

Materion Beryllium Copper Alloy 165 Rod and Bar; H (TD04) Temper; over 9.5 to 25.4 mm (UNS C17000)

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-165-Rod-and-Bar-H-TD04-Temper-over-95-to-254-mm-UNS-C17000.php

Physical Properties	Metric	English	Comments
Density	8.41 g/cc	0.304 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	90 - 102	90 - 102	
Tensile Strength, Ultimate	620 - 870 MPa	89900 - 126000 psi	
Tensile Strength, Yield	510 - 730 MPa	74000 - 106000 psi	
Elongation at Break	8.0 - 30 %	8.0 - 30 %	
Modulus of Elasticity	131 GPa	19000 ksi	
Machinability	20 %	20 %	

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

Component Elements Properties	Metric	English	Comments
Beryllium, Be	1.6 - 1.79 %	1.6 - 1.79 %	
Co + Ni	≥ 0.20 %	≥ 0.20 %	
Co + Ni + Fe			

Component Elements Properties	<= 0.60 % Metric	<= 0.60 % English	Comments
Copper, Cu	98 %	98 %	as balance

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

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