Steel Tubes & Pipes

WATER, GAS AND AIR PIPELINES

We design and supply superior quality steel pipes for various water, air and gas transport applications. Made of high quality material, these are high in performance and have found various uses in different industrial applications. These pipelines are meant for the movement of water, oil & natural gas at a very high pressure. Buried high pressure oil and gas pipelines are tested for strength by pressurizing them to at least 125% of their maximum operating pressure (MAOP).

Since many long distance transmission pipelines are designed to have a steel hoop stress of 80% of specified minimum yield (SMYS) at MAOP, this means that the steel is stressed to SMYS and above during the testing. Leak testing is performed by balancing changes in the measured pressure in the test section against the theoretical pressure changes calculated from changes in the measured temperature of the test section.

For Water, Gas and Air Pipeline conforming to IS: 1239

N.B. &Series		Outside Diameter		Wall thickness		Nominal Mass of Galvanized Steel Tubes					Socket	
						Plain end		Screwed & Socketed				
mm	inch	Min. mm	Max. mm	mm	SWG	Kg /mtrs.	mtrs /tonne	Kg/ Mtrs	Mtrs /tonne	No.of Pipes per bundle	Min. Outer dia. mm	Min. Length mm
15 L M H	1/2 1/2 1/2	21.0 21.0 21.0	21.4 21.8 21.8	2.00 2.60 3.20	14 12 10	0.947 1.210 1.440	1056 826 694	0.956 1.220 1.450	1046 820 690	165 132 110	27.0	37.0
20 L M H	3/4 3/4 3 / 4	26.4 26.5 26.5	26.9 27.3 27.3	2.30 2.60 3.20	13 12 10	1.380 1.560 1.870	725 641 535	1.390 1.570 1.880	719 637 532	112 98 84	32.5	39.0
25 L M H	1 1 1	33.2 33.3 33.3	33.8 34.2 34.2	2.60 3.20 4.00	12 10 8	1.980 2.410 2.930	505 415 341	2.000 2.430 2.950	500 412 339	80 65 55	39.5	46.0
32 L M H	1 ¼ 1 ¼ 1 ¼	41.9 42.0 42.0	42.5 42.9 42.9	2.60 3.20 4.00	12 10 8	2.540 3.100 3.790	394 323 264	2.570 3.130 3.820	389 319 262	60 51 42	49.0	51.0
40 L M H	1 ½ 1 ½ 1 ½	47.8 47.9 47.9	48.4 48.8 48.8	2.90 3.20 4.00	11 10 8	3.230 3.560 4.370	310 281 229	3.270 3.600 4.410	306 278 227	48 45 36	56.0	51.0
50 L M H	2 2 2	59.6 39.7 59.7	60.2 60.8 60.8	2.90 3.60 4.50	11 9 7	4.080 5.030 6.190	245 199 162	4.150 5.100 6.260	241 196 160	39 30 27	68.0	60.0
65L M H	2 ½ 2 ½ 2 1/2	75.2 75.3 75.3	76.0 76.6 76.6	3.20 3.60 4.50	10 9 7	5.710 6.410 7.930	175 156 126	5.830 6.540 8.050	172 153 124	27 24 20	84.0	69.0
80 L M H	3 3 3	87.9 88.0 88.0	88.7 89.5 89.5	3.20 4.00 4.80	10 8 6	6.720 8.360 9.900	149 120 101	6.890 8.530 10.400	145 117 96	23 19 16	98.0	75.0
100 L M H	4 4 4	113.0 113.1 113.0	113.9 115.0 115.0	3.60 4.50 5.40	9 7 5	9.750 12.200 14.500	103 82 69	10.000 12.500 14.800	100 80 68	16 13 11	124.0	87.0
125 M H	5 5	138.5 138.5	140.8 140.8	4.80 5.40	6 5	15.900 17.900	63 56	16.400 18.400	61 54	10 9	151.0	96.0
150M H	6 6	163.9 163.9	166.5 166.5	4.80 5.40	6 5	18.900 21.300	53 47	19,500 21,900	51 46	8 7	178.0	96.0
L=Light, M = Medium, H= Heavy												

Tolerances	
a) Outside Diameter Maximum Deviation Upto & including 21.3mm #9; Above 21.3mm	Light Tubes+ Not limited -8%
	Medium and+ Not limited Heavy Tubes -10%
Weight	Single tube +10% (Light series)
	Single tube (Medium& Heavy series) ± 10%
	For Quality per Load of 10 tonnes minimum (Light series) ± 5%
	For Quantity per Load of 10 tonnes minimum (Medium & heavy series) ± 7.5%
Length	4 to 7 meters unless otherwise specified

For water steel pipes and sewage conforming to IS: 3589/2001

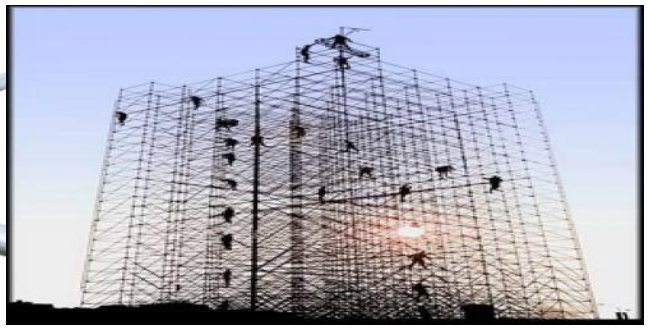
Outside Diameter OD	Nominal Bore	Wall Thickness	Calculated Weight (Plain end)	
mm	mm	mm	Kg./ mtr.	Mtrs./tonne approx.
168.3	150	2.6	10.6	94
		3.2	12.0	83
		4.0	16.2	62
		4.5	18.2	55
219.1	200	2.6	13.9	72
		3.6	19.1	52
		4.5	23.8	42
		6.3	33.1	30
273.0	250	3.6	23.9	42
		4.0	26.5	38
		5.0	33.0	30
		6.3	41.1	24
323.9	300	4.0	31.8	31
		4.5	35.4	28
		5.6	44.0	23
		7.1	55.5	18
355.6	350	4.0	34.7	29
		5.0	43.2	23
		5.6	48.3	21
		8.0	68.6	15

Tolerances	
Outer Dia	± 0.75%
Thickness	± 10%
Length	4 to 7 meter
Notes Thickness as stated above are commonly used. However, pipes of other thickness can also be manufactured and supplied to meet customers' requirement. Pipes can be supplied in grades FE-330, FE-410 and FE-450.	

STRUCTURAL STEEL TUBES

Major Application of Structural Tubes :

Our wide range of steel scaffolding pipes are of superior quality which meet the international standard and guidelines. The pipes are made from high quality Hot Rolled Coils, making it highly erosion resistance. They are available in various specifications. The scaffolding pipes are used in the construction or repair of buildings for supporting the structure.Thick steel scaffolding pipes are used to support heavy platforms, which hold heavy loads & withstand movements. Generally made of hot dipped galvanized steel, so as to offer long term corrosion resistance, even Black pipes are used depending upon the usage conditions.



Other Application of Structural Steel Tubes :

- Casing
- Columns
- Fence
- Handrails
- Load Bearing Structure
- Piling
- Posts
- Poles
- Railings
- Scaffolding
- Sign poles
- Skywalks
- Towers

IS : 1161-1998/BS 1139/1775

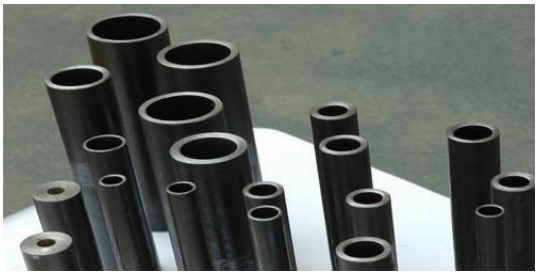
N.B. and Series		Stip Width	Outside Diameter	Thickness	Nominal Weight Black Tubes Plain End		Calculated Nominal Weight Galvanised Tubes Plain End	
mm		mm	Max.	mm	Kg/m	M/Ton	Kg/m	M/Ton
15	L M H	64 63 61	21.3	2.0 2.6 3.2	0.947 1.210 1.440	1056 826 694	1.00 1.26 1.49	1003 794 671
20	L M H	81 80 78	26.9	2.3 2.6 3.2	1.380 1.560 1.870	724 641 534	1.43 1.61 1.92	699 621 521
25	L M H	101 99 98	33.7	2.6 3.2 4.0	1.980 2.410 2.930	505 415 341	2.03 2.46 2.98	493 407 336
32	L M H	128 127 126	42.4	2.6 3.2 4.0	2.540 3.100 3.790	393 322 264	2.62 3.18 3.87	382 314 258
40	L M H	147 146 145	48.3	2.9 3.2 4.0	3.230 3.560 4.370	309 281 229	3.34 3.67 4.48	299 272 223
50	L M H	184 182 180	60.3	2.9 3.6 4.5	4.080 5.030 6.190	245 199 161	4.20 5.15 6.31	238 194 158
65	L M H	234 233 231	76.1	3.2 3.6 4.5	5.710 60420 7.930	175 155 126	5.86 6.57 8.10	171 152 123
80	L M H	274 272 271	88.9	3.2 4.0 4.8	6.720 8.360 9.900	149 119 101	6.90 8.54 10.08	145 117 99
100	L M H	354 352 349	114.3	3.6 4.5 5.4	9.750 12.200 14.500	102 82 69	9.97 12.42 14.72	100 81 68
125	M H	433 432	139.7	4.8 5.4	15.900 17.900	63 56	16.15 18.15	62 55
150	M H	513 512	165.1	4.8 5.4	18.900 21.300	53 47	19.80 21.70	51 46
150	L M H		168.3	4.50 4.85 5.40 6.30	18.1 19.6 21.7 25.3	55 51 46 40	18.50 20.00 22.10 25.7	54 50 45 39
175	L M H		193.7	4.85 5.40 5.90	22.60 25.00 27.30	44 40 37	23.13 25.53 27.83	43 39 36
200	L M H		219.1	4.85 5.60 5.90	25.7 29.4 31.0	39 34 32	26.24 29.94 31.54	38 33 32
250	H		273.0	5.90	38.8	26	39.56	25
300	H		323.9	6.3	49.5	20	50.40	20
350	H		355.6	8.00	68.6	14.50	69.58	14

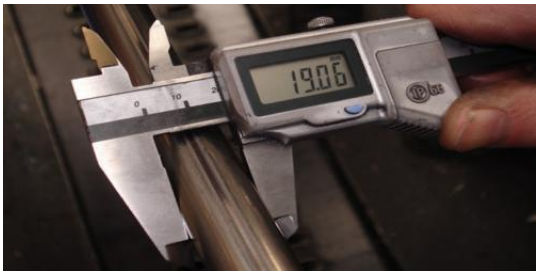
A. PHYSICAL PROPERTIES			
Grade	Y.S. (min.)	T.S. (min)	%age
	Mpa (Kg/mm^2)	Mpa (Kg/mm^2)	Elongation
YST-210	210 (21.42)	330 (33.66)	20
YST-240	240 (24.48)	410 (41.82)	17

B. STANDARD TOLERANCE		
1	**Outside Diameter**	
	Upto & including 48.3 mm	+0.4mm
		-0.8mm
	Over 48.3 mm	+1%
		-1%
2	**Thickness**	+Not Limited -10%
3	**Weight**	
	Singl Tube (Light)	+10%
		-8%
	Single Tube (Midium & Heavy)	±10%
	10 Tonne Lots (Light)	+5%
	10 Tonne Lots (Midium & Heavy)	±7.5%

PRECISION TUBES

Precision Tubes are extensively used in automobiles, power & industrial boilers, transformers, superheaters, economisers, heat exchangers, bicycles, automobiles, railway electrification, and furniture applications. A team of highly qualified engineers in the Research and Development wing keeps pace with improved techniques and latest developments in tube technology pertaining to this field.





Furniture Industry Application

- • Chairs & Tubes
- • Beds & Sofas
- • Computer Table
- • Curtain Rod
- • Umbrella Rod

Advantage Precision Tubes

Precision ERW tubes offer many advantages such as close tolerances on diameter & thicknesses, exceptional concentricity and a smooth finish, both inside & outside of the tubes.These features enable designers to obtain uniformity of flow under controlled temperature, pressure conditions, while fabricators can exercise greater control over close bending and tube alignment in butt welding

Standard Size

Outside Diameter mm	**Wall Thickness mm**
12.70	1.0, 1.2, 1.6, 2.0
13.50	1.0,1.2
16.00	1.0,1.2
17.20	1.0,1.2,1.6
19.00	1.0,1.2,1.6
20.00	1.0,1.2,1.6
21.30	1.0,1.2,1.6
22.00	1.0,1.2,1.6,2.0

25.40	1.0,1.2,1.6,2.0
26.90	1.0,1.2,1.6,2.0
28.50	1.0,1.2,1.6,2.0
30.00	1.0,1.2,1.6,2.0
31.80	1.0,1.2,1.6,2.0
33.70	1.0,1.2,1.6,2.0
38.00	1.0,1.2,1.6,2.0
42.40	1.0,1.2,1.6,2.0
44.50	1.0,1.2,1.6,2.0
48.30	1.0,1.2,1.6,2.0
51.00	1.0,1.2,1.6,2.0

Tolerances	
a) Outside Diameter Maximum Deviation Upto & including 21.3mm #9; Above 21.3mm	± 0.2mm ± 0.3mm
b) **Wall Thickness** (for all sizes)	+ not limited - 8%
c) **Weight** i) For single tube and for quantities ii) Less than 150m of one size iii) For quantities of 150m and over of one size	 +10% -8% ± 4 %
d) **Lengths** i) Random Length	 4 to 7 Mtr.
ii) Exact Length upto 3m long	+ 6mm - 0mm
iii) Over 3m long	+ 10mm - 0mm

GROOVED FIRE FIGHTING PIPES

We also manufacture pipes with grooves directly rolled into the pipe ends. This is achieved using a new processing station which mainly consists of twoautomatic groove rolling systems which clamp the pipe, turn it and thereby produce the groove using hydraulically controlled sets of rollers.

The economic advantage compared with weld-on grooved sockets results from the saving in costs incurred for preparing separately turned pipe ends and for welding them to the pipe. This type of pipe is especially suitable for the transport of water, air or solid matter under the rugged conditions prevailing on construction sites, which necessitate swift and easy connection of pipes using commercially available couplings without any special tools.

The groove is compatible with all commercially available couplings, fittings and fasteners. These pipes are preferred for use in the construction of Sprinkler systems, in the construction of ducts for air as well as for cooling or service water, in mining and civil engineering, e.g. for dewatering systems, carbon and mud pipelines etc. as well as in agricultural applications for irrigation plants.

Grooved systems not only Surpass performance expectations and deliver value, quality and dependability but also eliminates costly fire watch and hazardous flames and fumes during installation and maintenance with the no-flame joining method.

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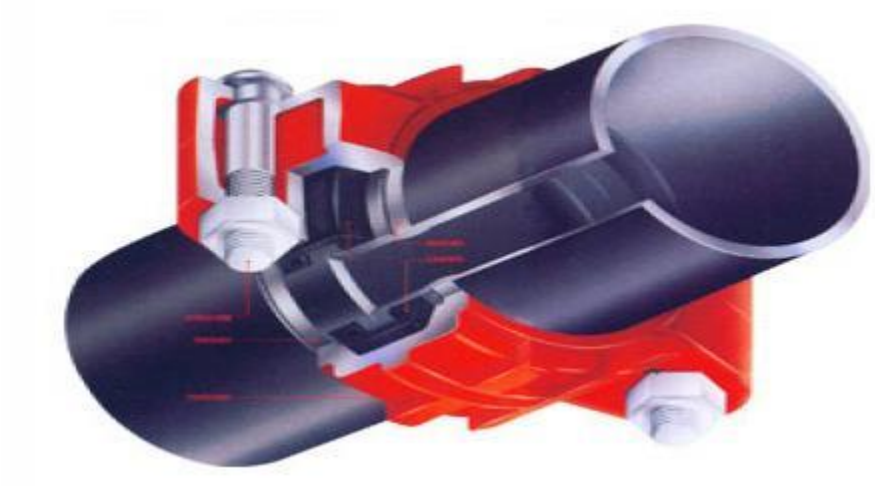
Grooved systems not only Surpass performance expectations and deliver value, quality and dependability but also eliminates costly fire watch and hazardous flames and fumes during installation and maintenance with the no-flame joining method.

Major Application :

- • Fire Protection Systems
- • HVAC
- • Plumbing
- • Waste Water Treatment Plants
- • Plant Piping
- • Oil Fields



Diameter	Wall thickness		Pos. of seal A	Wideness of Groove B	Diameter of Groove B	Diameter of Groove C	Depth of Groove D
mm.	min.	max.	+/-0.76	+/-0.76	Base	Tolerance	
60.3	2.6	3.6	15.88	8.74	57.15	-0.38	1.60
76.1	2.6	3.6	15.88	8.74	72.26	-0.46	1.98
88.9	2.9	4.0	15.88	8.74	84.94	-0.46	1.98
114.3	2.9	4.0	15.88	8.74	110.08	-0.51	2.11
139.7	3.2	4.0	15.88	8.74	135.48	-0.51	2.11
168.3	3.2	4.5	15.88	8.74	163.96	-0.56	2.16
219.1	3.2	5.0	19.05	11.91	214.04	-0.64	2.34