CMW® ELKONIUM 301 platinum based alloy

Category : Metal , Nonferrous Metal , Precious Metal , Platinum Alloy

Material Notes:

Platinum has complete freedom from atmospheric corrosion and is preferred for devices that have low closed forces and where surety of making a circuit may be a problem. It has a high melting point (1769(C) and good resistance to forming arcs. Low electrical conductivity (15% IACS) limits its application to low currents, usually below 5 amperes. Because of the high cost of the platinum ELKONIUM alloys, they are almost always supplied as composite contacts with thin facings of the ELKONIUM metal (silver brazed to nickel plated steel backings in the form of rivets, screws and weld buttons).ELKONIUM® 32 and ELKONIUM® 301 alloys are made up of platinum-iridium materials. Iridium hardens platinum without affecting its tarnish resistance. ELKONIUM 32 alloy contains sufficient iridium to harden the metal to the degree that it resists mechanical deformation and wear in applications that have high closed forces and high impact. Aircraft magnetos and telegraph keys are typical applications, which use the hardness qualities of this alloy. ELKONIUM 301 alloy contains less iridium and is softer and more ductile. It retains the excellent tarnish resistance of platinum and performs reliably in sensitive instruments and low force devices.Information provided by CMW Inc.

Order this product through the following link:
http://www.lookpolymers.com/polymer_CMW-ELKONIUM-301-platinum-based-alloy.php

Physical Properties	Metric	English	Comments
Density	21.5 g/cc	0.777 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell 15T	90	90	annealed
	95	95	cold worked
Tensile Strength, Ultimate	517 MPa	75000 psi	annealed
	827 MPa	120000 psi	cold worked
Elongation at Break	5.0 %	5.0 %	cold worked
	12 %	12 %	annealed

Component Elements Properties	Metric	English	Comments
Iridium, Ir	15 %	15 %	
Platinum, Pt	85 %	85 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000287 ohm-cm	0.0000287 ohm-cm	6 % IACS

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