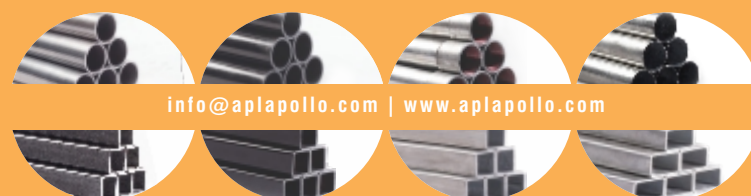




Wherever you go
there we are



info@aplapollo.com | www.aplapollo.com



APL APOLLO TUBES LIMITED

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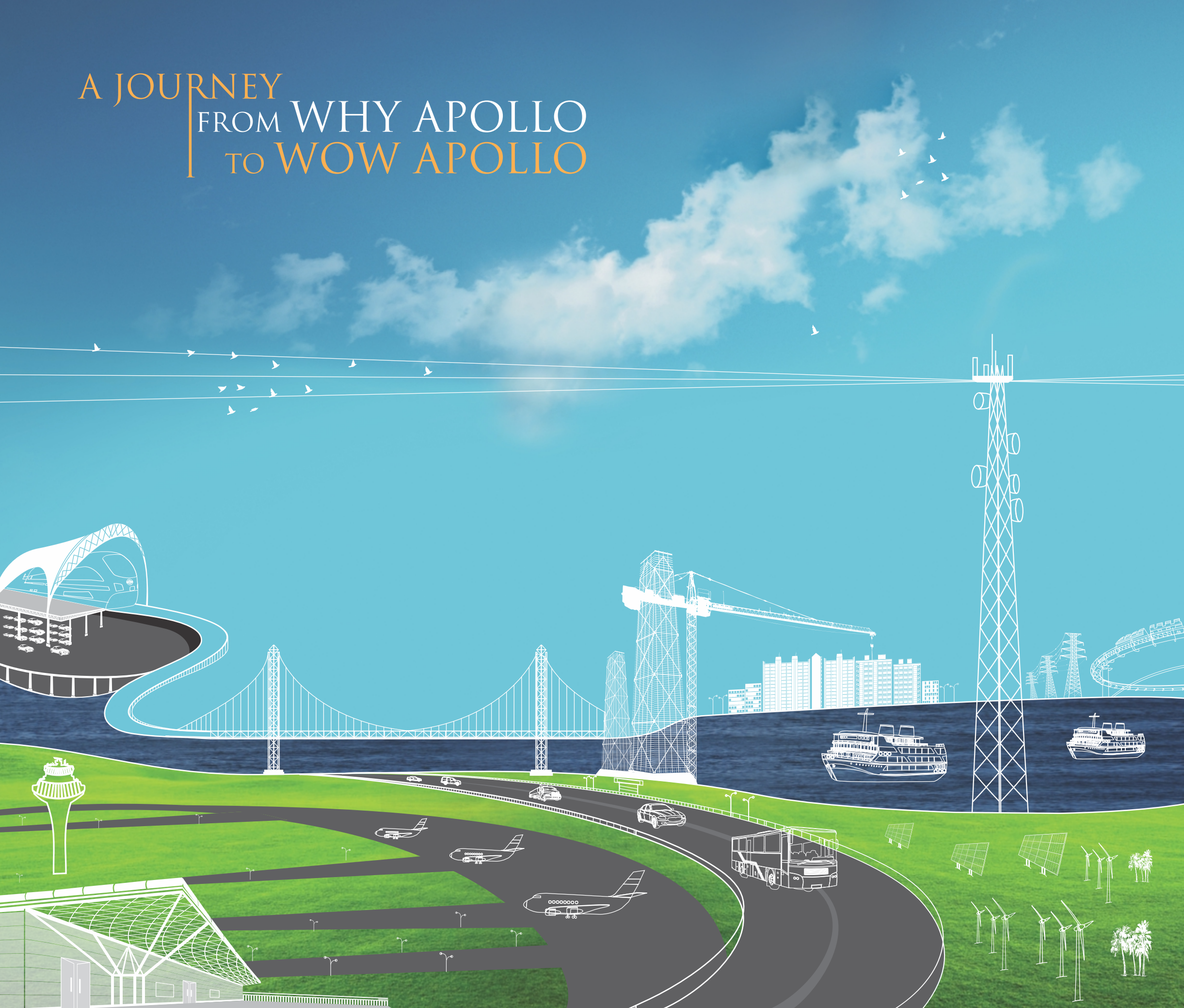
Concept & Design: www.studiog.co.in



Sudesh Group

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 (5 manufacturing units – 2 in Delhi NCR, 1 near Bengaluru, a new Greenfield plant in Hosur, Tamil Nadu and 1 near Mumbai). These latest Japanese technology based world class manufacturing facilities offer a comprehensive range of steel tubes in over 300 varieties 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 1 Million TPA by 2015

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 1/2" to 14" with thickness of 0.7mm 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 5 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 15 branches spread in different states, we are capable of providing finished products to our customers according to their needs.

'O' 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 of over 350 products that vary from round tubes to hollow section, 1/2" to 14" in outer diameter, 0.7 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 SGS (France), Underwrites' 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

we are
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.

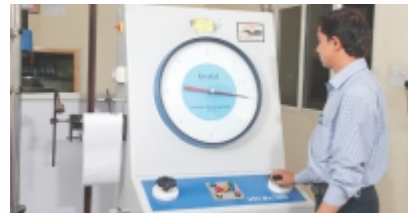
APL Apollo Tubes Limited is an integrated management system certified company having ISO 9001 : 2008, ISO 14001 : 2004 and OHSAS 18001 : 2007. It has strong domestic customer base and exports to over 25 countries. We believe that the best way to ensure quality maintenance is by installing equipments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



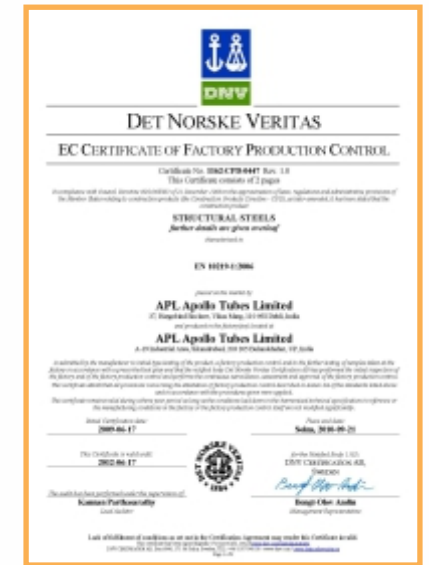
Accreditations



ISO 9001 : 2008



OHSAS 18001 : 2007



CE for EUROPE



ISO 14001 : 2004



UL for USA

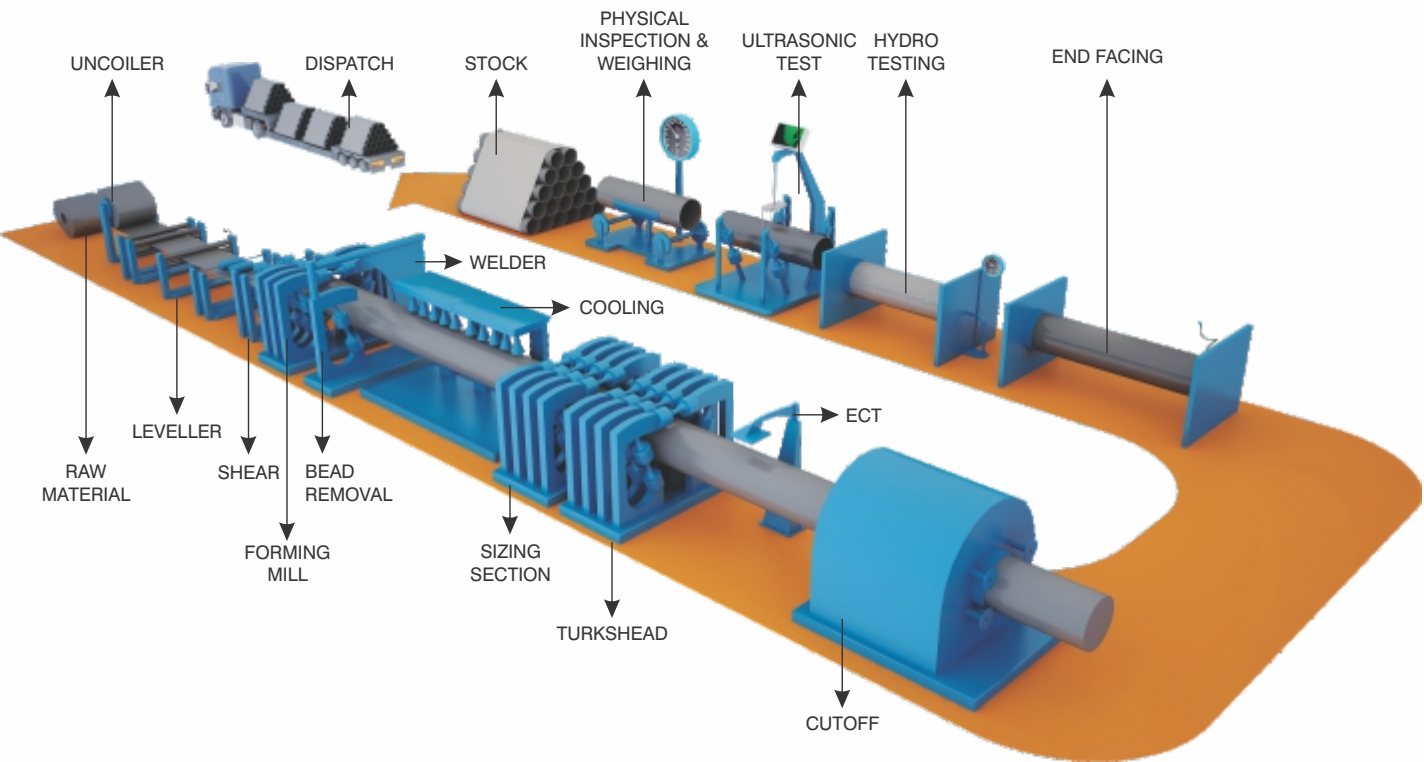


SGS

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in
RAILWAY
STATIONS



Manufacturing Process



ROUND TUBES

BIS Approvals

IS : 1239  2004 (Part 1)	IS: 3589  2001	IS : 4923  1997	
IS: 1161  1998	IS : 9295  1983	IS : 4270  2001	IS : 3601  2006



Round Tubes

Outside Diameter : 21.3mm-355.6mm
Thickness Range : 0.7mm-8.0mm
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:1387-1990
- DIN2439,DIN2440,DIN2441,DIN2444
- EN10255:2004,EN10240:1998
- IS:9295-1983
- IS:3601-1984
- IS:1161-1998
- IS:3589/2001
- IS:4270:2001
- ASTM A-53 GR A&B SCH 20/40/80
- ASTM A-795
- ASTM A-135

TESTS PERFORMED

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

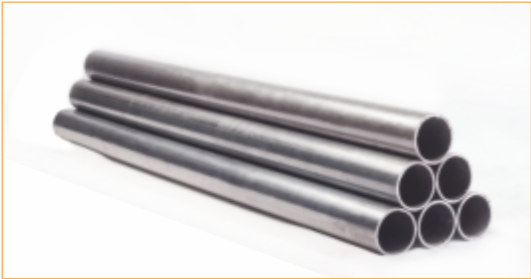
FINISHING OPERATIONS

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

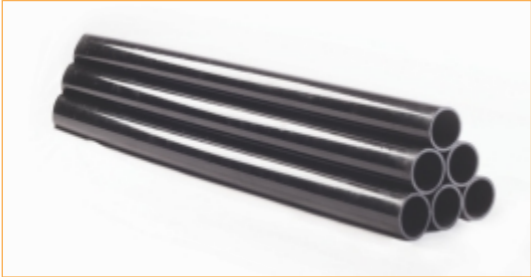
SURFACE PROTECTION

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

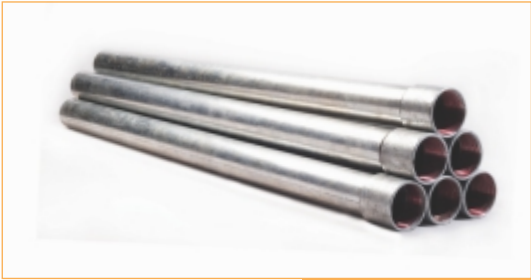
NOTE: For details please refer specification sheet.



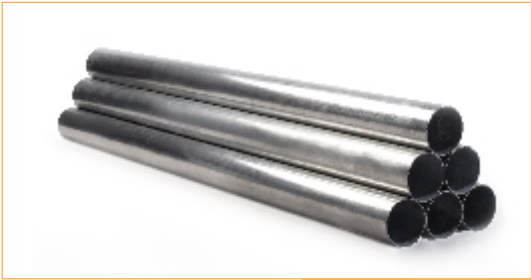
Black (SELF COLORED UNCOATED)



Oiled/Varnish



Hot Dip Galvanised



Pre-Galvanised

Technical Data of MS Black Round Tubes

Specification IS: (Part -1) 2004 -DIN 2439, DIN 2440, DIN 2441
(Equivalent BS : 1387 : 1985 / EN 10255 : 2004 / EN 10240 : 1998 / DIN 2444)

NB and Series		Outside Diameter		Wall Thickness		Nominal Weight			
		Min.	Max			Plain End		Screwed & Socketed	
		MM	MM	MM	SWG	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	7125	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	165.5	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 & Galvanized 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%	Unless otherwise Specified 4 to 7 mtrs. Can also be supplied in Fix Lengths ±5cm.
2. Medium & Heavy Tubes	+ not limited -10%	2. Single Tube (Medium & Heavy Series)	±10%	
		3. For quantities per load of 10 tonnes minimum (Light Series)	±7.5% - 5%	
		4. For quantities per load of 10 tonnes minimum (Medium and Heavy Series)	±7.5%	



ERW Steel Tubes for idlers for Belt Conveyors as per IS : 9295 -1983 Dimensions and Nominal Masses

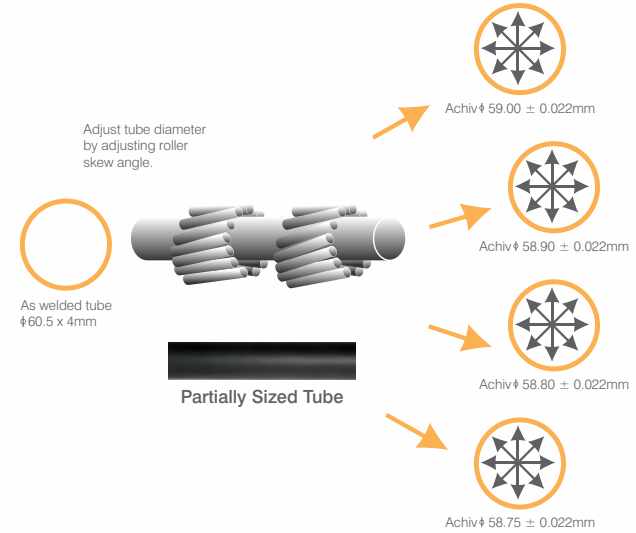
Outside Diameter	Thickness	Mass	Meters
MM	MM	Kg./Mtr.	Tonne
63.50	3.65	5.39	186
	4.05	5.94	168
	4.50	6.55	153
	4.85	7.01	143
	5.40	7.74	129
76.10	6.30	8.89	112
	3.65	6.52	153
	4.05	7.20	139
	4.50	7.95	126
	4.85	8.52	117
88.90	5.40	9.42	106
	6.30	10.84	92
	4.05	8.74	118
	4.50	9.37	107
	4.85	10.05	99
101.60	5.40	11.12	90
	6.30	12.83	78
	4.05	9.74	103
	4.50	10.78	93
	4.85	11.57	86
114.30	5.40	12.81	78
	6.30	14.81	68
	4.50	12.19	82
	4.85	13.09	76
	5.40	14.50	69
127.0	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
152.40	5.40	19.58	51
	6.30	22.70	44
	4.50	17.15	58
	4.85	18.44	54
	5.40	20.46	49
165.10	6.30	23.72	42
	4.50	17.82	56
	4.85	19.17	52
	5.40	21.27	47
	6.30	24.67	41
168.30	4.50	18.18	55
	4.85	19.55	51
	5.40	21.69	46
	6.30	25.17	40
	5.40	25.08	40
193.70	6.30	29.12	34
	5.40	28.46	35
219.10	6.30	33.06	40

Outside Diameter : ±0.8%
Ovality below 168.3mm : 0.5mm
Ovality including 168.3mm & above : 1.0mm
Weight Kg/Mtr : Single Tube : ±10%
For Truck Load of 10 Tonnes : ±7.5%
Thikness : ± 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%.

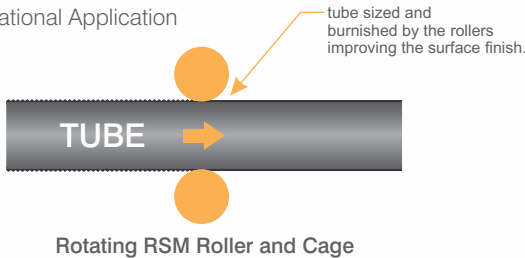


• **Even And Low Residual Stress**
Typically two cages are used in RSM which are counter rotating. This is required to eliminate any torsion load which may be induced into the tube by the process. This results in even reduction on full surface of tube Sizing the tube in only 2 passes keeps the residual 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
MM	MM	MM	Kg./Mtr.	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
		2.60	12.30	81
175	193.7	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
		7.10	46.57	21
250	273	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
		7.10	55.50	18
		5.60	48.33	21
300	323.9	6.40	55.11	18
		7.10	61.02	16
		7.90	67.74	15
		8.70	74.42	13
		9.50	81.08	12
		5.60	48.33	21
		6.40	55.11	18
350	355.6	7.10	61.02	16
		7.90	67.74	15
		8.70	74.42	13
		9.50	81.08	12

Tolerance

a. Outside diameter of pipe	± 0.75%
b. Ovality	= Max. 1%
c. Thickness	± 10%
d. Length	
Unless other specified, length are in single random length of 4 to 7 meter.	
e. Mass per Truck Load of 10 Tonnes of above	± 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)
mm	mm	mm	Kg/m	m/Tone	mm	mm
100	114.3	5.0	13.48	74	130	144.3
	114.3	5.4	14.5	69	157	120.6
125	141.3	5.0	16.8	59		
	141.3	5.4	18.1	55	184	127
150		7.1	23.5	42.5		
	168.3	5.4	20.13	50	211.16	152.4
175	168.3	5.4	21.6	46		
		7.1	28.2	35.5	237	152.4
200	193.7	5.4	25.1	40		
	193.7	6.4	29.6	34	291	177.8
250		8.0	36.6	27		
	219.1	5.4	28.46	35	346	177.8
300	219.1	6.4	33.6	30		
		8.0	41.6	24		
350	273.1	7.1	46.57	21		
	273.1	8.0	52.3	19		
300		10.0	64.9	15		
	323.9	7.1	55.47	18		
350	323.9	8.0	62.3	16		
		10.0	77.4	13		
350	355.6	5.6	48.33	21		
		6.4	55.11	18		
		7.1	61.02	16		
		7.9	67.74	15		
		8.7	74.42	13		
		9.5	81.08	12		

Tolerance

a. Outside diameter of pipe	± 1.0%
b. Thickness	(+) 15%
Up to 406.4mm OD	(+)12.5%
c. Weight	(+)10%
- Single Tube	(+)8%
d. Length	
Unless otherwise specified	4 to 7 mtrs

**There are preferred included OD & thickness. Other sizes not include may be supplied as specified by purchaser

Physical Properties

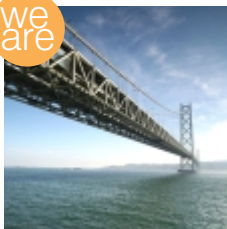
Grade	Y.S. (Min) Mpa MIN	T.S. (Min) Mpa MIN	% Age MIN. Elongation on 5.65/So=G.I.
Fe 410	235	410	15%



Steel Tubes for Structural Purposes
Conforming to Is:1161 : 1998

N.B.	Series	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	L	21.3	2	0.947	1058	1	1003
	M		2.6	1.21	826	1.26	794
	H		3.2	1.44	694	1.49	671
20	L	26.9	2.3	1.38	725	1.43	699
	M		2.6	1.56	641	1.61	221
	H		3.2	1.87	535	1.92	521
25	L	33.7	2.6	1.98	505	2.03	493
	M		3.2	2.41	415	2.46	407
	H		4	2.93	341	2.98	336
32	L	42.4	2.6	1.54	394	2.62	382
	M		3.2	3.1	323	3.18	314
	H		4	3.79	264	3.87	258
40	L	48.3	2.9	3.23	310	3.34	299
	M		3.2	3.56	281	3.67	272
	H		4	4.37	229	4.48	223
50	L	60.3	2.9	4.08	245	4.2	238
	M		3.2	5.03	199	5.15	194
	H		4	6.19	162	6.31	158
65	L	76.1	3.2	5.71	175	5.86	171
	M		3.6	6.42	156	6.57	152
	H		4.5	7.93	126	8.1	123
80	L	88.9	3.2	6.72	149	6.9	145
	M		4	8.36	120	8.54	117
	H		4.8	9.9	101	10.08	99
90	L	101.6	3.6	8.7	115	8.97	111
	M		4	9.63	144	7.2	139
	H		4.8	11.5	87	11.77	85
100	L	114.3	3.6	9.75	103	9.97	100
	M		4.5	12.2	82	12.42	81
	H		5.4	14.5	69	14.72	68
110	L	127	4.5	13.6	74	13.9	72
	M		4.8	14.5	69	14.8	68
	H		5.4	16.2	62	14.8	61
125	L	139.7	4.5	15	67	15.25	66
	M		4.8	15.9	63	16.15	62
	H		5.4	17.9	56	18.15	55
135	L	152.4	4.5	16.4	61	16.78	60
	M		4.8	17.5	57	77.88	56
	H		5.4	19.6	51	19.98	55
150	L	165.1	4.5	17.8	56	18.2	55
	M		4.8	18.9	52	19.8	51
	H		5.4	21.3	47	21.7	46
150	L	168.3	4.5	18.2	55	18.66	54
	M		4.8	19.4	52	19.88	50
	H1		5.4	21.7	46	22.24	45
	H2		6.3	25.2	40	41	24
175	L	193.7	4.8	22.4	45	22.94	44
	M		5.4	25.1	40	25.64	39
	H		5.9	27.3	37	27.84	36
200	L	219.1	4.8	25.4	39	25.95	39
	M		5.6	29.5	34	30.05	33
	H		5.9	31	32	31.55	32
225	H	244.5	5.9	34.7	29	35.36	28
250	H	273	5.9	38.9	26	39.68	25
300	H	323.9	6.3	49.3	20	50.28	20
350	H	355.6	8	68.6	15	69.28	14

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BRIDGES



Tensile Properties

Grade	Y.S. (Min) Mpa (KG/MM ²)	T.S. (Min) Mpa (KG/MM ²)	% 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	
1. Light Class	+10%/-8%
2. Medium & Heavy Class	+/-10

Tolerance

1.On outside diameter up to & including 48.3mm= +0.4mm/ -0.8mm
2.Over 48.3 mm= +/- 1%

Thickness

Tolerance

For All Size	+ Not Limited
Welded Tubes	-10%
10 TON LOT	
Light Class	+ /- 5%
Medium & Heavy Class	+ /- 7.5%

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 ½	48.3	0.126	3.2	0.02	0.5	2.392	3.56
1½	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 : S235GT

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 : SQUARE CUT.

STRAIGHTNESS : 1MM IN 500 MM

FLATTENING TEST : TWO STAGES
FLATTEN UPTO 75% OF TUBE DIA FOR WELD.
FLATTEN UPTO 60 ^ OF TUBE DIA FOR MATERIAL

ZINC COATING : 40 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

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Technical data of IS: 3601 1984 Tubes for Mechanical & General Engg. Purpose

N.B.size		Approx O.D. (mm)	Thickness (mm)	Wt. Kg/ Mtr.	Meters Per Tonne
MM	In				
15	½"	21.3	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	¾"	26.9	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
25	1"	33.7	4.0	2.26	442
			2.0	1.56	641
			2.3	1.78	562
			2.6	1.99	503
			3.2	2.41	415
32	1.25"	42.4	4.0	2.93	341
			4.5	3.24	309
			2.3	2.27	441
			2.6	2.55	392
			3.2	3.09	324
40	1.5"	48.3	3.6	3.44	291
			4.0	3.79	264
			5.0	4.61	217
			5.4	4.93	203
			2.3	2.61	383
50	2"	60.3	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
65	2.5"	76.1	5.0	5.34	187
			5.6	5.900	170
			5.9	6.160	162
			2.3	3.29	304
			2.6	3.7	270
80	3"	88.9	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
			2.6	5.24	191
			3.2	5.75	174
			3.6	6.44	155
			4.0	7.11	141
			4.5	7.95	126
			5.0	8.777	114
			5.4	9.42	106
			6.3	10.8	93
			7.1	12.1	83
			2.9	6.15	163
			3.2	6.76	148
			4.0	8.38	119
			5.0	10.3	97
			5.4	11.1	90
			5.6	11.5	87
			6.3	12.8	78
			8.0	16	63

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.

in
FURNITURE



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		OutsideDiameter		Schedule	Wall Thickness		Weight Of Black Pipes Plain End			No. of pcs. per Bundle
MM	Inch	MM	Inch		MM	Inch	Kg/Mtr.	Lbs/Ft.	Ft./Ton.	
15	1/2	21.3	0.84	40	2.77	0.109	1.27	0.85	2592	120
				80	3.73	0.147	1.62	1.09	20230	
20	¾	26.7	1.05	40	2.87	0.113	1.69	1.13	1945	90
				80	3.91	0.154	2.2	1.48	1490	
25	1	33.4	1.315	40	3.38	0.133	2.5	1.68	1311	60
				80	4.55	0.179	3.24	2.17	1016	
32	1¼	42.2	1.66	40	3.56	0.14	3.39	2.27	967	42
				80	4.85	0.191	4.47	3	735	
40	1 ½	48.3	1.9	40	3.68	0.145	4.05	2.72	810	36
				80	5.08	0.2	5.41	3.63	607	
50	2	60.3	2.375	40	3.91	0.154	5.44	3.66	603	26
				80	5.54	0.218	7.48	5.03	438	
65	2 ½	73	2.875	40	5.16	0.203	8.63	5.8	380	18
				80	7.01	0.276	11.41	7.67	287	
80	3	88.9	3.5	40	5.49	0.216	11.29	7.58	291	14
				80	7.62	0.3	15.27	10.26	215	
90	3 ½	101.6	4	40	5.74	0.226	13.57	9.12	242	12
				80	8.08	0.318	18.63	12.52	176	
100	4	114.3	4.5	40	6.02	0.237	16.07	10.8	204	10
				80	8.56	0.337	22.32	15	147	
125	5	141.3	5.56	40	6.55	0.258	21.77	14.63	151	8
150	6	168.3	6.625	40	7.11	0.028	28.26	18.99	116	7
200	8	219.1	8.625	20	6.35	0.25	33.31	22.38	98	5
				30	7.04	0.277	36.31	24.72	89	3
				40	8.18	0.322	42.55	28.58	77	3
250	10	273	10.748	20	6.35	0.25	41.75	28.06	79	3
				30	7.8	0.307	51.01	34.27	64	3
				40	9.27	0.365	60.29	40.52	54	3
300	12	323.8	12.748	20	6.35	0.25	49.71	33.41	66	3
				30	8.38	0.33	65.18	43.1	50	3
				40	9.52	0.375	73.78	49.61	44	3
350	14	355.6	14	10	6.35	0.25	54.69	36.75	60	3
				20	7.92	0.312	67.9	45.65	48	3
				30	9.52	0.375	81.25	54.62	40	3

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

Chemical Properties

Composition , Max.%

	Carbon	Manganese	Phosphorus	Sulphur	Copper	Nickel	Chromium A	Molybdenum A	Vanadium A
Grade A	0.25	0.95	0.05	0.045	0.5	0.4	0.4	0.15	0.08
				80	3.73	0.147	1.62	1.09	20230
Grade B	0.3	1.2	0.05	0.045	0.5	0.4	0.4	0.15	0.08

Tolerance

Outside Diameter	Pipe Size upto &including Dn40 Pipe Size DN 50 or larger	+1-0.4mm +1-1% Thickness: -12.5(max) Weight: +10%
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Mechanical Properties

	Grade A	Grade B
Yield Strength205	Mpa(Min)	240Mpa(Min)
Tensile Strength	330 Mpa(Min)	415Mpa(Min)
Elongation%	As per ASTM A-%53, Table x 4.1, 4.2	

in
GAS PIPES



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	
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	1.66	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		+1-0.4mm
	Pipes size DN 50 or latger		+1-1%
	Thickness		-12.5 (max)
	Weight		+10%

Mechanical Properties			Chemical Properties				
	Grade A	Grade B		Carbon	Manganese	Phosphorus	Sulphur
Yield Strenght	205 Mpa (Min)	240 Mpa (Min)	Grade A	0.25	0.05	0.035	0.035
Tensile Strenght	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.



HOLLOW SECTION



Hollow Section

Size - RHS 20*15-300*250
SHS 20*20-275*275
Thickness: 1.0 mm to 8.0 mm
Length: 3.0 mm to 12.0 mm

APPLICATIONS

- Construction
- Machinery
- Automotive
- Furniture
- Storage System
- Transmission Tower

PRODUCTION STANDARD

- IS4932:1997
- EN10219-1:2006
- ASTM A-500

TESTS PERFORMED

- Visual and Dimensional Inspection
- Tensile Test
- Flattening 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



Black (SELF COLORED UNCOATED)



Oiled/Varnish



Hot Dip Galvanised



Pre-Galvanised

NOTE: For details please refer specification sheet.

Square Hollow Section (SHS) IS : 4923 : 1997/EN 10219-1 : 2006*/ASTM A-500												
SHS	Thickness	Sec Area	Unit Wt	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface Area per m
				Ixx	Iyy	rx	ry	zxx	zyy	J	B	
D X B	t	A	W	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ⁴	cm ³	cm ²
mm	mm	cm ²	kg/m	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ⁴	cm ³	cm ²
25 x 25	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	2.86	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
32 x 32	2.0	2.30	1.80	3.36	3.36	1.21	1.21	2.10	2.10	5.30	5.30	0.118
	2.6	2.88	2.26	4.02	4.02	1.18	1.18	2.51	2.51	6.45	6.45	0.115
	3.2	3.42	2.69	4.54	4.54	1.15	1.15	2.84	2.84	7.41	7.41	0.112
38 x 38	2.0	2.78	2.18	5.88	5.88	1.46	1.46	3.10	3.10	9.31	9.31	0.142
	2.6	3.51	2.75	7.14	7.14	1.43	1.43	3.76	3.76	11.51	11.51	0.139
	3.2	4.19	3.29	8.18	8.18	1.40	1.40	4.30	4.30	13.45	13.45	0.136
	4.0	5.03	3.95	9.26	9.26	1.36	1.36	4.87	4.87	15.67	15.67	0.131
40 x 40	2.6	3.72	2.92	8.45	8.45	1.51	1.51	4.22	4.22	13.63	13.63	0.147
	2.9	4.09	3.21	9.11	9.11	1.49	1.49	4.56	4.56	14.85	14.85	0.145
	3.2	4.45	3.49	9.72	9.72	1.48	1.48	4.86	4.86	16.00	16.00	0.144
	4.0	5.35	4.20	11.07	11.07	1.44	1.44	5.54	5.54	18.75	18.75	0.139s
49.5 x 49.5	2.6	4.70	3.69	16.91	16.91	1.90	1.90	6.83	6.83	27.19	27.19	0.185
	2.9	5.19	4.07	18.37	18.37	1.88	1.88	7.42	7.42	29.81	29.81	0.183
	3.6	6.28	4.93	21.42	21.42	1.85	1.85	8.66	8.66	35.54	35.54	0.179
	4.5	7.58	5.95	24.64	24.64	1.80	1.80	9.96	9.96	42.15	42.15	0.175
60 x 60	2.6	5.80	4.55	31.33	31.33	2.33	2.33	10.44	10.44	50.08	50.08	0.227
	2.9	6.41	5.03	34.21	34.21	2.31	2.31	11.40	11.40	56.12	56.12	0.225
	3.2	7.01	5.50	36.94	36.94	2.30	2.30	12.31	12.31	60.02	60.02	0.224
	4.0	8.55	6.71	43.55	43.55	2.26	2.26	14.52	14.52	72.41	72.41	0.219
	4.8	10.01	7.85	49.22	49.22	2.22	2.22	16.41	16.41	83.86	83.86	0.215
72 x 72	3.2	8.54	6.71	66.32	66.32	2.79	2.79	18.42	18.42	106.81	106.81	0.272
	4.0	10.47	8.22	79.03	79.03	2.75	2.75	21.95	21.95	129.85	129.85	0.267
	4.0	12.31	9.66	90.31	90.31	2.71	2.71	25.09	25.09	151.55	151.55	0.263
80 x 80	3.2	9.57	7.51	92.71	92.71	3.11	3.11	23.18	23.18	148.55	148.55	0.304
	4.0	11.75	9.22	111.04	111.04	3.07	3.07	27.76	27.76	181.22	181.22	0.299
	4.8	13.85	10.87	127.58	127.58	3.04	3.04	31.89	31.89	212.26	212.26	0.295
91.5 x 91.5	3.6	12.32	9.67	156.49	156.49	3.56	3.56	34.21	34.21	251.17	251.17	0.347
	4.5	15.40	11.88	187.57	187.57	3.52	3.52	41.00	41.00	306.78	306.78	0.343
	5.4	17.85	14.01	215.68	215.68	3.48	3.48	47.14	47.14	359.76	359.76	0.338
100 x 100	4.0	14.95	11.73	226.35	226.35	3.89	3.89	45.27	45.27	364.75	364.75	0.379
	5.0	18.36	14.41	271.10	271.10	3.84	3.84	54.22	54.22	441.84	441.84	0.374
	6.0	21.63	16.98	311.47	311.47	3.79	3.79	62.29	62.29	511.80	511.80	0.369
113.5 x 113.5	4.8	20.28	15.92	393.30	393.30	4.40	4.40	69.30	69.30	637.45	637.45	0.429
	5.4	22.60	17.74	432.58	432.58	4.38	4.38	76.23	76.23	708.69	708.69	0.426
132 x 132	4.8	23.83	16.71	634.39	634.39	5.16	5.16	96.12	96.12	1018.30	1018.30	0.503
	5.4	26.59	20.88	700.11	700.11	5.13	5.13	106.08	106.08	1134.25	1134.25	0.500
	6.0	28.36	22.26	982.12	982.12	5.89	5.89	130.95	130.95	1569.09	1569.09	0.574
150 x 150	6.0	33.63	26.40	1154.91	1154.91	5.84	5.84	152.7g	152.7g	1856.18	1856.18	0.569
	7.0	38.78	30.44	1299.44	1299.44	5.79	5.79	173.26	173.26	2134.99	2134.99	0.564
	8.0	43.79	44.38	1443.00	1443.00	5.74	5.74	192.40	192.40	2405.78	2405.78	0.559
	8.0	43.79	44.38	1443.00	1443.00	5.74	5.74	192.40	192.40	2405.78	2405.78	0.559
180 x 180	4.0	27.75	21.78	1421.74	1421.74	7.16	7.16	157.97	157.97	2224.31	2224.31	0.699
	5.0	43.36	26.97	1736.87	1736.87	7.11	7.11	192.99	192.99	2747.93	2747.93	0.694
	6.0	40.83	32.05	2036.52	2036.52	7.06	7.06	226.28	226.28	3259.23	3259.23	0.689
	7.0	47.18	33.03	2321.04	2321.04	7.01	7.01	257.89	257.89	3758.53	3758.53	0.684
	8.0	53.39	41.90	2590.73	2590.73	6.97	6.97	287.86	287.86	4246.16	4246.16	0.679
220 x 220	4.0	34.15	26.61	2639.14	2639.14	8.79	8.79	239.92	239.92	4099.49	4099.49	0.859
	5.0	42.36	33.25	3238.02	3238.02	8.74	8.74	294.37	294.37	5076.22	5076.22	0.854
	6.0	50.43	39.59	3813.36	3813.36	8.70	8.70	346.67	346.67	6034.73	6034.73	0.849
	7.0	58.38	45.83	4365.55	4365.55	8.65	8.65	396.67	396.67	6974.82	6974.82	0.844
	8.0	66.19	51.96	4894.99	4894.99	8.60	8.60	445.00	445.00	7897.48	7897.48	0.839
250 x 250*	4.0	38.95	30.57	3907.30	3907.30	10.02	10.02	312.58	312.58	6045.40	6045.40	0.979
	5.0	48.36	37.96	4805.01	4805.01	9.97	9.97	384.40	384.40	7494.83	7494.83	0.974
	6.0	57.63	45.24	5672.00	5672.00	9.92	9.92	453.76	453.76	8920.44	8920.44	0.969
	7.0	66.78	52.42	6508.73	6508.73	9.87	9.87	520.70	520.70	10322.70	10322.70	0.964
	8.0	75.79	59.50	7315.65	7315.65	9.82	9.82	585.25	585.25	11702.07	11702.07	0.959

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

OTHER ALLOWABLE STREES VALUES (in Mpa)

Steel Grade	Minimum Yield Stress	Minimum UTS	Axial Street in Tension	Bending Stress in Ten of Compn.	Shear Stress	Bearing Stress	Equivalent Stress
Yst 210	210	--	--	--	--	--	--
Yst 240	240	410	144	158	108	180	216
Yst 310	310	450	186	205	140	232	279

Note: Mnum % Elongation: 10% for GR. Yst 240 & 20 % for Yst 210



Rectangular Hollow Section (RHS) IS : 4923 : 1997/EN 10219-1 : 2006*/ASTM A-500												
RHS	Thickness	Sec Area	Unit Wt	Moment of Inertia		Radius of Gyration		Elastic Modulus		Torsional Constants		Outer Surface Area per m
D X B	T	A	W	ixx	iyx	rxx	ryy	zxx	zyy	J	B	
mm	mm	cm²	kg/m	cm⁴	cm⁴	cm	cm	cm³	cm³	cm⁴	cm³	cm²
50 x 25	2	2.74	2.15	8.38	2.81	1.75	1.01	3.35	2.25	6.97	3.79	0.412
	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	3.24	11.63	3.8	1.68	0.96	4.35	3.04	9.52	5.12	0.134
	4	4.95	3.88	13.13	4.23	1.63	0.92	5.25	3.38	10.86	5.69	0.129
60 x 40	2.6	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	28.9	15.23	2.13	1.55	9.63	7.62	33.3	12.41	0.181
	4.5	7.67	6.02	33.31	17.44	2.08	1.51	11.1	8.72	39.34	14.29	0.177
66 x 33	2.6	4.7	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	10.9	0.179
	4.5	7.58	5.95	36.64	11.93	2.2	1.25	11.1	7.23	31.21	12.43	0.175
80 x 40	2.6	5.8	4.55	46.58	15.74	2.84	1.65	11.65	7.87	38.5	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	5.5	54.94	18.41	2.8	1.62	13.74	9.21	45.83	15.78	0.224
	4	8.55	6.71	64.79	21.49	2.75	1.59	16.2	10.74	54.77	18.49	0.219
96 x 48	4.8	10.01	7.85	73.22	24.03	2.71	1.55	18.3	12.02	62.81	20.79	0.215
	3.2	8.54	6.71	98.61	33.28	3.4	1.97	20.54	13.87	82.13	23.82	0.272
	4	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	3.3	1.9	27.99	18.56	114.8	32.14	0.263
100 x 50	3.6	9.95	7.81	123.5	41.56	35.24	2.04	24.7	16.63	-	-	0.3
	4.5	12.17	9.55	146.59	48.87	34.71	2	29.32	19.55	-	-	0.3
	5.4	14.28	11.21	166.21	55.09	34.18	1.96	33.36	22.04	-	-	0.3
	6	15.63	12.27	178.73	58.67	33.81	1.94	35.75	23.47	-	-	0.3
115 x 60	3.6	11.75	9.22	198.45	71.9	41.1	2.47	34.51	23.97	-	-	0.35
	4.5	14.42	11.32	237.5	85.4	40.69	2.43	41.31	28.47	-	-	0.35
	5.4	16.98	13.33	272.61	97.29	40.07	2.39	47.41	32.43	-	-	0.35
	6	18.63	14.63	293.88	104.37	39.72	2.37	51.11	34.79	-	-	0.35
160 x 80	4.8	21.52	16.9	697.62	236.29	56.93	3.31	87.2	59.07	-	-	0.48
	5.4	24	18.84	768.5	259.25	56.59	3.29	96.06	64.81	-	-	0.48
	6	24.63	20.75	835.93	280.87	56.24	3.26	104.49	70.22	-	-	0.48
	8	34.19	26.84	1036.36	343.75	55.06	3.17	129.57	85.94	-	-	0.48
180 x 70	4.8	22.48	17.65	864.47	194.71	62.01	2.94	96.05	55.63	-	-	0.5
	5.4	25.08	19.69	952.78	213.3	61.63	2.92	105.86	60.94	-	-	0.5
	6	27.63	21.69	1036.91	230.73	61.26	2.89	115.21	65.92	-	-	0.5
	8	35.79	28.09	1287.92	280.89	59.99	2.8	143.1	80.25	-	-	0.5
122 x 61	3.6	12.32	9.67	232.61	78.83	4.34	2.53	38.13	25.84	193.91	44.5	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	52.6	35.09	347.29	60.89	0.338
120 x 60	3.2	10.85	8.51	199.88	67.95	4.29	2.5	33.31	22.65	165.83	28.95	0.334
	3.6	12.11	9.5	220.75	74.77	4.27	2.48	36.79	24.92	184.1	42.91	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
145 x 82	4.8	20.28	15.92	555.16	228.5	5.23	3.36	76.57	55.73	534.27	94.45	0.429
	5.4	22.6	17.74	610.85	250.59	5.2	3.33	84.26	61.12	592.7	103.81	0.426
	4.8	23.83	18.71	917.13	346.91	6.2	3.82	106.64	75.41	826.04	128.85	0.503
172 x 92	5.4	26.59	20.88	1012.47	381.74	6.17	3.79	117.73	82.99	918.1	142.04	0.5
	4	22.95	18.01	1199.71	410.78	7.23	4.23	119.97	82.16	991.47	141.46	0.579
	5	28.36	22.26	1459.25	496.94	7.17	4.19	145.93	99.39	1216.96	171.53	0.574
200 x 100	6	33.63	26.4	1703.31	576.91	7.12	4.14	170.33	115.38	1434.03	199.68	0.569
	7	38.78	30.44	1932.19	650.93	7.06	4.1	193.22	130.19	1642.92	226.04	0.564
	8	43.79	34.38	2146.21	719.19	7	4.05	214.62	143.84	1843.86	250.68	0.559
220 x 140	4	27.75	21.78	1892.55	947.64	8.26	5.84	172.05	135.38	2000.01	223.99	0.699
	5	34.36	26.97	2313.36	1155.23	8.21	5.8	210.31	165.03	2467.63	273.47	0.694
	6	40.83	32.05	2713.97	1351.66	8.15	5.75	246.72	193.09	2922.95	320.55	0.689
	7	47.18	37.03	3094.76	1537.22	8.1	5.71	281.34	219.6	3366.29	365.35	0.684
240 x 120	4	27.75	21.78	2110.72	725.35	8.72	5.11	175.89	120.89	1736.39	208.03	0.699
	5	34.36	26.97	2597.67	882.47	8.67	5.07	214.97	147.08	2138.48	253.55	0.694
	6	44.83	32.05	3025.91	1030.45	8.61	5.02	252.16	171.74	2528.39	296.7	0.689
	7	47.18	37.03	3449.84	1169.52	8.55	4.98	287.49	194.92	2906.43	337.58	0.684
	8	53.39	41.91	3851.84	1299.95	8.55	4.93	320.99	216.66	3272.9	376.29	0.679
260 x 180	4	34.15	26.81	3357.53	1917.45	8.38	7.49	258.27	213.05	3822.78	346.87	0.859
	5	42.36	33.25	4121.36	2349.53	9.92	7.45	317.03	261.06	4730.34	425.47	0.854
	6	50.43	39.59	4855.87	2763.43	9.86	7.4	373.53	307.05	5619.5	501.05	0.849
	7	58.38	45.83	5561.5	3159.5	9.76	7.36	427.81	351.06	6490.62	573.71	0.844
300 x 150	4	34.95	27.43	4196.67	1147.46	10.96	6.44	279.78	192.99	3435.43	331.89	0.879
	5	43.36	34.03	5153.13	1770.87	10.9	6.39	343.54	236.12	4244.57	406.58	0.874
	6	51.63	40.53	6073.51	2079.57	10.85	6.35	404.9	277.28	5034.64	478.2	0.869
	7	59.78	46.93	6958.28	2373.87	10.79	6.3	463.89	316.52	5806	546.85	0.864
	8	67.79	53.22	7807.95	2654.12	10.73	6.26	520.53	353.88	6559.05	612.64	0.859
300 x 200	4	38.95	30.57	5072.88	2736.56	11.41	8.38	338.19	273.66	5555.71	448.64	0.979
	5	48.36	37.96	6241.05	3360.92	11.36	8.34	416.07	336.09	6882.77	551.49	0.974
	6	57.63	45.24	7370.23	3962.19	11.31	8.29	491.35	396.22	8186.02	650.85	0.969
	7	66.78	52.42	8460.93	4540.76	11.26	8.25	564.06	454.08	9465.89	746.83	0.964
	8	75.79	59.5	9513.66	5097.04	11.2	8.2	634.24	509.7	10722.83	839.51	0.959

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

General technical specifications and tolerances:							
Spec	:	IS : 4923 : 1997/EN 10219-1 : 2006/ASTM A-500		End Finish	:	Plain Ended – Mechanically sheared, mill-cut finish without further machining.	
Length	:	6.0m ± 0.05mm Customized Length ranging from 4 m to 8 m may be supplied		Surface Finish	:	Black without any surface treatment of oiling or vanishing.	
Thickness	:	For all sizes: ± 10.0%		Raw Material	:	Sulphur content: 0.05% max. Phosphorus content: 0.05% max. Equivalent	
Outer Dimensions	:	1% with a minimum of 0.5 mm			:	Carbon percentage well within specified weldability limit with matching physical properties	
Corner Squareness	:	900 ± 20		Weldability	:	RHS/SHS are weldable with standard M.S. Electrode without any preheating.	
Corner Radii	:	Maximum, 3x (thickness of the section)		Packing	:	Bundled by sealing metal strap and each Bundle is labeled for size,	
Weight	:	On individual length: ±10%, -8% On lots of MT: ± 7.5%			:	measurement, Lot on, etc. Approximate weight of each Bundle is 1 mton (±350 kg).	
Straightness	:	Minimum 1:200th of any length measured along the center line (mill straightened condition) unless otherwise specifically arranged		Identification	:	Marking of APL APOLLO emblem is surface punched/stenciled/sticker pasted on all	
Twist Tolerance	:	Maximum 2 mm:1:0.5 mm 1m length, the measured relative vertical shift of any		Note	:	RHS/SHS in customized	

API TUBES



API Tubes

This category of steel tubes is generally made out of MS material.

The purpose of this specification is to provide standards for pipe suitable for use in conveying gas, water and oil in both the oil and natural gas industries. This specification covers welded steel line pipes. It includes plain-end, threaded-end, and belled-end pipes, as well as through-the-flow line (TFL) pipe and pipe with ends prepared for use with special couplings. Although the plain-end line pipe meeting the specification is primarily intended for field makeup by circumferential welding, the manufacturer will not assume responsibility for field welding.

5L

This International Standards specifies requirement for the manufacturing of two product specification levels (PSL 1 and PSL 2) of seamless and welded steel pipes for use in pipeline transportation systems in the petroleum and natural gas industries.

This International Standard is not applicable to cast pipe.

5CT

This International Standard specifies the technical delivery conditions for steel pipes (casing, tubing, plain-end casing liners and pup joints), coupling stock and accessories and establish requirement for two Product Specification Levels (PSL – 1 & PSL – 2). These steel pipes are used as casing or tubing for wells in the petroleum and natural gas industries.



NOTE: For details please refer specification sheet.

Steel Line Pipe Conforming to API 5L

NB.	OD	Wall Thickness	Schedule No.	Plain End Weight		STD Test Pressure				
				kg/m	Lb/ft	Grade A	Grade B	Grade x 42	Grade x 46	Grade x 52
4	101.6	4.0	-	9.63	6.41	114	137	150	171	194
4	101.6	4.4	-	10.55	-	123	143	172	188	207
4	101.6	4.8	-	11.46	7.66	134	156	188	205	207
4	101.6	5.7	STD 40	13.48	9.12	154	172	207	207	207
4	101.6	6.4	-	15.02	10.02	154	172	207	207	207
4 1/2	101.6	4.0	-	10.88	7.24	87	101	122	133	151
4 1/2	114.3	4.4	-	11.92	-	96	111	134	146	166
4 1/2	114.3	4.8	-	12.96	8.67	104	121	146	160	181
4 1/2	114.3	5.2	-	13.99	-	113	132	158	173	196
4 1/2	114.3	5.6	-	15.01	10.02	122	142	170	186	207
4 1/2	114.3	6.0	STD 40	16.02	10.8	130	152	183	200	207
4 1/2	114.3	6.4	-	17.03	11.36	139	162	195	207	207
5 9/16	141.3	4.0	-	13.54	9.02	70	82	97	107	121
5 9/16	141.3	4.8	-	16.16	10.8	84	98	117	129	145
5 9/16	141.3	5.6	-	18.74	12.51	98	115	137	150	170
5 9/16	141.3	6.6	-	21.92	14.63	116	135	161	177	199
6 5/8	168.3	4.0	-	16.21	-	59	68	102	112	127
6 5/8	168.3	4.4	-	17.78	-	64	75	113	123	140
6 5/8	168.3	4.8	-	19.35	12.94	70	82	123	135	152
6 5/8	168.3	5.2	-	20.91	-	76	89	133	145	165
6 5/8	168.3	5.6	-	22.47	15.00	82	96	143	157	178
6 5/8	168.3	6.4	-	25.55	17.04	94	109	164	179	203
6 5/8	168.3	7.1	STD 40	28.22	18.99	105	123	183	201	207
8 5/8	219.1	4.8	-	25.37	16.96	54	63	94	103	117
8 5/8	219.1	5.2	-	27.43	18.28	54	63	102	112	127
8 5/8	219.1	5.6	-	29.48	19.68	63	74	110	121	136
8 5/8	219.1	6.4	20	33.57	22.38	72	84	126	138	156
8 5/8	219.1	7.0	30	36.61	24.72	80	93	139	153	173
8 5/8	219.1	7.9	-	41.14	27.73	90	105	157	172	194
8 5/8	219.1	8.2	STD 40	42.65	28.58	92	108	162	178	200
8 5/8	219.1	8.7	-	45.14	30.45	99	116	173	189	207
10 3/4	273.1	5.2	-	34.35	22.89	43	58	93	102	115
10 3/4	273.1	5.6	-	36.94	24.65	50	59	100	110	124
10 3/4	273.1	6.4	20	42.09	28.06	58	68	114	125	142
10 3/4	273.1	7.1	-	46.57	31.23	64	75	127	140	158
10 3/4	273.1	7.8	30	51.03	34.27	71	83	141	154	174
10 3/4	273.1	8.7	-	56.72	38.27	79	92	157	172	195
10 3/4	273.1	9.3	STS 40	60.5	40.52	84	99	167	183	207
12 3/4	323.9	5.6	-	43.96	29.34	43	50	85	92	105
12 3/4	323.9	6.4	20	50.11	33.41	49	56	96	105	119
12 3/4	323.9	7.1	-	55.47	37.46	54	64	108	119	134
12 3/4	323.9	7.9	-	61.56	41.48	61	71	121	132	149
12 3/4	323.9	8.4	30	60.35	43.81	64	75	127	139	158
12 3/4	323.9	8.7	STD	67.62	45.62	67	78	133	145	165
12 3/4	323.9	9.5	10	73.65	49.61	73	85	145	158	179
14355.6	6.4	-	55.11	36.75	44	52	88	96	109	
14355.6	7.1	-	61.02	41.21	50	58	99	108	122	

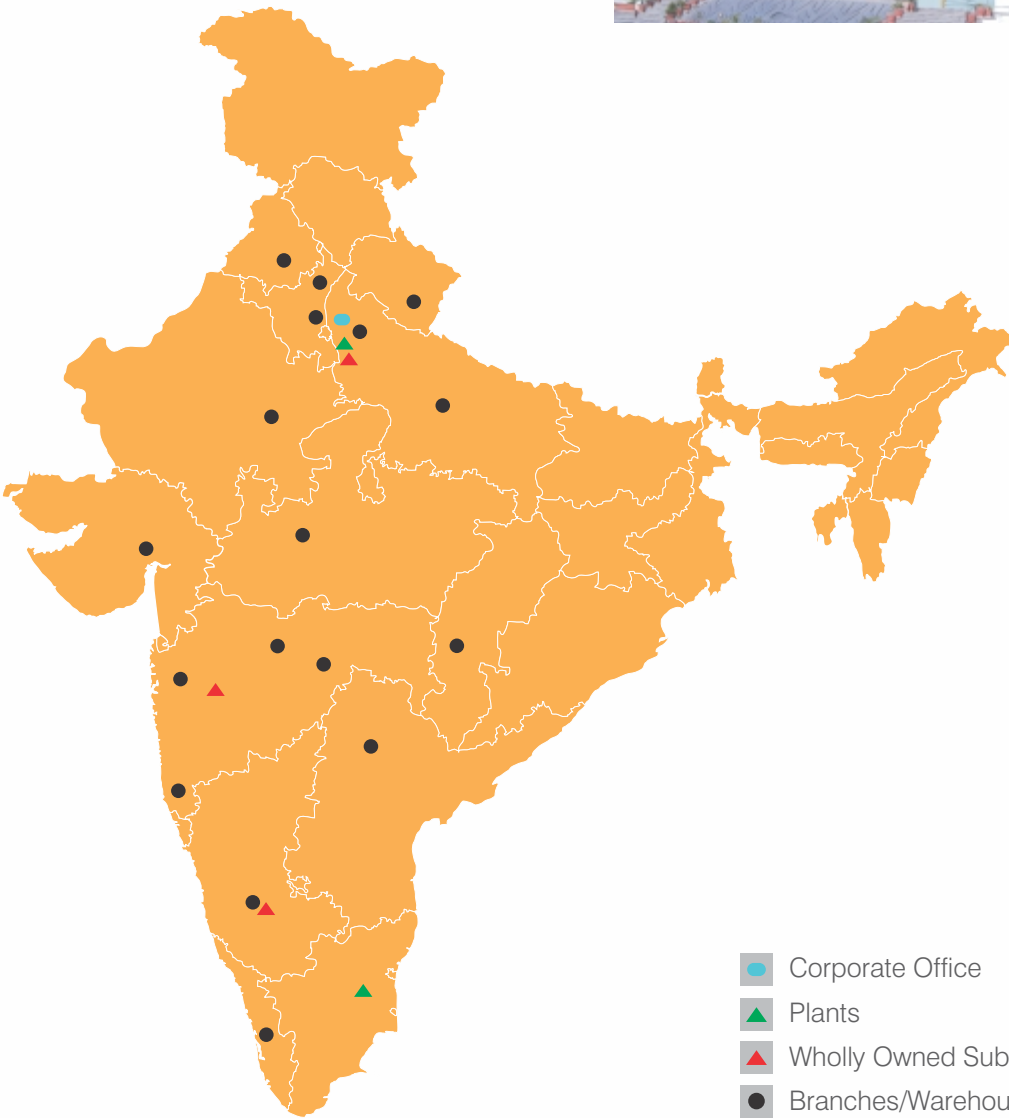
API 5 CT Plain End Casing Pipes for PSL-1 Only

S.No.	Outside Diameter	Wall Thickness	Wall Thickness	API Grade	STD Test Pressure	STD Test Pressure	ALT. Test Pressure
					PSI	Kg/cm2	PSI/Kg/Cm2
1	4.50" (114.30mm)	9.50	5.21	H-40	2900	200-280	N/A
2		10.50	5.69	J-55/K-55	4400		
3		11.60	6.35	J-55/K-55	4900	305	N/A1
1	5 1/2" (139.70mm)	14.00	6.2	H-40	2800		
2		15.50	6.98	J-55/K-55	3900	195-270	N/A
1	6 5/8" (168.30mm)	20	7.32	J-55/K-55	4400	305	N/A
					2800	195-265	N/A
1	8 5/8" (219.10mm)	24	6.71	J-55/K-55	3800		
2		28	7.72	H-40	2700	190	N/A
3		32	8.94	H-40	2300	160	N/A
				J-55/K-55	2600	180	N/A
1	10 3/4" (273.10mm)	32.75	7.09	H-40	1200	82	1700
							120
2		40.50	8.89	H-40	1600	110	2100/145
3		-	-	J-55/K-55	2100	145	2900/200

Our Network



Corporate Office
36, Kaushambi,
Near Anand Vihar Terminal,
Ghaziabad-201010
(U.P.) INDIA
T : +91 120 4041400
F : +91 120 4041444



- Corporate Office
- Plants
- Wholly Owned Subsidiaries
- Branches/Warehouses

Plants

APL APOLLO TUBES LTD. (UNIT-I)
A-19, Industrial Area, Sikandrabad, Distt. Bulandshahar
Uttar Pradesh
E-mail: works@aplapollo.com
Landline: +91 5735 222504



APL APOLLO TUBES LTD. (UNIT-II)
Alur-Village, Near NH-7, Perandapalli Post Hosur-635109
Tamil Nadu
E-mail: hosur@aplapollo.com
Landline: +91 4344 398008



Wholly Owned Subsidiaries

SHRI LAXMI METAL UDYOG LTD.
No -9 to 11, Kiadb Industrial Area, Balagaranahalli, Anekal
Taluk, Attibele-562107
Bengaluru
Landline: +91 80 27820018



LLOYDS LINE PIPES LTD.
Plot No. M-1, Aditional M.I.D.C., Kudavali,
Murbad, Thane-421401
Maharashtra
Landline: +91 2524 224220, 222041

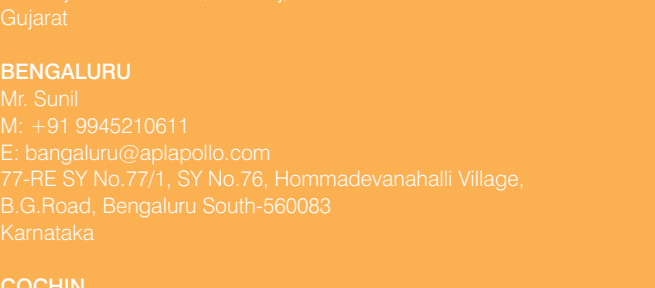


APOLLO METALAX PVT LTD.
A-1/A & A-2, Industrial Area, Sikanderabad,
Distt. Bulandshahar
Uttar Pradesh
Landline: +91 5735 223360

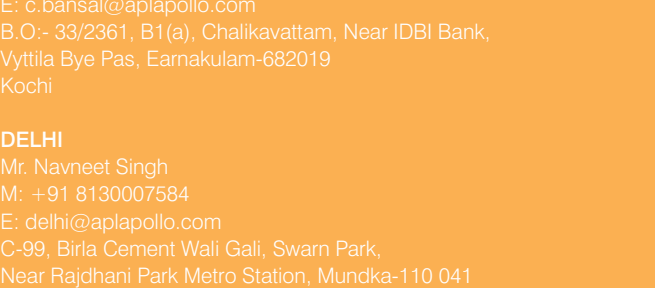


Branches Cum Warehouses

AHMEDABAD
Mr. Amarnath Singh
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E: ahmedabad@aplapollo.com
Survey No.208-Block, Swadeshi-Industries Compound,
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Gujarat



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Sikri Ballabhgarh, Faridabad-121004
Haryana



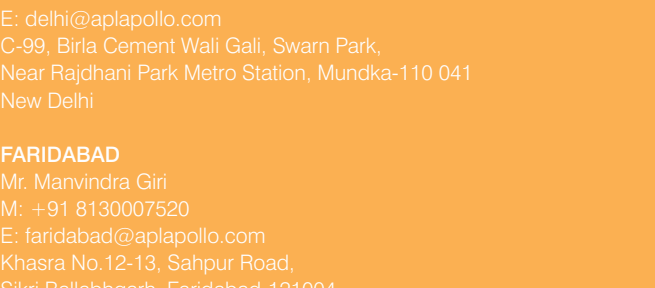
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103, Prakash Industrial Estate,
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Madhya Pradesh



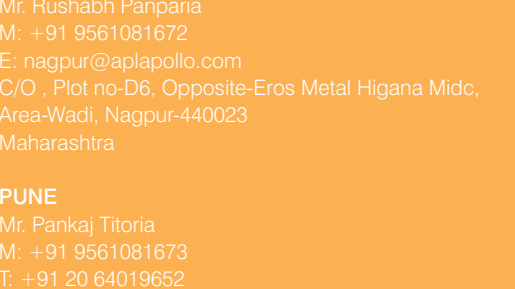
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Rajasthan



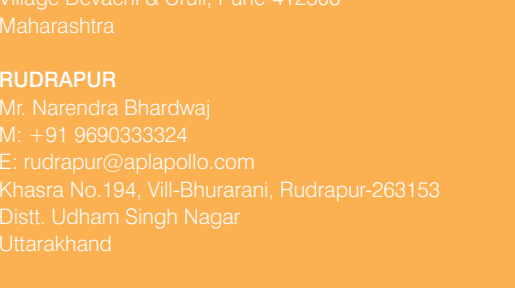
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Uttarakhand



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