

Materion Beryllium Copper Alloy 10C Castings (UNS C82000)

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

Material Notes:

Pouring Temperature: 1095-1175°C Heat treatment required for max strength (Annealing): 870-900°C/water quench Heat treatment required for max strength (Hardening): 870-900°C/water quench 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-10C-Castings-UNS-C82000.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	620 - 750 MPa	89900 - 109000 psi	Solution Annealed and Aged
Tensile Strength, Yield	480 - 560 MPa	69600 - 81200 psi	Solution Annealed and Aged
Elongation at Break	3.0 - 15 %	3.0 - 15 %	Solution Annealed & Aged
Modulus of Elasticity	138 GPa	20000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	18.0 Âµm/m-Â°C @Temperature 20.0 - 200 Â°C	10.0 Âµin/in-Â°F @Temperature 68.0 - 392 Â°F	
Thermal Conductivity	195 W/m-K	1350 BTU-in/hr-ftÂ²-Â°F	
Melting Point	1000 - 1030 Â°C	1830 - 1890 Â°F	
Solidus	1000 Â°C	1830 Â°F	
Liquidus	1030 Â°C	1890 Â°F	

Component Elements Properties	Metric	English	Comments
Beryllium, Be	0.45 - 0.80 %	0.45 - 0.80 %	
Cobalt, Co	2.4 - 2.7 %	2.4 - 2.7 %	
Copper, Cu	97 %	97 %	as balance

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000340 - 0.00000380 ohm-cm	0.00000340 - 0.00000380 ohm-cm	45-50% IACS Conductivity

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