

California Fine Wire Nickel 5900 Nickel Alloy

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

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-Nickel-5900-Nickel-Alloy.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|--------------------------|----------|
| Density | 8.91 g/cc | 0.322 lb/in ³ | |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|---------|------------|-----------------|
| Tensile Strength at Break | 345 MPa | 50000 psi | Annealed |
| | 552 MPa | 80000 psi | Stress relieved |
| | 689 MPa | 100000 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 | 0.460 J/g-°C | 0.110 BTU/lb-°F | |
| | @Temperature 20.0 °C | @Temperature 68.0 °F | |
| Thermal Conductivity | 59.0 W/m-K | 409 BTU-in/hr-ft ² -°F | |
| Melting Point | 1450 °C | 2642 °F | |
| Maximum Service Temperature, Air | 932 °C | 1710 °F | Operating Temperature |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|---------|---------|----------|
| Nickel, Ni | 99.98 % | 99.98 % | |

| Electrical Properties | Metric | English | Comments |
|------------------------|-------------------|-------------------|--|
| Electrical Resistivity | 0.00000748 ohm-cm | 0.00000748 ohm-cm | 3% tolerance on sizes below 0.02, 5% tolerance on sizes above 0.02 |

| Descriptive Properties | Value | Comments |
|------------------------|--------|----------|
| Magnetic | Strong | |

| Temperature Coefficient of Resistance Descriptive Properties | 0.0059 ohms/ohm- °C Value | 0- 100°C Comments |
|---|------------------------------|----------------------|
| Thermal EMF vs. Copper | -0.022 | |

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