



## Alloy I600

**Alloy Designation:** (UNS N06600)

**Specifications:** ASTM B167, B163

**Typical Size Ranges:** OD (.02"-1.00")

**Available Product Forms:**

Annealed to Full Hard, in Coiled or Straight form

### General Description and Applications:

I600 is a nickel based alloy known for its ductility, ability to be used in cryogenic temperatures as well as temperatures up to 2000 degrees fahrenheit, and its corrosion resistance to a wide variety of compounds. The alloy is typically used in heat exchangers, thermocouples and instrumentation/control applications. HandyTube produces Alloy 600 small diameter tubing in long seamless coils minimizing joints, reducing installation time and the number of welds required in long tubing runs. Also available in straight length form.

### Commitment to Quality:

ISO 9001-  
CERTIFIED



SHIPBUILDING  
CERTIFICATIONS



HIGH PRESSURE  
APPLICATIONS



AD-2000-Merkblatt-W0

**PED**  
2014 / 68 / EU

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## Chemical Properties as per Specs:

CHEMICAL COMPOSITION BY WEIGHT PERCENT															
Ni	Cr	Fe	Mo	Al	Ti	Nb	Co	Ta	Mn	Cu	N	C	S	Si	P
72.0 Min	14.0 - 17.0	6.0 - 10.0	-	-	-	-	-	-	1.00 Max	0.5	-	.15 Max	.015 Max	0.5 Max	-

### PREN CALCULATION AND NUMBER:

- $PREN = Cr + 3.3(Mo + 0.5W) + 16N$
- MIN PREN = 14
- MAX PREN = 17
- PREN Range: 14 - 17

MECHANICAL PROPERTIES	
Ultimate Tensile Strength	80 ksi Minimum (552 MPa)
Yield Strength	30 ksi Minimum (205 MPa)
% Elongation to Failure	35% Minimum
Hardness	75 HRB Max
Young's Modulus	30.0x10 <sup>6</sup> ksi (207 GPa)

PHYSICAL PROPERTIES	
Density	0.306 lbs/in <sup>3</sup> or 8.47 g/cm <sup>3</sup>
Melting Point	2469 - 2575 °F or 1354 - 1413°C
Coefficient of Thermal Expansion	7.39 (µin/in-°F)
Specific Heat	0.106 BTU/lb-°F
Thermal Conductivity	14.9 (W/m.K)
Electrical Resisitivy	103 µΩcm

### ANNEALING SUGGESTION:

- 1600 is best annealed between the temperatures of 18000-1900 degrees Fahrenheit or 982-1038 degrees Celsius.

Disclaimer: Always consult with design engineer, the information contained in this data sheet is for guidance only.