

SILCOOL™ TGX450 One-component, Siloxane-based, Pre-cured Thermal Gel

Product Description

SILCOOL TGX450 is fully cured, single component, reworkable, cross-linked silicone thermal gel that can be used for high thermal applications. This product dispenses for filling gaps of varied thicknesses, encompassing superior long-term thermal stability and reliability. The product can be tailored from low to high flow, with the aid of solvent if needed.

Key Features and Typical Benefits

- High thermal conductivity; Electrically insulative
- 1 Part (Easy to use)
- Vertical position stability (when dispensed on surface and sandwiched)
- Does not require curing

Typical Physical Properties

Properties	SILCOOL TGX 450
Features	Pre cured, 1-part thermal gel
Color	pink
Thermal Conductivity (W/mK) (Hot disk)	4.5
Specific Gravity (g/cc)	2.9
Dispensability (EFD 30 cc syringe) (0.08" orifice, 90 psi (g/min)	20-30
Viscosity (DHR3 Rheometer, 25 mm parallel plate, 500 microns measuring gap) at 25 °C	
(Pas, 1 sec ⁻¹)	1486
(Pas, 10 sec ⁻¹)	333
Hardness (Shore E)	0
Minimum BLT (µm)	120
Weight Loss (150 °C/24 h) (wt%)	<0.5
Volatile Siloxane (D4-D10) (ppm)	< 500
Dielectric Strength (kV/mm)	18.8
Dielectric Constant	6.75
Volume Resistivity (Ohm-cm)	6.25 X 10 ¹⁰
Storage temperature (°C)	23

Typical properties are average data and are not to be used as or to develop product specifications.

Potential Applications

- Thermal interface materials between dies and heat spreaders
- Microprocessors, GPUs & multichip modules

General Considerations for Use

While the typical operating temperature for silicone materials ranges from -45°C to 200°C, the long-term maintenance of its initial properties is dependent upon design related stress considerations, substrate materials, frequency of thermal cycles, and other factors.

Handling and Safety

- Thoroughly clean the substrate with a suitable solvent & dry before applying.
- Wear eye protection and protective gloves when working with this product.
- Always maintain adequate ventilation in the workplace.

Storage

- Store in a cool, dry place out of direct sunlight.
- Keep out of the reach of children.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement, or recommendation to practice any invention covered by any patent without authority from the owner of the patent.

Product Safety, Handling, and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment, if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular application(s).

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