LOCTITE

Technical Data Sheet

ABLESTIK 8352 L

April 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 8352L provides the following product characteristics:

Technology	Proprietary Hybrid Chemistry
Appearance	Silver
Cure	Heat cure
Product Benefits	• Conductive • Low stress • Minimal voiding • Good bleed performance • Snap curable • Good dispensability with minimal tailing and stringing
Application	Die attach
Key Substrates	Silver Plated Copper, Bare Copper and Alloy 42
Filler Type	Silver

LOCTITE ABLESTIK 8352L electrically conductive die attach adhesive is designed for high reliability package applications . This material is suitable for bonding medium to large dies in thin packages.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	4.5
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	8,000
Work Life @ 25°C, hours	48
Shelf Life @ -40°C (from date of manufacture), days	365

TYPICAL CURING PERFORMANCE

Cure Schedule

30 minute ramp to 175°C + 30 minutes @ 175°C

Alternate Cure Schedule

1 hour @ 200°C

Recommended Snap Cure Schedule

7-Zone Oven

Temp per zone: 140ºC, 140ºC, 170ºC, 220ºC, 220ºC, 220ºC, 220ºC

Total Time , minutes	2
N2 Flow, liters/minute	20
N2 Preheat temp, ºC	150

Higher thermal conductivity is achieved when adhesive is oven cured.

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

Thermal Conductivity, W/(m-K)		5.5
Coefficient of Thermal Expansion , TMA:		
Below Tg, ppm/°C		38
Above Tg, ppm/°C		115
Glass Transition Temperature, Tan Δ Max, °C		131
Extractable Ionic Content, @ 100°C ppm:		
Chloride (Cl-)		<10
Sodium (Na+)		<10
Potassium (K+)		<10
Tensile Modulus, DMTA :		
@ 25 °C	N/mm²	7,700
	(psi)	(1,116,791)
@ 100 °C	N/mm²	3,250
	(psi)	(471,372)
@ 150 °C	N/mm²	560
	(psi)	(81,221)
@ 200 °C	N/mm²	460
	(psi)	66,717
@ 250 °C	N/mm²	490
	(psi)	(71,068)

Electrical Properties

Volume Resistivity, ohms-cm	0.00005

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength @ 25 °C	
2 x 2 mm Si die on Ag/Cu LF, kg-f	8.0
Die Shear Strength @ 250°C	
5 x 5 mm Si die on Ag/Cu LF, kg-f	4.1

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 -40°C, the adhesive should not be re-frozen.

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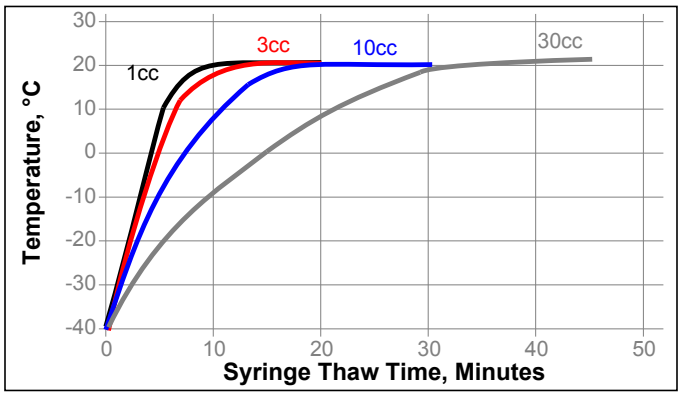

DIRECTIONS FOR USE

1. Thawed adhesive 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. Silver-resin separation may occur if the adhesive is left out at room temperature, beyond the recommended work life.
5. Apply enough adhesive to achieve a 25 to 50 µm wet bondline thickness, dispensed with approximately 25 to 50 % filleting on all sides of the die.
6. Alternate dispense amounts may be used depending on the application requirements.
7. Star or crossed shaped dispense patterns will yield fewer bondline voids than the matrix style of dispense pattern.

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. Storage below minus (-)40 °C or greater than minus (-)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 Technical Service Center or Customer Service Representative.

Disclaimer

Note:

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Reference 1

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