

LOCTITE ABLESTIK 8007

August 2012

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 8007 provides the following product characteristics:

Technology	Proprietary Hybrid Chemistry
Appearance	Silver
Cure	Heat cure
Product Benefits	<ul style="list-style-type: none"> Electrically conductive Thermally conductive
Application	Die attach
Filler Type	Silver

LOCTITE ABLESTIK 8007 die attach adhesive is suitable for bonding metal leadframes. This material can be applied to a wafer backside by stencil printing and then B-staged in an oven.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):

Speed 5 rpm	23,000
Work Life @ 25°C, hours	>24
Shelf Life @ -40°C, days	365
Flash Point - See SDS	

TYPICAL PROCESS DATA

Recommended B-Stage Condition

30 minutes @ 100°C

TYPICAL CURING PERFORMANCE

Cure Schedule

20 minutes @ 160°C

Calendering Conditions

Temperature, °C	95
Pressure, psi	30
Speed, cm/min	45

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 T _g , ppm/°C	49
Above T _g , ppm/°C	200
Glass Transition Temperature (T _g) by TMA, °C	66
Thermal Conductivity, W/(m·K)	2.75

Tensile Modulus, DMTA :

@ -65 °C	N/mm ² 6,834 (psi) (991,000)
@ 25 °C	N/mm ² 5,792 (psi) (839,800)
@ 150 °C	N/mm ² 186 (psi) (27,000)
@ 200 °C	N/mm ² 147 (psi) (21,300)
@ 250 °C	N/mm ² 272 (psi) (39,400)

Electrical Properties

Volume Resistivity, ohms-cm	0.0006
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TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength :

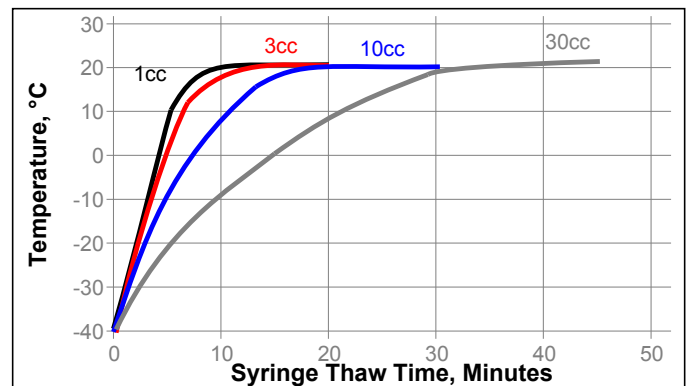
2 x 2 mm Si die on Ag Leadframe, kg-f @ 25°C	12
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GENERAL INFORMATION

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 22°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 22°C, the adhesive should not be re-frozen.



DIRECTIONS FOR USE

Adhesive is normally applied by screen printing using stainless steel mesh. Typical screen mesh is 200 wires per inch with a <6 micron emulsion coating. Squeegee pressure of 4 kilos and print speed of 50 mm/sec with a print gap of 3 mm are suitable to print 150 mm diameter wafers. Lower pressure and slower speed may be used for very thin wafers.

After B-stage the print will need calendaring to smooth the surface. This can be done by passing the wafer between heated rollers using a sheet of mylar release film. The print thickness after calendaring should be approximately 20 microns.

NOTE: Adhesive must be completely used within the product's recommended work life of 24 hours.

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

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

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

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

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

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

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

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

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

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

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

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

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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