

# LOCTITE ABLESTIK 642-1

October 2014

## PRODUCT DESCRIPTION

LOCTITE ABLESTIK 642-1 provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Appearance</b>	Transparent liquid
<b>Components</b>	One-component
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>General purpose</li> <li>Long pot life</li> <li>Rapid cure at elevated temperatures</li> </ul>
<b>Cure</b>	Heat cure
<b>Application</b>	General assembly

LOCTITE ABLESTIK 642-1 is an unfilled epoxy system with a long pot life. LOCTITE ABLESTIK 642-1 epoxy adhesive is formulated to cure rapidly at elevated temperatures.

LOCTITE ABLESTIK 642-1 passes NASA outgassing standards.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity @ 25 °C, mPa·s (cP)	5,500
Thixotropic Index	1.0
Work Life, hours	8
Shelf Life, days:	
Pre-mixed and frozen @ -40 °C	365
In kits @ 25 °C	365

Flash Point - See SDS

## TYPICAL CURING PERFORMANCE

### Cure Schedule

2 hours @ 75°C or  
1 hour @ 95°C or  
30 minutes @ 120°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

### Physical Properties :

Hardness, Shore D	87
Glass Transition Temperature (T <sub>g</sub> ), °C	137.0
Coefficient of Thermal Expansion, ppm/°C	84

### Electrical Properties:

Volume Resistivity, ohms-cm:	
@ 100 °C	6.50×10 <sup>14</sup>
Dielectric Constant / Dissipation Factor:	
@ 1KHz	3.36/0.007

## TYPICAL PERFORMANCE OF CURED MATERIAL

Lap Shear Strength @ 25°C:

Al to Al	N/mm <sup>2</sup>	19.3
	(psi)	(2,800)

## GENERAL INFORMATION

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

## DIRECTIONS FOR USE

- Carefully clean and dry all surfaces to be bonded.
- Remove clamp and thoroughly mix the LOCTITE ABLESTIK 642-1 epoxy adhesive system components in the handy BIPAX mixing-dispenser package until color is uniform throughout.
- Apply this completely mixed adhesive to the prepared surfaces, and gently press these surfaces together. Contact pressure is adequate for strong, reliable bonds; however, maintain contact until adhesive is completely cured.
- 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.
- 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 52°C 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

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

**Optimal Storage: -40°C pre-mixed or frozen syringes and 25°C kits. Storage below or above -40°C pre-mixed or frozen syringes and 25°C kits can adversely affect product properties.**

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