

CMW® ELKALOY D110 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. ELKALOY® D110 material is recommended for butt and flash welding dies and clamps for applications similar to ELKALOY® D material but requiring higher strength. ELKALOY® D110 material is used for structural current carrying members for welding die fixtures in samples similar to those for ELKALOY® D material. In addition, ELKALOY® D110 material is good for use as bearings, slides and gibbs in contact with steel. Due to its low coefficient of friction with steel and due to its good corrosion resistance, it is also used for valve stems, seats and wedges. Information provided by CMW Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CMW-ELKALOY-D110-Copper-Alloy-Aluminum-Bronze.php

Physical Properties	Metric	English	Comments
Density	7.50 g/cc	0.271 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	88	88	
Tensile Strength, Ultimate	621 MPa	90100 psi	
Tensile Strength, Yield	262 MPa	38000 psi	
Elongation at Break	12 %	12 %	
Reduction of Area	12 %	12 %	
Modulus of Elasticity	97.0 GPa	14100 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	75.0 W/m-K	521 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	10.8 % Metric	10.8 % English	Comments
Beryllium, Be	0.50 %	0.50 %	
Co + Ni	1.5 - 2.55 %	1.5 - 2.55 %	
Copper, Cu	82.55 - 83.6 %	82.55 - 83.6 %	
Iron, Fe	3.6 %	3.6 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000144 ohm-cm	0.0000144 ohm-cm	12 % IACS

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