

842UR Liquid



Highly Conductive Silver Coating for EMI Shielding Semiconductor Packages

842UR is a 1-part, heat-cured, silver polyurethane coating. It is a smooth, flexible coating that provides excellent electrical conductivity at a low film thickness. It maintains flexibility at low temperatures, provides exceptional adhesion to a wide variety of substrates, and provides excellent environmental stability.

842UR is designed for large volume board-level or package-level EMI shielding applications. It can replace traditional metal lid, which reduces cost, board thickness, and mass.

Features & Benefits

Provides superior EMI shielding

Excellent flexibility, toughness and adhesion

Stable under extreme environmental conditions (100 hours at 150 °C, 100 hours at 85 °C/85% R.H.)

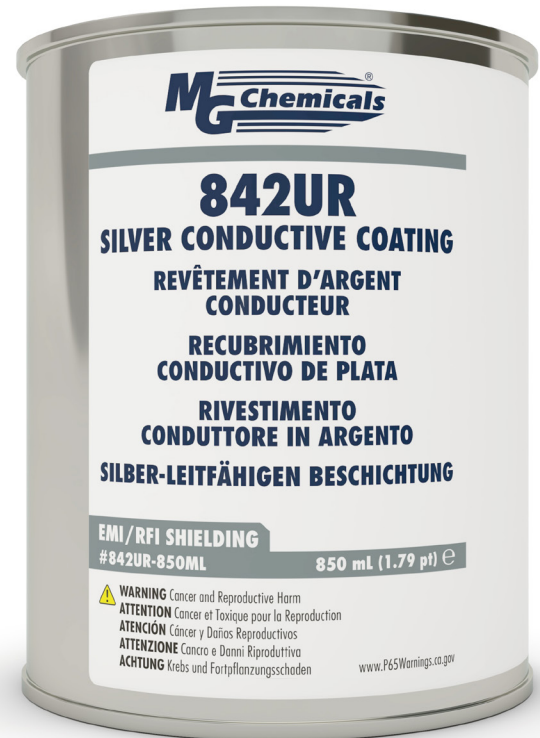
Withstands wave soldering

Designed for selective spray applications

Cure Instructions

The product will not cure at room temperature. After letting sit for 3 minutes, cure the coating in an oven at one of these time/temperature options:

Temperature	125 °C	140 °C
Time	30 min	15 min



Available Packaging

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

Storage and Handling

Store between 10 and 27 °C in a dry area, away from sunlight (see SDS).

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Liquid Properties

Chemistry	Urethane	—
Density	1.3 g/mL	ASTM D1475
Viscosity @ 25 °C	4 cP	Brookfield Engineering labs Inc. IPCTM-65- Method 2.4.24.4
Recoat Time	20 min	—
Film Thickness	25 µm (Recommended) 7 µm (Minimum)	—
Percent Solids	30 %	—
Calculated VOC	360 g/L	—
Theoretical Coverage @ Recommended Thickness ^a	34 500 cm ² /L	Calculated
Shelf Life	5 y	—

^aBased on 65% transfer efficiency

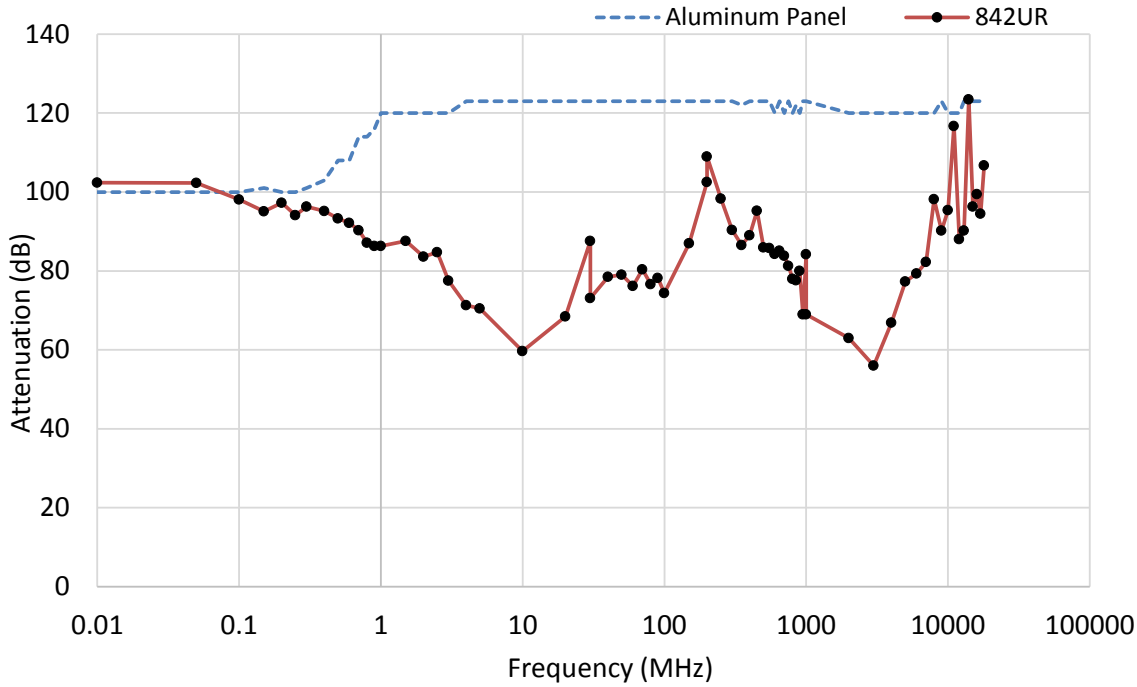
Cured Properties

Color	Metallic silver	—
Magnetic Class	Diamagnetic (non-magnetic)	—
Service Temperature Range	-40–125 °C	—
Resistivity	1.5 x 10 ⁻⁴ Ω·cm	MIL-STD-883J
Surface Resistance @ 25 µm	0.0080 Ω/sq	Calculated
Salt Fog @ 35 °C, 96 h	Excellent	ASTM B117
Adhesion	5B (Aluminum) 5B (Copper) 5B (Polycarbonate) 4B (Polyamide) 5B (Glass) 5B (FR4)	ASTM D3359
Pencil Hardness	2H, hard	ISO 15184

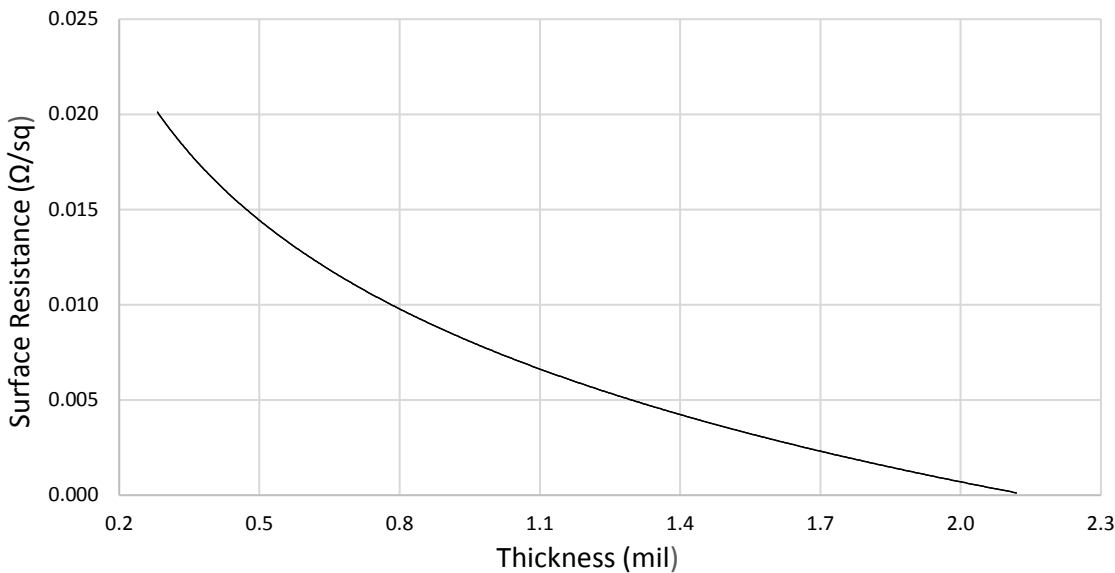
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Shielding Attenuation



Surface Resistance by Paint Thickness



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Application Instructions

Read the product SDS and Application Guide for more detailed instructions before using this product.

Recommended Preparation

Clean the substrate with Isopropyl Alcohol, MG #824, so the surface is free of oils, dust, and other residues.

Recommended Thinner

842UR is ready to spray. Thinning is not required.

Brush

Thinning is not required for most brush applications. Use MG #855 horse hair brush.

Manual Spray Guns

Use a standard HVLP (High Volume Low Pressure) fluid nozzle gun with a minimum tip diameter of 1.2–1.4 mm. The settings listed below are recommendations; however, performance will vary with different brands:

	LVMP	HVLP
Nozzle tip diameter	1.2–1.4 mm	1.2–1.4 mm
Inlet pressure	5–15 psi	5–15 psi
Air flow	10–15 SCFM	8.3 SCFM
Air cap	5–10 psi	5–10 psi

When using a pressure pot and agitator, keep the agitator at low mixing speed with air pressure of 20–50 psi. Use the lowest pressure necessary to keep the particles suspended.

Selective Coating

For higher volume applications, paint can be applied via selective coating equipment. Use a system with constant fluid recirculation to keep the particles from settling in the lines. A fluid nozzle ranging from 1.2 mm–1.4 mm diameter and 5–10 psi fluid pressure is recommended depending on nozzle size. Thin the paint to adjust the viscosity to the level appropriate for the valve being used.

Clean-up

Clean spray system and equipment with MEK or acetone, MG # 434..

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.

MG Chemicals 1210 Corporate Drive Burlington, Ontario, Canada L7L 5R6 ISO 9001:2015 Quality Management System SAI Global File: 004008 support@mgchemicals.com **North America** +(1) 800-340-0772 **International** +(1) 905-331-1396 **Europe** +44 1663 362888 25 May 2026 / Ver. 4.1