

**CORPORATE**

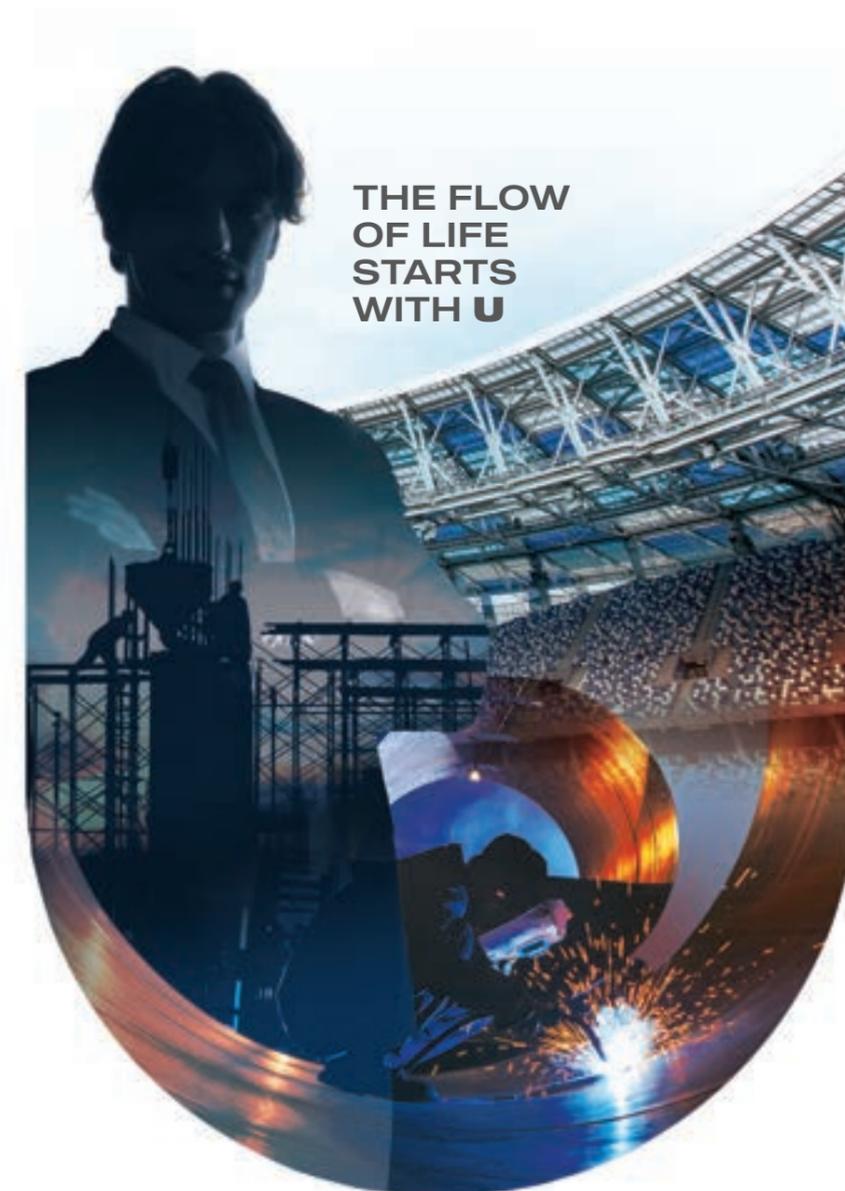
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Kolkata 700 016, India  
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Website: [www.utkarshindia.in](http://www.utkarshindia.in)

**PLANT 1**

NH6, Vill-Jangalpur, P.O. Andul Mouri  
Howrah 711 302, India

**PLANT 2**

NH2, Durgapur Expressway, P.O. Gurap  
Hooghly 712 303, India



**STEEL  
TUBES AND  
PIPES**





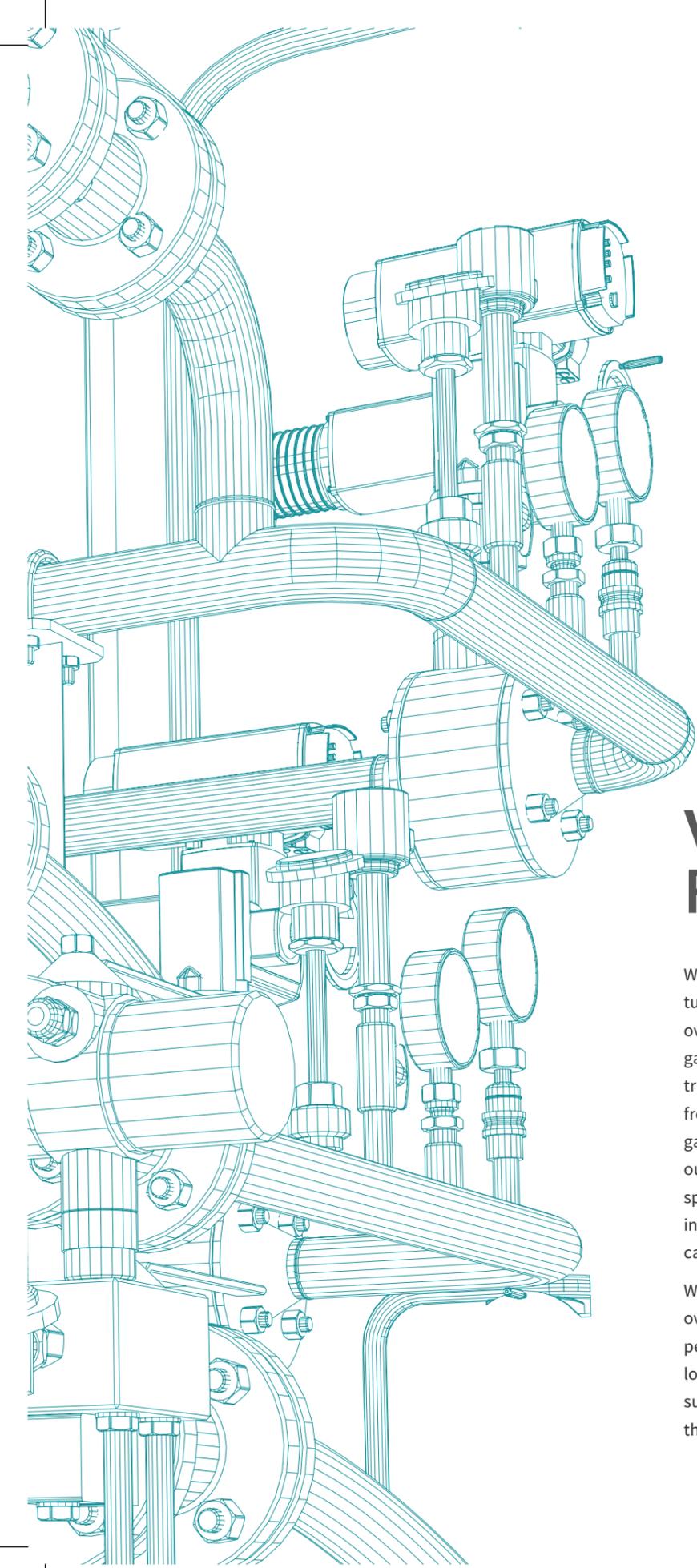
## **U** Are Our Commitment

**'Utkarsh', or excellence, is more than just our name; it is the passion that powers all we do.**

**In every product and service, our commitment is to deliver the highest quality to the customer.**

**Our solutions are customized to best serve your specific requirements, and to meet global standards of quality, because the philosophy of 'customer is king' is the very foundation of our business. Which is why, you can always count on us to provide exactly what you need, on time, every time.**

**After all, Utkarsh always begins with U.**



## What We Do For U

We are an ISO 9001:2015 certified organisation with annual turnover of over 2000 crore; a core engineering enterprise with over 40 years of expertise and excellence in steel fabrication, galvanization, plastic extrusion and moulding. We offer trusted one-stop solutions for all need-based applications, from design, engineering, rolling, forming to fabrication and galvanizing. Located at Gurap and Jangalpur in West Bengal, our world-class infrastructure and manufacturing facilities are spread over 30 lakh sqft, making us the preferred infrastructural partner in both public and private sectors, catering extensively to global and Indian client requirements.

With a highly skilled permanent and contractual workforce of over 4000, all our products are crafted with heart and perfection. Combined with our wide network of vendors, logistics services, raw material suppliers and capital goods suppliers, together we constantly strive to deliver nothing but the best to our clients.

## Our Promise To U

### MISSION

To deliver world-class products and services at competitive prices, through leading-edge solutions in technology and processes. To provide opportunities for inclusive growth to our employees by nurturing human resources. To share the pride of success with all our partners.

### VISION

To be the industry benchmark across all verticals, the preferred partner to our customers and stakeholders, by creating value and demonstrating high ethical standards.

## Globally Local For U

Our world-class products and stringent quality control have made Utkarsh a global choice today. Responding to growing demands, we serve clients in Germany, Belgium, UK, Lithuania, Poland, Northern Ireland, Australia, New Zealand, Canada, UAE, Qatar, Kuwait, Iraq, Reunion Islands, Madagascar, Malawi and Sri Lanka.

## Our Offerings For U

### BUSINESS VERTICALS

- Metal Beam Crash Barriers
- Railway Electrification Structures
- Polygonal & Octagonal Poles
- Steel Tubular Poles
- High Mast Lighting Structures
- Mild Steel and Galvanized Steel Pipes
- Polymer Pipes, Fittings, and accessories
- Transmission Line Towers for electrification
- Telecom Towers for communication
- Water Tank Metal Structures
- Prefabricated Building Structures

## Why We're Right For U

Utkarsh India provides all infrastructural & manufacturing requirements under one roof.

- We have highly competent in-house design as well as research & development laboratories
- We host well-equipped, cutting-edge in-house testing facilities
- We have a sound financial standing to accomplish manufacturing target deadlines
- Our MOUs with leading National and International raw material manufacturers allow superior quality and easy procurement
- We are equipped with ample stock holding area for finished products as well as raw material storage
- Our manufacturing units are closely connected via seaports, national highways and railways
- We possess excellent vendor management skills with committed after-sales support

## DIRECTORS' MESSAGE

# From Us To U

Dear Friends,

Living by John Henry Newman's philosophy - "Growth is the only evidence of life", we have evolved into Utkarsh India Limited from Utkarsh Tubes and Pipes Ltd., by diversifying into infrastructural solutions. A nation's growth undoubtedly lies in its infrastructural development. This is but a humble step in that direction.

Expanding our horizons beyond national borders, we have been touching more lives by aiding infrastructural development across the globe, proudly contributing to the growth of foreign nations. A feat like this would have been impossible without the invaluable support of our esteemed suppliers, distributors and dealers. I extend my deepest gratitude to them.

Without an innovative, talented and passionate team of smart and far-sighted people, scaling the mountains of success over the last 40 years, would have been but a dream. A strong and experienced management ensures a smooth flow of the inner workings, much like our pipes. Utkarsh's adeptness stems from this seamless coordination among management, co-workers and our associates.

Sticking to our corporate ethos of 'U are our commitment', we bring the strong promise of consistency and reliability, ensuring optimum consumer satisfaction. 'Customer first' is the motto that drives us to bring you quality.

Regards

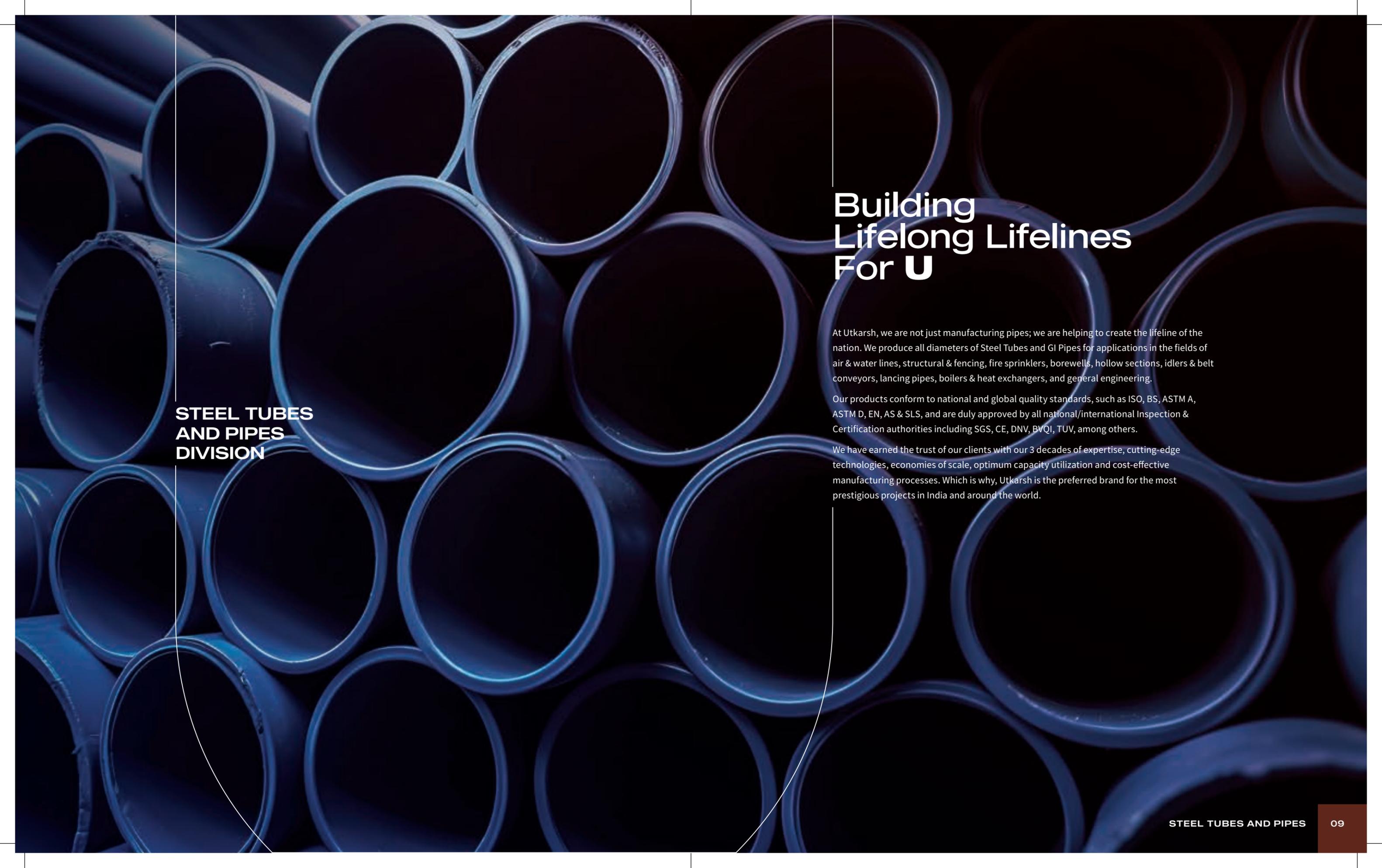
**Sunil Bansal, CMD**

We are committed to ensure a customer centric, service oriented approach across all our products and offerings.

**Utkarsh Bansal**

Director, Business Strategies





**STEEL TUBES  
AND PIPES  
DIVISION**

## Building Lifelong Lifelines For U

At Utkarsh, we are not just manufacturing pipes; we are helping to create the lifeline of the nation. We produce all diameters of Steel Tubes and GI Pipes for applications in the fields of air & water lines, structural & fencing, fire sprinklers, borewells, hollow sections, idlers & belt conveyors, lancing pipes, boilers & heat exchangers, and general engineering.

Our products conform to national and global quality standards, such as ISO, BS, ASTM A, ASTM D, EN, AS & SLS, and are duly approved by all national/international Inspection & Certification authorities including SGS, CE, DNV, BVQI, TUV, among others.

We have earned the trust of our clients with our 3 decades of expertise, cutting-edge technologies, economies of scale, optimum capacity utilization and cost-effective manufacturing processes. Which is why, Utkarsh is the preferred brand for the most prestigious projects in India and around the world.

## THE UTKARSH ADVANTAGE

Only we can offer our clients the unique advantage of having our own world-class Captive Plant, with the following unmatched advantages:

- 5 Tube Mills
- 2 Slitting Lines
- Galvanizing up to 12.50 metres of length (Three nos.)
- CNC Profile Cutting
- High-Speed Tube Mill - 100 mtr/min
- Tube Mill for larger dia pipes
- In-house Spectrometer
- In-house CNC coupler manufacturing plant
- Cold Saw Cutting Tube Mill
- In-house testing facilities
- Online NDT

## Quality Begins With U

### QUALITY BENCHMARKING

We maintain strict adherence to Quality Norms at every stage of each specific domain, as follows:

**HR Coil** - Physical & Chemical properties

**Slitting** - Exact width & thickness

**Pipe Rolling** - Online NDT for 100% check of leakage/hydrostatic test

**End chamfering** - 90 end and bevelled end

**Exact length** - By PLC controlled Cold Saw

**Galvanizing** - Min. 52 microns or as required

**Packing** - By High Tensile Strips in hexagonal form or as required

### QUALITY OBJECTIVES

- Our dedicated R&D team strives to reduce costs and increase operational efficiencies, to deliver high-quality high-end products in the most cost-effective way
- Grooved Pipes developed from 1" to 12" for Sprinkler Applications
- Coupler developed in-house
- Flux Filtering Plant for zero iron in Flux
- Special Additives developed for extra shine

# Manufacturing Capabilities & Fundamental Equipment

Slitting Lines | ERW, HEI W Tube Mills | Hot Dip Galvanizing Plant | Threading Machine | End Facing & End Forming Plain End & Bevelled End Machine | Pipe Straightening Machine | Hydro Testing Machine | Online NDT/Eddy Current Equipment | Auto Start DG Set Mechanical (UTM 20 MT & 60 MT) & Chemical Testing Equipment.

# Solutions For Every Application

## AIR & WATER APPLICATIONS

Specification

- IS 1239, IS 3589, BS 1387, IS 4270
- EN 10255
- ASTM A 53
- 150 65
- AS 1074

## STRUCTURAL APPLICATIONS

Specification

- IS 1161, IS 4923
- EN 10219, EN 39
- ASTM A 500
- AS 1163

## FIREFIGHTING & HVAC APPLICATIONS

Specification

- IS 1239, IS 3589
- ASTM A 53
- ASTM A 795, ASTM A 135 – Grooved Pipes

## GENERAL ENGINEERING APPLICATIONS

Specification

- IS 3601
- IS 9295, AS 1143 – Idlers & Belt Conveyors

## STEEL TUBULAR POLE

Specification

- IS 2713

# Air & Water Applications

## AIR & WATER APPLICATIONS

EN 10255~BS1387

TECHNICAL DATA OF TUBES AS PER BS : 1387 / 1985  
(Designated as BS EN 10255 : 2004)

	Nominal Size (DN)	Designation of Thread (Inch)	Outside (mm)	Diameter (mm)	Thickness (mm)	Mass of Black Tube (kg/mtr)		Socket (Min.) (Min.)	
						Plain End	Screwed & Socketed End	OD (mm)	Length (mm)
LIGHT	15	½	21.4	21.0	2.0	0.947	0.956	27.0	37.0
	20	¾	26.9	26.4	2.3	1.380	1.390	32.5	39.0
	25	1	33.8	33.2	2.6	1.980	2.000	39.5	46.0
	32	1 ¼	42.5	41.9	2.6	2.540	2.570	49.0	51.0
	40	1 ½	48.4	47.8	2.9	3.230	3.270	56.0	51.0
	50	2	60.2	59.6	2.9	4.080	4.150	68.0	60.0
	65	2 ½	76.0	75.2	3.2	5.710	5.830	84.0	69.0
	80	3	88.7	87.9	3.2	6.720	6.890	98.0	75.0
	100	4	113.9	113.0	3.6	9.750	10.000	124.0	87.0
MEDIUM	15	½	21.8	21.0	2.6	1.210	1.220	27.0	37.0
	20	¾	27.3	26.5	2.6	1.560	1.570	32.5	39.0
	25	1	34.2	33.3	3.2	2.410	2.430	39.5	46.0
	32	1 ¼	42.9	42.0	3.2	3.100	3.130	49.0	51.0
	40	1 ½	48.8	47.9	3.2	3.560	3.600	56.0	51.0
	50	2	60.8	59.7	3.6	5.030	5.100	68.0	60.0
	65	2 ½	76.6	75.3	3.6	6.420	6.540	84.0	69.0
	80	3	89.5	88.0	4.0	8.360	8.530	98.0	75.0
	100	4	115.0	113.1	4.5	12.200	12.500	124.0	87.0
	125	5	140.8	138.5	5.0	16.600	17.100	151.0	96.0
150	6	166.5	163.9	5.0	19.800	20.400	178.0	96.0	
HEAVY	15	½	21.8	21.0	3.2	1.440	1.450	27.0	37.0
	20	¾	27.3	26.5	3.2	1.870	1.880	32.5	39.0
	25	1	34.2	33.3	4.0	2.930	2.950	39.5	46.0
	32	1 ¼	42.9	42.0	4.0	3.790	3.820	49.0	51.0
	40	1 ½	48.8	47.9	4.0	4.370	4.410	56.0	51.0
	50	2	60.8	59.7	4.5	6.190	6.260	68.0	60.0
	65	2 ½	76.6	75.3	4.5	7.930	8.050	84.0	69.0
	80	3	89.5	88.0	5.0	10.300	10.500	98.0	75.0
	100	4	115.0	113.1	5.4	14.500	14.800	124.0	87.0
	125	5	140.8	138.5	5.4	17.900	18.400	151.0	96.0
150	6	166.5	163.9	5.4	21.300	21.900	178.0	96.0	

### TOLERANCES:

- Length** : 6 Mtrs ± 0.05 Mtrs
- Thickness** : ± 10% for Medium, Heavy & - 8% for Light
- Weight** : Single Tube - Light - 8%, + 10% & Medium and Heavy ± 10%  
± 7.5% on bundles of 10 MT or more for Medium, Heavy & Light Series

Note: This IS-151239 Part 1 is also used for Firefighting Applications

# AIR & WATER APPLICATIONS

## IS-1239-PART-1

	Nominal Bore		Outside Diameter (mm)		Wall Thickness (mm)	Nominal Mass of Steel Tubes				Socket	
	(mm)	Inch	Minimum	Maximum		Plain End / Bevel End		Screwed & Socketed		Minimum OD (mm)	Minimum Length (mm)
						Kg/Mtr	Mtr/ton	Kg/Mtr	Mtr/ton		
LIGHT	15	½	21	21.4	2	0.947	1056	0.946	1046	27	37
	20	¾	26.4	26.9	2.3	1.38	725	1.39	719	32.5	39
	25	1	33.2	33.8	2.6	1.98	505	2	500	39.5	46
	32	1¼	41.9	42.5	2.6	2.54	394	2.57	389	49	51
	40	1½	47.8	48.4	2.9	3.23	310	3.27	306	56	51
	50	2	59.6	60.2	2.9	4.08	245	4.15	241	68	60
	65	2½	75.2	76	3.2	5.71	175	5.83	172	84	69
	80	3	87.9	88.7	3.2	6.72	149	6.89	145	98	75
	100	4	113	113.9	3.6	9.75	103	10	100	124	87
MEDIUM	15	½	21	21.8	2.6	1.21	826	1.22	820	27	37
	20	¾	26.4	27.3	2.6	1.56	641	1.57	637	32.5	39
	25	1	33.3	34.2	3.2	2.41	415	2.43	412	39.5	46
	32	1¼	42	42.9	3.2	3.1	323	3.13	319	49	51
	40	1½	47.9	48.8	3.2	3.56	281	3.6	278	56	51
	50	2	59.7	60.8	3.6	5.03	199	5.1	196	68	60
	65	2½	75.3	76.6	3.6	6.42	156	6.54	153	84	69
	80	3	88	89.5	4	8.36	120	8.53	117	98	75
	100	4	113.1	115	4.5	12.2	82	12.5	80	124	87
	125	5	138.5	140.8	4.8	15.9	63	16.4	61	151	96
	150	6	163.9	166.5	4.8	18.9	53	19.5	51	178	96
HEAVY	15	½	21	21.8	3.20	1.44	694	1.45	690	27	37
	20	¾	26.4	27.3	3.20	1.87	535	1.88	532	32.5	39
	25	1	33.3	34.2	4.00	2.93	341	2.95	339	39.5	46
	32	1¼	42	42.9	4.00	3.79	264	3.82	262	49	51
	40	1½	47.9	48.8	4.00	4.37	229	4.41	227	56	51
	50	2	59.7	60.8	4.50	6.19	162	6.26	160	68	60
	65	2½	75.3	76.6	4.50	7.93	126	8.05	124	84	69
	80	3	88	89.5	4.80	9.9	101	10.4	96	98	75
	100	4	113.1	115	5.40	14.5	69	14.8	68	124	87
	125	5	138.5	140.8	5.40	17.9	56	18.4	54	151	96
	150	6	163.9	166.5	5.40	21.3	47	21.9	46	178	96

### TOLERANCES:

- Length : 6 Mtrs ± 0.05 Mtrs
- Thickness : ± 10% for Medium, Heavy & - 8% for Light
- Weight : Single Tube - Light - 8%, + 10% & Medium and Heavy ± 10%  
± 7.5% on bundles of 10 MT or more for Medium, Heavy & Light Series



# AIR & WATER APPLICATIONS

ASTM A 53

ASTM A53 GRADE A & B  
(Black & Galvanized Steel Pipes)

Nominal Bore		Outside Diameter		Schedule	Wall Thickness		Weight of Black Pipes Plain End			No of Pcs / Bundle
mm	Inch	mm	Inch		mm	Inch	kg/Mtr	lbs / ft	ft / ton	
15	½	21.3	0.839	40	2.77	0.109	1.27	0.85	2592	120
20	¾	26.7	1.051	40	2.87	0.113	1.69	1.13	1945	90
25	1	33.4	1.315	40	3.38	0.133	2.50	1.68	1311	60
32	1 ¼	42.2	1.661	40	3.56	0.140	3.39	2.27	967	42
40	1 ½	48.3	1.902	40	3.68	0.145	4.05	2.72	810	36
50	2	60.3	2.374	40	3.91	0.154	5.44	3.66	603	26
65	2 ½	73.0	2.874	40	5.16	0.203	8.63	5.80	380	18
80	3	88.9	3.500	40	5.49	0.216	11.29	7.58	291	14
90	3 ½	101.6	4.000	40	5.74	0.226	13.57	9.12	242	12
100	4	114.3	4.500	40	6.02	0.237	16.07	10.80	204	10
125	5	141.3	5.563	40	6.55	0.258	21.77	14.63	151	8
150	6	168.3	6.626	40	7.11	0.280	28.26	18.99	116	7
200	8	219.1	8.626	20	6.35	0.250	33.31	22.36	98	-
				30	7.04	0.277	36.81	24.70	89	-
				40	8.18	0.322	42.55	28.56	77	-
250	10	273.0	10.74	40	10.31	0.406	53.08	35.62	62	-
				20	6.35	0.250	41.75	28.02	79	-
				30	7.80	0.307	51.01	34.23	64	-
300	12	323.9	12.75	40	9.27	0.365	60.29	40.46	54	-
				20	6.35	0.250	49.73	33.38	66	-
350	14	355.6	14.00	30	8.38	0.330	65.20	43.76	50	-
				10	6.35	0.250	54.69	36.70	60	-
400	16	406.4	16.02	20	7.92	0.312	67.90	45.57	48	-
				30	9.52	0.375	81.25	54.53	40	-
400	16	406.4	16.02	10	6.35	0.250	62.72	42.09	52	-
				20	7.92	0.312	77.92	52.30	42	-
400	16	406.4	16.02	30	9.52	0.375	93.29	62.61	35	-

**TOLERANCES:**

Outside Diameter : Upto 1 ½", ± 0.40mm & Above 1 ½", ± 1%  
 Thickness : - 12.5% (Max)  
 Weight : ± 10%

# AIR & WATER APPLICATIONS

ISO 65

CARBON STEEL TUBE SUITABLE FOR SCREWING  
AS PER TO ISO : 65

DN	Designation of Thread	Outside Diameter	Thickness (T) and masses per unit length (M) according to the series											
			Heavy Series			Medium Series			Light Series 1			Light Series 2		
			Thick ness	Plain end	Screwed socketed	Thick ness	Plain end	Screwed socketed	Thick ness	Plain end	Screwed socketed	Thick ness	Plain end	Screwed socketed
			tT mm	M kg/m	M kg/m	T mm	M kg/m	M kg/m	T mm	M kg/m	M kg/m	T mm	M kg/m	M kg/m
15	½	21.3	3.2	1.44	1.45	2.6	1.21	1.22	2.3	1.09	1.09	2.0	0.947	0.956
20	¾	26.9	3.2	1.87	1.88	2.6	1.56	1.57	2.3	1.39	1.40	2.3	1.38	1.39
25	1	33.7	4.0	2.93	2.95	3.2	2.41	2.43	2.9	2.20	2.22	2.6	1.98	2.00
32	1 ¼	42.4	4.0	3.97	3.82	3.2	3.10	3.13	2.9	2.82	2.85	2.6	2.54	2.57
40	1 ½	48.3	4.0	4.37	4.41	3.2	3.56	3.60	2.9	3.24	3.28	2.9	3.23	3.27
50	2	60.3	4.5	6.19	6.26	3.6	5.03	5.10	3.2	4.49	4.56	2.9	4.08	4.15
65	2 ½	76.1	4.5	7.93	8.05	3.6	6.42	6.54	3.2	5.73	5.85	3.2	5.71	5.83
80	3	88.9	5.0	10.3	10.5	4.0	8.36	8.53	3.6	7.55	7.72	3.2	6.72	6.89
100	4	114.3	5.4	14.5	14.8	4.5	12.2	12.5	4.0	10.8	11.1	3.6	9.75	10.0
125	5	139.7	5.4	17.9	18.4	5.0	16.6	17.1	-	-	-	-	-	-
150	6	165.12	5.4	21.3	21.9	5.0	19.8	20.4	-	-	-	-	-	-

Tolerances on Thickness as per above table

Light Series 1		Light Series 2	
+ Not Limited	- 12.5%	+ Not Limited	- 8%

Tolerances on Weight as per above table

Light Series 1		Light Series 2	
Single Tube ± 10%	10 Ton Load ± 7.5%	Single Tube + 10% - 8%	10 Ton Load ± 5%



## AIR & WATER APPLICATIONS

TECHNICAL DATA OF TUBES  
AS PER AS1074: 1989

Nominal Size (DN)	Outside Diameter (mm)		Thickness (mm)	Mass of Black Tube (kg/m)		
	Min.	Max.		Plain End	Screwed & Socketed End	
<b>LIGHT</b>	15	21.0	21.4	2.0	0.947	0.956
	20	26.4	26.9	2.3	1.38	1.39
	25	33.2	33.8	2.6	1.98	2.00
	32	41.9	42.5	2.6	2.54	2.57
	40	47.8	48.4	2.9	3.23	3.27
	50	59.6	60.2	2.9	4.08	4.15
	65	75.2	76.0	3.2	5.71	5.83
	80	87.9	88.7	3.2	6.72	6.89
100	113.0	113.9	3.6	9.75	10.00	

Nominal Size (DN)	Outside Diameter (mm)		Thickness (mm)	Mass of Black Tube (kg/m)		
	Min.	Max.		Plain End	Screwed & Socketed End	
<b>MEDIUM</b>	15	21.1	21.7	2.6	1.21	1.22
	20	26.6	27.2	2.6	1.56	1.57
	25	33.4	34.2	3.2	2.41	2.43
	32	42.1	42.9	3.2	3.10	3.13
	40	48.0	48.8	3.2	3.57	3.61
	50	59.8	60.8	3.6	5.03	5.10
	65	75.4	76.6	3.6	6.43	6.55
	80	88.1	89.5	4.0	8.37	8.54
	100	113.3	114.9	4.5	12.2	12.50
	125	138.7	140.6	5.0	16.6	17.10
	150	164.1	166.1	5.0	19.7	20.30

Nominal Size (DN)	Outside Diameter (mm)		Thickness (mm)	Mass of Black Tube (kg/m)		
	Min.	Max.		Plain End	Screwed & Socketed End	
<b>HEAVY</b>	15	21.1	21.7	3.2	1.44	1.45
	20	26.6	27.2	3.2	1.87	1.88
	25	33.4	34.2	4.0	2.94	2.96
	32	42.1	42.9	4.0	3.80	3.83
	40	48.0	48.8	4.0	4.38	4.42
	50	59.8	60.8	4.5	6.19	6.26
	65	75.4	76.6	4.5	7.93	6.55
	80	88.1	89.5	5.0	10.3	10.50
	100	113.3	114.9	5.4	14.5	14.80
	125	138.7	140.6	5.4	17.9	18.40
	150	164.1	166.1	5.4	21.3	21.90

### TOLERANCES:

- Length** : Light welded tubes: + Unlimited / - 8%  
**Thickness** : + Unlimited / - 10%  
**Weight** : No single tubes shall deviate from standard mass by + 10 / - 8%

Table 1 Sizes and Properties of Steel Tubes for Structural Purposes  
(Clauses 3.1, 6. 1, 6. 1. 1, 6.1.2 and 6. 1.3)

NB	OD	Thickness	Mass	Area of Cross Section	Internal Volume	Surface		Moment of Inertia	Modulus of Section	Radius of Gyration	Square of Radius of Gyration
						External	Internal				
mm	mm	mm	kg/m <sup>3</sup>	cm <sup>2</sup>	cm <sup>3</sup> /m	cm <sup>3</sup> /m	cm <sup>3</sup> /m	cm <sup>4</sup> /m	cm <sup>3</sup>	cm	cm <sup>2</sup>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
15	21.3	2	0.95	1.21	235	669	543	0.571	0.536	0.686	0.47
15	21.3	2.5	1.16	1.48	209	669	512	0.664	0.623	0.671	0.45
15	21.3	3	1.35	1.72	184	669	481	0.741	0.696	0.656	0.43
20	26.9	2	1.23	1.56	412	845	719	1.22	0.907	0.883	0.78
20	26.9	2.5	1.50	1.92	377	845	688	1.44	1.07	0.87	0.75
20	26.9	3	1.77	2.25	343	845	657	1.63	1.21	0.85	0.73
25	33.7	2	1.56	1.99	693	1059	933	2.51	1.49	1.12	1.26
25	33.7	2.5	1.92	2.45	647	1059	902	3.00	1.78	1.11	1.22
25	33.7	3	2.27	2.89	603	1059	870	3.44	2.04	1.09	1.19
32	42.4	2	1.99	2.54	1158	1332	1206	5.19	2.45	1.43	2.05
32	42.4	2.5	2.46	3.13	1099	1332	1175	6.26	2.95	1.41	2.00
32	42.4	3	2.91	3.71	1 041	1332	1144	7.25	3.42	1.40	1.95
32	42.4	4	3.79	4.83	929	1332	1081	8.99	4.24	1.36	1.86
40	48.3	2	2.28	2.91	1541	1517	1392	7.81	3.23	1.64	2.68
40	48.3	2.5	2.82	3.60	1473	1517	1360	9.46	3.92	1.62	2.63
40	48.3	3	3.35	4.27	1405	1517	1329	11.00	4.55	1.61	2.58
40	48.3	4	4.37	5.57	1276	1517	1266	13.77	5.70	1.57	2.47
50	60.3	2	2.88	3.66	2489	1894	1769	15.58	5.17	2.06	4.25
50	60.3	2.5	3.56	4.54	2402	1894	1737	18.99	6.30	2.05	4.18
50	60.3	3	4.24	5.40	2316	1894	1706	22.22	7.37	2.03	4.12
50	60.3	4	5.55	7.07	2148	1894	1643	28.17	9.34	2.00	3.98
65	76.1	2	3.65	4.66	4083	2391	2265	31.98	8.40	2.62	6.87
65	76.1	2.5	4.54	5.78	3970	2391	2234	39.19	10.30	2.60	6.78
65	76.1	3	5.41	6.89	3859	2391	2202	46.10	12.11	2.59	6.69
65	76.1	4	7.11	9.06	3642	2391	2139	59.06	15.52	2.55	6.52

# STRUCTURAL APPLICATIONS

IS 1161-AS1163-EN10219

Table 1 (Continued)

NB	OD	Thickness	Mass	Area of Cross Section	Internal Volume	Surface		Moment of Inertia	Modulus of Section	Radius of Gyration	Square of Radius of Gyration
						External	Internal				
mm	mm	mm	kg/m <sup>3</sup>	cm <sup>2</sup>	cm <sup>3</sup> /m	cm <sup>3</sup> /m	cm <sup>3</sup> /m	cm <sup>4</sup> /m	cm <sup>3</sup>	cm	cm <sup>2</sup>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
65	76.1	5	8.77	11.17	3432	2391	2077	70.92	18.64	2.52	6.35
80	88.9	2	4.29	5.46	5661	2793	2667	51.57	11.60	3.07	9.44
80	88.9	2.5	5.33	6.79	5529	2793	2636	63.37	14.26	3.06	9.34
80	88.9	3	6.36	8.10	5398	2793	2604	74.76	16.82	3.04	9.23
80	88.9	4	8.38	10.67	5140	2793	2542	96.34	21.67	3.00	9.03
80	88.9	5	10.35	13.18	4889	2793	2479	116	26.18	2.97	8.83
90	101.6	2	4.91	6.26	7482	3192	3066	77.6	15.28	3.52	12.41
90	101.6	2.5	6.11	7.78	7329	3192	3035	95.6	18.82	3.50	12.28
90	101.6	3	7.29	9.29	7178	3192	3003	113	22.25	3.49	12.16
90	101.6	4	9.63	12.26	6881	3192	2941	146	28.80	3.45	11.93
90	101.6	5	11.91	15.17	6590	3192	2878	177	34.93	3.42	11.70
100	114.3	2.5	6.89	8.78	9383	3591	3434	137	24.02	3.95	15.63
100	114.3	3	8.23	10.49	9212	3591	3402	163	28.44	3.94	15.50
100	114.3	4	10.88	13.86	8875	3591	3340	211	36.93	3.90	15.23
100	114.3	5	13.48	17.17	8544	3591	3277	257	44.96	3.87	14.96
100	114.3	6	16.03	20.41	8219	3591	3214	300	52.53	3.83	14.71
100	114.3	6.3	16.78	21.38	8123	3591	3195	313	54.72	3.82	14.63
110	127	2.9	8.88	11.31	11537	3990	3707	217.78	34.30	4.39	19.26
110	127	3.2	9.77	12.45	11423	3990	3789	238.60	37.57	4.38	19.17
110	127	3.6	10.96	13.96	11272	3990	3764	265.87	41.87	4.36	19.05
110	127	4	12.13	15.46	11122	3990	3738	292.61	46.08	4.35	18.93
110	127	5	15.04	19.16	10751	3990	3676	357.14	56.24	4.32	18.64

# STRUCTURAL APPLICATIONS

IS 1161-AS1163-EN10219

Table 1 (Continued)

NB	OD	Thickness	Mass	Area of Cross Section	Internal Volume	Surface		Moment of Inertia	Modulus of Section	Radius of Gyration	Square of Radius of Gyration
						External	Internal				
mm	mm	mm	kg/m <sup>3</sup>	cm <sup>2</sup>	cm <sup>3</sup> /m	cm <sup>3</sup> /m	cm <sup>3</sup> /m	cm <sup>4</sup> /m	cm <sup>3</sup>	cm	cm <sup>2</sup>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
125	139.7	3	10.11	12.88	14040	4389	4200	301	43.11	4.83	23.37
125	139.7	4	13.39	17.05	13623	4389	4137	393	56.24	4.80	23.04
125	139.7	5	16.61	21.16	13212	4389	4075	481	68.80	4.77	22.71
125	139.7	6	19.78	25.20	12808	4389	4012	564	80.78	4.73	22.39
125	139.7	6.3	20.73	26.40	12688	4389	3993	589	84.27	4.72	22.29
135	152.4	3	11.05	14.08	16833	4788	4599	393	51.58	5.28	27.91
135	152.4	4	14.64	18.65	16377	4788	4536	514	67.42	5.25	27.55
135	152.4	5	18.18	23.15	15926	4788	4474	630	82.62	5.21	27.19
135	152.4	6	21.66	27.60	15482	4788	4411	740.57	97.19	5.18	26.84
135	152.4	6.3	22.70	28.92	15350	4788	4392	772.96	101.44	5.17	26.73
150	165.1	3	11.99	15.28	19881	5187	4998	502	60.81	5.73	32.86
150	165.1	4	15.89	20.24	19384	5187	4935	657	79.61	5.70	32.46
150	165.1	5	19.74	25.15	18894	5187	4873	807	97.70	5.66	32.07
150	165.1	6	23.54	29.99	18409	5187	4810	950	115	5.63	31.69
150	165.1	6.3	24.67	31.43	18265	5187	4791	992	120	5.62	31.57
150	168.3	3	12.23	15.58	20688	5287	5099	532	63.25	5.85	34.17
150	168.3	4	16.21	20.65	20182	5287	5036	697	82.84	5.81	33.76
150	168.3	5	20.14	25.65	19681	5287	4973	856	102	5.78	33.36
150	168.3	6	24.02	30.59	19187	5287	4910	1009	120	5.74	32.97
150	168.3	6.3	25.17	32.06	19040	5287	4891	1053	125	5.73	32.85

# STRUCTURAL APPLICATIONS

IS 1161-AS1163-EN10219

Table 1 (Continued)

NB	OD	Thickness	Mass	Area of Cross Section	Internal Volume	Surface		Moment of Inertia	Modulus of Section	Radius of Gyration	Square of Radius of Gyration
						External	Internal				
mm	mm	mm	kg/m <sup>3</sup>	cm <sup>2</sup>	cm <sup>3</sup> /m	cm <sup>3</sup> /m	cm <sup>3</sup> /m	cm <sup>4</sup> /m	cm <sup>3</sup>	cm	cm <sup>2</sup>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
175	193.7	4	18.71	23.54	27084	6085	5834	1073	111	6.71	45.00
175	193.7	5	23.27	29.64	26504	6085	5771	1320	136	6.67	44.54
175	193.7	6	27.77	35.38	25930	6085	5708	1560	161	6.64	44.08
175	193.7	6.3	29.12	37.09	25759	6085	5689	1630	168	6.63	43.95
200	219.1	4	21.22	27.03	35000	6883	6632	1564	143	7.61	57.86
200	219.1	5	26.40	33.63	34340	6883	6569	1928	176	7.57	57.33
200	219.1	6	31.53	40.17	33686	6883	6506	2282	208	7.54	56.81
200	219.1	6.3	33.06	42.12	33491	6883	6487	2386	218	7.53	56.65
200	219.1	8	41.65	53.06	32397	6883	6381	2960	270	7.47	55.78
250	273	5	33.05	42.10	54325	8577	8262	3781	277	9.48	89.81
250	273	6	39.51	50.33	53502	8577	8200	4487	329	9.44	89.16
250	273	6.3	41.44	52.79	53256	8577	8181	4696	344	9.43	88.96
250	273	8	52.28	66.60	51875	8577	8074	5852	429	9.37	87.86

## STRUCTURAL APPLICATIONS

IS 1161-AS1163-EN10219

Table 1 (Continued)

NB	OD	Thickness	Mass	Area of Cross Section	Internal Volume	Surface		Moment of Inertia	Modulus of Section	Radius of Gyration	Square of Radius of Gyration
						External	Internal				
mm	mm	mm	kg/m <sup>3</sup>	cm <sup>2</sup>	cm <sup>3</sup> /m	cm <sup>3</sup> /m	cm <sup>3</sup> /m	cm <sup>4</sup> /m	cm <sup>3</sup>	cm	cm <sup>2</sup>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
300	323.9	6	47.04	59.92	76405	10176	9799	7572	468	11.24	126.37
300	323.9	6.3	49.34	62.86	76111	10176	9780	7929	490	11.23	126.14
300	323.9	8	62.32	79.39	74458	10176	9673	9910	612	11.17	124.82
350	355.6	5	43.23	55.07	93807	11172	10857	8464	476	12.40	153.68
350	355.6	6	51.73	65.90	92725	11172	10795	10071	566	12.36	152.82
350	355.6	6.3	54.27	69.13	92401	11172	10776	10547	593	12.35	152.56
350	355.6	8	68.58	87.36	90579	11172	10669	13201	742	12.29	151.11

## STRUCTURAL APPLICATIONS

EN39

### TECHNICAL DATA OF STEEL TUBES & PIPES AS EN39 : 2001

Depth	Width			Moment of Inertia	Elastic Modulus (cm <sup>3</sup> )
		Min.(mm)	Max.(mm)	(mm) Specified	(Kg/Mtr) Specified
Type-3	48.3	47.8	48.8	3.2	3.56
Type-4	48.3	47.8	48.8	4.0	4.37

**Straightness** : Max. deviation does not exceed 0.002 X length  
**Thickness** : - 10%  
**Free Bore Test** : The inside diameter shall allow insertion of a gauge of diameter 37.7mm for a length on 200mm



# Firefighting & HVAC Applications

## FIREFIGHTING & HVAC APPLICATIONS IS 3589

TECHNICAL DATA OF STEEL TUBES & PIPES CONFORMING TO IS 3589 : 2001

Nominal Bore		Outside Diameter		Wall Thickness		Weight of Black Pipes Plain End		
(mm)	(Inch)	(mm)	(Inch)	(mm)	(Inch)	(Kg/m)	(Mtr/ton)	(ft/ton)
150	6	168.3	6.626	4.00	0.157	16.207	62	202
				4.50	0.177	18.177	55	181
				4.85	0.191	18.549	51	168
				5.00	0.197	20.135	50	163
				5.40	0.213	21.692	46	151
				5.50	0.217	22.081	45	149
				6.00	0.236	24.014	42	137
				6.35	0.250	25.360	39	129
				7.00	0.276	27.844	36	118
200	8	219.1	8.626	4.00	0.157	21.217	47	155
				4.50	0.177	23.814	42	138
				4.85	0.191	25.625	39	128
				5.00	0.197	26.399	38	124
				5.40	0.213	28.457	35	115
				5.50	0.217	28.971	35	113
				6.00	0.236	31.530	32	104
				6.35	0.250	33.315	30	98
				7.00	0.276	36.613	27	90
				7.50	0.295	39.135	26	84
				8.00	0.315	41.646	24	79
				9.00	0.354	46.630	21	70
				9.50	0.374	49.103	20	67
10.0	0.394	51.564	19	64				
10.5	0.413	54.013	19	61				
250	10	273.0	10.748	4.00	0.157	26.534	38	124
				4.50	0.177	29.795	34	110
				4.85	0.191	32.071	31	102
				5.00	0.197	33.044	30	99
				5.40	0.213	35.635	28	92
				5.50	0.217	36.281	28	90
				6.00	0.236	39.505	25	83
				6.35	0.250	41.755	24	79
				7.00	0.276	45.917	22	71
				7.50	0.295	49.104	20	67
				8.00	0.315	52.279	19	63
				9.00	0.354	58.592	17	56
				9.50	0.374	61.730	16	53
				10.0	0.394	64.856	15	51
				10.5	0.413	67.969	15	48
300	12	323.9	12.752	4.00	0.157	31.555	32	104
				4.50	0.177	35.444	28	93
				4.85	0.191	38.159	26	86
				5.00	0.197	39.320	25	83
				5.40	0.213	42.413	24	77
				5.50	0.217	43.185	23	76
				6.00	0.236	47.036	21	70
				6.35	0.250	49.725	20	66
				7.00	0.276	54.703	18	60
				7.50	0.295	58.518	17	56
				8.00	0.315	62.321	16	53
				9.00	0.354	69.889	14	47
				9.50	0.374	73.654	14	45
				10.0	0.394	77.408	13	42
				10.5	0.413	81.149	12	40

# FIREFIGHTING & HVAC APPLICATIONS

TECHNICAL DATA OF STEEL TUBES & PIPES CONFORMING TO IS 3589 : 2001

Nominal Bore		Outside Diameter		Wall Thickness		Weight Of Black Pipes Plain End / Bevel End						
(mm)	(inch)	(mm)	(inch)	(mm)	(inch)	(Kg/m)	(Mtr/Ton)	(Ft/Ton)				
350	14	355.6	14.000	4.00	0.157	34.682	29	95				
				4.50	0.177	38.962	26	84				
				4.85	0.191	41.950	24	78				
				5.00	0.197	43.229	23	76				
				5.40	0.213	46.634	21	70				
				5.50	0.217	47.484	21	69				
				6.00	0.236	51.727	19	63				
				6.35	0.250	54.689	18	60				
				7.00	0.276	60.175	17	55				
				7.50	0.295	64.381	16	51				
				8.00	0.315	68.575	15	48				
				9.00	0.354	76.924	13	43				
				9.50	0.374	81.081	12	40				
				10.00	0.394	85.225	12	38				
				10.50	0.413	89.357	11	37				
				400	16	406.4	16.020	4.00	0.157	39.742	25	83
								4.50	0.177	44.654	22	73
4.85	0.191	48.086	21					68				
5.00	0.197	49.554	20					66				
5.40	0.213	53.465	19					61				
5.50	0.217	54.442	18					60				
6.00	0.236	59.317	17					55				
6.35	0.250	62.723	16					52				
7.00	0.276	69.031	14					48				
7.50	0.295	73.869	14					44				
8.00	0.315	78.695	13					42				
9.00	0.354	88.310	11					37				
9.50	0.374	93.099	11					35				
10.00	0.394	97.876	10					34				
10.50	0.413	102.640	10					32				

**TOLERANCES:**

- Outside Diameter : ± 0.75%
- Thickness : + 10%
- Weight : 10mt & Above ± 7.5%
- Random Length : 4mtrs to 7mtrs/for specific length, ± 100mm

# FIREFIGHTING & HVAC APPLICATIONS

## GROOVED PIPES

Standard Groove Specifications

### Standard Roll Groove specifications for Steel and other IPS Pipe\*

Roll grooving removes no metal, cold forming a groove by the action of an upper male roll being forced into pipe as it is rotated by a lower female drive roll.

Roll groove configuration has rounded edges which reduce the available pipe end movement (expansion, contraction and deflection).

**Note:** Coatings applied to the interior surfaces, including bolt pad mating surfaces, of our grooved and bolted plain end couplings should not exceed 0.010"/0.25mm. Also, the coating thickness applied to the gasket seating surface and within the groove on the pipe exterior should not exceed 0.010"/0.25mm.

1 Nominal Size Inches/mm	2 Dimensions = Inches/millimeters									
	3 Pipe Outside Dia. O. D.			4 Gasket Seat - A ± 0.03 ± 0.76	5 Grv Width -B ± 0.03 ± 0.76	6 Groove Dia - C		7 Groove Depth D (ref)	8 Min. Allow. Wall Thk. T	9 Max. Allow. Flare Dia.
	Tolerance					Basic	Tol. + 0.000 + 0.00			
	Basic	+	-							
1 25	1.315 33.7	0.013 0.33	0.013 0.33	0.625 15.88	0.281 7.14	1.190 30.23	-0.015 -0.38	0.063 1.60	0.065 1.65	1.43 36.3
1 ¼ 32	1.660 42.4	0.016 0.41	0.016 0.41	0.625 15.88	0.281 7.14	1.535 38.99	-0.015 -0.38	0.063 1.60	0.065 1.65	1.77 45.0
1 ½ 40	1.900 48.3	0.019 0.48	0.019 0.48	0.625 15.88	0.281 7.14	1.775 45.09	-0.015 -0.38	0.063 1.60	0.065 1.65	2.01 51.1
2 50	2.375 60.3	0.024 0.61	0.024 0.61	0.625 15.88	0.344 8.74	2.250 57.15	-0.015 -0.038	0.063 1.60	0.065 1.65	2.48 63.0
2 ½ 65	2.875 73.0	0.029 0.74	0.029 0.74	0.625 15.88	0.344 8.74	2.720 69.09	-0.018 -0.46	0.078 1.98	0.083 2.11	2.98 75.7
76.1mm	3.000 76.1	0.030 0.76	0.030 0.76	0.625 15.88	0.344 8.74	2.845 72.26	-0.018 -0.46	0.078 1.98	0.083 2.11	3.10 78.7
3 80	3.500 88.9	0.035 0.89	0.031 0.89	0.625 15.88	0.344 8.74	3.344 84.94	-0.018 -0.46	0.078 1.98	0.083 2.11	3.60 91.4
3 ½ 90	4.000 101.6	0.040 1.02	0.031 0.79	0.625 15.88	0.344 8.74	3.834 97.38	-0.020 -0.51	0.083 2.11	0.083 2.11	4.10 104.1
4 100	4.500 114.3	0.045 1.14	0.031 0.79	0.625 15.88	0.344 8.74	4.334 110.08	-0.020 -0.51	0.083 2.11	0.083 2.11	4.60 116.8
108.0mm	4.250 108.0	0.043 1.09	0.031 0.79	0.625 15.88	0.344 8.74	4.084 103.73	-0.020 -0.51	0.083 2.11	0.083 2.11	4.35 110.5
4 ½ 120	5.000 127.0	0.050 1.27	0.031 0.79	0.625 15.88	0.344 8.74	3.834 122.78	-0.020 -0.51	0.083 2.11	0.095 2.41	5.10 129.5
133.0mm	5.250 133.0	0.053 1.35	0.031 0.79	0.625 15.88	0.344 8.74	5.084 129.13	-0.020 -0.51	0.083 2.11	0.109 2.77	5.35 135.9
139.7mm	5.500 139.7	0.056 1.42	0.031 0.79	0.625 15.88	0.344 8.74	5.334 135.48	-0.020 -0.51	0.083 2.11	0.109 2.77	5.60 142.2
5 125	5.563 141.3	0.056 1.42	0.031 0.79	0.625 15.88	0.344 8.74	5.395 137.03	-0.022 -0.56	0.084 2.13	0.109 2.77	5.66 143.8
165.1mm	6.500 165.1	0.063 1.60	0.031 0.79	0.625 15.88	0.344 8.74	6.330 160.78	-0.022 -0.56	0.85 2.16	0.109 2.77	6.60 167.6
6 150	6.625 168.3	0.063 1.60	0.031 0.79	0.625 15.88	0.344 8.74	6.455 163.96	-0.022 -0.56	0.85 2.16	0.109 2.77	6.73 170.9

# FIREFIGHTING & HVAC APPLICATIONS

## GROOVED PIPES

Standard Groove Specifications

1 Nominal Size Inches/mm	2 Dimensions = Inches/millimeters									
	3 Pipe Outside Dia. O. D.			4 Gasket Seat - A ± 0.03 ± 0.76	5 Grv Width -B ± 0.03 ± 0.76	6 Groove Dia - C		7 Groove Depth D (ref)	8 Min. Allow. Wall Thk. T	9 Max. Allow. Flare Dia.
	Tolerance					Basic	Tol. + 0.000 + 0.00			
	Basic	+	-							
203.2mm	8.000 203.2	0.063 1.60	0.031 0.79	0.750 19.05	0.469 11.91	7.816 198.53	-0.025 -0.64	0.092 2.34	0.109 2.77	8.17 207.5
8 200	8.625 219.1	0.063 1.60	0.031 0.79	0.750 19.05	0.469 11.91	8.441 214.40	-0.025 -0.64	0.092 2.34	0.109 2.77	8.80 223.5
254.0mm	10.000 254.0	0.063 1.60	0.031 0.79	0.750 19.05	0.469 11.91	9.812 249.23	-0.027 -0.69	0.094 2.39	0.134 3.40	10.17 258.3
10 250	10.750 273.0	0.063 1.60	0.031 0.79	0.750 19.05	0.469 11.91	10.562 268.28	-0.027 -0.69	0.094 2.39	0.134 3.40	10.92 277.4
304.8mm	12.000 304.8	0.063 1.60	0.031 0.79	0.750 19.05	0.469 11.91	11.781 299.24	-0.030 -0.76	0.109 2.77	0.156 3.96	12.17 309.1
12 300	12.750 323.9	0.063 1.60	0.031 0.79	0.750 19.05	0.469 11.91	12.531 318.29	-0.030 -0.76	0.109 2.77	0.156 3.96	12.92 328.2

\*On roll grooved pipe, Allowable cap End Separation and Deflection from Centerline will be ½ values listed for cut grooved pipe

**Column 1:** Nominal IPS Pipes size

**Column 2:** IPS outside diameter

**Column 3:** Gasket seat

**Column 4:** Groove width

**Column 5:** Groove outside diameter

**Column 6:** Groove depth

**Column 7:** Minimum allowable wall thickness

**Column 8:** Maximum allowable pipe and flare diameter

# EN 10255:2004+A1:2007 Non-alloy Steel Tubes Suitable For Welding And Threading

## ABOUT PRODUCT

EN 10255:2004+A1:2007 specifies the requirements for circular non-alloy steel tubes suitable for welding and threading and provides a number of options for the finish of tube ends and coatings. This standard covers tubes of specified outside diameter 10,2 mm to 165,1 mm (thread size 1/8 to 6) in two series, medium and heavy, and three types of designated thicknesses.

Utkarsh Tubes & Pipes Ltd. have the certification from DNV for the standard EN 10255:2004+A1:2007.

## SUPPLY RANGES

	Nominal Bore		Class			Length			
	(mm)	(inch)	Light Classes		Medium	Heavy	Random	Aproximate	Exact
Outside Diameter	15 to 150	½ to 6							
Thickness			L1	L2					
Length						4 m to 7 m	Specified Length ±150 mm	Specified Length (-0, +6 mm)	

## TECHNICAL DETAILS

### STANDARD TABLE (WALL THICKNESS & MASS H & M)

Specified Outside Diameter <sup>a</sup>	Thread Size <sup>a</sup>	Outside Diameter		H Heavy Series			M Medium Series		
		Max.	Min.	Wall Thickness T	Mass Per Unit Length Of Bare Tube		Wall Thickness T	Mass Per Unit Length Of Bare Tube	
					Plain End	Socketed		Plain End	Socketed
		(mm)	(mm)	(mm)	(kg/m)	(kg/m)	(mm)	(kg/m)	(kg/m)
21.3	½	21.8	21.0	3.2	1.44	1.45	2.6	1.21	1.22
26.9	¾	27.3	26.5	3.2	1.87	1.88	2.6	1.56	1.57
33.7	1	34.2	33.3	4.0	2.93	2.95	3.2	2.41	2.43
42.4	1¼	42.9	42.0	4.0	3.79	3.82	3.2	3.10	3.13
48.3	1½	48.8	47.9	4.0	4.37	4.41	3.2	3.56	3.60
60.3	2	60.8	59.7	4.5	6.19	6.26	3.6	5.03	5.10
76.1	2½	76.6	75.3	4.5	7.93	8.05	3.6	6.42	6.54
88.9	3	89.5	88.0	5.0	10.3	10.5	4.0	8.36	8.53
114.3	4	115.0	113.1	5.4	14.5	14.8	4.5	12.2	12.5
139.7	5	140.8	138.5	5.4	17.9	18.4	5.0	16.6	17.1
165.1	6	166.5	163.9	5.4	21.3	21.9	5.0	19.8	20.4

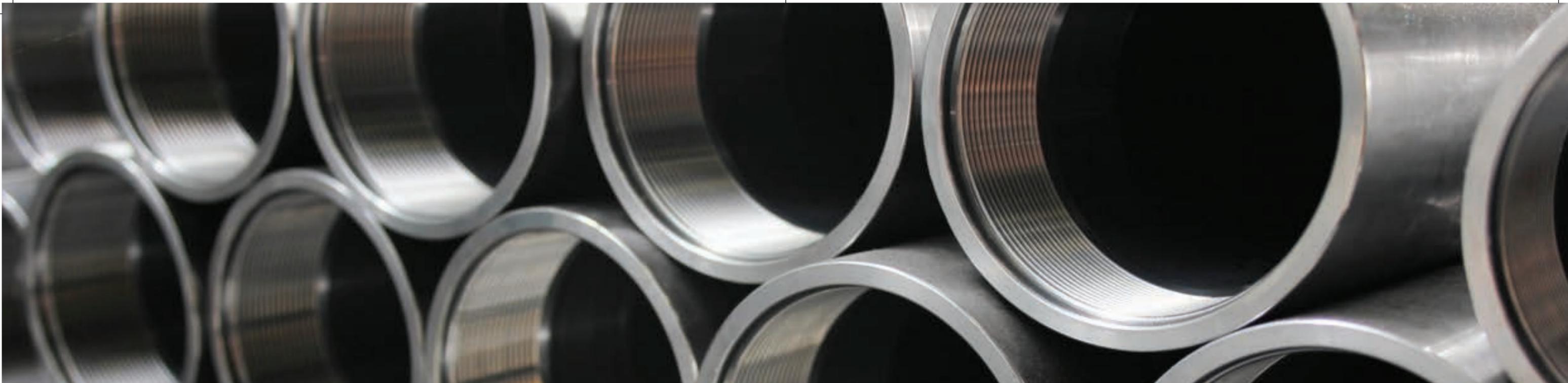
**STANDARD TABLE (WALL THICKNESS & MASS L1)**

Specified Outside Diameter <sup>a</sup>	Designation of Thread <sup>a</sup>	Outside Diameter		Wall Thickness	Mass Per Unit Length Of Bare Tube	
		Max.	Min.		Plain End	Threaded And Socketed
D	R	(mm)	(mm)	T	(kg/m)	(kg/m)
21.3	½	21.7	21.0	2.3	1.08	1.09
26.9	¾	27.1	26.4	2.3	1.39	1.40
33.7	1	34.0	33.2	2.9	2.20	2.22
42.4	1¼	42.7	41.9	2.9	2.82	2.85
48.3	1½	48.6	47.8	2.9	3.24	3.28
60.3	2	60.7	59.6	3.2	4.49	4.56
76.1	2½	76.3	75.2	3.2	5.73	5.85
88.9	3	89.4	87.9	3.6	7.55	7.72
114.3	4	114.9	113.0	4.0	10.8	11.1

**STANDARD TABLE (WALL THICKNESS & MASS L2)**

Specified Outside Diameter <sup>a</sup>	Designation of Thread <sup>a</sup>	Outside Diameter		Wall Thickness	Mass Per Unit Length Of Bare Tube	
		Max.	Min.		Plain End	Threaded And Socketed
D	R	(mm)	(mm)	T	(kg/m)	(kg/m)
21.3	½	21.4	21.0	2.0	0.947	0.956
26.9	¾	26.9	26.4	2.3	1.38	1.39
33.7	1	33.8	33.2	2.6	1.98	2.00
42.4	1¼	42.5	41.9	2.6	2.54	2.57
48.3	1½	48.6	47.8	2.9	3.24	3.28
60.3	2½	60.2	59.6	2.9	4.08	4.15
76.1	2½	76.0	75.2	3.2	5.71	5.83
88.9	3	88.7	87.9	3.2	6.72	6.89
114.3	4	113.9	113.0	3.6	9.75	10.0





#### TOLERANCES:

- Tolerance on Mass (Light Classes)** : -8%, +10% on Single Tube
- Tolerance on Thickness (Light Classes)** : -8%, +10% on Single Tube
- Tolerance on Mass (Medium & Heavy Tube)** : ±7.5% on 10 Tonne or more
- Tolerance on Thickness (Medium & Heavy Tube)** : ± 10%
- Tolerances on OD (Light/Medium/Heavy Tube)** : As per the Table
- Max Fin Height** : 0.3 mm + (0.05 x Specified Thickness)
- Tolerances on Straightness** : Not Exceed 0.002 x Length

#### MECHANICAL PROPERTIES & TESTS

Mechanical Properties			Mechanical Test	
UTS (MPa)	YSt (MPa)	E%	Bend Test	Flattening Test
320 – 520	Min 195	Min 20	For Sizes upto and including NB 50 mm	For Sizes Above NB 50 mm

#### CHEMICAL PROPERTIES

Chemical Properties (Max.)			
C%	Mn%	S%	Flattening Test
0.20	1.40	0.030	0.035

#### ZINC COATING & OTHER GALVANIZING TEST

Tubes are Hot dip galvanized as per s per EN 10240, Coating Quality A1 minimum mass of Zinc coating as per the standard is 55 micron minimum. The Other Galvanizing Tests are Uniformity Test & Adhesion Test.

## FEATURES

#### LEAKPROOFNESS

Each and Every pipe is hydro tested at a test pressure of 5 MPA (51 kgf/cm<sup>2</sup>) equivalent to 50 bar to ensure the leakproofness of each individual tubes. Apart from hydraulic test NDT like Eddy Current test is also being performed during mill operation.

#### END CONDITIONS

Utkarsh is able to produce pipes having different end condition as per customer choice as per the table.

Ends			
Plain End/Bevel End/Square Cut	Screwed End	Screwed & Socketed End	Grooved End

#### APPLICATIONS

- Compressed air systems
- Non-potable water installations
- Forecourt installations
- Installation for transport & distribution
- Pipe line for water, gas/fuel
- Sprinkler system
- Many other types of pipework installations

## WHY UTKARSH

- Large variety of products under one roof
- Products available in bare or Zinc coated or with other surface coating as per customer choice
- Fin removed pipes are available
- Pressure Tested (Upto 100 kgf/cm<sup>2</sup>) Pipes are available
- Only uses ISI Marked Raw Material from SAIL, TATA & HZL
- State of the Art Technology & Competent qualified personnel
- Well equipped Mechanical, Chemical & Metrological Testing Laboratory which facilitates each and every testing related to product according to various national & international standards
- Customized length & end condition available
- Production flexibility which meets their schedule as per various national & international standards
- Crowned ISO 9001 : 2008, ISO 14001 & OHSAS 18001 Certifications
- Whatever the service, grade or standard/specification Utkarsh offers the best solution for the customer



#### END CONDITIONS

Ends
Plain End

#### APPLICATIONS

- Furniture Use
- Bus Body
- Gym Equipment
- Hospital Equipments
- Bicycle

#### WHY UTKARSH

- Large variety of products under one roof
- Products available in bare or Zinc coated or with other surface coating as per customer choice
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- Whatever the service, grade or standard/specification UTKARSH offers the best solution for the customer

# IS 4270 : 2001 - STEEL TUBES USED FOR BORE WELLS

## ABOUT PRODUCT

IS 4270 : 2001 Standards covers steel tubes used for water wells, such as casing, drive pipe, housing etc. This standard is widely used in industrial main line and agriculture & irrigation areas.

Utkarsh Tubes & Pipes Ltd. have the license to produce IS 4270 : 2001 from Bureau of Indian Standards under certification mark no. CM/L - 5199276

Utkarsh duly marks their pipes by embossing : - "BANSAL "UTKARSH" ISI LOGO" "IS 4270" "CM/L NO. 5199276" and the OD, Thickness, Length, Grade by stehciling.

## TECHNICAL DETAILS

### STANDARD TABLE

Dimensions And Masses Of Screwed End Socketed Casing Pipes					
Nominal Bore (mm)	Outside Diameter (mm)	Thickness (mm)	Mass of Tube Kg/Mtr	Socket OD (mm)	Overall Socket Length (mm)
100	114.3	5.4	14.5	130	114.3
125	114.3	5.4	18.1	157	120.6
		7.1	23.5		
150	168.3	5.4	21.6	184	127
		7.1	28.2		
175	193.7	6.4	29.6	211.6	152.4
		8	36.6		
200	219.1	6.4	33.6	237	152.4
		8	41.6		
250	273.1	8	52.3	291	177.8
		10	64.9		
300	323.9	8	62.3	346	177.8
		10	77.4		

Dimensions And Masses Of Drive Pipes For Screwed Flush Butt Joints (Square Threads)			
Nominal Bore (mm)	Outside Diameter (mm)	Thickness (mm)	Mass of Tube Kg/Mtr
100	114.3	6	16.02
125	141.3	6	20.01
150	168.3	8	31.62
175	193.7	8	35.63
200	219.1	10	51.56
225	244.5	10	57.82
250	273.1	10	64.88
300	323.9	10	77.4
350	355.6	10	85.22
400	406.4	12	116.71
400	406.4	14	116.71

## STANDARD TABLE

Dimensions And Masses Of Screwed End Socketed Casing Pipes			
Nominal Bore (mm)	Outside Diameter (mm)	Thickness (mm)	Mass of Tube Kg/Mtr
100	114.3	5	13.46
		5.4	14.5
		6	16.02
125	141.3	5	16.8
		5.4	18.1
		6	20.01
		6.4	21.29
150	168.3	7.1	23.49
		5	20.13
		5.4	21.6
		6	24.01
175	193.7	6.4	25.55
		7.1	28.22
		5.4	25.1
		6	27.77
200	219.1	6.4	29.6
		7.1	32.67
		5.4	28.46
225	244.5	6	31.53
		6.4	33.6
		7.1	37.12
250	273	6	35.29
		7.1	41.6
300	323.9	7.1	46.57
		7.1	55.47
350	355.6	8	68.57
		10	85.22
		12	101.68
350	355.6	8	78.6
		10	97.75
		12	116.71
		14	135.47

### TOLERANCES:

**On OD** : ±1% of the specified OD  
**Thickness** : +15% & -12.5% of the specified thickness  
**Length** : As per customer's choice  
**Straightness** : Max Deviation 1/600 of the total length  
**Weight** : +10%, -8%

### MECHANICAL PROPERTIES & TESTS

Grade	Mechanical Properties			Mechanical Test
	YSt (MPa)	UTS (MPa)	E%	Flattening Test
Fe 410	Min 235	Min 410	15	66% on Weld & 33% on Material
Fe 450	Min 275	Min 450	13	

### CHEMICAL PROPERTIES

Chemical Properties (Max.)				
Grade	C%	Mn%	S%	P%
Fe 410			0.040	0.040
Fe 450			0.040	0.040

### PROTECTIVE COATING

Tubes are coated with a bituminous solution or other anti rust coating duly tested at 0° & 65°C. Tubes can be Hot dip galvanized as per the customer requirement in accordance with IS 4736.

### FEATURES

#### LEAKPROOFNESS

Each and Every pipe is hydro tested at a test pressure of 7 MPa (71 kgf/cm<sup>2</sup>) to ensure the leakproofness of each individual tubes. Apart from hydraulic test NDT like Eddy Current test is also being performed during mill operation.

#### END CONDITIONS

Utkarsh is able to produce pipes having different end condition as per customer choice as per the table.

Ends			
Plain End Square Cut	Bevel End		Threaded
	Angle 30° (-0, +5°)	Root Face 1.6 mm ±0.8	Screwed with & without socketed

### APPLICATIONS

- Water Mains Industrial use
- Industrial Water Lines, Plant Piping
- Agriculture and Irrigation
- Housing & Drive Pipes
- Casing Pipes
- Water wells
- Deep Bore wells

### WHY UTKARSH

- Large variety of products under one roof
- Products available in bare or Zinc coated or with other surface coating as per customer choice
- Pressure Tested (Upto 100 kgf/cm<sup>2</sup>) Pipes are available
- Only uses ISI Marked Raw Material from SAIL, TATA & HZL
- State of the Art Technology & Competent qualified personnel
- Well equipped Mechanical, Chemical & Metrological Testing Laboratory which facilitates each and every testing related to product according to various national & international standards
- Customized length & end condition available
- Production flexibility which meets their schedule as per various national & international standards
- Crowned ISO 9001 : 2008, ISO 14001 & OHSAS 18001 Certifications
- Whatever the service, grade or standard/specification UTKARSH offers the best solution for the customer

# IS 4923 : 2017 - HOLLOW STEEL SECTION FOR STRUCTURAL USES (SQUARE & RECTANGULAR HOLLOW SECTION)

## ABOUT PRODUCT

IS 4923 : 1997 Standards covers the requirements for hot and cold formed square and rectangular hollow steel sections for structural use. In Utkarsh we manufacture Square Hollow Sections as per IS: 4923-1997 from 19 x 19 to 260 x 260 and for Rectangular Hollow Sections from 50 x 25 to 172 x 92.

Utkarsh Tubes & Pipes Ltd. have the license to produce IS 4923 : 1997 from Bureau of Indian Standards under certification mark no. CM/L - 5201035.

Utkarsh duly marks their pipes by embossing : - "BANSAL" "UTKARSH"  
"ISI LOGO" "IS 4923" "CM/L NO. 5201035".

## SUPPLY RANGES

	Square Pipe	Rectangular Pipe	Thickness	Length
	(mm)	(mm)		
Outside Dimension	19 x 19 to 260 x 260	50 x 25 to 172 x 92	From 1.80 mm to 5.40 mm as per the requirement and sizes (Sizes are mentioned in table)	Random Length 4-7 m, Exact Length as per Customer Choice, ± 6 mm
Thickness				
Length				

## TECHNICAL DETAILS

### STANDARD TABLE

Cold Folded Square Hollow Section													
Depth (mm)	Width (mm)	Thickness (mm)	Moment of Inertia (cm <sup>4</sup> )		Elastic Modulus (cm <sup>3</sup> )		Plastic Modulus (cm <sup>3</sup> )		Radius of Gyration (cm)		Area (cm <sup>2</sup> )	Weight (kg/m)	Mtrs/M.T
			X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis			
19.0	19.0	1.80	0.55	0.55	0.58	0.58	0.73	0.73	0.69	0.69	1.15	0.91	1103.11
19.0	19.0	2.00	0.58	0.58	0.61	0.61	0.78	0.78	0.68	0.68	1.26	0.99	1013.59
19.0	19.0	2.30	0.62	0.62	0.65	0.65	0.84	0.84	0.66	0.66	1.40	1.10	909.97
19.0	19.0	2.60	0.64	0.64	0.68	0.68	0.90	0.90	0.65	0.65	1.53	1.20	831.96
19.0	19.0	3.00	0.66	0.66	0.70	0.70	0.96	0.96	0.63	0.63	1.69	1.32	754.76
19.0	19.0	3.20	0.67	0.67	0.70	0.70	0.98	0.98	0.62	0.62	1.76	1.38	724.54
19.0	19.0	3.60	0.67	0.67	0.70	0.70	1.01	1.01	0.60	0.60	1.88	1.48	676.44
25.0	25.0	1.80	1.38	1.38	1.11	1.11	1.35	1.35	0.93	0.93	1.59	1.25	802.80
25.0	25.0	2.00	1.48	1.48	1.19	1.19	1.47	1.47	0.92	0.92	1.74	1.36	733.47
25.0	25.0	2.30	1.61	1.61	1.29	1.29	1.62	1.62	0.91	0.91	1.95	1.53	652.63
25.0	25.0	2.60	1.72	1.72	1.38	1.38	1.76	1.76	0.89	0.89	2.16	1.69	591.08
25.0	25.0	3.00	1.84	1.84	1.47	1.47	1.91	1.91	0.87	0.87	2.41	1.89	529.07
25.0	25.0	3.20	1.89	1.89	1.51	1.51	1.98	1.98	0.86	0.86	2.53	1.98	504.27
25.0	25.0	3.60	1.96	1.96	1.56	1.56	2.10	2.10	0.84	0.84	2.75	2.16	463.70
32.0	32.0	1.80	3.11	3.11	1.95	1.95	2.33	2.33	1.22	1.22	2.09	1.64	609.28
32.0	32.0	2.00	3.36	3.36	2.10	2.10	2.54	2.54	1.21	1.21	2.30	1.80	554.63
32.0	32.0	2.30	3.71	3.71	2.32	2.32	2.84	2.84	1.20	1.20	2.60	2.04	490.73
32.0	32.0	2.60	4.02	4.02	2.51	2.51	3.11	3.11	1.18	1.18	2.88	2.26	441.83
32.0	32.0	3.00	4.38	4.38	2.74	2.74	3.44	3.44	1.16	1.16	3.25	2.55	392.23
32.0	32.0	3.20	4.54	4.54	2.83	2.83	3.59	3.59	1.15	1.15	3.42	2.69	372.24
32.0	32.0	3.60	4.81	4.81	3.00	3.00	3.87	3.87	1.13	1.13	3.76	2.95	339.23
38.0	38.0	1.80	5.42	5.42	2.85	2.85	3.39	3.39	1.47	1.47	2.52	1.98	504.95
38.0	38.0	2.00	5.88	5.88	3.10	3.10	3.70	3.70	1.46	1.46	2.78	2.18	458.76
38.0	38.0	2.30	6.54	6.54	3.44	3.44	4.15	4.15	1.44	1.44	3.15	2.47	404.68
38.0	38.0	2.60	7.50	7.50	3.95	3.95	4.84	4.84	1.42	1.42	3.74	2.94	340.60
38.0	38.0	3.00	7.85	7.85	4.13	4.13	5.10	5.10	1.41	1.41	3.97	3.11	321.06
38.0	38.0	3.20	8.18	8.18	4.30	4.30	5.34	5.34	1.40	1.40	4.19	3.29	304.01
38.0	38.0	3.60	8.76	8.76	4.61	4.61	5.80	5.80	1.38	1.38	4.62	3.63	275.78

**STANDARD TABLE**

Cold Folded Square Hollow Section													
Depth (mm)	Width (mm)	Thickness (mm)	Moment of Inertia (cm <sup>4</sup> )		Elastic Modulus (cm <sup>3</sup> )		Plastic Modulus (cm <sup>3</sup> )		Radius of Gyration (cm)		Area (cm <sup>2</sup> )	Weight (kg/m)	Mtrs/M.T
			X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis			
49.5	49.5	1.80	12.54	12.54	5.07	5.07	5.94	5.94	1.93	1.93	3.35	2.63	380.17
49.5	49.5	2.00	13.70	13.70	5.54	5.54	6.52	6.52	1.93	1.93	3.70	2.90	344.59
49.5	49.5	2.30	15.36	15.36	6.20	6.20	7.36	7.36	1.91	1.91	4.21	3.30	302.88
49.5	49.5	2.60	16.91	16.91	6.83	6.83	8.16	8.16	1.90	1.90	4.70	3.69	270.86
49.5	49.5	3.00	18.84	18.84	7.61	7.61	9.18	9.18	1.88	1.88	5.35	4.20	238.21
49.5	49.5	3.20	19.74	19.74	7.97	7.97	9.67	9.67	1.87	1.87	5.66	4.44	224.98
49.5	49.5	3.60	21.42	21.42	8.65	8.65	10.60	10.60	1.85	1.85	6.28	4.93	203.00
60.0	60.0	2.50	30.34	30.34	10.11	10.11	11.93	11.93	2.33	2.33	5.59	4.39	227.94
60.0	60.0	2.60	31.33	31.33	10.44	10.44	12.34	12.34	2.33	2.33	5.80	4.55	219.82
60.0	60.0	2.90	34.21	34.21	11.40	11.40	13.56	13.56	2.31	2.31	6.41	5.03	198.84
60.0	60.0	3.00	35.13	35.13	11.71	11.71	13.95	13.95	2.31	2.31	6.61	5.19	192.79
60.0	60.0	3.20	36.94	36.94	12.31	12.31	14.73	14.73	2.30	2.30	7.01	5.50	181.82
60.0	60.0	3.60	40.36	40.36	13.45	13.45	16.22	16.22	2.28	2.28	7.79	6.11	163.59
60.0	60.0	4.00	43.55	43.55	14.52	14.52	17.64	17.64	2.26	2.26	8.55	6.71	149.04
60.0	60.0	4.30	45.78	45.78	15.26	15.26	18.66	18.66	2.24	2.24	9.10	7.15	139.94
60.0	60.0	4.50	47.20	47.20	15.73	15.73	19.31	19.31	2.23	2.23	9.47	7.43	134.55
60.0	60.0	4.80	49.21	49.21	16.40	16.40	20.27	20.27	2.22	2.22	10.00	7.85	127.34
60.0	60.0	5.00	50.49	50.49	16.83	16.83	20.88	20.88	2.21	2.21	10.36	8.13	123.02
72.0	72.0	2.50	53.99	53.99	15.00	15.00	17.55	17.55	2.82	2.82	6.79	5.33	187.65
72.0	72.0	2.60	55.82	55.82	15.51	15.51	18.17	18.17	2.82	2.82	7.04	5.53	180.87
72.0	72.0	2.90	61.18	61.18	16.99	16.99	20.01	20.01	2.80	2.80	7.80	6.12	163.35
72.0	72.0	3.00	62.91	62.91	17.48	17.48	20.62	20.62	2.80	2.80	8.05	6.32	158.29
72.0	72.0	3.20	66.32	66.32	18.42	18.42	21.80	21.80	2.79	2.79	8.54	6.71	149.13
72.0	72.0	3.60	72.85	72.85	20.24	20.24	24.11	24.11	2.77	2.77	9.52	7.47	133.88
72.0	72.0	4.00	79.02	79.02	21.95	21.95	26.32	26.32	2.75	2.75	10.47	8.22	121.70
72.0	72.0	4.30	83.41	83.41	23.17	23.17	27.92	27.92	2.73	2.73	11.17	8.77	114.07
72.0	72.0	4.50	86.23	86.23	23.95	23.95	28.96	28.96	2.72	2.72	11.63	9.13	109.56
72.0	72.0	4.80	90.30	90.30	25.08	25.08	30.48	30.48	2.71	2.71	12.31	9.66	103.50
72.0	72.0	5.00	92.91	92.91	25.81	25.81	31.47	31.47	2.70	2.70	12.76	10.01	99.87
80.0	80.0	2.50	75.14	75.14	18.79	18.79	21.89	21.89	3.15	3.15	7.59	5.96	167.86
80.0	80.0	2.60	77.74	77.74	19.44	19.44	22.68	22.68	3.14	3.14	7.88	6.18	161.76
80.0	80.0	2.90	85.36	85.36	21.34	21.34	25.01	25.01	3.13	3.13	8.73	6.85	145.98
80.0	80.0	3.00	87.84	87.84	21.96	21.96	25.78	25.78	3.12	3.12	9.01	7.07	141.42
80.0	80.0	3.20	92.71	92.71	23.18	23.18	27.29	27.29	3.11	3.11	9.57	7.51	133.17
80.0	80.0	3.60	102.10	102.10	25.53	25.53	30.23	30.23	3.09	3.09	10.67	8.37	119.42
80.0	80.0	4.00	111.04	111.04	27.76	27.76	33.07	33.07	3.07	3.07	11.75	9.22	108.44
80.0	80.0	4.30	117.44	117.44	29.36	29.36	35.13	35.13	3.06	3.06	12.54	9.85	101.56
80.0	80.0	4.50	121.57	121.57	30.39	30.39	36.48	36.48	3.05	3.05	13.07	10.26	97.48
80.0	80.0	4.80	127.57	127.57	31.89	31.89	38.45	38.45	3.04	3.04	13.84	10.87	92.02
80.0	80.0	5.00	131.43	131.43	32.86	32.86	39.73	39.73	3.03	3.03	14.36	11.27	88.74

**STANDARD TABLE**

Cold Folded Square Hollow Section													
Depth (mm)	Width (mm)	Thickness (mm)	Moment of Inertia (cm <sup>4</sup> )		Elastic Modulus (cm <sup>3</sup> )		Plastic Modulus (cm <sup>3</sup> )		Radius of Gyration (cm)		Area (cm <sup>2</sup> )	Weight (kg/m)	Mtrs/M.T
			X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis			
91.5	91.5	2.50	114.28	114.28	24.98	24.98	28.98	28.98	3.62	3.62	8.74	6.86	145.77
91.5	91.5	2.60	118.32	118.32	25.86	25.86	30.04	30.04	3.61	3.61	9.07	7.12	140.43
91.5	91.5	2.90	130.18	130.18	28.45	28.45	33.18	33.18	3.60	3.60	10.06	7.90	126.62
91.5	91.5	3.00	134.05	134.05	29.30	29.30	34.21	34.21	3.59	3.59	10.39	8.15	122.63
91.5	91.5	3.20	141.68	141.68	30.97	30.97	36.25	36.25	3.58	3.58	11.04	8.66	115.41
91.5	91.5	3.60	156.48	156.48	34.20	34.20	40.24	40.24	3.56	3.56	12.32	9.67	103.37
91.5	91.5	4.00	170.67	170.67	37.31	37.31	44.11	44.11	3.54	3.54	13.59	10.67	93.76
91.5	91.5	4.30	180.92	180.92	39.54	39.54	46.94	46.94	3.53	3.53	14.52	11.40	87.72
91.5	91.5	4.50	187.56	187.56	41.00	41.00	48.79	48.79	3.52	3.52	15.14	11.88	84.15
91.5	91.5	4.80	197.25	197.25	43.12	43.12	51.51	51.51	3.51	3.51	16.05	12.60	79.36
91.5	91.5	5.00	203.53	203.53	44.49	44.49	53.29	53.29	3.50	3.50	16.66	13.07	76.49
113.5	113.5	3.00	262.72	262.72	46.29	46.29	53.66	53.66	4.49	4.49	13.03	10.23	97.78
113.5	113.5	3.20	278.19	278.19	49.02	49.02	56.93	56.93	4.48	4.48	13.85	10.88	91.95
113.5	113.5	3.60	308.41	308.41	54.34	54.34	63.37	63.37	4.46	4.46	15.49	12.16	82.23
113.5	113.5	4.00	337.65	337.65	59.50	59.50	69.66	69.66	4.44	4.44	17.11	13.43	74.46
113.5	113.5	4.30	358.95	358.95	63.25	63.25	74.29	74.29	4.43	4.43	18.31	14.37	69.59
113.5	113.5	4.50	372.86	372.86	65.70	65.70	77.32	77.32	4.42	4.42	19.10	14.99	66.70
113.5	113.5	4.80	393.28	393.28	69.30	69.30	81.81	81.81	4.40	4.40	20.28	15.92	62.83
113.5	113.5	5.00	406.60	406.60	71.65	71.65	84.76	84.76	4.39	4.39	21.06	16.53	60.50
132.0	132.0	3.60	494.19	494.19	74.88	74.88	86.87	86.87	5.22	5.22	18.16	14.25	70.17
132.0	132.0	4.00	542.22	542.22	82.16	82.16	95.64	95.64	5.20	5.20	20.07	15.75	63.48
132.0	132.0	4.30	577.39	577.39	87.48	87.48	102.11	102.11	5.18	5.18	21.49	16.87	59.29
132.0	132.0	4.50	600.42	600.42	90.97	90.97	106.37	106.37	5.17	5.17	22.43	17.61	56.80
132.0	132.0	4.80	634.36	634.36	96.11	96.11	112.68	112.68	5.16	5.16	23.83	18.70	53.46
132.0	132.0	5.00	656.58	656.58	99.48	99.48	116.83	116.83	5.15	5.15	24.76	19.43	51.46
150.0	150.0	3.60	735.06	735.06	98.01	98.01	113.28	113.28	5.95	5.95	20.75	16.29	61.40
150.0	150.0	4.00	807.78	807.78	107.70	107.70	124.86	124.86	5.93	5.93	22.95	18.01	55.51
150.0	150.0	4.30	861.19	861.19	114.83	114.83	133.42	133.42	5.92	5.92	24.58	19.30	51.82
150.0	150.0	4.50	896.26	896.26	119.50	119.50	139.07	139.07	5.91	5.91	25.67	20.15	49.63
150.0	150.0	4.80	948.06	948.06	126.41	126.41	147.45	147.45	5.89	5.89	27.28	21.42	46.69
150.0	150.0	5.00	982.07	982.07	130.94	130.94	152.97	152.97	5.89	5.89	28.36	22.26	44.93
180.0	180.0	3.60	1291.25	1291.25	143.47	143.47	165.07	165.07	7.18	7.18	25.07	19.68	50.82
180.0	180.0	4.00	1421.69	1421.69	157.97	157.97	182.20	182.20	7.16	7.16	27.75	21.78	45.91
180.0	180.0	4.30	1517.87	1517.87	168.65	168.65	194.90	194.90	7.14	7.14	29.74	23.35	42.83
180.0	180.0	4.50	1581.20	1581.20	175.69	175.69	203.29	203.29	7.13	7.13	31.07	24.39	41.00
180.0	180.0	4.80	1675.02	1675.02	186.11	186.11	215.76	215.76	7.12	7.12	33.04	25.94	38.55
180.0	180.0	5.00	1736.79	1736.79	192.98	192.98	224.01	224.01	7.11	7.11	34.36	26.97	37.08
220.0	220.0	3.60	2392.83	2392.83	217.53	217.53	249.24	249.24	8.81	8.81	30.83	24.20	41.32
220.0	220.0	4.00	2639.06	2639.06	239.91	239.91	275.46	275.46	8.79	8.79	34.15	26.81	37.31
220.0	220.0	4.30	2821.21	2821.21	256.47	256.47	294.93	294.93	8.78	8.78	36.62	28.75	34.78

**STANDARD TABLE**

Cold Folded Square Hollow Section													
Depth (mm)	Width (mm)	Thickness (mm)	Moment of Inertia (cm <sup>4</sup> )		Elastic Modulus (cm <sup>2</sup> )		Plastic Modulus (cm <sup>3</sup> )		Radius of Gyration (cm)		Area (cm <sup>2</sup> )	Weight (kg/m)	Mtrs/M.T
			X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis			
220.0	220.0	4.50	2941.45	2941.45	267.40	267.40	307.82	307.82	8.77	8.77	38.27	30.04	33.29
220.0	220.0	4.80	3120.03	3120.03	283.64	283.64	327.01	327.01	8.75	8.75	40.72	31.97	31.28
220.0	220.0	5.00	3237.90	3237.90	294.35	294.35	339.72	339.72	8.74	8.74	42.36	33.25	30.08
260.0	260.0	3.60	3990.33	3990.33	306.95	306.95	350.70	350.70	10.44	10.44	36.59	28.72	34.82
260.0	260.0	4.00	4406.08	4406.08	338.93	338.93	387.91	387.91	10.42	10.42	40.55	31.83	31.42
260.0	260.0	4.30	4714.34	4714.34	362.64	362.64	415.59	415.59	10.41	10.41	43.50	34.15	29.28
260.0	260.0	4.50	4918.16	4918.16	378.32	378.32	433.94	433.94	10.40	10.40	45.47	35.69	28.02
260.0	260.0	4.80	5221.38	5221.38	401.64	401.64	461.30	461.30	10.39	10.39	48.40	38.00	26.32
260.0	260.0	5.00	5421.86	5421.86	417.07	417.07	479.43	479.43	10.38	10.38	50.36	39.53	25.30

Cold Folded Rectangular Hollow Section													
Depth (mm)	Width (mm)	Thickness (mm)	Moment of Inertia (cm <sup>4</sup> )		Elastic Modulus (cm <sup>2</sup> )		Plastic Modulus (cm <sup>3</sup> )		Radius of Gyration (cm)		Area (cm <sup>2</sup> )	Weight (kg/m)	Mtrs/M.T
			X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis			
50.0	25.0	1.80	7.72	2.60	3.09	2.08	3.90	2.40	1.76	1.02	2.49	1.95	512.26
50.0	25.0	2.00	8.38	2.81	3.35	2.25	4.26	2.62	1.75	1.01	2.74	2.15	465.47
50.0	25.0	2.30	9.31	3.10	3.72	2.48	4.78	2.92	1.73	1.00	3.10	2.44	410.68
50.0	25.0	2.50	9.89	3.28	3.95	2.62	5.10	3.12	1.72	0.99	3.34	2.62	381.55
50.0	25.0	2.80	10.68	3.52	4.27	2.82	5.57	3.39	1.70	0.98	3.68	2.89	345.78
50.0	25.0	3.00	11.17	3.67	4.47	2.93	5.86	3.56	1.69	0.97	3.91	3.07	325.99
50.0	25.0	3.20	11.63	3.80	4.65	3.04	6.14	3.73	1.68	0.96	4.13	3.24	308.73
50.0	25.0	3.60	12.44	4.04	4.98	3.23	6.66	4.03	1.65	0.94	4.55	3.57	280.15
60.0	40.0	1.80	16.85	9.01	5.62	4.50	6.81	5.15	2.23	1.63	3.39	2.66	376.13
60.0	40.0	2.00	18.41	9.83	6.14	4.92	7.47	5.65	2.22	1.62	3.74	2.93	340.90
60.0	40.0	2.30	20.65	11.00	6.88	5.50	8.43	6.38	2.20	1.61	4.25	3.34	299.60
60.0	40.0	2.50	22.07	11.74	7.36	5.87	9.06	6.84	2.19	1.60	4.59	3.60	277.61
60.0	40.0	2.80	24.10	12.78	8.03	6.39	9.95	7.51	2.18	1.59	5.08	3.99	250.56
60.0	40.0	3.00	25.38	13.44	8.46	6.72	10.53	7.94	2.17	1.58	5.41	4.25	235.56
60.0	40.0	3.20	26.60	14.07	8.87	7.03	11.09	8.36	2.16	1.57	5.73	4.50	222.47
60.0	40.0	3.60	28.90	15.23	9.63	7.62	12.16	9.15	2.13	1.55	6.35	4.98	200.70
66.0	33.0	1.80	18.64	6.33	5.65	3.84	7.04	4.35	2.36	1.37	3.35	2.63	380.17
66.0	33.0	2.00	20.37	6.90	6.17	4.18	7.73	4.77	2.35	1.37	3.70	2.90	344.59
66.0	33.0	2.30	22.83	7.69	6.92	4.66	8.73	5.37	2.33	1.35	4.21	3.30	302.88
66.0	33.0	2.50	24.39	8.19	7.39	4.97	9.37	5.75	2.32	1.34	4.54	3.56	280.67
66.0	33.0	2.80	26.62	8.90	8.07	5.39	10.29	6.31	2.30	1.33	5.03	3.95	253.35
66.0	33.0	3.00	28.02	9.34	8.49	5.66	10.88	6.66	2.29	1.32	5.35	4.20	238.21
66.0	33.0	3.20	29.36	9.75	8.90	5.91	11.46	7.01	2.28	1.31	5.66	4.44	224.98
66.0	33.0	3.60	31.87	10.52	9.66	6.37	12.56	7.65	2.25	1.29	6.28	4.93	203.00
70.0	30.0	2.50	26.62	6.95	7.60	4.63	9.79	5.36	2.41	1.23	4.59	3.60	277.61
70.0	30.0	2.80	29.04	7.53	8.30	5.02	10.75	5.87	2.39	1.22	5.08	3.99	250.56
70.0	30.0	3.00	30.57	7.90	8.73	5.26	11.37	6.20	2.38	1.21	5.41	4.25	235.56

**STANDARD TABLE**

Cold Folded Rectangular Hollow Section													
Depth (mm)	Width (mm)	Thickness (mm)	Moment of Inertia (cm <sup>4</sup> )		Elastic Modulus (cm <sup>2</sup> )		Plastic Modulus (cm <sup>3</sup> )		Radius of Gyration (cm)		Area (cm <sup>2</sup> )	Weight (kg/m)	Mtrs/M.T
			X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis			
70.0	30.0	3.20	32.03	8.24	9.15	5.49	11.98	6.51	2.37	1.20	5.73	4.50	222.47
70.0	30.0	3.60	34.76	8.87	9.93	5.91	13.12	7.11	2.34	1.18	6.35	4.98	200.70
70.0	30.0	4.00	37.22	9.42	10.64	6.28	14.19	7.66	2.31	1.16	6.95	5.45	183.37
70.0	30.0	4.30	38.91	9.78	11.12	6.52	14.95	8.04	2.30	1.15	7.38	5.80	172.53
70.0	30.0	4.50	39.95	10.01	11.41	6.67	15.43	8.29	2.28	1.14	7.67	6.02	166.14
75.0	25.0	2.50	28.51	4.87	7.60	3.89	10.06	4.52	2.49	1.03	4.59	3.60	277.61
75.0	25.0	2.80	31.09	5.25	8.29	4.20	11.05	4.95	2.47	1.02	5.08	3.99	250.56
75.0	25.0	3.00	32.71	5.49	8.72	4.39	11.68	5.21	2.46	1.01	5.41	4.25	235.56
75.0	25.0	3.20	34.26	5.72	9.14	4.57	12.30	5.47	2.45	1.00	5.73	4.50	222.47
75.0	25.0	3.60	37.13	6.12	9.90	4.89	13.47	5.95	2.42	0.98	6.35	4.98	200.70
75.0	25.0	4.00	39.72	6.46	10.59	5.17	14.56	6.39	2.39	0.96	6.95	5.45	183.37
75.0	25.0	4.30	41.47	6.68	11.06	5.35	15.33	6.70	2.37	0.95	7.38	5.80	172.53
75.0	25.0	4.50	42.55	6.81	11.35	5.45	15.82	6.89	2.36	0.94	7.67	6.02	166.14
80.0	40.0	2.50	45.10	15.26	11.28	7.63	14.14	8.72	2.84	1.65	5.59	4.39	227.94
80.0	40.0	2.80	49.46	16.66	12.36	8.33	15.60	9.60	2.82	1.64	6.20	4.87	205.33
80.0	40.0	3.00	52.25	17.55	13.06	8.78	16.54	10.16	2.81	1.63	6.61	5.19	192.79
80.0	40.0	3.20	54.94	18.41	13.73	9.21	17.46	10.71	2.80	1.62	7.01	5.50	181.82
80.0	40.0	3.60	60.04	20.02	15.01	10.01	19.23	11.77	2.78	1.60	7.79	6.11	163.59
80.0	40.0	4.00	64.78	21.48	16.20	10.74	20.91	12.77	2.75	1.59	8.55	6.71	149.04
80.0	40.0	4.30	68.11	22.50	17.03	11.25	22.11	13.49	2.74	1.57	9.10	7.15	139.94
80.0	40.0	4.50	70.21	23.14	17.55	11.57	22.89	13.94	2.72	1.56	9.47	7.43	134.55
96.0	48.0	3.20	98.60	33.28	20.54	13.87	25.85	15.91	3.40	1.97	8.54	6.71	149.13
96.0	48.0	3.60	108.34	36.40	22.57	15.17	28.58	17.56	3.37	1.96	9.52	7.47	133.88
96.0	48.0	4.00	117.53	39.32	24.49	16.38	31.20	19.14	3.35	1.94	10.47	8.22	121.70
96.0	48.0	4.30	124.08	41.37	25.85	17.24	33.10	20.27	3.33	1.92	11.17	8.77	114.07
96.0	48.0	4.50	128.28	42.68	26.73	17.78	34.33	21.01	3.32	1.92	11.63	9.13	109.56
100.0	50.0	3.50	120.75	40.68	24.15	16.27	30.46	18.74	3.53	2.05	9.69	7.61	131.41
100.0	50.0	3.60	123.50	41.56	24.70	16.63	31.20	19.19	3.52	2.04	9.95	7.81	128.06
100.0	50.0	4.00	134.12	44.95	26.82	17.98	34.10	20.93	3.50	2.03	10.95	8.59	116.37
100.0	50.0	4.30	141.71	47.34	28.34	18.94	36.19	22.18	3.48	2.01	11.68	9.17	109.03
100.0	50.0	4.50	146.59	48.87	29.32	19.55	37.55	23.00	3.47	2.00	12.17	9.55	104.70
122.0	61.0	3.50	227.16	77.05	37.24	25.26	46.54	28.71	4.35	2.53	12.00	9.42	106.12
122.0	61.0	3.60	232.59	78.82	38.13	25.84	47.71	29.42	4.34	2.53	12.32	9.67	103.37
122.0	61.0	4.00	253.74	85.69	41.60	28.09	52.30	32.21	4.32	2.51	13.59	10.67	93.76
122.0	61.0	4.30	269.01	90.61	44.10	29.71	55.65	34.23	4.30	2.50	14.52	11.40	87.72
122.0	61.0	4.50	278.91	93.78	45.72	30.75	57.84	35.55	4.29	2.49	15.14	11.88	84.15
122.0	61.0	5.00	302.72	101.34	49.63	33.23	63.17	38.76	4.26	2.47	16.66	13.07	76.49
145.0	82.0	3.50	424.38	175.94	58.53	42.91	71.67	48.41	5.30	3.42	15.08	11.84	84.45
145.0	82.0	3.60	434.93	180.22	59.99	43.96	73.52	49.65	5.30	3.41	15.49	12.16	82.23
145.0	82.0	4.00	476.32	196.93	65.70	48.03	80.82	54.53	5.28	3.39	17.11	13.43	74.46
145.0	82.0	4.30	506.49	209.05	69.86	50.99	86.19	58.11	5.26	3.38	18.31	14.37	69.59

## STANDARD TABLE

Cold Folded Rectangular Hollow Section													
Depth (mm)	Width (mm)	Thickness (mm)	Moment of Inertia (cm <sup>4</sup> )		Elastic Modulus (cm <sup>3</sup> )		Plastic Modulus (cm <sup>3</sup> )		Radius of Gyration (cm)		Area (cm <sup>2</sup> )	Weight (kg/m)	Mtrs/M.T
			X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis	X-X Axis	Y-Y Axis			
145.0	82.0	4.50	526.19	216.94	72.58	52.91	89.72	60.46	5.25	3.37	19.10	14.99	66.70
145.0	82.0	5.00	574.00	236.00	79.17	57.56	98.35	66.20	5.22	3.35	21.06	16.53	60.50
172.0	92.0	3.50	696.21	265.21	80.95	57.65	99.20	64.49	6.28	3.87	17.67	13.87	72.08
172.0	92.0	3.60	713.91	271.80	83.01	59.09	101.81	66.17	6.27	3.87	18.16	14.25	70.17
172.0	92.0	4.00	783.50	297.65	91.10	64.71	112.10	72.79	6.25	3.85	20.07	15.75	63.48
172.0	92.0	4.30	834.46	316.50	97.03	68.80	119.68	77.66	6.23	3.84	21.49	16.87	59.29
172.0	92.0	4.50	867.85	328.81	100.91	71.48	124.68	80.87	6.22	3.83	22.43	17.61	56.80
172.0	92.0	5.00	949.30	358.70	110.38	77.98	136.94	88.72	6.19	3.81	24.76	19.43	51.46

## TOLERANCES

<b>Tolerance on Thickness</b>	: ±10%
<b>Tolerance on Outside Dimension</b>	: ±1% of length of the side to be measured with a minimum of ±0.5 mm
<b>Tolerance on Mass</b>	: -8%, +10% (On Individual Length)
<b>Tolerance on Mass</b>	: ±7.5% (On 10 Tonne Load)
<b>Squareness of Corner</b>	: 90°, ±2°
<b>Radii of Corners</b>	: 3t (Max) (t- Specified thickness of the section)
<b>Concavity/Convexity</b>	: 1% of side (Max)
<b>Twist</b>	: 2.0 mm +0.5 mm/m
<b>Straightness</b>	: 1/600 of Length (Finished Straightened condition) 1/200 of Length (Mill Straightened condition)

## MECHANICAL PROPERTIES & TESTS

Mechanical Properties				
Grade	YSt (MPa)	UTS (MPa)	E%	
			Sizes upto 25 mm	Sizes upto 25 mm
YSt 210	Min 210	Min 330	12	20
YSt 240	Min 240	Min 410	10	15
WT 310	Min 310	Min 450	8	10

## CHEMICAL PROPERTIES

Chemical Properties (Max.)				
Grade	C%	Mn%	S%	P%
YSt 210			0.050	0.050
YSt 240			0.050	0.050
WT 310			0.050	0.050

## SURFACE COATING

Sections may be varnished, painted or oiled externally or may be galvanized as purchaser requirement. In case of Galvanizing, the mass of zinc coating shall be as per the customer choice.

## FEATURES

### END CONDITIONS

Plain End Square Cut.

## APPLICATIONS

- Furniture industries & domestic applications
- Automatic Chassis
- Cabins
- Bus stands
- Milk Booths
- Scaffoldings
- Material Storage Racks
- Furniture partition frame work
- Pallets
- Guard Rails
- Staircases
- Hand railings
- Fencing Poles Hydraulic Platforms
- Truck & Bus body Members Trusses
- Columns & Purlins
- Trolleys

## WHY UTKARSH

- Large variety of products under one roof
- Products available in bare or Zinc coated or with other surface coating as per customer choice
- Pressure Tested (Upto 100 kgf/cm<sup>2</sup>) Pipes are available
- Only uses ISI Marked Raw Material from SAIL, TATA & HZL
- State of the Art Technology & Competent qualified personnel
- Well equipped Mechanical, Chemical & Metrological Testing Laboratory which facilitates each and every testing related to product according to various national & international standards
- Customized length & end condition available
- Production flexibility which meets their schedule as per various national & international standards
- Crowned ISO 9001 : 2008, ISO 14001 & OHSAS 18001 Certifications
- Whatever the service, grade or standard/specification Utkarsh offers the best solution for the customer



# IS 9295 : 1983 - STEEL TUBES FOR IDLERS FOR BELT CONVEYORS

## ABOUT PRODUCT

IS 9295: 1983 Standards covers steel tubes used for idlers for belt conveyors. This standard is widely used in industrial main line areas.

Utkarsh Tubes & Pipes Ltd. have the license to produce IS 9295: 1983 from Bureau of Indian Standards under certification mark no. CM/L - 5117854

Utkarsh duly marks their pipes by embossing : - "BANSAL" "UTKARSH" "ISI LOGO" "IS 9295" "CM/L NO. 5117854" and the OD, Thickness, Length, Grade by stenciling.

## SUPPLY RANGES

	Nominal Bore		Class	Length
	(mm)	(inch)		
Outside Diameter	76.1 mm to 219.1 mm	2½ to 8	From 3.60 mm to 7.10 mm as per the sizes (Sizes are mentioned in table)	In Any length from 4 m to 7 m as random & as per customer choice
Thickness				
Length				

## TECHNICAL DETAILS

### STANDARD TABLE

For Idlers and Belt Conveyors conforming to IS: 9295-1983 Equivalent to BS 6323			
Outside Diameter (mm)	Thickness (mm)	Weight (Plain End)	
		Kg/m	m/Ton
63.5	3.65	5.39	186
	4.50	6.55	153
76.1	3.65	6.52	153
	4.50	7.95	126
88.9	4.05	8.47	118
	4.85	10.05	100
101.6	6.30	12.83	78
	4.05	9.74	103
114.3	4.85	11.57	86
	6.30	14.81	67
127.0	4.50	12.19	82
	4.85	14.50	69
139.7	6.30	16.78	60
	4.50	13.60	74
152.4	4.85	14.61	68
	5.40	16.49	62
159.0	6.30	18.75	53
	4.50	15.00	67
165.1	4.85	16.13	62
	5.40	17.89	56
171.8	6.30	20.73	48
	4.50	16.40	61
178.5	4.85	17.65	57
	5.40	19.58	51
185.2	6.30	22.70	44
	4.50	17.10	58
191.9	4.85	18.44	54
	5.40	20.40	47
198.6	6.30	23.72	41
	4.50	17.80	56
205.3	4.85	19.17	52
	5.40	21.27	47
212.0	6.30	24.67	41



## STANDARD TABLE

For Idlers and Belt Conveyors conforming to IS: 9295-1983 Equivalent to BS 6323			
Outside Diameter (mm)	Thickness (mm)	Weight (Plain End)	
		Kg/m	m/Ton
168.3	4.50	18.20	55
	4.85	19.55	51
	5.40	21.69	46
	6.30	25.17	40
193.7	5.40	25.10	40
	6.30	29.12	34
	7.10	32.67	31
219.1	5.40	28.5	35
	6.30	33.06	30
	7.10	37.12	27

## TOLERANCES

- On OD** : ±0.8% of the specified OD  
**Thickness** : ±10% of the specified thickness  
**Length** : As per customer's choice  
**Straightness** : Max Deviation 1/1000 of the total length  
**Weight** : ±10% on Single Pipe  
**Ovality** : 0.5 mm (Max) up to 168.3 mm OD  
 1.0 mm (Max) including and above 168.3 mm OD

## MECHANICAL PROPERTIES & TESTS

Mechanical Properties				Mechanical Test	
Grade	YSt (MPa)	UTS (MPa)	E%	Flattening Test	Drift Expansion Test
YSt 210	210	330	20	75% on Weld & 60% on Material	Max. 2.5 %
YSt 240	240	410	18		
YSt 310	310	450	15		

## CHEMICAL PROPERTIES

Chemical Properties (Max.)				
Grade	C%	Mn%	S%	P%
YSt 210			0.06	0.06
YSt 240			0.06	0.06
WT 240			0.06	0.06

## PROTECTIVE COATING

Tubes are coated with a bituminous solution or other anti rust coating duly tested at 0° & 65°C.

## FEATURES

### END CONDITIONS

Utkarsh is able to produce pipes having different end condition as per customer choice as per the table.

### APPLICATIONS

- Idlers for various types of Conveyor Belts

## WHY UTKARSH

- Large variety of products under one roof
- Products available in bare or Zinc coated or with other surface coating as per customer choice
- Only uses ISI Marked Raw Material from SAIL, TATA & HZL
- State of the Art Technology & Competent qualified personnel
- Well equipped Mechanical, Chemical & Metrological Testing Laboratory which facilitates each and every testing related to product according to various national & international standards
- Customized length & end condition available
- Production flexibility which meets their schedule as per various national & international standards
- Crowned ISO 9001 : 2008, ISO 14001 & OHSAS 18001 Certifications
- Whatever the service, grade or standard/specification Utkarsh offers the best solution for the customer

# IS 10577: 1982t - STEEL TUBES FOR LANCING PIPES

## ABOUT PRODUCT

IS 1239 P(I) : 2004 Standards covers the requirement of ERW Steel tubes intended to use for Oxygen Lancing. This standard is widely used in industrial oxygen lancing purposes.

Utkarsh Tubes & Pipes Ltd. have the license to produce IS 10577: 1982 from Bureau of Indian Standards under certification mark no. CM/L - 5199175.

Utkarsh duly marks their pipes by embossing :- "BANSAL-LIGHT/MEDIUM/HEAVY" "UTKARSH" "ISI LOGO" "IS 10577" & "CM/L NO. 5199175".

## SUPPLY RANGES

	Nominal Bore		Class			Length
	(mm)	(inch)	Light	Medium	Heavy	Random
Outside Diameter	15 to 25	½ to 1				4 m to 8 m
Thickness						
Length						

## TECHNICAL DETAILS

### STANDARD TABLE

	Nominal Bore		Outside Diameter (mm)		Wall Thickness	Nominal Mass of Steel Tubes		Socket	
	(mm)	inch	minimum	maximum	(mm)	Plain End	Screwed & Socketed	Minimum OD (mm)	Minimum Length (mm)
Light Class	15	½	21	21.4	2	0.952	0.961	27	37
	20	¾	26.4	26.9	2.35	1.41	1.42	32.5	39
	25	1	33.2	33.8	2.65	2.01	2.03	39.5	46
Medium Class	15	½	21	21.8	2.65	1.22	1.23	27	37
	20	¾	26.4	27.3	2.65	1.58	1.59	32.5	39
	25	1	33.3	34.2	3.25	2.44	2.46	39.5	46
Heavy Class	15	½	21	21.8	3.25	1.45	1.46	27	37
	20	¾	26.4	27.3	3.25	1.90	1.91	32.5	39
	25	1	33.3	34.2	4.05	2.97	2.99	39.5	46

### TOLERANCES

<b>Tolerance on Mass (Light Tube)</b>	: -8%, +10% on Single Tube
<b>Tolerance on Thickness (Light Tube)</b>	: -8%, + No Limit
<b>Tolerance on Mass (Medium &amp; Heavy Tube)</b>	: -8%, +10% (On Individual Length)
<b>Tolerance on Thickness (Medium &amp; Heavy Tube)</b>	: ±7.5% (On 10 Tonne Load)
<b>Tolerances on OD (Light/Medium/Heavy Tube)</b>	: As per the IS 10577 Table
<b>Max Fin Height</b>	: 60% of Standard Thickness

### MECHANICAL PROPERTIES & TESTS

Mechanical Properties		Mechanical Test
UTS (MPa)	E	Bend Test
Min 320	Min. 12%	For all the sizes

### CHEMICAL PROPERTIES

Chemical Properties (Max.)			
C%	Mn%	S%	P%
0.20	1.30	0.040	0.040

### COATING

Externally coated with antirust oil or black bituminous as per the customer requirement.

## FEATURES

### LEAKPROOFNESS

Each and every pipe is hydro tested at a test pressure of 5 MPa (51 kgf/cm<sup>2</sup>) to ensure the leakproofness of each individual tube. Apart from hydraulic test NDT like Eddy Current test is also being performed during mill operation.

### END CONDITIONS

Utkarsh is able to produce pipes having different end condition as per customer choice as per the table.

Plain End Square Cut	Screwed End	Screwed & Socketed End
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### APPLICATIONS

Industrial Oxygen Lancing Lines

## WHY UTKARSH

- Large variety of products under one roof
- Products available in bare or Zinc coated or with other surface coating as per customer choice
- Fin removed pipes are available
- Pressure Tested (Upto 100 kgf/cm<sup>2</sup>) Pipes are available
- Only uses ISI Marked Raw Material from SAIL, TATA & HZL
- State of the Art Technology & Competent qualified personnel
- Well equipped Mechanical, Chemical & Metrological Testing Laboratory which facilitates each and every testing related to product according to various national & international standards
- Customized length & end condition available
- Production flexibility which meets their schedule as per various national & international standards
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- Whatever the service, grade or standard/specification Utkarsh offers the best solution for the customer



# Quality Benchmarking For U

Strict adherence to Quality Norms is exercised at every stage of each specific domain as under:

- HR Coil** : Physical & Chemical properties
- Slitting** : Exact width and thickness
- Pipe Rolling** : Online NDT for 100% check of leakage/hydrostatic test
- End Champering** : 90° end and bevelled end
- Exact Length** : By PLC ontrolled Cold Saw
- Galvanizing** : Min. 52 microns or as required
- Packing** : By High Tensile Strips in Hexagonal form or as required

# Quality Objectives For U

- Our R&D team continuously strives to reduce various costs and increase operational efficiencies so as to enable us to deliver high end products with quality and cost-effectiveness
- Grooved Pipes developed from 1” to 12” for Sprinkler Applications
- Coupler developed in-house
- Flux Filtering Plant for zero iron in Flux
- Special Additives developed for extra shine





## For The Earth & U

At Utkarsh, we believe that industrial plants should care for nature's plants too.

That's why we maintain sustainable, environmentally friendly practices in all our operations. Here are a few ways in which we strive to conserve natural resources and give back to the planet:

- Zero Discharge Plant
- Water treatment & recycling
- Tree plantation in the neighbourhood of our plants
- OHSAS 18001 Certified
- ISO 14001 Certified

## The World & U

As an Export House recognized by the Govt of India, we are proud to have earned the EEPC India Award for Export Excellence for 2 consecutive years.

Thanks to our legacy of world-class quality, Utkarsh is now a brand that's trusted around the world, including the following countries:

- Australia
- Canada
- Denmark
- Germany
- Iraq
- Kuwait
- Lithuania
- Martinique
- Malawi
- Mozambique
- Nigeria
- Northern Ireland
- Qatar
- Reunion Islands
- Sierra Leone
- Sri Lanka
- United Arab Emirates
- United Kingdom

