

Conformal Coating Comparison Chart

	419D	419E	422B	4223F	4225
CURED PROPERTIES					
Certifications					
IPC-CC-830B	Yes	TBD	No	Yes	TBD
UL 746E	No	Yes	No	Yes	TBD
UL 94 flammability	V-0	V-0	V-0	V-0	Meets V-0
Electrical Properties					
Dielectric strength	1 000 V/mil	1 100 V/mil	1 056 V/mil	1 000 V/mil	TBD
Breakdown voltage	700 V	950 V	TBD	1 200 V	TBD
Dielectric withstand voltage	>1 500 V	>1 500 V	>1 500 V	>1 500 V	TBD
Insulation resistance	1 x 10 ¹² Ω	TBD	TBD	9 x 10 ¹² Ω	10 ¹² Ω
Resistivity	4.6 x 10 ¹⁴ Ω·cm	TBD	1.2 x 10 ¹⁵ Ω·cm	3.5 x 10 ¹³ Ω·cm	TBD
Thermal Properties					
Constant service temperature	-65 to 125 °C	-65 to 130 °C	-40 to 200 °C	-40 to 145 °C	-40 to 140 °C
Glass transition temperature (T _g)	44 °C (111 °F)	54 °C (129 °F)	TBD	57 °C (135 °F)	42 °C (108 °F)
CTE prior T _g	72 ppm/°C	160 ppm/°C	253 ppm/°C	130 ppm/°C	210 ppm/°C
CTE after T _g	N/A	N/A	N/A	190 ppm/°C	245 ppm/°C
Physical Properties					
Solderability	Excellent	Excellent	Fair	Good	Poor
Fungus resistance	Excellent	Excellent	Excellent	Excellent	Excellent
Chemical resistance	Poor	Poor	Poor	Excellent	Excellent
Mechanical Properties					
Adhesion (ABS)	5B	5B	5B	0B	0B
Pencil hardness (ABS)	HB, soft	H, hard	F, hard	HB, soft	2H, hard
UNCURED PROPERTIES					
Color	Clear	Clear	Clear	Clear amber	Clear
Solid %(wt/wt)	29 %	29%	28%	45%	56%
Density	0.92 g/mL	0.88 g/mL	0.90 g/mL	0.89 g/mL	0.97 g/mL (A), 0.89 g/mL (B)
Viscosity	100 cP	160 cP	11 cP	330 cP	10 cP (A), 60 cP (B)
Application Parameters					
Theoretical coverage per litre	≤9 400 in ²	≤9 200 in ²	≤10 000 in ²	≤13 000 in ²	N/A
Tack free	10–15 min	11 min	5–7 min	15 min	7 h
Recoat time	2–3 min	6 min	5 min	3 min	15 min
Full cure @22 °C (72 °F)	24 h	24 h	48 h	N/A	48 h
Full cure @65 °C (149 °F)	1 h	30 min	20 min	N/A	4 h
Full cure @80 °C (176 °F)	20 min	15 min	N/A	16 h	2 h

Values are for liquid versions. Refer to TDS for other formats and for more information. TBD=To be determined. N/A=Not applicable.