



## Enhanced PCB Protection

### Features and Benefits

- Clear, thin, flexible, and durable
- Protects against dust, humidity, salt spray, corrosion, and chemical fogs
- Protects against electrical arcing, 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
<b>BINDER SYSTEM</b>	Acrylic	Acrylic	Silicone-modified Acrylic	Silicone-modified Acrylic	Polyurethane	Urethane Acrylate
<b>UNCURED PROPERTIES</b>						
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
<b>CURED PROPERTIES</b>						
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	$4.6 \times 10^{14} \Omega\text{-cm}$	$3.5 \times 10^{13} \Omega\text{-cm}$	$1.2 \times 10^{15} \Omega\text{-cm}$	$3.5 \times 10^{13} \Omega\text{-cm}$	$3.5 \times 10^{13} \Omega\text{-cm}$	$3.4 \times 10^{14} \Omega\text{-cm}$
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 <sub>g</sub> )	27 °C	38 °C	29 °C	31 °C	57 °C	72 °C
CTE prior T <sub>g</sub>	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
<b>AVAILABLE PACKAGING</b>						
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	—

