



Elgiloy Specialty Metals Hampshire Mill

Alloy 316 Stainless Steel

UNS: S31600
EN-DIN: 1.4401

Industries supplied include: exhaust manifolds, furnace parts, heat exchangers, jet engine parts, pharmaceutical and photographic equipment, valve and pump trim, chemical equipment, digesters, tanks, evaporators, pulp, paper and textile processing equipment, parts exposed to marine atmospheres and tubing. 316 is an austenitic chromium nickel stainless steel containing molybdenum. This addition increases general corrosion resistance, improves resistance to pitting from chloride ion solutions, and provides increased strength at elevated temperatures. Properties are similar to those of Type 304 except that this alloy is somewhat stronger at elevated temperatures. Corrosion resistance is improved, particularly against sulfuric, hydrochloric, acetic, formic and tartaric acids; acid sulfates and alkaline chlorides.

Nominal Composition

	C	Mn	P	S	Si	Cr	Ni	Mo	N	Fe
min	-	-	-	-	-	16.0	10.0	2.00	-	-
max	.080	2.0	0.045	0.030	0.75	18.0	14.0	3.00	0.10	BAL

Physical Properties

	At 70°F	At 20°C
Density	0.29 lb./in ³	7.99 g/cm ³
Modulus of Elasticity (E)	28.0 x 10 ³ ksi in tension	193 x 10 ³ MPa in tension
Coefficient of Expansion	8.9 x 10 ⁻⁶ microinches/in.-°F (32-212°F)	16.0 μm/m-°C (0-100°C)
Electrical Resistivity	29.4 μ ohm.in	74 μ ohm.cm
Thermal Conductivity	9.4 Btu-in./ft. ² hr.-°F (100°C)	16.2 W/m-K (100°C)

Applicable Specifications

AMS 5507, ASTM A240, ASTM A 666

Typical Mechanical Properties – Typical Room Temperature Mechanical Properties

Condition	Tensile Strength (UTS)	0.2% YS	Elongation% in 2" (50.8 mm)	Hardness Rockwell
Annealed	84 ksi (579 MPa)	42 ksi (290 MPa)	50	79 HRBW

Typical mechanical properties are based on AK source, ASTM A240

Tempered Properties available upon request

For further information email:
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