

LOCTITE ABLESTIK 8175A

April 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK 8175A provides the following product characteristics:

Technology	Epoxy
Appearance	Silver
Cure	Heat cure
Product Benefits	- Electrically conductive - Thermally conductive - High post cure bond strength - Stencil or screen printable - Pb-free alternative to solder - Fast cure
Application	Die attach
Filler Type	Silver

LOCTITE ABLESTIK 8175A is designed for solder replacement in microelectronic interconnect applications. This adhesive may be used with thick film metallizations or traditional printed circuit board surfaces. It is capable of resolving fine pitch resolution (0.02 inch) when printed using either a stainless steel mesh screen or a metal mask stencil.

MIL-STD-883

LOCTITE ABLESTIK 8175A meets the requirements of MIL-STD-883, Method 5011.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):

Speed 5 rpm	70,000
Work Life @ 25°C, hours	24
Shelf Life @ -40°C, days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

3 minutes @ 150°C

Alternate Cure Schedule

6 minutes @ 130°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

Physical Properties

Coefficient of Thermal Expansion ppm/°C:

Below T _g	65
Above T _g	250
Glass Transition Temperature, °C	80
Thermal Conductivity @ 121°C, W/(m·K)	4.0
Weight Loss @ 300°C, %	0.4

Extractable Ionic Content, @ 100°C ppm:

Chloride (Cl ⁻)	50
Sodium (Na ⁺)	10
Potassium (K ⁺)	5

Electrical Properties

Volume Resistivity, ohms-cm	0.0005
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TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength :

Ag to Pd/Ag Metallization @ 25°C, psi	5,500
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Lap Shear Strength :

Al to Al @ 25°C, psi	1,700
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GENERAL INFORMATION

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

THAWING:

1. Allow container to reach room temperature before use.
2. After removing from the freezer, set the syringes to stand vertically while thawing.
3. DO NOT open the container before contents reach 22°C temperature. Any moisture that collects on the thawed container should be removed prior to opening the container.
4. DO NOT re-freeze. Once thawed to 22°C, the adhesive should not be re-frozen.

DIRECTIONS FOR USE

1. Apply adhesive as required.
2. This material may be applied using either a stainless steel mesh screen or a metal mask stencil.
3. The ideal deposition thickness is 0.003 to 0.005 inch.
4. Cure at one of the recommended cure schedules.

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

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

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\text{N} \times 0.225 = \text{lb}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{N/mm}^2 \times 145 = \text{psi}$

$\text{MPa} = \text{N/mm}^2$

$\text{MPa} \times 145 = \text{psi}$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

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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Reference 0.2