

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.

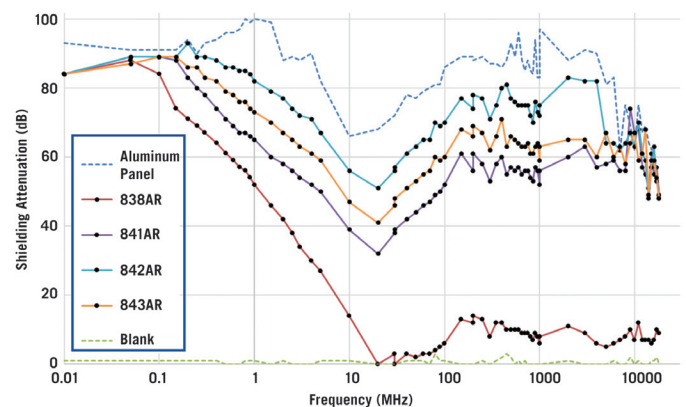
Features & Benefits

- 1-part systems, easy to apply
- 5 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 vprotection
- 842ARL** • Silver conductive paint with low film thickness
- 843AR** • Silver-coated copper conductive paint which balances cost and EMI performance



Acrylic Conductive Paints



	838AR	841AR	843AR	842AR	842ARL
Certification	—	UL (File # E202609)	UL (File # E202609)	—	—
UNCURED PROPERTIES					
Conductive filler	Carbon	Nickel	Silver-coated Copper	Silver	Silver
Format	Liquid	Liquid	Liquid	Liquid	Liquid
Color	Black	Dark grey	Light metallic brown	Light grey	Light grey
Percent solids	15%	57%	31%	61%	39%
Density @ 25 °C	0.9 g/mL	1.7 g/mL	1.1 g/mL	1.7 g/mL	1.3 g/mL
Viscosity @ 25 °C	114 cP	1 460 cP	<30 cP	873 cP	16 cP
Calculated VOC	519 g/L	236 g/L	187 g/L	206 g/L	268 g/L
Dilution required for spray	Yes	Yes	No	Yes	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	21 000 cm ² /L
Recoat time	3 min	3 min	3 min	3 min	3 min
Cure time @ 22 °C	24 h	24 h	24 h	24 h	24 h
Cure time @ 65 °C	30 min	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	0.000075 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, 96 h	Excellent	Excellent	Poor	Excellent	—
Constant service temperature	-40–120 °C	-40–120 °C	-40–120 °C	-40–120 °C	-40–120 °C
Adhesion (ABS/PC)	5B	5B	5B	5B	5B
Pencil hardness	H, hard	3H, hard	F, medium	3H, hard	F, hard
Magnetic class	Diamagnetic	Ferromagnetic	Diamagnetic	Diamagnetic	Diamagnetic
AVAILABLE PACKAGING					
Net content	12 mL (glass jar) — 850 mL (metal can) 3.60 L (metal can)	12 mL (glass jar) 150 mL (metal can) 850 mL (metal can) 3.60 L (metal can)	— — 850 mL (metal can) 3.60 L (metal can)	12 mL (glass jar) 150 mL (metal can) 850 mL (metal can) 3.60 L (metal can)	850 mL (metal can) — — —

