



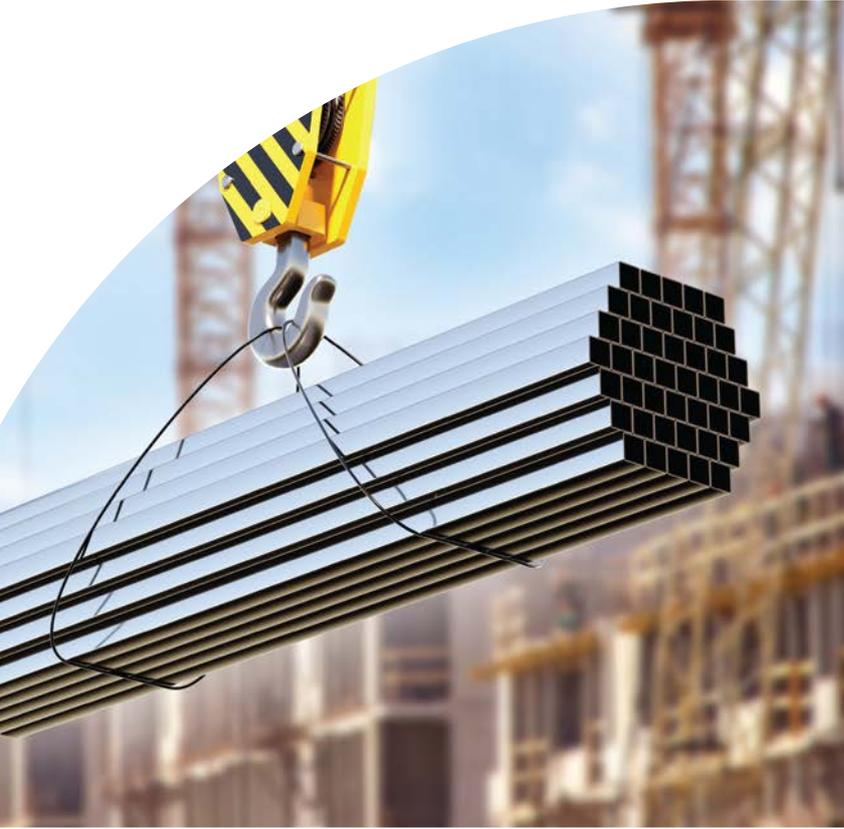
JINDAL INDIA

STEEL PIPES

**Empowering Projects
Enabling Progress**



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JINDAL (INDIA) LIMITED

Legacy Forged in Steel Strengthened Over Generations

Jindal (India) Limited, a cornerstone of the distinguished B.C. Jindal Group, has been a driving force in India's downstream steel industry for over 70 years. Established in 1952 by Shri B.C. Jindal, the company is one of the oldest steel product manufacturers, consistently contributing to the nation's core and modern infrastructure needs since Independence.

With a strong domestic and global presence, Jindal India Limited is at the forefront of the steel industry, offering wide range of products, including colour-coated and galvanised steel sheets & coils, cold-rolled steel, API pipes, ERW galvanised and black pipes, metal beam crash barriers and hollow section pipes. The company is driven by a diverse product portfolio, expansion, and a commitment to customer satisfaction.

**70+ Years of
Steel Excellence**

**Part of the
B.C. Jindal Group**

**Driving India's
Steel Growth**

Jangalpur, West Bengal



Our Strengths:

🔴 BEST QUALITY PRODUCTS

Crafted with precision and innovation, our products redefine excellence and durability.

🔴 TECHNOLOGICAL EXCELLENCE

Innovating to meet modern needs with cutting-edge solutions.

🔴 CUSTOMER-CENTRIC APPROACH

Committed to quality, reliability, and customer satisfaction.

🔴 GLOBAL REACH

Exporting high-quality products to Latin America, the Far East, and beyond.

Our Manufacturing Facilities:

Ranihati, Howrah (West Bengal)

- **Pipes:** 350,000 MT annual capacity, producing ERW round pipes and hollow sections (1/2 inch to 8 inch)
- **Crash Barrier:** 70,000 MT annual capacity

Jangalpur, Howrah (West Bengal)

- **Pipes:** 150,000 MT annual capacity, producing large-diameter API and non-API pipes (6 inch to 20 inch)



Ranihati, West Bengal



Jindal India Steel Pipes

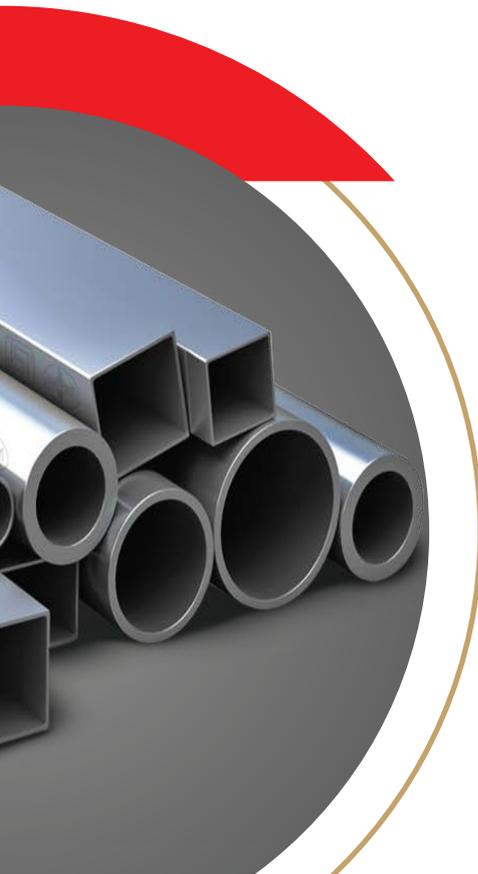
Backbone of Modern Infrastructure

The Jindal India Pipes Division constantly strives to deliver excellence in tube and pipe manufacturing, supporting high-volume demand with advanced automation and inline processing solutions that ensure faster turnaround and superior quality.

Our Product Range at a Glance:

- ERW Round Pipes (Black & GI)
- Hollow Sections (Black & GI)
- API Pipes
- Metal Beam Crash Barriers





Why are we trusted?



✓ Unmatched Strength

Our products are engineered to excel in the most demanding conditions, ensuring reliable performance across all applications.



✓ Superior Durability

Advanced corrosion resistance technology guarantees extended product life and minimal maintenance requirements.



✓ Precision Engineering

State-of-the-art manufacturing processes deliver consistent quality and exact specifications.



✓ Universal Adaptability

Our comprehensive range serves diverse industries, from energy to infrastructure.



Our Capabilities



Automatic ERW Pipe Mills

- ▶ High-speed ERW mills with conventional and FFX forming for quick size changes, precision, and consistent welds.
- ▶ In-line Eddy Current testers, end facers, and hydro testers ensure defect-free, leak-proof pipes.

World-Class Line Pipe Mills

- ▶ Large-diameter mills for the oil and gas sector, featuring advanced forming, HF welding, seam normalizing, UT, MPI, and hydrotesting.
- ▶ API-certified for producing API 5L and 5CT pipes across multiple grades.

Automated In-Line Bundling

- ▶ Fully automated bundling for round and hollow sections, enhancing safety, accuracy, and logistics efficiency.

Crash Barrier Manufacturing Lines

- ▶ Automatic W-Beam and Thrie-Beam manufacturing lines with accessories.
- ▶ NHAI-certified and NATRAX crash-tested for maximum safety.

Advanced Coating Plant

- ▶ State-of-the-art 3LPE and 3LPP coating facilities with optional internal coatings, compliant with global line pipe standards.

In-Line Varnishing

- ▶ Automated varnishing improves surface protection, finish, and delivery speed while extending product shelf life.

Hot-Dip Galvanizing Lines

- ▶ 12,000 MT/month capacity for pipes, hollow sections, and crash barriers, providing high-quality zinc coatings for superior corrosion resistance.

Certifications

- ▶ Certified to ISO 9001, ISO 14001, OHSAS 18001, API (USA), API 5CT, CE (Europe), and other international standards.

Mills and Technical Specifications

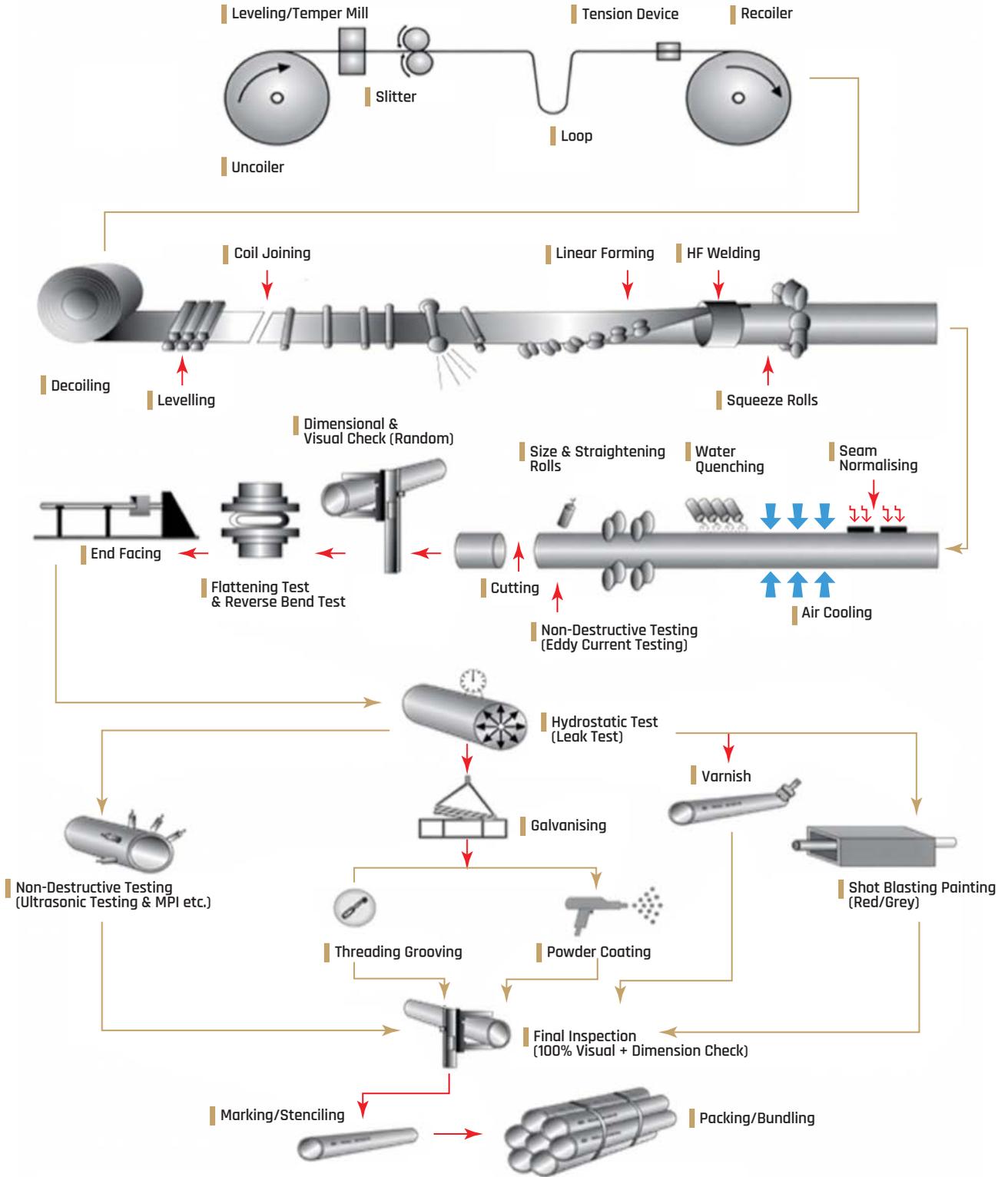
ERW / WRD MILL (200 NB)

Type of Production	<ul style="list-style-type: none"> • Circular Hollow Section (CHS) • Square/Rectangular Hollow Sections (SHS/RHS)
CHS Size Range	88.90 - 219.10 mm
Wall Thickness	2.75 - 12.7 mm
SHS Size Range	72x72, 80x80, 100x100, 125x125, 150x150, 175x175
RHS Size Range	91x91, 96x48, 100x50, 122x61, 125x75, 150x75, 150x100, 200x100, 200x150
Wall Thickness	2.75 - 10 mm
Length	4 - 12 m
Yield Strength	235 - 415 MPa
Product Standards	API-5L ASTM A53, ASTM A500, ASTM A795, EN10255, IS 1161, IS 3589, IS 3601, IS 4293

GALLIUM (15 to 65 NB) Tube Mill

PRODUCTION RANGE	
Type of Production	<ul style="list-style-type: none"> • Circular Hollow Section (CHS) • Square/Rectangular Hollow Sections (SHS/RHS)
CHS Size Range	21.3 - 76.2 mm
SHS Size Range	20x20 - 60x60 mm
RHS Size Range	30x20 - 80x40 mm
Round Tube Thickness	1.20 - 7.0 mm
Section Tube Thickness	1.20 - 5.0 mm
Tube Cut Length	4 - 7 m
Tube Standards	Dimensionally As Per ASTM A53, ASTM A500, ASTM A795, EN 10255, IS:1161, IS:3589, IS:3601, IS:4923

Process Flow Diagram



Note: Process/Testing as applicable according to the requirements.

Our Commitment to Quality

Application & Standards

The products conform to the following national and international specifications.

Water Pipe Lines	Water mains, plumbing, sewerage systems, industrial water lines, and plant piping (IS 1239 Part 1: 2004, IS 3589: 2001, ASTM A53-12, JIS G 3452: 2010, EN 10255: 2004, EN 10217-1: 2002, AS 1074: 1989, AS/NZS 1163: 2009)
Agriculture and Irrigation	Farming, deep tube-wells and casing pipes as per IS 1239/3589, IS 4270-2001
Fire Fighting/ HVAC Industries	HVAC (Heating, Ventilation and Air Conditioning) in MEP, PHE, and other industrial applications (IS 1239 Part 1: 2004, IS 3589: 2001, ASTM A53-12, ASTM A795-04)
Construction (RHS/SHS/CHS)	Scaffolding and structural purposes (IS 1161: 2014, IS 4923: 2017, EN 39: 2001, EN 10219 Part 1 and 2: 2006, AS/NZS 1163: 2009, ASTM A500-13)
Gas/Oil Pipe Lines	Pipelines for natural gas, LPG, PNG, and other non-toxic gases (IS 1239 Part 1: 2004, IS/ISO 3183: 2007)
Cement/Sugar/ Paper Industries	Steel tubes for mechanical and general engineering purposes (IS 3601: 2006, BS 1775: 1964)
Automobiles	Motorcycles, and cars (IS 3074: 2013, IS 3601: 2006, EN 10305: 2003)
Bicycles	IS 2039: 1991, BS 1717
Steel/Power Project	Ash handling systems and LP piping (IS 3589: 2001, IS 1239 Part 1: 2004)
General Engineering	Furniture, barricades, commercial vehicle bodies, exhaust piping supply, cold storage industry, LPG cylinder rings (IS 1239 Part 1: 2004); steel tubes for idlers and belt conveyors (IS 9295: 1983); electrical poles and telecom towers (IS 1161: 2014)

Quality Control & Testing Facility

- › **Bending Machine:** For pipe bend test.
- › **Borescope:** For internal visual inspection.
- › **Coating Thickness Gauge:** For Zinc coating thickness (micron) check.
- › **Digital Ultrasonic Thickness Gauge:** For checking wall thickness of pipes / HR coil / HR slits.
- › **Eddy Current Testing Machine (NDT):** For online flaw detection in welds and HAZ.
- › **Hydro Testing Machine:** For high-pressure testing of pipes using water or oil.
- › **Hydraulic Press Machine:** For flattening and weld ductility test.
- › **Impact Testing Machine:** For measuring absorbed energy of base metal, weld, and heat-affected zone.
- › **Measuring Instruments:** For VDI inspection purpose.
- › **Metallurgical Microscope:** For checking and evaluating the grain structure of material, heat affected and weld zones.
- › **Spectroscope:** For chemical testing of pipes, HR coils and slits.
- › **Vickers Micro Hardness Tester:** For checking micro hardness on weld seam, heat affected zone & material.
- › **Universal Testing Machines (Digital):** For material testing (mechanical properties).
- › **Weighing Machine:** For checking individual pipe weight and bundle weight.

ERW Round Pipes (Black & GI)

Powering Possibilities and Progress

Jindal India's ERW Round Pipes offer durable and high-performance solutions in black finish and galvanised finish, engineered for precision, uniform coating, and reliability across diverse applications. Manufactured from hot rolled coils using High-Frequency Welding (HFW) and stringent quality checks, these pipes deliver high strength, accurate dimensions, and long service life, trusted by infrastructure developers nationwide. They are used in MEP, general engineering, industrial fluid & chemical conveyance, firefighting, deep boring, HVAC, sewage, and more, conforming to IS, BS, ASTM, and EN standards, including IS 1239-Part 1, IS 3589, IS 3601, IS 1161, IS 4270, and IS 9295.

● **Size Range:** ½" (21.3 mm OD) to 20" (508 mm OD); thickness up to 12 mm.

● **Water Well Pipes:** IS 4270, 100 mm NB to 500 mm NB, up to 10 mm thick, Grade Fe 410.

● **Idler & Conveyor Tubes:** IS 9295, up to 219.1 mm OD, 7.1 mm thick, Grades YST 210, 240 & 310.

Advantages That Make the Difference



HIGH DIMENSIONAL ACCURACY

Precision forming ensures uniform diameter, thickness, and straightness.



SUPERIOR WELD STRENGTH

HFW process delivers strong, smooth, filler-free welds.



VERSATILE APPLICATIONS

Available in Black and GI variants for construction, plumbing, automotive, scaffolding & more.



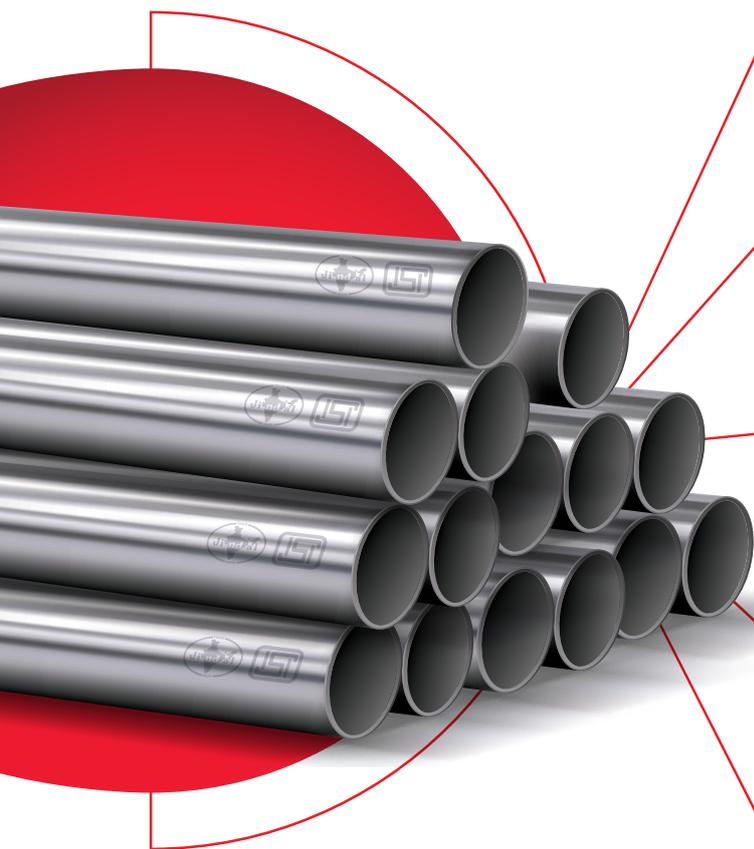
DURABLE & LONG-LASTING

High-grade materials and testing ensure long life and reduced maintenance.



WIDE RANGE

Multiple diameters, thicknesses, and grades to meet varied technical and commercial needs.



TECHNICAL SPECIFICATIONS

Size Range	1/2" (15 mm) - 20" (508 mm)
Thickness Range	1 - 14.3 mm
Length Range	4 - 18 m (Average Length)
End Finish	Plain End/Beveled/Screwed/Socketed
Specification & Grades	ASTM A - 53 - GR A & B, ASTM A - 252 GR1, 2 & 3 EN - 10219, EN - 10255, ASTM A - 500 GR A, B, C & D IS:1239, IS:1161, IS:3601, IS:4270, IS:3589, IS:9295
Protective Coating	Bare, Galvanised or Rust Preventive Coating Black (1/2" - 20") / GI (1/2" - 16") / IS 4736 / ISO 21809 / CSA245.2021 & Equivalent
End Protection	Protected with Plastic/Metallic and Sockets



Industrial Applications



Pre-Engineered Buildings



Agricultural & Irrigation Frameworks



Fire Hydrant Safety System Pipes



Building Frameworks & Scaffolding

Applications

Stadium, Auditorium & Airport Infrastructure



**CONFORMING TO IS : 1239 (PART - I) 2004
(EQUIVALENT TO BS: 1387/1987) BLACK & GALVANIZED STEEL TUBES**

NB and Series	Outside Diameter		Wall Thickness	Weight of Black and Galvanised Tubes				Socket Dimension	
	Max.	Min.		Plain End		Screwed & Socket End		As Per IS : 1239 (Pt-2)-92	
mm	mm	mm	mm	kg/m	m/ton	kg/m	m/ton	Min. OD mm	Min. Length mm
15	21.4	21.0	2.00	0.947	1056	0.956	1046	27	37
	21.8	21.0	2.60	1.21	826	1.22	820		
	21.8	21.0	3.20	1.44	694	1.45	690		
20	26.9	26.4	2.30	1.38	725	1.39	719	32.5	39
	27.3	26.5	2.60	1.56	641	1.57	637		
	27.3	26.5	3.20	1.87	535	1.88	532		
25	33.8	33.2	2.60	1.98	505	2.00	500	39.5	46
	34.2	33.3	3.20	2.41	415	2.43	412		
	34.2	33.3	4.00	2.93	341	2.95	339		
32	42.5	41.9	2.60	2.54	394	2.57	389	49	51
	42.9	42.0	3.20	3.10	323	3.13	319		
	42.9	42.0	4.00	3.79	264	3.82	262		
40	48.4	47.8	2.90	3.23	310	3.27	306	56	51
	48.8	47.9	3.20	3.56	281	3.60	278		
	48.8	47.9	4.00	4.37	229	4.41	227		
50	60.2	59.6	2.90	4.08	245	4.15	241	68	60
	60.8	59.7	3.60	5.03	199	5.10	196		
	60.8	59.7	4.50	6.19	162	6.26	160		
65	76.0	75.2	3.20	5.71	175	5.83	172	84	69
	76.6	75.3	3.60	6.42	156	6.54	153		
	76.6	75.3	4.50	7.93	126	8.05	124		
80	88.7	87.9	3.20	6.72	149	6.89	145	98	75
	89.5	88.0	4.00	8.36	120	8.53	117		
	89.5	88.0	4.80	9.90	101	10.10	99		
100	113.9	113.0	3.60	9.75	103	10.00	100	124	87
	115.0	113.1	4.50	12.20	82	12.50	80		
	115.0	113.1	5.40	14.50	69	14.80	68		
125	140.8	138.5	4.80	15.90	63	16.40	61	151	96
	140.8	138.5	5.40	17.90	56	18.40	54		
150	166.5	163.9	4.80	18.90	53	19.50	51	178	96
	166.5	163.9	5.40	21.30	47	21.90	46		

TOLERANCE - IS: 1239 (Pt - 1)

Wall Thickness			Weight		
For Light Tubes	+ Not Limited	-8%	For Single Tube (Light Series)	+10%	-8%
For Medium & Heavy Tubes	+ Not Limited	-10%	For Single Tube (Medium & Heavy Series)	+10%	-10%

**CONFORMING TO IS : 3601-2006
STEEL TUBES FOR STRUCTURAL PURPOSE**

NB and Series	Outside Diameter	OD (Min.)	OD (Max.)	Std. Thickness	Thickness Min.	Thickness Max.	Std. Weight	
				mm	mm	mm	kg/m	m/ton
15	21.3	21.15	21.45	1.80	1.62	1.98	0.866	1155
				2.00	1.80	2.20	0.952	1050
				2.60	2.34	2.86	1.20	833
				3.20	2.88	3.52	1.43	699
				4.00	3.60	4.40	1.71	585
20	26.9	26.75	27.05	1.80	1.62	1.98	1.11	901
				2.00	1.80	2.20	1.23	813
				2.30	2.07	2.53	1.40	714
				2.60	2.34	2.86	1.56	641
				3.20	2.88	3.52	1.87	535
				4.00	3.60	4.40	2.26	442
25	33.7	33.52	33.85	2.00	1.80	2.20	1.56	641
				2.30	2.07	2.53	1.78	562
				2.60	2.34	2.86	1.99	503
				3.20	2.88	3.52	2.41	415
				4.00	3.60	4.40	2.93	341
				4.50	4.05	4.95	3.24	309
32	42.4	42.22	42.58	2.30	2.07	2.53	2.27	441
				2.60	2.34	2.86	2.55	392
				3.20	2.88	3.52	3.09	324
				3.60	3.24	3.96	3.44	291
				4.00	3.60	4.40	3.79	264
				5.00	4.50	5.50	4.61	217
				5.40	4.86	5.94	4.93	203
40	48.3	48.12	48.48	2.30	2.07	2.53	2.61	383
				2.60	2.34	2.86	2.93	341
				2.90	2.61	3.19	3.25	308
				3.20	2.88	3.52	3.56	281
				3.60	3.24	3.96	3.97	252
				4.00	3.60	4.40	4.37	229
				4.90	4.41	5.39	5.24	191
				5.00	4.50	5.50	5.34	187
				5.60	5.04	6.16	5.90	169
50	60.3	60.05	60.55	2.30	2.07	2.53	3.29	304
				2.60	2.34	2.86	3.70	270
				2.90	2.61	3.19	4.11	243
				3.20	2.88	3.52	4.51	222
				3.60	3.24	3.96	5.03	199
				4.00	3.60	4.40	5.55	180
				4.50	4.05	4.95	6.19	162
				5.00	4.50	5.50	6.82	147
				5.60	5.04	6.16	7.55	132
				6.30	5.67	6.93	8.39	119
65	76.1	75.85	76.35	2.60	2.34	2.86	5.24	191
				2.90	2.61	3.19	5.75	174
				3.20	2.88	3.52	6.44	155
				3.60	3.24	3.96	7.11	141
				4.50	4.05	4.95	7.95	126
				5.00	4.50	5.50	8.77	114
				5.40	4.86	5.94	9.42	106
80	88.9	88.59	89.21	6.30	5.67	6.93	10.80	93
				7.10	6.39	7.81	12.10	83
				2.90	2.61	3.19	6.15	163
				3.20	2.88	3.52	6.76	148
				4.00	3.60	4.40	8.38	119

**CONFORMING TO IS : 3601-2006
STEEL TUBES FOR STRUCTURAL PURPOSE**

NB and Series	Outside Diameter	OD (Min.)	OD (Max.)	Std. Thickness	Thickness Min.	Thickness Max.	Std. Weight	
				mm	mm	mm	kg/m	m/ton
80	88.9	88.59	89.21	5.00	4.50	9.50	10.30	97
				5.40	4.86	9.54	11.10	90
				5.60	5.04	6.16	11.50	87
				6.30	5.67	6.93	12.80	78
				8.00	7.20	8.80	16.00	63
100	114.3	113.87	114.73	3.20	2.88	3.52	8.77	114
				3.60	3.24	3.96	9.83	102
				4.50	4.05	4.95	12.20	82
				5.40	4.86	5.94	14.50	69
				6.30	5.67	6.93	16.80	60
				8.00	7.20	8.80	21.00	48
				8.80	7.92	9.68	22.90	44
125	139.7	139.12	140.28	3.60	3.24	3.96	12.10	83
				4.00	3.60	4.40	13.40	75
				4.50	4.05	4.95	15.00	67
				5.00	4.50	5.50	16.60	60
				5.40	4.86	5.94	17.90	56
				6.30	5.67	6.93	20.70	48
				8.00	7.20	8.80	26.00	38
				10.00	9.00	11.00	32.00	31
150	165.1	164.45	165.75	4.50	4.05	4.95	17.80	56
				5.00	4.50	5.50	19.70	51
				5.40	4.86	5.94	21.20	47
				6.30	5.67	6.93	24.80	40
150	168.3	167.65	168.95	4.00	3.60	4.40	16.20	62
				4.50	4.05	4.95	18.20	55
				5.00	4.50	5.50	20.10	50
				5.40	4.86	5.94	21.70	46
				6.30	5.67	6.93	25.20	40
				7.10	6.39	7.81	28.20	35
				8.00	7.20	8.80	31.60	32
11.00	9.90	12.10	42.70	23				
200	219.1	218.35	219.85	4.50	4.05	4.95	23.80	42
				5.00	4.50	5.50	26.40	38
				5.60	5.04	6.16	29.50	34
				6.30	5.67	6.93	33.10	30
				8.00	7.20	8.80	41.60	24
				12.50	11.25	13.75	63.70	16
250	273	272.25	273.75	5.00	4.50	5.50	33.00	30
				6.30	5.67	6.93	41.40	24
				7.10	6.39	7.81	46.60	21
				10.00	9.00	11.00	64.90	15
300	323.9	323.15	324.65	5.60	5.04	6.16	44.00	23
				7.10	6.39	7.81	55.50	18
				8.00	7.20	8.80	62.30	16
				10.00	9.00	11.00	77.40	13
350	355.6	354.85	356.35	5.60	5.04	6.16	48.30	21
				8.00	7.20	8.80	68.60	15
				10.00	9.00	11.00	85.20	12
				11.00	9.90	12.10	93.50	11
				12.50	11.25	13.75	106.00	9
400	406.4	405.65	407.15	6.30	5.67	6.93	62.20	16
				8.80	7.92	9.68	86.30	12
				10.00	9.00	11.00	97.80	10
				12.50	11.25	13.75	121.00	8

FLATTENING TEST REQUIREMENT

SN	Grade	Distance Between Platens
1	WT 160	1/2
2	WT 210	2/3
3	WT 240	3/4
4	WT 310	3/4

DRIFT EXPANSION TEST REQUIREMENT

SN	Grade	Increase of OD %
1	WT 160	12
2	WT 210	12
3	WT 240	10
4	WT 310	8

MECHANICAL PROPERTIES

Properties	WT160	WT120	WT240	WT310
Yield Strength (MPa)	160	210	240	310
Ultimate TS (Mpa)	310	330	410	450
Elongation upto 1" OD	15	12	10	6
Elongation More than 1" OD	22	20	15	10
Flattening Test (Weld at 90°)	As per Annexure IS 3601 Table 1			
Drift Expanding Test	As per Annexure IS 3601 Table 2			

CHEMICAL PROPERTIES % : (ONE SAMPLE/HEAT) MAXIMUM LIMITS

Grade	C	Mn	S	P	CE
WT160	-	-	0.04	0.04	-
WT210	-	-	0.04	0.04	-
WT240	-	-	0.04	0.04	-
WT310	-	-	0.04	0.04	-
Hydro-Test Pressure (HTP)			Not Required		NA

FINISHING & MARKING

Properties	Acceptance Criteria
Coating	Black Varnish/Oiled Bare as per PI/PO/Rolling plan
Embossing/Hard Stamp	JIL, IS 3601, ISI Logo & C/ML No. at Every m/as per PI/PO/Rolling Plan
Marking	JIL, IS 3601, ISI Logo & C/ML No. Size, Grade Batch No./as per PI/PO
Bundling, Labeling & Tagging	As per PI/PO
End Cap/Protector	As per PI/PO
Certification	Mill Test Certificate as per EN 10204 Type 3.1 or 3.2 (as per PI/PO)

TOLERANCE - IS 3601

Properties	Acceptance Criteria
Outside Diameter (Body/End)	As per Annexure IS 3601 Table 1
Thickness	± 10% of Wall Thickness
Weight	As per Annexure IS 3601 Table 1
Root Face	Plain End/Bevel End (Root Face 1.60 ±0.80 mm) or Threaded End (as per PI & Rolling Plan)
Bevel Angle	Plain End/Bevel End (Bevel Angle 30° to 35°) or Threaded End (as per PI & Rolling Plan)
Squareness	0.50 mm Maximum
Inside Bead Height	60% of Specific Wall Thickness
Straightness	Maximum 1/600 of Any Length Measured at the Centre of that Length

**CONFORMING TO IS : 1161- 2014
STEEL TUBES GRADE YST-210 & YST- 240 FOR STRUCTURAL PURPOSE**

NB and Series	Outside Diameter	OD (Min.)	OD (Max.)	Wall Thickness	Thickness (Min.)	Thickness (Max.)	Std. Weight	
	mm	mm	mm	mm	mm	mm	kg/m	m/ton
15	21.3	20.5	21.7	2.00	1.80	2.20	0.95	1053
				2.60	2.34	2.86	1.20	833
				3.20	2.88	3.52	1.43	699
20	26.9	26.1	27.3	2.30	2.07	2.53	1.40	714
				2.60	2.34	2.86	1.56	641
				3.20	2.88	3.52	1.87	535
25	33.7	32.9	34.1	2.60	2.34	2.86	1.99	503
				3.20	2.88	3.52	2.41	415
				4.00	3.60	4.40	2.93	341
32	42.4	41.6	42.8	2.60	2.34	2.86	2.55	392
				3.20	2.88	3.52	3.09	324
				4.00	3.60	4.40	3.79	264
40	48.3	47.5	48.7	2.90	2.61	3.19	3.25	308
				3.20	2.88	3.52	3.56	281
				4.00	3.60	4.40	4.37	229
50	60.3	59.7	60.9	2.90	2.61	3.19	4.11	243
				3.60	3.24	3.96	5.03	199
				4.50	4.05	4.95	6.19	162
65	76.1	75.34	76.86	2.90	2.61	3.19	5.24	191
				3.60	3.24	3.96	6.44	155
				4.50	4.05	4.95	7.95	126
80	88.9	88.01	89.79	3.20	2.88	3.52	6.76	148
				4.00	3.60	4.40	8.38	119
				4.80	4.32	5.28	9.96	100
90	101.6	100.58	102.62	3.60	3.24	3.96	8.70	115
				4.00	3.60	4.40	9.63	104
				4.80	4.32	5.28	11.46	87
100	114.3	113.16	115.44	3.60	3.24	3.96	9.83	102
				4.50	4.05	4.95	12.19	82
				5.40	4.86	5.94	14.50	69
125	139.7	138.3	141.1	4.50	4.05	4.95	15.00	67
				4.80	4.32	5.28	15.97	63
				5.40	4.86	5.94	17.89	56
150	165.1	163.45	166.75	4.50	4.05	4.95	17.82	56
				4.80	4.32	5.28	18.98	53
				5.40	4.86	5.94	21.27	47
				5.90	5.31	6.49	23.20	43
				6.30	5.67	6.93	24.67	41
				8.00	7.20	8.80	30.99	32
150	168.3	166.62	169.98	4.50	4.05	4.95	18.18	55
				4.80	4.32	5.28	19.35	52
				5.40	4.86	5.94	21.69	46
				6.30	5.67	6.93	25.17	40
				8.00	7.20	8.80	31.63	32
				10.00	9.00	11.00	39.04	26
200	219.1	216.91	221.29	4.80	4.32	5.28	25.37	39
				5.60	5.04	6.16	29.49	34
				5.90	5.31	6.49	31.02	32
				6.30	5.67	6.93	33.06	30
				8.00	7.20	8.80	41.65	24
				10.00	9.00	11.00	51.57	19
				12.00	10.80	13.20	61.29	16
250	273	270.27	275.73	5.90	5.31	6.49	38.86	26

TOLERANCE - IS: 1161

OD	Wall Thickness	Weight	
Upto & Including 48.3 mm	+0.4 mm	+ Not Limited	For Single Tube (Light Series)
	-0.8 mm	-10%	
Over 48.3 mm	+/-1 mm		For Single Tube (Medium & Heavy Series) +/-10%

STEEL TUBE USED FOR WATER & SEWAGE CONFORMING TO IS 3589: 2001

NB and Series	Outside Diameter	Std. Thickness	Std. Weight	
			kg/m	m/ton
in	mm	mm		
6"	168.3	2.60	10.62	94
		3.20	13.03	77
		4.00	16.21	62
		4.50	18.18	55
8"	219.1	3.60	19.13	52
		4.00	21.22	47
		4.50	23.82	42
		5.00	26.40	38
		5.60	29.49	34
		6.35	33.32	30
		7.10	37.12	27
		8.00	41.65	24
10"	273	3.60	23.92	42
		4.00	26.54	38
		5.00	33.05	30
		6.30	41.44	24
12"	323.9	4.00	31.56	32
		4.50	35.45	28
		5.60	43.96	23
		7.10	55.47	18
14"	355.6	4.00	34.68	29
		5.00	43.23	23
		5.60	48.34	21
		8.00	68.58	15
16"	406.4	4.00	39.70	25
		5.00	49.50	20
		6.30	62.16	16
		8.80	86.29	12
18"	457	4.00	44.69	22
		5.00	55.73	18
		6.30	70.02	14
		10.00	110.24	9
20"	502.00	4.00	49.75	20
		5.00	62.06	16
		6.30	78.00	12
		10.00	122.89	6

TOLERANCE - IS 3589

Outside Diameter (Body/End)	± 0.75% on Outside Diameter
Out-of-roundness (Body/End)	1% of Outside Diameter
Thickness	± 10% of Nominal Thickness
Length	As Per PI/PO/Rolling Plan
Weight	± 7.5% of Theoretical Weight
Root Face	Plain End/Bevel End (Root Face 1.60 ±0.80 mm) or Threaded End (As Per PI & Rolling Plan)
Bevel Angle	Plain End/Bevel End (Bevel angle 30° to 35°) or threaded End (As Per PI & Rolling Plan)
Squareness	0.30 mm Maximum
Inside Bead Height	60% of Specific Wall Thickness
Trim Inside	Not Allowed
Straightness	Maximum 0.2% of the Total Length (1 mm/m and 5 mm Maximum)

MECHANICAL PROPERTIES

Grade	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation %
Fe 330	195	330	20
Fe 410	235	410	18
Fe 450	275	450	15



ANNEXURE A - CHEMICAL PROPERTIES

Grade	Carbon	Manganese	Sulphur	Phosphorus	Carbon Equivalent
Fe 330	0.16	1.2	0.04	0.04	--
Fe 410	0.2	1.3	0.04	0.04	0.45
Fe 450	0.25	1.3	0.04	0.04	0.45

**COMBINED CHART FOR : STEEL TUBE USED FOR IDLERS FOR BELT CONVEYORS (IS : 9295-1983)
STEEL TUBE USED FOR WATER WELLS (PLAIN END CASING PIPE) (IS : 4270-2001)**

Nominal Bore	Wall Thickness	IS: 9295 - 1983		IS: 4270 - 2001		Tolerance
		Weight		Weight		
		kg/m	m/ton	kg/m	m/ton	
mm	mm	kg/m	m/ton	kg/m	m/ton	
65 (76.1)	3.65	6.52	153	-	-	IS: 9295 - 1983 OD : +/- 0.80% THK : +/- 10%
	4.50	7.95	126	-	-	
80 (88.9)	4.00	8.47	118	-	-	
	4.80	10.05	99	-	-	
90 (101.6)	6.30	12.83	78	-	-	
	4.00	9.74	103	-	-	
	4.80	11.57	86	-	-	
100 (114.3)	6.30	14.81	68	-	-	
	4.50	12.19	82	-	-	
	5.00	-	-	13.47	74	
	5.40	14.50	69	14.50	69	
110 (127.0)	6.00	-	-	16.02	62	
	6.30	16.78	60	-	-	
	4.50	13.60	74	-	-	
	4.85	14.61	68	-	-	
125 (139.7)	5.40	16.19	62	-	-	
	6.30	18.75	53	-	-	
	4.50	15.00	67	-	-	
125 (141.3)	4.85	16.13	62	-	-	
	5.40	17.89	56	-	-	
	6.30	20.73	48	-	-	
135 (152.4)	5.00	-	-	16.80	60	IS: 3589 - 2001 OD : +/- 0.75% THK : +/- 10%
	5.40	-	-	18.09	55	
	6.00	-	-	20.01	50	
	4.50	16.40	61	-	-	
150 (168.3)	4.85	17.65	57	-	-	
	5.40	19.58	51	-	-	
	6.30	22.70	44	-	-	
	4.30	-	-	-	-	
	4.50	18.20	55	-	-	
	4.85	19.55	51	-	-	
	5.00	-	-	20.13	50	
	5.40	21.69	46	21.69	46	
175 (193.7)	6.00	-	-	24.01	42	
	6.35	25.17	40	25.35	39	
	7.00	-	-	27.84	36	
	8.00	-	-	31.62	32	
	9.50	-	-	37.20	27	
	4.30	-	-	-	-	
	5.00	-	-	23.26	43	
	5.40	-	-	25.07	40	
200 (219.1)	6.00	-	-	27.77	36	IS: 4270 - 2001 OD : +/- 1% THK : + 15% - 12.5%
	6.35	-	-	29.33	34	
	7.00	-	-	32.22	31	
	8.00	-	-	36.63	27	
	9.50	-	-	43.15	23	
	4.30	-	-	-	-	
	5.00	-	-	26.39	38	
	5.40	-	-	24.45	35	
200 (219.1)	6.00	-	-	31.53	32	
	6.35	-	-	33.31	30	
	7.00	-	-	36.61	27	
	8.00	-	-	41.64	24	
	9.50	-	-	49.10	20	

COMBINED CHART FOR : STEEL TUBE USED FOR IDLERS FOR BELT CONVEYORS (IS : 9295-1983) STEEL TUBE USED FOR WATER WELLS (PLAIN END CASING PIPE) (IS : 4270-2001)						
Nominal Bore	Wall Thickness	IS: 9295 - 1983		IS: 4270 - 2001		Tolerance
		Weight		Weight		
		kg/m	m/ton	kg/m	m/ton	
mm	mm					
250 (273.0)	4.30	-	-	-	-	IS: 4270 - 2001 OD : +/- 1% THK : + 15% - 12.5%
	5.00	-	-	33.04	30	
	5.40	-	-	35.63	28	
	6.00	-	-	39.50	25	
	6.35	-	-	41.75	24	
	7.00	-	-	45.91	22	
	8.00	-	-	52.57	19	
9.50	-	-	61.73	16		

ASTM A 795 (BLACK & GALVANISED STEEL PIPES FOR FIRE PROTECTION)													
Nominal Bore		Outside Diameter		SCH 10				No. of Piece Per Bundle	Sch 30/40				No. of Piece Per Bundle
				Wall Thickness		Weight Plain End			Wall Thickness		Weight Plain End		
NPS	NB	mm	in	mm	in	kg/m	lb/ft	mm	in	kg/m	lb/ft		
1/2"	15	21.3	0.839	-	-	-	-	90	2.77	0.109	1.27	0.85	90
3/4"	20	26.7	1.051	2.11	0.083	1.28	0.86	90	2.87	0.113	1.69	1.13	90
1"	25	33.4	1.315	2.77	0.109	2.09	1.41	90	3.38	0.133	2.5	1.68	60
1 1/4"	32	42.2	1.661	2.77	0.109	2.69	1.81	61	3.56	0.140	3.39	2.27	42
1 1/2"	40	48.3	1.902	2.77	0.109	3.11	2.09	61	3.68	0.145	4.05	2.72	36
2"	50	60.3	2.374	2.77	0.109	3.93	2.64	37	3.91	0.154	5.45	3.66	26
2 1/2"	65	73	2.874	3.05	0.120	5.26	3.53	29	5.16	0.203	8.64	5.80	18
3"	80	88.9	3.500	3.05	0.120	6.46	4.34	24	5.49	0.216	11.29	7.58	14
3 1/2"	90	101.6	4.000	3.05	0.120	7.41	4.98	21	5.74	0.226	13.58	9.12	12
4"	100	114.3	4.500	3.05	0.120	8.37	5.62	19	6.02	0.237	16.09	10.80	10
5"	125	141.3	5.563	3.4	0.134	11.58	7.78	10	6.55	0.258	21.79	14.63	8
6"	150	168.3	6.626	3.4	0.134	13.85	9.30	10	7.11	0.280	28.29	18.99	7
8"	200	219.1	8.626	4.75	0.187	25.26	16.96	5	7.04	0.277	36.82	24.72	5

MECHANICAL PROPERTIES				CHEMICAL PROPERTIES			
	Grade A	Grade B		C	Mn	P	S
Yield Strength	205 MPa (Min)	240 MPa (Min)	Grade A	0.25	0.95	0.035	0.035
Tensile Strength	330 MPa (Min)	415 MPa (Min)	Grade B	0.3	1.2	0.035	0.035
Elongation	A	B					

TOLERANCE			GALVANIZING	
Outside Diameter	Pipe Size Upto & Including 40 NB	± 0.41 mm	Minimum	0.490 kg/m ²
	Pipe Size 50 NB and Large	± 1 % OD	Average	0.550 kg/m ²
Thickness	For All Sizes	± 12.5% (Max)		
Weight	For All Sizes	± 5%		

CONFORMING TO ASTM A-53

Size	Outside Dia.	Std. Thickness	Sch No.	Weight	Pressure (kg/cm ²) Grade A	Pressure (PSI) Grade A	Pressure (kg/cm ²) Grade B	Pressure (PSI) Grade B
NPS		mm						
1/2"	21.3	2.77	40	1.27	50	700	50	700
3/4"	26.7	2.87	40	1.69	50	700	50	700
1"	33.4	3.38	40	2.5	50	700	50	700
1 1/4"	42.2	3.56	40	3.39	85	1200	92	1300
1 1/2"	48.3	3.68	40	4.05	85	1200	92	1300
2"	60.3	3.91	40	5.44	162	2300	176	2500
2 1/2"	73	5.16	40	8.63	176	2500	176	2500
3"	88.9	5.49	40	11.29	157	2220	176	2500
4"	114.3	6.02	40	16.07	134	1900	156	2210
5"	141.3	6.55	40	21.77	118	1670	138	1950
6"	168.3	7.11	Std./40	28.26	107	1520	126	1780
8"	219.1	6.35	20	33.31	74	1040	86	1220
		7.04	30	36.31	82	1160	95	1350
		8.18	Std./40	42.55	95	1340	111	1570
10"	273	6.35	20	41.75	60	840	69	980
		7.8	30	51.01	73	1030	85	1200
		9.27	Std./40	60.29	86	1220	101	1430
12"	323.8	6.35	20	49.71	50	710	58	820
		8.38	30	65.18	66	930	77	1090
		9.52	Std.	73.78	75	1060	88	1240
		10.31	40	79.7	81	1150	95	1340
14	355.6	6.35	10	54.69	46	640	53	750
		7.92	20	67.9	57	800	67	940
		9.52	30/Std.	81.25	68	960	79	1120
		11.13	40	94.55	80	1130	93	1310
16	406.4	6.35	10	62.64	40	560	47	660
		7.92	20	77.83	50	700	58	820
		9.52	30/Std.	93.17	60	840	69	980
		12.7	40	123.3	79	1120	93	1310

CHEMICAL REQUIREMENT

Element	Grade A	Grade B
	Requirement (%) Max.	Requirement (%) Max.
Carbon	0.25	0.3
Manganese	0.95	1.2
Phosphorus	0.05	0.05
Sulfur	0.05	0.045
Copper	0.4	0.4
Nickel	0.4	0.4
Chromium	0.4	0.4
Molybdenum	0.15	0.15
Vanadium	0.08	0.08

MECHANICAL PROPERTIES

Tensile Strength Min., PSI (MPa)	48000 [330]	60000 [415]
Yield Strength, Min., PSI (MPa)	30000 [205]	35000 [240]
Elongation In	e= 625000[1940]A ^{0.2} /U ^{0.9} e= 625000[1940]A ^{0.2} /U ^{0.9}	
A-Cross Sectional Area		
U-Specified Minimum Tensile		

TOLERANCE ASTM A-53

Outside Diameter (Body/End)	Upto 1 1/2" (± 0.4) & Above (±1%)
Thickness	-12.5% & + Not Specified
Weight	± 10% of Standard Mass
Root Face	Bevel End, Plain End (Root face 1.60 +/-0.80 mm) or Threaded End (As Per WO & Rolling Plan)
Bevel Angle	Bevel End (Bevel angle 30° to 35°), Plain End or Threaded End (As Per WO & Rolling Plan)
Squareness	0.50 mm Maximum
Inside Bead Height	100% Bead Removed (0.30 mm Max.)
Straightness	As Per Specification

DIMENSIONS AND WEIGHT OF ELECTRIC RESISTANCE WELDED STEEL PIPES

Schedule/Wall Thickness/Weight ASME-36.10

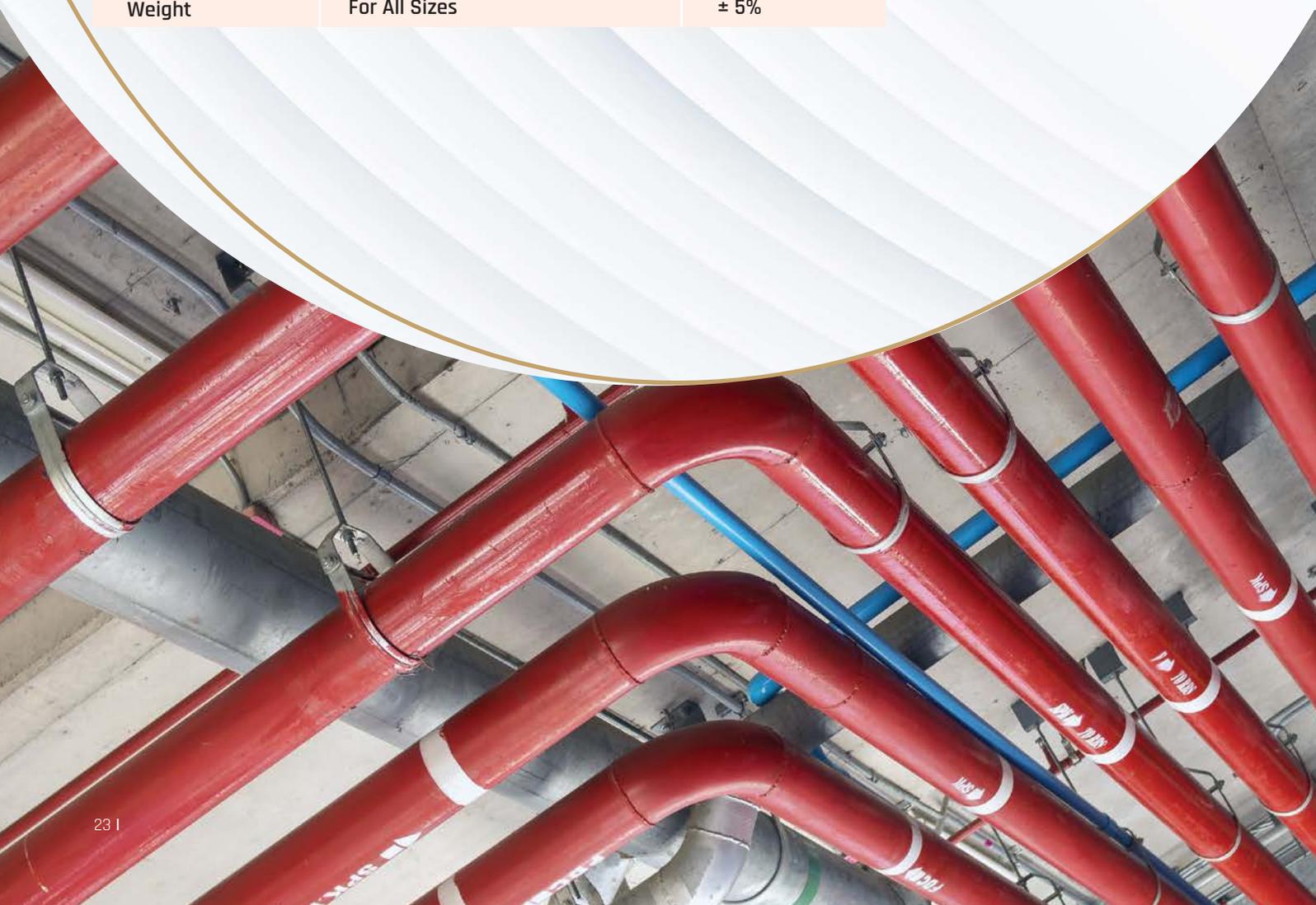
NPS Designation	Outside Diameter		Schedule/Wall Thickness/Weight ASME-36.10															
			10		20		30		Std.		40		XS		60		80	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1/2	0.840	21.3	0.083	2.11	-	-	0.095	2.41	-	-	0.109	2.77	-	-	-	-	0.147	3.73
			0.67	1.00	-	-	0.76	1.12	-	-	0.85	1.27	-	-	-	-	-	1.09
3/4	1.050	26.7	0.083	2.11	-	-	0.095	2.41	-	-	0.113	2.87	-	-	-	-	0.154	3.91
			0.86	1.28	-	-	0.97	1.44	-	-	1.13	1.69	-	-	-	-	1.48	2.20
1	1.315	33.4	0.109	2.77	-	-	0.114	2.90	-	-	0.133	3.38	-	-	-	-	0.179	4.55
			1.41	2.09	-	-	1.46	2.18	-	-	1.68	2.50	-	-	-	-	2.17	3.24
1/4	1.660	42.2	0.109	2.77	-	-	0.117	2.97	-	-	0.140	3.56	-	-	-	-	0.191	4.85
			1.81	2.69	-	-	1.93	2.87	-	-	2.27	3.39	-	-	-	-	3.00	4.47
1/2	1.900	48.3	0.109	2.77	-	-	0.125	3.18	-	-	0.145	3.68	-	-	-	-	0.200	5.08
			2.09	3.11	-	-	2.37	3.53	-	-	2.72	4.05	-	-	-	-	3.63	5.41
2	2.375	60.3	0.109	2.77	-	-	0.125	3.18	-	-	0.154	3.91	-	-	-	-	0.218	5.54
			2.64	3.93	-	-	3.01	4.48	-	-	3.66	5.44	-	-	-	-	5.03	7.48
2 1/2	2.875	73.0	0.120	3.05	-	-	0.188	4.78	-	-	0.203	5.15	-	-	-	-	0.276	7.01
			3.53	5.26	-	-	5.4	8.04	-	-	5.80	8.63	-	-	-	-	7.67	11.41
3	3.500	88.9	0.120	3.05	-	-	0.188	4.78	-	-	0.216	5.49	-	-	-	-	0.300	7.62
			4.35	6.46	-	-	6.66	9.92	-	-	7.58	11.29	-	-	-	-	10.26	15.27
4	4.500	114.3	0.120	3.05	-	-	0.188	4.78	-	-	0.237	6.02	-	-	-	-	0.337	8.56
			5.62	8.37	-	-	8.67	12.91	-	-	10.80	16.07	-	-	-	-	15.00	22.32
5	5.563	141.3	0.134	3.40	-	-	-	-	-	-	0.258	6.55	-	-	-	-	0.375	9.52
			7.78	11.56	-	-	-	-	-	-	14.63	21.77	-	-	-	-	20.80	30.94
6	6.625	168.3	0.134	3.4	-	-	-	-	-	-	0.280	7.11	-	-	-	-	0.432	10.97
			9.3	13.83	-	-	-	-	-	-	18.97	28.26	-	-	-	-	28.57	42.56
8	8.625	219.1	0.148	3.76	0.250	6.35	0.277	7.04	0.322	8.18	0.322	8.18	0.322	8.18	0.322	8.18	0.406	10.31
			13.41	19.37	22.360	33.31	24.70	36.82	28.55	42.55	28.55	42.55	28.55	42.55	28.55	42.55	35.64	53.08
10	10.750	273.0	0.165	4.19	0.250	6.35	0.307	7.80	0.365	9.27	0.365	9.27	0.365	9.27	0.365	9.27	0.500	12.70
			18.65	27.78	28.04	41.75	34.24	51.01	40.48	60.29	40.45	60.29	40.45	60.29	40.45	60.29	54.74	81.52
12	12.750	323.9	0.180	4.57	0.250	6.35	0.330	8.38	0.375	9.52	0.375	9.52	0.375	9.52	0.375	9.52	0.500	12.70
			24.19	35.98	33.38	49.71	43.81	65.18	49.58	73.78	49.58	73.78	49.58	73.78	49.58	73.78	65.42	97.43
14	14.000	355.6	0.250	6.35	0.312	7.92	0.375	9.52	0.375	9.52	0.375	9.52	0.375	9.52	0.375	9.52	0.500	12.70
			36.71	54.68	45.61	67.90	54.57	81.25	54.57	81.25	54.57	81.25	54.57	81.25	54.57	81.25	72.09	107.39
16	16.000	406.4	0.250	6.35	0.312	7.92	0.375	9.52	0.375	9.52	0.375	9.52	0.375	9.52	0.375	9.52	0.500	12.70
			42.05	62.64	52.27	77.83	62.58	93.17	62.58	93.17	62.58	93.17	62.58	93.17	62.58	93.17	82.77	123.30
18	18.000	457	0.250	6.35	0.312	7.92	0.438	11.13	0.375	9.52	0.375	9.52	0.375	9.52	0.375	9.52	0.500	12.70
			47.39	70.60	58.94	87.75	62.15	122.43	70.59	105.10	70.59	105.10	70.59	105.10	70.59	105.10	93.45	139.20
20	20.000	508	0.250	6.35	0.375	9.52	0.500	12.70	0.375	9.52	0.375	9.52	0.375	9.52	0.375	9.52	0.500	12.70
			52.73	78.55	78.60	117.02	104.13	155.12	78.60	117.02	78.60	117.02	78.60	117.02	78.60	117.02	114.13	155.12

ASTM A 135 A & B (BLACK & GALVANISED STEEL PIPES FOR FIRE PROTECTION)

Nominal Bore		Out Side Diameter		SCH 10				No. of Piece Per Bundle
				Wall Thickness		Weight Plain End		
NPS	NB	mm	in	mm	in	kg/m	lb/ft	
¾"	20	26.7	1.051	2.11	0.083	1.28	0.86	90
1"	25	33.4	1.315	2.77	0.109	2.09	1.41	90
1¼"	32	42.2	1.661	2.77	0.109	2.59	1.81	61
1½"	40	48.3	1.902	2.77	0.109	3.11	2.09	61
2"	50	60.3	2.374	2.77	0.109	3.93	2.64	37
2½"	65	73	2.874	3.05	0.120	5.25	3.53	29
3"	80	88.9	3.500	3.05	0.120	6.46	4.34	24
3½"	90	101.6	4.000	3.05	0.120	7.41	4.98	21
4"	100	114.3	4.500	3.05	0.120	8.37	5.62	19
5"	125	141.3	5.563	3.40	0.134	11.58	7.78	14

MECHANICAL PROPERTIES			CHEMICAL PROPERTIES				
	Grade A	Grade B		C	Mn	P	S
Yeild Strength	205 Mpa (Min.)	240 Mpa (Min.)	Grade A	0.25	0.95	0.035	0.035
Tensile Strength	330 Mpa (Min.)	415 Mpa (Min.)	Grade B	0.3	1.2	0.035	0.035
Elongation	A	B					

TOLERANCE			GALVANIZING	
Outside Diameter	Pipe Size Upto & Including 40 NB	± 0.41 mm	Minimum	0.490 kg/m ²
	Pipe Size 50 NB and Large	± 1 % OD	Average	0.550 kg/m ²
Thickness	For All Sizes	± 12.5% (Max)		
Weight	For All Sizes	± 5%		



**ANNEXURE - AS/NZS 1163
CIRCULAR HOLLOW SECTION**

Size OD (mm)	OD (Min.)	OD (Max.)	Wall Thickness (mm)																	
			2.30	2.60	3.00	3.20	3.50	3.60	4.00	4.50	4.80	4.90	5.00	5.40	5.50	5.90	6.00	6.40	7.10	8.20
			Mass Per Unit Length (kg/m)																	
21.3	20.8	21.8		1.20		1.43		1.57												
26.9	26.4	27.4		1.56		1.87			2.26											
33.7	33.2	34.2				2.41			2.93	3.24										
42.4	41.9	42.9				3.09			3.79			4.53								
48.3	47.8	48.8				3.56			4.37				5.71							
60.3	59.7	60.9						5.03		6.19				7.31						
76.1	75.3	76.9	4.19			5.75		6.44		7.95						10.20				
88.9	88.0	89.8		5.53		6.76			8.38		9.96		10.30		11.30	12.10				
101.6	100.6	102.6		6.35		7.77			9.63				11.90							
114.3	113.2	115.4				8.77		9.83		12.20	13.00			14.50			16.00			
139.7	138.3	141.1			10.10		11.80						16.00	17.90						
165.1	163.9	166.5			12.00		13.90						19.70	21.30						
168.3	166.6	170.0									19.40							25.60	28.20	
219.1	216.9	221.3									25.40							33.60	42.60	
Mass Tolerance			± 6% on Individual Lengths																	

MECHANICAL PROPERTIES

Grade	YS	TS	%El				Minimum Impact Energy					
	Min.	Min.	Min.				J					
	MPa	MPa	do/t				Avg. of 3 Tests			Individual Tests		
			≤ 15	> 15 ≤ 30	> 30	10x10	10x7.5	10x5.0	10x10	10x7.5	10x5.0	
C250, C250LO	250	320	18	20	22	27	22	18	20	16	13	
C350, C350LO	350	430	16	18	20	27	22	18	20	16	13	
C450, C450LO	450	500	12	14	16	27	22	18	20	16	13	

CHEMICAL COMPOSITION (%) MAX.

Grade	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Ti	Al	V+N	CE
C250, C250LO	0.12	0.05	0.5	0.03	0.03	0.25	0.25	0.15	0.1	0.02	0.01	0.04	0.1	0.03	0.25
C350, C350LO	0.2	0.45	1.6	0.03	0.03	0.25	0.25	0.3	0.1	0.1	0.01	0.04	0.1	0.11	0.43
C450, C450LO	0.2	0.45	1.7	0.03	0.03	0.25	0.25	0.3	0.35	0.1	0.01	0.04	0.1	0.11	0.43

TOLERANCE EN 1163

Outside Diameter (Body/End)	± 1% With a Maximum of ± 0.5 mm and a Maximum of ± 10 mm
Out-of-Roundness (Body/End)	2% For the Hollow Sections Having a Diameter to Thickness Ratio Not Exceeding 100 and If D/T Ratio < 100 Then Shall be Agreed with Client
Thickness	T ≤ 5 mm : ± 10% , T > 5 mm ± 10% with a max. ± 2 mm
Mass Per Unit Length	Not Less Than 0.96 Times the Specified Mass on Individual Lengths
Straightness	0.20 % of Total Length

ANNEXURE - EN 10255
Table - 1

Size NB NPS OD	Thread Size	Class	OD (mm)		Thickness (mm)		Weight (Plain End) (kg/m)		Weight (Socketed) (kg/m)	
			Min.	Max.	Std.	Min.	Std.	Min.	Std.	Min.
15mm ½" 21.3	½"	L1	21.0	21.7	2.30	2.12	1.08	0.99	1.09	1.00
		L2	21.0	21.4	2.00	1.84	0.95	0.87	0.96	0.88
		L	21.0	21.7	2.30	2.07	1.08	1.00	1.09	1.01
		M	21.0	21.8	2.60	2.34	1.21	1.12	1.22	1.13
		H	21.0	21.8	3.20	2.88	1.44	1.33	1.45	1.34
20mm ¾" 26.9	¾"	L1	26.4	27.1	2.30	2.12	1.39	1.28	1.40	1.29
		L2	26.4	26.9	2.30	2.12	1.38	1.27	1.39	1.28
		L	26.4	27.1	2.30	2.07	1.40	1.30	1.41	1.30
		M	26.5	27.3	2.60	2.34	1.56	1.44	1.57	1.45
		H	26.5	27.3	3.20	2.88	1.87	1.73	1.88	1.74
25mm 1" 33.7	1"	L1	33.2	34.0	2.90	2.67	2.20	2.02	2.22	2.04
		L2	33.2	33.8	2.60	2.39	1.98	1.82	2.00	1.84
		L	33.2	34.0	2.90	2.61	2.20	2.04	2.22	2.05
		M	33.3	34.2	3.20	2.88	2.41	2.23	2.43	2.25
		H	33.3	34.2	4.00	3.60	2.93	2.71	2.95	2.73
32mm 1¼" 42.4	1¼"	L1	41.9	42.7	2.90	2.67	2.82	2.59	2.85	2.62
		L2	41.9	42.5	2.60	2.39	2.54	2.34	2.57	2.36
		L	41.9	42.7	2.90	2.61	2.82	2.61	2.85	2.64
		M	42.0	42.9	3.20	2.88	3.10	2.87	3.13	2.90
		H	42.0	42.9	4.00	3.60	3.79	3.51	3.82	3.53
40mm 1½" 48.3	1½"	L1	47.8	48.6	2.90	2.67	3.24	2.98	3.28	3.02
		L2	47.8	48.4	2.90	2.67	3.23	2.97	3.27	3.01
		L	47.8	48.6	2.90	2.61	3.25	3.01	3.29	3.04
		M	47.9	48.8	3.20	2.88	3.56	3.29	3.60	3.33
		H	47.9	48.8	4.00	3.60	4.37	4.04	4.41	4.08
50mm 2" 60.3	2"	L1	59.6	60.7	3.20	2.94	4.49	4.13	4.56	4.20
		L2	59.6	60.2	2.90	2.67	4.08	3.75	4.15	3.82
		L	59.6	60.7	3.20	2.88	4.51	4.17	4.58	4.24
		M	59.7	60.8	3.60	3.24	5.03	4.65	5.10	4.72
		H	59.7	60.8	4.50	4.05	6.19	5.73	6.26	5.79
65mm 2½" 76.1	2½"	L1	75.2	76.3	3.20	2.94	5.73	5.27	5.85	5.38
		L2	75.2	76.0	3.20	2.94	5.71	5.25	5.83	5.36
		L	75.2	76.0	3.20	2.88	5.75	5.32	5.87	5.43
		M	75.3	76.6	3.60	3.24	6.42	5.94	6.54	6.05
		H	75.3	76.6	4.50	4.05	7.93	7.34	8.05	7.45
80mm 3" 88.9	3"	L1	87.9	89.4	3.60	3.31	7.55	6.95	7.72	7.10
		L2	87.9	88.7	3.20	2.94	6.72	6.18	6.89	6.34
		L	87.9	88.7	3.20	2.88	6.76	6.25	6.93	6.41
		M	88.0	89.5	4.00	3.60	8.36	7.73	8.53	7.89
		H	88.0	89.5	5.00	4.50	10.30	9.53	10.50	9.71
100mm 4" 114.3	4"	L1	113.0	114.9	4.00	3.68	10.80	9.94	11.10	10.21
		L2	113.0	113.9	3.60	3.31	9.75	8.97	10.00	9.20
		L	113.0	113.9	3.60	3.24	9.83	9.09	10.10	9.34
		M	113.1	115.0	4.50	4.05	12.20	11.29	12.50	11.56
		H	113.1	115.0	5.40	4.86	14.50	13.41	14.80	13.69
125mm 5" 139.7	5"	L	138.5	140.8	4.50	4.05	15.00	13.88	15.50	14.34
		M	138.5	140.8	5.00	4.50	16.60	15.36	17.10	15.82
		H	138.5	140.8	5.40	4.86	17.90	16.56	18.40	17.02
150mm 6" 165.1	6"	L	163.9	166.5	4.50	4.05	17.80	16.47	18.40	17.02
		M	163.9	166.5	5.00	4.50	19.80	18.32	20.40	18.87
		H	163.9	166.5	5.40	4.86	21.30	19.70	21.90	20.26

TABLE - 2 EN 10255

Wall Thickness	- 8%, + Not Limited for Light 1 & 2 and $\pm 10\%$ for Light, Medium & Heavy							
Mass Tolerance	Single Tube: -8%, + 10% for Light 1 & 2 Series Load of 10 Tonnes: $\pm 7.5\%$ for Light Medium and Heavy Series							
Bend Test (Bending Angle-90°)	Diameter	17.2	21.3	26.9	33.7	42.4	48.3	60.3
	Bending Radius	50	65	85	100	150	170	220

TOLERANCE

Outside Diameter (Body/End)	As Per Annexure - EN 10255 Table 1
Out-of-roundness (Body/End)	As Per Annexure - EN 10255 Table 1
Thickness	As Per Annexure - EN 10255 Table 2
Length	5.00 to 7.00 mtr/As per PI/PO/Rolling Plan
Weight	AS Per Annexure - EN 10255 Table 1
Root Face	Plain End/Bevel End (Root Face 1.60+/-0.80 mm) or Threaded End (As Per WO & Rolling Plan)
Bevel Angle	Plain End/Bevel End (Bevel Angle 30° to 35°) or Threaded End (As Per WO & Rolling Plan)
Squareness	0.50 mm Maximum
Inside Bead Height	60% of Specified Wall thickness
Straightness	Maximum 0.2 % of The Total Length (1 mm/m and 5 mm Max.)

**ANNEXURE - EN 10219
CIRCULAR HOLLOW SECTION**

Size OD (mm)	OD (Min.)	OD (Max.)	Wall Thickness (mm)										
			2.00	2.50	3.00	4.00	5.00	6.00	6.30	8.00	10.00	12.00	
21.3	20.8	21.8	0.95	1.16	1.35	-	-	-	-	-	-	-	-
26.9	26.4	27.4	1.23	1.5	1.77	-	-	-	-	-	-	-	-
33.7	33.2	34.2	1.56	1.92	2.27	-	-	-	-	-	-	-	-
42.4	41.9	42.9	1.99	2.46	2.91	3.79	-	-	-	-	-	-	-
48.3	47.8	48.8	2.28	2.82	3.35	4.37	5.34	-	-	-	-	-	-
60.3	59.7	60.9	2.88	3.56	4.24	5.55	6.82	-	-	-	-	-	-
76.1	75.3	76.9	3.65	4.54	5.41	7.11	8.77	10.4	10.8	-	-	-	-
88.9	88	89.8	4.29	5.33	6.36	8.38	10.3	12.3	12.8	-	-	-	-
101.6	100.6	102.6	4.91	6.11	7.29	9.63	11.9	14.1	14.8	-	-	-	-
114.3	113.2	115.4	-	6.89	8.23	10.9	13.5	16	16.8	21	-	-	-
139.7	138.3	141.1	-	-	10.1	13.4	16.6	19.8	20.7	26	32	-	-
168.3	166.6	170	-	-	12.2	16.2	20.1	24	25.2	31.6	39	-	-
219.1	216.9	221.3	-	-	-	21.2	26.4	31.5	33.1	41.6	51.6	61.3	-
244.5	242.1	246.9	-	-	-	-	29.5	35.3	37	46.7	57.8	68.8	-
273	270.3	275.7	-	-	-	-	33	39.5	41.4	52.3	64.9	77.2	-
Mass Tolerance			- $\pm 6\%$ on Individual Lengths										

MECHANICAL PROPERTIES

Grade	YS Min	TS Min		%El	Minimum Impact Energy		
	MPa	MPa		Min	J		
	T \leq 16 mm	T < 3 mm	3 \leq T \leq 40 mm	T \leq 40 mm	-20° C	0° C	20° C
S235 JRH	235	360-510	360-510	24	-20°	0° C	20° C
S275 JOH	275	430-580	410-560	20	C	--	27
S275 J2H					--	27	--
S355 JOH	355	510-680	470-630	20	--	--	--
S355 J2H					27	27	--
S355 K2H					--	--	--

CHEMICAL COMPOSITION (%) MAX.

Grade	C	Si	Mn	P	S	N	CEV
S235 JRH	0.17	--	1.4	0.04	0.04	0.009	0.35
S275 JOH	0.2	--	1.5	0.035	0.035	0.009	0.4
S275 J2H	0.2	--	1.5	0.03	0.03	--	0.4
S355 JOH	0.22	0.55	1.6	0.035	0.035	0.009	0.45
S355 J2H	0.22	0.55	1.6	0.03	0.03	--	0.45
S355 K2H	0.22	0.55	1.6	0.03	0.03	--	0.45

TOLERANCE EN 10219

Outside Diameter (Body/End)	± 1% With a Maximum of ± 0.5mm and a Maximum of ± 10mm
Out-of-roundness (Body/End)	2% For The Hollow Sections Having a Diameter to Thickness Ratio Not Exceeding 100 and If D/T ratio < 100 Then Shall Be Agreed With Client
Thickness	T ≤ 5 mm : ± 10% , T > 5 mm ± 0.5 mm
Length	As Per PI/PO/Rolling Plan
Weight	± 6% on Individual Delivered Lengths
Root Face	Plain End/Bevel End (Root Face 1.60+/-0.80 mm) or Threaded End (As Per PO/PI & Rolling Plan)
Bevel Angle	Plain End/Bevel End (Bevel angle 30° to 35°) or Threaded End (As Per PI/PO & Rolling Plan)
Squareness	0.50 mm Max./m
Inside Bead Height	60% of Specified Wall Thickness
Trim Inside	Not Allowed
Straightness	0.20% of Total Length and 3 mm Over Any 1 mm Length

CONFORMING TO EN 39

Type	Size			Outside Diameter		Thickness (mm)	Weight Plain End (kg/m)	Pcs Per Bundle
	DN	inch	OD	Min. (mm)	Max. (mm)			
Type 3	40	1½"	48.3	47.8	48.8	3.2	3.56	44
Type 4	40	1½"	48.3	47.8	48.8	4	4.37	37
			38.1	37.5	38.5	3.2	2.75	80
			38.1	37.5	38.5	4	3.36	60
Characteristics		OD	Thickness	Weight	Straightness		Insertion of ID Gauge	
Tolerances		±0.50 mm	-10%	-7.50%	0.002 of Length		37.7 mm	

CHEMICAL PROPERTIES

C (Max.)	Mn (Max.)	P (Max.)	S (Max.)	Si (Max.)	Al (Max.)	YS (Max.)	TS (Max.)	%El (Max.)
0.200	1.400	0.040	0.045	0.040	0.020	235	340-520	24



Hollow Sections (Black & GI)

Shaping Ideas in Structural Marvels

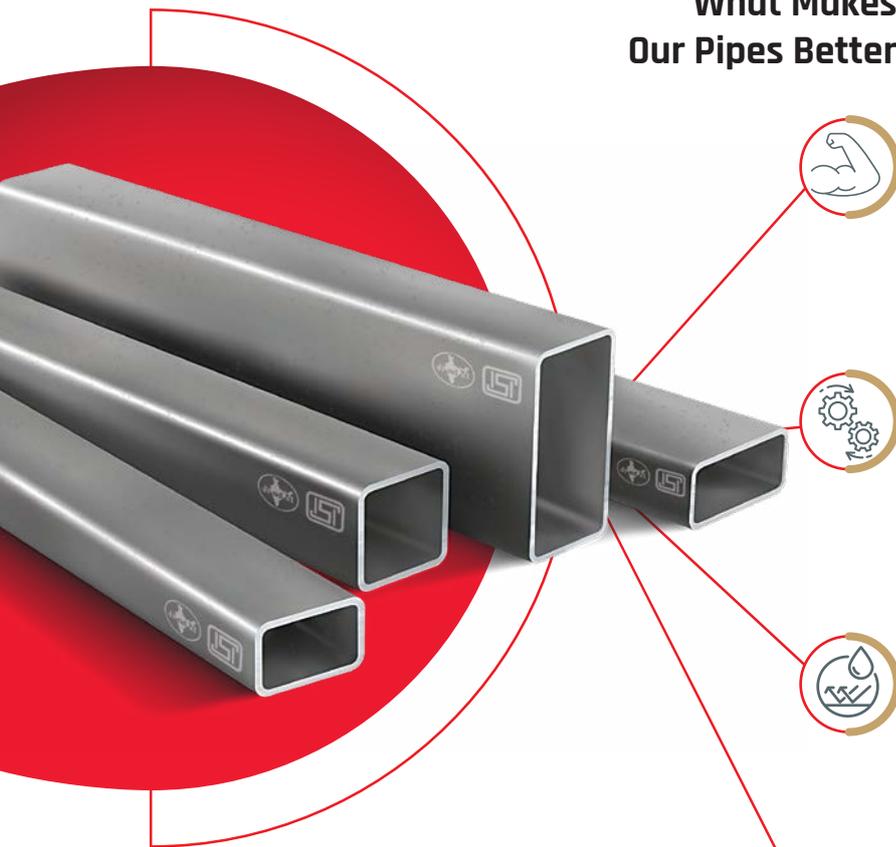
Jindal India's Section Pipes (Hollow Structural Sections - HSS) are engineered to support the evolving demands of contemporary construction and infrastructure. Produced through High-Quality state-of-the-art ERW / ASTM / WRD mills, adhering to international standards, these pipes deliver a balance of strength, precision, and visual appeal, making them suitable for a wide range of structural uses.

Designed for performance in everything from commercial and industrial structures to modern architectural frameworks, Jindal's hollow sections are trusted for their reliability and long service life. Available in square and rectangular shapes, these pipes offer a superior strength-to-weight ratio, allowing for efficient load-bearing capacity without compromising design aesthetics, ideal for both functional and decorative applications.

Jindal India manufactures a wide range of hollow sections meeting the client's requirements and expectations. These are produced through sophisticated & high-speed lines maintaining higher level of quality and efficiency.



What Makes Our Pipes Better



HIGH LOAD-BEARING STRENGTH

Advanced technology ensures durable, reliable section pipes with superior load-bearing performance for frames, columns, and trusses.



VERSATILE OPTIONS

Available in square and rectangular profiles, with precise dimensions, smooth finishes, and a wide range of grades and sizes.



CORROSION RESISTANT

GI pipes with zinc or protective coatings offer long service life, rust prevention, and low maintenance for tough environments.



ASSURED QUALITY

Exceptional straightness, burr-free edges, and full BIS compliance guarantee safe handling, accurate fabrication, and consistent performance.

TECHNICAL SPECIFICATIONS

Size Range	RHS - 40x20 mm - 200x150 mm SHS - 20x20 mm - 175x175 mm
Thickness Range	1-12 mm
Length Range	6-12 m (Average Length)
Coating	GI (Upto 0.550 kg/m ² Upto 6.5 m)
Specification & Grades	IS:4923, EN - 10219, ASTM 500, A53, A252



Industrial Sheds/
Warehousing



Pre-Engineered
Buildings



Subway / Metro



Stadium /
Airport Infrastructure



Railway
Overbridge



Foot
Overbridge

Applications

Towers, Bridge &
Flyover Construction

**CONFORMING TO IS 4923:2017
RECTANGULAR**

COLD FORMED RHS

Size (Depth x Width) mm	Weight Per Unit Length		Nominal Wall Thickness	
	lb/ft	kg/m	in	mm
40x20	1.22	1.82	0.079	2.00
	1.51	2.26	0.098	2.50
	1.80	2.68	0.118	3.00
	2.36	3.52	0.157	4.00
50x25	2.42	3.61	0.126	3.20
	2.99	4.46	0.157	4.00
	4.36	6.50	0.236	6.00
60x40	2.47	3.68	0.094	2.40
	3.26	4.86	0.126	3.20
	4.05	6.03	0.157	4.00
80x40	5.94	8.85	0.236	6.00
	2.97	4.43	0.094	2.40
	3.94	5.87	0.126	3.20
96x48	4.89	7.28	0.157	4.00
	7.21	10.74	0.236	6.00
	4.46	6.64	0.118	3.00
	4.75	7.07	0.126	3.20
122x61	5.90	8.79	0.157	4.00
	8.72	13.00	0.236	6.00
	5.69	8.48	0.118	3.00
122x61	6.06	9.03	0.126	3.20
	7.54	11.24	0.157	4.00
	11.19	16.67	0.236	6.00

COLD FORMED RHS

Size (Depth x Width) mm	Weight Per Unit Length		Nominal Wall Thickness	
	lb/ft	kg/m	in	mm
125x75	6.74	10.05	0.126	3.20
	9.99	14.89	0.188	4.78
	13.17	19.62	0.250	6.35
	14.87	22.16	0.283	7.20
145x82	7.08	10.55	0.118	3.00
	7.54	11.24	0.126	3.20
	9.40	14.00	0.157	4.00
	13.97	20.82	0.236	6.00
150x100	7.93	11.82	0.118	3.00
	8.45	12.60	0.126	3.20
	10.53	15.70	0.157	4.00
	15.68	23.36	0.236	6.00
200x100	18.72	27.90	0.283	7.20
	9.50	14.15	0.142	3.60
	15.11	22.52	0.188	4.78
	19.96	29.75	0.250	6.35
200x150	22.57	33.64	0.283	7.20
	11.42	17.02	0.142	3.60
	17.67	26.33	0.188	4.78
200x150	23.36	34.82	0.250	6.35
	26.43	39.38	0.283	7.20

NB.: Sizes other than those shown in table above are also supplied to negotiation.

TOLERANCES IS-4923 RECTANGULAR

Specification	IS 4923 : 2017	
Length	6.00 mm ± 0.05 mm Customized Length Ranging from 4-8 m May Be Supplied	
Thickness	For All Sizes : ± 10%	
Outer Dimensions	1% With a Minimum of 0.5 mm	
Corner Squareness	90° ± 2°	
Corner Radii	Maximum, 3x (Thickness of the Section)	
Weight	On Individual Length : + 10% / - 8%	On Lots of MT: ± 7.5%
Straightness	Minimum 1:200 th of Any Length Measured Along the Center Line (Mill Straightened Condition) Unless Otherwise Specifically Arranged	
Twist Tolerance	Maximum 2 mm	
End Finish	Plain Ended - Mechanically Sheared, Mill - Cut Finish Without Further Machining	
Surface Finish	Black Without Any Surface Treatment of Oiling or Carnishing	

**CONFORMING TO IS 4923:2017
SQUARE**

COLD FORMED SHS

Size (Depth x Width) mm	Weight Per Unit Length		Nominal Wall Thickness	
	lb/ft	kg/m	in	mm
20x20	0.80	1.19	0.079	2.00
	1.38	2.06	0.142	3.60
	0.80	1.19	0.079	2.00
	1.38	2.06	0.142	3.60
25x25	1.03	1.53	0.079	2.00
	1.23	1.83	0.095	2.41
	1.69	2.52	0.133	3.38
30x30	1.22	1.82	0.079	2.00
	1.46	2.18	0.095	2.41
	2.02	3.00	0.133	3.38
38x38	1.79	2.66	0.091	2.30
	3.03	4.52	0.157	4.00
	4.42	6.59	0.236	6.00
50x50	2.77	4.12	0.106	2.70
	3.24	4.83	0.125	3.18
	3.16	4.72	0.122	3.10
	4.79	7.15	0.188	4.78
60x60	2.85	4.25	0.091	2.30
	4.89	7.28	0.157	4.00
	7.21	10.74	0.236	6.00
72x72	4.46	6.64	0.157	3.00
	5.90	8.79	0.236	4.00
75x75	4.65	6.92	0.157	3.00
	7.64	11.38	0.236	5.00

COLD FORMED SHS

Size (Depth x Width) mm	Weight Per Unit Length		Nominal Wall Thickness	
	lb/ft	kg/m	in	mm
80x80	3.98	5.94	0.094	2.40
	6.57	9.80	0.157	4.00
	9.73	14.51	0.236	6.00
91x91	5.66	8.43	0.118	3.00
	7.50	11.18	0.157	4.00
	9.32	13.89	0.197	5.00
100x100	11.12	16.58	0.236	6.00
	6.74	10.05	0.126	3.20
	9.99	14.89	0.188	4.78
	13.17	19.62	0.250	6.35
127x127	14.87	22.16	0.283	7.20
	8.45	12.60	0.126	3.20
	12.55	18.70	0.188	4.78
	12.55	18.70	0.188	4.78
	16.57	24.69	0.250	6.35
150x150	18.72	27.90	0.283	7.20
	11.42	17.02	0.142	3.60
	15.11	22.52	0.188	4.78
	19.96	29.75	0.250	6.35
175x175	22.57	33.64	0.283	7.20
	13.33	19.87	0.142	3.60
	17.65	26.30	0.188	4.78
	23.34	34.78	0.250	6.35
	26.40	39.34	0.283	7.20

NB.: Sizes other than those shown in table above are also supplied to negotiation.

MECHANICAL PROPERTIES

Grade	Tensile Strength (MPa)	Yield Strength (MPa)	% Elongation (Min)	
			Upto 25.40 mm	Above 25.40 mm
YST 210	330	210	12	20
YST 240	410	240	10	15
YST 310	450	310	8	10
YST 355	490	355	8	10

**CONFORMING TO ASTM A500
RECTANGULAR**

COLD FORMED RHS

Size (Depth x Width) mm	Weight Per Unit Length		Nominal Wall Thickness	
	lb/ft	kg/m	in	mm
40x20	1.22	1.82	0.079	2.00
	1.51	2.26	0.098	2.50
	1.80	2.68	0.118	3.00
	2.36	3.52	0.157	4.00
50x25	2.42	3.51	0.126	3.20
	2.99	4.46	0.157	4.00
	4.36	6.50	0.236	6.00
60x40	2.47	3.68	0.094	2.40
	3.26	4.86	0.126	3.20
	4.05	6.03	0.157	4.00
80x40	5.94	8.85	0.236	6.00
	2.97	4.43	0.094	2.40
	3.94	5.87	0.126	3.20
	4.89	7.28	0.157	4.00
96x48	7.21	10.74	0.236	6.00
	4.46	6.64	0.118	3.00
	4.75	7.07	0.126	3.20
	5.90	8.79	0.157	4.00
122x61	8.72	13.00	0.236	6.00
	5.69	8.48	0.118	3.00
	6.06	9.03	0.126	3.20
	7.54	11.24	0.157	4.00
	11.19	16.67	0.236	6.00

COLD FORMED RHS

Size (Depth x Width) mm	Weight Per Unit Length		Nominal Wall Thickness	
	lb/ft	kg/m	in	mm
125x75	6.74	10.05	0.126	3.20
	9.99	14.89	0.188	4.78
	13.17	19.62	0.250	6.35
	14.87	22.16	0.283	7.20
145x82	7.08	10.55	0.118	3.00
	7.54	11.24	0.126	3.20
	9.40	14.00	0.157	4.00
	13.97	20.82	0.236	6.00
150x100	7.93	11.82	0.118	3.00
	8.45	12.60	0.126	3.20
	10.53	15.70	0.157	4.00
	15.68	23.36	0.236	6.00
200x100	18.72	27.90	0.283	7.20
	9.50	14.15	0.142	3.60
	15.11	22.52	0.188	4.78
	19.96	29.75	0.250	6.35
200x150	22.57	33.64	0.283	7.20
	11.42	17.02	0.142	3.60
	17.67	26.33	0.188	4.78
	23.36	34.82	0.250	6.35
	26.43	39.38	0.283	7.20

NB.: Sizes other than those shown in table above are also supplied to negotiation.

TOLERANCES ASTM A500 - RECTANGULAR

Specification	ASTM A- 500	
Length	6.00 mm ± 0.05 mm Customized Length Ranging From 4-8 m May Be Supplied.	
Thickness	For All Sizes : ± 10%	
Outer Dimensions	1% With a Minimum of 0.5 mm	
Corner Squareness	90° ± 2°	
Corner Radii	Maximum, 3x (Thickness of the Section)	
Weight	On Individual Length : + 10% / - 8%	On Lots of MT.: ± 7.5%
Straightness	Minimum 1:200 th of Any Length Measured Along the Center Line (Mill Straightened Condition) Unless Otherwise Specifically Arranged.	
Twist Tolerance	Maximum 2 mm	
End Finish	Plain Ended - Mechanically Sheared, Mill-Cut Finish Without Further Machining	
Surface Finish	Black Without Any Surface Treatment of Oiling or Varnishing.	

**CONFORMING TO ASTM A500
SQUARE**

COLD FORMED SHS

Size (Depth x Width) mm	Weight Per Unit Length		Nominal Wall Thickness	
	lb/ft	kg/m	in	mm
20x20	0.80	1.19	0.079	2.00
	1.38	2.06	0.142	3.60
	0.80	1.19	0.079	2.00
	1.38	2.06	0.142	3.60
25x25	1.03	1.53	0.079	2.00
	1.23	1.83	0.095	2.41
	1.69	2.52	0.133	3.38
30x30	1.22	1.82	0.079	2.00
	1.46	2.18	0.095	2.41
	2.02	3.00	0.133	3.38
38x38	1.79	2.66	0.091	2.30
	3.03	4.52	0.157	4.00
	4.42	6.59	0.236	6.00
	2.77	4.12	0.106	2.70
50x50	3.24	4.83	0.125	3.18
	3.16	4.72	0.122	3.10
	4.79	7.15	0.188	4.78
	2.85	4.25	0.091	2.30
60x60	4.89	7.28	0.157	4.00
	7.21	10.74	0.236	6.00
	4.46	6.64	0.157	3.00
72x72	5.90	8.79	0.236	4.00

COLD FORMED SHS

Size (Depth x Width) mm	Weight Per Unit Length		Nominal Wall Thickness	
	lb/ft	kg/m	in	mm
75x75	4.65	6.92	0.157	3.00
	7.64	11.38	0.236	5.00
80x80	3.98	5.94	0.094	2.40
	6.57	9.80	0.157	4.00
	9.73	14.51	0.236	6.00
91x91	5.66	8.43	0.118	3.00
	7.50	11.18	0.157	4.00
	9.32	13.89	0.197	5.00
	11.12	16.58	0.236	6.00
100x100	6.74	10.05	0.126	3.20
	9.99	14.89	0.188	4.78
	13.17	19.62	0.250	6.35
	14.87	22.16	0.283	7.20
127x127	8.45	12.60	0.126	3.20
	12.55	18.70	0.188	4.78
	12.55	18.70	0.188	4.78
	16.57	24.69	0.250	6.35
	18.72	27.90	0.283	7.20
150x150	11.42	17.02	0.142	3.60
	15.11	22.52	0.188	4.78
	19.96	29.75	0.250	6.35
	22.57	33.64	0.283	7.20
175x175	13.33	19.87	0.142	3.60
	17.65	26.30	0.188	4.78
	23.34	34.78	0.250	6.35
	26.40	39.34	0.283	7.20

NB.: Sizes other than those shown in table above are also supplied to negotiation.

Trusted Strength. Proven Performance.

Engineered for high-pressure fluid transmission, our **API Grade Line Pipes** represent the pinnacle of pipeline technology. These pipes are manufactured to meet the most stringent international standards, featuring advanced coating options for superior corrosion protection and extended service life. With decades of expertise in manufacturing and a commitment to innovation, Jindal India has become a trusted partner for the oil and gas industry.

The High-Pressure Line Pipe Manufacturing facility, situated at our Jangalpur Works in Howrah, West Bengal, is dedicated to producing HFW pipes to exacting standards. Capable of manufacturing pipes with diameters up to 20 inches and thicknesses up to 14.3 mm, our facility caters primarily to the needs of long-distance transmission of high-pressure oil, gas, and mineral slurry, as well as serving the drilling industries and other applications requiring high test pressure capabilities.



Why Our Pipes Stand Above the Rest



ENHANCED DIMENSIONAL CONTROL
HFW pipes ensure precise dimensions for efficient coating and joint integrity.



PRECISE MECHANICAL PROPERTIES & SURFACE QUALITY
Controlled mechanical strength and smooth surfaces from hot-rolled coils.



PURE WELDING
No foreign material input; solid-state HF welding reduces impurities.



ENGINEERED STRENGTH
API pipes built to withstand high pressure, heat, and corrosive environments.



GLOBAL COMPLIANCE
API-certified with advanced coatings for durability, low maintenance, and long-term value.

TECHNICAL SPECIFICATIONS

Outside Diameter	Line Pipes Upto 20" (508.0 mm) Casings: 6 5/8", 7", 7 5/8", 8 5/8", 9 5/8", 10 3/4", 13 3/8", 16", & 20"
Thickness Range	Upto 0.562" (14.3 mm)
Pipe Length Range	SRL/DRL/TRL (6-18 m)
Coating Pipe Length	9-13 m
End Finish	Beveled or Plain End
Specification & Grades	API 5L GR. B TO x70 m, PSL - 1, API 5L GR. BM TO x80 m, PSL - 2, Service Annexure J, Service Annexure H API 5CT GR. H40, J55 & K55
Protective Coating	Bare or Rust Preventive Coating & Special Coating For Line Pipes
End Protection	Protected With Plastic/Metallic Caps



Refineries & Processing Plants



City Gas Distribution



High Pressure Water Transmission



Sewage/ Drainage Transmission



Cooling Water Transmission

Applications

Oil & Gas Transmission & Distribution

Coating Application in Main Line Pipes

Current coating use on high pressure pipelines is dominated by FBE and 3LPE, 3LPP finding increasing use for high temperature applications above the acceptable temperature range for mono-layer. FBE and PE with ISO specifications developed for these coatings. Excellent specifications have been developed by the CSA, and others for both FBE and 3LPE.

3 LAYER PE/PP/DFBE & INTERNAL	
Production Rate	2.5 Lac m ² /Annum (External 3LPE/3LPP/ FBE/DFBE) 2 Lac m ² /Annum (Internal Liquid Epoxy - Interline/ Food Grade Coating)
Outside Diameter	Upto 20" (508.0 mm)
Pipe Length	Upto 18 m
Coating Specifications	ISO 21809-1/DIN 30670/DIN30678/API RP 5L2 / ISO-15741/CSA Z245.20 & 21 or Equivalent Client Specifications
End Protection	Protected With Plastic/Metallic Caps

API 5L PSL2 - HFW CAPABILITY MATRIX								
Dia. (in)	6 5/8	8 5/8	10 3/4	12 3/4	14	16	18	20
Dia. (mm)	168.3	219.1	273.1	323.9	355.6	406.4	457.2	508.0
Thick.								
6.0								
6.4								
7.1								
7.3								
7.8								
8.2								
8.8								
9.2								
9.5								
10.2								
11.3								
12.7								
6.0								

- Gr.B to X46
- X52/X56
- upto x-60
- upto x-65
- upto x-70
- No Capability

API 5CT - HFW CAPABILITY MATRIX								
Dia. (in)	6 5/8	7 5/8	8 5/8	9 5/8	10 3/4	13 3/8	16	20
Dia. (mm)	168.3	193.7	219.1	244.5	273.1	339.7	406.4	508.0
Thick..								
6.0								
6.7								
7.1								
7.6								
7.9								
8.2								
8.7								
9.0								
9.5								
10.2								
11.3								
12.7								
14.2								

- H40
- H40 & J55
- upto K55
- No Capability

Approvals & Compliance



IS: 1161



ERW Steel Tubes for Structural Purposes conforming to IS 1161:2014. Sizes from 15mm NB to 350mm NB, thickness up to and including 12.7mm in grade YST 210, 240 & 310.



IS: 1239



ERW Mild Steel Tubes and Galvanised Tubes from 15mm NB up to and including 100mm NB in Light Class and 15mm NB up to and including 150mm NB in Medium and Heavy Class, Plain as well as Socketed Ends as per IS 1239 (Part-1);2004.



IS: 3183



Petroleum and Natural Gas Industries - Steel pipe for pipeline transportation systems as per IS/ISO 3183:2007 covering all sizes and grades and thickness up to and including 12.7mm.



IS: 3589



ERW Steel Pipes for Water and Sewage to IS: 3589:2001. Sizes from 168.3mm to 508.0mm O.D., thickness up to and including 12.7mm in Grade Fe 330 & 410.



IS: 3601



ERW Steel Tubes for Structural Purposes conforming to IS 1161:2014. Sizes from 15mm NB to 350mm NB, thickness up to and including 12.7mm in grade YST 210, 240 & 310.



IS: 4270



ERW Steel Tubes used for water wells to IS 4270:2001. Sizes from 100mm NB up to and including 450mm NB, thickness up to and including 10.0mm in Grade Fe 410.



IS: 4923



ERW Hollow Steel Sections for Structural use as per IS 4923:1997. Covering all sizes and grades and thickness up to 10.0mm. The grades are YST 210, 240 & 310.



IS: 9295



ERW Steel Tubes for Idlers, Belt Conveyors conforming to IS 9295:1983. Sizes up to and including 168.3mm O.D., thickness up to and including 5.4mm, in ERW Grades YST 210 & 240.

Certified for Excellence

Recognised by leading national and international standards.

Jindal India Limited holds several nationally and internationally recognised certifications that reflect our commitment to quality, safety, and environmental responsibility. These certifications validate our adherence to global standards in manufacturing, process control, and sustainability. They serve as a mark of trust and assurance for our customers and partners worldwide.

Certificates



ISO-9001-2015



ISO-14001-2015



ISO-45001-2018



EIL-1 Certification



EIL-2 Certification



EN 10255



Metal Beam Crash Barriers

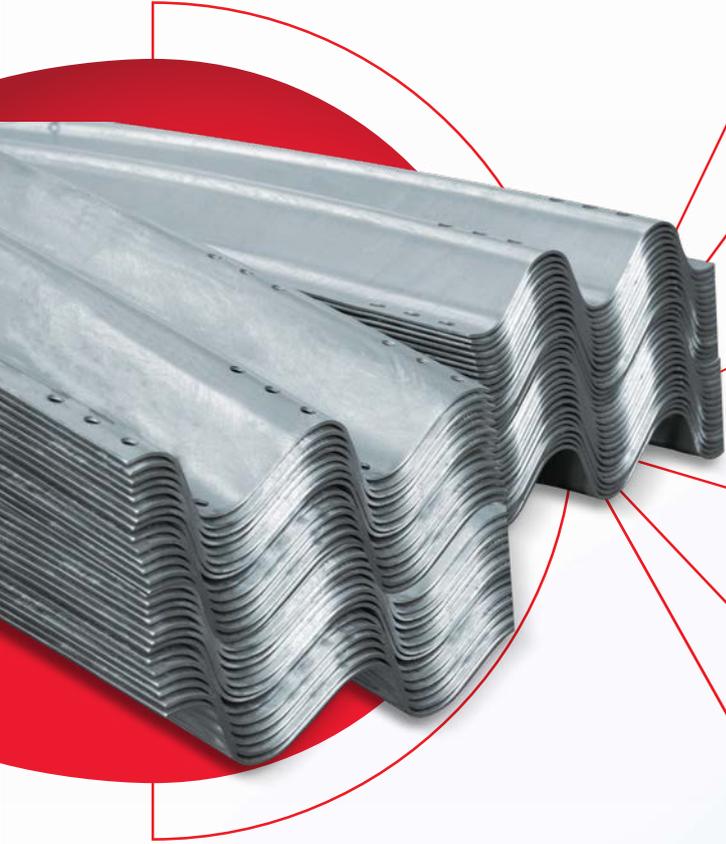
Protection You Trust

Jindal India, amongst the largest producers of Metal Beam Crash Barriers (Guard Rails) in India, proudly introduces the **Jindal Crashesafe range of Metal Beam Crash Barriers**. These barriers have already earned the trust of major national and state highways across the country.

A Metal Beam Crash Barrier is a roadside safety system designed to prevent vehicles from veering off the road, reducing the severity of accidents. Made from high strength steel, these barriers absorb impact energy and redirect vehicles back onto the roadway, minimising injury risks. These barriers play a crucial role in road safety, especially on highways, bridges, rail track safeguarding and accident-prone zones.

Jindal Crashesafe crash barriers are engineered to save lives, designed to offer an advanced level of safety and help prevent accidents on roads and highways. Built from the highest-grade materials and rigorously tested to exceed industry standards, Jindal Crashesafe metal beam crash barriers ensure maximum impact resistance and long-lasting performance. With innovative design elements that enhance energy absorption, the Jindal Crashesafe range provides superior durability and robust protection.

Features & Benefits



EXTENDED DURABILITY & STRENGTH

Crafted from premium-grade materials, ensuring exceptional impact resistance and long-lasting performance.



ADVANCED DESIGN

Incorporates innovative design elements to enhance energy absorption, reducing collision severity and minimising the risk of vehicle penetration.



COMPLIANCE AND CERTIFICATION

Rigorously crash-tested to meet stringent international quality standards, ensuring reliable performance and superior safety for both vehicles and occupants.



TOP-NOTCH QUALITY

Produced in state-of-the-art manufacturing facilities with cutting-edge technology and a rigorous quality control system.



STANDARDISED & CUSTOMISED SOLUTIONS

Produced in state-of-the-art manufacturing facilities with cutting-edge technology and a rigorous quality control system.



SUPERIOR SERVICE LEVELS

Ready stock availability, swift delivery times, and a customer-centric, transparent business model (E-sales platform).

Comprehensive Manufacturing Capabilities

At Jindal India, our facility is equipped to manufacture both standard and customised 'W Beam' and 'Thrie Beam' type Crash Barriers, along with spacers and posts, all featuring high-quality hot-dip galvanisation.

We manufacture high-quality Metal Beam Crash Barriers using precision-engineered processes that meet stringent national and international safety standards.

Our vision is to manufacture and supply crash barriers with stringent quality controls, adhering to specifications set forth by the Ministry of Road Transport & Highways (MORTH), Ministry of Surface Transport (MOST), Indian Railways as well as international standards such as AASHTO 180 and EN-1317-1&2. Currently, our production capacity stands at 65,000 MT of Crash Barrier annually.

TECHNICAL SPECIFICATIONS OF W-BEAM/THRIE BEAM METAL CRASH BARRIERS

Design	Single or Double-Sided Guard Rails
Manufacturing Process	Cold Forming From HR Coil Slits Using Fully Automated Mills
Material	3 mm (Customizable) Cold-Rolled Sections
Strength	Minimum Yield Strength Of 2400 kg/cm ²
Dimensions	Width: 312 mmm/ 510 mm Corrugation Depth: 83 mm Total Length: 4.318 m Effective Length: 4 m (Customizable As Per Requirement)
Protective Coating	Hot-Dip Galvanized With 550 g/m ² Zinc Coating
Compliance	Conforming to Ministry of Road Transport & Highways (North) Specifications

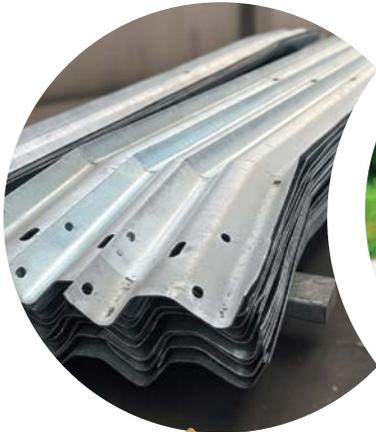
TECHNICAL SPECIFICATIONS OF POST & SPACER CHANNEL

Material	Cold-Rolled Sections
Strength	Minimum Yield Strength of 240 Mpa
Protective Coating	Hot-Dip Galvanized With 550 g/m ² Zinc Coating



Comprehensive Product Range

Metal Beam Crash Barriers



End Shoes



End Terminals



Fish Tails

Anchorage Systems



W-Beam

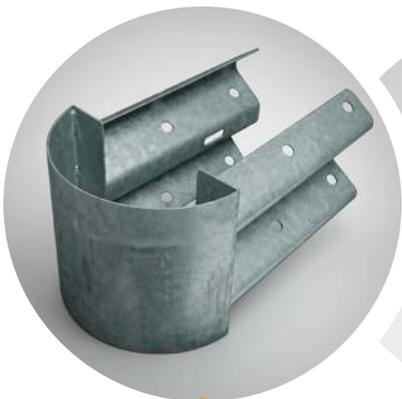


Thrie Beam



Posts & Spacers

Accessories



Bull Nose End



Scroll End



Round Post

Facilities

- ▶ 2 nos heavy duty roll forming lines of W profile having capacity of 3,500 tons/month
- ▶ 1 no heavy-duty roll forming lines of Thrie profile having capacity of 3,500 ton /month
- ▶ 3 Heavy-duty CNC Press Break Machine for making post & space separately
- ▶ Separate dedicated GI plant for metal beam as post & spacer
- ▶ Altogether 5500 tons per months production capacity

Rigorous Quality Control

To guarantee the quality of our offerings, we maintain comprehensive quality control at every stage of manufacturing and before final dispatch. Our Quality lab is equipped with following instruments that are as follows:

- UTM Machine for tensile & yield analysis
- Alcolmeter
- Spectro Machine
- Rockwell Hardness Tester
- All type of Instruments regarding inspection like Digital Vernier scale, Micrometer, Depth gauge & Measuring Tape etc.

Approval / Empanelment

Jindal India MCB is an approved make with various Govt. organisations such as NHAI, MoRTH, State Highways, Railways, Vande Bharat - Bullet Train, Ganga Expressway, Agra to Ayodhya 4 Laning - Ease Access to Ram Temple, Bharatmala Expressway, Poorvanchal Expressway, Indo Bangladesh border, J&K Border project, 6 Lane Green Field Varanasi, Ranchi, Kolkata Highway, Raipur Visakhapatnam Highway, Indore Harda 4 lane, Nepal Road Construction, ongoing Railways sites and major contractors across India.

Executed Projects

- ▶ Villukuri Kanyakumari Road Project- Larsen & Toubro Limited Kanyakumari, Tamilnadu
- ▶ Salsabari, Siliguri - Larsen & Toubro Limited, West Bengal
- ▶ BBJRP, - Larsen & Toubro Limited, Rajasthan
- ▶ Purvanchal Expressway Projects, PNC
- ▶ Rayalseema Expressway Private Limited, Four Season Care, Andhra Pradesh
- ▶ Naxalbari Dist Darjeeling, Dinesh Chandra R Agarwal Infracon Pvt Ltd, West Bengal
- ▶ Champawat Shivalya Construction, Uttarakhand
- ▶ Malda Site HCC Construction Company, West Bengal
- ▶ Betur Site, Raipur MKC Infrastructure, Chhattisgarh
- ▶ Karpara Project, Valsad , Gujarat
- ▶ ADB Road Project, Raipur, Arcon Infra, Chhattisgarh
- ▶ Gopalganj Chhapra Hajipur M/s Silica Infra Pvt Ltd Bihar

- ▶ Chandikhole Paradip (PKG 1) M/s Agrawal Infrabuild Pvt Ltd
- ▶ Garudaballi dist Vizianagaram M/s AP Steadfast infratech
- ▶ PCEPL Projects (Package-2) M/s JSW One Distribution Limited
- ▶ HAM Khajuri to Wyndhamganj M/s MG Contractors Pvt Ltd
- ▶ Green field project - Lucknow by R&C Infrastructure Engineering
- ▶ Indo Bangladesh Fencing by RSS Construction
- ▶ Border Road Organisation North East by RSS Construction
- ▶ Balaghat to Jabalpur 4 Laning by Kaluwala Construction
- ▶ Marhama / NH44 Srinagar to Jammu Project by Anzen Projects Pvt Ltd

About Crash Test Certification

As per NHA1 guideline, all crash barrier materials need to be crash tested and then to be erected at their respective sites. The certification is required for the complete set (beam, post & spacer along with accessories).

Jindal India did the crash test certification in 2021 with NATRAX for its thrie beam. In the year 2026, Jindal is recertified from Natrax for complete product range - W / T Beam, Post and Spacers. Jindal India MBCM is 100% tested and certified.



TEST REPORT

NATRAX		CRASH BARRIER SUMMARY TEST REPORT		Test no.: NAT/CBT/21-22/45	
Date of Report		12/08/2021		Day Thursday	
TEST DETAILS					
TEST TYPE:		FDU			
TEST PRODUCT:		Three beam Metal Crash Barrier			
DATE OF TEST:		11-08-2021			
CLIENT DETAILS:		M/s.Jindal INFRAL Ltd.			
TARGET IMPACT SPEED:		100 kmph			
TARGET IMPACT ANGLE:		20 deg.			
TARGET TEST WEIGHT OF VEHICLE:		900 ± 40 kg			
TEST PRODUCT DETAILS					
NAME OF TEST ITEM:		Three beam metal crash barrier			
TOTAL LENGTH OF TEST ITEM IN METRES (INCLUDING 1.2 M / 4000 ENL):		76 m			
HEIGHT OF THE TEST ITEM IN THE IMPACT AREA:		1.1 m			
POST SPACING AND/OR GIRT LENGTH IN METRES:		2 m			
Components of the product:		Beam, Round head bolts & Nut.			
Dimension and description					
Sl. No	Elements	Drawing	Dimension and description		
1	Beam	Attached (Appendix A)	Length	4318 mm	
			Width	505 mm	
			Thickness	3	
2	post & spacer	Attached (Appendix A)	Length	2100 mm	
			Width	150 mm	
			Length	75 mm	
			Thickness	5 mm	
TEST VEHICLE DETAILS					
VEHICLE IDENTIFICATION NUMBER:		TMO9C0862			
VEHICLE CHASSIS NUMBER:		MAGMPAR1P0TA14465			
VEHICLE MAKE/MODEL:		GENERAL MOTORS/ CHEVROLET SPARK			
VEHICLE MODEL YEAR AND/OR INITIAL:		2009			
REGISTRATION:		R27 2 kg			
VEHICLE MASS:		Yes			
AUXILIARY SAT WEIGHT:		2 Sand bags of 20kg each and instruments around 20 kg			
REMARKS/ DESCRIPTION:					



Applications



Crash Testing Sites



Highways and Expressways



Bridge Railings



Flyovers



Motor Racing/ Test Drive Tracks

Jindal Crashsafe marking



Jindal logo Hard Stamp on Every W/T, Post & Spacer



Batch Number Hard Stamping



QR Code on Each Bundle Mentioned

Loading and Dispatch

Jindal India follows proper bundling norm. 100 % of material is inspected before dispatch by Quality Assurance Team, and then the material is strapped and tied properly to avoid movement and damage during transit. The Company engages its dedicated transporters, PAN India, to provide hassle free and timely service.



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Order status is shared **within 24 hours** of order, and deliveries are ensured promptly through **GPS-enabled transport and trusted logistics partners** across India. With fixed annual freight contracts, you enjoy **hassle-free, transparent pricing** every time.

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adani
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Each partnership strengthens our commitment to customer satisfaction, technical excellence, and long-term value creation.

Notes:

A series of horizontal dotted lines for writing notes, spanning the width of the page.



Hollow Sections
(Black & GI)

API Pipes

ERW Round Pipes
(Black & GI)

Metal Beam
Crash Barriers



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