Technical Data Sheet

LOCTITE ABLESTIK 8290

December 2015

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 8290 provides the following product characteristics:

Technology	Epoxy
Appearance	Silver
Cure	Heat cure
Product Benefits	• Low stress • Improved JEDEC performance • Low bleed
Application	Die attach
Filler Type	Silver

LOCTITE ABLESTIK 8290 electrically conductive die attach adhesive is designed for high reliability leadframe packaging applications. It is recommended for die sizes <200 mils for the best MRT performance .

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	5.9
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

Note: Actual work life may be determined by customer application method and equipment and may be extended or shortened based on user's experience.

TYPICAL CURING PERFORMANCE

Cure Schedule

30 minute ramp to 175°C + 15 minutes @ 175°C

Alternate Cure Schedule

30 minute ramp to 100°C; 30 minutes @ 100°C + 15 minute ramp from 100°C to 175°C; 15 minutes @ 175°C

Weight Loss on Cure

10 x 10 mm Si die on glass slide, %	2.5

The above cure profile is a guideline recommendation. 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/ºC:	
Below Tg	81
Above Tg	181
Glass Transition Temperature (Tg) by TMA, °C	38
Thermal Conductivity, W/(m-K)	1.6
Tensile Modulus, DMTA :	
@ 25 °C	N/mm² 3,034 (psi) (440,000)
@ 150 °C	N/mm² 138 (psi) (20,000)
@ 250 °C	N/mm² 117 (psi) (17,000)
Extractable Ionic Content, @ 100°C ppm:	
Chloride (Cl-)	<30
Sodium (Na+)	<20
Potassium (K+)	<10
Moisture Absorption @ Saturation, wt.% @ 85°C/85°RH	0.71

Electrical Properties

Volume Resistivity, ohms-cm	0.008

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

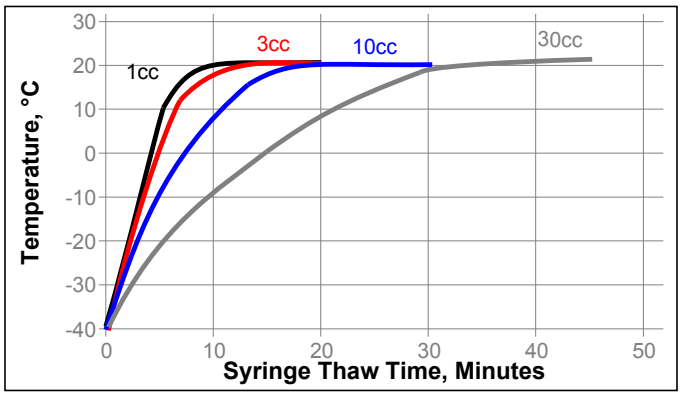
Die Shear Strength @ 25°C:	
2 x 2 mm Si die on Ag/Cu LF, kg-f	15
Chip Warpage @ 25 °C vs Chip Size:	
12.7 x 12.7 x 0.38 mm Si die on 0.2 mm thick leadframe, µm:	
Post Cure	18
Plus Post Mold Bake (4 hours @ 175°C)	32

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 25°C, the adhesive should not be re-frozen.



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 products recommended work life.
4. Silver-resin separation may occur if the adhesive is left out at 25 °C 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

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
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

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Note:
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