chanhvinh.com

LOCTITE

Technical Data Sheet

LOCTITE ABLESTIK 550

April 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 550 provides the following product characteristics:

Technology	Epoxy Film
Appearance	Translucent
Cure	Heat cure
Product Benefits	• Thermally conductive
Application	Assembly
Adhesive Film Thickness	3 mil
Carrier Type	Glass fabric
Film Thickness	• 3 to 10mil (1mil carrier) • 4 to 10mil (2mil carrier) • 8mil (4mil carrier)
pH	9
Surfaces	Gold / Gold-plated and Difficult-to-bond surfaces

LOCTITE ABLESTIK 550 adhesive film is designed for substrate attach and sealing microelectronic packages. This adhesive film gives off methanol, water, and ammonia during cure.

Using LOCTITE ABLESTIK 550 adhesive in hermetically sealed packages is not recommended.

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 20 minutes, %	0.43

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.

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		95
Above Tg		480
Glass Transition Temperature, °C		105
Thermal Conductivity @ 121°C, W/(m-K)		0.2
Tensile Modulus, DMTA :		
@ -65 °C	N/mm² (psi)	4,207 (610,000)
@ 25 °C	N/mm² (psi)	3,793 (550,000)
@ 150 °C	N/mm² (psi)	2,200 (319,000)
@ 250 °C	N/mm² (psi)	1,517 (220,000)
Extractable Ionic Content, @ 100°C ppm:		
Chloride (Cl-)		45
Sodium (Na+)		10
Potassium (K+)		1
Water Extract Conductivity, µmhos/cm		220
Weight Loss @ 300ºC, %		1.1
Moisture Absorption @ Saturation, wt.% @ 85°C/85°RH		2.2

Electrical Properties

Volume Resistivity, ohms-cm	1×10^{14}
Dielectric Strength, volts/µm	1360/25
Dielectric Constant @ 1kHz	4.8
Dissipation Factor @ 1kHz	0.015

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Lap Shear Strength :

Al to Al with 1.27cm overlap @ 25°C	N/mm² (psi)	39 (5,700)
Au to Au with 1.27cm overlap @ 25°C	N/mm² (psi)	37 (5,300)

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.

Henkel

chanhvinh.com

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.

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.

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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicity agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana S.A.S. the following disclaimer is applicable:

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. 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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation Resin Technology Group, Inc., or Henkel Canada, Inc. the following disclaimer is applicable:

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 mechantability 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.

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa = N/mm²
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.2

Americas
+1.888.943.6535

Europe
+32.1457.5611

Asia
+86.21.3898.4800

For the most direct access to local sales and technical support visit: www.henkel.com/electronics

This document was created and digitally signed by tdx.henkel.com at 2025-11-28T09:18:53.921Z