842WBU | Super Shield Silver Conductive Coating

Superior EMI shielding for plastic enclosures

Description

842WBU is a water-based silver conductive coating for EMI/RFI shielding of plastic electronic enclosures, composite structures, and other non-conductive surfaces.

It forms a highly conductive shielding layer that provides excellent electrical continuity and strong attenuation of electromagnetic interference across a broad frequency range.

The low-VOC water-based formulation offers an alternative to solvent-based silver shielding coatings for applications requiring reduced solvent exposure, low odor handling, non-flammable processing, environmental compliance, or water-based manufacturing processes while remaining suitable for prototype through production-scale use.

Key Characteristics

Shielding Effectiveness

10 MHz to 100 MHz:	68–83 dB
100 MHz to 10 GHz:	78–93 dB
10 GHz to 18 GHz:	87–94 dB

Electrical Properties

Resistivity:	1.6×10^{-4} Ω·cm
Surface Resistance @ 25 µm:	0.064 Ω/sq

Coating Thickness & Particle Size

Recommended:	25 µm
Minimum achievable:	15 µm
Particle Size Distribution:	D10 5µm, D50 13.4 µm, D90 28.5 µm



Features & Benefits

- Water-based silver conductive coating for EMI/RFI shielding applications
- Provides excellent electrical conductivity and shielding performance across a broad frequency range
- Low-VOC formulation for improved workplace safety and reduced solvent exposure
- Low odor and non-flammable formulation that simplifies handling in laboratory, development, and production environments
- Strong electrical continuity for demanding shielding applications
- Excellent adhesion to plastics, composites, wood, and other non-conductive substrates
- Suitable for environmentally conscious and regulatory-sensitive manufacturing environments
- Compatible with brush, spray, and selective coating application methods
- Easy cleanup and handling compared to solvent-based silver shielding coatings

Applications

- EMI/RFI shielding for plastic electronic enclosures and assemblies
- RF and wireless communication systems
- Communications equipment and network infrastructure
- Sensors and instrumentation systems
- Composite structures requiring highly conductive shielding surfaces
- Aerospace and defense research and development applications
- Medical and advanced electronic device development
- Prototype and low-VOC manufacturing environments

Ordering Information

Part #	Pkg.	Net Vol.	Net Wt.
842WBU-55ML	Bottle	55 mL	90.2 g
842WBU-850ML	Can	850 mL	1.39 kg
842WBU-3.78L	Can	3.60 L	5.90 kg

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Physical Properties

Colour	Metallic Silver
Pencil Hardness	HB, Soft
Salt Fog Resistance	Excellent
Service Temperature Range	-80—140 °C

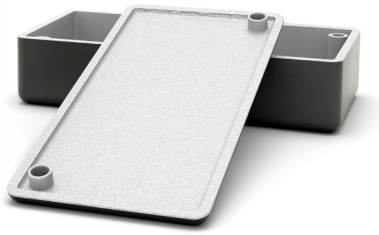
Electrical Properties

Surface Resistance @ 50 µm	0.032 Ω/sq
Surface Resistance @ 25 µm	0.064 Ω/sq
Resistivity	1.6 x 10^{-4} Ω·cm
Magnetic Class	Diamagnetic

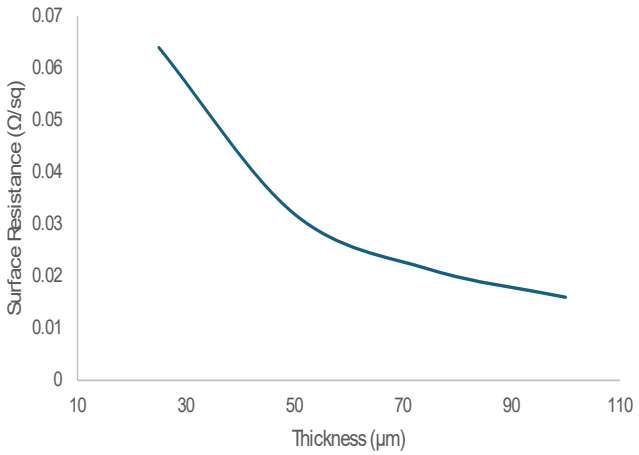
Cured properties unless otherwise stated.

Cure Schedule

25°C	24 hours
65°C	1 hour
80°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

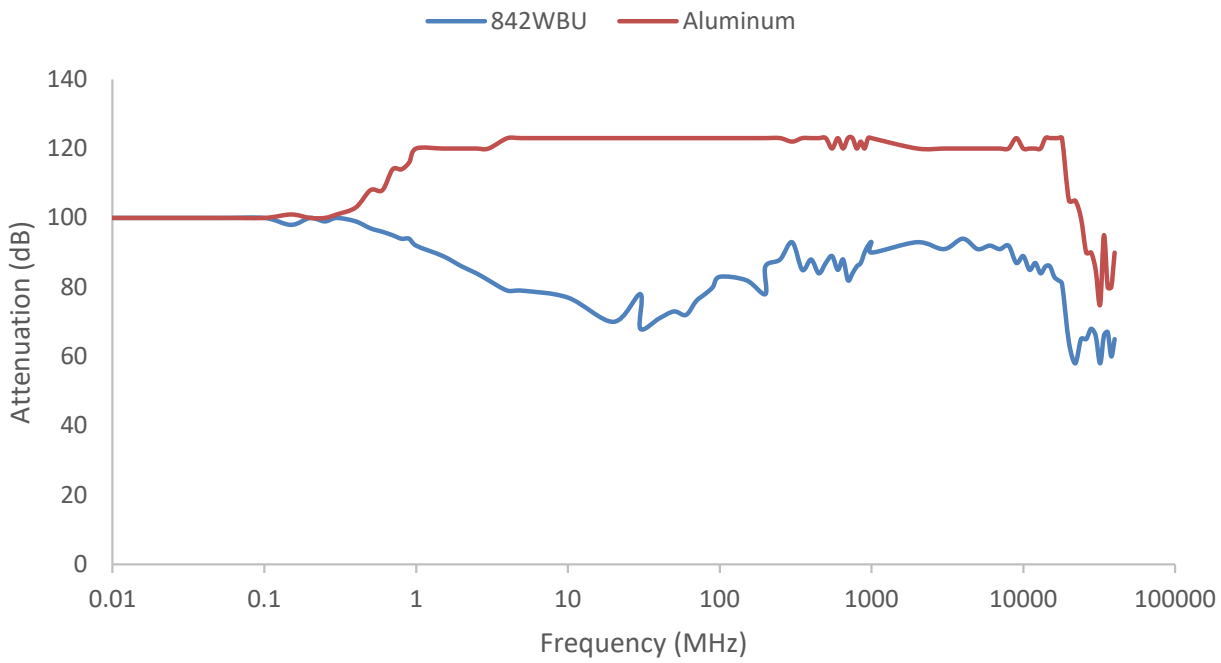
Uncured Properties

Film Thickness - Recommended	25 µm
Film Thickness - Minimum	15 µm
Coverage @ 25 µm	98,030 cm^2/L
Density	1.6 g/mL
Viscosity @ 23 °C	300 cP
Recoat Time	10 min.
Percent Solids	55%
Dilution Ratio	None
Shelf Life	3 y
VOC Content	146 g/L
Storage Temperature	-10 to 27°C

Shielding Effectiveness At Selected Frequencies

Frequency	Attenuation	Note
1 MHz	92	Lower limit of most EMC standards
100 MHz	83	Core commercial EMC band
1 GHz	93	Boundary between RF and Microwave
3 GHz	91	Upper limit of most broadband shielding specs
10 GHz	89	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 WB Conductive Coatings

Application instructions and best practices

QC Guide for Conductive Coatings

Testing methods and quality control procedures

Category Data Sheet for WB 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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