

Ablestik

ABLEBOND 8175

May 2011

PRODUCT DESCRIPTION

ABLEBOND 8175 provides the following product characteristics:

Technology	Epoxy
Appearance	Silver
Cure	Heat cure
Product Benefits	<ul style="list-style-type: none"> • Electrically conductive • Thermally conductive • Stress absorbing • Pb-free alternative to solder • Stencil or screen printable
Application	Die attach

ABLEBOND 8175 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

ABLEBOND 8175 meets the requirements of MIL-STD-883, Method 5011.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	2.0
Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):	
Speed 5 rpm	55,000
Work Life @ 25°C, weeks	2
Shelf Life @ -40°C, year	1
Flash Point - See MSDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

30 minutes @ 150°C

Alternative Cure Schedule

60 minutes @ 150°C (for bondlines <1 mil thick)

Alternative Cure Schedule 2

60 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 Tg	55
Above Tg	200
Glass Transition Temperature, °C	90
Thermal Conductivity @ 121°C, W/mK	3.2
Weight Loss @ 300°C, %	0.3
Thermal Shock @ -50 to 150°C, psi	5,000

Electrical Properties:

Volume Resistivity, ohms-cm	0.0005
-----------------------------	--------

TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength:	
Cu to Ag metallization @ 25°C, psi	6,200
Lap Shear Strength :	
Al to Al @ 25°C, psi	1,650

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

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

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation and its affiliates ("Henkel") specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel products. Henkel specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

All trademarks in this document are trademarks and/or registered trademarks of Henkel in the US and elsewhere.

Reference 0.3