

EMI Shielding on Circuit Boards and Semiconductor Packages

MG Chemicals offers silver conductive paints for premium EMI shielding applications. These coatings are designed for large-scale, selective spray applications for both board-level shielding of circuit boards and package-level shielding for semiconductors. They are lightweight, cost-effective alternatives to processes like metal stamping and Physical Vapor Deposition (PVD)

Features and Benefits

- Cures quickly at elevated temperatures
- Excellent corrosion resistance
- Withstands wave solder temperatures exceeding 260°C (except 842AR)
- Excellent adhesion to a wide variety of substrates
- Exceptional EMI shielding
- Ready to spray

Applications

- Replacing metal stamping for board-level EMI shielding
- Replacing PVD coatings for silicon wafers
- Package-level and board-level shielding

842AR – 1-part silver acrylic conductive paint

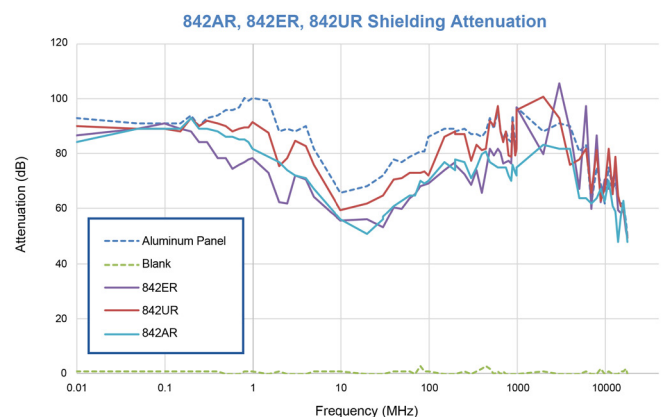
- Easy to rework
- Room temperature cure

842UR – 1-part silver polyurethane conductive paint

- Exceptional conductivity at film thicknesses as low as 7 microns
- Flexible

842ER - 2-part silver epoxy conductive paint

- Excellent solvent and abrasion resistance
- Flexible



Board Level Shielding



UNCURED PROPERTIES

	842AR	842UR	842ER
Conductive filler	Silver	Silver	Silver
Binder	Acrylic	Polyurethane	Epoxy
Format	Liquid	Liquid	Liquid
Color	Light grey	Metallic silver	Metallic silver
Mix ratio by weight	1 part	1 part	100:10
Mix ratio by volume	1 part	1 part	100:20
Percent solids	61%	30%	54%
Density @25 °C [77 °F]	1.70 g/mL	1.33 g/mL	1.37 g/mL
Viscosity @25 °C [77 °F]	873 cP	4 cP	60 cP (Part A) 22 cP (Part B)
Calculated VOC	206 g/L	360 g/L	1 181 g/L
Recoat time (Plastic)	3 min	20 min	5 min
Cure time (min @ °C)	1440 @ 22 30 @ 65	30 @ 125 15 @ 140	1440 @ 22 180 @ 65 120 @ 80 60 @ 100 45 @ 120

CURED PROPERTIES

Resistivity	0.0001 Ω·cm	0.00015 Ω·cm	0.002 Ω·cm
Surface resistance @50 μm	0.015 Ω/sq	0.008 Ω/sq	0.13 Ω/sq
Salt fog resistance @35 °C [95 °F], 96 h	Excellent	Excellent	Excellent
Constant service temperature	-40—120 °C [-40—248 °F]	-40—125 °C [-40—257 °F]	-40—150 °C [-40—302 °F]
Adhesion (ABS/PC)	5B	5B	5B
Pencil hardness	3H, hard	2H, hard	4H, hard
Magnetic class	Diamagnetic	Diamagnetic	Diamagnetic

AVAILABLE PACKAGING

15 mL (glass jar)	15 mL (glass jar)	60 mL (2 glass bottle kit)
150 mL (metal can)	150 mL (metal can)	900 mL (2 metal can kit)
900 mL (metal can)	850 mL (metal can)	4.25 L (2 metal can kit)
3.78 L (metal can)	3.60 L (metal can)	

