

LOCTITE ABLESTIK QMI529HT-2C2

December 2017

PRODUCT DESCRIPTION

LOCTITE ABLESTIK QMI529HT-2C2 provides the following product characteristics:

Technology	BMI Hybrid
Appearance	Silver
Cure	Snap Cure and Heat cure
Product Benefits	<ul style="list-style-type: none"> • Excellent electrical conductivity • High thermal conductivity • 2 mil bondline thickness • Void-free bondline • Hydrophobic • Stable at high temperatures • High MSL reliability and resistance to delamination • 260°C reflow capability for Pb-free applications
Application	Die attach
Filler Type	Silver
Key Substrates	Wide variety of metals and ceramic surfaces, Preplated leadframes (NiPdAu) and Alloy 42

LOCTITE ABLESTIK QMI529HT-2C2 conductive die attach adhesive is formulated for bondline control and soft-solder replacement or for applications that require higher thermal or electrical conductivity.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Thixotropic Index (0.5/5 rpm)	4.8
Viscosity @ 25 °C, mPa·s (cP):	
Speed 5 rpm	18,500
Specific Gravity @ 25°C	4.1
Pot Life @ 25°C, hours	24
Shelf Life @ -40°C (from date of manufacture), year	1
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE Recommended Snap Cure Schedule

(7 Zone)

10 seconds each: 170°C, 170°C, 170°C, 190°C, 190°C, 190°C, 190°C

Oven Cure

30 minute ramp to 185°C + 30 minutes @ 185°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 , TMA:	
Below Tg, ppm/°C	53
Above Tg, ppm/°C	156
Glass Transition Temperature (Tg) by TMA, °C	
	3.3
Thermal Conductivity , W/(m-K)	
	7.8
Tensile Modulus, DMTA :	
@ 25 °C	N/mm ² 3,370 (psi) (489,000)
Extractable Ionic Content, @ 100°C ppm:	
Chloride (Cl-)	<10
Sodium (Na+)	<10
Potassium (K+)	<10
Fluoride (F-)	<10

Electrical Properties:

Volume Resistivity, ohms-cm	0.00004
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TYPICAL PERFORMANCE OF CURED MATERIAL

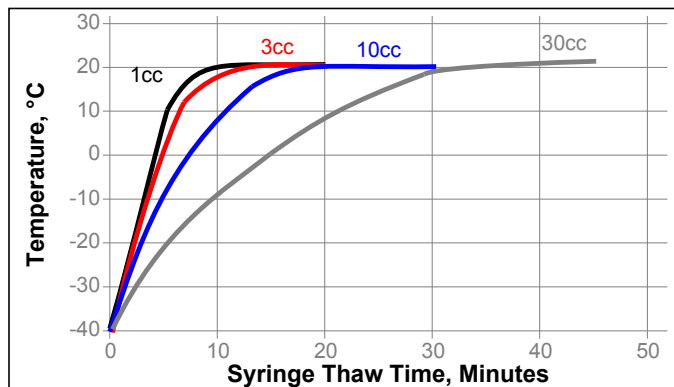
Die Shear Strength, kg-f/die:	
7.62 x 7.62 mm (300 x 300) Si die on Ag/Cu Leadframe:	
@ 25°C	57
@ 245°C	21

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. Refer to the Syringe Thaw time chart for the thaw time recommendation.
4. 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.
5. DO NOT re-freeze. Once thawed to -40°C, the adhesive should not be re-frozen.

**Conversions**

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

DIRECTIONS FOR USE

1. The minimum needle size that should be used for dispense is one with an ID of at least 150 μm .
2. Sufficient bond force (approximately 50 to 75 g/mm²) should be applied so that the spacers can assist in control of the bondline thickness. Optimization of die bonding parameters is strongly recommended to consistently meet target bondline thickness.

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.

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Reference 0.1