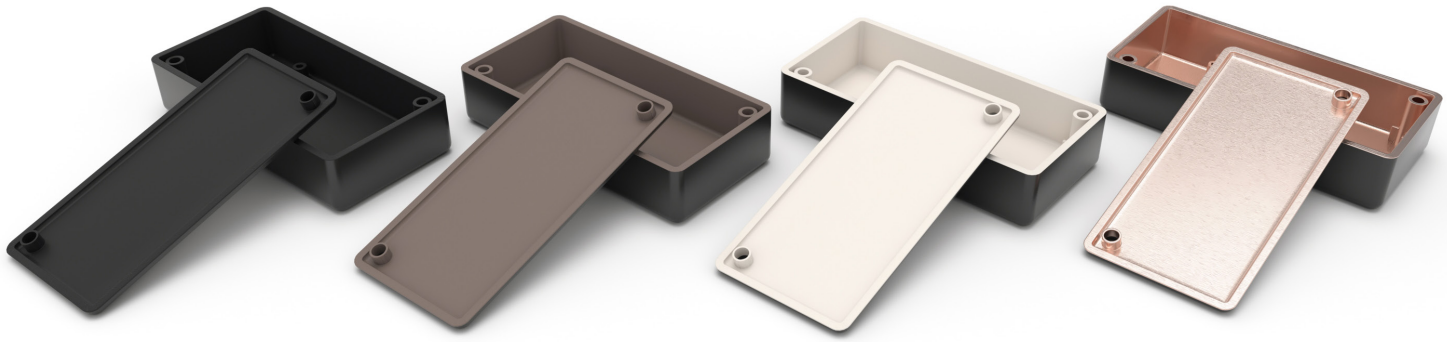
# Acrylic Conductive Paints



## 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

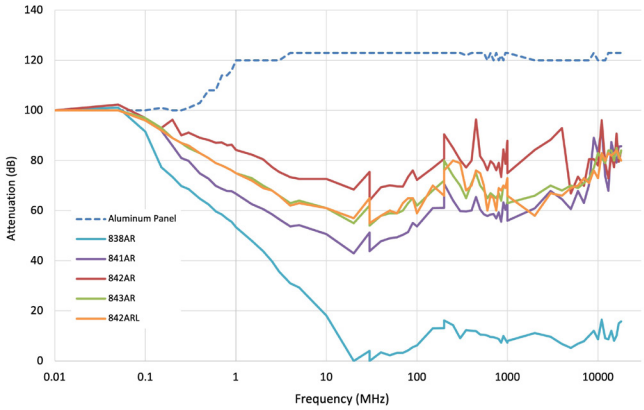
**841AR** • Nickel conductive paint for broad spectrum shielding

**842AR** • Silver conductive paint for premium EMI protection

**842ARL** • Silver conductive paint with low film thickness

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

### Shielding Attenuation



# 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) | 55 mL (bottle) | 55 mL (bottle) | — | 850 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) | — |
| | 18.9 L (Pail) | — | 18.9 L (Pail) | — | — |