

ELECTRODAG[®] 502, 30G Product No. 16056

Description

Electrodag[®] 502 is one of a series of Electrodag[®] coatings designed to provide controlled electrical properties.

Electrodag[®] 502 is a combination of specially processed carbon particles in a fluoroelastomer 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. This product may also be mixed with other Electrodag[®] products to provide a wide resistance range.

Advantages

- Withstands ambient temperatures of over 500°F (260°C)
- Remains flexible over temperature range of -40°F (-40°C) to over 500°F (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
- Good chemical resistance to acids and alkalis

Typical Applications

- Chemically resistant conductive coating
- Cable coating
- Flexible charge-distributing coating
- Impregnating paint
- Heat generating coatings
- Thick film resistance networks
- Electrostatic bleed for plastics, rubber, including epoxy electrical bushings

Typical Properties (as supplied)

Pigment: Specially processed carbon

Binder: Fluoroelastomer

Diluent: Methyl Ethyl Ketone (MEK)

Color: Black

Consistency: Fluid

Density: 7.2 lbs/gal (0.87 kg/l)

Solids content by weight: 13%

Viscosity: 600 ± 200 mPa's (Brookfield RVT @ 20 rpm)

Flash point: 23°F (-5°C)

Theoretical coverage: 277 sq ft/gal @ 1 mil thickness (7.8 m²/kg @ 25 μm)

VOC: 6.30 lb/gal (755 g/l)

Typical Properties (as cured)

Color: black

Maximum service temperature: 525°F (275°C)

Sheet resistance: 130 ± 100 ohms/sq @ 1 mil

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Application Details

Surface Preparation

For maximum adhesion, all surfaces must be dry and free of contaminants such as oil or chemical residues before applying Electrodag[®] 502. 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

Electrodag[®] 502 is supplied ready for use if applied by brush. Dip and spray methods may require dilution with a solvent.

Using a mechanical stirrer or paint shaker, mix Electrodag[®] 502 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 (i.e., pressure pot, etc.). Electrodag[®] 502 as supplied is ready for brush, dip or roller coat application.

For spray application, Electrodag[®] 502 should be diluted prior to use. A suggested starting point is one part product to two parts MEK by volume.

Application

For small production work and prototypes, a suction cup gun may be used, as long as Electrodag[®] 502 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[®] 502 can be adjusted by controlling the film thickness. Electrodag[®] 502 can also be blended with Electrodag[®] 503 (silver) to achieve various resistance values.

Note: Handle Electrodag[®] 502 as you would a quality automotive lacquer. AVOID DRY SPRAY, as this will cause poor adhesion. To reduce overspray, use the minimum atomization pressure required for adequate coverage.

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 302°F (150°C).

Storage/Safety

Handling

Shelf life for this product is 24 months from date of qualification under original seal. Keep from freezing. Keep container tightly closed when not in use. Store in a cool, well ventilated area. Keep away from heat, sparks, and open flame. Protect material from direct sunlight. Ground containers when transferring materials. Empty containers may retain hazardous properties. Follow all MSDS/label warnings even after container is emptied.

Health and Safety

Flammable. Harmful if swallowed, inhaled, or absorbed through skin. May cause eye irritation. Wash thoroughly after handling. Keep away from heat, sparks, and open flame. Use with adequate ventilation. Avoid breathing vapor. See Material Safety Data Sheet for proper first aid instructions.

Note: Electrodag is a registered trademark of Acheson Industries.

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