

## Materion Brushform® 290 Beryllium Copper Alloy Strip; TM02 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: 97%  
 Stress Relaxation after 1000 hrs @ 200°C: 76%  
 Formability Ratio, 90° Bend, Radius/Thickness (Good Way): 0  
 Formability Ratio (bad Way): 0  
 Superficial Hardness: 30N 46-54  
 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-TM02-Temper-UNS-C17200.php](http://www.lookpolymers.com/polymer_Materion-Brushform-290-Beryllium-Copper-Alloy-Strip-TM02-Temper-UNS-C17200.php)

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

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	25 - 34	25 - 34	
Hardness, Vickers	255 - 339	255 - 339	
Tensile Strength, Ultimate	>= 820 MPa	>= 119000 psi	
Tensile Strength, Yield	650 - 800 MPa	94300 - 116000 psi	
Elongation at Break	14 - 30 %	14 - 30 %	
Modulus of Elasticity	131 GPa	19000 ksi	
Fatigue Strength	290 - 330 MPa @# of Cycles 1.00e+8	42100 - 47900 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 <sup>2</sup> -°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

## Contact Songhan Plastic Technology Co.,Ltd.

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