4223F Aerosol

Premium Polyurethane Conformal Coating

4223F is a 1-part, heat curing, UL 746E certified, thermoset polyurethane conformal coating. It cures to a durable, flexible, scratch resistant, and smooth finish. It is easy to apply and can be handled in 15 minutes. It cures in only 2 hours at 100 °C (212 °F). It may be removed with appropriate strippers, or soldered through for repair or rework.

4223F protects printed circuit boards in chemically challenging environments. It provides strong protection against aggressive chemicals, corrosion, moisture, fungus, dirt, dust, thermal shock, abrasion, short circuit, high-voltage arcing, and static discharge.

Features & Benefits

Certified UL 746E (File# E203094)

Certified IPC-CC-830B

Excellent corrosion resistance—salt spray and hydrogen sulfide tested

Xylene and isocyanate free

Fluoresces under UV-A light

Cure Instructions

Allow to dry at room temperature for 30 days. For faster curing, let it sit for 15 minutes at room temperature prior heat curing, or cure the coating in an oven at one of these time/temperature options:

Temperature	80 °C	100 °C
Time	16 h	2 h

Available Packaging

Part #	Packaging	Net Vol.	Net Wt.
4223F-312G	Aerosol	430 mL	312 g

Storage and Handling

Store between -5 and 27 ˚C in a in a dry area, away from sunlight (see SDS).

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Liquid Properties

Binder System	Polyurethane	—
Dry Time to Handle	15 min (1 coat) 25 min (2 coats)	—
Minimum Recoat Time	5 min	—
Recommended Film Thickness	25–75 µm	—
Density	0.8 g/mL	ASTM D1475
Viscosity @ 25 ˚C	10 cP	Brookfield Engineering labs Inc. IPCTM-65- Method 2.4.24.4
Percent Solids	30%	—
Theroretical Coverage @ Recommended Thickness	9 400 cm^2	Calculated
Calculated VOC	645 g/L	—
Shelf Life	5 y	—

Cured Properties

UL	746E	—
IPC-CC-830	B revision	—
Color	Clear	—
Resistivity	3.5 x 10^{13} Ω·cm	ASTM D257
Breakdown Voltage Dielectric Strength	>1 500 V 1 000 V/mil	ASTM D149
Dielectric Constant @ 1 MHz Dissipation Factor @ 1 MHz	2.9 0.009	ASTM D150
Insulation Resistance	1 x 10^{13} Ω·cm	IPC-TM-650 2.5.7.1
Moisture Insultation Resistance	1 x 10^{12} Ω·cm	IPC-TM-650 2.6.3.4
Glass Transition Temperature (T_g)	57 ˚C	ASTM E1545
Coefficient of Thermal Expansion (CTE)	130 ppm/˚C (Prior T_g) 190 ppm/˚C (After T_g)	ASTM E831
Service Temperature Range	-65–125 ˚C	—

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Application Instructions

Read the product SDS before using this product (downloadable at www.mgchemicals.com).

Recommended Preparation

Clean the substrate with MG #824 99.9% Isopropyl Alcohol, so the surface is free of oils, dust, and other residues.

Spray

1. Shake the can vigorously.
2. Spray a test pattern to ensure good flow quality.
3. Tilt the board at 45° and spray a thin, even coat froma distance of 20–25 cm (8–10 in). Use spray-andrelease strokes with an even motion to avoid paint buildup in one spot. Start and end each stroke off the surface.
4. Wait 3 min before applying another coat, to avoid trapping solvent.
5. Rotate the board 90° and spray again to ensure good coverage.
6. Apply additional coats until desired thickness is achieved (go to step 3).
7. Let dry 15 min at room temperature before applying heat cure.
8. After use, clear the nozzle by inverting the can and briefly spraying until clear propellant comes out.