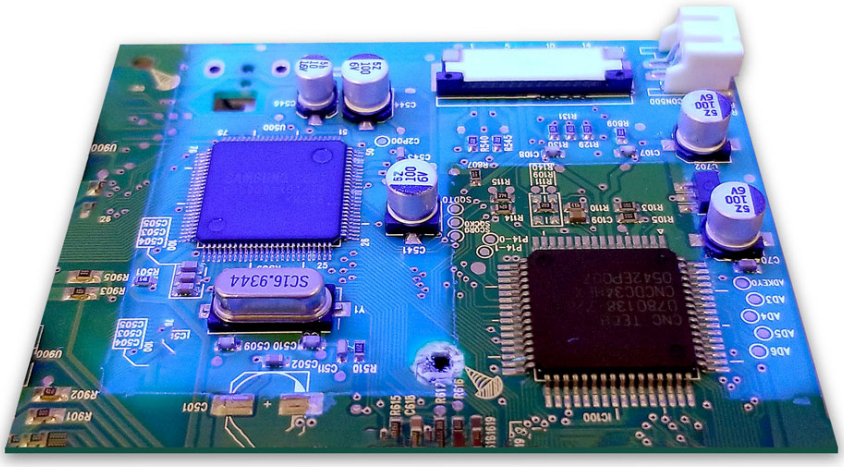
Conformal Coatings



Enhanced PCB Protection

Features and Benefits

- Clear, thin, flexible, and durable
- Protects against dust, humidity, salt spray, corrosion, and chemical fogs
- Protects against electrical arching, shorts, static discharges, and thermal shocks
- Contains a UV indicator for optical inspection
- Applied by brushing, dipping, manual and selective spraying
- Available in liquid, aerosol, and pen
- IPC and UL certified versions

Applications

- Improves reliability, and lengthens the life of electronic circuitry
- Protects circuitry in coastal, tropical, marine, and other humid environments
- Allows electronic devices to operate in harsh environments
- Allows traces to be placed closer together by preventing arcing

Acrylic - One-part conformal coating which is cost-effective, and easily reworkable.

419D – Certified to IPC-CC-830B and UL94 V-0

419E – Certified to IPC-CC-830C and UL746E

Silicone-Modified Acrylic - One-part conformal coating that is both soft and flexible, and provides a wide service temperature range.

422B – Certified to UL94 V-0

422C – Certified to UL94 V-0

Polyurethane - One-part conformal coating that provides strong protection against solvents, and corrosive gases.

4223F – Certified to IPC-CC-830B and UL746E

UV Curable - One-part UV curable conformal coating suitable for high-throughput applications.

4200UV – Certified to IPC-CC-830C and UL746E

Conformal Coatings

	419D	419E	422B	422C	4223F	4200UV
BINDER SYSTEM	Acrylic	Acrylic	Silicone-modified Acrylic	Silicone-modified Acrylic	Polyurethane	Urethane Acrylate
UNCURED PROPERTIES						
Solids %	30	29	28	30	45	96
Viscosity @ 25 °C	115 cP	160 cP	10 cP	14 cP	290 cP	160 cP
Recoat time	3 min	3 min	3 min	2 min	5 min	N/A
Dry time to handle	10 min	15 min	8 min	10 min	15 min	N/A
Cure time @ 22 °C	24 h	24 h	48 h	24 h	Heat cure only	UV cure
Cure time @ 65 °C	30 min	30 min	20 min	30 min	—	UV cure
Cure time @ 80 °C	20 min	15 min	—	10 min	16 h	UV cure
Cure time @ 100 °C	10 min	5 min	—	5 min	2 h	UV cure
CURED PROPERTIES						
IPC-CC-830	B revision	C revision	—	—	B revision	C revision
UL	94 V-0	746E	94 V-0	94 V-0	746E	746E
Dielectric strength	1 000 V/mil	1 100 V/mil	1 056 V/mil	1 076 V/mil	1 000 V/mil	1000 V/mil
Dielectric withstand volt.	> 1 500 V	> 1 500 V	> 1 500 V	> 1 500 V	> 1 500 V	> 1 500 V
Resistivity	4.6×10^{14} Ω·cm	3.5×10^{13} Ω·cm	1.2×10^{15} Ω·cm	3.5×10^{13} Ω·cm	3.5×10^{13} Ω·cm	3.4×10^{14} Ω·cm
Constant service temp.	-65 — 125 °C	-65 — 130 °C	-40 — 200 °C	-40 — 200 °C	-65 — 125 °C	-65 – 150 °C
Glass transition temp. (T_g)	27 °C	38 °C	29 °C	31 °C	57 °C	72 °C
CTE prior T_g	72 ppm/°C	160 ppm/°C	275 ppm/°C	111 ppm/°C	130 ppm/°C	78 ppm/°C
Solderability	Excellent	Excellent	Fair	Fair	Good	Poor
Chemical resistance	Poor	Poor	Poor	Poor	Excellent	Excellent
Pencil hardness (ABS)	HB, soft	H, hard	F, hard	F, hard	HB, soft	2H, hard
AVAILABLE PACKAGING						
Net contents	55 mL bottle	—	55 mL bottle	55 mL bottle	55 mL bottle	—
	945 mL can	945 mL can	5 mL pen	945 mL can	945 mL can	945 mL can
	3.78 L can	3.78 L can	1 L can	3.78 L can	3.78 L can	3.78 L can
	18.9 L pail	18.9 L pail	3.78 L can	18.9 L pail	18.9 L pail	—
	340 g aerosol	340 g aerosol	20 L pail	340 g aerosol	312 g aerosol	—
	5 mL pen	—	340 g aerosol	5 mL pen	205 L drum	—