

# LORD MT-815 Low Modulus Thermally Conductive Adhesive

## Description

LORD MT-815 low modulus thermally conductive adhesive is a silver-filled, one-component adhesive designed for use as a thermal interface adhesive on high power devices such as microprocessors or other applications where superior heat dissipation is required. LORD MT-815 adhesive is suitable for use on ceramic and organic substrates, and can also be used as a lid seal adhesive eliminating the need for a second attach adhesive. LORD MT-815 adhesive was developed for large package applications.

## Features and Benefits

**Low Stress** – exhibits low shrinkage and stress on components as it cures.

**Excellent Adhesion** – provides excellent adhesion to a variety of surfaces including silicon, copper and nickel plated copper.

**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.

**Broad Temperature Range** – can be used on parts and devices that experience operating temperatures from -40 to +125°C.

## Typical Properties\*

### Uncured

Appearance	Silver Paste
Viscosity, cps @ 25°C 35 mm cone, 2 rpm	70,000
Specific Gravity	3.8
Working Life, hr @ 25°C	24

### Cured

Thermal Conductivity, W/mk	12
Coefficient of Linear Thermal Expansion, ppm/°C below Tg	54
above Tg	150
Glass Transition Temperature (Tg), °C by TMA	11
Die Shear Strength, psi	6000
Storage Modulus, MPa @ 25°C 3 pt bend	500

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

# LORD TECHNICAL DATA

## 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.

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.

**Curing** – Allow adhesive to cure for 60 minutes at 125°C; for 60 minutes at 90°C followed by 60 minutes at 160°C; or for 40 minutes ramp from room temperature to 160°C with a 60-minute dwell time at 160°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. For optimum curing conditions tailored to specific applications, contact LORD customer support center.

## Shelf Life/Storage

Shelf life is six months from date of manufacture when stored at -40°C in original, unopened container. Syringe must be maintained at -40°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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