

CoolTherm® TC-2002 Thermally Conductive Structural Adhesive

Technical Data Sheet

CoolTherm® TC-2002 adhesive is a two-component adhesive system designed for use in structural bonding applications which require thermal conductivity with high bond strength.

Features and Benefits:

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

Broad Temperature Range – can be used on parts and devices that experience operating temperatures from -65°C to +100°C.

Low Coefficient of Thermal Expansion – minimizes the possibility of cracking during wide temperature cycling.

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

Electrically Isolative – provides good isolation for managing current corrosion.

Application:

Mixing – This adhesive system is designed for use with meter/mix/dispense equipment. Using a static mixing tip, mix resin with curative at a ratio of 10:1, resin to curative, by volume.

Applying – Apply adhesive system using automatic meter/mix/dispense equipment. Glass beads incorporated in the adhesive system maintain bondline thickness at 100 µm.

Curing – Allow adhesive to cure at room temperature (25°C). Handling strength is achieved in 20-25 minutes. Adhesive will cure to full strength in 2-3 hours.

Shelf Life/Storage:

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

Typical Properties*

| | TC-2002 A Resin | TC-2002 B Curative | Mixed |
|------------------------------|-----------------|--------------------|-----------|
| Appearance | Tan Paste | Gray Paste | Tan Paste |
| Viscosity, cP @ 25°C | 600,000 | 325,000 | 500,000 |
| Specific Gravity | 1.71 | 1.24 | 1.67 |
| Working Life, minutes @ 25°C | – | – | 7-8 |

*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 |
| Glass Transition Temperature (T _g), °C by DMA | 85 |
| Hardness Shore D | 73 |
| Lap Shear Strength, MPa (psi) @ 25°C Aluminum | 15.86 (2300) |
| Elongation at Break, % | 5 |
| Dielectric Strength, kV/mm (V/mil) | 19.0 (482.6) |

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

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 technical data sheet 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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Parker LORD
Engineered Materials Group

111 LORD Drive
Cary, NC 27511-7923
USA

phone +1 877 ASK LORD (275 5673)

www.lord.com