

LOCTITE[®] ABLESTIK QMI9507-2A1

January 2018

PRODUCT DESCRIPTION

LOCTITE[®] ABLESTIK QMI9507-2A1 provides the following product characteristics:

| | |
|-------------------------|--|
| Technology | Rubberized Epoxy |
| Cure | Heat cure |
| Product Benefits | <ul style="list-style-type: none"> Electrically conductive Hydrophobic Stable at high temperatures High adhesive strength Void-free bondline Controlled bondline thickness Thermally stable at 260°C reflow |
| Spacer Size | 1 mil |
| Application | Die attach |
| Filler Type | Silver |
| Substrates | Wide variety of metals, Ceramic surfaces, Copper, Ni/Pd/Au, Alloy 42 leadframes and Silver-plated copper leadframes |

LOCTITE[®] ABLESTIK QMI9507-2A1 is developed as soft-solder replacement. The optimized loading percentage is such that other bulk properties of the material remain unaffected.

This product and its use may be covered by patent 5,716,034 and by one or more pending patent applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

| | |
|---|--------|
| Thixotropic Index (0.5/5 rpm) | 4.13 |
| Viscosity, 5 rpm @ 25°C, cP | 21,700 |
| Work Life @ 25°C, hours | 24 |
| Shelf Life @ -40°C (from date of manufacture), months | >6 |
| Specific Gravity @ 25°C | 4.1 |

TYPICAL CURING PERFORMANCE

Oven Cure

30 minutes @ 185°C

Recommended Snap Cure Condition

| Zone No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Total Time |
|----------|-----|-----|-----|-----|-----|-----|-----|------------|
| Temp °C | 170 | 170 | 170 | 190 | 190 | 190 | 190 | 70 sec |

LOCTITE[®] ABLESTIK QMI9507-2A1 is designed to achieve UPHs several orders of magnitude higher than conventional oven cured

adhesives. Maximum productivity is realized through in-line cure, either on the diebonder using a post diebond heater or on the wirebonder preheater.

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and specific 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, TMA: | |
| Below Tg, ppm/°C | 53 |
| Above Tg, ppm/°C | 156 |
| Glass Transition Temperature(Tg), °C | 3.3 |
| Thermal Conductivity, W/(m-K) | 6 to 7 |
| DMA Modulus @ 25°C, GPa | 3.37 |
| Extractable Ionic Content, : | |
| Chloride (Cl-) | <20 |
| Sodium (Na+) | <20 |
| Potassium (K+) | <20 |
| Fluoride (F-) | <20 |

Electrical Properties

| | |
|-----------------------------|---------|
| Volume Resistivity, ohms-cm | 0.00004 |
|-----------------------------|---------|

TYPICAL PERFORMANCE OF CURED MATERIAL

Die Shear Strength:

| | |
|-------------------------------------|----|
| 300 x 300 mm die on Ag/Cu LF, kg-f: | |
| @ 25°C | 57 |
| @ 245°C | 21 |

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 -40°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.
4. Sufficient bondforce should be applied to control the bondline thickness. Optimization of diebonding parameters is strongly recommended to consistently meet target bondline thickness.
5. Alternate dispense amounts may be used depending on the application requirements.
6. Star or crossed shaped dispense patterns will yield fewer bondline voids than the matrix style of dispense pattern.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local Henkel representative for assistance and recommendations on the specifications of 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 Henkel Representative.

Conversions

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

Disclaimer**Note**

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