

STEEL TUBES FOR STRUCTURAL PURPOSES

Conforming to IS 1161/1998, Equivalent to BS 1775/64

Nominal Bore	Outside Diameter (OD)	Class	Thickness	Weight	Mtr per Ton
mm	mm		mm	kg/mtr	mtr/mt
15	21.3	Light	2.0	0.95	1056
		Medium	2.6	1.21	826
		Heavy	3.2	1.44	694
20	26.9	Light	2.3	1.38	725
		Medium	2.6	1.56	641
		Heavy	3.2	1.87	535
25	33.7	Light	2.6	1.98	505
		Medium	3.2	2.41	415
		Heavy	4.0	2.93	341
32	42.4	Light	2.6	2.54	394
		Medium	3.2	3.10	323
		Heavy	4.0	3.79	264
40	48.3	Light	2.9	3.23	310
		Medium	3.2	3.56	281
		Heavy	4.0	4.37	229
50	60.3	Light	2.9	4.08	245
		Medium	3.6	5.03	199
		Heavy	4.5	6.19	162
65	76.1	Light	3.2	5.71	175
		Medium	3.6	6.42	156
		Heavy	4.5	7.93	126
80	88.9	Light	3.2	6.72	149
		Medium	4.0	8.36	120
		Heavy	4.8	9.90	101
100	114.3	Light	3.6	9.75	103
		Medium	4.5	12.20	82
		Heavy	5.4	14.50	69
110	127	Light	4.5	13.60	74
		Medium	4.8	14.50	69
		Heavy	5.4	16.20	62

Nominal Bore	Outside Diameter (OD)	Class	Thickness	Weight	Mtr per Ton		
mm	mm		mm	kg/mtr	mtr/mt		
125	139.7	Light	4.5	15.00	67		
		Medium	4.8	15.90	63		
		Heavy	5.4	17.90	56		
135	152.4	Light	4.5	16.40	61		
		Medium	4.8	17.50	57		
		Heavy	5.4	19.60	51		
150	165.1	Light	4.5	17.80	56		
		Medium	4.8	18.90	53		
		Heavy	5.4	21.30	47		
150	168.3	Light	4.5	18.20	55		
		Medium	4.8	19.40	52		
		Heavy 1	5.4	21.70	46		
150	168.3	Heavy 2	6.3	25.20	40		
		175	193.7	Light	4.8	22.40	45
				Medium	5.4	25.10	40
Heavy	5.9			27.30	37		
200	219.1	Light	4.8	25.40	39		
		Medium	5.6	29.50	34		
		Heavy	5.9	31.00	32		

TOLERANCE

*Outside Diameter

Upto & including 48.3 mm: + 0.4 mm
: - 0.8 mm

Over 48.3 mm : + 1.0 %

*Thickness (for all sizes)

Welded Tubes : + Not Limited

: - 10 %

*Weight (Single Tubes)

: - 10 %

: - 8 mm

PHYSICAL PROPERTIES

Grade	Tensile Strength MPA (min)	Yield Stress MPA	Elongation Percent (min)
YST 210	330	210	20
YST 240	410	240	17
YST 310	450	310	14

Note: Elongation percent for tubes upto and including 25 mm nominal bore for all grades shall be 12 minimum

HOLLOW SECTION YST 310 GRADE

Confirming To IS 4923/1997

SHS B X D	Thick	Weight
mm	mm	kg/mtr
15 x 15	2.0	0.95
	2.5	1.17
	2.9	1.32
19 x 19	2.0	0.99
	2.6	1.20
	2.9	1.30
25 x 25	2.0	1.36
	2.6	1.69
	3.2	1.98
30 x 30	2.6	2.10
	3.2	2.49
	4.0	2.94
32 x 32	2.0	1.80
	2.6	2.26
	3.2	2.69
	4.0	3.19
38 x 38	2.6	2.75
	2.9	3.03
	3.2	3.29
	3.6	3.63
	4.0	3.95
50 x 50	2.6	3.74
	2.9	4.12
	3.6	4.98
	4.5	6.02
60 x 60	2.6	4.55
	3.2	5.5
	4.0	6.71
	4.8	7.85
72 x 72	3.2	6.71
	4.0	8.22
	4.8	9.66
80 x 80	3.2	7.51
	4.0	9.22
	4.8	10.87
91.5 x 91.5	3.6	9.67
	4.5	11.88
	5.4	14.01

SHS B X D	Thick	Weight
mm	mm	kg/mtr
100 x 100	4.0	11.73
	5.0	14.41
	6.0	16.98
113.5 x 113.5	4.5	14.99
	4.8	15.92
	5.4	17.74
132 x 132	4.8	18.71
	5.4	20.88
	6.0	22.26
150 x 150	4.0	18.01
	5.0	22.26
	6.0	26.4
	8.0	34.38
180 x 180	4.0	21.78
	5.0	26.97
	6.0	32.05
	8.0	41.91
220 x 220	6.0	39.59
	8.0	51.96
	10.0	63.92
	12.0	75.47

RHS B X D	Thick	Weight
mm	mm	kg/mtr
40 x 20	2.0	1.68
	2.6	2.10
	3.2	2.49
50 x 25	2.0	2.15
	2.6	2.71
	3.2	3.24
	4.0	3.88
60 x 40	2.6	3.73
	2.9	4.12
	3.6	4.98
	4.5	6.02
66 x 33	2.6	3.69
	2.9	4.07
	3.6	4.93
	4.5	5.95

RHS B X D	Thick	Weight
mm	mm	kg/mtr
80 x 40	2.6	4.55
	3.2	5.5
	4.0	6.71
	4.8	7.85
96 x 48	3.2	6.71
	4.0	8.22
	4.8	9.66
122 x 61	3.6	9.67
	4.5	11.88
	5.4	14.01
145 x 82	4.8	15.92
	5.4	17.74
172 x 92	4.8	18.71
	5.4	20.88
200 x 100	4.0	18.01
	5.0	22.26
	6.0	26.4
	8.0	34.38
	8.0	34.38
220 x 140	4.0	21.78
	5.0	26.97
	6.0	32.05
	8.0	41.91
	8.0	41.91
240 x 120	4.0	21.78
	5.0	26.97
	6.0	32.05
	8.0	41.91
260 x 180	6.0	39.59
	8.0	51.96
	10.0	63.92
	12.0	75.47
300 x 150	6.0	40.53
	8.0	53.22
	10.0	65.49
	12.0	77.35
300 x 200	6.0	45.24
	8.0	59.5
	10.0	73.34
	12.0	86.77

TOLERANCE

- * Thickness : + 10 %
- * Outside Dimensions of Sides : + 1 %
- with a minimum of : + 0.5 mm
- * Weight on individual lengths : + 10 %
- : - 8 %
- On lots of 10 mt : + 7.5 %
- * Squareness of corner : 90 deg + 2 deg

STEEL TUBES MECHANICAL AND GENERAL ENGINEERING - STRUCTURALS COMMERCIAL PIPES

Size in MM	THICKNESS												
	1.20	1.40	1.60	1.80	2.00	2.20	2.50	2.90	3.20	3.60	4.00	4.30	4.50
	Weight in Kgs per meter												
15 X 15	0.530	0.610	0.690	0.768	-	-	-	-	-	-	-	-	-
19 X 19	0.680	0.787	0.892	0.993	-	-	-	-	-	-	-	-	-
25 X 25	0.907	1.050	1.193	1.333	-	-	-	-	-	-	-	-	-
30 X 30	1.095	1.270	1.443	1.615	1.785	1.991	2.244	-	-	-	-	-	-
32 X 32	1.170	1.358	1.545	1.728	-	2.132	2.404	-	-	-	-	-	-
38 X 38	1.397	1.622	1.845	2.068	2.287	2.555	2.884	-	-	-	-	-	-
50 X 50	1.848	2.148	2.448	2.745	3.040	3.400	3.845	-	-	-	-	-	-
60 X 60	2.225	2.588	2.950	3.310	3.668	4.104	4.645	-	-	-	-	-	-
72 X 72	2.677	3.117	3.553	3.988	4.422	4.949	5.606	6.348	-	-	-	-	-
80 X 80	-	-	-	-	4.925	5.513	6.246	7.075	-	-	-	-	-
91.5 X 91.5	-	-	-	-	5.647	6.323	7.166	8.123	8.938	-	-	-	-
100 X 100	-	-	-	-	6.180	6.922	7.847	8.897	9.793	10.982	-	-	-
113.5 X 113.5	-	-	-	-	7.027	7.718	8.752	10.125	11.150	12.508	13.858	14.865	-
132 X 132	-	-	-	-	-	-	-	11.807	13.005	14.595	16.177	17.358	18.143
150 X 150	-	-	-	-	-	-	-	13.448	14.817	16.633	-	-	-

Size in MM	THICKNESS												
	1.20	1.40	1.60	1.80	2.00	2.20	2.50	2.90	3.20	3.60	4.00	4.30	4.50
	Weight in Kgs per meter												
40 X 20	1.095	1.270	1.443	1.615	-	-	-	-	-	-	-	-	-
50 X 25	1.397	1.622	1.845	2.068	-	-	-	-	-	-	-	-	-
60 X 40	1.848	2.148	2.448	2.745	3.040	3.400	3.845	-	-	-	-	-	-
80 X 40	2.225	2.588	2.950	3.310	3.668	4.104	4.645	-	-	-	-	-	-
96 X 48	2.677	3.117	3.553	3.988	4.422	4.949	5.606	6.348	-	-	-	-	-
122 X 61	-	-	-	-	5.647	6.323	7.166	8.123	8.938	-	-	-	-
145 X 82	-	-	-	-	-	-	8.927	10.125	11.150	12.508	13.858	14.865	15.535
200 X 100	-	-	-	-	-	-	-	13.448	14.817	16.633	-	-	-

TOLERANCE

- * Outside Dimensions of Sides with minimum of
- * Weight on individual lengths

- on lots of 10mt : + 7.5%
- * Squareness of Corner : 90 deg. + 2 deg.