

LOCTITE ECCOBOND UF 8000AA

April 2019

PRODUCT DESCRIPTION

LOCTITE ECCOBOND UF 8000AA provides the following product characteristics:

Technology	Epoxy
Appearance	Light to Dark Gray Liquid
Cure	Heat cure
Application	Semiconductor, Encapsulation
Product Benefits	<ul style="list-style-type: none"> • High purity • High Tg • Low CTE • Improved toughness • Excellent flow with self filleting • Long staging time and worklife • 260°C reflow capability for Pb-free, low-k applications
Typical Package Application	<ul style="list-style-type: none"> • Tight pitch • Fine gap for Chips on Wafer • Flip Chip BGA

LOCTITE ECCOBOND UF 8000AA underfill is specially designed for flip chip BGA device applications. It is formulated to improve crack/fracture resistance and provide faster flow. When fully cured, this material forms a rigid, low stress seal that dissipates stress in solder joints and extends thermal cycling performance.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Brookfield Viscosity , mPa·s (cP):

Spindle 51, speed 5 rpm	4,700
Thixotropic Index	0.9
Specific Gravity @ 25°C, g/cc	1.45
Work Life @ 25°C, hours	>24
Shelf Life @ -40°C, days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

- 30 min ramp to 100°C; hold 30 minutes @ 100°C plus
- 15 min ramp to 165°C; hold 2 hours @ 165 °C

Alternate Cure

- 30 minutes ramp to 150°C, hold for 2 hours

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

Glass Transition Temperature, °C:

Tg by TMA	104.4
Tg by DMA	120.4

Coefficient of Thermal Expansion, ppm/°C:

Below Tg	30.6
Above Tg	120.1

Storage Modulus, 25°C, GPa

7.3

GENERAL INFORMATION

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

THAWING:

1. Allow container to reach room temperature before use.
2. After removing from the freezer, set the syringes to stand vertically while thawing.
3. DO NOT open the container before contents reach 22°C temperature. Any moisture that collects on the thawed container should be removed prior to opening the container.
4. DO NOT re-freeze. Once thawed to 22°C, the adhesive should not be re-frozen.

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 Technical Service Center or Customer Service Representative.

Conversions

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

Disclaimer

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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