

**Ablestik™****ABLEFILM® 550K™**

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**PRODUCT DESCRIPTION**

ABLEFILM® 550K™ provides the following product characteristics:

<b>Technology</b>	Epoxy Film
<b>Appearance</b>	White
<b>Cure</b>	Heat cure
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• High thermal conductivity</li> <li>• Low cure temperature</li> </ul>
<b>Application</b>	Assembly
<b>Carrier Type</b>	Glass fabric
<b>Surfaces</b>	Gold / Gold-plated and Difficult-to-bond metals

ABLEFILM® 550K™ is designed for substrate attach and heat sink bonding.

**TYPICAL PROPERTIES OF UNCURED MATERIAL**

Work Life @ 25°C, months	6
Shelf Life @ -40°C, year	1

Flash Point - See MSDS

**TYPICAL CURING PERFORMANCE****Cure Schedule**

30 minutes @ 150°C

**Alternative Cure Schedule**

2 hours @ 125°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 ppm/°C:	
Below Tg	50
Above Tg	300
Glass Transition Temperature, °C	102
Thermal Conductivity @ 121°C, W/mK	0.8
Weight Loss @ 300°C, %	0.37

**Electrical Properties:**

Volume Resistivity, ohms-cm	7.2×10 <sup>12</sup>
Dielectric Strength, volts/mil	1,000
Dielectric Constant @ 1kHz	5.7
Dissipation Factor @ 1kHz	0.02

**TYPICAL PERFORMANCE OF CURED MATERIAL**

Lap Shear Strength:

Al to Al @ 25°C, psi	3,300
Au to Au @ 25°C, psi	3,100

**GENERAL INFORMATION**

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

**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. ABLEFILM® 550K™ adhesive film is unsupported.
2. Handle carefully to avoid any stretching or flexing when frozen.
3. It may be helpful during handling to keep at least one sheet of release paper attached.
4. Preheat surface to be bonded to approximately 45°C.
5. Remove release paper from one side of the adhesive film.
6. Apply film to one of the bonding surfaces.
7. Smooth out any trapped air by gently pressing on the surface.
8. Allow device to cool to room temperature.
9. Remove the release paper from the other side of the adhesive film. Attach the remaining adherend.
10. Apply clamp to provide a continuous pressure of at least 1 psi during cure cycle.
11. Place assembly in a preheated oven and cure at the recommended cure schedule.

**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**

ABLEFILM® 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

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

## Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

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Reference 0.1