ABLESTIK 45 CLEAR
CAT 15 CLEAR

September 2014

PRODUCT DESCRIPTION

ABLESTIK 45 CLEAR with CATALYST 15 CLEAR provides the following product characteristics:

Technology	Epoxy
Technology (Catalyst)	Amine
Appearance (Resin)	Clear yellow
Appearance (Catalyst)	Clear yellow
Mix Ratio - Resin : Hardener **Rigid Formula**	100 : 100
Mix Ratio - Resin : Hardener **Semi-Rigid Formula**	100 : 200
Mix Ratio - Resin : Hardener **Flexible Formula**	100 : 300
Product Benefits	• Unfilled • Ease of use • Non-conductive • General purpose • Controllable flexibility • Bond dissimilar substrates
Cure	Heat cure
Application	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/cm³	1.17
Flash Point	> 100 °C (> 212 °F)

Part B Properties *LOCTITE CAT 15 Clear*

Viscosity, Brookfield , mPa·s (cP)	25,000
Density, , g/cm³	0.97
Flash Point - See SDS	

Mixed Properties

Rigid Formulation

Viscosity, Brookfield , mPa·s (cP)	20,000
Density, , g/cm³	1.06
Work Life, 100 grams @ 25ºC, minutes	120
Flash Point - See SDS	

Semi-Rigid Formulation

Viscosity, Brookfield , mPa·s (cP)	20,000
Density, , g/cm³	1.03
Work Life, 100 grams@ 25ºC, minutes	140
Flash Point - See SDS	

Flexible Formulation

Viscosity, Brookfield , mPa·s (cP)	21,000
Density, , g/cm³	1.01
Work Life, 100 grams@ 25ºC, 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/mm² (psi)	57 (8,300)
Temperature Range of Use, °C		-40 to 90

Electrical Properties

Volume Resistivity@ 25ºC, ohm-cm	$>1\times10^{13}$
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@ 25ºC, ohm-cm	$>1\times10^{13}$
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@ 25ºC, ohm-cm	$>1\times10^{10}$
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/mm²	16.5
	(psi)	(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 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 : 18-25 °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.

Reference 0.2