

842ER Liquid



Super Shield™ Silver Epoxy Conductive Paint

842ER is a 2-part silver epoxy conductive paint. 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.

842ER 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

- Superior EMI shielding
- Ambient and elevated temperature cure
- Excellent chemical and corrosion resistance
- Stable under extreme environmental conditions (100 hours at 150 °C, 100 hours at 85 °C/85% R.H.)
- Withstands wave soldering
- MEK and HAPS Free

Available Packaging

| Cat. No. | Packaging | Net Vol. | Net Wt. |
|-------------|--------------|----------|---------|
| 842ER-60ML | 2 Bottle Kit | 60 mL | 91.7 g |
| 842ER-900ML | 2 Can Kit | 900 mL | 1.37 kg |
| 842ER-4.25L | 2 Can Kit | 4.24 L | 6.48 kg |

Contact Information

MG Chemicals, 1210 Corporate Drive
Burlington, Ontario, Canada L7L 5R6

Email: support@mgchemicals.com

Phone: North America: +(1)800-340-0772

International: +(1) 905-331-1396

Europe: +(44)1663 362888



Cured Properties

| | |
|----------------------------|-----------------------------|
| Resistivity | 2.0 x 10 ⁻³ Ω·cm |
| Surface Resistance @ 50 µm | 0.13 Ω/sq |
| Salt fog @ 35 °C, 96 h | Excellent |
| Service Temperature Range | -40–150 °C |

Usage Parameters

| | |
|---|---|
| Working Time | 4 h |
| Recoat Time | 5 min |
| Cure Times | 24 h @ 22 °C 3 h @ 65 °C 2 h @ 80 °C 1 h @ 100 °C 45 min @ 120 °C |
| Recommended Film Thickness | 50 µm |
| Minimum Film Thickness | 20 µm |
| Theoretical Coverage @ 2 mil (based on 100% transfer efficiency) | 25 230 cm ² /L |

Uncured Properties

Mixture

| | |
|---------------------|-----------|
| Density | 1.37 g/mL |
| Percent Solids | 54 % |
| Shelf Life | 2 y |
| Calculated VOC | 1 181 g/L |
| Mix Ratio by Volume | 5:1 |
| Mix Ratio by Weight | 10:1 |

Individual Parts

| | |
|-------------------|--|
| Color | (A) Metallic silver (B) Pale yellow |
| Viscosity @ 25 °C | (A) 60 cP (B) 22 cP |

842ER Liquid



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 #824-1L, so the surface is free of oils, dust, and other residues.

Mixing

Ensure each part is mixed individually before they are mixed together. Scrape settled material from the bottom and sides of each container and stir contents until homogenous. Next, thoroughly mix parts A and B together, in a 10:1 ratio by weight.

Brush

This product may be applied by brush or roller. Use long even strokes to minimize streaking.

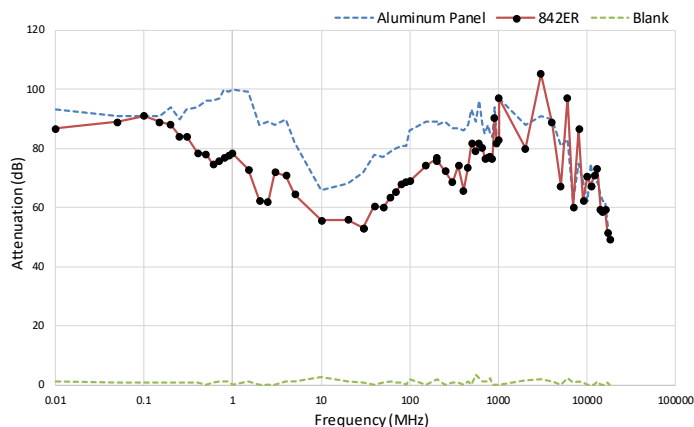
Manual Spray Guns

Use a standard fluid nozzle gun to spray the mixture. 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 |

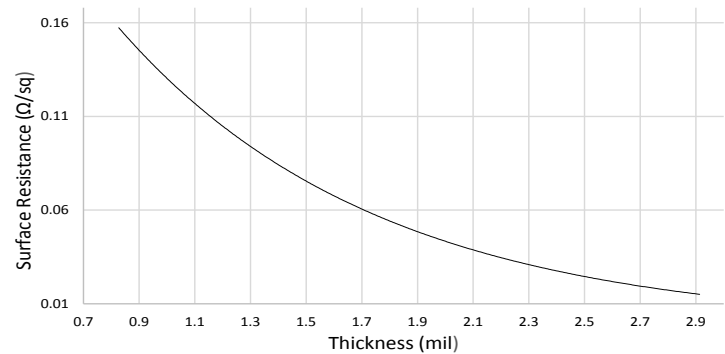
When using a pressure pot and agitator, keep the agitator at low mixing speed with air pressure of 20–50 psi. Use the lowest pressure necessary to keep the particles suspended.

Shielding Attenuation



Test performed with a two-coat thickness.

Surface Resistance by Paint 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 to 1.4 mm diameter and 5–10 psi fluid pressure is recommended depending on nozzle size.

Cure Instructions

Allow to sit at room temperature for 30 minutes and then cure the paint in an oven using one of these options:

| | | | | | |
|-------------|-------|-------|-------|--------|--------|
| Temperature | 22 °C | 65 °C | 80 °C | 100 °C | 120 °C |
| Time | 24 h | 3 h | 2 h | 1 h | 45 min |

After heat cure, let sit for 30 minutes at room temperature before handling.

Clean-up

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

Storage and Handling

Store between 16 and 27 °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.