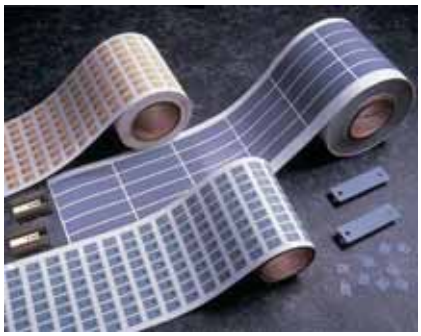
Sil-Pad® K-4

The Original Kapton®-Based Insulator

Features and Benefits

- Thermal impedance: 0.48°C-in²/W (@50 psi)
- Withstands high voltages
- High dielectric strength
- Very durable



Sil-Pad K-4 uses a specially developed film which has high thermal conductivity, high dielectric strength and is very durable. Sil-Pad K-4 combines the thermal transfer properties of well-known Sil-Pad rubber with the physical properties of a film.

Sil-Pad K-4 is a durable insulator that withstands high voltages and requires no thermal grease to transfer heat. Sil-Pad K-4 is available in customized shapes and sizes.

TYPICAL PROPERTIES OF SIL-PAD K-4

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Gray	Gray	Visual
Reinforcement Carrier	Kapton	Kapton	—
Thickness (inch) / (mm)	0.006	0.152	ASTM D374
Hardness (Shore A)	90	90	ASTM D2240
Breaking Strength (lbs/inch) / (kN/m)	30	5	ASTM D1458
Elongation (%)	40	40	ASTM D412
Tensile Strength (psi) / (MPa)	5000	34	ASTM D412
Continuous Use Temp (°F) / (°C)	-76 to 356	-60 to 180	—
ELECTRICAL			
Dielectric Breakdown Voltage (Vac)	6000	6000	ASTM D149
Dielectric Constant (1000 Hz)	5.0	5.0	ASTM D150
Volume Resistivity (Ohm-meter)	10^{12}	10^{12}	ASTM D257
Flame Rating	VTM-O	VTM-O	U.L.94
THERMAL			
Thermal Conductivity (W/m-K)	0.9	0.9	ASTM D5470

THERMAL PERFORMANCE vs PRESSURE					
Pressure (psi)	10	25	50	100	200
TO-220 Thermal Performance (°C/W)	3.66	3.43	3.13	2.74	2.42
Thermal Impedance (°C-in²/W) (1)	1.07	0.68	0.48	0.42	0.38

1) The ASTM D5470 test fixture was used. The recorded value includes interfacial thermal resistance. These values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied.

Typical Applications Include:

- Power supplies
- Power semiconductors
- Motor controls

Configurations Available:

- Sheet form, die-cut parts and roll form
- With or without pressure sensitive adhesive

Building a Part Number

SPK4 – 0.006 – 00 – 12/250 – NA

- Section A: SPK4 = Sil-Pad K4 Material
- Section B: Standard thicknesses available: 0.006"
- Section C: AC = Adhesive, one side; 00 = No adhesive
- Section D: _ _ _ = Standard configuration dash number, 1212 = 12" x 12" sheets, 12/250 = 12" x 250' rolls, or 00 = custom configuration
- Section E: NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

Standard Options

example

Note: To build a part number, visit our website at www.bergquistcompany.com.

Sil-Pad®: U.S. Patents 4,574,879; 4,602,125; 4,602,678; 4,685,987; 4,842,911 and others.
Kapton® is a registered trademark of DuPont.

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