

# SILTEL SG-TC11.0

## Thermally Conductive Gap Filler Pad

Thermal Conductivity: 11.0 W/m-K

SILTEL SG-TC11.0 is an electrically insulating thermally conductive silicone gap filler material ideal for use in electronic assembly applications where thermal transfer over large gaps (large tolerances) or different component stack ups must be achieved. Due to the specific formulation and ceramic particle filler, SG-TC11.0 demonstrates very high thermal conductivity through it's compliable soft durometer as well as overall elastomer design within a range of mounting pressures.

SG-TC11.0 perfectly mates to irregular surfaces thus filling gaps and is able to achieve low thermal resistance at low pressures. SG-TC11.0 is available with either standard natural light tack both sides (standard) or an additional single side higher tack option (one side lamination, A1) depending on installation requirements.

SILTEL SG-TC11.0 is available in sheets or TIMTEL cut parts to match a wide range of industry standard or customer defined outlines.

- Excellent Thermal Conductivity of 11 W/m-K
- Soft and Compliant Pad Design
- Excellent Chemical Resistance and Stability
- Operates at Low Pressure
- Shock Absorbing
- Natural light tack both sides (standard)

### Standard SILTEL SG-TC11.0 Cross Section



SG-TC11.0: Standard Natural Tack Both Sides

SG-TC11.0-A1: Optional Single Side Higher Tack (lamination)

### Typical Applications

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

### Standard Thickness Options

SG1.0-TC11.0.....	0.039" (1.00mm)
SG1.5-TC11.0.....	0.059" (1.50mm)
SG2.0-TC11.0.....	0.078" (2.00mm)

### SG-TC11.0 General Properties

Thermal Conductivity.....	11.0 W/m-K
Color.....	Gray
Hardness.....	.64 (Shore 00)
Density.....	3.3 g/cm <sup>3</sup>
Dielectric Strength.....	>10 kV/mm
Dielectric Constant.....	7.5 @ 1 MHz
Volume Resistivity.....	7 x 10 <sup>11</sup> ohm-cm
Operating Temperature.....	-50°C to 180°C

### 0.039" / 1.00mm - Thermal Resistance

@ 0.035" (0.90mm) bond line.....	0.170 °C in <sup>2</sup> / Watt
@ 0.027" (0.70mm) bond line.....	0.150 °C in <sup>2</sup> / Watt

### 0.059" / 1.50mm - Thermal Resistance

@ 0.055" (1.40mm) bond line.....	0.240 °C in <sup>2</sup> / Watt
@ 0.047" (1.20mm) bond line.....	0.230 °C in <sup>2</sup> / Watt

### 0.078" / 2.00mm - Thermal Resistance

@ 0.071" (1.80mm) bond line.....	0.300 °C in <sup>2</sup> / Watt
@ 0.063" (1.60mm) bond line.....	0.270 °C in <sup>2</sup> / Watt

Characteristic	SILTEL SG-TC11.0
Base Material	Ceramic Filled Silicone
Substrate	NONE
Color	Gray
Available Formats	Sheets or Cut Pads
Pad Liners	Clear Textured Liner (top cover liner) Clear Liner (carrier liner) - Type RL300FS (0.003")
Standard Sheet Sizes	7.80" x 11.80" (200mm x 300mm)
TIMTEL Cutting Capabilities	Razor Plotter Cut for Gap Filler Pads
TIMTEL Die Cut Delivery Formats	Individual pads with release tabs or multiple pads 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.

