

Materion Brushform® 290 Beryllium Copper Alloy Strip; TM08 Temper (UNS C17200)

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

Material Notes:

Treatment required for max strength: Mill Hardened
 Stress Relaxation-% Stress Remaining after 1000 hrs @ 100°C: 99%
 Stress Relaxation after 1000 hrs @ 200°C: 78%
 Formability Ratio, 90° Bend, Radius/Thickness (Good Way): 3.5
 Formability Ratio (bad Way): 3
 Superficial Hardness: 30N 55-62
 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-Brushform-290-Beryllium-Copper-Alloy-Strip-TM08-Temper-UNS-C17200.php

Physical Properties	Metric	English	Comments
Density	8.36 g/cc	0.302 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	35 - 43	35 - 43	
Hardness, Vickers	345 - 429	345 - 429	
Tensile Strength, Ultimate	>= 1200 MPa	>= 174000 psi	
Tensile Strength, Yield	1060 - 1210 MPa	154000 - 175000 psi	
Elongation at Break	3.0 - 15 %	3.0 - 15 %	
Modulus of Elasticity	131 GPa	19000 ksi	
Fatigue Strength	340 - 410 MPa @# of Cycles 1.00e+8	49300 - 59500 psi @# of Cycles 1.00e+8	Reverse Bending (R=1)

Thermal Properties	Metric	English	Comments
CTE, linear	17.0 µm/m-°C @Temperature 20.0 - 200 °C	9.44 µin/in-°F @Temperature 68.0 - 392 °F	
Thermal Conductivity	105 W/m-K	729 BTU-in/hr-ft ² -°F	
Melting Point	870 - 980 °C	1600 - 1800 °F	
Solidus	870 °C	1600 °F	
Liquidus	980 °C	1800 °F	

Component Elements Properties	Metric	English	Comments
Beryllium, Be	1.8 - 2.0 %	1.8 - 2.0 %	
Co + Ni	>= 0.20 %	>= 0.20 %	
Co + Ni + Fe	<= 0.60 %	<= 0.60 %	
Copper, Cu	98 %	98 %	as balance
Lead, Pb	<= 0.020 %	<= 0.020 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000660 - 0.0000101 ohm-cm	0.00000660 - 0.0000101 ohm-cm	17-26% IACS Conductivity

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