+44 (0)1706 758811

Conductive Coatings Spraying Service

EMC and Thermal Management Solutions

Fothershield

UNIT 3 GORRELLS WAY, TRANSPENNINE TRADING ESTATE
ROCHDALE, LANCS, UK. OL11 2PX

E info@fothershield.co.uk

T +44 (0)1706 758811

W www.fothershield.co.uk

CONDUCTIVE COATINGS SPRAYING SERVICE

Supplying into a wide range of industries including defence, medical, aerospace and instrumentation, Fothershield's conductive coatings can be applied to a wide range of engineering plastics.

Having the ability to meet the production demands of low to high volume projects, Fothershield can tailor a solution to meet both performance and price requirements, with samples turned around quickly. Simply send us your moulded enclosures and let Fothershield do the rest.

Coatings are usually required selectively onto internal surfaces of enclosures and high precision electroformed masking jigs are used to ensure accuracy and repeatability, although for small volumes or one off orders, hand masking is sometimes preferred. State-of-the-art spray booths in a fully enclosed clean room environment allows Fothershield to offer the highest level of quality and consistency.

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The most commonly used paints are conductive nickel, silver plated copper, or silver. Nickel paint is very common, but silver plated copper has become more attractive, particularly as it provides a better finish and performance. Applied at 25 micron thickness silver plated copper has no price premium over nickel.

Silver paint is highly conductive and is perfect for applications where a high performance is required such as in the defence industry. Silver paint is applied at 10 micron thickness.

Further coatings may be applied, such as NATO green or sealing lacquers on top of the conductive paint for insulation purposes.

Properties

CONDUCTIVE FILLER	NICKEL FS-150	SILVER PLATED COPPER FS-225	SILVER FS-210
Thickness (nominal)	40-50 microns	25 microns	10 microns
Sheet Resistance (typical)	1.0 to 0.5 ohms/square	0.20 to 0.08 ohms/square	0.05 to 0.02 ohms/square

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FS-150 NICKEL COATING

This highly conductive sprayable nickel loaded coating is used on plastic substrates and provides a hard wearing conductive coating for electromagnetic interference (EMI) shielding applications. This coating may be applied directly to a wide range of plastics, but adhesion and compatibility should be checked before application.

Specification

TYPICAL PROPERTIES	FS-150 NICKEL COATING
Binder	Synthetic Resin
Conductive Filler	Nickel
Viscosity	Thixotropic
Specific Gravity	1.86g/cm³
Dry Film Thickness	40-60 microns
Surface Resistance	< 1.0 ohms/sq @ 40 microns < 0.5 ohms/sq @ 60 microns
Storage temperature	10°C – 30°C

FS-225 SILVER COATED COPPER COATING

This highly conductive sprayable silver coated copper coating is used on plastic substrates and provides a highly conductive coating for EMI shielding applications. This coating may be applied directly to a wide range of plastics and is formulated with very mild solvents which tolerate built in stresses found in moulded parts. FS-225 contains no MEK (methyl ethyl ketone) or other solvents which may affect sensitive plastics such as polycarbonate. Adhesion and compatibility should be checked before application.

Specification

TYPICAL PROPERTIES	FS-225 SILVER PLATED COPPER COATING
Binder	Acrylic/Latex
Conductive Filler	Silver Coated Copper
Viscosity	Thixotropic mixture
Specific Gravity	1.11g/cm³
Dry Film Thickness	20 - 30 microns
Surface Resistance	< 0.12 ohms/sq @ 20 microns < 0.08 ohms/sq @ 30 microns
Storage temperature	10°C – 30°C

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FS-210 SILVER CONDUCTIVE PAINT

FS-210 is a highly conductive silver paint formulated with very mild solvents which allows it to tolerate higher built in stresses found in moulded plastic parts. The coating contains no MEK (methyl ethyl ketone) or other strong solvents which may attack solvent sensitive plastics such as polycarbonate.

Specification

TYPICAL PROPERTIES	FS-210 SILVER COATING
Binder	Vinyl/Latex
Conductive Filler	Pure Silver
Viscosity	Thixotropic mixture May be diluted with Ethyl Alcohol
Specific Gravity	1.38g/cm³
Dry Film Thickness	10-25 microns
Surface Resistance	< 0.05 ohms/sq @ 10 microns < 0.015 ohms/sq @ 25 microns
Storage temperature	10°C – 30°C

All technical data herein is accurate to the best of our knowledge based on our most up to date testing information and material specifications. This information is not presented as a warranty or guarantee and is not intended to be all inclusive as to conditions of use. The data herein represents typical properties and is not to be used as a basis for a specification.

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