

LOCTITE ABLESTIK 8350R

December 2016

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 8350R provides the following product characteristics:

Technology	Epoxy
Appearance	Silver
Cure	Heat cure and Snap Cure
Product Benefits	<ul style="list-style-type: none"> • Snap curable • Good adhesion to Ni/Pd LF • Improved JEDEC performance
Application	Die attach
Filler Type	Silver

LOCTITE ABLESTIK 8350R die attach adhesive is designed to provide improved anti-delamination and package reliability.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	4.5
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	9,000
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

1 hour @ 175°C

Snap Cure Schedule

Four-Zone Oven:	
Temp per zone: 165°C, 190°C, 230°C, 140°C	
Time per zone (tact time), seconds	20

Weight Loss on Cure

10 x 10 mm Si die on glass slide, %	4
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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 expansion mode:

Below Tg, ppm/°C	37
Above Tg, ppm/°C	107

Glass Transition Temperature, DMA penetration 144 mode, °C

Tensile Modulus, DMTA :

@ 25 °C	N/mm ²	1,670
	(psi)	(242,000)
@ 250 °C	N/mm ²	220
	(psi)	(32,000)

Extractable Ionic Content, Sample cured 1 hr @ 150°C, ppm:

Chloride (Cl-)	<5
Sodium (Na+)	<5
Potassium (K+)	<1

Water Extract Conductivity, µmhos/cm

	34.6
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Moisture Absorption, %:

@ Saturation, after 85°C/85% RH exposure	0.89
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Electrical Properties:

Volume Resistivity, ohms-cm	6.1
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TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength:

Post Cure	
2 X 2 mm (80 x 80 mil) Si die on Ag/Cu LF:	
@ 25°C, kg-f/die	5.7

Chip Warpage vs Chip Size:

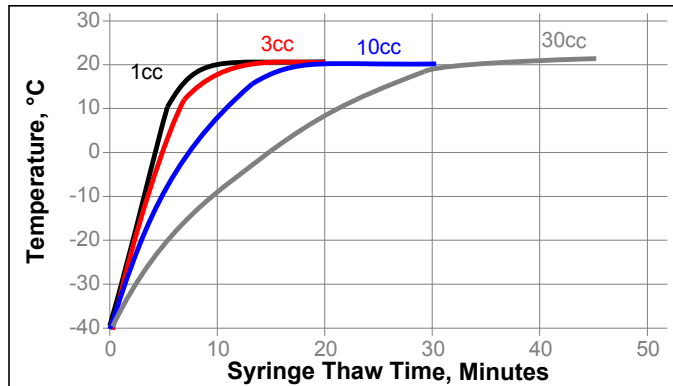
Post Cure	
5 x 10 mm (200 x 400 mil), 0.3 mm (12 mil) thick Si die on 0.125 mm thick Cu LF, µm	36

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.

**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. Place assembly in a preheated oven and cure at the recommended cure schedule.
6. Being a reactive fast cure adhesive, this product cures quickly at temperatures above 150°C and will be fully cured shortly after the bondline temperature of the adhesive reaches 175°C.
7. 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.
8. 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

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{psi} \times 145 = \text{N/mm}^2$
 $\text{MPa} = \text{N/mm}^2$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

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 1