

Distributed for Acheson Colloids By:  
Ladd Research  
83 Holly Court

Williston, VT 05495  
Tel: (802) 658-4961  
Fax: (802) 660-8859  
e-mail: sales@laddresearch.com

# Electrodag® 502

Catalog Numbers: 60780, 60780Q, 60780HG & 60780G

## High Temperature Resistance Coating

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

### 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 m <sup>2</sup> /kg @ 25 μm)
VOC	: 6.30 lb/gal (755 g/l)

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guaranty of their accuracy is made. In every case, we urge and recommend that purchasers, before using any product in full scale production, make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purposes under their own operating conditions. THE PRODUCTS DISCLOSED HEREIN ARE SOLD WITHOUT ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED. No representative of ours has any authority to waive or change the foregoing provisions but, subject to such provisions, our engineers are available to assist purchasers in adapting our products to their needs and to the circumstances prevailing in their business. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent. We also expect purchasers to use our products in accordance with the guiding principles of the American Chemistry Council® program.

**TYPICAL  
PROPERTIES**  
(as cured)

Color : black  
Maximum service temperature : 525°F (275°C)  
Sheet resistance : 130 ± 100 ohms/sq @ 1 mil

**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/SHIPPING  
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 and bond containers when transferring materials. Empty containers may retain hazardous properties. Follow all MSDS/label warnings even after container is emptied.

**APPLICATION  
ASSISTANCE**

Acheson's **Application Specialists** are available to assist you in production start-up with **Electrodag 502**. For more information, contact Acheson Colloids Company, (800) 255-1908, or visit our website at [www.achesonindustries.com](http://www.achesonindustries.com) for the Acheson global location nearest you.

**HEALTH & 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. Keep container tightly closed when not in use. Use with adequate ventilation. Avoid breathing vapor. See Acheson's Material Safety Data Sheet for proper first aid instructions.

**NOTE:**

Electrodag is a registered trademark of Acheson Industries.

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