842ARL | Super Shield Silver Conductive Coating

Superior EMI shielding for plastic enclosures

Description

842ARL is a silver-filled conductive acrylic coating for thin-film EMI/RFI shielding of plastic electronic enclosures and space-constrained electronic assemblies.

It forms a highly conductive surface that provides effective electromagnetic shielding while achieving electrical continuity at exceptionally low coating thicknesses. 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:	55–65 dB
100 MHz to 10 GHz:	59–80 dB
10 GHz to 18 GHz:	73–84 dB

Electrical Properties

Resistivity:	7.5×10^{-5} Ω·cm
Surface Resistance @ 25 µm:	0.03 Ω/sq

Coating Thickness & Particle Size

Recommended:	25 µm
Minimum achievable:	8 µm
Particle Size Distribution:	D10 5µm, D50 13.4 µm, D90 28.5 µm



Features & Benefits

- Highly conductive silver coating for thin-film EMI/RFI shielding
- Designed for applications where coating thickness must be minimized
- Provides electrical continuity at low dry film thickness
- Suitable for compact enclosures, close-tolerance assemblies, and space-constrained electronics
- Ambient-temperature cure with optional heat acceleration
- Fast-drying acrylic coating suitable for brush, spray, and selective coating processes

Applications

- Applications requiring conductive performance at minimal coating thickness
- Compact electronic devices and embedded systems
- Aerospace and defense electronics
- Sensors and instrumentation systems
- RF and wireless communication equipment
- Telecommunications and networking equipment
- EMI/RFI shielding for plastic electronic enclosures and assemblies
- Lightweight electronic housings and subsystems

Ordering Information

Part #	Pkg.	Net Vol.	Net Wt.
842ARL-55ML	Bottle	55 mL	72.1 g
842ARL-900ML	Can	850 mL	1.11 kg

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Physical Properties

Colour	Metallic Silver
Pencil Hardness	F, Medium
Salt Fog Resistance	Excellent
Service Temperature Range	-40—120 °C

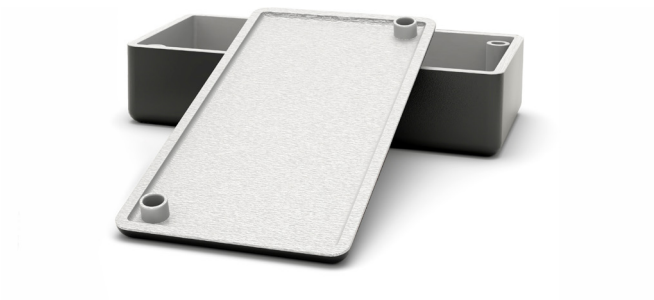
Electrical Properties

Surface Resistance @ 50 µm	0.015 Ω/sq
Surface Resistance @ 25 µm	0.03 Ω/sq
Resistivity	7.5 x 10^{-5} Ω·cm
Magnetic Class	Diamagnetic

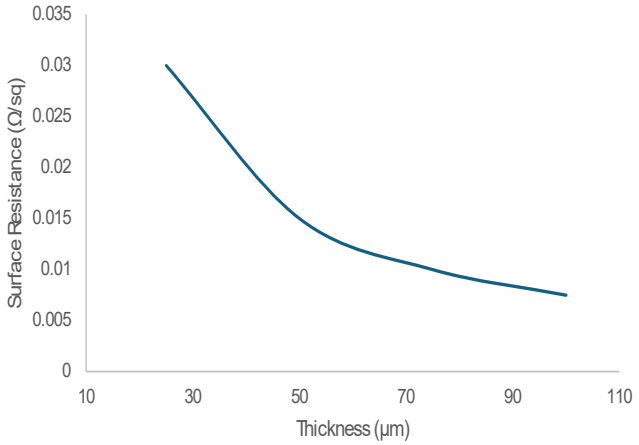
Cured properties unless otherwise stated.

Cure Schedule

25°C	24 hours
65°C	30 minutes



Surface Resistance by Paint Thickness



Adhesion Performance

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

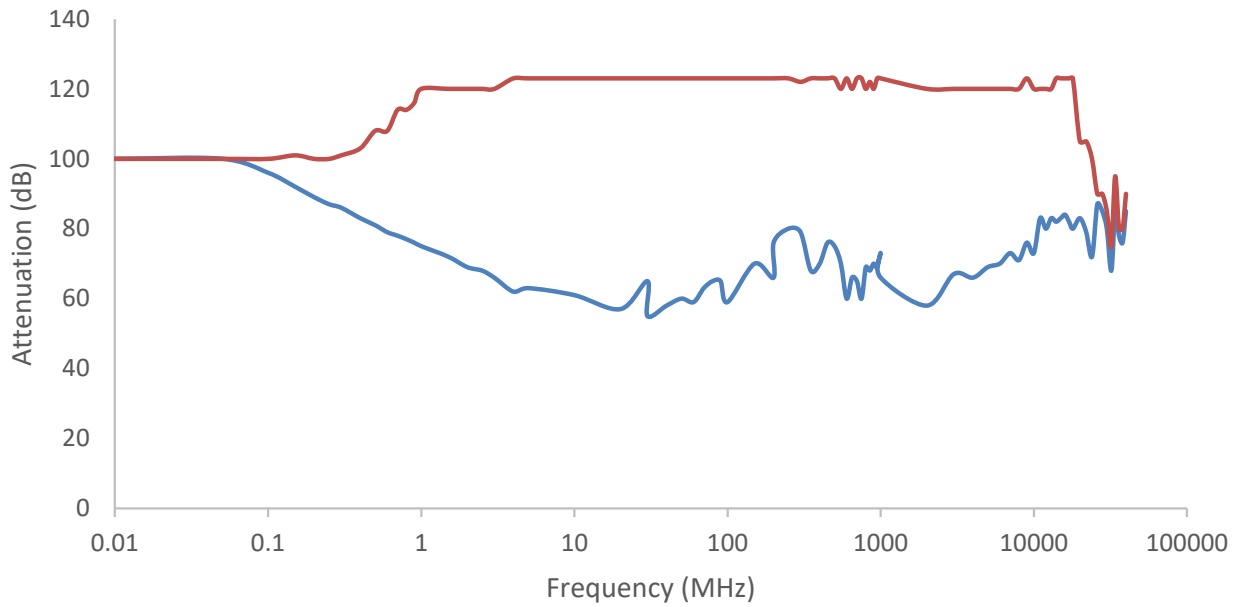
Uncured Properties

Film Thickness - Recommended	25 µm
Film Thickness - Minimum	8 µm
Coverage @ 25 µm	42,980 cm^2/L
Density	1.3 g/mL
Viscosity @ 23 °C	16 cP
Recoat Time	3 min.
Percent Solids	39%
Dilution Ratio	None
Shelf Life	5 y
VOC Content	647 g/L
Storage Temperature	16 to 27°C

Shielding Effectiveness At Selected Frequencies

Frequency	Attenuation	Note
1 MHz	75	Lower limit of most EMC standards
100 MHz	59	Core commercial EMC band
1 GHz	73	Boundary between RF and Microwave
3 GHz	67	Upper limit of most broadband shielding specs
10 GHz	73	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	IEEE-299.1:2013
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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