Technical Data Sheet

LOCTITE ABLESTIK ABP 8068TD

August 2020

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ABP 8068TD provides the following product characteristics:

Technology	Semi-sintering
Appearance	Silver Grey
Filler Type	Silver
Product Benefits	• One component • Good workability • Good adhesion to PPF, Ag, Cu and Au • Good adhesion to BSM Si die and Non-BSM Si die • High thermal conductivity • High electrical conductivity • High reliability
Cure	Heat cure
Application	Electronic Material, Semiconductor Die Attach Paste
Typical Package Application(s)	SIP, QFN, LGA, HBLED
Key Substrates	Ag, Cu, PPF and Au

LOCTITE ABLESTIK ABP 8068TD is a semi-sintering die attach adhesive designed for semiconductor packages requiring high thermal and electrical conductivity. It is engineered to bond to a variety of die with or without BSM (Back side Metallization).

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 such as SiP.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	11,000
Thixotropic Index (0.5/5 rpm)	6.8
Work Life @ 25°C, hours	24
Shelf Life @ -40ºC , days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Open Time

Open Time , 2 mm x 2 mm die, hours 2

Cure Schedule

Cure Schedule for Ag, Au and PPF leadframe:

20 minutes ramp to 130°C, hold for 30 minutes, 15 minutes ramp to 200°C, hold for 1 hour in Air or N2

Cure Schedule for Cu leadframe:

20 minutes ramp to 130°C, hold for 30 minutes, 15 minutes ramp to 200°C, hold for 1 hour in N2

Alternate Cure Schedule

Cure Schedule for Ag, Au and PPF leadframe:

20 minutes ramp to 130°C, hold for 30 minutes, 20 minutes ramp to 220°C, hold for 1 hour in Air or N2

Cure Schedule for Cu leadframe:

20 minutes ramp to 130°C, hold for 30 minutes, 20 minutes ramp to 220°C, hold for 1 hour in N2

Weight Loss on Cure

Weight Loss on Cure, TGA, % 4.2

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Coefficient of Thermal Expansion, ppm/°C		93.6
Glass Transition Temperature, (Tg) by DMA, °C		101
Bulk Thermal Conductivity, W/(m-K)		50
Dynamic Tensile Modulus, DMA:		
@ -65°C	N/mm²	13,300
	(psi)	($1.93\times10^{+6}$)
@ 25°C	N/mm²	7,400
	(psi)	($1.07\times10^{+6}$)
@ 150°C	N/mm²	1,200
	(psi)	(174,000)
@ 250°C	N/mm²	900
	(psi)	(131,000)

Extractable Ionic Content, :	
Sodium (Na+), ppm	2
Potassium (K+), ppm	2
Chloride (Cl-), ppm	0

Electrical Properties

Volume Resistivity, ohm-cm	1.00×10^{-5}

TYPICAL PERFORMANCE OF CURED MATERIAL

Shear Strength

Die Shear Strength @ 260 °C, non-BSM die:

2 x 2 mm die, Kg:

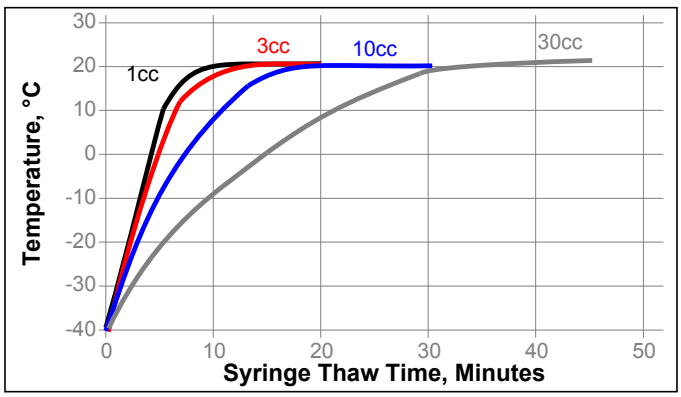
on Ag	4.0
on Cu	3.0
on PPF	3.5

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. 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.
4. 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, µm	<1mm x 1mm, BLT control	10 to 20
Die Size, µm	1mm x 1mm to 3 mm x 3mm, BLT control	20 to 25
Die Size, µm	≥3mm x 3mm, BLT control	25 to 50

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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.

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 specifications for this product.

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 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 Technical Service Center or Customer Service Representative.

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
psi x 145 = N/mm²
MPa = N/mm²
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

Note:
The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

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