

LOCTITE ABLESTIK ABP 2041

May 2019

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ABP 2041 provides the following product characteristics:

Technology	Epoxy
Appearance	Black paste
Cure	Heat cure
Filler Type	Alumina
Product Benefits	<ul style="list-style-type: none"> • Non-conductive • Single component • Fast cure • Low temperature cure • Low stress • High elongation strength • Good thermal conductivity • Low warpage
Application	Component assembly
Typical Package Application	CCM and Flexible printed circuits (FPC) attach
Typical Applications	Camera module assembly
Key Substrates	PCB, Au or Steel

LOCTITE ABLESTIK ABP 2041 is a non-conductive adhesive designed for CCM and FPC 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 2041 is fast curable, making it ideal for high throughput bonding processes.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	5.5
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	15,000
Pot Life @ 25°C, days	3
Shelf Life @ -40°C (from date of manufacture), days	365

TYPICAL CURING PERFORMANCE

Recommended Snap Cure Schedule

- 3 minutes @ 90°C or
- 2 minutes @ 100°C or
- 1 minute @ 120°C

Alternate Cure Schedule (box oven)

- 30 minutes @ 80°C or
- 60 minutes @ 60°C

Weight Loss on Cure

Weight Loss on Cure, %	0.4
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Shrinkage on Cure

Volume Shrinkage on Cure, %	2.5
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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

Hardness, Shore D	55
Glass Transition Temperature (T _g) by TMA, °C	30
Coefficient of Thermal Expansion, TMA, ppm/°C:	
Below T _g	45
Above T _g	150
Thermal Conductivity, W/(m·K)	0.8
Elongation @ break, %	105
Extractable Ionic Content, :	
Chloride (Cl ⁻), ppm	150
Sodium (Na ⁺), ppm	2
Potassium (K ⁺), ppm	0.3
Dynamic Tensile Modulus, DMA:	
@ 25°C, MPa	3,000
Volumetric Shrinkage, %	2.5

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength @ 25 °C, kg-f	
2 x 2 mm Si die:	
on PPF	10
on PCB	8.5
Chip Warpage, µm	
5 x 5 mm, 0.15 mm thick Si die on 0.3 mm thick PCB	2

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.

- DO NOT re-freeze. Once thawed to -40°C , the adhesive should not be re-frozen.

DIRECTIONS FOR USE

- Thawed material should immediately be placed on dispense equipment for use.
- 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.
- Adhesive must be completely used within the product's recommended work life.

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

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

Disclaimer

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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