PAKCOOL® Silicone-Free Thermal Phase Change Pad PC-7660

Key Features and Benefits

- **Silicone-free formulation with low volatile content**
- **High thermal conductivity and low thermal resistance**
- **Excellent resistance to high & low temperatures and excellent weatherability**
- **Outstanding interfacial wettability**
- **Stable physical and chemical properties, non-corrosive**

Description

PAKCOOL® PC-7660 is a high-performance thermal conductive phase change pad with a phase change temperature range of 50–60°C. It is solid sheet-shaped at room temperature and turns pasty once the phase change temperature is exceeded. It boasts excellent wettability and compressibility. The Bond Line Thickness (BLT) of the material can be minimized by adjusting pressure and temperature; to achieve optimal performance, the BLT should generally be less than 0.04 mm. The material can only deliver its full performance when the phase change temperature is reached.This reworkable phase change material fills gaps between heat-generating surfaces and heat dissipation surfaces, effectively lowering interfacial thermal resistance and improving heat dissipation efficiency. It rapidly reduces the temperature of electronic components, thereby extending their service life and boosting operational reliability.

Apart from favorable thermal conductivity and phase change characteristics, the product avoids pump-out, drying and oil bleeding during application. Furthermore, harmless solvents can be added to this product to form a silicone grease-like compound at room temperature for easy construction, applicable to screen printing and other processes.

Applications

- **Microprocessors**
- **IGBTs**
- **Integrated Circuits**
- **Power converters**

Application Guidelines

To protect electronic components and operators' hands, clean disposable gloves must be worn in all procedures involving contact with thermal conductive materials.

Align and attach the thermal sheet onto the workpiece surface during application. Apply pressure via fixtures or manually for 3 to 5 seconds to secure the sheet. After full adhesion, quickly peel off the top protective liner at a peeling angle of 140° to 180°.

If high ambient temperature makes liner peeling difficult, cool the phase change sheet at low temperature for a period before peeling.

Technical Parameters

Typical Properties	PC-7660	Test Methods
Color	Grey	**Visual**
Thermal Conductivity（W/m·k）	≥6.0	**ASTM D5470**
Thermal impedance (K-cm2/W @50psi)	≤0.06	**ASTM D5470**
Thickness* (mm)	0.25–1.0	**ASTM D374**
Density (g/ cm^3)	2.75±0.1	**ASTM D792**
Volume Resistivity (Ω·cm)	$\geq 10^{12}$	**ASTM D257**
Dielectric Strength (V/mm)	≥500	**ASTM D149**
Continuous Use Temperature (℃)	-40~+125	--
***Standard Thickness (mm): 0.25, 0.5, 1.0**		

Data is available only for guidance and does not as a product specification.

Packaging storage and Transportation

- Custom die-cutting available per customer requirements.
- No adhesive backing
- Standard dimension: 200mm × 400mm; custom sizes acceptable upon request
- Storage & Shelf Life: Store at 19–24℃ with relative humidity below 65%, avoid direct sunlight exposure. Recommended shelf life: 12 months

All technical data are obtained under laboratory conditions. Actual performance may differ due to varying application environments and processes. Users must conduct pre-testing to confirm product suitability for intended use. Contact our technical department for support if any problems arise during application.

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