

ASTM A179/A179M standard Specification for Seamless Cold-Drawn Low-Carbon Steel Heat-Exchanger and Condenser Tubes



1. Chemical Composition of ASTM A179, ASME SA179

Material	Chemical Composition(%)					
raceriai	С	Si	Mn	Р	S	
ASTM A179	0.06-0.18	≤ 0.25	0.27-0.63	≤0.035	≤0.035	

2. Mechanical Propertie of ASTM A179, ASME SA179

Standard	ASTM A179	
Tensile Strength(MPa)	≥325	
Yield Strength(MPa)	≥180	
Elongation,%	≥35	
Hardness, HRB	≤72	

Note —Tubing smaller in outside diameter and having a thinner wall than indicated in this specification is available. Mechanical property requirements do not apply to tubing smaller than 1/8 in. [3.2 mm] in outside diameter or with a wall thickness under 0.015 in. [0.4 mm].

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3. Tolerances of Wall Thickness

	Wall Thickness, %							
Outside Diameter, in. [mm]	0.095[2.4] and Under		Over 0.095 to 0.150 [2.4 to 3.8], incl		Over 0.150 to 0.180 [3.8 to 4.6], incl		Over 0.180,[4.6]	
	Over	Under	Over	Under	Over	Under	Over	Under
Seamless, Cold-Finished Tubes								
	Over			Under				
1 1 / 2 [38.1] and under	20			0				
Over 1 1 / 2 [38.1]	22			0				

4. Tolerances of Outside Diameter

Outside Diameter in [mm]	Permissible Variations, in. [mm]			
Outside Diameter,in. [mm]	Over	Under		
Under 1 [25.4]	0.004 [0.1]	0.004 [0.1]		
1 to 1 1 / 2 [25.4 to 38.1], incl	0.006 [0.15]	0.006 [0.15]		
Over 1 1 / 2 to 2 [38.1 to 50.8], excl	0.008 [0.2]	0.008 [0.2]		
2 to 2 1 / 2 [50.8 to 63.5], excl	0.010 [0.25]	0.010 [0.25]		
2 1 / 2 to 3 [63.5 to 76.2], excl	0.012 [0.3]	0.012 [0.3]		
3 to 4 [76.2 to 101.6], incl	0.015 [0.38]	0.015 [0.38]		
Over 4 to 7 1 / 2 [101.6 to 190.5], incl	0.015 [0.38]	0.025 [0.64]		
Over 7 1 / 2 to 9 [190.5 to 228.6], incl	0.015 [0.38]	0.045 [1.14]		

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5. Tolerances of Length

Method of	Outside	Cut Length,in. [mm]		
Manufacture	Diameter, in. [mm]	Over	Under	
Seamless, cold-finished	Under 2 [50.8]	1 / 8 [3]	0 [0]	
	2 [50.8] and over	3 / 16 [5]	0 [0]	
	2 [50.8] and over	3 / 16 [5]	0 [0]	



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