Technical Data Sheet

LOCTITE ABLESTIK 8350M

August 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 8350M provides the following product characteristics:

Technology	Epoxy
Appearance	Silver
Cure	Heat cure and Snap Cure
pH	5.7
Product Benefits	• One component • Electrically conductive • Snap curable • Stress absorbing • Minimal chip warpage • Ideal for high reliability applications • Low levels of ionic contaminants • Excellent autoclave results • Minimal outgassing contamination
Application	Die attach
Filler Type	Silver

LOCTITE ABLESTIK 8350M die attach adhesive has been formulated for use in high throughput die attach applications. This adhesive is also suitable for bonding materials with mismatched coefficients of thermal expansion.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	≥3.0
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	12,000
Work Life @ 25°C, hours	24
Shelf Life @ -40°C (from date of manufacture), days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

30 seconds @ 225°C

Snap Cure Schedule

Single-Zone Oven:	
Temp per zone: 225ºC	
Time per zone, seconds	30
Total Time, seconds	30
Three-Zone Oven:	
Temp per zone: 160ºC, 190ºC, 225ºC	
Time per zone, seconds	30 to 60
Total Time, minutes	1.5 to 3
Eight-Zone Oven:	
Temp per zone: 160ºC, 160ºC, 190ºC, 190ºC, 190ºC, 225ºC, 225ºC, 225ºC	
Time per zone, seconds	30 to 60
Total Time, minutes	4 to 8

Alternate Cure Schedule

10 minutes @ 150°C

Weight Loss on Cure

10 x 10 mm Si die on glass slide, %	5.5

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 , TMA:	
Below Tg, ppm/°C	30
Above Tg, ppm/°C	14
Glass Transition Temperature (Tg) by TMA, °C	85
Thermal Conductivity @ 121ºC, , W/(m-K)	1.8
Extractable Ionic Content, Sample cured 1 hr @ 150ºC, ppm:	
Chloride (Cl-)	≤10
Sodium (Na+)	≤5
Potassium (K+)	≤5
Water Extract Conductivity, µmhos/cm	15

Electrical Properties

Volume Resistivity , ohm-cm:	
Sample cured 1 minute @ 225ºC	0.0005

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength:		
2 X 2 mm (80 x 80 mil) Si die on Ag plated Cu LF:		
@ 25ºC	N/mm²	15
	(psi)	(2,250)
@ 250ºC	N/mm²	2.0
	(psi)	(225)

Radius of Curvature:	
6 X 6 mm (250 x 250 mil) Si die on Ag plated Cu LF, mm	1,900

GENERAL INFORMATION

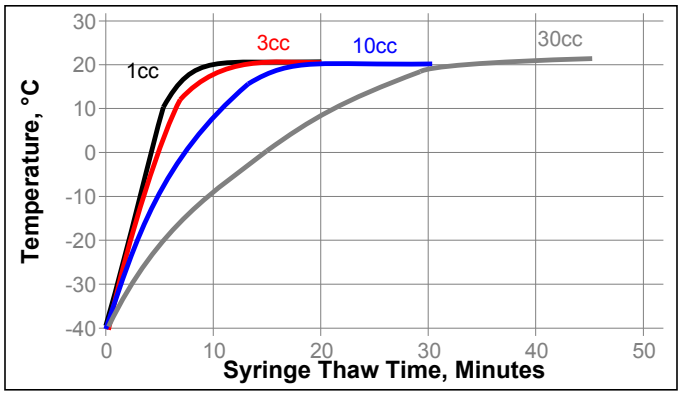
For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).

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.



DIRECTIONS FOR USE

1. Frozen storage is recommended.
2. Allow unopened container to reach room temperature before use.
3. 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.
4. Adhesive must be completely used within the product's 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.

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
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa = N/mm²
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

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.
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Reference 0.2