

CoolTherm® MT-125 Thermally Conductive Adhesive

Description

LORD CoolTherm® MT-125 thermally conductive adhesive is a rapid cure, one-component adhesive specifically designed for applications requiring a long working life adhesive with high thermal conductivity. CoolTherm MT-125 adhesive is suitable for use as a thermal interface adhesive for heat sink attachment and other applications requiring good adhesion and heat transfer properties.

Features and Benefits

Fast Cure – rapidly cures at 150°C.

Excellent Adhesion – provides excellent adhesion to ceramics, aluminum and other metal substrates.

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

Excellent Dispensability – allows high-speed, accurate syringe dispensing of fine dots or lines; can be used with time/pressure, positive displacement or linear dispense heads.

Application

Applying – Before use with dispensing equipment, allow adhesive to be warmed to room temperature (ideally 20-25°C). Thaw adhesive by placing the 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	100,000
Specific Gravity	2.1
Working Life, wk @ 25°C	2

Cured

Volume Resistivity, ohm-cm @ 25°C	2×10^{13}
Thermal Conductivity, W/m·K	2.35
Coefficient of Linear Thermal Expansion, ppm/°C	
alpha 1	31
alpha 2	73
Glass Transition Temperature, °C by TMA	123
Hardness Shore D	86
Lap Shear Strength, MPa (psi) AL/AL	21 (3000)
Storage Modulus, MPa @ 30°C	7000

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

LORD TECHNICAL DATA

Mount the syringe onto the dispensing equipment that has been thoroughly cleaned and purge adhesive through the system until an unbroken flow of adhesive is extruded.

Note: This material contains metal particles and should not be used in applications where high voltage insulation is needed.

Curing – Allow adhesive to cure for 30 minutes at 100°C, or for 8 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 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 Safety Data Sheet (SDS) 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.

***Handling instructions are available on LORD.com.*

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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