JINDAL

Trust the leader

JINDAL PIPES LIMITED

JINDAL STAR

GROUP PROFILE

Where exceeding expectations is a tradition and gaining precocious success is an art applied to work, such culture is the identity of D.P Jindal Group. With its strong conviction, the business conglomerate has reserved its rightful position in the market as the largest Seamless & ERW steel pipes and tubes manufacturer in the country.

D.P. Jindal Group since its very inception has pursued an unstinted path of growth despite national and international competition, reaching an annual turnover of Rs 4000cr. Taking its futuristic approach forward, the Group has ventured into the power sector to generate renewable energies such as wind and solar, ensuring a cleaner and greener environment. The company has time and again pushed limits to discover and rediscover the various grades and applications of steel pipes and tubes for sectors like Oil & Gas, Hydrocarbon, Power, Agriculture, Housing, Infrastructure to name a few. The product range comprises of ERW Pipes & Tubes (Black & Galvanized) and Seamless Pipes & Tubes (Hot finished, Cold drawn and Pilgered). The Group has a highly experienced talent team, contemporary technology, efficiency-oriented environment and state-of-the-art production capacity to help foster further growth of the organization as well as the economy of the nation.

Jindal Star, with its unique offerings, enjoys brand leadership in the market and is one of the oldest, best and largest manufacturers of ERW (Black and Galvanized) Steel Pipes & Tubes in India. Earlier branded as Jindal Ghaziabad, it is the only pipe brand offering ERW black and galvanized pipes from 15mm NB to 500mm NB and has been in this business for more than 4 decades.

Jindal Star is a brand of D.P. Jindal Group.

Manufacturing Units
Plants are strategically located across the entire country in Ghaziabad (U.P.) Raigad (Maharashtra), Bellary (Karnataka)and Hyderabad (Telangana).

Installed Capacity
0.7 MMT per annum, size 1/2 to 20 (wall thickness upto 12.7mm).

Branch Offices
Delhi, Punjab, Baroda, Kolkata, Mumbai, Chennai, Hyderabad, Bangalore.

Specifications
ERW pipes are being manufactured BIS, BS, API, ASTM, DIN, IBR specifications and conform to various national and international standards.

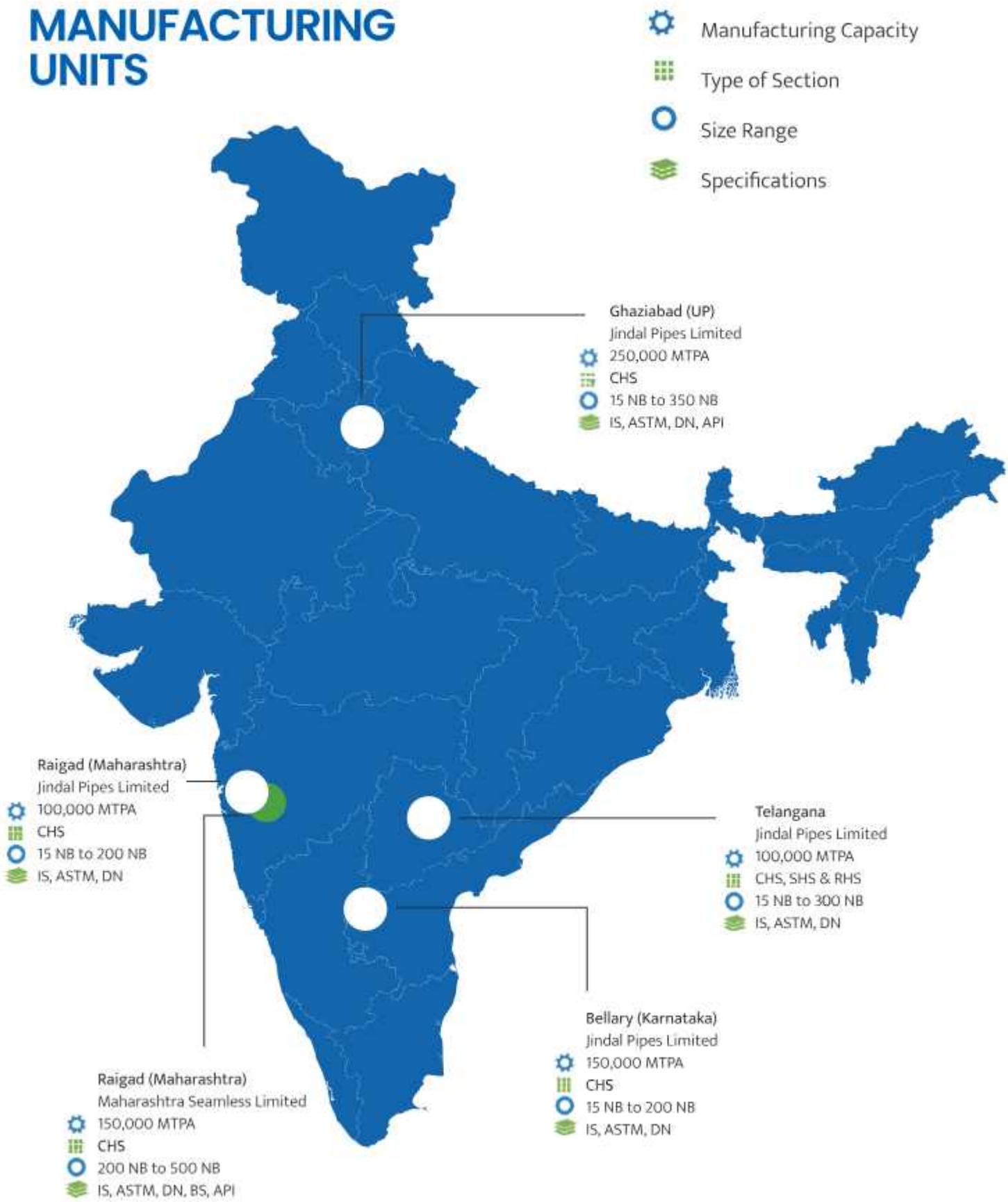
Quality Assurance
Jindal Star has accreditation of API QI System and facilities are ISO9001:2015 certified.

UL Certification
Jindal Star ERW Pipes are UL certified for water-based fire protection systems.

Awards
Jindal Star has been awarded as the most trusted brand of India in year 2015 & 2016 and the rated as amongst the top 100 brands in India.

Pipe Corrosion Protection Systems
Apart from Galvanizing facilities, the Group also has pipe corrosion protection facilities at its coating plant in Raigad, Maharashtra. This facility can provide 3LPE,3LPP, FBE coatings on black and galvanized pipes.

MANUFACTURING UNITS



CLIENTS


Reliance
Industries Limited


इंडियनऑयल
IndianOil


TATA


DLF


BLUE STAR


ireo


INDURE


SALASAR


HINDALCO


एनटीपीसी
NTPC


firepro


EIL


STERLING & WILSON


TATA
TATA PROJECTS LIMITED


गेल
GAIL


ओएनजीसी
ONGC

Jindal Pipes Limited has started Powder Coating facilities on GI ERW Pipes for City Gas distribution project initiated by Govt of India for Supplying Cooking Gas to every household across India.

SUCCESFUL PROJECTS

OUR DISTINCTIVE OFFERINGS

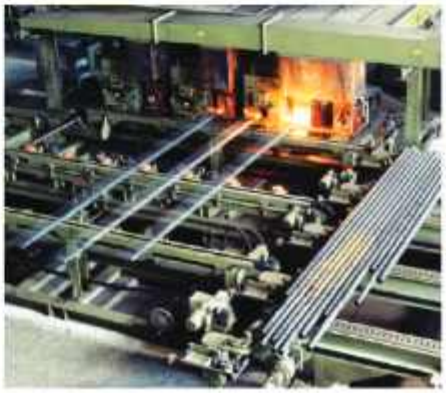
Jindal Star black and galvanized ERW steel pipes and tubes conforming to IS:1239, IS:3589, IS:1161, API 5L and ASTM are one of the largest selling brands in plumbing, fire fighting, MEP, structural and oil and gas applications. The company offers wide array of products to the customers as per their requirements in terms of grade of steel, thickness, length, pipe finishing etc. Our strategically located manufacturing units and branches ensure prompt delivery and at most competitive price.

We are the only company offering galvanizing facilities up to 500 NB 20"and have supplied the same to several prestigious high altitude water supply projects.

We are known for our strong distribution network through distributors, dealers and retailers spread across the country. Besides this we supplying directly to bulk and regular buyers. They include infrastructure and construction companies, OEMs, large contractors and government bodies through tendering process. Jindal Star is regularly executing large orders for pipes and tubes to meet its regularly executing large orders for pipes and tubes to meet its customers' requirement. The elite clientele includes the big industrial giants like ONGC, Oil India Ltd, Indian Oil Corporation Ltd, HPCL, BPCL, BHEL, NTPC, GAIL GAS Limited , Public Health Engineering Department, Irrigation Department, Hindalco, L&T, Megha Engineering and Infrastructures Limited , Ge Power, DMRC, DLF, Blue Star, State Water, Sanitation and Sewerage departments etc besides clients based in the US. The Middle East, Far East and other Asian countries.

Bengaluru Airport
Chennai Nashri Tunnel
City Gas Distribution
NCT of Delhi
DLF - Camelias
Hyderabad Metro

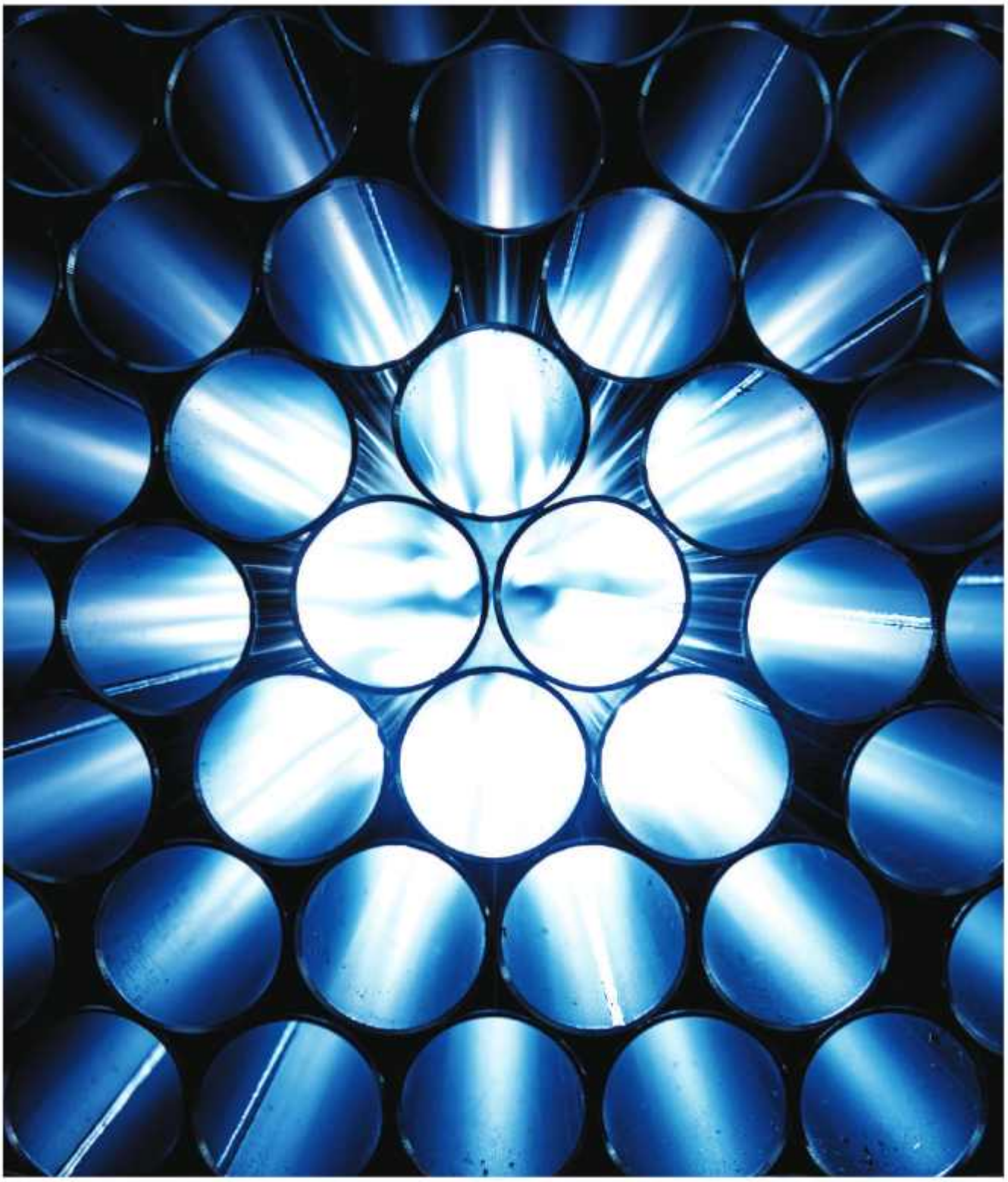
IIT Hyderabad
Ireo Victory Valley
Kochi Metro
Lucknow Metro
Supreme Court
of India
Wave One



ABOUT JINDAL PIPES LIMITED

GHAZIABAD UNIT

Jindal Pipes Limited, a pioneer with many innovative projects in the pipe industry, is synonymous with India's best ERW, Galvanized and black steel pipes.



Since inception in 1970, the company has brought drastic developments in pipe manufacturing through many innovative measures. Induction of sophisticated state-of-the- art technical know- how and highly motivated skilled work force have made possible for the company to augment its production capacity to 250.000TPA. A wide range of products that comprise of 15 NB to 350 NB and 2.00mm to 10.00mm in wall thickness give Jindal Pipes a commendable advantage in the market Further, Pipes upto 500NB can be supplied from the sister concern- Maharashtra Seamless Limited.

Quality is the hallmark of Jindal Pipe Strict adherence to the Policy of "No Compromise on Quality" is demonstrated in its stringent control over procurement of raw materials, production process, streamlined distribution channels and fast delivery of finished products.ISO9001:2015, API and BIS certifications stand as an unequivocal testimony to Jindal Pipe's quality.

Jindal Pipes has been constantly executing need based and demanding orders for pipes to meet the requirement of sectors like: agriculture, oil & gas, public health, housing, irrigation, engineering etc.

QUALITY CREDENTIALS

Jindal Pipe's idea of Total Quality is demonstrated in its stringent controls on raw materials, production process and on the speed at which the product reaches the customer, it's "No compromises on Quality" policy has brought in an ISO9001:2015, API and BIS certifications.

Jindal Pipes Limited has accreditation of API QI System and has been awarded ISO 9001, on Quality Assurance. In addition to these, our products have the approval of international inspection agencies, such as Lloyds, DNV, BVIS, TUV NORD, EIL, PDIL, SGS, NTPC, PGCIL, BHEL, TUV, SUD, QSS, etc.

Jindal Pipes Limited has in-house laboratory to undertake various testing and inspections during the stages of manufacturing.

QUALITY POLICY

Consistent with the group purpose, we are committed to create value for all our stakeholders by continuously improving the effectiveness of Quality System and Process through innovations, involving all our employees.

We shall constantly strive to improve the quality of lives of the communities it serves through excellence in all facets of its activities. Our objectives shall be to:

A) Produce and deliver products as per customers' expectations, conforming to national/international standards.

B) Enhance the knowledge and skills of employees for effective implementation of Quality Management System (QMS).

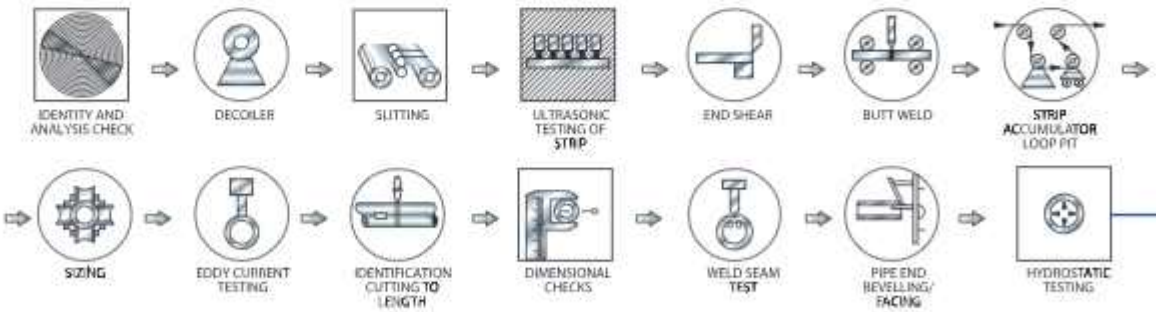
Rev. No 3:28-09-07

Raghav Jindal
Managing Director

Inspection Agencies

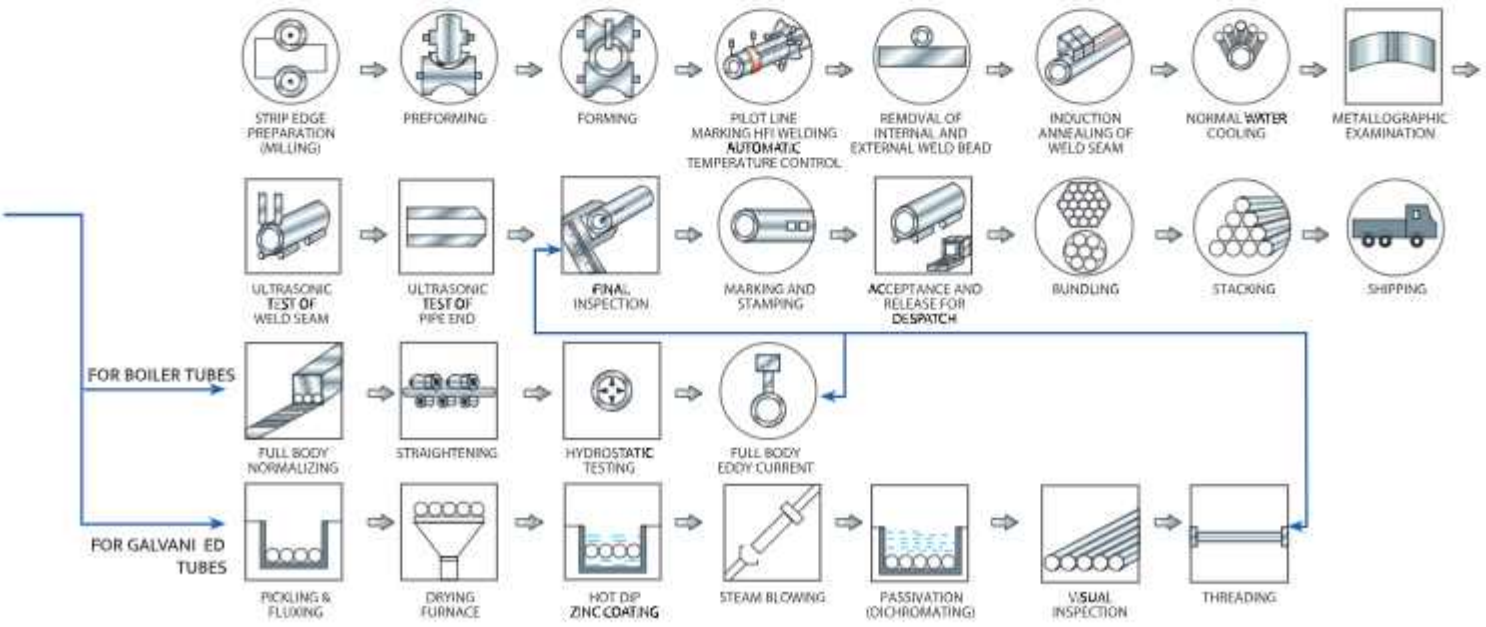
TPL	INTERTEK
DGS & D	ICS
NTPC	IRS
EIL	PDIL
SGS	BVQS
RITES	QUEST
DNV GL	TUV SUD
ABS	TUV NORD
HMPL	LRIS

Manufacturing and Testing Flow Diagram of High Frequency Induction Welded/Electric Resistance Welded Black and Galvanized Pipes/Tubes



Application & Specifications

Oil & Gas Sector	API IS/ISO	:5L : 3183
Automotive Industry	BS IS	: 6323 (Pt-V) : 3601, 3074
Hydrocarbon & Process Industry	ASTM BS IS	: A-53 : 3603 : 6286
Boiler, Heat Exchanger Superheater, Air Heater & Condenser	ASTM BS IS	: A-178, A-214, A-333, A-334 : 3059 (P-I & P-II), 6323 (Pt-V) : 2416 (Pt-IV)
Railways	IS RDSO	: 1239 (Pt-I), 1161 : ETI/ CHE/ II
Mechanical, Structural & General Engineering	IS BS	: 1161, 3601, 4923, 9295 : 6323 (Pt-V)
Water, Gas & Sewage	IS BS DIN ISO	: 3589, 1239 (Pt-I) : 1387 : 2440, 2441 : 65
Water Well	IS	: 4270



BLACK & GALVANIZED ISI ERW STEEL TUBES CONFORMING TO IS:1239 (Pt-1) Equivalent to BS:1387

SERIES					LIGHT			MEDIUM					HEAVY				
NOMINAL BORE		O.D.	OUTSIDE DIA.		W. T.	WEIGHT		OUTSIDE DIA.		W. T.	WEIGHT		OUTSIDE DIA.		W. T.	WEIGHT	
INCH	mm	mm	MIN. (mm)	MAX. (mm)	mm	P/E Kg/m	S/S Kg/m	MIN. (mm)	MAX. (mm)	mm	P/E Kg/m	S/S Kg/m	MIN. (mm)	MAX. (mm)	mm	P/E Kg/m	S/S Kg/m
1/2	15	21.3	21.0	21.4	2.0	0.947	0.956	21.0	21.8	2.6	1.21	1.22	21.0	21.8	3.2	1.44	1.45
3/4	20	26.9	26.4	26.9	2.3	1.38	1.39	26.5	27.3	2.6	1.56	1.57	26.5	27.3	3.2	1.87	1.88
1	25	33.7	33.2	33.8	2.6	1.98	2.00	33.3	34.2	3.2	2.41	2.43	33.3	34.2	4.0	2.93	2.95
1 1/4	32	42.4	41.9	42.5	2.6	2.54	2.57	42.0	42.9	3.2	3.10	3.13	42.0	42.9	4.0	3.79	3.82
1 1/2	40	48.3	47.8	48.4	2.9	3.23	3.27	47.9	48.8	3.2	3.56	3.60	47.9	48.8	4.0	4.37	4.41
2	50	60.3	59.6	60.2	2.9	4.08	4.15	59.7	60.8	3.6	5.03	5.10	59.7	60.8	4.5	6.19	6.26
2 1/2	65	76.1	75.2	76.0	3.2	5.71	5.83	75.3	76.6	3.6	6.42	6.54	75.3	76.6	4.5	7.93	8.05
3	80	88.9	87.9	88.7	3.2	6.72	6.89	88.0	89.5	4.0	8.36	8.53	88.0	89.5	4.8	9.90	10.10
4	90	101.6	-	-	3.6	8.70	-	-	-	4.0	9.63	-	-	-	4.8	11.5	-
4	100	114.3	113.0	113.9	3.6	9.75	10.00	113.1	115.0	4.5	12.20	12.50	113.1	115.0	5.4	14.50	14.80
5	125	139.7	-	-	4.5	15.00	-	138.5	140.8	4.8	15.90	16.40	138.5	140.8	5.4	17.90	18.40
6	150	165.1	-	-	4.5	17.80	-	163.9	166.5	4.8	18.90	19.50	163.9	166.5	15.4	21.30	21.90

NOTE:
(I) IS:1239 & BS:1387 cover sizes upto 100 mm NB all series and 125 & 150 mm NB medium & heavy series, plain end and screwed & socketed ends.
(II) Hydro test Pressure - 5 MPa

STRUCTURAL TUBES CONFORMING TO IS:1161

NB mm (1)	OD mm (2)	Thk mm (3)	Mass kg/m (4)
	21.3	2	0.952
15	21.3	2.6	1.2
	21.3	3.2	1.43
	26.9	2.3	1.4
20	26.9	2.6	1.56
	26.9	3.2	1.87
	33.7	2.6	1.99
25	33.7	3.2	2.41
	33.7	4	2.93
	41.4	2.6	2.55
32	42.4	3.2	3.09
	42.4	4	3.79
	48.3	2.9	325
40	48.3	3.2	356
	48.3	4	4.37
	60.3	2.9	4.11
50	60.3	3.6	5.03
	60.3	4.5	6.19
	76.1	2.9	5.34
65	76.1	3.6	644
	76.1	4.5	7.95
	88.9	3.2	676
80	88.9	4	8.38
	88.9	4.8	9.00
	101.6	3.6	8.70
90	L01.6	4	9.63
	101.6	4.8	11.46
	1 143	3.6	9.83
100	114. 3	4.5	12.19
	114.3	5.4	14.50
	127	4.5	13.59
110	127	4.8	14.47
	127	5.4	16.19
	139.7	4.5	15
125	139.7	4.8	15.97
	139.7	5.4	17.89
	152.4	4.5	16.41
135	152.4	4.8	17.47
	152.4	5.4	19.58
	165.1	4.5	17.82
	165.1	4.8	18.98
150	165.1	5.4	21.27
	165.1	5.9	23.2
	165.1	6.3	24.67
	165.1	8	30.99
	168.3	4.5	18.18
	168.3	4.8	19.35
	168.3	5.4	21.69
150	168.3	6.3	25.17
	168.3	8	31.63
	168.3	10	39.04
	193.7	4.8	22.36
	193.7	5.4	25.08
	193.7	5.9	27.33
175	193.7	63	29.12
	193.7	8	36.64
	193.7	10	45.3
	193.7	12	53.77
	219	4.8	25.37
	219	5.6	29.49
	219	5.9	31.02
200	219	6.3	33.06
	219	8	41.65
	219	10	51.57
	219	12	61.29
	244.5	5.9	34.72
225	244.5	6.3	37.01
	244.5	8	46.66
	244.5	10	57.83
	273	5.9	38.86
	273	6.3	41.44
250	273	8	52.28
	273	10	64.86
	273	12	77.24
	323.9	6.3	49.34
	323.9	8	62.32
300	323.9	10	77.41
	323.9	12	92.30
	355.6	8	68.58
350	355.6	10	85.23
	355.6	12	101.68

ISI ERW PIPES FOR WATER & SEWAGE CONFORMING TO IS:3589 & WATER WELL CASING CONFORMING TO IS:4270

SIZE		CONVENTIONAL MASS PER UNIT LENGTH (Kg/m)																	
NB	OD	WALL THICKNESS (mm)																	
mm	mm	3.20	3.60	4.00	4.30	4.65	4.85	5.00	5.20	5.40	5.60	6.00	6.35	6.40	7.00	7.10	8.00	9.50	10.00
100	114.30	-	-	-	-	-	-	13.48	-	14.50	-	16.02	-	-	-	-	-	-	-
125	141.30	-	-	-	-	-	-	16.81	-	18.10	-	20.02	-	-	-	-	-	-	-
150	168.30	13.03	14.62	16.21	17.39	18.77	19.55	20.13	20.91	21.69	-	24.01	25.36	25.55	27.84	28.22	-	-	-
175	193.70	-	16.88	18.71	20.08	21.68	22.59	23.27	24.17	25.07	-	27.77	29.34	29.56	32.23	32.67	36.63	-	-
200	219.10	-	19.13	21.22	22.78	24.59	25.62	26.40	27.43	28.46	29.48	31.53	33.31	33.57	36.61	37.12	41.65	49.10	51.56
250	273.10	-	23.93	26.54	28.50	30.78	32.08	33.06	34.35	35.65	36.94	39.52	41.77	42.09	45.93	46.57	52.30	61.75	64.88
300	323.90	-	-	31.55	33.89	36.61	38.16	39.32	40.87	42.41	43.96	47.04	49.73	50.11	54.70	55.47	62.32	73.65	77.41
350	355.60	-	-	34.68	37.25	40.24	41.95	43.23	44.93	46.63	48.33	51.73	54.69	55.11	60.18	61.02	68.57	81.08	85.22

NOTE: (I) IS:4270 covers Pipe size 100 mm to 350 mm NB & IS:3589 covers Pipe size 168.30 mm O.D. to 355.6 mm O.D.
(II) IS:4270 covers Wall Thickness upto 10 mm.
(III) Other thickness may be supplied as per agreement.
(IV) Max. Hydro Test Pressure IS:3589 -5 MPa, IS:4270 -7 MPa.

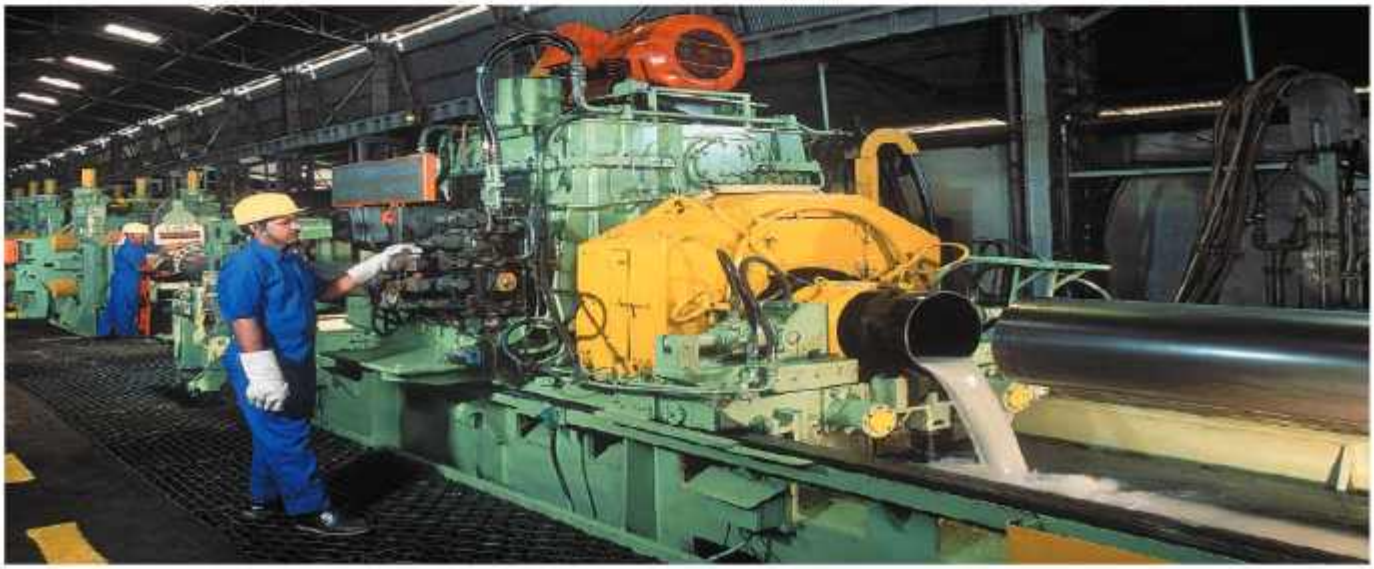
ERW LINE PIPES CONFORMING TO API 5L, IS/ ISO: 3183 & ASTM A 53

Size	Specified Outside Diameter	Specified Wall Thickness	Plain-end Weight per Unit Length	Calculated Inside Diameter	Minimum Test Pressure (kPa x 100)									
	D (mm)	t (mm)	Wpe (Kg/m)	d (mm)	Grade A25	Grade A	Grade B	Grade X-42	Grade X-46	Grade X-52	Grade X-56	Grade X-60	Grade X-65	Grade X-70
3 1/2"	88.9	3.2	6.76	82.5	69	91	106	125	138	156	168	179	194	205
	88.9	3.6	7.57	81.7	69	102	119	141	156	175	190	201	205	205
	88.9	4.0	8.37	80.9	69	113	132	157	173	194	205	205	205	205
	88.9	4.4	9.17	80.1	69	125	146	172	190	205	205	205	205	205
	88.9	4.8	9.95	79.3	69	136	159	188	205	205	205	205	205	205
	88.9	5.5	11.31	77.9	69	156	170	205	205	205	205	205	205	205
4"	101.6	3.2	7.76	95.2	-	79	93	110	121	136	147	157	170	183
	101.6	3.6	8.70	94.4	55	89	104	123	136	153	166	177	191	205
	101.6	4.0	9.63	93.6	-	99	116	137	151	170	184	196	205	205
	101.6	4.4	10.55	92.8	69	109	127	151	166	187	202	205	205	205
	101.6	4.8	11.46	92	83	119	139	164	181	204	205	205	205	205
	101.6	5.7	13.48	90.2	83	141	165	195	205	205	205	205	205	205
	101.6	6.4	15.02	88.8	-	159	185	205	205	205	205	205	205	205
4 1/2"	114.3	3.2	8.77	107.9	55	71	82	97	108	121	131	139	151	163
	114.3	3.6	9.83	107.1	-	79	93	110	121	136	147	157	170	183
	114.3	4.0	10.88	106.3	69	88	103	122	134	151	164	174	189	204
	114.3	4.4	11.92	105.5	-	97	113	134	148	166	180	192	205	205
	114.3	4.8	12.96	104.7	83	106	124	146	161	181	197	205	205	205
	114.3	5.2	13.99	103.9	-	115	134	158	175	197	205	205	205	205
	114.3	5.6	15.01	103.1	83	123	144	170	188	205	205	205	205	205
	114.3	6.0	16.02	102.3	83	132	154	183	202	205	205	205	205	205
	114.3	6.4	17.03	101.5	-	141	165	195	205	205	205	205	205	205
5 9/16"	141.3	3.2	10.90	134.9	46	57	67	79	87	98	106	113	122	132
	141.3	4.0	13.54	133.3	58	71	83	99	109	122	132	141	153	165
	141.3	4.8	16.16	131.7	70	86	100	118	130	147	159	169	183	198
	141.3	5.6	18.74	130.1	81	100	117	138	152	171	186	197	205	205
	141.3	6.6	21.92	128.1	83	118	137	163	179	202	205	205	205	205
6 5/8"	168.3	3.2	13.03	161.9	-	48	56	83	91	103	111	118	128	138
	168.3	3.6	14.62	161.1	-	54	63	93	103	116	125	133	144	156
	168.3	4.0	16.21	160.3	-	60	70	103	114	128	139	148	160	173
	168.3	4.4	17.78	159.5	-	66	77	114	125	141	153	163	176	190
	168.3	4.8	19.35	158.7	-	72	84	124	137	154	167	178	193	205
	168.3	5.2	20.91	157.9	-	78	91	134	148	167	181	192	205	205
	168.3	5.6	22.47	157.1	-	84	98	145	160	180	195	205	205	205
	168.3	6.4	25.55	155.5	-	96	112	165	183	205	205	205	205	205
	168.3	7.1	28.22	154.1	-	106	124	184	202	205	205	205	205	205
8 5/8"	219.1	4.0	21.22	211.1	-	46	54	79	88	99	107	114	123	133
	219.1	4.8	25.37	209.5	-	55	64	95	105	118	128	136	148	159
	219.1	5.2	27.43	208.7	-	60	70	103	114	128	139	148	160	173
	219.1	5.6	29.48	207.9	-	64	75	111	123	138	150	159	173	186
	219.1	6.4	33.57	206.3	-	74	86	127	140	158	171	182	197	205
	219.1	7.0	36.61	205.1	-	81	94	139	153	173	187	199	205	205
	219.1	7.9	41.14	203.3	-	91	106	157	173	195	205	205	205	205
	219.1	8.2	42.65	202.7	-	94	110	163	180	202	205	205	205	205
	219.1	8.7	45.14	201.7	-	100	117	173	191	205	205	205	205	205
	219.1	9.5	49.10	200.1	-	109	127	189	205	205	205	205	205	205

ERW Line Pipes conforming to API 5L, IS/ISO : 3183 & ASTM A 53

Dimensions, Weights and Test Pressures for Sizes 3 1/2" through 14" (SI Units)

Size	Specified Outside Diameter	Specified Wall Thickness	Plain-end Weight per Unit Length	Calculated Inside Diameter	Minimum Test Pressure (kPa x 100)									
	D (mm)	t (mm)	Wpe (Kg/m)	d (mm)	Grade A25	Grade A	Grade B	Grade X-42	Grade X-46	Grade X-52	Grade X-56	Grade X-60	Grade X-65	Grade X-70
10 3/4"	273.1	4.0	26.54	265.1	-	37	43	72	80	90	97	103	112	121
	273.1	4.8	31.76	263.5	-	44	52	87	96	108	117	124	134	145
	273.1	5.2	34.35	262.7	-	48	56	94	104	117	126	134	146	157
	273.1	5.6	36.94	261.9	-	52	60	101	112	125	136	145	157	169
	273.1	6.4	42.09	260.3	-	59	69	116	127	143	155	165	179	193
	273.1	7.1	46.57	258.9	-	66	76	128	141	159	172	183	199	205
	273.1	7.8	51.03	257.5	-	72	84	141	155	175	189	202	205	205
	273.1	8.7	56.72	255.7	-	80	94	157	173	195	205	205	205	205
	273.1	9.3	60.50	254.5	-	86	100	168	185	205	205	205	205	205
12 3/4"	323.9	4.4	34.67	315.1	-	34	40	67	74	83	90	96	104	112
	323.9	4.8	37.77	314.3	-	37	44	73	81	91	98	105	113	122
	323.9	5.2	40.87	313.5	-	40	47	79	87	98	106	113	123	132
	323.9	5.6	43.96	312.7	-	44	51	85	94	106	115	122	132	143
	323.9	6.4	50.11	311.1	-	50	58	97	107	121	131	139	151	163
	323.9	7.1	55.47	309.7	-	55	64	108	119	134	145	155	168	181
	323.9	7.9	61.56	308.1	-	61	72	120	133	149	162	172	187	201
	323.9	8.4	65.35	307.1	-	65	76	128	141	159	172	183	198	205
	323.9	8.7	67.62	306.5	-	68	79	132	146	164	178	189	205	205
	323.9	9.5	73.65	304.9	-	74	86	145	160	179	194	205	205	205
14"	355.6	4.8	41.52	346.0	-	34	40	67	73	83	89	95	103	111
	355.6	5.2	44.93	345.2	-	37	43	72	80	89	97	103	112	121
	355.6	5.3	45.78	345.0	-	38	44	74	81	91	99	105	114	123
	355.6	5.6	48.33	344.4	-	40	46	78	86	96	104	111	121	130
	355.6	6.4	55.11	342.8	-	45	53	89	98	110	119	127	138	148
	355.6	7.1	61.02	341.4	-	50	59	98	109	122	132	141	153	165
	355.6	7.9	67.74	339.8	-	56	65	110	121	136	147	156	170	183
	355.6	8.7	74.42	338.2	-	62	72	121	133	150	162	173	187	202
	355.6	9.5	81.08	336.6	-	67	79	132	145	163	177	188	204	205



API CASING

Dimensions, Weights and End Finish

Outside Diameter		Nom. Wt.	Wall Thickness		Type of finish Grade		COUPLING OD	THREAD TYPES	
In.	mm	lb/ft	Inch	mm	J-55 K-55	N-80 Type-1,Q	mm	STC LTC	BTC
4 1/2	114.30	9.50	0.205	5.21	P	-	127.00	8	-
4 1/2	114.30	10.50	0.224	5.69	P	-	127.00	8	5
4 1/2	114.30	11.60	0.250	6.35	P	PLB	127.00	8	5
5 1/2	139.70	14.00	0.244	6.20	P	-	153.67	8	-
5 1/2	139.70	15.50	0.275	6.98	P	-	153.67	8	5
5 1/2	139.70	17.00	0.304	7.72	P	PLB	153.67	8	5
6 5/8	168.28	20.00	0.288	7.32	P	-	187.71	8	5
6 5/8	168.28	24.00	0.352	8.94	P	PLB	187.71	8	5
7 5/8	193.68	24.00	0.300	7.62	-	-	215.90	8	-
7 5/8	193.68	26.40	0.328	8.33	P	PLB	215.90	8	5
7 5/8	193.68	29.70	0.375	9.52	-	PLB	215.90	8	5

REMARK : P = Plain End

API TUBING

Dimensions, Weights and End Finish

Outside Diameter		Nominal Weight		Wall Thickness		COUPLING OD		THREAD TYPES		TYPES OF END FINISH	
		Non Upset T & C	Non Upset T & C			NUE	EUE	API Round		Grade	
								NUE	EUE		
In.	mm	lb/ft	lb/ft	In	mm	mm	mm	TPI	TPI	K-55 J-55	N-80
2 7/8	73.02	6.4	6.5	0.217	5.51	88.9	93.17	10	8	P	P

REMARK : P = Plain End

ERW Boiler, Super Heater, Heat Exchanger, Condenser & Air Heater Tubes & Pipes

Conforming to BS 3059(Pt-I & II), BS 6323 (Pt-V), ASTM, A-178, A-214, A-333, A-334, IS 2416 (Pt-IV).

Out side Diameter (mm)	Conventional Mass per Unit length in kg/m for a Tube Thickness in mm of:																								
	2.03	2.34	2.64	2.95	3.25	3.38	3.56	3.66	3.68	3.91	4.06	4.50	5.16	5.49	5.74	6.02	6.35	6.55	7.04	7.11	7.80	7.92	8.18	8.38	9.27	9.52
33.4 / 33.7	1.59	1.81	2.02	2.24	2.44	2.53	-	2.71	-	-	2.97	3.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38.0	1.80	2.06	2.30	2.55	2.79	-	-	3.10	-	-	3.40	3.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42.2 / 42.4	-	2.31	2.59	2.87	3.14	-	3.41	3.50	-	-	3.84	4.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44.5	-	2.43	2.73	3.02	3.31	-	-	3.69	-	-	4.05	4.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48.3	-	2.65	2.97	3.30	3.61	-	-	4.03	4.05	-	4.43	4.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50.8	-	2.80	3.14	3.48	3.81	-	-	4.25	-	-	4.68	5.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-
57.2	-	-	3.55	3.95	4.32	-	-	4.83	-	-	5.32	5.85	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60.3	-	-	3.75	4.17	4.57	-	-	5.11	-	5.44	5.63	6.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63.5	-	-	3.96	4.40	4.83	-	-	5.40	-	-	5.85	6.55	-	-	-	-	-	-	-	-	-	-	-	-	-	-
73.0	-	-	-	-	-	-	-	-	-	-	-	-	8.63	-	-	-	-	-	-	-	-	-	-	-	-	-
76.1	-	-	-	5.32	5.84	-	-	6.54	-	-	7.21	7.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-
88.9	-	-	-	-	6.86	-	-	7.69	-	-	8.49	9.37	-	11.29	-	-	-	-	-	-	-	-	-	-	-	-
101.6	-	-	-	-	-	-	-	8.84	-	-	9.77	10.78	-	-	13.57	-	-	-	-	-	-	-	-	-	-	-
114.3	-	-	-	-	-	-	-	-	-	-	11.04	12.18	-	-	-	16.07	-	-	-	-	-	-	-	-	-	-
127.0	-	-	-	-	-	-	-	-	-	-	-	13.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-
141.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.77	-	-	-	-	-	-	-	-
168.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28.26	-	-	-	-	-	-
219.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33.31	-	36.31	-	-	-	42.55	-	-	-
273.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41.75	-	-	-	51.01	-	-	-	60.29	-
323.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49.71	-	-	-	-	-	-	65.18	-	73.78
355.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54.69	-	-	-	-	67.90	-	-	-	81.25

NOTE: (i) Leak Test - Hydro Test / NDT test as per specification requirements.

TOLERANCE ON OUTSIDE DIAMETER, WALL THICKNESS, WEIGHT AND LENGTH OF PIPE

SPEC	OUT SIDE DIAMETER		WALL THICKNESS	WEIGHT	LENGTH							
	PIPE BODY	PIPE END			NORMAL		Avg. (MIN)		MINIMUM		MAXIMUM	
					ft	mtr	ft	mtr	ft	mtr	ft	mtr
API 5L & IS/ISO:3183	<2-3/8" (60.3mm) OD = + 0.40mm, - 0.80mm ⩾ 2-3/8" (60.3mm) OD = ±0.0075 D	< 2 3/8" (60.8mm): + 0.4mm, - 0.8mm > 2 3/8" (60.8mm) to ⩽ 6 5/8" (168.3mm) + 1.60mm, - 0.40mm > 6 5/8" (168.3mm) ± 0.005 D (but max.of ±1.6mm)	⩽ 5.0mm WT ± 0.5mm > 5.0mm WT to < 15.0mm WT ± 0.1t ⩾ 15.0mm WT ± 1.5mm	Single length of pipe + 10%, - 3.5% Car loades - 40,000 lb (18,144 Kg.) or more - 1.75%, less - 3.5%	20 40	6.0 12.0	17.5 35	5.3 10.7	9.0 14.0	2.74 4.27	22.5 45.0	6.86 13.72
IS:1239 & BS:1387	As per table	N.A.	Light - 8% + not limited Medium & Heavy - 10%, + not limited	Carload 10 MT Light +7.5%, -5%, M & H ± 7.5% Single Tube Light -8% + 10% Med & Heavy ± 10%	- -	6.0 12.0	- -	- -	- -	4.0 7.0	- -	7.0 10.0
					Tolarance - Exact length - + 6, -0mm Approximate length ± 150mm							
IS:3589	Upto 508mm OD = + 0.75%	N.A.	± 10%	Carload 10MT and above ± 7.5%	- -	6.0 12.0	- -	- -	- -	4.00 7.00	- -	7.0 14.0
					Tolerance - For exact length + 10, -0mm							
IS:4270	± 1.0%	-	Upto 406.4mm OD = +15% - 12.5%	+ 10% - 8%	-	6.0	-	-	-	4.00	-	7.0
IS:4923	± 1.0% (±0.5mm min.)	N.A	± 10% Excluding Weld Area	Carload 10MT : ±7.5% Single Tube +10%, -8%	Tolarance - Exect Length : ±6mm							
IS:1161	Upto 48.3mm OD + 0.4mm, -0.8mm Over 48.3mm ± 1.0%	N.A.	-10%, + not limited	Carload 10 MT ± 7.5 % Single Tube ±10%	-	6.0	-	-	-	4.0	-	7.0
					Tolarance - Exact length - as agreed Random Length 4 to 7 mtr.							
IS:9295	± 0.8%	N.A.	±10%	Single Length : ±10% Carload per 10 tonnes : ±7.5%	-	6.0	-	-	-	4.0	-	7.0
					Tolarance - Exact length : +6mm, -0							
IS:1914 Pt-IV	+ 0, -1%	N.A.	+ 10%, -5%	N.A.	Tolarance - Upto 9 mtr +3, -0mm Above 9 mtr +6, -0mm							
IS:2416 Pt-IV	± 0.75% (± 0.30mm min.)	N.A.	+ 10%, -5%	N.A.	Tolarance - Upto 9 mtr +3, -0mm Above 9 mtr +6, -0mm							
IS:11714 Pt-III	As per table	N.A.	+ 18%, -0	+ 10%, -0	Tolarance - Below 50mm + 3.2, -0mm 50mm & above + 4.8, -0mm							
BS:3059 Pt-I	± 0.75% (± 0.30mm min.)	N.A.	Upto 3.25mm ± 10% Over 3.25mm ± 7.5%	N.A.	Tolarance - Upto 6 mtr +6, -0mm Above 6 mtr 1.5mm will increase for every 3 mtr increase of length. (12mm max.)							
BS:3059 Pt-II	± 0.75% (± 0.30mm min.)	N.A. ±	10% (excluding weld area)	N.A.								
BS:6323 Pt-V	As per table	N.A.	Less than 3mm + 10% 3mm & above + 8%	N.A.	-	-	-	-	-	3	-	12
					Tolarance - Upto 0.5 mtr +2, -0mm 0.5 to 2 mtr +3, -0mm ; 2 to 5 mtr +5, -0mm ; 5 to 7 mtr + 10, -0mm ; Above 7 mtr as agreed							
ASTM A-53	1-1/2 NPS & under = ± 0.4mm 2" NPS and over = ±1.0%	N.A.	At any	±10%	20 40	6.0 12.0	- 35	- 10.6	16 22	4.88 6.71	22 -	6.71 -

SPEC	OUT SIDE DIAMETER		WALL THICKNESS	WEIGHT	LENGTH
	PIPE BODY	PIPE END			NORMAL / Avg. (MIN) / MINIMUM / MAXIMUM (ft | mtr)
ASTM- A178 & A214	<1" (25.4mm): ± 0.10mm 1" (25.4mm) to 1-1/2" (38.1mm) Incl.: ± 0.15mm > 1-1/2" (38.1mm) to 2" (50.8mm) excl.: ± 0.20mm 2" (50.8mm) to 2-1/2" (63.5mm) excl.: ± 0.25mm 2-1/2" (63.5mm) to 3" (76.2mm) excl.: ± 0.30mm 3" (76.2mm) to 4" (101.6mm) Incl.: ± 0.38mm > 4" (101.6mm) to 7-1/2" (190.5mm) Incl.: + 0.38mm, - 0.64mm > 7-1/2" (190.5mm)to 9" (228.6mm) Incl.: +0.38mm, - 1.14mm	N.A.	+ 18%, -0	+ 10%, -0	< 2" (50.8mm) O.D. : +3mm, - 0 ≥ 2" (50.8mm) O.D. : +5mm, - 0
ASTM- A333 & A334	1/8" to 1-1/2" Incl.: + 0.40mm, - 0.80mm over 1-1/2" to 4" Incl.: ± 0.80mm over 4" to 8" Incl.: + 1.60mm, - 0.80mm over 8" to 18" Incl.: + 2.40mm, - 0.80mm	N.A.	At any point: -12.5% (max)	Single pipe NPS 12 & under: +10%, - 3.5% Single pipe over NPS 12: +10%, - 5%	20 | 6.0 | - | - | 16 | 4.88 | 22 | 6.71 40 | 12.0 | 35 | 10.67 | 22 | 6.71 | - | - Specified length: + 6mm, - 0
API 5 CT	< 4-1/2" (114.3mm) O.D.:± 0.031" (0.79mm) ≥ 4-1/2" (114.3mm) O.D.: +1% D, - 0.5% D	N.A.	+ not limited - 12.50%	Single Length: +6.5%, - 3.5% Carload ≥ 40,000 lbs (18,144 kgs): - 1.75% Carload < 40,000 lbs (18,144 kgs): -3.5%	Range 1 / Range 2 / Range 3 Casing ft.: 16-25 / 25-34 / 34-48 mtrs.: (4.88-7.62) / (7.62-10.36) / (10.36-14.63) Tubing ft.: 20-24 / 28-32 / 38-42 mtrs.: (6.10-7.32) / (8.53-9.75) / (11.58-12.80) Pup joints 2,3,4,6,8,10 & 12 ft. tolerance : ±3"
IBR	± 0.75% (But min 0.30mm)	N.A.	for grade WC1: ≤ 3.2mm: ± 10% > 3.2mm : ± 7.5% for grade WC2 & WC3: ± 10%	N.A.	tolerance - Upto & incl. 6 mm, - 0 and above 6 mtrs.: 1.5mm will incesase for every 3 mtr increase of length. (12mm max.)
RDSO ETI/OHE/11	33.7mm OD + 0.8, - 1.0mm 38.0mm OD + 0.32,- 0.2mm 49.0mm OD + 0.32,- 0.2mm	28.4 (Std. ID) & 27.70 (Min. ID) 29.9 (Std. ID) & 29.58 (Min. ID) 40.9 (Std. ID) & 40.58 (Min. ID)	-0.31mm, + not limited -0.35mm, + not limited -0.35mm, + not limited	N.A. N.A. N.A.	Tolarance - As agreed

CHEMICAL COMPOSITION & MECHANICAL PROPERTIES

Specification	Grade	Chemical Composition (%) Max.							Mechanical Properties								% Elongation e (min)	Impact Energy J (Ft.lb) (min.)
		C	Mn	P	S	Si	C.E.		Yield Strength				Tensile Strength					
							PCM	IIW	Min		Max		Min		Max			
									PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa		
API 5L PSL - 1 & IS/ISO:3183 PSL - 1	L210 or A	0.22	0.90	0.030	0.030	-	-	-	30,500	210	-	-	48,600	335	-	-	U.S Customary Unit $e = 625{,}000\ A^{0.2} / U^{0.9}$	-
	L245 or B	0.26	1.20	0.030	0.030	-	-	-	35,500	245	-	-	60,200	415	-	-	S.I Unit $e = 1940\ A^{0.2} / U^{0.9}$	-
	L290 or X-42	0.26	1.30	0.030	0.030	-	-	-	42,100	290	-	-	60,200	415	-	-	Legend :	-
	L320 or X-46	0.26	1.40	0.030	0.030	-	-	-	46,400	320	-	-	63,100	435	-	-	e = Specified min. elongation	-
	L360 or X-52	0.26	1.40	0.030	0.030	-	-	-	52,200	360	-	-	66,700	460	-	-	A= Tensile test piece cross sectional area.	-
	L390 or X-56	0.26	1.40	0.030	0.030	-	-	-	56,600	390	-	-	71,100	490	-	-		-
	L415 or X-60	0.26	1.40	0.030	0.030	-	-	-	60,200	415	-	-	75,400	520	-	-		-
	L450 or X-65	0.26	1.45	0.030	0.030	-	-	-	65,300	450	-	-	77,600	535	-	-	U= Specified min. tensile strength.	-
	L485 or X-70	0.26	1.65	0.030	0.030	-	-	-	70,300	485	-	-	82,700	570	-	-		-
API 5L PSL - 2 & IS/ISO:3183 PSL - 2	L245M or BM	0.22	1.20	0.025	0.015	0.45	0.25	0.43	35,500	245	65,300	450	60,200	415	110,200	760		27 (20)
	L290M or X42M	0.22	1.30	0.025	0.015	0.45	0.25	0.43	42,100	290	71,800	495	60,200	415	110,200	760		27 (20)
	L320M or X46M	0.22	1.30	0.025	0.015	0.45	0.25	0.43	46,400	320	76100	525	63,100	435	110,200	760		27 (20)
	L360M or X52M	0.22	1.40	0.025	0.015	0.45	0.25	0.43	52,200	360	76,900	530	66,700	460	110,200	760		27 (20)
	L390M or X56M	0.22	1.40	0.025	0.015	0.45	0.25	0.43	56,600	390	79,000	545	71,100	490	110,200	760		27 (20)
	L415M or X60M	0.12	1.60	0.025	0.015	0.45	0.25	0.43	60,200	415	81,900	565	75,400	520	110,200	760		27 (20)
	L450M or X65M	0.12	1.60	0.025	0.015	0.45	0.25	0.43	65,300	450	87,000	600	77,600	535	110,200	760		27 (20)
	L485M or X70M	0.12	1.70	0.025	0.015	0.45	0.25	0.43	70,300	485	92,100	635	82,700	570	110,200	760		27 (20)
IS:1239	-	0.20	1.30	0.040	0.040	-	-	-	-	-	-	-	-	320	-	-	12 UPTO 25 mm NB 20 ABOVE 25 mm	-
IS:3589	Fe 330	0.16	1.20	0.040	0.040	-	-	-	-	195	-	-	-	330	-	-	20	-
	Fe 410	0.20	1.30	0.040	0.040	-	-	0.45	-	235	-	-	-	410	-	-	18	-
	Fe 450	0.25	1.20	0.040	0.040	-	-	0.45	-	275	-	-	-	450	-	-	15 GL= $5.65\sqrt{Area}$	
IS:1161	YST-210	0.12	0.60	0.040	0.040	-	-	-	-	210	-	-	-	330	-	-	20	Distance between plates For weld- 75%, 85%, 85% For parent- 60%, 75%, 75% N.A.
	YST-240	0.16	1.20	0.040	0.040	-	-	-	-	240	-	-	-	410	-	-	17	
	YST-310	0.25	1.30	0.040	0.040	-	-	0.45	-	310	-	-	-	450	-	-	14 GL= $5.65\sqrt{Area}$	
IS:4270	Fe410	-	-	0.040	0.040	-	-	-	-	235	-	-	-	410	-	-	16	Hardness= 230 HV max
	Fe 450	-	-	0.040	0.040	-	-	-	-	275	-	-	-	450	-	-	13 GL= $5.65\sqrt{Area}$	
IS:4923	YST-210	-	-	0.050	0.050	-	-	-	-	210	-	-	-	330	-	-	upto 25.4 above 25.4	-
	YST-240	-	-	0.050	0.050	-	-	-	-	240	-	-	-	410	-	-	12 20	
	YST-310	-	-	0.050	0.050	-	-	-	-	310	-	-	-	450	-	-	10 15	
																	8 10 GL= $5.65\sqrt{Area}$	
IS:9295	YST-210	-	-	0.06	0.06	-	-	-	-	210	-	-	-	330	-	-	20	Drift test = minimum increase in OD after expansion shall be 2.5% Flattering distance between plates for weld = 75% and for parent = 60%
	YST-240	-	-	0.06	0.06	-	-	-	-	240	-	-	-	410	-	-	18	
	YST-310	-	-	0.06	0.06	-	-	-	-	310	-	-	-	450	-	-	15 GL= $5.65\sqrt{Area}$	

CHEMICAL COMPOSITION & MECHANICAL PROPERTIES

Specification	Type	Grade	CHEMICAL COMPOSITION								MECHANICAL PROPERTIES								Remarks Impact / Hardness
											YIELD STRENGTH				TENSILE STRENGTH				% Elongation (mln) e
			C		Mn		P	S	Si		Min		Max		Min		Max		
			Min	Max	Min	Max	Max	Max	Min	Max	PSI	MPa	PSI	MPa	PSI	MPa	PSI	MPa	
IS:2416 Pt-IV	ERW	310	0.08	0.25	0.35	1.40	0.050	0.050	-	0.35	-	152	-	-	-	304	-	402	(100 - RM / 9.81) /C C=2.20 RM = Measured T.S.
		360	0.08	0.25	0.35	1.40	0.050	0.050	-	0.35	-	177	-	-	-	353	-	451	
		440	0.08	0.25	0.35	1.40	0.050	0.050	-	0.35	-	201	-	-	-	402	-	500	
IS:11714 Pt-III	ERW	-	0.06	0.18	0.27	0.63	0.035	0.035	-	0.25	-	-	-	-	-	-	-	-	77 HRB (Max)
IS:1914 Pt-IV	ERW	320	0.08	0.25	0.35	1.40	0.050	0.050	-	0.35	-	176	-	-	-	320	-	480	(100 - RM / 9.81) /C C=2.20 RM = Measured T.S.
		360	0.08	0.25	0.35	1.40	0.050	0.050	-	0.35	-	198	-	-	-	360	-	500	
		440	0.08	0.25	0.35	1.40	0.050	0.050	-	0.35	-	242	-	-	-	440	-	580	
BS:1387	ERW	-	-	0.20	-	1.20	0.045	0.045	-	-	-	195	-	-	-	320	-	460	12 UPTO 25 mm NB 20 ABOVE 25 mm
BS:3059 Part-I	ERW	320	-	0.16	0.30	0.70	0.040	0.040	-	0.35	-	195	-	-	-	320	-	480	25
BS:3059 Part-II	ERW	360	-	0.17	0.40	0.80	0.035	0.035	0.10	0.35	-	235	-	-	-	360	-	500	24
		440	0.12	0.18	0.90	1.20	0.035	0.035	0.10	0.35	-	245	-	-	-	480	-	580	21
BS:6323 Part-V	ERW	ERW-1	-	0.13	-	0.60	0.050	0.050	-	-	-	200	-	-	-	300	-	-	D/a <2 0 D/a >20/10
		ERW-2	-	0.16	-	0.70	0.050	0.050	-	-	-	250	-	-	-	340	-	-	10 20
		ERW-3	-	0.20	-	0.90	0.050	0.050	-	0.35	-	300	-	-	-	400	-	-	8 15 7 12
ASTM A-53	ERW	A	-	0.25	-	0.95	0.050	0.045	Cu, Ni, Cr = 0.40 max. Mo= 0.15 max, V= 0.08 max.		30,000	205	-	-	48,000	330	-	-	e= 625,000 $A^{0.2}/U^{0.9}$ at GL 50.8 mm
		B	-	0.30	-	1.20	0.050	0.045			35,000	240	-	-	60,000	415	-	-	
ASTM A-178	ERW	A	0.06	0.18	0.27	0.63	0.035	0.035	-	-	26,000	180	-	-	47,000	325	-	-	35
		C	-	0.35	-	0.80	0.035	0.035	-	-	37,000	255	-	-	60,000	415	-	-	30
ASTM-A-214	ERW	-	-	0.18	0.27	0.63	0.035	0.035	-	-	-	-	-	-	-	-	-	-	72 HRB (Max)
ASTM A333 & A334	ERW	1	-	0.30	0.40	1.06	0.025	0.025	-	-	30,000	205	-	-	55,000	380	-	-	35 14 J
		6	-	0.30	0.29	1.06	0.025	0.025	0.10	-	35,000	240	-	-	60,000	415	-	-	30 85 HRB (Max) 18 J 90 HRB (Max)
IBR	ERW	W C1	-	0.16	0.30	0.70	0.040	0.040	-	0.35	-	195	-	-	-	320	-	480	25
		W C2	-	0.17	0.40	0.80	0.035	0.035	0.10	0.35	-	235	-	-	-	360	-	500	24
		W C3	0.12	0.18	0.90	1.20	0.035	0.035	0.10	0.35	-	245	-	-	-	440	-	580	21
RDSO (ETI/ORE/11)	ERW	YST-310	-	-	-	-	0.060	0.060	-	-	-	310	-	-	-	440	-	-	14 Exp-7.5% fo ID
API 5CT	ERW	J-55	-	-	-	-	0.030	0.030	-	-	-	379	-	552	-	517	-	-	$e=1942.57\frac{A^{0.2}}{U^{0.9}}$ e = Min. elongation A = tensile test piece cross sectional area U = Specified minimum tensile strength(MPa)
		N 80 Type-1	-	-	-	-	0.030	0.030	-	-	-	552	-	758	-	689	-	-	
		N 80 Type-Q	-	-	-	-	0.030	0.030	-	-	-	552	-	758	-	689	-	-	

NOTE: Refer current editions of Relevant Specification for Dimension and Properties data.
Specifications are subject to change without any prior notice.

A= Speciman crosssectional area
U= Specified Min. T.S.

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