Conformal Overcoat Pen

RoHS Compliant

Description

The Overcoat Pen are solder resist coatings that are a fast drying, xylene and toluene free. The pen provides an excellent finish in green colour. They are ideal for high moisture environments and applications requiring easy repair and rework.

Applications and Usages

The pen protect area of a printed circuit board from taking solder, helping confine solder to intended areas only. This prevents formation of unintentional solder bridges, which could cause short circuits. It also protects electric circuits against moisture, dirt, dust, thermal shocks, and scratches that could corrode, or otherwise damage the electric components. It insulates against high-voltage arcing, shorts, and static discharges.

The pen improves reliability, operational range, and lengthens the life of electrical and electronic components and assemblies. Its primary applications are in the automobile, marine, aerospace, aviation, communication, instrumentation, industrial control equipment, and consumer electronics industries.

Benefits and Features

No Hazardous Air Pollutants - free of toluene or xylene
Excellent finish - smooth, homogeneous, and durable
Protects electronics from moisture, corrosion, fungus, and static discharges
Easy rework and repairs - removable with thinner or stripper

Usage Parameters a), b)

Properties	Value
Tack Free	10 to 15 min
Recoat time	2 to 3 min
Full Cure @room temperature	24 h
Full Cure @65°C [149°F]	60 min
Shelf Life	3 year

a) Values based on the product without colorants
b) Assumes let 1:1 let down with Thinner 2

Temperature Ranges

Properties	Value
Constant Service Temperature	-65°C to +125°C [-85°F to 257°F]
Storage Temperature Limits c)	-5°C to +40°C [23 to 104°F]

c) The product must stay within the storage temperature limits stated.

Properties of Cured MC011530 without colorants

Physical Properties	Method	Value
Colour	Visual	Crystal Clear
Solderability	-	Excellent
Weather Resistance	-	Excellent
Fungus Resistance	IPC-TM-650 2.6.1.1	Pass
Flexibility	IPC-TM-650 2.4.5.1	Pass
Flammability	UL registered E203094	94V-0

Electric Properties	Method	Value
Dielectric Withstand Voltage Insulation Resistance (after 24 h)	per IPC-TM-650 IPC-TM-650 Test 2.6.3.4	>1500 V $1 \times 10^{12}\Omega$

Properties of Uncured MC011530 without colorants

Physical Property	Method	Value
Odor	-	Slight
Viscosity @23°C [73°F]	Brookfield SP1	100 P [0.1Pa·s]
Density	ASTM D 1475	0.92 g/mL
Flash Point	Closed Cup	-3°C [26°F]
Boiling Point	-	≥80°C [≥176°F]
Solids Content (w/w)	-	29.5%

Compatibility

The pen is compatible with most materials found on printed circuit assemblies; however, in an uncured state it is not compatible with contaminants like water, oil, and greasy flux residues. Therefore, it is extremely important to clean the printed circuit assembly thoroughly with a suitable electronic cleaner before applying the coating.

The chosen electronic cleaner should remove moisture, wax, greases, oils, and all other contaminants that are known to cause defects in this type of conformal coating.

Health and Safety

The pen is flammable and should be kept away from flames and other ignition sources. As with most paint materials, avoid breathing in fumes or direct contact with the material.

Solvents therein can cause irritation and other symptoms like headaches, pain, as well as having long term exposure effects.

HMIS® Rating

Health:	*2
Flammability:	3
Physical Hazard:	0
Personal Protection:	

Approximate HMIS and NFPA Risk Ratings Legend:

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

Wear safety glasses and disposable gloves. Wash hands thoroughly after use. Use in the open air, in fume hoods, or in well ventilated area. For short or long term (8 hours) at levels of exposures exceeding of 150 ppm butyl acetate or 200 ppm MEK, use NIOSH approved respirator with organic vapor cartridges rated for this order of concentrations.

The cured coating presents no known hazard.

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Pen Application Instructions

Follow the procedure below for best results.

To apply the liquid pen

1. Ensure that the surface to be coated is clean and oil-free.
2. Shake the pen vigorously. Ensure that you hear the clicking of the mixing bearing hitting both ends of the barrel.
3. Test on a blank to ensure good flow quality and uniformity during application.
4. Touch the pen lightly on the surface while squeezing the barrel to apply thin and even coat.
5. Let dry for 3-5 minutes (flash off time) at room temperature before handling.

To cure at Room temperature

Let air dry 24 hours

To accelerate cure by heat

After flash off, put in oven or under heat lamp at ≤65°C for 60 min.

Note: Coats that are very thick require more time to dry.
Attention! If heat curing, do not exceed 65°C as this may cause surface defects due to solvents evaporating off too quickly.

Packaging and Supporting Product

Part Number	Colour	Packaging	Net Volume		Net Weight		Packaging Weight	
MC011530	Green	Pen	5 mL	0.17 fl oz	4.6 g	0.14 oz	25 g	0.8 oz

Thinners & Conformal Coating Removers

Thinner 2
Conformal Coating Stripper

Electronic Cleaners

Safety Wash Electronics Cleaner
Super wash Cleaner Degreaser
Isopropyl Alcohol

Part Number Table

Description	Part Number
Overcoat Pen, Conformal, Green, 5ml	MC011530