

CMW® ELKONIUM 18 silver, copper, cadmium alloy

Category : Metal , Nonferrous Metal , Precious Metal , Silver Alloy

Material Notes:

The alloying of silver with cadmium produces materials with good arc extinction, good corrosion resistance and low contact resistance characteristics and provides them with good switching capability in AC circuits. They have low transfer characteristics in some DC applications. The alloying increases the strength and hardness, but substantially reduces the thermal and electrical conductivity and thus limits their current handling capability. The silver-cadmium alloy contacts are ductile materials and can be supplied in shapes and sizes similar to fine silver. ELKONIUM® 18 alloy, in the spring temper condition, has a proportional limit of 33,000 psi, a modulus of elasticity of 10 X 10⁶ psi, good corrosion resistance and is frequently used as a current carrying spring contact. Information provided by CMW Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CMW-ELKONIUM-18-silver-copper-cadmium-alloy.php

Physical Properties	Metric	English	Comments
Density	10.1 g/cc	0.365 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell 15T	72	72	annealed
	85	85	cold worked
Tensile Strength, Ultimate	276 MPa	40000 psi	annealed
	517 MPa	75000 psi	cold worked
Elongation at Break	3.0 %	3.0 %	cold worked
	43 %	43 %	annealed

Component Elements Properties	Metric	English	Comments
Cadmium, Cd	5.5 %	5.5 %	
Copper, Cu	7.5 %	7.5 %	
Nickel, Ni	0.20 %	0.20 %	
Silver, Ag	86.8 %	86.8 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000400 ohm-cm	0.00000400 ohm-cm	43 % IACS

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