

Materion Beryllium Copper Alloy 165 Plate & Rolled Bar; HT (TH04) Temper; over 9.5 to 25 mm Thickness (UNS C17000)

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

Material Notes:

Treatment required for max strength: 2 hrs @ 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-165-Plate-Rolled-Bar-HT-TH04-Temper-over-95-to-25-mm-Thickness-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 C	35 - 41	35 - 41	
Tensile Strength, Ultimate	1170 - 1450 MPa	170000 - 210000 psi	
Tensile Strength, Yield	930 - 1140 MPa	135000 - 165000 psi	
Elongation at Break	2.0 - 5.0 %	2.0 - 5.0 %	
Modulus of Elasticity	131 GPa	19000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	17.0 $\mu\text{m/m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 - 200 $\text{Å}^\circ\text{C}$	9.44 $\mu\text{in/in}\cdot\text{Å}^\circ\text{F}$ @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	≤ 0.60 %	≤ 0.60 %	
Copper, Cu			as balance

Component Elements Properties	98 % Metric	98 % English	Comments
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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