NICKEL ALLOYS

Advanced Materials. Engineered for Performance.

Alloy 825 (Incoloy 825)

Nickel Alloys | UNS: N08825 | EN: 2.4858 / NiCr21Mo | Trade name: Incoloy 825



Nickel-iron-chromium with molybdenum, copper and titanium. The combination handles both reducing and oxidising acids and resists chloride stress corrosion cracking and sour well fluids, making 825 the standard CRA for sour service tubulars, cladding and acid plant.

Stock status: Mill indent - Typical lead time: 4 - 8 weeks mill indent

Key features

- Resists both reducing and oxidising acid service
- Immune to chloride stress corrosion cracking in practice
- NACE MR0175 / ISO 15156 qualified for sour service
- Supplied as seamless pipe, BA finish tube, plate and bar

Available forms & sizes

Form	Size range
Seamless Pipes & Tubes	1/2" - 16" NB, SCH 10S - SCH 160, seamless
Seamless Pipes & Tubes	6 - 88.9 mm OD tube, BA / bright annealed finish
Plates	3 - 50 mm thk, hot rolled and solution annealed
Round Bars	10 - 300 mm dia
Fittings	1/2" - 24" butt weld fittings and flanges

Chemical composition (%)

Element	Min	Max
Ni	38.0	46.0
Cr	19.5	23.5
Mo	2.50	3.50
Cu	1.50	3.00
Ti	0.60	1.20

Mechanical properties

Property	Value	Unit

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Yield Strength (0.2%)	241 min	MPa
Tensile Strength	586 min	MPa
Elongation	30 min	%
Hardness	Reported for NACE sour service	HRC

Physical properties

Property	Value	Unit
Density	8.14	g/cm3
Max Service Temperature	540	C

Standards

ASTM B424 (plate), ASTM B423 / B163 (pipe and tube), ASTM B425 (bar), NACE MR0175 / ISO 15156, EN 10204 3.1

Equivalent grades

N08825, 2.4858, Incoloy 825, NiCr21Mo

Industries served

Oil & Gas, Petrochemical, Chemical Processing, Fertiliser, Offshore

Typical applications

- Sour service tubing and downhole components
- Sulphuric and phosphoric acid plant
- Heat exchanger and condenser tubing
- Pickling plant and acid handling
- Clad pressure vessels and CRA-lined spools

Live datasheet