

Protection against EMI/RFI

MG Chemicals AR series are acrylic-based conductive paints that are designed for protection against EMI/RFI across a broad frequency spectrum. These easy-to-use 1-part coatings cure quickly and are intended for use on commonly used plastics for PCB enclosures like ABS, Nylon and Polycarbonate.

Features & Benefits

- 1-part systems, easy to apply
- 4 options available depending on conductivity requirements
- Strong corrosion resistance
- Excellent adhesion to most plastics
- Does not contain toluene, xylene, or MEK
- Broad frequency range protection

Applications

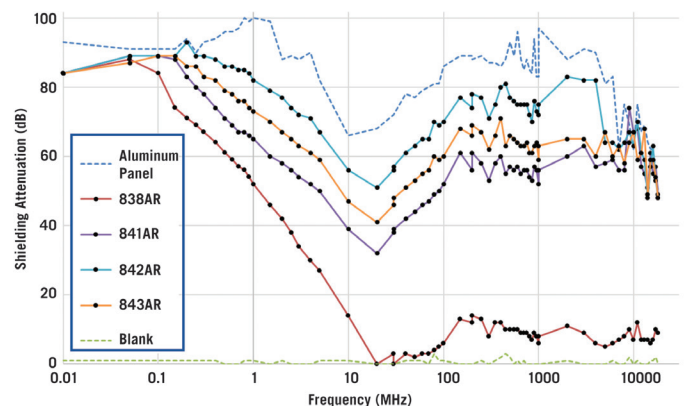
- Shielding plastic PCB enclosures
- Board-level shielding
- Conductive coating for electro-plating
- Shielding long-range communication devices and satellites

838AR - Carbon conductive paint for low frequency shielding and electrical grounding

841AR - Nickel conductive paint for broad spectrum shielding

842AR - Silver conductive paint for premium EMI protection

843AR - Silver-coated copper conductive paint which balances cost and EMI performance



Acrylic Conductive Paints



UNCURED PROPERTIES

	838AR	841AR	843AR	842AR
Conductive filler	Carbon	Nickel	Silver-coated Copper	Silver
Format	Liquid	Liquid	Liquid	Liquid
Color	Black	Dark grey	Light metallic brown	Light grey
Percent solids	15%	57%	31%	61%
Density @ 25 °C [77 °F]	0.89 g/mL	1.70 g/mL	1.10 g/mL	1.70 g/mL
Viscosity @ 25 °C [77 °F]	114 cP	1 460 cP	<30 cP	873 cP
Calculated VOC	519 g/L	236 g/L	187 g/L	206 g/L
Dilution required for spray	Yes	Yes	No	Yes
Theoretical coverage @ 2 mil (based on 100% transfer efficiency)	20 016 cm ² /L	44 785 cm ² /L	23 290 cm ² /L	46 000 cm ² /L
Recoat time	3 min	3 min	3 min	3 min
Cure time @ 22 °C [71.6 °F]	24 h	24 h	24 h	24 h
Cure time @ 65 °C [149 °F]	30 min	30 min	30 min	30 min

CURED PROPERTIES

Resistivity	0.63 Ω·cm	0.0040 Ω·cm	0.00030 Ω·cm	0.00010 Ω·cm
Surface resistance @ 50 μm	100 Ω/sq	0.49 Ω/sq	0.080 Ω/sq	0.015 Ω/sq
Salt fog resistance @ 35 °C [95 °F], 96 h	Excellent	Excellent	Poor	Excellent
Constant service temperature	-40–120 °C [-40–248 °F]	-40–120 °C [-40–248 °F]	-40–120 °C [-40–248 °F]	-40–120 °C [-40–248 °F]
Adhesion (ABS/PC)	5B	5B	5B	5B
Pencil hardness	H, hard	3H, hard	F, medium	3H, hard
Magnetic class	Diamagnetic	Ferromagnetic	Diamagnetic	Diamagnetic

AVAILABLE PACKAGING

Net content	12 mL (glass jar)	12 mL (glass jar)	—	12 mL (glass jar)
	—	150 mL (metal can)	—	150 mL (metal can)
	850 mL (metal can)	850 mL (metal can)	850 mL (metal can)	850 mL (metal can)
	3.60 L (metal can)	3.60 L (metal can)	3.60 L (metal can)	3.60 L (metal can)

