

# LOCTITE 3128NH

July 2014

## PRODUCT DESCRIPTION

LOCTITE 3128NH provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Appearance</b>	Black viscous liquid
<b>Components</b>	One component - requires no mixing
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>One component, requires no mixing</li> <li>Low temperature cure</li> <li>Low halogen content</li> </ul>
<b>Cure</b>	Heat Cure
<b>Application</b>	Underfill
<b>Typical Assembly Applications</b>	Memory cards and CCD/CMOS

LOCTITE 3128NH edgebond material is designed to add reliability to chip scale packages and other electronic components. It is a low temperature cure adhesive ideal for use on heat sensitive components.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Casson Viscosity, 25 °C, mPa·s (cP):	
Cone and Plate Rheometer	17,000
Yield Point, 25 °C, mPa·s (cP):	
Cone and Plate Rheometer	43,000
Specific Gravity @ 25 °C	1.6
Density @ 25 °C	1.7
Shelf Life @ -15°C (from date of manufacture), months	12
Pot Life @ 25°C, weeks	3
Flash Point - See SDS	

## TYPICAL CURING PERFORMANCE

### Recommended Curing Conditions

- 20 minutes @ 80 °C bondline temperature
- 60 minutes @ 60 °C bondline temperature

Sufficient time must be added to allow the bond location to reach the desired cure temperature. Curing profiles should be developed for each device.

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

## TYPICAL PROPERTIES OF CURED MATERIAL

Sample cured 60minutes @ 80°C

### Physical Properties :

Volumetric Shrinkage, ASTM D 792, %	3.1
Linear Shrinkage, ASTM D 792, %	1.0
Shore Hardness, ISO 868, , Durometer D	88

Glass Transition Temperature TMA, ISO 11359-2, °C	45
Coefficient of Thermal Expansion TMA, ISO 11359-2:	
Below Tg, ppm	40
Above Tg, ppm	130
Extractable Ionic Content, BS EN 14582, ppm:	
Chloride (Cl-)	<750
Fluorine (F)	N/D
Bromine (Br)	N/D
Iodine (I)	N/D
Water Absorption, ISO 62, %:	
24 hour immersion @ 24°C	0.17

## 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.

### Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

### Optimal Storage : -25 to -15 °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

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

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Reference **N/A**

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