



## 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 & 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

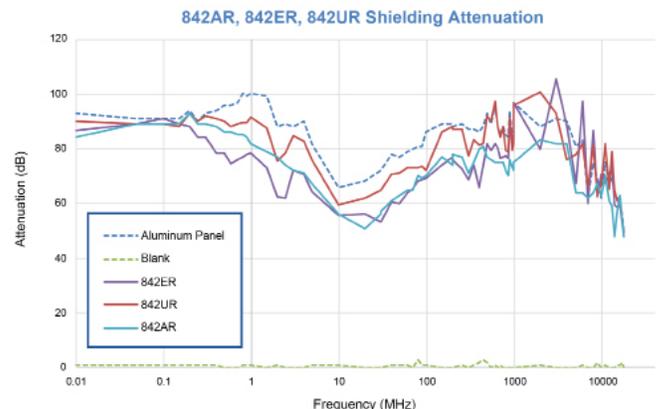
- Easy to rework
- Room temperature cure

**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



	842AR	842UR	842ER
<b>UNCURED PROPERTIES</b>			
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
Theoretical coverage @ 2 mil (based on 100% transfer efficiency)	46 000 cm <sup>2</sup> /L	26 570 cm <sup>2</sup> /L	25 230 cm <sup>2</sup> /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
<b>CURED PROPERTIES</b>			
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
<b>AVAILABLE PACKAGING</b>			
Net contents	3.60 L (metal can) 3.78 L (pail)	55 mL (bottle) 850 mL (metal can) 3.60 L (metal can)	60 mL (2 glass bottle kit) 900 mL (2 metal can kit) 4.25 L (2 metal can kit)

