

IBC Advanced Alloys C17510 Beryllium Copper Alloy Rounds, Temper A(TB00)

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

Material Notes:

C17510 - Beryllium Copper mold alloys have hardnesses comparable to tool steel, but with superior thermal conductivity. Beryllium copper plate, block, bar and rounds -- upset forged and heat treated to multiple tempers -- are available in a choice of strength, hardness and thermal conductivity levels. C17510 Beryllium Copper is manufactured to provide a good strength with even better thermal conductivity than C17200. This copper alloy offers conductivity of 45 to 60 percent of pure copper while providing significant strength and hardness properties. This copper alloy is often used in the resistance welding industry. Information provided by IBC Advanced Alloys.

Order this product through the following link:

http://www.lookpolymers.com/polymer_IBC-Advanced-Alloys-C17510-Beryllium-Copper-Alloy-Rounds-Temper-ATB00.php

Physical Properties	Metric	English	Comments
Density	8.83 g/cc	0.319 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	20 - 50	20 - 50	
Tensile Strength	241 - 379 MPa	35000 - 55000 psi	
Tensile Strength, Yield	138 - 207 MPa @Strain 0.200 %	20000 - 30000 psi @Strain 0.200 %	
Elongation at Break	>= 20 %	>= 20 %	
Modulus of Elasticity	138 GPa	20000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	17.6 $\mu\text{m/m}\cdot\text{Å}^\circ\text{C}$	9.80 $\mu\text{in/in}\cdot\text{Å}^\circ\text{F}$	
Thermal Conductivity	242 W/m-K	1680 BTU-in/hr-ft ² - $\text{Å}^\circ\text{F}$	
Melting Point	1040 - 1080 $\text{Å}^\circ\text{C}$	1900 - 1980 $\text{Å}^\circ\text{F}$	
Solidus	1040 $\text{Å}^\circ\text{C}$	1900 $\text{Å}^\circ\text{F}$	
Liquidus	1080 $\text{Å}^\circ\text{C}$	1980 $\text{Å}^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Beryllium, Be	0.20 - 0.60 %	0.20 - 0.60 %	
Copper, Cu	97.2 - 98.4 %	97.2 - 98.4 %	As Balance
Nickel, Ni			

Component Elements Properties	Metric	English	Comments
Electrical Properties	Metric	English	Comments
Electrical Resistivity	≤ 0.00000860 ohm-cm	≤ 0.00000860 ohm-cm	

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