

CMW® ELKALOY D Copper Alloy, Aluminum Bronze

Category : Metal , Nonferrous Metal , Copper Alloy , Bronze

Material Notes:

ELKALOY® D alloys are aluminum bronze type casting alloys. The sequence, ELKALOY® D, D110, D120, D130 materials represents increasing hardness and abrasion resistance but reduced electrical and thermal conductivity and ductility. In the ELKALOY® D alloy impurities (including iron) are kept low to obtain maximum electrical thermal conductivity. ELKALOY® D material is recommended for certain flash welding operations, particularly for cold rolled steel and stainless set. The entire die is made from ELKALOY® D material. ELKALOY® D material is also used as a backing on barrel welding dies, faced with either CMW® 73 or ELKONITE® materials. The material may be used as an inexpensive current carrying member for welders or welding jigs, fixtures, or dies where high electrical conductivity is not of prime importance. Typical examples of welder arms, knees, platens and die and fixture bases. Information provided by CMW Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CMW-ELKALOY-D-Copper-Alloy-Aluminum-Bronze.php

Physical Properties	Metric	English	Comments
Density	7.60 g/cc	0.275 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	75	75	
Tensile Strength, Ultimate	438 MPa	63500 psi	
Tensile Strength, Yield	207 MPa	30000 psi	
Elongation at Break	8.0 %	8.0 %	
Reduction of Area	8.0 %	8.0 %	
Modulus of Elasticity	103 GPa	14900 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	18.0 μm/m-°C	10.0 μin/in-°F	
	@Temperature 100 °C	@Temperature 212 °F	
Thermal Conductivity	67.0 W/m-K	465 BTU-in/hr-ft ² -°F	
Melting Point	1025 - 1060 °C	1877 - 1940 °F	
Solidus	1025 °C	1877 °F	
Liquidus	1060 °C	1940 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al			

Component Elements Properties	Metric	English	Comments
Beryllium, Be	0.50 %	0.50 %	
Co + Ni	1.5 - 2.55 %	1.5 - 2.55 %	
Copper, Cu	86.95 - 88 %	86.95 - 88 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000960 ohm-cm	0.00000960 ohm-cm	18 % IACS

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