Technical Data Sheet

LOCTITE® ABLESTIK ABP 8068TH

October 2024

PRODUCT DESCRIPTION

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

Technology	Silver Pressure-less Sintering
Chemical type	Epoxy
Appearance	Silver
Filler type	Silver
Product benefits	• One component • Excellent dispensing stability • Compatible with bended needle • Excellent RBO control • Long open time • High thermal conductivity • Low stress • Robust reliability
Cure	Heat cure
Application	Conductive die attach paste, Electronic adhesives & solder, Semiconductor paste
Typical package application	LGA, QFN, SOP, LED
Key substrates	ENEPIG/ENIG substrate, Cu, Ag, PPF leadframe

LOCTITE® ABLESTIK ABP 8068TH is a die attach paste based on silver pressure-less sintering technology for semiconductor package to meet high thermal/electrical requirements. It has enhanced sintering performance and thermal conductivity, improved resin bleed performance comparing with ABP 8068TB. It is formulated with high thermal conductivity to meet thermal dissipation requirement, and the unique sintering system enables excellent workability as well as good stress control to achieve robust reliability performance.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25ºC, mPa.s (cP)	
Speed 5 rpm	13,500
Thixotropic index, (0.5/5 rpm)	5.3
Work life @ 25ºC, hours	24
Shelf life @ -40°C, days	365

TYPICAL CURING PERFORMANCE

Recommended cure schedule

For the die size <= 3 x 3 mm
5°C/mins ramp from 25°C to 150°C, hold for 30-60 minutes
5°C/mins ramp to 200°C, hold for 90-120 minutes, N2 oven

For the die size > 3 x 3 mm
5°C/mins ramp from 25°C to 150°C, hold for 30-90 minutes
5°C/mins ramp to 200°C, hold for 90-120 minutes, N2 oven

Weight loss on cure

Weight loss on cure, %	9.4

The above cure profile(s) are guideline recommendations. These 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

Coefficient of thermal expansion, TMA expansion (ppm/°C):	
Below Tg	26
Above Tg	47
Glass transition temperature, TMA penetration, °C	8.7
Storage modulus, DMTA, GPa	
@ -65ºC	16.5
@ 25ºC	13.3
@ 150ºC	4.9
@ 250ºC	3.9
Tan DELTA, DMTA, °C	121.3
Extractable ionic content, ppm	
Sodium (Na+)	<10
Potassium (K+)	<10
Chloride (Cl-)	<20
Bulk thermal conductivity, W/(m-k)	150
Volume resistivity, ohm-cm	9.9×10^{-6}
Moisture absorption @ saturation, wt. %,	
@ 85°C/85% RH	0.075

Adhesion properties

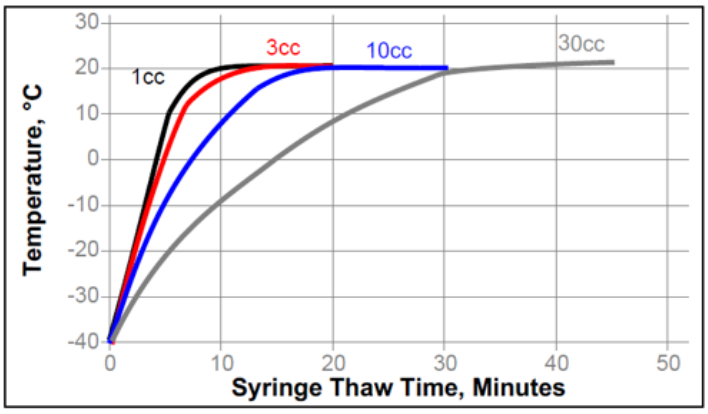
Die shear strength, kg/f	
1 x 1 mm Au BSM die on Cu LF	
@ RT	3.5
@ 260°C	2.4
1 x 1 mm Au BSM die on Ag LF	
@ RT	4.8
@ 260°C	2.3
1 x 1 mm Au BSM die on PPF LF	
@ RT	4.9
@ 260°C	2.5
3 x 3 mm Ag BSM die on Ag LF	
@ 260°C	25.0
5 x 5 mm Ag BSM die on Ag LF	
@ 260°C	48.0

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 -40°C or greater than -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 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

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

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Reference 1