Acrylic Conductive Coating Comparison Chart

Uncured Working Properties	***838AR***	***841AR***	***843AR***	***842AR***
Conductive Filler	C (carbon)	Ni (nickel)	Ag/Cu (silver coated copper)	Ag (silver)
Format	Liquid	Liquid	Liquid	Liquid
Color	Black	Dark grey	Light metallic brown	Metallic silver
Solids Percentage	15%	57%	31%	61%
Density @25 °C [77 °F]	0.85 g/mL	1.7 g/mL	1.1 g/mL	1.7 g/mL
Viscosity @25 °C [77 °F]	154 cP	1 460 cP	<30 cP	873 cP
VOC Content	47%	14%	17%	12%
Shelf Life	2 y	2 y	2 y	2 y
Coverage & Application Properties				
Ready to Spray	No	No	Yes	No
Theoretical HVLP Spray Coverage	≤25 300 cm^2/L	≤29 600 cm^2/L	≤15 000 cm^2/L	≤59 600 cm^2/L
Recoat Time	3 min	3 min	3 min	3 min
Drying Time @25 °C [77 °F]	24 h	24 h	24 h	24 h
Drying Time @65 °C [149 °F]	30 min	30 min	30 min	30 min
Cured Properties	***838AR***	***841AR***	***843AR***	***842AR***
Electrical Properties				
Volume Resistivity	0.33 Ω·cm	0.0040 Ω·cm	0.00030 Ω·cm	0.0001 Ω·cm
Volume Conductivity	3.1 S/cm	250 S/cm	3 300 S/cm	9 337 S/cm
Surface Resistance @1 coat	170 Ω/sq	0.52 Ω/sq	0.071 Ω/sq	<0.01 Ω/sq [a]
@2 coats	60 Ω/sq	0.38 Ω/sq	0.018 Ω/sq	<0.01 Ω/sq [a]
Attenuation from 0.01 to 18 000 MHz	23 dB ± 25 dB	59 dB ± 12 dB	65 dB ± 11 dB	73 dB ± 11 dB
Salt Fog Test @35 °C [95 °F], 96 h [b]	Before: 70 Ω/sq After: 70 Ω/sq	Before: 0.38 Ω/sq After: 0.51 Ω/sq	Before: 0.08 Ω/sq After: 3.3 Ω/sq	Before: <0.01 Ω/sq After: 0.05 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]	-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]	-50 to 125 °C [-58 to 257 °F]
Mechanical Properties				
Adhesion [b]	5B	5B	5B	5B
Pencil Hardness [b]	H, hard	3H, hard	F, medium	3H, hard
Magnetic Properties				
Magnetic Class	Diamagnetic (non-magnetic)	Ferromagnetic (magnetic)	Diamagnetic (non-magnetic)	Diamagnetic (non-magnetic)
Relative Permeability	<1.0	≥100	<1.0	<1.0

Values for conductive coatings in aerosol format will vary slightly. Please see product's TDS for exact values.

a) Readings less than 0.01 Ω/sq are below the detection limit of the test apparatus

b) Tested on acrylonitrile butadiene styrene (ABS)

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