



LOCTITE® ABLESTIK ABP 8068TS

December 2024

PRODUCT DESCRIPTION

LOCTITE® ABLESTIK ABP 8068TS provides the following product characteristics:

Technology	Silver Pressure-less Sintering
Chemical type	Epoxy
Appearance	Silver-gray paste
Filler type	Silver
Product benefits	• One component • Good workability • Excellent sintering performance • Excellent RBO control • High thermal conductivity • High electrical conductivity • High reliability • High lead solder replacement
Cure	Heat cure
Application	Die attach
Typical package application	SiP, QFN, LGA
Key substrates	Au, PPF, Ag

LOCTITE® ABLESTIK ABP 8068TS is a die attach paste based on silver pressure-less sintering technology for semiconductor packages to meet high thermal/electrical requirements. The epoxy resin component enables the paste with unique properties including excellent RBO control on multiple metal finishes, high adhesion and low stress. These are essential to reliability performance for high end power packages.

LOCTITE® ABLESTIK ABP 8068TS is the improved version of LOCTITE® ABLESTIK ABP 8068TB with enhanced sintering and thermal conductivity performance. It shows better thermal performance comparing to solder paste material.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25°C, mPa.s (cP)	
Speed 5 rpm	13,500
Thixotropic index, (0.5/5 rpm)	6.9
Work life @ 25°C, hours	24
Shelf life @ -40°C, days	365

TYPICAL CURING PERFORMANCE

Cure schedule

- Die size < 3 x 3 mm
 - 20 minutes ramp from 25°C to 130°C, hold for 30 to 90 minutes;
 - 15 minutes ramp to 200°C, hold for 120 minutes in N2 oven

Alternate cure schedule

- Die size >3 x 3 mm
 - 20 minutes ramp from 25°C to 130°C, hold for 120 minutes; 15 minutes ramp to 200°C, hold for 120 minutes in N2 oven

Weight loss on cure

TGA, %	5.3
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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 Bond Line thickness (BLT) guideline

Die Size ≤ 3 x 3 mm, μm	15 to 35
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The above bondline thickness (BLT) is a guideline recommendation. Optimal BLT may vary on customer experience and application requirements, as well as customer's package design, die dimension and cure profile.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical properties

Coefficient of thermal expansion, TMA, ppm/°C:	
Below Tg	28
Above Tg	42
Glass transition temperature, TMA penetration, °C	10
Dynamic tensile modulus (DMA), GPa	
@ -65°C	32.0
@ 25°C	24.7
@ 150°C	13.5
@ 250°C	9.8
Moisture absorption, @ Saturation, wt. %, @ 85°C/85% RH	0.06

Thermal properties

Thermal conductivity, W/(m-K)	150
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Electrical properties

Volume resistivity, ohms-cm	4E-06
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Adhesion properties

High Temperature Die Shear Strength (HTDSS), Kg-f

1 x 1 mm die, 260°C

Au BSM on Ag LF	3.5
AU BSM on PPF	3.0

1 x 1 mm die, 260°C

Ag BSM on Ag LF	4.0
Ag BSM on PPF	3.2

2 x 2 mm die, 260°C

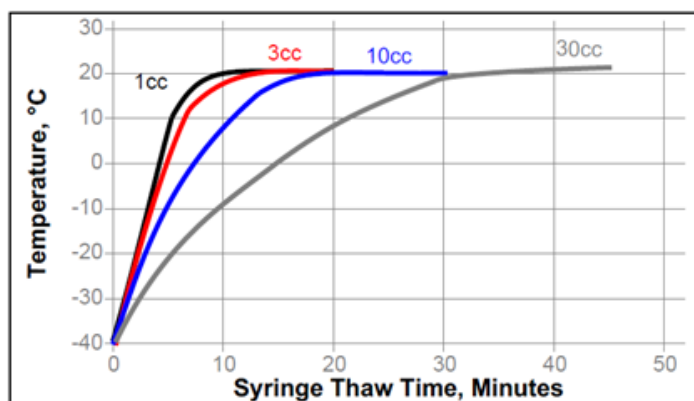
Ag BSM on Ag LF	11.0
Ag BSM on PPF	10.2

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. 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.



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.

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

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

Disclaimer

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