842UR | Silver Conductive Coating

Superior EMI shielding for plastic enclosures

Description

842UR is a silver-filled conductive urethane coating for high-performance EMI/RFI shielding of advanced electronic assemblies, sensors, and electronic enclosures.

It forms a highly conductive, mechanically compliant surface that provides exceptional attenuation of electromagnetic interference while maintaining excellent electrical continuity across complex geometries and thin-film applications. The coating adheres well to a variety of substrates and is suitable for applications requiring high shielding performance, flexible conductive surfaces, or durable electrical functionality in compact electronic systems.

Key Characteristics

Shielding Effectiveness

10 MHz to 100 MHz:	60-88 dB
100 MHz to 10 GHz:	56-109 dB
10 GHz to 18 GHz:	88-123 dB

Electrical Properties

Resistivity:	1.5×10^{-4} Ω·cm
Surface Resistance @ 25 µm:	0.06 Ω/sq

Coating Thickness & Particle Size

Recommended:	25 µm
Minimum achievable:	7 µm
Particle Size Distribution:	D10 5 µm, D50 13.4 µm, D90 28.5 µm



Features & Benefits

- Highly conductive silver coating for exceptional EMI/RFI shielding performance
- Provides excellent attenuation across RF, microwave, and high-frequency electronic systems
- Mechanically compliant urethane system for flexible and thin-film conductive applications
- Maintains excellent electrical continuity across complex geometries and precision assemblies
- Suitable for advanced electronic packaging, sensors, and compact electronic systems
- Excellent shielding performance at low coating thicknesses
- Cures quickly at elevated temperatures
- Suitable for prototype through production conductive coating applications

Applications

- Board-level and package-level EMI shielding
- Advanced electronic assemblies and compact electronic systems
- RF and wireless communication systems
- Antennas, sensors, and precision electronic devices
- Aerospace and defense electronics
- Medical, industrial, and instrumentation electronics
- Flexible and lightweight electronic structures
- EMI shielding for space-constrained and high-density electronic systems

Ordering Information

Part #	Pkg.	Net Vol.	Net Wt.
842UR-850ML	Can	850 mL	1.13 kg

Physical Properties

Colour	Metallic Silver
Pencil Hardness	2H, Hard
Salt Fog Resistance	Excellent
Service Temperature Range	-80—150°C

Electrical Properties

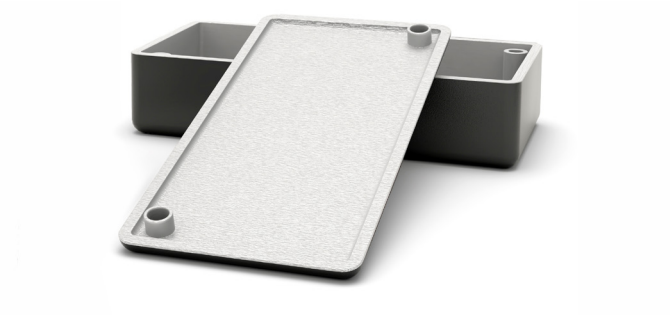
Surface Resistance @ 50 µm	0.03 Ω/sq
Surface Resistance @ 25 µm	0.06 Ω/sq
Resistivity	1.5 x 10^{-4} Ω·cm
Magnetic Class	Diamagnetic

Cured properties unless otherwise stated.

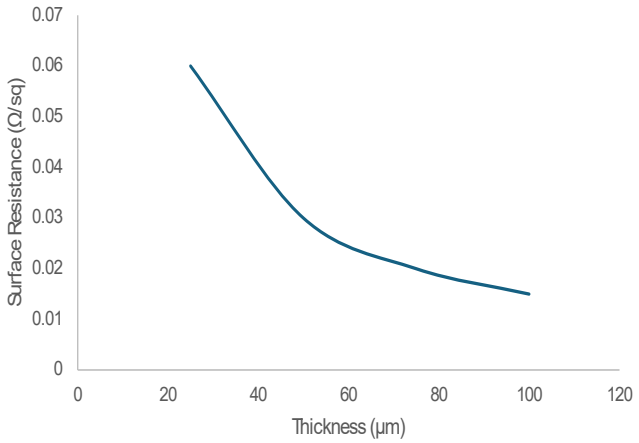
Cure Schedule

100°C	1.5 hours
125°C	30 minutes
140°C	15 minutes

This product does not cure at room temperature.



Surface Resistance by Paint Thickness



Adhesion Performance

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

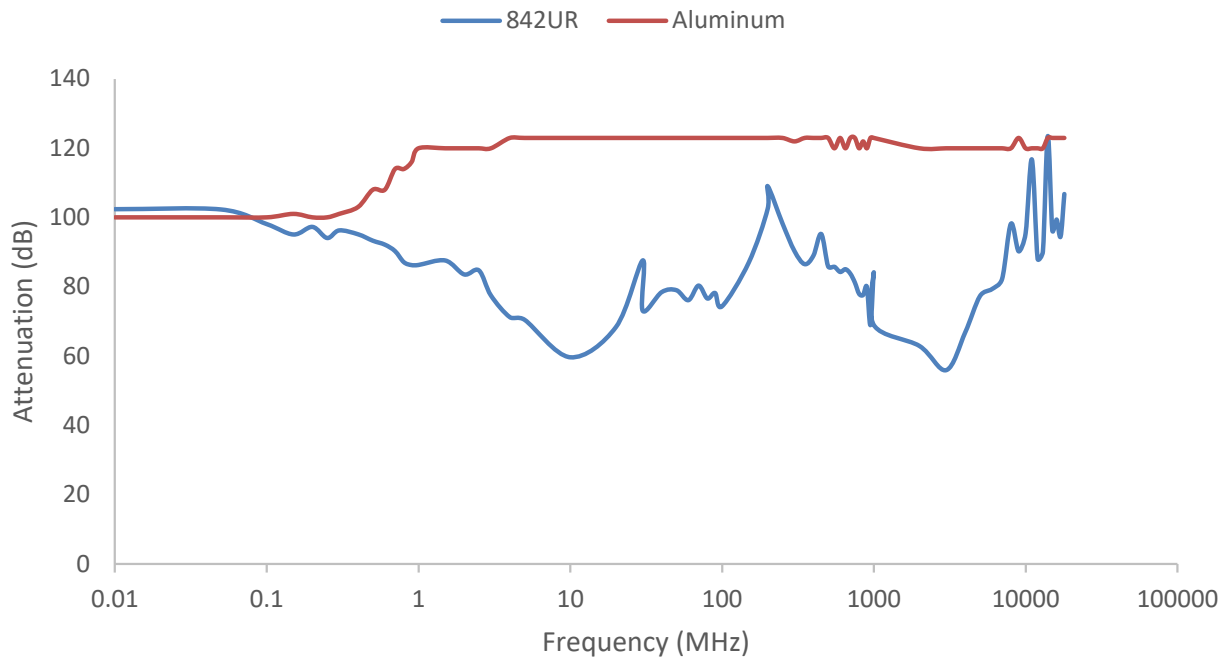
Uncured Properties

Film Thickness - Recommended	25 µm
Film Thickness - Minimum	7 µm
Coverage @ 25 µm	60,390 cm^2/L
Density	1.3 g/mL
Viscosity @ 23 °C	4 cP
Recoat Time	20 min.
Percent Solids	41%
Dilution Ratio	None
Shelf Life	5 y
VOC Content	879 g/L
Storage Temperature	10 to 27°C

Shielding Effectiveness At Selected Frequencies

Frequency	Attenuation	Note
1 MHz	86	Lower limit of most EMC standards
100 MHz	74	Core commercial EMC band
1 GHz	84	Boundary between RF and Microwave
3 GHz	56	Upper limit of most broadband shielding specs
10 GHz	95	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 UR Conductive Coatings

Application instructions and best practices

QC Guide for Conductive Coatings

Testing methods and quality control procedures

Category Data Sheet for Board-level Shielding

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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