

Gelease™ MG-122 Thermally Conductive Gel

Description

LORD Gelease™ MG-122 thermally conductive gel is a one-component, silicone interface material that exhibits the low thermal resistance properties of a grease while possessing the integrity of a gel. It is specifically developed for excellent HAST resistance.

Gelease MG-122 gel is designed to provide efficient heat transfer from flip chip microprocessors, PPGAs, BGAs, microBGAs, DSP chips, graphic accelerator chips, and other high wattage electronic components. The gel is formulated to inhibit bleed, separation and pump-out that are typically observed in many thermal interface materials.

Features and Benefits

Excellent HAST Resistance – enhances reliability of non-hermetic packaged devices in high humidity environments.

High Thermal Conductivity – provides high thermal conductivity for applications where superior heat dissipation is required.

Low Thermal Resistance – provides minimal thermal resistance due to low viscosity and good wetting.

High Reliability – provides excellent resistance to moisture and temperature cycling; resists pump-out and cracking.

Reworkability – low modulus at elevated temperatures allows material to be repaired.

Application

Applying – Before use with dispensing equipment, allow gel to be warmed to room temperature (ideally 20-25°C). Thaw gel by placing syringe in a vertical (upright) position with dispense tip facing downward in an ambient environment. Consult handling instructions for specific guidelines.

Typical Properties*

Uncured

| | |
|-------------------------|------------|
| Appearance | Gray Paste |
| Viscosity, cps @ 25°C | |
| 20 rpm | 60,000 |
| 10 rpm | 85,000 |
| Specific Gravity | 2.57 |
| Gel Time, min @ 100°C | 8 |
| Working Life, hr @ 25°C | 16 |

Cured

| | |
|--|--------------------|
| Volume Resistivity, ohm-cm @ 25°C | 8×10^{13} |
| Thermal Conductivity, W/mK | 2.8 |
| Coefficient of Linear Thermal Expansion, ppm/°C alpha 2 | 232 |
| Glass Transition Temperature, °C by TMA | -121 |
| Storage Modulus, Pa @ 25°C | 32,000 |

*Data is typical and not to be used for specification purposes.

LORD TECHNICAL DATA

Mount syringe onto the dispensing equipment that has been thoroughly cleaned and purge gel through the system until an unbroken flow of gel is extruded. The system is now ready to begin dispensing.

Curing – Allow gel to cure for 60 minutes at 120°C or for 30 minutes at 150°C. This time-at-temperature profile refers to the time the bondline should be allowed to cure once it reaches the target temperature. Allowance should be made for oven ramp rates, parts with large thermal mass and other circumstances that may delay bondline actually reaching the target temperature.

Shelf Life/Storage

Shelf life is six months from date of manufacture when stored at -30°C in original, unopened container. Syringe must be maintained at -30°C in a vertical (upright) position with the dispense tip facing down. Do not store syringe on its side (horizontally).

This material is shipped and stored frozen. Consult handling instructions for thawing.

Cautionary Information

Before using this or any LORD product, refer to the Material Safety Data Sheet (MSDS) and label for safe use and handling instructions.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

Values stated in this technical data sheet represent typical values as not all tests are run on each lot of material produced. For formalized product specifications for specific product end uses, contact the Customer Support Center.

Information provided herein is based upon tests believed to be reliable. In as much as LORD Corporation has no control over the manner in which others may use this information, it does not guarantee the results to be obtained. In addition, LORD Corporation does not guarantee the performance of the product or the results obtained from the use of the product or this information where the product has been repackaged by any third party, including but not limited to any product end-user. Nor does the company make any express or implied warranty of merchantability or fitness for a particular purpose concerning the effects or results of such use.

Release and "Ask Us How" are trademarks of LORD Corporation or one of its subsidiaries.

LORD provides valuable expertise in adhesives and coatings, vibration and motion control, and magnetically responsive technologies. Our people work in collaboration with our customers to help them increase the value of their products. Innovative and responsive in an ever-changing marketplace, we are focused on providing solutions for our customers worldwide . . . Ask Us How.

LORD Corporation World Headquarters

111 Lord Drive
Cary, NC 27511-7923
USA

Customer Support Center (in United States & Canada)
+1 877 ASK LORD (275 5673)

www.lord.com