NICKEL ALLOYS

Advanced Materials. Engineered for Performance.

Alloy 800 (Incoloy 800)



Nickel Alloys | UNS: N08800 | EN: 1.4876 / X10NiCrAlTi32-21 | Trade name: Incoloy 800

Iron-nickel-chromium alloy for high temperature strength with oxidation and carburisation resistance. The 32Ni-21Cr balance resists chloride stress corrosion cracking that austenitic stainless suffers, which is why it is standard for process heater and reformer tubing.

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

Key features

- High temperature strength with oxidation and carburisation resistance
- Resists chloride stress corrosion cracking
- Seamless pipe and BA finish tube available
- Solution annealed with EN 10204 3.1 certification

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	30.0	35.0
Cr	19.0	23.0
Fe	39.5	-
C	-	0.10
Al + Ti	0.15	0.60

Mechanical properties

Property	Value	Unit

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Yield Strength (0.2%)	170 min	MPa
Tensile Strength	450 min	MPa
Elongation	30 min	%
Condition	Solution annealed	-

Physical properties

Property	Value	Unit
Density	7.94	g/cm3
Max Service Temperature	815 (Alloy 800)	C

Standards

ASTM B409 (plate), ASTM B407 / B163 (pipe and tube), ASTM B408 (bar), ASME SB-409 / SB-407, EN 10204 3.1

Equivalent grades

N08800, 1.4876, Incoloy 800, Alloy 800

Industries served

Petrochemical, Refining, Power Generation, Fertiliser, Nuclear

Typical applications

- Process heater and reformer tubing
- Heat treatment furnace retorts and muffles
- Steam superheater tubing
- Petrochemical cracking coils
- Nuclear steam generator tubing

Live datasheet