Technical Data Sheet

# LOCTITE® ECCOBOND EN UV9700

June 2021

## PRODUCT DESCRIPTION

LOCTITE® ECCOBOND EN UV9700 provides the following product characteristics:

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|---|---|
| **Technology** | Acrylate |
| Appearance | Translucent light blue |
| Product Benefits | • Fast cure<br>• One component<br>• Cures in shadowed areas<br>• Easy dispensability without stringing<br>• Fluorescent under UV light |
| **Cure** | Ultraviolet (UV)/ moisture |
| **Application** | Electronic encapsulants, Circuit Board Encapsulant |
| Typical Assembly Applications | Bonding or encapsulate components on PCB |
| Key Substrates | PCB |

LOCTITE® ECCOBOND EN UV9700 UV/moisture cure encapsulant is designed for local circuit board protection applications. This product is fluorescent when viewed with ultraviolet (black) light.

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## TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|---|---|
| Viscosity, Rheometer, Cone and Plate @ 25ºC, Cone diameter 40 mm, Angle 2º , mPa·s (cP): | |
| @ 2 $s^{-1}$ | 6,745 |
| @ 20 $s^{-1}$ | 1,393 |
| Thixotropic Index: | |
| 2/20 $s^{-1}$ | 4.8 |
| Pot life @ 25ºC, based on syringe in foil package, days | 3 |
| Shelf Life @ 2 to 8°C (from date of manufacture) (estimated), days | 180 |

## TYPICAL CURING PERFORMANCE

**Recommended UV Cure**

| | |
|---|---|
| Light Source and Condition: | |
| 365nm LED lamp: | |
| Light Intensity, mW/cm² | 500 |
| UV Wavelength, nm | 365 |
| Light Dose, seconds | 15 |

Cures depth at least 0.2 inch under optimum conditions.

LOCTITE® ECCOBOND EN UV9700 can be cured by exposure to UV and/or visible light of sufficient intensity. Surface cure is enhanced by exposure to UV light in the 220 to 260 nm range. Cure rate and ultimate depth of cure depend on light intensity, spectral distribution of light source, exposure time, etc. Moisture cure occurs at ambient temperature and humidity.

The above cure profile(s) are guideline recommendation(s). These conditions (time and temperature) may vary based on customers' experience and specific application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

## TYPICAL PROPERTIES OF CURED MATERIAL

DMA and TMA tests conducted on samples cured UV + 7 days moisture (RT, 50% RH) .

Hardness, Tg and modulus increases with additional moisture cure.

CTE decreases with additional moisture cure.

**Physical Properties**

| | | |
|---|---|---|
| Coefficient of Thermal Expansion, TMA, ppm/°C: | | |
| Below Tg | | 83 |
| Above Tg | | 185 |
| Glass Transition Temperature (Tg) by TMA, °C | | 53 |
| Storage Modulus, DMA: | | |
| @ 25 °C | N/mm² | 2,300 |
| | (psi) | (334,000) |
| Hardness, Shore D, After initial UV dose of 3.2 J/cm² , moisture cure condition of 50%RH @ room temperature: | | |
| Initial, after UV Cure | | 65 |
| + 1 day moisture cure | | 70 |
| + 3 days moisture cure | | 75 |
| + 7 days moisture cure | | 80 |

## GENERAL INFORMATION

**For safe handling information on this product, consult the Safety Data Sheet, (SDS).**

**THAWING:**

1. DO NOT open the container before contents reach 25 °C temperature. Any moisture that collects on the thawed container should be removed prior to opening the container.
2. After removing from the freezer, set the syringes to stand vertically while thawing.
3. Once material has reached room temperature, the adhesive should not be re-refrigerated.
4. Voids can form in the syringes if syringes are repeatedly re-refrigerated.
5. Typical thaw/warm-up times for different package sizes are shown below:

| | |
|---|---|
| @ 25ºC, 30 cc syringes, minutes | 45 to 60 |
| @ 25ºC, 55 cc syringes, hours | 2 |

## Directions for Use

1. Use cotton gloves to handle syringe. Touching the syringe with bare hands may induce thaw voids between the adhesive and inside walls of the syringe.
2. Handle the syringes by the end or, if packaged in bags, by the corner. A warm hand holding a cold syringe can sometimes cause formation of freeze/thaw voids.
3. Complete cleaning of the substrates should be performed to remove contamination such as oxide layers, dust, moisture, salt and oils which can cause poor adhesion or corrosion in a bonded part.
4. Usable shelf life may vary depending on method of application and storage conditions.

## Storage

Store in original, tightly covered containers in clean, dry areas. Storage information may be indicated on the product container labeling.

**Optimal Storage: 5°C. Storage below 2°C or above 8°C can adversely affect product properties.**

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Henkel Representative.

## Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb/F
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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Reference 1