

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 @ 25°C 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

SkipCure 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, @ 25°C N/mm² 850
(psi) (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, @ 25°C 3.4

Volume Resistivity, ohms·cm 1×10¹³

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

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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