

Polyester-Based, Thermally Conductive Insulation Material

Features and Benefits

- Thermal impedance:
0.95°C-in²/W (@50 psi)
- Polyester based
- For applications requiring non-silicone conformal coatings
- Designed for silicone-sensitive applications
- Excellent dielectric and physical strength



Poly-Pad K-4 is a composite of film coated with a polyester resin. The material is an economical insulator and the film carrier provides excellent dielectric and physical strength.

Polyester-based, thermally conductive insulators from Bergquist provide a complete family of materials for silicone-sensitive applications. Poly-Pads are ideally suited for applications requiring conformal coatings or applications where silicone contamination is a concern (telecomm and certain aerospace applications). Poly-Pads are constructed with ceramic-filled polyester resins coating either side of a fiber-glass carrier or a film carrier. The Poly-Pad family offers a complete range of performance characteristics to match individual applications.

TYPICAL PROPERTIES OF POLY-PAD K-4

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD		
Color	Tan	Tan	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)	-4 to 302	-20 to 150	—		
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	V-O	V-O	UL94		
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)	5.64	5.04	4.34	3.69	3.12
Thermal Impedance (°C-in²/W) (1)	1.55	1.21	0.95	0.70	0.46
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.					

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.

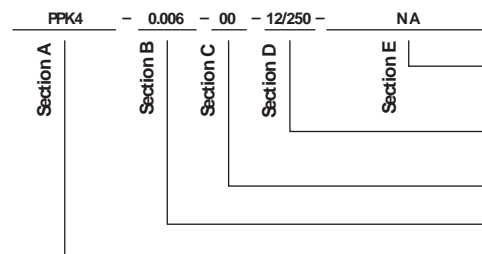
Typical Applications Include:

- Power supplies
- Motor controls
- Power semiconductors

Configurations Available:

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

Building a Part Number



Standard Options

◀ example

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

— = Standard configuration dash number, 1212 = 12" x 12" sheets, 12/250 = 12" x 250" rolls, or 00 = custom configuration

AC = Adhesive, one side
00 = No adhesive

Standard thicknesses available: 0.006"

PPK4 = Poly-Pad K-4 Material

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

SI-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.



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 Elmnes
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.