

CoolTherm™ EP-6028/6029 Epoxy Encapsulant

Description

LORD CoolTherm™ EP-6028/6029 encapsulant is a two-component epoxy system used for potting high voltage transformers, specifically units designed for high temperature service. CoolTherm EP-6028/6029 encapsulant provides a rigid epoxy system for use in applications where thermal shock is expected.

Features and Benefits

Environmentally Resistant – provides excellent resistance to thermal shock, mechanical shock, and high humidity conditions.

Broad Temperature Range – can be used on parts and devices that experience operating temperatures from -55°C to +155°C.

Low Exotherm – exhibits minimal exotherm, allowing pour of very large castings with minimal stress on the unit.

A-A-59877 Compliant – exceeds requirements of Military Specification/Standard A-A-59877.

Application

Mixing – Thoroughly stir each component within its shipping container to ensure uniform dispersion. Use of power mixing equipment is recommended. Transfer amount of resin needed to a clean container and add hardener at a 1:1 ratio, by weight.

Thoroughly mix encapsulant system. Be careful not to whip excessive air into the material. If necessary, remove entrapped air by evacuating material prior to pouring.

Applying – Apply encapsulant system using automatic meter/mix/dispense equipment.

Curing – Allow encapsulant to cure for 3-4 hours at 100°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.

Typical Properties*

	EP-6028 Resin	EP-6029 Hardener	Mixed
Appearance	Blue Liquid	Pink Liquid	Blue Liquid
Viscosity, cps @ 25°C	34,000	1800	15,000
Specific Gravity	1.6	1.6	1.6
Gel Time, min @ 100°C	–	–	45-60
Working Life, day @ 25°C	–	–	2-3

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

LORD TECHNICAL DATA

Typical Cured Properties*

Volume Resistivity, ohm-cm @ 25°C ASTM D 257	1 x 10 ¹⁵
Thermal Conductivity, W/m·K	0.45
Coefficient of Linear Thermal Expansion, ppm/°C ASTM C 864	32
Hardness Shore D	90
Tensile Strength, MPa (psi)	49.6 (7200)
Moisture Absorption, % 24 hours @ 25°C	0.15
Dielectric Strength, kV/mm (V/mil)	17.7 (450)
Dielectric Constant @ 25°C 100 kHz	4.5
Dissipation Factor @ 25°C 100 kHz	0.013

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Shelf Life/Storage

Shelf life of each component 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.

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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