

Special Metals Nickel 270

Category : Metal , Nonferrous Metal , Nickel Alloy , Pure Element

Material Notes:

A high-purity grade of nickel made by powder metallurgy. It has a low base hardness and high ductility. Its extreme purity is useful for components of hydrogen thyratrons. It is also used for electrical resistance thermometers. Ferromagnetic. Standard product forms are round, plate, sheet, strip, tube, and wire. Data provided by the manufacturer, Special Metals.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Special-Metals-Nickel-270.php

Physical Properties	Metric	English	Comments
Density	8.89 g/cc	0.321 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	345 MPa	50000 psi	Annealed
Tensile Strength, Yield	110 MPa @Strain 0.200 %	16000 psi @Strain 0.200 %	Annealed
Elongation at Break	50 %	50 %	Annealed

Thermal Properties	Metric	English	Comments
CTE, linear	13.3 $\mu\text{m/m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 - 100 $\text{Å}^\circ\text{C}$	7.39 $\mu\text{in/in}\cdot\text{Å}^\circ\text{F}$ @Temperature 68.0 - 212 $\text{Å}^\circ\text{F}$	
Specific Heat Capacity	0.460 J/g $\cdot\text{Å}^\circ\text{C}$	0.110 BTU/lb $\cdot\text{Å}^\circ\text{F}$	
Thermal Conductivity	86.0 W/m-K	597 BTU-in/hr $\cdot\text{ft}\cdot\text{Å}^2\cdot\text{Å}^\circ\text{F}$	
Melting Point	1454 $\text{Å}^\circ\text{C}$	2649 $\text{Å}^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.020 %	<= 0.020 %	
Copper, Cu	<= 0.010 %	<= 0.010 %	
Iron, Fe	<= 0.050 %	<= 0.050 %	
Magnesium, Mg	<= 0.0050 %	<= 0.0050 %	
Manganese, Mn	<= 0.0030 %	<= 0.0030 %	
Nickel, Ni	>= 99.9 %	>= 99.9 %	Including Cobalt

Component Elements Properties	Metric	English	Comments
Sulfur, S	<= 0.0030 %	<= 0.0030 %	
Titanium, Ti	<= 0.0050 %	<= 0.0050 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000750 ohm-cm	0.00000750 ohm-cm	

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