

PTM Products and Specifications

Pressure Tube and Capillary Tubing	
Grades	304L and 316L Stainless Steel, Nickel-Base Alloys 625 and 825, and Duplex Stainless Steel 2205 Additional alloys to be added as required to meet customer needs
Sizes:	
Outside Diameter	1/8 to 5/8 inch (0.125 to 0.625 inch)
Wall Thickness	0.010 to 0.065 inch
Lengths	Up to 100,000 feet or more, depending on tube size and customer requirements
Tolerances:	
Outside Diameter	± 0.005 inch
Wall Thickness	± 10%
Lengths	-0 feet /+20 feet
ASTM Specifications	Meets or exceeds the requirements for welded tubing in ASTM Specifications A269, A554, A632, B704, and A789

Characteristics					
Mechanical and Physical Properties of Stainless Steels, Nickel-Base Alloys, and Duplex Stainless Steels in the Heat-Treated Condition at Ambient Temperature (Mechanical Properties Are Based on A632, B704, A789, and strip supplier data sheets)					
	Alloy 625 (Grade 1)	Alloy 825	2205	316L	304L
Ultimate Tensile Strength, min (PSI)	120,000	85,000	95,000	70,000	70,000
Yield Strength (.2% Offset), min (PSI)	60,000	35,000	70,000	25,000	25,000
Elongation (in 2 inches), min	30	30	25	35	35
Hardness, max	–	–	30HRC	–	–
Modulus of Elasticity (x10 ⁶ PSI)	29.8	28.3	27.5	28.0	28.0
Avg. Coefficient of Thermal Expansion from 70 °F to 200 °F (in./in./°F x 10 ⁻⁶)	7.1	7.8	7.6	9.2	9.2
Density (lbs/in ³)	0.305	0.293	0.285	0.290	0.287

ASTM Referenced Specifications		
ASTM Specification	Title	Description
A-269	Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service	This specification covers grades of nominal-wall-thickness, stainless steel tubing for general corrosion-resisting and low- or high-temperature service
A-554	Standard Specification for Welded Stainless Steel Mechanical Tubing	This specification covers welded stainless steel tubing for mechanical applications applications where appearance, mechanical proper ties, or corrosion resistance is needed
A-632	Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing (Small-Diameter) for General Service	This specification covers grades of stainless steel tubing in sizes under 1/2 in. down to 0.050 in. in outside diameter and wall thicknesses less than 0.065 in. down to 0.005 in. for general corrosion-resisting and low- or high-temperature service
B-704	Standard Specification for Welded UNS N06625, UNS N06219 and UNS N08825 Alloy Tubes	This specification covers welded UNS N06625, UNS N06219 and UNS N08825 alloy boiler, heat exchanger, and condenser tubes for general corrosion resisting and low- or high-temperature service
A-789	Standard Specification for Seamless and Welded Ferritic/Austenitic Stainless Steel Tubing for General Service	This specification covers grades of nominal wall thickness, stainless steel tubing for services requiring general corrosion resistance, with particular emphasis on resistance to stress corrosion cracking

