

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.

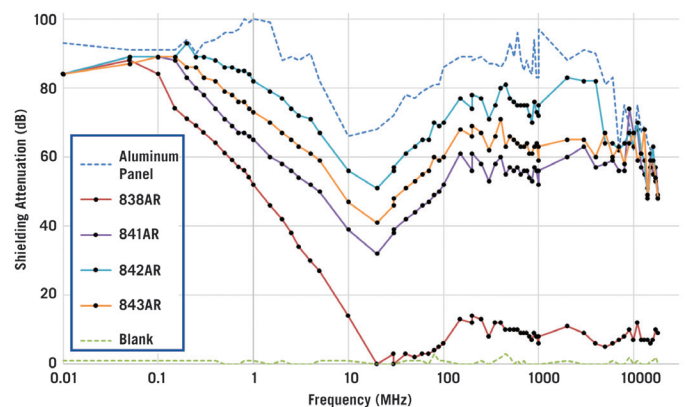
Features & Benefits

- 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	55 mL (bottle) 850 mL (metal can) 3.60 L (metal can) 18.9 L (Pail)	55 mL (bottle) 850 mL (metal can) 3.60 L (metal can) —	55 mL (bottle) 850 mL (metal can) 3.60 L (metal can) 18.9 L (Pail)	— 850 mL (metal can) 3.60 L (metal can) —	850 mL (metal can) — — —

