



Alloy 317

Alloy Designation: (UNS S31703)

Specifications: ASTM A269 / ASTM A213 EAW

Typical Size Ranges: OD (.02"-1.00")

Available Product Forms:

Annealed to Full Hard, in Coiled or Straight form

General Description and Applications:

Alloy 317 is a stainless steel with added molybdenum to increase resistance to corrosion, especially pitting corrosion. This stainless steel has corrosion resistance that is superior to alloy 316 due to its higher molybdenum and chromium content. Alloy 317 is typically used in the chemical industry, petroleum and industries producing paper and pulp.

Commitment to Quality:

ISO 9001-
CERTIFIED



SHIPBUILDING
CERTIFICATIONS



HIGH PRESSURE
APPLICATIONS



AD-2000-Merkblatt-W0

PED
2014 / 68 / EU

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Chemical Properties as per Specs:

CHEMICAL COMPOSITION BY WEIGHT PERCENT															
Ni	Cr	Fe	Mo	Al	Ti	Nb	Co	Ta	Mn	Cu	N	C	S	Si	P
11.0 - 15.0	18.0 - 20.0	Bal.	3.0 - 4.0	-	-	-	-	-	2.00 Max	-	-	.035 Max	.03 Max	1.0 Max	0.045 Max

PREN CALCULATION AND NUMBER:

- $PREN = Cr + 3.3(Mo + 0.5W) + 16N$
- $MIN\ PREN = 18 + 3.3(3.0) = 27.9$
- $MAX\ PREN = 20 + 3.3(4.0) = 33.2$
- PREN Range: 27.9 - 33.2

MECHANICAL PROPERTIES	
Ultimate Tensile Strength	75 ksi Minimum (517.1 MPa)
Yield Strength	30 ksi Minimum (194 MPa)
% Elongation to Failure	35% Minimum
Hardness	90 HRB Max
Young's Modulus	28.7×10^6 ksi (198 GPa)

PHYSICAL PROPERTIES	
Density	0.289 lbs/in ³ or 8.0 g/cm ³
Melting Point	2500 - 2550°F or 1375 - 1400°C
Coefficient of Thermal Expansion	8.8 (µin/in-°F)
Specific Heat	0.12 BTU/lb-°F
Thermal Conductivity	16.2 (W/m.K)
Electrical Resistivity	74 µΩcm

ANNEALING SUGGESTION:

- 317L is best annealed between the temperatures of 1850-2050 degrees Fahrenheit or 1010-1121 degrees Celsius.

Disclaimer: Always consult with design engineer, the information contained in this data sheet is for guidance only.