

Bright ideas  
in the pipeline



Aaditya  Stainless<sup>TM</sup>  
Pvt. Ltd.

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Pvt. Ltd.

THE DAWN OF A NEW ERA

AN ISO 9001:2015 & PED 97/23/EC CERTIFIED CO.





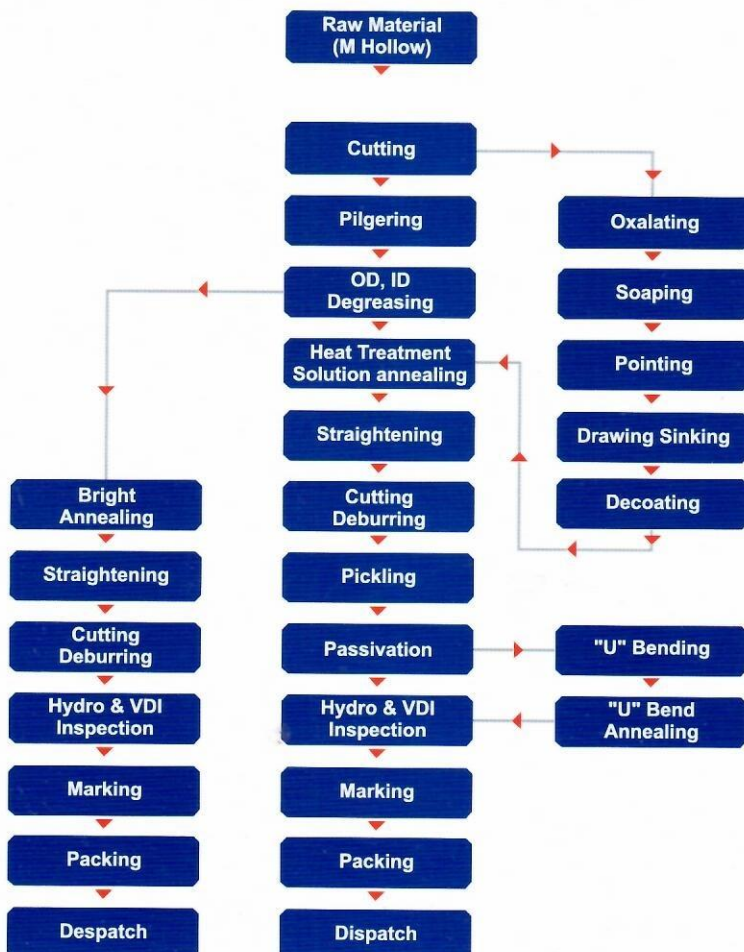
## A chronology that inspires

**Aaditya Stainless Pvt. Ltd.** is a living testimony of our visionary Founder **Shri Peerchandji Bhansali**. He started his career as a skilled worker with **Jayesh Drawing Works**. In **1976**, he commenced Meena Metals in 1980 to pursue his entrepreneurial dream. The business scaled its next big leap in 1984 by taking up agencies of R. K. Tubes, Ranjeet Tubes and VSNL Tubes. In 1988, he went ahead to launch **Vishal Tubes and Pipes (P) Ltd.** in Tarapur on his existing 800-sq.mtrs. business premises which was later expanded to 6000 sq. mtrs. Later in 1990, his son **Shri Kamlesh Bhansali** joined the reigns of the business with ambitious expansion plans. His vision to take the company to newer heights was taking shape both strategically and dynamically. Finally in 2017, **Vishal Tubes & Pipes (P) Ltd.** was rechristened to **Aaditya Stainless Private Limited**, in-line with **Shri Kamlesh Bhansali's** broadened vision of being a world-made business entity in its class. True to its name, **Aaditya Stainless Pvt. Ltd.** celebrates the dawn of a new era where every aspect of the company is strategically benchmarked with global standards. The rise of the new era brings with it new, innovative business approaches, new age technical expertise, new growth and a whole new world of infinite possibilities. **Come, Celebrate the Dawn of a New Era.**

## APPLICATIONS

- Chemicals • Fertilizers • Oil Processing • Textiles Machinery • Synthetic Fibers • Breweries
- Dairy, Refinery & Petrochemicals • Power Plants • Pesticides • Sugar Industries • Pharmaceuticals
- Paper & Rayons Heat Exchanger • Heating Coils • Condensers • Evaporators • Digestors
- Fluid Piping • Instrument

## MANUFACTURING PROCESS OF SEAMLESS TUBES/PIPES





## Stainless Steel Pipe Dimensions

Nominal Pipe Size		Outside Diameter		Wall Thickness & Weight											
				Sch. 5s		Sch. 10s		Sch. 20s		Sch. 40s		Sch. 80s		Sch. 160s	
mm	Inch	mm	Inch	Wall Thick	Weight Kg/Mtr.	Wall Thick	Weight Kg/Mtr.	Wall Thick	Weight Kg/Mtr.	Wall Thick	Weight Kg/Mtr.	Wall Thick	Weight Kg/Mtr.	Wall Thick	Weight Kg/Mtr.
6	1/8	10.3	0.405	1	0.23	1.24	0.28	1.5	0.33	1.73	0.37	2.41	0.47	-	-
8	1/4	13.7	0.54	1.2	0.37	1.65	0.49	2	0.58	2.24	0.64	3.02	0.82	-	-
10	3/8	17.2	0.675	1.2	0.47	1.65	0.63	2	0.74	2.31	0.87	3.2	1.12	-	-
15	1/2	21.3	0.84	1.65	0.81	2.11	1.02	2.3	1.07	2.77	1.29	3.73	1.62	4.75	1.97
20	3/4	26.7	1.05	1.65	1.05	2.11	1.3	2.5	1.52	2.87	1.71	3.91	2.93	5.56	2.93
25	1	33.4	1.315	1.65	1.03	2.77	2.13	2.5	2	3.38	2.54	4.55	3.29	6.35	4.3
32	1 1/4	42.2	1.66	1.65	1.65	2.77	2.73	3	2.9	3.56	3.44	4.85	4.56	6.35	5.69
40	1 1/2	48.3	1.9	1.65	1.93	2.77	3.11	3	3.35	3.68	4.11	5.08	5.49	7.14	7.35
50	2	60.3	2.375	1.65	2.4	2.77	3.99	3.5	4.25	3.91	5.52	5.54	7.6	8.74	11.26
65	2 1/2	73.03	2.875	2.11	3.7	3.05	5.26	4	6.84	5.16	8.77	7.01	11.59	9.53	14.91
80	3	88.9	3.5	2.11	4.51	3.05	6.45	4	8.37	5.49	11.47	7.62	15.51	11.13	21.3
100	4	114.3	4.5	2.11	5.85	3.05	8.36	4.5	12.18	6.02	16.07	8.56	22.66	13.49	33.54
125	5	141.3	5.563	2.77	9.5	3.4	11.6	5	16.8	6.55	21.08	9.53	31	15.88	49.11
150	6	168.3	6.625	2.77	11.35	3.4	13.82	6.35	25.36	7.11	28.68	10.97	42.56	18.24	67.53
200	8	219.08	8.625	2.77	14.8	3.76	20	6.35	33.31	8.18	43.18	12.7	64.64	23.01	111.27
250	10	273.05	10.75	3.4	22.61	4.19	27.8	6.35	41.77	9.27	60.31	12.7	81.55	28.58	172.33
300	12	323.58	12.75	3.96	31.25	4.57	36	6.35	49.7	9.53	73.85	12.7	97.43	33.32	238.68
350	14	355.6	14	3.96	34.35	4.78	41.3	7.92	67.9	11.13	98.50	-	-	-	-
400	16	406.4	16	4.19	41.6	4.78	47.34	7.92	77.82	12.07	123.3	-	-	-	-
450	18	457.2	18	4.19	46.85	4.78	53.32	7.92	87.74	14.27	155.86	-	-	-	-
500	20	508	20	4.78	59.31	5.54	68.64	9.53	117.14	15.09	183.42	-	-	-	-
600	24	609.6	24	5.54	82.57	6.35	94.52	9.53	141.11	17.48	255.41	-	-	-	-





## PROPERTIES, COMPOSITIONS & TEST

### PHYSICAL PROPERTIES

Grade TP	Tensile Strength ksi (M pa)	Yield Strength ksi (M pa)	Elongation in 2 inches % min	Max. Hardness		Thermal conductivity cal /sec. Cm. Oc at Temp. Range 20-500 °C	Co-efficient of expansion x 10 Cm/ Cm. / °C at Temp. range 20-870 °C
				Brinell	Rockwell QB		
304	75 (515)	30 (205)	35	200	90	0.051	19.8
304L	70 (485)	25 (170)	35	200	90	0.051	19.8
310	75 (515)	30 (205)	35	200	90	0.044	18.8
316	75 (515)	30 (205)	35	200	90	0.042	19.3
316L	75 (485)	25 (170)	35	200	90	0.042	19.3
316Ti	70 (540)	25 (205)	35	200	90	0.042	19.3
321	75 (515)	30 (205)	35	200	90	0.051	19.8
317L	75 (515)	30 (205)	35	200	90	0.049	17.5

### CHEMICAL COMPOSITION

Percentage Stainless Steel Grade Designation	C Max	Si Max	Mn Max	Cr.	Ni.	P Max	S Max	Other Elements
SSLN-4/J1	0.08	0.75	8.00	15.00/17.00	4.00/5.00	0.75	0.030	--
SSLN-2/J3	0.08	0.75	10.05	14.00/16.00	2.00/3.00	0.75	0.030	--
SSLN-1/J4	0.10	0.75	8.5/10.0	15.00/16.00	1.00/1.25	0.09	0.030	--
SS 301	0.15	1.00	2.00	16.00/18.00	6.00/8.00	0.45	0.030	--
SS 304	0.08	0.75	2.00	18.00/20.00	8.00/10.50	0.45	0.030	--
SS 304L	0.03	0.75	2.00	18.00/20.00	8.00/12.00	0.45	0.030	--
SS 310S	0.08	1.50	2.00	24.00/26.00	19.00/22.00	0.45	0.030	--
SS 310	0.25	1.50	2.00	24.00/26.00	19.80/12.00	0.45	0.030	--
SS 316	0.08	0.75	2.00	16.00/18.00	10.00/14.00	0.45	0.030	Mo2.00/3.00
SS 316Ti	0.08	0.75	2.00	16.00/18.00	10.00/14.00	0.45	0.030	Ti5X(C+N) min Max=0.70 Mo2.00/3.00
SS 316L	0.03	0.75	2.00	16.00/18.00	10.00/14.00	0.45	0.030	Mo2.00/3.00
SS 321	0.08	0.75	2.00	17.00/19.00	9.00/12.00	0.45	0.030	Ti5X(C+N) min Max=0.70
SS 409	0.03	1.00	1.00	10.50/11.75	0.50 Max	0.40	0.030	Ti 6XC min 0.75 max
SS 430	0.12	1.00	1.00	16.00/18.00	0.75 Max	0.40	0.030	--
SS 410S	0.08	1.00	1.00	11.50/13.50	0.75 Max	0.40	0.030	--
SS 420	0.15	1.00	1.00	12.00/14.00	--	0.40	0.030	--
2205	0.03	1.00	2.00	22.00/23.00	4.50/6.50	0.03	0.020	Mo 2.5 / 3.5
4501	0.03	1.00	1.00	25.30	6.85	0.03	0.010	Cu 0.75
2507	0.03	0.80	1.20	24.00/26.00	6.00/8.00	0.035	0.020	Mo 3.0 / 5.0
904L	0.02	1.00	2.00	19.00/23.00	23.00/28.00	0.045	0.035	Mo 4.0 / 5.0 Cu 1.0 / 2.0
250 SMO	0.02	0.8	1.00	19.50/20.50	18.5 Max	0.03	0.01	Mo 6.0 / 6.5

Note : For details Refer to Respective ASTM Standards

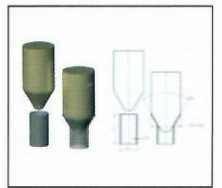
### Corrosion Test

This test signifies the corrosion rate per annum which help to know the life of stainless steel material to test. It is carried as per practice A 262-A 763 if demanded by the purchaser.



### Flaring Test

In this test a section of tube is flared with a tool having 60 degree included angle until the mouth of the tube has been expanded without cracking or any imperfection on weld or on parent material.



### Flattening Test

In this test a section of tube is flared with a tool having 60 degree included angle until the mouth of the tube has been expanded without cracking or any imperfection on weld or on parent material.



### Flange Test

A section of tube shall be capable of having flange turned over at a right angle to the body of tube with cracking or showing imperfections on weld or parent metal is subject to rejection. The width of flange shall not be less than 15% and as per specification.



### Hydrostatic / Pneumatic Pressure Test

In this test, each length of finished Pipe/Tube is Hydro tested at their maximum strength.



### Hardness Test

For the determination of softness requires to do further cold work on tube, the hardness test is performed on parent material of tube after annealing. The hardness for 1.7 mm to 5.0 mm and in Brinell scale above 5.10 mm wall thickness of pipe/tube as per the procedure laid down in the specification, less than 1.7mm thk superficial hardness is applicable.





## STAINLESS STEEL SEAMLESS & WELDED TUBES & PIPES

### Tolerance

Standard	Size Range	OD Tolerance	W.T Tolerance	Fixed Length Tolerance
ASTMA 213 Seamless Boiler, Super Heater, Heat Exchanger & Condenser Tubes	Under 25.40 mm 25.40 - 38.10 mm incl. Over 38.10 - 50.80 mm excl. 50.80 - 63.50 mm excl. 63.50 - 76.20 mm excl. 76.20 - 101.60 mm incl. Over 101.60 - 190.50 mm incl Over 190.50 - 228.60 mm incl	+ / - 0.10 mm + / - 0.15 mm + / - 0.20 mm + / - 0.25 mm + / - 0.30 mm + / - 0.38 mm Over 0.38mm / Under 0.64 mm Over 0.38mm / Under 1.14 mm	+ 20 / - 0 % + 20 / - 0 % + 22 / - 0 % + 22 / - 0 % + 22 / - 0 % + 22 / - 0 % + 22 / - 0 % + 22 / - 0 %	+ 3 / - 0 mm + 3 / - 0 mm + 3 / - 0 mm + 5 / - 0 mm + 5 / - 0 mm + 5 / - 0 mm + 5 / - 0 mm + 5 / - 0 mm
ASTMA 249 Welded Boiler, Super Heater, Heat Exchanger & Condenser Tubes	Under 25.40 mm 25.40 - 38.10 mm incl. Over 38.10 - 50.80 mm excl. 50.80 - 63.50 mm excl. 63.50 - 76.20 mm excl. 76.20 - 101.60 mm incl. Over 101.60 - 190.50 mm incl Over 190.50 - 228.60 mm incl	+ / - 0.10 mm + / - 0.15 mm + / - 0.20 mm + / - 0.25 mm + / - 0.30 mm + / - 0.38 mm Over 0.38mm / Under 0.64 mm Over 0.38mm / Under 1.14 mm	+ / - 10.0 % + / - 10.0 % + / - 10.0 % + / - 10.0 % + / - 10.0 % + / - 10.0 % + / - 10.0 % + / - 10.0 %	+ 3 / - 0 mm + 3 / - 0 mm + 3 / - 0 mm + 5 / - 0 mm + 5 / - 0 mm + 5 / - 0 mm + 5 / - 0 mm + 5 / - 0 mm
ASTMA 358 EFW pipes for High Temperature Service	8" NB and above class 1 to 5	Based on circumferential Measurement $\pm 0.5$ % of specified OD	Min - 0.30 mm under the nominal THK	As per Agreement between manufacturer & Purchaser
ASTMA 269 Seamless & Welded Tube	Under 12.70 mm 12.70 - 38.10 mm incl. 38.10 - 88.90 mm excl. 88.90 - 139.70 mm excl. 139.70 - 203.70 mm excl.	+ / - 0.13 mm + / - 0.13 mm + / - 0.25 mm + / - 0.38 mm + / - 0.76 mm	+ / - 15 % + / - 10 % + / - 10 % + / - 10 % + / - 10 %	+ 3.2 / - 0 mm + 3.2 / - 0 mm + 4.8 / - 0 mm + 4.8 / - 0 mm + 4.8 / - 0 mm
ASTMA 270 Seamless & Welded Sanitary Tube	25.40 - 38.10 mm incl. 38.10 - 63.50 mm incl. 63.50 - 76.20 mm excl. 76.20 - 101.60 mm incl.	+ 0.05 / - 0.20 mm + 0.05 / - 0.28 mm + 0.08 / - 0.30 mm + 0.08 / - 0.38 mm	+ / - 12.5 % + / - 12.5 % + / - 12.5 % + / - 12.5 %	+ 3.2 / - 0 mm + 3.2 / - 0 mm + 3.2 / - 0 mm + 3.2 / - 0 mm
ASTMA 312 Seamless & Welded Pipe	13.70 - 48.30 mm incl. 48.30 - 114.30 mm incl. 114.30 - 219.08 mm excl.	+ 0.40 / - 0.80 mm + 0.80 / - 0.80 mm + 1.60 / - 0.80 mm	Min wall + 12.5 % under nominal wall specified + / - 12.5 %	+ 6 / - 0 mm + 6 / - 0 mm + 6 / - 0 mm
ASTMA 409 Welded Large dia pipes for corrosive or High Temperature Service	14" NB to 30" NB Sch 5S to Sch 10S	THK less than 4.8 mm $\pm 0.20$ % of OD THK more than 4.8 mm $\pm 0.40$ % of OD	min - 0.46 mm under the nominal THK	If not Specified in PO 22" NB pipes & below 9 - 12 feet pipes above 22" NB 5 feet
ASTMA 554 Welded Mechanical Tubing	Table 2 of Specification	Table 2 of Specification	$\pm 10$ % of Nominal Wall Thickness	Table 2 of Specification

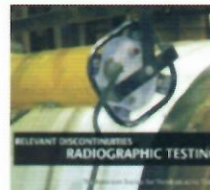
### Reverse Flattening Test

This test is only applicable up to 12.7 mm tube. The Section is split longitudinally in 4" length at 90 Degree both side of weld and flattened with the weld at the point of maximum bend. There shall be no evidence of crack, lack of penetration, or overlaps resulting from flash or removal of weld.



### Radiography Test

This Examination of longitudinally weld or circumference weld shall be carried out in accordance with the requirement of ASME Boiler and pressure vessel code.



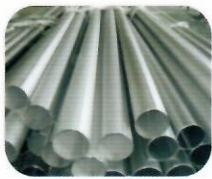
### Eddy Current Test

This reference specimen of tube/pipe is prepared according to practice E 213 on the machine by passing the tube through specially designed coil which has capability of detecting significant discontinuities as per practice E426/E309 of ASTM specifications.





## PACKING & DISPATCH



## THIRD PARTY INSPECTION



Larsen & Toubro Ltd.



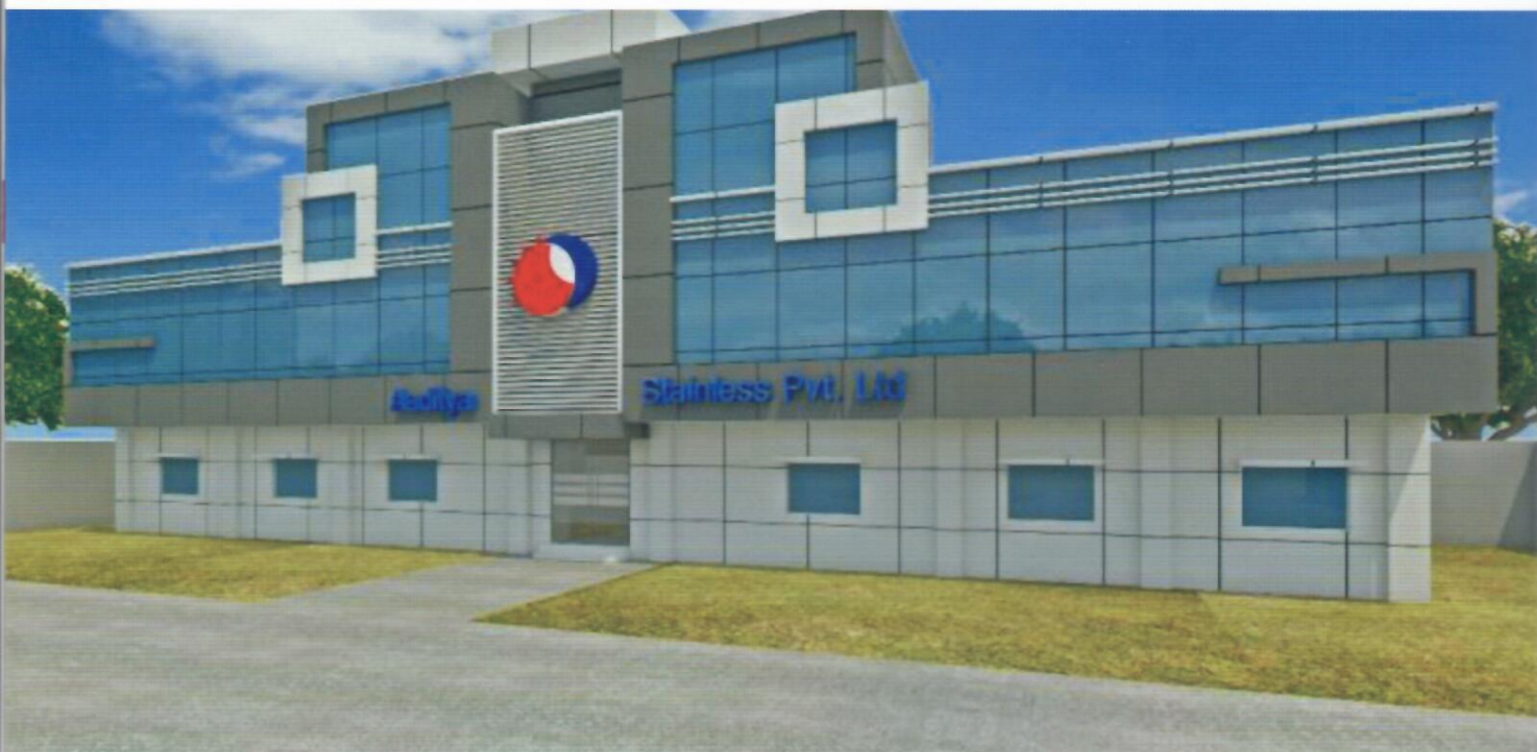
**I.B.R.**



Electromech Engg.



DET NORSKE VERITAS



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