

LOCTITE ABLESTIK ABP 2042AA

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PRODUCT DESCRIPTION

LOCTITE ABLESTIK ABP 2042AA provides the following product characteristics:

Technology	Epoxy
Appearance	Black paste
Product Benefits	• Non-conductive • One component • Fast cure • Low temperature cure • Low stress • High elongation • Thermally conductive • Low warpage
Cure	Heat cure
Application	Electronic Material, Semiconductor Die Attach Paste
Typical Applications	Camera module assembly
Key Substrates	PCB and Steel

LOCTITE ABLESTIK ABP 2042AA is a non-conductive adhesive designed for CCM attach applications. When cured, this material has high elongation properties enabling outstanding drop test performance, along with high thermal conductivity for desirable heat dissipation. LOCTITE ABLESTIK ABP 2042AA is fast curable, making it ideal for high throughput bonding processes.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	14,000
Thixotropic Index (0.5/5 rpm)	4.3
Work Life @ 25°C, days	3
Shelf Life @ -40°C (from date of manufacture), days	365

TYPICAL CURING PERFORMANCE

Recommended Snap Cure Schedule

3 minutes @ 95°C

Alternate Cure Schedule

Oven cure: 30 minutes @ 80°C

Weight Loss on Cure

Weight Loss on Cure, % 0.3

The above cure profile are guideline recommendations. These conditions (time and temperature) may vary based on customers' experience and specific 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	55
Above Tg	169
Glass Transition Temperature (Tg) by TMA, °C	31
Thermal Conductivity, W/(m·K)	0.5
DMA Modulus :	
@ 25°C	N/mm ² 3,700
	(psi) (537,000)
Elongation @ break, %	50
Volume Shrinkage, %	2.5
Extractable Ionic Content, ppm:	
Sodium (Na ⁺)	2
Potassium (K ⁺)	0.3
Chloride (Cl ⁻)	150

Adhesive Properties

Miscellaneous

Warpage	
5 x 5 x 0.15 mm thick Si die on 0.3 mm PCB	2
9 x 10 x 0.15 mm thick Si die on 0.1 mm Ni	3

Sample cured 30 minutes @ 80°C

Die Shear Strength, kg-f	
Si die on PCB	15

GENERAL INFORMATION

Please consult the Safety Data Sheet (SDS) for safe handling information of this product.

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. 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. Alternate dispense amounts may be used depending on the application requirements.
5. Star or crossed shaped dispense patterns will yield fewer bondline voids than the matrix style of dispense pattern.

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 above -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 Henkel Representative.

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.

Conversions

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

Disclaimer

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