



BUILDING A STRONGER FUTURE



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**Introducing SG Premium,
your reliable building partner.**

The hollow structural pieces from SG Premium add a modern touch to building structures of different heights and forms, and they are available in a wide range of sizes.

SG Premium is the best option for all of your project needs, whether they are related to modern home designs, infrastructure, or commercial developments.

SG Premium is more than just regular building material; it is an essential component of today's cutting-edge structural designs.

With its unmatched ability to support heavy loads and maintain a remarkable strength-to-weight ratio, together with its larger radii of gyration about both axes, SG Premium is now the go-to option for sophisticated and effective construction.

UNIQUE ADVANTAGE



Flexibility in design

Gives the engineer & architects enough flexibility to create unique structures



Uniform strength

No weaker axis due to uniform distribution of material around its axis



Aesthetically pleasing

Smooth profile of SG Premium enhances the aesthetic appeal of the structures.



Easy to paint

SG Premium is easily painted due to uniform & smooth shape



Higher torsional strength

SG Premium delivers exceptional torsional resistance. 200 times greater torsion than open sections



Less wastage of material

SG Premium provides cut to length sizes to avoid wastage



Environmental friendly

Conventional construction methodology causes severe pollution



Less consumption of steel

Use of SG Premium sections reduces the weight of steel structure



Lower project cost

Low erection & Low transportation cost saves overall project cost



Easy to install

Use of conventional bolting system makes the installation easier



Ease of fabrication

Ease of welding, punching, bending & drilling makes SG Premium a perfect choice



High strength-to-weight ratio

Low erection & Low transportation cost saves overall project cost



CIRCULAR HOLLOW SECTION CONFIRMING TO IS : 1239 FOR USES IN WATER,
NON HAZARDOUS GASES, AIR AND STEAM

CIRCULAR HOLLOW SECTION



Circular Size Range

Size: 21.3mm to 219.1mm

Thickness: 1.6mm to 6.0mm

N.B & SERIES	Outside Diameter		Wall Thickness		Black Tubes				
	Max.	Min.	mm	SWG	Plain End		Screwed & Socketed		
mm					Kg/m	M/Ton	Kg/m	M/Ton	
15	L	21.4	21.0	2.0	14	0.947	1056	0.95	1046
	M	21.8	21.0	2.6	12	1.210	826	1.22	819
	H	21.85	21.0	3.2	10	1.440	694	1.45	689
20	L	26.9	26.4	2.3	13	1.380	724	1.39	719
	M	27.3	26.4	2.6	102	1.560	641	1.57	637
	H	27.3	26.5	3.2	10	1.870	534	1.88	532
25	L	33.8	33.2	2.6	12	1.980	505	2.00	500
	M	34.2	33.3	3.2	10	2.410	415	2.43	411
	H	34.2	33.3	4.0	8	2.930	341	2.95	339
32	L	42.5	41.9	2.6	12	2.540	393	2.57	389
	M	42.9	42.0	3.2	10	3.100	322	3.13	319
	H	42.9	42.0	4.0	8	3.790	264	3.82	261
40	L	48.4	47.8	2.9	11	3.230	309	3.27	306
	M	48.8	47.9	3.2	10	3.560	281	3.60	277
	H	48.8	47.9	4.0	8	4.370	229	4.41	226
50	L	60.2	59.6	2.9	11	4.080	245	4.15	241
	M	60.8	59.7	3.6	9	5.030	199	5.10	196
	H	60.8	59.7	4.5	7	6.190	161	6.26	159
65	L	76.0	75.2	3.2	10	5.710	175	5.83	171
	M	76.6	75.3	3.6	9	6.420	155	6.54	153
	H	76.6	75.3	4.5	7	7.930	126	8.05	124
80	L	88.7	87.9	3.2	10	6.720	149	6.89	145
	M	89.5	88.0	4.0	8	8.360	119	8.53	117
	H	89.5	88.0	4.8	6	9.900	101	10.40	96
100	L	113.9	113.1	3.6	9	9.750	102	10.00	100
	M	115.0	113.1	4.5	7	12.200	82	12.50	80
	H	115.0	113.0	5.4	5	14.500	69	14.80	67
125	M	140.8	138.5	4.8	6	15.900	63	16.40	61
	H	140.8	138.5	5.4	5	17.900	56	18.40	54
150	M	166.5	163.9	4.8	6	18.900	53	19.50	51
	H	166.5	163.9	5.4	5	21.300	47	21.90	45

TOLERANCE

Thickness	Tolerance	Weight	Tolerance	Length Tolerance
1. Light Tubes	+ not limited - 8%	1. Single Tube (Light Series)	+10% & -8%	Random Length 4 to 7 Mtrs. unless otherwise agreed, can also be supplied in Exact and Approximate length.
2. Medium & Heavy Tubes	+ not limited -10%	2. Single Tube (Medium & Heavy Series)	±10%	
		3. For quantities per load of 10 tonnes minimum (Light Series)	+7.5% & -5%	
		4. For quantities per load of 10 tonnes minimum (Medium and Heavy Series)	±7.5%	

ROUND STRUCTURAL TUBE CONFORMING TO IS : 1161 FOR USES IN STRUCTURAL AND SCAFFOLDING PURPOSES

Outside Diameter	Wall Thickness	Weight (Plain End)	
		M/Ton	Kg/m
21.3	2.0	0.94	1056
	2.6	1.21	826
	3.2	1.44	694
26.9	2.3	1.38	724
	2.6	1.56	641
33.8	3.2	1.87	534
	2.6	1.98	505
	3.2	2.41	415
42.5	4.0	2.93	341
	2.6	2.54	393
	3.2	3.10	322
48.4	4.0	3.79	264
	2.9	3.23	309
	3.2	3.56	281
60.2	4.0	4.37	229
	2.9	4.08	245
	3.6	5.03	199
76	4.5	6.19	161
	3.2	5.71	175
	3.6	6.42	155
88.7	4.5	7.93	126
	3.2	6.72	149
	4.0	8.36	119
101.6	4.8	9.90	101
	3.6	8.70	115
	4.0	9.63	104
113.9	4.8	11.50	87
	3.6	9.75	102
	4.5	12.20	82
140.8	5.4	14.50	69
	4.8	15.90	63
	5.4	17.90	56
166.5	4.8	18.90	53
	5.4	21.30	47

ROUND STRUCTURAL TUBE CONFORMING TO IS : 3589 FOR WATER AND SEWAGE PURPOSES

Outside Diameter	Wall Thickness	Weight (Plain End)	
		M/Ton	Kg/m
168.3	2.6	10.6	94
	3.2	13.0	77
	4.0	16.2	62
193.7	4.5	18.2	55
	2.6	12.3	81
	3.6	16.9	59
219.1	4.5	21.0	48
	6.3	29.1	34
	2.6	13.9	72
	3.6	19.1	52
	4.5	23.8	42
	6.3	33.1	34

A. Physical Properties

Grade	Y.S. (min) Mpa (kg/mm ²)	T.S. (min) Mpa (kg/mm ²)	Percentage Elongation (min)
FE 330	195	330	20

B. Tolerance

1	Outside diameter of pipe	± 0.75%
2	Thickness	± 10%
3	Length (unless otherwise specified)	4 to 7 meters
4	Mass per truck load of 10 tonnes or above	± 7.5%

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	$5.65\sqrt{S_0} Min$
		MPa	MPa	Percent
1	YSt 210	330	210	20
2	YSt 240	410	240	17

SQUARE HOLLOW SECTION

Square Size Range

Size: 20mm X 20mm to 180mm X 180mm

Thickness: 1.2mm to 6.0 mm



SQUARE HOLLOW SECTION (SHS)
IS : 4923 : 2017 FOR USES IN STRUCTURAL
PURPOSES

Size	Thickness	Weight	Area
mm	mm	Kg/meter	Cm2
20 X 20	1.60	0.87	1.11
	2.00	1.05	1.34
	2.20	1.13	1.44
	2.50	1.25	1.59
25 X 25	1.60	1.12	1.43
	2.00	1.37	1.74
	2.20	1.48	1.88
	2.50	1.64	2.09
30 X 30	2.80	1.79	2.28
	1.60	1.37	1.75
	2.00	1.68	2.14
	2.20	1.82	2.32
	2.50	2.03	2.59
32 X 32	2.80	2.23	2.84
	3.20	2.49	3.17
	1.60	1.81	2.30
	2.00	1.96	2.50
	2.20	2.19	2.79
38 X 38	2.80	2.41	3.07
	3.20	2.68	3.42
	1.60	1.77	2.26
	2.00	2.18	2.78
	2.20	2.38	3.03
	2.50	2.66	3.39
40 X 40	2.80	2.94	3.74
	3.20	3.29	4.19
	3.60	3.63	4.62
	1.60	1.88	2.39
	2.00	2.31	2.94
	2.20	2.51	3.20
50 X 50	2.50	2.82	3.59
	2.80	3.11	3.96
	3.20	3.49	4.45
	3.60	3.85	4.91
	4.00	4.20	5.35
	4.50	4.61	5.87
	5.00	4.99	6.36
	1.20	4.83	6.15
	1.60	2.38	3.03
2.00	2.94	3.74	
60 X 60	2.20	3.20	4.08
	2.50	3.60	4.59
	2.80	3.99	5.08
	3.20	4.50	5.73
	3.60	4.98	6.35
	4.00	5.46	6.95
	4.50	6.02	7.67
	5.00	6.56	8.36
	5.40	6.97	8.88
	6.00	7.56	9.63

SQUARE HOLLOW SECTION (SHS)
IS : 4923 : 2017 FOR USES IN STRUCTURAL
PURPOSES

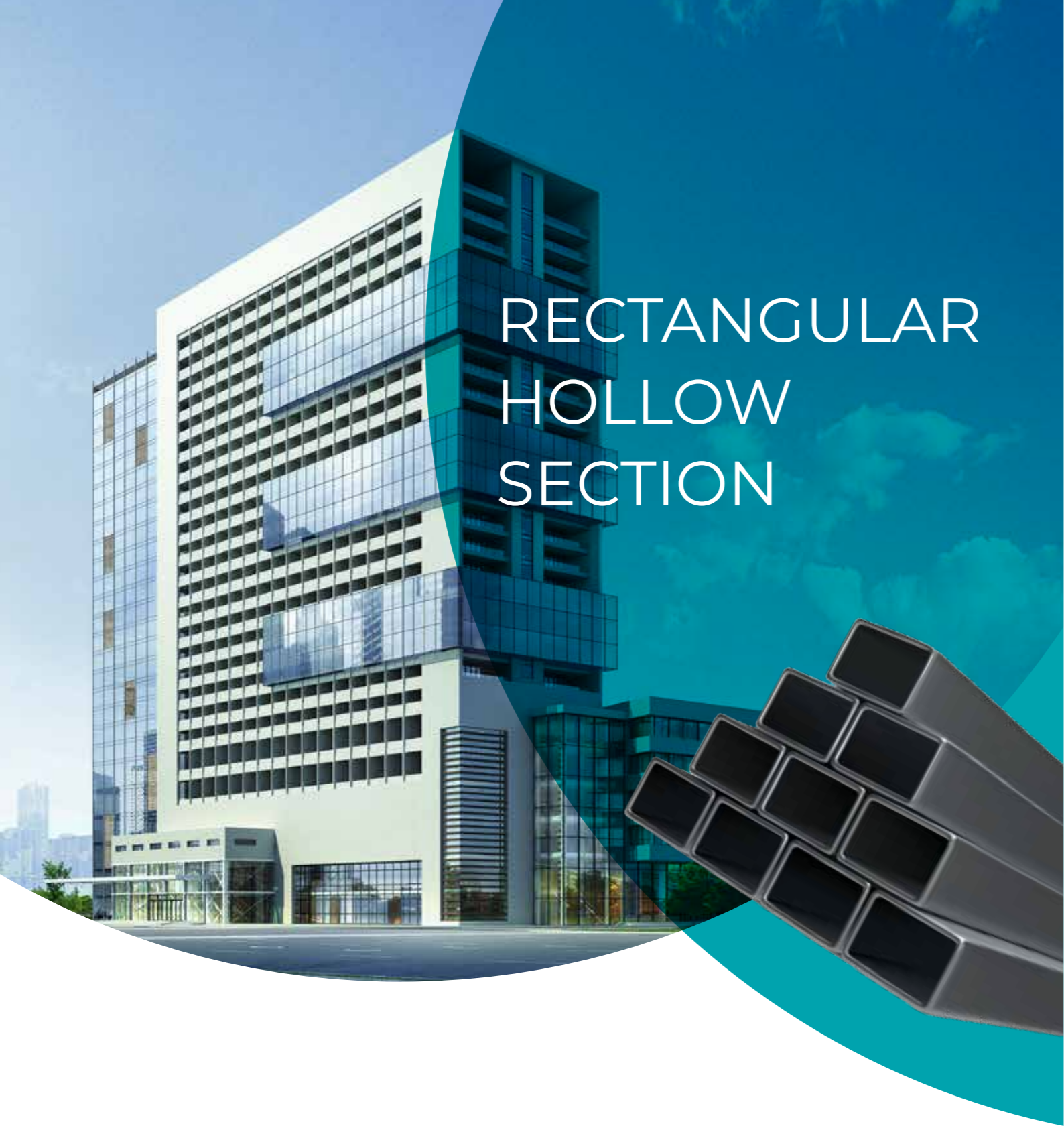
Size	Thickness	Weight	Area
mm	mm	Kg/meter	Cm2
60 X 60	2.00	3.56	4.54
	2.20	3.89	4.96
	2.50	4.39	5.59
	2.80	4.87	6.20
	3.20	5.50	7.01
	3.60	6.12	7.79
	4.00	6.71	8.55
	4.50	7.43	9.47
72 X 72	5.00	8.13	10.36
	2.00	4.32	5.50
	2.20	4.73	6.02
	2.50	5.33	6.79
	2.80	5.93	7.55
	3.20	6.70	8.54
	3.60	7.47	9.52
	4.00	8.22	10.47
80 X 80	4.50	9.13	11.63
	5.00	10.02	12.76
	2.00	4.82	6.14
	2.20	5.28	6.72
	2.50	5.96	7.59
	2.80	6.63	8.44
	3.20	7.51	9.57
	3.60	8.38	10.67
	4.00	9.22	11.75
	4.50	10.26	13.07
91.5 X 91.5	5.00	11.27	14.36
	5.40	12.06	15.36
	6.00	13.21	16.83
	2.00	5.54	7.06
	2.20	6.07	7.73
	2.50	6.86	8.74
	2.80	7.64	9.73
	3.20	8.67	11.04
	3.60	9.67	12.32
	4.00	10.67	13.59
100 X 100	4.50	11.88	15.14
	5.00	13.08	16.66
	5.40	14.01	17.85
	6.00	15.38	19.59
	2.20	6.66	8.48
	2.50	7.53	9.59
	2.80	8.38	10.68
	3.20	9.52	12.13
	3.60	10.64	13.55
	4.00	11.74	14.95

SQUARE HOLLOW SECTION (SHS)
IS : 4923 : 2017 FOR USES IN STRUCTURAL
PURPOSES

Size	Thickness	Weight	Area
mm	mm	Kg/meter	Cm2
113 X 113	2.50	21.82	27.79
	3.00	8.31	10.59
	4.00	9.26	11.80
	5.00	10.53	13.41
	6.00	11.77	14.99
132 X 132	4.80	18.71	23.83
	5.40	20.88	26.60
150 X 150	3.60	16.29	20.75
	4.00	18.02	22.95
	4.50	20.15	25.67
	5.00	22.26	28.36
180 X 180	5.40	23.93	30.48
	6.00	26.40	33.63
	4.00	21.78	27.75
	4.50	24.39	31.07
	5.00	26.97	34.34
	6.00	32.05	40.83

TENSILE PROPERTIES OF STEEL TUBES FOR SECTIONS
IS 4923:2017, TABLE 4, (Clauses 19.2)

S.no	Grade	Tensile Strength	Yield strength	Elongation
		<i>Min</i>	<i>Min</i>	$5.65\sqrt{S}$, <i>Min</i>
		MPa	MPa	Percent
1	YSt 210	330	210	20
2	YSt 240	410	240	15



RECTANGULAR HOLLOW SECTION

Rectangular Size Range

Size: 26mm X 13mm to 240mm X 120mm

Thickness: 1.2mm to 6.0 mm

RECTANGULAR HOLLOW SECTION (RHS)
IS : 4923 : 2017 FOR USES IN STRUCTURAL
PURPOSES

Size	Thickness	Weight	Area
mm	mm	Kg/meter	Cm2
26 X 13	1.60	0.85	1.08
	2.00	1.02	1.3
40 X 20	1.60	1.37	1.75
	2.00	1.68	2.14
	2.20	1.82	2.32
	2.50	2.03	2.59
40 X 25	1.60	1.50	1.91
	2.00	1.84	2.34
	2.20	1.99	2.54
	2.50	2.23	2.84
50 X 25	1.60	1.75	2.23
	2.00	2.15	2.74
	2.20	2.34	2.98
60 X 40	2.50	2.62	3.34
	1.60	2.38	3.03
	2.00	2.94	3.74
	2.20	3.20	4.08
	2.50	3.60	4.59
	2.80	3.99	5.08
	3.20	4.50	5.73
66 X 33	3.60	4.98	6.35
	4.00	5.46	6.95
	4.50	6.02	7.67
	5.00	6.56	8.36
	1.60	2.36	3.00
	2.00	2.90	3.70
	2.20	3.17	4.04
	2.50	3.56	4.54
75 X 25	2.80	3.95	5.03
	3.20	4.44	5.66
	1.60	2.38	3.03
	2.00	2.94	3.74
	2.20	3.20	4.08
80 X 40	2.60	3.74	4.76
	1.60	2.88	3.67
	2.00	3.56	4.54
	2.20	3.89	4.96
	2.50	4.39	5.59
	2.80	4.87	6.20
	3.20	5.50	7.01
	3.60	6.12	7.79
96 X 48	4.00	6.71	8.55
	1.60	3.49	4.44
	2.00	4.32	5.50
	2.20	4.73	6.02
	2.50	5.33	6.79
	2.80	5.93	7.55
	3.20	6.70	8.54
	3.60	7.47	9.52
240 X 120	4.00	8.22	10.47
	6.00	32.05	40.83

RECTANGULAR HOLLOW SECTION (RHS)
IS : 4923 : 2017 FOR USES IN STRUCTURAL
PURPOSES

Size	Thickness	Weight	Area
mm	mm	Kg/meter	Cm2
100 X 50	4.50	9.13	11.63
	1.60	3.63	4.63
	2.00	4.51	5.74
	2.20	4.93	6.28
	2.50	5.57	7.09
	2.80	6.19	7.88
	3.20	7.01	8.93
	3.60	7.81	9.95
	4.00	8.60	10.95
	4.50	9.55	12.17
120 X 60	5.00	10.49	13.36
	1.60	4.39	5.59
	2.00	5.45	6.94
	2.20	5.97	7.60
	2.50	6.74	8.59
	2.80	7.50	9.56
	3.20	8.52	10.85
	3.60	9.51	12.11
	4.00	10.48	13.35
	4.50	11.67	14.87
145 X 82	5.00	12.84	16.36
	6.00	15.10	19.23
172 X 92	4.80	15.92	20.28
	5.40	17.74	22.60
200 X 100	4.80	18.7	23.83
	5.40	20.88	26.59
	2.80	12.78	16.28
	3.20	14.55	18.53
240 X 120	3.60	16.29	20.75
	4.00	18.02	22.95
	5.00	22.26	28.36
240 X 120	6.00	26.40	33.63
	4.00	21.78	27.75
240 X 120	5.00	26.97	34.36
	6.00	32.05	40.83

