Materion Alloy M65 (C17465) Beryllium Copper Rod

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

Material Notes:

Alloy M65 (C17465) is a machinable, high-performance, copper beryllium rod alloy from Brush Wellman. M65 has excellent strength, conductivity, and resistance to elevated temperature stress relaxation. The machinability of M65 is 80% of free machining brass. M65 is pre-hardened - No heat treatment is required after machining.Information supplied by Brush Wellman Engineered Materials.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-Alloy-M65-C17465-Beryllium-Copper-Rod.php

Physical Properties	Metric	English	Comments
Density	8.94 g/cc	0.323 lb/inÂ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	24	24	
Hardness, Vickers	260	260	
Tensile Strength, Ultimate	>= 896 MPa	>= 130000 psi	
Tensile Strength, Yield	>= 827 MPa	>= 120000 psi	
Elongation at Break	8 %	8 %	
Modulus of Elasticity	138 GPa	20000 ksi	

Thermal Properties	Metric	English	Comments
Thermal Conductivity	225 W/m-K	1560 BTU-in/hr-ftÂ²-Â°F	
Melting Point	1030 Â°C	1880 Â°F	

Component Elements Properties	Metric	English	Comments
Beryllium, Be	0.20 - 0.50 %	0.20 - 0.50 %	
Copper, Cu	97.5 - 98.6 %	97.5 - 98.6 %	As remainder
Lead, Pb	0.20 - 0.60 %	0.20 - 0.60 %	
Nickel, Ni	1.0 - 1.4 %	1.0 - 1.4 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000382 ohm-cm	0.00000382 ohm-cm	Conductivity is 45% IACS

Electrical Properties	Metric	English	Comments
Magnetic Permeability	0.99997	0.99997	

Descriptive Properties	Value	Comments
Machinability (% of C36000)	80%	
Stress Relaxation	72%	at 200Â°C for 1000 hr
	81%	at 175Â°C for 1000 hr
	86%	at 150Â°C for 1000 hr
	90%	at 125Â°C for 1000 hr

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