

LOCTITE ABLESTIK ABP 3600C

May 2017

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ABP 3600C provides the following product characteristics:

Technology	BMI Hybrid
Appearance	Silver
Cure	Heat cure, Snap Cure
Product Benefits	<ul style="list-style-type: none"> • High reliability • High electrical conductivity • Low bleed • High glass transition temperature
Application	Die attach
Key Substrates	PPF, Copper and Silver
Filler Type	Silver

LOCTITE ABLESTIK ABP 3600C die attach adhesive is designed for high reliability package applications with medium thermal and electrical requirements. This adhesive exhibits strong adhesion to a wide variety of leadframe finishes.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	4.8
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	11,000
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

Recommended Snap Cure Schedule

7-Zone Oven	
Temp per zone: 140°C, 150°C, 160°C, 200°C, 220°C, 220°C, 220°C	
Total Time, minutes	2

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

Coefficient of Thermal Expansion ppm/°C:	
Below Tg, ppm/°C	63
Above Tg, ppm/°C	131
Glass Transition Temperature (Tg) by DMTA, °C	213
Thermal Conductivity, W/(m·K)	1.2
Tensile Modulus, DMTA :	
@ 25 °C	N/mm ² 4,600 (psi) (667,173)
@ 150 °C	N/mm ² 1,200 (psi) (174,045)
@ 250 °C	N/mm ² 760 (psi) (110,228)

Extractable Ionic Content, @ 100°C ppm:

Chloride (Cl-)	<10
Sodium (Na+)	<10
Potassium (K+)	<10
Weight Loss @ 300°C, %	1
Moisture Absorption @ Saturation, wt.% @ 85°C/85%RH	0.2

Electrical Properties

Volume Resistivity, ohms-cm	0.0001
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TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

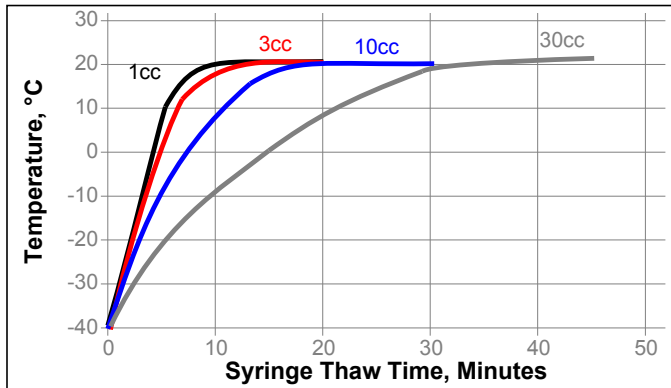
Die Shear Strength @ 25 °C	
3 x 3 mm Si die on SPCLF, kg-f	19
Chip Warpage @ 25°C vs Chip Size	
7.6 x 7.6 mm, 0.38 mm thick Si die on 0.2 mm thick Ag/Cu LF, µm	16
Chip Warpage, µm	
Post Die Attach Cure	7
Post Mold Bake, 4 hours @ 175°C	11

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 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.

Conversions

(°C x 1.8) + 32 = °F
 kV/mm x 25.4 = V/mil
 mm / 25.4 = inches
 N x 0.225 = lb
 N/mm x 5.71 = lb/in
 psi x 145 = N/mm²
 MPa = N/mm²
 N·m x 8.851 = lb·in
 N·m x 0.738 = lb·ft
 N·mm x 0.142 = oz·in
 mPa·s = cP

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Reference 1