

Acheson Industries (Europe) Ltd.

c/o Postbox 1
9679 ZG Scheemda
The Netherlands
Tel.: +31 (0)597 670502
Fax: +31 (0)597 670595

Electrodag[®] SP-010

Silver-plated copper based EMI shielding coating

Description:

Electrodag SP-010 is a ready for use EMI/RFI shielding coating. It is designed to give low resistance, even in thin layers, on plastic electronic equipment housings. Electrodag SP-010 reduces cost and increases productivity. It exhibits excellent environmental aging stability with superior scratch and mar resistance while providing an aesthetically pleasing coating appearance which has excellent long-term shielding and grounding properties.

Advantages:

- Excellent conductivity
- Very smooth, bright coating
- Excellent Taber wear and Gardner mar resistance characteristics
- Stable electrical properties after heat cycle and humidity (-40°C to 70°C; 50°C and 95% RH)
- Soft settling, easy mixing, easy handling. Air or force drying.
- Meets UL Specification 746-C. Recognised for excellent adhesion to most plastics commonly used in electronic equipment housings.
- Coats vertical and horizontal surfaces well, yielding low corner-to-corner ohm readings.
- Overspray easily removable.
- Reduces frequency of mask washing cycles.
- Excellent adhesion to substrates such as polycarbonate, ABS, polystyrene and PC/ABS blends

**Typical Properties:
(of wet product)**

| | | |
|------------------------|---|--|
| Pigment | : | silver-plated copper |
| Binder | : | thermoplastic resin |
| Solids content | : | 29.0 - 31.0% |
| Viscosity (Zahn Cup 2) | : | ≥ 14 sec. |
| Flashpoint | : | - 5°C |
| Density | : | ca. 1050 kg/m ³ |
| Theoretical Coverage | : | ca. 15 m ² /kg at 10 µm coating thickness |
| Diluent | : | none – product is ready for use |
| Shelf Life | : | 12 months from date of qualification under original seal |

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| Method of Use: | <p><i>Detailed application methods are available in separate Application Sheet.</i></p> <p><u>Surface Preparation</u> Surface should be clean and dry.</p> <p><u>Mixing and dilution</u> Electrodag SP-010 is easily mixed on a paint shaker or by stirring. Check to be sure all solids are in suspension prior to use. No dilution is necessary when using HVLP spray guns. Product can be thinned with Diacetonealcohol (5-10% by weight) for conventional spray gun application.</p> <p><u>Application method</u> Conventional propeller agitated pressure pot systems can be used for production. Small prototype and sample runs can be sprayed with well-mixed product using suction cup spray equipment. Highest efficiency has been achieved using high volume, low pressure (HVLP) spray guns due to minimization of overspray losses. Electrodag SP-010 robot application is optimized by recirculation of the paint from the pot through the gun and back via a pump delivery system.</p> |
| Method of Use (cont.): | <p><u>Recommended coating thickness:</u> A nominal 25 - 40 µm dry film coating thickness is recommended for good shielding performance. However, a thinner coating may be acceptable depending on the shielding requirements of the device being protected. Avoid dry spray for maximum adhesion and conductivity. When applying the product to certain thermoset substrates such as polyester, nylon or polyurethane, a suitable primer, as used for polyurethane, is recommended.</p> <p><u>Drying</u> Electrodag SP-010 dries to touch in about 5 minutes and to handle in approx. 10 minutes, depending on ambient temperature. Best coating properties will be achieved after 4 to 16 hours air drying (depending on coating thickness and ambient temperature). It may be force dried 20 minutes at 60 – 70°C with excellent results and slightly lower ohm readings than air dry values.</p> <p><u>Quality Control</u> Measure resistance after coating is dry. Digital ohmmeter measurements using the same type of fixed test probe rigs avoids confusion and is highly recommended, although corner to corner readings are also in frequent use.</p> <p><u>Cleaning</u> Masks can be cleaned with solvent or solventless mask washers. Overspray can be removed from plastics with MEK or 40/60% acetone/IPA wipe.</p> |
| Typical Properties (sprayed on Lexan panel, dried 20 min./70°C) | <p>Sheet resistance : < 0.075 Ohm/square at 25 µm coating thickness</p> <p>Attenuation (per ASTM ES 7-83): 60 - 70 dB at 35 µm coating thickness</p> <p>Pencil hardness (ASTM 3363) : > 9H</p> <p>Max. service temperature : 95°C</p> |
| Storage: | Store the product at temperatures between 5 and 30°C. |
| Health & Safety: | See separate Material Safety Data Sheet. |
| Note: | <p>Electrodag® is a registered trademark of Acheson Industries Inc.</p> <p>The data contained on this sheet represents typical properties and is not to be used as a basis for preparation of specifications.</p> <p>Before writing specifications on this product, contact our Electronic Materials & Specialty Coatings Business Group's Technical Service Department.</p> <p>You can find general information on Acheson at: http://www.achesonindustries.com.</p> |

Note
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