Product Data Sheet

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Electrodag® 440 AS

Highly conductive nickel EMC coating

Description:

Electrodag 440 AS is one of a series of Electrodag EMC coatings designed to provide electromagnetic compatibility (EMC) on cabinetry used for electronic equipment. It is a highly conductive nickel coating providing excellent shielding against radiated electromagnetic interference (EMI) and protection against electro-static discharge (ESD).

Electrodag 440 AS combines increased conductivity with improved economy; it offers improved ease of application and excellent stability to difficult environmental conditions such as high humidity or heat.

Typical Applications:

Plastic cabinetry of computers, printers, keyboards, visual display units, disc drive units, teleprinters, telephone equipment, electronic typewriters, copiers, consumer electronics and industrial, scientific and medical equipment.

Advantages:

- Higher conductivity per kilo of wet product
- Higher conductivity per micron dry coating
- High covering power
- Improved stability against sedimentation
- Ease of dilution and dispersion
- No risk of settling in supply line and spray equipment
- Air drying system: no cure required
- Compatible with all commonly used plastic

Typical Properties:
(of wet product)

Pigment	:	nickel
Binder	:	thermoplastic resin
Solids content	:	69 - 71%
Viscosity (Brookfield 20ºC, 20 rpm)	:	4500 - 7000 mPa.s
Flashpoint	:	17°C
Density	:	ca. 2025 kg/m^3
Theoretical Coverage	:	ca. 17 m^2/kg at 10 µm coating thickness
Diluent	:	MEK (methyl ethyl ketone)
Shelf Life	:	12 months from date of qualification under original seal

Method of Use:

Surface preparation
Surface should be clean and dry.

Mixing and dilution
Thoroughly mix Electrodag 440 AS (e.g. on a paint shaker) before dilution. Normally the product is diluted with MEK in the following ratios:
by volume: 1 part of product to 1 part of solvent
by weight: 5 parts of product to 2 parts of solvent

Substrates like compact ABS, polystyrene and polycarbonate are not compatible with MEK diluent. In such cases replacing about 15% of the MEK by isobutanol provides a suitable alternative.

Application
Electrodag 440 AS should be spray applied using conventional propeller agitated pressure pot spray systems. Small prototype runs may be sprayed with well-mixed product, using suction cup spray equipment.
A nominal 50 to 75 µm 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.

	Drying Electrodag 440 AS dries to touch in about 5 minutes; to handle in approx. 20 minutes, depending on ambient temperature, coating thickness and diluent. Best coating properties will be achieved after 4 - 16 hours air drying (depending on coating thickness and ambient temperatures). Forced drying at 60 – 70°C for 20 - 30 minutes is possible too. Cleaning For high volume production where masks are used to prevent coating certain areas, the masks can be cleaned with ester (butylacetate, ethylacetate) or ketone (MIBK, MEK) solvents. Spraying and mixing equipment may be cleaned with the same solvents.
Typical Properties **(product sprayed on Lexan, coating airdried/overnight)**	Sheet resistance : < 0.25 Ohm/square at 50 µm coating thickness Adhesion (ASTM) 3359B) : 5B (excellent) Attenuation : 60 - 65 dB, at 50 µm per ASTM ES7-83 Pencil hardness : 9 H Service temperature range: - 40°C to 95°C
Health & Safety:	See separate Material Safety Data Sheet
Note:	Electrodag® is a registered trademark of Acheson Industries Inc. The data contained on this sheet represents typical properties and is not to be used as a basis for preparation of specifications. Before writing specifications on this product, contact our Electronic Materials & Specialty Coatings Business Group's Technical Service Department. You can find general information on Acheson at: http://www.achesonindustries.com