

# LOCTITE ABLESTIK NCA 2286

June 2022

## 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 adhesives
<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 - Refer to package label  
 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 Tg	55
Above Tg	165
Glass Transition Temperature (Tg) 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, UV-Vis, %	1.5

**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 : Refer to package label for proper storage condition.**

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 Henkel representative for assistance and recommendations on the specifications of this product.

**Conversions**

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$   
 $\text{kV/mm} \times 25.4 = \text{V/mil}$   
 $\text{mm} / 25.4 = \text{inches}$   
 $\text{N} \times 0.225 = \text{lb/F}$   
 $\text{N/mm} \times 5.71 = \text{lb/in}$   
 $\text{N/mm}^2 \times 145 = \text{psi}$   
 $\text{N/mm}^2 = \text{MPa}$   
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$   
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$   
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$   
 $\text{mPa}\cdot\text{s} = \text{cP}$

**Disclaimer**

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. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

**In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:**

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

**In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:**

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. 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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

**In case products are delivered by Henkel Corporation, or Henkel Canada Corporation, the following disclaimer is applicable:**

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

**Trademark usage**

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 2

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Loctite:](#)

[2345032](#)