

LOCTITE ABLESTIK QMI529HT

July 2015

PRODUCT DESCRIPTION

LOCTITE ABLESTIK QMI529HT provides the following product characteristics:

Technology	BMI/Acrylate
Appearance	Silver
Filler Type	Silver
Product Benefits	• Excellent electrical conductivity • Excellent thermal conductivity • Hydrophobic • Stable at high temperatures • High resistance to delamination • Void-free bondline • Excellent adhesive strength • High resistance to heat and humidity • Good resistance to "popcorning" after exposure to reflow temperatures
Cure	Heat cure
Application	Die attach
Surface Finishes	Copper, Silver-plated copper, Preplated leadframes (Ni/Pd/Au) and Alloy 42
Typical Applications	IC and component attach

LOCTITE ABLESTIK QMI529HT die attach paste was developed as a soft-solder replacement or for high UPH performance applications. Maximum productivity is realized through in-line cure, either on the diebonder using a post diebond heater or on the wirebonder preheater.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, 5 rpm @ 25°C, cP	18,500
Thixotropic Index	4.8
Specific Gravity	4.1
Pot life @ 25°C, hours	24
Shelf Life @ -40°C, days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Snap Cure Schedule

(Single Zone)

60 seconds @ 185°C

Alternate Snap Cure Condition

Snap Cure

Zone #	1	2	3	4	5	6	7	Total Time
Temp °C	170	170	170	200	200	200	200	70 sec

Oven Cure

30 minutes @ 185°C or

30 minutes @ 200 to 220°C (for higher adhesion)

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	53
Above Tg	156
Glass Transition Temperature (Tg), °C	3.3
Coefficient of Thermal Conductivity, W/(m-K)	6.5
Tensile Modulus, @ 25°C	N/mm ² 3,300
	(psi) (478,500)
Extractable Ionic Content, ppm:	
Chloride (Cl-)	≤20
Potassium (K+)	≤20
Sodium (Na+)	≤20
Fluoride (F-)	≤20

Electrical Properties

Volume Resistivity, ohms-cm	4×10 ⁵
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TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength 300 x 300 mil die on Ag/Cu LF:

@ 25°C, average kg-f	57
@ 245°C, average kg-f	21

GENERAL INFORMATION

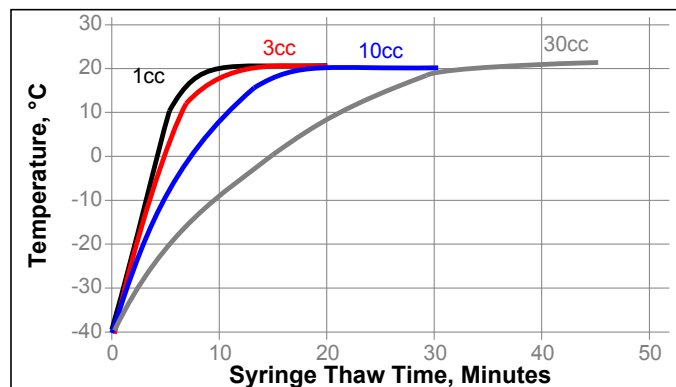
For safe handling information on this product, consult the Safety Data Sheet, (SDS).

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.



Directions for use

Dispensing and Bondline Control:

1. LOCTITE ABLESTIK QMI529HT adhesion is tested using 1 mil bondline thickness. Thinner bondlines increase stress and may affect adhesion.
2. Optimization of die bonding parameters is strongly recommended to consistently meet target bondline thicknesses.

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

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

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 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