

Materion Brush 1915 Heat Treated Temper Wire, 0.375" - 0.500"

Category : Metal , Nonferrous Metal , Copper Alloy

Material Notes:

Information supplied by Brush Wellman Engineered Materials. Treatment required for max strength: 3.5 hrs @ 370°C. Brush 1915 is Brush Wellman's new heat-treatable leaded copper alloy. Engineered specifically for automatic screw machine applications, Brush 1915 provides high strength and good machinability. Brush Wellman's quality system provides an excellent surface finish, close diameter control, and tight compositional control in Brush 1915. The properties of brush 1915 make it an ideal material for machined electrical contacts. Brush Engineered Materials Inc. changed its name to Materion Corporation in March 2011.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Materion-Brush-1915-Heat-Treated-Temper-Wire-0375-0500.php

Physical Properties	Metric	English	Comments
Density	8.88 g/cc	0.321 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	510 - 725 MPa	74000 - 105000 psi	
Tensile Strength, Yield	450 - 620 MPa	65300 - 89900 psi	
Elongation at Break	4.0 - 20 %	4.0 - 20 %	
Modulus of Elasticity	124 GPa	18000 ksi	
Machinability	75 %	75 %	

Thermal Properties	Metric	English	Comments
CTE, linear	18.0 $\mu\text{m/m-}^\circ\text{C}$ @Temperature 20.0 - 200 $^\circ\text{C}$	10.0 $\mu\text{in/in-}^\circ\text{F}$ @Temperature 68.0 - 392 $^\circ\text{F}$	
Thermal Conductivity	210 W/m-K	1460 BTU-in/hr-ft ² - $^\circ\text{F}$	
Melting Point	1040 - 1080 $^\circ\text{C}$	1900 - 1980 $^\circ\text{F}$	
Solidus	1040 $^\circ\text{C}$	1900 $^\circ\text{F}$	
Liquidus	1080 $^\circ\text{C}$	1980 $^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Copper, Cu	98 %	98 %	as balance
Lead, Pb	0.50 - 1.0 %	0.50 - 1.0 %	

<small>Nickel Ni</small> Component Elements Properties	0.80 - 1.2 % Metric	0.80 - 1.2 % English	Comments
Phosphorous, P	0.15 - 0.35 %	0.15 - 0.35 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000310 ohm-cm	0.00000310 ohm-cm	(55% IACS Conductivity)

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