

# LOCTITE ABLESTIK QMI538NB

October 2014

## PRODUCT DESCRIPTION

LOCTITE ABLESTIK QMI538NB provides the following product characteristics:

|                         |                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Technology</b>       | BMI Hybrid                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Appearance</b>       | white                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Filler Type</b>      | PTFE                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Product Benefits</b> | <ul style="list-style-type: none"> <li>• Non-conductive</li> <li>• Low viscosity</li> <li>• Reduced resin bleed</li> <li>• Hydrophobic</li> <li>• Stable at high temperatures</li> <li>• Void-free bondline</li> <li>• Excellent adhesive strength</li> <li>• High resistance to delamination</li> <li>• Good resistance to "popcorning" after exposure to lead-free solder reflow temperature</li> </ul> |
| <b>Cure</b>             | Heat cure                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Application</b>      | Die attach                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Surface Finishes</b> | Solder Resist, Flexible tape, Bare Silicon and Die passivation                                                                                                                                                                                                                                                                                                                                            |

LOCTITE ABLESTIK QMI538NB is a non-conductive die attach paste designed for applications which require very low stress and robust mechanical properties.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

|                               |       |
|-------------------------------|-------|
| Viscosity, 5 rpm @ 25°C, cP   | 8,200 |
| Thixotropic Index (0.5/5 rpm) | 5.0   |
| Specific Gravity              | 1.34  |
| Pot life @ 25 °C, hours       | 24    |
| Shelf Life @ -40°C, months    | 12    |
| Flash Point - See SDS         |       |

## TYPICAL CURING PERFORMANCE

### Recommended Cure Schedule

- 30 minutes @ 175°C or
- 60 minutes @ 150°C

The above cure profile is a guideline recommendation. 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                                   | 59                    |
| Above Tg                                   | 130                   |
| Glass Transition Temperature (Tg), °C      | -70                   |
| Tensile Modulus , @ 25°C                   | N/mm <sup>2</sup> 100 |
|                                            | (psi) (14,500)        |

Extractable Ionic Content, ppm:

|                |     |
|----------------|-----|
| Chloride (Cl-) | <20 |
| Potassium (K+) | <20 |
| Sodium (Na+)   | <20 |
| Fluoride (F-)  | <20 |

## TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength 300 x 300 mil die on Ceramic, 1 mil BLT:

|                       |      |
|-----------------------|------|
| @ 25°C, average kg-f  | >100 |
| @ 275°C, average kg-f | 15   |

## GENERAL INFORMATION

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

### 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.

## 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.

## 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

(°C x 1.8) + 32 = °F  
 kV/mm x 25.4 = V/mil  
 mm / 25.4 = inches  
 N x 0.225 = lb  
 N/mm x 5.71 = lb/in  
 N/mm<sup>2</sup> x 145 = psi  
 MPa = N/mm<sup>2</sup>  
 MPa x 145 = psi  
 N·m x 8.851 = lb·in  
 N·m x 0.738 = lb·ft  
 N·mm x 0.142 = oz·in  
 mPa·s = cP

## Disclaimer

Reference 0.1

### 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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