



## PRODUCT DESCRIPTION

Tpcm™ 780SP is a high performance, easy to use, screen printable or stencilable phase change thermal interface material proving a great alternative to grease. Developed specifically to meet the high thermal conductivity and low thermal resistance requirements of today's demanding processors. It contains a solvent to assist in processing, which allows for wetting of the surface. However, after the solvent evaporates, it will be dry to the touch; therefore, eliminating the mess associated with grease.

Tpcm™ 780SP is a silicone-free material that begins to further soften and flow at approximately 45°C. This minimizes contact thermal resistance by filling the microscopic irregularities of the components it contacts. Designed with a specialty polymeric matrix which does not fully change phase, Tpcm™ 780SP drastically minimizes migration (pump out) over thermal greases and other phase change materials. Tpcm™ 780SP reliability has been demonstrated through exposure to 2000 hours of various aging tests resulting in proven dependability at an operating temperature of 125°C.

## FEATURES & BENEFITS

- Silicone-free for applications that are silicone sensitive
- No mess due to thixotropic characteristics which prevent flow outside of interface
- Very soft at room temperature, therefore less stress on board
- RoHS Compliant
- 94V0 UL Flammability Rating

## MARKETS

- Graphics Card
- Notebooks / Desktops
- Servers
- IGBTs
- Automotive
- Memory Modules
- Game Consoles

## AVAILABILITY

- 0.5 kg or 1.0 kg can for easy manual screen printing and large volume automatic applications

## STORAGE CONDITIONS

- Store from 15°C to 35°C with a maximum humidity of 50% and with lid tightly closed. Do not store in a freezer or refrigerator at 5°C or below
- Shelf Life: 1 year from date of mix when stored at above conditions

## TYPICAL PROPERTIES

PROPERTY	VALUE	TEST METHOD
<b>Construction</b>	<b>Filled Non-Silicone Paste</b>	<b>N/A</b>
<b>Color</b>	<b>Grey</b>	<b>Visual</b>
<b>Density*</b>	<b>2.5 g/cc</b>	<b>Helium Pycnometer</b>
<b>Bulk Thermal Conductivity*</b>	<b>5.4 W/m-K</b>	<b>Hot Disk</b>
<b>Thermal Resistance*</b>		
10 psi & 70°C	0.120°C-cm <sup>2</sup> /W	ASTM D5470
50 psi & 70°C	0.085°C-cm <sup>2</sup> /W	
<b>Viscosity</b>	35 Pa-s @25°C 50,000-100,000cPs @25°C	<b>Rheometer (Laird Test Method) Brookfield, Spindle TD, 10 rpm</b>
<b>Operating Temperature Range*</b>	<b>-40°C to 125°C</b>	<b>Laird Test Method</b>
<b>Softening Temperature Range*</b>	<b>≈45°C to 70°C</b>	<b>Laird Test Method</b>
<b>Minimum Bondline Thickness*</b>	<b>25µm</b>	<b>Laird Test Method</b>
<b>Dielectric Constant*</b>	<b>22.3@1KHz, 22.9@1MHz</b>	<b>ASTM D150</b>
<b>Volume Resistivity*</b>	<b>1.5x10<sup>13</sup> Ω-cm</b>	<b>ASTM D991</b>
<b>UL Recognition*</b>	<b>V-0</b>	<b>UL94</b>

\*De-notes after solvent evaporation. Solvent evaporates within two hours at 60°C, or 8 hours at room temperature. After solvent evaporation the Tpcm 780SP will be firm and dry to the touch

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