

LOCTITE ABLESTIK ABP 2024

March 2013

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ABP 2024 provides the following product characteristics:

Technology	BMI Hybrid
Filler Type	Silica
Product Benefits	• Low outgassing • One component • Non-conductive • High reliability
Cure	Heat cure
Application	Die attach
Typical Package Application	Image sensor device

LOCTITE ABLESTIK ABP 2024 non-conductive paste is designed for image sensor die attach applications. It is formulated to have low outgassing at 260°C and eliminate contamination in cavity package applications requiring reflow.

TYPICAL PROPERTIES OF UNCURED MATERIAL

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

Speed 5 rpm 13,000

Thixotropic Index (0.5/5.0 rpm) 4.0

Density, g/cc 1.3

Work Life @ 25°C, hours 24

Shelf Life @ -40°C (from date of manufacture), days 365

Flash Point - See MSDS

TYPICAL CURING PERFORMANCE

Cure Schedule

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

Alternative Cure Schedule

30 minutes @ 150°C

Weight Loss

Weight Loss @ 150°C, % 1.8

The above cure profile is a guideline recommendation. 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

Glass Transition Temperature, °C:

Tan Δ Max 47

by TMA -28

Coefficient of Thermal Expansion, TMA:

Temperature Range: 0 to 50°C, ppm/°C 127

Temperature Range: 150 to 200°C, ppm/°C 156

Extractable Ionic Content, @ 100°C for 24 hrs, ppm:

Chloride (Cl-) <10

Sodium (Na+) <10

Potassium (K+) <10

Weight Loss @ 150°C, % 1.8

DMA Modulus :

@ 25°C N/mm² 510
(psi) (73,970)

@ 100°C N/mm² 160
(psi) (23,210)

@ 150°C N/mm² 120
(psi) (17,405)

@ 200°C N/mm² 110
(psi) (15,955)

@ 250°C N/mm² 120
(psi) (17,405)

Electrical Properties

Volume Resistivity, ohm-cm 4.7×10¹⁶

Outgassing Properties

Outgassing, Sample cured 30 minutes @ 150°C, %:

@ 150 °C 0

@ 200 °C 0

@ 260°C 0.4

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength :

2.0 X 2.0 mm (80 x 80 mil) Si die on Ag plated Cu LF, kg-f:

@ 25°C 20

@ 250°C 3

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. DO NOT open the container before contents reach 25°C temperature. Any moisture that collects on the warmed up container should be removed prior to opening the container.
4. DO NOT re-freeze. Once thawed, the adhesive should not be re-frozen.

DIRECTIONS FOR USE

1. Thawed adhesive 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 products recommended work life.
4. 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.
5. Alternate dispense amounts may be used depending on the application requirements.
6. 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

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

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

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