

Materion Beryllium Copper Alloy 10 Forgings & Extrusions; AT (TF00) Temper (UNS C17500)

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

Material Notes:

Treatment required for max strength: 3 hrs @ 480°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-10-Forgings-Extrusions-AT-TF00-Temper-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	92 - 100	92 - 100	
Tensile Strength, Ultimate	680 - 830 MPa	98600 - 120000 psi	
Tensile Strength, Yield	550 - 690 MPa	79800 - 100000 psi	
Elongation at Break	10 - 25 %	10 - 25 %	
Modulus of Elasticity	138 GPa	20000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	18.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 20.0 - 200 °C	10.0 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 68.0 - 392 °F	
Thermal Conductivity	240 W/m-K	1670 BTU-in/hr-ft ² -°F	
Melting Point	1010 - 1050 °C	1850 - 1920 °F	
Solidus	1010 °C	1850 °F	
Liquidus	1050 °C	1920 °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	97 %	97 %	as balance

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000290 - 0.00000380 ohm-cm	0.00000290 - 0.00000380 ohm-cm	45-60% IACS Conductivity

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