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LOCTITE

Technical Data Sheet

LOCTITE ABLESTIK 8302

December 2017

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 8302 provides the following product characteristics:

Technology	Proprietary Hybrid Chemistry
Appearance	Silver
Filler Type	Silver
Cure	Heat cure
Product Benefits	• Excellent hot/wet adhesion • Excellent peel strength • Improved JEDEC performance • Low moisture absorption • Ideal modulus for wide range of package sizes
Application	Die attach
Key Substrates	PPF, Bare Copper and Ag plated Cu leadframes

LOCTITE ABLESTIK 8302 electrically conductive die attach adhesive is designed for high reliability package applications .

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	5
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	10,500
Density, g/cc	3.8
Shelf Life @ -40°C (from date of manufacture), days	365
Work Life @ 25°C, hours	24

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

30 minute ramp from 25°C to 175°C + 60 minutes @ 175°C

Alternate Cure Schedule

45 minute ramp from 25°C to 200°C + 60 minutes @ 200°C

Weight Loss on Cure

Weight Loss on Cure, %	3.5

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	60
Above Tg, ppm/°C	168
Glass Transition Temperature, Tan Δ Max, °C	30
Extractable Ionic Content, @ 100°C ppm:	
Chloride (Cl-)	<10
Sodium (Na+)	<10
Potassium (K+)	<10
Tensile Modulus, DMTA :	
@ -65 °C	N/mm² 6,500 (psi) (94,274)
@ 25 °C	N/mm² 2,000 (psi) (290,075)
@ 150 °C	N/mm² 490 (psi) (71,068)
@ 200 °C	N/mm² 190 (psi) (27,557)
@ 250 °C	N/mm² 180 (psi) (26,106)

Electrical Properties

Volume Resistivity, ohm-cm	0.0001

TYPICAL PERFORMANCE OF CURED MATERIAL

Shear Strength

Die Shear Strength @ 25 °C:	
2 X 2 mm (80 x 80 mil), kg-f:	
On Ag/Cu leadframe	8
On Cu leadframe	6.5
On PPF leadframe	7.5
Die Shear Strength @ 260°C:	
5 X 5 mm (200 x 200 mil), kg-f:	
On Ag/Cu leadframe	8
On Cu leadframe	7.5
On PPF leadframe	8.5

GENERAL INFORMATION

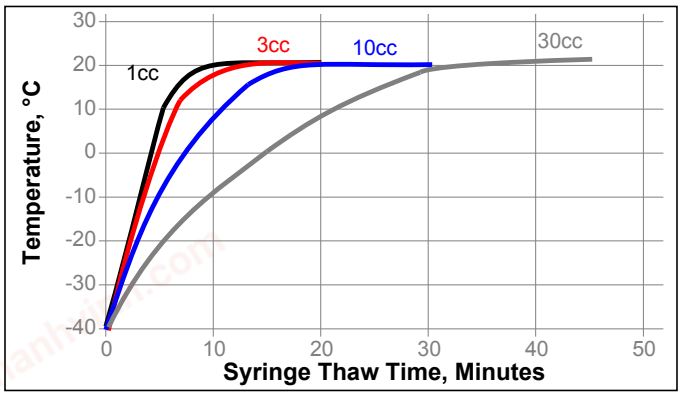
For safe handling information on this product, consult the Safety Data Sheet, (SDS).

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

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DIRECTIONS FOR USE

1. Thawed material 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.

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

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 N/A