Technical Data Sheet

LOCTITE ABLESTIK ABP 8068TI

September 2021

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ABP 8068TI provides the following product characteristics:

Technology	Pressure-less sintering
Appearance	Silver liquid
Filler Type	Silver
Cure	Heat cure
Product Benefits	• One component • Dispensable • Excellent workability • Low sintering temperature • High thermal and electrical properties • Good toughness • High reliability • Solder replacement • Void-free bondline • Excellent sintering properties when used on Ag, Au and PPF leadframe
Application	Electronic Adhesives & Solder, Semiconductor Pastes, Conductive die attach paste
Typical Package Application(s)	QFN, LGA, HBLED

LOCTITE ABLESTIK ABP 8068TI is a silver-filled, pressure-less sintering die attach adhesive designed for semiconductor packages with high thermal and electrical requirements. This material's epoxy assisted sintering formulation is designed to provide high adhesion, high thermal and low stress properties which are essential for thermal and reliability performances of high end power packages. It has shown a better thermal performance compared to a solder paste material.

LOCTITE ABLESTIK ABP 8068TI is the enhanced sintering performance version of LOCTITE ABLESTIK ABP 8068TA adhesive with similar workability.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	6.5
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	13,000
Work Life @ 25°C, hours	24
Shelf Life @ -40ºC , days	365
Open time, hours	2

TYPICAL CURING PERFORMANCE

Cure Schedule

For the die size <5 x 5 mm

- 20 minutes ramp from 25°C to 130°C, hold for 30 to 60 minutes; 15 minutes ramp to 200°C, hold for 60 minutes in air or N2 oven

For the die size >5 x 5 mm

- 20 minutes ramp from 25°C to 130°C, hold for 120 minutes; 15 minutes ramp to 200°C, hold for 60 minutes in air or N2 oven

Alternate Cure Schedule

Suitable for Ag, Au and PPF substrates

- 20 minutes ramp from 25°C to 130°C, hold for 30 to 60 minutes; 10 minutes ramp to 175°C, hold for 60 minutes in N2 or air oven

Weight Loss on Cure

Weight Loss on Cure, %	-4.0

The above cure profiles are guideline recommendations. 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

Dynamic Tensile Modulus, DMA:	
@ -65°C, GPa	27.9
@ 25ºC, GPa	24.0
@ 150ºC, GPa	13.8
@ 250ºC, GPa	9.4
Coefficient of Thermal Expansion, TMA, ppm/°C	26
Bulk Thermal Conductivity, W/mK	165

Electrical Properties

Volume Resistivity, ohm-cm	9.00×10^{-06}

Adhesion Properties

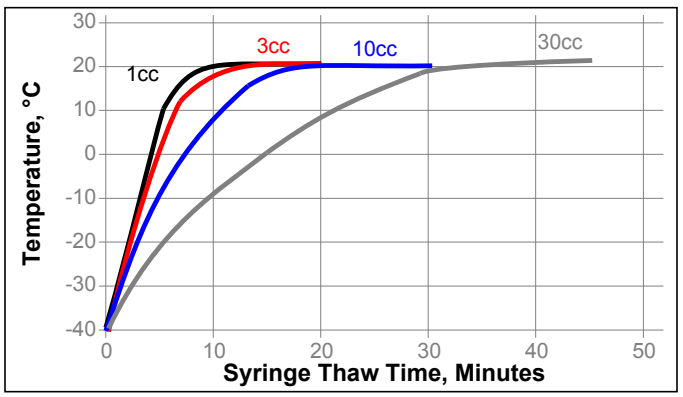
Die Shear Strength @ 260ºC:	
7 x 7 mm Ag BSM die on Ag, kg-f	60
2 x 2 mm Ag BSM die on Ag, kg-f	12.3

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. Refer to the Syringe Thaw time chart for the thaw time recommendation.
4. 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.
5. DO NOT re-freeze. Once thawed to 25°C, the adhesive should not be re-frozen.



DIRECTIONS 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. Bondline thickness guideline

Die Size <=3 x 3 mm² , BLT control, µm	10 to 25
Die Size >3 x 3 mm² , BLT control, µm	20 to 50

The above BLTs are guideline recommendations. Optimal BLT may vary based on customers' experience and their application requirements as well as customer's package design, die dimension and cure profile.

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 above -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 Henkel Representative.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local Henkel representative for assistance and recommendations on the specifications of this product.

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb/F
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
N/mm² = MPa
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer

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