AT AMERITUBE

Inconel 600 is a nickel-chromium alloy used for applications that require corrosion and high temperature resistance. This nickel alloy was designed for service temperatures from cryogenic to elevated temperatures in the range of 2000° F. It is non-magnetic, has excellent mechanical properties, and presents the desirable combination of high strength and good weldability under a wide range of temperatures. The high nickel content in Inconel 600 enables it to retain considerable resistance under reducing conditions, makes it resistant to corrosion by a number of organic and inorganic compounds, gives it excellent resistance to chloride-ion stress-corrosion cracking and also provides excellent resistance to alkaline solutions. Typical applications of this nickel alloy include the chemical, pulp and paper, aerospace, nuclear engineering and heat treating industries

CHEMICAL COMPOSITION

	Ni + Co	Cr	Fe	C	Mn	S	Si	Cu
MIN/MAX	72.0 min	14.0-17.0	6.0-10.0	.15 max	1.00 max	.015 max	.50 max	.50 max

Request Quote

APPLICABLE SPECIFICATIONS

Pipe Seamless	Pipe Welded	Tube Smls	Tube Welded	Sheet/Plate	Bar	Forging	Fitting
ASTM B167	ASTM B517	ASTM B163	ASTM B516	ASTM B168	ASTM B166	ASTM B564	ASTM B366

APPLICATIONS

Barge and tank truck liners	Ethylene dichloride crackers	Gasoline stabilizer production	Phenol condensers	Titanium dioxide
Carburizing atmospheres	Furnace trays, mufflers, hangers	MgCl2 evaporates	Soap manufacture	Vegetable and fatty acid vessels

PHYSICAL PROPERTIES

Density	Magnetic Permeability	Electrical Resistivity	Coefficient of Thermal Expansion	Thermal Conductivity	Modulus of Elasticity	Specific Heat Capacity	Melting Point
0.304 lb/in^3	<1.02	40.6 microhm-in. @70°F	7.4 microinches/ in.-°F @ 70-200°F	103 Btn-in./ft^2.- hr.-°F @70°F	30.0 x 10(6) psi	0.11 Btu/lb-°F @ 200°F	2470-2575 °F
8.42 g/cm^3		1.03 microhm-m @20°C	13.3 x 10(-6)m/m·K @ 21-93°C	14.8 W/m·K @20°C	207 GPa	460 J/kg-°K @ 100°C	1354-1413 °C

MAXIUM PRESSURE WORK

P = Maxium work pressure(psi)
S = Minimum tensile strength of material for a specific temper(It is the value of the tensile strength in psi in Mechanica properties table)
D = Exterior diameter of tube
T = Wall thickness of tube

$$P = \frac{2T \times S}{5D}$$

NON DESTRUCTIVE TESTS

Eddy Current Testing
Hydrostatic Testing
Air Underwater Testing
Ultrasonic Testing
(PMI) Positive Material Identification

DESTRUCTIVE TESTS

Microstructure Test
Tensile Test
Expansion Test
Optical Spectrometry Test