

Special Metals NIMONIC® Alloy 75

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

A nickel-chromium alloy with good mechanical properties and oxidation resistance at high temperatures. Used for sheet-metal fabrications in gas-turbine engines, for components of industrial furnaces, for heat-treating equipment and fixtures, and in nuclear engineering.

Standard product forms are round, hexagon, flats, extruded section, tube, pipe, 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-NIMONIC-Alloy-75.php

Physical Properties	Metric	English	Comments
Density	8.37 g/cc	0.302 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	750 MPa	109000 psi	Annealed
	660 MPa @Temperature 550 °C	95700 psi @Temperature 1020 °F	Annealed prior to test
Tensile Strength, Yield	275 MPa	39900 psi	Annealed
	210 MPa @Temperature 550 °C	30500 psi @Temperature 1020 °F	Annealed prior to test
Elongation at Break	42 %	42 %	Annealed prior to test.
	40 % @Temperature 550 °C	40 % @Temperature 1020 °F	Annealed prior to test.

Thermal Properties	Metric	English	Comments
CTE, linear	11.0 µm/m-°C	6.11 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
Specific Heat Capacity	0.461 J/g-°C	0.110 BTU/lb-°F	
Thermal Conductivity	11.7 W/m-K	81.2 BTU-in/hr-ft ² -°F	
Melting Point	1340 - 1380 °C	2440 - 2520 °F	
Solidus	1340 °C	2440 °F	

Thermal Properties	Metric	English	Comments
Liquidus	1300 A °C	2350 A °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.080 - 0.15 %	0.080 - 0.15 %	
Chromium, Cr	18 - 21 %	18 - 21 %	
Copper, Cu	<= 0.50 %	<= 0.50 %	
Iron, Fe	<= 5.0 %	<= 5.0 %	
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Nickel, Ni	72 %	72 %	As remainder
Silicon, Si	<= 1.0 %	<= 1.0 %	
Titanium, Ti	0.20 - 0.60 %	0.20 - 0.60 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000109 ohm-cm	0.000109 ohm-cm	

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