Materion Beryllium Nickel Strip - Alloy 360 1/4 Hard, 2.5 hr at 950Â°F

Category : Metal , Nonferrous Metal , Beryllium Alloy , Nickel Alloy

Material Notes:

Information supplied by Brush Wellman Engineered Materials.Treatment required for max strength: 2.5 hrs @ 510ÂºCStress Relaxation-% Stress Remaining after 1000 hrs @ 100Â°C: 99%Stress Relaxation after 1000 hrs @ 200Â°C: 98%Superficial Hardness: 15N 80-88Brush Wellman's Alloy 360 beryllium nickel strip combines unique mechanical and physical properties required in today's high reliability electrical/electronic systems, heavy duty controls, electromechanical devices and in other high performance applications.Properties of beryllium nickel Alloy 360 strip that a designer can use include ultimate tensile strength approaching 300,000 psi, yield strength up to 245,000 psi, excellent formability, stress relaxation less than 5% at 400Â°F, and fatigue strength (in reverse bending) of 85,000 - 90,000 psi at 10 million cycles.Typically, this alloy is used for mechanical and electrical/electronic components that are subjected to elevated temperatures (up to 700Â°F for short times), and require good spring characteristics at these temperatures. Some applications for this alloy are thermostats, bellows, diaphragms, burn-in connectors, and sockets.Rockwell Hardness 15N given as 80 - 88.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-Beryllium-Nickel-Strip-Alloy-360-14-Hard-25-hr-at-950F.php

Physical Properties	Metric	English	Comments
Density	8.28 g/cc	0.299 lb/inÂ³	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	383 - 598	383 - 598	
Tensile Strength, Ultimate	>= 1586 MPa	>= 230000 psi	
Tensile Strength, Yield	>= 1206 MPa	>= 174900 psi	
Elongation at Break	>= 10 %	>= 10 %	
Modulus of Elasticity	195 - 210 GPa	28300 - 30500 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	14.0 Âµm/m-Â°C @Temperature 20.0 - 200 Â°C	7.78 Âµin/in-Â°F @Temperature 68.0 - 392 Â°F	
Thermal Conductivity	48.0 W/m-K	333 BTU-in/hr-ftÂ²-Â°F	
Melting Point	1195 - 1325 Â°C	2183 - 2417 Â°F	
Solidus	1195 Â°C	2183 Â°F	
Liquidus	1325 Â°C	2417 Â°F	

Component Elements Properties	Metric	English	Comments
Beryllium, Be	1.85 - 2.05 %	1.85 - 2.05 %	
Copper, Cu	<= 0.25 %	<= 0.25 %	
Nickel, Ni	97.3 %	97.3 %	as balance
Titanium, Ti	0.40 - 0.60 %	0.40 - 0.60 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	<= 0.0000287 ohm-cm	<= 0.0000287 ohm-cm	6% IACS conductivity (minimum)

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