

Incoloy 800[®] (UNS N08800)

Description

Incoloy 800, produced since the 1950's, has a nickel content between 30-35% and chromium of 19-23%, in combination with trace amounts of aluminum and titanium.

Advantages

- ✓ Good resistance at elevated temperatures in oxidizing, carburizing and sulfidizing environments
- ✓ High mechanical strength
- ✓ Impact resistance, even at cryogenic temperatures
- ✓ Superior to Inconel 600/601 in sulfur and cyanide and neutral salts

Limitations

- ✓ May be susceptible to intergranular corrosion in some environments at temperatures between 1000°F and 1400°F, due to precipitation of chromium carbides
- ✓ Slight chance of chloride stress-corrosion cracking in chloride solutions (use Inconel 600[®] for complete immunity to this condition)

Maximum exposure temperature

1500°F (800°C) in continuous service; intermittent to 2100°F

Thermal Conductivity

Low (11.5 W/mK at room temperature)

Typical applications

- ✓ Furnaces
- ✓ Petrochemical crackers
- ✓ Heat treating
- ✓ Heat exchangers
- ✓ Nitric acid applications
- ✓ Paper pulp digesters
- ✓ Nuclear applications

Chemical composition

Ni	30%-35%
Cr	19%-23%
Fe	39.5% min.
Al	0.15%-0.6%
Ti	0.15%-0.6%
C	0.1%*

*Maximum

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