TCLAD

Technical Data

# Thermal Conductive Gel TCGL 6.5C

## Features & Benefits

- 6.5 W/mK Thermal Conductivity
- Post Cured 1K Thermal Gel
- Electrically Isolating
- Low Interfacial Resistance
- Superior Thermal Performance

## Applications

- Automotive Electronics (HEV, NEV, Batteries)
- PCBA to heatsink
- Discrete components to heat spreader
- Fiber optics and Telecom equipment

## Introduction

**TCLAD TCGL** is a thermally conductive gap filling material that is offered in a one-part material. The purpose of the material is to minimize thermal resistance between the heat source and the heat sink or heat spreader. This is a one-part post-cure Gel.

**Typical properties** of gap filling materials have the following characteristics: Thermal conductivity, viscosity, hardness, pot life, volume resistivity etc. It is typically offered in cartridges, or containers and can be dispensed through a static mixing nozzle with a handheld dispensing gun or by automated dispensing equipment.

**Mixing** is not needed; this liquid form is post cure. Once applied, the material should be placed in the interface and put into compression so that it can form around the surrounding surfaces to remove as much air and to wet out to the adjoining surfaces as much as possible.

**Useable life and storage:** TCGL products are best if stored in a cold and dry / non-humid environment at 0 °C, especially where it is not exposed to any sunlight. Whenever the cartridge container is ready for usage, put it aside in room temperature for at least 15 to 30 minutes prior to usage. Any unused material should be re-stored at 0 °C. The shelf life can be up to 12 months when properly stored.

**Package Information:** Typical package size, cartridges: 50cc, and 400 cc. Containers: 20L and 200L or 1Kg and 200Kg. Custom size available.

**Precautions:** Please review the technical datasheet of the material before use of the products in terms of the material characteristic to fit one's application. All values stated here are typical values.

We provide custom solutions for your applications. For further inquiries, please contact your local sales agent or directly to TCLAD in your region.

| Item | Condition | Unit | Value | Method |
|---|---|---|---|---|
| **General** | | | | |
| Color | Visual | - | Gray | - |
| Continuous Use Temp | - | °C | -50 ~ 200 | - |
| Flow Rate | 30 cc tube with 90psi air pressure and 0.09"nozzle | g/min | 90 | - |
| Density | 25°C | g/cc | 3.4 | ASTM D792 |
| Minimum Bondline | 25 °C | mm | 0.14 | - |
| Curing Time | 100 °C | mins | 10 | |
| Curing Time | 25 °C | Days | 7 | |
| **Electrical** | | | | |
| Dielectric Constant | 1 GHz | - | 8.0 | ASTM D150 |
| Dielectric Strength | - | kV/mm | 8 | ASTM D149 |
| Volume Resistivity | - | Ω·cm | > $1 \times 10^{13}$ | ASTM D257 |
| **Thermal** | | | | |
| Thermal Conductivity | - | W/m-K | 6.5 | ASTM D5470 |
| **Durability** | | | | |
| RoHS | - | - | Compliant | |
| Flame Rating | Vertical Burn Test | - | V-0 | UL94 |

**Applications Tips**:

- **Surface Preparation**: Thoroughly clean the surfaces before applying the liquid gap filler to ensure proper adhesion and to maximize thermal performance.
- **Proper Storage**: Store any unused materials in a cool, dry location and adhere to the manufacturer's guidelines for shelf life and storage conditions to maintain product integrity.

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