Technical Data Sheet

# LOCTITE ABLESTIK NCA 2200

September 2022

## PRODUCT DESCRIPTION

LOCTITE ABLESTIK NCA 2200 provides the following product characteristics:

| | |
|---|---|
| **Technology** | Acrylated Epoxy |
| Appearance | Light yellow liquid |
| Product Benefits | • One component<br>• Dual cure system<br>• Low viscosity<br>• Fast cure at low temperature<br>• Non-conductive<br>• Good adhesion to a variety of substrates |
| **Cure** | Ultraviolet (UV) light followed by heat cure |
| **Application** | Assembly |
| Key Substrates | Ceramics, LCP and Stainless steel |
| Typical Assembly Applications | Image sensor module assemblies |

LOCTITE ABLESTIK NCA 2200 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 necesssary 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 2º @ Shear rate 20 $s^{-1}$ | 22,000 |
| Thixotropic Index (2/20 $s^{-1}$ ) | 2 |
| Specific Gravity, g/cm³ | 1.3 |
| Pot Life @ 25ºC, days | 3 |
| Shelf Life @ -20°C (from date of manufacture), days | 365 |
| 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/cm² | 100 |
| Exposure Time | 2 |

**Recommended Heat Cure Schedule**

30 minutes @ 80°C

**Depth of Cure**

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

Exposure Time, mm:

| | |
|---|---|
| @ 2 seconds | 0.7 |
| @ 10 seconds | 1.5 |
| @ 20 seconds | 1.6 |
| @ 30 seconds | 1.6 |

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 | | 43 |
| Above Tg | | 150 |
| Glass Transition Temperature (Tg) by TMA, °C | | 97 |
| Modulus @ 25°C | GPa | 5 |
| | (N/mm² ) | (0.005) |
| | (psi) | (0.725) |

## TYPICAL PERFORMANCE OF CURED MATERIAL

**Shear Strength**

Die Shear Strength:

| | | |
|---|---|---|
| LCP, SiN Chip | N/mm² | 20 |
| | (psi) | (2,900) |
| SUS304, SiN Chip | N/mm² | 50 |
| | (psi) | (7,251) |

## GENERAL INFORMATION

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

## 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.

**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
N/mm² x 145 = psi
N/mm² = MPa
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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