

LOCTITE ABLESTIK 8008

April 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 8008 provides the following product characteristics:

| | |
|-------------------------|--|
| Technology | Proprietary Hybrid Chemistry |
| Appearance | Silver |
| Cure | Heat cure |
| Product Benefits | <ul style="list-style-type: none"> Electrically conductive Snap curable after B-stage High adhesion to metal leadframe surface Excellent printing and low surface roughness No voiding after cure |
| Application | Die attach |
| Filler Type | Silver |
| Substrates | Ag, Cu and PPF |
| pH | 4.7 |

LOCTITE ABLESTIK 8008 snap curable adhesive is designed for small die sizes (<3mm). It exhibits moderate electrical and thermal conductivity. This material can be applied to a wafer backside by stencil printing and then B-staged in an oven. The adhesive can then be cured after die attach in an in-line process exhibiting a consistent, void-free bondline without bleed. LOCTITE ABLESTIK 8008 should be used with a pressure sensitive dicing tape and is not compatible with UV dicing tapes.

TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|--|--------|
| Thixotropic Index (0.5/5 rpm) | 2.6 |
| Viscosity, Brookfield CP51, 25 °C, mPa·s (cP): | |
| Speed 5 rpm | 48,000 |
| Work Life @ 25°C, hours | 24 |
| Shelf Life @ -40°C, days | 365 |
| Flash Point - See SDS | |

TYPICAL PROCESS DATA

Recommended B-Stage Condition

10 minute ramp to 120°C + 60 minutes @ 120°C

TYPICAL CURING PERFORMANCE

Cure Schedule

30 minute ramp to 175°C + 60 minutes @ 175°C

Recommended Snap Cure Condition

60 seconds @ 230°C

Alternate Snap Cure Condition

20 seconds @ 280°C

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 | 42 |
| Above Tg, ppm/°C | 67 |
| Glass Transition Temperature (Tg) by TMA, °C | 270 |
| Thermal Conductivity, W/(m·K) | 2.2 |

Tensile Modulus, DMTA :

| | | |
|----------|-------------------|-------------|
| @ -65 °C | N/mm ² | 8,442 |
| | (psi) | (1,224,120) |
| @ 25 °C | N/mm ² | 5,451 |
| | (psi) | (790,455) |
| @ 150 °C | N/mm ² | 3,161 |
| | (psi) | (458,320) |
| @ 200 °C | N/mm ² | 2,521 |
| | (psi) | (365,500) |
| @ 250 °C | N/mm ² | 1,800 |
| | (psi) | (261,070) |

Extractable Ionic Content, @ 100°C:

| | |
|--------------------------------------|----|
| Chloride (Cl ⁻) | <5 |
| Sodium (Na ⁺) | <5 |
| Potassium (K ⁺) | ND |
| Water Extract Conductivity, µmhos/cm | 45 |

Electrical Properties

| | |
|-----------------------------|--------|
| Volume Resistivity, ohms·cm | 0.0001 |
|-----------------------------|--------|

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength :

2 x 2 mm Si die on Ag/Cu LF, kg-f:

| | |
|---------|-----|
| @ 25°C | 6.0 |
| @ 260°C | 2.6 |

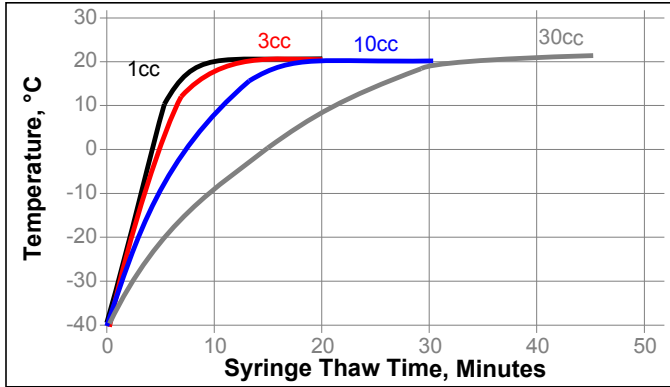
GENERAL INFORMATION

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.

- 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.
- DO NOT re-freeze. Once thawed to 22°C, the adhesive should not be re-frozen.



DIRECTIONS FOR USE

Apply enough adhesive to the stencil to ensure complete filling of the stencil with a 15 to 20 mm diameter bead. Typically, this requires 20 to 50 cc of adhesive depending on the stencil size. For two-direction printing, double beading is recommended.

NOTE:

Please refer to the Wafer Backside Coating Applications and Data Package for this product to review process windows and recommendations for each step.

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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