Technical Data Sheet

LOCTITE ABLESTIK 84-1LMISR8

August 2012

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 84-1LMISR8 provides the following product characteristics:

Technology	Epoxy
Appearance	Silver
Cure	Heat cure
Product Benefits	• Low stress • Low volume resistivity • Low bond joint resistivity • Low modulus • Excellent conductivity • Good performance on Cu LF • Rds(on) capable • Stable work life
Application	Die attach
Filler Type	Silver
Substrates	Cu

LOCTITE ABLESTIK 84-1LMISR8 electrically conductive adhesive is designed for power applications that use Cu leadframes. It can be used in a variety of package sizes.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity and Rheological Properties - Hysol®	
Thixotropic Index (0.5/5 rpm)	5.3
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	9,400
Miscellaneous-Hysol®	
Work Life @ 25°C, hours	24
Shelf Life @ -40°C (from date of manufacture), days	365

TYPICAL CURING PERFORMANCE

Cure Schedule

1 hour @ 175°C

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		41
Above Tg, ppm/°C		100
Glass Transition Temperature (Tg) by TMA, °C		36.2
Tensile Modulus, DMTA :		
@ -65 °C	N/mm²	7,900
	(psi)	(1,145,800)
@ 25 °C	N/mm²	1,300
	(psi)	(188,550)
@ 150 °C	N/mm²	200
	(psi)	(29,000)
@ 200 °C	N/mm²	170
	(psi)	(24,700)
@ 250 °C	N/mm²	280
	(psi)	(40,610)
Thermal Conductivity, W/(m-K)		6.85

Electrical Properties

Volume Resistivity, ohms-cm	0.000048
Bond Joint Resistivity, ohms	0.00005

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength

3 X 3 mm, Si die, kg-f,
Post Mold

Substrate	@25°C
Ag/Cu leadframe	15.7
Bare Cu Leadframe	12.3
Pd/Ni/Cu Leadframe	14.5

Die Shear Strength

3 X 3 mm, Si die, kg-f,
Post Cure + PMB + PM + 5min @ 270ºC

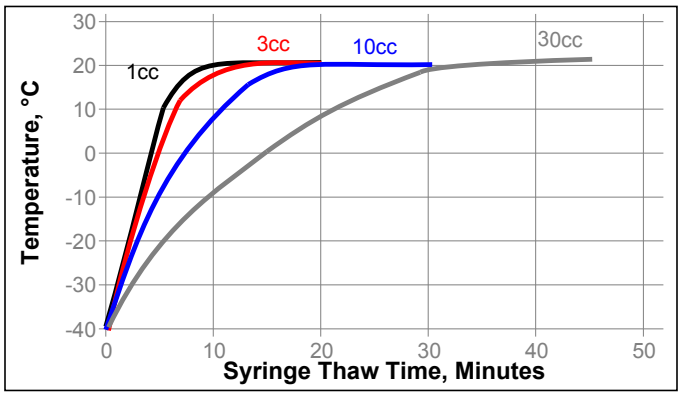
Substrate	
Ag/Cu Leadframe	4.7
Bare Cu Leadframe	7.4
Pd/Ni/Cu Leadframe	4

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 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. 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 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:

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