Technical Data Sheet

LOCTITE ABLESTIK 8008HT

May 2019

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 8008HT provides the following product characteristics:

Technology	Proprietary Hybrid Chemistry
Appearance	Silver
Cure	Heat cure
Product Benefits	• Electrically conductive • Thermally conductive • Snap curable after B-stage • Low modulus • Stencil printing • Void-free bondline without bleed
Application	Die attach
Filler Type	Silver
pH	4.1

LOCTITE ABLESTIK 8008HT adhesive is designed for high power devices in high UPH environment. It offers a lead-free alternative to soft solder and eutectic and can potentially reduce the layers of backside metallization required. This material can be applied to a wafer backside by stencil printing and then B-staged in an oven. The adhesive can then be cured after die attach in an in-line process exhibiting a consistent, void-free bondline without bleed. LOCTITE ABLESTIK 8008HT should be used with a pressure sensitive dicing tape and is not compatible with UV dicing tapes.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	4.0
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	50,000
Work Life @ 25°C, hours	24
Shelf Life @ -40°C, days	365
Flash Point - See SDS	

TYPICAL PROCESS DATA

Recommended B-Stage Condition

30 minute ramp from 25°C to 120°C, hold 60 minutes @ 120°C

Alternate B-Stage Condition

10 minute ramp from 25°C to 120°C, hold 60 minutes @ 120°C

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

Snap Cure

20 seconds @ 170°C

Air box oven Cure

30 minutes ramp to 175°C + 60 minutes @ 175°C

Die Attach Condition

Temperature, °C	≥165

Force is dependent on die size and D/A temperature

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:		
Below Tg, ppm/°C		37
Above Tg, ppm/°C		62
Glass Transition Temperature (Tg) by TMA, °C		264
Thermal Conductivity, W/(m-K)		11
Tensile Modulus, DMTA :		
@ -65 °C	N/mm² (psi)	9,703 (1,406,870)
@ 25 °C	N/mm² (psi)	6,662 (965,950)
@ 150 °C	N/mm² (psi)	3,821 (554,040)
@ 200 °C	N/mm² (psi)	3,161 (458,320)
@ 250 °C	N/mm² (psi)	2,451 (355,340)
Extractable Ionic Content, @ 100°C:		
Chloride (Cl-)		<10
Sodium (Na+)		<10
Potassium (K+)		<10
Water Extract Conductivity, µmhos/cm		15
Moisture Absorption @ Saturation, wt.% @ 85°C/85°RH		0.53

Electrical Properties

Volume Resistivity, ohms-cm	0.00006

TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength :

2 x 2 mm Si die on Cu leadframe, kg-f

@25°C	@260°C
6.0	2.6

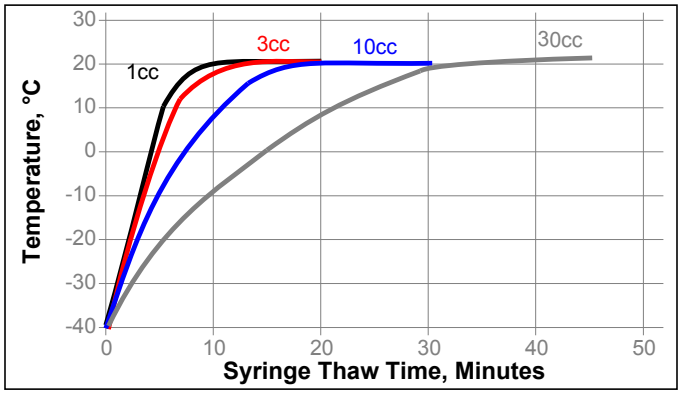
GENERAL INFORMATION

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 22°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 22°C, the adhesive should not be re-frozen.



DIRECTIONS FOR USE

1. Apply enough adhesive to the stencil to ensure complete filling of the stencil with a 15 to 20 mm diameter bead. Typically, this requires 20 to 50 cc of adhesive depending on the stencil size. For two-direction printing, double beading is recommended.

   NOTE:
   Please refer to the Wafer Backside Coating Applications and Data Package for this product to review process windows and recommendations for each step..

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.

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:
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