

LOCTITE® ABLESTIK ABP 2025DNP

September 2024

PRODUCT DESCRIPTION

LOCTITE® ABLESTIK ABP 2025DNP provides the following product characteristics:

Technology	Proprietary hybrid chemistry
Appearance	Red
Filler type	Silica
Product benefits	• Minimum bleed • Good adhesion to a variety of substrates • High hot/wet die shear strength • 260°C reflow capability for Pb-free applications • Non-conductive
Cure	Heat cure
Application	Die attach
Typical package application	PBGA, Flex BGA and Stacking BGA

LOCTITE® ABLESTIK ABP 2025DNP, die attach adhesive is designed for use in array packaging. LOCTITE® ABLESTIK ABP 2025DNP is the PFAS removed version of LOCTITE® ABLESTIK 2025D.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25°C, mPa.s (cP)	
Speed 5 rpm	13,500
Thixotropic index, (0.5/5 rpm)	4.4
Density, g/cm ³	1.4
Work life @ 25°C, by gel time, hours	
30cc, syringe	16
10cc, syringe	24
Shelf life @ -40°C, (from date of manufacture), days	365
Flash point - see SDS	

TYPICAL CURING PERFORMANCE

Recommended cure schedule

30 minutes ramp to 175°C + 15 minutes @ 175°C in N₂

Weight loss on cure

10 x 10 mm Si die on glass slide, %	2.2
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The above cure profile(s) are guideline recommendations. These cure 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

Sample cured 15 minutes @ 175°C

Coefficient of thermal expansion, TMA expansion, ppm/°C:	
Below Tg	48
Above Tg	147
Glass transition temperature, (Tg) by TMA, °C	
Post mold	36
Post cure	-35
Storage modulus, DMTA, Mpa	
@ 25°C	491
@ 150°C	22
@ 250°C	80
Extractable ionic content, ppm	
Sodium (Na+)	<10
Potassium (K+)	<10
Chloride (Cl-)	<10
Thermal conductivity, @ 121°C, W/(m-k)	0.3
Moisture absorption by DVS @ saturation, after 85°C /85% RH exposure, wt %	0.4

Electrical properties

Sample cured 15 minutes @ 175°C

Volume resistivity	1.4 x 10 ¹⁶
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Adhesion properties

Sample cured 15 minutes @ 175°C

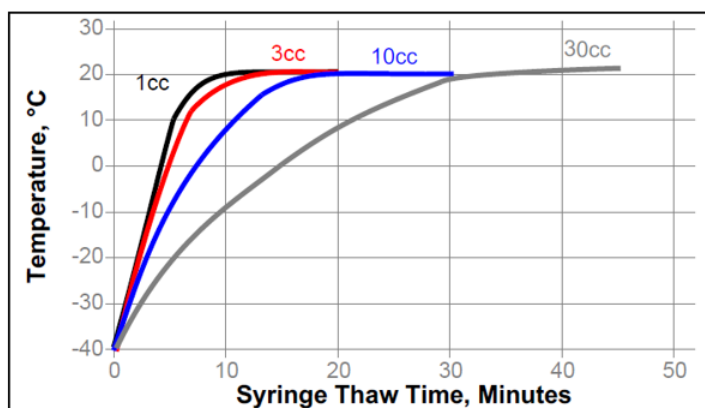
Die shear strength	
2 x 2 mm die, @25°C, kg/f	
Si die on PBGA	8

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. Thaw times depend on the syringe size.
4. Consult handling guide for more information.
5. 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.
6. DO NOT re-freeze. Once thawed to 25°C, the adhesive should not be re-frozen.

**Direction 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 -40°C or greater than -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 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 the specifications of this product.

Conversions

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

Disclaimer

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Reference 1