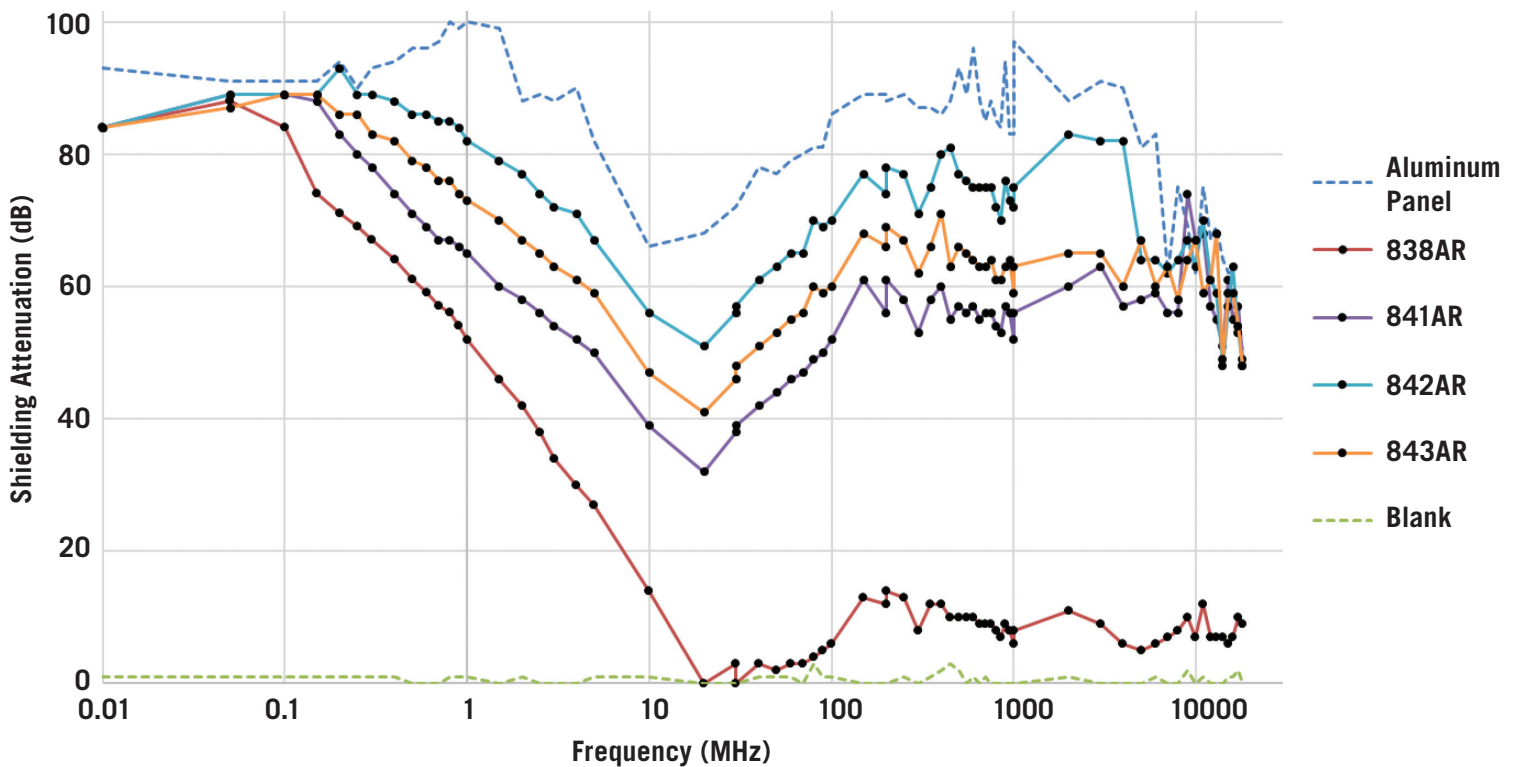


EMI/RFI Shielding — Acrylic Conductive Coatings



- Provides effective EMI/RFI shielding
- Easy to use, solvent based system - available in liquid or aerosol
- Smooth, durable, and abrasion resistant
- Strong adhesion to most plastics
- Does not contain xylene or toluene
- Available in four pigments: carbon, nickel, silver coated copper, or silver

Acrylic Conductive Coating Shielding Effectiveness



Acrylic Conductive Coating Comparison Chart

| Uncured Working Properties | 838AR | 841AR | 843AR | 842AR |
|---|-----------------------------------|---------------------------------------|--------------------------------------|--|
| Conductive Filler | C (carbon) | Ni (nickel) | Ag/Cu (silver coated copper) | Ag (silver) |
| Format | Liquid | Liquid | Liquid | Liquid |
| Color | Black | Dark grey | Light metallic brown | Metallic silver |
| Solids Percentage | 15% | 57% | 31% | 61% |
| Density @ 25 °C [77 °F] | 0.85 g/mL | 1.7 g/mL | 1.1 g/mL | 1.7 g/mL |
| Viscosity @ 25 °C [77 °F] | 154 cP | 1 460 cP | <30 cP | 873 cP |
| VOC Content | 47% | 14% | 17% | 12% |
| Shelf Life | 2 y | 2 y | 2 y | 2 y |
| Coverage & Application Properties | | | | |
| Ready to Spray | No | No | Yes | No |
| Theoretical HVLP Spray Coverage | ≤25 300 cm ² /L | ≤29 600 cm ² /L | ≤15 000 cm ² /L | ≤59 600 cm ² /L |
| Re-coat Time | 3 min | 3 min | 3 min | 3 min |
| Drying Time @ 25 °C [77 °F] | 24 h | 24 h | 24 h | 24 h |
| Drying Time @ 65 °C [149 °F] | 30 min | 30 min | 30 min | 30 min |
| Cured Properties | | | | |
| Electrical Properties | | | | |
| Volume Resistivity | 0.33 Ω·cm | 0.0040 Ω·cm | 0.00030 Ω·cm | 0.00011 Ω·cm |
| Volume Conductivity | 3.1 S/cm | 250 S/cm | 3 300 S/cm | 9 337 S/cm |
| Surface Resistance @ 1 coat | 170 Ω/sq | 0.52 Ω/sq | 0.071 Ω/sq | <0.01 Ω/sq ^{a)} |
| Surface Resistance @ 2 coats | 60 Ω/sq | 0.38 Ω/sq | 0.018 Ω/sq | <0.01 Ω/sq ^{a)} |
| Attenuation from 0.01 to 18 000 MHz | 23 dB ± 25 dB | 59 dB ± 12 dB | 65 dB ± 11 dB | 73 dB ± 11 dB |
| Salt Fog Test @ 35 °C [95 °F], 96 h ^{b)} | Before: 70 Ω/sq After: 70 Ω/sq | Before: 0.38 Ω/sq After: 0.51 Ω/sq | Before: 0.08 Ω/sq After: 3.3 Ω/sq | Before: <0.01 Ω/sq After: 0.05 Ω/sq |
| Thermal Properties | | | | |
| Constant Service Temperature | -40 to 120 °C [-40 to 248 °F] | -40 to 120 °C [-40 to 248 °F] | -40 to 120 °C [-40 to 248 °F] | -40 to 120 °C [-40 to 248 °F] |
| Intermittent Temperature Limits | -50 to 125 °C [-58 to 257 °F] | -50 to 125 °C [-58 to 257 °F] | -50 to 125 °C [-58 to 257 °F] | -50 to 125 °C [-58 to 257 °F] |
| Mechanical Properties | | | | |
| Adhesion ^{b)} | 5B | 5B | 5B | 5B |
| Pencil Hardness ^{b)} | H, hard | 3H, hard | F, medium | 3H, hard |
| Magnetic Properties | | | | |
| Magnetic Class | Diamagnetic (non-magnetic) | Ferromagnetic (magnetic) | Diamagnetic (non-magnetic) | Diamagnetic (non-magnetic) |
| Relative Permeability | <1.0 | ≥100 | <1.0 | <1.0 |

Values for conductive coatings in aerosol format will vary slightly. Please see product's TDS for exact values.

a) Readings less than 0.01 Ω/sq are below the detection limit of the test apparatus b) Tested on acrylonitrile butadiene styrene (ABS)

Applications and Uses: • Electronic enclosures • Sensors • Controllers • Receivers • Test equipment • Scientific equipment • Grounding • Medical equipment • Shielding repair • Communication devices • Satellite dishes and radar systems • Antennas • Aerospace • Electric vehicles • Network gear • Military equipment • Cellphones, laptops, PDAs • GPSs, navigation systems • TVs, monitors, displays • Consumer electronics • Prototyping and circuit repair • RC vehicles • Electric guitars and other amplified instruments • Conductive undercoat for electroplating

Total Ground™ Carbon Conductive Coating (838AR) Provides effective for low frequency shielding, musical instruments, and grounding.

Super Shield™ Nickel Conductive Coating (841AR) Suitable for most device level shielding applications with excellent corrosion resistance.

Super Shield™ Silver Coated Copper Conductive Coating (843AR) Provides superior shielding at higher frequencies.

Super Shield™ Silver Conductive Coating (842AR) Offers the best shielding and corrosion resistance. It is also the best choice for board level shielding and can be applied very thin.