Sil-Pad® K-10

The High Performance Kapton®-Based Insulator

Features and Benefits

- Thermal impedance: 0.41°C-in²/W (@50 psi)
- Tough dielectric barrier against cut-through
- High performance film
- Designed to replace ceramic insulators



Sil-Pad K-10 is a 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.

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

TYPICAL PROPERTIES OF SIL-PAD K-10

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Beige	Beige	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)	3.7	3.7	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)	1.3	1.3	ASTM D5470

THERMAL PERFORMANCE vs PRESSURE					
Pressure (psi)	10	25	50	100	200
TO-220 Thermal Performance (°C/W)	2.35	2.19	2.01	1.87	1.76
Thermal Impedance (°C-in²/W) (1)	0.86	0.56	0.41	0.38	0.33

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

SPK10 – 0.006 – AC – 1212 – NA

- Section A: SPK10 = Sil-Pad K10 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.

example

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

Standard Options

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.

THE BERGQUIST COMPANY www.bergquistcompany.com

The Bergquist Company - North American Headquarters
18930 West 78th Street
Chanhassen, MN 55317
Phone: 800-347-4572
Fax: 952-835-0430

The Bergquist Company - European Headquarters
Bramenberg 9a, 3755 BT Eemnes
Netherlands
Phone: 31-35-5380684
Fax: 31-35-5380295

The Bergquist Company - Asia
Room 15, 8/F Wah Wai Industrial Centre
No. 38-40, Au Pui Wan Street
Fotan, Shatin, N.T. Hong Kong
Ph: 852.2690.9296
Fax: 852.2690.2344

All statements, technical information and recommendations herein are based on tests we believe to be reliable, and THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MARKETABILITY AND FITNESS FOR PURPOSE. Sellers' and manufacturers' only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and the user assumes all risks and liability whatsoever in connection therewith. NEITHER SELLER NOR MANUFACTURER SHALL BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE, DIRECT, INCIDENTAL, OR CONSEQUENTIAL, INCLUDING LOSS OF PROFITS OR REVENUE ARISING OUT OF THE USE OR THE INABILITY TO USE A PRODUCT. No statement, purchase order or recommendations by seller or purchaser not contained herein shall have any force or effect unless in an agreement signed by the officers of the seller and manufacturer.

PDS_SP_K10_12.08