843AR | Super Shield Silver-Coated Copper Conductive Coating

High-performance EMI shielding for plastic enclosures

Description

843AR is a silver-coated copper-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 strong electrical continuity across complex geometries and electronic 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:	54–65 dB
100 MHz to 10 GHz:	62–83 dB
10 GHz to 18 GHz:	79–85 dB

Electrical Properties

Resistivity:	3.0×10^{-4} Ω·cm
Surface Resistance @ 25 µm:	0.12 Ω/sq

Coating Thickness & Particle Size

Recommended:	25 µm
Minimum achievable:	25 µm
Particle Size Distribution:	D10 22 µm, D50 47 µm, D90 73 µm



Features & Benefits

- Highly conductive silver-coated copper coating for effective EMI/RFI shielding
- Strong electrical continuity across electronic assemblies and enclosure surfaces
- Excellent adhesion to common engineering plastics
- Effective shielding performance for complex geometries and compact enclosures
- Fast-drying coating suitable for brush, spray, and selective coating processes
- Ambient-temperature cure with optional heat acceleration
- UL Recognized (File # E202609)

Applications

- EMI/RFI shielding for electronic enclosures and assemblies
- Aerospace and defense electronics
- Telecommunications and networking equipment
- Sensors and instrumentation systems
- Industrial automation and control electronics
- Embedded electronics and control systems
- Lightweight electronic housings and subsystems
- Automotive electronics and EV systems

Ordering Information

Part #	Pkg.	Net Vol.	Net Wt.
843AR-55ML	Bottle	55 mL	60 g
843AR-340G*	Aerosol	400 mL	340 g
843AR-900ML	Can	850 mL	927 g
843AR-3.78L	Can	3.60 L	3.93 kg
843AR-18.9L	Pail	18.9L	20.6 kg

*See separate TDS for aerosol format.

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Physical Properties

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

Electrical Properties

Surface Resistance @ 50 µm	0.06 Ω/sq
Surface Resistance @ 25 µm	0.12 Ω/sq
Resistivity	3.0 x 10^{-4} Ω·cm
Magnetic Class	Diamagnetic

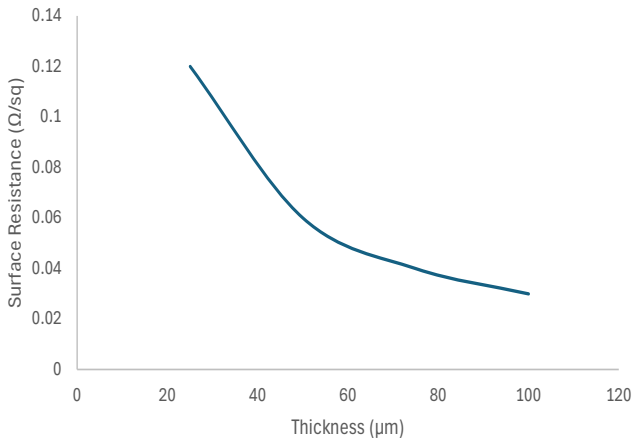
Cured properties unless otherwise stated.

Cure Schedule

25°C	24 hours
65°C	30 minutes



Surface Resistance by Paint Thickness



Adhesion Performance

ABS	5B
Aluminum	5B
Copper	5B
Polycarbonate	5B
Polyamide	5B
Glass	5B
PVC	5B
FR4	5B
Stainless Steel	4B

Uncured Properties

Film Thickness - Recommended	25 µm
Film Thickness - Minimum	25 µm
Coverage @ 25 µm	42,660 cm^2/L
Density	1.1 g/mL
Viscosity @ 23 °C	< 30 cP
Recoat Time	3 min.
Percent Solids	31%
Shelf Life	4 y
VOC Content	520 g/L

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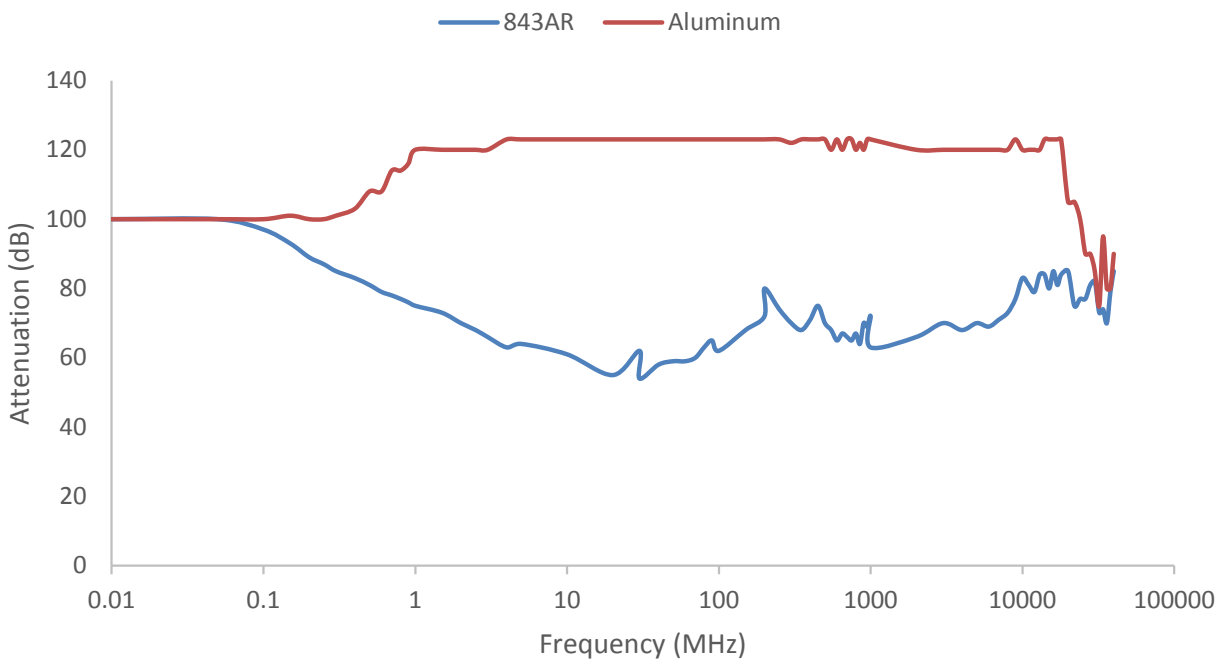
Shielding Effectiveness At Selected Frequencies

Frequency	Attenuation	Note
1 MHz	75	Lower limit of most EMC standards
100 MHz	62	Core commercial EMC band
1 GHz	72	Boundary between RF and Microwave
3 GHz	70	Upper limit of most broadband shielding specs
10 GHz	83	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		

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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

Disclaimer: This information is believed to be accurate. It is intended for professional end-users who have the skills required to evaluate and use the data properly. M.G. Chemicals Ltd. does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.

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