

COOLTHERM® TC-850 THERMALLY CONDUCTIVE STRUCTURAL ADHESIVE

Technical Data Sheet

CoolTherm® TC-850 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

Thermal Conductivity: provides 0.5 W/m·K of thermal conductivity for applications where superior heat dissipation is required.

Flexibility: provides high elongation to reduce stress on bonded joints caused by thermal cycling.

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.

Electrically Isolative: provides good isolation for managing current corrosion.

Optimized Processing: room-temperature curing eliminates the need for heat activation.

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 between 4°C and 25°C in original, unopened container. If stored cold, allow component to return to room temperature before using. Protect from exposure to direct sunlight.

Typical Properties*

	TC-850 Resin	TC-2002 B Curative	Mixed
Appearance	Tan Paste	Gray Paste	Gray Paste
Viscosity, cP @ 25°C	325,000	325,000	325,000
Specific Gravity	1.28	1.24	1.28
Working Life, minutes @ 25°C	–	–	6 - 10

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

Typical Cured Properties*

Thermal Conductivity, W/m-K Hot Disc Transient Method, ISO 22007-2	0.5
Glass Transition Temperature (T _g), °C ASTM E1640-99, by DMA	80
Hardness Shore D	65
Lap Shear Strength, MPa (psi) @ 25 °C Aluminum	18 (2610)
Elongation at Break, %	20
Dielectric Strength, kV/mm (V/mil) ASTM D 149	24 (609.6)

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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.

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