

Incoloy® 825 Nickel Alloy

INCOLOY 825 NICKEL ALLOY DATASHEET

Incoloy® 825 Nickel Alloy a nickel-iron-chromium alloy with additions of molybdenum, copper and titanium. This nickel steel alloy's chemical composition is designed to provide exceptional resistance to many corrosive environments. Incoloy® 825 Nickel Alloy is similar to alloy 800 but has improved resistance to aqueous corrosion. Incoloy® 825 Nickel Alloy has excellent resistance to both reducing and oxidizing acids, to stress-corrosion cracking, and to localized attack such as pitting and crevice corrosion. Incoloy® 825 Nickel Alloy is especially resistant to sulfuric and phosphoric acids.

Incoloy® 825 Nickel Alloy applications include chemical processing, pollution-control equipment, oil and gas well piping, nuclear fuel reprocessing, acid production, and pickling equipment.

Product forms include bar, seamless tubing, and plate.



Standards

- UNS N08825

Physical Properties

- Density: 0.294 LB/in³ (8.14 g/cm³)
- Melting Range: 2500-2550°F (1370-1400°C)
- Modulus of Elasticity: 28.3 x10⁶psi (196 kN/mm²)
- Magnetic Permeability: 1.0200 Max

Characteristics

- Resistant to reducing environments
- Resistant to a variety of oxidizing substances
- Resistant to chloride-ion stress corrosion
- Good for chemical processing

Chemical Composition

| | C | Mn | S | Si | Cr | Ni | Al | Mo | Fe | Ti | Cu |
|-----|------|------|------|------|-------|-------|------|------|-------|------|------|
| MIN | - | - | - | - | 19.50 | 38.00 | - | 2.50 | 22.00 | 0.60 | 1.50 |
| MAX | 0.05 | 1.00 | 0.03 | 0.50 | 23.50 | 46.00 | 0.20 | 3.50 | - | 1.20 | 3.00 |

Mechanical Properties

| Tensile (min) KSI (Mpa) | Yield (min) KSI (Mpa) | Elongation (min) % | Reduction of Area (min) % | Hardness HRB |
|----------------------------|--------------------------|--------------------|---------------------------|-----------------|
| 85 (586) | 49 (338) | 45 | | 135-165 |

WWW.SPECIALTYSTEELSUPPLY.COM



SPECIALTY STEEL SUPPLY
19201 CIRCLE LAKE DR
PINEHURST, TX 77362
Call for a quote (281) 821-7111



All information in our data sheet is based on approximate testing and is stated to the best of our knowledge and belief. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of trading.
© Specialty Steel Supply