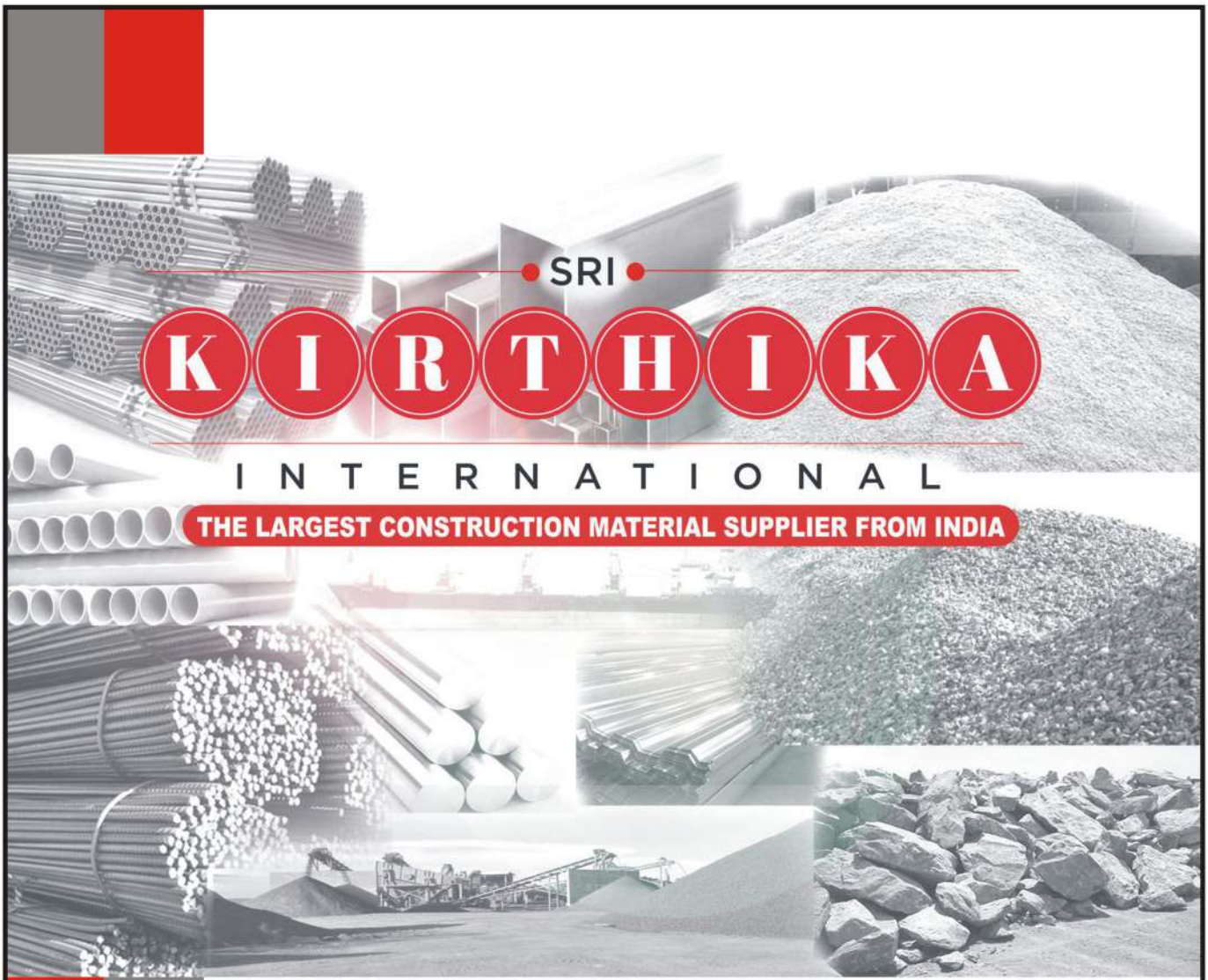




• SRI •

K I R T H I K A

I N T E R N A T I O N A L

THE LARGEST CONSTRUCTION MATERIAL SUPPLIER FROM INDIA

QUALITY

is our motto

SERVICE

is our logo

"SRI KIRTHIKA TOWERS", 74, CHITTU KOIL STREET, SALEM - 636 001, TAMIL NADU, INDIA.

Phone No : 00 91 427 - 2267759, 2264519, 2266419

Web: www.kirthika.in | E-Mail: export@kirthika.in

(Govt. Of India Recognised “ONE STAR
 EXPORT HOUSE” Status Company)

OUR REPUTATION

With over three decades of experience, knowledge and expertise we have created a niche for ourselves in the market. We are one of the top exporters of building and construction materials which include GI pipes, steel, polymers and food products. Our uncompromising quality on products and competitive pricing had made us the preferred supplier for our clients not only nationally but internationally as well. Being awarded the status of an “EXPORT HOUSE” by the Government of India is proof enough to establish our credibility in the market. The EEPIC India (Southern Region) has awarded us with the title of “Top Exporter of Steel Pipes and other Building Materials” for 12 consecutive year. It is also through our hard work and sincere efforts that our company has been able to cement such a position on the global front.

OUR GLOBAL VENTURES

Our consumer centric approach and dynamic management has helped us in exporting our goods to countries like USA, the Gulf and African countries, Maldives, Mauritius, Sri Lanka and many more.



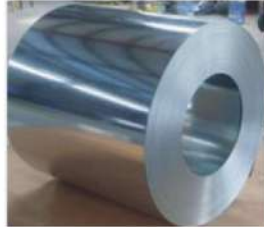
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The wide range construction materials that we supply to our international clients are:

GALVANIZED STEEL SHEET



GALVANIZED STEEL COIL



DEFORMED BAR



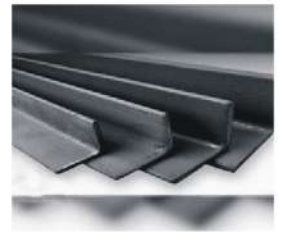
GI PIPE



MS CHANNELS



MS ANGLES



MANUFACTURED SAND



ROCK BOULDERS



STONE AGGREGATE



CEMENT



PLYWOOD



COUPLER



COPPER RODS



METAL ART



SCAFFOLDING PROPS



(Govt. Of India Recognised “ONE STAR
 EXPORT HOUSE” Status Company)

HDPE HOSE



HDPE PIPES



PVC PIPES



*PVC SUBMERSIBLE
 BORE-WELL PIPE*



PVC TANK



PVC FITTINGS



*PVC SUCTION &
 DELIVERY HOSE*



PVC BRAIDED



CPVC PIPE



PP ROPE



PP BAGS



JUTE BAG



Branch Office: “SRI KIRTHIKA CHAMPERS”, NO.7, KONDICHETTY STREET,
 CHENNAI - 600 001, TAMILNADU, INDIA.

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 EXPORT HOUSE" Status Company)

BACKHOE LOADERS



CRAWLER CRANE



EXCAVATOR



TELE HANDLER



WHEEL LOADER



HIGH BED EXCAVATOR



FORK LIFT



DUMP TRUCK



PICKUP TRUCK



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WATER BOWSER



JETTING MACHINE



*CONCRETE MIXER
 MACHINE*



GEO TEXTILES



GEO BAG



GEO TUBE



GRAVELS



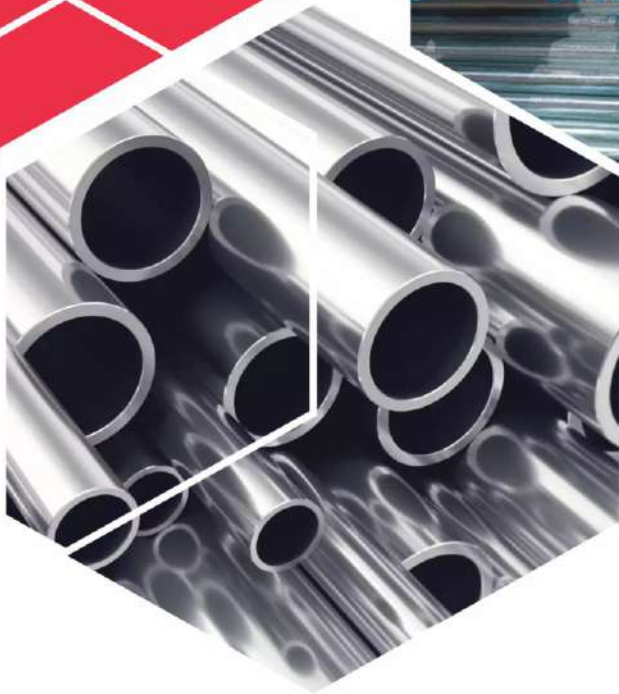
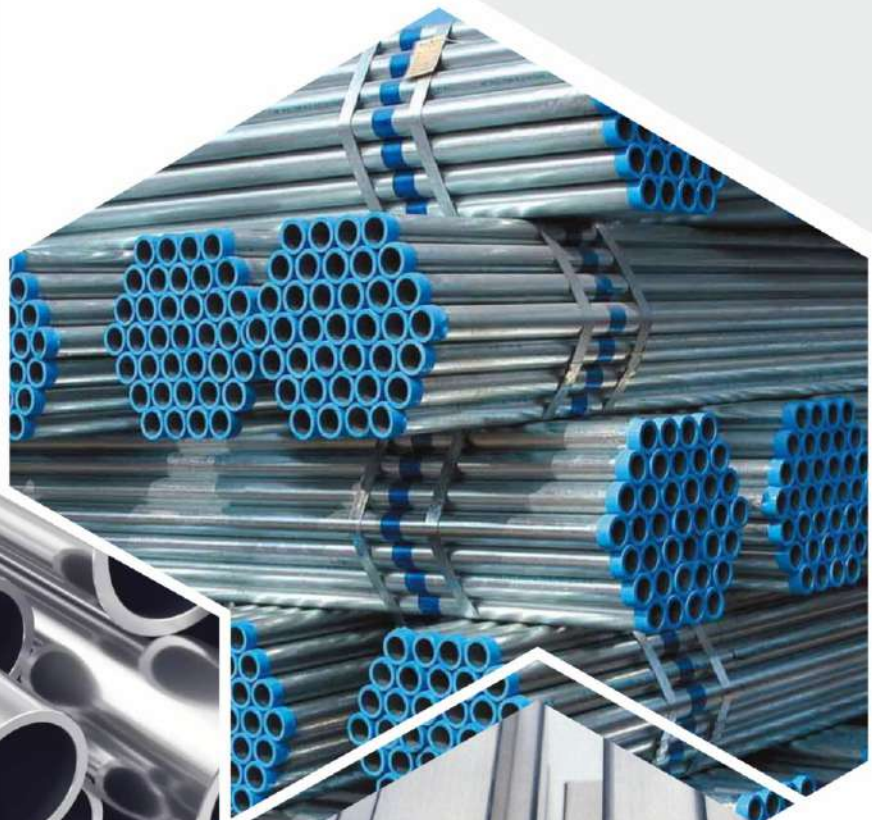
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ROOFING SHEET



**TOP GRADE
QUALITY &
PERFORMANCE
TESTED
PRODUCTS**



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P I P E S P V T . L T D .

www.kirthika.in



THE LARGEST PIPES SUPPLIERS IN SOUTH INDIA

Pipes in all Standards



COMPANY PROFILE

SRI KIRTHIKA PIPES PVT LTD on ISO 9001: 2008 organization and is a leading name in the steel industry

State of the Art manufacturing plant is located in the heart of industrial Area CHENNAI Capable of producing ERW Black & Galvanized pipes.

Sri Kirthika Pipes Private Limited pioneered to produce ERW Black & Galvanized steel pipes and tubes. Since then the company has held a commanding position in the construction industry and has tapped the premium segment of Indian market.

We manufacturer premium quality tubular product in steel segment and have the capability to supply them in any configuration at competitive prices and in quick time. With cutting edge infrastructural facilities we at Sri Kirthika Pipes Private Limited have the manufacturing capability & production flexibility to respond to the most dynamic complex needs of our customers.

Our organizational structure empowers us with the competitive capability to maintain a leading edge in the market place & work to the benefit of our customers. We are market leaders with our fine range of competitively priced custom – made products.

Our product confirm to

- IS/BS Standards/Norms like 1161, 1239 , 3589, 4270 etc
- ISO 9001 : 2008 standards
- EN 10255, EN 10219 & EN 39 etc.

- Uses and application, our products are available in the Indian markets. Our all encompassing range of product.
- Include : ERW black steel pipes, galvanized steel pipes.
- Product Available in different sizes and confirm to British standards having light Medium Heavy class .Ranging from 15MM to 250MM NB

Our Product Range





QUALITY PROFILE

Remaining true to our beliefs we strive for continuous improvements in the way we work and deliver products to our customers with whom we wish to maintain a lasting business partnership.

As we believe in raising our benchmarks of quality we maintain stringent quality standards in our processes of manufacturing our products. We ensure that the products go through rigorous quality checks of every stage of production right from the sourcing of raw materials to the final testing, we ensure that the product is of excellent quality.

"TQS through TQM" (Total quality service through total quality management) Practicing total quality management (TQM) provides us the fundamental structure for meeting and exceeding our customers needs and expectations. As our ongoing improvement efforts focus on refining our processes and controls, we are able to provide the highest quality products & service in the industry.

Our products conform to BIS besides fulfilling international specifications. The quality assurance procedure involves multi step production process, Which allows our rigorous quality checks of each and every process that is part of the production. The quality checks start right from sourcing the raw materials to a series of chemical and mechanical tests.



THE DIFFERENT KINDS OF TEST THAT ARE PERFORMED ARE :-

Tensile Testing: The tensile testing evaluates the overall strength of our products to ensure they are fit to be delivered to our customers and confirm to international quality standards.

Flattening test : The flattening test are carried out to check the flattening properties of our products and ensure the robustness of our products.

Bend Test: The availability of our products is tested with the bend test to ensure that they are of the best quality and standards.

Drift Expansion test : Tests are performed to calculate the drift expansion of the product to make sure that the products durable and can with stand heavy weights and pressure.

On line NDT: Working in synchronization with automatic sorting systems in our plants Online NDT' and only segregates good & bad tubes but also ensures efficient monitoring of equipments performance and rejection levels.

QUALITY OBJECTIVES

- To adhere to probable date of completion as agreed with out customers.
- To increase the capability of our employees through proper motivation and training.
- To bring down quality costs.
- To increase efficiency & effectiveness of our processes through continuous improvements.

QUALITY RESOURCES

To ensure the quality assurance system's continued suitability and effectiveness, we maintain adequate resources by way of trained personnel, equipment, materials, finance and time to ensure that the products are provided in accordance with our quality policy and objectives.

This provision of resources includes those required for the management of quality performance of activities relating to identification of requirement inspection and tests, training servicing internal/ external audits and review of adequacy of quality assurance system.





DIMENSIONS AND WEIGHT OF ERW BLACK & GALVANISED STEEL TUBES



DIMENSIONS AND WEIGHT OF ERW BLACK & GALVANISED STEEL TUBES

As per IS : 1239 (part -1) 2004 Equivalent to BS : 1387 - 1987

Normal Bore & Series		Outside Diameter		Wall Thickness	Normal mass of steel Tube					
					Plain End		Screwed & Socked		Sockets	
					kg/m	mtrs/tonne	kg/m	mtrs/tonne	Min O.D. mm	Min Length mm
15L	0.50	21.4	21.0	2.0	0.947	1056	0.956	1046	27.0	37.0
15M	0.50	21.8	21.0	2.6	1.21	826	1.22	820	27.0	27.0
15H	0.50	21.8	21.0	3.2	1.44	694	1.45	690	27.0	27.0
20L	0.75	26.9	26.4	2.3	1.38	724	1.39	719	32.5	39.0
20M	0.75	27.3	26.5	2.6	1.56	641	1.57	637	32.5	29.0
20H	0.75	27.3	26.5	3.2	1.87	534	1.88	532	32.5	29.0
25L	1.00	33.8	33.2	2.6	1.98	505	2.00	500	39.5	46.0
25M	1.00	34.2	33.3	3.2	2.41	415	2.43	412	39.5	46.0
25H	1.00	34.2	33.3	4.0	2.93	341	2.95	339	39.5	46.0
32L	1.25	42.5	41.9	2.6	2.54	393	2.57	389	49.0	51.0
32M	1.25	42.9	42.0	3.2	3.10	322	3.13	319	49.0	51.0
32H	1.25	42.9	42.0	4.0	3.79	264	3.82	262	49.0	51.0
40L	1.50	48.4	47.8	2.9	3.23	309	3.27	306	56.0	51.0
40M	1.50	48.8	47.9	3.2	3.56	281	3.60	278	56.0	51.0
40H	1.50	48.8	47.9	4.0	4.37	229	4.41	227	56.0	60.0
50L	2.00	60.2	59.6	2.9	4.08	245	4.15	241	68.0	60.0
50M	2.00	60.8	59.7	3.6	5.03	199	5.10	196	68.0	60.0
50H	2.00	60.8	59.7	4.5	6.19	161	6.26	160	68.0	69.0
65L	2.50	76.0	75.2	3.2	5.71	175	5.83	172	84.0	69.0
65M	2.50	76.6	75.3	3.6	6.42	155	6.54	153	84.0	69.0
65H	2.50	76.6	75.3	4.5	7.93	126	8.05	124	84.0	75.0
80L	3.00	88.7	87.9	3.2	6.72	149	6.89	145	98.0	75.0
80M	3.00	89.5	88.0	4.0	8.36	119	8.53	117	98.0	75.0
80H	3.00	89.5	88.0	4.8	9.90	101	10.10	99	98.0	87.0
100L	4.00	113.9	113.0	3.6	9.75	102	10.00	100	124.0	87.0
100M	4.00	115.0	113.1	4.5	12.20	82	12.50	80	124.0	87.0
100H	4.00	115.0	113.1	5.4	14.50	69	14.80	68	124.0	96.0
125M	5.00	140.8	138.5	4.8	15.90	63	16.40	61	151.0	96.0
125H	5.00	140.8	138.5	5.4	17.90	56	18.40	54	151.0	96.0
150M	6.00	166.5	163.9	4.8	18.90	53	19.50	51	178.0	96.0
150H	6.00	166.5	163.9	5.4	21.30	47	21.90	40	178.0	96.0

L = Light

M = Medium

H = Heavy

SKP Provides quick delivery of made to order customize ERW pipes & Tubes/ Black steel pipes & Tubes / Galvanised pipes & Tubes especially made for use in water, Gas, Air & Steam . All pipes & Tubes are manufactured in accordance with ASTM/ IS/ BS Specifications.

TOLERANCES

A. Thickness

1. Light Tubes + Not Limited
- 8%
2. Medium and heavy Tubes + Not Limited
- 10%

B. Weight

1. Single tube (light series) + 10%
- 8%
2. Medium and heavy Tubes ± 10%

3. For quality per load of 10 tonnes minimum (Light series)

± 5%

4. For quality per load of 10 tonnes minimum (medium & heavy series)

± 7.5%

C. Length

4 to 7 meters unless otherwise specified

ERW STEEL TUBES FOR WATER & SEWAGE PURPOSE

Conforming to IS : 3589 : 2001 Equivalent to BS-534

N.B Size	Out side Diameter	Wall Thickness	Weight (Plain End)	
			kg/m	M/Tonne
150	168.3	2.60	10.60	94
		3.20	13.00	77
		4.00	16.20	62
		4.50	18.20	55
		5.00	20.10	50
		6.30	25.20	40
175	193.7	2.60	12.30	81
		3.60	16.90	59
		4.50	21.00	48
		6.30	29.10	34
200	219.1	2.60	13.90	72
		3.60	19.10	52
		4.50	23.80	42
		6.30	33.10	34
250	273.0	3.60	23.90	42
		4.00	26.50	38
		5.00	33.00	30
		6.30	41.40	24
300	323.9	4.00	31.60	32
		4.50	35.40	28
		5.60	44.00	23
		7.10	55.50	18
350	355.6	4.00	34.70	29
		5.00	43.20	23
		5.60	48.30	21
		8.00	68.60	15

PLAIN END STEEL TUBES FOR WATER WELLS (CASING PIPES)

Conforming to IS : 4270 /2001

N.B Size	Out side Diameter	Wall Thickness	Weight (Plain End)	
			kg/m	M/Tonne
100	114.3	5.0	13.48	74
		5.4	14.5	69
125	141.3	5.0	16.80	60
		5.4	18.1	55
150	168.3	5.0	20.13	50
		7.1	28.2	35
175	193.7	5.4	25.13	40
		7.1	32.67	31
200	219.1	5.4	28.46	35
		6.4	33.6	30
		7.10	37.11	27
		8.00	41.64	24
225	244.5	6.0	35.29	28
250	273.1	7.1	46.57	21
		8.0	52.3	19
300	323.9	7.1	55.47	18

TOLERANCES

- a. Outside diameter of pipe $\pm 0.75\%$
- b. Thickness $\pm 10\%$
- c. Length unless other specified
Length are in single random length of 4 to 7 meter
- d. Mass per truck load of 10 Tonnes or above $\pm 7.5\%$

A. PHYSICAL PROPERTIES

Grade	Y.S. (min) (Mpa)	T.S. (min) (Mpa)	Percentage Elongation (min.)
Fe 330	195	330	20
Fe 410	235	410	18
Fe 450	275	450	15

Note :

Thickness as stated above are commonly used However pipes of other thickness can also be manufactured and supplied to meet customers requirement

B.TOLERANCES

- i) Outside diameter of pipe $\pm 1.0\%$
- ii) Thickness $\begin{cases} +15\% \\ -12.5\% \end{cases}$
Upto 406.4 OD
- iii) Weight $\begin{cases} -8\% \\ +10\% \end{cases}$
Single tube
- iv) Length unless specified 4 to 7 mtr -

A. PHYSICAL PROPERTIES

Grade	Y.S. (min) Mpa (kg/mm ²)	T.S. (min) Mpa (kg/mm ²)	Percentage Elongation (min.)
			5.650 So = GL
Fe 410	235	410	15%
Fe 450	275	450	13%

**STEEL TUBES FOR STRUCTURAL /
SCAFFOLD TUBE PURPOSES**

STEEL TUBES FOR STRUCTURAL / SCAFFOLD TUBE PURPOSES

Conforming to IS : 1161 : 2014 & BS : 1139 Equivalent to BS : 1775/ 64

N.B Size	Out side Diameter	Wall Thickness	Weight (Plain End)	Mtr. per Ton
mm	mm	mm	kg/m	
15	21.3	2.00	0.952	1050
		2.60	1.20	833
		3.20	1.43	699
20	26.9	2.30	1.40	714
		2.60	1.56	641
		3.20	1.87	535
25	33.7	2.60	1.99	503
		3.20	2.41	415
		4.00	2.93	341
32	42.4	2.60	2.55	392
		3.20	3.09	324
		4.00	3.79	264
40	48.3	2.60	3.25	308
		3.20	3.56	281
		4.00	4.37	229
50	60.3	2.90	4.11	243
		3.60	5.03	199
		4.50	6.19	162
65	76.1	2.90	5.24	191
		3.60	6.44	155
		4.50	7.95	126
80	88.9	3.20	6.76	148
		4.00	8.38	119
		4.80	9.96	100
90	101.6	3.60	8.70	115
		4.00	9.63	104
		4.80	11.46	87
100	114.3	3.60	9.83	102
		4.50	12.19	82
		5.40	14.50	69
110	127.0	4.50	13.59	74
		4.80	14.47	69
		5.40	16.19	62
125	139.7	4.50	15.00	67
		4.80	15.97	63
		5.40	17.87	56
135	152.4	4.50	16.41	61
		4.80	17.47	57
		5.40	19.58	51

N.B Size	Out side Diameter	Wall Thickness	Weight (Plain End)	Mtr. per Ton
mm	mm	mm	kg/m	
150	165.1	4.50	17.82	56
		4.80	18.98	53
		5.40	21.27	47
		5.90	23.20	43
		6.30	24.67	41
		8.0	30.99	32
150	168.3	4.5	18.18	55
		4.80	19.35	52
		5.40	21.69	46
		6.30	25.17	40
		8.00	31.63	32
		10.00	39.04	26
175	193.7	4.80	22.36	45
		5.40	25.08	40
		5.90	27.33	37
		6.30	29.12	34
		8.00	36.64	27
		10.00	45.30	22
200	219.1	12.00	53.77	19
		4.80	25.37	39
		5.60	29.49	34
		5.90	31.02	32
		6.30	33.06	30
		8.00	41.65	24
225	244.5	10.00	51.57	19
		12.00	61.29	16
		5.90	34.72	29
		6.30	37.01	27
		8.00	46.66	21
		10.00	57.83	17
250	273.0	5.90	38.86	26
		6.30	41.44	24
		8.00	52.28	19
		10.00	64.86	15
		12.00	77.24	13
300	323.9	6.30	49.34	20
		8.00	62.32	16
		10.00	77.4	13
		12.00	92.30	11
350	355.6	8.00	68.58	15
		10.00	85.23	12
		12.00	101.68	10

TOLERANCES

A. Outside diameter

- i) Upto and including 48.3 mm + 0.4 mm
- 0.8 mm
- ii) over 48.3 mm ± 1.0%

B. Thickness

(For all size)

Welded tubes ± 10%

C. Weight

- Single tubes ± 10%
- 10 Tons Lots ± 7.5%

Note :

1MPa = IN/mm² = 0.102kgf/mm²

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

D. PHYSICAL PROPERTIES

Grade	Tensile Strength (min)	Yield Stress (min)	Elongation on Gauge length 5.65 u So (min)
	Mpa	Mpa	Percent
Yst 210	330	210	20
Yst 240	410	240	17
Yst 310	450	310	14
Yst 355	490	355	10

TECHNICAL DATA OF PIPES CONFORMING TO ASTM A-53 GR. A & B

NPS Designator	DN Designator	Outside Diameter		Schedule No	Wall Thickness		Mass of plain end pipe		Test Pressure		Pieces / Bundle
		Inch	mm		Inch	mm	kg/Mtr	Lb/Ft	Grade A	Grade B	
½	15	0.840	21.3	40	0.109	2.77	1.27	0.85	4.8	4.8	120
¾	20	1.050	26.7	40	0.113	2.87	1.69	1.13	4.8	4.8	84
1	25	1.315	33.4	40	0.133	3.38	2.50	1.68	4.8	4.8	60
1 ¼	32	1.660	42.2	40	0.140	3.56	3.39	2.27	8.3	9	42
1 ½	40	2.375	48.3	40	0.145	3.68	4.05	2.72	8.3	9	36
2	50	2.575	60.3	40	0.154	3.91	5.44	3.66	15.9	17.2	26
2 ½	65	2.875	73.0	40	0.203	5.16	8.63	5.80	17.2	17.2	8
3	80	3.500	88.9	40	0.216	5.49	11.29	7.58	15.3	17.2	14
3 ½	90	4.000	101.6	40	0.226	5.74	13.57	9.12	14.0	16.3	12
4	100	4.500	114.3	40	0.237	6.02	16.07	10.80	13.1	15.2	10
5	125	5.563	141.3	40	0.258	6.55	21.77	14.63	11.5	13.4	7
6	150	6.625	168.3	40	0.280	7.11	28.58	18.99	10.5	12.3	7
8	200	8.625	219.1	40	0.322	8.18	43.73	28.58	9.2	10.8	-
10	250	10.750	273.0	20	0.250	6.35	41.75	28.06	5.8	6.8	-
10	300	10.750	273.0	40	0.365	9.27	60.29	40.52	8.4	9.9	-
12	300	12.750	323.8	20	0.250	6.35	49.71	33.41	4.9	5.7	-
12	300	12.750	323.8	30	0.330	8.38	65.18	43.81	6.4	7.5	-
12	300	12.750	323.8	STD	0.375	9.52	73.78	47.61	7.3	8.5	-
12	300	12.750	323.8	40	0.406	10.31	79.70	53.57	7.9	9.2	-
14	350	14.000	355.6	10	0.250	6.35	54.69	36.75	4.4	5.2	-
14	350	14.000	355.6	30	0.375	9.52	81.25	54.62	6.6	7.7	-
14	350	14.000	355.6	40	0.438	11.13	94.55	63.50	7.8	9	-
16	400	16.000	406.4	10	0.250	6.35	62.64	42.09	3.9	4.5	-
16	400	16.000	406.4	30	0.375	9.52	93.17	62.64	5.8	6.8	-
16	400	16.000	406.4	40	0.500	12.70	123.30	82.85	7.7	9	-

TOLERANCES

Outside diameter	Pipe size upto & including DN 40	+/- 0.4 mm of OD
	Pipe size DN 50 or larger	+/- 1% of OD
Thickness	- 12.5% (max)	
Weight	+/- 10%	

TESTING

Online NDT	For pipes NPS 2 (DN 50) or larger weld seam of each pipe shall be tested by eddy current test	
Bend Test	For pipes upto & including DN 50 Bending angle 90 Bending radius 12 times to the OD of tube (no crack I body & weld)	
Flattening	For pipes over DN 50 1. Flatten upto 2/3 of OD for ductility of weld 2. Flatten upto 1/3 of OD for ductility of steel 3. Full flattening for testing of lamination	

MECHANICAL PROPERTIES

	Grade A	Grade B
Yield strength	205 Mpa (min)	240 Mpa (min)
Tensile Strength	330 Mpa (min)	415 Mpa (min)
Elongation	As per ASTM A-53	

Composition Max %

	Carbon	Manganese	Phosphorus	Sulphur	Copper	Nickel	Chromium	Molybdenum	Vanadium
Grade A	0.25	0.95	0.05	0.045	0.50	0.4	0.4	0.15	0.08
Grade B	0.3	1.2	0.05	0.045	0.50	0.4	0.4	0.15	0.08

Cu + Ni + Cr + Mb + V < 1%

Galvanizing

Minimum at any end	(As per Astm A-90) 0.490 kg/mtr (70 microns approx)
Average of both ends	0.550 kg/ mtr (79 microns approx)
Marking:	Online stenciling as per this standard & as per customer requirements

TECHNICAL DATA OF PIPES CONFORMING TO ASTM A-53 GR. A & B

			Outside Diameter			Weight of Black Pipe		
Normal Bore			Max	Min	Thickness	(kg/Mrt)		Pcs Per
	Inch	mm	mm	mm	mm	Plain end	Screwed & Socketed	Bundle
Light	½	15	21.4	21.000	2.0	0.947	0.954	169
	¾	20	26.9	26.400	2.3	1.380	1.390	127
	1	25	33.8	33.200	2.6	1.980	2.000	91
	1 ¼	32	42.5	41.900	2.6	2.540	2.570	61
	1 ½	40	48.4	47.800	2.9	3.230	3.270	61
	2	50	60.2	59.600	2.9	4.080	4.150	37
	2 ½	65	76.0	75.200	3.2	5.710	5.830	37
	3	80	88.7	87.900	3.2	6.720	6.890	19
	4	100	113.9	113.000	3.6	9.750	10.000	19
Medium	½	15	21.7	21.100	2.6	1.210	1.220	169
	¾	20	27.2	26.600	2.6	1.560	1.570	127
	1	25	34.2	33.400	3.2	2.410	2.430	91
	1 ¼	32	42.9	42.100	3.2	3.100	3.130	61
	1 ½	40	48.8	48.000	3.2	3.570	3.610	61
	2	50	60.8	59.600	3.6	5.030	5.100	37
	2 ½	65	76.6	75.400	3.6	6.430	6.550	37
	3	80	89.5	88.100	4.0	8.370	8.540	19
	4	100	114.9	113.300	4.5	12.200	12.500	14
	5	125	140.6	138.700	5.0	16.600	17.100	10
	6	150	166.1	164.100	5.0	19.700	20.300	7
Heavy	½	15	21.7	21.100	3.2	1.440	1.450	169
	¾	20	27.2	26.600	3.2	1.870	1.880	127
	1	25	34.2	33.400	4.0	2.940	2.960	91
	1 ¼	32	42.9	42.100	4.0	3.800	3.830	61
	1 ½	40	48.8	48.000	4.0	4.380	4.420	61
	2	50	60.8	59.800	4.5	6.190	6.260	37
	2 ½	65	76.6	75.400	4.5	7.930	8.50	37
	3	80	89.5	88.100	5.0	10.300	10.500	19
	4	100	114.9	113.300	5.4	14.500	14.800	14
	5	125	140.6	138.700	5.4	17.700	18.400	10
	6	150	166.1	164.100	5.4	21.300	21.900	7

TOLERANCES

Outside Diameter as per above table

Thickness

Light

-8%

Medium

-10%

Heavy

-10%

Weight

-8% & 10% (for Single tube)

Mechanical Properties

Yield strength 195 N/sqmm (Minimum)
Tensile Strength 320to 520 N/sqmm
% Elongation 20% min

Chemical Properties

Carbon 0.20% max
manganese 1.20% max
Phosphorous 0.045 % max
Sulphur 0.045 % max

Bend Test

for tubes upto & including 2"

Black Tube

Bending angle 180°
Bending radius 6 times the OD of tube
weld position 3'O' clock

Galvanized tubes

Bending angle 180°
Bending radius 8 times the OD of tube
weld position 3'O' clock

Flattening Test

For tubes above 2"

1. Flatten upto 75% of tube dia for weld test (weld at 3' O' clock)
2. Flatten up to 60% of tube dia for raw materials test

Leak tightness test

100% Hydratesting at 50 bar online eddy current testing

Galvanised test

1. Bore test (For tubes upto and including 1")
2. Copper sulphate test
3. Mass of zinc coating min 400g/m2

Threading

As per BS -21 - 1985



HOLLOW SECTION

HOLLOW SECTION

(RHS) Confirming to IS 4923/ 1997

RHS D X B mm	Thickness t mm	Sec. Area A cm ²	Unit wt. W kg/m	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface Area per mm ²
				I _{xx} cm ⁴	I _{yy} cm ⁴	r _{xx} cm ⁴	r _{yy} cm ⁴	Z _{xx} cm ³	Z _{yy} cm ³	J cm ³	B cm ³	
50x25	2.0	2.74	2.15	8.38	2.81	1.75	1.01	3.35	2.25	6.79	3.79	0.142
	2.6	3.46	2.71	10.16	3.36	1.71	0.99	4.06	2.69	8.27	4.53	0.137
	3.2	4.13	5.24	3.24	3.80	1.68	0.96	4.65	3.04	9.52	5.12	0.134
	4.0	4.95	3.88	3.88	4.23	1.63	0.92	5.25	3.38	10.86	5.69	0.129
60x40	2.6	4.76	3.73	22.76	12.09	2.19	1.59	7.59	6.05	25.59	9.83	0.187
	2.9	5.25	4.12	24.74	13.11	2.17	1.58	8.25	6.56	28.02	10.66	0.185
	3.6	6.35	4.98	28.90	15.23	2.13	1.55	9.63	7.62	33.30	12.41	0.181
	4.5	7.67	6.02	33.3	17.44	2.08	1.51	11.10	8.72	39.34	14.29	0.177
66x33	2.6	4.70	3.69	25.15	8.43	2.31	1.34	7.62	5.11	20.75	8.71	0.185
	2.9	5.19	4.07	27.33	9.12	2.29	1.33	8.28	5.53	22.65	9.43	0.183
	3.6	6.28	4.93	31.87	10.52	2.25	1.29	9.66	6.37	26.71	10.90	0.179
	4.5	7.58	5.95	36.64	11.93	2.20	1.25	11.10	7.23	31.21	12.43	0.175
80x40	2.6	5.80	4.55	46.58	15.74	2.84	1.65	11.64	7.87	38.50	13.46	0.227
	2.9	6.41	5.03	50.87	17.11	2.82	1.63	12.72	8.56	42.23	14.66	0.225
	3.2	7.01	5.50	54.94	18.41	2.80	1.62	13.74	9.21	45.83	15.78	0.224
	4.0	8.55	6.71	64.79	21.49	2.75	1.59	16.20	10.74	54.77	18.49	0.219
	4.8	10.01	7.85	73.22	24.03	2.71	1.55	18.30	12.02	61.81	20.79	0.215
96x48	3.2	8.54	6.71	98.61	33.28	3.40	1.97	20.54	1.387	82.13	23.82	0.272
	4.0	10.47	8.22	117.54	39.32	3.35	1.94	24.49	16.38	99.11	28.24	0.267
	4.8	12.31	9.66	134.35	44.55	3.30	1.90	27.99	18.56	114.80	32.14	0.263
122x61	3.6	12.32	9.67	232.61	78.83	4.34	2.53	38.13	25.84	193.91	44.50	0.347
	4.5	15.14	11.88	278.94	93.78	4.29	2.49	45.73	30.75	235.39	53.13	0.343
	5.4	17.85	14.01	320.83	107.03	4.24	2.45	52.60	35.09	274.29	60.89	0.338
120x50	3.2	10.85	8.51	199.88	67.95	4.29	2.50	33.31	22.65	165.83	38.95	0.344
	3.6	12.11	9.5	220.75	74.77	4.27	2.48	36.79	24.92	184.10	41.91	0.341
	4.5	14.87	11.67	264.52	88.88	4.22	2.44	44.09	29.63	223.34	51.19	0.337
145x82	4.8	20.28	15.92	555.16	228.50	5.23	3.36	76.57	55.73	534.27	94.40	0.429
	5.4	22.60	17.74	610.85	250.59	5.20	3.33	84.26	61.12	592.70	103.81	0.426
172x92	4.8	23.83	18.71	917.13	346.91	6.20	3.82	106.64	75.41	826.04	128.85	0.503
	5.4	26.59	20.88	1012.47	381.74	6.17	3.79	117.73	82.99	918.10	142.04	0.500
200x100	4.0	22.95	18.01	1199.71	410.78	7.23	4.23	119.97	82.16	991.10	141.46	0.579
	5.0	28.36	22.26	1459.25	496.94	7.17	4.19	145.93	99.39	1216.96	171.53	0.574
	6.0	33.63	26.40	1703.31	576.91	7.12	4.14	170.33	115.38	1434.03	199.68	0.569
	7.0	38.78	30.44	1932.19	650.93	7.06	4.10	193.22	130.19	1642.92	226.04	0.564
	8.0	43.79	34.38	2146.21	719.19	7.00	4.05	214.62	143.84	1843.86	250.68	0.559
220x140	4.0	27.75	21.78	1892.55	947.64	8.26	5.84	172.05	135.38	2000.01	223.99	0.699
or	5.0	34.36	26.97	2313.36	1155.23	8.21	5.80	210.31	165.03	2467.63	273.47	0.694
240 x 120	6.0	40.83	32.05	2713.97	1351.6	8.15	5.75	246.72	193.09	2922.95	320.55	0.689
	7.0	47.18	37.03	3094.76	1537.22	8.10	5.71	281.34	219.60	3366.29	365.35	0.684
310X210	4.0	38.95	30.57	5072.88	2736.56	11.41	8.38	338.19	273.66	5555.71	448.64	0.979
	5.0	48.36	37.96	6241.05	3360.92	11.36	8.34	416.07	336.09	6882.77	551.49	0.974
	6.0	57.63	45.24	7370.23	3962.19	11.31	8.29	491.35	396.22	8186.02	650.85	0.969
	7.0	66.78	52.42	8460.93	4540.76	11.26	8.25	564.06	454.08	9465.89	746.83	0.964
	8.0	75.79	59.50	9513.66	5097.04	11.20	8.20	634.24	509.70	10722.83	839.51	0.959

TOLERANCES

The following tolerance shall be permitted in Hollow section

- Thickness $\pm 10\%$
- Outside Dimension of sides $\pm 1\%$
with a minimum of $\pm 0.5\text{mm}$
- Weight
 - On individual length $\pm 10\%$
 $- 8\%$
 - On lots of 10 tonne $\pm 7.5\%$
- Squareness of corner $90^\circ \pm 0.2$
- Radius of corner outside $R=3T$ max
where T is the thickness of the section

D. PHYSICAL PROPERTIES

	T.S. Min. MPA	Y.S. Min MPA	Elongation	
			25.4mm & Under	Over 25.4 mm
Yst 210	330	210	12	20
Yst 240	410	240	10	15
Yst 310	450	310	08	10

(SHS) CONFIRMING TO IS 4923/1997

RHS D X B mm	Thickness t mm	Sec. Area A cm2	Unit wt. W kg/m	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface Area per mm2
				Ixx cm4	Iyy cm4	rx cm4	ry cm4	zxx cm3	zyy cm3	J cm3	B cm3	
25x25	1.6	1.43	1.12	1.28	1.28	0.94	0.94	1.02	1.02	1.96	1.46	0.092
	2.0	1.74	1.36	1.48	1.48	0.92	0.92	1.19	1.19	2.29	1.68	0.090
	2.6	2.16	1.69	1.72	1.72	0.89	0.89	1.38	1.38	2.68	1.92	0.087
	3.2	2.53	1.98	1.89	1.89	0.86	0.86	1.51	1.51	2.96	2.07	0.084
32x32	2.0	2.30	1.80	3.36	3.36	1.21	1.21	2.10	2.10	5.30	3.05	0.118
	2.6	2.88	2.26	4.02	4.02	1.18	1.15	2.51	2.51	6.45	3.63	0.115
	3.2	3.42	2.69	4.54	4.54	1.15	1.46	2.84	2.84	7.41	4.07	0.112
38x38	2.0	2.78	2.18	5.88	5.88	1.46	1.43	3.10	3.10	9.31	4.54	0.142
	2.6	3.51	2.75	7.14	7.14	1.43	1.40	3.76	3.76	11.51	5.49	0.139
	3.2	4.19	3.29	8.18	8.18	1.40	1.36	4.30	4.30	13.45	6.29	0.136
	4.0	5.03	3.95	9.26	9.26	1.36	1.51	4.87	4.87	15.67	7.12	0.131
40x40	2.6	3.72	2.92	8.45	8.45	1.51	1/49	4.22	4.22	13.63	6.20	0.147
	2.9	4.09	3.21	9.11	9.11	1/49	1.48	4.56	4.56	14.85	6.68	0.145
	3.2	4.45	3.49	9.72	9.72	1.48	1.44	4.86	4.86	16.00	7.12	0.144
	4.0	5.35	4.20	11.07	11.07	1.44	1.92	5.54	5.54	18.75	8.12	0.139
50x50	2.6	4.76	3.74	17.47	17.47	1.92	1.90	6.99	6.99	28.53	10.37	0.187
	2.9	5.25	4.12	18.99	18.99	1.90	1.87	7.60	7.60	31.15	11.23	0.185
	3.6	6.35	4.98	22.15	22.15	1.87	1.82	886	886	36.58	12.98	0.181
	4.5	7.67	6.02	25.50	25.50	1.82	2.33	10.20	10.20	41.99	14.68	0.177
60x60	2.6	5.80	4.55	31.33	31.33	2.33	2.31	10.44	10.44	50.08	1.552	0.227
	2.9	6.41	5.03	34.21	34.21	2.31	2.30	11.40	11.40	56.12	16.95	0.225
	3.2	7.01	5.50	36.94	36.94	2.30	2.26	12.31	12.31	60.02	18.31	0.224
	4.0	8.55	6.71	43.55	43.55	2.26	2.22	14.52	14.52	72.41	21.62	0.219
	4.8	10.01	7.85	49.22	49.22	2.22	2.79	16.41	16.41	83.86	24.51	0.215
72x72	3.2	8.54	6.71	66.32	66.32	2.79	2.75	18.42	18.42	106.81	27.47	0.272
	4.0	10.57	8.22	79.03	79.03	2.75	2.71	21.95	21.95	129.85	32.78	0.267
	4.8	12.31	9.66	90.31	90.31	2.71	3.11	25.09	25.09	151.55	37.55	0.263
80x80	3.2	9.57	7.51	92.71	92.71	3.11	3.07	23.18	23.18	148.50	34.60	0.304
	4.0	11.75	9.22	111.04	111.04	3.07	3.04	27.76	27.76	181.22	41.49	0.299
	4.8	13.85	10.87	127.58	127.58	3.04	3.56	31.89	31.89	212.26	47.77	0.295
91.5 x91.5	3.6	12.32	9.67	156.49	156.49	3.56	3.52	34.21	34.21	251.17	51.14	0.347
	4.5	15.14	11.88	187.57	187.57	3.52	3.48	41.00	41.00	306.78	61.40	0.343
	5.4	17.85	14.01	215.68	215.68	3.48	4.40	47.14	47.14	359.76	70.77	0.338
113.5 x113.5	4.8	20.28	15.92	393.30	393.30	4.40	4.38	69.30	69.30	673.45	103.89	0.429
	5.4	22.60	17.74	432.58	432.58	4.38	5.16	76.23	76.23	708.69	114.41	0.426
132x132	4.8	23.83	18.71	634.39	634.39	5.16	5.13	96.12	96.12	1018.30	144.11	0.503
	5.4	26.59	20.88	700.11	700.11	5.13	5.93	106.08	106.08	1134.25	159.18	0.500
150x150	4.0	22.95	18.01	807.82	807.82	5.93	5.89	107.71	107.71	1273.46	161.38	0.579
	5.0	28.36	22.26	982.12	982.12	5.89	5.84	130.95	130.95	1569.09	196.38	0.574
	6.0	33.63	26.40	1145.91	1145.91	5.84	5.79	152.79	152.79	1856.18	229.44	0.569
	7.0	38.78	30.44	1299.44	1299.44	5.79	5.74	173.26	173.26	2134.99	260.65	0.564
	8.0	43.79	34.38	1443.00	1443.00	5.74	7.16	192.40	192.40	2405.78	290.12	0.559
180x180	4.0	27.75	21.78	1421.74	1421.74	7.16	7.11	157.97	157.97	2224.31	236.76	0.699
	5.0	34.36	26.97	1736.87	1736.87	7.11	7.06	192.99	192.99	2747.93	289.40	0.694
	6.0	40.83	32.05	2036.52	2036.52	7.06	7.01	226.28	226.28	3259.23	339.65	0.689
	7.0	47.18	37.03	2321.04	2321.04	7.01	6.97	257.89	257.89	3758.53	387.59	0.684
	8.0	53.39	41.91	2590.73	2590.73	6.97	8.79	287.86	287.86	4246.16	433.32	0.679
220x220	4.0	34.15	26.61	2639.14	2639.14	8.79	8.74	239.92	239.92	4099.49	359.65	0.859
	5.0	42.36	33.25	3238.02	3238.02	8.74	8.70	294.37	294.37	5076.22	441.43	0.854
	6.0	50.43	39.59	3813.36	3813.36	8.70	8.65	346.67	346.67	6034.53	520.18	0.849
	7.0	58.38	45.83	4365.55	4365.55	8.65	8.60	396.67	396.67	6974.82	596.00	0.844
	8.0	66.19	51.96	4894.99	4894.99	8.60	10.02	445.00	445.00	7867.48	668.999	0.839
260x260	4.0	38.95	30.57	3907.30	10.02	10.02	9.97	312.58	312.58	6045.40	468.61	0.979
	5.0	48.36	37.96	4805.01	9.97	9.97	9.92	384.40	384.40	7494.83	576.44	0.974
	6.0	57.63	45.24	5672.00	9.92	9.92	9.87	453.76	453.76	8920.44	680.77	0.969
	7.0	66.78	52.42	6508.73	9.87	9.87	9.82	520.70	520.70	10322.70	781.69	0.964
	8.0	75.79	59.50	7315.65	9.82	9.82		585.25	585.25	11702.07	579.31	0.959

List of Products with Equivalent Standards

Products	Indian standard	American standard	British Standard	Japanese	German
	IS	ASTM / ANSI	BS	JIS	DIN
H.R. Pipes Black pipes –structural Block pipes –others Galvanised pipes Idiers Tubes General Engineering Tubes Hollow section tubes (RHS/SHS) Air Heater tubes Water wells	IS : 1161/2014 IS : 3589/2001 IS : 1239(part-1)/2004 IS 1239(part-1) /2004 IS : 9295/1983 IS : 3601/2006 IS : 4923/ 1997 IS : 3601/ 2006 IS : 4270/201	ASTM A500 GR A/ 1993 ASTM A53/1993 ASTM A53/1993 ASTM A500 GR A/ 1993 ASTM A214/1990	BS 4360 BS 1775/ 64 BS 1387/1985 BS 1387/1985 BS 1775BS6323/1982 BS 6363 BS3059(Part-1)/ 1987	JIS G3444/1994 JIS G3445/1983 JIS G3466/1982 JIS G3461 1984	DIN 2439- 2441 EN 10255 DIN 2393/1994 DIN 17177/1979
C.R. Tubes Furniture tubes Bicycle tubes Automobiles tubes Transformer tubes General Engineering Tubes	IS : 7138/1973 IS : 2039/1991 IS : 3074/ 1979 IS : 5429/ 1979 IS : 8036/1976 IS : 3601/ 2006	ASTM A 513/1994	BS 17117/1983 BS 980 BS 6323/1982 BS 1775. BS6323/1982	JIS G3445/ 1983 JIS G3445 1983 JIS G3445/1983	DIN 2393/1994 Din 2394/ 1994 DIN 2393/ 1984 DIN2394/1994
Hollow Section Tubes (RHS/ SHS) Electrical conduit Pregalva pipes (Galva bond) C.R.C.A Strips cold Rolled steel Sheets & strips Scaffolding Swaged poles (Electrical)	IS : 4923/ 1997 IS : 9537 (Part -1)/ 1980 IS : 3601/ 2006 IS : 513/ 1994 IS : 2713/1980	ASTM A500 GR A/1993 ANSI C Bo. 1 ASTM A621, A569	BS 6363 BS 4568 BS 1449 BS 1139 (part -1) / 1982	JIS G3446/1982 JIS G3131	DIN 1614 Part -1





OUR APPLICATIONS

Water supply & Sewerages

Power point

Wind mills

Chemicals industry

Cement industry

Sugar industry

Oil & Gas industry

Pole manufacturing

Green House

Solar Power plant

Automobiles

Bus Body Building

Furniture Industry

Boiler Heat Exchange



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