

FILM BASED

Sil-Pad K-4®, Sil-Pad K-6® and Sil-Pad K-10®

SIL-PAD K-4®

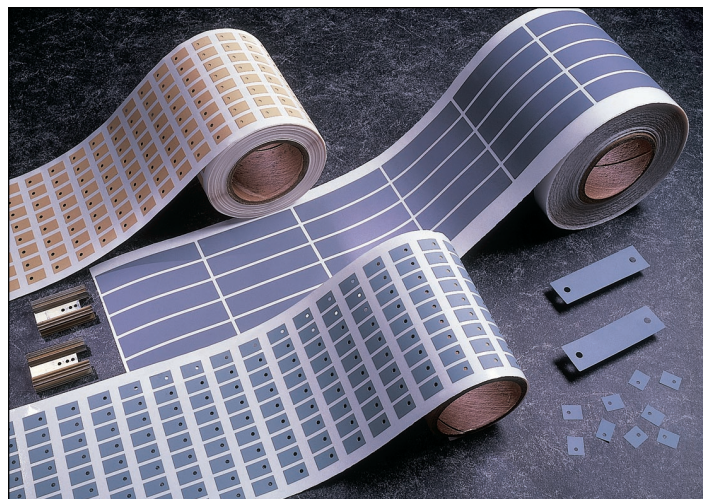
Sil-Pad K-4 uses a specially developed film which has high thermal conductivity, high dielectric strength and is very durable. Sil-Pad K-4 combines the thermal transfer properties of well known Sil-Pad rubber with the physical properties of a film. The result is a durable insulator that withstands high voltages, requires no thermal grease to transfer heat, is available in customized shapes and sizes and saves time and costs while increasing productivity.

SIL-PAD K-6®

Sil-Pad K-6 is a medium performance film based thermally conductive insulator. The film is coated with a silicone elastomer to deliver high performance and provides a continuous physically tough dielectric barrier against “cut-through” and resultant assembly failures.

Die-Cut parts, Rolls and Sheets

Sil-Pad K-4, K-6 and K-10 are available in die-cut parts, sheets (6" x 6" min., 6" x 12", 8" x 8", 10" x 10" and 12" x 12") and roll form.



SIL-PAD K-10®

Bergquist Sil-Pad K-10 is the high performance insulator. It combines special film with a filled silicone rubber. The result is a product with good cut-through properties and excellent thermal performance.

K-10 is designed to replace ceramic insulators such as Beryllium Oxide, boron Nitride and Alumina. These insulators are expensive and they break easily. K-10 eliminates breakage and costs much less than ceramics.

Physical Properties	Sil-Pad K-4	Sil-Pad K-6	Sil-Pad K-10	Test Method
Color	Gray	Bluegreen	Beige	Visual
Thickness Inches (mm)	.006 ± .001 (.15 ± .025)	.006 ± .001 (.15 ± .025)	.006 ± .001 ASTM D 374	
Breaking Strength Lbs/inch (kN/m)	30 (5)	30 (5)	30 (5)	ASTM D 1458
Elongation, % 45° to warp and fill	40	40	40	ASTM D 412
Hardness, Shore A	90	90	90	ASTM D 2240
Tensile Strength, kPsi (MPa)	5 (35)	5 (35)	5 (35)	ASTM D 412
Thermal Vacuum Weight Loss % (TML) as manufactured	.26		.36	NASA SP-R-0022A
Continuous Use Temp., °C	-60 to +180	-60 to +180	-60 to +180	--
Construction	Silicone/Film	Silicone/Film	Silicone/Film	
Volatile Condensable Material % (CVCM) as manufactured	.07		.09	NASA SP-R-0022A
Thermal Properties	Sil-Pad K-4	Sil-Pad K-6	Sil-Pad K-10	Test Method
Thermal Resistance, °C-in²/W	0.40	0.30	0.2	ASTM D 5470
Thermal Conductivity, W/m-K	0.9	1.1	1.3	ASTM D 5470
Electrical Properties	Sil-Pad K-4	Sil-Pad K-6	Sil-Pad K-10	Test Method
Breakdown Voltage, Volts a-c Min.	6000	6000	6000	ASTM D 149
Dielectric Constant, 1000 Cps (Hz)	5.0	4.0	3.7	ASTM D 150
Volume Resistivity, Ohm Metre	1.0x10 ¹²	1.0x10 ¹²	1.0x10 ¹²	ASTM D 257