

CMW® DSC Copper with Dispersed Aluminum Oxide

Category : Metal , Metal Matrix Composite , Nonferrous Metal , Copper Alloy

Material Notes:

CMW® DSC material is an extruded and cold worked powder metallurgy material consisting of copper and dispersed aluminum oxide. It has exceptional high temperature strength for its electrical conductivity both of which exceed the R.W.M.A Class 2 alloys. CMW® DSC is used to its best advantage when welding coated steels, such as galvanized, electro-coated, aluminized, terne plate. It's ability to resist deformation over a long period, make it a top choice for such applications particularly where extended production runs (without cap change) are required. Information provided by CMW Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CMW-DSC-Copper-with-Dispersed-Aluminum-Oxide.php

Physical Properties	Metric	English	Comments
Density	8.80 g/cc	0.318 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	75	75	
Tensile Strength, Ultimate	372 MPa	54000 psi	
Tensile Strength, Yield	345 MPa	50000 psi	
Elongation at Break	25 %	25 %	
Reduction of Area	80 %	80 %	
Modulus of Elasticity	123 GPa	17800 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	19.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	10.6 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 100 °C	@Temperature 212 °F	
Thermal Conductivity	345 W/m-K	2390 BTU-in/hr-ft ² -°F	
Melting Point	1080 °C	1980 °F	
Softening Point	800 °C	1470 °F	Permanent Softening

Component Elements Properties	Metric	English	Comments
Al ₂ O ₃	0.50 %	0.50 %	
Copper, Cu	99.5 %	99.5 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000203 ohm-cm	0.00000203 ohm-cm	85 % IACS

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