



# LOCTITE ABLESTIK 2106

September 2012

## PRODUCT DESCRIPTION

LOCTITE ABLESTIK 2106 provides the following product characteristics:

<b>Technology</b>	Silver Glass
<b>Appearance</b>	gray
<b>Cure</b>	Heat cure
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>Electrically conductive</li> <li>Optimized rheology</li> <li>No pre-drying</li> <li>Low firing temperatures</li> <li>Reduced process cycle time</li> <li>Reduced thermal exposure</li> </ul>
<b>Application</b>	Die attach
<b>Filler Type</b>	Silver
<b>Key Substrates</b>	Thick film and thin film Au-plated substrates

LOCTITE ABLESTIK 2106 die attach adhesive is designed for bonding large dies in hermetically sealed packages. It is also usable in glass-sealed and eutectically-sealed packages.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Particle Size, $\mu\text{m}$	<30
Thixotropic Index (0.5/5 rpm)	5.0
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	16,000
Work Life, Unstirred syringe @ 25 °C, hour	1
Shelf Life @ -40°C (from date of manufacture), days	365
Flash Point - See MSDS	

## RECOMMENDED FIRING PROFILE

7 x 7 to 10 x 10 mm (250 x 250 to 400 x 400 mil) die

25°C - 150°C	150°C - 350°C	Hold @ 350°C	Cool Down
15°C/min	6°C/min	10-15 min	As Desired

10 x 10 to 15 x 15 mm (400 x 400 to 600 x 600 mil) die

25°C - 150°C	150°C - 350°C	Hold @ 350°C	Cool Down
10°C/min	6°C/min	10-15 min	As Desired

15 x 15 to 18 x 18 mm (600 x 600 to 700 x 700 mil) die

25°C - 150°C	150°C - 350°C	Hold @ 350°C	Cool Down
6°C/min	6°C/min	10-15 min	As Desired

18 x 18 to 20 x 20 mm (700 x 700 to 800 x 800 mil) die

25°C - 150°C	150°C - 350°C	Hold @ 350°C	Cool Down
6°C/min	6°C/min	10-15 min	As Desired

20 x 20 to 23 x 23 mm (800 x 800 to 900 x 900 mil) die

25°C - 150°C	150°C - 350°C	Hold @ 350°C	Cool Down
4°C/min	4°C/min	10-15 min	As Desired

23 x 23 to 25 x 25 mm (900 x 900 to 1,000 x 1,000 mil) die

25°C - 150°C	150°C - 350°C	Hold @ 350°C	Cool Down
3°C/min	3°C/min	10-15 min	As Desired

The above firing profile is a guideline recommendation. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer firing equipment, oven loading and actual oven temperatures.

## TYPICAL PROPERTIES OF CURED MATERIAL

### Physical Properties

Extractable Ionic Content, ppm:	
Chloride (Cl-)	20
Sodium (Na+)	10
Potassium (K+)	10
Water Extract Conductivity, $\mu\text{mhos/cm}$	5.5

### Electrical Properties

Volume Resistivity, ohms-cm	0.00001
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## TYPICAL PERFORMANCE OF CURED MATERIAL

### Tensile Strength :

Si to Alumina substrate, Stud pull tensile	N	890
on 10.2 x 10.2 mm area	Lb (f)	200

## GENERAL INFORMATION

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

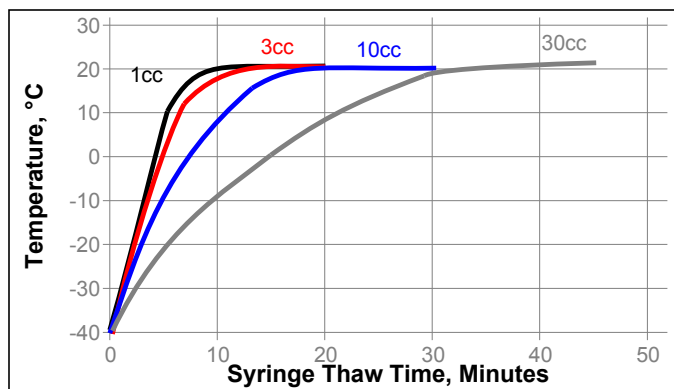
### THAWING:

1. Allow container to reach room temperature before use.
2. After removing from the freezer, set the syringes to stand vertically while thawing.
3. Refer to the Syringe Thaw time chart for the thaw time recommendation.
4. DO NOT open the container before contents reach 25°C temperature. Any moisture that collects on the thawed container should be removed prior to opening the container.
5. DO NOT re-freeze. Once thawed to -40°C, the adhesive should not be re-frozen.

### Conversions

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





## DIRECTIONS FOR USE

1. Thawed adhesive should immediately be placed on dispense equipment for use.
2. If the adhesive is transferred to a final dispensing reservoir, care must be exercised to avoid entrapment of contaminants and/or air into the adhesive.
3. Adhesive must be completely used within the product's recommended work life.
4. If stored at room temperature, the adhesive should be gently stirred, then jar rolled for 16 hours at 1 to 5 rpm prior to use.

## 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: -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.

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### Note:

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