

LOCTITE ECCOBOND LUX A4061

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PRODUCT DESCRIPTION

LOCTITE ECCOBOND LUX A4061 provides the following product characteristics:

Technology	Acrylate
Color	Opaque White
Cure	Ultraviolet (UV)/ visible light
Product Benefits	<ul style="list-style-type: none"> • Single component • Photocurable • Low shrinkage
Application	Assembly
Filler Type	Glass
Key Substrates	Ceramic and Glass
Typical Assembly Applications	Mounting active devices or passive couplers and Stress relief for fiber pigtailling

LOCTITE ECCOBOND LUX A4061 photocurable adhesive is formulated to enhance productivity in the assembly of optical, fiber optic, and optoelectronic devices. It is reinforced with glass particles for enhanced hardness and modulus, along with reduced thermal expansion. This adhesive does not contain a secondary thermal cure.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity Brookfield Sp #14, 5 rpm @ 25°C, mPa·s (cP) 125,000

Work Life @ 25°C, months 3
(25% increase in viscosity)

Shelf Life:

@ 0 to 5°C, months 6
@ 25°C, months 3

Flash Point - See SDS

TYPICAL CURING PERFORMANCE Recommended UV Cure Condition

UV (365 nm) @ a minimum of 50 mW/cm² at the bondline

Recommended Visible Cure Condition

Visible Blue light (470 nm) @ a minimum of 100 mW/cm² at the bondline

UV Fixture Time

UV/Visible Fixture Time, second 1

Tack Free Time

UV/Visible Tack-free Time, seconds 5

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 :

Hardness, Shore D	59
Coefficient of Thermal Expansion Thermo mechanical analyzer:	
Below Tg, ppm/°C	52
Above Tg, ppm/°C	134
Glass Transition Temperature, Tan Δ Max, °C	80
Tensile Modulus, DMTA :	
@ -65 °C	N/mm ² 5,200 (psi) (750,000)
@ 25 °C	N/mm ² 2,200 (psi) (320,000)
@ 100 °C	N/mm ² 21 (psi) (3,000)
@ 150 °C	N/mm ² 11 (psi) (1,600)
Water Absorption 85°C/85 RH, %	0.5

TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength:

Post Cure:

@ 25 °C	N/mm ² 17.8 (psi) (2,600)
@ 25 °C, w/ Silane	N/mm ² 23.9 (psi) (3,500)

After 1,000hours @ 85°C/85% RH:

@ 25 °C	N/mm ² 5.3 (psi) (760)
@ 25 °C, w/ Silane	N/mm ² 19.4 (psi) (280)

After 72hours PCT, 121°C/100% RH:

@ 25 °C	N/mm ² 6.9 (psi) (1,000)
@ 25 °C, w/ Silane	N/mm ² 18.6 (psi) (2,700)

GENERAL INFORMATION

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

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. Any moisture that collects on the thawed package should be removed prior to opening the package.

DIRECTIONS FOR USE

1. Packages removed from storage should be allowed to return to ambient temperature before use.
2. 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, Aluminis, 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.
3. Dispense the desired amount of material and place the part/component into deposit using downward force to achieve desired bondline.
4. For UV light curing, a source minimum output of 100 mW/cm² 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/cm² for 8 seconds or 4,000 mJ/cm² dose at the adhesive bondline (with a minimum intensity of 100 mW/cm²).
5. For visible light curing, a light source with a peak output of 100 mW/cm² 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/cm² for 30 seconds or 18 mJ/cm² dose at the adhesive bondline (with a minimum intensity of 100 mW/cm²).
6. 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.

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/mm²
 MPa = N/mm²
 N·m x 8.851 = lb·in
 N·m x 0.738 = lb·ft
 N·mm x 0.142 = oz·in
 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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Reference 1