Silver/Graphene Conductive Epoxy G6E-SG™ is a two component adhesive intended for high performance bonding, sealing and coating purposes. We use a proprietary mix of silver and graphene materials to achieve a superb combination of mechanical and electrical properties. G6E-SG™ adhesive performs two primary functions. First, conductive adhesives form joints with sufficient strength to bond two surfaces together, and second, an electrical interconnection forms between the two bonded surfaces. Traditional epoxy materials tend to be brittle and are prone to mechanical failure. Graphene fillers add superior durability, fatigue and crack resistance in addition to low electrical resistance.

**Key Features**

- Silver/Graphene filled epoxy.
- Excellent electrical conductivity: 0.0001 Ohm x cm
- Great for die attachments and solderless interconnections.

**Product Information**

**TWO COMPONENT SYSTEM:** Part A – smooth thixotropic silver paste, Part B – smooth thixotropic silver paste. Mix 100 (Part A) to 50 (Part B) by weight.

**CURING INSTRUCTIONS:** Best results are obtained when product is cured at one of the following rates: 24 hours @ 25°C, 3 hours @ 80°C or 1 hour @ 150°C.

**COLOR:** Silver

**POT LIFE:** 3 hours

**GLASS TRANSITION TEMPERATURE:** 90°C

**MIXED VISCOSITY:** 110-120 Pa•sec at 25°C/77°F

**HARDNESS, SHORE:** >70 D

**VOLUME RESISTIVITY:** ~ 0.0001 Ohm x cm

**STORAGE:** Shelf life: 12 months at 25°C, in unopened, unmixed containers. Stores and ships at room temperature – no freezing or dry ice required.

**SAFETY & HANDLING:** Please always read the SDS before use. Use the 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.

**PACKAGING:** Part A-10 g (packaged in a jar) and Part B-5 g and Part A-30 g (packaged in a jar) and Part B-15 g. This epoxy can also be supplied in various different packaging based on customer’s needs.
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Application notes

G6E-GSTM is a two-component electrically conductive adhesive that is engineered to combine bond strength and high electrical conductivity. The epoxy composite is based on the mixture of graphene and silver particles. The graphene nanoparticles increase the electrical conductivity of the epoxy and enhance the strength of the material and prevent the formation of cracks, improving the durability of the bond. This is especially important for bonding dissimilar materials subjected to the temperature variations and shocks. The G6E-SGSTM resin works in broad temperature range and demonstrates excellent adhesion to a variety of materials including plastics, metals, glass and ceramics. It offers superb resistance to moisture, solvents and oxidants as well as exceptional durability. The G6E-SGSTM adhesive can be used as a solder replacement for applications where heating the component is undesirable. It can also be used when soldering is not practical, for example when attaching electric terminals to the transparent conductors, heat sensitive medical devices or solar panels.

Potential applications include:

- Solder replacement
- Attachment of electro optical components
- Grounding
- Repair of defective traces / tracks or creating smooth jumpers on PCB board.
- Lightning Strike Protection and EMI/RFI Shielding
- Low temperature bonding of electrical modules
- High frequency shields, waveguides, 3D antennas
- Terminal attachment to solar cell panels
- Quick and inexpensive LED mounting
- Conductive traces on 3D printed parts
- Radio-frequency identification (RFID) tags
- Easy repair of household electronics and car rear window defroster