

LOCTITE® ABLESTIK ABP 8065TNP

April 2024

PRODUCT DESCRIPTION

LOCTITE® ABLESTIK ABP 8065TNP provides the following product characteristics:

Technology	BMI Acrylate
Appearance	Silver paste
Filler type	Silver
Product benefits	<ul style="list-style-type: none"> Does not contain any intentionally added PFAS Medium to high thermal conductivity High electrical conductivity High die shear strength Stamping and dispensable silver paste
Cure	Heat cure; Snap cure
Application	Conductive die attach paste
Typical package application	Small Die

LOCTITE® ABLESTIK ABP 8065TNP highly filled, conductive die-attach adhesive is designed for bonding small die in high reliability package applications. It is formulated to provide high heat transfer generated by power devices. This material can also be used as a soft solder alternate for applications requiring high thermal and electrical conductivity.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25°C, mPa.s (cP)	
Speed 5 rpm	15,600
Density	4.0
Thixotropic index, (0.5/5 rpm)	6.6
Work life @ 25°C, hours	24
Shelf life @ -40°C, months	12

TYPICAL CURING PERFORMANCE

Recommended cure schedule

30 minutes ramp from 25°C to 175°C, hold 60 minutes @ 175°C in N2 oven

Alternate cure schedule

(for < 1mmx1mm die)
45 minutes ramp from 25°C to 200°C, hold 60 minutes @ 200°C in N2 oven

Recommended snap cure schedule

3 minutes @ 200 to 220°C

Weight loss on cure

10 x 10 mm Si Die on glass slide, %	2
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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 30 minutes ramp from 25°C to 175°C, hold 60 minutes @ 175°C in N2 oven

Coefficient of thermal expansion, TMA, ppm/°C:	
Below Tg	58
Above Tg	133
Glass transition temperature, DMA, °C	152
Storage modulus, DMA, MPa	
@25°C	6,260
Extractable ionic content, @100°C	
Chloride (Cl-)	<10
Sodium (Na+)	<10
Potassium (K+)	<10
Thermal conductivity, (W/m-K)	10

Electrical properties

Sample cured 30 minutes ramp from 25°C to 175°C, hold 60 minutes @ 175°C in N2 oven

Volume resistivity, ohms-cm	3×10 ⁻⁵
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Adhesion properties

Sample cured 30 minutes ramp from 25°C to 175°C, hold 60 minutes @ 175°C in N2 oven

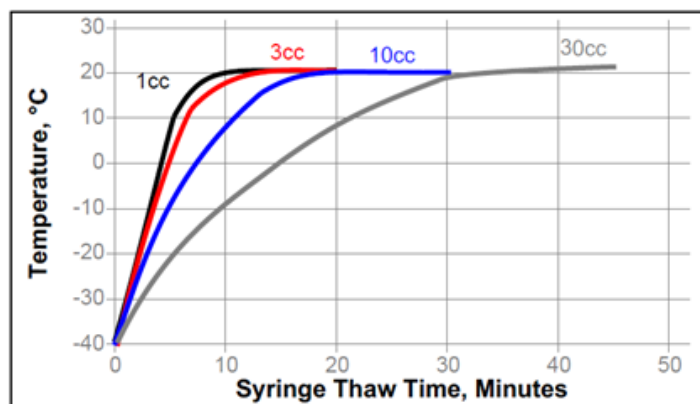
Die Shear Strength	
Die shear strength, @ 25°C, Kgf	
1×1 mm Au die to Au Pad	3.7
1×1 mm Si die to AgCu LF	4.6

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 -45°C or above -35°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

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

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Reference 1

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