

# LOCTITE ABLESTIK 45 W1

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## PRODUCT DESCRIPTION

LOCTITE ABLESTIK 45 W1 provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Appearance (Resin)</b>	Black
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• Easy mix ratio</li> <li>• Rigid, semi-rigid, and flexible formulations</li> <li>• Excellent shock and peel resistance</li> </ul>
<b>Application</b>	General assembly
<b>Operating Temperature - Semi-rigid</b>	-55 to 90°C

Its variable mix ratio allows for a rigid, semi-rigid, or flexible cured material. It is designed for use where shock and peel resistance are desired. This material adheres well to a variety of substrates including metals, glass, ceramic and plastics.

LOCTITE ABLESTIK 45 W1 can be used with LOCTITE CAT 15:

## CATALYST DESCRIPTION

LOCTITE CAT 15 provides the following product characteristics:

<b>Appearance (Catalyst)</b>	Black
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• General purpose</li> <li>• Good chemical resistance</li> <li>• Good physical strength</li> </ul>
<b>Cure</b>	Room Temperature or Heat Cure
<b>Mix Ratio, by weight - Resin : Hardener Rigid Formula</b>	100 : 50
<b>Mix Ratio, by weight - Resin : Hardener Semi-rigid Formula</b>	100 : 100
<b>Mix Ratio, by weight - Resin : Hardener Flexible Formula</b>	100 : 150

## TYPICAL UNCURED PROPERTIES

### LOCTITE ABLESTIK 45 W1

Viscosity @ 25 °C, mPa·s (cP)	225,000
Density, g/cm <sup>3</sup>	1.59
Shelf Life (from date of manufacture), @ 18 to 25 °C	365
Flash Point - See SDS	

## TYPICAL UNCURED PROPERTIES AS MIXED

### LOCTITE ABLESTIK 45 W1 with LOCTITE CAT 15

Viscosity @ 25 °C, mPa·s (cP)	40,000
Density, g/cm <sup>3</sup>	1.59
Pot Life @ 25°C, hours	2

## TYPICAL CURING PERFORMANCE

### Cure Schedule

#### LOCTITE ABLESTIK 45 W1 with LOCTITE CAT 15

8 hours @ 25°C
30 minutes @ 70°C
15 minutes @ 105°C

Bond strength will increase during the first 24 hours following cure.

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

### Semi-rigid Formulation

#### LOCTITE ABLESTIK 45 W1 with LOCTITE CAT 15

### Physical Properties

Hardness, Shore D	65
Flexural Strength	N/mm <sup>2</sup> 34 (psi) (4,930)
Young's Modulus, ASTM D638Unit}	N/mm <sup>2</sup> 500 (psi) (72,500)
Impact Strength, ASTM-D-256, J/cm	22
Volume Shrinkage on Cure, %	3.5
Glass Transition Temperature, °C	37
Coefficient of Linear Thermal Expansion, ppm/°C	50
DMA Modulus :	
@ 35°C	124
@ 50°C	21
@ 100°C	13
Water Absorption, %:	
24 hours immersion @ 25 °C	0.98
7 days immersion @ 25 °C	4.1

### Electrical Properties

Volume Resistivity @ 25°C, ohm-cm	3.4×10 <sup>13</sup>
Dielectric Constant / Dissipation Factor:	
@ 0.05 to 1,000	4.0/0.06
Dielectric Strength, ASTM D149, kV/mm	15.6
Surface Resistivity, ohms	3.1×10 <sup>16</sup>

## TYPICAL CURED PERFORMANCE AS MIXED

### Semi-rigid Formulation

#### LOCTITE ABLESTIK 45 W1 with LOCTITE CAT 15

### Shear Strength :

Tensile Lap Shear Strength	N/mm <sup>2</sup> 12 (psi) (1,740)
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**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. Mix LOCTITE ABLESTIK 45 W1 in the can in which it is received.
3. Accurately weigh resin and hardener into a clean container in the one of the recommended ratios. Weighing apparatus having an accuracy in proportion to the amounts being weighed should be used.
4. Mix thoroughly.
5. Application is by brush, knife or roller. Apply and squeeze out excess.
6. To prevent adhesion, use MOLD RELEASE 122 S.
7. Clean up solvent is alcohol, acetone, or methyl ethyl ketone (MEK).
8. NOTE: During storage at room temperature for long periods, it is possible that the viscosity of can increase and may exceed its upper specification limit. The viscosity can be brought back to the normal level by moderate mixing.

**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**

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$   
 $\text{kV/mm} \times 25.4 = \text{V/mil}$   
 $\text{mm} / 25.4 = \text{inches}$   
 $\text{N} \times 0.225 = \text{lb}$   
 $\text{N/mm} \times 5.71 = \text{lb/in}$   
 $\text{N/mm}^2 \times 145 = \text{psi}$   
 $\text{MPa} = \text{N/mm}^2$   
 $\text{MPa} \times 145 = \text{psi}$   
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$   
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$   
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$   
 $\text{mPa}\cdot\text{s} = \text{cP}$

**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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