

LOCTITE ECCOBOND EN 3839

June 2023

PRODUCT DESCRIPTION

LOCTITE ECCOBOND EN 3839 provides the following product characteristics:

Technology	Acrylic
Appearance	Transparent light blue liquid
Cure	Ultraviolet (UV) light activation followed by heat cure
Application	Encapsulant, Glob top
Typical Package Application	CSP and BGA
Product Benefits	<ul style="list-style-type: none"> • One component • UV/ heat curable • Thixotropic • Low Tg • Low modulus • Reworkable • Halogen-free • Stable electrical performance in temperature humidity bias

LOCTITE ECCOBOND EN 3839 is specially designed for encapsulating components on PCB applications. When cured, this material provides physical protection, as well as, protection in temperature/humidity/bias testing.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):

Speed 5 rpm	7,800
Thixotropic Index (0.5/5 rpm)	4.1
Work Life @ 25°C, days	2
Shelf Life @ -20°C, days	240
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended UV Cure

Light Source and Condition

Ultraviolet (UV) light

Light Intensity, mJ/cm²

2,000

UV Wavelength, nm

365

Secondary Thermal Cure

>10 minutes @ 130°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, TMA, ppm/°C:

Below Tg 108

Above Tg 211

Glass Transition Temperature (Tg) by TMA, °C 26

Hardness, Shore D 27

Storage Modulus, DMA @ 25°C N/mm² 334
(psi) (48,400)

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 re-freeze. Once thawed to 25°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 : -20 °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

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

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