

ELECTRODAG[®] 501

Flexible, High Temperature, High Resistance Coating

Product Description :

ELECTRODAG 501 is a combination of specially processed carbon particles in a fluoro-elastomer resin system designed to provide high resistance values. In its cured form, it exhibits both high and low temperature flexibility and moisture resistance. These benefits, when coupled with ease of application and long shelf life, make the product adaptable to a wide variety of uses. ELECTRODAG 501 is supplied ready-for-use if applied by brush ; dip and spray methods may require dilution with a solvent.

Applications :

- Thick film resistance networks
- Heat generating coatings

Advantages :

- Withstands ambient temperatures of over 260°C
- Remains flexible over temperature range of -40°C to over 260°C
- Cures at room temperature
- Good adhesion to a variety of substrates
- Excellent oxidation resistance
- One component, supplied ready-for-use
- Easy to apply
- Can be used for variable thickness networks

Instructions For Use :

Surface Preparation

For maximum adhesion, all surfaces must be dry and free of contaminants such as oil or chemical residues before applying ELECTRODAG 501. Porcelains and other smooth substrates can be wiped with a solvent such as acetone, then allowed to air dry. Porous substrates should be heated sufficiently after the solvent wipe to drive off any entrapped contaminants, solvents, and moisture.

Mixing and Dilution

Using a mechanical stirrer or paint shaker, mix ELECTRODAG 501 thoroughly until it is of uniform consistency. Check to see that no sediment remains on the bottom of the container. Pour into suitable container for dilution. ELECTRODAG 501 as supplied is ready for brush, dip or roller coat application. For spray application, ELECTRODAG 501 should be diluted prior to use. A suggested starting point is 1 part product to 2 parts MEK by volume.

Application

For small production work and prototypes, a suction cup gun may be used, as long as ELECTRODAG 501 is thoroughly mixed prior to spray application. For intermediate production runs or many small parts, a propeller-type stirrer should be used in the suction gun to ensure coating uniformity. Full production is best handled with propeller-agitated pressure pot systems, as this provides the best in application efficiency.

The electrical resistance of ELECTRODAG 501 can be adjusted by controlling the film thickness.

Curing

Air drying of the product is adequate for most applications. To assure complete solvent loss, the coating can be baked for 15 minutes at 150°C.

Properties Of Material As Supplied :

Property	Unit	Value
Pigment		Specially processed carbon
Binder		Fluoro-elastomer
Diluent		Methyl Ethyl Ketone (MEK)
Colour	Visual	Black
Consistency		Fluid
Solids Content	% by weight	14,7
Density	g/cm ³	0,87
Flashpoint	°C	-2
Coverage	m ² /liter at 25 µm coating thickness	2,5
Shelf Life	Months (from date of qualification under original seal)	24

Properties Of Material After Application :

Property	Unit	Value
Colour	Visual	Black
Sheet Resistance	Ohm/square at 25 µm	200 – 600
Maximum Service Temperature	°C	275

Health & Safety :

It is recommended to consult the Emerson & Cuming product literature, including material safety data sheets, prior to using Emerson & Cuming products. These may be obtained from your local sales office.

Attention Specification Writers :

The technical information contained herein is consistent with the properties of the material and should not be used in the preparation of specifications, as it is intended for reference only. For assistance in preparing specifications, please contact your local Emerson & Cuming office for details. Please contact Emerson & Cuming Quality Assurance for test method details.

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