841ER Liquid

SUPER SHIELD™ Nickel Epoxy Conductive Paint

841ER is a 2-part epoxy-based conductive paint, pigmented with highly conductive nickel flake. The cured paint is smooth and extremely hard. It is abrasion, scratch, and mar resistant. It adheres very strongly to most plastics, including chemically resistant and low energy plastics, as well as metal, glass, ceramic and wood.

841ER is generally used to provide extremely durable corrosion resistant EMI/RFI shielding for applications in harsh environments.



Features & Benefits

Provides excellent EMI/RFI shielding across a broad range of frequencies

Extreme durability and adhesion

Strong chemical and corrosion resistance

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	65 °C	80 °C	100 °C
Time	4 h	2 h	1 h

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

Available Packaging

Part #	Packaging	Net Vol.	Net Wt.
841ER-1.17L	2 Can Kit	1.17 L	1.92 kg
841ER-3.25L	2 Can Kit	3.25 L	5.34 kg

Storage and Handling

Store between 16 and 27 ˚C in a dry area, away from sunlight (see SDS).

841ER Liquid

Liquid Properties

Chemistry	Epoxy	—
Density	1.8 g/mL	ASTM D1475
Viscosity @ 25 ˚C	200 cP (A) 18 cP (B)	Brookfield Engineering labs Inc. IPCTM-65- Method 2.4.24.4
Mix Ratio	100:38 (Volume) 100:25 (Weight)	—
Recoat Time	5 min	—
Film Thickness	75 µm (Recommended) 40 µm (Minumum)	—
Percent Solids	32 %	—
Calculated VOC	1 294 g/L	—
Theoretical Coverage @ Recommended Thickness [a]	16 400 cm^2/L	Calculated
Shelf Life	3 y	—

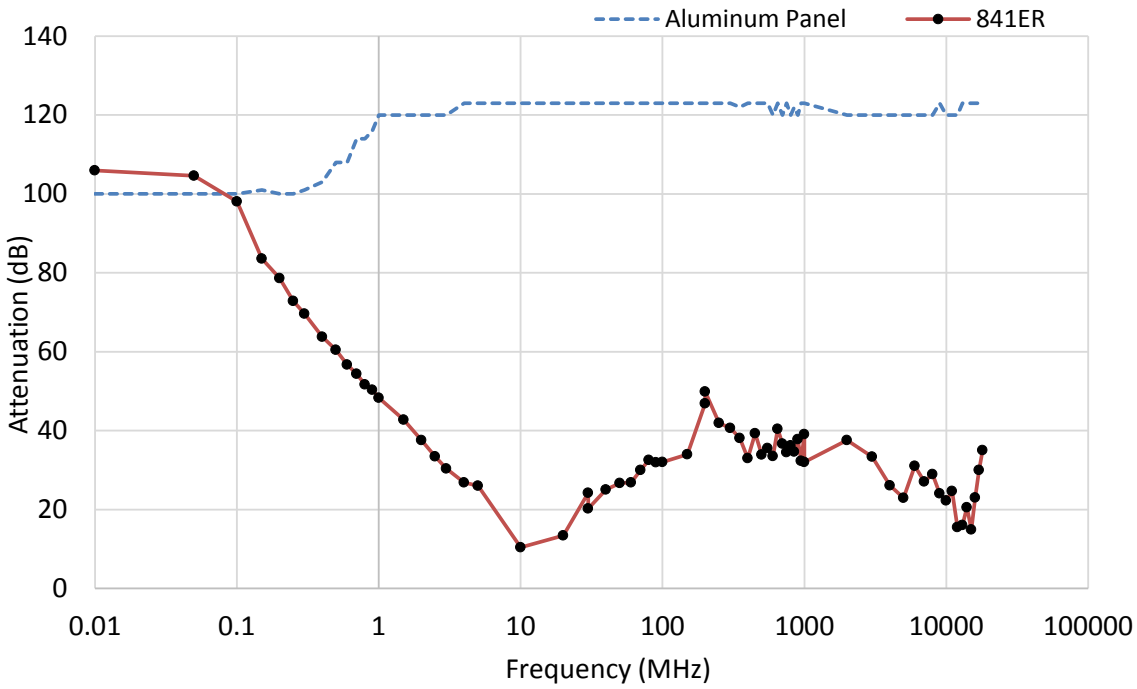
[a] Based on 99% transfer efficiency

Cured Properties

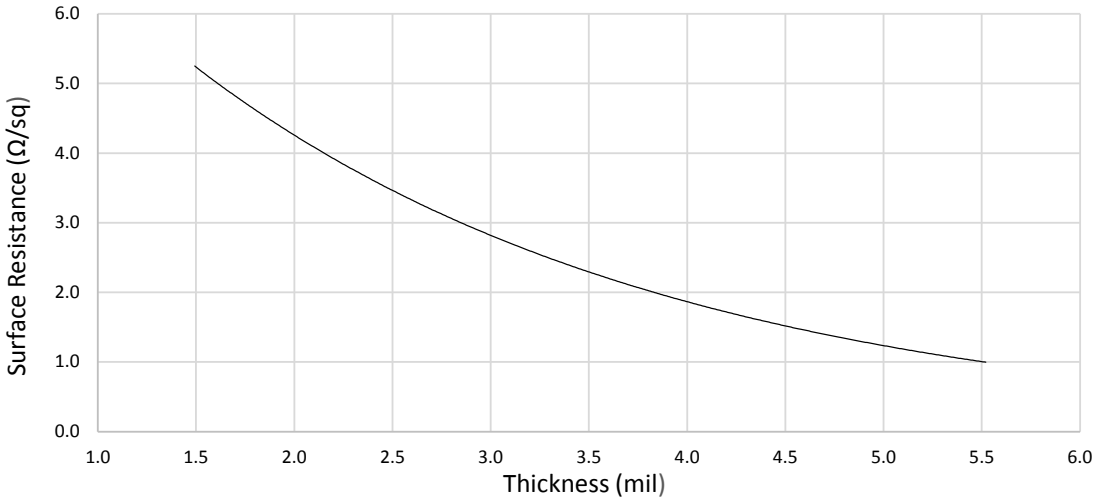
Color	Grey	—
Magentic Class	Ferromagnetic (magnetic)	—
Service Temperature Range	-40–150 °C	—
Resistivity	3.0 x 10^{-2} Ω·cm	MIL-STD-883J
Surface Resistance @ 50 µm	4.3 Ω/sq	Calculated
Adhesion	5B (ABS) 5B (Aluminum) 4B (Copper) 5B (Polycarbonate) 5B (Polyamide) 5B (Glass) 5B (PVC) 5B (FR4) 3B (Stainless steel)	ASTM D3359
Pencil Hardness	4H, hard	ISO 15184

841ER Liquid

Shielding Attenuation



Surface Resistance by Paint Thickness



841ER Liquid

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.

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 100:25 ratio by weight.

Paint Roller or Brush

Use a standard paint roller, foam brush or MG #855 horse hair brush. Use long even strokes to minimize streaking.

Manual Spray Guns

Use a standard fluid nozzle gun to spray the paint. The settings listed below are recommendations; however, performance will vary with different brands:

	LVMP	HVLP
Nozzle tip diamter	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 to 1.4 mm diameter and 5–10 psi fluid pressure is recommended depending on nozzle size.

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.