SINCE 1985

INDIA VPL

Technocrats of the Millennium

ISO 9001 | ISO 14001 | ISO 45001 | CE Certified | UL

VISHAL PIPES LTD.

www.vishalpipes.com


United Kingdom
Canada
Germany
United States
Portugal
Italy
Malta
Mexico
Chad
Trinidad & Tobago
Sierra Leone
Nigeria
Guyana


Asia
Turkey
Mahesey
Iraq
Cyprus
UAE
Kuwait
Ethiopia
South Sudan
Africa
Sri Lanka
Uganda
Tanzania
Mauritius
Zambia
Australia
Newzealand

VISION

- To continuously improve quality of products
- To keep on increasing the productivity and introducing new products
- To utilize best practices in processes and technologies

MISSION

To accomplish our vision through decency, innovation, worldwide span, ethical values & business morals

QUALITY POLICY

We are committed to total customer satisfaction which shall be achieved by providing cost effective quality products with timely delivery.

ENVIRONMENTAL POLICY

- Meet applicable legal and other requirements related to environmental aspects on an ongoing basis with an aim to improve environment
- Strive for prevention of pollution through continual improvement of process, technology and equipment wherever applicable
- Set and review environmental objectives and targets
- Promote conservation of resources

HEALTH & SAFETY POLICY

- Ensure healthy and safe working environment of employees through continuous monitoring and controlling workplace hazards by adopting appropriate technology and best management practices.
- Strive for continual improvement in Occupational Health & Safety (OH&S) performance by enhancing awareness skill and competence of employees and contractors so as to enable them to demonstrate their involvement, responsibility and accountability towards the same.
- Comply with applicable OH&S legal and other requirements on an ongoing basis.
- Set and review OH& S objective and targets
- The OH&S policy will be reviewed for continuing suitability.

TIMELINE

1988 – Started with Electroplating unit

1993 – Started 1st Galvanizing unit

1997 – Commenced manufacturing of ERW Mild Steel pipe

2002 – Commenced manufacturing of PVC pipe

2004 – Ventured into international business

2005 – Introduced Electrical conduit (Steel & PVC)

2007 – Steel fabrication unit

2010 – Added 2nd Galvanizing unit

2012 – Introduced Steel Tubular Pole

2013 – Introduced Steel pipe for city gas distribution

2014 – Commenced manufacturing of HDPE pipe

2015 – Introduced Powder coated GI pipe for city gas distribution

2016 – Fabrication of structure for Steel Bridge Girders & structure for solar module mounting

2018 – Fabrication of metal beam crash barrier

2019 – Structure for railway electrification
Added 3rd Galvanizing unit
Added new ERW pipe manufacturing line for larger diameter upto 12"

Nirmal Kumar Agarwal
Director

Radhey Shyam Agarwal
Chairman

CHAIRMAN'S MESSAGE

Incorporated in 1988, Vishal Group is a leading manufacturer of VPL India Ltd. Steel Pipes & Tubes, Steel Poles, Steel Structures (medium to heavy fabrication) and Polymer pipes - UPVC, CPVC, HDPE & MDPE Pipes. We have a strong presence within India and as well as globally.

Headquartered in New Delhi, with an integrated manufacturing units spread over 1,500,000 square meters at Sikandrabad, Dist. Bulandshahr in state of Uttar Pradesh. All the units are certified for ISO 9001, ISO 14001, ISO 18001 & CE: equipped with state-of-art plant & machinery, quality control laboratory & equipment, PLC controlled CNC machines, galvanization units, and also powder coating, surface preparation & painting facilities.

Behold the world around you. Except for Mother Nature, virtually all thing be it buildings, skyscrapers, automobiles, bridges, railways to metro, flyovers, energy, irrigation, gas distribution, pipeline infrastructure, power distribution, rural electrification and more, have use of pipes, tubes & steel sections in them. No wonder they are the soul of any constructions and industrial infrastructure! Think about aforesaid sectors; think of VISHAL PIPES LTD, where products (Brand 'VPL India') are epitome of excellence in quality, corroborated by National & International Standards.

We believe in pioneering changes to cater to an ever evolving economy by infusing superior cutting edge technology and innovation. The company has multiplied its growth by introducing new products, improving quality standards and increasing productivity, bench marking the entire product line and eventually gaining the satisfaction of a large number of customers. Adherence to high quality standards and timely delivery are our USPs.

We give proper attention to ethical issues like promoting conduct based on integrity, accommodating diversity, empathetic decision-making, compliance and governance consistent with company's core values.

We thank our valuable clients, vendors and other stake holders for their ardent support.

OUR CLIENTS






ADANI

KALPA-TARU
POWER TRANSMISSION LIMITED

ALSTOM

पावरग्रिड

KEC

INDIAN RAILWAYS

कोल इण्डिया
Coal India

SIEMENS
Ingenuity for life

MNGL
Maharashtra Natural Gas
Limited

PDD


गेल
GAIL

igl

इंडियनऑयल
IndianOil

एनटीपीसी
NTPC

बी एच ई एल
BHEL

ASHOKA

AFCONS

Uttar Pradesh
Power Corporation Limited

SterlitePower

WAAREE

STERLING & WILSON

आर ई सी
REC

HCC

ABB

PRODUCTS - STEEL PIPE & TUBE

STEEL TUBE, PIPE & FITTINGS

SPECIFICATION	
IS: 1239	Water, Air & Non Hazardous Gas & Steam Lines
IS: 1239 & IS 13871	Powder coated GI Pipes for city gas distribution
IS: 3589	Water & Sewage transportation
IS: 4270	Water wells (Casing pipes)
IS: 9295	Idlers belt conveyors
IS: 9537 (Part-2)	Conduits for cable covering
IS 1161	Structural purpose
IS: 4923	Hollow Steel Sections for structural use – Rectangular (RHS)
IS: 11722	Water Transportation, also suitable with Victaulic coupling
RDSO/ETI/OHE/11	To support catenary wires in overhead railway electrification
EN 10219	Cold formed welded structural hollow sections of non-alloy steels
EN 10255	Non-alloy steel tube suitable for welding and threading
EN 10217	ERW non alloy steel tubes with specified room temperature properties
A53 / A53 M	Pipe steel tube suitable for welding and threading
A 252	Welded steel pipe piles
A500 / A500M	Cold formed welded carbon steel structural tubing in rounds and shapes
A513 / A513M	ERW carbon and alloy steel mechanical tubing
A759 / A759M	Black & hot dipped zinc coated (galvanized) Welded steel pipes for fire protection
AS / NZS 1163	Cold formed structural steel hollow sections
AS / NZS 61386	Conduit systems for cable management
AS 1074	Steel tubes and tubular for ordinary service
BS 1387	Screwed and Socketed steel tubes suitable for welding

PRODUCTS - PVC PIPE

STEEL TUBULAR POLES

SPECIFICATION	
IS: 2713	Swaged tubular pole for Overhead powerlines
Customised	Street Lighting
Customised	Pole for Aerial OFC.

Note : We can supply above products in Galvanized & Painted

PRODUCTS - STEEL FABRICATION-HEAVY STRUCTURES

SPECIFICATION	
RDSO	Composite Steel Plate Bridge
RDSO	Open Web Bridge
RDSO	Bow String Bridge
Railway	Steel Channel Sleepers

STEEL FABRICATION- LIGHT & MEDIUM STRUCTURES

SPECIFICATION	
RDSO Specn	Structure for Overhead Railway Electrification
Customised	Metal Beam Crash Barrier for Highways
Customised	Solar Module Mounting Structure
Customised	Pipe & Lattice Structure for Power Sub-stations
Customised	Telecom Towers (GBT, RTT, RIP)
Customised	Pre-engineered Buildings (PEBs)
Customised	Support Structure for Power Plants
IS: 15500	Handpump for Water Wells
IS: 8329	Ductile Iron (DI) Flanged Pipes for Water, Sewage & Gas

Notes :
We can fabricate steel structure as per clients design and drawings
We can supply structures in black, galvanized, metalized & painted
We can undertake launching of Steel Bridge Girders
We can undertake erection of metal beam crash barrier, PEBs & bridges

HDPE PIPE

SPECIFICATION	
IS : 4984	Potable Water Supply
IS : 14333	Sewerage
IS: 14151	Sprinkler Irrigation System
ISO 4427	Water supply, drainage and sewage
DoT/RDSO Specn	PLB HDPE Duct for Optical Fibre Cable

MDPE PIPE

SPECIFICATION	
IS: 14885	Conveyance of gaseous fuels
ISO 4427	Water distribution in houses
ISO 4437	Conveyance of gaseous fuels

UPVC PIPE

SPECIFICATION	
IS:4985	Potable Water Supply
IS:12818	Borewell Tubewell (Casing)
ASTM D-1785	Plumbing
Customized	Column pipes for borewell application
IS:15328	Drainage & Sewerage
IS:13592	Soil, Waste & Rainwater
IS:9537 (Part-3)	Conduits for cable covering
BS 4514	Soil and ventilating pipes, fittings & accessories
DIN 4925 - 1	Well screens and casings for tubewells
DIN 8061	Cold and hot water supply

CPVC PIPE

SPECIFICATION	
IS:15778	For potable hot and cold water distribution
ASTM D 2846	For potable hot and cold water distribution

BIS CERTIFICATE MARK

Bureau of Indian standards has given us the BIS certification mark license to use the standard mark on steel pipes & tubes, steel poles, deep well hand pump & polymer pipes for the following specifications.

IS 1239	IS 4270	IS 4984
IS 3589	IS 15500	IS 14333
IS 1161	IS 4985	IS 14151
IS 4923	IS 15328	IS 14885
IS 9295	IS 13592	IS 15778
IS 9537	IS 12818	
IS 2713	IS 10124	

CE CERTIFICATE MARK

CE marking used on cold formed welded structural hollow section & steel tube suitable for welding and threading on non alloy steel.

EN 10219 – 1 : 2006
EN 10255 : 2004 + A1 : 2007

CERTIFICATE MARK

UL-ASTMA795-UL 852- Metalic sprinkler pipe for fire protection services

INSPECTION OF MATERIAL

Third party inspection (TPI) agencies who inspects our products are given below:

- Certification Engineers International Limited (CEIL)
- SGS
- ABS Industrial Verification DNV GL
- Central Institute of Plastic Engineering & Technology (CIPET)
- Research Design & Standard Organization (RDSO)
- Central Mine Planning & Design Institute (CMPDIL)
- Meenar Global Consultants LLP
- Quality Austria Central Asia
- Bureau Veritas Quality International (BVQI)
- TUV SUD
- Crown Agents India Pvt. Ltd.
- WAPSOS Ltd.RITES Ltd.
- MECON Ltd.
- Indian Register of shipping
- VCS Quality Services Pvt. Ltd.

STEELS PIPES & TUBES

ERW pipes & tubes are made from HR coils manufactured by reputed steel producer. After being longitudinally slitted & edge preparation, the strip is progressively formed into a circular, rectangular, square shape by passing it through a series of forming rolls.

Continuous welding is carried out by a high frequency induction welding machine, and the seam is formed by fusing the edges without any filler metal. The welded pie, after cooling is cut in appropriate length after attaining its specified inside and outside diameter.

The pipes & tubes are conveyed to the finishing bay for finishing, testing & inspection. Hydro testing of pipes is undertaken to detect leaks and fissures prior to galvanizing and threading. The pipes are subsequently galvanized / black varnished / threaded / painted / powder coated as per specification / client requirement.

ERW pipes & tubes are extensively used in agriculture, industry, construction activities like scaffolding and casing in bore wells. Rectangular and square hollow sections are used for structural purpose considering the challenging and varied applications the pipes are produced to meet national and international specification.

WATER PIPE LINES
Water Mains, Plumbing, Sewerage Systems
Industrial Water Line, Plant Piping
IS:1239, IS:3589, ASTM A 53, JIS G 3444
EN 10255, EN 10217-1, AS:1074
ASNZ:1163

FIRE FIGHTING SYSTEM
ASTM A 53, ASTM A 795
IS:3589, IS:1239

POWER PROJECTS
Ash Handing System, LP Piping,
IS:3589, IS:1239

CONSTRUCTION INDUSTRIES
Scaffolding & Structural Purposes.
IS:1161, IS:4923, EN 39
EN 10219 - Part 1 & 2, AS NZ:1163
ASTM A 500
Electrical Poles & Telecom Tower (IS:1161)

AGRICULTURE & IRRIGATION
Deep Tubewells & casing pipes IS:4270

OTHER PURPOSES
Supply of Exhaust Piping, cold storage industry
LPG Cylinder supporting rings (IS:1239)
Steel Tubes for Idlers & belt conveyors (IS:9295)
Electrical Poles & telecom Tower (IS:1161)
HVAC (Heating Ventilation Air-Conditoning)

STEEL TUBES FOR USE IN WATER, GAS & AIR LINES

CONFORMING TO IS 1239

N.B. & SERIES		OUTSIDE DIAMETER		WALL THICKNESS		NOMINAL WEIGHT BLACK TUBES				NOMINAL WEIGHT GALVANIZED TUBES				SOCKETS	
						PLAIN END		SCREWED & SOCKETED		PLAIN END		SCREWED & SOCKETED		Min. O.D.	MIN. LENGTH
(MM)		Min. (MM)	Max. (MM)	Min.	SWG	KG/M	M/ TONE	KG/M	M/ TONE	KG/M	M/ TONE	KG/M	M/ TONE	(MM)	(MM)
15	L	21.0	21.4	2.00	14	0.947	1056	0.956	1043	0.990	1010	1.002	998	27.0	37.0
	M	21.0	21.8	2.60	12	1.21	830	1.22	822	1.25	801	1.260	794		
	H	21.0	21.8	3.20	10	1.44	696	1.45	691	1.48	677	1.489	671		
20	L	26.4	26.9	2.30	13	1.38	726	1.39	718	1.43	698	1.448	690	32.5	39.0
	M	26.5	27.3	2.60	12	1.56	642	1.57	636	1.61	620	1.628	614		
	H	26.5	27.3	3.20	10	1.87	535	1.88	530	1.92	520	1.939	516		
25	L	33.2	33.8	2.60	12	1.98	505	2.00	489	2.05	488	2.077	482	39.5	46.0
	M	33.3	34.2	3.20	10	2.41	415	2.43	411	2.48	404	2.501	400		
	H	33.3	34.2	4.00	8	2.93	341	2.95	338	3.00	334	3.022	331		
32	L	41.9	42.5	2.60	12	2.54	394	2.57	388	2.63	380	2.669	375	49.0	51.0
	M	42.0	42.9	3.20	10	3.10	323	3.13	319	3.19	314	3.227	310		
	H	42.0	42.9	4.00	8	3.79	264	3.82	261	3.88	258	3.920	255		
40	L	47.8	48.4	2.90	11	3.23	309	3.27	305	3.33	300	3.383	296	56.0	51.0
	M	47.9	48.8	3.20	10	3.56	281	3.60	277	3.66	273	3.709	270		
	H	47.9	48.8	4.00	8	4.37	229	4.41	226	4.47	224	4.518	221		
50	L	59.6	60.2	2.90	11	4.08	245	4.15	241	4.21	238	4.277	234	68.0	60.0
	M	59.7	60.8	3.60	9	5.03	199	5.10	196	5.16	197	5.234	191		
	H	59.7	60.8	4.50	7	6.19	161	6.26	160	6.32	158	6.390	156		
65	L	75.2	76.0	3.20	10	5.71	175	5.83	172	5.88	170	5.992	167	84.0	69.0
	M	75.3	76.6	3.60	9	6.42	156	6.54	153	6.59	152	6.702	149		
	H	75.3	76.6	4.50	7	7.93	126	8.05	124	8.09	124	8.206	122		
80	L	87.9	88.7	3.20	10	6.72	149	6.89	145	6.91	145	7.081	141	98.0	75.0
	M	88.0	89.5	4.00	8	8.36	120	8.53	117	8.55	117	8.725	115		
	H	88.0	89.5	4.80	6	9.9	101	10.10	99	10.13	99	10.300	97		
100	L	113.0	113.9	3.60	9	9.75	103	10.00	100	10.00	100	10.248	98	124.0	87.0
	M	113.1	115.0	4.50	7	12.2	82	12.50	80	12.40	81	12.657	79		
	H	113.1	115.0	5.40	5	14.5	69	14.80	68	14.71	68	14.966	67		
125	M	138.5	140.8	4.80	6	15.90	63	16.40	61	16.27	61	16.654	60	151.0	96.0
	H	138.5	140.8	5.40	5	17.9	56	18.40	55	18.18	55	18.568	54		
150	M	163.9	166.5	4.80	6	18.90	53	19.55	51	19.35	52	19.841	50	178.0	96.0
	H	163.9	166.5	5.40	5	21.3	47	21.90	46	21.64	46	22.133	45		

TOLERANCES

(A) THICKNESS

Light Tubes	+ Not Limited - 8%
Medium & Heavy Tubes	+ Not Limited - 10%

(B) WEIGHT

Single Tube (Light Series)	± 10%
Single Tubes (Medium & Heavy Series)	+ Not Limited - 10 %
For Quantities Per Load of 10 Tonnes Minimum (Light Series)	+ 7.5% - 5%
For quantities per load of 10 Tones Minimum Medium & Heavy Series	± 7.5%

(C) LENGTH

Unless Otherwise Specified 4 to 7 Meters

STEEL TUBES FOR WATER & SEWAGE PURPOSE

CONFORMING TO **IS 3589**

N.B. Size MM	Outside Diameter MM	Wall Thickness MM	Weight KG/M MM	Weight M / TONNE
150	168.3	2.6	10.6	94
		3.2	13.0	77
		4.0	16.2	62
		4.5	18.2	55
200	219.1	2.6	13.9	72
		3.6	19.1	52
		4.5	23.8	42
		6.3	33.1	30
250	273	3.6	23.9	42
		4.0	26.5	38
		5.0	33	30
		6.3	41.4	24
300	323.9	4.0	31.6	31
		4.5	35.4	28
		5.6	44	23
		7.1	55.5	18
350	355.6	4.0	34.8	29
		5.0	43.2	23
		5.6	48.3	21
		8.0	68.5	15
400	406.4	4.0	39.7	25
		5.0	49.5	20
		6.3	62.2	16
		8.8	86.3	12

A - PHYSICAL PROPERTIES

Grade	Y.S. MPa Min	T.S. MPa Min	% Age Elongation Min
FE 330	195	330	20
FE 410	235	410	18
FE 450	275	450	15

B - TOLERANCES

1. Outside Diameter of Pipe	± 0.75%
2. Thickness Upto 406.4mm OD	± 10%
3. Unless otherwise specified, length are in single random lengths from 4to7 meters and double random length From 7 to 14 Meters	

STEEL TUBES FOR WATER WELLS (CASING PIPES)

CONFORMING TO **IS 4270**

N.B. Size MM	Outside Diameter MM	Wall Thickness MM	Weight (Plain END) MM
100	114.3	5.0	13.48
125	141.3	5.0	16.80
150	168.3	5.0	20.13
175	193.7	5.4	25.10
200	219.1	5.4	28.46
225	244.5	6.0	35.29
250	273.1	7.1	46.57
300	323.9	7.1	55.47
350	355.6	8.0	68.57
350	355.6	10.0	85.22
350	355.6	12.0	101.67
400	406.4	8.0	78.60
400	406.4	10.0	97.75
400	406.4	12.0	116.71

A - PHYSICAL PROPERTIES

Grade	Y.S. MPa Min	T.S. MPa Min	% Age Elongation Min
FE 410	235	410	15
FE 450	275	450	13

B - TOLERANCES

1. Outside Diameter of Pipe	± 1.0%
2. Thickness Upto 406.4mm OD	+ 15% & - 12.5%
3. Weight Single Tube	+ 10% & - 8%
4. Length Unless Otherwise Specified 4 to 7 Mtrs.	

STEEL TUBES FOR IDLERS BELT CONVEYORS
CONFORMING TO IS 9295

Outside Diameter (MM)	Wall Thickness (MM)	Mass Kg/Mtr.	Mtrs. / TONNE
63.50	3.65	5.39	186
	4.05	5.87	170
	4.50	6.55	153
	4.85	7.01	143
76.10	3.65	6.52	153
	4.05	7.20	139
	4.50	7.95	126
	4.85	8.52	117
88.9	4.05	8.47	118
	4.50	9.36	107
	4.85	10.05	99
	5.40	11.12	90
101.60	4.05	9.74	103
	4.50	10.78	93
	4.85	11.57	86
	5.40	12.81	78
114.30	4.50	12.19	82
	4.85	13.09	76
	5.40	14.50	69
	6.30	16.78	60

Outside Diameter (MM)	Wall Thickness (MM)	Mass Kg/Mtr.	Mtrs. / TONNE
139.70	4.50	15.00	67
	4.85	16.13	62
	5.40	17.90	56
	6.30	20.73	48
152.40	4.50	16.40	61
	4.85	17.65	57
	5.40	19.50	51
	6.30	22.70	44
165.10	4.50	17.80	56
	4.85	19.17	52
	5.40	21.27	47
	6.30	24.68	41
168.30	4.50	18.20	55
	4.85	19.55	51
	5.40	21.69	46
	6.30	25.17	40
219.10	5.40	28.50	35
	6.30	33.06	30
	7.10	37.12	27

A - PHYSICAL PROPERTIES

Grade	Y.S. MPa Min	T.S. MPa Min	% Age Elongation Min
ERW 210	210	330	20
ERW 240	240	410	18
ERW 310	310	450	15

B - TOLERANCES

1. Outside Diameter ± 0.8%
2. Ovality Below 168.3mm OD 0.5mm
3. Ovality Including 168.3mm and Above 1.0mm
4. Weight Kg/Mtr. : Single Tube + 10%
5. For Truck Load of Ten Tonnes ± 7.5%
6. Thickness ± 10%

THIN WALLED FLEXIBLE QUICK COUPLING PIPES
CONFORMING TO IS 11722

These pipes are versatile, economical and reliable piping system available. It is easier, faster and safer to install than normal welding, threading or flanging pipes resulting in lower installation and labor costs.
These pipes are intended for water supply where transportation and quick assembly of pipes are the main requisite.

APPLICATIONS

- Irrigation including sprinkler irrigation
- Construction site water supply in civil engineering and construction projects, compressed air pipelines and networks at construction sites.
- Temporary on emergency water service
- Suction lines (Tube wells)
- De-watering in flood relief operations
- Dust suppression through sprinkling in mining, ore handling, etc.
- Wellpoint de-watering networks
- Aeration in fish farming
- Fire preventing and fighting (Coal, yard/pits, timber yard/raw material stock yards for paper mills)

STEEL TUBES FOR STRUCTURAL PURPOSES

CONFORMING TO IS 1161

NB MM (1)	OD MM (2)	Thk MM (3)	Mass kg/m (4)	Area of Cress - Section cm^2 (5)	Internal Volume cm^3/m (6)	Surface External cm3/m (7)	Surface Internal cm3/m (8)	Moment of Inertia cm^4/m (9)	Modulus of Section cm^3 (10)	Radius of Gyration cm (11)	Square of Radius of Gyration cm3 (12)
15	21.3	2	0.952	1.21	235	669	543	0.57	0.54	0.69	0.47
	21.3	2.6	1.20	1.53	204	669	506	0.68	0.64	0.67	0.45
	21.3	3.2	1.43	1.82	174	669	468	0.77	0.72	0.65	0.42
20	26.9	2.3	1.40	1.78	391	845	701	1.36	1.01	0.87	0.76
	26.9	2.6	1.56	1.98	370	845	682	1.48	1.10	0.86	0.75
	26.9	3.2	1.87	2.38	330	845	644	1.70	1.27	0.85	0.71
25	33.7	2.6	1.99	2.54	638	1059	895	3.09	1.84	1.10	1.22
	33.7	3.2	2.41	3.07	585	1059	858	3.60	2.14	1.08	1.18
	33.7	4	2.93	3.73	519	1059	807	4.19	2.49	1.06	1.12
32	42.4	2.6	2.55	3.25	1087	1332	1169	6.46	3.05	1.41	1.99
	42.4	3.2	3.09	3.94	1018	1332	1131	7.62	3.59	1.39	1.93
	42.4	4	3.79	4.83	929	1332	1081	8.99	4.24	1.36	1.86
40	48.3	2.9	3.25	4.14	1419	1517	1335	10.70	4.43	1.61	2.59
	48.3	3.2	3.56	4.53	1379	1517	1316	11.59	4.80	1.60	2.56
	48.3	4	4.37	5.57	1276	1517	1266	13.77	5.70	1.57	2.47
50	60.3	2.9	4.11	5.23	2333	1894	1712	21.59	7.16	2.03	4.13
	60.3	3.6	5.03	6.41	2215	1894	1668	25.87	8.58	2.01	4.03
	60.3	4.5	6.19	7.89	2067	1894	1612	30.90	10.25	1.98	3.92
65	76.1	2.9	5.24	6.67	3882	2391	2209	44.74	11.76	2.59	6.71
	76.1	3.6	6.44	8.20	3728	2391	2165	54.01	14.19	2.57	6.59
	76.1	4.5	7.95	10.12	3536	2391	2108	65.12	17.11	2.54	6.43
80	88.9	3.2	6.76	8.62	5346	2793	2592	79.21	17.82	3.03	9.19
	88.9	4	8.38	10.67	5140	2793	2542	96.34	21.67	3.00	9.03
	88.9	4.8	9.96	12.68	4939	2793	2491	112.49	25.31	2.98	8.87
90	101.6	3.6	8.70	11.08	6999	3192	2966	133.24	26.23	3.47	12.02
	101.6	4	9.63	12.26	6861	3192	2941	146.28	28.80	3.45	11.93
	101.6	4.8	11.46	14.60	6648	3192	2890	171.39	33.74	3.43	11.74
100	114.3	3.6	9.83	12.52	9009	3591	3365	191.98	33.59	3.92	15.33
	114.3	4.5	12.19	15.52	8709	3591	3308	234.32	41.00	3.89	15.10
	114.3	5.4	14.50	18.47	8413	3591	3252	274.54	48.04	3.85	14.86
110	127	4.5	13.59	17.32	10936	3990	3707	325.29	51.23	4.33	18.78
	127	4.8	14.47	18.43	10825	3990	3688	344.50	54.25	4.32	18.69
	127	5.4	16.16	20.63	10605	3990	3651	382.04	60.16	4.30	18.52
125	139.7	4.5	15.00	19.11	13437	4389	4106	437.20	62.59	4.78	22.87
	139.7	4.8	15.97	20.34	13295	4389	4087	463.33	66.33	4.77	22.78
	139.7	5.4	17.89	22.76	13050	4389	4050	514.50	73.66	4.75	22.58
135	152.4	4.5	16.41	20.91	16.151	4788	4505	572.24	75.10	5.23	27.37
	152.4	4.8	17.47	22.26	16016	4788	4486	606.76	79.63	5.22	27.26
	152.4	5.4	19.58	24.94	15748	4788	4448	674.51	88.52	5.20	27.05
150	165.1	4.5	17.82	22.70	19138	5187	4904	732.57	88.74	5.68	32.27
	165.1	4.8	18.98	24.17	18991	5187	4885	777.13	94.14	5.67	32.15
	165.1	5.4	21.27	27.09	18699	5187	4849	864.70	104.75	5.65	31.92
	165.1	5.9	23.20	29.50	18465	5189	4819	970.80	113.40	5.63	31.72
	165.1	6.3	24.67	31.43	18265	5187	4791	992.28	120.20	5.62	31.57
	165.1	8	30.99	39.48	17460	5187	4684	1221.25	147.94	5.56	30.93
160	168.3	4.5	18.18	23.16	19931	5287	5005	777.32	92.36	5.79	33.56
	168.3	4.8	19.35	24.66	19781	5287	4986	824.57	97.99	5.78	33.44
	168.3	5.4	21.69	27.64	19483	5287	4948	917.69	109.05	5.76	33.21
	168.3	6.3	25.17	32.06	19040	5287	4891	1053.42	125.18	5.73	32.86
	168.3	8	31.63	40.29	18218	5287	4785	1297.27	154.16	5.67	32.20
	168.3	10	39.04	49.73	17273	5287	4659	1563.98	185.86	5.61	31.45

NB MM (1)	OD MM (2)	Thk MM (3)	Mass kg/m (4)	Area of Cress - Section cm^2 (5)	Internal Volume cm^3/m (6)	Surface External cm3/m (7)	Surface Internal cm3/m (8)	Moment of Inertia cm^4/m (9)	Modulus of Section cm^3 (10)	Radius of Gyration cm (11)	Square of Radius of Gyration cm3 (12)
175	193.7	4.8	22.36	28.49	26619	6085	5784	1271.39	131.27	6.68	44.63
	193.7	5.4	25.08	31.94	26273	6085	5746	1416.97	146.31	6.66	44.36
	193.7	5.9	27.33	34.81	25987	6085	5715	1536.13	158.61	6.64	44.31
	193.7	6.3	29.12	37.09	25759	6085	5689	1630.95	168.31	6.63	43.95
	193.7	8	36.64	46.67	24801	6085	5583	2015.54	208.11	6.57	43.19
	193.7	10	45.30	57.71	23697	6085	5457	2441.59	252.10	6.50	42.31
	193.7	12	53.77	68.50	22618	6085	5331	2839.20	293.15	6.44	41.45
200	219.1	4.8	25.37	32.32	34471	6883	6582	1856.03	169.42	7.58	57.43
	219.1	5.6	29.49	37.56	33947	6883	6531	2141.61	195.49	7.55	57.02
	219.1	5.9	31.02	39.52	33751	6883	6513	2247.01	205.11	7.54	56.86
	219.1	6.3	33.06	42.12	33491	6883	6487	2386.14	217.81	7.53	56.65
	219.1	8	41.65	53.06	32397	6883	6381	2959.63	270.16	7.47	55.78
	219.1	10	51.57	65.69	31134	6883	6255	3598.44	328.47	7.40	54.76
	219.1	12	61.29	78.07	29895	6883	6129	4199.80	383.30	7.33	53.79
225	244.5	5.9	34.72	44.23	42529	7681	7310	3149.12	257.60	8.44	71.21
	244.5	6.3	37.01	47.14	42237	7681	7285	3346.03	273.70	8.42	70.97
	244.5	8	46.66	59.44	41007	7681	7179	4168.45	340.32	8.37	70.00
	244.5	10	57.83	73.67	39584	7681	7053	5073.15	414.98	8.30	68.86
250	273	5.9	38.86	49.51	53584	8577	8206	4417.18	323.60	9.45	89.22
	273	6.3	41.44	52.79	53256	8577	8181	4695.82	344.02	9.43	88.96
	273	8	52.28	66.60	51875	8577	8074	5851.71	428.70	9.37	87.86
	273	10	64.86	82.62	50273	8577	7948	7154.09	524.11	9.31	86.59
	273	12	77.24	98.39	48695	8577	7823	8396.14	615.10	9.24	85.33
300	323.9	6.3	49.34	62.86	76111	10176	9780	7928.90	489.59	11.23	126.14
	323.9	8	62.32	79.39	74458	10176	9673	9910.08	611.92	11.17	124.82
	323.9	10	77.41	98.61	72536	10176	9547	12158.34	750.75	11.10	123.29
	323.9	12	92.30	117.58	70639	10176	9422	14319.56	884.20	11.04	121.78

TOLERANCES

(A) Outside diameter:

1) Up to and including 48.3 mm : + 0.4 mm
   - 0.8 mm
2) Over 48.3 mm : ± 1.0 percent

(B) Thickness (for all size) :

1) Welded tubes : ± 10 percent
2) Seamless tubes : + Not limited
   - 12.5 percent

(C) Weight :

1) Single tube : ± 10 percent
2) 10 tonne lots : ± 7.5 percent

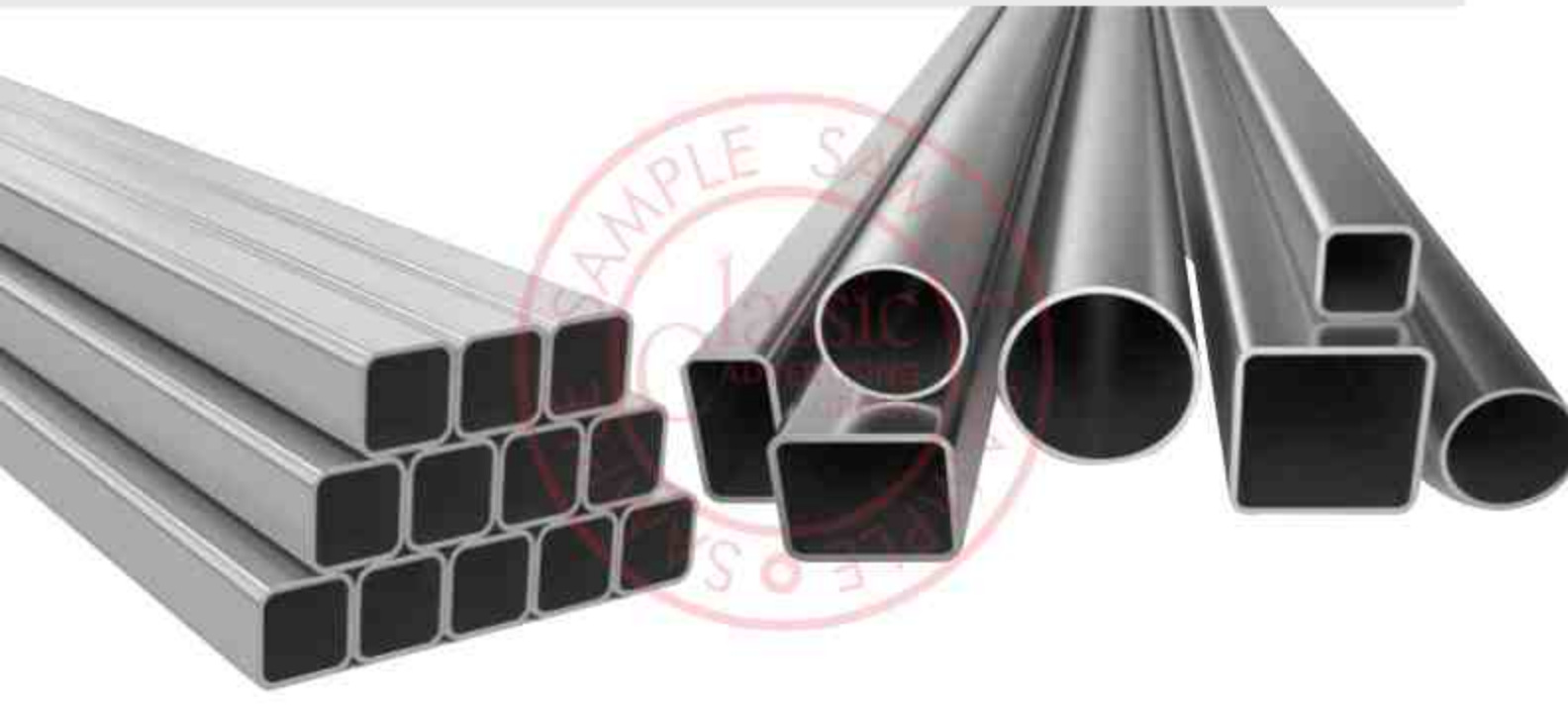
STEEL HOLLOW SECTION (SHS & RHS)
CONFORMING TO IS 4923

Closed Structural (RHS / SHS) manufactured our company has several techno economic advantages over Conventional Structural.

- The raw material used to make these structural comes from reputed steel producer.
- The remarkable strength around their axis which leads to decisive advantages with regards to application technology.
- Closed Structural's behave move efficiently than Conventional Structural's due to their high torsional rigidity as well compressive strength.
- Their higher strength to weight ratio results in upto 30 to 40% saving in steel.
- The smooth, uniform profile of these sections minimize corrosion and facilitate easy, at-site fabrication.
- They also enhance the aesthetic appeal of structures.

APPLICATION

- Agricultural Implement Frames
- Amusement Park and Playground Equipments
- Automobile Chassis
- Bridges
- Bus Stands
- Conveyor Gantries, Trestles Cranes
- Drilling Rags
- Exhibition Stalls
- Furniture, Partition Frames
- Flood Light Masts
- Guard Rails, Staircases
- Industrial Lifting Equipment
- Industrial Sheds
- Large Span Portal Frames Material Storage
- Racks
- Mine Roof Support System (cogs, props)
- Pallets
- Pedestrian Walkovers (Footbridge)
- Sign Supporting Structure
- Space Frames
- Sports Galleries
- Transmission Line Towers
- Trolleys
- Truck and Bus Body Members
- Trusses, Columns and Purlings
- And lots of other applications....



SQUARE HOLLOW SECTION (SHS)
CONFORMING TO **IS 4923**

SHS DxD	DEPTH D	WIDTH D	THICKNESS	WEIGHT	AREA OF SECTION	MOMENT OF INERTIA	RADIUS OF GYRATION	ELASTIC OF MODULUS	PLASTIC MODULUS
(MM)	(MM)	(MM)	(MM)	KG/M	Cm2	Cm4	Cm	Cm3	Cm3
1	2	3	4	5	6	7	8	9	10
20.0 X 20.0	20.0	20.0	2.0	1.15	1.33	0.58	0.68	0.61	0.61
	20.0	20.0	2.6	1.46	2.17	0.63	0.66	0.66	0.66
25.0 X 25.0	25.0	25.0	2.6	1.69	2.16	1.72	0.89	1.38	1.76
	25.0	25.0	3.2	1.98	2.53	1.89	0.86	1.51	1.98
32.0 X 32.0	32.0	32.0	2.6	2.26	2.88	4.02	1.18	2.51	3.11
	32.0	32.0	3.2	2.69	3.42	4.54	1.15	2.84	3.59
	32.0	32.0	4.0	3.19	4.07	5.02	1.11	3.14	4.11
40.0 X 40.0	40.0	40.0	2.6	2.92	3.72	8.45	1.51	4.22	5.12
	40.0	40.0	3.2	3.49	4.45	9.72	1.48	4.86	6.01
	40.0	40.0	3.6	3.85	4.91	10.46	1.46	5.22	6.53
	40.0	40.0	4.0	4.20	5.35	11.07	1.44	5.54	7.01
49.5 X 49.5	50	50	2.9	4.07	5.19	18.37	1.88	7.42	8.93
	50	50	3.6	4.93	6.28	21.42	1.85	8.66	10.60
	50	50	4.5	5.95	7.58	24.64	1.80	9.96	12.47
60.0 X 60.0	60.0	60.0	2.6	4.55	5.8	31.33	2.33	10.44	13.35
	60.0	60.0	3.6	6.11	7.79	40.37	2.28	13.46	16.22
	60.0	60.0	4.5	7.43	9.47	47.20	2.23	15.73	19.32
72.0 X 72.0	72.0	72.0	3.2	6.71	8.54	66.32	2.79	18.42	21.80
	72.0	72.0	4.0	8.22	10.47	79.03	2.75	21.95	26.32
	72.0	72.0	4.8	9.66	12.31	90.31	2.71	25.09	30.49
80.0 X 80.0	80.0	80.0	3.2	7.51	9.57	92.71	3.11	27.29	27.92
	80.0	80.0	4.0	9.22	11.75	111.85	3.07	27.76	33.07
	80.0	80.0	4.8	11.03	13.85	127.58	3.04	31.90	38.45
91.5 X 91.5	91.5	91.5	3.6	9.67	12.32	156.69	3.56	34.21	40.24
	91.5	91.5	4.5	11.88	15.14	187.57	3.52	41.00	48.79
	91.5	91.5	5.4	14.01	17.85	215.68	3.48	47.14	56.77
100.0 X 100.0	100.0	100.0	4.0	11.73	14.95	226.35	3.89	45.27	53.30
	100.0	100.0	5.0	14.41	18.36	271.10	3.84	54.22	64.59
	100.0	100.0	6.0	16.98	21.63	311.47	3.79	62.69	75.16
113.5 X 113.5	113.5	113.5	4.5	14.99	19.10	372.88	4.42	65.71	77.33
	113.5	113.5	4.8	15.92	20.28	393.31	4.40	69.30	81.81
	113.5	113.5	5.4	17.74	22.60	432.58	4.38	76.23	90.55
	113.5	113.5	6.0	19.53	24.87	469.81	4.35	82.79	98.96
132.0 X 132.0	132.0	132.0	4.8	18.71	23.83	634.39	5.16	96.12	112.69
	132.0	132.0	5.4	20.88	26.59	700.11	5.13	106.08	125.02
	132.0	132.0	6.0	23.01	29.31	762.98	5.10	115.60	136.98
150.0 X 150.0	150.0	150.0	5.0	22.26	28.36	982.12	5.89	130.95	152.98
	150.0	150.0	6.0	26.48	33.63	1145.91	5.84	152.79	179.88
180.0 X 180.0	180.0	180.0	4.0	21.90	27.90	1434.00	7.17	159.00	184.00
	180.0	180.0	5.0	27.20	34.60	1755.00	7.12	195.00	226.00
	180.0	180.0	6.0	32.05	40.83	2036.00	7.06	226.00	288.00
	180.0	180.0	8.0	42.50	54.10	2633.00	6.98	293.00	346.00
200.0 X 200.0	200.0	200.0	4.0	24.29	30.95	1968.00	7.97	196.81	226.43
	200.0	200.0	5.0	30.11	38.36	2410.00	7.93	241.01	278.86
	200.0	200.0	6.0	35.82	45.63	2833.00	7.88	283.27	329.65
	200.0	200.0	8.0	46.94	59.79	3622.00	7.78	362.16	426.36

Apart from above mentioned sizes, we also manufacture customized and need based requirement.

RECTANGULAR HOLLOW SECTION (RHS)

CONFORMING TO **IS 4923**

RHS DXB	DEPTH D	WIDTH D	THICKNESS	WEIGHT	AREA OF SECTION	MOMENT OF INERTIA		RADIUS OF GYRATION		ELASTIC OF MODULUS		PLASTIC MODULUS ABOUT	
						X-X	Y-Y	X-X	Y-Y	X-X	Y-Y	X-X	Y-Y
(MM)	(MM)	(MM)	(MM)	KG/M	Cm^2	Cm^4		Cm		Cm^3		Cm^3	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
40 X 20	40	20	2.0	1.68	2.14	4.05	1.34	1.38	0.79	2.02	1.34	2.61	1.60
40 X 20	40	20	2.5	2.03	2.59	4.69	1.54	1.35	0.77	2.35	1.54	3.09	1.88
40 X 20	40	20	3.0	2.36	3.01	5.21	1.68	1.32	0.75	2.60	1.68	3.50	2.12
50.0 X 25.0	50	25	2.9	2.98	3.80	10.93	3.60	1.70	0.97	4.37	2.88	5.72	3.48
	50	25	3.2	3.24	4.13	11.63	3.80	1.68	0.95	4.65	3.04	6.14	3.73
60.0 X 40.0	60	40	2.9	4.12	5.25	24.74	13.11	2.17	1.58	8.25	6.56	10.25	7.73
66.0 X 33.0	66	33	2.9	4.07	5.19	27.33	9.12	2.29	1.33	8.28	5.53	10.59	6.49
	66	33	3.6	4.93	6.28	31.87	10.52	2.25	1.29	9.66	6.37	12.56	7.66
	66	33	4.5	5.95	7.58	36.64	11.93	2.20	1.25	11.10	7.23	14.77	8.94
75.0 X 25.0	75	25	2.9	4.12	5.25	29.82	7.72	2.38	1.21	8.52	5.14	11.07	6.04
	75	25	3.2	4.59	5.73	32.04	8.24	2.37	1.20	9.15	5.49	11.98	6.51
	75	25	4.0	5.45	6.95	37.23	9.42	2.31	1.16	10.64	6.28	14.20	7.66
80.0 X 40.0	80	40	2.9	5.83	6.41	50.87	17.11	2.82	1.63	12.72	8.56	16.07	9.88
	80	40	3.2	5.50	7.01	54.94	18.41	2.80	1.62	13.74	9.21	17.46	10.72
	80	40	4.0	6.71	8.55	64.79	21.49	2.75	1.59	16.20	10.74	20.91	12.77
96.0 X 48.0	96	48	3.2	6.71	8.54	98.61	33.28	3.40	1.97	20.54	13.87	25.85	15.91
	96	48	4.0	8.22	10.47	117.54	39.32	3.50	1.94	24.94	16.30	31.21	19.14
	96	48	4.8	9.66	12.31	134.35	44.55	3.30	1.90	27.99	18.56	36.13	22.08
100.0 X 50.0	100	50	3.2	7.01	8.93	112.29	37.95	3.60	2.06	22.46	15.18	28.20	17.37
	100	50	4.0	8.59	10.95	134.14	44.95	3.50	2.03	26.83	17.98	34.10	20.93
122.0 X 61.0	122	61	3.6	9.67	12.32	232.61	78.83	4.34	2.35	38.13	25.84	47.71	29.42
	122	61	4.5	11.88	15.14	278.39	93.78	4.29	2.49	45.73	30.75	57.85	35.56
	122	61	5.4	14.01	17.85	320.83	107.03	4.24	2.45	52.60	35.09	67.29	41.22
145.0 X 82.0	145	82	4.8	15.92	20.28	555.16	228.50	5.23	3.36	76.57	55.73	94.93	63.93
	145	82	5.4	17.74	22.60	610.85	250.59	5.20	3.33	84.26	61.12	105.07	70.66
172.0 X 92.0	172	92	4.8	18.71	23.83	917.13	346.91	6.20	3.82	106.64	75.41	132.08	85.61
	172	92	5.4	20.88	26.59	1012.47	381.74	6.17	3.79	117.73	82.99	146.55	94.86
200.0 X 100.0	200	100	5.0	22.26	28.36	1459.28	496.94	9.03	4.72	231.34	99.39	181.38	112.18
	200	100	6.0	26.40	33.63	1703.34	576.92	9.20	4.67	284.95	115.38	213.28	131.51
	200	100	8.0	34.38	43.79	2146.27	719.19	8.07	4.57	284.95	143.84	272.81	167.44
220.0 X 140.0	220	140	6.0	26.97	34.36	2313.39	1155.24	8.21	6.54	210.31	165.03	253.74	186.31
	220	140	6.3	33.81	43.07	2849.53	1417.84	8.13	6.48	259.05	202.55	315.09	231.02

Grade	Y.S. MPa Min	T.S. MPa Min	Elongation	
			25.4 MM & Under	Over 25.4 MM
YSt - 210	310	210	12	20
YSt - 240	410	240	10	15
YSt - 310	450	310	8	10

Apart from above mentioned sizes, we also manufacture customized and need based requirement.

RIGID STEEL CONDUIT & ACCESSORIES

RIGID STEEL CONDUIT FOR ELECTRICAL INSTALLATIONS

CONFORMING TO **IS 9537 (Part-2)**

Black stove enameled Steel Conduit Pipes and Galvanized Steel Conduit Pipes have high corrosion resistance and considered non-combustible.

These rigid steel conduit can be used indoors, outdoors, underground, concealed or exposed, for future wiring changes and provide excellent mechanical protection to conductors & cables.

DIMENSIONS			
Nominal Size of Conduit (MM)	Outside Diameter (MM)	Tolerance in Outside Diameter (MM)	Thickness (MM)
20	20	-0.3	1.4 to 1.8
25	25	-0.4	1.4 to 1.8
32	32	-0.4	1.4 to 1.8
40	40	-0.4	1.6 to 2.2
50	50	-0.5	1.6 to 2.2

AS/NZS 1163

AS/NZ 1163 specifies the requirements for the production and supply of cold formed, electric resistance-welded, steel hollow sections used for structural purposes. This standard is intended for general structural & engineering applications.

STEEL GRADE OF AS/NZS 1163

C250, C350, C450, C250L0, C350L0, C450L0.

CHEMICAL COMPOSITION OF AS1163 MATERIALS

Grades (see Note 1)	Chemical composition (cast or product analysis) (see Note 2) % max.										
	C	Si	Mn	P	S	Cr	Mo	Al (see Note 3)	Ti	Micro-alloying elements	CE (see Note 4)
C250, C250L0	0.12	0.05	0.05	0.05	0.03	0.15	0.10	0.10	0.04	0.03 (see Note 5)	0.25
C350, C350L0	0.20	0.25	1.60	0.03	0.03	0.30	0.10	0.10	0.04	0.15 (see Note 6)	0.43
C450, C450L0	0.20	0.25 (see Note 7)	1.70	0.03	0.03	0.30	0.35	0.10	0.04	0.15 (see Note 6)	0.43

MECHANICAL PROPERTIES OF AS1163 MATERIALS

Tensile tests, Impact tests, and Flattening tests are very important when measuring the mechanical properties of AS1163 materials. These tests help determine the material's ability to resist forces that can cause it to break or deform.

Grade	Minimum yield strength	Minimum tensile strength	Minimum elongation as a proportion of the gauge length of 5.65$\sqrt{S_o}$. (see Note) %					
			Circular hollow sections d_o/t			b./t, d/t		
	Mpa	Mpa	≤15	≤15 ≤30	≤30	≤15	≤15 ≤30	≤30
C250, C250L0	250	320	18	20	20	14	16	18
C350, C350L0	350	430	16	18	20	12	14	16
C450, C450L0	450	500	12	14	16	10	12	14

NOTE : These limits apply to the face from which the tensile test is taken. That is, for RHS, the use of b/t or d/t ratio is dependent on which face the test specimen is cut from. For SHS, there is only one ratio (as b=d)

THE TOLERANCES OF AS1163 STANDARD

Characteristic	Circular hollow section	Square and rectangular hollow sections
External dimensions (d_o, d and b)	± 1% with a minimum of ±0.5 mm and a maximum of ± 10	±1%, with minimum of ±0.5 mm
Thickness (t)	For d_o<406.4mm : +10% For d_o<406.4mm : ±10% with a max of ±2mm	±10%
Out-of-roundness (o)	+2% for hollow sections having a diameter to thickness ratio not exceeding 100 (see Note 1)	
Concavity / convexity (see Note 2)	—	Max. 0.8% or 0.5 mm, whichever is greater
Squareness of sides	—	90°±1°
External corner profile		See Table 5
Twist (v)		2 mm +0.5 mm/m length
Straightness (see Note 3)	0.20% of total length	0.15% of total length
Mass (m) per unit length	Not less than 0.96% times the specified mass (Note 4) on individual lengths	

NOTES :

1. Where the diameter to thickness ratio exceeds 100, the tolerance on out-of-roundness becomes the subject of agreement between the manufacturer and purchaser.
2. The tolerance on convexity and concavity is independent of the tolerance on external dimensions.
3. The straightness tolerance applies to straightness in any one plane.
4. In lieu of any other requirement, the specified mass is considered to be the nominal mass as noted in Clause 15.

PRODUCT DETAILS :

APPLICATIONS: This Standard applies for the production and supply of Cold Formed, Electric resistance-welded and Steel Hollow sections (Square and Rectangular) used for structural purposes.

FINISHES : Black Self Color ; Anti-Rust Preventive Oil; Black Varnish Coated; Shot Blasted ; Primer Painted ; Hot Dipped Galvanized ; PP Powder Coated and other as per customer requirement.

ENDS Plain; Beveled; Threaded; Grooved; Notched and Fabricated (as per customer requirement).

PACKING: We provide 100% customized packing according to customer or their country norms.

AS/NZS 1074

The AS 1074 standard is an Australia and New Zealand standard that sets out the requirements for steel pipes to be used in ordinary service. This joint standard covers both threaded and plain end pipes suitable for screwing. DN 15 to DN 150 inclusive (nominal size). Wall thicknesses are designated as Light, Medium and Heavy.

CHEMICAL COMPOSITION OF AS 1074 PIPE

Elements of AS/NZS 1074 Pipes	Max %
S	0.05%
P	0.045
CE	0.40%

MECHANICAL PROPERTIES OF AS 1074 PIPE

AS/NZS 1074 Mechanical Properties	Minimum Requirement
Yield Strength (MPa)	195
Tensile Strength (MPa)	320
Elongation (%)	20

DIMENSIONS AND SIZES OF AS 1074 PIPE (LIGHT)

Size		Class	O.D. (mm)		W.T. (mm)	Weight (Plain End) (kg/mtr.)	Weight (Socketed) (kg/mtr.)
DN	Inch		Min.	Max.			
15	1/2"	L	21	21.4	2.00	0.947	0.956
20	3/4"	L	26.4	26.9	2.30	1.380	1.390
25	1"	L	33.2	33.8	2.60	1.980	2.000
32	11/4"	L	41.9	42.5	2.60	2.540	2.570
40	11/2"	L	47.8	48.4	2.90	3.230	3.270
50	2"	L	59.6	60.2	2.90	4.080	4.150
65	21/2"	L	75.2	76	3.20	5.710	5.830
80	3"	L	87.9	88.7	3.20	6.720	6.890
100	4"	L	113	113.9	3.60	9.750	10.000

DIMENSIONS AND SIZES OF AS 1074 PIPE (MEDIUM)

Size		Class	O.D. (mm)		W.T. (mm)	Weight (Plain End) (kg/mtr.)	Weight (Socketed) (kg/mtr.)
DN	Inch		Min.	Max.			
15	1/2"	M	21.1	21.7	2.60	1.210	0.956
20	3/4"	M	26.6	27.2	2.60	1.560	1.390
25	1"	M	33.4	34.2	3.20	2.410	2.000
32	11/4"	M	42.1	42.9	3.20	3.100	2.570
40	11/2"	M	48	48.8	3.20	3.570	3.270
50	2"	M	59.8	60.8	3.60	5.030	4.150
65	21/2"	M	75.4	76.6	3.60	6.430	5.830
80	3"	M	88.1	89.5	4.00	8.370	6.890
100	4"	M	113.3	114.9	4.50	12.200	10.000
125	5"	M	138.7	140.6	5.00	16.600	
150	6"	M	164.1	166.1	5.00	19.700	

DIMENSIONS AND SIZES OF AS 1074 PIPE (HEAVY)

Size		Class	O.D. (mm)		W.T. (mm)	Weight (Plain End) (kg/mtr.)	Weight (Socketed) (kg/mtr.)
DN	Inch		Min.	Max.			
15	1/2"	H	21.1	21.7	3.20	1.440	1.450
20	3/4"	H	26.6	27.2	3.20	1.870	1.880
25	1"	H	33.4	34.2	4.00	2.940	2.960
32	11/4"	H	42.1	42.9	4.00	3.800	3.830
40	11/2"	H	48	48.8	4.00	4.380	4.420
50	2"	H	59.8	60.8	4.50	6.190	6.260
65	21/2"	H	75.4	76.6	4.50	7.930	8.050
80	3"	H	88.1	89.5	5.00	10.300	10.500
100	4"	H	113.3	114.9	5.40	14.500	14.800
125	5"	H	138.7	140.6	5.40	17.900	18.400
150	6"	H	164.1	166.1	5.40	21.300	21.900

MANUFACTURING TOLERANCES OF AS 1074

AS 1074 Manufacturing Parameter	Tolerances
Outer Diameter	**See the Dimension Table Above**
Wall Thickness	-8%, +unlimited (Light)
	-10%, +unlimited (Medium and Heavy)
Straightness	0.20% of Total Length
Mass	± 4%
Unit Length	± 0.08m

APPLICATION : This Standard set out the requirements for steel pipes to be used in ordinary services like for the supply of oil, gas and water.
ENDS: Plain and Threaded ends suitable for screwing.
FINISHES: Black Self colour and Galvainzed coatings and any other as customer requirements.

ASTM A 252

The A252 Grade specification is governed by the American Society of Testing and Materials and covers nominal (average) wall welded steel pipe used for piling purposes.

SCOPE

This specification covers nominal thickness of the wall steel pipe piles of cylindrical shape and applies to pipe piles in which the steel cylinder acts as a permanent load-carrying member, or as a shell to form cast-in-place concrete piles.

Mechanical Properties

A252 Grade	Tensile Strength	Yield Strength
Grade 1	50,000 (345)	30,000 (205)
Grade 2	60,000 (415)	35,000 (240)
Grade 3	66,000 (456)	45,000 (310)

PERMISSIBLE VARIATIONS IN WEIGHT AND DIMENSION:

- **Weight** : The weight of the pipe cannot vary more than 15% over or 5% under the theoretical weight.
- **Outside Diameter** : Moreover, the O.D. cannot vary more than + or – 1% from the specified OD.
- **Wall Thickness**: The wall thickness at any point shall not be more than 12.5% under the specified nominal wall thickness.
- **The length**: Length as specified with a tolerance of $\pm 1^{\frac{1}{2}}$

PRODUCT DETAILS

APPLICATION: Steel pipe used for pilings, Micro piles, Fabrication, Bridges, Structures and protective casing purpose.

PIPE ENDS : Pipe piles shall be furnished with Plain ends, Beveled ends. Unless specified, piles shall have either flame cut or machine cut ends with burrs at the ends removed.

LENGTH: Pipe piles shall be ordered in the following lengths

- Single random lengths: - 16 to 25 ft., incl.
- Double random lengths: - over 25 ft. with a minimum avg. of 35 ft.
- Uniform lengths: - length as specified with a tolerance of $\pm 1^{\frac{1}{2}}$.

MARKING: Each length of pipe pile shall be legibly marked by stenciling, stamping, or rolling to show : the name of the manufacturer; heat number; the kind of pipe; the size, weight, length, and wall thickness; and the specification number and the grade.

PACKING: We provide 100% customized packing according to customer or their country norms.

ASTM A795

CERTIFIED

Standard Specification for Steel Pipes.
This specification covers Black, Hot dipped galvanized welded steel pipes in NPS ½" to NPS 10" inclusive DN 15 to DN 250. Pipe ordered under this standard is intended for use in fire protection systems.

Available size for Sch10 pipe (Light-weight pipe)

Size	Thickness (mm)	Test pressure (Mpa)
3/4" / DN20 / 26.7mm	2.11	4.8
1" / DN25 / 33.4mm	2.77	4.8
1-1/4" / DN32 / 42.2mm	2.77	6.9
1-1/2" / DN40 / 48.3mm	2.77	6.9
2" / DN50 / 60.3mm	2.77	6.9

Available size for Sch-40 pipe (Standard weight pipe)

Size	Thickness (mm)	Test pressure (Mpa)
2-1/2" / DN65 / 73.0mm	3.05	6.9
3" / DN80 / 88.9mm	3.05	6.9
4" / DN100 / 114.3mm	3.05	8.3
5" / DN125 / 141.3mm	3.40	8.3
6" / DN150 / 168.3mm	3.40	6.9
8" / DN200 / 219.1mm	4.78	5.5
10" / DN250 / 273.1mm	4.78	4.8

Available size for Sch40 pipe (Standard-weight pipe)

Size	Thickness (mm)	Test pressure (Mpa)
1/2" / DN15 / 21.3mm	2.77	4.8
3/4" / DN20 / 26.7mm	2.87	4.8
1" / DN25 / 33.4mm	3.38	4.8
1-1/4" / DN32 / 42.2mm	3.56	6.9
1-1/2" / DN40 / 48.3mm	3.68	6.9
2" / DN50 / 60.3mm	3.91	6.9
2-1/2" / DN65 / 73.0mm	5.16	6.9
3" / DN80 / 88.9mm	5.49	6.9
4" / DN100 / 114.3mm	6.02	8.3

Size	Thickness (mm)	Test pressure (Mpa)
5" / DN125 / 141.3mm	6.55	8.3
6" / DN150 / 168.3mm	7.11	8.3
8" / DN200 / 219.1mm	7.04	8.3
10" / DN250 / 273.1mm	7.80	6.9

Product Details

APPLICATIONS: ASTM A 795 ERW Steel pipes are intended for use in water based fire protection systems.

LENGTHS: 6m / 5.8m / 11.8m / 12m, customized as per customer requirement.

ENDS: Plain end, Square cut; Beveled; Cut grooved; Threaded; Threaded and Coupled; Fabricated as per customer requirement.

FINISHES: Black self colour, Anti Rust preventive oil, Black varnish coated, Galvanized, Painted or other type of coating as specified by the customer.

PACKING: We provide 100% customized packing according to customer or their country norms.

ASTM A513

Vishal Pipes Limited is a leading manufacturer of the pipes in the ASTM A 513 Specification in various scales. The pipe range in diameter from ½" to 12", Hollow sections RHS from 20X40mm to 150X200mm and SHS from 20X20mm to 200X200mm.

ASTM A513/A513M cover Round, square, rectangular, and specialty shape tubing are all covered by this specification. This specification applies to mechanical tube made of carbon and alloy steel that has been electric resistance welded. Mechanical tube composed of hot- or cold-rolled steel is covered by this specification.

MECHANICAL PROPERTIES OF ASTM A513 TUBE

Mechanical Properties	Grade	UTS KSI	YS KSI	%EL
ASTM A5131010453215	1010	45	32	15
ASTM A5131015483515	1015	48	35	15
ASTM A5131020523812	1020	52	38	12

CHEMICAL COMPOSITION FOR ASTM A513 TUBE

Designation		% C	% Mn	% S	% P
Grade 1010	Min	0.08	0.30	—	—
	Max.	0.13	0.60	0.035	0.035
Grade 1015	Min	0.13	0.30	—	—
	Max.	0.18	0.60	0.035	0.035
Grade 1020	Min	0.18	0.30	—	—
	Max.	0.23	0.60	0.035	0.035

TOLERANCE OF ASTM A513 TUBES

The mean outside diameter must fall within the given tolerance even if the ovality is 50% higher than the outer tolerances. The formula for calculating the maximum squareness tolerance is largest dimension across flats x 0.006 in. The straightness tolerance for square and rectangular tubes is 1/16" in 3 feet, whereas it is 0.03" in 3 feet for round tubes.

TWIST TOLERANCE

Largest Dimension (In.)	Tolerance in 3-feet (In.)
Over 1-1/2" to 2-1/2", Incl.	0.062
Over 2-1/2" to 4", Incl.	0.075
Over 4" to 6", Incl.	0.087

Shape Length Type	Lengths (Ft.)	Tolerances (In.)
Round	Over 10' to 24', incl.	(+/-) 1/4"
Round	Over 24' to 34', incl.	(+/-) 5/16"
Round	Over 34' to 40', incl.	(+/-) 3/8"
Square & Rectangular	Over 12' to 20', incl.	(+/-) 1/8"
Square & Rectangular	Over 20' to 30', incl.	(+/-) 3/16"
Square & Rectangular	Over 30' to 40', incl.	(+/-) 3/8"

BS- 1387

The British standard BS-1387 specifies requirements for plain, screwed and socketed end steel tubes. This standard is applicable to nominal size DN 15 to DN 150 In three series of thickness designated Light, Medium & Heavy.

AVAILABLE SIZE FOR LIGHT TUBE

Size	Thickness (mm)	Test pressure (MPa)
1/2" / DN15 / 21.3mm	2.0	5
3/4" / DN20 / 26.9mm	2.3	5
1" / DN25 / 33.7mm	2.6	5
1-1/4" / DN32 / 42.4mm	2.6	5
1-1/2" / DN40 / 48.3mm	2.9	5
2" / DN50 / 60.3mm	2.9	5
2-1/2" / DN65 / 76.1mm	3.2	5
3" / DN80 / 88.9mm	3.2	5
4" / DN100 / 114.3mm	3.6	5

AVAILABLE SIZE FOR MEDIUM TUBE

Size	Thickness (mm)	Test pressure (MPa)
1/2" / DN15 / 21.3mm	2.6	5
3/4" / DN20 / 26.9mm	2.6	5
1" / DN25 / 33.7mm	3.2	5
1-1/4" / DN32 / 42.4mm	3.2	5
1-1/2" / DN40 / 48.3mm	3.2	5
2" / DN50 / 60.3mm	3.6	5
2-1/2" / DN65 / 76.1mm	3.6	5
3" / DN80 / 88.9mm	4.0	5
4" / DN100 / 114.3mm	4.5	5
5" / DN125 / 139.7mm	5.0	5
6" / DN150 / 165.1mm	5.0	5

AVAILABLE SIZE FOR HEAVY TUBE

Size	Thickness (mm)	Test pressure (MPa)
1/2"/ DN15 / 21.3mm	3.2	5
3/4"/ DN20 / 26.9mm	3.2	5
1" / DN25 / 33.7mm	4.0	5
1-1/4" / DN32 / 42.4mm	4.0	5
1-1/2" / DN40 / 48.3mm	4.0	5
2" / DN50 / 60.3mm	4.5	5
2-1/2" / DN65 / 76.1mm	4.5	5
3" / DN80 / 88.9mm	5.0	5
4" / DN100 / 114.3mm	5.4	5
5" / DN125 / 139.7mm	5.4	5
6" / DN150 / 165.1mm	5.4	5

PRODUCT DETAILS

APPLICATIONS: It is suitable for the supply of cold and hot water lines or supply, firefighting pipeline, HVAC lines.

ENDS: Plain, Threaded, Screwed and Socketed and other as per customer need.

PACKING: We provide 100% customized packing according to customer or their country norms.

EN 10219

Vishal Pipes Limited is a leading manufacturer of the pipes in the EN 10219 Specification in various scales. The pipe range in diameter from ½" to 12", Hollow sections RHS from 20X40mm to 150X200mm and SHS from 20X20mm to 200X200mm.. The EN 10219 Pipe Standard mandates the pipe wall thicknesses to range from 2mm to 9.5 mm. The minimum yield strength of the pipes is at 345MPa and the minimum tensile strength is 510MPa. The material is made up of carbon, silicon, manganese, phosphorus, sulfur and niobium in the content.

SPECIFICATION TABLE OF EN 10219-1.

Manufacturing process:	Longitudinal welding
Steel:	S235JRH / S275J0H / S275J2H / S355J0H / S355J2H / S355K2H
End finishings:	Plain and as per customer requirement.
Scarfing:	External
Internal bead height:	As per the norm
Size range (Circular)	From Ø 1/2" (21.3 mm) to Ø 12" (323.9 mm)
Size range (RHS)	20x40mm to 150x200mm
Size range (SHS)	20X20mm to 200X200mm
Manufacturing Thicknesses:	2mm to 9.5mm
Surface finishing:	Black
	Hot-dip galvanized as per EN 10240 and as per customer requirement.
Standard length:	6m and customized lengths on client request.
Quality controls:	Electromagnetic Non Destructive Testing (Eddy Current) on request Tensile test.
Standard marking:	Hard stamped or ink marked if requested or any other as per client request.
Documents:	Certificate of conformity 2.2 as per the EN 10204 norm. 3.1B certificate on request

TOLERANCES ON DIMENSIONS OF EN 10219-1.

Characteristics	Tolerances	
Outside dimensions of side	(H,B <100mm)	± 1% with a min of 0.5mm
H : Longest side B : Shortest side	(100 mm ≤H,B ≤ 200mm)	≤0.8%
	(200mm <H,B)	± 0.6%
Wall thickness(T)	(T ≤ 5mm)	± 10%
	(5mm <T)	±0.50mm
Concavity / Convexity	MAX 0.8% with a min of 0.5mm	
Squareness of sides	90 ±1	
External corner radius	(T ≤6mm)	1.6T≤R ≤2.4T
	(6mm< T ≤10mm)	2.0T ≤R ≤3.0T
	(10mm<T)	2.4T ≤R ≤3.6T
Twist	2mm + 0.5mm/m in length	
Straightness	0.15% in total length	
Mass	± 6% in individual lengths	
Length	Approximate	0, +50mm
	Exact L <6,000 mm	0, +5mm
	6,000 mm <L ≤10,000mm	0, +15mm
	10,000 mm<L	0, +5mm+1mm/m

PRODUCTS DETAILS:-

APPLICATIONS: As the material could be welded without the risk of welding crack or localized corrosion risk at the welded points. The applications include oil and gas, petroleum, petrochemical and in power plant applications.

ENDS: Plain ends and any other end as per customer request like threaded, beveled , grooved etc.

SURFACE FINISHES: Black Self Colour , Galvanized as per Standard EN 10240 and other finishes as per customer request like Black Varnish Coated, Primer Painted , Powder coated, PP Powder Coated.

PACKING: We provide 100% customized packing according to customer or their country norms.

EN 10255

EN 10255 is a non-alloy grade that is widely used for threaded or welded operations. **EN 10255 Pipe** can be coated with a range of finishes to give them enhanced resistances to corrosive and oxidative media. Alloyed **EN 10255 Steel Pipe** may be constituted with a chemical composition of carbon, manganese, phosphorous, and sulfur. The content builds a solid foundation to build a strong and tolerant grade. The versatile EN 10255 Non-alloy Steel Tubes are designed with minimum yield strength of 195mpa, while the tensile strength of the tubes is between 320mpa up to 520mpa. These tubes can be easily elongated by 20% in the system while showcasing excellent workability.

EN 10255 Pipe Dimensions and Diameter Tolerances Type L1.

Specified outside diameter[a]	Designation of thread[a]	Outside diameter		Wall Thickness	Mass per unit length of bare tube	
D	R	max.	min.	T	Plain end	Threaded and socketed
(mm)	—	(mm)	(mm)	(mm)	(kg/m)	(kg/m)
13.5	1/4	13.9	13.2	2.0	0.570	0.574
17.2	3/8	17.4	16.7	2.0	0.742	0.748
21.3	1/2	21.7	21.0	2.3	1.08	1.09
26.9	3/4	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	1 1/4	42.7				
48.3	1 1/2	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	2 1/2	76.3	75.2	3.2	5.733	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

EN 10255 Pipe Dimensions and Diameter Tolerances Type L2.

Specified outside diameter* D	Designation of thread* R	Outside diameter		Wall Thickness T	Mass per unit length of bare tube	
		max.	min.		Plain end	Threaded and socketed
(mm)	—	(mm)	(mm)	(mm)	(kg/m)	(kg/m)
13.5	1/4	13.6	13.2	1.8	0.515	0.519
17.2	3/8	17.1	16.7	1.8	0.670	0.676
21.3	1/2	21.4	21.0	2.0	0.947	0.956
26.9	3/4	26.9	26.9	2.3	1.38	1.39
33.7	1	33.8	33.8	2.6	1.98	2.00
42.4	1 1/4	42.5	41.9	2.6	2.54	2.57
48.3	1 1/2	48.4	47.8	2.9	3.23	3.27
60.3	2	60.2	59.6	2.9	4.08	4.15
76.1	2 1/2	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

*For relationship between specified outside diameter (D), thread size ® and nominal diameter (DN) see Annex A.
T= specified wall thickness

EN 10255 Pipe Dimensions and Diameter Tolerances Type L.

Specified outside diameter* D	Designation of thread* R	Outside diameter		Wall Thickness T	Mass per unit length of bare tube	
		max.	min.		Plain end	Threaded and socketed
(mm)	—	(mm)	(mm)	(mm)	(kg/m)	(kg/m)
13.5	1/4	13.9	13.2	2.0	0.567	0.571
17.2	3/8	17.4	16.7	2.0	0.750	0.756
21.3	1/2	21.7	21.0	2.3	1.08	1.09
26.9	3/4	27.1	26.4	2.3	1.40	1.41
33.7	1	34.0	33.2	2.9	2.20	2.22
42.4	1 1/4	42.7	41.9	2.9	2.82	2.85
48.3	1 1/2	48.6	47.8	2.9	3.25	3.29
60.3	2	60.7	59.6	3.2	4.51	4.58
76.1	2 1/2	76.0	75.2	3.2	5.75	5.87
88.9	3	88.7	87.9	3.2	6.76	6.93
101.6	3 1/2	101.2	100.3	3.6	8.70	8.88
114.3	4	113.9	113.0	3.6	9.83	10.1
139.7	5	140.8	138.5	4.5	15.0	15.5
165.1	6	166.5	163.9	4.5	17.8	18.4

EN 10255 Pipe Dimensions and Diameter Tolerances Type M &H.

Specified outside diameter[a] D (mm)	Thread Size* R	Outside diameter max. (mm)	Outside diameter min. (mm)	Heavy Series Wall thickness (mm)	Heavy Series Mass series length of bare tube Plain end (kg/m)	Heavy Series Mass series length of bare tube Socketed (kg/m)	Medium series Wall thickness T (mm)	Medium series Mass series length of bare tube Plain end (kg/m)	Medium series Mass series length of bare tube Threaded and socketed (kg/m)
10.2	1/8	10.6	9.8	2.6	0.487	0.490	2.0	0.404	0.407
13.5	1/4	14.0	13.2	2.9	0.765	0.769	2.3	0.641	0.645
17.2	3/8	17.5	16.7	2.9	1.02	1.03	2.3	0.839	0.845
21.3	1/2	21.8	21.0	3.2	1.4	1.45	2.6	1.21	1.22
26.9	3/4	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	1 1/4	42.9	42.0	4.0	3.79	3.82	3.2	3.10	3.13
48.3	1 1/2	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	2 1/2	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	14.5	4.5	12.2	12.5
139.7	5	140.8	138.5	5.4	17.9	17.9	5.0	16.6	17.1
165.1	6	166.5	163.9	5.4	21.3	21.3	5.0	19.8	20.4

*For relationship between specified outside diameter (D), thread size ® and nominal diameter (DN) see Annex A.
T= specified wall thickness

PRODUCT DETAILS

APPLICATION: The 10255 Non-Alloy Steel Tube is used in oil and gas, petroleum, petrochemical and various mechanical and structural applications.

FINISHES: Black Self Colour, Galvanized as per Standard EN 10240 and other finishes as per customer request like Black Varnish Coated, Primer Painted, Powder coated, PP Powder Coated.

ENDS: The pipes can also be plain ended or beveled ended in addition to being threaded ends and other as per customer requirement.

PACKING: We provide 100% customized packing according to customer or their country norms.

STEEL POLES

We manufacture entire range of swaged poles confirming to IS: 2713. We have all required testing facilities and machineries like hydraulic swaging machines, strengthening and welding machines and has facilities to produce poles upto 16 meter and thickness up to 12 mm. The swaged poles are manufactured completely in-house starting from manufacturing of steel pipes, swaging unit, painting & galvanizing.

FEATURES

- Fireproof, immune to insect infestations and no pole rot
- Weighs 40 to 50 % less than comparable concrete structures
- Elongation upto 75 % with no shrinkage
- Free of copper wire grounding
- Capable of galvanizing all sizes of poles

APPROVED BY

- Power Grid Corporation of India
- U.P. power corporation ltd.
- J & K power development DEPT
- Rural Electric Corporation Ltd.
- Uttrakhand Power Corporation Ltd.

& various other power distribution companies

STREET LIGHT POLES

Street Light poles can be of multiple types such as octagonal, tubular, conical in shape. We can manufacture / customize street light poles as per as per the customers specifications and drawings.

STEEL TUBULAR POLES (SWAGED TYPE) CONFORMING TO IS 2713

Desig - nation	OVERALL LENGTH	PLANTING DEPTH	LENGTH OF SECTIONS			OUTSIDE DIAMETER AND THICKNESS OF SECTIONS			APPROX. WEIGHT OF POLE	BREAKING LOAD	LOAD FOR PERMANENT SET NOT EXCEEDING 13MM	LOAD FOR TEMPORARY DEFLECTION OF 157.5 MM
			Bottom	Middle	Top	Bottom	Middle	Top				
	L	L	h3	h2	h1							
1	2	3	4	5	6	7	8	9	10	11	12	13
(MM)	(M)	(M)	(N)	(M)	(M)	(MM)	(MM)	(MM)	(KG)	N (KGF)	N (KGF)	N (KGF)
410 SP - 1	7	1.25	4	1.5	1.5	114.3X3.65	88.9X3.25	76.1X3.25	62	2570 (262)	1245 (127)	785 (80)
410 SP - 2	7	1.25	4	1.5	1.5	114.5X4.50	88.9X4.05	76.1X3.25	73	3180 (316)	1510 (154)	941 (96)
410 SP - 3	7	1.25	4	1.5	1.5	114.5X5.40	88.9X4.85	76.1X3.25	85	3630 (370)	1760 (180)	1090 (111)
410 SP - 4	7.5	1.25	4.5	1.5	1.5	114.3X3.65	88.9X3.25	76.1X3.25	67	2350 (240)	1150 (117)	627 (64)
410 SP - 5	7.5	1.25	4.5	1.5	1.5	114.5X4.50	88.9X4.05	76.1X3.25	79	2760 (281)	1340 (137)	745 (76)
410 SP - 6	7.5	1.25	4.5	1.5	1.5	114.5X5.40	88.9X4.85	76.1X3.25	93	3320 (339)	1620 (165)	873 (89)
410 SP - 7	7.5	1.25	4.5	1.5	1.5	139.7X4.50	114.3X3.65	88.9X3.25	97	4330 (442)	2110 (215)	1400 (143)
410 SP - 8	7.5	1.25	4.5	1.5	1.5	139.7X4.85	114.3X3.65	88.9X3.25	103	4630 (472)	2250 (229)	1480 (151)
410 SP - 9	7.5	1.25	4.5	1.5	1.5	139.7X5.40	114.3X3.65	88.9X3.25	110	5100 (520)	2480 (253)	1600 (163)
410 SP - 10	8	1.5	4.5	1.75	1.75	114.3X3.65	88.9X3.25	76.1X3.25	70	2260 (230)	1100 (112)	520 (53)
410 SP - 11	8	1.5	4.5	1.75	1.75	114.5X4.50	88.9X4.05	76.1X3.25	83	2730 (278)	1320 (135)	618 (63)
410 SP - 12	8	1.5	4.5	1.75	1.75	114.5X5.40	88.9X4.85	76.1X3.25	97	3190 (325)	1550 (158)	725 (74)
410 SP - 13	8	1.5	4.5	1.75	1.75	139.7X4.50	114.3X2.65	88.9X3.25	101	4160 (424)	2020 (206)	1180 (120)
410 SP - 14	8	1.5	4.5	1.75	1.75	139.7X4.85	114.3X4.50	88.9X3.25	111	4440 (453)	2160 (220)	1280 (131)
410 SP - 15	8	1.5	4.5	1.75	1.75	139.7X5.40	114.3X4.50	88.9X3.25	119	4890 (499)	2380 (243)	1380 (140)
410 SP - 16	8.5	1.5	5	1.75	1.75	114.3X3.65	88.9X3.25	76.1X3.25	75	2090 (213)	1020 (104)	432 (44)
410 SP - 17	8.5	1.5	5	1.75	1.75	114.5X4.50	88.9X4.05	76.1X3.25	89	2520 (257)	1230 (125)	510 (52)
410 SP - 18	8.5	1.5	5	1.75	1.75	114.5X5.40	88.9X4.85	76.1X3.25	104	2950 (301)	1430 (146)	598 (61)
410 SP - 19	8.5	1.5	5	1.75	1.75	139.7X4.50	114.3X3.65	88.9X3.25	109	3844 (392)	1880 (191)	961 (98)
410 SP - 20	8.5	1.5	5	1.75	1.75	139.7X4.85	114.3X3.65	88.9X3.25	115	4110 (419)	2000 (204)	1010 (103)
410 SP - 21	8.5	1.5	5	1.75	1.75	139.7X5.40	114.3X4.50	88.9X3.25	129	4530 (462)	2210 (225)	1130 (115)
410 SP - 22	8.5	1.5	5	1.75	1.75	165.1X4.50	139.7X4.50	114.3X3.65	141	5450 (556)	2650 (270)	1730 (176)
410 SP - 23	8.5	1.5	5	1.75	1.75	165.1X4.85	139.7X4.50	114.3X3.65	148	5840 (596)	2840 (290)	1820 (186)
410 SP - 24	8.5	1.5	5	1.75	1.75	165.1X5.40	139.7X4.50	114.3X3.65	158	6450 (658)	3140 (320)	1970 (201)
410 SP - 25	9	1.5	5	2	2	114.3X3.65	88.9X3.25	76.1X3.25	78	1940 (198)	941 (96)	333 (34)
410 SP - 26	9	1.5	5	2	2	114.5X4.50	88.9X4.05	76.1X3.25	92	2340 (239)	1140 (116)	402 (41)
410 SP - 27	9	1.5	5	2	2	114.5X5.40	88.9X4.85	76.1X3.25	108	2750 (280)	1330 (136)	461 (47)
410 SP - 28	9	1.5	5	2	2	139.7X4.50	114.3X3.65	88.9X3.25	113	3580 (365)	1740 (177)	745 (76)
410 SP - 29	9	1.5	5	2	2	139.7X4.85	114.3X4.50	88.9X3.25	126	3820 (390)	1860 (190)	814 (83)
410 SP - 30	9	1.5	5	2	2	139.7X5.40	114.3X4.50	88.9X3.25	133	4220 (430)	2050 (209)	882 (90)
410 SP - 31	9	1.5	5	2	2	165.1X4.50	139.7X4.50	114.3X3.65	147	5070 (517)	2460 (251)	1360 (139)
410 SP - 32	9	1.5	5	2	2	165.1X4.85	139.7X4.50	114.3X3.65	154	5430 (554)	2640 (269)	1430 (146)
410 SP - 33	9	1.5	5	2	2	165.1X5.40	139.7X4.50	114.3X3.65	164	6000 (612)	2910 (297)	1540 (157)
410 SP - 34	9.5	1.8	5	2.25	2.25	139.7X4.50	114.3X4.50	88.9X3.25	122	3630 (370)	1760 (180)	745 (76)
410 SP - 35	9.5	1.8	5	2.25	2.25	139.7X4.85	114.3X4.50	88.9X3.25	129	3880 (396)	1880 (192)	784 (80)
410 SP - 36	9.5	1.8	5	2.25	2.25	139.7X5.40	114.3X4.50	88.9X3.25	137	4280 (436)	2080 (212)	833 (85)
410 SP - 37	9.5	1.8	5	2.25	2.25	165.1X4.50	139.7X4.50	114.3X3.65	153	5150 (525)	2500 (255)	1300 (133)
410 SP - 38	9.5	1.8	5	2.25	2.25	165.1X4.85	139.7X4.50	114.3X3.65	160	5510 (562)	2680 (273)	1370 (140)
410 SP - 39	9.5	1.8	5	2.25	2.25	165.1X5.40	139.7X4.50	114.3X3.65	170	6090 (621)	2960 (302)	1480 (151)
410 SP - 40	10	1.8	5.2	2.4	2.4	139.7X4.50	114.3X4.50	88.9X3.25	128	3390 (346)	1650 (168)	608 (62)

STEEL POLES

STEEL TUBULAR POLES (SWAGED TYPE) CONFORMING TO IS 2713

Desig-nation	OVERALL LENGTH	OVERALL LENGTH	LENGTH OF SECTIONS			OUTSIDE DIAMETER AND THICKNESS OF SECTIONS			APPROX. WEIGHT OF POLE	BREAKING LOAD	LOAD FOR PERMANENT SET NOT EXCEEDING 13MM	LOAD FOR TEMPORARY DEFLECTION OF 157.5 MM
			Bottom	Middle	Top	Bottom	Middle	Top				
	L	L	h3	h2	h1							
1	2	3	4	5	6	7	8	9	10	11	12	13
(MM)	(M)	(M)	(M)	(M)	(M)	(MM)	(MM)	(MM)	(KG)	N (KGF)	N (KGF)	N (KGF)
410 SP - 41	10	1.8	5.2	2.4	2.4	139.7x4.85	114.3x4.50	88.9x3.25	135	3630 (370)	1760 (180)	637 (65)
410 SP - 42	10	1.8	5.2	2.4	2.4	139.7x5.40	114.3x4.50	88.9x3.25	144	3990 (407)	1940 (198)	677 (69)
410 SP - 43	10	1.8	5.2	2.4	2.4	165.1x4.50	139.7x4.50	114.3x3.65	160	4810 (490)	2330 (238)	1060 (108)
410 SP - 44	10	1.8	5.2	2.4	2.4	165.1x4.85	139.7x4.50	114.3x3.65	168	5150 (525)	2500 (255)	1120 (114)
410 SP - 45	10	1.8	5.2	2.4	2.4	165.1x5.40	139.7x4.50	114.3x3.65	178	5690 (580)	2760 (282)	1200 (122)
410 SP - 46	10	1.8	5.2	2.4	2.4	193.7x4.85	165.1x4.50	139.7x4.50	208	7210 (735)	3500 (357)	1850 (189)
410 SP - 47	10	1.8	5.2	2.4	2.4	193.7x5.40	165.1x4.50	139.7x4.50	221	7910 (807)	3840 (392)	1990 (203)
410 SP - 48	10	1.8	5.2	2.4	2.4	193.7x5.90	165.1x4.50	139.7x4.50	233	8620 (879)	4190 (427)	2110 (215)
410 SP - 49	11	1.8	5.6	2.7	2.7	139.7x4.85	114.3x4.50	88.9x3.25	140	3080 (306)	1460 (149)	412 (42)
410 SP - 50	11	1.8	5.6	2.7	2.7	139.7x5.40	114.3x4.50	88.9x3.25	147	3210 (327)	1560 (159)	431 (44)
410 SP - 51	11	1.8	5.6	2.7	2.7	139.7x5.40	114.3x5.40	88.9x3.25	164	3530 (360)	1720 (175)	480 (49)
410 SP - 52	11	1.8	5.6	2.7	2.7	165.1x4.50	139.7x4.50	114.3x3.65	176	4250 (433)	2060 (210)	726 (74)
410 SP - 53	11	1.8	5.6	2.7	2.7	165.1x4.85	139.7x4.50	114.3x3.65	183	4550 (464)	2220 (226)	765 (78)
410 SP - 54	11	1.8	5.6	2.7	2.7	165.1x5.40	139.7x4.50	114.3x3.65	194	5030 (513)	2440 (249)	814 (83)
410 SP - 55	11	1.8	5.6	2.7	2.7	193.7x4.85	165.1x4.50	139.7x4.50	227	6370 (650)	3100 (316)	1270 (130)
410 SP - 56	11	1.8	5.6	2.7	2.7	193.7x5.40	165.1x4.50	139.7x4.50	241	6990 (713)	3400 (347)	1370 (140)
410 SP - 57	11	1.8	5.6	2.7	2.7	193.7x5.90	165.1x4.85	139.7x4.50	256	7620 (777)	3710 (378)	1470 (150)
410 SP - 58	12	2	5.8	3.1	3.1	165.1x4.50	139.7x4.50	114.3x3.65	186	3880 (396)	1880 (192)	539 (55)
410 SP - 59	12	2	5.8	3.1	3.1	165.1x4.85	139.7x4.50	114.3x3.65	197	4160 (424)	2020 (206)	569 (58)
410 SP - 60	12	2	5.8	3.1	3.1	165.1x5.40	139.7x4.50	114.3x3.65	208	4600 (469)	2240 (228)	598 (61)
410 SP - 61	12	2	5.8	3.1	3.1	193.7x4.85	165.1x4.50	139.7x4.50	245	5820 (594)	2830 (289)	951 (97)
410 SP - 62	12	2	5.8	3.1	3.1	193.7x5.40	165.1x4.50	139.7x4.50	259	6390 (652)	3110 (317)	1070 (183)
410 SP - 63	12	2	5.8	3.1	3.1	193.7x5.90	165.1x4.85	139.7x4.50	277	6960 (710)	3390 (345)	1090 (111)
410 SP - 64	12	2	5.8	3.1	3.1	219.1x4.85	193.7x4.85	165.1x4.50	292	7490 (764)	3640 (371)	1460 (149)
410 SP - 65	12	2	5.8	3.1	3.1	219.1x5.60	193.7x4.85	165.1x4.50	313	8530 (871)	4150 (423)	1610 (164)
410 SP - 66	12	2	5.8	3.1	3.1	219.1x5.90	193.7x4.85	165.1x4.50	322	8980 (916)	4360 (445)	1660 (169)
410 SP - 67	12	2	5.8	3.6	3.6	193.7x4.85	165.1x4.50	139.7x4.50	261	5270 (537)	2560 (261)	677 (69)
410 SP - 68	13	2	5.8	3.6	3.6	193.7x5.40	165.1x4.85	139.7x4.50	281	5790 (590)	2810 (287)	735 (75)
410 SP - 69	13	2	5.8	3.6	3.6	193.7x5.90	165.1x5.40	139.7x4.50	302	6300 (642)	3060 (312)	794 (81)
410 SP - 70	13	2	5.8	3.6	3.6	219.1x4.85	193.7x4.85	165.1x4.50	312	6780 (691)	3300 (336)	1060 (108)
410 SP - 71	13	2	5.8	3.6	3.6	219.1x5.60	193.7x4.85	165.1x4.50	333	7720 (787)	3750 (382)	1160 (118)
410 SP - 72	13	2	5.8	3.6	3.6	219.1x5.90	193.7x4.85	165.1x4.50	343	8120 (828)	3940 (402)	1190 (121)
410 SP - 73	14.5	2	6.5	4	4	193.7x5.40	165.1x5.40	139.7x4.50	312	5050 (515)	2450 (250)	500 (51)
410 SP - 74	14.5	2	6.5	4	4	193.7x5.90	193.7x4.85	139.7x4.50	336	5500 (561)	2680 (273)	539 (55)
410 SP - 75	14.5	2	6.5	4	4	219.1x5.60	193.7x4.85	165.1x4.50	370	6750 (688)	3280 (334)	775 (79)
410 SP - 76	14.5	2	6.5	4	4	219.1x5.90	193.7x4.85	165.1x4.50	380	7100 (724)	3450 (352)	794 (81)
410 SP - 77	16	2.3	7	4.5	4.5	193.7x5.40	165.1x5.40	139.7x4.50	341	4590 (468)	2230 (227)	363 (37)
410 SP - 78	16	2.3	7	4.5	4.5	193.7x5.90	193.7x4.85	139.7x4.50	367	5080 (518)	2430 (248)	392 (40)
410 SP - 79	16	2.3	7	4.5	4.5	219.1x5.60	193.7x4.85	165.1x4.50	405	6130 (625)	2980 (304)	569 (58)
410 SP - 80	16	2.3	7	4.5	4.5	219.1x5.90	193.7x4.85	165.1x4.50	416	6440 (657)	3130(319)	588 (60)

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