

## LOCTITE ABLESTIK A401B

August 2013

### PRODUCT DESCRIPTION

LOCTITE ABLESTIK A401B provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Appearance</b>	Gray
<b>Product Benefits</b>	<ul style="list-style-type: none"><li>• One component</li><li>• Thermally conductive</li><li>• High temperature properties</li><li>• High bond strength at room temperature</li><li>• Excellent hot strength</li><li>• Excellent long term heat and moisture resistance</li><li>• High dielectric strength</li></ul>
<b>Cure</b>	Heat cure
<b>Filler Type</b>	AluminumOxide
<b>Application</b>	Thermally conductive adhesive
<b>Typical Package Application</b>	Power devices and Heat producing components
<b>Surfaces</b>	Metals, Plastics and Glass
<b>Operating Temperature</b>	-40 to 155 °C

LOCTITE ABLESTIK A401B is a rigid thermally conductive adhesive recommended for the assembly of components that require thermal management. It contains aluminum oxide filler and is a Class F (155 °C) insulator with 100% solids.

### TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity @ 25 °C, mPa·s (cP)	69,000
Specific Gravity @ 25 °C	1.65
Shelf Life:	
@ 40°C, days	21
@ 25°C, days	60
@ 0°C, days	183

Flash Point - See MSDS

### TYPICAL CURING PERFORMANCE

#### Gel Time

Gel @ 160°C, seconds	100
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#### Cure Schedule

60 minutes @ 120°C or
30 minutes @ 140°C or
15 minutes @ 160°C or

This product may be cured at 100°C in masses up to about 200 grams with no adverse exotherm effects.

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

#### Physical Properties

Hardness Shore D:	
@ 25°C	92
@ 120°C	88
Glass Transition Temperature (Tg) by TMA, °C	135
Coefficient of Linear Expansion, TMA, ppm/°C:	
Alpha 1	47
Alpha 2	160
Water Absorption, after 1 hr @ 100°C, ASTM D 570, %	0.3

#### Electrical Properties

Volume Resistivity @ 25 °C, 500 Volts, ohms-cm	8.6×10 <sup>15</sup>
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### TYPICAL PERFORMANCE OF CURED MATERIAL

#### Tensile strength, MPa:

@ 25°C	≥18
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### GENERAL INFORMATION

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

### 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. Some filler settling is common during shipping and storage. For this reason, it is recommended that the contents of the shipping container be thoroughly mixed prior to use. Power mixing is preferred to ensure a homogeneous product.
3. Apply adhesive to all surfaces to be bonded and join together.
4. In most applications only contact pressure is required.

### 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 : 0 to 40 °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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