Technical Data Sheet

LOCTITE ABLESTIK QMI536HT

April 2014

PRODUCT DESCRIPTION

LOCTITE ABLESTIK QMI536HT provides the following product characteristics:

Technology	BMI/Acrylate
Appearance	Pink
Filler Type	Boron Nitride
Product Benefits	• Electrically non-conductive • Hydrophobic • Stable at high temperatures • Void-free bondline • Excellent interfacial adhesion strength • Good resistance to "popcorning" after exposure to reflow temperatures • Excellent dielectric properties
Cure	*Skip*-Cure Process or Heat Cure
Application	Die attach
Typical Package Application	PBGA, Array packages, Tape packs and CSP
Typical Applications	Heat sinks, Heat slugs and Flip Chip
Surface Finishes	Solder Mask, BT, FR, Au, Silicon, Polyimide, Kapton™, Palladium, Alloy 42 and Mylar™

LOCTITE ABLESTIK QMI536HT die attach paste was designed to attach integrated circuits and components to advanced substrates.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity @ 25 °C, mPa·s (cP):	
Speed 5 rpm	13,000
Thixotropic Index (0.5/5 rpm)	5.5
Specific Gravity @ 25ºC	1.25
Pot life @ 25 °C, hours	24
Shelf Life @ -40°C, days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Conventional Oven

15 minutes @ 150°C at bondline

Snap Cure Schedule

≥10 seconds @ 150°C at bondline

Tunnel Oven configured with hot gas or IR

≥10 seconds @ 150°C at bondline

***Skip*Cure Process**

≥8 seconds @ 150°C at bondline

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 , ppm/°C:		
Below Tg		66
Above Tg		177
Glass Transition Temperature (Tg), °C		4
Coefficient of Thermal Conductivity, W/(m-K)		0.9
Tensile Modulus , @ 25ºC	N/mm² (psi)	850 (123,250)
Extractable Ionic Content, ppm:		
Sodium (Na+)		<20
Potassium (K+)		<20
Chloride (Cl-)		<20
Fluoride (F-)		<20
Water Absorption wt., %:		
168 hours @ 85°C/85 RH		<0.35
Alpha Particle Emissions, cts/cm² /hr		0.0007

Electrical Properties

Dielectric Constant @ 1 MHz, @ 25ºC	3.4
Volume Resistivity, ohms-cm	1×10^{13}

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength @ 25 °C, kg-f:	
0.635 x 0.635 mm, 0.254 mm BLT	17

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.

Directions for use
Dispensing and Bondline Control:

1. LOCTITE ABLESTIK QMI536HT adhesion is tested using 1 mil bondline thickness. Thinner bondlines increase stress and may affect adhesion.
2. LOCTITE ABLESTIK QMI536HT has excellent rheology and flow easily under shear stresses such as those present during die bonding.
3. 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
(°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/mm² x 145 = psi
MPa = N/mm²
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
Note
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