

# LOCTITE ABLESTIK NCA 2286

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## PRODUCT DESCRIPTION

LOCTITE ABLESTIK NCA 2286 provides the following product characteristics:

<b>Technology</b>	Acrylate
<b>Appearance</b>	Black liquid
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• Non-conductive</li> <li>• One component</li> <li>• Dual cure system</li> <li>• High dispense aspect ratio</li> <li>• Fast UV cure</li> <li>• Fast cure at low temperatures</li> <li>• High elongation strength</li> <li>• High fracture toughness</li> <li>• Good adhesion to LCP, PC, Ceramic and PCB</li> </ul>
<b>Cure</b>	Ultraviolet (UV) light followed by heat cure
<b>Application</b>	Semiconductor, Non-conductive adhesive
<b>Typical Assembly Applications</b>	Camera module assembly, active alignment lens holder attach

LOCTITE ABLESTIK NCA 2286 dual cure adhesive is designed for use in active alignment applications in camera module assembly. It has been formulated to a high viscosity and thixotropy to enable higher aspect ratios of dispensed adhesive, thus allowing for easier adjustments for the final assembly. This material is engineered to meet the high reliability performance requirements for the optoelectronic / semiconductor industry.

LOCTITE ABLESTIK NCA 2286 is black in color to prevent light penetration into the final assembled device. It is designed to achieve fast cure response and good depth of cure after UV radiation. This product also contains a secondary thermal cure mechanism for applications with shadowed areas where light is unable to penetrate.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Rheometer, Cone and Plate @ 25°C, mPa·s (cP):  
 Angle 2° @ Shear rate 20 s<sup>-1</sup> 40,000  
 Thixotropic Index (2/20 s<sup>-1</sup>) 5.7

Work Life @ 25°C, <25% viscosity increase, days 3  
 Shelf Life @ -20°C, <25% viscosity increase, days 180  
 Flash Point - See SDS

## TYPICAL CURING PERFORMANCE

### Recommended Cure Condition

#### UV Light

UV Wavelength, nm 220 to 380  
 Light Intensity, mW/cm<sup>2</sup> 1,000  
 Exposure Time, seconds 4

#### Secondary Heat Cure

1 hour @ 80°C

### Alternate Cure Condition

#### UV Light

UV Wavelength, nm 220 to 380  
 Light Intensity, mW/cm<sup>2</sup> 2,000  
 Exposure Time, seconds 2

#### Secondary Heat Cure

1 hour @ 80°C

### Depth of Cure

Depth of Cure, after UV Cure, mm 0.9

### Shrinkage on Cure<sup>(\*)</sup>

Cure Shrinkage, % 5  
 Volume, after UV + thermal cure

### Weight Loss on Cure<sup>(\*)</sup>

Weight Loss on Cure, % 1  
 Jump to 80°C, Isothermal for 1 hour, TGA

<sup>(\*)</sup> Samples cured UV @ 365nm 4S x 1000 mW/cm<sup>2</sup> =4Jcm<sup>2</sup>, Thermal cure 1 hour @ 80°C.

With all curing systems, the time required for cure depends on the rate of heating. Cure rate depends on the mass of material to be heated and intimate contact with the heat

source. Use suggested cure conditions as general guidelines. Other cure conditions may yield satisfactory results.

The above cure profile is a guideline recommendation. Cure rate and ultimate depth of cure depend on light intensity, spectral distribution of light source, exposure time and the light transmittance of the substrate.

## TYPICAL PROPERTIES OF CURED MATERIAL

Sample cured at the recommended cure conditions.

### Physical Properties

Hardness, Shore A	85
Coefficient of Thermal Expansion, ppm/°C:	
Below T <sub>g</sub>	55
Above T <sub>g</sub>	165
Glass Transition Temperature (T <sub>g</sub> ) by TMA, °C	28
Elongation @ break	
After UV plus thermal cure, texture test:	
Elongation, %	60
After 85RH/85%, 120, %	25
Young's modulus (E)By DMA, MPa	3,319
Extractable Ionic Content, ppm:	
Chloride (Cl-)	ND
Fluoride (F-)	ND
Transmittance @ 400 nm thickness, 0.4 mm,	1.5
UV-Vis, %	

## TYPICAL PERFORMANCE OF CURED MATERIAL

Sample cured at the recommended cure conditions using 3x3 mm glass die on LCP substrate.

### Shear Strength

Die Shear Strength:

3 x 3 mm Glass die on LCP:

After UV Cure, kg-f	8.8
After UV cure followed by heat cure, kg-f	14.98
After UV + thermal cure, aging test 120 hours, 85%/85H, kg-f	11.24
After UV + thermal cure, aging test 1,000 hours, 85%/85H, kg-f	6.45

## GENERAL INFORMATION

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

### THAWING: (if applicable)

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 warmed up container should be removed prior to opening the container.
4. DO NOT re-freeze. Once thawed, the adhesive should not be re-frozen.

### Directions 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.

### Storage

Store in original, tightly covered containers in clean, dry areas. Storage information may be indicated on the product container labeling.

### Optimal Storage : -20 °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 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 specifications for this product.

### Conversions

(°C x 1.8) + 32 = °F  
 kV/mm x 25.4 = V/mil  
 mm / 25.4 = inches  
 N x 0.225 = lb/F  
 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·in  
 mPa·s = cP

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