

LOCTITE ABLESTIK 550K

April 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 550K provides the following product characteristics:

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

LOCTITE ABLESTIK 550K is designed for substrate attach and heat sink bonding.

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

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/(m-K)	0.8
Weight Loss @ 300°C, %	0.37

Electrical Properties

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

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

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. LOCTITE ABLESTIK 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

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