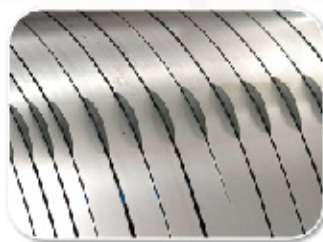


## ALLOY 600

ALLOY 600 is a nickel-chromium alloy used in chemical industry and the automotive engine, aeroengine and airframe sectors. Controlled chemical composition limits are applied in the nuclear industry to eliminate the risk of stress corrosion cracking by high purity water containing chloride ions.

The addition of chromium provides superior corrosion resistance in acidic environments, compared to a pure nickel, while allowing the material to maintain corrosion resistance in a reducing state and exhibit superior corrosion resistance to alkaline solutions. Nickel Alloy 600 can be used in solutions of magnesium chloride because of its exceptional resistance to chloride stress corrosion cracking. It has exceptional strength at working temperatures up to 2000°F (1093°C).



### QUKEN OFFERS ALLOY 600 IN FOLLOWING FORMS:

Product form	Standard	Size available mm
Strip	ASTM B168/ASME SB168	0.05~2.0*3~540*C
Sheet	ASME SB168	1.5~6*1000~1500*1000*6000
Plate	ASME SB168	8~25*1000~2000*2000~6000
Flanges	ASME SB366	Custom
Seamless pipe/tube	ASME SB167	φ5~219*0.5~8.18*9000 Max
Welded pipe/tube	ASME SB517	φ40~630*2~16*13000 Max
Bar	ASME SB166	φ3.5~200*100~6000
Wire	ASME SB166	φ1~3*C
Pipe fittings	ASME SB366	Custom
Forgings	ASME SB564	Custom

## DESIGNATIONS AND STANDARDS:

Standard	Material designation
EN	2.4816 - NiCr15Fe
ISO	NiCr15Fe8
UNS	N06600
AFNOR	NC15Fe

## CHEMICAL COMPOSITION %:

	Ni	Cu	Cr	Fe	C	Mn	S	Si
<b>MIN.</b>	72.0		14.0	6.0				
<b>MAX.</b>		0.5	17.0	10.0	0.15	1.0	0.015	0.5

## PHYSICAL CONSTANTS:

Density	0.306 lb/in <sup>3</sup> , 8.47g/cm <sup>3</sup>
Melting Point (Approx.)	2471°F/1355°C
Electrical Resistivity	103 Microhm•cm
Thermal Expansion Coefficient (25° to 100°C)	13.3 x 10 <sup>-6</sup> /°C
Thermal Conductivity	14.7 W/m•K

## MECHANICAL PROPERTIES :

Yield Strength 0.2% Offset		Tensile Strength		Elongation In 2 inches	Hardness	
KSI	MPa	KSI	MPa	%	Brinell (3000-kg)	Rockwell HRC
25~50	172-344	75-105	517~723	35-55	88 Max	~

## HIGH-TEMPERATURE APPLICATIONS :

Alloy 600 is widely used in the furnace and heat-treating fields for retorts, boxes, muffles, wire belts, roller hearths, and similar parts which require resistance to oxidation and to furnace atmospheres. The alloy is the standard material for nitriding containers because of its resistance to nitrogen at high temperatures. Alloy 600 has good resistance to carburization. Alloy 600 resists attack by sulfur compounds at moderate temperatures, but it is subject to sulfidation in high-temperature, sulfur-containing environments. Molybdenum disulfide, a lubricant sometimes used to aid parts assembly, should not be used if the material will be subsequently exposed to temperatures above 800°F (427°C).

## APPLICATIONS :

- Pressure Vessel
- Heat treating muffles and retorts
- Chlorination equipment to 538°C
- Nitriding furnaces and baskets
- Vacuum furnace fixtures



Pressure Vessel



Vacuum furnace fixtures

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