

LOCTITE ABLESTIK 45

November 2016

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 45 provides the following product characteristics:

Technology	Epoxy
Appearance, Resin (Component A)	Black
Appearance, Hardener (Component B)	Black
Components	Two components - requires mixing
Cure	Room Temperature or Heat Cure
Product Benefits	<ul style="list-style-type: none"> • General purpose • Easy mix ratio • Extremely flexible • Variable flexibility • Room temperature cure • Fast cure • Excellent shock and peel resistance
Mix Ratio, by weight - Resin : Hardener Rigid Formula	100 : 50
Mix Ratio, by weight - Resin : Hardener Semi-rigid Formula	100 : 100
Mix Ratio, by weight - Resin : Hardener Flexible Formula	100 : 150
Application	Assembly
Operating Temperature - Rigid	-40 to 90°C
Operating Temperature - Semi-rigid	-55 to 80°C
Operating Temperature - Flexible	-55 to 65°C
Surfaces	Metals, Glass, Ceramics and Plastics

LOCTITE ABLESTIK 45 is designed as a general purpose, adhesive and is particularly useful when bonding dissimilar substrates such as metal to plastic. It is designed for use where shock and peel resistance are desired.

LOCTITE ABLESTIK 45 can be used with a variety of catalysts. For more information on mixed properties when used with other available catalysts, please contact your local technical service representative for assistance and recommendations.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties ABLESTIK 45

Viscosity @ 25 °C, mPa·s (cP)	225,000
Specific Gravity	1.58
Shelf Life @ 18 to 25°C, days	270
Flash Point - See SDS	

Part B Properties LOCTITE CAT 15

Viscosity @ 25 °C, mPa·s (cP)	25,000
Specific Gravity	0.97
Flash Point - See SDS	

Mixed Properties

Rigid Formulation:

Mixed Viscosity @ 25°C, mPa·s (cP)	37,000
Specific Gravity	1.34
Working Time, 100g mass @ 25°C, minutes	120
Shelf Life @ 25 °C, months	6
Flash Point - See SDS	

Semi-Rigid Formulation:

Mixed Viscosity @ 25°C, mPa·s (cP)	37,000
Specific Gravity	1.24
Working Time, 100g mass @ 25°C, minutes	140
Shelf Life @ 25 °C, months	6
Flash Point - See SDS	

Flexible Formulation:

Mixed Viscosity @ 25°C, mPa·s (cP)	36,000
Specific Gravity	1.18
Working Time, 100g mass @ 25°C, minutes	160
Shelf Life @ 25 °C, months	6
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

- 16 to 24 hours @ 25°C
- 4 to 6 hours @ 45°C
- 2 to 4 hours @ 65°C
- 15 to 30 minutes @ 105°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 AS MIXED

Rigid Formulation

Physical Properties

Coefficient of Thermal Expansion, ASTM D 3386:	
Below Tg, ppm/°C	58
Above Tg, ppm/°C	158
Glass Transition Temperature, ISO 11357-2, °C	48
Thermal Conductivity, W/(m-K)	0.35
Shore Hardness, ISO 868, Durometer D	80
Water Absorption, ASTM D 570, %:	
24 hours	0.2

Electrical Properties

Dielectric Breakdown Strength IEC 60243-1, kV/mm	14
Dielectric Constant / Dissipation Factor, IEC 60250:	
60Hz	4.4 / 0.04
1 kHz	4.1 / 0.04
1 mHz	3.4 / 0.03
Volume Resistivity, IEC 60093, Ω·cm	>1×10 ¹³

Semi-rigid Formulation

Physical Properties

Coefficient of Thermal Expansion, ASTM D 3386:	
Below Tg, ppm/°C	73
Above Tg, ppm/°C	173
Glass Transition Temperature, ISO 11357-2, °C	23
Thermal Conductivity, W/(m-K)	0.35
Shore Hardness, ISO 868, Durometer D	60 to 70
Water Absorption, ASTM D 570, %:	
24 hours	0.5
Tensile Strength, ISO 527-2	N/mm ² 30 (psi) (4,350)
Tensile Modulus, ISO 527-2	N/mm ² 500 (psi) (72,500)
Flexural strength, ASTM D790	N/mm ² 34 (psi) (4,930)
Impact Strength, ASTM-D-256, J/cm	22

Electrical Properties

Dielectric Breakdown Strength IEC 60243-1, kV/mm	14
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 mHz	3.3 / 0.08
Volume Resistivity, IEC 60093,	>1×10 ¹³

Flexible Formulation

Physical Properties

Coefficient of Thermal Expansion, ASTM D 3386:	
Below Tg, ppm/°C	87
Above Tg, ppm/°C	209
Glass Transition Temperature, ISO 11357-2, °C	11
Thermal Conductivity, W/(m-K)	0.35
Shore Hardness, ISO 868, Durometer A	60

Electrical Properties

Dielectric Breakdown Strength IEC 60243-1, kV/mm	14
Volume Resistivity, IEC 60093, Ω·cm	>1×10 ¹⁰

TYPICAL PERFORMANCE OF CURED MATERIAL AS MIXED

Rigid Formulation

Lap Shear Strength, ISO 4587:

Aluminum:

Tested @ 25 °C	N/mm ² 17 (psi) (2,500)
Tested @ 65 °C	N/mm ² 10 (psi) (1,400)

Semi-Rigid Formulation

Lap Shear Strength, ISO 4587:

Aluminum:

Tested @ 25 °C	N/mm ² 13 (psi) (1,900)
----------------	---------------------------------------

Flexible Formulation

Lap Shear Strength, ISO 4587:

Aluminum:

Tested @ 25 °C	N/mm ² 4 (psi) (600)
----------------	------------------------------------

GENERAL INFORMATION

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

STORAGE:

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage : 18 to 25 °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
 psi x 145 = N/mm²
 MPa = N/mm²
 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 and/or registered trademarks of Henkel and its affiliates in the U.S. and elsewhere.

Reference 0.4