

Thermoset™ MT-431 Thermally Conductive Adhesive

Description

LORD Thermoset™ MT-431 thermally conductive adhesive is a thermal die lid attach adhesive designed for use in assemblies where thermal dissipation, along with high adhesion and low modulus, are desired.

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 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.

Cleanup – Clean equipment and tools prior to the adhesive cure with isopropyl alcohol or similar solvents in a well-ventilated area.

General Properties*

Uncured

Appearance	Gray Paste
Viscosity, cps @ 25°C	
300 rpm	165,000
600 rpm	131,000
Specific Gravity	3.85
Working Life, day @ 25°C	2

Cured

Volume Resistivity, ohm-cm @ 25°C ASTM D 257	–
Thermal Conductivity, W/mk	3.1
Coefficient of Linear Thermal Expansion, ppm/°C	208
Glass Transition Temperature (Tg), °C by DMTA	-10
Hardness Shore D	–
Die Shear Strength, MPa Si die on Ni-coated Cu	17.2
Storage Modulus, MPa by DMTA	
@ 25°C	170
@ 150°C	70

*Data is typical, based on a small number of pre-production batches, and not to be used for specification purposes.

LORD PRE-PRODUCTION PROPERTIES SHEET

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 property 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.

Thermoset 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