

Materion Beryllium Copper Alloy 3 Strip; HT (TH04) Temper (UNS C17510)

Category : Metal , Nonferrous Metal , Beryllium Alloy , Copper Alloy

Material Notes:

Treatment required for max strength: 2-3 hrs @ 480°C or Mill Hardened
 Stress Relaxation-% Stress Remaining after 1000 hrs @ 100°C:
 96%
 Stress Relaxation after 1000 hrs @ 200°C: 75%
 Formability Ratio, 90° Bend, Radius/Thickness (Good Way): 2
 Formability Ratio (bad Way): 2
 Superficial Hardness: 30T 79-83
 Tabulated properties apply to products after age hardening. Information supplied by Brush Wellman.
 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-Copper-Alloy-3-Strip-HT-TH04-Temper-UNS-C17510.php

Physical Properties	Metric	English	Comments
Density	8.83 g/cc	0.319 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	95 - 102	95 - 102	
Hardness, Vickers	216 - 287	216 - 287	
Tensile Strength, Ultimate	750 - 940 MPa	109000 - 136000 psi	
Tensile Strength, Yield	650 - 830 MPa	94300 - 120000 psi	
Elongation at Break	8.0 - 20 %	8.0 - 20 %	
Modulus of Elasticity	138 GPa	20000 ksi	
Fatigue Strength	290 - 320 MPa @# of Cycles 1.00e+8	42100 - 46400 psi @# of Cycles 1.00e+8	Reverse Bending (R=1)

Thermal Properties	Metric	English	Comments
CTE, linear	18.0 µm/m-°C @Temperature 20.0 - 200 °C	10.0 µin/in-°F @Temperature 68.0 - 392 °F	
Thermal Conductivity	240 W/m-K	1670 BTU-in/hr-ft ² -°F	
Melting Point	1040 - 1080 °C	1900 - 1980 °F	
Solidus	1040 °C	1900 °F	
Liquidus	1080 °C	1980 °F	

Component Elements Properties	Metric	English	Comments
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Beryllium, Be Component Elements Properties	0.20 - 0.60 % Metric	0.20 - 0.60 % English	Comments
Copper, Cu	98 %	98 %	as balance
Nickel, Ni	1.4 - 2.2 %	1.4 - 2.2 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000290 - 0.00000360 ohm-cm	0.00000290 - 0.00000360 ohm-cm	48-60% IACS Conductivity

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