

# LOCTITE ABLESTIK 71-1N

October 2017

**PRODUCT DESCRIPTION**

LOCTITE ABLESTIK 71-1N provides the following product characteristics:

<b>Technology</b>	Polyimide
<b>Appearance</b>	Silver
<b>Cure</b>	Heat cure
<b>Product Benefits</b>	<ul style="list-style-type: none"><li>Electrically conductive</li><li>High purity</li></ul>
<b>Application</b>	<ul style="list-style-type: none"><li>Assembly</li><li>Electrically Conductive Adhesive</li></ul>
<b>Filler Type</b>	Silver

LOCTITE ABLESTIK 71-1N one component, electrically conductive semiconductor die attach adhesive features a unique polyimide resin that provides higher adhesion and bond strength than competitive polyimides.

LOCTITE ABLESTIK 71-1N adhesive is the degassed version of LOCTITE ABLESTIK 71-1 adhesive

Excellent back side contact makes this adhesive especially suited for the attachment of chips.

This adhesive can withstand high processing temperatures, and has been successfully used in the fabrication of high precision resonators.

**TYPICAL PROPERTIES OF UNCURED MATERIAL**

Viscosity @ 25 °C, cps	5,800
Thixotropic Index	3.9
Shelf Life @ -40°C (from date of manufacture), days	365

**TYPICAL CURING PERFORMANCE****Cure Schedule**

30 minutes ramp to 150°C + 30 minutes @ 275°C

The polyimide resin in LOCTITE ABLESTIK 71-1N solvent borne.

Follow recommended cure conditions to remove the solvent before cure.

The initial cure stage will drive off the solvent, while the subsequent 275 °C stage will imidize (cure) the resin.

An extended 150°C dry cycle may be employed if the recommended 30 minute cycle produces an unacceptable amount of voiding.

**TYPICAL PROPERTIES OF CURED MATERIAL****Physical Properties**

Extractable Ionic Content, :

Chloride (Cl-)ppm	5
Sodium (Na+)ppm	5
Potassium (K+)ppm	1

**Electrical Properties**

Volume Resistivity, , ohm-cm	0.0001
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**TYPICAL PERFORMANCE OF CURED MATERIAL****Shear Strength**

Lap Shear Strength  $6.9 \times 10^6$  N/m<sup>2</sup>  
@ 25 °C (1,000 psi)

**GENERAL INFORMATION**

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

**THAWING:**

1. Allow container to reach room temperature before use.
2. Warming time can be significantly reduced by blowing room temperature air across the syringe(s).
3. DO NOT open the package before contents reach ambient temperature.
4. Any moisture that collects on the thawed package should be removed prior to opening the package.

**Homogenization by Rolling (Jars Only)**

1. Adhesive that appears to have separated should not be used without remixing.
2. Separation of silver from resin is indicated by the presence of an amber band along the length or top of the container.
3. To maintain homogeneity in the adhesive, rolling is recommended for jars that will be stored at temperatures above 5°C.
4. Any product showing evidence of separation should also be rolled prior to use.
5. These jars should be rolled for a minimum of 8 hours at 5 rpm.

**Application:**

1. Upon warming to ambient temperature, adhesive should be quickly placed into use.
2. If the adhesive is transferred to a final dispensing reservoir, care must be exercised to avoid entrapment of contaminants or air into the adhesive.

3. Apply enough adhesive to form a 1 to 2 mil wet bondline thickness and a 25 to 50% fillet height on all sides of the die.
4. Alternate dispense quantities and bondline thicknesses may be required depending on the application requirements.
5. To maintain the rheology, care must be exercised to prevent the evaporation of solvent during storage, handling and application.
6. Placing an airtight enclosure over the stamping or screening equipment with an open container of NMP inside will significantly reduce the evaporation rate of the NMP from the adhesive during application.

#### AVAILABILITY

Ablestik die attach adhesives are packaged in syringes or jars per customer specification.

Typical syringe sizes range from 1 to 30cc.

Jars are available in sizes ranging from 1 ounce to 1 pound.

#### STORAGE:

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling. We recommend that syringes be stored frozen in a vertical position.

**Optimal Storage: -40 °C. Storage below minus (-)40 °C or greater than minus (-)40 °C can adversely affect product properties.**

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

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\text{N} \times 0.225 = \text{lb/F}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{psi} \times 145 = \text{N/mm}^2$

$\text{MPa} = \text{N/mm}^2$

$\text{N} \cdot \text{m} \times 8.851 = \text{lb} \cdot \text{in}$

$\text{N} \cdot \text{m} \times 0.738 = \text{lb} \cdot \text{ft}$

$\text{N} \cdot \text{mm} \times 0.142 = \text{oz} \cdot \text{in}$

$\text{mPa} \cdot \text{s} = \text{cP}$

#### 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.

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