

LOCTITE® ECCOBOND EN 3770

September 2023

PRODUCT DESCRIPTION

LOCTITE® ECCOBOND EN 3770 provides the following product characteristics:

Technology	Acrylate
Appearance	Blue liquid
Product benefits	<ul style="list-style-type: none"> • One component • UV/heat curable • Thixotropic • Low Tg • Flexible • Low modulus • Reworkable
Cure	Ultraviolet (UV) light followed by heat cure
Application	Electronic encapsulant; Circuit board encapsulant
Typical package application	CSP; BGA

LOCTITE® ECCOBOND EN 3770 is specially formulated for encapsulating components on PCB. When cured, this material is designed to provide physical protection and stable electronic performance, 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	8,000
Thixotropic index, (0.5rpm/5rpm)	4.1
Work life @ 25°C, days	2
Shelf life @ -20°C, days	180

TYPICAL CURING PERFORMANCE

Recommended Cure Condition

UV Light (High pressure mercury lamp)	
UV Wavelength, nm	365
Light intensity, mW/cm ²	100
Exposure time, seconds	20

Secondary heat cure

>10 minutes @ 130°C

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Hardness, Shore D	29
Coefficient of thermal expansion, TMA, ppm/°C:	
Below Tg	99
Above Tg	215
Glass transition temperature, TMA, °C	23
Storage modulus, DMA @ 25°C, N/mm ²	489

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. Thaw times depend on the syringe size.
4. Consult handling guide for more information.
5. 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.
6. DO NOT re-freeze. Once thawed to 25°C, the adhesive should not be re-frozen.

Direction 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.

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 greater than -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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