

Inconel 600 / UNS N06600 / DIN 2.4816

High Temp Resistance Ni Cr Super Alloy

Alloy 600 Data Sheet

Introduction

Inconel 600 is High Temperature Ni based Chromium Iron Alloy Superalloy with high mechanical strength, corrosion resistance to oxidation at high temperature. The adaptability of INCONEL alloy 600 has led to its use in a variety of applications involving temperatures from cryogenic to above 2000°F (1095°C). Widely used in chemical industries.

Chemical Composition (Typical)

Element	Limits	
	min	max
Carbon	0.000	0.150
Manganese	0.000	1.000
Silicon	0.000	0.500
Sulphur	0.000	0.015
Chromium	14.000	17.000
Iron	6.000	10.000
Copper	0.000	0.500
Nickel + Cobalt	72.000	--

Mechanical Properties (Typical)

Parameter	Value
Yield 0.2 % (Mpa/Nmm ²), Min	241
Tensile (Mpa/Nmm ²), Min	552
Elongation (% in 50MM), Min	30
Reduction Area(%), Min	22
Hardness (HRB), Max	88

Physical Properties

Parameter	Value
Density (Kg/m ³)	8470
Elastic Modulus (Gpa)	206
*Co-eff of Expansion ($\mu\text{m}/\text{m}/^\circ\text{C}$)	13.3
*Thermal Condc. (W/m.K)	14.9
*Electric Resistivity (n Ω .m)	1030

*Note : @500°C

Corrosion Data

Inconel Alloy 600 is resistance to wide number of corrosive media. Chromium content provides resistance to oxidizing agents & nickel adds reducing property to this alloy. Moderate resistance to organic acids such as acetic, formic and stearic. Alloy 600 also resists ammonia bearing atmospheres, as well as nitrogen and carburizing gases. Little or no attack occurs at room and elevated temperatures in dry gases, such as chlorine or hydrogen chloride

Equivalent Grade Designation

Inconel 600
Alloy 600
UNS N06600
W. Nr./EN 2.4816
DIN 2.4816
BS 3072-3076
AFNOR NC 15 Fe
AWS 010

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Available Product Forms

Round, Square, Hexagon ,Flat Bars & Wires
Seamless / Welded Pipes
Seamless / Welded Tubes
Hot & Cold Rolled Plates & Sheets
Forged Bars
Forged Flanges
Butt-Weld Pipe Fittings
Socket-Weld/Forged Pipe Fittings
Machined Components
Ferrule Compression Fittings
Welding Consumables

Common Manufacturing Specifications

ASTM B163, ASTM B166, ASTM B167, ASTM B168, ASTM B366, ASTM B516, ASTM B517, ASTM B564, ASTM B751, ASME SB-163, SB-166 - SB-168, SB-564, Boiler Code Sections I, III, VIII, IX, Nickel-Chromium Alloy, NACE MR-01-75; QQ-W-390; MIL-R-5031, MIL-T-23227, MIL-N-23228, MIL-N-23229, SAE AMS 5540, 5580, 5665, 5687, 7232; DIN 17742, 17750 - 17754; VdTUV 305, BS 3072 - 3076 (NA14)

Alternate to Alloy

Alloy 200 & Alloy 201 are key alternatives to Alloy 600 with reduced corrosion resistance.

Applications & Industries

Chemical & Pharmaceutical Industries
Aerospace parts
Nuclear engineering
Gas Turbine components
Valves, Pumps, Fasteners - Nuts, Bolts, Washer, Anchor Rods
Machine Components
Heat Treatment plants
Food processing & paper pulp industries

Excellence Inherent

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