

SILTEL SG-TC4.5

Thermally Conductive Gap Filler Pad

Thermal Conductivity: 4.5 W/m-K

SILTEL SG-TC4.5 is an electrically insulating thermally conductive silicone gap filler material ideal for use in applications where thermal transfer over large gaps (large tolerances) or different stack ups must be achieved. Due to the specific formulation and ceramic particle filler, SG-TC4.5 demonstrates excellent high thermal conductivity through its compliant feature and overall elastomer design.

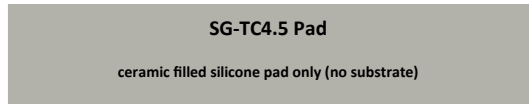
Through SG-TC4.5's softness, the pad perfectly mates to irregular surfaces thus filling gaps and operates at low pressure offering low thermal resistance. The natural tackiness on both sides of the material allows for an easy and reliable pre-assembly.

SILTEL SG-TC4.5 is available in sheets or TIMTEL cut parts to match a wide range of industry standard or customer defined outlines.

- Soft and Compliant Pad Design
- High Thermal Conductivity Gap Filler
- Excellent Chemical Resistance and Stability
- Operates at Low Pressure
- Shock Absorbing
- Standard Tack Both Sides

Standard SILTEL SG-TC4.5 Cross Section

Standard Natural Tack Both Sides



Typical Applications

- SMD Packages
- Through-hole Vias
- RDRAMs Memory Modules
- Capacitors
- Interfaces with Large Gaps / Tolerances
- Electronics to Heat Pipe Assemblies

Standard Thickness Options

SG0.5-TC4.5.....	0.020" (0.50mm)
SG1.0-TC4.5.....	0.039" (1.00mm)
SG2.0-TC4.5.....	0.078" (2.00mm)
SG3.0-TC4.5.....	0.118" (3.00mm)

Additional 0.158" (4mm) and 0.197" (5mm) thicknesses available

SG-TC4.5 General Properties

Thermal Conductivity.....	4.5 W/m-K
Color.....	Gray
Hardness.....	.60 (Shore 00)
Dielectric Strength.....	.15 kV/mm
Operating Temperature.....	-60°C to 180°C

0.020" / 0.50mm Thermal Resistance

Thermal Impedance @ 10 PSI.....	0.220 °C in ² / Watt
Thermal Impedance @ 30 PSI.....	0.170 °C in ² / Watt
Thermal Impedance @ 60 PSI.....	0.150 °C in ² / Watt

0.039" / 1.00mm Thermal Resistance

Thermal Impedance @ 10 PSI.....	0.360 °C in ² / Watt
Thermal Impedance @ 30 PSI.....	0.320 °C in ² / Watt
Thermal Impedance @ 60 PSI.....	0.270 °C in ² / Watt

0.078" / 2.00mm Thermal Resistance

Thermal Impedance @ 10 PSI.....	0.680 °C in ² / Watt
Thermal Impedance @ 30 PSI.....	0.550 °C in ² / Watt
Thermal Impedance @ 60 PSI.....	0.420 °C in ² / Watt

0.118" / 3.00mm Thermal Resistance

Thermal Impedance @ 10 PSI.....	0.990 °C in ² / Watt
Thermal Impedance @ 30 PSI.....	0.780 °C in ² / Watt
Thermal Impedance @ 60 PSI.....	0.570 °C in ² / Watt

Characteristic	SILTEL SG-TC4.5
Base Material	Ceramic Filled Silicone
Substrate	NONE
Color	Gray
Available Formats	Sheets or Cut Pads
Standard Sheet Sizes	15.75" x 11.81" (400mm x 300mm)
TIMTEL Cutting Capabilities	Razor Plotter Cut for Gap Filler Pads
TIMTEL Die Cut Delivery Formats	Individuals or Multiples per Master Sheet
TIMTEL Die Cut Dimensional Tolerances	0.010"(0.25mm) to 0.020"(0.51mm) (depending on thickness)
Storage	Cool, dry location at or below 80F/ 27C
Shelf Life	2 years from date of manufacture

Thermal material evaluation is always critical when designing in a new material or developing a new product. Sheet samples of SILTEL are available for preliminary testing to determine the optimal SILTEL thickness as well as overall material construction best suited within the scope of your application requirements.

Want to test samples per your required die cut part? Our razor plotter sampling machine allows us to provide customers SILTEL material already cut to their required outline for testing. Plotter formed samples provide our customers the ability to test not only the SILTEL material itself, but their required outline as well without incurring the expense of production tooling.

Contact TIMTEL to request sample sheets or plotter formed samples for testing.

TIMTEL
Thermal Management Materials