

LOCTITE ABLESTIK NCA 2280

July 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK NCA 2280 provides the following product characteristics:

Technology	Acrylated Epoxy
Appearance	Black
Product Benefits	<ul style="list-style-type: none"> • Non-conductive • One component • Dual cure system • High thixotropic index • High viscosity • Black in color to prevent light penetration • Fast cure at low temperature • Good adhesion to LCP
Cure	Ultraviolet (UV) light followed by heat cure
Application	Assembly
Key Substrates	Ceramics and LCP
Typical Assembly Applications	Image sensor module assemblies

LOCTITE ABLESTIK NCA 2280 dual cure adhesive is designed for use in the assembly of temperature sensitive electronic components. 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.

LOCTITE ABLESTIK NCA 2280 is black in color to prevent light penetration into the final assembled device. 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, Rheometer, Cone and Plate @ 25 °C, mPa·s (cP):	
Cone 20 mm, Angle 2° @ Shear rate 10 s ⁻¹	54,000
Thixotropic Index (1/10 s ⁻¹)	4.4
Specific Gravity, g/cm ³	1.3
Pot Life @ 25°C, days	3
Shelf Life @ -20°C (from date of manufacture), days	183
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended UV Cure

Light Source and Condition	
High pressure mercury lamp:	
UV Wavelength, nm	220 to 380
Light Intensity, mW/cm ²	100
Exposure Time	2

Depth of Cure

Sample tested using High pressure mercury lamp with light intensity of 100 mW/cm²

Exposure Time, mm:	
@ 2 seconds	0.4
@ 10 seconds	0.8
@ 20 seconds	0.9
@ 30 seconds	0.9

Recommended Heat Cure Schedule

30 minutes @ 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 D	90
Coefficient of Thermal Expansion, ppm/°C:	
Below Tg	45
Above Tg	156
Glass Transition Temperature (Tg) by TMA, °C	90
Modulus @ 25 °C	GPa 4.5
	(N/mm ²) (4,500)
	(psi) (653,000)

TYPICAL PERFORMANCE OF CURED MATERIAL

Shear Strength

Die Shear Strength:	
LCP, SiN Chip	N/mm ² 20
	(psi) (2,900)

GENERAL INFORMATION

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

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.

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 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 Technical Service Center or Customer Service Representative.

Conversions

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

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.

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