

LOCTITE ABLESTIK NCA 2390

April 2019

PRODUCT DESCRIPTION

LOCTITE ABLESTIK NCA 2390 provides the following product characteristics:

Technology	Acrylated Epoxy
Appearance	Black liquid
Product Benefits	• One component • Dual cure system • High thixotropic index • Fast cure at low temperature • Non-conductive • High dispense aspect ratio
Cure	Ultraviolet (UV) light activation followed by heat cure
Application	Semiconductor material, Adhesive
Typical Assembly Applications	Camera module assembly

LOCTITE ABLESTIK NCA 2390 dual cure adhesive is designed for use in the assembly of temperature sensitive electronic components. This product is formulated to temporarily cure when exposed to UV light, followed with a secondary thermal cure at low temperature. Temporarily curing the material allows for any necessary adjustments to the final device configuration.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	62,000
Thixotropic Index (0.5/5 rpm)	5.2
Dispense Aspect Ratio, initial, dispense pressure 300 KPa, μ m	0.55
Specific Gravity, g/cm ³	1.2
Pot Life @ 25°C, days	3
Shelf Life @ -20°C, days	183
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Primary UV Cure

Light Source and Condition:

UV LED:

Wavelength, nm	365
Light Intensity, mW/cm ²	700 to 1,000
Exposure Time, seconds	3

Secondary Thermal Cure

30 minutes @ 80°C (not including ramp up time)

Alternate Secondary Thermal Cure

60 minutes @ 75°C (not including ramp up time)

Shrinkage on Cure

Cure Shrinkage, %	2.5
-------------------	-----

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 condition.

Physical Properties

Hardness, Shore D	87
Glass Transition Temperature (Tg) by TMA, °C	94
Coefficient of Thermal Expansion, ppm/°C:	
Below Tg	68
Above Tg	170
Modulus @ 25°C, DMA, GPa	3.2

TYPICAL PERFORMANCE OF CURED MATERIAL

Sample cured at the recommended cure condition.

Shear Strength

Pillar Shear Strength, 1,000 mW/cm² for 3 seconds, Fr5 substrate, Kgf:

@ thermal cure 30 minutes @ 80°C	12
@ thermal cure 60 minutes @ 75°C	12

GENERAL INFORMATION

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

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.

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. DO NOT re-freeze. Once thawed to 25°C, the adhesive should not be re-frozen.

DIRECTIONS FOR USE

1. Complete cleaning of the substrates should be performed to remove contamination such as oxide layers, dust, moisture, salt and oils which can cause poor adhesion or corrosion in a bonded part.
2. Apply adhesive to all surfaces to be bonded and join together.

STORAGE:

Store product in cool, dry location at the ideal humidity between 30% and 70%, in unopened containers at a temperature -20 unless otherwise labeled.

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

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

Disclaimer**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.

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, Resin Technology Group, Inc., 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 and/or registered trademarks of Henkel and its affiliates in the U.S. and elsewhere.

Reference 1