



# CONDUCTIVE SILVER PLATED COPPER COATING 3800C



EMI/RFI shielding application for prototype and touch up work of plastic enclosures/housings



Conductive silver plated copper coating is supplied ready for use, it is designed to give low resistance in thin film thickness, and exhibits superb EMI shielding and grounding properties displaying excellent adhesion to most plastics and is specially suitable for electronic equipment housing. It exhibits superb long term shielding and grounding properties while providing an esthetically pleasant appearance.

The resin becomes touch dry in approx. 5 minutes after application, to handle in 10 minutes and achieves maximum conductivity within 4 to 16 hours when air dried. It is intended to prevent electrical interference which penetrates enclosures made from thermoplastics and other insulating materials. The coating also prevents static build up.

It is recommended that an grounding connection is made to achieve maximum shielding performance. A suitable material for this is Part number 3201, Copper shielding tape which can simply be stuck onto the coated surface or over-sprayed with the electrically-conductive copper coating. The coating, once it has been applied, has a copper colored finish.

## TYPICAL PROPERTIES

Sheet resistance	<0.50 /square at 25 m
Attenuation	75 dB at 50 µm
Maximum service temperature	95°C

## METHOD OF USE

### Mixing and dilution

Conductive silver plated copper coating is easily mixed by stirring and care must be taken to ensure all solids are evenly dispersed. Dilution is not usually necessary. Product can be thinned with Xylene based thinners if necessary. ECP JSF024 thinners may be used.

### Application method

Conventional propeller agitated pressure pot systems can be used for production. Small sample runs can be sprayed using suction cup spray equipment providing product has been well mixed and is not given time to settle in use. Highest efficiency has been achieved using high volume, low pressure (HVLP) spray guns.

A nominal 25-50 \*m coating thickness is recommended for good shielding properties. A thinner coat can be used depending upon the shielding requirements of the device being protected. Avoid dry spray for maximum adhesion and conductivity.

## PHYSICAL PROPERTIES

Surface resistance at 25 micron (thou) ASTM D257	0.5 ohm/square or less
Conductive additive	Silver plated copper
Viscosity	16- 18 sec. (zahn cup 2)
Flash Point	-5°C
Specific Gravity	1050 kg/m3
Typical coverage	5 m2/kg at 25 microns (dependent on substrate)
Drying time: touch	5 minutes
Drying time: full	4 up to 16 hours (air dry)
Shelf life	12 months

Technical Datasheet

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### **Drying**

Ambient temperature and film thickness affect drying. 3800C is touch dry in approx. 5 minutes and to handle in about 10 minutes. Best results will be seen 4 to 16 hour's air drying. It can be force dried for 20 minutes at 60°C after a short flash off time.

### **Quality Control**

Measure the surface resistance after coating is fully dried. Resistance measurements using fixed test probe rigs ensure reproducibility, although point to point readings are also frequently used. The use of point probes is not advisable due to contact resistance issues and probes should be of sufficient surface area to ensure good electrical contact with the substrate.

### **Cleaning**

Masks can be easily cleaned with solvent.

### **Health and Safety**

See separate Material Safety Data Sheet