Technical Data Sheet

LOCTITE ABLESTIK QMI536

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PRODUCT DESCRIPTION

LOCTITE ABLESTIK QMI536 provides the following product characteristics:

Technology	Bismaleimide Resin
Appearance	White paste
Components	One component - requires no mixing
Cure	Heat cure
Application	Die attach

LOCTITE ABLESTIK QMI536 is a Fluoropolymer filled non-conductive adhesive for attachment of intergated circuits and components to advanced substrates, including PBGAs, CSPs, array packages, and stacked die. This material is hydrophobic and stable at high temperatures. These features produce a void-free bond line with excellent interfacial adhesive strength to a wide variety of organic and metal surfaces, including solder mask, BT, FR, polyimide, and Au. The adhesive also has excellent dielectric properties. LOCTITE ABLESTIK QMI536 can be cured in a conventional oven, on a snap cure oven, or utilize SkipCure™ processing on a die bonder or wire bonder. The material is formulated to produce cure onset below 100°C. This can reduce or eliminate the need to pre-dry organic subsrates prior to the die attach process.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.26
Viscosity @ 25 °C, mPa·s (cP):	
Speed 5 rpm	8,500
Thixotropic Index (Speed 0.5/speed 5)	5.7
Pot Life @ 25 °C, hours	24
Shelf Life @ -40ºC , days	365
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

*Skip*Cure	≥10 @ 150°C
Convection Box Oven	15 minutes @ 150 °C

The above thermal compression profile and post cure condition are guideline recommendations. These 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

Extractable Ionic Content, ppm:		
Sodium (Na+)		≤20
Potassium (K+)		≤20
Chloride (Cl-)		≤20
Fluoride (F-)		≤20
Moisture Absorption, 168 hours @ 85°C/85% RH, wt.%		≤0.35
Glass Transition Temperature, °C		-31
Coefficient of Thermal Expansion , TMA:		
Alpha 1, ppm/°C		98
Alpha 2, ppm/°C		174
DMA Modulus @ 25°C	GPa	0.3
	(N/mm²)	(300)
	(psi)	(43,500)
Thermal Conductivity , W/(m-K)		0.3
Alpha Particle Emissions, particles/cm² /hr		0.0007

Electrical Properties

Volume Resistivity, ohm-cm	$>1\times10^{13}$
Dielectric Constant @ 25ºC, 1 MHz	2.6

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Die Shear Strength @ 25°C:

7.6 x 7.6 mm, 0.0254 mm BLT, Si die on 17 Ag-plated Cu LF, kg-f

GENERAL INFORMATION

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

Directions for use

Dispensing and Bondline Control:

- LOCTITE ABLESTIK QMI536 adhesion is tested using 150 mil X 150 mil die with 1 mil bondline thickness. Since thinner bondlines increase stress and may affect adhesion, please call your nearest Technical service engineer for consultation in cases where bondlines less than 1 are desired
- LOCTITE ABLESTIK QMI536 has excellent rheology and flows easily under shear stresses such as those present during die bonding. Therefore, bondforces used with other adhesives which produce a certain bondline thickness, may result in thinner bondlines with LOCTITE ABLESTIK QMI536. Optimization of die bonding parameters is strongly recommended to consistently meet target bondline thicknesses.

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.

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
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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Note:
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