



EMI/RFI Shielding Comparison Chart

Coating Chemistry Properties	838	839	841	843	842
Conductive filler	C (carbon)	C (graphite)	Ni (nickel)	Ag/Cu (silvered copper)	Ag (silver)
Binder	Acrylic	Acrylic	Acrylic	Acrylic	Acrylic
Paint type	Lacquer (thermoplastic)	Lacquer (thermoplastic)	Lacquer (thermoplastic)	Lacquer (thermoplastic)	Lacquer (thermoplastic)
Electrical Properties					
Material electric class	<i>Antistatic Grounding</i>	<i>General Use Conductor</i>	<i>EMI Shielding Conductor</i>	<i>EMI Shielding Conductor</i>	<i>EMI Shielding Conductor</i>
Volume resistivity ($\Omega \cdot \text{cm}$)	—	—	0.0042 $\Omega \cdot \text{cm}$	0.0011 $\Omega \cdot \text{cm}$	0.0002 $\Omega \cdot \text{cm}$
Volume conductivity (S/cm)	—	—	240 S/cm	910 S/cm	5,000 S/cm
Surface resistance (Ω/sq)					
at 25 μm [1 mil]	250 Ω/sq	47 Ω/sq	0.7 Ω/sq	0.19 Ω/sq	0.07 Ω/sq
at 50 μm [2 mil]	190 Ω/sq	28 Ω/sq	0.2 Ω/sq	0.09 Ω/sq	0.05 Ω/sq
Attenuation from 0.01 to 18,000 MHz	not available	not available	50 dB \pm 25 dB	60 dB \pm 18 dB	75 \pm 25 dB
UL Certification File #	—	—	E334302	—	—
Coverage & Application Properties					
Coverage per US gallon per 340 g spray can	— <1490 in ²	<409 ft ² —	<679 ft ² <1,820 in ²	<675 ft ² <1,590 in ²	<763 ft ² —
Dry to touch	3 to 5 min	3 to 5 min	3 to 5 min	3 to 5 min	3 to 5 min
Recoat time	5 min	5 min	2 min	2 min	2 min
Cure time at room temp.	24 h	24 h	24 h	24 h	24 h
Cure time at 65 °C	30 min	30 min	30 min	30 min	30 min
Color	Dark Grey	Black	Dark Grey	Light Brown	Silver Grey
Thermal Properties					
Constant service temp (°C) [°F]	(-40 °C +120 °C) [+23 °F 248 °F]	(-40 °C +120 °C) [+23 °F 248 °F]	(-40 °C +120 °C) [+23 °F 248 °F]	(-40 °C +120 °C) [+23 °F 248 °F]	(-40 °C +120 °C) [+23 °F 248 °F]
Uncured Paint Properties					
Formats	Aerosol	Liquid	Aerosol; Liquid	Aerosol ; Liquid	Liquid
Solid%	18%	39%	41% ; 65%	41% ; 65%	73%
Density	0.89	0.996 g/mL	1.24 g/mL ; 1.65 g/mL	1.4 g/mL ; 1.7 g/mL	2.15 g/mL
Viscosity, mixture	—	9,500 cP	\leq 3,920 cP	\leq 3,450 cP	\leq 8,000 cP
VOC	15.2%	52%	10% ; 28%	10% ; 27%	21%
Shelf life (year)	\geq 3 y	\geq 3 y	\geq 3 y	\geq 3 y	\geq 3 y
Magnetic Properties					
Magnetic class	Diamagnetic	Diamagnetic	Ferromagnetic	Diamagnetic	Diamagnetic
Relative permeability			\geq 100	<1.0	<1.0