



# LOCTITE® ECCOBOND LUX AA50T

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PRODUCT DESCRIPTION

LOCTITE® ECCOBOND LUX AA50T provides the following product characteristics:

Technology	Acrylate
Appearance	Opaque white
Cure	Ultraviolet (UV) light and heat cure
Product benefits	<ul style="list-style-type: none"><li>• Fast UV cure</li><li>• High viscosity</li><li>• Low shrinkage</li><li>• Good mechanical stability</li></ul>
Application	Die attach
Typical package application	Optoelectronic devices, LED mounting, Laser diode packaging, Fiber pigtail and transceiver active alignment and potting

LOCTITE® ECCOBOND LUX AA50T die attach adhesive is formulated to enhance productivity in the assembly of optical, fiber optic and optoelectronic devices. This adhesive cures in seconds when exposed to the appropriate intensity of visible (blue) or UV light. It also contains a secondary thermal cure mechanism for applications with shadowed areas.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield Cup 6R/S14, 25°C, mPa·s (cP)	
Speed 5 rpm	96,000
Shelf life @ 0-5°C, (from date of manufacture), days	180
Pot life, @ room temperature, days	90

TYPICAL CURING PERFORMANCE

Recommended cure schedule  
UV or visible light

Secondary thermal cure condition  
60 minutes @ 100°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

Coefficient of thermal expansion, ppm/°C	
Below Tg	36
Above Tg	98
Glass transition temperature, (Tg) by TMA, °C	163
Tensile modulus, @ 25°C, DMTA	N/mm <sup>2</sup> 3,500 (psi) (509,000)
Hardness, Shore D	82
Water absorption, 24 hours, %	0.86

TYPICAL PERFORMANCE OF CURED MATERIAL

Die shear strength, @ 25°C, psi	
2 x 2 mm Si die on Ag/Cu LF	3,990

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. Safe yellow light is recommended for visible light initiated grades during handling prior to curing. Dimmed light may be used if adhesive is only being handled for short periods of time.

Directions for use

1. This adhesive is formulated to cure upon exposure to visible (Blue) or UV light. Curing with visible light allows curing of highly filled (up to 80% by weight) grades and curing through UV opaque substrates (such as polycarbonate and aluminis). Additionally, use of visible light provides increased operator safety by eliminating exposure to potentially harmful UV radiation. However, UV curing is particularly advantageous where a rapid cure or curing of a section is required.
2. For visible light curing, a light source with a peak output at 470 nm is most important. For example, a Luxor 2 or 3 curing lamp delivers an output in excess of 150 mW/cm<sup>3</sup> at this wavelength, curing in less than a minute to a depth of N}.
3. For UV cure, a wide range of commercially available lamp systems are available, permitting curing of bond profiles in seconds coupled with a tack-free surface.



**Storage**

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

**Optimal storage: 0 to 5°C. Storage below 0°C or greater than 5°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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