

# LOCTITE ECCOBOND LUX A4088T

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## PRODUCT DESCRIPTION

LOCTITE ECCOBOND LUX A4088T provides the following product characteristics:

<b>Technology</b>	Acrylate
<b>Color</b>	Yellow
<b>Cure</b>	Ultraviolet (UV)/ visible light
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• Single component</li> <li>• Photocurable</li> <li>• Excellent adhesion</li> <li>• Optical grade</li> </ul>
<b>Application</b>	Optoelectronic
<b>Substrates</b>	Glass and Ceramic
<b>Typical Optic Application</b>	Mounting Optoelectronic and General optical device assemblies

LOCTITE ECCOBOND LUX A4088T photocurable adhesive is formulated to enhance productivity in the assembly of optical, fiber optic, and optoelectronic devices. This product also contains a secondary thermal cure mechanism for applications that contain shadowed areas where light is unable to penetrate. The secondary thermal cure can be done in conventional box or convection conveyor ovens.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, 10 rpm @ 25°C, mPa·s (cP)	15,000
Work Life @ 25°C, days	91
Shelf Life:	
@ 25°C, days	91
@ 5°C, days	183
Flash Point - See SDS	

## TYPICAL CURING PERFORMANCE

### Recommended UV Cure Condition

UV (365 nm): 500 mW/cm<sup>2</sup> (or 4,000 mJ/cm<sup>2</sup>) for 8 seconds with minimum intensity of 100 mW/cm<sup>2</sup>

### Recommended Visible Cure Condition

600 mW/cm<sup>2</sup> for 30 (or 18 J/cm<sup>2</sup>) with min. intensity of 100 mW/cm<sup>2</sup>

Visible light (470 nm) @ a minimum of

### 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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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

Coefficient of Thermal Expansion, :

Above Tg, ppm/°C 260

Below Tg, ppm/°C 68

Glass Transition Temperature (Tg), °C 110

Tensile Modulus:

@ -65 °C N/mm<sup>2</sup> 1,500  
(psi) (220,000)

@ 25 °C N/mm<sup>2</sup> 820  
(psi) (120,000)

@ 100 °C N/mm<sup>2</sup> 60  
(psi) (8,700)

@ 150 °C N/mm<sup>2</sup> 10  
(psi) (1,500)

@ 200 °C N/mm<sup>2</sup> 13  
(psi) (1,900)

Linear Shrinkage on Cure, % 1.78

Water Absorption 85°C/85 RH, % 1.8

Hardness, Shore D 70

## TYPICAL PERFORMANCE OF CURED MATERIAL

### Shear Strength

Die Shear Strength:

Post Cure:

@ 25 °C N/mm<sup>2</sup> 28.8  
(psi) (4,180)

@ 25 °C, w/ Silane N/mm<sup>2</sup> 27.1  
(psi) (3,930)

After 1,000hours @ 85°C/85% RH:

@ 25 °C N/mm<sup>2</sup> 7.6  
(psi) 1,100

@ 25 °C, w/ Silane N/mm<sup>2</sup> 8.2  
(psi) (1,190)

After 72hours PCT, 85°C/85% RH:

@ 25 °C N/mm<sup>2</sup> 8.4  
(psi) (1,220)

@ 25 °C, w/ Silane N/mm<sup>2</sup> 8.6  
(psi) (1,240)

## GENERAL INFORMATION

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

## SHIPMENT AND UNPACKING

1. LOCTITE ECCOBOND LUX A4088T 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.

**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, Aluminex, 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.
2. Dispense the desired amount of material and place the part/component into deposit using downward force to achieve desired bondline.
3. For visible light curing, a light source with a peak output of 100 mW/cm<sup>2</sup> at 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. A typical visible cure condition is 600 mW/cm<sup>2</sup> for 30 seconds or 18 mJ/cm<sup>2</sup> dose at the adhesive bondline (with a minimum intensity of 100 mW/cm<sup>2</sup>).
4. For UV light curing, a source minimum output of 100 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. A typical UV cure condition is 500 mW/cm<sup>2</sup> for 8 seconds or 4,000 mJ/cm<sup>2</sup> dose at the adhesive bondline (with a minimum intensity of 100 mW/cm<sup>2</sup>).

**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.

**Conversions**

(°C x 1.8) + 32 = °F  
 kV/mm x 25.4 = V/mil  
 mm / 25.4 = inches  
 N x 0.225 = lb  
 N/mm x 5.71 = lb/in  
 psi x 145 = N/mm<sup>2</sup>  
 MPa = N/mm<sup>2</sup>  
 N·m x 8.851 = lb·in  
 N·m x 0.738 = lb·ft  
 N·mm x 0.142 = oz·ft  
 mPa·s = cP

**Disclaimer****Note:**

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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