

LOCTITE ABLESTIK 561K

March 2019

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 561K provides the following product characteristics:

| | |
|--------------------------------------|---|
| Technology | Epoxy Film |
| Appearance | White |
| Cure | Heat cure |
| Product Benefits | <ul style="list-style-type: none"> Thermally conductive Flexible for Bonding Mismatched Adherends Reworkable Passes NASA outgassing |
| Application | Assembly |
| Carrier Type | Glass fabric |
| Film Thickness | <ul style="list-style-type: none"> 100 to 250μ (25μ carrier) 125 to 200μ (50μ carrier) 305μ (101μ carrier) |
| pH | 8 |
| Typical Assembly Applications | Substrate attach and Heat sink bonding |

LOCTITE ABLESTIK 561K is designed for substrate attach and heat sink bonding. This adhesive film is designed for bonding materials with severely mismatched coefficients of thermal expansion. All data and results will vary with different thicknesses.

LOCTITE ABLESTIK 561K passes NASA outgassing standards.

TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|--------------------------|-----|
| Work Life @ 25°C, days | 183 |
| Shelf Life @ -40°C, days | 365 |
| Flash Point - See SDS | |

TYPICAL CURING PERFORMANCE

Cure Schedule

30 minutes @ 150°C

Alternate Cure Schedule

2 hours @ 125°C

Percent Volatiles

10 x 10cm sample @ 120°C for 30 minutes, % 0.16

Curing film adhesives under pressure to ensure proper wetting of the adherend surfaces is recommended. Pressure requirements will vary from (2 to 200 psi) depending on the severity of the adherends warpage and the stiffness of the adherends. Temperatures are recommended are at the bondline.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

| | |
|--|--|
| Coefficient of Thermal Expansion, ppm/°C: | |
| Below Tg | 85 |
| Above Tg | 300 |
| Glass Transition Temperature, °C | |
| | 55 |
| Thermal Conductivity @ 121°C, W/(m-K) | |
| | 0.9 |
| Tensile Modulus, DMTA : | |
| @ -65 °C | N/mm ² 6,138 (psi) (890,000) |
| @ 25 °C | N/mm ² 4,345 (psi) (630,000) |
| @ 150 °C | N/mm ² 2,000 (psi) (290,000) |
| @ 250 °C | N/mm ² 1,862 (psi) (270,000) |
| Extractable Ionic Content, @ 100°C: | |
| Chloride (Cl-) | 110 |
| Sodium (Na+) | 35 |
| Potassium (K+) | 9 |
| Water Extract Conductivity, μmhos/cm | |
| | 110 |
| Weight Loss @ 300°C, % | |
| | 0.34 |
| Moisture Absorption @ Saturation, wt.% @ 85°C/85%RH | |
| | 0.9 |

Electrical Properties

| | |
|-------------------------------------|-------------------------------|
| Volume Resistivity, ohms-cm | 9.1 \times 10 ¹² |
| Dielectric Strength, volts/ μ m | 820/25 |
| Dielectric Constant @ 1kHz | 5.7 |
| Dissipation Factor @ 1kHz | 0.012 |

TYPICAL PERFORMANCE OF CURED MATERIAL

Lap Shear Strength :

| | |
|-------------------------------------|---------------------------------------|
| Al to Al with 1.27cm overlap @ 25°C | N/mm ² 23 (psi) (3,300) |
| Au to Au with 1.27cm overlap @ 25°C | N/mm ² 26 (psi) (3,700) |

GENERAL INFORMATION

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

THAWING:

1. Allow material to reach room temperature before use.
2. DO NOT open the package before contents reach ambient temperature.
3. Any moisture that collects on the thawed package should be removed prior to opening the package.

DIRECTIONS FOR USE

1. Place precut adhesive film between clean surfaces to be bonded.
2. Assemble components.
3. Apply spring loaded clamp or dead weight to provide continuous pressure of at least 2 to 10 psi during cure cycle.
4. Place assembly in a preheated oven and cure at the

recommended cure schedule.

Rework Procedure

1. Heat component to 125°C.
2. Slide a thin blade between bonded surfaces.

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:

LOCTITE ABLESTIK film products can be stored at -40°C for up to one year. The shelf life of the film is only valid when the material has been stored at the specified storage conditions. Incorrect storage conditions will degrade the performance of the material in final cured properties. Avoid flexing film when frozen.

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:

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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