

### PRODUCT DESCRIPTION

QMI 529HT is a highly silver filled, conductive adhesive designed to provide high (6-7 W/m<sup>2</sup>K) thermal conductivity and excellent electrical conductivity for attachment of integrated circuits and components to metallic leadframes. The material is hydrophobic and stable at high temperatures. These features produce void-free bond lines with excellent adhesive strength to a wide variety of metals and ceramic surfaces, including copper, silver-plated copper, preplated leadframes (NiPdAu) and Alloy 42. A package or device manufactured with QMI 529HT will have high resistance to delamination and popcorning after multiple exposures to lead-free solder reflow temperatures. The QMI 529HT is designed to achieve UPHs several orders of magnitude higher than conventional oven cured adhesives. Maximum productivity is realized through in-line cure, either on the diebonder using a post diebond heater or on the wirebonder preheater.

"This product and its use may be covered by patent 5,717,034 and by one or more pending patent applications."

### TYPICAL APPLICATIONS

This product was developed as soft-solder replacement or for applications that require higher thermal or high electrical conductivity.

### TYPICAL PROPERTIES

	Typical Value	Test Method
Viscosity, 5 rpm @ 25°C, cP	18500	TM547
Thixotropic Index	4.8	TM547
Potlife @ 25°C, hours	24	TM592
Shelf life @-40°C	12	TM589
Specific gravity	4.10	TM461
Die Shear (300mil x 300 mil die on Ag-Cu)		
Average kgf @25°C	57	TM558
Average kgf @245°C	21	TM558
Extractable Ion Content, ppm Na, K, Cl, F	≤ 20	TM449
Glass Transition (Tg), °C	3.3	TM458
Coefficient of Thermal Expansion (TMA)		
Below Tg, ppm/°C	53	TM433
Above Tg, ppm /°C	156	TM433
Volume Resistivity, ohm-cm	0.00004	TM572
DMA modulus @ 25°C, GPa	3.37	TM458

The above characteristics and values represent typical material properties only and are not to be used for material specification purposes. To generate a specification for this product, please contact our Quality Manager and request a copy of the current stock specification.

### STORAGE AND HANDLING

QMI 529HT is supplied in syringes and should be stored at -40°C. Please review Henkel's current Die Attach Handling Procedure for additional details on thawing and usage.

### DISPENSING AND BONDLINE CONTROL

QMI 529HT adhesion is tested using 1 mil bondline thickness. Since thinner bondlines increase stress, please call your nearest Loctite Electronic Material technical service engineer for consultation in cases where bondlines less than 1 mil are desired. Optimization of diebonding parameters is strongly recommended to consistently meet target bondline thickness.

### CURE SCHEDULE

QMI 529HT can be cured using a variety of times and temperatures, depending on the specific cure equipment. QMI 529HT may be cured in conventional ovens or using snap cure equipment. One of the following cure schedules is recommended.

Snap Cure (single zone): 60 seconds @ 185°C

Snap Cure (7-zone): 10 seconds each @ 170°C, 170°C, 170°C, 200°C, 200°C, 200°C, 200°C

Oven cure: 30 min. @ 185°C

For higher adhesion use: 30 min @ 200 – 220°C

For cure schedule recommendations, please contact your nearest Loctite Electronic Materials representative.

### GENERAL INFORMATION

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

### Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

NOT FOR PRODUCT SPECIFICATIONS  
THE TECHNICAL INFORMATION CONTAINED HEREIN IS INTENDED AS REFERENCE ONLY. PLEASE CONTACT TECHNICAL SERVICE FOR ASSISTANCE AND RECOMMENDATIONS ON SPECIFICATIONS FOR THIS PRODUCT.

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