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LOCTITE

Technical Data Sheet

LOCTITE ABLESTIK 8387B

November 2016

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 8387B provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Cure	Heat cure
Product Benefits	• Non-conductive • Fast cure • Black pigmentation for blocking stray light
Application	Die attach
Typical Package Application	Optoelectronic devices

LOCTITE ABLESTIK 8387B non-conductive die attach adhesive has been formulated for use in high throughput die attach applications. This adhesive can be fast cured using directed heat energy or hot plate curing techniques. In conventional box or convection conveyor oven curing, it will cure at temperatures as low as 100ºC.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	≥4.5
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	9,500
Work Life @ 25°C, hours	48
Shelf Life @ -40°C (from date of manufacture), days	365

TYPICAL CURING PERFORMANCE

Cure Schedule

2 minutes @ 150°C

Alternate Cure Schedule

30 minutes @ 100°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 :	
Below Tg, ppm/°C	94
Above Tg, ppm/°C	165
Glass Transition Temperature (Tg) by TMA, °C	96
Extractable Ionic Content, @ 100°C ppm:	
Chloride (Cl-)	<300
Sodium (Na+)	<10
Potassium (K+)	<5

Tensile Modulus, DMTA :

@ -65 °C	N/mm²	2,840
	(psi)	(411,000)
@ 25 °C	N/mm²	1,400
	(psi)	(203,000)
@ 100 °C	N/mm²	580
	(psi)	(84,000)
@ 150 °C	N/mm²	77
	(psi)	(11,000)
@ 200 °C	N/mm²	59
	(psi)	(8,500)
@ 250 °C	N/mm²	53
	(psi)	(7,700)
Water Extract Conductivity, µmhos/cm		190

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength

2 x 2 mm Si die on T2 FR4 LF:		
@ 25°C	N/mm²	27
	(psi)	(3,900)
3 x 3 mm Si die @ 25°C:		
on Ag/Cu LF	N/mm²	28.1
	(psi)	(4,100)
on Cu LF	N/mm²	30.5
	(psi)	(4,400)
12.7 x 12.7 mm Si die on Cu LF:		
@ 250°C	N/mm²	1.9
	(psi)	(270)

Chip Warpage @ 25 °C vs Chip Size

12.7 x 12.7 mm, 0.38 mm thick Si die on Cu LF, µm	35

GENERAL INFORMATION

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

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.

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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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