

CoolTherm® EP-301 AD Epoxy Resin

Description

LORD CoolTherm® EP-301 AD resin is a general purpose epoxy resin designed for use with CoolTherm EP-6010 hardener to create a two-component system for applications requiring excellent heat transfer, high fluidity and good air release, such as potting intricate circuitry or encapsulating power devices.

Features and Benefits

Durable – cures to a rigid system; provides good properties for room temperature cured system.

Versatile – suitable for use in castings up to 200g.

Broad Temperature Range – offers dimensional stability over a temperature range from -65°C to +155°C.

Electrically Insulative – provides excellent high voltage insulation.

Application

Mixing – Thoroughly stir CoolTherm EP-301 AD resin within its shipping container to ensure uniform dispersion. Transfer amount of resin needed to a clean container and add CoolTherm EP-6010 hardener at a 100:5.3 ratio, by weight. Thoroughly mix resin and hardener together. Be careful not to whip excessive air into the epoxy system. If necessary, remove entrapped air by evacuating material prior to pouring.

Applying – Apply epoxy system using automatic meter/mix/dispense equipment. Epoxy system is not recommended for use in castings of more than 200g.

Curing – Allow epoxy to cure for 24 hours at 25°C, or for 2 hours at 65°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.

For small castings, moderate heat may be used to accelerate cure.

Typical Properties* of Resin Mixed with Hardener

	CoolTherm EP-6010 Hardener
Mix Ratio, Resin to Hardener by Weight	100:5.3
Working Life, hr @ 25°C	2
Cure Time, hr @ 25°C	24
@ 65°C	2

Typical Properties*

Appearance	Black or White Liquid
Viscosity, cps @ 25°C	10,350
Specific Gravity @ 25°C	1.88

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

LORD TECHNICAL DATA

Shelf Life/Storage

Shelf life is one year from date of manufacture when stored at 25°C in original, unopened container.

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.

Typical Cured Properties**

	CoolTherm EP-6010 Hardener
Volume Resistivity, ohm-cm @ 25°C	1 x 10 ¹⁵
Thermal Conductivity, W/m·K	1.3
Coefficient of Linear Thermal Expansion, ppm/°C	26
Hardness Shore D	87
Tensile Strength, MPa (psi) @ 25°C	68 (9890)
Elongation at Break, %	1.7
Moisture Absorption, % 10 days @ 25°C	0.2
Linear Shrinkage, in/in	0.002
Dielectric Strength, kV/mm (V/mil)	19.7 (500)
Dielectric Constant @ 25°C	5.6
Dissipation Factor @ 25°C	0.02

**Data is typical and not to be used for specification purposes. Cure schedule of 2 hours at 65°C and 2 hours at 100°C.

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.

