High Performance

Sil-Pad 1000®, Sil-Pad 1500® and Sil-Pad 2000®

SIL-PAD 1000

Sil-Pad 1000 has the same excellent mechanical and physical characteristics of our Sil-Pad 400 material while offering a 35% reduction in thermal resistance.

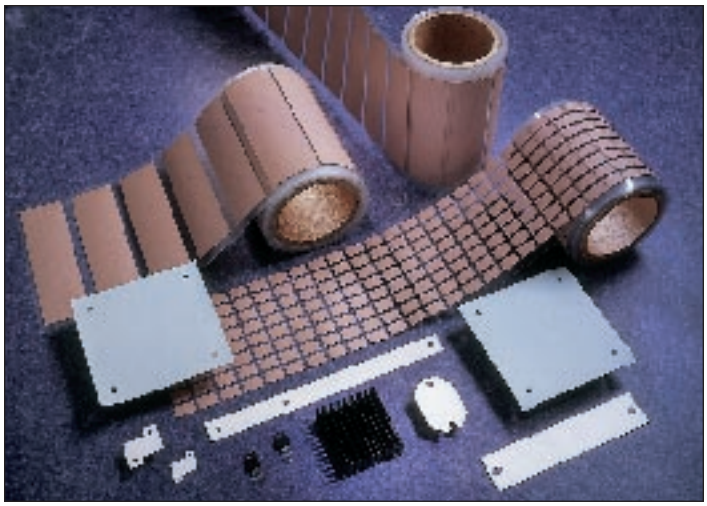
Sil-Pad 1000 is a composite of silicone rubber and fiberglass. It is specially filled and offers low thermal resistance. Sil-Pad 1000 is non-toxic and resists damage from cleaning agents. It is flame retardant and specially formulated for use as a thermally conductive insulator.

SIL-PAD 1500

Sil-Pad 1500 is an economical, high performance insulator with a thickness between that of Sil-Pad 1000 and Sil-Pad 2000.

SIL-PAD 2000

Sil-Pad 2000 is Bergquist's high performance, high reliability thermally conductive insulator. Sil-Pad 2000 is designed for demanding military / aerospace and commercial applications. In these applications, Sil-Pad 2000 complies with military standards. This silicone elastomer is specially filled to maximize the thermal and dielectric performance of the filler / binder matrix. The result is a "grease-free", conformable material capable of meeting or exceeding the thermal and electrical requirements of high reliability electronic packaging applications. Sil-Pad 2000 is also available in thicknesses from .010" to .060".



Die-Cut parts, Rolls and Sheets

Sil-Pad 1000, 1500 and 2000 are available in die-cut parts and sheets (6" x 6" min., 6" x 12", 8" x 8", 10" x 10" and 12" x 12"). Only Sil-Pad 1000 and 1500 are available in roll form.

SIL-PAD 2000 Outgassing Data for Spacecraft Materials

Post Cure Conditions	%TML (1.0% Max Acceptable)	%CVCM (0.1% Max Acceptable)
24 hrs. @ 175°C	.07	.03
No Post Cure	.26	.10

MIL SPEC.
MIL-M-38527/08
MIL-I-49456
MIL-I-49466/02
MIL-M-87111
U.L. FILE NUMBER
E59150
FSCM NUMBER 55285

Physical Properties	Sil-Pad 1000	Sil-Pad 1500	Sil-Pad 2000	Test Method
Color	Pink	Green	White	Visual
Thickness Inches (mm)	.009 ± .001" (.23 ± .025)	0.010 ± .001" (.25 ± .025)	.015 ±.002" (.38 ± .025)	ASTM D 374
Elongation, % 45° to warp and fill	45	20	20	ASTM D 412
Hardness, Shore A ± 5	85	80	90	ASTM D 2240
Breaking Strength Lbs/inch (kN/m)	100 (18)	65 (12)	65(12)	ASTM D 1458
Tensile Strength, kPsi (MPa)	4 (30)			ASTM D 412
Thermal Vacuum Weight Loss % (TML) as manufactured	.22		see	NASA SP-R-0022A
Volatile Condensable Material % (CVCM) as manufactured	.08		see	NASA SP-R-0022A
Specific Gravity	1.5	1.5	1.5	ASTM D 792
Continuous Use Temp., °C	-60 to +180	-60 to + 200	-60 to +200	--
Construction	Silicone/Fiberglass	Silicone/Fiberglass	Silicone/Fiberglass	

Thermal Properties	Sil-Pad 1000	Sil-Pad 1500	Sil-Pad 2000	Test Method
Thermal Resistance, °C/-in²/W	0.35	0.23	0.2	ASTM D 5470
Thermal Conductivity, W/m-K	1.2	2.0	3.5	ASTM D 5470

Electrical Properties	Sil-Pad 1000	Sil-Pad 1500	Sil-Pad 2000	Test Method
Breakdown Voltage, Volts a-c Min.	4500	4000	4000	ASTM D 149
Dielectric Constant, 1000 Cps (Hz)	4.5	4	4.0	ASTM D 150
Volume Resistivity, Ohm Metre	$1.0x10^{11}$	1.0×10^{11}	$1.0x10^{11}$	ASTM D 257