

ASME SA213/A213: Standard Specification for Seamless Ferritic and Austenitic Alloy-Steel Boiler, Super heater and Stainless Steel Heat Exchanger Tubes.

Referenced Documents

A 262 Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels

A 941 Terminology Relating to Steel, Stainless Steel, Related Alloys and Ferroalloys

A 1016/A 1016M Specification for General Requirements for Ferritic Alloy Steel, Austenitic Alloy Steel, and Stainless Steel Tubes

E 112 Test Methods for Determining Average Grain Size

E 527 Practice for Numbering Metals and Alloys (UNS)

2.2 Other Standard:

SAE J1086 Practice for Numbering Metals and Alloys(UNS)4

Ordering Information

4.1 It shall be the responsibility of the purchaser to specify all requirements that are necessary for products under this specification. Such requirements to be considered include, but are not limited to, the following:

4.1.1 Quantity (feet, metres, or number of lengths),

4.1.2 Name of material (seamless tubes),

4.1.3 Grade (Tables 1 and 2),

4.1.4 Condition (hot finished or cold finished),

4.1.5 Controlled structural characteristics (see 6.3),

4.1.6 Size (outside diameter and minimum wall thickness),

4.1.7 Length (specific or random),

4.1.8 Hydrostatic Test or Nondestructive Electric Test (see 10.1),

4.1.9 Specification designation and year of issue,

4.1.10 Increased sulfur (for machinability, see Note B, Table 1, and 14.3), and

4.1.11 Special requirements and any supplementary requirements selected.

Hydrostatic or Nondestructive Electric Test

10.1 Each tube shall be subjected to the nondestructive electric test or the hydrostatic test. The type of test to be used

shall be at the option of the manufacturer, unless otherwise specified in the purchase order.

ASTM A249 / A249M: Standard Specification for Welded Austenitic Steel Boiler, super heater Heat-Exchanger, and Condenser Tubes.

Other Standard: DIN 17456, DIN 17458, EN10216-5, GOST 9940-81, GOST 9941-81, JIS-G3463,

Material Grade:

American Standard	<p>Austenitic Steel: TP304, TP304L, TP304H, TP304N, TP310S, TP316, TP316L, TP316Ti, TP316H, TP317, TP317L, TP321, TP321H, TP347, TP347H,904L...</p> <p>Duplex Steel: S32101, S32205, S31803, S32304, S32750, S32760</p> <p>Others:TP405,TP409, TP410, TP430, TP439,...</p>
European Standard	1.4301,1.4307,1.4948,1.4541,1.4878,1.4550,1.4401,1.4404,1.4571,1.4438, 1.4841,1.4845,1.4539,1.4162, 1.4462, 1.4362, 1.4410, 1.4501

Production	Outside Diameter	Wall Thickness
Heat Exchanger Tube	6.00mm to 101.6mm	0.5mm to 8mm

Final Finishing

Solution Annealed & Pickled/Bright Annealed.

Type of Tubes:

U-bend & Straight.

Tube Kinds	SA213 OD(D)		SA213 Thickness(S)	
	OD(mm)	OD Tolerance(mm)	OD(mm)	Thickness Tolerance(mm)
Hot Rolled	=101.6	+0.4~-0.8	76~168.3	+28%~0
	>101.6~168.3	+0.4~-1.2		
Cold Drawn	<25.4	0.1	=38.1	+20%~0
	25.4~38.1	0.15		
	>38.1~<50.8	0.2	>38.1	+22%~0
	50.8~<63.5	0.25		
	63.5~<76.2	0.3		
76.2~101.6	0.38			