

LOCTITE ABLESTIK ABP 8163F-1

October 2016

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ABP 8163F-1 provides the following product characteristics:

Technology	Silicone
Appearance	White
Product Benefits	• High thermal conductivity • High reflectivity • Excellent anti-yellowing properties
Cure	Heat cure
Application	Die attach

LOCTITE ABLESTIK ABP 8163F-1 non-conductive die attach adhesive is designed for LED and sensor manufacturing applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	5.2
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	21,000
Work Life by viscosity, hours	24
Shelf Life @ -20°C (from date of manufacture), days	180

TYPICAL CURING PERFORMANCE

Cure Schedule

30 minute ramp to 175°C, hold 60 minutes in air atmosphere

Open Time

Open Time @ 25°C, pin transfer dispensing, hours 24

Weight Loss on Cure

Weight Loss on Cure, % ~0.9

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

Dynamic Tensile Modulus, DMA:

@ -65°C	N/mm ²	725
	(psi)	(105,152)
@ 25°C	N/mm ²	275
	(psi)	(39,885)
@ 100°C	N/mm ²	130
	(psi)	(18,854)
@ 200°C	N/mm ²	62
	(psi)	(8,992)

Optical Reflectivity @ 450nm:

Initial optical reflectivity, %	100
Optical reflectivity after 3° reflow	95.36
Thermal Conductivity, W/(m·K)	0.8

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength:

1 x 1 mm Si die on Ag LF, 0 hours open time, Kg:	
@ 25°C	1.3
@ 260°C	1.0

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. 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.
4. 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.

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 : -20 °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 $(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$ $\text{kV/mm} \times 25.4 = \text{V/mil}$ $\text{mm} / 25.4 = \text{inches}$ $\text{N} \times 0.225 = \text{lb}$ $\text{N/mm} \times 5.71 = \text{lb/in}$ $\text{psi} \times 145 = \text{N/mm}^2$ $\text{MPa} = \text{N/mm}^2$ $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$ $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$ $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$ $\text{mPa}\cdot\text{s} = \text{cP}$ **Disclaimer****Note:**

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