

# LOCTITE® ECCOBOND EN 3838T

January 2025

## PRODUCT DESCRIPTION

LOCTITE® ECCOBOND EN 3838T provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Appearance</b>	Black liquid
<b>Product benefits</b>	<ul style="list-style-type: none"> <li>• One component</li> <li>• Thixotropic</li> <li>• Fast cure at moderate temperatures</li> <li>• Low Tg</li> <li>• Low modulus</li> <li>• Reworkable</li> <li>• Pb-free applications</li> </ul>
<b>Cure</b>	Heat cure
<b>Application</b>	Encapsulant
<b>Typical assembly / Package application(s)</b>	CSP and BGA

LOCTITE® ECCOBOND EN 3838T is designed to provide a flexible, low Tg material for encapsulating components on a PCB. When cured, this material provides physical protection and stable electronic performance and protection in temperature/humidity/bias testing.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51 25°C, mPa·s (cP):	
Speed 20 rpm	6,700
Thixotropic index (2/20 rpm)	5.8
Specific gravity	1.2
Pot life @ 25°C, days	3
Shelf life @ -20°C, days	365
Flash point - see SDS	

## TYPICAL CURING PERFORMANCE

### Recommended cure condition

8 minutes @ 130°C

The above cure profiles are guideline recommendations. These 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	27
Coefficient of thermal expansion, TMA, ppm/°C:	
Below Tg	57
Above Tg	217
Glass transition temperature, (Tg) by TMA, °C	2
Storage modulus, DMA, @ 25°C,	N/mm <sup>2</sup> 466 (psi) (67,590)
Thermal conductivity, W/(m·K)	0.22

## GENERAL INFORMATION

Please consult the Safety Data Sheet (SDS) for safe handling information of this product.

### Thawing

1. Allow container to reach room temperature before use.

### Storage

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

**Optimal storage: -25 to -15°C. Storage 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 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.

### 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 the specifications of this product.

### Conversions

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

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