

LOCTITE ABLESTIK ATB F175E

September 2019

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ATB F175E provides the following product characteristics:

Technology	Epoxy Film
Appearance	White
Cure	Heat cure
Product Benefits	<ul style="list-style-type: none"> • Excellent workability • High reliability • High modulus • Meets thin wafer requirements • Recommended for small die size packages • Consistent dicing and die pickup for small die applications
Application	Encapsulation or Semi-Films
Typical Package Application	Chip stack packages and Film of Wire
Carrier Type	Polyolefin
Adhesive Thickness, μm	75
Carrier Film Thickness, μm	90
Wafer Size, inches	8 and 12

LOCTITE ABLESTIK ATB F175E is supplied in wafer-shaped decals and is designed to be laminated to the wafer backside.

It is formulated to have a very high flow so it can be used in die stacking applications where the die attach needs to flow over the wires from the lower die.

LOCTITE ABLESTIK ATB F175E is engineered to have a very low CTE for improved reliability and high modulus at elevated temperatures in order to withstand most wire bonding conditions.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Work Life @ 25°C, days:	
Before lamination	21
After lamination to die attach	28
Shelf Life @ 5°C (from date of manufacture), days	274
Flash Point - See SDS	

TYPICAL UV IRRADIATION

UV Light	
UV Dosage, mJ/cm ²	200 to 300
UV Wavelength, nm (UVA)	365

TYPICAL CURING PERFORMANCE

Cure Schedule

1 hour @ 130°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, TMA:

Below Tg, ppm/°C 37

Above Tg, ppm/°C 83

Glass Transition Temperature (Tg) by DMTA, °C 215

Tensile Modulus, DMTA :

@ -65 °C N/mm² 9,755
(psi) (1,414,843)

@ 25 °C N/mm² 5,256
(psi) (762,318)

@ 150 °C N/mm² 1,092
(psi) (158,381)

@ 200 °C N/mm² 368
(psi) (53,373)

@ 250 °C N/mm² 185
(psi) (26,831)

Extractable Ionic Content, :

Chloride (Cl-) 19

Sodium (Na+) 2

Potassium (K+) 1

Weight Loss @ 200°C, TGA, wt % 0.27

Moisture Absorption, wt% 0.78

TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength:

2.5 X 2.5 mm (100 x 100 mil), Si die on BT substrate:

@ 260°C, kg-f/die 3.1

GENERAL INFORMATION

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

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.

DIRECTIONS FOR USE

1. Ensure all surfaces to be bonded are free from surface contamination.
2. The reels should remain in the moisture-resistant package until they are fully thawed to room temperature, to avoid moisture absorption.
3. Adhesive must be completely used within the product's recommended work life.
4. Remove the tape reel from the moisture-resistant package and load into the tape application machine.
5. Store unused adhesive film in the original sealed moisture-resistant package until needed.

STORAGE:

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 5°C. Storage below 5°C or greater than 5°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

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

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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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