

CoolTherm® EP-6035 Epoxy Encapsulant

Technical Data Sheet

CoolTherm® EP-6035 epoxy encapsulant is a two-component system recommended for use as a thermally conductive, thin bondline adhesive for attaching semiconductors to heat sinks, and as a low viscosity potting and casting product for applications where thermal conductivity and non-burning properties are required.

Features and Benefits:

Low Viscosity – maintains low viscosity for complete and void-free encapsulation.

High Thermal Conductivity – provides high thermal conductivity for applications where superior heat transfer is required.

Electrically Insulative – provides excellent high voltage insulation.

Low Exotherm – exhibits low exotherm heat rise during room temperature cure.

Broad Temperature Range – can be used on parts and devices that experience operating temperatures from -65°C to +155°C.

UL Rated – provides excellent flame retardancy; UL 94 V-0 certified.

Application:

Mixing – Thoroughly mix each component prior to combining resin and hardener. Mix CoolTherm EP-6035 BLK resin with CoolTherm EP-6035 hardener at a 1:1 ratio, by weight or volume.

Thoroughly mix epoxy 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 using automatic meter/mix/dispense equipment.

Curing – Allow encapsulant 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.

Shelf Life/Storage:

Shelf life of each component is one year when stored at 25°C in original, unopened container.

Typical Properties*

	EP-6035 BLK Resin	EP-6035 Hardener	Mixed
Appearance	Black Liquid	Tan Liquid	Black Liquid
Viscosity, cP @ 25°C	9500	14,000	12,000
Specific Gravity	1.60	1.55	1.57
Working Life, hours @ 25°C	–	–	2

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



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Typical Cured Properties*

Thermal Conductivity, W/m·K	1.0
Coefficient of Linear Thermal Expansion, ppm/°C	35
Hardness Shore D	75
Tensile Strength, MPa (psi)	34.5 (5000)
Elongation at Break, %	5.0
Volume Resistivity, ohm-cm @ 25°C ASTM D 257	1 x 10 ¹⁴
Dielectric Strength, kV/mm (V/mil)	18.7 (475)
Dielectric Constant @ 100 Hz	4.1
Dissipation Factor @ 100 Hz	0.025

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Cautionary Information:

Before using this or any Parker 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 document 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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