

LOCTITE ABLESTIK ABL 2100A

March 2023

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ABL 2100A provides the following product characteristics:

Technology	Proprietary Hybrid Chemistry
Appearance	Silver
Cure	Heat cure
Product Benefits	<ul style="list-style-type: none"> • High hot/wet adhesion • Ultra-low moisture absorption • Pb-free applications • Excellent dispensing characteristics • Fast cure capability • Low bleed • Low stress
Application	Die attach
Typical Package Application(s)	PBGA and BGA
Filler Type	Silver

LOCTITE ABLESTIK ABL 2100A die attach adhesive is designed for Pb-free array packaging. This product is able to withstand the high reflow temperatures necessary for Pb-free solders @ 260°C. It is suitable for die sizes up to 12.7 x 12.7 mm.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	4.5
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	9,000
Shelf Life @ -40°C (from date of manufacture), days	365
Work Life @ 25°C, hours	24
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

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

The above cure profiles are guideline recommendations. 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

Coefficient of Thermal Expansion, :	
Below T _g , ppm/°C	105
Above T _g , ppm/°C	220
Glass Transition Temperature (T _g) by TMA, °C	35
Extractable Ionic Content, @ 100°C:	
Chloride (Cl ⁻)	<10
Sodium (Na ⁺)	<10
Potassium (K ⁺)	<10

Tensile Modulus, DMTA :

@ -65 °C	N/mm ² 4,200 (psi) (609,160)
@ 25 °C	N/mm ² 1,450 (psi) (210,305)
@ 150 °C	N/mm ² 100 (psi) (14,500)
@ 200 °C	N/mm ² 135 (psi) (19,580)
@ 250 °C	N/mm ² 165 (psi) (23,930)

Electrical Properties

Volume Resistivity, ohms-cm	0.05
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TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength :

2 X 2 mm (80 x 80 mil) Si die:

Post Cure @ 25°C:

On Ag/Cu, kg-f	10
On PBGA, kg-f	10

After Post Mold Cure (PMC) (4hours @ 175°C), @ 250°C:

On PBGA, kg-f	3.5
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After 121°C/100% RH Exposure for 16 hours, @ 250°C:

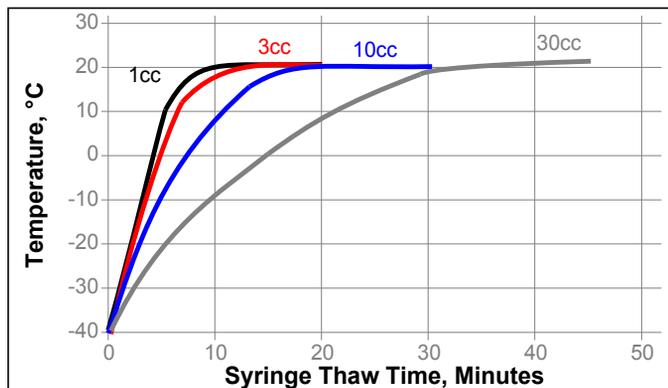
On PBGA, kg-f	2.5
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GENERAL INFORMATION

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 -40°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 μm 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.

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.

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 Henkel Representative.

Conversions

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

Disclaimer

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Reference 2