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, corrosion, and salt fog resistance

Available Packaging

Cat. No.	Packaging	Net Vol.	Net Wt.
841ER-250ML	2 Can Kit	250 mL	410 g
841ER-1.17L	2 Can Kit	1.17 L	1.92 kg
841ER-3.25L	2 Can Kit	3.25 L	5.34 kg

Contact Information

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Cured Properties

Resistivity	3.0 x 10^{-2}	Ω·cm
Surface Resistance @ 50 µm	4.3	Ω/sq
Service Temperature Range	-40–150	˚C

Usage Parameters

Working Time	4	h
Recoat Time	5	min
Cure Times	4 h @ 65	˚C
	2 h @ 80	˚C
	1 h @ 100	˚C
Recommended Film Thickness	75	µm
Minimum Film Thickness	40	µm
Theoretical Coverage @ 2 mil (based on 100% transfer efficiency)	28 000	cm^2/L

Uncured Properties

Mixture

Density	1.81	g/mL
Percent Solids	32	%
Shelf Life	3	y
Calculated VOC	1 294	g/L
Mix Ratio by Volume	100:38	
Mix Ratio by Weight	100:25	

Individual Parts

Color	(A) Grey		
	(B) Grey		
Viscosity @ 25 ˚C	(A)	200	cP
	(B)	18	cP

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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 #824-1L, 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 4:1 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.

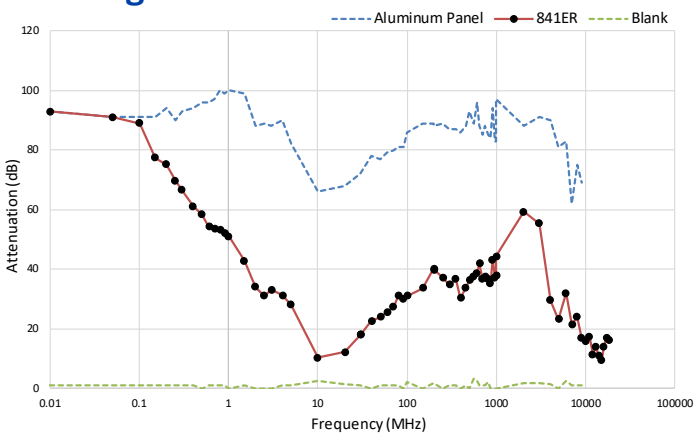
Manual Spray Guns

Use a standard fluid nozzle gun to spray the 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

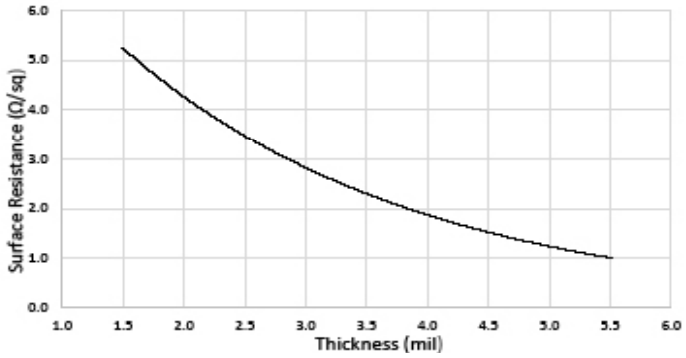
When using a pressure pot and agitator, keep the agitator at low mixing speed with air pressure of 20–50 psi. Use the lowest pressure necessary to keep the particles suspended.

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	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.

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.