842AR | Super Shield Silver Conductive Coating

Superior EMI shielding for plastic enclosures

Description

842AR is a silver-filled conductive acrylic coating for high-performance EMI/RFI shielding of plastic electronic enclosures and assemblies.

It forms a highly conductive surface that provides effective attenuation of electromagnetic interference while maintaining excellent electrical continuity across complex geometries and high-frequency systems. The coating adheres well to most engineering plastics and can be applied by brush, spray gun, or selective coating equipment for prototype through production-scale applications.

Key Characteristics

Shielding Effectiveness

10 MHz to 100 MHz:	64–76 dB
100 MHz to 10 GHz:	67–93 dB
10 GHz to 18 GHz:	73–96 dB

Electrical Properties

Resistivity:	1.0×10^{-4} Ω·cm
Surface Resistance @ 25 µm:	0.04 Ω/sq

Coating Thickness & Particle Size

Recommended:	25 µm
Minimum achievable:	25 µm
Particle Size Distribution:	D10 2.5 µm, D50 6.5 µm, D90 15 µm



Features & Benefits

- Highly conductive silver coating for high-performance EMI/RFI shielding
- Maintains stable electrical performance in high-frequency applications
- Excellent adhesion to common engineering plastics
- Low-resistance conductive network for complex geometries and compact enclosures
- Fast-drying coating suitable for brush, spray, and selective coating processes
- Ambient-temperature cure with optional heat acceleration
- Suitable for thin-film conductive coating applications

Applications

- RF and wireless communication systems
- Telecommunications and networking equipment
- Antenna systems and RF test enclosures
- High-frequency electronic assemblies
- Sensors and precision instrumentation systems
- Aerospace and defense electronics
- Lightweight electronic housings and subsystems
- EMI shielding for compact high-density electronic systems

Ordering Information

Part #	Pkg.	Net Vol.	Net Wt.
842AR-P*	Pen	5.0 mL	8.69 g
842AR-900ML	Can	850 mL	1.47 kg
842AR-3.78L	Can	3.60 L	6.25 kg

*See separate TDS for pen format.

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Physical Properties

Colour	Metallic Silver
Pencil Hardness	3H, Hard
Salt Fog Resistance	Excellent
Service Temperature Range	-40—120 °C

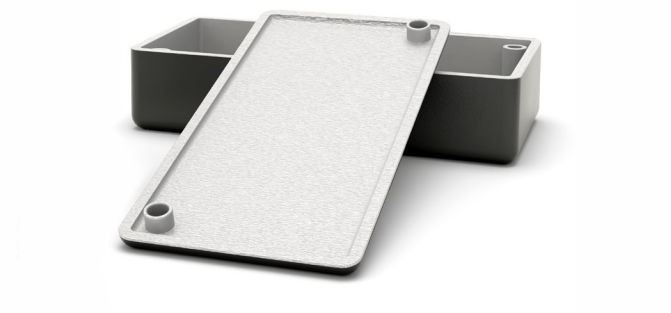
Electrical Properties

Surface Resistance @ 50 µm	0.02 Ω/sq
Surface Resistance @ 25 µm	0.04 Ω/sq
Resistivity	1.0 x 10^{-4} Ω·cm
Magnetic Class	Diamagnetic

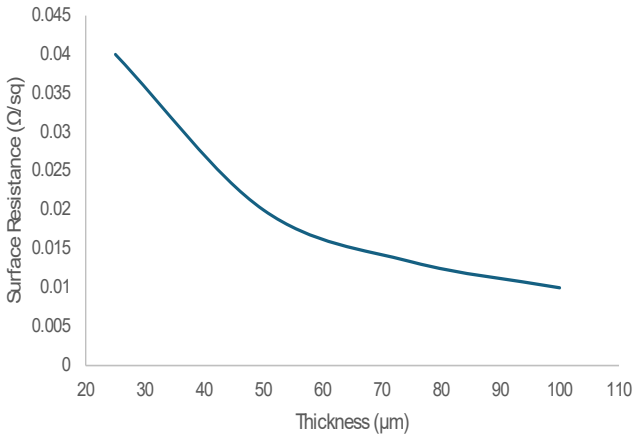
Cured properties unless otherwise stated.

Cure Schedule

25°C	24 hours
65°C	30 minutes



Surface Resistance by Paint Thickness



Adhesion Performance

ABS	5B
Aluminum	0B
Copper	0B
Polycarbonate	5B
Polyamide	5B
Glass	0B
PVC	5B
FR4	5B
Stainless Steel	1B

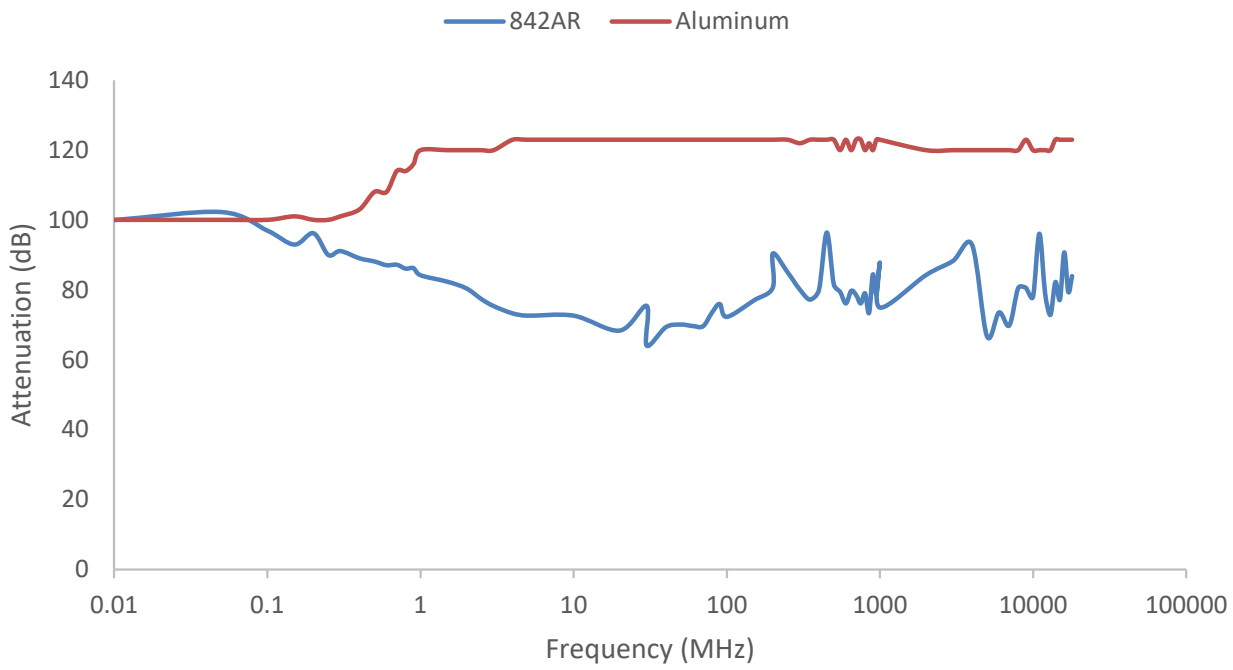
Uncured Properties

Film Thickness - Recommended	25 µm
Film Thickness - Minimum	25 µm
Coverage @ 25 µm	94,520 cm^2/L
Density	1.7 g/mL
Viscosity @ 23 °C	873 cP
Recoat Time	3 min.
Percent Solids	61%
Dilution Ratio	2:1 with 4351
Shelf Life	5 y
VOC Content	407 g/L
Storage Temperature	16 to 27°C

Shielding Effectiveness At Selected Frequencies

Frequency	Attenuation	Note
1 MHz	84	Lower limit of most EMC standards
100 MHz	72	Core commercial EMC band
1 GHz	88	Boundary between RF and Microwave
3 GHz	88	Upper limit of most broadband shielding specs
10 GHz	78	X-band radar, critical for aerospace and defense applications

Shielding Attenuation Graph



Standards Used

Adhesion	ASTM D3359	Viscosity	ASTM E3116
Pencil Test	ISO 15184	Shielding Effectiveness	MIL-STD-285
Salt Fog	ASTM B117	Resistivity	MIL-STD-883J Method 5011.6
Density	ASTM D1475		

Additional Resources

Scan a QR Code or click a link to access supporting documentation and product resources.

Product Webpage

Full product information, downloads, videos and more

SDS

Safety Data Sheet

Application Guide for AR Conductive Coatings

Application instructions and best practices

QC Guide for Conductive Coatings

Testing methods and quality control procedures

Category Data Sheet for AR Conductive Coatings

Technical overview and performance summary

EMI Shielding Coatings Catalogue

Complete solutions for EMI shielding

Ready to Solve Your EMI Shielding Challenge?

Our application engineers are here to help you select the right materials and achieve optimal shielding performance.

- Material Selection
- EMI Troubleshooting
- Process Optimization
- Custom Solutions

Talk to an Application Engineer

Get expert recommendations tailored to your design, materials, and requirements

Contact Engineering

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