

Poly-Pad® K-10

November 2013

PRODUCT DESCRIPTION

Polyester-Based, Thermally
Conductive Insulation Material

FEATURES AND BENEFITS

- Thermal impedance: 0.60°C-in²/W (@50 psi)
- Polyester based
- For applications requiring non-silicone conformal coatings
- Designed for silicone-sensitive applications
- Excellent dielectric strength and thermal performance



Poly-Pad® K-10 is a composite of film coated with a polyester resin. The material offers superior thermal performance for your most critical applications with a thermal resistance of 0.2°C-in²/W as well as excellent dielectric 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.

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

TYPICAL PROPERTIES OF POLY-PAD K-10

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD			
Color	Yellow	Yellow	Visual			
Reinforcement Carrier	Polyimide	Polyimide	—			
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)	3.7	3.7	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)	1.3	1.3	ASTM D5470			
THERMAL PERFORMANCE vs PRESSURE						
	Pressure (psi)	10	25	50	100	200
TO-220 Thermal Performance (°C/W)		3.76	3.35	2.75	2.30	2.03
Thermal Impedance (°C-in ² /W) (I)		1.04	0.80	0.60	0.43	0.30

I) 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.

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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

Disclaimer

Note:

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