

Special Metals INCONEL® Alloy 600

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

A nickel-chromium alloy with good oxidation resistance at high temperatures and resistance to chloride-ion stress-corrosion cracking, corrosion by high-purity water, and caustic corrosion. Used for furnace components, in chemical and food processing, in nuclear engineering, and for sparking electrodes. Standard product forms are round, hexagon, extruded section, flats, forging stock, pipe, tube, plate, sheet, strip, and wire. Data provided by the manufacturer, Special Metals.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Special-Metals-INCONEL-Alloy-600.php

Physical Properties	Metric	English	Comments
Density	8.47 g/cc	0.306 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	655 MPa	95000 psi	Annealed
	550 MPa @Temperature 550 Â°C	79800 psi @Temperature 1020 Â°F	Annealed prior to test
Tensile Strength, Yield	310 MPa	45000 psi	Annealed
	180 MPa @Temperature 550 Â°C	26100 psi @Temperature 1020 Â°F	Annealed prior to test
Elongation at Break	45 %	45 %	Annealed prior to test.
	42 % @Temperature 550 Â°C	42 % @Temperature 1020 Â°F	Annealed prior to test.

Thermal Properties	Metric	English	Comments
CTE, linear	13.3 Âµm/m-Â°C	7.39 Âµin/in-Â°F	
	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	
Specific Heat Capacity	0.444 J/g-Â°C	0.106 BTU/lb-Â°F	
Thermal Conductivity	14.9 W/m-K	103 BTU-in/hr-ftÂ²-Â°F	
Melting Point	1354 - 1413 Â°C	2469 - 2575 Â°F	
Solidus	1354 Â°C	2469 Â°F	

Thermal Properties	Metric ^{1413 Å°C}	English ^{2575 Å°F}	Comments
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Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.15 %	<= 0.15 %	
Chromium, Cr	14 - 17 %	14 - 17 %	
Copper, Cu	<= 0.50 %	<= 0.50 %	
Iron, Fe	6.0 - 10 %	6.0 - 10 %	
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Nickel, Ni	>= 72 %	>= 72 %	Including Cobalt
Silicon, Si	<= 0.50 %	<= 0.50 %	
Sulfur, S	<= 0.015 %	<= 0.015 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000103 ohm-cm	0.000103 ohm-cm	
Magnetic Permeability	1.01	1.01	at 200 oersted (15.9 kA/m)
Curie Temperature	-194 Å°C	-317 Å°F	

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