



# LOCTITE ABLESTIK 5020

November 2019

## PRODUCT DESCRIPTION

LOCTITE ABLESTIK 5020 provides the following product characteristics:

|                                |   |
|--------------------------------|---|
| <b>Technology</b>              | Epoxy Film  |
| <b>Appearance</b>              | Amber   |
| <b>Cure</b>                    | Heat cure   |
| <b>Product Benefits</b>        | <ul style="list-style-type: none"> <li>High purity</li> </ul> |
| <b>Application</b>             | Assembly  |
| <b>Adhesive Film Thickness</b> | 3 mil   |
| <b>Carrier Type</b>            | Glass fabric  |

LOCTITE ABLESTIK 5020 glass supported adhesive film is a higher purity version of ABLEFILM 550 adhesive film. It is designed for substrate attach and sealing microelectronic packages. This adhesive film meets the requirements of MIL-STD-883, Method 5011.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

|   |     |
|---|-----|
| Work Life @ 25°C, months                            | 6   |
| Shelf Life @ -40°C (from date of manufacture), days | 365 |

## TYPICAL CURING PERFORMANCE

### Cure Schedule

1 hour @ 150°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                      | 60  |
| Above Tg, ppm/°C                      | 200 |
| Glass Transition Temperature(Tg), °C  | 100 |
| Weight Loss @ 300°C, %                | 0.7 |
| Thermal Conductivity @ 121°C, W/(m-K) | 0.2 |
| pH                                    | 5.6 |
| Water Extract Conductivity, µmhos/cm  | 15  |
| Extractable Ionic Content, :          |     |
| Chloride (Cl-)                        | 100 |
| Sodium (Na+)                          | 20  |
| Potassium (K+)                        | 5   |

### Electrical Properties

|   |                    |
|---|--------------------|
| Volume Resistivity, ohm-cm                    | 5×10 <sup>14</sup> |
| Dielectric Constant/Dissipation Factor @ 1KHz | 4.1/0.006          |

## TYPICAL PERFORMANCE OF CURED MATERIAL

### Shear Strength

|                    |  |
|--------------------|--|
| Lap Shear Strength |  |
| Al to Al @ 25°C    | N/mm <sup>2</sup> 37.24<br>(psi) (5,400) |
| Au to Au @ 25°C    | N/mm <sup>2</sup> 27.59<br>(psi) (4,000) |

## TYPICAL ENVIRONMENTAL RESISTANCE

### Outgassing Properties

|                               |      |
|-------------------------------|------|
| Outgassing , NASA Outgassing: |      |
| TML, %                        | 0.74 |
| CVCM, %                       | 0.01 |
| WVR, %                        | 0.44 |

## 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. 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.
3. DO NOT re-freeze. Once thawed, the adhesive should not be re-frozen.

### 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 5 to 10 psi during cure cycle.
4. Place assembly in a preheated oven and cure at the recommended cure schedule.

### AVAILABILITY

1. LOCTITE ABLESTIK 5020 adhesive is available in sheet stock or die cut preforms.
2. LOCTITE ABLESTIK 5020 adhesive can be die cut to customer specifications.

### 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**

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

**Disclaimer  
Note**

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