

Incoloy® 925 Nickel Alloy

INCOLOY 925 NICKEL ALLOY DATASHEET

Incoloy® 925 nickel alloy has excellent corrosion resistance consistent with Alloy 825. High levels of nickel ensure protection against stress corrosion cracking, whilst the additional molybdenum and copper resist reducing environments, in the same way that Chromium resists oxidizing environments. Molybdenum enhances resistance to pitting and crevice corrosion, lifting the Pitting Resistance Equivalent number (PREN) to above 26. With such a balanced composition, Alloy 925 is particularly suited to down-hole applications in sour gas wells, but can also be used in less aggressive applications as it resists general, pitting, crevice and stress corrosion cracking in most aqueous environments where chloride or sulfide ions may be present.

Applications include tubular products, valves, hangers, landing nipples, tool joints and packers, fasteners, marine and pump shafting and high-strength piping systems.

Product forms include bar, seamless tubing, and plate.

Standards

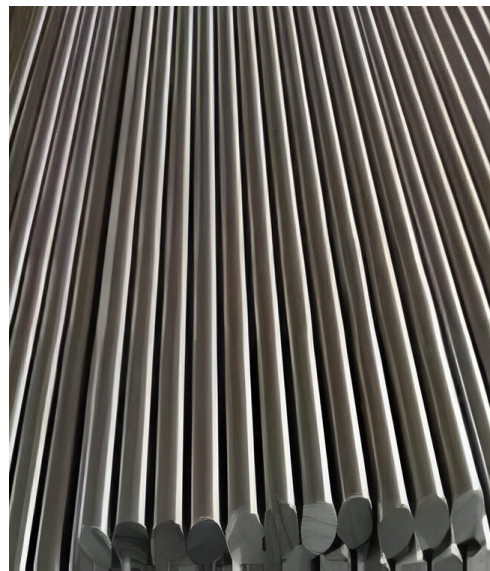
- UNS N09925
- ASTM B805
- NACE MR0175-3

Physical Properties

- Density: 0.292 LB/in³ (8.08 g/cm³)
- Melting Range: 2392-2490°F (1311-1366°C)
- Modulus of Elasticity: 28.9 x10⁶psi
- Magnetic Permeability: 1.001 Max

Characteristics

- Resistant to reducing chemicals
- Resistant to a variety of oxidizing substances
- Resistant to chloride-ion stress corrosion cracking
- Good for sour gas service



Chemical Composition

	C	Mn	S	Si	Cr	Ni	Al	Mo	Fe	Ti	Cu	Nb
MIN	-	-	-	-	19.50	38.00	0.10	2.50	22.00	1.90	1.50	-
MAX	0.03	1.00	0.03	0.50	23.50	46.00	0.50	3.50	-	2.40	3.00	0.50

Mechanical Properties

Tensile (min) KSI (Mpa)	Yield (min) KSI (Mpa)	Elongation (min) %	Reduction of Area (min) %	Hardness (max) HRB
99 (685)	39.3 (271)	56	25	76

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