

# LOCTITE ABLESTIK 45 CLEAR

September 2014

## PRODUCT DESCRIPTION

LOCTITE ABLESTIK 45 CLEAR provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Technology (Catalyst)</b>	Amine
<b>Appearance (Resin)</b>	Clear yellow
<b>Appearance (Catalyst)</b>	Clear yellow
<b>Mix Ratio - Resin : Hardener</b>	100 : 100
<b>Rigid Formula</b>	
<b>Mix Ratio - Resin : Hardener</b>	100 : 200
<b>Semi-Rigid Formula</b>	
<b>Mix Ratio - Resin : Hardener</b>	100 : 300
<b>Flexible Formula</b>	
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• Unfilled</li> <li>• Ease of use</li> <li>• Non-conductive</li> <li>• General purpose</li> <li>• Controllable flexibility</li> <li>• Bond dissimilar substrates</li> </ul>
<b>Cure</b>	Heat cure
<b>Application</b>	Assembly

LOCTITE ABLESTIK 45 CLEAR is a clear, unfilled epoxy adhesive which, by varying the amount of catalyst used, can adjust the hardness from flexible to rigid. It has an easy mix ratio and bonds well to a wide variety of substrates. LOCTITE ABLESTIK 45 CLEAR is an unfilled, clear version of ABLESTIK 45.

LOCTITE ABLESTIK 45 CLEAR 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 Clear

Viscosity, Brookfield , mPa·s (cP)	13,500
Density, g/cm <sup>3</sup>	1.17
Flash Point - See SDS	

### Part B Properties LOCTITE CAT 15

Viscosity, Brookfield , mPa·s (cP)	25,000
Density, g/cm <sup>3</sup>	0.97
Flash Point - See SDS	

### Mixed Properties

<b>Rigid Formulation</b>	
Viscosity, Brookfield , mPa·s (cP)	20,000
Density, g/cm <sup>3</sup>	1.06
Work Life, 100 grams @ 25°C, minutes	120
Flash Point - See SDS	

### Semi-Rigid Formulation

Viscosity, Brookfield , mPa·s (cP)	20,000
Density, g/cm <sup>3</sup>	1.03
Work Life, 100 grams@ 25°C, minutes	140
Flash Point - See SDS	

### Flexible Formulation

Viscosity, Brookfield , mPa·s (cP)	21,000
Density, g/cm <sup>3</sup>	1.01
Work Life, 100 grams@ 25°C, minutes	160
Shelf Life @ 25 °C, days	365
Flash Point - See SDS	

## TYPICAL CURING PERFORMANCE

### Cure Schedule

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

### Rigid Formulation

#### Physical Properties

Hardness, Shore D	75
Flexural strength	N/mm <sup>2</sup> 57 (psi) (8,300)
Temperature Range of Use, °C	-40 to 90

#### Electrical Properties

Volume Resistivity@ 25°C, ohm-cm	>1×10 <sup>13</sup>
Dielectric Strength , kV/mm	16
Dielectric Constant @ 1MHz	3
Dissipation Factor @ 1MHz	0.03

### Semi-rigid Formulation

#### Physical Properties

Hardness, Shore D	52
Temperature Range of Use, °C	-55 to 80

#### Electrical Properties

Volume Resistivity@ 25°C, ohm-cm	>1×10 <sup>13</sup>
Dielectric Strength , kV/mm	16
Dielectric Constant @ 1MHz	3.0
Dissipation Factor @ 1MHz	0.03

## Flexible Formulation

**Physical Properties**

Hardness, Shore A	45
Temperature Range of Use, °C	-55 to 65

**Electrical Properties**

Volume Resistivity@ 25°C, ohm-cm	$>1 \times 10^{10}$
Dielectric Strength, kV/mm	16
Dielectric Constant @ 1MHz	3.0
Dissipation Factor @ 1MHz	0.03

**TYPICAL PERFORMANCE OF CURED MATERIAL**

## Rigid Formulation

**Shear Strength :**

Tensile Lap Shear Strength :		
Aluminum to aluminum @ 25 °C	N/mm <sup>2</sup> (psi)	16.5 (2,400)

**GENERAL INFORMATION**

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

**DIRECTIONS FOR USE**

1. Complete cleaning of the substrates should be performed to remove contamination such as oxide layers, dust, moisture, salt and oils which can cause poor adhesion or corrosion in a bonded part.
2. Some separation of components is common during shipping and storage. For this reason, it is recommended that the contents of the shipping container be thoroughly mixed prior to use.
3. Power mixing is preferred to ensure a homogeneous product.
4. Accurately weigh resin and hardener into a clean container in the recommended ratio. Weighing apparatus having an accuracy in proportion to the amounts being weighed should be used.
5. Blend components by hand, using a kneading motion, for 2 to 3 minutes and scrape the bottom and sides of the mixing container frequently to produce a uniform mixture.
6. If possible, power mix for an additional 2 to 3 minutes. Avoid high mixing speeds. This can entrap excessive amounts of air. It can also cause overheating of the mixture, resulting in reduced working life.
7. Apply adhesive to all surfaces to be bonded and join together.
8. In most applications only contact pressure is required.

**Storage**

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

**Optimal Storage : 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.

**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.

**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/mm<sup>2</sup> x 145 = psi  
 MPa = N/mm<sup>2</sup>  
 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.

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