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 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 fiberglass 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		U.L.94	
THERMAL						
Thermal Conductivity (W/m-K)	0.9		0.9		ASTM D5470	
THERMAL PERFORMANCE vs PRESSURE						
Press	sure (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.

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

PPK4 - 0.006 - 00 - 12/250 - NA We 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.

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.



Standard Options

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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SIL-PAD K6 300MMX300MM SHEET GP1500-0.200-02-0816 SP980-0.009-00-1212 GPEMI1.0-0.100-01-0816 GPA3000-0.125-01-0816
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