

CMW® ELKONIUM 33 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 33 and ELKONIUM 331 material grades have higher ruthenium content and have essentially the same hardness as the platinum-iridium alloy, ELKONIUM 32. It is less expensive than CMW's ELKONIUM 32 material. Because of its high hardness, it is used in many magneto applications. All five alloys have low transfer characteristics and are used in voltage regulators and motor speed governors. They can be used as a positive contact paired with tungsten negative contact for improved transfer resistance. They also have high tarnish resistance and are suitable for many sensitive, low voltage applications. Information provided by CMW Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CMW-ELKONIUM-33-platinum-based-alloy.php

Physical Properties	Metric	English	Comments
Density	19.9 g/cc	0.719 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell 15T	91	91	annealed
	96	96	cold worked
Tensile Strength, Ultimate	586 MPa	85000 psi	annealed
	1030 MPa	150000 psi	cold worked
Elongation at Break	4.0 %	4.0 %	cold worked
	12 %	12 %	annealed

Component Elements Properties	Metric	English	Comments
Platinum, Pt	89 %	89 %	
Ruthenium, Ru	11 %	11 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000430 ohm-cm	0.0000430 ohm-cm	4 % IACS

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