

# LOCTITE ECCOBOND EN 3839

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## PRODUCT DESCRIPTION

LOCTITE ECCOBOND EN 3839 provides the following product characteristics:

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

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/cm <sup>2</sup>	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/mm <sup>2</sup> 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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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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Reference 2