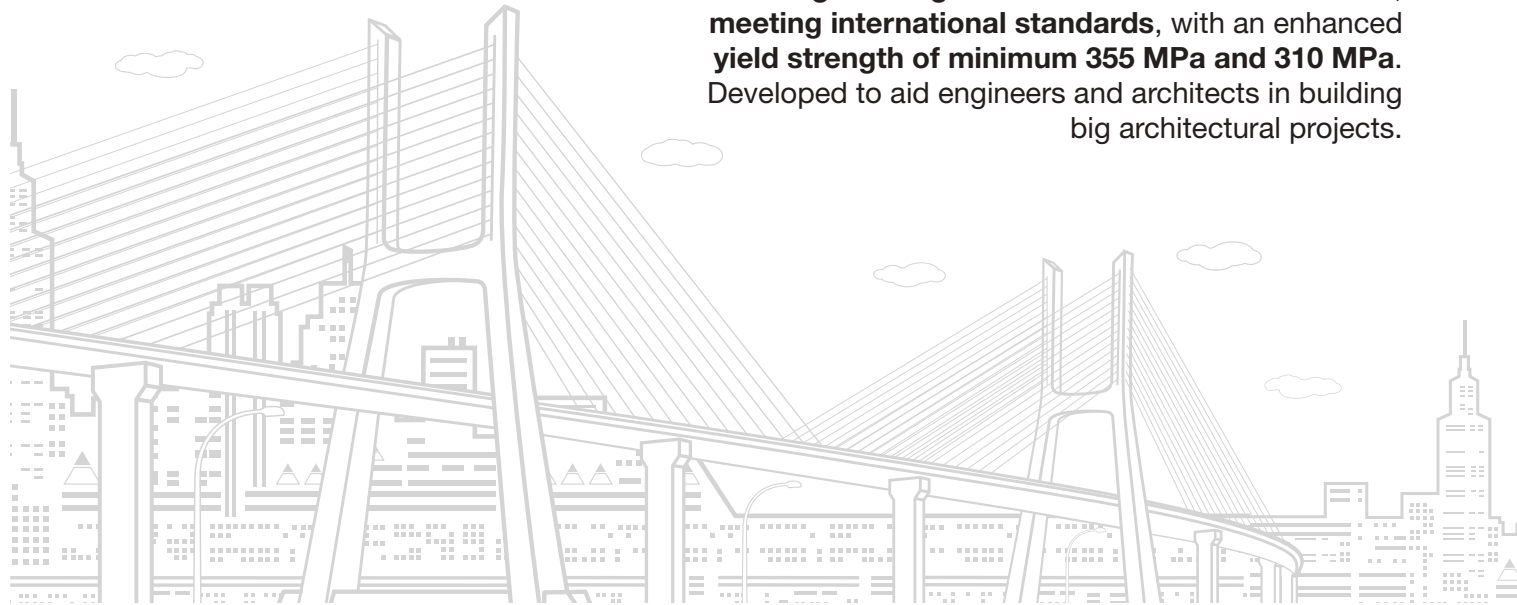




Ideal for Infrastructure, Engineered for Excellence

High-strength variant of steel hollow sections, meeting international standards, with an enhanced yield strength of minimum 355 MPa and 310 MPa. Developed to aid engineers and architects in building big architectural projects.

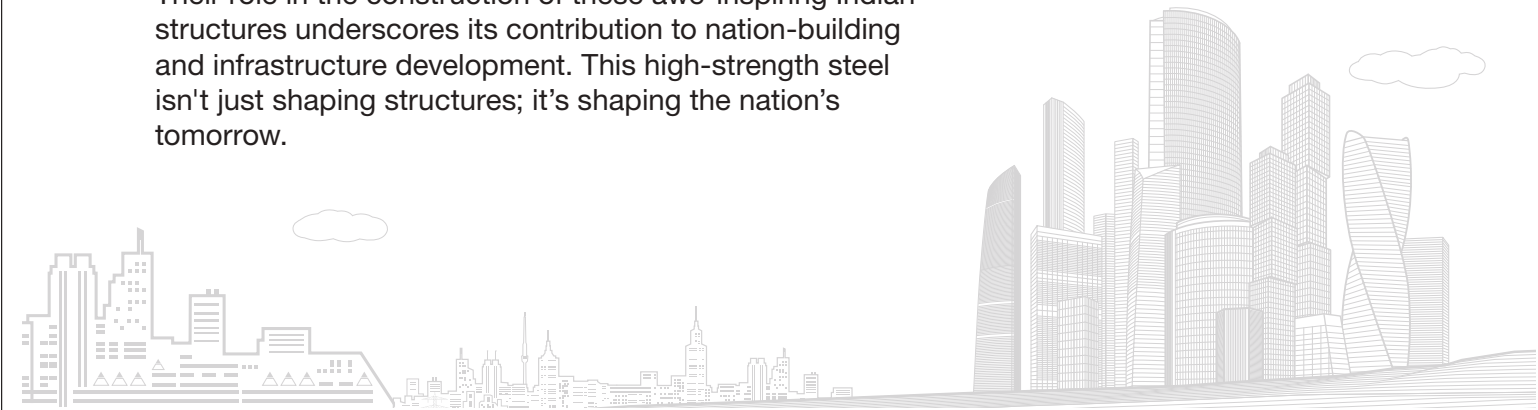


An Icon in Nation Building

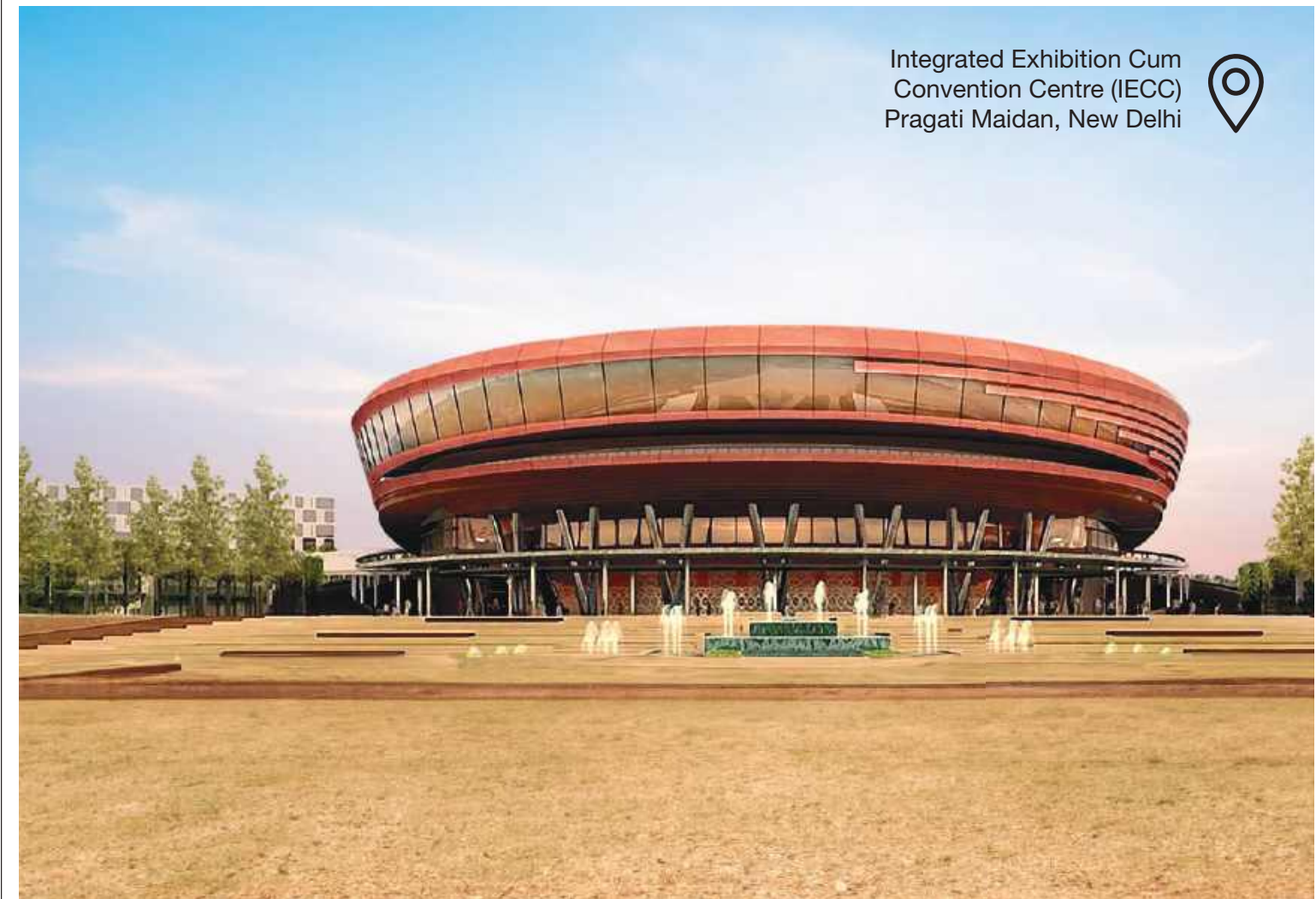
In the realm of infrastructure development, Tata Structura YST 355 and YST 310 are game-changers. They are the ideal choice for large-scale projects, simplifying their execution while ensuring robustness and durability. With enhanced yield strength on par with international standards, they offer a superior strength-to-weight ratio, thereby reducing the quantity of steel used, saving costs, and, more importantly, reducing the carbon footprint.

In India, they have played a pivotal role in the construction of **over 40 airports, 20 stadiums, 7 metro projects, and numerous other iconic structures. These include the Sir M Visvesvaraya Railway Terminal in Bengaluru, Gandhinagar Railway Station in Gujarat, the International Exhibition-cum-Convention Centre (IECC) complex in New Delhi, the Karnataka Cricket Association stadium, the Biswa Bangla Gate in Kolkata, and the Vir Savarkar Airport in Port Blair.** These awe-inspiring edifices, ranging from modern workplaces to entertainment parks, stand as testaments to the nation's progress.

Their role in the construction of these awe-inspiring Indian structures underscores its contribution to nation-building and infrastructure development. This high-strength steel isn't just shaping structures; it's shaping the nation's tomorrow.



Chhatrapati Shivaji Maharaj
International Airport
Mumbai, Maharashtra



Integrated Exhibition Cum
Convention Centre (IECC)
Pragati Maidan, New Delhi



Production Process

The edges of the cylinders, just formed in Hot Strip Mills (HSM) and Thin Slab Caster, are welded using high-frequency induction welding (HFIW) or electric resistance welding (ERW) methods.

The welded tubes are then cut to the desired lengths and subjected to various quality tests such as hydrostatic testing, flattening testing, tensile testing, and bend testing.

The tubes are then galvanized by hot dip galvanizing (HDG) or pre-galvanized (PG) methods, depending on the customer's specifications.



KHS Machinery
Ahmedabad, Gujarat

Use for

- AIRPORT: Terminal buildings, hangars, and other large-spanning facilities
- STADIUM: Arenas, and sports complexes
- Cover Over Platform
- Industrial Shed
- Steel Building
- Foot Over Bridge
- Entertainment Park
- Shopping Mall
- Modern/Dynamic Workplace



Infosys Campus
Pune, Maharashtra



Sir M Visvesvaraya
Railway Terminal, Bengaluru

Advantages:



WIDE RANGE

Sections available with a yield strength of 355 MPa and ultimate tensile strength of 490 MPa include sizes from 500mm x 500mm to 600NB and 700mm x 300mm, with a thickness range of 2mm to 20mm.



EASY MAINTENANCE

The design ensures uniform coating with rounded corners, preventing dust accumulation - an advantage over open sections with exposed internal surfaces.



MATERIAL-SAVING

Its superior sectional properties and efficient material usage save up to 40% compared to traditional angles/channels and 20% compared to local tubes.



new Veer Savarkar Airport
Port Blair, Andaman Nicobar islands



COST-SAVING

Higher-grade steel cuts fabrication and erection costs by eliminating gusset plates and allowing direct member-to-member connections.



ELEGANT LOOK

The polished surface and sleek profile enhance project aesthetics, especially for architecturally exposed steel structures.



SUPERIOR
QUALITY
PRODUCT

It meets Indian standards IS:4923 and IS:1161, providing superior strength-to-weight ratio and corrosion resistance.



LIGHTER
WEIGHT

It's improved ductility reduces structural weight, enabling longer unsupported lengths, while maintaining high torsional rigidity.



INTERNATIONAL
STANDARD

This product adheres to the Global Standardized Grade for Construction, being widely used in international projects.



Biswa Bangla Mela Prangan
Kolkata, West Bengal



The Birsu Munda Hockey Stadium
Rourkela, Odisha



Circular Hollow Sections – Section Properties

Nominal Bore (NB)	Outside Diameter (OD)	Thickness (t)	Weight	Area of Cross Section	Moment of Inertia	Section Modulus	Radius of Gyration	Outer Surface Area/M	Nominal Length per tonne
mm	mm	mm	kg/m	cm ²	cm ⁴	cm ³	cm	cm ² / m	m
25	33.7	2.6	1.99	2.54	3.09	1.84	1.10	1059	501.3
		3.2	2.41	3.07	3.61	2.14	1.08		415.3
		4.0	2.93	3.73	4.19	2.49	1.06		341.2
32	42.4	2.6	2.55	3.25	6.47	3.05	1.41	1332	391.7
		3.2	3.09	3.94	7.62	3.60	1.39		323.1
		4.0	3.79	4.83	8.99	4.24	1.36		263.9
40	48.3	2.9	3.25	4.14	3.36	1.99	0.90	1517	307.9
		3.2	3.56	4.54	3.61	2.14	0.89		280.9
		4.0	4.37	5.57	4.19	2.49	0.87		228.7
50	60.3	2.9	4.11	5.23	21.60	7.16	2.02	1895	243.5
		3.6	5.04	6.42	25.88	8.59	2.01		198.6
		4.5	6.9	7.89	30.91	10.25	1.98		161.4
		4.8	6.57	8.37	32.48	10.77	1.97		152.1
65	76.1	3.2	5.76	7.33	48.80	12.82	2.58	2391	173.8
		3.6	6.44	8.20	54.03	14.20	2.57		155.3
		4.5	7.95	10.13	65.15	17.12	2.54		125.8
		4.8	8.44	10.76	68.66	18.04	2.53		118.4
80	88.9	3.2	6.77	8.62	79.24	17.83	3.03	2793	147.8
		4.0	8.38	10.67	96.38	21.68	3.00		119.4
		4.8	9.96	12.69	112.53	25.32	2.98		100.4
		5.4	11.12	14.17	124.02	27.90	2.96		89.9
		6.0	12.27	15.63	135.00	30.37	2.94		81.5
100	114.3	8.0	15.97	20.34	168.03	37.80	2.87	3591	62.6
		3.6	9.83	12.52	192.06	33.61	3.92		101.7
		4.5	12.19	15.53	234.41	41.02	3.89		82.0
		4.8	12.97	16.52	248.06	43.40	3.88		77.1
		6.0	16.03	20.42	300.33	52.55	3.83		62.4
115	127	8.0	20.98	26.73	379.64	66.43	3.77	3990	47.7
		3.2	9.77	12.45	238.69	37.59	4.38		102.3
		3.6	10.96	13.96	265.98	41.89	4.36		91.2
		4.0	12.14	15.46	292.73	46.10	4.35		82.4
		4.8	14.47	18.43	344.63	54.27	4.32		69.1
		"5.4	16.20	20.64	382.19	60.19	4.30		61.7
		6.0"	17.91	22.82	418.61	65.92	4.28		55.8
		8.0	23.49	29.92	532.02	83.78	4.22		42.6
		10.0	28.87	36.77	633.80	99.81	4.15		34.6
125	139.7	4.5	15.01	19.12	437.38	62.62	4.78	4389	66.6
		4.8	15.98	20.35	463.51	66.36	4.77		62.6
		5.4	17.89	22.79	514.70	73.69	4.75		55.9
		6.0	19.79	25.21	564.49	80.81	4.73		50.5
		8.0	25.99	33.11	720.58	103.16	4.66		38.5
150	165.1	10.0	32.00	40.76	862.24	123.44	4.60	5187	31.3
		4.5	15.01	19.12	437.38	62.62	4.78		66.6
		4.8	18.98	24.18	777.44	94.18	5.67		52.7
		5.4	21.28	27.10	865.05	104.79	5.65		47.0
		6.0	23.55	30.00	950.63	115.16	5.63		42.5
150	168.3	4.5	18.19	23.17	777.53	92.40	5.79	5287	55.0
		4.8	19.36	24.67	824.90	98.03	5.78		51.6
		5.4	21.70	27.65	918.05	109.10	5.76		46.1
		6.0	24.03	30.61	1009.10	119.92	5.74		41.6
		8.0	31.64	40.30	1297.79	154.22	5.67		31.6
175	197.3	10.0	39.05	49.75	1564.61	185.93	5.61	6198	25.6
		4.0	19.08	24.30	1135.47	115.10	6.84		52.4
		4.8	22.80	29.04	1345.98	136.44	6.81		43.9
		5.4	25.57	32.57	1500.37	152.09	6.79		39.1
		6.0	28.32	36.07	1651.80	167.44	6.77		35.3
200	219.1	8.0	37.36	47.60	2135.76	216.50	6.70	6879	26.8
		10.0	46.21	58.87	2588.71	262.41	6.63		21.6
		4.8	25.38	32.33	1856.78	169.49	7.58		39.4
		5.4	28.47	36.27	2071.66	189.1 1	7.56		35.1
		6.0	31.54	40.18	2282.87	208.39	7.54		31.7
250	273.1	8.0	41.67	53.08	2960.82	270.27	7.47	8575	24.0
		10.0	51.59	65.72	3599.89	328.61	7.40		19.4
		12.0	61.31	78.11	4201.57	383.53	7.33		16.3
		6.0	39.54	50.37	4493.93	329.1 1	9.45		25.3
300	323.9	8.0	52.32	66.65	5860.70	429.20	9.38	10170	19.1
		10.0	64.91	82.69	7165.13	524.73	9.31		15.4
		12.0	77.30	98.47	8409.17	615.83	9.24		12.9
		6.3	49.36	62.88	7932.09	489.79	11.23		20.3
300	323.9	8.0	62.35	79.43	9914.07	612.17	11.17	10170	16.0
		10.0	77.44	98.65	12163.24	751.05	11.10		12.9
		12.0	92.34	117.63	14325.32	884.55	11.04		10.8

Nominal Bore (NB)	Outside Diameter (OD)	Thickness (t)	Weight	Area of Cross Section	Moment of Inertia	Section Modulus	Radius of Gyration	Outer Surface Area/M	Nominal Length per tonne
mm	mm	mm	kg/m	cm ²	cm ⁴	cm ³	cm	cm ² / m	m
350	355.6	5.4	46.66	59.43	9113.39	512.56	12.38	11172	21.4
		6.0	51.75	65.92	10074.61	566.63	12.36		19.3
		8.0	68.61	87.40	13206.69	742.78	12.29		14.6
		10.0	85.26	108.62	16230.03	912.83	12.22		11.7
		12.0	101.73	129.59	19147.18	1076.89	12.16		9.8
400	406.4	6.0	59.27	75.50	15134.41	744.80	14.16	12767	16.9
		8.0	78.63	100.17	19881.89	978.44	14.09		12.7
		10.0	97.80	124.58	24485.66	1205.00	14.02		10.2
		12.0	116.76	148.75	28948.66	1424.64	13.95		8.6
		16.0	154.1 1	196.32	37463.89	1843.70	13.81		6.5
450	457.2	6.0	66.79	85.08	21655.59	947.31	15.95	14363	15.0
		8.0	88.66	112.94	28495.85	1246.54	15.88		11.3
		10.0	110.33	140.55	35152.58	1537.73	15.81		9.1
		12.0	131.8	167.90	41629.08	1821.04	15.75		125.0
		16.0	174.16	221.86	54054.51	2364.59	15.61		5.7
500	508	6.0	74.31	94.66	29823.53	1174.15	17.75	15959	13.5
		8.0	98.69	125.71	39295.77	1547.08	17.68		10.1
		10.0	122.86	156.51	48539.78	1911.01	17.61		8.1
		12.0	146.84	187.06	57559.24	2266.11	17.54		6.8
		16.0	194.21	247.41	74939.19	2950.36	17.40		5.1
550	558.8	6.0	81.83	104.24	39823.66	1425.33	19.55	17555	12.2
		8.0	108.71	138.49	52528.87	1880.06	19.48		9.2
		10.0	135.40	172.48	64956.28	2324.85	19.41		7.4
		12.0	161.88	206.22	77109.97	2759.84	19.34		6.2
		16.0	214.27	272.95	100612.4	3601.02	19.20		4.7
600	609.6	6.0	89.35	113.82	51841.4	1700.83	21.34	19151	11.2
		8.0	118.74	151.26	68442.4	2245.48	21.27		8.4
		10.0	147.93	188.45	84711.1	2779.24	21.20		6.8
		12.0	176.92	225.38	100652.1	3302.23	21.13		5.7
		16.0	234.32	298.50	131568.4	4316.55	20.99		4.3
		18.0	262.72	334.68	146552.6	4808.16	20.93		3.8
		20.0	290.93	370.61	161226.5	5289.58	20.86		3.4

Square Hollow Sections – Section Properties

SHS B x B mm	B	B	t	Sec Area	Weight	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface Area	Nominal Length per tonne
	mm	mm	mm	cm²	kg/m	Ixx cm⁴	Iyy cm⁴	Rxx cm	Ryy cm	Zxx cm³	Zyy cm³	J cm⁴	B cm³	Sqm	m
25x25	25	25	2.0	1.74	1.36	1.48	1.48	0.92	0.92	1.19	1.19	2.53	1.80	0.090	733.32
	25	25	2.6	2.16	1.69	1.72	1.72	0.89	0.89	1.38	1.38	3.04	2.12	0.87	590.92
	25	25	3.2	2.53	1.98	1.89	1.89	0.86	0.86	1.51	1.51	3.45	2.34	0.084	504.09
32x32	32	32	2.0	2.30	1.80	3.36	3.36	1.21	1.21	2.10	2.10	5.58	3.18	0.118	554.55
	32	32	2.6	2.88	2.26	4.02	4.02	1.18	1.18	2.51	2.51	6.86	3.82	0.115	441.74
	32	32	3.2	3.42	2.69	4.54	4.54	1.15	1.15	2.84	2.84	7.96	4.34	0.112	372.15
38x38	38	38	2.6	3.51	2.75	7.14	7.14	1.43	1.43	3.76	3.76	11.93	5.69	0.139	363.16
	38	38	3.2	4.19	3.29	8.18	8.18	1.40	1.40	4.30	4.30	14.01	6.55	0.136	3.3.95
	38	38	4.0	5.03	3.95	9.26	9.26	1.36	1.36	4.87	4.87	16.38	7.48	0.131	253.3
40x40	40	40	2.6	3.72	2.92	8.45	8.45	1.51	1.51	4.22	4.22	14.06	6.39	0.147	342.83
	40	40	3.2	4.45	3.49	9.72	9.72	1.48	1.48	4.86	4.86	16.55	7.39	0.144	286.45
	40	40	4.0	5.35	4.20	11.07	11.07	1.44	1.44	5.54	5.54	19.44	8.48	0.139	238.17
50x50	50	50	2.6	4.76	3.73	17.47	17.47	1.92	1.92	6.99	6.99	28.48	10.54	0.187	267.86
	50	50	2.9	5.25	4.12	18.98	18.98	1.90	1.90	7.59	7.59	31.24	11.47	0.185	242.77
	50	50	3.6	6.35	4.98	22.15	22.15	1.87	1.87	8.86	8.86	37.25	13.43	0.181	200.66
	50	50	4.5	7.67	6.02	25.50	25.50	1.82	1.82	10.20	10.20	44.09	15.56	0.177	166.10
60x60	60	60	2.6	5.80	4.55	31.33	31.33	2.33	2.33	10.44	10.44	50.38	15.72	0.227	219.80
	60	60	3.2	7.01	5.50	36.94	36.94	2.30	2.30	12.31	12.31	60.34	18.57	0.224	181.80
	60	60	4.0	8.55	6.71	43.55	43.55	2.26	2.26	14.52	14.52	72.64	21.97	0.219	149.02
	60	60	4.8	10.1	7.85	49.22	49.22	2.22	2.22	16.41	16.41	83.81	24.94	0.215	127.31
72x72	72	72	3.2	8.54	6.71	66.32	66.32	2.79	2.79	18.42	18.42	106.82	27.74	0.272	149.11
	72	72	4.0	10.47	8.22	79.03	79.03	2.75	2.75	21.95	2.95	129.54	33.13	0.267	121.69
	72	72	4.8	12.31	9.66	90.31	90.31	2.71	2.71	25.09	25.09	150.63	37.97	0.263	103.48
	72	72	6.0	14.91	11.71	104.71	104.71	2.65	2.65	29.08	29.08	179.20	44.26	0.257	85.41
80x80	80	80	3.2	9.57	7.51	92.71	92.71	3.11	3.11	23.18	23.18	148.28	34.87	0.304	133.15
	80	80	4.0	11.75	9.22	111.04	111.04	3.07	3.07	27.76	27.76	180.43	41.84	0.299	108.43
	80	80	4.8	13.85	10.87	127.58	127.58	3.04	3.04	31.89	31.89	210.59	48.19	0.295	92.00
	80	80	6.0	16.83	13.21	149.18	149.18	2.98	2.98	37.29	37.29	252.06	55.59	0.289	75.67
91.5x 91.5	91.5	91.5	3.6	12.32	9.67	156.499	156.49	3.56	3.56	34.21	34.21	250.02	51.45	0.347	103.36
	91.5	91.5	4.5	15.14	11.88	187.57	187.57	3.52	3.52	41.00	41.00	304.39	61.79	0.343	84.14
	91.5	91.5	5.4	17.85	14.01	215.68	215.68	3.48	3.48	47.14	47.14	355.46	71.21	0.338	71.38
	91.5	91.5	6.0	19.59	15.38	232.81	232.81	3.45	3.45	50.89	50.89	387.66	77.00	0.335	65.01
100x100	100	100	4.0	14.95	11.73	226.35	226.35	3.89	3.89	45.27	45.27	362.00	68.10	0.379	85.22
	100	100	5.0	18.36	14.41	271.10	271.10	3.84	3.84	54.22	54.22	440.50	81.72	0.374	69.39
	100	100	6.0	21.63	16.63	311.47	311.47	3.79	3.79	62.29	62.29	514.14	94.12	0.369	58.88
113.5x 113.5	113.5	113.5	4.8	20.28	15.92	393.30	393.30	4.40	4.40	69.30	69.30	631.30	104.30	0.429	62.82
	113.5	113.5	5.4	22.60	17.74	432.58	432.58	4.38	4.38	76.23	76.23	700.20	114.83	0.426	56.37
	113.5	113.5	6.0	24.87	19.87	469.81	469.81	4.35	4.35	82.79	82.79	766.84	124.86	0.423	51.21

SHS B x B mm	B	B	t	Sec Area	Weight	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface Area	Nominal Length per tonne
	mm	mm	mm	cm²	kg/m	lxx cm⁴	lyy cm⁴	Rxx cm	Ryy cm	Zxx cm³	Zyy cm³	J cm⁴	B cm³	Sqm	m
132x132	132	123	4.8	23.83	18.71	634.39	634.39	5.16	5.16	96.12	96.12	1008.71	144.51	0.50.	53.46
	132	132	5.4	20.60	20.88	700.11	700.11	5.13	5.13	106.08	106.08	1121.29	159.60	0.500	47.90
	132	132	6.0	29.31	23.1	762.98	762.98	5.10	5.10	115.60	115.60	1230.84	174.08	0.497	43.46
150x150	150	150	4.0	22.95	18.01	807.82	807.82	5.93	5.93	107.71	107.71	1264.73	161.73	0.575	55.51
	150	150	5.0	28.36	22.26	982.12	982.12	5.89	5.89	130.95	130.95	1554.09	196.79	0.574	44.92
	150	150	6.0	33.63	26.40	1145.91	1145.91	5.84	5.84	152.79	152.79	1832.63	229.84	0.569	37.87
	150	150	8.0	43.79	34.38	1443.00	1443.00	5.74	5.74	192.40	192.40	2357.04	290.22	0.559	29.09
	150	150	10.0	53.43	41.94	1701.21	1701.21	5.64	5.64	226.83	226.83	2837.55	343.33	0.548	23.84
	150	150	12.0	62.54	49.09	1922.61	1922.61	5.54	5.54	256.35	256.35	3273.72	389.64	0.538	20.37
180x180	180	180	4.0	27.75	21.78	1421.74	1421.74	7.16	7.16	157.97	157.97	2210.12	237.10	0.699	45.91
	180	180	5.0	34.36	26.97	1736.87	1736.87	7.11	7.11	192.99	192.99	2724.10	289.81	0.694	37.08
	180	180	6.0	40.83	32.05	2036.52	2036.52	7.06	7.06	226.28	226.28	3222.56	340.05	0.689	31.20
	180	180	8.0	53.39	41.91	2590.73	2590.73	6.97	6.97	287.86	287.86	4172.68	433.39	0.679	23.86
200x200	180	180	10.0	65.43	51.36	3086.93	3086.93	6.87	6.87	342.99	342.99	5059.98	517.64	0.668	19.47
	200	200	4.0	30.95	24.29	1968.13	1968.13	7.97	7.97	196.81	196.81	3048.60	295.34	0.779	41.16
	200	200	5.4	41.28	32.41	2581.45	2581.45	7.91	7.91	258.14	258.14	4043.71	387.62	0.772	30.86
	200	200	6.0	45.63	35.82	2832.75	2832.75	7.88	7.88	283.27	283.27	4458.70	425.51	0.769	27.92
	200	200	8.0	59.79	46.94	3621.63	3621.63	7.78	7.78	362.16	362.16	5792.01	544.81	0.759	21.30
	200	200	10.0	73.43	57.64	4337.63	4337.63	7.69	7.69	433.76	433.76	7048.03	653.80	0.748	17.35
	200	200	12.0	86.54	67.93	4983.59	4883.59	7.59	7.59	498.36	498.36	8226.18	752.95	0.738	14.72
220x220	220	220	5.0	33.25	33.25	3238.02	3238.02	8.74	8.74	294.37	294.37	5037.62	441.83	0.854	30.07
	220	220	6.0	50.43	39.59	3831.36	3831.36	8.70	8.70	346.67	346.67	5976.05	520.57	0.849	25.26
	220	220	8.0	66.19	51.96	4894.99	4894.99	8.60	8.60	445.00	445.00	7783.28	669.03	0.839	19.24
	220	220	10.0	81.43	63.92	5887.19	5887.19	8.50	8.50	535.20	535.20	9497.22	805.93	0.828	15.64
	220	220	12.0	96.14	75.47	6793.08	6793.08	8.41	8.41	617.55	617.55	11117.25	931.78	0.818	13.25
250x250	250	250	6.0	57.63	45.24	5672.00	5672.00	9.92	9.92	453.76	453.76	8842.34	681.15	0.969	22.10
	250	250	8.0	75.79	59.50	7315.65	7315.65	9.82	9.82	585.25	585.25	11551.56	879.34	0.959	16.81
	250	250	10.0	93.43	75.34	8841.86	8841.86	9.73	9.73	707.35	707.35	14140.66	1064.09	0.948	13.63
	250	250	12.0	110.54	86.77	10254.21	10254.21	9.63	9.63	820.34	820.34	16608.97	1235.94	0.938	11.52
300x300	300	300	6.0	69.63	54.66	9963.67	9963.67	11.96	11.96	664.24	664.24	15433.55	996.78	1.169	18.29
	300	300	8.0	91.79	72.06	12925.07	12925.07	11.87	11.87	861.67	861.67	20235.69	1293.82	1.159	13.88
	300	300	10.0	113.43	89.04	15713.90	15713.90	11.77	11.77	1047.6	1047.6	24865.45	1574.29	1.148	11.23
	300	300	12.0	134.54	105.61	18334.49	18334.49	11.67	11.67	1222.3	1222.3	29322.07	1838.74	1.138	9.47
	300	300	16.0	175.1	137.51	23088.02	23088.02	11.48	11.48	1537.2	1539.2	37712.69	2321.72	1.118	7.27
350x350	350	350	6.0	81.63	64.08	16007.75	16007.75	14.00	14.00	914.73	914.73	24682.34	1372.40	1.369	15.60
	350	350	8.0	107.79	84.62	20849.89	20849.89	13.91	13.91	1191.42	1191.42	32444.38	1788.28	1.359	11.82
	350	350	10.0	133.43	104.74	25453.75	25453.75	13.81	13.81	1454.50	1454.50	39972.38	2184.44	1.348	9.55
	350	350	12.0	158.54	124.45	29824.41	29824.41	13.72	13.72	1704.3	1704.3	47265.47	2561.44	1.338	8.04
	350	350	16.0	207.18	162.63	37886.23	37886.23	13.52	13.52	2164.9	2164.9	61143.30	3260.22	1.318	6.15
400x400	400	400	6.0	93.63	73.50	24104.23	24104.23	16.04	16.04	1205.21	1205.21	37038.70	1808.01	1.569	13.60
	400	400	8.0	123.79	97.18	31490.11	31490.11	15.95	15.95	1574.51	1574.15	48777.65	2362.73	1.559	10.29
	400	400	10.0	153.43	120.44	38561.41	38561.41	15.85	15.85	1928.07	1928.07	60211.46	2894.55	1.548	8.30
	400	400	12.0	182.54	143.29	45323.97	45323.97	15.76	15.76	2266.2	2266.2	71339.17	3404.07	1.538	6.98
	400	400	16.0	239.18	187.75	57946.03	57946.03	15.57	15.57	2897.3	2897.3	92972.23	4358.51	1.518	5.33
450x450	450	450	8.0	139.79	109.74	45245.73	25245.73	17.99	17.99	2010.92	2010.92	69835.49	3017.17	1.759	9.11
	450	450	10.0	173.43	136.14	55536.88	55536.88	17.89	17.89	2468.31	2468.31	86332.69	3704.64	1.784	7.35
	450	450	12.0	206.54	162.13	65433.18	95433.18	17.80	17.80	2908.14	2908.14	102443.16	4366.65	1.738	6.17
	450	450	16.0	271.18	212.87	84067.43	86067.43	17.61	17.61	3736.3	3736.3	133499.47	5616.65	1.718	4.70
	450	450	18.0	302.71	237.63	92818.34	92818.34	17.51	17.51	4125.3	4125.3	148442.99	6205.76	1.707	4.21
500x500	500	500	8.0	155.79	122.30	62516.74	62516.74	20.03	20.03	2500.67	2500.67	96217.90	3751.60	1.959	8.18
	500	500	10.0	193.43	151.84	76880.16	76880.16	19.94	19.94	3075.21	3075.21	119086.06	4614.71	1.948	6.59
	500	500	12.0	230.54	180.97	90752.04	90752.04	19.84	19.84	3630.08	3630.08	141477.44	5449.19	1.938	5.53
	500	500	16.0	303.18	237.99	117050.41	117050.41	19.65	19.65	4682.0	4682.0	184825.00	7034.70	1.918	4.20
	500	500	18.0	338.71	265.89	129491.39	129491.39	19.55	19.55	5179.7	5179.7	205778.68	7786.86	1.907	3.76
	500	500	20.0	373.71	293.37	141469.80	141469.80	19.46	19.46	5658.8	5658.8	226250.56	8512.71	1.897	3.41
70x70*	70	70	3.2	8.29	6.51	60.62	60.62	2.70	2.70	17.32	17.32	97.83	26.08	0.264	153.72
	70	70	4.8	11.93	9.36	82.29	82.29	2.36	2.36	23.51	23.51	137.66	35.61	0.225	106.82
	70	70	6.0	14.43	11.33	95.17	95.17	2.57	2.57	27.19	27.19	163.48	41.41	0.249	88.25
110x110*	110	110	3.2	13.41	10.52	252.31	252.31	4.34	4.34	45.87	45.87	396.56	68.90	0.424	95.02
	110	110	6.0	24.03	18.87	424.57	424.57	4.20	4.20	77.19	77.19	694.83	116.47	0.409	53.00
	110	110	8.0	30.99	24.33	522.39	522.39	4.11	4.11	94.98	94.98	879.57	144.02	0.399	41.10
	110	110	10.0	34.43	29.38	600.90	600.90	4.01	4.01	109.25	109.25	1040.35	166.71	0.388	34.04
	110	110	12.0	43.24	34.20	661.57	661.57	3.91	3.91	120.28	120.28	117.86	184.90	0.378	29.39
130x130*	130	130	3.6	17.87	14.03	471.27	471.27	5.14	5.14	72.50	72.50	739.03	108.88	0.501	71.29
	130	130	4.8	23.45	18.41	604.56	604.56	5.08	5.08	93.01	93.01	962.14	139.85	0.495	54.33
	130	130	6.0	28.83	22.63	726.64	726.64	5.02	5.02	111.79	111.79	1173.52	168.36	0.489	44.18
140x140*	130	130	8.0	37.39	29.35	906.26	906.26	4.92	4.92	139.43	139.43	1499.54	210.74	0.479	34.07
	130	130	10.0	45.43	35.66	1057.63	1057.63	4.83	4.83	162.71	162.71	1792.38	247.06	0.468	28.04
	130	130	12.0	52.94	41.56	1182.51	1182.51								

RHS B x B mm	B	B	t	Sec Area	Weight	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface Area	Nominal Length per tonne
	mm	mm	mm	cm²	kg/m	Ixx cm⁴	Iyy cm⁴	Rxx cm	Ryy cm	Zxx cm³	Zyy cm³	J cm⁴	B cm³	Sqm	m
600x200	600	200	8.0	123.8	97.2	53127.3	9523.3	20.7	8.8	1770.9	952.3	26685.3	1724.4	1.6	10.3
	600	200	10.0	153.4	120.4	65043.5	11564.3	20.6	8.7	2168.1	1156.4	32700.1	2097.8	1.5	8.3
	600	200	12.0	182.5	143.3	76428.6	13477.7	20.5	8.6	2547.6	1347.8	38454.5	2449.7	1.5	7.0
	600	200	16.0	239.2	187.8	97635.9	16937.6	20.2	8.4	3254.5	1693.8	49186.7	3091.4	1.5	5.3
	600	200	18.0	266.7	209.7	107473.1	18492.2	20.1	8.3	3582.4	1849.2	54166.8	3382.6	1.5	4.8
600x300	600	300	8.0	139.8	109.7	67146.7	23159.3	21.9	12.9	2238.2	1544.0	54673.4	2657.8	1.8	9.1
	600	300	10.0	173.4	136.1	82450.1	28333.9	21.8	12.8	2748.3	1888.9	67426.8	3255.9	1.7	7.3
	600	300	12.0	206.5	162.1	97176.1	33273.0	21.7	12.7	3239.2	2218.2	79813.8	3828.8	1.7	6.2
	600	300	16.0	271.2	212.9	124927.2	42465.9	21.5	12.5	4164.2	2831.1	103488.5	4901.5	1.7	4.7
	600	300	18.0	302.7	237.6	137968.0	46730.0	21.3	12.4	4598.9	3115.3	114775.7	5402.6	1.7	4.2

RHS D x B mm	D	B	t	Sec Area	Weight	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface Area	Nominal Length per tonne
	mm	mm	mm	cm ²	kg/m	Ixx cm ⁴	Iyy cm ⁴	Rxx cm	Ryy cm	Zxx cm ³	Zyy cm ³	J cm ⁴	B cm ³	Sqm	m
80x60*	80	60	3.2	8.29	6.51	73.83	47.28	2.98	2.39	18.46	15.76	93.49	25.45	0.264	153.72
	80	60	4.0	10.15	7.97	87.92	56.12	2.94	2.35	21.98	18.71	113.12	30.32	0.259	88.25
	80	60	6.0	14.43	11.33	116.25	73.63	2.84	2.26	29.06	24.54	155.55	40.25	0.249	88.23
	80	60	8.0	18.19	14.28	135.55	8528	2.73	2.17	33.89	28.43	188.32	47.27	0.239	70.02
90x50*	90	50	3.2	8.29	6.51	86.27	34.44	3.23	2.04	19.17	13.78	81.05	23.55	0.264	153.72
	90	50	4.0	10.15	7.97	102.71	40.71	3.18	2.00	22.82	16.28	97.70	27.96	0.259	125.52
	90	50	6.0	14.43	11.33	135.66	52.83	3.07	1.91	30.15	21.13	132.94	36.77	0.249	88.25
	90	50	8.0	18.19	14.28	157.85	60.51	2.95	1.82	35.08	24.20	159.02	42.75	0.239	70.02
90x70*	90	70	3.2	9.57	7.51	110.39	74.91	3.40	2.0	24.53	21.40	145.28	34.23	0.304	133.15
	90	70	4.0	11.75	9.22	132.32	89.57	3.36	2.76	29.40	25.59	174.22	41.05	0.299	108.43
	90	70	6.0	16.83	13.21	178.07	119.82	3.25	2.67	39.57	34.23	242.90	55.42	0.289	75.67
	90	70	8.0	21.39	16.79	211.81	141.75	3.15	2.57	47.07	40.50	299.01	66.30	0.279	59.54
100x40*	100	40	3.2	8.29	6.51	97.29	22.76	3.43	1.66	19.46	11.38	62.31	20.39	0.264	153.72
	100	40	4.0	10.15	7.97	115.70	26.69	3.38	1.62	23.14	13.35	74.52	24.04	0.259	125.52
	100	40	6.0	14.43	11.33	152.21	33.96	3.25	1.53	30.44	16.98	99.25	31.02	0.249	88.25
	100	40	8.0	18.19	14.28	176.13	38.11	3.11	1.45	35.23	19.06	115.82	35.31	0.239	70.02
100x60*	100	60	3.2	9.57	7.51	127.39	57.61	3.65	2.45	25.46	19.20	128.83	32.33	0.304	133.15
	100	60	4.0	11.75	9.22	152.58	68.68	3.60	2.42	30.52	22.89	156.26	38.68	0.299	108.43
	100	60	6.0	16.83	13.21	205.30	91.20	3.49	2.33	41.06	30.40	216.43	51.92	0.289	75.67
	100	60	8.0	21.39	16.79	244.01	107.08	3.38	2.24	48.80	35.69	264.47	61.71	0.279	59.54
100x80*	100	80	3.2	10.85	8.51	157.28	111.60	3.81	3.21	31.46	27.90	207.96	44.30	0.344	117.44
	100	80	4.0	13.35	10.48	189.47	134.17	3.77	3.17	37.89	33.54	253.78	53.38	0.339	95.43
	100	80	6.0	19.23	15.10	258.39	182.10	3.67	3.08	51.68	45.53	357.36	72.98	0.329	66.23
	100	80	8.0	24.59	19.31	311.89	218.84	3.56	2.98	62.38	54.71	445.10	88.51	0.319	51.80
	100	80	10.0	29.43	23.10	351.27	245.48	3.45	2.89	70.25	61.37	516.76	100.33	0.308	43.29
110x50*	110	50	3.2	9.57	7.51	142.78	41.46	3.86	2.08	25.96	16.58	106.44	29.16	0.304	133.15
	110	50	4.0	11.75	9.22	171.04	49.19	3.82	2.05	31.10	19.68	128.51	34.74	0.299	108.43
	110	50	6.0	16.83	13.21	229.66	64.52	3.69	1.96	41.76	25.81	175.74	46.10	0.289	75.67
	110	50	8.0	21.39	16.79	272.18	74.79	3.57	1.87	49.49	29.92	211.70	54.12	0.279	59.54
110x70*	110	70	3.2	10.85	8.51	179.29	89.20	4.07	2.87	32.60	25.49	191.50	42.39	0.344	117.44
	110	70	4.0	13.35	10.48	216.01	107.01	4.02	2.83	39.27	30.57	233.31	51.00	0.339	95.43
	110	70	6.0	19.23	15.10	294.63	144.47	3.91	2.74	53.57	41.28	327.10	69.46	0.329	66.23
	110	70	8.0	24.59	19.31	355.58	172.67	3.80	2.65	64.65	49.34	405.44	83.88	0.319	51.80
	110	70	10.0	29.43	23.10	400.23	192.65	3.69	2.56	72.77	55.04	468.18	94.65	0.308	43.29
110x90*	110	90	3.2	12.13	9.52	215.80	158.63	4.22	3.62	39.24	35.25	289.44	55.64	0.384	105.04
	110	90	4.0	14.95	11.73	260.97	191.53	4.18	3.58	47.45	42.56	354.18	67.31	0.379	85.22
	110	90	6.0	21.63	16.98	359.60	262.89	4.08	3.49	65.38	58.42	5.2.53	92.94	0.369	58.88
	110	90	8.0	27.79	21.82	438.98	319.74	3.97	3.39	79.82	71.05	631.39	113.89	0.359	45.83
	110	90	10.0	33.43	26.24	500.57	363.35	3.87	3.30	91.01	80.75	740.48	130.57	0.348	38.11
130x50*	130	50	3.2	10.85	8.51	218.43	48.48	4.49	2.11	33.60	19.39	132.46	34.77	0.334	177.44
	130	50	4.8	13.35	10.48	262.87	57.68	4.44	2.08	40.44	23.07	160.07	41.52	0.339	95.43
	130	50	6.0	19.23	15.10	357.33	76.21	4.31	1.99	54.97	30.48	219.53	55.43	0.329	66.23
	130	50	8.0	24.59	19.31	429.29	89.08	4.18	1.90	66.04	35.63	265.53	65.51	0.319	51.80
	130	50	10.0	29.43	23.10	480.30	97.14	4.04	1.82	73.89	38.85	298.32	72.21	0.308	43.29
130x70*	130	70	3.2	12.13	9.52	269.89	1.3.49	4.72	2.92	41.52	29.57	241.61	50.55	0.384	105.04
	130	70	4.8	14.95	11.73	326.39	124.46	4.67	2.89	50.21	35.56	294.68	60.96	0.379	85.22
	130	70	6.0	21.63	16.98	449.66	169.12	4.56	2.80	69.18	48.32	414.50	83.51	0.569	58.88
	130	70	8.0	27.79	21.82	548.53	203.60	4.44	2.71	84.39	58.17	515.84	101.48	0.359	45.83
	130	70	10.0	33.43	26.24	624.63	228.99	4.32	2.62	96.10	65.42	598.66	115.30	0.348	38.11

RHS D x B mm	D	B	t	Sec Area	Weight	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface Area	Nominal Length per tonne
	mm	mm	mm	cm ²	kg/m	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	Sqm	m
130x90*	130	90	3.2	13.41	10.52	321.35	182.75	4.90	3.69	49.44	40.61	369.22	66.35	0.424	95.02
	130	90	4.0	16.55	12.99	389.92	221.13	4.85	3.66	59.99	49.14	452.41	80.45	0.419	76.98
	130	90	6.0	24.03	18.87	541.99	305.29	4.75	3.56	83.38	67.84	644.28	111.74	0.409	53.00
	130	90	8.0	30.99	24.33	667.78	373.70	4.64	3.47	102.73	83.04	812.96	137.78	0.399	41.10
	130	90	10.0	37.43	29.38	768.97	427.69	4.53	3.38	118.30	95.04	958.22	158.99	0.388	34.04
	130	90	12.0	43.34	34.02	847.19	468.53	4.42	3.29	130.34	104.12	1079.82	175.77	0.378	29.39
140x60*	140	60	3.6	13.55	10.64	325.47	86.24	4.90	2.52	46.50	28.75	225.56	50.86	0.381	94.03
	140	60	4.0	14.95	11.73	355.59	93.81	4.88	2.51	50.80	31.27	247.12	55.42	0.379	85.22
	140	60	6.0	21.63	16.98	489.19	126.34	4.76	2.42	69.88	42.11	344.45	75.29	0.369	58.88
	140	60	8.0	27.79	21.82	595.67	150.69	4.63	2.33	85.10	50.23	424.41	90.68	0.359	45.83
	140	60	10.0	33.43	26.24	676.73	167.87	4.50	2.24	96.68	55.96	487.14	102.05	0.348	38.11
140x80*	140	80	3.2	13.41	10.52	354.07	149.37	5.14	3.34	50.58	37.34	336.42	63.17	0.424	95.02
	140	80	4.0	16.55	12.99	429.60	180.42	5.10	3.30	61.37	45.10	411.59	76.48	0.419	76.98
	140	80	6.0	24.03	18.87	597.00	247.96	4.98	3.21	85.29	61.99	583.78	105.83	0.409	53.00
	140	80	8.0	30.99	24.33	735.24	302.12	4.87	3.12	105.03	75.53	733.42	129.98	0.399	41.10
	140	80	10.0	37.43	29.38	846.07	344.15	4.75	3.03	120.87	86.04	860.35	149.38	0.388	34.04
	140	80	12.0	43.34	34.02	931.22	375.23	4.64	2.94	133.03	93.81	964.50	164.41	0.378	29.39
150x50*	150	50	3.2	12.13	9.52	315.76	55.50	5.10	2.14	42.10	22.20	158.92	40.38	0.384	105.04
	150	50	4.0	14.95	11.73	381.39	66.16	5.05	2.10	50.85	26.47	192.14	48.30	0.379	85.22
	150	50	6.0	21.63	13.98	523.47	87.89	4.92	2.02	69.80	35.16	263.98	64.77	0.369	58.88
	150	50	8.0	27.79	21.82	635.59	103.36	4.78	1.93	84.75	41.34	320.12	76.91	0.359	45.83
	150	50	10.0	33.43	26.24	719.55	113.47	4.64	1.84	95.94	45.39	360.99	85.24	0.348	38.11
150x70*	150	70	3.2	13.41	10.52	384.74	117.78	5.36	2.96	51.30	33.65	293.06	58.71	0.424	95.02
	150	70	4.0	16.55	12.99	466.68	141.90	5.31	2.93	62.22	40.54	357.68	70.92	0.419	76.98
	150	70	6.0	24.03	18.87	647.95	193.76	5.19	2.84	86.39	55.36	504.13	97.57	0.409	53.00
	150	70	8.0	30.99	24.99	797.07	234.52	5.07	2.75	106.28	67.01	628.99	119.10	0.399	41.10
	150	70	10.0	37.43	29.38	915.88	265.32	4.95	2.66	122.12	75.81	732.32	135.98	0.388	34.04
	150	70	12.0	43.34	34.02	1006.19	287.28	4.82	2.57	134.16	82.08	814.22	148.61	0.378	29.39
150x110*	150	110	3.6	17.87	14.03	580.74	361.12	5.70	4.50	77.43	65.66	702.47	106.01	0.501	71.29
	150	110	4.0	19.75	15.50	637.25	395.87	5.68	4.48	84.97	71.98	774.14	116.29	0.499	64.51
	150	110	6.0	28.83	22.63	896.93	554.50	5.58	4.39	119.59	100.82	1113.17	163.61	0.489	44.18
	150	110	8.0	37.39	29.35	1120.04	689.19	5.47	4.29	149.34	125.31	1419.79	204.45	0.479	34.07
	150	110	10.0	45.43	35.66	1308.55	801.57	5.37	4.20	174.47	145.74	1693.71	239.27	0.468	28.04
	150	110	12.0	52.94	41.56	1464.40	893.21	5.26	4.11	195.25	162.40	1934.6	268.49	0.458	24.06
150x130*	150	130	3.6	19.31	15.16	657.92	528.80	5.84	5.23	87.72	81.35	917.73	126.56	0.541	65.98
	150	130	4.0	21.35	16.76	722.53	580.49	5.82	5.21	96.34	89.31	1012.25	139.01	0.539	59.67
	150	130	6.0	31.23	24.52	1021.42	818.97	5.72	5.12	136.19	126.00	1462.28	196.72	0.529	40.78
	150	130	8.0	40.59	31.87	1281.52	1025.51	5.62	5.03	170.87	157.77	1874.44	247.30	0.519	31.38
	150	130	10.0	49.43	38.80	1504.88	1201.97	5.52	4.93	200.65	184.92	2248.36	291.25	0.508	25.77
	150	130	12.0	57.74	45.32	1693.50	1350.18	5.42	4.84	225.80	207.72	2583.64	328.98	0.498	22.06
200x150*	200	150	3.6	24.35	19.11	1438.67	928.03	7.69	6.17	143.87	123.74	1758.19	198.55	0.681	52.32
	200	150	4.0	26.95	21.15	1583.92	1021.03	7.67	6.16	158.39	136.14	1941.99	218.55	0.679	47.27
	200	150	6.0	39.63	31.11	2268.03	1457.13	7.16	6.06	226.80	194.28	2826.12	312.72	0.669	32.14
	200	150	8.0	51.79	40.66	2883.92	1846.71	7.46	5.97	288.39	246.23	3651.84	397.63	0.659	24.60
	200	150	10.0	63.43	49.79	3434.30	2192.05	7.36	5.88	343.43	292.27	4418.76	473.78	0.648	20.08
	200	150	12.0	74.54	58.51	3921.83	2495.37	7.25	5.79	392.18	332.72	5126.46	541.67	0.638	17.09
250x150*	250	150	3.6	27.95	21.94	2446.60	1120.96	9.36	6.33	195.73	149.46	2411.50	249.98	0.781	45.58
	250	150	4.0	30.95	24.29	2696.87	1234.24	9.33	6.32	215.75	164.57	2664.64	275.38	0.779	41.16
	250	150	6.0	45.63	35.82	3885.56	1768.35	9.23	6.22	310.84	235.78	3885.71	395.65	0.769	27.92
	250	150	8.0	59.79	46.94	4972.24	2250.41	9.12	6.13	397.78	300.06	5032.28	505.14	0.759	21.30
	250	150	10.0	73.43	57.43	5960.20	2682.88	9.01	6.04	476.82	357.72	6104.06	604.41	0.748	17.35
	250	150	12.0	86.54	67.93	6852.69	3068.13	8.90	5.95	548.22	409.08	7100.75	693.98	0.738	14.72

Tata Structura (Square Hollow Sections) YST 310 Grade

RHS DxB mm	Thickness mm	Sec Area A cm ²	Unit W Kg/m	Moment of Inertia		Radius of Gyraton		Elastic Modulus		Torsional Constants		Outer Surface
				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	Area per mm ²
25x25	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
32x32	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
38x38	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
40x40	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
50x50	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
	4.50	7.67	6.02	25.50	25.50	1.82	1.82	10.20	10.20	41.99	14.68	0.177
60x60	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
	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
72x72	3.20	8.54	6.71	66.32	66.32	2.79	2.79	18.42	18.42	106.81	27.47	0.272
	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
80x80	3.20	9.57	7.51	92.71	92.71	3.11	3.11	23.18	23.18	148.55	34.60	0.304
	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
91.5x91.5	3.60	12.32	9.67	156.49	156.49	3.56	3.56	34.21	34.21	251.17	51.14	0.347
	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
100x100	4.00	14.95	11.73	226.35	226.35	3.89	3.89	45.27	45.27	364.75	67.50	0.379
	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
113.5x113.5	4.80	20.28	15.92	393.30	393.30	4.40	4.40	69.30	69.30	637.45	103.89	0.429
	5.40	22.60	17.74	432.58	432.58	4.38	4.38	76.23	76.23	708.69	114.41	0.426
132x132	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
150x150	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
	8.00	43.79	34.38	1443.00	1443.00	5.74	5.74	192.40	192.40	2405.78	290.12	0.559
180x180	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
	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
220x220	5.00	42.36	33.25	3238.12	3238.12	8.74	8.74	294.37	294.37	5083.17	440.67	0.854
	6.00	50.43	39.59	3813.36	3813.36	8.70	8.70	346.67	346.67	6034.53	520.18	0.849
	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
250x250	6.00	57.63	45.24	5672.00	5672.00	9.92	9.92	453.76	453.76	8920.44	680.77	0.969
	8.00	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

Tata Structura (Rectangular Hollow Sections) YST 310 Grade

RHS DxB mm	Thickness mm	Sec Area A cm ²	Unit W Kg/m	Moment of Inertia		Radius of Gyraton		Elastic Modulus		Torsional Constants		Outer Surface
				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	Area per mm ²
50x25	2.00	2.74	2.15	8.38	2.81	1.75	1.01	3.35	2.25	6.79	3.79	0.142
	2.60	3.46	2.71	10.16	3.36	1.71	0.99	4.06	2.69	8.27	4.53	0.137
	3.20	4.13	3.24	11.63	3.80	1.68	0.96	4.65	3.04	9.52	5.12	0.134
	4.00	4.95	3.88	13.13	4.23	1.63	0.92	5.25	3.38	10.86	5.69	0.129
60x40	2.60	4.76	3.73	22.76	12.09	2.19	1.59	7.59	6.05	25.59	9.83	0.187
	2.90	5.25	4.12	24.74	13.11	2.17	1.58	8.25	6.56	28.02	10.66	0.185
	3.60	6.35	4.98	28.90	15.23	2.13	1.55	9.63	7.62	33.30	12.41	0.181
	4.50	7.67	6.02	33.31	17.44	2.08	1.51	11.10	8.72	39.34	14.29	0.177
66x33	2.60	4.70	3.69	25.15	8.43	2.31	1.34	7.62	5.11	20.75	8.71	0.185
	2.90	5.19	4.07	27.33	9.12	2.29	1.33	8.28	5.53	22.65	9.43	0.183
	3.60	6.28	4.93	31.87	10.52	2.25	1.29	9.66	6.37	26.71	10.90	0.179
	4.50	7.58	5.95	36.64	11.93	2.20	1.25	11.10	7.23	31.21	12.43	0.175
80x40	2.60	5.80	4.55	46.58	15.74	2.84	1.65	11.65	7.87	38.50	13.46	0.227
	3.20	7.01	5.50	54.94	18.41	2.80	1.62	13.74	9.21	45.83	15.78	0.224
	4.00	8.55	6.71	64.79	21.49	2.75	1.59	16.20	10.74	54.77	18.49	0.219
	4.80	10.01	7.85	73.22	24.03	2.71	1.55	18.30	12.02	62.81	20.79	0.215

RHS DxB mm	Thickness mm	Sec Area A cm²	Unit W Kg/m	Moment of Inertia		Radius of Gyraton		Elastic Modulus		Torsional Constants		Outer Surface
				I _{xx} cm⁴	I _{yy} cm⁴	r _{xx} cm	r _{yy} cm	Z _{xx} cm³	Z _{yy} cm³	J cm⁴	B cm³	Area per mm²
96x48	3.20	8.54	6.71	98.61	33.28	3.40	1.97	20.54	13.87	82.13	23.82	0.272
	4.00	10.47	8.22	117.54	39.32	3.35	1.94	24.49	16.38	99.11	28.24	0.267
	4.80	12.31	9.66	134.35	44.55	3.30	1.90	27.99	18.56	114.80	32.14	0.263
122x61	3.60	12.32	9.67	232.61	78.83	4.34	2.53	38.13	25.84	193.91	44.50	0.347
	4.50	15.14	11.88	278.94	93.78	4.29	2.49	45.73	30.75	235.39	53.13	0.343
	5.40	17.85	14.01	320.83	107.03	4.24	2.45	52.60	35.09	274.29	60.89	0.338
145x82	4.80	20.28	15.92	555.16	228.50	5.23	3.36	76.57	55.73	534.27	94.45	0.429
	5.40	22.60	17.74	610.85	250.59	5.20	3.33	84.26	61.12	592.70	103.81	0.426
172x92	4.80	23.83	18.71	917.13	346.91	6.20	3.82	106.64	75.41	826.04	128.85	0.503
	5.40	26.59	20.88	1012.47	381.74	6.17	3.79	117.73	82.99	918.10	142.04	0.500
200x100	4.00	22.95	18.01	1199.71	410.78	7.23	4.23	119.97	82.16	991.47	141.46	0.579
	5.00	28.36	22.26	1459.25	496.94	7.17	4.19	145.93	99.39	1216.96	171.53	0.574
	6.00	33.63	26.40	1703.31	576.91	7.12	4.14	170.33	115.38	1434.03	199.68	0.569
	8.00	43.79	34.38	2146.21	719.19	7.00	4.05	214.62	143.84	1843.86	250.68	0.559
240x120	4.00	27.75	21.78	2110.72	725.35	8.72	5.11	175.89	120.89	1736.39	208.03	0.699
	5.00	34.36	26.97	2579.67	882.47	8.67	5.07	214.97	147.08	2138.48	253.55	0.694
	6.00	40.83	32.05	3025.91	1030.45	8.61	5.02	252.16	171.74	2528.39	296.70	0.689
	8.00	53.39	41.91	3851.84	1299.95	8.49	4.93	320.99	216.66	3272.90	376.29	0.679
300x150	6.00	51.63	40.53	6073.51	2079.57	10.85	6.35	404.90	277.28	5034.64	478.20	0.869
	8.00	67.79	53.22	7807.95	2654.12	10.73	6.26	520.53	353.88	6559.05	612.64	0.859
	10.00	83.43	65.49	9403.90	3173.71	10.62	6.17	626.93	423.16	8011.67	736.01	0.848
300x200	6.00	57.63	45.24	7370.23	3962.19	11.31	8.29	491.35	396.22	8186.02	650.85	0.969
	8.00	75.79	59.50	9513.66	5097.04	11.20	8.20	634.24	509.70	10722.83	839.51	0.959
	10.00	93.43	73.34	11507.24	6144.30	11.10	8.11	767.15	614.43	13169.70	1015.43	0.948