



FOR EXCEPTIONALLY LOW THERMAL RESISTANCE

The Tmate™ 2900 Series is a reusable phase change material (PCM) designed for ease of testing and rework ability. It has a composite construction of a special malleable metal alloy and a high-performance PCM.

At 50°C, the Tmate 2900 Series begins to soften and flow, filling the microscopic irregularities of the thermal solution, thus reducing thermal resistance.

It shows no thermal performance degradation after 1,000 hours @130°C, or after 500 cycles from -25°C to 125°C. The PCM softens and does not fully change state, resulting in minimal migration (pump-out) at operating temperatures (see viscosity curve). It is available in three thicknesses: 0.005" (0.125 mm), 0.010" (0.25 mm), and 0.020" (0.5 mm).

FEATURES AND BENEFITS

- Low thermal resistance at low pressures
- Reusable: make and break thermal interface connection many times
- Naturally tacky at room temperature, no adhesive required
- No heat sink preheating required

APPLICATIONS

- High frequency microprocessors
- Notebook and desktop PCs
- Computer servers
- Thermal test stands

global solutions: local support.™

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Europe: +46.31.704.67.57

Asia: +86.755.2714.1166

CLV-customerservice@lairdtech.com

www.lairdtech.com/thermal

SPECIFICATIONS

| PROPERTIES | Tmate™ 2905c | Tmate™ 2910c | Tmate™ 2920 | TEST METHOD |
|------------------------------------|---|---------------------------|---------------------------|-----------------------|
| Construction & composition | Foil reinforced boron nitride filled film | | | |
| Color | Yellow/Silver | | | Visual |
| Thickness | 0.005" (0.13 mm) | 0.010" (0.25 mm) | 0.020" (0.51 mm) | |
| Thickness tolerance | ± 0.001" (±0.03 mm) | ± 0.001" (±0.03 mm) | ± 0.002" (±0.05 mm) | |
| Density | 1.86 g/cc | 1.64 g/cc | 1.52 g/cc | Helium Pycnometer |
| Shelf life | 1 Year | | | |
| Temperature range | -25°C to 125°C | | | |
| Phase change softening temperature | 50°C to 70°C | | | |
| "Burn-In" temperature | 70°C for 5 min | | | |
| Thermal impedance | | | | |
| @20 psi | 0.07°C-in ² /W | 0.09°C-in ² /W | 0.27°C-in ² /W | ASTM D5470 (modified) |
| @130 KPa | 0.45°C-cm ² /W | 0.61°C-cm ² /W | 1.74°C-cm ² /W | |
| Volume resistivity | 5 x 10 ¹² ohm-cm | | | ASTM D257 |
| Dielectric constant @ 1 MHz | 4.2 | | | ASTM D150 |

Standard Thicknesses: 0.005" (0.13 mm) 0.010" (0.25 mm) 0.020" (0.51 mm)
Consult the factory for alternate thicknesses

Standard Sheet Sizes: 9" x 9" (229 mm x 229 mm)

Tmate™ 2900 sheets are supplied with a clear polyester top liner to protect phase change material.

Tmate™ 2900 is available in individual die cut shapes.

Adhesive: Pressure sensitive adhesive is not applicable for Tmate™ products.

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