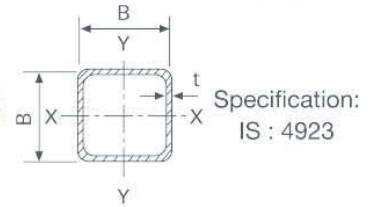




Section Properties



Properties of Tata Structura (Square Hollow Sections)

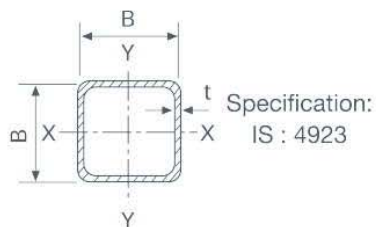
YST 310 Grade

SHS B x B mm	Thickness mm	Sec Area A cm ²	Unit W kg/m	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface Area per m m ²
				I _{xx} cm ⁴	I _{yy} cm ⁴	r _{xx} cm	r _{yy} cm	Z _{xx} cm ³	Z _{yy} cm ³	J cm ⁴	B cm ³	
25 x 25	2.00	1.74	1.36	1.48	1.48	0.92	0.92	1.19	1.19	2.29	1.68	0.090
	2.60	2.16	1.69	1.72	1.72	0.89	0.89	1.38	1.38	2.68	1.92	0.087
	3.20	2.53	1.98	1.89	1.89	0.86	0.86	1.51	1.51	2.96	2.07	0.084
32 x 32	2.00	2.30	1.80	3.36	3.36	1.21	1.21	2.10	2.10	5.30	3.05	0.118
	2.60	2.88	2.26	4.02	4.02	1.18	1.18	2.51	2.51	6.45	3.63	0.115
	3.20	3.42	2.69	4.54	4.54	1.15	1.15	2.84	2.84	7.41	4.07	0.112
38 x 38	2.60	3.51	2.75	7.14	7.14	1.43	1.43	3.76	3.76	11.51	5.49	0.139
	3.20	4.19	3.29	8.18	8.18	1.40	1.40	4.30	4.30	13.45	6.28	0.136
	4.00	5.03	3.95	9.26	9.26	1.36	1.36	4.87	4.87	15.67	7.12	0.131
40 x 40	2.60	3.72	2.92	8.45	8.45	1.51	1.51	4.22	4.22	13.63	6.20	0.147
	3.20	4.45	3.49	9.72	9.72	1.48	1.48	4.86	4.86	16.00	7.12	0.144
	4.00	5.35	4.20	11.07	11.07	1.44	1.44	5.54	5.54	18.75	8.12	0.139
50 x 50	2.60	4.76	3.74	17.47	17.47	1.92	1.92	6.99	6.99	28.53	10.37	0.187
	2.90	5.25	4.12	18.99	18.99	1.90	1.90	7.60	7.60	31.15	11.23	0.185
	3.60	6.35	4.98	22.15	22.15	1.87	1.87	8.86	8.86	36.58	12.98	0.181
60 x 60	4.50	7.67	6.02	25.50	25.50	1.82	1.82	10.20	10.20	41.99	14.68	0.177
	2.60	5.80	4.55	31.33	31.33	2.33	2.33	10.44	10.44	50.08	15.52	0.227
	3.20	7.01	5.50	36.94	36.94	2.30	2.30	12.31	12.31	60.02	18.31	0.224
72 x 72	4.00	8.55	6.71	43.55	43.55	2.26	2.26	14.52	14.52	72.41	21.62	0.219
	4.80	10.01	7.85	49.22	49.22	2.22	2.22	16.41	16.41	83.86	24.51	0.215
	3.20	8.54	6.71	66.32	66.32	2.79	2.79	18.42	18.42	106.81	27.47	0.272
80 x 80	4.00	10.47	8.22	79.03	79.03	2.75	2.75	21.95	21.95	129.85	32.78	0.267
	4.80	12.31	9.66	90.31	90.31	2.71	2.71	25.09	25.09	151.55	37.55	0.263
	3.20	9.57	7.51	92.71	92.71	3.11	3.11	23.18	23.18	148.55	34.60	0.304
91.5 x 91.5	4.00	11.75	9.22	111.04	111.04	3.07	3.07	27.76	27.76	181.22	41.49	0.299
	4.80	13.85	10.87	127.58	127.58	3.04	3.04	31.89	31.89	212.26	47.77	0.295
	3.60	12.32	9.67	156.49	156.49	3.56	3.56	34.21	34.21	251.17	51.14	0.347
100 x 100	4.50	15.14	11.88	187.57	187.57	3.52	3.52	41.00	41.00	306.78	61.40	0.343
	5.40	17.85	14.01	215.68	215.68	3.48	3.48	47.14	47.14	359.76	70.77	0.338
	4.00	14.95	11.73	226.35	226.35	3.89	3.89	45.27	45.27	364.75	67.50	0.379
113.5 x 113.5	5.00	18.36	14.41	271.10	271.10	3.84	3.84	54.22	54.22	441.84	80.54	0.374
	6.00	21.63	16.98	311.47	311.47	3.79	3.79	62.29	62.29	511.80	92.06	0.369
	4.80	20.28	15.92	393.30	393.30	4.40	4.40	69.30	69.30	637.45	103.89	0.429
132 x 132	5.40	22.60	17.74	432.58	432.58	4.38	4.38	76.23	76.23	708.69	114.41	0.426
	4.80	23.83	18.71	634.39	634.39	5.16	5.16	96.12	96.12	1018.30	144.11	0.503
	5.40	26.60	20.88	700.11	700.11	5.13	5.13	106.08	106.08	1134.25	159.18	0.500
150 x 150	4.00	22.95	18.01	807.82	807.82	5.93	5.93	107.71	107.71	1273.46	161.38	0.579
	5.00	28.36	22.26	982.12	982.12	5.89	5.89	130.95	130.95	1569.09	196.38	0.574
	6.00	33.63	26.40	1145.91	1145.91	5.84	5.84	152.79	152.79	1856.18	229.44	0.569
180 x 180	8.00	43.79	34.38	1443.00	1443.00	5.74	5.74	192.40	192.40	2405.78	290.12	0.559
	4.00	27.75	21.78	1421.74	1421.74	7.16	7.16	157.97	157.97	2224.31	236.76	0.699
	5.00	34.36	26.97	1736.87	1736.87	7.11	7.11	192.99	192.99	2747.93	289.40	0.694
220 x 220	6.00	40.83	32.05	2036.52	2036.52	7.06	7.06	226.28	226.28	3259.23	339.65	0.689
	8.00	53.39	41.91	2590.73	2590.73	6.97	6.97	287.86	287.86	4246.16	433.32	0.679
	6.00	50.43	39.59	3813.36	3813.36	8.70	8.70	346.67	346.67	6034.53	520.18	0.849
250 x 250	8.00	66.19	51.96	4894.99	4894.99	8.60	8.60	445.00	445.00	7897.48	668.99	0.839
	10.00	81.43	63.92	5887.19	5887.19	8.50	8.50	535.20	535.20	9549.15	796.48	0.829
	12.00	96.14	75.47	6793.08	6793.08	8.41	8.41	617.55	617.55	11116.96	915.37	0.818
250 x 250	6.0	57.63	45.24	5672.00	5672.00	9.92	9.92	453.76	453.76	8920.44	680.77	0.969
	8.0	75.79	59.50	7315.65	7315.65	9.82	9.82	585.25	585.25	11702.07	879.31	0.959
	10.00	93.43	73.34	8842.29	8842.29	9.73	9.73	707.38	707.38	14248.15	1054.68	0.949
	12.00	110.54	86.77	10254.78	10254.78	9.63	9.63	820.38	820.38	16678.37	1219.59	0.938

* For availability of size/thickness please refer to page 9.




Product Range Availability



Product Range: Square Hollow Sections (SHS)

		Thickness (mm) = t															
Section Size		B	B	2.0	2.6	2.9	3.2	3.6	4.0	4.5	4.8	5.0	5.4	6.0	8.0	10.0	12.0
	25	25	25	25			25										
	32	32	32	32			32										
	38	38		38			38		38								
	40	40		40			40		40								
	50	50		50	50		50	50		50							
	60	60		60			60		60		60						
	72	72					72		72		72						
	80	80					80		80		80						
	91.5	91.5						91.5		91.5			91.5				
	100	100							100			100		100			
	113.5	113.5									113.5		113.5				
	132	132									132		132				
	150	150							150		150		150	150			
	180	180							180		180		180	180	180		
	220	220											220	220	220	220	220
	250	250											250	250	250	250	250

 - Indicates presently rolled section

 - Under development, please confirm availability before adoption in design