Poly-Pad® 1000

Polyester-Based, Thermally Conductive Insulation Material

Features and Benefits

- Thermal impedance: 0.82°C-in²/W (@50 psi)
- Polyester based
- For applications requiring non-silicone conformal coatings
- Designed for silicone-sensitive applications requiring high performance

Poly-Pad 1000 is a fiberglass-reinforced insulator coated with a filled polyester resin. The material offers superior thermal resistance for high performance applications.

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 1000

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Yellow	Yellow	Visual
Reinforcement Carrier	Fiberglass	Fiberglass	—
Thickness (inch) / (mm)	0.009	0.229	ASTM D374
Hardness (Shore A)	90	90	ASTM D2240
Breaking Strength (lbs/inch) / (kN/m)	100	18	ASTM D1458
Elongation (%)	10	10	ASTM D412
Tensile Strength (psi) / (MPa)	7000	48	ASTM D412
Continuous Use Temp (°F) / (°C)	-4 to 302	-20 to 150	—
ELECTRICAL			
Dielectric Breakdown Voltage (Vac)	2500	2500	ASTM D149
Dielectric Constant (1000 Hz)	4.5	4.5	ASTM D150
Volume Resistivity (Ohm-meter)	10^{11}	10^{11}	ASTM D257
THERMAL			
Thermal Conductivity (W/m-K)	1.2	1.2	ASTM D5470

THERMAL PERFORMANCE vs PRESSURE					
Pressure (psi)	10	25	50	100	200
TO-220 Thermal Performance (°C/W)	4.70	4.25	3.74	3.27	2.89
Thermal Impedance (°C-in²/W) (1)	1.30	1.02	0.82	0.61	0.43

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
- Automotive electronics
- Motor controls
- Power semiconductors

Configurations Available:

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

Building a Part Number

PP1000 – 0.009 – 00 – 1212 – NA

- Section A: PP1000 = Poly-Pad 1000 Material
- Section B: 0.009 = Standard thicknesses available: 0.009"
- Section C: 00 = AC = Adhesive, one side; 00 = No adhesive
- Section D: 1212 = 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.

Standard Options

example

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

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