

Materion Beryllium Copper Alloy M25 Rod and Bar; HT (TH04) Temper; up to 9.5 mm (UNS C17300)

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

Material Notes:

Treatment required for max strength: 2-3 hrs @ 315-330°C or Mill Hardened 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-M25-Rod-and-Bar-HT-TH04-Temper-up-to-95-mm-UNS-C17300.php

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

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	39 - 45	39 - 45	
Tensile Strength, Ultimate	1270 - 1560 MPa	184000 - 226000 psi	
Tensile Strength, Yield	1100 - 1320 MPa	160000 - 191000 psi	
Elongation at Break	2.0 - 9.0 %	2.0 - 9.0 %	
Modulus of Elasticity	131 GPa	19000 ksi	

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 ² - $^\circ\text{F}$	
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	≥ 0.20 %	≥ 0.20 %	
Co + Ni + Fe	≤ 0.60 %	≤ 0.60 %	
Copper, Cu			as balance

Component Elements Properties	97.5 % Metric	97.5 % English	Comments
Lead, Pb	0.20 - 0.60 %	0.20 - 0.60 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000610 - 0.00000780 ohm-cm	0.00000610 - 0.00000780 ohm-cm	22-28% IACS Conductivity

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