

LOCTITE ABLESTIK A 312

March 2017

PRODUCT DESCRIPTION

LOCTITE ABLESTIK A 312 provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Cure	Heat cure
Product Benefits	<ul style="list-style-type: none"> • Consistent dispense over working life of product • Fast cure capability • Unfilled • Solvent-free formulation
Service Temperature	130°C
Application	Encapsulant

LOCTITE ABLESTIK A 312 epoxy underfill is designed for use as a capillary flow for CSP and BGA packages in integrated circuit applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity @ 25 °C, Spindle 3, Speed 20 rpm, 3,000 mPa·s (cP)

Density, ASTM D792, g/cm³ 1.14

Shelf Life, days:

@ 0 to 8 °C 180

@ 18 to 25 °C 60

Flash Point - See SDS

TYPICAL CURING PERFORMANCE

Cure Schedule

40 minutes @ 100°C

15 minutes @ 120°C

10 minutes @ 130°C

8 minutes @ 145°C

7 minutes @ 160°C

Cure at any one of the recommended cure schedules.

Cure schedules are "the time at cure temperature to achieve full product cure". The times does not include the time required to ramp-up to cure temperature.

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 PERFORMANCE OF CURED MATERIAL

Tensile Lap Shear Strength , ASTM D1002:

Al to Al:

Cured 1 hour @ 100°C

N/mm² 12
(psi) (1,740)

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. 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.
4. DO NOT re-freeze. Once thawed to 25°C, the adhesive should not be re-frozen.

DIRECTIONS FOR USE

1. Complete cleaning of the components and substrates should be performed to remove contamination such as dust, moisture, salt and oils which can cause electrical failure, poor adhesion or corrosion in an embedded part.
2. Some separation of components is common during shipping and storage. For this reason, it is recommended that the contents of the shipping container be thoroughly mixed prior to use.
3. To ensure a void-free embedment, vacuum deairing or degassing should be performed to remove any entrapped air introduced during the mixing operation.
4. Pump-down or pull vacuum on the mixture to achieve an ultimate vacuum or absolute pressure of 1 to 5 torr or mm Hg. The foam will rise several times in the liquid height and then subside.
5. Continue vacuum deairing until most of the bubbling has ceased. This usually takes 3 to 10 minutes.
6. Pour mixture into cavity or mold.
7. Gentle warming of the mold or assembly reduces the viscosity. This improves the flow of the material into the unit having intricate shapes or tightly packed coils or components.
8. Further vacuum deairing in the mold may be required for critical applications.

STORAGE:

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 0 °C to 8°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 Technical Service Center or Customer Service Representative.

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

Reference 1

Disclaimer**Note:**

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