UNITED PERFORMANCE METALS
QUALITY SOLUTIONS. TRUSTED PARTNERS.
AN ONI COMPANY

Stainless 317L/LM/LMN

Types 317L/LM/LMN are molybdenum containing, austenitic, and austenitic chromium stainless steels with higher nickel alloy content. Developed to resist the attack of sulfuric acid compounds, these alloys combine good corrosion resistance with good mechanical properties and fabricabitlity.

Specifications

ASTM: A182, A167

UNS: S31703, S31725, S31726

Chemical Composition, %

Element	Maximum Unless Range is Specified		
	317L	317LM	317LMN
Carbon	0.03	0.03	0.03
Manganese	2	2	2
Phosphorus	0.045	0.045	0.045
Sulfur	0.03	0.03	0.03
Silicon	1	1	0.75
Chromium	18	18	17
	20	20	20
Nickel	11	12	13.7
	15	16	17.5
Iron	Balance	Balance	Balance
Molybdenum	17	4	4
	19	4.5	5
Nitrogen			0.1
			0.2

Features

- Good corrosion resistance
- Good mechanical properties
- Ease of fabrication
- Produces stronger welds due to lower carbon content
- Resists the attack of sulfuric acid compounds

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Applications

- Chemical and Petrochemical process equipment
- Pulp & paper manufacturing
- Nuclear fueled power generation stations

Physical Properties

Density lb/cu. In.: 0.29
Modulus of Elasticity: 28
Linear Coefficient of Thermal Expansion 68-212°F,/°F : 8.9 x 10^{-6}
Thermal Conductivity Btu,ft hr°F: 8.7
Heat Capacity Btu/lb°F: 0.12
Electrical Rsistivity Ω-inch: 33.5x10^{-6}

Mechanical Properties

Property	Typical ASTM		
	317L	317LN	317LMN
0.2% Offset Yield Strength, ksi	48 35 min	46 30 min	46 30 min
Ultimate Tensile Strength, ksi	99 80 min	89 74 min	89 75 min
Elongation in 2 inches, %	52 40 min	53 35 min	53 40 min
Reduction in Area, %	61 -	69 -	69 -
Hardness, Rockwell B	85 96 max	89 95 max	80 95 max