

# LOCTITE® ABLESTIK ABP 8290A

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## PRODUCT DESCRIPTION

LOCTITE® ABLESTIK ABP 8290A provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Appearance</b>	Silver
<b>Filler Type</b>	Silver
<b>Cure</b>	Heat cure
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>Low stress</li> <li>Improved JEDEC performance</li> <li>Low bleed</li> </ul>
<b>Application</b>	Semiconductor Pastes, Conductive die attach paste

LOCTITE® ABLESTIK ABP 8290A silver-filled, electrically conductive die attach adhesive is designed for high reliability package applications. It is recommended for die sizes <200 mils for the best MRT performance.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	5.7
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	9,000
Work Life @ 25°C, hours	24
Shelf Life @ -40°C (from date of manufacture), days	365

## TYPICAL CURING PERFORMANCE

### Cure Schedule

30 minute ramp to 175°C + 15 minutes @ 175°C

### Alternate Cure Schedule

30 minute ramp to 100°C; 30 minutes @ 100°C plus 15 minute ramp from 100°C to 175°C; 15 minutes @ 175°C

### Weight Loss on Cure

Weight Loss on Cure, %	3
Sample cured 30 minutes ramp to 175°C, hold 60 minutes	

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

## TYPICAL PROPERTIES OF CURED MATERIAL

### Physical Properties

Sample cured 30 minutes ramp to 175°C, hold 1 hour	
Coefficient of Thermal Expansion, ppm/°C:	
Below Tg	44
Above Tg	197
Glass Transition Temperature, °C	26
Thermal Conductivity, Laser Flash, W/(m·K)	2.6
Extractable Ionic Content, @ 100°C:	
Chloride (Cl-)	<30
Sodium (Na+)	<20
Potassium (K+)	<10
Dynamic Tensile Modulus, DMA, N/mm² :	
@ 25°C	4,985
@ 150°C	523
@ 250°C	132

### Electrical Properties

Sample cured 30 minutes ramp to 175°C, hold 15 minutes	
Volume Resistivity, ohms-cm	0.008

### Adhesion Properties

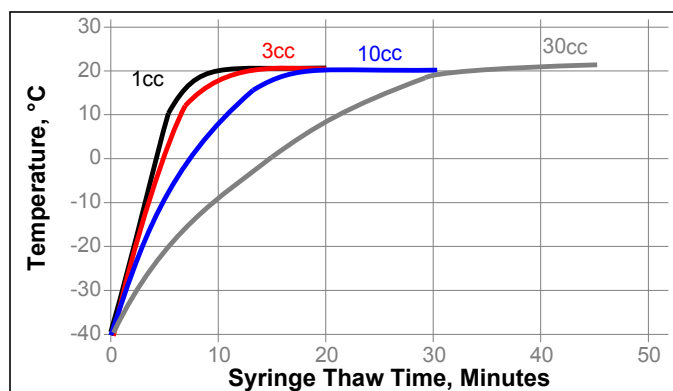
Sample cured 30 minutes ramp to 175°C, hold 15 minutes	
Die Shear Strength :	
2 x 2 mm Si-Ag/Cu RTDSS on Cu LF, kg/die	16

## 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. 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 25°C, the adhesive should not be re-frozen.



### Directions for Use

1. Thawed material 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. Silver-resin separation may occur if the adhesive is left out at room temperature, beyond the recommended work life.
5. Apply enough adhesive to achieve a 25 to 50  $\mu\text{m}$  wet bondline thickness, dispensed with approximately 25 to 50 % filleting on all sides of the die.
6. Alternate dispense amounts may be used depending on the application requirements.
7. Star or crossed shaped dispense patterns will yield fewer bondline voids than the matrix style of dispense pattern.

### 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

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

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

### Not for product specifications

The technical data contained herein are intended as

reference only. Please contact your local Henkel representative for assistance and recommendations on the specifications of this product.

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### Reference 1