

# LOCTITE ECCOBOND LUX A4153T

September 2012

## PRODUCT DESCRIPTION

LOCTITE ECCOBOND LUX A4153T provides the following product characteristics:

<b>Technology</b>	Acrylate
<b>Color</b>	Opaque White
<b>Cure</b>	Ultraviolet (UV)/ visible light or Heat Cure
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• Single component</li> <li>• Photocurable</li> <li>• Low Shrinkage</li> </ul>
<b>Application</b>	Adhesive
<b>Typical Applications</b>	Fiber Optic and Optoelectronic

LOCTITE ECCOBOND LUX A4153T photocurable adhesive is formulated to enhance productivity in the assembly of optical, fiber optic, and optoelectronic devices.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity Brookfield Sp #14, 10 rpm @ 25°C, mPa·s (cP) 22,800

Work Life @ 25°C, days	91
Shelf Life @ 0 to 5°C, days	183

Flash Point - See SDS

## TYPICAL CURING PERFORMANCE

### Recommended UV Cure Condition

A min of 365 nm

### Recommended Visible Cure Condition

A min of 470 nm

### Secondary Thermal Cure Condition

1 hour @ 100°C or

2 hours @ 80°C

### UV Fixture Time

UV/Visible Fixture Time, second	1
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### Tack Free Time

UV/Visible Tack-free Time, seconds	5
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### Depth of Cure

The above cure profiles are guideline recommendations. 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 :

Glass Transition Temperature (T<sub>g</sub>), °C 130

Hardness, Shore D 87

### Coefficient of Thermal Expansion :

Below T<sub>g</sub>, ppm/°C 44

Above T<sub>g</sub>, ppm/°C 132

Water Absorption 85°C/85 RH, % 1.76

### Tensile Modulus:

@ -65 °C N/mm<sup>2</sup> 3,800  
(psi) (551,000)

@ 25 °C N/mm<sup>2</sup> 3,720  
(psi) (540,000)

@ 100 °C N/mm<sup>2</sup> 1,200  
(psi) (173,000)

@ 150 °C N/mm<sup>2</sup> 170  
(psi) (24,000)

## TYPICAL PERFORMANCE OF CURED MATERIAL

### Die Shear Strength:

#### Post Cure:

@ 25 °C N/mm<sup>2</sup> 24.8  
(psi) (3,600)

@ 25 °C, w/ Silane N/mm<sup>2</sup> 66.1  
(psi) (9,600)

#### After 1,000hours PCT, 85°C/85% RH:

@ 25 °C N/mm<sup>2</sup> 3.1  
(psi) (450)

@ 25 °C, w/ Silane N/mm<sup>2</sup> 29  
(psi) (4,260)

## GENERAL INFORMATION

For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).

### THAWING:

1. This adhesive is packed and shipped in dry ice plus barrier packaging to maintain the material temperature at -40°C.
2. Allow container to reach room temperature before use.
3. After removing from the freezer, set the syringes to stand vertically while thawing.
4. 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.
5. Any moisture that collects on the thawed package should be removed prior to opening the package.

**DIRECTIONS FOR USE**

1. LOCTITE ECCOBOND LUX A4153T adhesive is packed and shipped at room temperature.
2. Transfer the syringes from the shipping container to a 0 to 5°C freezer without any delays. Freeze-thaw voids can form if the syringes are repeatedly thawed and re-frozen.
3. 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, Aluminas, etc). Use of visible light provides increased operator safety by eliminating exposure to potentially harmful UV radiation. UV curing is particularly advantageous where a very rapid cure of a section is required.
4. Dispense the desired amount of material and place the part/component into deposit using downward force to achieve desired bondline.
5. For visible light curing, a light source with a peak output of 470 nm wavelength is recommended. Wide ranges of light systems are available for visible cure, permitting curing of bond profiles in less than a minute.
6. A safe yellow light is recommended for visible light initiated grades during handling prior to use. Dimmed light may be used if the adhesive is only being handled for short periods of time.
7. For UV light curing, a source minimum output of 50 mW/cm<sup>2</sup> at 365 nm wavelength is recommended. Wide ranges of light systems are available for UV cure, permitting curing of bond profiles in seconds, coupled with a tack-free surface.

**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 specifications for this product.

**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**

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.

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Reference 1