



# HSM Wire International, Inc

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## Alloy 317L Stainless Steel

**Description:** Alloy 317 is a molybdenum-bearing austenitic stainless steel with greatly increased resistance to chemical attack. Alloy 317 offers higher creep, stress-to-rupture, and tensile strength at elevated temperatures. It is a low carbon grade.

**Applications:** Intended for severe service conditions such as flue gas desulfurization systems.

<b>Nominal Composition:</b>	<b>C</b>	<b>Mn</b>	<b>Si</b>	<b>Cr</b>	<b>Ni</b>	<b>Mo</b>	<b>P</b>
	0.03	2.00	0.75	18 - 20	11 - 15	3 - 4	0.04 max
	<b>S</b>	<b>N</b>	<b>Fe</b>				
	0.03 max	0.10 max	Balance				

### Minimum Mechanical Properties

<b>Ultimate Tensile Strength ksi (MPa)</b>	<b>Yield Strength .2% offset ksi (MPa)</b>	<b>Elongation in 2 in. (%)</b>	<b>Hardness Maximum</b>
75 (515)	30 (205)	40	217 BHN

### Typical Physical Properties at Room Temperature

<b>Density</b>	8.0 g/cu cm.	0.29 lb/cu in.
<b>Modulus of elasticity in tension</b>	29 x 10 psi	200 GPa
<b>Coefficient of Linear Thermal Expansion</b>		
<b>Temp. Range °F</b>	<b>Temp. Range °C</b>	<b>10 / °F (10 / °C)</b>
77 - 212	25 - 100	9.2 (16.5)
77 - 932	25 - 500	10.1 (18.2)
77 - 1832	25 - 1000	10.8 (19.5)
<b>Thermal Conductivity</b>		
<b>Temp. Range °F</b>	<b>Temp. Range °C</b>	<b>W/m·K</b>
68 - 212	20 - 100	14.6
<b>Specific Heat</b>		
<b>J/g·°K</b>	0.11	
<b>Btu/lb·°F</b>	0.46	
<b>Electrical Resistivity</b>		
<b>μ - ohm - in</b>	31.1 / 0.79	
<b>Melting Range</b>		
<b>°F</b>	<b>°C</b>	
2410 - 2550	1320 - 1400	



\*To be used as a guideline only.