Technical Data Sheet

LOCTITE ABLESTIK 3145

October 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 3145 provides the following product characteristics:

Technology	Epoxy
Color	Black
Components	Two-component
Cure	Room temperature cure or Heat cure
Operating Temperature	-70 to 140 °C
Product Benefits	• Thermally conductive • Electrically Insulating • Medium viscosity • High impact
Mix Ratio, by weight - Resin : Hardener	100 : 5.2
Application	Staking compound
Typical Assembly Applications	Transistors, Diodes, Resistors, Integrated circuits, Heat sensitive components or Printed circuitry
Substrates	Metals, Silica, Steatite, Alumina sapphire, Ceramic, Glass and Plastics

LOCTITE ABLESTIK 3145 develops strong, durable, high-impact bonds at room temperature, improving heat transfer and maintaining electrical isolation.

LOCTITE ABLESTIK 3145 passes NASA outgassing standards.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Mixed Viscosity, Brookfield - RV #6, 25 °C, mPa·s (cP):	
Speed 10 rpm	11,000
Specific Gravity, mixed	1.31
Pot Life, minutes:	
25 grams mass	20
100 grams mass	25
Work Life, minutes:	
25 grams mass	60
100 grams mass	60

TYPICAL CURING PERFORMANCE

Cure Schedule

24 hours @ 25°C or
4 hours @ 25°C plus 2 hours @ 65°C or
30 to 60 minutes @ 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 :

Hardness, Shore D	90
Thermal Conductivity , W/(m-K)	5.57×10^{-1}
Glass Transition Temperature (Tg), °C, ultimate	119
Water Absorption (24 hr immersion), %	0.001
VOC, grams/liter	2.29
Coefficient of Expansion, ppm/°C	28
Reactive solids contents, %	100

Electrical Properties:

Volume Resistivity, ohm-cm:	
@ 25 °C	3.00×10^{15}
@ 75 °C	2.00×10^{13}

Outgassing Properties:

Outgassing , NASA:	
2 hours @ 65ºC:	
CVCM, %	0.0
TWL, %	0.64

TYPICAL PERFORMANCE OF CURED MATERIAL

Lap Shear Strength :

Al to Al :
Cured 24 hours @ 25ºC:
N/mm² 11.7
(psi) (1,700)
Cured 4 hours @ 25ºC plus 2 hours @ 65ºC:
N/mm² 13.1
(psi) (1,900)

GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Apply mold release to mold walls if casting is to be removed after cure
2. Carefully clean and dry all surfaces to be bonded
3. Remove clamp and thoroughly mix the LOCTITE ABLESTIK 3145 epoxy adhesive system components in the handy BIPAX mixing-dispenser package until color is uniform throughout
4. Pour the completely mixed epoxy system into the mold and then cure. A vacuum deairing step for 10 minutes immediately after pouring (but prior to curing) may be used to remove entrapped air for void-free castings

5. Some ingredients in this formulation provided in BIPAX, TRA-PAX and bulk packaging may crystallize when subjected to low temperature storage. A gentle warming cycle of 50ºC for 30 minutes prior to mixing components may be necessary. Crystallized epoxy components do not react as well as liquid components and should be redissolved prior to use for best results

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
The expiration date for pre-mixed and frozen materials is based upon dry storage conditions at or below the temperature indicated on each package.

Optimal Storage : 27 °C

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
(°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

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 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 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 Corporation, 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 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.

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 0.0