EMI 35

For shielding from electromagnetic interference.

1. GENERAL DESCRIPTION

Electrically conductive coating for plastic surfaces. Thermoplastic resin with electrical conductive copper pigments.

2. FEATURES

EMI 35 contains a special copper pigment, which builds an electrical conductive network within a thermoplastic resin. In this way it is easy to build up a conductive screen on plastic surfaces. This conductive screen prevents that electrical devices will emit electromagnetic noise or that the device is affected by electromagnetic noise from it's environment. A reduction of 60dB can be reached.

3. APPLICATIONS

Protection of sensitive electronics from electromagnetic waves
Offers an effective solutions whenever plastic housings require shielding from electromagnetic noise :

- Office equipment
- Measuring instruments
- Consumer electronics
- Telecommunication equipment:

4. DIRECTIONS

Aerosol can:

For relatively small applications very good results can be obtained at low cost using the aerosol can. Shake the can for 1 minute, until the agitator ball is free.

Bulk:

For a bulk supply the product can be applied by spraying and also, to a limited extent, by the use of a brush.
Before being removed from the can, the content must be mixed thoroughly because over time the heavy metal pigment settles on the bottom. A paint shaker can be used for the mixing. When an electric (explosion protection) or pneumatic propeller mixer is used, speed and propeller size must be adjusted to clearly agitate the viscous liquid.

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Brush application is best carried out using a soft brush when 5 parts per volume EMI 35 are mixed with 2 parts per volume diluent for EMI 35. Usually however, the obtained resistivity values is not as good as in case of spraying because the distribution of the pigment is not as uniform.

For the spraying, nozzle apertures of 1 mm to 1.5 mm are used. An air pressure of 2 to 3 bar has been found satisfactory. When treating large hollow spaces, the spray pressure is to be reduced as far as possible to prevent blowback of the product.
A spraying distance of 10 cm to 20 cm is favourable; the spray widths must have a 50% overlap. For smaller runs, spray guns can be used, but the bulk can needs to be shaken frequently. For serial production, spray systems with pressure tank and agitator are suitable. **The most favourable dilution ratio is approx. 5 parts per volume EMI 35 to 4 parts per volume EMI 35 diluent**. Routine monitoring of the viscosity can be performed with a Ford cup no.4. The above dilution ratio results in a run-out time of 16 s to 20 s. The dilution ratio and run-out time need, of course, to be optimised for the spray system in question.

The normal safety measures of the handling of flammable solvents must be taken. Other safety instructions are to be found in the safety datasheet.
Dried-on residues are readily cleaned from tools and equipment with ketones (e.g acetone, MEK or diluent for EMI 35). On metal tools, allow the coating to dry. It is then easily be removed by knocking or the use of a hard brush.

5. TYPICAL PRODUCT DATA

Aerosol:		
Flash point	:	< 0 °C
Coverage for 50µ film thickness	:	0,32 m² / 200 ml Spray
Bulk:		
Solid content	:	60 – 66%
Density	:	1,6 – 1,7 g/cm³
Flash point	:	15 - 19 °C
Coverage for 50µ film thickness	:	7,7 m² / l
Characteristics of the dry coating:		
Color	:	copper-brown
Drying time at 20°C		
Dry to touch	:	30 min
Complete drying	:	24 h
Temperature resistance	:	- 40°C bis + 95°C
Surface resistivity at 25µ coat weight	:	< 0,5 Ohm / Square
Screening attenuation at 50µ coat weight	:	50 - 70 dB (ASTM ES 7-83)

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6. APPROVALS:

NATO stock number : 8010-LO-020-3169

7. PACKAGING

Aerosol	:	200 ml
Canister	:	1 L
EMI 35 Thinner	:	1 L

All statements in this publication are based on service experience and/or laboratory testing. Because of the wide variety of equipment and conditions and the unpredictable human factors involved, we recommend that our products be tested on-the-job prior to use. All information is given in good faith but without warranty neither expressed nor implied.
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