

## Materion Beryllium Copper Alloy 25 Strip; 1/2H (TD02) Temper (UNS C17200)

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

### Material Notes:

Treatment required for max strength: as supplied  
 Formability Ratio, 90° Bend, Radius/Thickness (Good Way): 0.5  
 Formability Ratio (bad Way): 1  
 Superficial Hardness: 30T 74-79  
 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-25-Strip-12H-TD02-Temper-UNS-C17200.php](http://www.lookpolymers.com/polymer_Materion-Beryllium-Copper-Alloy-25-Strip-12H-TD02-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 B	88 - 96	88 - 96	
Hardness, Vickers	176 - 216	176 - 216	
Tensile Strength, Ultimate	580 - 690 MPa	84100 - 100000 psi	
Tensile Strength, Yield	510 - 660 MPa	74000 - 95700 psi	
Elongation at Break	12 - 30 %	12 - 30 %	
Modulus of Elasticity	131 GPa	19000 ksi	
Fatigue Strength	220 - 260 MPa @# of Cycles 1.00e+8	31900 - 37700 psi @# of Cycles 1.00e+8	Reverse Bending (R=1)

Thermal Properties	Metric	English	Comments
CTE, linear	17.0 $\mu\text{m/m-}^\circ\text{C}$ @Temperature 20.0 - 200 $^\circ\text{C}$	9.44 $\mu\text{in/in-}^\circ\text{F}$ @Temperature 68.0 - 392 $^\circ\text{F}$	
Thermal Conductivity	105 W/m-K	729 BTU-in/hr-ft <sup>2</sup> - $^\circ\text{F}$	
Melting Point	870 - 980 $^\circ\text{C}$	1600 - 1800 $^\circ\text{F}$	
Solidus	870 $^\circ\text{C}$	1600 $^\circ\text{F}$	
Liquidus	980 $^\circ\text{C}$	1800 $^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Beryllium, Be	1.8 - 2.0 %	1.8 - 2.0 %	

Co + Ni Component Elements Properties	$\geq 0.20$ % Metric	$\geq 0.20$ % English	Comments
Co + Ni + Fe	$\leq 0.60$ %	$\leq 0.60$ %	
Copper, Cu	98 %	98 %	as balance
Lead, Pb	$\leq 0.020$ %	$\leq 0.020$ %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000910 - 0.0000115 ohm-cm	0.00000910 - 0.0000115 ohm-cm	15-19% IACS Conductivity

## Contact Songhan Plastic Technology Co.,Ltd.

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