

Gelease™ MG-100 Thermally Conductive Gel

Description

LORD Gelease™ MG-100 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 formulated to be electrically insulative.

Gelease MG-100 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

Electrically Insulative – provides electrical insulation in applications where high voltage potential exists.

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.

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.

Typical Properties*

Uncured

Appearance	White Paste
Viscosity, cps @ 25°C	
1 rpm	1,700,000
10 rpm	> 400,000
Specific Gravity	3.15
Gel Time, min @ 100°C	8
Working Life, hr @ 25°C	72

Cured

Volume Resistivity, ohm-cm @ 25°C	2×10^{14}
Thermal Conductivity, W/mK	2.1
Coefficient of Linear Thermal Expansion, ppm/°C alpha 2	210
Glass Transition Temperature, °C by TMA	-121
Storage Modulus, Pa @ 25°C	20,000

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

LORD TECHNICAL DATA

Curing – Allow gel to cure for 60 minutes at 100°C or for 10 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.

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