

California Fine Wire NIFE 5200 Nickel Iron Resistance Wire

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

Material Notes:

All values may vary dependent on specific design and usage Capabilities: WireRibbonSquareInsulatedPlated Information provided by California Fine Wire.

Order this product through the following link:

http://www.lookpolymers.com/polymer_California-Fine-Wire-NIFE-5200-Nickel-Iron-Resistance-Wire.php

Physical Properties	Metric	English	Comments
Density	8.44 g/cc	0.305 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	483 MPa	70000 psi	Annealed
	827 MPa	120000 psi	Stress relieved
	1030 MPa	150000 psi	Hard

Thermal Properties	Metric	English	Comments
CTE, linear	15.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	8.33 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Specific Heat Capacity	0.523 J/g-°C	0.125 BTU/lb-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	28.9 W/m-K	201 BTU-in/hr-ft ² -°F	
Melting Point	1425 °C	2597 °F	
Maximum Service Temperature, Air	1099 °C	2010 °F	Operating Temperature

Component Elements Properties	Metric	English	Comments
Iron, Fe	30 %	30 %	
Nickel, Ni	70 %	70 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000199 ohm-cm	0.0000199 ohm-cm	3% tolerance on sizes below 0.02, 5% tolerance on sizes above 0.02

Descriptive Properties	Value	Comments
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Magnetic Descriptive Properties	Strong Value	Comments
Temperature Coefficient of Resistance	0.0052 ohms/ohm-°C	0-100°C
Thermal EMF vs. Copper	-0.04	

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