

Description

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

Applications and Usages

Overcoat 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 overcoat 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

- Clear Overcoat Pen is certified to UL 94-V0 and IPC-CC-830B
- 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
- Comes in variety of colours - Black, Clear and White

Specifications

| Properties | Value |
|------------------------------|-------------|
| Tack Free | 10 to 15min |
| Recoat Time | 2 to 3min |
| Full Cure @ Room Temperature | 24h |
| Full Cure @ 65°C (149°F) | 60min |
| Shelf Life | 3 Year |

Values based on the Overcoat pen without colourants

Temperature Ranges

| Properties | Value |
|------------------------------|---------------------------------|
| Constant Service Temperature | -65°C to 125°C (-85°F to 257°F) |
| Storage Temperature Limits | -5°C to 40°C (23°F to 104°F) |

Values based on the Overcoat pen without colourants

Properties of Cured Overcoat Pen without Colourants

| Physical Properties | Method | Value |
|---------------------|--------|---------------|
| Colour | Visual | Crystal Clear |
| Solderability | - | Excellent |

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

Properties of Uncured Overcoat Pen without colourants

| Physical Properties | Method | Value |
|-------------------------|----------------|-------------------|
| Odour | - | Slight |
| Viscosity @ 23°C (73°F) | Brookfield SP1 | 100cP (0.10 Pa·s) |
| Density | ASTM D 1475 | 0.92g/mL |
| Flash Point | Closed Cup | -3°C (26°F) |
| Boiling Point | - | ≥ 80°C (≥176°F) |
| Solids Content (w/w) | - | 29.50% |

Compatibility

The Overcoat 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.

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.

Overcoat Pen



Packaging

| Part Number | Colour | Packaging | Net Volume | | Net Weight | |
|-------------|--------|-----------|------------|------------|------------|---------|
| MC002956 | Black | Pen | 5mL | 0.17 fl oz | 4.6g | 0.14 oz |
| MC002957 | Clear | Pen | 5mL | 0.17 fl oz | 4.6g | 0.14 oz |
| MC002958 | White | Pen | 5mL | 0.17 fl oz | 4.6g | 0.14 oz |

Part Number Table

| Description | Part Number |
|--------------------------|-------------|
| Overcoat Pen, 5ml, Black | MC002956 |
| Overcoat Pen, 5ml, Clear | MC002957 |
| Overcoat Pen, 5ml, White | MC002958 |

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