G6-EPOXY™

G6E-1KTMS™

ONE-COMPONENT THERMALLY CONDUCTIVE , NON-ELECTRICALLY CONDUCTIVE EPOXY

DESCRIPTION:

Our G6E-1KTMS™ Epoxy is a single component epoxy system that is developed for general purpose applications that necessitate the bonding or connecting of thermally conductive components/materials. It is designed to provide efficient heat transfer between components or surfaces, while also providing the bonding and adhesive properties of a traditional adhesive.

This product is unique in that it also requires strong electrical resistance, thereby broadening its range of possible applications. To achieve this, the G6E-1KTMS™ Epoxy is formulated with a blend of proprietary nanomaterials, additives and fillers, ensuring high performance and adaptability to a wide range of conditions.

FEATURES:

High Thermal Conductivity (1.8 W/mK): Our adhesive ensures efficient heat transfer from the heat-generating component to the heat sink or other thermal management components. It helps in dissipating heat quickly, preventing thermal issues like overheating and performance degradation.

Graphene Loaded: defining feature of the G6E-1KTMS is its incorporation of a proprietary graphene additive. Loading the adhesive with graphene enhances its cracking resistance, making it more resilient and capable of withstanding thermal cycling, mechanical stresses, and temperature variations without developing cracks or compromising the integrity of the bond.

Long working time: The system cures at 150°C/302°F in 30-40 minutes. It does not cure at room temperature (25°C / 77°F), so it has an unlimited working time and there is no need for it to be stored frozen.

No Mixing Required: As the name suggests, one -component adhesives consist of just one part, meaning there's no need for mixing before application. This makes them user-friendly and less error-prone than two-part or multi-component adhesives that require accurate mixing of the components.

Strong Electrical Resistance: Strong electrical resistance is a crucial characteristic for thermal conductive adhesives, especially in electronic applications. It prevents electrical short circuits and maintains the electrical integrity of the assembly.

Great Mechanical Properties: A thermal conductive adhesive with excellent mechanical properties can withstand thermal expansions, mechanical stresses, and environmental conditions without compromising the bond's integrity.

TYPICAL APPLICATIONS:

Electronic Assembly: helps in transferring heat away from sensitive electronic components, ensuring proper thermal management and preventing overheating.

Thermal Interface Materials (TIMs):
filling of microscopic gaps and imperfections in the interface, ensuring better contact and improved heat dissipation.

Solar panels: helps in enhancing the overall efficiency and reliability of solar panels.

Aerospace and Aviation: managing heat dissipatio- and ensuring reliable operation in demanding environments.

Automotive Applications: in bonding electronic control units (ECUs), power modules, and other heat-generating components to heat sinks or chassis, ensuring effective heat transfer and thermal stability.

LED Lighting:
ensuring proper thermal management and preventing degradation of LED performance due to excessive heat.

Medical Devices: bonding of heat sinks or thermal management components to these devices, aiding in heat dissipation and maintaining stable performance.

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SPECIFICATIONS OF UNCURED MATERIAL

ONE COMPONENT SYSTEM:	smooth gray paste
DENSITY:	1.3-1.4 g/cm³
CURING SCHEDULE:	1h @ 120°C / 248°F 30 min @ 150°C / 302°F
VISCOSITY:	60 to 80 Pa·s @ 25°C / 77°F

SPECIFICATIONS OF CURED MATERIAL

THERMAL CONDUCTIVITY:	1.8 W/m·K
GLASS TRANSITION TEMPERATURE (Tg):	78°C / 172°F
FLEXURAL MODULUS:	4-6 GPa at 25°C
LOSS MODULUS:	210 - 280 MPa at 25°C
HARDNESS, SHORE:	>75 D

The information provided is based on data and tests believed to be accurate. Graphene Laboratories, Inc. makes no warrantees (expressed or implied) as to accuracy and assumes no liability in connection with any use of this product.

GENERAL INFORMATION:

MIXING INSTRUCTIONS:	Stir component before use.
STORAGE & SHELF LIFE:	4 months @ 25°C / 77°F or up to 6 months @ 0°-10°C/32°F in unopened, unmixed containers. No freezing is required.
SHIPPING & HANDLING:	Always read both SDS before use. Use product with adequate ventilation. Keep away from sparks and open flames. Avoid prolonged contact with skin and breathing of vapors. Wash with soap and water to remove from skin.
ABOUT G6-EPOXY™:	All G6-EPOXY™ specifications are for normal use and routine applications. Please consult with our team to ensure the most appropriate selection of G6-EPOXY™ products. Depending upon your application requirements, a custom G6-EPOXY™ formulation may be available.

G6-EPOXY™
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