

CoolTherm[®] EP-96 Epoxy Adhesive

Description

LORD CoolTherm[®] EP-96 adhesive is a one-component, thixotropic epoxy adhesive designed for use in the assembly of electronic components and devices. This adhesive is a modified version of CoolTherm EP-6150 adhesive with enhanced air-release characteristics.

CoolTherm EP-96 adhesive offers good adhesion to a wide variety of substrates, and can be used in demanding high-end device assembly applications.

Features and Benefits

Excellent Stability – provides excellent thermal stability; can be used on parts and devices that experience continual operating temperature up to 180°C.

Fast Cure – rapidly cures at 121°C and 177°C.

Chemically Resistant – provides excellent resistance to acids and strong bases.

Non-Sag – thixotropic rheology allows shape to be maintained after dispensing and exhibits minimal flow during curing.

Application

Surface Preparation – Remove soil, grease, oil, fingerprints, dust, mold release agents, rust and other contaminants from the surfaces to be bonded by solvent degreasing or alkaline cleaning.

On metal surfaces which are free of oxidation, use an isopropyl alcohol wipe. If necessary, use an abrasive material to remove tarnish. Always follow abrasion by a second cleaning to ensure removal of loose particles.

Applying – Before use on dispensing equipment, allow adhesive to be warmed to room temperature (ideally 20-25°C). Warm 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.

**Handling instructions are available on LORD.com.

Typical Properties*

Uncured

Appearance	White Paste
Viscosity, cps @ 25°C	145,000
Specific Gravity	1.73
Gel Time, min	
@ 121°C	10
@ 177°C	1

Cured

Volume Resistivity, ohm-cm @ 25°C	>1 x 10 ¹⁵
Thermal Conductivity, W/m·K	0.6
Glass Transition Temperature (T _g), °C	141
Hardness @ 25°C	90
Shore D	
Tensile Shear Strength, MPa (psi)	>11.03 (>1600)
AL-AL	
Dielectric Strength, kV/mm (V/mil)	>19.7 (>500)
Dielectric Constant @ 25°C	3.9
1 kHz	
Dissipation Factor @ 25°C	0.01
1 kHz	

*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 encapsulant through the system until an unbroken flow of encapsulant is extruded. The system is now ready to begin dispensing.

CoolTherm EP-96 adhesive is designed for use in masses of <5 grams. Larger masses or excessive temperatures may lead to violent exothermic reactions.

Curing – Allow adhesive to cure for 30 minutes at 121°C, or for 10 minutes at 177°C. This time-at-temperature profile refers to the time the material 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 material reaching the target temperature.

Shelf Life/Storage

Shelf life is three months from date of manufacture when stored at 0°C in original, unopened container. Syringe must be stored in a vertical (upright) position with the dispense tip facing down. Do not store syringe on its side (horizontally).

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.

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.

CoolTherm is a trademark 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.

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

For a listing of our worldwide locations, visit LORD.com.

