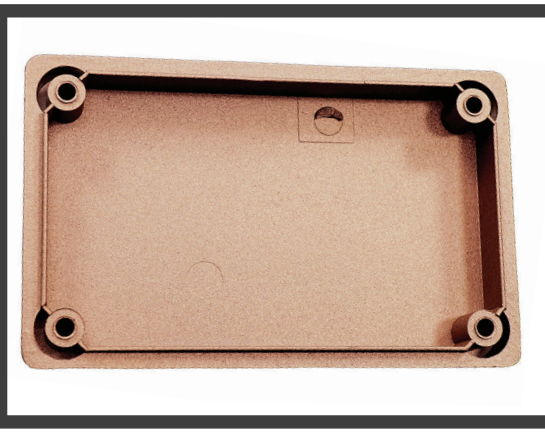
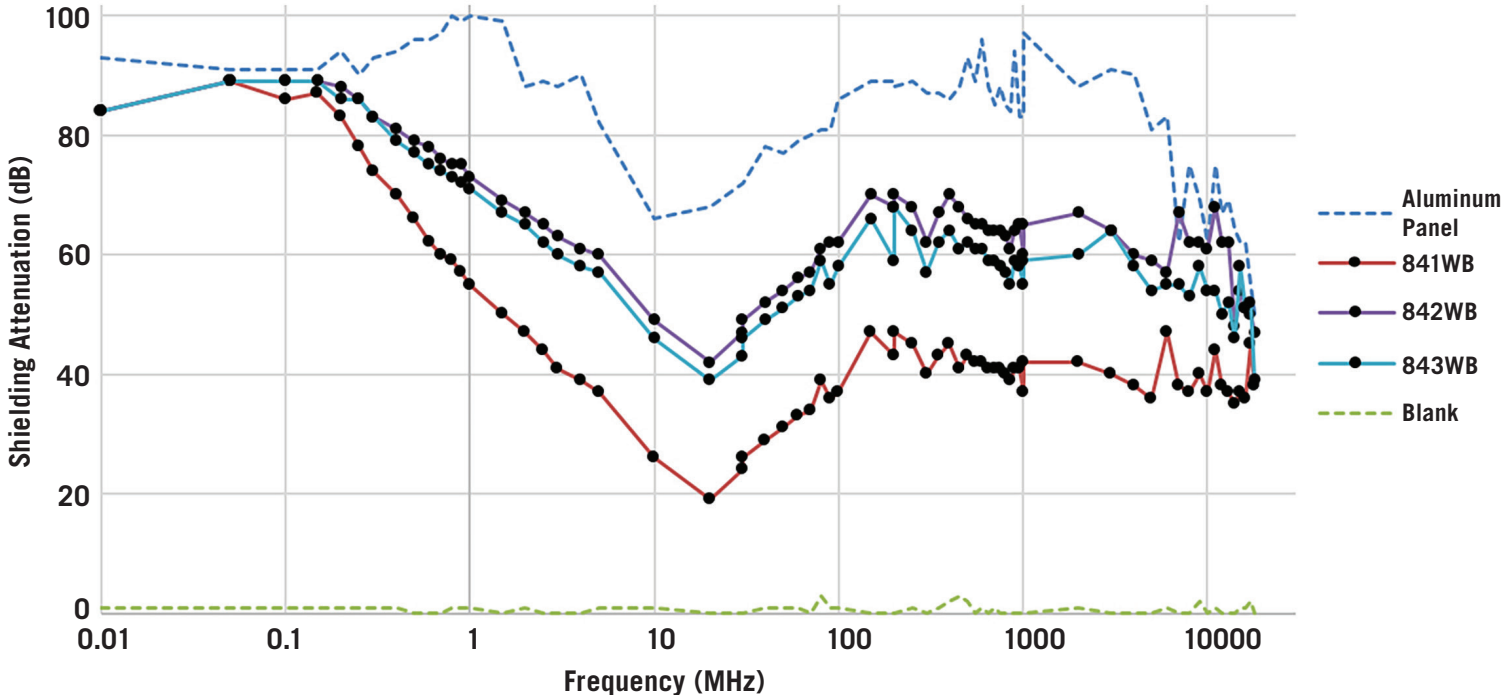
EMI/RFI Shielding — Water Based Conductive Coatings



- *Provides effective EMI/RFI shielding*
- *Low VOC content allows use in architectural applications*
- *Can be applied by spray gun, roller, or brush*
- *Excellent adhesion to drywall and plastics*
- *Non-flammable and not regulated for air transportation*
- *Available in three pigments: nickel, silver coated copper, or silver*

Water Based Conductive Coating Shielding Effectiveness



Water Based Conductive Coating Comparison Chart

Uncured Working Properties	841WB	843WB	842WB
Conductive Filler	Ni (nickel)	Ag/Cu (silver coated copper)	Ag (silver)
Format	Liquid	Liquid	Liquid
Color	Grey	Light metallic brown	Silver
Solids Percentage	54%	42%	60%
Density @ 25 °C [77 °F]	1.8 g/mL	1.3 g/mL	1.5 g/mL
Viscosity @ 25 °C [77 °F]	143 cP	234 cP	195 cP
VOC Content	145 g/L	51 g/L	53 g/L
Shelf Life	1 y	1 y	1 y
Coverage & Application Properties			
Ready to Spray	Yes	Yes	Yes
Theoretical HVLP Spray Coverage	≤15 200 cm^2/L	≤42 200 cm^2/L	≤69 000 cm^2/L
Re-coat Time [a)]	30 min	20 min	20 min
Drying Time @ 25 °C [77 °F]	24 h	24 h	24 h
Drying Time @ 65 °C [149 °F]	3 h	2.5 h	3 h
Cured Properties	**841WB**	**843WB**	**842WB**
Electrical Properties			
Volume Resistivity	0.027 Ω·cm	0.00068 Ω·cm	0.000075 Ω·cm
Volume Conductivity	37 S/cm	1 470 S/cm	13 300 S/cm
Surface Resistance @ 1 coat	1.4 Ω/sq	0.21 Ω/sq	0.04 Ω/sq
Surface Resistance @ 2 coats	0.68 Ω/sq	0.11 Ω/sq	0.02 Ω/sq
Attenuation from 0.01 to 18 000 MHz	46 dB ± 16 dB	61 dB ± 12 dB	65 dB ± 11 dB
Salt Fog Test @ 35 °C [95 °F], 96 h [b)]	Before: 0.4 Ω/sq	TBD	Before: 0.012 Ω/sq
	After: 3 Ω/sq	"	After: 0.081 Ω/sq
Thermal Properties			
Constant Service Temperature	-40 to 120 °C [-40 to 248 °F]	-40 to 120 °C [-40 to 248 °F]	-40 to 120 °C [-40 to 248 °F]
Intermittent Temperature Limits	-50 to 125 °C [-58 to 257 °F]	-50 to 125 °C [-58 to 257 °F]	-50 to 125 °C [-58 to 257 °F]
Mechanical Properties			
Adhesion on ABS	5B	5B	5B
Pencil Hardness on ABS	HB, hard	HB, hard	HB, hard
Magnetic Properties			
Magnetic Class	Ferromagnetic (magnetic)	Diamagnetic (non-magnetic)	Diamagnetic (non-magnetic)
Relative Permeability	≥100	<1.0	<1.0

TBD=To be determined

a) Re-coat time for plastic. Dry wall re-coat times can be found on the TDS's.

b) Tested on acrylonitrile Butadiene Styrene (ABS).

Applications and Uses: Water based conductive paints are the only choice for architectural EMI/RFI shielding applications because VOC regulations prohibit the use of solvent based systems. Applications include containing EMI/RFI within a room, such as an engine room, or protecting a room containing sensitive electronic equipment from external interference, such as server rooms, recording studios, laboratories, and surgical rooms, especially those near cell phone or radio towers. They are also excellent for providing EMI/RFI shielding to electronic enclosures, sensors, test equipment, portable controllers, and communication devices.

Super Shield™ Water Based Nickel Conductive Coating (841WB) *Provides effective shielding for electronic enclosures and most common architectural applications.*

Super Shield™ Water Based Silver Coated Copper Conductive Coating (843WB) *Provides superior shielding to electronic enclosures and architectural applications. It is also suitable for server rooms.*

Super Shield™ Water Based Silver Conductive Coating(842WB) *Provides excellent shielding to electronic enclosures and architectural applications.*