



global solutions :
local support™

T-flex™ 300 Series Thermal Gap Filler

Unique silicone gel offers compliancy, thermal resistance

T-flex™ 300, at pressures of 50psi, will deflect to over 50% the original thickness. This high rate of compliancy allows the material to “totally blanket” the component, enhancing thermal transfer. The material has a very low compression set enabling the pad to be reused many times.

T-flex™ 300, in achieving its stellar compliancy, does not sacrifice thermal performance. With a thermal conductivity of 1.2 W/mK, low thermal resistances can be achieved at low pressures.

T-flex™ 300 is offered with a hard, metallized liner option for easy handling and improved rework. This metallized liner offers better thermal transfer than other silicone based liners found on competitive products. The metallized liner's lower coefficient of friction also allows for easy assembly of parts that must slide together, such as a card into a chassis.

Features and Benefits:

- Extreme compliancy allows material to “totally blanket” component(s)
- Thermal conductivity of 1.2 W/mK
- Available in thicknesses from 0.020" - 0.200" (.5mm – 5.0mm)
- Low compression set enables the pad to be reused many times

Applications:

- Notebook and desktop computers
- Telecommunication hardware
- Hdisc drives, DVDs
- Flat Panel Displays
- Memory modules
- Power conversion equipment

For sales information:

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In the USA please telephone 1-800-246-9050

or visit: www.lairdtech.com



T-flex™ 300 Series Thermal Gap Filler

	T-flex™ 320	T-flex™ 340	T-flex™ 360	T-flex™ 380	T-flex™ 3100	Test Method
Construction & Composition	Ceramic filled silicone elastomer	Ceramic filled silicone elastomer	Ceramic filled silicone elastomer	Ceramic filled silicone elastomer	Ceramic filled silicone elastomer	
Color	Light Green	Light Green	Light Green	Light Green	Light Green	Visual
Thickness	0.020" (0.51mm)	0.040" (1.02mm)	0.060" (1.52mm)	0.080" (2.03mm)	0.100" (2.54mm)	
Thickness Tolerance	± 0.002" (± 0.05mm)	± 0.004" (± 0.10mm)	± 0.006" (± 0.15mm)	± 0.008" (± 0.20mm)	± 0.010" (± 0.254mm)	
Density	1.78 g/cc	1.75 g/cc	1.75 g/cc	1.75 g/cc	1.75 g/cc	Helium Pycnometer
Hardness	45 Shore OO	20 Shore OO	20 Shore OO	20 Shore OO	20 Shore OO	ASTM D2240
Tensile Strength	N/A	15 psi	15 psi	15 psi	15 psi	ASTM D412
% Elongation	N/A	50	50	50	50	ASTM D412
% Deflection @10 psi	4%	21%	26%	30%	33%	
@50psi	23%	48%	53%	58%	63%	
@100 psi	43%	61%	68%	72%	76%	
Outgassing TML (Post Cured)	0.56%	0.56%	0.56%	0.56%	0.56%	ASTM E595
Outgassing CVM (Post Cured)	0.1%	0.1%	0.1%	0.1%	0.1%	ASTM E595
UL Flammability Rating	UL 94 V0	UL 94 V0	UL 94 V0	UL 94 V0	UL 94 V0	E180840
Temperature Range	-40°C to 160°C	-40°C to 160°C	-40°C to 160°C	-40°C to 160°C	-40°C to 160°C	
Thermal Conductivity	1.2 W/mK	1.2 W/mK	1.2 W/mK	1.2 W/mK	1.2 W/mK	ASTM D5470 (modified)
Thermal Resistance @ 10 psi	0.84°C - in ² /W	1.15°C - in ² /W	1.50°C - in ² /W	1.8°C - in ² /W	2.22°C - in ² /W	ASTM D5470 (modified)
@ 69KPa	5.42°C - cm ² /W	7.42°C - cm ² /W	9.68°C - cm ² /W	11.61°C - cm ² /W	14.32°C - cm ² /W	
Thermal Expansion 58°C - 103°C	754 ppm/°C	754 ppm/°C	754 ppm/°C	754 ppm/°C	754 ppm/°C	IPC-TM-650 2.4.24
Breakdown Voltage	6,000 VAC	>10,000 VAC	>10,000 VAC	>10,000 VAC	>10,000 VAC	ASTM D149
Volume Resistivity	6 x 10 ¹² ohm-cm	6 x 10 ¹² ohm-cm	6 x 10 ¹² ohm-cm	6 x 10 ¹² ohm-cm	6 x 10 ¹² ohm-cm	ASTM D257
Dielectric Constant @ 1KHz	5.5/4.4	5.5/4.4	5.5/4.4	5.5/4.4	5.5/4.4	ASTM D150

Standard Thicknesses:

0.020" (0.51mm)	0.030" (0.76mm)	0.040" (1.02mm)	0.050" (1.27mm)	0.060" (1.52mm)
0.070" (1.78mm)	0.080" (2.03mm)	0.090" (2.29mm)	0.100" (2.54mm)	0.110" (2.79mm)
0.120" (3.05mm)	0.130" (3.30mm)	0.140" (3.56mm)	0.150" (3.81mm)	0.160" (4.06mm)
0.170" (4.32mm)	0.180" (4.57mm)	0.190" (4.83mm)	0.200" (5.08mm)	

Consult the factory for alternate thicknesses.

Standard Sheet Sizes:

9" x 9" (229mm x 229mm) 18" x 18" (457mm x 457mm). 9" x 9" only over 0.100" thickness. Options: Fiberglass reinforcement is optional in only 0.040" thickness: "FG" suffix (Ex: T-flex™ 340-FG) metallized carrier on one side: "H" suffix (Ex: T-flex™ 340-H)

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Property	90 mil	100 mil	110 mil	120 mil
Construction and Composition	Ceramic filled silicone elastomer	Ceramic filled silicone elastomer	Ceramic filled silicone elastomer	Ceramic filled silicone elastomer
Color	Mint	Mint	Mint	Mint
Thickness	0.090" (2.29 mm)	0.100" (2.54 mm)	0.110" (2.79 mm)	0.120" (3.05 mm)
Thickness Tolerance	+/- 0.009" (+/- 0.229 mm)	+/- 0.010" (+/- 0.254 mm)	+/- 0.011" (+/- 0.279 mm)	+/- 0.012" (+/- 0.305 mm)
Density	1.75 g/cc	1.75 g/cc	1.75 g/cc	1.75 g/cc
Hardness	20 Shore OO	20 Shore OO	20 Shore OO	20 Shore OO
Tensile Strength	15 psi	15 psi	15 psi	15 psi
Elongation %	50	50	50	50
Deflection vs. Pressure Chart	Click Here	Click Here	Click Here	Click Here
Deflection %				
@ 10 psi	31.4	33.2	33.64	34.08
@ 50 psi	60.6	63	63.95	64.9
@ 100 psi	74.95	77.5	78.45	79.4
Outgassing TML	0.56	0.56	0.56	0.56
Outgassing CVCM	0.1	0.1	0.1	0.1
Temperature Range	-40 to 160°C	-40 to 160°C	-40 to 160°C	-40 to 160°C
Thermal Conductivity	1.2 w/mK	1.2 w/mK	1.2 w/mK	1.2 w/mK
Thermal Resistance				
@ 10 psi	1.964°C-in ² /W	2.110°C-in ² /W	2.250°C-in ² /W	2.384°C-in ² /W

@ 69 KPa	12.60°C-cm ² /W	13.53°C-cm ² /W	14.43°C-cm ² /W	15.29°C-cm ² /W
Thermal Impedance vs. Pressure	Click Here	Click Here	Click Here	Click Here
Compression Set (%) (24 hour hold)		5.4		
Extractable Silicone	16%	16%	16%	16%
Thermal Expansion (ppm/°C)				
38 - 58°C	517	517	517	517
58 - 103°C	754	754	754	754
103 - 135°C	906	906	906	906
Breakdown Voltage (VAC)	>10,000	>10,000	>10,000	>10,000
Volume Resistivity	6.00E+12	6.00E+12	6.00E+12	6.00E+12
Dielectric Constant @ 1 kHz/1 mHz	5.5/4.4	5.5/4.4	5.5/4.4	5.5/4.4

Property	130 mil	140 mil	150 mil	160 mil
Construction and Composition	Ceramic filled silicone elastomer	Ceramic filled silicone elastomer	Ceramic filled silicone elastomer	Ceramic filled silicone elastomer
Color	Mint	Mint	Mint	Mint
Thickness	0.130" (3.30 mm)	0.140" (3.56 mm)	0.150" (3.81 mm)	0.160" (4.06 mm)
Thickness Tolerance	+/- 0.013" (+/- 0.330 mm)	+/- 0.014" (+/- 0.356 mm)	+/- 0.015" (+/- 0.381 mm)	+/- 0.016" (+/- 0.406 mm)
Density	1.75 g/cc	1.75 g/cc	1.76 g/cc	1.75 g/cc
Hardness	27 Shore OO	27 Shore OO	27 Shore OO	27 Shore OO
Tensile Strength	15 psi	15 psi	15 psi	15 psi
Elongation %	50	50	50	76
Deflection vs. Pressure Chart	Click Here	Click Here	Click Here	Click Here
Deflection %				
@ 10 psi	34.545	35.01	35.43	35.85
@ 50 psi	65.665	66.43	67.165	67.9
@ 100 psi	80.1	80.8	81.5	82.2
Outgassing TML	0.56	0.56	0.56	0.56
Outgassing CVCM	0.1	0.1	0.1	0.1
Temperature Range	-40 to 160°C	-40 to 160°C	-40 to 160°C	-40 to 160°C
Thermal Conductivity	1.2 w/mK	1.2 w/mK	1.2 w/mK	1.2 w/mK
Thermal Resistance				
@ 10 psi	2.512°C-in ² /W	2.634°C-in ² /W	2.750°C-in ² /W	2.860°C-in ² /W

@ 69 KPa	16.11°C-cm ² /W	16.89°C-cm ² /W	17.64°C-cm ² /W	18.34°C-cm ² /W
Thermal Impedance vs. Pressure	Click Here	Click Here	Click Here	Click Here
Compression Set (%) (24 hour hold)		11.055		14.262
Extractable Silicone	16%	16%	16%	16%
Thermal Expansion (ppm/°C)				
38 - 58°C	517	517	517	517
58 - 103°C	754	754	754	754
103 - 135°C	906	906	906	906
Breakdown Voltage (VAC)	>10,000	>10,000	>10,000	>10,000
Volume Resistivity	6.00E+12	6.00E+12	6.00E+12	6.00E+12
Dielectric Constant @ 1 kHz/1 mHz	5.5/4.4	5.5/4.4	5.5/4.4	5.5/4.4