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PRODUCT PROFILE

A JOURNEY FROM WHY APOLLO TO WOW APOLLO



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Company Overview

In third decade of our existence, wherein we started our journey under the visionary leadership of Lt. Sh. Sudesh Gupta-founder chairman with an impeccable mission to carve an unparalleled position for ourselves in the industry, through our integrated manufacturing lines, world class brand, upstream and downstream tie-ups along with a rapidly growing domestic market and consumption centres across the world; we have come to acquire the leadership status in the industry.

Today, we are the largest player in the segment having multi-locational installed capacities (7 manufacturing units – 3 in Delhi NCR, 1 near Bengaluru, a new Greenfield plant in Hosur, Tamil Nadu, 1 near Mumbai and 1 in Raipur, Chattisgarh). These latest Japanese technology based world class manufacturing facilities offer a comprehensive range of steel tubes in all ERW Tubes segments e.g. black, hollow section, galvanised and pre-galvanised tubes.

Moreover, to make our products available, just-in-time, across all the corners of India, we are extending our footprints via Company's own warehouse-cum-branches network. We are further contemplating to widen and deepen this network in Tier-II and III cities. The increased presence would enable the Company to address consumer needs quicker, access feedback better and capture marketplace realities more accurately.

With continuous investment in technologies, capacities and capabilities, we are aspiring to achieve US \$1 Billion revenue and installed capacity of 2 Million TPA by 2018

Our products comply with various Indian as well as International standards, manufactured in various steel grades. Our product range includes Black, Hot-dipped galvanised, Pre-galvanised steel tubes square and rectangular hollow section from 15.88mm-355.6mm with thickness of 0.6mm to 10mm. The Company has quality certifications like ISO 9001-2008, OHSAS 18001-2007 & ISO 14001-2004 and safety certifications like 'CE' & 'UL' for Europe and USA. Among the user industries are urban infrastructure namely airports, metro stations, automotive segments like bus body manufacturers, construction, scaffoldings, water wells, windmills, bridges, pre-fabricated structures, furniture n fixtures, fire fighting systems, oil and gas pipe lines, general engineering purpose etc.

Such multi-pronged approach has truly added new shines of glory to our brand APL Apollo, a name that radiates with our strong convictions to outperform on our path of growth... quarter after quarter... year after year...

What sets us apart

Multi-locational Facilities

Being the only manufacturer having 7 plants spread across the North, West and South India, we are capable of delivering materials to all parts of the country in a shorter period than others.

Branch Network

Having the largest branch network of more than 24 branches spread in different states, we are capable of providing finished products to our customers according to their needs.

'0' Ovality

Being one of the few manufacturers in the world having online Rotatory Sizing Mill, we are capable of providing tubes with minimum ovality for high precision end use.

Technological Advancement

APL APOLLO has always been a pioneer in adapting the latest technologies whether it is pre-galvanised lines, cold saws, high speed mills from Europe and Japan or the unique rotatory sizing mills which help in providing you with the best quality rolled tubes.

Raw Material

We acquire 100% tested, best quality hot rolled coils for rolling our tubes which makes our tubes high pressure resistant with high strength.

Wide Range

APL Apollo is the only manufacturer in the industry to have a product range in all shapes that vary from round tubes to hollow section, 15.88mm-355.6mm in outer diameter, 0.6 mm to 10.0 mm in wall thickness, 3mtrs to 12mtrs in length and surface protection such as self-coated, oil/varnished, hot dip galvanised and pre-galvanised.

Bur-free Ends

We have cold saws installed on the mills, which provide bur free ends of hollow section that helps in easy welding and joining of the tubes and providing strength to them. Apart from this we do end-facing of the round tubes which provides 100% bur-free end tubes.

Brand Equity

We market our products under APL APOLLO brand which enjoys a good reputation not only in India but in overseas markets as well.

Bundling Facility

Installed with automatic bundling machines, we are capable of providing a proper bundled pack of tubes which provides an advantage of proper handling and also helps in reducing damages.

Certifications

The Company's products are certified by reputed international agencies like Underwriters' Laboratories (USA) and CE (Europe); It received the Recognised Export House status and is also ISO 9001:2008, ISO14001:2004 and OHSAS 18001:2007 certified. additionally, all its products are BIS-marked.



Quality



in
AIRPORTS



An Aspect That Brings Respect

Quality has always been synonymous with customer satisfaction, and that's how we aim at it. Stringent quality checks, ISO compliance, and rigorous product testing we do is all for the sake of unparalleled quality.

APL Apollo Tubes Limited is an integrated management system certified company having ISO 9001 : 2008, ISO 14001 : 2004 and OHSAS 18001 : 2007. It has strong domestic customer base and exports to over 25 countries. We believe that the best way to ensure quality maintenance is by installing equipments and adapting processes that are capable of producing it.

We have been living up to the continuously changing market scenarios while maintaining one of the best infrastructures in the industry. The superior quality black and galvanized steel tubes are produced on modern high speed tube mills based on the latest technology of world leader M/s Kusakabo of Japan. Apart from complete in-house quality inspection facilities at various stages starting from procurement of raw material to final dispatch of finished goods, we have complete infrastructure of Coil Slitting, Tube Making, End Facing, Hydrotesting, Pickling & Galvanizing and Threading & Bundling.

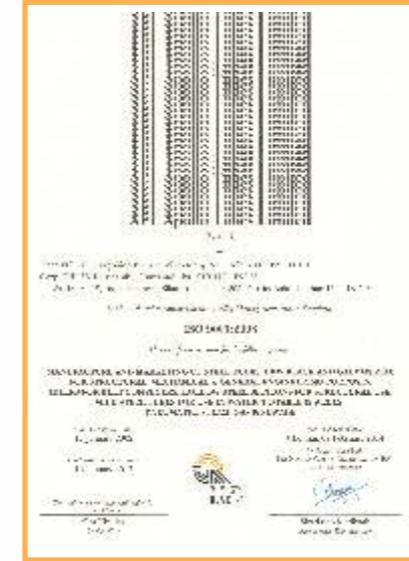
Our mills are fully computerized and operate at a speed of 100 meters/minute ensuring steel tubes production with accurate roundness, straightness, length and strong weld joints. These mills possess quick size changing facility with spare cassettes which reduces the down time and enables faster delivery.

We have 'Online NDT' Eddy Current Testing which works in synchronization with automatic sorting system installed at our plant ensuring automatic segregation of Good Tubes and Bad Tubes. This system not only marks out the rejects but also ensures efficient monitoring of equipment performance and rejection levels. While our customers get Eddy Current tested quality tubes, the constantly monitored quality index yields productivity advantage. Better yield because of low rejections gives direct price competitiveness to our products.

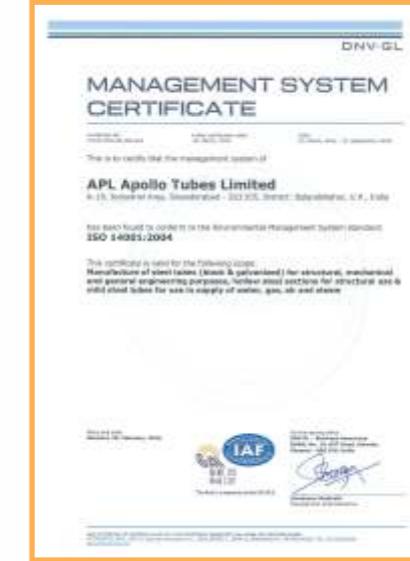
With our in-built modern quality control systems WE NOT ONLY CHECK QUALITY, WE PRODUCE IT.



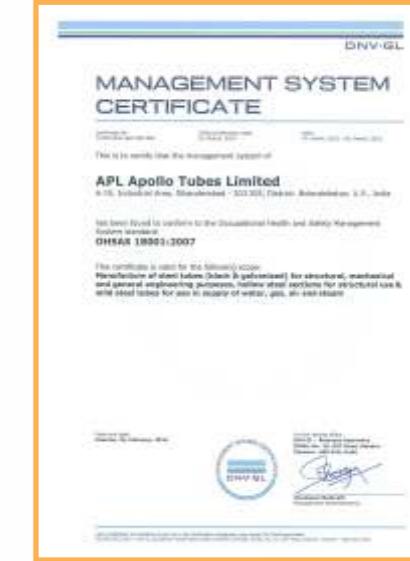
Accreditations



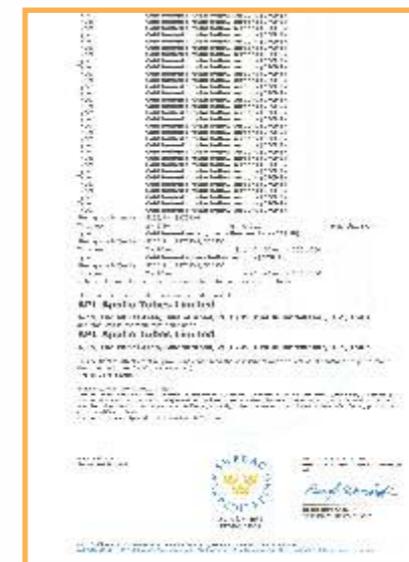
ISO 9001 : 2008



ISO 14001 : 2004



OHSAS 18001 : 2007



CE for EUROPE 10219:2006



CE for EUROPE 10255:2004

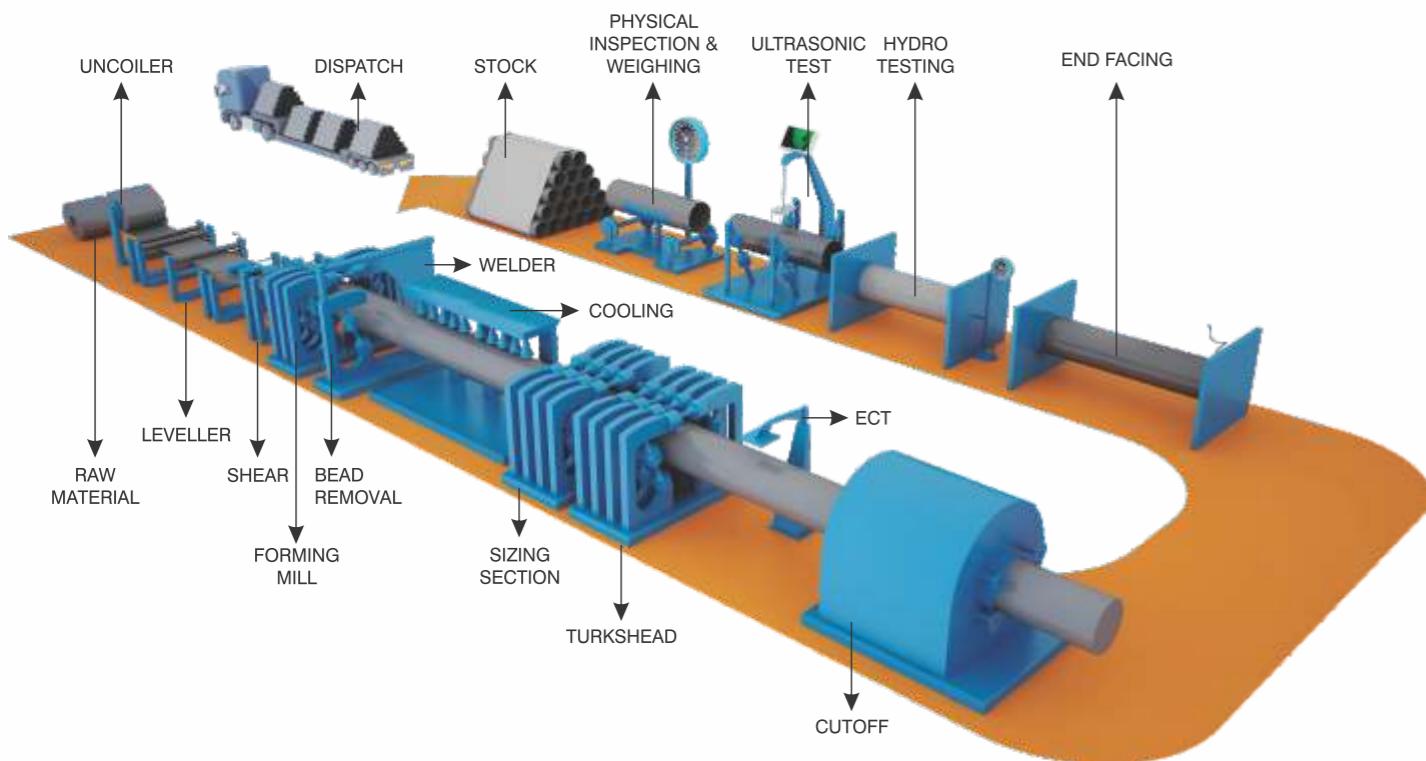


UL FOR USA

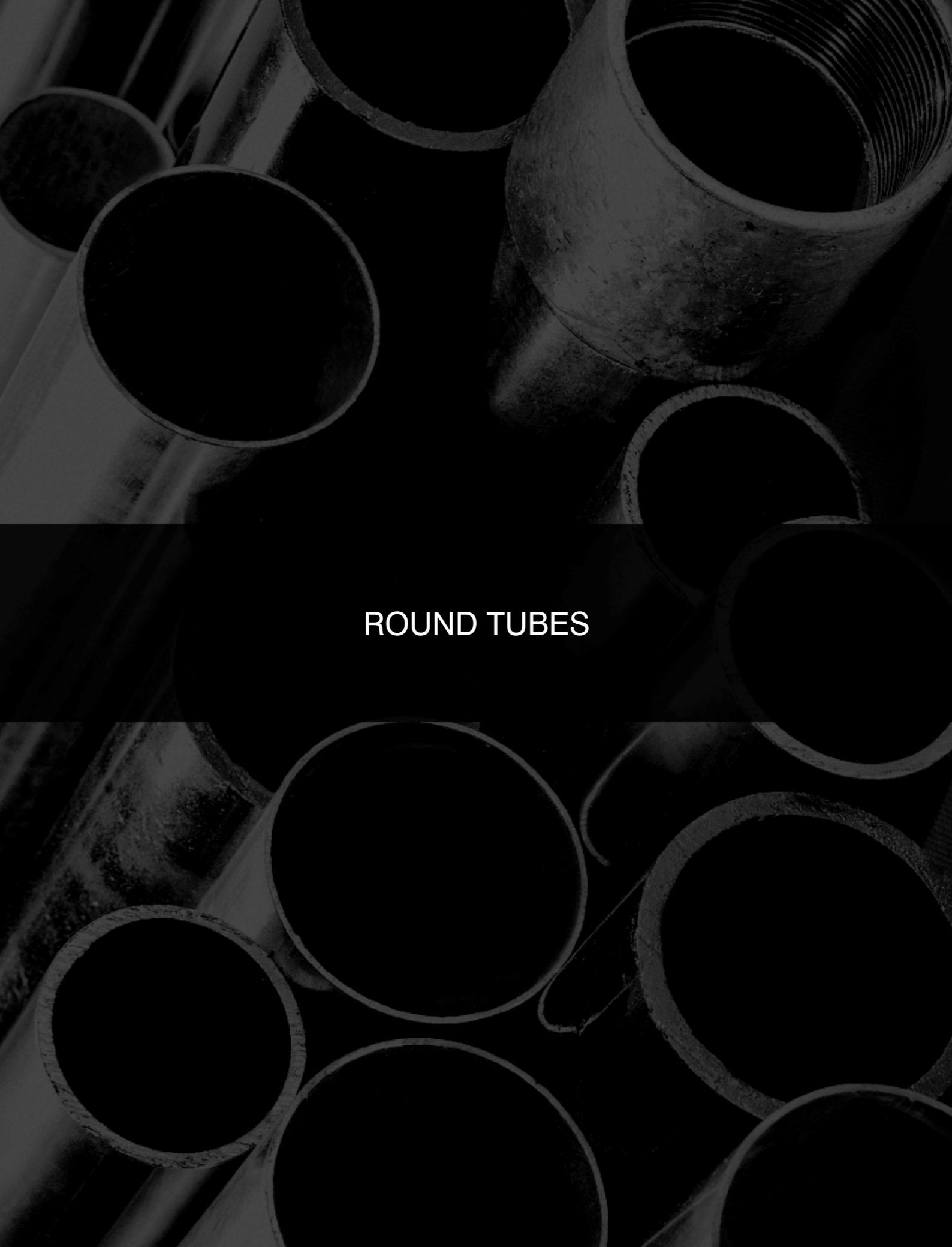
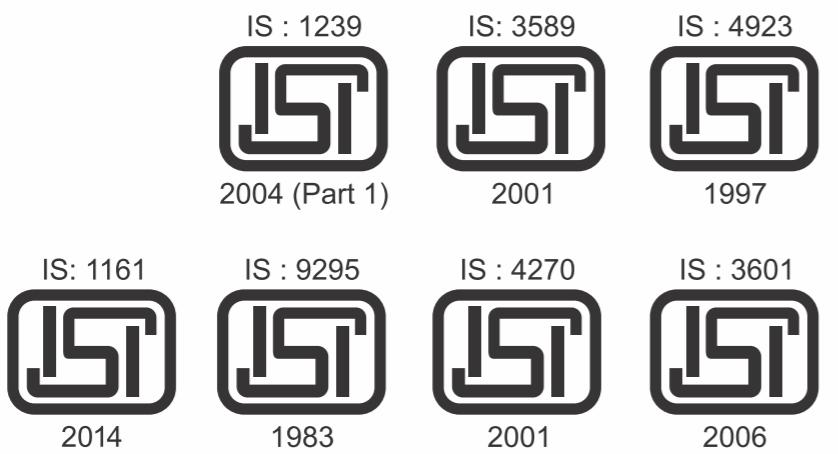


in
RAILWAY
STATIONS

Manufacturing Process



BIS Approvals



ROUND TUBES

Round Tubes

Outside Diameter : 15.88mm-355.6mm
Thickness Range : 0.6mm-9.0mm
Length : 3.0 meter to 12.0 meter

APPLICATIONS

- Liquid Transmission
- Idlers
- Mechanical and General Engineering
- Structural
- Water and Sewage
- Water Wells
- Fire Protection
- Fencing
- & Many more...

PRODUCTION STANDARDS

- IS:1239(Part-I)/2004, BS:1387-1985
- DIN2439,DIN2440,DIN2441,DIN2444
- EN10255:2004,EN10240:1998, EN10219:2006
- IS:9295-1983
- IS:3601-2006
- IS:1161-2014
- IS:3589/2001
- IS:4270:2001
- ASTM A-53 GR A&B SCH 20/40/80
- ASTM A-795
- ASTM A-135
- BSEN 39:2001

TESTS PERFORMED

- Hydrostatic Test
- Eddy Current Test
- Flattening/Flaring Test/Bend Test
- Chemical Analysis
- Other Tests as required by the Standard

FINISHING OPERATIONS

- Plain End
- Threaded and Coupled
- Grooved
- Cut Lengths

SURFACE PROTECTION

- Black (Self Colored Uncoated)
- Outside Protective Coating-Oil/Varnish
- Hot Dip Galvanised
- Pre-Galvanised

NOTE: For details please refer specification sheet.

in
WINDMILLS



Black (SELF COLORED UNCOATED)



Oiled/Varnish



Hot Dip Galvanised



Pre-Galvanised

Technical Data of MS Black Round Tubes

NB and Series		Outside Diameter		Wall Thikness		Nominal Weight			
		Min.	Max			Kg/M	Meters/Tonne	Kg/M	Meters/Tonne
15	L	21.0	21.4	2.0	14	0.95	1052	0.96	1046
	M	21.0	21.8	2.6	12	1.21	826	1.22	820
	H	21.0	21.8	3.2	10	1.44	694	1.45	690
20	L	26.4	26.9	2.3	13	1.38	725	1.39	719
	M	26.5	27.3	2.6	12	1.56	641	1.57	637
	H	26.5	27.3	3.2	10	1.87	535	1.88	532
25	L	33.2	33.8	2.6	12	1.98	505	2.00	500
	M	33.3	34.2	3.2	10	2.41	415	2.43	411.5
	H	33.3	34.2	4.0	8	2.93	341	2.95	339
32	L	41.9	42.5	2.6	12	2.54	394	2.57	389
	M	42.0	42.9	3.2	10	3.1	322	3.13	319
	H	42.0	42.9	4.0	8	3.79	264	3.82	262
40	L	47.8	48.4	2.9	11	3.23	310	3.27	306
	M	47.8	48.8	3.2	10	3.56	281	3.60	278
	H	47.9	48.8	4.0	8	4.37	229	4.41	227
50	L	59.6	60.2	2.9	11	4.08	245	4.15	241
	M	59.7	60.8	3.6	9	5.03	199	5.10	196
	H	59.7	60.8	4.5	7	6.19	161	6.26	160
65	L	75.2	76	3.2	10	5.74	175	5.83	171.5
	M	75.3	76.6	3.6	9	6.42	156	6.54	153
	H	75.3	76.6	4.5	7	7.93	126	8.05	124
80	L	87.9	88.7	3.2	10	6.72	149	6.89	145
	M	88.0	89.5	4.0	8	8.36	120	8.53	117
	H	88.0	89.5	4.8	6	9.9	101	10.10	96
100	L	113.0	113.9	3.6	9	9.75	102	10.00	100
	M	113.1	115	4.5	7	12.2	82	12.50	80
	H	113.1	115	5.4	5	14.5	69	14.80	67.5
125	M	138.5	140.8	4.8	6	15.9	63	16.40	61
	H	138.5	140.8	5.4	5	17.9	56	18.40	54
150	M	163.9	166.5	4.8	6	18.9	53	19.50	51
	H	163.9	166.5	5.4	5	21.3	47	21.90	46

Thickness & Mass are applicable for Black & Galvanised Steel Tubes as per clause 8.1.1 of IS : 1239 (Part-1) 2004

This specification conforms to CE Mark conferred Det Norske Veritas, Netherlands.

Tolerance				
A - Thickness	Tolerance	B- Weight	Tolerance	Length Tolerance
1. Light Tubes	+ not limited -8%	1. Single Tube (Light Series)	+10% -8%	
2. Medium & Heavy Tubes	+ not limited -10%	2. Single Tube (Medium & Heavy Series)	±10%	Unless otherwise Specified 4 to 7 mtrs.
		3. For quantities per load of 10 tonnes minimum (Light Series)	+7.5% - 5%	Can also be supplied in Fix Lengths ±5cm.
		4. For quantities per load of 10 tonnes minimum (Medium and Heavy Series)	±7.5%	



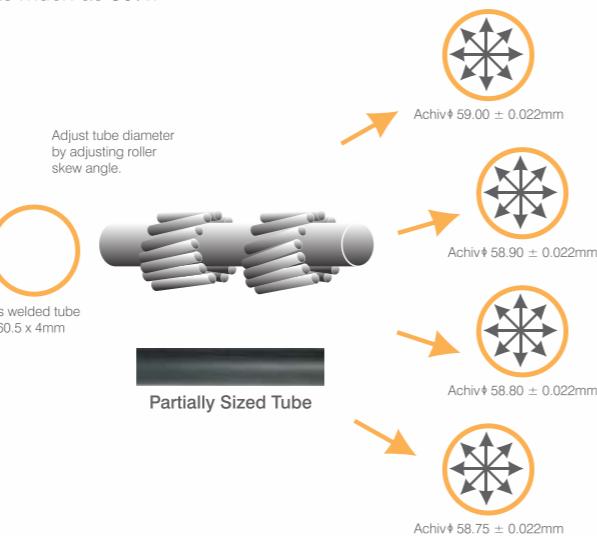
in
BATHROOMS

ERW Steel Tubes for idlers for Belt Conveyors as per IS : 9295 -1983 Dimensions and Nominal Masses			
Outside Diameter	Thickness	Mass	Meters
mm	mm	Kg./Mtr.	Tonne
63.50	3.65	5.39	186
	4.05	5.94	168
	4.50	6.55	153
	4.85	7.01	143
	5.40	7.74	129
	6.30	8.89	112
76.10	3.65	6.52	153
	4.05	7.20	139
	4.50	7.95	126
	4.85	8.52	117
	5.40	9.42	106
	6.30	10.84	92
88.90	4.05	8.74	118
	4.50	9.37	107
	4.85	10.05	99
	5.40	11.12	90
	6.30	12.83	78
	4.05	9.74	103
101.60	4.50	10.78	93
	4.85	11.57	86
	5.40	12.81	78
	6.30	14.81	68
	4.50	12.19	82
	4.85	13.09	76
114.30	5.40	14.50	69
	4.50	13.59	74
	4.85	14.61	68
	5.40	16.19	62
	6.30	18.75	53
	4.50	15.00	67
139.70	4.85	16.13	62
	5.40	17.89	56
	6.30	20.73	48
	4.50	16.41	61
	4.85	17.65	57
	5.40	19.58	51
152.40	6.30	22.70	44
	4.50	17.15	58
	4.85	18.44	54
	5.40	20.46	49
	6.30	23.72	42
	4.50	17.82	56
165.10	4.85	19.17	52
	5.40	21.27	47
	6.30	24.67	41
	4.50	18.18	55
	4.85	19.55	51
	5.40	21.69	46
168.30	6.30	25.17	40
	5.40	25.08	40
	6.30	29.12	34
	5.40	28.46	35
	6.30	33.06	40
	5.40	28.46	35

Outside Diameter : $\pm 0.75\%$
 Ovality below 168.3mm : 0.5mm
 Ovality including 168.3mm & above : 1.0mm
 Weight Kg/Mtr : Single Tube : $\pm 10\%$
 For Truck Load of 10 Tonnes : $\pm 7.5\%$
 Thickness : $\pm 10\%$
 Grade : ERW Grade YST 210 & YST 240

Advantages of RSM Technology

- In between Non-Standard Diameter possible online
In between Non-Standard Diameter can be produced by online adjustment without change of toolings. Diameter accuracy and roundness achieved with Rotary Sizing technology is of very high standard as compared to conventional sizing mills.
- Surface Finish Improves
Roll Marks caused by conventional sizing method are completely eliminated and the surface finish improves by burnish effect of Rotary Sizing operation and due to non-existence of large speed differential between tubes and sizing tooling as in conventional mills, Ra, Ry & Rz can be reduced by as much as 30%.



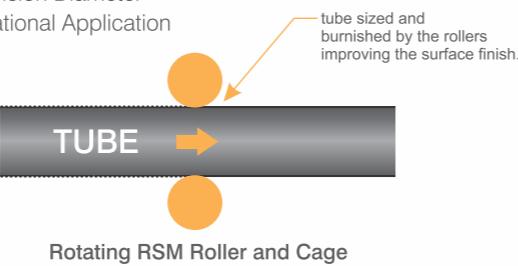
Even and Low Residual Stress

Typically two cages are used in RSM which are counter rotating. This is required to eliminate any torsion load which may be induced into the tube by the process. This results in even reduction on full surface of tube. Sizing the tube in only 2 passes keeps the residual stress low thereby preserving more of the materials allongation post tube mill manipulation.

In tubes processed through RSM, there is no significant change in residual stress in the traverse direction. In the longitudinal direction there is a large reduction in the surface residual tensile stress.

END USES

- Idler Tubes for Conveyors
- Propeller Shaft Tubes
- Bobbin Tubes for Textile Industry
- High Precision Diameter
- High Rotational Application



ERW Steel Tubes for Water & Sewage Purpose Conforming to IS : 3589/2001

N.B.size	Out side Diameter	Wall Thickness	Plain End	
			Mass	Meters
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
		2.60	13.90	72
		3.60	19.10	52
200	219.1	4.50	23.80	42
		6.30	33.10	30
		3.60	23.90	42
		4.00	26.50	38
		5.00	33.90	30
		6.30	41.40	24
250	273	7.10	46.57	21
		8.00	52.30	19
		10.00	64.90	15
		4.00	31.60	32
		5.00	35.40	28
		5.60	44.00	23
300	323.9	7.10	55.50	18
		5.60	48.33	21
		6.40	55.11	18
		7.10	61.02	16
		7.90	67.74	15
		8.70	74.42	13
350	355.6	9.50	81.08	12
		5.60	48.33	21
		6.40	55.11	18
		7.10	61.02	16
		7.90	67.74	15
		8.70	74.42	13

Tolerance

a. Outside diameter of pipe	$\pm 0.75\%$
b. Ovality	= Max. 1% $\pm 10\%$
c. Thickness	$\pm 10\%$
d. Length	$\pm 10\%$
Unless other specified, length are in single random length of 4 to 7 meter.	-
e. Mass per Truck Load of 10 Tonnes of above	$\pm 7.5\%$

Physical Properties

Grade	T.S. Mpa MIN	Y.S. Mpa MIN	% Age Elongation of MIN
Fe 330	330	195	20
Fe 410	410	235	18

Note

These are preferred OD & thicknesses. Other sizes not included may be supplied as specified by purchaser.

ERW Steel Tubes For Water Wells Conforming To IS : 4270/2001 Plain End Casing Pipes/ screwed And Socketed Casing Pipes

N.B.size	Out side Diameter	Wall Thickness	Nominal Weight	Socket OD	Socket Length (Min)
100	114.3	5.0	13.48	74	130
125	141.3	5.0	16.8	59	120.6
150	168.3	5.4	20.13	50	211.16
175	193.7	5.4	21.6	46	
200	219.1	5.4	28.46	35	346
250	273.1	7.1	46.57	21	
300	323.9	7.1	55.47	18	
350	355.6	5.6	48.33		

Steel Tubes for Structural Purposes Conforming to IS:1161 : 2014					
N.B.	Outside Diameter	Thickness	Nominal Weight	Calculated Nominal Weight	
			Black Tube	Galvanized Tubes	
			Plain End	Plain End	
mm	mm	Kg/M	Mtr/Tonne	Kg/M	Mtr/Tonne
15	21.3	2	0.947	1058	1
		2.6	1.21	826	1.26
		3.2	1.44	694	1.49
20	26.9	2.3	1.38	725	1.43
		2.6	1.56	641	1.61
		3.2	1.87	535	1.92
25	33.7	2.6	1.98	505	2.03
		3.2	2.41	415	2.46
		4	2.93	341	2.98
32	42.4	2.6	1.54	394	2.62
		3.2	3.1	323	3.18
		4	3.79	264	3.87
40	48.3	2.9	3.23	310	3.34
		3.2	3.56	281	3.67
		4	4.37	229	4.48
50	60.3	2.9	4.08	245	4.2
		3.2	5.03	199	5.15
		4	6.19	162	6.31
65	76.1	2.9	5.24	191	5.38
		3.6	6.42	156	6.57
		4.5	7.93	126	8.1
80	88.9	3.2	6.72	149	6.9
		4	8.36	120	8.54
		4.8	9.9	101	10.08
90	101.6	3.6	8.7	115	8.97
		4	9.63	144	7.2
		4.8	11.5	87	11.77
100	114.3	3.6	9.75	103	9.97
		4.5	12.2	82	12.42
		5.4	14.5	69	14.72
110	127	4.5	13.6	74	13.9
		4.8	14.5	69	14.8
		5.4	16.2	62	14.8
125	139.7	4.5	15	67	15.25
		4.8	15.9	63	16.15
		5.4	17.9	56	18.15
135	152.4	4.5	16.4	61	16.78
		4.8	17.5	57	17.88
		5.4	19.6	51	19.98
150	165.1	4.5	17.8	56	18.2
		4.8	18.9	52	19.8
		5.4	21.3	47	21.7
150	168.3	4.5	18.2	55	18.66
		4.8	19.4	52	19.88
		5.4	21.7	46	22.24
		6.3	25.2	40	41
175	193.7	4.8	22.4	45	22.94
		5.4	25.1	40	25.64
		5.9	27.3	37	27.84
200	219.1	4.8	25.4	39	25.95
		5.6	29.5	34	30.05
		5.9	31	32	31.55
225	244.5	5.9	34.7	29	35.36
250	273	5.9	38.9	26	39.68
300	323.9	6.3	49.3	20	50.28
350	355.6	8	68.6	15	69.28
					14



APL Apollo Tubes Limited offers a broad range of high quality Scaffolding Components. The product range includes SCAFFOLD TUBES as per EN – 39. Scaffolding Components includes CUPLOCK SCAFFOLDING, WEDGELOCK SCAFFOLDING & SUPPORT TUBES, FITTINGS (COUPLERS) and FORMWORK COMPONENTS and ACCESSORIES as well as a vast range of other components.

Tube Scaffoldings are widely used for supporting men and material, tools and tackles during construction, alteration, demolition and maintenance work because of their several advantages over conventional type of timber/bamboo scaffolding.

We offer Scaffolding Tubes which also includes complete range of components that are strong, safe, durable and economical. These items are ideally suited for wide application in construction, maintenance, alteration and demolition of structures.

Scaffolding Tubes							
Size		Thickness		Ovality		Weight	
Inches	mm	Inches	mm	Inches	mm	Inches	mm
1 1/2	48.3	0.126	3.2	0.02	0.5	2.392	3.56
1 1/2	48.3	0.157	4.0	0.02	0.5	2.937	4.37

Tolerance		
Outside Diameter	Thickness	Weight
± 0.5	±/- 10%	± 7.5% On Single Tube

STEEL GRADE : S235GR

MECHANICAL PROPERTIES

YIELD STRENGTH : 235 MPA MIN.

TENSILE STRENGTH : 340 / 520 MPA

CHEMICAL COMPOSITION

CARBON : 0.20% MAX.

SILICON : 0.05% MAX.

MANGANESE : 0.40% MAX.

PHOSPHOROUS : 0.040% MAX.

SULPHUR : 0.045% MAX.

ALUMINIUM : 0.02% MIN.

END FINISH STRAIGHTNESS FLATTENING TEST

: SQUARE CUT.

: 1MM IN 500 MM

: TWO STAGES

: FLATTEN UPTO 75% OF TUBE

: DIA FOR WELD.

: FLATTEN UPTO 60° OF TUBE

: DIA FOR MATERIAL

ZINC COATING : 45 MICRONS MINIMUM OUTSIDE

MARKING : EN 39-APL APOLLO TUBES – 3.2/4.0

DELIVERY CONDITION : a) AS ROLLED CONDITION (WITHOUT PROTECTION)

b) HOT DIP GALVANISED



Tensile Properties			
Grade	Y.S. (Min) Mpa (KG/MM²)	T.S. (Min) Mpa (KG/MM²)	% Age Elongation on
YST-210	210(21.42)	330(33.66)	20
YST-240	240(41.82)	410(41.82)	17
YST-310	310(31.62)	450(45.60)	14

Weight Tolerance	
Single Tube	± 10%
10 Ton Lot	± 7.5%

Tolerance	
For All Size Welded Tubes	± 10%

Technical data of IS: 3601 2006 Tubes for Mechanical & General Engg. Purpose

N.B.size mm	Approx O.D. (mm)	Thickness (mm)	Wt. Kg/ Mtr.	Meters Per Tonne
In				
15	1/2"	1.8	0.866	1155
		2.0	0.952	1050
		2.6	1.2	833
		3.2	1.43	699
		4.0	1.71	585
20	3/4"	1.8	1.11	901
		2.0	1.23	813
		2.3	1.4	714
		2.6	1.56	641
		3.2	1.87	535
		4.0	2.26	442
25	1"	2.0	1.56	641
		2.3	1.78	562
		2.6	1.99	503
		3.2	2.41	415
		4.0	2.93	341
		4.5	3.24	309
32	1.25"	2.3	2.27	441
		2.6	2.55	392
		3.2	3.09	324
		3.6	3.44	291
		4.0	3.79	264
		5.0	4.61	217
		5.4	4.93	203
		1 3/8"	1.315	.047
40	1.5"	2.3	2.61	383
		2.6	2.93	341
		2.9	3.25	308
		3.2	3.56	281
		4.0	4.37	229
		4.9	5.23	191
		5.0	5.34	187
		5.6	5.900	170
		5.9	6.160	162
		1 7/8"	1.900	.047
		2.3	3.29	304
		2.6	3.7	270
50	2"	2.9	4.11	243
		3.2	4.51	222
		3.6	5.03	199
		4.0	5.55	180
		4.5	6.19	162
		5.0	6.82	147
		5.6	7.55	133
		6.3	8.39	119
		1 7/8"	1.900	.055
		2 3/8"	1.900	.065
		2 7/8"	1.900	.072
65	2.5"	3 1/8"	1.900	.090
		3 1/2"	1.900	.105
		3 7/8"	1.900	.120
		4 3/8"	1.900	.145
		4 7/8"	1.900	.047
		5 3/8"	2.375	.055
80	3"	5 7/8"	2.375	.065
		6 1/8"	2.375	.076
		6 5/8"	2.875	.110
		7 1/8"	2.875	.130
		7 7/8"	2.875	.140
		8 1/8"	2.875	.160
		8 5/8"	2.875	.203
		9 1/8"	3.500	.140
		9 7/8"	3.500	.160
		10 1/8"	3.500	.180
		10 7/8"	4.000	.140
		11 1/8"	4.000	.160

Grade: ERW-WP-100

Note: These sizes would be included in our regular range of production in the near future. Sizes and Thicknesses other than listed above can be supplied on order to order basis.



Fence Framework (Size and Dimension)

Fence O.D.	Doc. Equiv.	Wall Inches	Gauge	Weight lbs/ft	Pcs/Bundle
1 3/8"	1.315	.047	18	0.636	91
1 3/8"	1.315	.055	17	0.740	91
1 3/8"	1.315	.065	1	0.868	91
1 3/8"	1.315	.072	15	0.956	91
1 3/8"	1.315	.080	14	1.055	91
1 3/8"	1.315	.104	12	1.350	91
1 3/8"	1.315	.133	SCH.40	1.679	60
1 5/8"	1.660	.047	18	0.810	61
1 5/8"	1.660	.055	17	0.943	61
1 5/8"	1.660	.065	16	1.107	61
1 5/8"	1.660	.072	15	1.221	61
1 5/8"	1.660	.072	14	1.430	61
1 5/8"	1.660	.095	13	1.590	61
1 5/8"	1.660	.111	12	1.836	61
1 5/8"	1.660	.140	SCH.40	2.273	42
1 7/8"	1.900	.047	18	0.930	61
1 7/8"	1.900	.055	17	1.084	61
1 7/8"	1.900	.065	16	1.274	61
1 7/8"	1.900	.072	15	1.406	61
1 7/8"	1.900	.090	13	1.740	61
1 7/8"	1.900	.105	12	2.015	61
1 7/8"	1.900	.120	11	2.281	61
1 7/8"	1.900	.145	SCH.40	2.718	36
2 3/8"	2.375	.047	18	1.169	37
2 3/8"	2.375	.055	17	1.363	37
2 3/8"	2.375	.065	16	1.604	37
2 3/8"	2.375	.076	15	1.866	37
2 3/8"	2.375	.095	13	2.313	37
2 3/8"	2.375	.115	11	2.780	37
2 3/8"	2.375	.130	10	3.117	37
2 3/8"	2.375	.154	SCH.40	3.653	26
2 7/8"	2.875	.110	12	3.248	19
2 7/8"	2.875	.130	10	3.815	19
2 7/8"	2.875	.160	12	4.640	19
2 7/8"	2.875	.203	SCH.40	5.793	18
3 1/2"	3.500	.140	9	5.030	19
3 1/2"	3.500	.160	8	5.710	19
3 1/2"	3.500	.160	SCH.40	7.576	14
4"	4.000	.140	9	5.780	19
4"	4.000	.160	8	6.570	19
4"	4.000	.226	SCH.40	9.109	12
6 5/8"	6.625	.28	SCH.40	18.970	N / A
8 5/8"	8.625	.322	SCH.40	28.550	N / A

Note: These sizes would be included in our regular range of production in the near future. Sizes and Thicknesses other than listed above can be supplied on order to order basis.

Technical Data of Pipes Conforming to ASTM A-53* Gr. A & B Sch. 20/40/80

Nominal Bore	Outside Diameter	Schedule	Wall Thickness	Weight of Black Pipes Plain End	No. of pcs. per Bundle
mm	Inch	mm	Inch	mm	Inch
15	1/2	21.3	0.84	40	2.77 0.109
				80	3.73 0.147
20	1/4	26.7	1.05	40	2.87 0.113
				80	3.91 0.154
25	1	33.4	1.315	40	3.38 0.133
				80	4.55 0.179
				80	5.16 0.203
32	1 1/4	42.2	1.66	40	3.56 0.14
				80	4.85 0.191
40	1 1/2	48.3	1.9	40	3.68 0.145
				80	5.08 0.2
50	2	60.3	2.375	40	3.91 0.154

ASTM A-795* (Black & Galvanised Steel Pipes for Fire Protection)

Nominal Bore		Outside Diameter		SCH 10				No. of Piece per Bundle	SCH 40/30*				No. of Piece per Bundle
				Wall Thickness		Weight Plain End			Wall Thickness		Weight Plain End		
mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
20	3/4	26.7	1.050	2.11	0.083	1.28	0.96	90	2.87	0.113	1.69	1.13	90
25	1	33.4	1.315	2.77	0.109	2.09	1.41	90	3.38	0.133	2.50	1.68	60
32	1 ^{1/4}	42.2	1.660	2.77	0.109	2.69	1.81	61	3.56	0.14	3.39	2.27	42
40	1 ^{1/2}	48.3	1.900	2.77	0.109	3.11	2.09	61	3.68	0.145	4.05	2.72	36
50	2	60.3	2.375	2.77	0.109	3.93	2.64	37	3.91	0.154	5.45	3.66	26
65	2 ^{1/2}	73.0	2.875	3.05	0.120	5.26	3.53	29	5.16	0.205	8.68	5.80	18
80	3	88.9	3.500	3.05	0.120	6.46	4.34	24	5.49	0.216	11.29	7.58	14
90	3 ^{1/2}	101.6	4.000	3.05	0.120	7.41	4.98	21	5.74	0.226	13.58	9.12	12
100	4	114.3	4.500	3.05	0.120	8.37	5.62	19	6.02	0.237	16.09	10.8	10
125	5	141.3	5.563	3.4	0.134	11.58	7.78	10	6.55	0.258	21.79	14.63	8
150	6	168.3	6.625	3.4	0.134	13.85	9.30	10	7.11	0.280	28.29	18.99	7
200	8	219.1	8.625	4.78	0.188	25.26	16.96	5	7.04*	0.277	36.82	24.72	5

*This specification conforms to UL certification conferred by Underwriters Laboratories, USA

ASTM A-135 GRADE A&B (Black and Galvanised Steel Pipes)

Nominal Bore		Outside Diameter		SCH 10				No. of Piece per Bundle
				Wall Thickness		Weight Plain End		
mm	inch	mm	inch	mm	inch	mm	inch	
20	3/4	26.7	1.050	2.11	0.083	1.28	0.96	90
25	1	33.4	1.315	2.77	0.109	2.09	1.41	90
32	1 ^{1/4}	42.2	1.660	2.77	0.109	2.69	1.81	61
40	1 ^{1/2}	48.3	1.900	2.77	0.109	3.11	2.09	61
50	2	60.3	2.375	2.77	0.109	3.93	2.64	37
65	2 ^{1/2}	73.0	2.875	3.05	0.120	5.26	3.53	29
80	3	88.9	3.500	3.05	0.120	6.46	4.34	24
90	3 ^{1/2}	101.6	4.000	3.05	0.120	7.41	4.98	21
100	4	114.3	4.500	3.05	0.120	8.37	5.62	19
125	5	141.3	5.563	3.40	0.134	11.58	7.78	14

Tolerance

Outside Diameter	Pipes size upto & including Dn40 Pipes size DN 50 or latger	+1-0.4mm +1-1%
		Thickness Weight

-12.5 (max)
+10%

Mechanical Properties

Chemical Properties

	Grade A	Grade B		Carbon	Manganese	Phosphorus	Sulphur
Yield Strength	205 Mpa (Min)	240 Mpa (Min)	Grade A	0.25	0.05	0.035	0.035
Tensile Strength	330 Mpa (Min)	415 Mpa (Min)	Grade B	0.3	1.2	0.35	0.035
Elongation %	35	30					

Galvanising

Minimum	0.490 kg/Sq Mtr.
Average	0.550 kg/Sq Mtr.

in
FIRE
FIGHTING
SYSTEMS



HOLLOW SECTION

Hollow Section

Size - RHS 26.5x13.5 - 300x200
SHS 12x12 - 255x255

Thickness: 0.6mm - 8.0mm
Length: 3.0 meter to 12.0 meter

APPLICATIONS

- Construction
- Machinery
- Automotive
- Furniture
- Storage System
- Transmission Tower
- Fencing
- & Many more...

PRODUCTION STANDARD

- IS4923:1997
- EN10219-1:2006
- ASTM A-500

TESTS PERFORMED

- Visual and Dimensional Inspection
- Tensile Test
- Flatting and Flaring Test
- Impact Test
- Chemical Analysis
- Plain End-square cut
- Cut Lengths

SURFACE PROTECTION

- Black (Self Coloured uncoated)
- Varnish/Oil Coating
- Hot Dip Galvanized
- Pre-Galvanized

NOTE: For details please refer specification sheet.



Black (SELF COLORED UNCOATED)



Oiled/Varnish



Hot Dip Galvanised



Pre-Galvanised

Square Hollow Section (SHS) IS : 4923 : 1997/EN 10219-1 : 2006*/ASTM A-500													
SHS	D	B	Thickness	Sec Area	Unit Wt	Moment of Inertia	Radius of Gyration	Elastic Modulus	Torsional Constants	Outer Surface Area Per Metre Length			
			T	A	W	I _{xx}	I _{yy}	R _{xx}	R _{yy}				
DXB	mm	mm	0.6	0.26	0.21	0.06	0.06	0.46	0.46	0.09	0.09	0.09	0.14
			0.8	0.34	0.27	0.07	0.07	0.45	0.45	0.12	0.12	0.12	0.18
			1.0	0.41	0.33	0.08	0.08	0.44	0.44	0.13	0.13	0.14	0.20
			1.2	0.48	0.38	0.09	0.09	0.43	0.43	0.15	0.15	0.16	0.23
			1.4	0.54	0.43	0.10	0.10	0.42	0.42	0.16	0.16	0.17	0.25
			1.6	0.60	0.47	0.10	0.10	0.41	0.41	0.17	0.17	0.19	0.26
12 X 12	12	12	0.6	0.26	0.21	0.06	0.06	0.46	0.46	0.09	0.09	0.09	0.14
			0.8	0.34	0.27	0.07	0.07	0.45	0.45	0.12	0.12	0.12	0.18
			1.0	0.41	0.33	0.08	0.08	0.44	0.44	0.13	0.13	0.14	0.20
			1.2	0.48	0.38	0.09	0.09	0.43	0.43	0.15	0.15	0.16	0.23
			1.4	0.54	0.43	0.10	0.10	0.42	0.42	0.16	0.16	0.17	0.25
			1.6	0.60	0.47	0.10	0.10	0.41	0.41	0.17	0.17	0.19	0.26
15 x 15	15	15	0.6	0.34	0.26	0.11	0.11	0.58	0.58	0.15	0.15	0.18	0.23
			0.8	0.44	0.34	0.14	0.14	0.57	0.57	0.19	0.19	0.24	0.29
			1.0	0.53	0.42	0.17	0.17	0.56	0.56	0.23	0.23	0.28	0.34
			1.2	0.63	0.49	0.19	0.19	0.55	0.55	0.26	0.26	0.33	0.39
			1.4	0.71	0.56	0.21	0.21	0.54	0.54	0.28	0.28	0.37	0.43
			1.6	0.79	0.62	0.23	0.23	0.53	0.53	0.30	0.30	0.46	0.51
19 x 19	19	19	0.6	0.43	0.34	0.24	0.24	0.75	0.75	0.25	0.25	0.38	0.38
			0.8	0.57	0.44	0.31	0.31	0.74	0.74	0.32	0.32	0.49	0.49
			1.0	0.69	0.54	0.37	0.37	0.73	0.73	0.39	0.39	0.60	0.58
			1.2	0.82	0.64	0.42	0.42	0.72	0.72	0.44	0.44	0.70	0.67
			1.4	0.94	0.73	0.47	0.47	0.71	0.71	0.49	0.49	0.79	0.75
			1.6	1.05	0.82	0.51	0.51	0.70	0.70	0.54	0.54	0.88	0.82
20 x 20	20	20	0.6	0.46	0.36	0.28	0.28	0.79	0.79	0.28	0.28	0.45	0.43
			0.8	0.60	0.47	0.36	0.36	0.78	0.78	0.36	0.36	0.58	0.54
			1.0	0.73	0.58	0.43	0.43	0.77	0.77	0.43	0.43	0.70	0.65
			1.2	0.87	0.68	0.50	0.50	0.76	0.76	0.50	0.50	0.82	0.75
			1.4	0.99	0.78	0.56	0.56	0.75	0.75	0.56	0.56	0.93	0.84
			1.6	1.11	0.87	0.61	0.61	0.74	0.74	0.61	0.61	1.03	0.92
25 x 25	25	25	1.6	1.43	1.12	1.28	1.28	0.94	0.94	1.02	1.02	2.12	1.54
			2.0	1.74	1.36	1.48	1.48	1.02	1.02	1.19	1.19	2.53	1.80
			2.6	2.16	1.69	1.72	1.72	0.89	0.89	1.38	1.38	3.04	2.12
			3.2	2.53	1.98	1.89	1.89	0.86	0.86	1.51	1.51	3.45	2.34
			3.6	3.0	2.0	1.00	1.00	1.20	1.20	0.66	0.66	1.54	1.00
			4.0	3.4	2.36	1.28	1.28	1.19	1.19	0.86	0.86	2.02	1.29
30 x 30	30	30	0.6	0.70	0.55	1.00	1.00	1.20	1.20	0.66	0.66	1.54	1.18
			0.8	0.92	0.72	1.29	1.29	1.19	1.19	0.86	0.86	2.02	1.17
			1.0	1.13	0.89	1.57	1.57	1.18	1.18	1.05	1.05	2.49	1.57
			1.2	1.35	1.06	1.83	1.83	1.17	1.17	1.22	1.22	2.93	1.84
			1.4	1.55	1.22	2.08	2.08	1.16	1.16	1.39	1.39	3.36	2.09
			1.6	1.75	1.38	2.31	2.31	1.15	1.15	1.54	1.54	3.77	2.32
32 x 32	32	32	1.8	1.95	1.53	2.52	2.52	1.14	1.14	1.68	1.68	4.16	2.54
			2.0	2.14	1.68	2.72</							

Square Hollow Section (SHS) IS : 4923 : 1997/EN 10219-1 : 2006*/ASTM A-500

SHS	D	B	Thickness	Sec Area	Unit Wt	Moment of Inertia	Radius of Gyration	Elastic Modulus	Torsional Constants	Outer Surface Area Per Metre Length	
			T	A	W	I _{xx}	I _{yy}	R _{xx}	R _{yy}		C _T
60 x 60	60	60	2.6	5.80	4.55	31.33	31.33	2.33	2.33	10.44	10.44
	60	60	2.9	6.41	5.03	34.21	34.21	2.31	2.31	11.40	11.40
	60	60	3.2	7.01	5.50	36.94	36.94	2.30	2.30	12.31	12.31
	60	60	4.0	8.55	6.71	43.55	43.55	2.26	2.26	14.52	14.52
	60	60	4.8	10.01	7.85	49.22	49.22	2.22	2.22	16.41	16.41
72 x 72	72	72	3.2	8.54	6.71	66.32	66.32	2.79	2.79	18.42	18.42
	72	72	4.0	10.47	8.22	79.03	79.03	2.75	2.75	21.95	21.95
	72	72	4.8	12.31	9.66	90.31	90.31	2.71	2.71	25.09	25.09
75 x 75	75	75	1.2	3.51	2.75	31.65	31.65	3.00	3.00	8.44	8.44
	75	75	1.4	4.07	3.20	36.52	36.52	3.00	3.00	9.74	9.74
	75	75	1.6	4.63	3.64	41.29	41.29	2.99	2.99	11.01	11.01
	75	75	1.8	5.19	4.07	45.94	45.94	2.98	2.98	12.25	12.25
	75	75	2.0	5.74	4.50	50.49	50.49	2.97	2.97	13.46	13.46
	75	75	2.2	6.28	4.93	54.93	54.93	2.96	2.96	14.65	14.65
	75	75	2.5	7.09	5.56	61.38	61.38	2.94	2.94	16.37	16.37
	75	75	2.8	7.88	6.19	67.60	67.60	2.93	2.93	18.03	18.03
	75	75	3.0	8.41	6.60	71.62	71.62	2.92	2.92	19.10	19.10
	80	80	3.2	9.57	7.51	92.72	92.72	3.11	3.11	23.18	23.18
80 x 80	80	80	4.0	11.75	9.22	111.05	111.05	3.07	3.07	27.76	27.76
	80	80	4.8	13.85	10.87	127.59	127.59	3.04	3.04	31.90	31.90
	91.5	91.5	3.6	12.32	9.67	156.50	156.50	3.56	3.56	34.21	34.21
91.5 x 91.5	91.5	91.5	4.5	15.14	11.88	187.58	187.58	3.52	3.52	41.00	41.00
	91.5	91.5	5.4	17.85	14.01	215.69	215.69	3.48	3.48	47.14	47.14
	100	100	4.0	14.95	11.73	226.36	226.36	3.89	3.89	45.27	45.27
100 x 100	100	100	5.0	18.36	14.41	271.11	271.11	3.84	3.84	54.22	54.22
	100	100	6.0	21.63	16.98	311.49	311.49	3.79	3.79	62.30	62.30
	113.5	113.5	4.8	20.28	15.92	393.32	393.32	4.40	4.40	69.31	69.31
113.5 x 113.5	113.5	113.5	5.4	22.60	17.74	432.60	432.60	4.38	4.38	76.23	76.23
	132	132	4.8	23.83	18.71	634.41	634.41	5.16	5.16	96.12	96.12
	132	132	5.4	26.60	20.88	700.13	700.13	5.13	5.13	106.08	106.08
150 x 150	150	150	4.0	22.95	18.01	807.83	807.83	5.93	5.93	107.71	107.71
	150	150	5.0	28.36	22.26	982.14	982.14	5.89	5.89	130.95	130.95
	150	150	6.0	33.63	26.40	1145.94	1145.94	5.84	5.84	152.79	152.79
	150	150	7.0	38.78	30.44	1299.49	1299.49	5.79	5.79	173.27	173.27
	150	150	8.0	43.79	34.38	1443.06	1443.06	5.74	5.74	192.41	192.41
180 x 180	180	180	4.0	27.75	21.78	1421.76	1421.76	7.16	7.16	157.97	157.97
	180	180	5.0	34.36	26.97	1736.90	1736.90	7.11	7.11	192.99	192.99
	180	180	6.0	40.83	32.05	2036.57	2036.57	7.06	7.06	226.29	226.29
	180	180	7.0	47.18	37.04	2321.10	2321.10	7.01	7.01	257.90	257.90
	180	180	8.0	53.39	41.91	2590.82	2590.82	6.97	6.97	287.87	287.87
200 x 200	200	200	4.5	34.67	27.21	2191.58	2191.58	7.95	7.95	219.16	219.16
	200	200	5.0	38.36	30.11	2410.13	2410.13	7.93	7.93	241.01	241.01
	200	200	6.0	45.63	35.82	2832.80	2832.80	7.88	7.88	283.28	283.28
	200	200	8.0	59.79	46.94	3621.73	3621.73	7.78	7.78	362.17	362.17
220 x 220	220	220	4.0	34.15	26.81	2639.16	2639.16	8.79	8.79	239.92	239.92
	220	220	5.0	42.36	33.25	3238.07	3238.07	8.74	8.74	294.37	294.37
	220	220	6.0	50.43	39.59	3813.43	3813.43	8.70	8.70	346.68	346.68
	220	220	7.0	58.38	45.83	4365.64	4365.64	8.65	8.65	396.88	396.88
	220	220	8.0	66.19	51.96	4895.12	4895.12	8.60	8.60	445.01	445.01
250 x 250	250	250	4.0	38.95	30.57	3907.33	3907.33	10.02	10.02	312.59	312.59
	250	250	5.0	48.36	37.96	4805.07	4805.07	9.97	9.97	384.41	384.41
	250	250	6.0	57.63	45.24	5672.09	5672.09	9.92	9.92	453.77	453.77
	250	250	7.0	66.78	52.42	6508.85	6508.85	9.87	9.87	520.71	520.71
	250	250	8.0	75.79	59.50	7315.81	7315.81	9.82	9.82	585.26	585.26

Note: Sizes and Thicknesses other than listed above can be supplied on order to order basis.

* This specification conforms to CE Mark conferred by Det Norske Veritas, Netherlands. Torsional Constant as per EN 10219-2:2006

OTHER ALLOWABLE STRESSES VALUES (in Mpa)

Steel Grade	Minimum Yield Stress UTS	Minimum Axial Stress in Tension	Bending Stress in Ten of Compr.	Shear Stress	Bearing Stress	Equivalent Stress
Yst 210	210	330	--	--	--	--
Yst 240						

Rectangular Hollow Section (RHS) IS : 4923 : 1997/EN 10219-1 : 2006*/ASTM A-500													
RHS	D	B	Thickness	Sec Area	Unit Wt	Moment of Inertia	Radius of Gyration	Elastic Modulus	Torsional Constants	Outer Surface Area Per Metre Length			
DXB	T	A	W	I _{xx}	I _{yy}	R _{xx}	R _{yy}	Z _{xx}	Z _{yy}	I _t	C _t		
mm	mm	mm	mm	cm ²	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ⁴	m ² /m
150 x 50	150	50	2.5	9.59	7.53	254.08	45.17	5.15	2.17	33.88	18.07	128	32.78
	150	50	2.8	10.68	8.39	281.01	49.72	5.13	2.16	37.47	19.89	141	36.12
	150	50	3.0	11.41	8.96	298.56	52.65	5.12	2.15	39.81	21.06	150	38.28
	150	50	3.6	13.55	10.64	349.23	60.98	5.08	2.12	46.56	24.39	176	44.44
	150	50	4.0	14.95	11.73	381.40	66.16	5.05	2.10	50.85	26.47	192	48.30
160 x 80	160	80	4.8	21.53	16.90	697.70	236.31	5.69	3.31	87.21	59.08	580	102
	160	80	5.4	24.00	18.84	768.59	259.27	5.66	3.29	96.07	64.82	642	113
	160	80	6.0	26.43	20.75	836.05	280.90	5.62	3.26	104.51	70.22	702	122
	160	80	8.0	34.19	26.84	1036.75	343.78	5.51	3.17	129.59	85.95	882	150
145 x 82	145	82	4.8	20.28	15.92	555.18	228.51	5.23	3.36	76.58	55.73	530	95
	145	82	5.4	22.60	17.74	610.87	250.60	5.20	3.33	84.26	61.12	586	104
172 x 92	172	92	4.8	23.83	18.71	917.15	346.92	6.20	3.82	106.65	75.42	819	129
	172	92	5.4	26.60	20.88	1012.50	381.75	6.17	3.79	117.73	82.99	908	142
180 x 70	180	70	4.8	22.49	17.65	864.57	194.72	6.20	2.94	96.06	55.64	532	100
	180	70	5.4	25.08	19.69	952.91	213.31	6.16	2.92	105.88	60.95	588	109
	180	70	6.0	27.63	21.69	1037.06	230.75	6.13	2.89	115.23	65.93	641	119
	180	70	8.0	35.79	28.10	1288.18	280.92	6.00	2.80	143.13	80.26	800	144
200 x 100	200	100	4.0	22.95	18.01	1199.73	410.78	7.23	4.23	119.97	82.16	985	142
	200	100	5.0	28.36	22.26	1459.29	496.95	7.17	4.19	145.93	99.39	1206	172
	200	100	6.0	33.63	26.40	1703.36	576.93	7.12	4.14	170.34	115.39	1417	200
	200	100	7.0	38.78	30.44	1932.27	650.95	7.06	4.10	193.23	130.19	1622	226
	200	100	8.0	43.79	34.38	2146.32	719.22	7.00	4.05	214.63	143.84	1811	250
220 x 140	220	140	4.0	27.75	21.78	1892.58	947.65	8.26	5.84	172.05	135.38	1988	224
	220	140	5.0	34.36	26.97	2313.40	1155.25	8.21	5.80	210.31	165.04	2447	274
	220	140	6.0	40.83	32.05	2714.04	1351.69	8.15	5.75	246.73	193.10	2891	321
	220	140	7.0	47.18	37.04	3094.86	1537.26	8.10	5.71	281.35	219.61	3332	365
240 x 120	240	120	4.0	27.75	21.78	2110.76	725.36	8.72	5.11	175.90	120.89	1726	208
	240	120	5.0	34.36	26.97	2579.72	882.49	8.67	5.07	214.98	147.08	2121	254
	240	120	6.0	40.83	32.05	3025.99	1030.47	8.61	5.02	252.17	171.74	2501	297
	240	120	7.0	47.18	37.04	3449.95	1169.55	8.55	4.98	287.50	194.93	2876	337
	240	120	8.0	53.39	41.91	3851.99	1300.00	8.49	4.93	321.00	216.67	3227	375
300 x 150	300	150	4.0	34.95	27.43	4196.72	1447.47	10.96	6.44	279.78	193.00	3417	332
	300	150	5.0	43.36	34.03	5153.21	1770.89	10.90	6.39	343.55	236.12	4214	407
	300	150	6.0	51.63	40.53	6073.63	2079.60	10.85	6.35	404.91	277.28	4988	479
	300	150	7.0	59.78	46.93	6958.45	2373.92	10.79	6.30	463.90	316.52	5760	546
	300	150	8.0	67.79	53.22	7808.17	2654.18	10.73	6.26	520.54	353.89	6490	612
300 x 200	300	200	4.0	38.95	30.57	5072.93	2736.58	11.41	8.38	338.20	273.66	5527	449
	300	200	5.0	48.36	37.96	6241.13	3360.96	11.36	8.34	416.08	336.10	6836	552
	300	200	6.0	57.63	45.24	7370.35	3962.24	11.31	8.29	491.36	396.22	8115	651
	300	200	7.0	66.78	52.42	8461.09	4540.84	11.26	8.25	564.07	454.08	9400	746
	300	200	8.0	75.79	59.50	9513.88	5097.15	11.20	8.20	634.26	509.71	10626	838

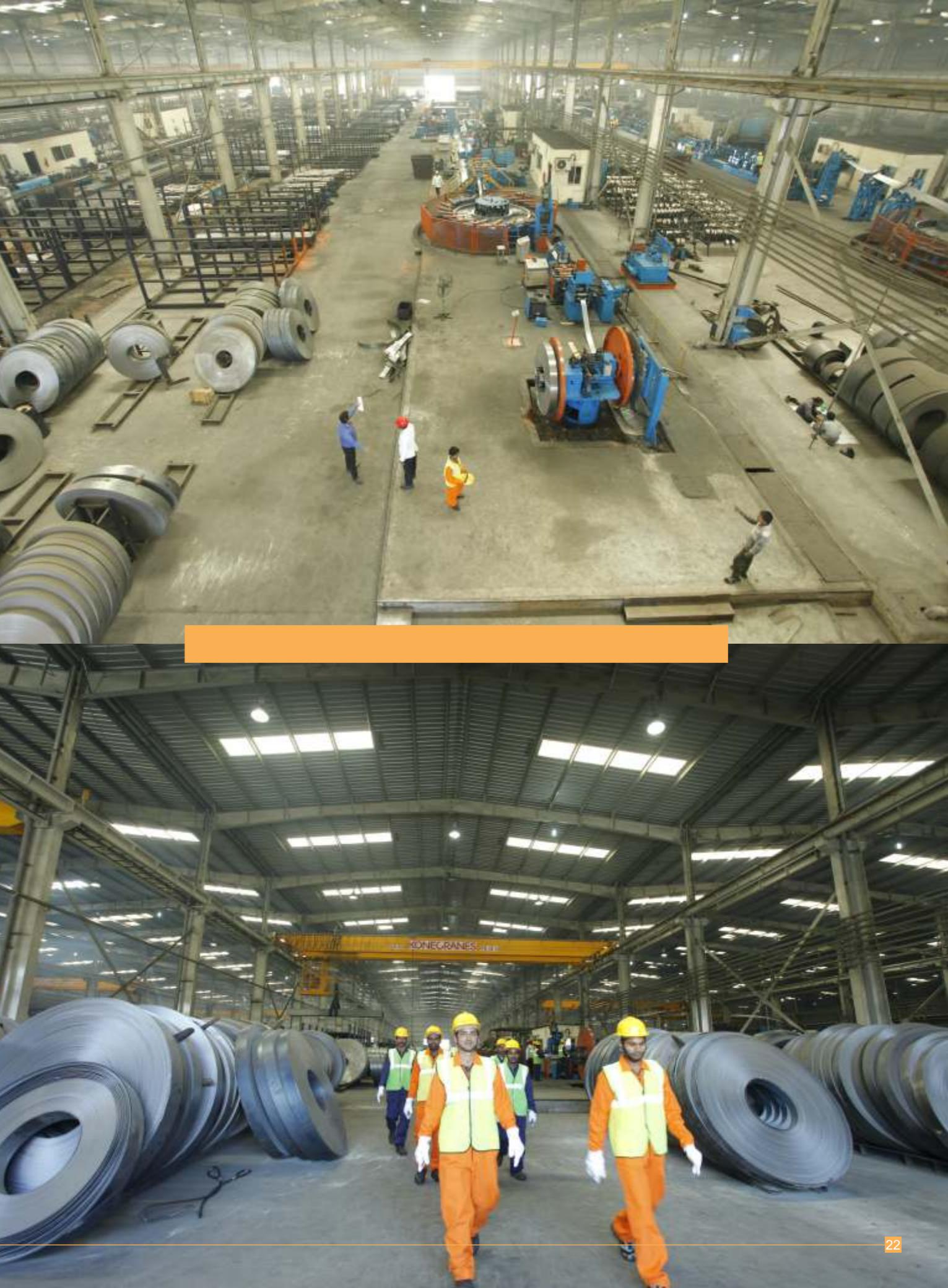
Note: Sizes and Thicknesses other than listed above can be supplied on order to order basis.

*This specification conforms to CE Mark conferred by Det Norske Veritas, Netherlands. Torsional Constant as per EN 10219-2:2006

General technical specifications and tolerances:

- Spec : IS : 4923 : 1997/EN 10219-1 : 2006/ASTM A-500
- Length : 6.0m ± 0.05mm Customized Length ranging from 4 m to 8 m may be supplied
- For all sizes: ± 10.0%
- : 1% with a minimum of 0.5 mm
- : Maximum, 3x (thickness of the section)
- : On individual length: +10%, -8% On lots of MT: ± 7.5%
- : Minimum 1:200th of any length measured along the center line (mill straightened condition) unless otherwise specifically arranged
- : Maximum 2 mm:1.05 mm 1m length, the measured relative vertical shift of any adjacent corner of the section, measured by keeping one side on flat surface.
- : Plain Ended – Mechanically sheared, mill-cut finish without further machining.
- : Black without any surface treatment of oiling or vanishing.
- : Sulphur content: 0.05% max. Phosphorus content: 0.05% max. Equivalent Carbon percentage well within specified weldability limit with matching physical properties
- : RHS/SHS are weldable with standard M.S. Electrode without any preheating.
- : Bundled by sealing metal strap and each Bundle is labeled for size, measurement, Lot no, etc. Approximate weight of each Bundle is 1 mton (±350 kg).
- : Marking of APL APOLLO emblem is surface punched/stenciled/sticker pasted on all RHS/SHS. Standard BIS mark is also put on most of the sections
- : RHS/SHS in customized

in
BUSES



Our Network



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Plants

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Landline: +91 5735 222504



APL APOLLO TUBES LTD. (UNIT-II)
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Landline: +91 4344 398008



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Taluk, Attibele-562107
Bengaluru
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