



global solutions :
local support™

T-flex™ 600 Series Thermal Gap Filler

Exceptionally soft, highly compressible gap filler

T-flex™ 600 is an exceptionally soft, highly compressible gap filling interface pad with a thermal conductivity of 3 W/mK. These outstanding properties are the result of a proprietary boron nitride filler in the composition.

The high conductivity, in combination with extreme softness produces incredibly low thermal resistances.

While extremely soft, T-flex™ 600 recovers to over 90% of its original thickness after compression under low pressure. T-flex™ 600 is naturally tacky and requires no additional adhesive coating that can inhibit thermal performance. T-flex™ 600 is electrically insulating, stable from -45°C to 200°C and meets UL 94 V0 rating.

Features and Benefits:

- Very high compressibility for low stress applications
- 3 W/mK thermal conductivity
- Available in thicknesses from 0.020" - 0.200" (0.5mm - 5.0mm)
- Naturally tacky, needs no further adhesive coating

Applications:

- Cooling components to the chassis or frame
- High speed mass storage drives
- RDRAM memory modules
- Heat pipe thermal solutions
- Automotive engine control units
- Telecommunications hardware

For sales information:

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T-flex™ 600 Series Thermal Gap Filler

	T-flex™ 620	T-flex™ 640	T-flex™ 660	T-flex™ 680	T-flex™ 6100	Test Method
Construction & Composition	Reinforced boron nitride filled silicone elastomer	Boron nitride filled silicone elastomer	Boron nitride filled silicone elastomer	Boron nitride filled silicone elastomer	Boron nitride filled silicone elastomer	
Color	Blue-Violet	Blue-Violet	Blue-Violet	Blue-Violet	Blue-Violet	Visual
Thickness	0.020" (0.51mm)	0.040" (1.02 mm)	0.060" (1.52 mm)	0.080" (2.03 mm)	0.100" (2.54 mm)	
Thickness Tolerance	± 0.003" (± 0.08mm)	± 0.004" (± 0.10mm)	± 0.006" (± 0.15mm)	± 0.008" (± 0.20mm)	± 0.010" (± 0.25mm)	
Density	1.38 g/cc	1.34 g/cc	1.34 g/cc	1.34 g/cc	1.34 g/cc	Helium Pycnometer
Hardness	40 Shore OO	25 Shore OO	25 Shore OO	25 Shore OO	25 Shore OO	ASTM D2240
Tensile Strength	N/A	15 psi	15 psi	15 psi	15 psi	ASTM D412
% Elongation	N/A	75	75	75	75	ASTM D412
Outgassing TML (Post Cured)	0.13%	0.13%	0.13%	0.13%	0.13%	ASTM E595
Outgassing CVM (Post Cured)	0.05%	0.05%	0.05%	0.05%	0.05%	ASTM E595
UL Flammability Rating	94 V0	94 V0	94 V0	94 V0	94 V0	E180840
Temperature Range	-45°C to 200°C	-45°C to 200°C	-45°C to 200°C	-45°C to 200°C	-45°C to 200°C	ASTM D5470 (modified)
Thermal Conductivity	3 W/mK	3 W/mK	3 W/mK	3 W/mK	3 W/mK	
Thermal Impedance @ 10 psi @ 69KPa	0.46°C - in ² /W 2.97°C - cm ² /W	0.62°C - in ² /W 4.00°C - cm ² /W	0.85°C - in ² /W 5.50°C - cm ² /W	1.09°C - in ² /W 7.04°C - cm ² /W	1.23°C - in ² /W 7.94°C - cm ² /W	ASTM D5470 (modified)
Thermal Expansion	600 ppm/C	430 ppm/C	430 ppm/C	430 ppm/C	430 ppm/C	IPC-TM-650 2.4.24
Breakdown Voltage	3,000 Volts AC	>5,000 Volts AC	>5,000 Volts AC	>5,000 Volts AC	>5,000 Volts AC	ASTM D149
Volume Resistivity	2 x 10 ¹³ ohm-cm	2 x 10 ¹³ ohm-cm	2 x 10 ¹³ ohm-cm	2 x 10 ¹³ ohm-cm	2 x 10 ¹³ ohm-cm	ASTM D257
Dielectric Constant @ 1MHz	3.31	3.31	3.31	3.31	3.31	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. T-flex™ 600 can be die cut to individual shapes. Pressure sensitive adhesive is not applicable for T-flex™ 600 products.

Tacky One Side Only:

T-flex™ 600 is naturally tacky on both sides. T-flex™ 600 can be provided tacky on one side only. This is indicated by the suffix "DC1". This option offers good separation properties allowing the tacky side to stick to the heatsink/chassis/cold plate/etc. and the other "dry" side to release easily from the component(s).

Reinforcement:

Fiberglass is required in 0.020" (0.51mm) and 0.030" (0.76mm). Thicknesses of 0.040" (1.02mm) and above do not require reinforcement.

Our customers are reminded that they bear the responsibility for testing Laird Technologies' materials for their proposed use. Any information furnished by Laird Technologies and its agents is believed to be accurate and reliable, but our customers must bear all responsibility for the use and application of Laird Technologies' materials since Laird Technologies' and its agents cannot be aware of all potential use. Laird Technologies makes no warranties as to the fitness, merchantability, or suitability of any Laird Technologies' materials or products for any specific or general uses. Laird Technologies shall not be liable for incidental or consequential damages of any kind. All Laird Technologies' products are sold pursuant to the Laird Technologies' domestic terms and conditions of sale in effect from time to time, a copy of which will be furnished upon request.

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Property	T-flex™ 6100	T-flex™ 6110	T-flex™ 6120	T-flex™ 6130
Construction Composition	Boron nitride filled, silicone elastomer	Boron nitride filled, silicone elastomer	Boron nitride filled, silicone elastomer	Boron nitride filled, silicone elastomer
Color	Blue-Violet	Blue-Violet	Blue-Violet	Blue-Violet
Thickness	0.10" (2.54 mm)	0.11" (2.794 mm)	0.12" (3.048 mm)	0.13" (3.302 mm)
Thickness Tolerance	+/- 0.010" (0.25 mm)	+/- 0.010" (0.25 mm)	+/- 0.010" (0.25 mm)	+/- 0.010" (0.25 mm)
Density	1.34 g/cc	1.34 g/cc	1.34 g/cc	1.34 g/cc
Hardness	25 Shore OO	25 Shore OO	25 Shore OO	25 Shore OO
Tensile Strength	15 psi	15 psi	15 psi	15 psi
Elongation %	75	75	75	75
Deflection vs. Pressure Chart	Click Here	Click Here	Click Here	Click Here
UL Flammability Rating	94 V0	94 V0	94 V0	94 V0
Shelf Life	Indefinite	Indefinite	Indefinite	Indefinite
MSDS	Click Here	Click Here	Click Here	Click Here
Temperature Range	-45 to 200°C	-45 to 200°C	-45 to 200°C	-45 to 200°C
Thermal Conductivity	3.0 W/mK	3.0 W/mK	3.0 W/mK	3.0 W/mK
Thermal Impedance @ 10 psi	1.23°C-in ² /W	1.33°C-in ² /W	1.40°C-in ² /W	1.54°C-in ² /W
Thermal Impedance @ 69 KPa	7.94°C-cm ² /W	8.57°C-cm ² /W	9.04°C-cm ² /W	9.94°C-cm ² /W
Thermal Impedance vs. Pressure	Click Here	Click Here	Click Here	Click Here
Coefficient of Thermal Expansion	430 ppm/C	430 ppm/C	430 ppm/C	430 ppm/C
Breakdown Voltage	>5,000 volts AC	>5,000 volts AC	>5,000 volts AC	>5,000 volts AC
Volume Resistivity	2x10 ¹³ ohm-cm	2x10 ¹³ ohm-cm	2x10 ¹³ ohm-cm	2x10 ¹³ ohm-cm
Dielectric Constant @ 1 MHz	3.31	3.31	3.31	3.31

Dissipation
Factor @ 1 MHz

<0.001

<0.001

<0.001

<0.001

Property	T-flex™ 6140	T-flex™ 6150	T-flex™ 6160	T-flex™ 6170
Construction Composition	Boron nitride filled, silicone elastomer	Boron nitride filled, silicone elastomer	Boron nitride filled, silicone elastomer	Boron nitride filled, silicone elastomer
Color	Blue-Violet	Blue-Violet	Blue-Violet	Blue-Violet
Thickness	0.14" (3.556 mm)	0.15" (3.81 mm)	0.16" (4.064 mm)	0.17" (4.318 mm)
Thickness Tolerance	+/- 0.010" (0.25 mm)	+/- 0.010" (0.25 mm)	+/- 0.010" (0.25 mm)	+/- 0.010" (0.25 mm)
Density	1.34 g/cc	1.34 g/cc	1.34 g/cc	1.34 g/cc
Hardness	25 Shore OO	25 Shore OO	25 Shore OO	25 Shore OO
Tensile Strength	15 psi	15 psi	15 psi	15 psi
Elongation %	75	75	75	75
Deflection vs. Pressure Chart	Click Here	Click Here	Click Here	Click Here
UL Flammability Rating	94 V0	94 V0	94 V0	94 V0
Shelf Life	Indefinite	Indefinite	Indefinite	Indefinite
MSDS	Click Here	Click Here	Click Here	Click Here
Temperature Range	-45 to 200°C	-45 to 200°C	-45 to 200°C	-45 to 200°C
Thermal Conductivity	3.0 W/mK	3.0 W/mK	3.0 W/mK	3.0 W/mK
Thermal Impedance @ 10 psi	1.65°C-in ² /W	1.71°C-in ² /W	1.79°C-in ² /W	1.86°C-in ² /W
Thermal Impedance @ 69 KPa	10.65°C-cm ² /W	11.03°C-cm ² /W	11.53°C-cm ² /W	12.00°C-cm ² /W
Thermal Impedance vs. Pressure	Click Here	Click Here	Click Here	Click Here
Coefficient of Thermal Expansion	430 ppm/C	430 ppm/C	430 ppm/C	430 ppm/C
Breakdown Voltage	>5,000 volts AC	>5,000 volts AC	>5,000 volts AC	>5,000 volts AC
Volume Resistivity	2x10 ¹³ ohm-cm	2x10 ¹³ ohm-cm	2x10 ¹³ ohm-cm	2x10 ¹³ ohm-cm
Dielectric Constant @ 1 MHz	3.31	3.31	3.31	3.31

Dissipation
Factor @ 1 MHz

<0.001

<0.001

<0.001

<0.001