

Resistalloy International Resistalloy 6015 Nickel Chromium Electrical Resistance Alloy

Category : Metal , Electronic/Magnetic Alloy , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

Used mainly for electrical elements in both industrial and domestic applications. Industrial applications vary from small laboratory kilns to heavy-duty heat-treatment furnaces under all types of atmospheres. Available as wire and strip. Slightly magnetic. Information provided by Resistalloy International Limited.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Resistalloy-International-Resistalloy-6015-Nickel-Chromium-Electrical-Resistance-Alloy.php

Physical Properties	Metric	English	Comments
Density	8.20 g/cc	0.296 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	180	180	
Tensile Strength, Ultimate	750 MPa	109000 psi	
	100 MPa	14500 psi	
	@Temperature 900 °C	@Temperature 1650 °F	
Tensile Strength, Yield	450 MPa	65300 psi	
Elongation at Break	25 - 30 %	25 - 30 %	
	@Thickness 50.0 mm	@Thickness 1.97 in	

Thermal Properties	Metric	English	Comments
CTE, linear	14.0 µm/m-°C	7.78 µin/in-°F	
	@Temperature 20.0 - 250 °C	@Temperature 68.0 - 482 °F	
	15.0 µm/m-°C	8.33 µin/in-°F	
	@Temperature 20.0 - 500 °C	@Temperature 68.0 - 932 °F	
	17.0 µm/m-°C	9.44 µin/in-°F	
	@Temperature 20.0 - 1000 °C	@Temperature 68.0 - 1830 °F	
Specific Heat Capacity	0.460 J/g-°C	0.110 BTU/lb-°F	
Thermal Conductivity	13.0 W/m-K	90.2 BTU-in/hr-ft ² -°F	
Melting Point	1390 °C	2530 °F	

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	1150 °C	2100 °F	

Optical Properties	Metric	English	Comments
Emissivity (0-1)	0.88	0.88	Fully Oxidized

Component Elements Properties	Metric	English	Comments
Chromium, Cr	15 %	15 %	
Iron, Fe	25 %	25 %	
Nickel, Ni	60 %	60 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000111 ohm-cm	0.000111 ohm-cm	Temperature Factor is 1.10 at 800°C (1470°F). Temperature Factor is 1.11 at 1000°C (1830°F). Temperature Factor is 1.13 at 1200°C (2190°F).

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