

Materion Beryllium Copper Alloy 10 Rod and Bar; A (TB00) Temper; All Sizes (UNS C17500)

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

Material Notes:

Treatment required for max strength: as supplied
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-10-Rod-and-Bar-A-TB00-Temper-All-Sizes-UNS-C17500.php

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

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	20 - 50	20 - 50	
Tensile Strength, Ultimate	240 - 380 MPa	34800 - 55100 psi	
Tensile Strength, Yield	60.0 - 210 MPa	8700 - 30500 psi	
Elongation at Break	20 - 35 %	20 - 35 %	
Modulus of Elasticity	138 GPa	20000 ksi	
Machinability	40 %	40 %	

Thermal Properties	Metric	English	Comments
CTE, linear	18.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 - 200 $\text{Å}^\circ\text{C}$	10.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 68.0 - 392 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	200 W/m-K	1390 BTU-in/hr-ft ² - $\text{Å}^\circ\text{F}$	
Melting Point	1010 - 1050 $\text{Å}^\circ\text{C}$	1850 - 1920 $\text{Å}^\circ\text{F}$	
Solidus	1010 $\text{Å}^\circ\text{C}$	1850 $\text{Å}^\circ\text{F}$	
Liquidus	1050 $\text{Å}^\circ\text{C}$	1920 $\text{Å}^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Beryllium, Be	0.40 - 0.70 %	0.40 - 0.70 %	
Cobalt, Co	2.4 - 2.7 %	2.4 - 2.7 %	
Copper, Cu			as balance

Component Elements Properties	97 % Metric	97 % English	Comments
Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000570 - 0.00000860 ohm-cm	0.00000570 - 0.00000860 ohm-cm	20-30% IACS Conductivity

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