

LOCTITE ECCOBOND UF 3808

September 2019

PRODUCT DESCRIPTION

LOCTITE ECCOBOND UF 3808 provides the following product characteristics:

Technology	Epoxy
Appearance	Black liquid
Components	One-component
Product Benefits	<ul style="list-style-type: none"> • High Tg • Low CTE • Reworkable • Halogen free • One component • Room temperature flow capability • Fast cure at moderate temperatures • Compatible with most Pb-free solders • Stable electrical performance in temperature humidity bias
Cure	Heat Cure
Application	Underfill
Typical Assembly Applications	Chip scale packages and BGA

LOCTITE ECCOBOND UF 3808 capillary underfill is designed to cure quickly at low temperatures to minimize stress to other component. When cured, this material provides excellent mechanical properties to protect solder joints during thermal cycling.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Physica, CP50-1, mPa·s (cP):	
@ 1,000 s ⁻¹	348
Specific Gravity	1.16
Pot Life @ 25°C, (25% viscosity increase), days	3
Shelf Life @ -20°C, days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

≥8 minutes @ 130°C

Alternative Curing Conditions

5 minutes @ 150°C

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

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Coefficient of Thermal Expansion, ppm/°C :

 Below Tg 55

 Above Tg 171

Glass Transition Temperature, (Tg) by TMA, °C 113

Storage Modulus, DMA:

@ 25°C	N/mm ²	2,610
	(psi)	(379,000)

Electrical Properties

Dielectric Constant @ 23°C :

 @ 1 GHz 3.19

 @ 2 GHz 3.24

Dissipation Factor @ 23°C:

 @ 1 GHz 0.0099

 @ 2 GHz 0.0088

GENERAL INFORMATION

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

THAWING:

1. Typical thaw times are listed as follows:

- 1 hour for 10 cc syringes
- 1.5 hours for 30 cc syringes
- 2 to 3 hours for 55 cc syringes

2. Allow container to reach room temperature before use

3. After removing from the freezer, set the syringes to stand vertically while thawing

4. 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

5. DO NOT re-freeze. Once thawed, the adhesive should not be re-frozen

DIRECTIONS FOR USE

1. Thawed material should immediately be placed on dispense equipment for use.
2. If the adhesive is transferred to a final dispensing reservoir, care must be exercised to avoid entrapment of contaminants and/or air into the adhesive.
3. Adhesive must be completely used within the product's recommended work life.

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.

STORAGE:

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

Optimal Storage: -40 to -15°C. Storage below -40°C or above -15°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 Technical Service Center or Customer Service 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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