

# LOCTITE ABLESTIK ABP 2032S

August 2019

## PRODUCT DESCRIPTION

LOCTITE ABLESTIK ABP 2032S provides the following product characteristics:

|                         |                                                                                                                                                                         |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Technology</b>       | Epoxy                                                                                                                                                                   |
| <b>Appearance</b>       | Silver                                                                                                                                                                  |
| <b>Cure</b>             | Heat cure                                                                                                                                                               |
| <b>Product Benefits</b> | <ul style="list-style-type: none"> <li>Electrically conductive</li> <li>Low temperature cure</li> <li>Good adhesion</li> <li>Good dispensing characteristics</li> </ul> |
| <b>Application</b>      | Die attach                                                                                                                                                              |
| <b>Key Substrates</b>   | Au, Steel and Ag                                                                                                                                                        |

LOCTITE ABLESTIK ABP 2032S electrically conductive adhesive is designed as a Pb-free alternative to solder. It cures quickly at low temperatures for good stress control in large die size package applications.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

|                                                     |        |
|-----------------------------------------------------|--------|
| Viscosity, Brookfield CP51, 25 °C, mPa·s (cP):      |        |
| Speed 5 rpm                                         | 11,000 |
| Thixotropic Index (0.5/5 rpm)                       | 4.5    |
| Work Life @ 25°C, hours                             | 24     |
| Shelf Life @ -40°C (from date of manufacture), days | 365    |
| Flash Point - See SDS                               |        |

## TYPICAL CURING PERFORMANCE

### Cure Schedule

60 minutes @ 80°C

### Alternative Cure Schedule

3 minutes @ 150°C or

10 minutes @ 120°C

### Weight Loss

Weight Loss on Cure, % 0.7

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

|                                                           |     |
|-----------------------------------------------------------|-----|
| <b>Physical Properties</b>                                |     |
| Glass Transition Temperature (T <sub>g</sub> ) by TMA, °C | 110 |
| Coefficient of Thermal Expansion, :                       |     |
| Below T <sub>g</sub> , ppm/°C                             | 54  |
| Above T <sub>g</sub> , ppm/°C                             | 162 |
| Thermal Conductivity, W/(m·K)                             | 1   |
| Extractable Ionic Content, :                              |     |
| Chloride (Cl <sup>-</sup> )                               | <30 |
| Sodium (Na <sup>+</sup> )                                 | <20 |
| Potassium (K <sup>+</sup> )                               | <20 |

## Dynamic Tensile Modulus, DMA:

|          |                                            |
|----------|--------------------------------------------|
| @ 25 °C  | N/mm <sup>2</sup> 4,600<br>(psi) (667,173) |
| @ 100 °C | N/mm <sup>2</sup> 1,200<br>(psi) (174,045) |
| @ 250 °C | N/mm <sup>2</sup> 150<br>(psi) (21,755)    |

## Electrical Properties

|                            |        |
|----------------------------|--------|
| Volume Resistivity, ohm-cm | 0.0002 |
|----------------------------|--------|

## TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength @ 25°C:

2 X 2 mm Si die, kg-f :

Sample cured 60 minutes @ 80°C:

|          |      |
|----------|------|
| On Au    | 16   |
| On Steel | 15.5 |
| On Ag    | 16   |

## GENERAL INFORMATION

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

### 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

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

### 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

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