



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

\*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