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ABOUT CANADA STEEL AND CASING IMPORTS INC

Company Overview & Full Product Range

Canada Steel and Casing Imports Inc. is a trusted global supplier of premium Steel, Stainless Steel and Aluminum products, as a direct distributor for internationally certified mills.

Every product we supply is backed by full mill test certificates, material traceability and compliance with API, ASTM, ASME, ISO and other international standards.

We serve the oil and gas, construction, energy, process and industrial sectors, delivering certified quality materials at competitive prices to any major port in Canada and worldwide.

CERTIFIED QUALITY	DIRECT FROM MILL	GLOBAL SUPPLY	COMPLETE RANGE
Full MTCs on every order	Internationally accredited mills	Any major port worldwide	Carbon, SS, Alloy & Aluminium

Full Product Range

1. Casing and Pipes	13. Reinforcement Steel Rebar (550D)
2. Columns	14. Parallel Flange
3. Angles	15. Sheet Piles
4. I Beams	16. Steel Coils
5. Channels	17. Windmill Plates
6. Rail Track and Crane Rails	18. High-Speed Steel (HSS)
7. Wire Rods and Rounds	19. Plates for Shipbuilding, Railway & Wagon Builders
8. Cut and Bend Bars	20. Plates for Line Pipes of Offshore Platforms
9. Weld Mesh	21. Plates for Earth Moving, Mining & Rotary Equipment
10. Steel Sheet	22. Plates for Dams and Hydro Applications
11. Fabricated Structural	23. Plates for Pre-Engineered Buildings
12. Speed Floor	

Product Applications by Segment

Segment	Products & Description
Energy & Pressure	Boiler & Pressure Vessel Plates. Line Pipe Plates (offshore). Casing & Pipes for oil/gas extraction.
Construction & Civil	Reinforced Steel Rebar 8–40 mm. Cut & Bend Bars. Weld Mesh. Speed Floor joists. Dam & Hydro Plates. PEB Plates.
Heavy Structural	I-Beams, Columns, Angles & Channels. Fabricated Structural (trusses/frames). Windmill Plates (fatigue resistance).
Transport & Machinery	Rail Track & Crane Rails. Shipbuilding/Railway/Wagon Plates. Earthmoving/Mining AR Plates.
Industrial Raw Materials	Steel Coils & Sheet. Wire Rods & Rounds (screws to suspension bridge cables).

1 CASING & TUBING — API 5CT

Oil Country Tubular Goods per API Specification 5CT

Oil country tubular goods (OCTG) conforming to API Specification 5CT. Casing and tubing for oil and gas well drilling, completion and production.

1.1 Casing — Grades, Dimensions & Weight per Foot

Casing available from 4-1/2" to 20" OD. Additional sizes, weights and pipe connections / end finishes available on request.

OD (in)	OD (mm)	Wt (lb/ft)	Wt (kg/m)	Wall (in)	Wall (mm)	ID (in)	Grades Available
4-1/2	114.3	9.50	14.14	0.205	5.21	4.090	H40, J55, K55, N80, L80, C90, T95, P110
4-1/2	114.3	10.50	15.63	0.224	5.69	4.052	J55, K55, N80, L80, C90, T95, P110
4-1/2	114.3	11.60	17.27	0.250	6.35	4.000	J55, K55, N80, L80, P110
4-1/2	114.3	13.50	20.09	0.290	7.37	3.920	J55, N80, L80, P110
5	127.0	11.50	17.12	0.220	5.59	4.560	H40, J55, K55, N80, L80, P110
5	127.0	13.00	19.35	0.253	6.43	4.494	J55, K55, N80, L80, P110
5	127.0	15.00	22.32	0.296	7.52	4.408	J55, N80, L80, P110
5-1/2	139.7	14.00	20.83	0.244	6.20	5.012	H40, J55, K55, N80, L80, C90, T95, P110
5-1/2	139.7	15.50	23.07	0.275	6.99	4.950	J55, K55, N80, L80, P110
5-1/2	139.7	17.00	25.30	0.304	7.72	4.892	J55, N80, L80, P110
5-1/2	139.7	20.00	29.76	0.361	9.17	4.778	J55, N80, L80, P110
5-1/2	139.7	23.00	34.22	0.415	10.54	4.670	N80, L80, P110
6-5/8	168.3	20.00	29.76	0.288	7.32	6.049	J55, K55, N80, L80, P110
6-5/8	168.3	24.00	35.71	0.352	8.94	5.921	J55, N80, L80, P110
6-5/8	168.3	28.00	41.67	0.417	10.59	5.791	N80, L80, P110
7	177.8	17.00	25.30	0.231	5.87	6.538	H40, J55, K55, N80, L80, P110
7	177.8	20.00	29.76	0.272	6.91	6.456	J55, K55, N80, L80, C90, T95, P110
7	177.8	23.00	34.22	0.317	8.05	6.366	J55, N80, L80, P110
7	177.8	26.00	38.69	0.362	9.19	6.276	J55, N80, L80, P110
7	177.8	29.00	43.15	0.408	10.36	6.184	N80, L80, P110
7	177.8	32.00	47.62	0.453	11.51	6.094	N80, L80, P110
7-5/8	193.7	24.00	35.71	0.300	7.62	7.025	J55, K55, N80, L80, P110
7-5/8	193.7	29.70	44.20	0.375	9.53	6.875	N80, L80, P110
7-5/8	193.7	39.00	58.04	0.500	12.70	6.625	N80, L80, P110
8-5/8	219.1	24.00	35.71	0.264	6.71	8.097	J55, K55, N80, L80
8-5/8	219.1	32.00	47.62	0.352	8.94	7.921	N80, L80
9-5/8	244.5	29.30	43.60	0.281	7.14	9.063	H40, J55, K55, N80, L80, P110
9-5/8	244.5	36.00	53.57	0.352	8.94	8.921	J55, N80, L80, P110
9-5/8	244.5	43.50	64.73	0.435	11.05	8.755	N80, L80, P110
9-5/8	244.5	47.00	69.94	0.472	11.99	8.681	N80, L80, P110
10-3/4	273.1	32.75	48.74	0.279	7.09	10.192	H40, J55, K55, N80, L80
10-3/4	273.1	45.50	67.71	0.400	10.16	9.950	N80, L80
11-3/4	298.5	42.00	62.50	0.333	8.46	11.084	J55, K55, N80, L80
11-3/4	298.5	54.00	80.36	0.435	11.05	10.880	N80, L80
13-3/8	339.7	48.00	71.43	0.330	8.38	12.715	H40, J55, K55, N80, L80
13-3/8	339.7	61.00	90.77	0.430	10.92	12.515	N80, L80
16	406.4	65.00	96.73	0.375	9.53	15.250	H40, J55, K55, N80

OD (in)	OD (mm)	Wt (lb/ft)	Wt (kg/m)	Wall (in)	Wall (mm)	ID (in)	Grades Available
18-5/8	473.1	87.50	130.21	0.435	11.05	17.755	H40, J55, K55
20	508.0	94.00	139.88	0.438	11.13	19.124	H40, J55, K55
20	508.0	106.50	158.48	0.500	12.70	19.000	H40, J55, K55

Note: R1: 16–25 ft | R2: 25–34 ft | R3: 34–48 ft. Grade N80 available as N80 Type 1 (normalised) or N80Q (Q&T;).

1.2 Tubing — Grades, Dimensions & Weight per Foot

OD (in)	OD (mm)	Wt (lb/ft)	Wt (kg/m)	Wall (in)	Wall (mm)	ID (in)	Grades Available
1.050	26.67	1.14	1.70	0.113	2.87	0.824	H40, J55
1.315	33.40	1.70	2.53	0.133	3.38	1.049	H40, J55
1.660	42.16	2.40	3.57	0.140	3.56	1.380	H40, J55
1.900	48.26	2.90	4.32	0.145	3.68	1.610	H40, J55
2-3/8	60.32	4.00	5.95	0.167	4.24	2.041	J55, N80, L80, P110
2-3/8	60.32	4.60	6.85	0.190	4.83	1.995	J55, N80, L80, P110
2-3/8	60.32	5.80	8.63	0.254	6.45	1.867	J55, N80, L80
2-7/8	73.02	6.40	9.52	0.217	5.51	2.441	J55, N80, L80, P110
2-7/8	73.02	7.80	11.61	0.276	7.01	2.323	J55, N80, L80, P110
3-1/2	88.90	7.70	11.46	0.216	5.49	3.068	J55, N80, L80, P110
3-1/2	88.90	9.20	13.69	0.254	6.45	2.992	J55, N80, L80, P110
4	101.60	9.50	14.14	0.226	5.74	3.548	J55, N80, L80
4-1/2	114.30	9.50	14.14	0.205	5.21	4.090	J55, N80, L80
4-1/2	114.30	12.60	18.75	0.271	6.88	3.958	N80, L80
4-1/2	114.30	15.10	22.47	0.337	8.56	3.826	N80, L80

1.3 Connections & End Finishes

Connection	Abbrev.	Type	Application	Seal Mechanism
Short Round Thread Casing	STC	Threaded & Coupled	Surface & intermediate casing	Metal-to-metal thread
Long Round Thread Casing	LTC	Threaded & Coupled	Intermediate & production casing	Metal-to-metal thread, longer engagement
Buttress Thread Casing	BTC	Threaded & Coupled	Production casing, high pressure	Buttress form, high torque
Extreme Line Casing	XL	Integral Joint	Tight clearance applications	Integral flush joint
Non-Upset Tubing	NUE	Threaded & Coupled	Standard production tubing	External upset thread
External Upset Tubing	EUE	Threaded & Coupled	High-pressure production tubing	External upset, 8-round thread
Integral Joint Tubing	IJ	Integral Joint	Slim-hole & coiled tubing	Flush OD integral
Premium / Gas-tight	—	Various	HP gas wells, HPHT	Metal-to-metal primary seal + thread
Plain End (Beveled)	PE	Plain End	Field cutting, special completion	No thread — customer machined

1.4 Coupling Data — OD & Length by Connection Type

Casing OD (in)	STC Coupling OD (in)	LTC Coupling OD (in)	BTC Coupling OD (in)	STC Length (in)	LTC Length (in)	BTC Length (in)
4-1/2	5.000	5.000	5.200	7.00	8.50	8.00
5	5.563	5.563	5.750	7.00	8.50	8.00
5-1/2	6.050	6.050	6.250	7.00	8.50	8.50
6-5/8	7.390	7.390	7.390	8.00	9.50	9.00
7	7.656	7.656	7.875	8.00	9.50	9.00
7-5/8	8.500	8.500	8.500	8.00	10.00	9.50
8-5/8	9.625	9.625	9.625	8.50	10.50	10.50
9-5/8	10.625	10.625	10.625	8.50	11.00	10.50
10-3/4	11.750	11.750	11.750	9.00	11.00	11.00
13-3/8	14.375	14.375	14.375	9.50	11.50	11.00
16	17.000	17.000	—	10.00	12.00	—
18-5/8	20.000	20.000	—	10.00	12.00	—
20	21.000	21.000	—	10.50	12.50	—

1.5 Chemical & Mechanical Properties — API 5CT All Grades

Grade	C max	Mn max	Mo max	Cr max	Ni max	Cu max	P max	S max
H40	—	—	—	—	—	—	0.030	0.030
J55	—	—	—	—	—	—	0.030	0.030
K55	—	—	—	—	—	—	0.030	0.030
N80-1	—	—	—	—	—	—	0.030	0.030
N80Q	—	—	—	—	—	—	0.030	0.030
L80-1	0.43	1.90	—	—	0.25	0.35	0.030	0.030
L80-9Cr	0.15	0.60	1.10	8.00–10.00	0.50	—	0.020	0.010
L80-13Cr	0.22	1.00	—	12.00–14.00	0.50	—	0.020	0.010
C90	0.35	1.20	0.85	—	0.99	—	0.020	0.010
T95	0.35	1.20	0.85	0.50	0.99	—	0.020	0.010
P110	—	—	—	—	—	—	0.030	0.030
Q125	0.35	1.00	0.85	1.50	0.99	—	0.020	0.010

Grade	YS min (ksi)	YS max (ksi)	TS min (ksi)	YS min (MPa)	YS max (MPa)	TS min (MPa)	Hardness	Application
H40	40	80	60	276	552	414	—	Conductor/surface casing
J55	55	80	75	379	552	517	—	Surface/intermediate casing & tubing
K55	55	80	95	379	552	655	—	Surface/intermediate casing
N80-1	80	110	100	552	758	689	—	Intermediate/production casing & tubing
N80Q	80	110	100	552	758	689	—	Production casing & tubing (Q&T;)
L80	80	95	95	552	655	655	23 HRC	Sour service casing & tubing
C90	90	105	100	621	724	689	25.4 HRC	Sour service casing
T95	95	110	105	655	758	724	25.4 HRC	Sour service casing
P110	110	140	125	758	965	862	—	Deep well production casing & tubing
Q125	125	150	135	862	1034	931	—	Ultra-deep/HPHT casing

Sour service grades (L80, C90, T95) comply with NACE MR0175/ISO 15156 for H2S environments. Hardness limits apply to full pipe body and coupling.

1.6 Drill Pipes — API 5DP

Seamless drill pipes for rotary drilling, conforming to API Specification 5DP. Available with Internal Upset End (IUE), External Upset End (EUE) and Internal-External Upset (IEU) configurations. Pipe coating available on request — see Section 7.2 for full coating options.

OD Range	OD (mm)	WT Range (inch)	Grade	PSL	End Finish
2-3/8"–6-5/8"	60.30–168.30	0.25–0.50	E75, X95, G105, S135	PSL 1 & 2	IUE, EUE & IEU

2 LINE PIPES — API 5L / ISO 3183

Seamless, ERW/HF-ERW, LSAW and HSAW line pipes

2.1 Seamless Line Pipes — API 5L PSL-1 & PSL-2

Standard	Grade	Size Range	Wall Thickness	Application
API 5L PSL-1	Gr. A, B, X42, X46, X52, X56, X60, X65, X70	1/8"–80" NB	SCH 10–XXS	General pipeline service
API 5L PSL-2	X42M, X46M, X52M, X56M, X60M, X65M, X70M	1/8"–80" NB	SCH 10–XXS	High-pressure, impact tested
ISO 3183	Same grades as API 5L	1/8"–80" NB	SCH 10–XXS	International pipeline projects
DIN 17172	StE 210.7 – StE 360.7	10–914 mm OD	1.7–25 mm	German DIN line pipe
EN 10208-1	L210GA, L235GA, L245GA, L290GA, L360GA	10–914 mm OD	1.7–25 mm	EU non-sour service
EN 10208-2	L245NB, L290NB, L360NB, L415NB, L450NB	10–914 mm OD	2.0–40 mm	EU sour service
IS 3589	Fe 330, Fe 410, Fe 450	168–2032 mm OD	6–20 mm	Indian standard water/gas mains

2.2 ERW / HF-ERW Welded Line Pipes

Standard	Grade	OD Range	WT Range	Key Application
API 5L / ISO 3183	Gr. A, B, X42–X80	88.9–457 mm	3.2–14.27 mm	Oil & gas line pipe
ASTM A53	Gr. A & B (Type E)	13.7–610 mm	2.2–17.5 mm	General service
IS 3589	Fe 330, Fe 410, Fe 450	168.3–2032 mm	6.0–20 mm	Water mains, drainage
IS 1239 Pt-I	YST-210/240/310	15–150 NB	Light–Hvy	Plumbing & building

Size	OD (mm)	WT (mm)	Wpe (kg/m)	ID (mm)	Test Press (kPax100) A / B / X42 / X52 / X65
3.5"	88.9	3.2	6.76	82.5	69 / 91 / 125 / 156 / 194
4"	101.6	4.8	11.46	92.0	83 / 119 / 164 / 204 / 205
4.5"	114.3	3.2	8.77	107.9	55 / 71 / 97 / 121 / 151
4.5"	114.3	4.8	12.96	104.7	83 / 106 / 146 / 181 / 205
6.625"	168.3	3.2	13.03	161.9	— / 48 / 83 / 103 / 128
6.625"	168.3	6.4	25.55	155.5	— / 96 / 165 / 202 / 205
8.625"	219.1	4.8	25.37	209.5	— / 55 / 95 / 118 / 148
8.625"	219.1	8.2	42.65	202.7	94 / 110 / 163 / 202 / 205
10.75"	273.1	6.4	42.00	260.3	— / 59 / 119 / 148 / 186
12.75"	323.9	6.4	50.10	311.1	— / 50 / 100 / 125 / 157

2.3 LSAW / HSAW / SAW Pipes

Standard	Grade	OD Range	WT	Notes
ASTM A671	CC60, CC65, CC70, CC80	16"–144" OD	6–50 mm	EFW cold expanded, low-temp service
ASTM A672	B60, B65, C55, C60, C65, C70	16"–144" OD	6–50 mm	EFW, elevated temperature service
ASTM A691	1/4Cr–9Cr alloy grades	16"–60" OD	6–50 mm	EFW high-pressure/high-temp alloy
API 5L	Gr. B through X80 (LSAW/HSAW)	16"–120" OD	6–40 mm	Long-distance pipelines, offshore

2.4 Line Pipe Chemical & Mechanical Properties — Key Grades

Grade	Standard	C max	Mn max	Re min (MPa)	Rm min (MPa)	A5 min %
Gr. A (L210)	API 5L PSL-1	0.22	0.90	210	331	—
Gr. B (L245)	API 5L PSL-1	0.26	1.20	245	414	—
X42 (L290)	API 5L PSL-1	0.26	1.30	290	414	—
X52 (L360)	API 5L PSL-1	0.26	1.40	360	460	—
X60 (L415)	API 5L PSL-1	0.26	1.40	415	520	—
X65 (L450)	API 5L PSL-1	0.26	1.45	450	535	—
X70 (L485)	API 5L PSL-1	0.26	1.65	485	570	—
X42M (L290M)	API 5L PSL-2	0.22	1.20	290	414	27
X52M (L360M)	API 5L PSL-2	0.22	1.40	360	460	27
X65M (L450M)	API 5L PSL-2	0.12	1.60	450	535	27
X70M (L485M)	API 5L PSL-2	0.12	1.65	485	570	27
StE 210.7	DIN 17172	0.17	0.45	210	320	26
StE 360.7	DIN 17172	0.22	0.55	360	510	20
L 245 GA	EN 10208-1	0.21	0.40	245	415	23
L 415 NB	EN 10208-2	0.21	0.45	415	560	22

2.5 Line Pipe Dimensions — NSD Table per API 5L (selected sizes)

NSD / SS	OD (inch)	OD (mm)	Sch	WT (mm)	Wt (kg/m)
0.405	0.405	10.3	STD	1.7	0.36
0.540	0.540	13.7	STD	2.2	0.62
0.840	0.840	21.3	STD	2.8	1.27
1.050	1.050	26.7	STD	2.9	1.68
1.315	1.315	33.4	STD	3.4	2.50
1.660	1.660	42.2	STD	3.6	3.38
2 3/8	2.375	60.3	STD	3.9	5.44
2 7/8	2.875	73.0	STD	5.2	8.63
3 1/2	3.500	88.9	STD	5.5	11.27
4	4.000	101.6	STD	5.7	13.57
4 1/2	4.500	114.3	STD	6.0	16.07
5	5.000	127.0	STD	6.4	19.27
6 5/8	6.625	168.3	STD	7.1	28.26
8 5/8	8.625	219.1	STD	8.2	42.55
10 3/4	10.750	273.1	STD	9.3	60.27
12 3/4	12.750	323.9	STD	9.5	73.78
16	16.000	406.4	STD	9.5	93.27
20	20.000	508.0	STD	9.5	117.15

3 CARBON & ALLOY STEEL PIPES

Seamless & welded for high-temp, low-temp, boiler & industrial service

3.1 Carbon Steel Seamless Pipes

Standard	Grade	Size Range (NB)	Wall Thickness	Application
ASTM A106	Gr. A, B, C	1/8"–26"	SCH 10–XXS	High-temperature service
ASTM A53	Gr. A, B (Type S)	1/8"–26"	STD–XXS	General service
IS 1239 Pt-I	YST-210, YST-240, YST-310	6–150 NB	Light–Hvy	Water, gas, sewage
IS 3589	Fe 330, Fe 410, Fe 450	168–2032 OD	6–20 mm	Water mains, structural
IS 1161	YST-210, YST-240, YST-310	15–150 NB	Std–Hvy	Structural / mechanical
BS 3059 I	Gr. 320, 360, 440, 620	13.5–114 OD	2–14 mm	Boiler & superheater
IS 4270	Fe 410, Fe 450	21.3–114.3 OD	2.3–6.0 mm	Water well casing

Carbon Steel Pipe Dimensions — ANSI B36.10

Nom. Size	OD (mm)	Sch 10	Sch 40	Sch 80	Sch 120	Sch 160	XXS
15 NB	21.3	2.77	2.77	3.73	—	—	—
20 NB	26.7	2.87	2.87	3.91	—	—	—
25 NB	33.4	3.38	3.38	4.55	—	—	—
40 NB	48.3	3.68	3.68	5.08	—	—	—
50 NB	60.3	3.91	3.91	5.54	—	—	—
80 NB	88.9	5.49	5.49	7.62	—	—	—
100 NB	114.3	6.02	6.02	8.56	11.13	13.49	—
150 NB	168.3	7.11	7.11	10.97	14.27	18.26	—
200 NB	219.1	8.18	8.18	12.70	18.26	23.01	22.23
250 NB	273.0	9.27	9.27	12.70	21.44	28.58	25.40
300 NB	323.8	9.53	9.53	12.70	25.40	33.32	25.40
400 NB	406.4	9.53	9.53	12.70	—	40.49	—
500 NB	508.0	9.53	9.53	12.70	—	50.01	—
600 NB	609.6	9.53	9.53	12.70	—	59.54	—

WT = Wall Thickness mm. All dimensions per ANSI/ASME B36.10M.

3.2 Alloy Steel Seamless Pipes & Tubes

Standard	Grade / Specification	Cr-Mo	Size Range	Service
ASTM A335	P1, P2, P5, P9, P11, P12, P22, P91, P92	1/2–9% Cr	1/8"–24" NB	High temp / high pressure
ASTM A213	T1, T2, T5, T9, T11, T12, T22, T91, T92	1/2–9% Cr	6–101 mm OD	Boiler / superheater tube
BS 3059 II	CFS 243/420, 622, 629, 762Nb	1/2–9% Cr	12.7–127 mm OD	BS superheater/reheater
DIN 17175	St 35.8, St 45.8, 13CrMo4-4, 10CrMo9-10	1/2–2.25% Cr	10–406 mm OD	German pressure service
EN 10216-2	P195GH, P235GH, P265GH, 16Mo3, 13CrMo4-4	—	10–406 mm OD	EU pressure service

3.3 / 3.4 Low Temperature, Cryogenic Pipes / Boiler & Heat Exchanger Tubes

Standard	Grade	Service Temp	OD / Size Range	Application
ASTM A333	Gr. 1, 6	min –45°C	1/8"–24" NB	LT seamless & welded pipe
ASTM A334	Gr. 1, 3, 6, 7	to –195°C	6.35–50.8 mm	LT heat exchanger tubes
ASTM A420	WPL3, WPL6	min –45°C	1/2"–4" NB	LT butt-weld fittings
EN 10216-4	P215NL, P265NL, 12Ni14	to –196°C	10–406 mm OD	EU cryogenic service
ASTM A179	Low-carbon seamless	Ambient/low	6.35–76.2 mm	Heat exchanger & condenser
ASTM A192	Plain carbon	High temp	12.7–101.6 mm	Boiler tubes
ASTM A210	Gr. A-1, C	High temp	12.7–101.6 mm	Boiler tubes
ASTM A214	Low-carbon welded	Ambient	6.35–50.8 mm	Heat exchanger finned tubes
BS 3059 I	Gr. 320, 360, 440, 620	High temp	12.7–114.3 mm	BS boiler tubes
IS 2416 IV	Carbon steel boiler	High temp	15–150 NB	IBR-certified boiler tubes

4 STAINLESS STEEL TUBES & PIPES

Austenitic, Ferritic, Duplex, Super Duplex & Nickel Alloys

4.1 Stainless Steel Seamless & Welded Pipes — Common Specifications

Specification	Product Form	Grades Available	OD Range	WT / Sch
ASTM A312	Seamless & Welded Pipe	304, 304L, 304H, 316, 316L, 316H, 316Ti, 317, 321, 321H, 347, 347H, 309S, 310S	1/8"–24" NB	SCH 5S–XXS
ASTM A213	Seamless Tube	TP304/L/H, TP316/L/H/Ti, TP321/H, TP347/H, TP317L	6.35–101.6 mm	0.71–12.7 mm
ASTM A249	Welded Tube	304, 304L, 316, 316L, 317, 317L, 321, 347	6.35–76.2 mm	0.71–4.0 mm
ASTM A269	Seamless & Welded	304, 304L, 316, 316L, 321, 347	6.35–50.8 mm	0.71–3.05 mm
ASTM A358	EFW Pipe	304, 304L, 316, 316L, 321, 347, 310	6"–36" NB	SCH 5S–80S
ASTM A731	Ferritic Pipe/Tube	405, 409, 409L, 410, 420, 430, 430Ti, 439, 444, 446	1/8"–12" NB	SCH 10S–80S
ASTM A268	Ferritic Tube	405, 409, 430, 444, 446	6.35–50.8 mm	0.71–3.05 mm

4.3 / 4.4 Duplex, Super Duplex / Nickel Alloy, Titanium & Special Alloys

Alloy / Grade	UNS No.	Specification	Size Range	Notes
Duplex 2205	S31803/S32205	ASTM A789/A790	1/8"–24" NB	Standard duplex, sour service
Super Duplex 2507	S32750	ASTM A789/A790	1/8"–12" NB	High Cl, high pressure
Zeron 100	S32760	ASTM A789/A790	1/8"–12" NB	Super duplex, seawater
Inconel 625	N06625	ASTM B444	6.35–101.6 mm	High temp, corrosion resistant
Inconel 825	N08825	ASTM B163/B423	6.35–76.2 mm	Acid/sulphur environments
Hastelloy C276	N10276	ASTM B622	6.35–76.2 mm	Severe corrosion service
Monel 400	N04400	ASTM B165	6.35–76.2 mm	Seawater, HF acid service
Titanium Gr. 2	R50400	ASTM B861/B862	6.35–76.2 mm	Chemical, seawater
Titanium Gr. 5	R56400	ASTM B861	6.35–50.8 mm	High strength, aerospace/O&G;
Copper Nickel 90/10	C70600	ASTM B111	6.35–101.6 mm	Seawater cooling systems

4.6 Stainless Steel Pipes & Tubes — Size Matrix

Segment	OD / Size	Thickness	Grade	Length / Spec
Welded Pipe	1/2"–12" NB	SCH 10S–40S	304/304L/316/316L	5–12 m (up to 18 m for 33–114 mm OD)
Welded Tube	15.88–101.6 mm	0.5–3 mm	304/304L/316/316L	1.5–12 m (up to 30 m for 15–45 mm OD)
Seamless Pipe	3/4"–6" NB	SCH 5S/10S/40S/80S	304/304L/316/316L	5–12 m
Seamless Tube	10.0–50.8 mm	0.7–3 mm	304/304L/316/316L	3–20 m
Welded Large Dia.	10"–84"	4–38.89 mm	304/304L/316/316L	ASTM A358 Cl.1–5, SRL/DRL
Duplex/Super Duplex Seamless	33.40–88.9 mm	SCH 10S–40S	UNS S31803/S32750	ASTM A312, 5–12 m

4.7 Welded SS Tubes — Heat Exchanger, Condenser & U-Tubes

Product	Specification	Diameter	Thickness	Length
Welded SS Tubes (HX, Condenser & U-Tubes)	ASTM A/SA 249, A269, A/SA 688 EN 10217-7	0.5"–4.5" (12.70–114.30 mm)	0.5–5 mm	Up to 19 m Straight Up to 30 m U-Tubes
Welded SS / Duplex Pipes	ASTM A312/A358/A928/A789	0.5"–36" NB 8"–72" NB (large dia)	Up to SCH80S 3–35 mm	Up to 12 m SRL/DRL
SS Seamless Pipes	ASTM/ASME A/SA312 EN 10217-7	0.5"–12" NB	Up to SCH80S	Up to 12 m DRL
SS Seamless Tubes	ASTM A/SA213, A/SA789, A269 EN 10216-5	6.0–114.30 mm	0.7–8 mm	Up to 19 m Straight Up to 30 m U-Tubes

Product	Specification	Diameter	Thickness	Length
Hot Induction Bends (Seamless & Welded)	High Frequency Induction Heating	4"–56" NB	—	Bend Radius 18"–420"

5 FITTINGS & FLANGES

Butt-weld, socket weld, screwed fittings & forged flanges

5.1 Butt-Weld Fittings — ANSI B16.9 / B16.28

Types: Elbows (45°/90° LR & SR), Equal/Reducing Tees, Concentric & Eccentric Reducers, Caps, Crosses, Long Radius Bends (3D/5D/6D/8D). Materials: Carbon Steel (A234 WPB/WPC/WP9/WP91), Stainless Steel (all austenitic grades), Alloy Steel (P1–P92), Duplex/Super Duplex, Nickel Alloys.

Size (in x in)	OD D (mm)	OD P (mm)	Ctr-End C (mm)	Length M (mm)	H (mm)
1/2x3/8	21.3	17.1	25	25	—
3/4x1/2	26.7	21.3	29	29	38
1x3/4	33.4	26.7	38	38	51
1.5x1	48.3	33.4	57	57	64
2x1.5	60.3	48.3	64	57	76
3x2	88.9	60.3	86	83	89
4x3	114.3	88.9	105	98	102
6x4	168.3	114.3	143	130	140
8x6	219.1	168.3	178	168	152
10x8	273.1	219.1	216	203	178
12x10	323.9	273.1	254	241	203
16x12	406.4	323.9	305	295	356
20x16	508.0	406.4	381	368	508
24x20	610.0	508.0	432	419	508

5.2 Socket Weld Fittings — ANSI B16.11 (3000 & 6000 LBS)

Bore (in)	Pipe OD (mm)	3000# A	3000# B	3000# C	6000# A	6000# B	6000# C
1/8	10.29	19.5	17.16	25	25	19	6.8
1/4	13.72	21.5	20.80	29	33	22	9.25
3/8	17.15	24.5	24.90	35	38	25	12.55
1/2	21.34	33.5	29.38	46	46	29	15.80
3/4	26.67	36.0	34.74	51	51	35	20.95
1	33.40	45.5	43.66	60	57	43	26.65
1.5	48.26	59.5	61.90	76	70	58	40.85
2	60.32	61.2	75.56	86	79	68	52.50
3	88.90	89.80	109.5	105	100	84	77.90
4	114.3	115.2	137.1	120	110	98	102.25

5.4 Forged Flanges — ASME B16.5 (Class 600 & 900, dimensions in mm)

Types: Welding Neck (WN), Slip-On (SO), Blind (BL), Socket Weld (SW), Threaded, Lap Joint. Face types: RF, FF, RTJ, T&G;, M&F.; Classes 150 through 2500.

NPS	Cl.600 OD	Cl.600 PCD	Cl.600 Bolts	Cl.900 OD	Cl.900 PCD	Cl.900 Bolts
1/2	95	82.6	4	120	82.6	4
3/4	115	88.9	4	130	88.9	4
1	125	101.6	4	150	101.6	4
1.5	155	114.3	4	180	123.8	4
2	165	127.0	8	215	165.1	8
3	210	168.3	8	280	228.6	8
4	275	215.9	8	345	279.4	8
6	355	292.1	12	470	368.3	12
8	420	349.2	12	545	450.8	12
10	510	431.8	16	610	514.4	16
12	560	489.0	16	640	533.4	20
16	685	584.2	20	815	654.0	20
20	815	692.2	20	985	812.8	20
24	940	838.2	24	1130	952.5	24

5.6 Flange Material Grades

Material Family	Specification	Grades / UNS Numbers	Pressure Classes
Carbon Steel	ASTM A105	—	150–2500
Carbon Steel (LT)	ASTM A350	LF2, LF3, LF6	150–2500
Alloy Steel	ASTM A182	F1, F5, F9, F11, F12, F22, F91	150–2500
SS Austenitic	ASTM A182/A240	F304/L/H, F316/L/H/Ti, F321/H, F347/H, F904L, F254SMO	150–2500
Duplex SS	ASTM A182	F51 (S31803), F53, F55, F60	150–2500
Nickel Alloys	ASTM B564	N06600, N06625, N08800, N08825, N10276, N04400	150–600
Titanium	ASTM B381	Gr.1 R56250, Gr.2 R50400, Gr.5 R56400	150–300

6 STEEL PLATES & STRUCTURALS

Hot-rolled plates for structural, pressure vessel, boiler & shipbuilding

Thickness 8–150 mm, width 1500–4800 mm, length 6000–19000 mm.

6.1 Structural & General Engineering Plates

Standard	Grade	Max Thickness (mm)	Yield Str. min (MPa)	Tensile min (MPa)
IS 2062	E 250 / E 275 / E 350	150	250–350	410–490
IS 2062	E 410 / E 450 / E 550	50–120	410–550	540–670
EN 10025	S 235 / S 275 / S 355	150	235–355	360–510
EN 10025	S 420N/NL / S 460N/NL	50–120	420–460	520–550
ASTM A36 / A283	Gr.C	150	250	400–515
ASTM A572	Gr. 50/55/60/65	120	345–450	450–550
ASTM A588	Weathering steel	100	345	485

6.2 / 6.3 Pressure Vessel & Boiler / Shipbuilding & High-Strength Plates

Standard	Grade	Max Thick (mm)	Application
ASTM A516	Gr. 55, 60, 65, 70	100	Pressure vessels, moderate/low temp
ASTM A537	Cl. 1, 2, 3	100	Pressure vessels, notch toughness
ASTM A387	Gr. 5/9/11/12/22/91 Cr-Mo	80	Elevated temperature pressure service
EN 10028-2	P265GH, P295GH, P355GH, 16Mo3	100	EU elevated temp pressure vessel
ASTM A131	Gr A/B/D/E, AH32/DH32, AH36/DH36	70	Shipbuilding structural
ASTM A514	Gr B, E, F, P, Q, S	50	Q&T; high-strength, 690 MPa TS

6.4 Plate Applications by End Segment

Segment	Description	Thickness
Windmill	Plates for windmills subjected to high wind speeds and buckling loads from blade rotation.	20–150 mm
Boiler & Pressure Vessel	Critical, low, moderate, high and ultra-high temperature applications.	50–150 mm
Transportation	Ship building, railways & wagon builders — adverse loading, low temp, corrosive.	50–150 mm
Line Pipes & Offshore	API grade plates for oil, gas and offshore line pipe applications.	25–150 mm
Mining & Yellow Goods (AR)	Abrasion Resistant plates at 400/450/500 Brinell for excavators, crushers, dump trucks, conveyors, chutes, cranes, cement plants.	20–150 mm
Hydro Segment	High strength/toughness plates, reduced P/S/N/O for Penstock & Hydro Gates.	50–120 mm
Pre-Engineered Buildings	Steel plates in various widths for PEB / kit warehouses.	80–150 mm

6.5 Long Products — Rails, Rebar, Structural & Wire

Product	Specifications	Standard / Grade	Application
Track Rails	IRS 52, UIC 4, 60E1, 60E2 | Grades: 880, 1080 HH	IRS-T-12, UIC 860, EN-13674	Railways, metro, industrial
Crane Rails	CR 80 and CR 100 | Grades: 55C11, 50C12	IS 5443	Industrial crane runways
Parallel Flange Beams & Columns	Beam: 180–900 mm | Column: 150–350 mm	IS 12778 / EN 10034 | E250–E550	Buildings, bridges, structures
Sheet Piles	SP IV U-type | Depth: 400 mm	Grade: E250–E410	Retaining walls, cofferdams, bridge abutments
Equal Angles	50–250 mm	Grade: E250–E550 BR/BO/C	Structural fabrication
Channels	75–400 mm (Railway approved)	Grade: E250–E550	Structural & rail
Rebar 550D (TMT)	8–32 mm dia (12 m rods)	IS 1786 Fe 500D/550D/CRS	Reinforced concrete

Product	Specifications	Standard / Grade	Application
Cut & Bent Bars	6–40 mm custom profiles	Fe 500D, 550D, 600, CRS	Custom concrete reinforcement
Wire Rod & Rounds	Wire: 5.2–22 mm | Rounds: 25–63 mm	IS 1442, Q195/Q235	Fasteners, mesh, cables
Weld Mesh	Width 1200–3200 mm | Aperture 50–200 mm | Rod dia 6–12 mm	—	Concrete slabs, floor reinforcement
Fabricated Structural	Depth 350–3000 mm | Flange 250–1000 mm | Length 3–18 m	—	Pre-assembled trusses, frames
Speedfloor Joists	200, 250, 300, 350, 400 mm sizes	—	Lightweight composite floor systems

Reinforced Steel Rebar 550D full specifications — see Section 7. Cold Roll Sheet & Coils (Aluminum) — see Section 8.

7 REINFORCED STEEL REBAR (550D)

TMT Rebar for Reinforced Concrete Construction

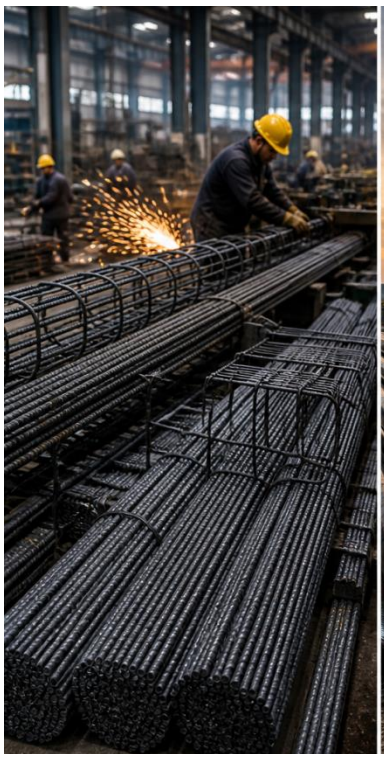
Steel Rebar is used as a tensioning device to reinforce concrete and other masonry structures. Concrete is strong in compression but virtually without strength in tension. Grade Fe 550D provides yield strength of 550 N/mm² minimum. CRS (Corrosion Resistant Steel) grade offers enhanced durability for aggressive environments.

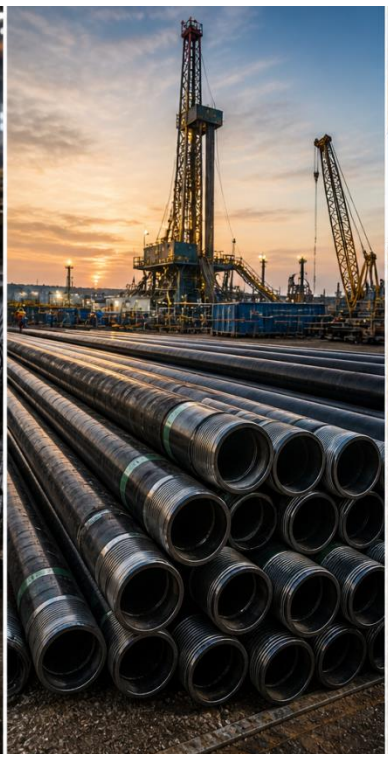
7.1 Product Range & Nominal Weight

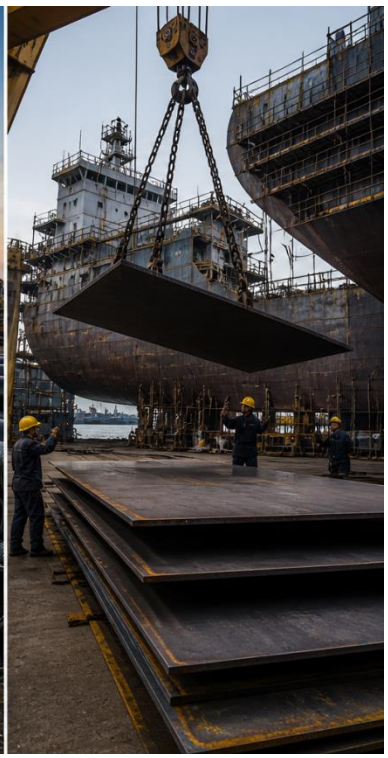
Nominal Size (mm)	8	10	12	16	20	25	32
Weight per 12 m rod (kg)	4.74	7.40	10.66	18.96	29.64	46.20	75.72

7.2 Chemical & Mechanical Properties — Grade 550D

Element	Grade 550D Standard	Grade 550D CRS	Property	Grade 550D Standard	Grade 550D CRS
% C [MAX]	0.15	0.15	Yield Strength min (MPa)	550	570
% S [MAX]	0.04	0.03	Tensile Strength min (MPa)	585	630
% P [MAX]	0.12	0.08	TS / YS min ratio	1.08	1.10
% CR [MAX]	—	0.05	Elongation % min	14.5	16
% CU [MAX]	—	0.30	Bend (up to 22 mm)	4d	4d
% CE [MAX]	0.530	0.45	Re-Bend (up to 22 mm)	6d	7d







8 ALUMINUM PRODUCTS — COLD ROLL SHEET & COILS

Precise Tolerances | Bright Surface Finish | Excellent Malleability

Manufactured via continuous caster route, rolled in a cold rolling mill with German AGC/AFC and finished on hi-tech slitting / cut-to-length machines. Key characteristics: precise dimensional tolerances, good mechanical properties, uniform and bright surface finish, excellent malleability.

8.1 Sheet & Coil Dimensions and Tolerances

Parameter	Product	Range	Tolerance Range	Tolerance (mm)
Thickness (mm)	Sheet	0.25–5.0	0.25–0.6 / 0.61–1.0 / 1.01–1.5	±0.020 / ±0.050 / ±0.050
Thickness (mm)	Coil	0.25–3.0	1.51–2.0 / 2.01–3.0 / 3.01–4.0	±0.075 / ±0.10–0.13 / ±0.13–0.15
Width (mm)	Sheet & Coil	500–1525	500–915 / 915–1525	±1.0 / ±2.0
Length (mm)	Sheet	1000–3600+	1000–2440 / 2440–3600 / 3600+	±2.0 / ±3.0 / ±5.0
Coil ID & OD (mm)	Coil	OD max 1800	ID: 152, 300, 406, 508	—
Unit Weight (kg)	Sheet	250–3000	Bundle/Pallet	—
Unit Weight (kg)	Coil	250–4000	—	—

9 SPECIAL PRODUCTS

Induction bends, pipe coatings, SS gauge pipe & hollow bars

9.1 Induction Pipe Bends

OD Range	Wall Thickness	Bend Radius	Bend Angle	Material Grades
4"–24" (101.6–610 mm)	Up to 1.18" (30 mm)	2D–8D	0°–90°	CS (API 5L/A106), HS (X42–X80), LT A333, SS A312 (304/316), Duplex, Inconel
16"–48" (406.4–1219 mm)	Up to 1.57" (40 mm)	2D–8D	0°–90°	CS, HS (X42–X80), LT Alloy, SS, Super Duplex, Cladded Pipes

Tolerances: Angle ±0.5°, Radius ±1%, Ovality at ends ±1%, Wall thinning (4D+) ≤8%.

9.2 Pipe Coating Solutions

Coating Type	Standard	Size Range	Application
External 3LPE / 3LPP	DIN 30670 / EN 10290	6"–60" OD	Oil & gas underground pipeline
External FBE (single/dual)	AWWA C213 / ISO 21809	6"–60" OD	O&G;, water pipelines
External Coal Tar Enamel	AWWA C203 / BS 4164	6"–60" OD	Buried water/sewer pipelines
External Painting	Customer specification	6"–60" OD	General corrosion protection
Internal Liquid Epoxy	AWWA C210 / BS 10339	6–120 NPS	O&G; & water pipelines
Internal Cement Mortar Lining	AWWA C205 / IS 15741	6–120 NPS	Water/sewage transport

9.3 SS Gauge Pipe / Finned Tubes / Hollow Bars

Product	Size / Range	Specification	Material
SS Gauge Pipe	1/8"–8" OD (10.3–219.1 mm), WT per SWG	SWG standard	304 / 316 SS
Low Finned Tubes	15–38.1 mm OD, 19–32 FPI, up to 15 m	Customer specification	SS all grades & Nickel Alloys
Hollow Bars	32–250 mm OD, 3–43 mm WT	ASTM A312/A511/EN 10216-5	Standard austenitic SS grades
Square Hollow Sec.	5x5 to 300x300 mm, 0.5–20 mm WT	IS 4923 / ASTM A500	YST-210/310
Rect. Hollow Sec.	10x5 to 250x150 mm, 0.5–16 mm WT	IS 4923 / ASTM A500	YST-210/310

10 STRUCTURAL TUBES & HOLLOW SECTIONS

CHS | Non-Alloy Welded/Threaded | Fire Protection Pipe

10.1 Steel Tubes for Structural Purposes — NB Mass Table

Plain end steel tubes per IS 1161 / EN 10219 / ASTM A500. Weights in kg/m. Kgs/20' = weight per 20-foot length. pcs/mt = pieces per metric tonne.

NB (mm)	Size (in)	OD (mm)	WT (mm)	SWG	Kg/ mtr	Mts/t	Kgs/ 20'	pcs/ mt
15	1/2"	21.3	2.0	14	0.95	1053	5.8	173
15	1/2"	21.3	2.5	12	1.16	862	7.1	141
15	1/2"	21.3	3.0	11	1.35	741	8.2	122
20	3/4"	26.9	2.0	14	1.23	813	7.5	133
20	3/4"	26.9	2.5	12	1.50	667	9.1	109
20	3/4"	26.9	3.0	11	1.77	565	10.8	93
25	1"	33.7	2.0	14	1.56	641	9.5	105
25	1"	33.7	2.5	12	1.92	521	11.7	85
25	1"	33.7	3.0	11	2.27	441	13.8	72

NB (mm)	Size (in)	OD (mm)	WT (mm)	SWG	Kg/ mtr	Mts/t	Kgs/ 20'	pcs/ mt
32	1.1/4"	42.4	2.0	14	1.99	503	12.1	82
32	1.1/4"	42.4	2.5	12	2.46	407	15.0	67
32	1.1/4"	42.4	3.0	11	2.91	344	17.7	56
32	1.1/4"	42.4	4.0	8	3.79	264	23.1	43
40	1.1/2"	48.3	2.0	14	2.28	439	13.9	72
40	1.1/2"	48.3	2.5	12	2.82	355	17.2	58
40	1.1/2"	48.3	3.0	11	3.35	299	20.4	49
40	1.1/2"	48.3	4.0	8	4.37	229	26.6	38
40	1.1/2"	48.3	5.0	6	5.34	187	32.6	31
50	2"	60.3	2.0	14	2.88	347	17.6	57
50	2"	60.3	2.5	12	3.56	281	21.7	46
50	2"	60.3	3.0	11	4.24	236	25.8	39
50	2"	60.3	4.0	8	5.55	180	33.8	30
50	2"	60.3	5.0	6	6.82	147	41.6	24
65	2.1/2"	76.1	3.0	11	5.41	185	33.0	30
65	2.1/2"	76.1	4.0	8	7.11	141	43.3	23
65	2.1/2"	76.1	5.0	6	8.77	114	53.5	19
65	2.1/2"	76.1	6.3	3	10.84	92	66.1	15
80	3"	88.9	2.5	12	5.33	188	32.5	31
80	3"	88.9	3.0	11	6.36	157	38.8	26
80	3"	88.9	4.0	8	8.38	119	51.1	20
80	3"	88.9	5.0	6	10.35	97	63.1	16
80	3"	88.9	6.3	3	12.83	78	78.2	13
100	4"	114.3	3.0	11	8.23	122	50.2	20
100	4"	114.3	4.0	8	10.88	92	66.3	15
100	4"	114.3	5.0	6	13.48	74	82.2	12
100	4"	114.3	6.3	3	16.78	60	102.3	10
100	4"	114.3	8.0	0	20.97	48	127.8	8
125	5"	139.7	3.0	11	10.11	99	61.6	16
125	5"	139.7	4.0	8	13.39	75	81.6	12
125	5"	139.7	5.0	6	16.61	60	101.3	10
125	5"	139.7	6.3	3	20.73	48	126.4	8
125	5"	139.7	8.0	0	25.98	38	158.4	6
150	6"	165.1	3.0	11	11.99	83	73.1	14
150	6"	165.1	5.0	6	19.74	51	120.3	8
150	6"	165.1	6.3	3	24.67	41	150.4	7
150	6"	168.3	8.0	0	30.99	32	188.9	5
150	6"	168.3	10.0	0	39.04	26	238.0	4
170	6.3/4"	177.8	4.0	8	17.14	58	104.5	10
170	6.3/4"	177.8	5.0	6	21.31	47	129.9	8
170	6.3/4"	177.8	6.0	4	25.42	39	155.0	6

10.2 Circular Hollow Sections (CHS) — Cold Formed Welded

Cold formed welded CHS of non-alloy and fine grain steels. All weights in kg/m.

OD Mean (mm)	OD Max (mm)	OD Min (mm)	WT (mm)	Kg/mtr	Mts/t	Kgs/20'	Pcs/mt
21.3	21.8	20.8	2.0	0.95	1053	5.79	173
21.3	21.8	20.8	2.5	1.16	862	7.07	141
21.3	21.8	20.8	3.0	1.35	741	8.23	122
26.9	27.4	26.4	2.0	1.23	813	7.50	133
26.9	27.4	26.4	2.5	1.50	667	9.14	109
26.9	27.4	26.4	3.0	1.77	565	10.79	93
33.7	34.2	33.2	2.0	1.56	641	9.51	105
33.7	34.2	33.2	2.5	1.92	521	11.70	85
33.7	34.2	33.2	3.0	2.27	441	13.84	72
42.4	42.9	41.9	2.0	1.99	503	12.13	82
42.4	42.9	41.9	2.5	2.46	407	15.00	67
42.4	42.9	41.9	3.0	2.91	344	17.74	56
42.4	42.9	41.9	4.0	3.79	264	23.10	43
48.3	48.8	47.8	2.0	2.28	439	13.90	72
48.3	48.8	47.8	2.5	2.82	355	17.19	58
48.3	48.8	47.8	3.0	3.35	299	20.42	49
48.3	48.8	47.8	4.0	4.37	229	26.64	38
48.3	48.8	47.8	5.0	5.34	187	32.55	31
60.3	60.9	59.7	2.0	2.88	347	17.56	57
60.3	60.9	59.7	2.5	3.56	281	21.70	46
60.3	60.9	59.7	3.0	4.24	236	25.85	39
60.3	60.9	59.7	4.0	5.55	180	33.83	30
60.3	60.9	59.7	5.0	6.82	147	41.57	24
76.1	76.9	75.3	2.0	3.65	274	22.25	45
76.1	76.9	75.3	3.0	5.41	185	32.98	30
76.1	76.9	75.3	4.0	7.11	141	43.34	23
76.1	76.9	75.3	5.0	8.77	114	53.46	19
76.1	76.9	75.3	6.0	10.40	96	63.40	16
76.1	76.9	75.3	6.3	10.80	93	65.84	15
88.9	89.8	88.0	3.2	6.76	148	41.21	24
88.9	89.8	88.0	4.0	8.38	119	51.08	20
88.9	89.8	88.0	5.0	10.30	97	62.79	16
88.9	89.8	88.0	6.3	12.80	78	78.03	13
101.6	102.6	100.6	3.2	7.77	129	47.37	21
101.6	102.6	100.6	4.0	9.63	104	58.70	17
101.6	102.6	100.6	5.0	11.90	84	72.54	14
101.6	102.6	100.6	6.3	14.80	68	90.22	11
101.6	102.6	100.6	8.0	18.50	54	112.78	9
114.3	115.4	113.2	3.2	8.77	114	53.46	19
114.3	115.4	113.2	4.0	10.90	92	66.45	15
114.3	115.4	113.2	5.0	13.50	74	82.30	12
114.3	115.4	113.2	6.3	16.80	60	102.41	10
114.3	115.4	113.2	8.0	21.00	48	128.02	8
139.7	141.1	138.3	5.0	16.60	60	101.19	10
139.7	141.1	138.3	6.3	20.70	48	126.19	8

OD Mean (mm)	OD Max (mm)	OD Min (mm)	WT (mm)	Kg/mtr	Mts/t	Kgs/20'	Pcs/mt
139.7	141.1	138.3	8.0	26.00	39	158.15	6
139.7	141.1	138.3	10.0	32.00	31	195.07	5
168.3	170.0	166.6	4.0	16.20	62	98.76	10
168.3	170.0	166.6	5.0	20.10	50	122.53	8
168.3	170.0	166.6	6.0	25.20	40	153.62	7
168.3	170.0	166.6	8.0	31.60	32	192.63	5
168.3	170.0	166.6	10.0	39.00	26	237.74	4
168.3	170.0	166.6	12.5	48.00	21	292.61	3
193.7	193.7	191.8	5.0	23.30	43	142.04	7
193.7	193.7	191.8	6.3	29.10	34	177.39	6
193.7	193.7	191.8	8.0	36.60	27	223.11	4
219.1	219.1	216.9	5.0	26.40	38	160.93	6
219.1	219.1	216.9	6.3	33.10	30	201.78	5
219.1	219.1	216.9	8.0	41.60	24	253.59	4
244.5	244.5	242.1	6.3	37.00	27	225.55	4
244.5	244.5	242.1	8.0	46.70	21	284.68	4
244.5	244.5	242.1	10.0	57.80	17	352.35	3
273.0	273.0	270.3	6.3	41.40	24	252.37	4
273.0	273.0	270.3	8.0	52.30	19	318.82	3
273.0	273.0	270.3	10.0	64.90	15	395.63	3
323.9	323.9	320.7	6.3	49.30	20	300.53	3
323.9	323.9	320.7	8.0	62.30	16	379.78	3
355.6	355.6	352.0	6.3	54.30	18	331.01	3
355.6	355.6	352.0	8.0	68.60	15	418.19	2
406.4	406.4	402.3	6.3	62.20	16	379.17	3
406.4	406.4	402.3	8.0	78.60	13	479.15	2
406.4	406.4	402.3	10.0	97.80	10	596.19	2
457.0	457.0	452.4	8.0	88.60	11	540.11	2
457.0	457.0	452.4	10.0	110.00	9	670.56	1

10.3 Non-Alloy Steel Tubes — Heavy & Medium Series (Welded & Threaded)

Plain End (PE) and Threaded & Socketed (T&S;) tubes per IS 1239 / EN 10255. Note: specifications and grades for IS 1239 / ASTM A53 are cross-referenced in Sections 2.2 and 3.1. This section provides ordering reference data: weight per metre, T&S; conversion weights and pack quantities.

Heavy Series

OD (mm)	Thread Desig.	WT (mm)	PE Kg/m	PE mts/t	PE Kg/20'	PE pcs/mt	T&S; Kg/m	T&S; mts/t	T&S; Kg/20'	T&S; pcs/mt
21.3	1/2	2.3	1.08	926	6.58	152	1.09	917	6.64	150
26.9	3/4	2.3	1.39	719	8.42	118	1.40	714	8.53	117
33.7	1	2.9	2.20	455	13.41	75	2.22	450	13.53	74
42.4	1 1/4	2.9	2.82	355	17.19	58	2.85	351	17.37	58
48.3	1 1/2	2.9	3.24	309	19.75	51	3.28	305	19.99	50
60.3	2	3.2	4.49	223	27.37	37	4.56	219	27.80	36
76.1	2 1/2	3.2	5.73	175	34.93	29	5.85	171	35.66	28
88.9	3	3.6	7.55	132	46.02	22	7.72	130	47.06	21
114.3	4	4.0	10.80	93	65.84	15	11.10	90	67.67	15

Medium Series

OD (mm)	Thread Desig.	WT (mm)	PE Kg/m	PE mts/t	PE Kg/20'	PE pcs/mt	T&S; Kg/m	T&S; mts/t	T&S; Kg/20'	T&S; pcs/mt
21.3	1/2	2.0	0.95	1056	5.77	173	0.96	1046	5.83	172
26.9	3/4	2.3	1.38	725	8.41	119	1.39	719	8.47	118
33.7	1	2.6	1.98	505	12.07	83	2.00	500	12.19	82
42.4	1 1/4	2.6	2.54	394	15.48	65	2.57	389	15.67	64
48.3	1 1/2	2.9	3.23	310	19.69	51	3.27	306	19.93	50
60.3	2	2.9	4.08	245	24.87	40	4.15	241	25.30	40
76.1	2 1/2	3.2	5.71	175	34.81	29	5.83	172	35.54	28
88.9	3	3.2	6.72	149	40.97	24	6.89	145	52.00	24
114.3	4	3.6	9.75	103	59.44	17	10.00	100	60.96	16

Parameter	Specification
Thickness	±8% (plus tolerance limited by mass tolerance)
Random Length	4–16 m (10% of sections may be below minimum, not shorter than 75% of minimum range)
Mass	±10% / –8% on individual tubes
Leak Test	Hydrostatic test at min 50 bar for ≥5 seconds, or electromagnetic test

10.4 Fire Protection Pipe — Schedule 10 (ASTM A53)

Black and Zinc-Coated (Hot-Dip Galvanized) welded steel pipe for fire protection systems per ASTM A53.

NPS	OD (mm)	WT (mm)	Sch	Kg/mtr	lb/ft	Test Press (psi)	Test Press (kPa)
3/4	26.7	2.11	10	1.28	0.86	700	4800
1	33.4	2.77	10	2.09	1.41	700	4800
1 1/4	42.2	2.77	10	2.69	1.81	1000	6900
1 1/2	48.3	2.77	10	3.11	2.09	1000	6900
2	60.3	2.77	10	3.93	2.64	1000	6900
2 1/2	73.0	3.05	10	5.26	3.53	1000	6900
3	88.9	3.05	10	6.46	4.34	1000	6900
3 1/2	101.6	3.05	10	7.41	4.98	1200	8300
4	114.3	3.05	10	8.37	5.62	1200	8300
5	141.3	3.40	10	11.58	7.78	1200	8300
6	168.3	3.40	10	13.85	9.30	1000	6900
8	219.1	4.78	10	25.26	16.96	800	5500
10	273.0	4.78	10	31.62	21.23	700	4800

11 MATERIAL GRADES & STANDARDS REFERENCE

Chemical compositions and grade cross-reference tables

11.1 Stainless Steel Chemical Composition (wt%) — Austenitic & Duplex Grades

Grade (ASTM)	UNS No.	C max	Mn max	Cr %	Ni %	Mo %	Other notable
304	S30400	0.08	2.0	18.0–20.0	8.0–10.5	—	—
304L	S30403	0.03	2.0	18.0–20.0	8.0–12.0	—	Low carbon
304H	S30409	0.04–0.10	2.0	18.0–20.0	8.0–10.5	—	High carbon, creep
316	S31600	0.08	2.0	16.0–18.0	10.0–14.0	2.0–3.0	—
316L	S31603	0.03	2.0	16.0–18.0	10.0–14.0	2.0–3.0	Low carbon
316Ti	S31635	0.08	2.0	16.0–18.0	10.0–14.0	2.0–3.0	Ti>=5xC
321	S32100	0.08	2.0	17.0–19.0	9.0–12.0	—	Ti>=5xC
321H	S32109	0.04–0.10	2.0	17.0–19.0	9.0–12.0	—	Ti>=4xC, creep
347	S34700	0.08	2.0	17.0–19.0	9.0–13.0	—	Nb>=10xC
309S	S30908	0.08	2.0	22.0–24.0	12.0–15.0	—	High temp
310S	S31008	0.08	2.0	24.0–26.0	19.0–22.0	—	High temp
904L	N08904	0.02	2.0	19.0–23.0	23.0–28.0	4.0–5.0	Cu 1.0–2.0
2205 Duplex	S31803	0.03	2.0	21.0–23.0	4.5–6.5	2.5–3.5	N 0.08–0.20
2507 Sup.Duplex	S32750	0.03	1.2	24.0–26.0	6.0–8.0	3.0–5.0	N 0.24–0.32

11.2 Carbon & Alloy Steel Pipe Chemical Compositions

Specification	Grade	C %	Mn %	P max	S max	Si %	Re min (MPa)	Rm min (MPa)
ASTM A106	Gr. A	0.25	0.27–0.93	0.035	0.035	0.10	205	330
ASTM A106	Gr. B	0.30	0.29–1.06	0.035	0.035	0.10	240	415
ASTM A106	Gr. C	0.35	0.29–1.06	0.035	0.035	0.10	275	485
ASTM A53	Gr. A	0.25	0.95	0.05	0.045	—	205	330
ASTM A53	Gr. B	0.30	1.20	0.05	0.045	—	240	415
ASTM A333	Gr. 1	0.30	0.40–1.06	0.025	0.025	—	205	380
ASTM A333	Gr. 6	0.30	0.29–1.06	0.025	0.025	0.10	240	415
ASTM A335	P11	0.05–0.15	0.30–0.60	0.025	0.025	0.50–1.0	205	415
ASTM A335	P22	0.05–0.15	0.30–0.60	0.025	0.025	0.50	205	415
ASTM A335	P91	0.08–0.12	0.30–0.60	0.020	0.010	0.20–0.50	415	585
IS 2062	E 250	0.23	1.50	0.045	0.045	—	250	410
IS 2062	E 350	0.20	1.60	0.040	0.040	—	350	490

11.3 Stainless Steel International Grade Cross-Reference

No.	ASTM	UNS	JIS	IS / GB	Type
1	304	S30400	SUS304	0Cr19Ni9	Austenitic
2	304L	S30403	SUS304L	00Cr19Ni11	Austenitic — low C
3	316	S31600	SUS316	0Cr17Ni12Mo2	Austenitic — Mo
4	316L	S31603	SUS316L	00Cr17Ni14Mo2	Austenitic — low C Mo
5	316Ti	S31635	SUS316Ti	—	Austenitic — Ti stabilised
6	321	S32100	SUS321	1Cr18Ni9Ti	Austenitic — Ti stabilised
7	321H	S32109	—	—	Austenitic — high C Ti-stab
8	347	S34700	SUS347	—	Austenitic — Nb stabilised
9	309S	S30908	SUS309S	0Cr23Ni13	Austenitic — high Cr-Ni
10	310S	S31008	SUS310S	0Cr25Ni20	Austenitic — high Cr-Ni
11	904L	N08904	SUS890L	—	Austenitic — super acid
12	2205	S31803	—	—	Duplex
13	2507	S32750	—	—	Super Duplex
14	405	S40500	SUS405	0Cr13Al	Ferritic
15	430	S43000	SUS430	1Cr17	Ferritic
16	410	S41000	SUS410	1Cr13	Martensitic
17	420	S42000	SUS420	2Cr13	Martensitic

11.4 Equivalent Standards — Tubes by Application

No.	End Use	Indian	British/ European	American	Japanese	German	Australian
1	Water, Gas, Steam	IS-1239	BS-1387	ASTM A-53	—	DIN-2439/2440/2441	—
2	Water, Sewage	IS-3589	EN-10255	—	—	—	AS1163
3	Structural, Scaffolding	IS-1161	BS-1139 EN-39/10219	ASTM A-500	JIS G 3444	—	—
4	Idlers, Belt Conveyors	IS-9295	BS-6323	ASTM A-513	—	—	—
5	Water Wells, Casing	IS-4270	BS-879	—	—	—	—
6	SHS / RHS Sections	IS-4923	—	ASTM A-500	JIS G 3466	DIN-239	AS1163
7	Furniture Tube	IS-7138	—	—	JIS G 3445	—	—
8	Oil Pipes / Pressure	IS/ISO-3183	EN-10217	API 5L	JIS G 3452	DIN-17177	—
9	Mechanical Application	IS-3601	BS-6323	—	JIS G 344	DIN-2393	—

No.	End Use	Indian	British/ European	American	Japanese	German	Australian
10	Hydro Carbon Process	IS-6286	—	—	—	—	—
11	Boiler & APH Tubes	—	BS 3059, 6323	—	—	—	—

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Standards Referenced

API, ASTM, ASME, BS, DIN, EN, IS, ISO, JIS, NACE.

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