4.73	6.02	48.35	48.35	2.83	2.83	13.44	13.44	15.64	15.64	77.05	19.96
72X72X2.5	5.33	6.79	53.99	53.99	2.82	2.82	15.00	15.00	17.55	17.55	86.43	22.23
72X72X2.8	5.93	7.55	59.42	59.42	2.81	2.81	16.51	16.51	19.41	19.41	95.47	24.39
72X72X3.2	6.70	8.54	66.32	66.32	2.79	2.79	18.43	18.43	21.80	21.80	106.90	27.08
72X72X3.6	7.47	9.52	72.86	72.86	2.77	2.77	20.24	20.24	24.11	24.11	117.58	29.57
72X72X4.0	8.22	10.47	79.03	79.03	2.75	2.75	21.96	21.96	26.32	26.32	127.44	31.84
72X72X4.5	9.13	11.63	86.24	86.24	2.72	2.72	23.96	23.96	28.97	28.97	138.51	34.38
72X72X5.0	10.02	12.76	92.91	92.91	2.70	2.70	25.81	25.81	31.47	31.47	148.08	36.58
72X72X5.4	10.70	13.63	97.87	97.87	2.68	2.68	27.19	27.19	33.38	33.38	154.57	38.08
72X72X6.0	11.70	14.91	104.71	104.71	2.65	2.65	29.09	29.09	36.08	36.08	162.23	39.90
72X72X8.0	14.78	18.83	122.48	122.48	2.55	2.55	34.03	34.03	43.72	43.72	168.14	42.04
75X75X2.0	4.51	5.74	50.49	50.49	2.97	2.97	13.47	13.47	15.61	15.61	80.04	20.06
75X75X2.2	4.93	6.28	54.93	54.93	2.96	2.96	14.65	14.65	17.03	17.03	87.39	21.79
75X75X2.5	5.57	7.09	61.38	61.38	2.94	2.94	16.37	16.37	19.12	19.12	98.13	24.29
75X75X2.8	6.19	7.88	67.60	67.60	2.93	2.93	18.03	18.03	21.16	21.16	108.48	26.67
75X75X3.2	7.01	8.93	75.53	75.53	2.91	2.91	20.15	20.15	23.79	23.79	121.65	29.66
75X75X3.6	7.81	9.95	83.06	83.06	2.89	2.89	22.15	22.15	26.32	26.32	134.02	32.44
75X75X4.0	8.60	10.95	90.19	90.19	2.87	2.87	24.06	24.06	28.76	28.76	145.52	34.99
75X75X4.5	9.55	12.17	98.55	98.55	2.85	2.85	26.28	26.28	31.68	31.68	158.59	37.87
75X75X5.0	10.49	13.36	106.33	106.33	2.82	2.82	28.36	28.36	34.46	34.46	170.06	40.40
75X75X5.4	11.21	14.28	112.13	112.13	2.80	2.80	29.91	29.91	36.58	36.58	178.01	42.15
75X75X6.0	12.27	15.63	120.16	120.16	2.77	2.77	32.05	32.05	39.58	39.58	187.76	44.34
80X80X2.0	4.82	6.14	61.70	61.70	3.17	3.17	15.43	15.43	17.85	17.85	97.58	23.00
80X80X2.2	5.28	6.72	67.17	67.17	3.16	3.16	16.80	16.80	19.49	19.49	106.61	25.01
80X80X2.5	5.96	7.59	75.15	75.15	3.15	3.15	18.79	18.79	21.90	21.90	119.85	27.91
80X80X2.8	6.63	8.44	82.85	82.85	3.13	3.13	20.72	20.72	24.25	24.25	132.67	30.70
80X80X3.2	7.51	9.57	92.71	92.71	3.11	3.11	23.18	23.18	27.29	27.29	149.08	34.21
80X80X3.6	8.38	10.67	102.11	102.11	3.09	3.09	25.53	25.53	30.23	30.23	164.62	37.50
80X80X4.0	9.22	11.75	111.04	111.04	3.07	3.07	27.76	27.76	33.07	33.07	179.21	40.56
80X80X4.5	10.26	13.07	121.58	121.58	3.05	3.05	30.40	30.40	36.48	36.48	196.03	44.05
80X80X5.0	11.27	14.36	131.44	131.44	3.03	3.03	32.86	32.86	39.74	39.74	211.11	47.16
80X80X5.4	12.06	15.36	138.85	138.85	3.01	3.01	34.72	34.72	42.23	42.23	221.85	49.38
80X80X6.0	13.21	16.83	149.18	149.18	2.98	2.98	37.30	37.30	45.79	45.79	235.58	52.23
91.5X91.5X2.0	5.54	7.06	93.52	93.52	3.64	3.64	20.45	20.45	23.57	23.57	147.16	30.52
91.5X91.5X2.2	6.07	7.73	101.95	101.95	3.63	3.63	22.29	22.29	25.76	25.76	160.99	33.24
91.5X91.5X2.5	6.86	8.74	114.29	114.29	3.62	3.62	24.99	24.99	28.98	28.98	181.36	37.20
91.5X91.5X2.8	7.64	9.73	126.27	126.27	3.60	3.60	27.60	27.60	32.14	32.14	201.23	41.03
91.5X91.5X3.2	8.67	11.04	141.69	141.69	3.58	3.58	30.98	30.98	36.25	36.25	226.89	45.90
91.5X91.5X3.6	9.67	12.32	156.49	156.49	3.56	3.56	34.21	34.21	40.24	40.24	251.52	50.52
91.5X91.5X4.0	10.67	13.59	170.68	170.68	3.54	3.54	37.31	37.31	44.12	44.12	275.03	54.88

SQUARE SIZE RANGE

SQUARE SIZE RANGE

SQUARE SIZE RANGE

SQUARE HOLLOW SECTION (SHS) IS : 4923 : 2017/EN 10219-1 : 2006*/ASTM A-500												
Dimension mm	Weight kg/m	Area cm ²	Moment of Inertia		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constants	
			I _{xx} cm ⁴	I _{yy} cm ⁴	R _{xx} cm	R _{yy} cm	Z _{xx} cm ³	Z _{yy} cm ³	S _{xx} cm ³	S _{yy} cm ³	J cm ⁴	C cm ³
91.5X91.5X4.5	11.88	15.14	187.57	187.57	3.52	3.52	41.00	41.00	48.79	48.79	302.71	59.96
91.5X91.5X5.0	13.08	16.66	203.55	203.55	3.50	3.50	44.50	44.50	53.29	53.29	328.34	64.62
91.5X91.5X5.4	14.01	17.85	215.68	215.68	3.48	3.48	47.15	47.15	56.77	56.77	347.27	68.04
91.5X91.5X6.0	15.38	19.59	232.81	232.81	3.45	3.45	50.89	50.89	61.76	61.76	372.82	72.65
100X100X2.2	6.66	8.48	134.20	134.20	3.98	3.98	26.84	26.84	30.95	30.95	211.23	40.07
100X100X2.5	7.53	9.59	150.63	150.63	3.96	3.96	30.13	30.13	34.86	34.86	238.22	44.92
100X100X2.8	8.38	10.68	166.62	166.62	3.95	3.95	33.33	33.33	38.69	38.69	264.65	49.61
100X100X3.2	9.52	12.13	187.28	187.28	3.93	3.93	37.46	37.46	43.69	43.69	298.95	55.63
100X100X3.6	10.64	13.55	207.19	207.19	3.91	3.91	41.44	41.44	48.56	48.56	332.08	61.37
100X100X4.0	11.74	14.95	226.35	226.35	3.89	3.89	45.27	45.27	53.30	53.30	363.96	66.82
100X100X4.5	13.09	16.67	249.29	249.29	3.87	3.87	49.86	49.86	59.04	59.04	401.89	73.25
100X100X5.0	14.41	18.36	271.10	271.10	3.84	3.84	54.22	54.22	64.59	64.59	437.53	79.22
100X100X5.4	15.45	19.68	287.77	287.77	3.82	3.82	57.56	57.56	68.89	68.89	464.27	83.66
100X100X6.0	16.98	21.63	311.47	311.47	3.79	3.79	62.30	62.30	75.10	75.10	501.21	89.77
100X100X8.0	21.82	27.79	379.77	379.77	3.70	3.70	75.96	75.96	93.83	93.83	593.41	105.11
110X110X2.5	8.31	10.59	202.38	202.38	4.37	4.37	36.80	36.80	42.47	42.47	318.92	54.92
110X110X2.8	9.26	11.80	224.13	224.13	4.36	4.36	40.76	40.76	47.18	47.18	354.70	60.75
110X110X3.2	10.53	13.41	252.31	252.31	4.34	4.34	45.88	45.88	53.33	53.33	401.33	68.25
110X110X3.6	11.77	14.99	279.58	279.58	4.32	4.32	50.84	50.84	59.34	59.34	446.64	75.46
110X110X4.0	12.99	16.55	305.94	305.94	4.30	4.30	55.63	55.63	65.21	65.21	490.52	82.35
110X110X4.5	14.50	18.47	337.63	337.63	4.28	4.28	61.39	61.39	72.35	72.35	543.21	90.54
110X110X5.0	15.98	20.36	367.95	367.95	4.25	4.25	66.90	66.90	79.27	79.27	593.30	98.24
110X110X5.4	17.14	21.84	391.23	391.23	4.23	4.23	71.14	71.14	84.65	84.65	631.37	104.04
110X110X6.0	18.86	24.03	424.57	424.57	4.20	4.20	77.20	77.20	92.46	92.46	684.89	112.13
110X110X8.0	24.33	30.99	522.39	522.39	4.11	4.11	94.98	94.98	116.29	116.29	828.32	133.69
120X120X2.8	10.14	12.92	293.54	293.54	4.77	4.77	48.93	48.93	56.50	56.50	463.02	73.00
120X120X3.2	11.53	14.69	330.88	330.88	4.75	4.75	55.15	55.15	63.93	63.93	524.57	82.16
120X120X3.6	12.90	16.43	367.12	367.12	4.73	4.73	61.19	61.19	71.21	71.21	584.63	90.98
120X120X4.0	14.25	18.15	402.28	402.28	4.71	4.71	67.05	67.05	78.33	78.33	643.08	99.48
120X120X4.5	15.91	20.27	444.70	444.70	4.68	4.68	74.12	74.12	87.01	87.01	713.71	109.63
120X120X5.0	17.55	22.36	485.47	485.47	4.66	4.66	80.92	80.92	95.45	95.45	781.43	119.26
120X120X5.4	18.84	24.00	516.92	516.92	4.64	4.64	86.16	86.16	102.03	102.03	833.37	126.57
120X120X6.0	20.75	26.43	562.16	562.16	4.61	4.61	93.70	93.70	111.61	111.61	907.27	136.89
120X120X8.0	26.84	34.19	696.82	696.82	4.51	4.51	116.14	116.14	141.14	141.14	1114.50	165.47
125X125X2.8	10.58	13.48	333.05	333.05	4.97	4.97	53.29	53.29	61.48	61.48	524.57	79.55
125X125X3.2	12.03	15.33	375.64	375.64	4.95	4.95	60.11	60.11	69.59	69.59	594.61	89.59
125X125X3.6	13.46	17.15	417.03	417.03	4.93	4.93	66.73	66.73	77.54	77.54	663.08	99.29
125X125X4.0	14.88	18.95	457.23	457.23	4.91	4.91	73.16	73.16	85.33	85.33	729.85	108.65
125X125X4.5	16.62	21.17	505.83	505.83	4.89	4.89	80.94	80.94	94.84	94.84	810.75	119.85
125X125X5.0	18.34	23.36	552.62	552.62	4.86	4.86	88.42	88.42	104.10	104.10	888.58	130.52
125X125X5.4	19.69	25.08	588.77	588.77	4.85	4.85	94.21	94.21	111.33	111.33	948.47	138.65
125X125X6.0	21.69	27.63	640.89	640.89	4.82	4.82	102.55	102.55	121.87	121.87	1034.09	150.16

SQUARE HOLLOW SECTION (SHS) IS : 4923 : 2017/EN 10219-1 : 2006*/ASTM A-500												
Dimension mm	Weight kg/m	Area cm ²	Moment of Inertia		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constants	
			I _{xx} cm ⁴	I _{yy} cm ⁴	R _{xx} cm	R _{yy} cm	Z _{xx} cm ³	Z _{yy} cm ³	S _{xx} cm ³	S _{yy} cm ³	J cm ⁴	C cm ³
125X125X8.0	28.10	35.79	796.96	796.96	4.72	4.72	127.52	127.52	154.47	154.47	1278.30	182.55
140X140X3.2	13.54	17.25	533.76	533.76	5.56	5.56	76.26	76.26	88.01	88.01	841.30	113.80
140X140X3.6	15.16	19.31	593.44	593.44	5.54	5.54	84.78	84.78	98.18	98.18	939.53	126.36
140X140X4.0	16.76	21.35	651.62	651.62	5.52	5.52	93.09	93.09	108.15	108.15	1035.76	138.54
140X140X4.5	18.74	23.87	722.24	722.24	5.50	5.50	103.18	103.18	120.37	120.37	1153.06	153.21
140X140X5.0	20.69	26.36	790.56	790.56	5.48	5.48	112.94	112.94	132.30	132.30	1266.79	167.29
140X140X5.4	22.23	28.32	843.58	843.58	5.46	5.46	120.52	120.52	141.65	141.65	1355.03	178.10
140X140X6.0	24.52	31.23	920.43	920.43	5.43	5.43	131.49	131.49	155.33	155.33	1482.50	193.59
140X140X8.0	31.86	40.59	1153.92	1153.92	5.33	5.33	164.85	164.85	198.05	198.05	1859.75	238.59
150X150X3.6	16.29	20.75	735.09	735.09	5.95	5.95	98.02	98.02	113.28	113.28	1160.76	146.21
150X150X4.0	18.02	22.95	807.82	807.82	5.93	5.93	107.71	107.71	124.87	124.87	1280.69	160.46
150X150X4.5	20.15	25.67	896.30	896.30	5.91	5.91	119.51	119.51	139.08	139.08	1427.31	177.70
150X150X5.0	22.26	28.36	982.12	982.12	5.88	5.88	130.95	130.95	152.98	152.98	1570.02	194.30
150X150X5.4	23.93	30.48	1048.88	1048.88	5.87	5.87	139.86	139.86	163.89	163.89	1681.17	207.11
150X150X6.0	26.40	33.63	1145.91	1145.91	5.84	5.84	152.79	152.79	179.88	179.88	1842.55	225.53
150X150X8.0	34.38	43.79	1443.00	1443.00	5.74	5.74	192.40	192.40	230.11	230.11	2328.39	279.93
150X150X10.0	41.93	53.42	1701.21	1701.21	5.64	5.64	226.83	226.83	275.67	275.67	2720.95	323.18
175X175X4.0	21.16	26.95	1303.12	1303.12	6.95	6.95	148.93	148.93	171.90	171.90	2053.97	222.27
175X175X4.5	23.68	30.17	1448.83	1448.83	6.93	6.93	165.59	165.59	191.75	191.75	2293.76	246.80
175X175X5.0	26.19	33.36	1590.86	1590.86	6.91	6.91	181.82	181.82	211.24	211.24	2528.72	270.58
175X175X5.4	28.17	35.88	1701.86	1701.86	6.89	6.89	194.50	194.50	226.57	226.57	2712.97	289.06
175X175X6.0	31.11	39.63	1864.03	1864.03	6.86	6.86	213.04	213.04	249.15	249.15	2982.78	315.88
175X175X8.0	40.66	51.79	2367.89	2367.89	6.76	6.76	270.62	270.62	320.75	320.75	3818.44	397.28
175X175X10.0	49.78	63.42	2817.20	2817.20	6.66	6.66	321.97	321.97	386.83	386.83	4540.40	465.99
180X180X4.0	21.78	27.75	1421.74	1421.74	7.16	7.16	157.98	157.98	182.21	182.21	2238.61	235.83
180X180X4.5	24.39	31.07	1581.26	1581.26	7.13	7.13	175.70	175.70	203.30	203.30	2500.75	261.96
180X180X5.0	26.97	34.36	1736.87	1736.87	7.11	7.11	192.99	192.99	224.02	224.02	2757.85	287.33
180X180X6.0	32.05	40.83	2036.52	2036.52	7.06	7.06	226.28	226.28	264.35	264.35	3255.59	335.75
180X180X8.0	41.91	53.39	2590.73	2590.73	6.97	6.97	287.86	287.86	340.68	340.68	4175.84	423.14
180X180X10.0	51.35	65.42	3086.93	3086.93	6.87	6.87	343.00	343.00	411.31	411.31	4978.18	497.54
200X200X4.5	27.22	34.67	2191.54	2191.54	7.95	7.95	219.16	219.16	252.86	252.86	3452.29	327.13
200X200X5.0	30.11	38.36	2410.09	2410.09	7.93	7.93	241.01	241.01	278.87	278.87	3811.54	359.35
200X200X5.4	32.40	41.28	2581.45	2581.45	7.91	7.91	258.15	258.15	299.39	299.39	4094.48	384.51
200X200X6.0	35.82	45.63	2832.75	2832.75	7.88	7.88	283.28	283.28	329.67	329.67	4511.01	421.22
200X200X8.0	46.94	59.79	3621.63	3621.63	7.78	7.78	362.17	362.17	426.39	426.39	5823.37	534.59
200X200X10.0	57.63	73.42	4337.63	4337.63	7.69	7.69	433.77	433.77	516.73	516.73		

SQUARE SIZE RANGE

SQUARE SIZE RANGE

SQUARE HOLLOW SECTION (SHS) IS : 4923 : 2017/EN 10219-1 : 2006*/ASTM A-500

Dimension mm	Weight kg/m	Area cm ²	Moment of Inertia		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constants	
			I _{xx} cm ⁴	I _{yy} cm ⁴	R _{xx} cm	R _{yy} cm	Z _{xx} cm ³	Z _{yy} cm ³	S _{xx} cm ³	S _{yy} cm ³	J cm ⁴	C cm ³
220X220X12.0	75.46	96.13	6793.08	6793.08	8.41	8.41	617.56	617.56	739.66	739.66	10958.24	897.07
225X225X5.0	34.04	43.36	3471.05	3471.05	8.95	8.95	308.54	308.54	355.88	355.88	5445.36	460.61
225X225X5.4	36.64	46.68	3721.40	3721.40	8.93	8.93	330.80	330.80	382.32	382.32	5876.33	493.45
225X225X6.0	40.53	51.63	4089.57	4089.57	8.90	8.90	363.52	363.52	421.43	421.43	6483.49	541.55
225X225X8.0	53.22	67.79	5254.21	5254.21	8.80	8.80	467.05	467.05	547.03	547.03	8418.11	691.89
225X225X10.0	65.48	83.42	6325.02	6325.02	8.71	8.71	562.23	562.23	665.39	665.39	10194.92	826.45
225X225X12.0	77.35	98.53	7305.19	7305.19	8.61	8.61	649.36	649.36	776.62	776.62	11787.46	944.78
250X250X6.0	45.24	57.63	5672.00	5672.00	9.92	9.92	453.76	453.76	524.45	524.45	8956.46	676.88
250X250X8.0	59.50	75.79	7315.65	7315.65	9.82	9.82	585.26	585.26	682.67	682.67	11677.65	869.16
250X250X10.0	73.33	93.42	8841.86	8841.86	9.73	9.73	707.35	707.35	832.79	832.79	14217.20	1044.13
250X250X12.0	86.77	110.53	10254.21	10254.21	9.63	9.63	820.34	820.34	974.94	974.94	16545.51	1201.32
275X275X6.0	49.95	63.63	7617.53	7617.53	10.94	10.94	554.01	554.01	638.71	638.71	11986.16	827.20
275X275X8.0	65.78	83.79	9855.94	9855.94	10.85	10.85	716.80	716.80	833.31	833.31	15676.96	1066.43
275X275X10.0	81.18	103.42	11950.66	11950.66	10.75	10.75	869.14	869.14	1018.95	1018.95	19161.08	1286.77
275X275X12.0	96.19	122.53	13905.64	13905.64	10.65	10.65	1011.32	1011.32	1195.75	1195.75	22405.82	1487.80
300X300X8.0	72.06	91.79	12925.07	12925.07	11.87	11.87	861.68	861.68	998.95	998.95	20491.03	1283.68
300X300X10.0	89.03	113.42	15713.90	15713.90	11.77	11.77	1047.60	1047.60	1223.86	1223.86	25120.26	1554.40
300X300X12.0	105.61	134.53	18334.49	18334.49	11.67	11.67	1222.30	1222.30	1439.07	1439.07	29480.79	1804.25

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Dimension mm	Weight kg/m	Area cm ²	Moment of Inertia		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constants	
			I _{xx} cm ⁴	I _{yy} cm ⁴	R _{xx} cm	R _{yy} cm	Z _{xx} cm ³	Z _{yy} cm ³	S _{xx} cm ³	S _{yy} cm ³	J cm ⁴	C cm ³
200X200X14.0	77.80	99.11	5562.26	5562.26	7.49	7.49	556.23	556.23	678.74	678.74	8857.57	787.40
250X250X14.0	99.78	127.11	11556.23	11556.23	9.53	9.53	924.50	924.50	1109.22	1109.22	18633.47	1340.24
275X275X14.0	110.77	141.11	15724.81	15724.81	10.56	10.56	1143.63	1143.63	1363.84	1363.84	25378.84	1669.04
300X300X14.0	121.76	155.11	20791.11	20791.11	11.58	11.58	1386.08	1386.08	1644.70	1644.70	33537.11	2032.77
300X300X16.0	137.51	175.17	23088.02	23088.02	11.48	11.48	1539.21	1539.21	1840.89	1840.89	37254.21	2239.48
300X300X18.0	152.84	194.70	25229.41	25229.41	11.38	11.38	1681.97	1681.97	2027.73	2027.73	40597.89	2423.87
300X300X20.0	167.75	213.70	27219.42	27219.42	11.29	11.29	1814.63	1814.63	2205.36	2205.36	43535.12	2585.43
325X325X6.0	59.37	75.63	12747.91	12747.91	12.98	12.98	784.49	784.49	901.00	901.00	19940.76	1172.84
325X325X8.0	78.34	99.79	16573.06	16573.06	12.89	12.89	1019.89	1019.89	1179.59	1179.59	26194.87	1520.93
325X325X10.0	96.88	123.42	20194.10	20194.10	12.79	12.79	1242.72	1242.72	1447.51	1447.51	32188.47	1847.01
325X325X12.0	115.03	146.53	23615.74	23615.74	12.70	12.70	1453.28	1453.28	1704.88	1704.88	37882.85	2150.67
325X325X14.0	132.75	169.11	26842.64	26842.64	12.60	12.60	1651.86	1651.86	1951.82	1951.82	43239.38	2431.45
325X325X16.0	150.07	191.17	29879.43	29879.43	12.50	12.50	1838.74	1838.74	2188.44	2188.44	48219.82	2688.89
325X325X18.0	166.97	212.70	32730.67	32730.67	12.40	12.40	2014.20	2014.20	2414.87	2414.87	52786.57	2922.49
325X325X20.0	183.45	233.70	35400.89	35400.89	12.31	12.31	2178.52	2178.52	2631.23	2631.23	56902.95	3131.74
350X350X6.0	64.08	81.63	16007.75	16007.75	14.00	14.00	914.73	914.73	1049.01	1049.01	24978.15	1368.15
350X350X8.0	84.62	107.79	20849.89	20849.89	13.91	13.91	1191.43	1191.43	1375.23	1375.23	32863.45	1778.17
350X350X10.0	104.73	133.42	25453.75	25453.75	13.81	13.81	1454.50	1454.50	1689.92	1689.92	40459.45	2164.61
350X350X12.0	124.45	158.53	29824.41	29824.41	13.72	13.72	1704.26	1704.26	1993.20	1993.20	47724.46	2527.06
350X350X14.0	143.74	183.11	33966.90	33966.90	13.62	13.62	1940.97	1940.97	2285.19	2285.19	54616.80	2865.08
350X350X16.0	162.63	207.17	37886.23	37886.23	13.52	13.52	2164.93	2164.93	2566.00	2566.00	61095.07	3178.23
350X350X18.0	181.10	230.70	41587.35	41587.35	13.43	13.43	2376.42	2376.42	2835.77	2835.77	67118.34	3466.01
350X350X20.0	199.15	253.70	45075.16	45075.16	13.33	13.33	2575.73	2575.73	3094.60	3094.60	72646.48	3727.92
400X400X6.0	73.50	93.63	24104.23	24104.23	16.04	16.04	1205.22	1205.22	1378.79	1378.79	37454.37	1803.77
400X400X8.0	97.18	123.79	31490.11	31490.11	15.95	15.95	1574.51	1574.51	1811.51	1811.51	49394.86	2352.64
400X400X10.0	120.43	153.42	38561.41	38561.41	15.85	15.85	1928.08	1928.08	2230.98	2230.98	60984.67	2874.77
400X400X12.0	143.29	182.53	45323.97	45323.97	15.76	15.76	2266.20	2266.20	2637.33	2637.33	72176.20	3369.78
400X400X14.0	165.72	211.11	51783.59	51783.59	15.66	15.66	2589.18	2589.18	3030.67	3030.67	82921.80	3837.25
400X400X16.0	187.75	239.17	57946.03	57946.03	15.57	15.57	2897.31	2897.31	3411.12	3411.12	93173.85	4276.74
400X400X18.0	209.36	266.70	63816.99	63816.99	15.47	15.47	3190.85	3190.85	3778.81	3778.81	102885.06	4687.80
400X400X20.0	230.55	293.70	69402.13	69402.13	15.37	15.37	3470.11	3470.11	4133.85	4133.85	112008.61	5069.94
450X450X8.0	109.74	139.79	45245.73	45245.73	17.99	17.99	2010.93	2010.93	2307.79	2307.79	70685.24	3007.10
450X450X10.0	136.13	173.42	55536.88	55536.88	17.90	17.90	2468.31	2468.31	2847.04	2847.04	87445.83	3684.90
450X450X12.0	162.13	206.53	65433.18	65433.18	17.80	17.80	2908.15	2908.15	3371.45	3371.45	103735.86	4332.43
450X450X14.0	187.70	239.11	74941.19	74941.19	17.70	17.70	3330.72	3330.72	3881.15	3881.15	119501.71	4949.30
450X450X16.0	212.87	271.17	84067.43	84067.43	17.61	17.61	3736.34	3736.34	4376.24	4376.24	134689.76	5535.09
450X450X18.0	237.62	302.70	92818.34	92818.34	17.51	17.51	4125.26	4125.26	4856.85	4856.85	149246.49	6089.34
450X450X20.0	261.95	333.70	101200.35	101200.35	17.41	17.41	4497.80	4497.80	5323.10	5323.10	163118.70	6611.61
500X500X8.0	122.30	155.79	62516.74	62516.74	20.03	20.03	2500.67	2500.67	2864.07	2864.07	97334.59	3741.54
500X500X10.0	151.83	193.42	76880.16	76880.16	19.94	19.94	3075.21	3075.21	3538.10	3538.10	120592.92	4595.01
500X500X12.0	180.97	230.53	90752.04	90752.04	19.84	19.84	3630.09	3630.09	4195.58	4195.58	143303.32	5415.05
500X500X14.0	209.68	267.11	104139.70	104139.70	19.75	19.75	4165.59	4165.59	4836.63	4836.63	165406.33	6201.28
500X500X16.0	237.99	303.17	117050.41	117050.41	19.65	19.65	4682.02	4682.02	5461.36	5461.36	186842.34	6953.31
500X500X18.0	265.88	338.70	129491.39	129491.39	19.55	19.55	5179.66	5179.66	6069.89	6069.89	207551.78	7670.70
500X500X20.0	293.35	373.70	141469.80	141469.80	19.46	19.46	5658.80	5658.80	6662.35	6662.35	227475.22	8353.01

ALLOWABLE STRESS VALUES (IN MPA) AND DIMENSIONAL TOLERANCE IS 4923:2017, TABLE 4, (Clauses 19.2)

S. No.	Grade	Tensile Strength	Yield Strength	Elongation	DIMENSIONAL TOLERANCE					
		Min	Min	Min	Outside Dimensional	Thickness	Squareness	Corner radius	Weight	
		MPa	MPa	Percent					Individual Lengths	On lot of 10 MT
1	YSt 210	330	210	20	+/-1% with a minimum of +/-0.50 min	±7.5%	90 deg. +/-2 deg.	3t max	10% -8%	±7%
2	YSt 240	410	240	15						
3	YSt 310	450	310	10						
4	YSt 355	490	355	10						

*Galvanised sections can also be manufactured

*Customised sections can also be manufactured.

TENSILE PROPERTIES OF STEEL TUBES FOR STRUCTURAL PURPOSE IS 1161:2014, TABLE 2, (Clauses 3.1 and 11.2)

S. No.	Grade	Tensile Strength	Yield Strength	Elongation on Gauge Length
		Min	Min	5.65 √S ₀ Min
		MPa	MPa	Percent
1	YSt 210	330	210	20
2	YSt 240	410	240	17
3	YSt 310	450	310	14
4	YSt 355	490	355	10

TENSILE PROPERTIES OF STEEL TUBES SECTIONS IS 4923:201

SHS (Square Hollow Section) Size Range

SQUARE SIZE RANGE

SIZE	0.8	1.0	1.2	1.4	1.6	2.0	2.2	2.6	2.9	3.2	3.6	4.0	4.5	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	
12X12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15X15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20X20	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
25X25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
30X30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
32X32	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35X35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
38X38	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
40X40	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
45X45	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
50X50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
55X55	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
60X60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
65X65	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
70X70	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
72X72	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
75X75	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
80X80	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
90X90	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
91X91	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
100X100	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
110X110	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
113X113	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
120X120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
125X125	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
140X140	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
150X150	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
175X175	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
180X180	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
200X200	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
220X220	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
225X225	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
250X250	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
275X275	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
300X300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
350X350	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
400X400	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
450X450	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
500X500	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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