

LOCTITE® ECCOBOND EN 3846

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PRODUCT DESCRIPTION

LOCTITE® ECCOBOND EN 3846 provides the following product characteristics:

Technology	Acrylate
Appearance	Blue liquid
Product Benefits	<ul style="list-style-type: none">• One component• Non-conductive• Halogen-free• Fast cure• Fluorescent• Thixotropic
Cure	Heat cure
Application	Electronic Encapsulants, Circuit Board Encapsulant
Typical Package Application(s)	BGA, CSP

LOCTITE® ECCOBOND EN 3846 is specially designed for encapsulating components on printed circuit boards.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity by rheometer, cone & plate, @ 25 °C, mPa·s (cP):

Cone 20 mm, Angle 2° @ Shear rate 20 s⁻¹ 3,200

Thixotropic Index (2/20 s⁻¹) 4.7

Pot Life @ 25°C, <50% viscosity change, hours 48

Shelf Life @ -20°C, days 180

TYPICAL CURING PERFORMANCE**Recommended Cure**

≥10 minutes @ 160°C

The above cure profile(s) are guideline recommendation(s). 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

Sample cured 30 minutes @ 160°C

Physical Properties

Hardness, Shore A	54
Coefficient of Thermal Expansion, ppm/°C:	
Below Tg	82
Above Tg	206
Glass Transition Temperature (Tg) by TMA, °C	0
Elongation, %	89
Storage Modulus	N/mm ² 494 (psi) (71,600)

Electrical Properties

Volume Resistivity, ohms-cm	1.04×10 ¹⁶
Surface Resistivity, ohms	3.27×10 ¹⁵
Dielectric Constant / Dissipation Factor :	
@ 1.1 GHz	2.76/0.031
@ 1.9 GHz	2.71/0.019
@ 5 GHz	2.69/0.0097

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.
2. After removing from the freezer, set the syringes to stand vertically while thawing.
3. 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.
4. DO NOT re-freeze. Once thawed to 25°C, 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.
4. Alternate dispense amounts may be used depending on the application requirements.
5. Star or crossed shaped dispense patterns will yield fewer bondline voids than the matrix style of dispense pattern.

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. Storage below -25°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 Henkel Representative.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local Henkel representative for assistance and recommendations on the specifications of this product.

Conversions

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

Disclaimer

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Reference 1