

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

Available Packaging

Cat. No.	Packaging	Net Vol.	Net Wt.
842UR-12ML	Jar	12 mL	16.0 g
842UR-150ML	Can	150 mL	200 g
842UR-850ML	Can	850 mL	1.13 kg
842UR-3.6L	Can	3.60 L	4.80 kg

Contact Information

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Cured Properties

Resistivity	$1.5 \times 10^{-4} \Omega\text{-cm}$
Surface Resistance @ 25 μm	0.0080 Ω/sq
Salt Fog @ 35 °C [95 °F], 96 h	Excellent
Service Temperature Range	-40–125 °C

Usage Parameters

Recoat Time	20 min
Cure Times	15 min @ 140 °C 30 min @ 125 °C
Recommended Film Thickness	25 μm
Minimum Film Thickness	7 μm
Theoretical Coverage @ 2 mil (based on 100% transfer efficiency)	26 570 cm^2/L

Uncured Properties

Viscosity @ 25 °C	4 cP
Density	1.33 g/mL
Percent Solids	30 %
Shelf Life	5 y
Calculated VOC	360 g/L

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Application Instructions

Read the product SDS and Application Guide for more detailed instructions before using this product (downloadable at www.mgchemicals.com).

Recommended Preparation

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

Brush

Thinning is not required for most brush applications.

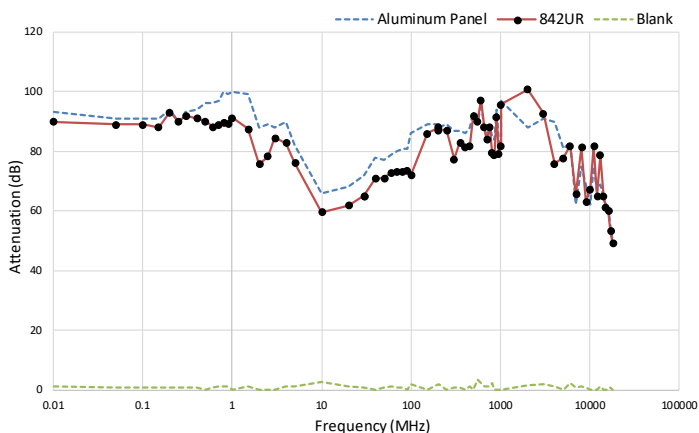
Manual Spray Guns

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

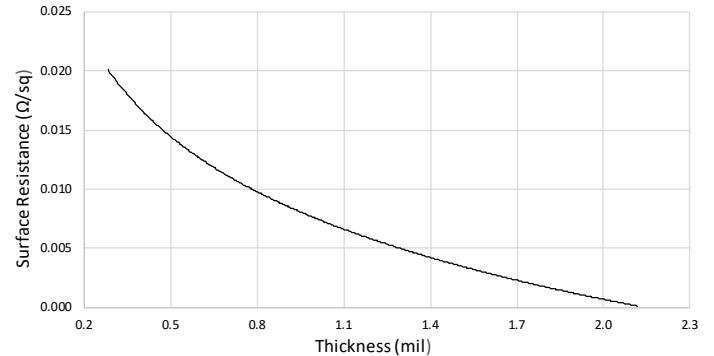
When using a pressure pot and agitator, keep the agitator at low mixing speed with air pressure of 20–50 psi. Use the lowest pressure necessary to keep the particles suspended.

Shielding Attenuation



Test performed with a two-coat thickness.

Surface Resistance by Coating Thickness



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.

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

Clean-up

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

Storage and Handling

Store between 10 and 40 °C in a dry area, away from sunlight (see SDS).

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.