

**"Team Trust  
&  
Technology"**



  
**Riddhi**

# ○ ABOUT **RIDDHI STEEL & TUBE LTD.**



**Riddhi Steel & Tube Ltd.** started in the year 2002 manufacturing Black and Galvanized Steel Pipes in various size range of 1/2" (15MM NB) to 12" (300NN BV) in 1.6 mm to 7.1 mm thickness. Company manufactures Square and Rectangular Hollow Section (SHS and RHS) in the size range of 15X15mm to 180X180mm and 20X40 to 200X100mm in various thickness.

With installed capacity of about 1,00,000 Tones per annum, the company's thrust for growth is never ending. Expansion, diversification and addition of facilities are continuous in process to meet growing demand of various sectors.

The unit is equipped with Ultra-Modern Plant and Machinery which includes Slitting Mills, 6 Tube Mills, Threading & Finishing equipments.

We have Hot Dip Galvanizing unit for producing GI pipes which are used for Corrosion resistant purpose. This product is highly useful for water works, atmospheric condition, underground piping and etc...

Pre-Galvanized pipes are made from MS Galvanized Coils. These pipes are durable and light weighted. Basically these pipes are used by various manufacturers.

Plant have inhouse testing laboratory to conduct various quality tests of materials. Our pipes confirm to various domestic and international specifications/standards and the company is accredited with ISO: 9001 - 2008 certificate.

The entire operation from selection of the raw material to dispatch of finished products goes through a series of quality checks conducted by a team of qualified Engineers.

Our Company is focused on Expansion, Diversification and adoption of New Technology.



## VISION

We want to be one of the leading  
Steel Giants

## MISSION

Team Technology Trust of our Company,  
are the standards for delivering quality  
and services to our Customers.

## PRINCIPLES

Being Successor as a learner.

Communication Teamwork and Collaboration

We respect for those with whom we work by  
demonstrating Courtesy, Honesty, Integrity  
and Fairness.



## PRODUCT RANGE

In our ultra modern plants, we manufacture Electric Resistance Welded Black & Galvanized Steel Pipes and Square/Rectangular Hollow Sections.

PRODUCT	SIZE RANGE	SPECIFICATIONS / GRADE
ERW Mild Steel Black Pipes	15NB (1/2") to 300 NB (12")	IS : 1239/3589/1161/4270/3601
ERW Mild Steel Galvanized Pipes	15NB (1/2") to 200 NB (8")	IS : 1239/1161
Square / Rectangular Hollow Sections	20 x 20 to 220 x 220 30 x 20 to 250 x 200	IS : 4293
Mild Steel ERW O.D. Pipes	63.5 mm to 219.10 mm	IS : 9295
Pre-Galvanized	15NB (1/2") to 150 NB (6")	-

## INDIAN SPECIFICATIONS IN MANUFACTURING OF STEEL PIPE & TUBE WITH EQUIVALENT INTERNATIONAL STANDARDS

Indian (IS)	British (BS)	American (ASTM)	Japanese (JIS)	German (DIN)	Standard End use
IS 1239 (Part 1)	BS 1387	ASTM A-53	JIS G 3452	DIN 2439, 2440 & 2441	Water, Gas, Air & Steam
IS 1161	BS 1139,6323, BS4360 BS1775/64	ASTM A-513 ASTM A-500	JIS G 3444	DIN 2439 & 2441	Structural, Scaffolding
IS 3589	BS 534	ASTM A-53	-	-	Water, Gas, Sewage
IS 3601	BS 1775	ASTM A-513 ASTM A-512	JIS G 3445	DIN 2393 & 2394	Mechanical, General Engg. Purpose
IS 4270	BS 879	-	-	-	Water Wells, Casing
IS 4923	BS 6363	ASTM A-500	JIS G 3466	DIN 2395	Sectional Tubes SHS/RHS

**ERW Steel Pipes & Hollow Sections are Being Manufactured out of IS:10748 Hr Coils in Grade-I to V**

## MANUFACTURING PROCESS

### ○ SLITTING UNCOILING, END SHEARING & WELDING

HR Coils are slitted to predetermined widths for each size of pipe and thickness. Slitted coil uncoiled at the entry of ERW mill and the ends are sheared and welded one after another to make it a single endless strip.

### ○ FORMING. WELDING, DEBEADING

The steel strip is made to pass through set of forming and fin rolls and is moulded in a circular shape. At the welding stage, strip edges are heated to a plastic stage and fused thus ensuring a perfect, sound weld without addition of any foreign material. Alternating current with high frequency of 4,50,000 c/s is directed to heat the strips edges. The outside and inside surface (if needed) is flushed by removing the excess and weld through tools.

### ○ PACKING

Finished pipes are bundled in desired number of pieces as per requirement and packed properly for safe storage until delivery.

The process utilises the latest technology and modern equipments for producing high quality ERW Pipes.

### ○ SIZING. CUTTING, END FACING & BEVELING

The pipe is then passed through set of sizing roll for achieving dimensional accuracy as per standard requirement. The pipes are machine cut to the required length by flying saw cutter/disc cutter. The pipes are further processed through end facing for burr removal/bevelling. Each pipe is hydraulically tested at the required test pressure and then sent for Galvanizing, Threading and Varnishing etc.



### ○ FOCUS ON QUALITY

The Commendable reputation of reliability and Quality Riddhi has acquired is due to the fact that the pipes are subjected to uncompromising tests of Quality Control. The Concept of total quality control is inbuilt in the organization structure which integrates the development and improvement of quality efforts at various levels. The commitment high quality begins right from selection of raw materials and continues at every stage of manufacturing process till the finished products. To ensure product reliability the unit has a fully equipped metallurgical laboratory with sophisticated machineries like

- Universal Testing Machine
- Metallurgical Microscope
- High temperature Muffle Furnace
- Apparatus for Carbon and Sulphur determination
- Vickers Hardness Tester
- Thickness Gauge
- Pipe Bending Machine

Apart from above machines we have sophisticated measuring instruments, pressure gauges etc. The trained staff ensures high quality of pipes made to various national & international standards. The quality control systems are audited periodically and the same have been approved by third party inspection agencies. RITES, SGS, DGS&D, NTPC, PDIL, EPIL, CEIL, BHEL, GWSSB etc.



# MS ERW BLACK & GALVANISED STEEL TUBES FOR WATER, GAS, AIR & STEAM



N.B. & Series	Outside Diameter		Wall Thickness		Nominal Mass of Black & Galvanised Steel Tubes					Socket		Strip	
	mm (nearest Inch)	min. mm	max. mm	mm	SWG	Plain End		Screwed & Socketed		No. of Pipes Per Bundle	min. Outer diameter mm	min. Length mm	Width Reqd. mm.
						kg./mtr	mtrs./ton	kg./mtr	mtrs./ton				
15 (1/2)	L	21.0	21.4	2.0	14	0.95	1056	0.96	1046	165	27.0	37.0	64
	M	21.0	21.8	2.6	12	1.21	826	1.22	820	132			63
	H	21.0	21.8	3.2	10	1.44	694	1.45	690	110			62
20 (3/4)	L	26.4	26.9	2.3	13	1.38	725	1.39	719	112	32.5	39.0	83
	M	26.5	27.3	2.6	12	1.56	641	1.57	637	98			82
	H	26.5	27.3	3.2	10	1.87	535	1.88	532	84			81
25 (1)	L	33.2	33.8	2.6	12	1.98	505	2.00	500	80	39.5	46.0	102
	M	33.3	34.2	3.2	10	2.41	415	2.43	412	65			101
	H	33.3	34.2	4.0	8	2.93	341	2.95	339	55			100
32 (1 1/4)	L	41.9	42.5	2.6	12	2.54	394	2.57	389	60	49.0	51.0	128
	M	42.0	42.9	3.2	10	3.10	322	3.13	319	51			127
	H	42.0	42.9	4.0	8	3.79	264	3.82	262	42			126
40 (1 1/2)	L	47.8	48.4	2.9	11	3.23	310	3.27	306	48	56.0	51.0	147
	M	47.9	48.8	3.2	10	3.56	281	3.60	278	45			146
	H	47.9	48.8	4.0	8	4.37	229	4.41	227	36			145
50 (2)	L	59.6	60.2	2.9	11	4.08	245	4.15	241	39	68.0	60.0	183
	M	59.7	60.8	3.6	9	5.03	199	5.10	196	30			182
	H	59.7	60.8	4.5	7	6.19	161	6.26	160	27			181
65 (2 1/2)	L	75.2	76.0	3.2	10	5.71	175	5.83	172	27	84.0	69.0	234
	M	75.3	76.6	3.6	9	6.42	156	6.54	153	24			233
	H	75.3	76.6	4.5	7	7.93	126	8.05	124	20			232
80 (3)	L	87.9	88.7	3.2	10	6.72	149	6.89	145	23	98.0	75.0	273
	M	88.0	89.5	4.0	8	8.36	120	8.53	117	19			272
	H	88.0	89.5	4.8	6	9.90	101	10.10	99	16			271
100 (4)	L	113.0	113.9	3.6	9	9.75	102	10.00	100	16	124.0	87.0	354
	M	113.1	115.0	4.5	7	12.20	82	12.50	80	13			352
	H	113.1	115.0	5.4	5	14.50	69	14.80	68	11			351
125 (5)	M	138.5	140.8	4.8	6	15.90	63	16.40	61	10	151.0	96.0	437
	H	138.5	140.8	5.4	5	17.90	56	18.40	54	9			435
150 (6)	L	163.9	166.5	4.8	6	18.90	53	19.50	51	8	178	96.0	515
	H	163.9	166.5	5.4	5	21.30	47	21.90	46	7			513



## TOLERANCES

Series	Thickness	Weight Single Tube	Weight 10 Ton. Lot	Length Tolerance
Light	+ Not limited	+ 10%	+ 7.5%	(i) 4 to 7 meters unless
	- 8%	- 8%	- 5%	otherwise specified
Medium & Heavy	+ Not limited	± 10%	± 7.5%	(i) Fix Length ± 5cm
	- 10%			

L = Light M = Medium H = Heavy

# STEEL TUBES FOR STRUCTURAL PURPOSES (IS : 1161-1998)



N.B. & Series	Outside Diameter	Thickness	Nominal Weight Black Tubes Plain End		Calculated Nominal Weight Galvanized Tubes Plain End	
			kg./mtr	mtrs./ton	kg./mtr	mtrs./ton
15 L M H	21.3	2.0	0.95	1056	1.00	1000
		2.6	1.21	836	1.26	794
		3.2	1.44	694	1.49	671
20 L M H	26.9	2.3	1.38	725	1.43	699
		2.6	1.56	641	1.61	621
		3.2	1.87	535	1.92	521
25 L M H	33.7	2.6	1.98	505	2.03	493
		3.2	2.41	415	2.46	407
		4.0	2.93	341	2.98	336
32 L M H	42.4	2.6	2.54	394	2.62	382
		3.2	3.10	323	3.18	314
		4.0	3.79	264	3.87	258
40 L M H	48.3	2.9	3.23	310	3.34	299
		3.2	3.56	281	3.67	272
		4.0	4.37	229	4.48	223
50 L M H	60.3	2.9	4.08	245	4.20	238
		3.6	5.03	199	5.15	194
		4.5	6.19	162	6.31	158
65 L M H	76.1	3.2	5.71	175	5.86	171
		3.6	6.42	156	6.57	152
		4.5	7.93	126	8.10	123
80 L M H	88.9	3.2	6.72	149	6.90	145
		4.0	8.36	120	8.54	117
		4.8	9.90	101	10.08	99
100 L M H	114.3	3.6	9.75	103	9.97	100
		4.5	12.20	82	12.42	81
		5.4	14.50	69	14.72	68
125	139.7	4.5	15.00	67	15.25	66
		4.8	15.90	63	16.15	62
		5.4	17.90	56	18.15	55
150	165.1	4.5	17.80	56	18.20	55
		4.8	18.90	53	19.30	52
		5.4	21.30	47	21.70	46
150	168.3	4.5	18.20	55	18.66	54
		4.8	19.40	52	19.88	50
		5.4	21.70	46	22.24	45
		6.3	25.20	40	25.74	39
175	193.7	4.8	22.40	45	22.94	44
		5.4	25.10	40	25.64	39
		5.9	27.30	37	27.87	36
200	219.1	4.8	25.40	39	25.95	39
		5.6	29.50	34	30.05	33
		5.9	31.00	32	31.55	32
250	273.0	5.9	38.90	26	39.68	25
300	323.9	6.3	49.30	20	50.28	20

## TOLERANCES

### OUTSIDE DIAMETER

up to 48.3mm + 0.4mm  
- 0.8mm

Over 48.3mm ± 1%

### THICKNESS

For all Sizes + Not Limited

Welded Tubes - 10%

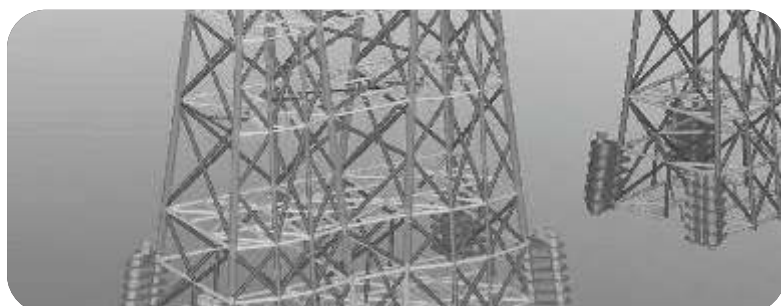
### WEIGHT

Single Tube-Light - 8%  
+ 10%

Medium & Heavy ± 10%

10 Ton Lot-Light ± 5%

Medium & Heavy ± 7.5%



## STEEL TUBES FOR WATER & SEWAGE (IS : 3589-2001)

## PIPE CONFORMING to ASTM A-53 Grade A & B



N.B. Size	Outside Diameter	Thickness	Weight (Plain End)	
			kg./mtr	mtrs./ton
150	168.3	2.6	10.6	94
		3.2	13.0	77
		4.0	16.2	62
		4.5	18.2	55
		5.0	20.1	50
175	193.7	2.6	12.3	81
		3.6	16.9	59
		4.5	21.0	48
		6.3	29.1	34
		200	219.1	2.6
3.6	19.1			52
4.5	23.8			42
6.3	33.1			30
250	273.0			3.6
		4.0	26.5	38
		5.0	33.0	30
		6.3	41.4	24
		300	323.9	4.0
4.5	35.4			28
5.6	44.0			23
7.1	55.5			18

DN	Outside Diameter	Wall Thickness	Mass of Plain	Test Pressure	
				Grade A	Grade B
mm	mm	mm	kg./mtr	Mpa	Mpa
15	21.3	2.7	1.3	4.8	4.8
20	26.7	2.9	1.7	4.8	4.8
25	33.4	3.4	2.5	4.8	4.8
32	42.2	3.6	3.4	8.3	9.0
40	48.3	3.7	4.1	8.3	9.0
50	60.3	3.9	5.4	15.9	17.2
65	73.0	5.2	8.6	17.2	17.2
80	88.9	5.5	11.3	15.3	17.2
90	101.6	5.7	13.6	14.0	16.3
100	114.3	6.0	16.1	13.1	15.2
125	141.3	6.6	21.8	11.5	13.4
150	168.3	7.1	28.3	10.5	12.3
200	219.1	8.2	42.6	9.2	10.8
250	273.0	9.3	60.3	8.4	9.9
300	323.8	9.5	73.8	7.3	8.5

### TOLERANCES

OUTSIDE DIAMETER	± 0.75%
THICKNESS	± 10%
WEIGHT (10MT LOAD)	± 7.5%

### STEEL TUBES FOR WATER WELLS (CASING PIPE) (IS : 4720-2001)

Size N.B.	Outside Diameter	Wall Thickness	Weight (Plain End)	
			kg./mtr	mtrs./ton
100	114.3	5.0	13.48	74
		5.4	14.50	69
125	141.3	5.0	16.80	59
		5.4	18.10	55
150	168.3	5.0	20.13	50
		5.4	21.60	46
175	193.7	5.0	25.10	40
		6.4	29.60	34
200	219.1	5.4	28.46	35
		6.4	33.60	30
250	273.1	7.1	46.57	21
300	323.9	7.1	55.47	18

### TOLERANCES

OUTSIDE DIAMETER	± 1%
THICKNESS	+ 15%
	- 12.5%
WEIGHT (SINGLE TUBE)	+ 10%
	- 8%

### TOLERANCES

#### OUTSIDE DIAMETER

Size upto DN 40	± 0.4mm
Size above DN 40	± 1%

#### THICKNESS

- 12.5% (max)

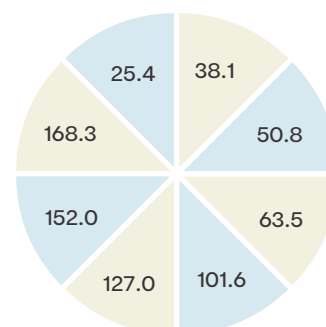
#### WEIGHT

± 10%

#### GALVANIZING

Minimum	490g/Sq Mtr
Average	550g/Sq Mtr

### O.D. PIPES (Size in mm)





# STEEL TUBES FOR MECHANICAL & GENERAL ENGG. PURPOSES (IS : 3601-1984)



Size N.B. (mm) (IN)		Outside Diameter (mm)	Thickness (mm)	Wt kg/mm	Meter Per Tonne
15	1/2"	21.3	1.80	0.866	1155
			2.00	0.952	833
			2.60	1.20	699
			3.20	1.43	585
20	3/4"	26.9	1.80	1.110	901
			2.00	1.230	813
			2.30	1.400	714
			2.60	1.560	641
			3.20	1.870	535
25	1"	33.7	2.00	1.560	641
			2.30	1.780	562
			2.60	1.990	503
			3.20	2.410	415
			4.00	2.930	341
32	1 1/4"	42.4	2.30	2.270	441
			2.60	2.550	392
			3.20	3.090	324
			3.60	3.440	291
			4.00	3.790	264
40	1 1/2"	48.3	2.30	2.610	383
			2.60	2.930	341
			2.90	3.250	308
			3.20	3.560	281
			4.00	4.370	229
			4.90	5.230	191
			5.00	5.340	187
50	2"	60.3	2.30	3.290	304
			2.60	3.700	270
			2.90	4.110	243
			3.20	4.510	222
			3.60	5.030	199
			4.00	5.550	180
			4.50	6.190	162
5.00	6.820	147			
65	2 1/2"	76.1	2.60	5.240	191
			2.90	5.750	174
			3.20	6.440	155
			3.60	7.110	141
			4.50	7.950	126
5.00	8.770	114			
80	3"	88.9	2.90	6.150	163
			3.20	6.760	148
			4.00	8.380	119
			5.00	10.300	97
			5.40	11.100	90
			5.60	11.500	87
100	4"	114.3	3.20	8.770	114
			3.60	9.830	102
			4.50	12.200	82
			5.40	14.500	69
			6.30	16.800	60
125	5"	139.7	3.60	12.100	83
			4.00	13.400	75
			4.50	15.000	67
			5.00	16.600	60
			5.40	17.900	56
			6.30	20.700	48

Size N.B. (mm) (IN)		Outside Diameter (mm)	Thickness (mm)	Wt kg/mm	Meter Per Tonne
150	6"	165.1	4.50	17.800	56
			5.00	19.700	51
			5.40	21.200	47
			6.30	24.800	40
175	7"	193.7	5.00	23.300	43
			5.40	25.100	40
			5.90	27.300	37
			6.30	29.100	34
200	8"	219.1	4.50	23.800	42
			5.00	26.400	38
			5.60	29.500	34
			6.30	33.100	30
			8.00	41.600	24
250	10"	273.0	5.00	33.000	30
			6.30	41.400	24
			7.10	46.600	21
300	12"	323.9	5.60	44.000	23
			7.10	55.500	18
			8.00	62.300	16



# DIMENSION AND PROPERTIES OF SQUARE HOLLOW SECTIONS (SHS) (IS : 4923-1997)

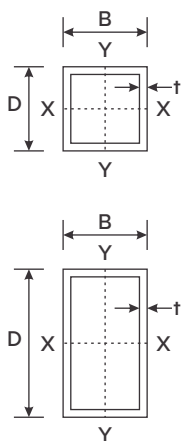


Size	Thickness	Weight	Area of Section	Moment of Inertia	Radius of Gyration	Elastic Modulus	Plastic Modulus	Torsional Constants		Outer Surface Area
								cm <sup>4</sup>	cm <sup>3</sup>	
mm	mm	kg / m	cm <sup>2</sup>	cm <sup>4</sup>	cm	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>4</sup>	cm <sup>3</sup>	per m <sup>2</sup>
20.0 X 20.0	-	-	-	-	-	-	-	-	-	-
25.0 x 25.0	2.6	1.69	2.16	1.72	0.89	1.38	1.76	2.86	1.92	0.087
	3.2	1.98	2.53	1.89	0.86	1.51	1.98	2.96	2.07	0.084
30.0 x 30.0	2.6	2.10	2.68	3.23	1.10	2.15	2.68	-	-	-
	3.2	2.49	3.17	3.62	1.07	2.41	3.08	-	-	-
32.0 x 32.0	2.6	2.26	2.88	4.02	1.18	2.51	3.11	6.45	3.63	0.115
	3.2	2.69	3.42	4.54	1.15	2.84	3.59	7.41	4.07	0.112
	4.0	3.19	4.07	5.02	1.11	3.14	4.11	-	-	-
38.0 x 38.0	2.6	2.75	3.51	7.14	1.43	3.76	4.57	11.51	5.49	0.139
	2.9	3.03	3.86	7.68	1.41	4.04	4.97	-	-	-
	3.2	3.29	4.19	8.18	1.40	4.30	5.34	13.45	6.28	0.136
	3.6	3.63	4.62	8.76	1.38	4.61	5.80	-	-	-
40.0 x 40.0	4.0	3.95	5.03	9.26	1.36	4.87	6.22	15.67	7.12	0.131
	2.6	2.92	3.72	8.45	1.51	4.22	5.12	13.63	6.20	0.147
	2.9	3.21	4.09	9.11	1.49	4.56	-	14.85	6.68	0.145
	3.2	3.49	4.45	9.72	1.48	4.86	6.01	16.00	7.12	0.144
45.0 x 45.0	3.6	3.85	4.91	10.45	1.46	5.22	6.53	-	-	-
	4.0	4.20	5.35	11.07	1.44	5.54	7.01	18.75	8.12	0.139
	2.6	3.32	4.24	12.47	1.71	5.52	6.64	-	-	-
	2.9	3.66	4.67	13.45	1.70	5.98	7.25	-	-	-
49.5 x 49.5	3.6	4.42	5.63	15.57	1.66	6.92	8.55	-	-	-
	4.5	5.31	6.77	17.74	1.62	7.88	9.99	-	-	-
	2.9	4.07	5.19	18.37	1.88	7.42	8.93	29.81	10.98	0.183
	3.6	4.93	6.28	21.42	1.85	8.66	10.60	35.54	12.81	0.179
50.0 x 50.0	4.5	5.95	7.58	24.64	1.80	9.96	12.47	42.15	14.79	0.175
	2.9	4.07	5.19	18.37	1.88	7.42	8.93	-	-	-
	3.6	4.93	6.28	21.42	1.85	8.66	10.60	-	-	-
60.0 x 60.0	4.5	5.95	7.58	24.64	1.80	9.96	12.47	-	-	-
	3.6	6.11	-	-	-	-	-	-	-	-
	4.0	6.71	8.55	13.55	2.26	14.52	-	72.41	21.62	0.219
63.5 x 63.5	4.8	7.85	10.01	49.22	2.22	16.41	-	83.61	24.51	0.215
	3.2	5.85	7.45	44.35	2.44	13.97	16.65	-	-	-
	3.6	6.51	8.29	48.55	2.42	15.29	18.36	-	-	-
72.0 x 72.0	4.5	7.93	10.10	57.00	2.38	17.95	21.93	-	-	-
	3.2	6.71	8.54	66.32	2.79	18.42	21.80	106.81	27.47	0.272
	4.0	8.22	10.47	79.03	2.75	21.95	26.32	129.85	32.78	0.267
80.0 x 80.0	4.8	9.66	12.31	90.31	2.71	25.09	30.49	151.55	37.55	0.263
	3.2	9.57	7.51	17.71	3.11	23.18	-	148.55	34.60	0.304
	4.0	11.75	9.22	111.04	3.07	27.76	-	181.22	41.49	0.299
91.5 x 91.5	4.8	13.85	10.87	127.58	3.04	31.89	-	212.26	47.77	0.295
	3.6	9.67	12.32	156.49	3.56	34.21	40.24	251.17	41.14	0.347
	4.5	11.88	15.14	187.57	3.52	41.00	48.79	306.78	61.14	0.343
100.0 x 100.0	5.4	14.01	17.85	215.68	3.48	47.14	56.77	359.76	70.77	0.338
	4.0	11.73	14.95	226.35	3.89	45.27	53.30	-	-	-
	5.0	14.41	18.36	271.10	3.84	54.22	64.59	-	-	-
113.5 x 113.5	6.0	16.98	21.63	311.47	3.79	62.29	75.10	-	-	-
	4.5	14.99	19.10	372.88	4.42	65.71	77.33	637.45	103.89	0.429
	4.8	15.92	20.28	393.31	4.40	69.30	81.81	708.69	114.41	0.426
	5.4	17.74	22.60	432.58	4.38	76.23	90.55	-	-	-
120.0 x 120.0	6.0	19.53	24.87	469.81	4.35	82.79	98.86	-	-	-
	4.8	-	-	-	-	-	-	-	-	-
	5.4	-	-	-	-	-	-	-	-	-
132.0 x 132.0	6.0	-	-	-	-	-	-	-	-	-
	4.8	18.71	23.83	634.39	5.16	96.12	112.69	1018.30	144.11	0.503
	5.4	20.88	26.59	700.11	5.13	106.08	125.02	1134.25	159.18	0.500
150.0 x 150.0	6.0	23.01	29.31	762.98	5.10	115.60	136.98	-	-	-
	5.0	22.26	28.36	982.12	5.89	130.95	152.98	1569.09	196.38	0.574
	6.0	26.40	33.63	1145.91	5.84	152.79	179.88	1856.18	229.44	0.569
172.0 x 172.0	7.0	30.44	38.78	1299.44	5.79	173.26	-	2134.99	260.65	0.564
	-	-	-	-	-	-	-	-	-	-
180.0 x 180.0	5.0	27.20	34.60	1755.00	7.12	195.00	226.00	2747.93	289.40	0.694
	6.0	32.05	40.83	2036.52	7.06	226.28	280.00	3259.23	339.65	0.689
	7.0	37.03	47.18	2321.04	7.01	257.89	-	3758.53	387.59	0.684

# DIMENSION AND PROPERTIES OF RECTANGULAR HOLLOW SECTIONS (RHS) (IS : 4923-1997)



Size D X B	Thickness	Weight	Area of Section	Moment of Inertia		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constants		Outer Surface Area
				X-X	Y-Y	X-X	Y-Y	X-X	Y-Y	X-X	Y-Y	cm <sup>4</sup>	cm <sup>3</sup>	
mm	mm	kg / m	cm <sup>2</sup>	cm <sup>4</sup>	cm <sup>4</sup>	cm	cm	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>4</sup>	cm <sup>3</sup>	m <sup>2</sup>
30.0 x 20.0	2.0	1.47	-	-	-	-	-	-	-	-	-	-	-	-
40.0 x 20.0	2.0	1.78	-	-	-	-	-	-	-	-	-	-	-	-
40.0 x 25.0	2.0 2.5	1.83 2.23	-	-	-	-	-	-	-	-	-	-	-	-
50.0 x 25.0	2.6	2.71	3.46	10.16	3.36	1.71	0.99	4.06	2.69	-	-	8.27	4.53	0.137
	2.9	2.98	3.80	10.93	3.60	1.70	0.97	4.37	2.88	5.72	3.48	-	-	-
	3.2	3.24	4.13	11.63	3.80	1.68	0.96	4.65	3.04	6.14	3.73	9.52	5.12	0.134
	4.0	3.88	4.95	13.13	4.23	1.63	0.92	5.25	3.38	-	-	10.86	5.69	0.129
60.0 x 40.0	2.9	4.12	5.25	24.74	13.11	2.17	1.58	8.25	6.56	10.25	7.73	28.02	10.66	0.185
	3.6	4.98	6.35	28.90	15.23	2.13	1.55	9.63	7.62	-	-	33.30	12.41	0.181
	4.5	6.02	7.67	33.31	17.44	2.08	1.51	11.10	8.72	-	-	39.34	14.29	0.177
66.0 x 33.0	2.9	4.07	5.19	27.33	9.12	2.29	1.33	8.28	5.53	10.59	6.49	22.65	9.43	0.183
	3.6	4.93	6.28	31.87	10.52	2.25	1.29	9.66	6.37	12.56	7.66	26.71	10.90	0.179
	4.5	5.95	7.58	36.64	11.93	2.20	1.25	11.10	7.23	14.77	8.94	31.21	12.43	0.175
80.0 x 40.0	2.9	5.03	6.41	50.87	17.11	2.82	1.63	12.72	8.56	16.07	9.88	42.23	14.66	0.225
	3.2	5.50	7.01	54.94	18.41	2.80	1.62	13.74	9.21	17.46	10.72	45.83	15.78	0.224
	4.0	6.71	8.55	64.79	21.49	2.75	1.59	16.20	10.74	20.91	12.77	54.77	18.49	0.219
	4.8	7.85	10.01	73.22	24.03	2.71	1.55	18.30	12.02	-	-	62.81	20.79	0.215
96.0 x 48.0	3.2	6.71	8.54	98.61	33.28	3.40	1.97	20.54	13.87	25.85	15.91	82.13	23.82	0.272
	4.0	8.22	10.47	117.54	39.32	3.55	1.94	24.49	16.30	31.21	19.14	99.11	28.24	0.267
	4.8	9.66	12.31	134.35	44.55	3.30	1.90	27.99	18.56	36.13	22.08	114.80	32.14	0.263
100.0 x 50.0	3.2	7.01	8.93	112.29	37.95	3.55	2.06	22.46	15.18	28.20	17.37	-	-	-
	4.0	8.59	10.95	134.14	44.95	3.50	2.03	26.83	17.98	34.10	20.93	-	-	-
122.0 x 61.0	3.6	9.67	12.32	232.61	78.83	4.34	2.35	38.13	25.84	47.71	29.42	193.91	44.50	0.347
	4.5	11.88	15.14	278.94	93.78	4.29	2.49	45.73	30.75	57.85	35.56	235.39	53.13	0.343
	5.4	14.01	17.85	320.83	107.03	4.24	2.45	52.60	35.09	67.26	41.22	374.26	60.89	0.338
145.0 x 82.0	4.8	15.92	20.28	555.16	228.50	5.23	3.36	76.57	55.73	94.93	63.93	534.27	94.45	0.429
	5.4	17.74	22.62	610.85	250.59	5.20	3.33	84.26	61.12	105.07	70.66	592.70	103.81	0.426
150.0 x 50.0	4.5 5.0													
150.0 x 75.0	4.8 5.0													
172.0 x 92.0	4.8	18.71	23.83	917.13	346.91	6.20	3.82	106.64	75.41	132.08	85.61	826.04	128.85	0.503
	5.4	20.88	26.59	1012.47	381.74	6.17	3.79	117.73	82.99	146.55	94.86	918.10	142.04	0.500
200.0 x 100.0	4.0	18.01	22.95	1199.71	410.78	7.23	4.23	119.97	82.16	-	-	991.10	141.46	0.579
	5.0	22.26	28.36	1459.25	496.94	7.17	4.19	145.93	99.39	-	-	1216.96	171.53	0.574
	6.0	26.40	33.63	1703.31	576.91	7.12	4.14	170.33	115.38	-	-	1434.03	199.68	0.569
	7.0	30.44	38.78	1932.19	650.93	7.06	4.10	193.22	130.19	-	-	1642.92	226.04	0.564



### TOLERANCES

<b>Length</b>	6.0 ±50mm
<b>Thickness</b>	± 10%
<b>Weight</b>	
-Single Length	+ 10%
	- 8%
-10 Ton Lot.	± 7.5%
<b>O.D. of Side:</b>	± 1%
	(minimum 0.5mm)

### Tensile Properties

Grade	TS (Mpa)	Yield (Mpa)	% Elongation	
			upto 25.4	over 25.4
YST 210	330	210	12	20
YST 240	410	240	10	15
YST 310	450	310	8	10



# APPLICATION

## ERW Pipe

- Water Pipelines
- Water Mains, Sewerage Systems
- Industrial Water Lines, Plant Piping
- Agriculture and Irrigation
- Deep Tube-Wells & Casing Pipes
- Solar
- Pipe Lines For Natural Gas
- LPG And Other Non-Toxic Gases
- Oil & Gas Pipe Lines
- Oil Refinery Piping, Crude Oil Piping
- Cross Country Pipe Line
- Fire Fighting
- Green House
- Street light pole
- Metro Project
- BRTS Product
- Textile Industry
- Pre-fabricated shades
- Submergibal pump industry

## Square and Rectangular Hollow Section

- Furniture industries & domestic applications
- Milk Booths
- Cabins
- Bus stands
- Scaffoldings
- Pallets, Guard Rails, Staircases
- Cranes, Hand Railings, Trolleys
- Airport
- Fencing Poles Hydraulic Platforms
- Truck & Bus body Members Trusses
- Material Storage Racks
- Columns & Purlins
- Buildings



## Pre-Galvanised Pipes

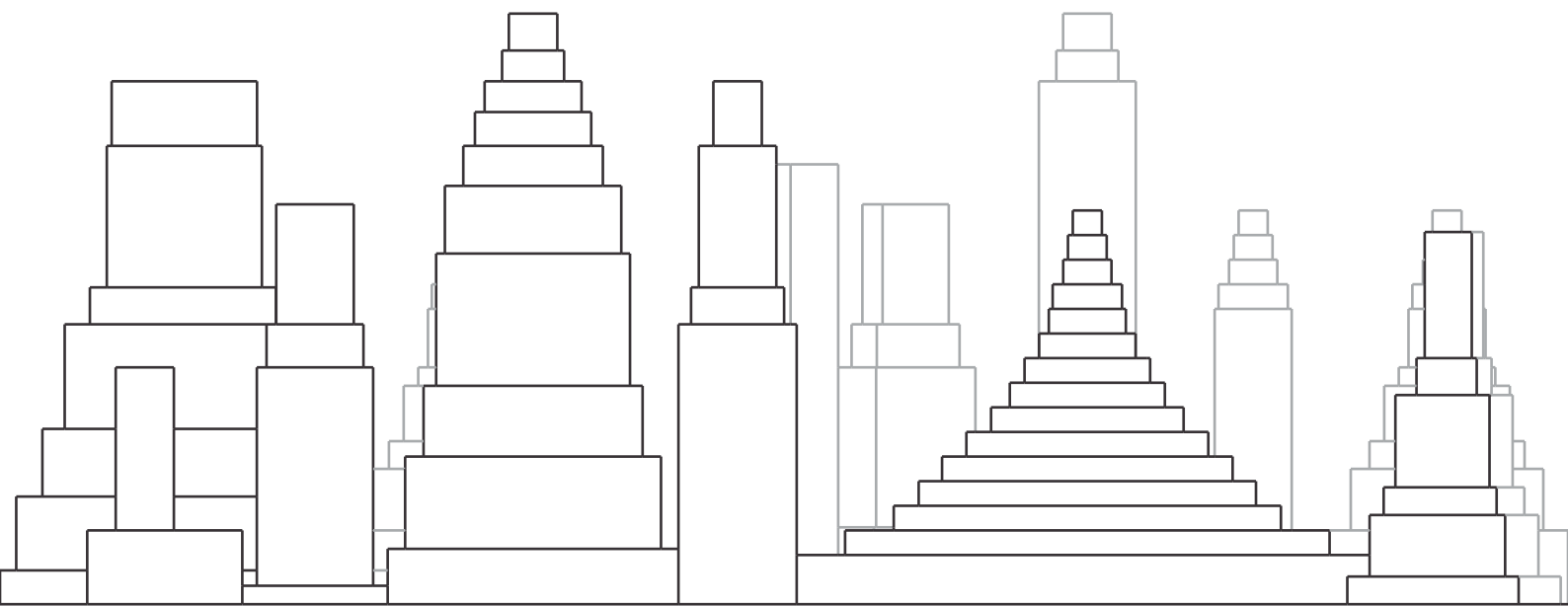
- Road Barriers
- Green Houses
- Sports Facilities
- Parking Lots
- Industrial Gates
- Carports











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