

# Sil-Pad® 400

The Original Sil-Pad Material

## Features and Benefits

- Thermal impedance:  
1.13°C-in<sup>2</sup>/W (@50 psi)
- Original Sil-Pad material
- Excellent mechanical and physical characteristics
- Flame retardant



Sil-Pad 400 is a composite of silicone rubber and fiberglass. The material is flame retardant and is specially formulated for use as a thermally conductive insulator. The primary use for Sil-Pad 400 is to electrically isolate power sources from heat sinks.

Sil-Pad 400 has excellent mechanical and physical characteristics. Surfaces are pliable and allow complete surface contact with excellent heat dissipation. Sil-Pad 400 actually improves its thermal resistance with age. The reinforcing fiberglass provides excellent cut-through resistance. In addition, Sil-Pad 400 is non-toxic and resists damage from cleaning agents.

TYPICAL PROPERTIES OF SIL-PAD 400						
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD			
Color	Gray	Gray	Visual			
Reinforcement Carrier	Fiberglass	Fiberglass	—			
Thickness (inch) / (mm)	0.007, 0.009	0.178, 0.229	ASTM D374			
Hardness (Shore A)	85	85	ASTM D2240			
Breaking Strength (lbs/inch) / (kN/m)	30	5	ASTM D1458			
Elongation (%45° to Warp and Fill)	54	54	ASTM D412			
Tensile Strength (psi) / (MPa)	3000	20	ASTM D412			
Continuous Use Temp (°F) / (°C)	-76 to 356	-60 to 180	—			
<b>ELECTRICAL</b>						
Dielectric Breakdown Voltage (Vac)	3500, 4500	3500, 4500	ASTM D149			
Dielectric Constant (1000 Hz)	5.5	5.5	ASTM D150			
Volume Resistivity (Ohm-meter)	10 <sup>11</sup>	10 <sup>11</sup>	ASTM D257			
Flame Rating	V-O	V-O	U.L. 94			
<b>THERMAL</b>						
Thermal Conductivity (W/m-K)	0.9	0.9	ASTM D5470			
<b>THERMAL PERFORMANCE vs PRESSURE</b>						
	Pressure (psi)	10	25	50	100	200
TO-220 Thermal Performance (°C/W) 0.007"		6.62	5.93	5.14	4.38	3.61
TO-220 Thermal Performance (°C/W) 0.009"		8.51	7.62	6.61	5.63	4.64
Thermal Impedance (°C-in <sup>2</sup> /W) 0.007" (1)		1.82	1.42	1.13	0.82	0.54
Thermal Impedance (°C-in <sup>2</sup> /W) 0.009" (1)		2.34	1.83	1.45	1.05	0.69

1) The ASTM D5470 (Bergquist modified) 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.

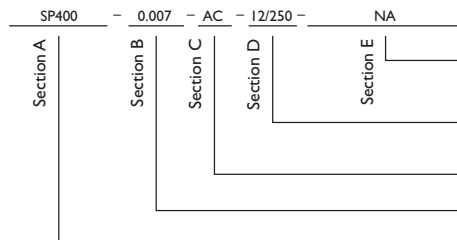
## Typical Applications Include:

- Power supplies
- Power semiconductors
- Military Specifications:  
- MIL-M-38527/8A - MIL-M-38527C - MIL-I-49456 - MIL-M-87111
- Automotive electronics
- U.L. File Number E59150
- Motor controls
- FSCM Number 55285

## 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.

— = Standard configuration dash number,  
1212 = 12" x 12" sheets, 12/250 = 12" x 250' rolls, or  
00 = custom configuration

AC = Adhesive on one side,  
00 = no adhesive

Standard thicknesses available: 0.007", 0.009"

SP400 = Sil-Pad 400 Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://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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