



Stainless steel · Duplex Tubes & Pipes

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**ABC METAL CORP.**

## We are...

We, ABC Metal Corp. is a manufacturer and supplier of Stainless Steel Seamless & Welded Straight & Coiled Tube for Electric Vehicles Battery Parts, Semi Conductor Line, Mechanical Parts, Boiler & Heat Exchanger, Instrument, structure, Food and Beverage Process Equipment, etc.

We always try to do best effort to meet needs of customers with excellent manufacturing equipment and strict inspection system for highest quality.

We will keep going ahead to be the best in the world market with accumulated Know-how and capability

Thank you.



#### ■ **Market**

Electric Vehicles Battery, Semi Conductor Line, Oil & Gas Plant, Petrochemical Plant, Offshore Plant, Power Plant, Building

#### ■ **Usage**

Electric Vehicles Battery Parts, Flow Line for Semi Conductor, Boiler, Heat Exchanger, Superheater, Air Cooler, Condenser, Structure, etc.

#### ■ **Major Materials**

Alloy Steel : N10276, N04400, N06600, N06625, N08825

Stainless Steel : TP304/304L TP321, TP316L, TP317L, TP405,  
TP409, TP410, 904L, S31254

Duplex : S31803, S32205, S32750

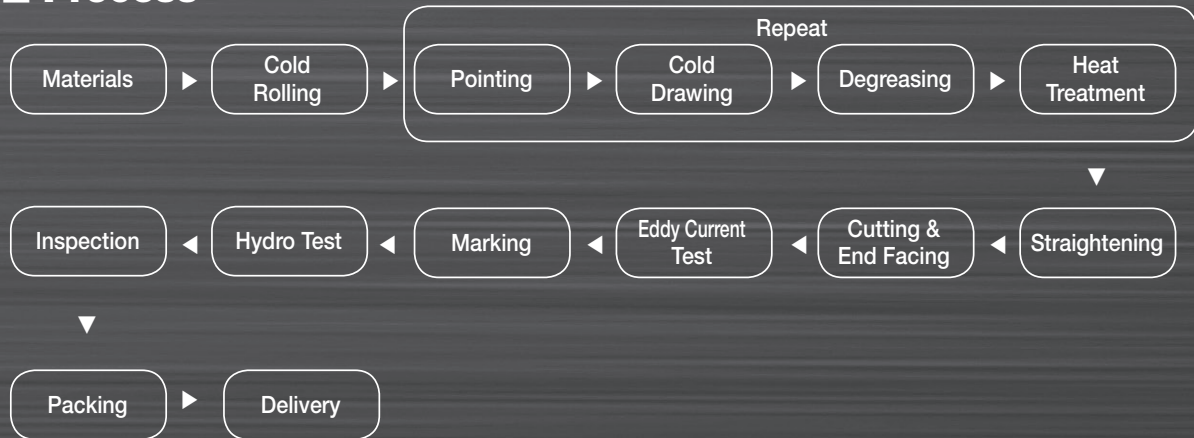
#### ■ **Applicable Specification**

ASTM A268, A269, A213, A312, A249, A789, B622, B165, B444,  
B423



# Stainless steel Seamless Tube

## ■ Process



## ■ Standard

**ASTM A213** Seamless Ferritic and Austenitic Alloy Steel Boiler, Superheater, and Heat Exchanger Tube

**ASTM A269** Seamless and Welded Austenitic Stainless Steel Tubing for General Service

**ASTM A789** Seamless and Welded Ferritic / Austenitic Stainless Steel Tubing for General Service

## ■ Available Size

	0.50	0.70	0.89	1.00	1.24	1.65	2.11	2.77	3.05
6.35	←					→			
9.53	←						→		
12.7			←					→	
15.88			←					→	
19.05				←					→
25.4				←					→
31.8					←				→
38.10						←			→
50.80						←			→

WT OD	0.60	0.70	0.80	0.90	1.00	1.20	1.50	1.65	2.00	2.11	2.30	2.40
6.35												
8.00												
9.53												
12.70												
15.88												
19.05												
21.34												
21.70												
25.40												



## ■ Process

■ Comparative Table of Stainless Steel

ASTM		Chemical Composition											Mechanical Requirement			
Grade	UNS	C <sup>Max</sup>	Mn <sup>Max</sup>	P <sup>Max</sup>	S <sup>Max</sup>	Si <sup>Max</sup>	Cr	Ni	Mo	N <sup>Max</sup>	Ti	Other	T.S.	Y.S.	EL	Hardness
													Mpa <sup>Max</sup>	Mpa <sup>Max</sup>	%	HRB <sup>Min</sup>
TP304	S30400	0.080	2.00	0.045	0.030	1.00	18.0-20.0	8.0-11.0	-	-	-	-	515	205	35	90
TP304L	S30403	0.035	2.00	0.045	0.030	1.00	18.0-20.0	8.0-12.0	-	-	-	-	485	170	35	90
TP304N	S30451	0.080	2.00	0.045	0.030	1.00	18.0-20.0	8.0-11.0	-	0.10-0.16	-	-	550	240	35	90
TP304H	S30409	0.04-0.10	2.00	0.045	0.030	1.00	18.0-20.0	8.0-11.0	-	-	-	-	515	205	35	90
TP321	S32100	0.080	2.00	0.045	0.030	1.00	17.0-19.0	9.0-12.0	-	-	5X(C+N) - 0.70	-	515	205	35	90
TP310S	S31008	0.080	2.00	0.045	0.030	1.00	24.0-26.0	19.0-22.0	-	-	-	-	515	205	35	90
TP316	S31600	0.080	2.00	0.045	0.030	1.00	16.0-18.0	10.0-14.0	2.0-3.0	-	-	-	515	205	35	90
TP316L	S31603	0.035	2.00	0.045	0.030	1.00	16.0-18.0	10.0-14.0	2.0-3.0	-	-	-	485	170	35	90
TP316Ti	S31635	0.080	2.00	0.045	0.030	0.75	16.0-18.0	10.0-14.0	2.0-3.0	0.10	5X(C+N) - 0.70	-	515	205	35	90
TP317L	S31703	0.035	2.00	0.045	0.030	1.00	18.0-20.0	11.0-15.0	3.0-4.0	-	-	-	485	170	35	90
TP347	S34700	0.080	2.00	0.045	0.030	1.00	17.0-19.0	9.0-12.0	4.0-5.0	-	-	Nb 10xC - 1.10	515	205	35	90
	N08904	0.020	2.00	0.040	0.030	1.00	19.0-23.0	23.0-28.0	4.0-5.0	0.10	-	Cu 1.0-2.00	490	215	35	90
	S31254	0.020	1.00	0.030	0.010	0.80	17.5-18.5	19.5-20.5	6.0-6.5	0.18-0.22	-	Cu 0.5-1.00	675	310	35	96
	S31803	0.030	2.00	0.030	0.020	1.00	21.0-23.0	4.5-6.5	2.5-3.5	0.08-0.20	-	-	620	450	25	HRC 30
	S32205	0.030	2.00	0.030	0.020	1.00	22.0-23.0	4.5-6.5	3.0-3.5	0.14-0.20	-	-	655	485	25	HRC 30
	S32750	0.030	1.20	0.035	0.020	0.80	24.0-26.0	6.0-8.0	3.0-5.0	0.24-0.32	-	Cu 0.5	800	550	15	HRC 32
	S32760	0.050	1.00	0.030	0.100	1.00	24.0-26.0	6.0-8.0	3.0-4.0	0.20-0.30	-	Cu 0.50-1.00 W 2.10-2.50	750	550	25	-

■ Dimensional Tolerance

		Outer Diameter				ASTM A249		ASTM A213	
Tolerance	Outer Diameter	D < 25	25 ≤ D ≤40	40 < D <50	50 ≤ D ≤65	+0.10, -0.11	±0.15	±0.20	±0.25
	Wall Thickness	Avg. W.T.	All Size			±10%		±10%	
		Min. W.T.	D ≤ 38.1			-0/+18%		-0/+20%	
			38.1 < D					-0/+22%	
	Length	D < 50.8	L ≤ 7,300			-0/+3			
			7300 < L ≤ 10,300			-0/+6			
			10,300 < L ≤ 13,300			-0/+9			
			13,300 < L ≤ 16,300			-0/+12			
			16,300 < L			-0/+13			
		D ≥ 50.8	L ≤ 7,300			-0/+5			
			7300 < L ≤ 10,300			-0/+10			
			10,300 < L			-0/+13			
Straightness		127mm ≤ D & Total Length 914m				Max. Curvature 0.8mm			

ASTM A269					ASTM A789				
Outer Diameter		Wall Thickness		Length	Outer Diameter		Wall Thickness		Length
Size	Tolerance	Tolerance	Thin Walled Tubes	Tolerance	Size	Tolerance	Tolerance	Thin Walled Tubes	Tolerance
12.7≤ D < 38.1	±0.13	±10%	Less than 1.65mm nominal	-0/+3.2	12.7≤ D < 38.1	±0.13	±10%	Less than 1.60mm nominal	-0/+3.0
38.1≤ D < 88.9	±0.25	±10%	Less than 2.41mm nominal	-0/+4.8	38.1≤ D < 88.9	±0.25	±10%	Less than 2.40mm nominal	-0/+4.8



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