

LOCTITE® ABLESTIK ABP 2100ANP

April 2025

PRODUCT DESCRIPTION

LOCTITE® ABLESTIK ABP 2100ANP provides the following product characteristics:

Technology	Proprietary hybrid chemistry
Appearance	Silver
Filler type	Silver
Product benefits	<ul style="list-style-type: none"> Conductive High hot/wet adhesion Low stress Ultra-low moisture absorption Pb-free applications Low bleed Excellent dispensability Fast cure capability Formulated without intentionally added PFAS
Cure	Heat cure
Application	Die attach
Typical package application	PBGA
Key substrates	BGA

LOCTITE® ABLESTIK ABP 2100ANP the electrically conductive die attach adhesive is formulated and designed for use in high throughput and Pb-free BGA packaging. The product is able to withstand the high reflow temperature necessary for Pb-free solders @ 260°C and pass automotive grade. It is suitable for die size which is up to 12.7 mm x 12.7 mm. Does not contain any intentionally added PFAS.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25°C, mPa.s (cP)	
Speed 5 rpm	11,750
Thixotropic index, (0.5/5 rpm)	5
Density, g/cm ³	3.1
Work life @ 25°C, (condition), hours	24
Shelf life @ -40°C, (condition), days	365
Flash point - see SDS	

TYPICAL CURING PERFORMANCE

Recommended cure schedule

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

Alternate cure schedule

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

Weight loss on cure

10 x 10 mm Si Die on glass slide, % 1.27

The above cure profiles 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

Sample cured 15 minutes @ 175°C

Coefficient of thermal expansion, TMA expansion, ppm/°C:

Below Tg	68
Above Tg	152
Glass transition temperature, TMA penetration, °C	54
Storage modulus, DMTA, MPa	
@25°C	1,932
@150°C	273
@250°C	352

Extractable ionic content, ppm

Sodium (Na+)	<10
Potassium (K+)	<10
Chloride (Cl-)	<10
Thermal conductivity, W/(m·K)	1.2
Weight loss @ 300°C, TGA, %	1.83
Weight loss on cure, TGA, %	1.53
Moisture absorption, by DVS @ saturation, wt. %	
@ 85°C/85% RH	0.24

Electrical properties

Sample cured 15 minutes @ 175°C

Bond joint resistance, ohms/0.5 sq. in 0.001

Adhesion properties

Sample cured 15 minutes @ 175°C

Die shear strength

2x2mm Si die, @25°C, kg/f	
On Ag/Cu	10
On BGA	10

Die shear strength

5x5mm Si die, @250°C, kg/f	
On BGA	15

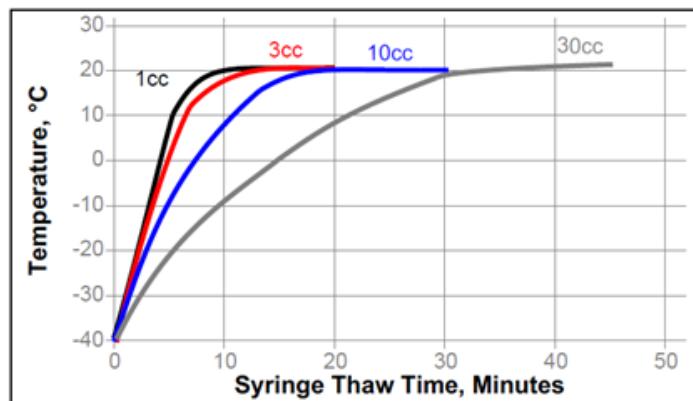


GENERAL INFORMATION

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. 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

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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