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 and 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 robotic spray applications

Cured Properties

Resistivity	1.5×10^{-4} Ω·cm
Surface Resistance @ 25 µm	0.0080 Ω/sq
Service Temperature Range	-40–125 ˚C

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

Usage Parameters

Dry To Touch	20 min
Cure Times	15 min @ 140 ˚C 30 min @ 125 ˚C
Minimum Film Thickness	7 µm
Theoretical Coverage @ 25 µm	≤9 300 cm^2/L

Contact Information

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Uncured Properties

Viscosity @ 25 ˚C	4 cP
Density	1.33 g/mL
Percent Solids	30 %
Shelf Life	2 y
Calculated VOC	360 g/L

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Application Instructions
Read the product SDS before using this product (downloadable at www.mgchemicals.com).

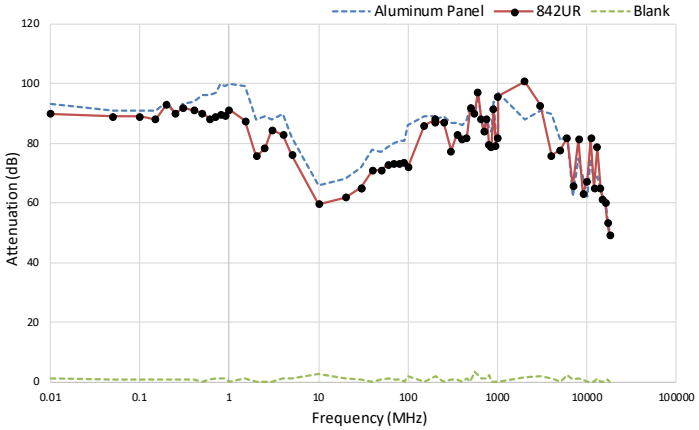
Recommended Preparation
Clean the substrate with Isopropyl Alcohol, MG #824, so the surface is free of oils, dust, and other residues.

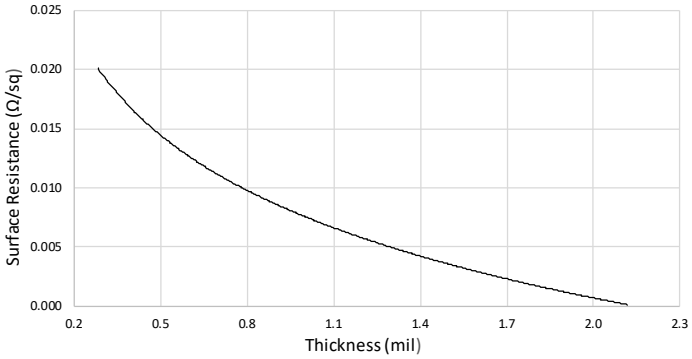
Brush
Thinning is not required for most brush applications.

HLVP Spray
Use a standard HVLP (High Volume Low Pressure) fluid nozzle gun with a minimum tip diameter of 0.8–1.0 mm. The settings listed below are recommendations; however, performance will vary with different brands:

- Inlet: 20–40 psi
- Air flow: 10–15 SCFM
- Air cap: 8–10 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


Surface Resistance by Coating Thickness


Robotic Spray
For higher volume applications, paint can be applied via robotic spray equipment. Use a system with constant fluid recirculation to keep the particles from settling in the lines. A fluid nozzle ranging from 0.5 mm to 1.0 mm diameter and 5–10 psi fluid pressure is recommended depending on nozzle size.

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:

- 15 min @ 140 ˚C
- 30 min @ 125 ˚C

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.