

Thermoset EP-729 Board Level Encapsulant

Description

LORD Thermoset EP-729 encapsulant is a black, one-component epoxy specifically designed to meet the needs of coating semiconductor devices on printed circuit boards.

Features and Benefits

Convenient – requires no mixing; provides excellent shelf life stability; prepared under vacuum and contains no entrapped air or solvents.

Environmentally Resistant – provides excellent resistance to thermal shock and moisture.

Fast Cure – quickly cures at 150°C with a void-free, smooth surface.

Outstanding Adhesion – offers a fast elevated temperature cure for outstanding adhesion to a variety of materials.

Application

Applying – Before use on dispensing equipment, allow encapsulant to be warmed to room temperature (ideally 20-25°C). Allow encapsulant to warm by placing the container in a vertical (upright) position with dispense tip facing downward in an ambient environment. Consult handling instructions[†] for specific guidelines.

Apply encapsulant by pneumatic-powered syringe or by coating with a disposable applicator. Do not use for coating masses larger than 25 grams.

[†] Handling instructions are available on LORD.com.

Typical Properties*

Uncured

Appearance	Black Paste
Viscosity, cps @ 25°C Spindle 6, 10 rpm	58,000
Specific Gravity	1.49
Gel Time, min @ 150°C	5
Working Life, month @ 25°C	1

Cured**

Volume Resistivity, ohm-cm @ 25°C	1 x 10 ¹⁵
Coefficient of Linear Thermal Expansion, ppm/°C below T _g , by TMA	35
Glass Transition Temperature (T _g), °C by TMA	140
Hardness Shore D	88
Modulus of Elasticity, GPa by DMA	1
Dielectric Constant 1 MHz	4.0
Dissipation Factor 1 MHz	0.01

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

**Data obtained by using a cure schedule of one hour at 150°C. Choice of cure schedule will vary with the application; user must establish optimum cure schedule.

LORD TECHNICAL DATA

Curing – Allow encapsulant to cure for 30 minutes at 150°C in an elevated temperature circulating air oven or on a hot plate.

Cleanup – Disposable containers and utensils are recommended when working with epoxies. However, when disposable materials are impractical, uncured encapsulant can be removed by cleaning equipment with solvent. Solvent-cleaned utensils should be thoroughly dried before reuse; any remaining solvent can contaminate the next mixture.

Shelf Life/Storage

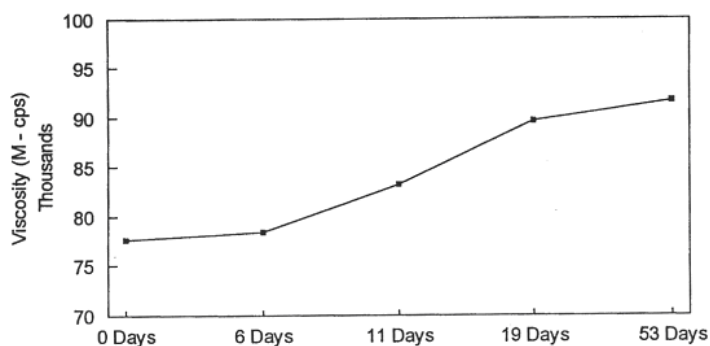
Shelf life is six months from date of manufacture when stored between 0°C and 5°C in original, unopened container. Do not store containers outdoors or in non-ventilated exterior structures. Store product away from heat sources such as ovens or hot plates. Elevated storage temperatures will shorten product's shelf life.

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.

Typical Viscosity vs. Time @ 25°C, 2.5 rpm for Thermoset EP-729 Encapsulant



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.

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