839 Liquid

Super Shield™
Graphite Conductive Paint

839 is an economical acrylic paint that uses a graphite filler to create conductive, static free surfaces. This anti-static material reduces EMI/RFI. It is smooth, durable, and abrasion resistant. The cured coat withstands large temperature changes and marine environmental conditions without cracking, making it suitable for a wide range of application.

It is a general use conductor to provide low cost EMI/RFI shielding. It can be used anywhere in a manufacturing process where it is necessary to impart conductivity to a surface. It works well on drywall, and can be used to shield entire rooms.

Features & Benefits

- High conductivity—low surface resistivity
- Tough and durable coating, salt spray tested with excellent weatherability
- Repairable and removable
- Stronger adhesion than water based coatings
- Corrosion-proof—slows or prevents substrate oxidation
- Rub off resistant

Available Packaging

Cat. No.	Packaging	Net Vol.	Net Wt.
839-1G	Can	3.60 L	3.58 kg
839-5G	Pail	18.9 L	18.8 kg

Contact Information

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Cured Properties

Resistivity	2.8 x 10^{-1}	Ω·cm
Surface Resistance @ 50 µm	28	Ω/sq
Salt fog @ 35 °C [95 °F], 96 h	Excellent	
Service Temperature Range	-40–120	˚C

Usage Parameters

Recoat Time	5	min
Cure Times	24 h @ 22 30 min @ 65	˚C ˚C
Recommended Film Thickness	50	µm
Minimum Film Thickness	25	µm
Theoretical Coverage @ 2 mil (based on 99% transfer efficiency)	76 300	cm^2/L

Uncured Properties

Viscosity @ 25 ˚C	9 500	cP
Density	1.0	g/mL
Percent Solids	39	%
Calculated VOC	516	g/L

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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, 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.

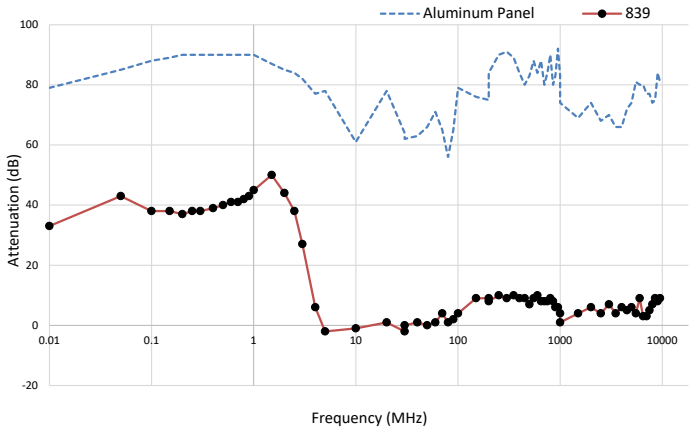
Manual Spray Guns

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:

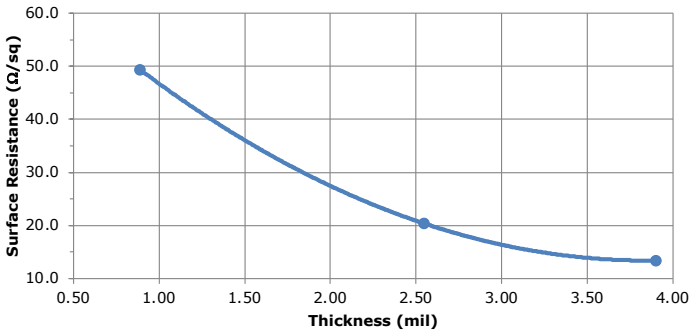
	LVMP	HVLP
Nozzle tip diameter	1.2–1.4 mm	1.2–1.4 mm
Inlet pressure	5–15 psi	5–15 psi
Air flow	10–15 SCFM	8.3 SCFM
Air cap	5–10 psi	5–10 psi

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



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–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.

Cure Instructions

Allow to dry at room temperature for 24 hours, or after letting sit for 5 minutes, cure the paint in an oven for 30 minutes @ 65 ˚C.

Clean-up

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

Storage and Handling

Store between -5 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.