

Poly-Pad® K-4

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 material 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 (%45° to Warp and Fill)	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	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)	5.64	5.04	4.34	3.69	3.12
Thermal Impedance (°C-in ² /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.

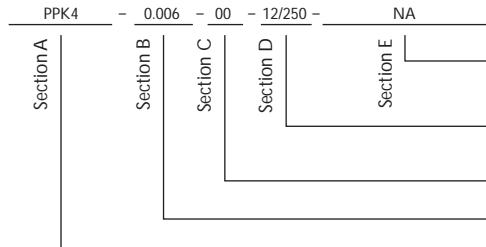
Typical Applications Include:

- 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.

12/2 = 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.

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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