841AR Liquid

SUPER SHIELD™ Nickel Conductive Paint

841AR is a conductive paint that consists of a 1-part, solvent-based acrylic lacquer, pigmented with a highly conductive nickel flake. It is smooth, hard, and abrasion resistant. It can be easily applied by brush or spray. It has a quick dry time, with no heat cure necessary. It adheres strongly to most injection molded plastics, such as ABS, PBT, PVA and ABS/PC blend. It also provides strong corrosion resistance and is suitable for use in marine environments.

841AR provides a conductive coating for the interior of plastic electronic enclosures that suppresses EMI/RFI emissions.

Features & Benefits

UL Recognized (File # E202609)

Provides effective EMI/RFI shielding over a broad frequency range

Strong corrosion resistance

Mild solvent system, safe on polystyrenes

Does not contain toluene, xylene, or MEK

Also available in aerosol (841AR-340G) and pen (841AR-P) formats, see separate TDSs

Cure Instructions

Allow to dry at room temperature for 24 hours, or after letting sit for 3 minutes, cure the paint in an oven for 30 minutes @ 65 ˚C.

Available Packaging

Part #	Packaging	Net Vol.	Net Wt.
841AR-55ML	Bottle	55 mL	92.8 g
841AR-900ML	Can	850 mL	1.43 kg
841AR-3.78L	Can	3.60 L	6.07 kg
841AR-18.9L	Pail	18.9 L	31.9 kg

Storage and Handling

Store between -5 and 27 ˚C in a dry area, away from sunlight (see SDS).

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Liquid Properties

Chemistry	Acrylic	—
Density	1.7 g/mL	ASTM D1475
Viscosity @ 25 ˚C	1 460 cP	Brookfield Engineering labs Inc. IPCTM-65- Method 2.4.24.4
Recoat Time	3 min	—
Film Thickness	50 µm (Recommended) 40 µm (Minumum)	—
Percent Solids	57 %	—
Calculated VOC	236 g/L	—
Theoretical Coverage @ Recommended Thickness [a]	44 785 cm^2/L	Calculated
Shelf Life	3 y	—

[a] Based on 99% transfer efficiency

Cured Properties

Color	Dark grey	—
Magentic Class	Ferromagnetic (magnetic)	—
Service Temperature Range	-40–120 °C	—
Resistivity	4.0 x 10^{-3} Ω·cm	MIL-STD-883J
Surface Resistance @ 50 µm	0.68 Ω/sq	Calculated
Salt Fog @ 35 °C, 96 h	Excellent	ASTM B117
Adhesion	5B (ABS) 0B (Aluminum) 0B (Copper) 5B (Polycarbonate) 5B (Polyamide) 0B (Glass) 5B (PVC) 5B (FR4) 0B (Stainless steel)	ASTM D3359
Pencil Hardness	3H, hard	ISO 15184

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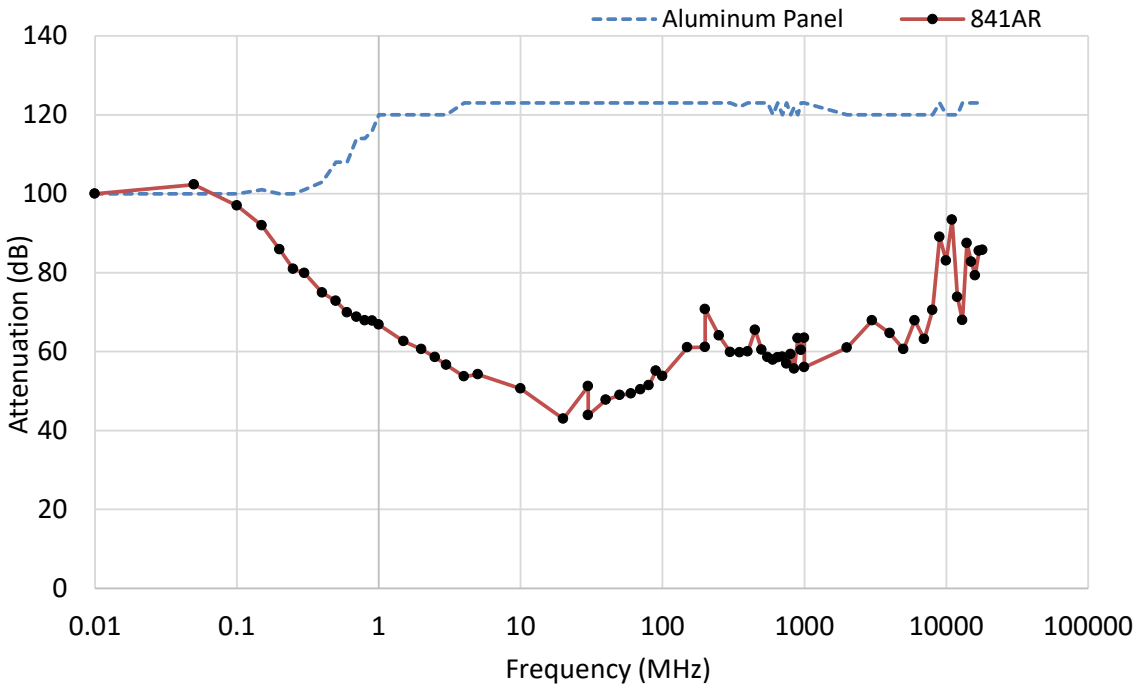
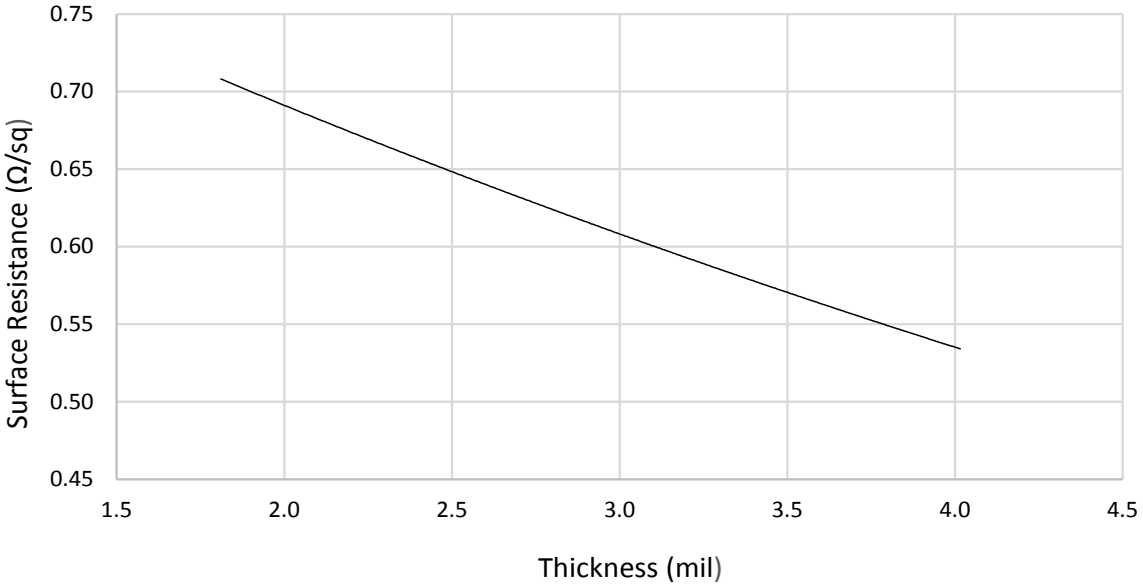
Shielding Attenuation



Surface Resistance by Paint Thickness



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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.

Recommended Thinner

When applying to polycarbonate or ABS, thin with MG #4351 Thinner 1. For other substrates, use MG #435 Thinner.

Brush

Thinning is not required for most brush applications. Use a foam brush or MG #855 horse hair brush.

Manual Spray Guns

Dilute 1-part paint with 1-part thinner. Use a standard fluid nozzle gun to spray the diluted 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–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.

Clean-up

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