

LOCTITE ABLESTIK ABP 2036SF-1B1

August 2015

PRODUCT DESCRIPTION

LOCTITE ABLESTIK ABP 2036SF-1B1 provides the following product characteristics:

| | |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Technology | Acrylate |
| Appearance | Red paste |
| Cure | Heat cure |
| Product Benefits | <ul style="list-style-type: none"> • Non-conductive • Silane-free • Non-treated silica filler • Bondline thickness control • Fast cure • Low temperature cure • Good adhesion to a variety of substrates • Good resin bleed out (RBO) performance • Enhanced reliability • High resistance to delamination |
| Application | Die attach |

LOCTITE ABLESTIK ABP 2036SF-1B1 non-conductive die attach adhesive contains 20 µm polymer spacers for bondline control. This material is specially formulated for HDD applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|-----------------------------------------------------|--------|
| Thixotropic Index | 4.5 |
| Viscosity, Brookfield CP51, 25 °C, : | |
| Speed 5 rpm | 12,000 |
| Density, gm/cc | 1.2 |
| Work Life @ 25°C, hours | 24 |
| Shelf Life @ -40°C (from date of manufacture), days | 365 |

TYPICAL CURING PERFORMANCE

Cure Schedule

15 minutes @ 150°C

Alternate Cure Schedule

90 seconds @ 110°C or

60 seconds @ 120°C or

10 seconds @ 150°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

| | |
|----------------------------------------------|-----|
| Glass Transition Temperature (Tg) by TMA, °C | 125 |
| Coefficient of Thermal Expansion, TMA: | |
| Below Tg, ppm/°C | 68 |
| Above Tg, ppm/°C | 157 |

DSC (Differential Scanning Calorimetry), °C:

| | |
|--------------------|----|
| On-set temperature | 75 |
| Peak temperature | 90 |

Tensile Modulus, DMTA :

| | | |
|---------|-------------------|-----------|
| @ -65°C | N/mm ² | 4,890 |
| | (psi) | (708,780) |
| @ 25°C | N/mm ² | 2,890 |
| | (psi) | (418,580) |
| @ 100°C | N/mm ² | 400 |
| | (psi) | (57,725) |
| @ 150°C | N/mm ² | 55 |
| | (psi) | (8,410) |
| @ 200°C | N/mm ² | 50 |
| | (psi) | (6,960) |
| @ 300°C | N/mm ² | 115 |
| | (psi) | (16,680) |

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength, kg-f:

| | |
|------------------------------|-----|
| 2 x 2 mm Si die on Ag/Cu LF: | |
| @ 25°C | 15 |
| @ 150°C | 1.4 |

GENERAL INFORMATION

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

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 25°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 25°C, the adhesive should not be re-frozen.

DIRECTIONS FOR USE

1. Thawed material should immediately be placed on dispense equipment for use.
2. If the adhesive is transferred to a final dispensing reservoir, care must be exercised to avoid entrapment of contaminants and/or air into the adhesive.
3. Adhesive must be completely used within the product's recommended work life.

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. Storage below minus (-)40 °C or greater than minus (-)40 °C 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

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

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

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

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

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

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

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

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

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

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

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

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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 0.1