



JINDAL SAW LTD.
TOTAL PIPE SOLUTIONS

Hydraulic & Instrumentation Tubing

INDUSTRIAL APPLICATIONS



- **Power Generation**
- Thermal Power Plants
- Nuclear Power Plants
- Renewal Energy Solutions



- **Transportation**
- Automotive & Rail
- Aerospace
- Marine & Ship Building



- **Water**
- Desalination Plants
- Water Treatment Plants



- **Oil & Gas**
- On-shore Installations
- Off-shore Installations
- Vessels



- **Petrochemical**
- Oil Refining
- Chemical Processing
- Petrochemical Processing



- **Other Industries**
- Medical & Pharmaceutical
- Paper & Pulp
- Food Processing

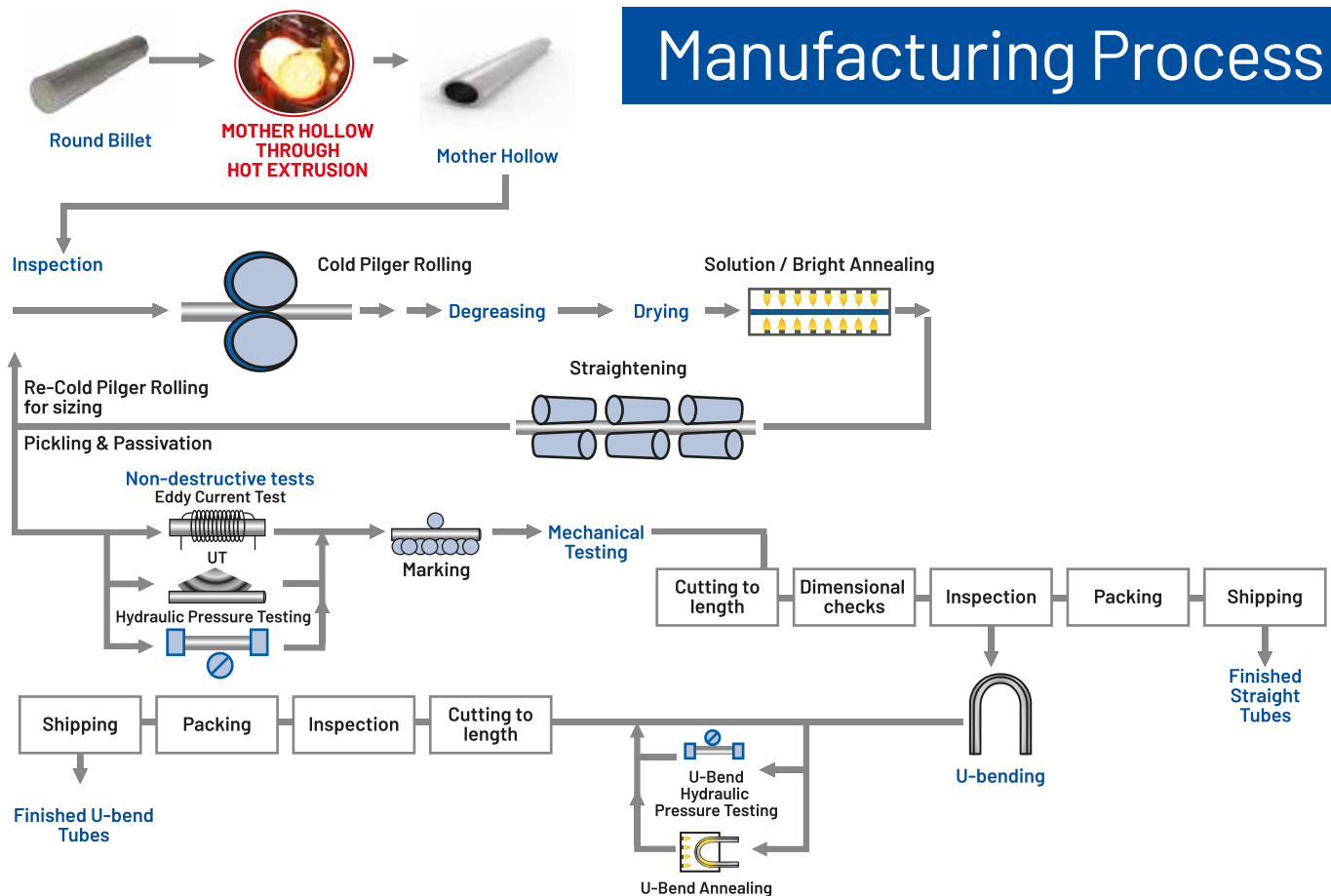


Established in 1984, Jindal SAW Ltd., a part of the multi-billion dollar O.P. Jindal Group has consistently demonstrated four decades of stability, trust, growth and outstanding performance. Jindal SAW has an unparalleled Stainless Steel product range capacity and takes pride in providing Total Pipe Solutions (Seamless, Stainless and Special Nickel Alloys) to multiple industries across the globe.

The tubes are manufactured under stringent global standards & industry norms and in various grades and dimensions as per customer specifications.

Stainless Steel Hydraulic & Instrumentation Tubing have applications across multiple industries such as Power Generation, Oil & Gas, Petrochemical, Transportation, Water and others.

Manufacturing Process



Value Added Services:

Electropolishing, PVC Coating, Oxy Cleaning

Coiled Tubing:

Size - 6mm to 19.05 m, Thickness - 0.8 to 2.11 mm,
Length - Up to 250 mtr (without joint)

Ultra Smooth Surface Tubes:

ID Surface Roughness less than 0.4 Ra



Size Range

GRADE	OD	WT	LENGTH
Nickel Alloys, Duplex, Super Duplex /Austenitic / Super Austenitic	3mm to 25.4 mm	0.70 mm to 3.05 mm	6 mtr fixed (max 24 mtr fix)

Diameter & Thickness Tolerance

ASTM A213/ASME SA213, ASTM A1016 for Straight Tubes		
Nominal OD (mm)	Tolerance OD, in (mm)	Wall Thickness*
Under 25	± 0.10	±10%
25 to 40 incl.	± 0.15	±10%
40 to 50 excl.	± 0.20	±10%
50 to 65 excl.	± 0.25	±10%

ASTM A269		
Nominal OD (mm)	Tolerance OD, in (mm)	Wall Thickness*
Upto 13	± 0.13	±15%
13 to 38 excl.	± 0.13	±10%
38 to 89 excl.	± 0.25	±10%

ASTM A789/ ASME SA789		
Nominal OD (mm)	Tolerance OD, in (mm)	Wall Thickness
Upto 12.7 excl.	± 0.13	±15%
12.7 to 38.1 excl.	± 0.13	±10%
38.1 to 88.9 excl.	± 0.25	±10%

EN 10305-1		
Nominal OD (mm)	Tolerance OD, in (mm)	Wall Thickness*
6.35-25.4	± 0.08	±10%



Tolerances on outside diameter D and wall thickness T for tubes ordered cold finished.

Tolerances on $D \leq 219,1$ mm		Tolerances on T	
Tolerance Class	Permissible Deviation	Tolerance Class	Permissible Deviation
D 3	± 0,75% or ± 0,3 mm whichever is the greater	T 3	± 10% or ± 0,2 mm whichever is the greater
D 4 ^a	± 0,5% or ± 0,1 mm whichever is the greater	T 4 ^a	± 7,5% or ± 0,15 mm whichever is the greater

^a Option 20: Tolerance classes D 4 and T 4 is specified for tubes ordered cold finished.

*If thickness is minimum, then tolerance shall be +20%/-0.0% of specified nominal wall thickness.

Dimension & Pressure

MAXIMUM ALLOWABLE WORKING PRESSURE (MAWP) ACCORDING TO ASME B31.3 (2014)

Outside Diameter	Wall Thickness	Imperial Sizes		Weight	304/304L 1.4301/7	316/316L 1.4404	316/316L -2.5%	316Ti 1.4571	321/321H 1.4541	904L N08904 1.4539	6 Moly S31254 1.4547
(mm)	(mm)	OD	WT	(Kg/m)	(bar)	(bar)	(bar)	(bar)	(bar)	(bar)	(bar)
6.00	1.00			0.125	470.00	470.00	470.00	470.00	470.00	486.00	705.00
6.00	1.50			0.169	738.00	738.00	738.00	738.00	738.00	764.00	1,107.00
6.35	0.71	1/4	0.028	0.100	301.00	301.00	301.00	301.00	301.00	312.00	312.00
6.35	0.89	1/4	0.035	0.122	386.00	386.00	386.00	386.00	386.00	400.00	580.00
6.35	1.24	1/4	0.049	0.159	562.00	562.00	562.00	562.00	562.00	582.00	843.00
6.35	1.65	1/4	0.065	0.194	770.00	770.00	770.00	770.00	770.00	797.00	1,155.00
8.00	1.00			0.175	341.00	341.00	341.00	341.00	341.00	353.00	511.00
8.00	1.50			0.244	537.00	537.00	537.00	537.00	537.00	556.00	806.00
8.00	2.00			0.300	738.00	738.00	738.00	738.00	738.00	764.00	1,107.00
9.53	0.89	3/8	0.035	0.193	248.00	248.00	248.00	248.00	248.00	257.00	373.00
9.53	1.24	3/8	0.049	0.257	356.00	356.00	356.00	356.00	356.00	369.00	534.00
9.53	1.65	3/8	0.065	0.326	491.00	491.00	491.00	491.00	491.00	508.00	736.00
10.00	1.00			0.225	267.00	267.00	267.00	267.00	267.00	277.00	401.00
10.00	1.50			0.319	417.00	417.00	417.00	417.00	417.00	432.00	626.00
10.00	2.00			0.400	580.00	580.00	580.00	580.00	580.00	598.00	870.00
12.00	1.00			0.275	220.00	220.00	220.00	220.00	220.00	228.00	330.00
12.00	1.50			0.394	341.00	341.00	341.00	341.00	341.00	353.00	511.00
12.00	2.00			0.500	470.00	470.00	470.00	470.00	470.00	486.00	705.00
12.70	0.89	1/2	0.035	0.263	183.00	183.00	183.00	183.00	183.00	190.00	275.00
12.70	1.24	1/2	0.049	0.356	261.00	261.00	261.00	261.00	261.00	270.00	391.00
12.70	1.65	1/2	0.065	0.457	356.00	356.00	356.00	356.00	356.00	368.00	533.00
12.70	2.11	1/2	0.083	0.560	468.00	468.00	468.00	468.00	468.00	485.00	702.00
14.00	1.00			0.326	187.00	187.00	187.00	187.00	187.00	193.00	280.00
14.00	1.50			0.470	288.00	288.00	288.00	288.00	288.00	298.00	432.00
14.00	2.00			0.601	395.00	395.00	395.00	395.00	395.00	409.00	593.00
14.00	2.50			0.720	508.00	508.00	508.00	508.00	508.00	526.00	763.00
15.00	1.00			0.351	174.00	174.00	174.00	174.00	174.00	180.00	261.00
15.00	1.50			0.507	267.00	267.00	267.00	267.00	267.00	277.00	401.00
15.00	2.00			0.651	366.00	366.00	366.00	366.00	366.00	379.00	549.00
15.88	1.24	5/8	0.049	0.455	205.00	205.00	205.00	205.00	205.00	212.00	308.00
15.88	1.65	5/8	0.065	0.588	279.00	279.00	279.00	279.00	279.00	288.00	418.00
16.00	1.00			0.376	162.00	162.00	162.00	162.00	162.00	168.00	244.00
16.00	1.50			0.545	249.00	249.00	249.00	249.00	249.00	258.00	374.00
16.00	2.00			0.701	341.00	341.00	341.00	341.00	341.00	353.00	511.00
16.00	2.50			0.845	437.00	437.00	437.00	437.00	437.00	452.00	655.00
18.00	1.00			0.426	144.00	144.00	144.00	144.00	144.00	149.00	215.00
18.00	1.50			0.620	220.00	220.00	220.00	220.00	220.00	228.00	330.00
18.00	2.00			0.801	300.00	300.00	300.00	300.00	300.00	310.00	449.00
18.00	2.50			0.970	383.00	383.00	383.00	383.00	383.00	396.00	574.00
19.05	0.89	3/4	0.035	0.405	120.00	120.00	120.00	120.00	120.00	124.00	180.00
19.05	1.24	3/4	0.049	0.553	169.00	169.00	169.00	169.00	169.00	175.00	254.00
19.05	1.65	3/4	0.065	0.719	229.00	229.00	229.00	229.00	229.00	237.00	344.00
19.05	2.11	3/4	0.083	0.895	299.00	299.00	299.00	299.00	299.00	309.00	448.00
19.05	2.41	3/4	0.095	1.000	345.00	345.00	345.00	345.00	345.00	357.00	518.00
19.05	2.77	3/4	0.109	1.130	403.00	403.00	403.00	403.00	403.00	417.00	604.00
20.00	1.50			0.695	197.00	197.00	197.00	197.00	197.00	204.00	295.00
20.00	1.60			0.737	211.00	211.00	211.00	211.00	211.00	218.00	316.00
20.00	2.00			0.901	267.00	267.00	267.00	267.00	267.00	277.00	401.00
20.00	2.50			1.096	341.00	341.00	341.00	341.00	341.00	353.00	511.00
20.00	3.00			1.277	417.00	417.00	417.00	417.00	417.00	432.00	626.00
22.00	1.50			0.770	178.00	178.00	178.00	178.00	178.00	184.00	267.00
22.00	2.00			1.002	241.00	241.00	241.00	241.00	241.00	250.00	362.00
22.00	2.50			1.221	220.00	220.00	220.00	220.00	220.00	228.00	330.00
24.00	3.00			1.578	341.00	341.00	341.00	341.00	341.00	353.00	511.00
25.00	1.50			0.883	156.00	156.00	156.00	156.00	156.00	161.00	233.00
25.00	2.00			1.152	211.00	211.00	211.00	211.00	211.00	218.00	316.00
25.00	2.50			1.409	267.00	267.00	267.00	267.00	267.00	277.00	401.00
25.00	3.00			1.650	326.00	326.00	326.00	326.00	326.00	337.00	489.00
25.00	4.00			2.103	449.00	449.00	449.00	449.00	449.00	464.00	673.00
25.40	1.24	1	0.049	0.750	126.00	126.00	126.00	126.00	126.00	130.00	188.00
25.40	1.65	1	0.065	0.981	169.00	169.00	169.00	169.00	169.00	175.00	254.00
25.40	2.11	1	0.083	1.231	219.00	219.00	219.00	219.00	219.00	227.00	329.00
25.40	2.41	1	0.095	1.387	253.00	253.00	253.00	253.00	253.00	262.00	379.00
25.40	2.77	1	0.109	1.570	294.00	294.00	294.00	294.00	294.00	304.00	440.00
28.00	1.50			0.995	138.00	138.00	138.00	138.00	138.00	143.00	207.00
28.00	2.00			1.302	187.00	187.00	187.00	187.00	187.00	193.00	280.00
28.00	3.00			1.594	288.00	288.00	288.00	288.00	288.00	298.00	432.00
28.00	5.00			2.880	508.00	508.00	508.00	508.00	508.00	526.00	763.00
30.00	2.00			1.402	174.00	174.00	174.00	174.00	174.00	180.00	261.00
30.00	2.50			1.722	220.00	220.00	220.00	220.00	220.00	228.00	330.00
30.00	3.00			2.028	267.00	267.00	267.00	267.00	267.00	277.00	401.00
30.00	4.00			2.604	366.00	366.00	366.00	366.00	366.00	379.00	549.00
30.00	5.00			3.130	470.00	470.00	470.00	470.00	470.00	486.00	705.00
32.00	2.00			1.502	162.00	162.00	162.00	162.00	162.00	168.00	244.00
35.00	2.00			1.653	148.00	148.00	148.00	148.00	148.00	153.00	222.00
35.00	2.50			2.035	187.00	187.00	187.00	187.00	187.00	193.00	280.00
35.00	3.00			2.404	227.00	227.00	227.00	227.00	227.00	235.00	340.00
35.00	4.00			3.105	309.00	309.00	309.00	309.00	309.00	320.00	463.00
35.00	5.00			3.756	395.00	395.00	395.00	395.00	395.00	409.00	593.00
38.00	2.00			1.803	136.00	136.00	136.00	136.00	136.00	140.00	204.00
38.00	3.00			2.629	208.00	208.00	208.00	208.00	208.00	215.00	312.00
38.00	4.00			3.405	283.00	283.00	283.00	283.00	283.00	292.00	424.00
38.00	5.00			4.132	361.00	361.00	361.00	361.00	361.00	373.00	541.00
38.00	6.00			4.808	442.00	442.00	442.00	442.00	442.00	457.00	663.00
40.00	2.00			1.903	129.00	129.00	129.00	129.00	129.00	133.00	193.00
40.00	3.00			2.779	197.00	197.00	197.00	197.00	197.00	204.00	295.00
40.00	5.00			4.382	241.00	241.00	241.00	241.00	241.00	253.00	362.00
42.00	2.00			2.003	122.00	122.00	122.00	122.00	122.00	127.00	184.00
42.00	3.00			2.930	187.00	187.00	187.00	187.00	187.00	193.00	280.00



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