



## 3830 - Conductive Silver Coating



### General

Silver coating 3830 is the latest in a series of coatings which provide Electromagnetic Compatibility (EMC) and it has been specifically designed to give increased coverage while maintaining a very high conductivity. This is a very economic means of achieving excellent shielding against radiated electromagnetic interference (EMI).

It maintains its low resistance even after exposure to heat, cold, humidity and salt spray. It is an air drying system that requires no primer or top coat. It is easily applied by spray or brush and is compatible with plastics commonly used for electronic equipment.

### Benefits

- Excellent conductivity
- Very smooth, bright coating
- Meets UL specification 746-C
- Overspray easily removable with MEK
- Excellent adhesion to substrates such as polycarbonate, ABS, polystyrene and PC/ABS blends

### Typical applications

Plastic enclosures of mobile telephones; laptop and notebook personal computers; industrial, military, scientific and medical equipment.

Typical Properties (of wet product)

Pigment	Silver
Binder	Thermoplastic Resin
Solids Content	57.5 - 59.0 %
Viscosity (Brookfield, 20 °C, 20 rpm)	250 - 500 mPa.s
Density	ca. 1630 kg/m <sup>3</sup>
Flashpoint	14°C
Theoretical Coverage	ca. 9 m <sup>2</sup> /kg at 10m coating thickness
Diluent	MEK/ Diacetone alcohol (2:1)
Shelf life	18 months from date of qualification under original seal

### Surface preparation

Make sure substrate is clean (free from dirt and grease) and dry.

### Mixing and Dilution

Thoroughly homogenize Silver Coating 3830 before use. Check to make sure there are no unmixed solids at the bottom of the container. Use Silver Coating 3830 neat for brush application. For spray application diluted the product at a ratio of 2:1 by weight product to diluent. Use a blend of MEK/Diacetone alcohol (2:1) for dilution. If the evaporation speed of this mixture is too low, reduce the amount of DAA.

### Application

A conventional paddle-agitated pressure tank system should be used when applying Silver Coating 3830 by spray. It is recommended to maintain a spray pressure of 2 to 2.5 bar and to use a spray gun with a nozzle diameter varying from 1 to 1.5 mm.

Small prototype runs may be sprayed with well mixed product, using suction cup spray equipment.

A 10 to 15 µm coating thickness is recommended for good EMI shielding performance. Avoid 'Dry Spraying', for maximum adhesion and conductivity.

### Drying

This product dries to touch in about 10 minutes and can be handled after a further 10 minutes approximately, depending on ambient temperature. Good coating properties will be achieved after 4 - 8 hours air drying (depending on coating thickness and 80°C) may be used for faster processing. Forced drying of the coating will noticeably improve conductivity.

### Cleaning

For high volume production where masks are used, they can be cleaned with ester (butyl acetate, ethyl acetate) or ketone (MIBK, MEK) solvents. Spray and mixing equipment can be cleaned with the same solvents.

### Storage

Store the product at temperatures between 5 and 30.°C

Typical Properties (on Lexan panels dried 30 min./70°C)

Sheet resistance	< 0.015 /square at 25 mcoating thickness
Attenuation	60 dB at 25 m coating thickness at 1000 MHZ
Max. service temperature	105°C

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### Health & safety

See separate Material safety sheet

### How to order

When you want to order the Conductive Silver Coating please mention the following:

Part number	Amount
<b>3830</b>	<b>1</b>
3830 : Conductive Silver Coating 30Gr	Specify the amount you need?