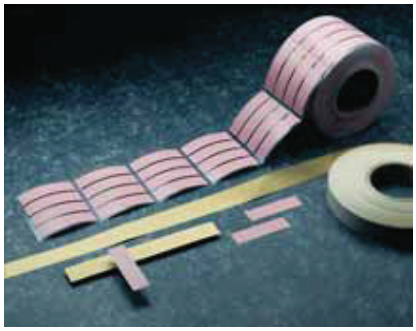
Sil-Pad® 800

High Performance Insulator for Low-Pressure Applications

Features and Benefits

- Thermal impedance: 0.45°C-in²/W (@ 50 psi)
- High value material
- Smooth and highly compliant surface
- Electrically isolating



The Sil-Pad 800 family of thermally conductive insulation materials is designed for applications requiring high thermal performance and electrical isolation. These applications also typically have low mounting pressures for component clamping.

Sil-Pad 800 material combines a smooth and highly compliant surface characteristic with high thermal conductivity. These features optimize the thermal resistance properties at low pressure.

Applications requiring low component clamping forces include discrete semiconductors (TO-220, TO-247 and TO-218) mounted with spring clips. Spring clips assist with quick assembly but apply a limited amount of force to the semiconductor. The smooth surface texture of Sil-Pad 800 minimizes interfacial thermal resistance and maximizes thermal performance.

TYPICAL PROPERTIES OF SIL-PAD 800

PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD
Color	Gold	Gold	Visual
Reinforcement Carrier	Fiberglass	Fiberglass	—
Thickness (inch) / (mm)	0.005	0.127	ASTM D 374
Hardness (Shore A)	91	91	ASTM D 2240
Elongation (%45° to Warp and Fill)	20	20	ASTM D 412
Tensile Strength (psi) / (MPa)	1700	12	ASTM D 412
Continuous Use Temp (°F) / (°C)	-76 to 356	-60 to 180	—
ELECTRICAL			
Dielectric Breakdown Voltage (Vac)	3000	3000	ASTM D 149
Dielectric Constant (1000 Hz)	6.0	6.0	ASTM D 150
Volume Resistivity (Ohm-meter)	10^{10}	10^{10}	ASTM D 257
Flame Rating	V-0	V-0	U.L. 94
THERMAL			
Thermal Conductivity (W/m-K)	1.6	1.6	ASTM D 5470

THERMAL PERFORMANCE vs PRESSURE

Pressure (psi)	10	25	50	100	200
TO-220 Thermal Performance (°C/W)	3.56	3.01	2.45	2.05	1.74
Thermal Impedance (°C-in²/W) (1)	0.92	0.60	0.45	0.36	0.29

1) The ASTM D 5470 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

SP800 - 0.005 - AC - 1212 - NA

- Section A: SP800
- Section B: 0.005
- Section C: AC
- Section D: 1212
- Section E: NA

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: 0.005"

SP800 = Sil-Pad 800 Material

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

SIL-PAD