

INCOLOY alloy 800HT

A nickel-iron-chromium alloy having the same basic composition as INCOLOY alloy 800, but with significantly higher creep-rupture strength. The higher strength results from close control of the carbon, aluminum and titanium contents in conjunction with a high-temperature anneal. Used in chemical and petrochemical processing, in power plants for super-heater and reheater tubing, in industrial furnaces, and for heat-treating equipment. Standard product forms are round, flats, forging stock, pipe, tube, plate, sheet, strip and wire.

Specifications and Designations

UNS N08811	ASME SB-163, SB-407-SB-409,
ASTM B163, B407, B408, B409, B514, B515, B564	SB-564, Boiler Code Sections I, VIII
BS 3072, 3074, 3076 (NA15H)	Werkstoff Nr. 1.4876 S.E.W. 470

Limiting Chemical Composition, %

Ni 30.0-35.0	Mn 1.50 max.	Al 0.15-0.60
Fe 39.5 min.	S 0.015 max.	Ti 0.15-0.60
Cr 19.0-23.0	Si 1.0 max.	Al + Ti . . . 0.85-1.20
C 0.06-0.10	Cu 0.75 max.	

Typical Mechanical Properties (Annealed)

Rupture Strength (1000 h)	psi	MPa
1200°F / 650°C	24 000	165
1300°F / 705°C	15 000	105
1400°F / 760°C	10 000	70
1600°F / 870°C	4700	32
1800°F / 980°C	2000	14

Physical Constants and Thermal Properties

Density, lb/in ³	0.287
Mg/m ³	7.94
Melting Range, °F	2475-2525
°C	1357-1385