



**LOCTITE**

Technical Data Sheet

# LOCTITE ABLESTIK 45 LV

August 2013

## PRODUCT DESCRIPTION

LOCTITE ABLESTIK 45 LV provides the following product characteristics:

<b>Technology</b>	Epoxy
Appearance, Resin (Component A)	Black
Appearance, Hardener (Component B)	Black
Components	Two component - requires mixing
<b>Cure</b>	Room Temperature or Heat Cure
Product Benefits	<ul style="list-style-type: none"> <li>• Low viscosity</li> <li>• General purpose</li> <li>• Variable flexibility</li> </ul>
Mix Ratio, by weight - Resin : Hardener <b>Rigid Formula</b>	100 : 25
Mix Ratio, by weight - Resin : Hardener <b>Semi-rigid Formula</b>	100 : 50
Mix Ratio, by weight - Resin : Hardener <b>Flexible Formula</b>	100 : 100
<b>Application</b>	Assembly
Operating Temperature <b>Rigid</b>	-40 to 90°C
Operating Temperature <b>Semi-rigid</b>	-55 to 80°C
Operating Temperature <b>Flexible</b>	-55 to 65°C
Surfaces	Metals, Glass and Plastics

LOCTITE ABLESTIK 45 LV is designed as a general purpose, adhesive and is particularly useful when bonding dissimilar substrates such as metal to plastic.

LOCTITE ABLESTIK 45 LV 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 45LV

Viscosity , , mPa·s (cP)	35,000
Specific Gravity	1.58
Shelf Life @ 25°C, months	12
Flash Point - See MSDS	

### Part B Properties LOCTITE CAT 15LV

Viscosity , , mPa·s (cP)	11,000
Specific Gravity	0.97
Flash Point - See MSDS	

## Mixed Properties

<b>Rigid Formulation</b>	
Mixed Viscosity, mPa·s (cP)	30,000
Specific Gravity	1.43
Working Time, 100g mass @ 25°C, minutes	120
Flash Point - See MSDS	

<b>Semi-Rigid Formulation</b>	
Mixed Viscosity, mPa·s (cP)	25,000
Specific Gravity	1.34
Working Time, 100g mass @ 25°C, minutes	90
Flash Point - See MSDS	

<b>Flexible Formulation</b>	
Mixed Viscosity, mPa·s (cP)	16,000
Specific Gravity	1.23
Working Time, 100g mass @ 25°C, minutes	90
Flash Point - See MSDS	

## TYPICAL CURING PERFORMANCE

### Cure Schedule

16 to 24 hours @ 25°C
4 to 6 hours @ 45°C
2 to 4 hours @ 65°C
30 to 60 minutes @ 90°C

The above cure profile is a guideline recommendation. 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:

<b>Coefficient of Thermal Expansion ASTM D 3386:</b>	
Below Tg, ppm/°C	55
Above Tg, ppm/°C	148
Glass Transition Temperature, ISO 11357-2, °C	68
Thermal Conductivity , W/(m·K)	0.4
Shore Hardness, ISO 868, Durometer D	82
Water Absorption, ASTM D 570 , %:	
24 hours	0.1

#### Electrical Properties:

Dielectric Breakdown Strength, IEC 60243-1, kV/mm	16
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 mHz	3.27 / 0.08
Volume Resistivity, IEC 60093, Ω·cm	>1×10 <sup>15</sup>



**Semi-rigid Formulation**

**Physical Properties**

Coefficient of Thermal Expansion ASTM D 3386:	
Below Tg, ppm/°C	63
Above Tg, ppm/°C	159
Glass Transition Temperature, ISO 11357-2, °C	38
Thermal Conductivity, W/(m-K)	0.4
Shore Hardness, ISO 868, Durometer D	74
Water Absorption, ASTM D 570, %:	
24 hours	0.2

**Electrical Properties**

Dielectric Breakdown Strength, IEC 60243-1, kV/mm	16
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 MHz	3.45 / 0.02
Volume Resistivity, IEC 60093,	>1×10 <sup>15</sup>

**Flexible Formulation**

**Physical Properties:**

Coefficient of Thermal Expansion ASTM D 3386:	
Below Tg, ppm/°C	80
Above Tg, ppm/°C	188
Glass Transition Temperature, ISO 11357-2, °C	21
Thermal Conductivity, W/(m-K)	0.4
Shore Hardness, ISO 868, Durometer D	50
Water Absorption, ASTM D 570, %:	
24 hours	1.7

**Electrical Properties:**

Dielectric Breakdown Strength, IEC 60243-1, kV/mm	16
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 MHz	3.5 / 0.07
Volume Resistivity, IEC 60093,	>1×10 <sup>15</sup>

**TYPICAL PERFORMANCE OF CURED MATERIAL**

**Rigid Formulation**

Lap Shear Strength , ISO 4587:

Aluminum:		
Tested @ 25 °C	N/mm <sup>2</sup>	17
	(psi)	(2,400)
Tested @ 65 °C	N/mm <sup>2</sup>	9
	(psi)	(1,300)

**Semi-Rigid Formulation**

Lap Shear Strength , ISO 4587:

Aluminum:		
Tested @ 25 °C	N/mm <sup>2</sup>	16
	(psi)	(2,300)
Tested @ 65 °C	N/mm <sup>2</sup>	3.5
	(psi)	(500)

**Flexible Formulation**

Lap Shear Strength , ISO 4587:

Aluminum:		
Tested @ 25 °C	N/mm <sup>2</sup>	7
	(psi)	(1,000)

**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 ECCOBOND 45LV and LOCTITE Catalyst 15LV into a clean container in the recommended ratio.
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 which could entrap excessive amounts of air or 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

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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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