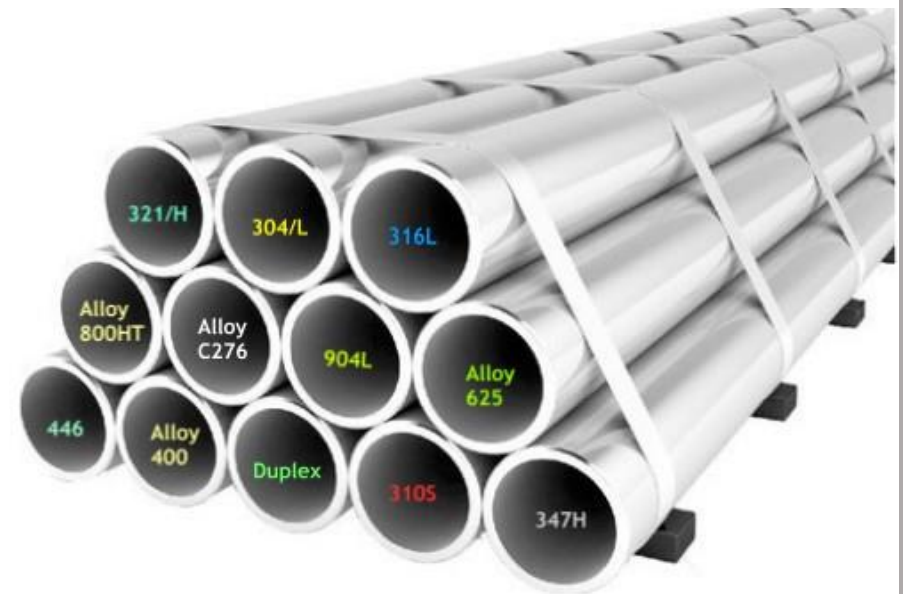

INCONEL 600

Datasheet for Inconel 600

- Pipes & Tubes
- Sheets & Plates
- Bars & Rods, Forgings
- Fittings & Flanges
- Nuts & Bolts
- Valves



UNS N06600, W.Nr. 2.4816

What is Inconel 600?

- Inconel alloys or superalloys are austenitic nickel-chromium-based superalloys that exhibit qualities such as high resistance to corrosion, oxidation, carburization, pitting, crevice, corrosion cracking, and high temperature strength.
- Inconel alloys are oxidation-corrosion-resistant materials well suited for service in extreme environments subjected to pressure and heat. When heated, Inconel forms a thick, stable, passivating oxide layer protecting the surface from further attack.
- Inconel retains strength over a wide temperature range, attractive for high temperature applications where aluminum and steel would succumb to creep as a result of thermally induced crystal vacancies. Inconel's high temperature strength is developed by solid solution strengthening or precipitation hardening, depending on the alloy.
- Inconel 600, a nickel – base alloy with excellent carburization; was designed for service temperatures from cryogenic to elevated temperatures in the range of 2000 Degree F. Inconel 600 is nonmagnetic and possess an excellent combination of high strength. This material grade is readily weldable and is used in a variety of corrosion resisting applications.

Inconel 600 Product Specification

Product	Inconel 600
Equivalents	Alloy 600, UNS N06600, 2.4816
Items	Pipe, Tubes, Tubing, Fittings, Flanges, Valves, Fasteners, Sheet, Square Bar, Threaded Bar, Plate, Hexagon Bar, Fasteners and Fixings, Round Bar, Flat Bar, Rebar, Angle, Tube & Pipe, Wire
Size	1/4" - 60"
Pipe Type	Seamless, Welded, ERW, Fabricated, Custom Size Pipes
Specifications	ASTM, ASME, DIN, GOST, JIS
Certification	EN 10204 3.1
Fittings Type	Butt Weld, Screwed & Socket Weld, Flanges, Instrumentation
Other Fittings	Elbows, Tees, Reducers, Caps, Stub Ends, Flanges (ANSI, Table E, D and H), Nuts, Bolts, Screws, Threaded Bars

Chemical Composition, Mechanical & Physical Properties of Alloy 600

Chemical Composition of Inconel 600

Element	% Value
Ni	72.0 min
Cu	0.5 max
Fe	6.0 – 10.0
Mn	1.0 max
C	0.15 max
Si	0.5 max
S	0.015 max
Cr	14.0 – 17.0

Mechanical & Physical Properties of Inconel 600

Density, g/c m ³	8.47
Melting range, °C	1354-1413
Tensile strength, min, Mpa	550
Yield strength, 0.2% offset, min, Mpa	240
Elongation, %	30

Hardness : Unit – HRB

B 92 max

Inconel 600 (UNS N06600, 2.4816) Product Forms & Standards

Product Forms	Standards
Inconel Alloy 600 Rod, Bar, & Wire	ASTM B166
Inconel Alloy 600 Plate, Sheet, & Strip	ASTM B168, ASTM B906
Inconel Alloy 600 Seamless Pipe and Tube	ASTM B167, ASTM B829
Inconel Alloy 600 Welded Pipe	ASTM B517, ASTM B775
Inconel Alloy 600 Welded Tube	ASTM B516, ASTM B751
Inconel Alloy 600 Pipe Fitting	ASTM B366
Inconel Alloy 600 Billet and Bar	ASTM B472
Inconel Alloy 600 Forging	ASTM B564

What are the Properties of Inconel 600 or Alloy 600?

Inconel 600 is a standard nickel-chromium-iron alloy used in heat and corrosion resistance. The chromium component in the alloy helps to provide better resistance to oxidation than pure nickel. Inconel 600 can only be hardened by cold-working practices, making it ideal for welding, brazing and soldering. Its flexible nature is due largely in part to its ability to withstand corrosion. The metal is capable of keeping its structural integrity under a number of conditions: It is applicable across a wide range of temperatures and environments, remaining resistant to neutral and alkaline conditions. While it is moderately resistant to chlorine, it generally should not be exposed to heat when sulfur is present due to its high percentage of nickel. Chlorine exposure should also not exceed temperatures of 1000°F. Some of its key properties are as below:

- Resistant to a wide range of corrosive media.
- Virtually immune to chlorine ion stress corrosion cracking
- Non-magnetic

- Excellent mechanical properties
- High strength and good weldability under a wide range of temperatures

What are the Applications of Inconel Alloy 600?

Inconel 600 typically finds application in marine engineering, chemical and hydro-carbon processings, heat exchangers, valves and pumps. Inconel 600 alloy is used in various applications as below:

- Stacks on offshore oil platforms
- Gas turbines, rocket motors/engines, and space craft
- Pollution control equipment
- Nuclear reactors
- Off-Shore Oil Drilling Companies
- Power Generation
- Petrochemicals
- Gas Processing
- Specialty Chemicals
- Pharmaceuticals
- Pharmaceutical Equipment
- Chemical Equipment
- Sea Water Equipment
- Heat Exchangers
- Condensers
- Pulp and Paper Industry

Types of Nickel Alloys

ASTM/AISI	UNS No	EN	DIN	JIS
Incoloy 800	N08800	1.4558	X2NiCrAlTi3220	NCF2B
Incoloy 800H	N08810			
Incoloy 825	N08825	2.4858	NiCr21Mo	NCF825

Inconel 600	N06600	2.4816	LC-NiCr12Fe	NCF1B
Hastelloy B	N10001			N12MV
Hastelloy B2	N10665	2.4617	NiMo28	
Hastelloy C				
Hastelloy C276	N10276	2.4819	NiMo16Cr15W	NW 0276
Hastelloy C4	N06455	2.461		
Hastelloy C22	N06022	2.4602		
Inconel 625	N06625	2.4856	NiCr22Mo9Nb	
Inconel 718	N07718	2.4668		
Monel 400	N04400	2.4360		NW 4400
Nickel 200	N02200	2.4060		

- **Trademark Notice:** Some names are trade names and/or trademarks of specific manufacturers. We are not affiliated with any manufacturer(s). Orders will be filled to meet specifications from any available source(s). Names are listed solely for reference to help identify products consistent with listed specifications.