

LOCTITE ECCOBOND DAM 7010C

April 2020

PRODUCT DESCRIPTION

LOCTITE ECCOBOND DAM 7010C provides the following product characteristics:

| | |
|-----------------------|--|
| Technology | Epoxy |
| Appearance | Black |
| Components | One-component |
| Cure | Heat cure |
| Product Benefits | <ul style="list-style-type: none"> • Crack and thermal resistant • Good chemical resistance • Low thermal expansion • High purity • Non-sag |
| Operating Temperature | -40 to 150°C |
| Application | Encapsulants, Semiconductor Encapsulant (SCE) |
| Typical Applications | Glob top applications, Wire bonded bare IC protection |

LOCTITE ECCOBOND DAM 7010C is formulated to be used in combination with a "fill" encapsulant LOCTITE ECCOBOND FIL 7010C as a dam encapsulant. It is specially designed for glob top applications where protection of wire bonded bare IC is required.

This two material combination is also suited for the protection of multiple chips and for encapsulating components where a well-defined glob height and flat surface are required.

TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|--------------------------------|-------------------|
| Viscosity @ 25 °C, mPa·s (cP): | |
| @ 15 s ⁻¹ | 80,000 to 105,000 |
| Thixotropic Index | ≥3 |
| Density, gm/cc | 1.9 |
| Shelf Life: | |
| @ -40 °C, days | 180 |
| @ 25°C, day | 1 |
| Flash Point - See SDS | |

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

2 hours @ 140°C

Low Stress Cure Schedule

1 hour @ 100°C plus 1 hour @ 150°C

The above cure profile is a guideline recommendation. These cure 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

Physical Properties

| | |
|---|------------|
| Hardness, Shore D | ≥90 |
| Glass Transition Temperature(Tg), °C: | |
| (Tg) by DMA | 130 to 140 |
| (Tg) by TMA | 135 to 145 |
| Coefficient of Thermal Expansion, 10 ⁻⁶ /°C: | |
| Below Tg | 14 to 18 |
| Above Tg | 60 to 65 |
| Young's modulus (E) @ 25°C, GPa | 11 |
| Thermal Conductivity, W/(m-K) | 0.78 |
| Extractable Ionic Content @ °C, , ppm: | |
| Chloride (Cl-) | ≤10 |
| Potassium (K+) | ≤10 |
| Sodium (Na+) | ≤10 |
| Ammonia (NH3+) | ≤10 |
| Water Absorption , %: | |
| 24-hour boil test by weight | 0.45 |

Electrical Properties

| | |
|--|------------------------|
| Volume Resistivity , ohms-cm | 8.96×10 ⁺¹⁵ |
| Surface Resistivity, ohms | 5.9×10 ⁺¹⁵ |
| Dielectric Strength, kV/mm | >20 |
| Dielectric Constant/Dissipation Factor @ 1 MHz | 3.6/0.015 |

GENERAL INFORMATION

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

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

THAWING:

1. Allow container to reach room temperature before use.
2. 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.
3. DO NOT re-freeze. Once thawed, the adhesive should not be re-frozen.

Directions for use

1. Cure the product per the cure schedule mentioned in the Typical Cure Schedule section of the document.
2. The surfaces on which the adhesive has to be applied should be clean, dry and free from all dust.
3. Initially dispense LOCTITE ECCOBOND DAM 7010C on the outline of the glob referred to as the "dam".
4. The dam is then filled in with LOCTITE ECCOBOND FIL 7010C material.
5. Both materials can be co-cured after dispense.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage : -40 °C

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

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\text{N} \times 0.225 = \text{lb/F}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{psi} \times 145 = \text{N/mm}^2$
 $\text{MPa} = \text{N/mm}^2$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

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