

**BLACK & GALVANIZED**  
**ERW STEEL TUBES CONFORMING TO  IS:1239(Pt-1) EQUIVALENT TO BS:1387**  
**& STRUCTURAL TUBES CONFORMING TO IS:1161**

SERIES			LIGHT					MEDIUM					HEAVY				
NOMINAL BORE		O.D.	OUTSIDE DIA.		WALL THICK.	WEIGHT		OUTSIDE DIA.		WALL THICK.	WEIGHT		OUTSIDE DIA.		WALL THICK.	WEIGHT	
INCH	mm	mm	(MIN.) mm	(MAX.) mm	mm	P/E Kg/m	S/S Kg/m	(MIN.) mm	(MAX.) mm	mm	P/E Kg/m	S/S Kg/m	(MIN.) mm	(MAX.) mm	mm	P/E Kg/m	S/S Kg/m
1/2	15	21.3	21.0	21.4	2.0	0.947	0.956	21.0	21.8	2.6	1.21	1.22	21.0	21.8	3.2	1.44	1.45
3/4	20	26.9	26.4	26.9	2.3	1.38	1.39	26.5	27.3	2.6	1.56	1.57	26.5	27.3	3.2	1.87	1.88
1	25	33.7	33.2	33.8	2.6	1.98	2.00	33.3	34.2	3.2	2.41	2.43	33.3	34.2	4.0	2.93	2.95
1-1/4	32	42.2	41.9	42.5	2.6	2.54	2.57	42.0	42.9	3.2	3.10	3.13	42.0	42.9	4.0	3.79	3.82
1-1/2	40	48.3	47.8	48.4	2.9	3.23	3.27	47.9	48.8	3.2	3.56	3.60	47.9	48.8	4.0	4.37	4.41
2	50	60.3	59.6	60.2	2.9	4.08	4.15	59.7	60.8	3.6	5.03	5.10	59.7	60.8	4.5	6.19	6.26
2-1/2	65	76.1	75.2	76.0	3.2	5.71	5.83	75.3	76.6	3.6	6.42	6.54	75.3	76.6	4.5	7.93	8.05
3	80	88.9	87.9	88.7	3.2	6.72	6.89	88.0	89.5	4.0	8.36	8.53	88.0	89.5	4.8	9.90	10.10
4	100	114.3	113.0	113.9	3.6	9.75	10.00	113.1	115.0	4.5	12.20	12.50	113.1	115.0	5.4	14.50	14.80
5	125	139.7	-	-	4.5	15.00	-	138.5	140.8	4.8	15.90	16.40	138.5	140.8	5.4	17.90	18.40
6	150	165.1	-	-	4.5	17.80	-	163.9	166.5	4.8	18.90	19.50	163.9	166.5	5.4	21.30	21.90
6	150	168.3	-	-	4.5	18.20	-	-	-	4.8	19.40	-	-	-	H1-5.4	21.70	-
6	150	168.3	-	-	-	-	-	-	-	-	-	-	-	-	H2-6.3	25.20	-
7	175	193.7	-	-	4.8	22.40	-	-	-	5.4	25.10	-	-	-	5.9	27.30	-
8	200	219.1	-	-	4.8	25.40	-	-	-	5.6	29.50	-	-	-	5.9	31.00	-
10	250	273.0	-	-	-	-	-	-	-	-	-	-	-	-	5.9	38.90	-
12	300	323.9	-	-	-	-	-	-	-	-	-	-	-	-	6.3	49.30	-
14	350	355.6	-	-	-	-	-	-	-	-	-	-	-	-	8.0	68.60	-

- NOTE: (I) IS:1239 & BS:1387 cover sizes upto 100 mm NB all series and 125 & 150 mm NB medium & heavy series, plain end & screwed and socketed ends.  
(II) IS:1161 covers all sizes Plain End only.  
(III) IS:1161 O.D. Tolerance will be as per dimension tolerance table, Above table min/max O.D. applicable for IS:1239 only.  
(IV) Hydro test Pressure - 5 MPa (IS:1161 Hydro Test not required.)



# ERW PIPES FOR WATER & SEWAGE CONFORMING TO IS:3589

## & WATER WELL CASING CONFORMING TO IS:4270

SIZE		CONVENTIONAL MASS PER UNIT LENGTH (Kg/m)																	
NB	OD	WALL THICKNESS (mm)																	
mm	mm	3.20	3.60	4.00	4.30	4.65	4.85	5.00	5.20	5.40	5.60	6.00	6.35	6.40	7.00	7.10	8.00	9.50	10.00
100	114.30	.	.	.	.	.	.	13.48	.	14.50	.	16.02	.	.	.	.	.	.	.
125	141.30	.	.	.	.	.	.	16.81	.	18.10	.	20.02	.	.	.	.	.	.	.
150	168.30	13.03	14.62	16.21	17.39	18.77	19.55	20.13	20.91	21.69	.	24.01	25.36	25.55	27.84	28.22	.	.	.
175	193.70	.	16.88	18.71	20.08	21.68	22.59	23.27	24.17	25.07	.	27.77	29.34	29.56	32.23	32.67	36.63	.	.
200	219.10	.	19.13	21.22	22.78	24.59	25.62	26.40	27.43	28.46	29.48	31.53	33.31	33.57	36.61	37.12	41.65	49.10	51.56
250	273.10	.	23.93	26.54	28.50	30.78	32.08	33.06	34.35	35.65	36.94	39.52	41.77	42.09	45.93	46.57	52.30	61.75	64.88
300	323.90	.	.	31.55	33.89	36.61	38.16	39.32	40.87	42.41	43.96	47.04	49.73	50.11	54.70	55.47	62.32	73.65	77.41
350	355.60	.	.	34.68	37.25	40.24	41.95	43.23	44.93	46.63	48.33	51.73	54.69	55.11	60.18	61.02	68.57	81.08	85.22

- NOTE: (i) IS:4270 covers Pipe size 100 mm to 350 mm NB & IS:3589 covers Pipe size 168.3 mm OD to 355.6 mm OD.  
(ii) IS:4270 covers Wall Thickness upto 10 mm.  
(iii) Other thickness may be supplied as per agreement.  
(iv) Max. Hydro Test Pressure IS:3589 -5 MPa, IS:4270 - 7 MPa.

# ERW Boiler, Super Heater, Heat Exchanger, Condenser & Air Heater Tubes & Pipes

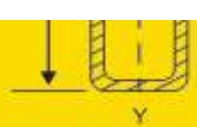
Conforming to BS 3059(Pt-I & II), BS 6323 (Pt-V), ASTM, A-178, A-214, A-333, A-334, IS:1914 (Pt-IV), IS 2416 (Pt-IV), IS:11714 (Pt-III).

Out side Diameter (mm)	Conventional Mass per Unit length in kg/m for a Tube Thickness in mm of:																									
	2.03	2.34	2.64	2.95	3.25	3.38	3.56	3.66	3.68	3.91	4.06	4.50	5.16	5.49	5.74	6.02	6.35	6.55	7.04	7.11	7.80	7.92	8.18	8.38	9.27	9.52
33.4 / 33.7	1.59	1.81	2.02	2.24	2.44	2.53	-	2.71	-	-	2.97	3.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38.0	1.80	2.06	2.30	2.55	2.79	-	-	3.10	-	-	3.40	3.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42.2 / 42.4	-	2.31	2.59	2.87	3.14	-	3.41	3.50	-	-	3.84	4.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44.5	-	2.43	2.73	3.02	3.31	-	-	3.69	-	-	4.05	4.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48.3	-	2.65	2.97	3.30	3.61	-	-	4.03	4.05	-	4.43	4.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50.8	-	2.80	3.14	3.48	3.81	-	-	4.25	-	-	4.68	5.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57.2	-	-	3.55	3.95	4.32	-	-	4.83	-	-	5.32	5.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60.3	-	-	3.75	4.17	4.57	-	-	5.11	-	5.44	5.63	6.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63.5	-	-	3.96	4.40	4.83	-	-	5.40	-	-	5.95	6.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-
73.0	-	-	-	-	-	-	-	-	-	-	-	-	8.63	-	-	-	-	-	-	-	-	-	-	-	-	-
76.1	-	-	-	5.32	5.84	-	-	6.54	-	-	7.21	7.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-
88.9	-	-	-	6.86	-	-	7.69	-	-	8.49	9.37	-	11.29	-	-	-	-	-	-	-	-	-	-	-	-	-
101.6	-	-	-	-	-	-	-	8.84	-	-	9.77	10.80	-	-	13.57	-	-	-	-	-	-	-	-	-	-	-
114.3	-	-	-	-	-	-	-	-	-	-	11.04	12.20	-	-	-	16.07	-	-	-	-	-	-	-	-	-	-
127.0	-	-	-	-	-	-	-	-	-	-	-	13.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-
141.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.77	-	-	-	-	-	-	-	-
168.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28.26	-	-	-	-	-	-
219.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33.31	-	36.81	-	-	-	42.55	-	-	-
273.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41.75	-	-	-	51.01	-	-	-	60.29	-
323.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49.71	-	-	-	-	-	-	65.18	-	73.78
355.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54.69	-	-	-	-	67.90	-	-	-	81.25

NOTE: Leak Test - Hydro Test / NDT test as per specification requirements.

# Rectangular Hollow Sections

## YST 310 Grade

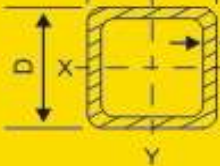


RHS D X B mm	Thickness mm	Sec Area A cm <sup>2</sup>	Unit W kg/m	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface
				I <sub>xx</sub> cm <sup>4</sup>	I <sub>yy</sub> cm <sup>4</sup>	r <sub>xx</sub> cm	r <sub>yy</sub> cm	Z <sub>xx</sub> cm <sup>3</sup>	Z <sub>yy</sub> cm <sup>3</sup>	J cm <sup>4</sup>	B cm <sup>3</sup>	Area per m m <sup>2</sup>
50 x 25	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
60 x 40	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
66 x 33	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
80 x 40	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
96 x 48	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
122 x 61	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
145 x 82	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
172 x 92	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
200 x 100	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
220 x 140	4.00	27.75	21.78	1892.62	947.66	8.26	5.84	172.06	135.38	2004.80	223.74	0.699
	5.00	34.36	26.97	2313.45	1155.23	8.21	5.80	210.31	165.04	2468.51	272.71	0.694
	6.00	40.83	32.05	2714.10	1351.70	8.15	5.75	246.74	193.10	2914.71	318.93	0.689
	8.00	53.39	41.91	3456.31	1712.25	8.05	5.66	314.21	244.61	3270.10	378.40	0.679
240 x 120	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	296.7	0.689
	8.00	53.39	41.91	3851.84	1299.95	8.49	4.93	320.99	216.66	3272.9	376.29	0.679
260x 180	6.00	50.43	39.59	4855.87	2763.43	9.81	7.40	373.53	307.05	5619.50	501.06	0.849
	8.00	66.19	51.96	6238.69	3538.10	9.71	7.31	479.90	393.12	6821.23	620.13	0.839
	10.00	81.43	63.92	7509.51	4244.26	9.60	7.22	577.65	471.58	8972.14	760.42	0.834
	12.00	96.14	75.47	8672.42	4884.94	9.50	7.13	667.11	542.77	10150.39	875.12	0.829
300x 150	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	7808.95	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
	12.00	98.54	77.35	10866.10	3641.00	10.50	6.08	724.41	485.48	9110.72	829.98	0.838
300x 200	6.00	57.65	45.24	7370.23	3962.19	11.31	8.29	491.34	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	839.54	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
	12.00	110.54	86.77	13355.84	7107.43	10.99	8.02	890.39	710.43	15215.03	1160.24	0.938

# Square Hollow Sections

## YST 310 Grade

Specification:  
IS : 4923



SHS B X D mm	Thickness mm	Sec Area A cm <sup>2</sup>	Unit W kg/m	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface
				I <sub>xx</sub> cm <sup>4</sup>	I <sub>yy</sub> cm <sup>4</sup>	r <sub>xx</sub> cm	r <sub>yy</sub> cm	Z <sub>xx</sub> cm <sup>3</sup>	Z <sub>yy</sub> cm <sup>3</sup>	J cm <sup>4</sup>	B cm <sup>3</sup>	Area per m m <sup>2</sup>
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
	4.50	7.67	6.02	25.50	25.50	1.82	1.82	10.20	10.20	41.99	14.68	0.177
60 x 60	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
72 x 72	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
80 x 80	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
91.5 x 91.5	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
100 x 100	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
113.5 x 113.5	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
132 x 132	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	1134.24	159.18	0.500
150x 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
	8.00	43.79	34.38	1443.00	1443.00	5.74	5.74	192.40	192.40	2405.78	290.12	0.559
180x 180	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
220x 220	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
	12.00	96.14	75.47	6793.08	6793.08	8.41	8.41	617.55	617.55	11116.96	915.37	0.818
250x 250	6.00	57.63	45.24	5672.00	5672.00	9.92	9.92	453.76	453.96	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
	12.00	110.54	86.77	10254.78	10254.78	9.63	9.63	820.38	820.38	16678.37	1219.59	0.938