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

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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           |
|---|--|--|--|--|--|-----------------------|
| <b>Construction &amp; Composition</b>     | 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                    |                       |
| <b>Color</b>                              | Blue-Violet  | Blue-Violet  | Blue-Violet  | Blue-Violet  | Blue-Violet  | Visual                |
| <b>Thickness</b>                          | 0.020"<br>(0.51mm)   | 0.040"<br>(1.02 mm)  | 0.060"<br>(1.52 mm)  | 0.080"<br>(2.03 mm)  | 0.100"<br>(2.54 mm)  |                       |
| <b>Thickness Tolerance</b>                | ± 0.003"<br>(± 0.08mm)                                     | ± 0.004"<br>(± 0.10mm)                                     | ± 0.006"<br>(± 0.15mm)                                     | ± 0.008"<br>(± 0.20mm)                                     | ± 0.010"<br>(± 0.25mm)                                     |                       |
| <b>Density</b>                            | 1.38 g/cc  | 1.34 g/cc  | 1.34 g/cc  | 1.34 g/cc  | 1.34 g/cc  | Helium Pycnometer     |
| <b>Hardness</b>                           | 40 Shore OO  | 25 Shore OO  | 25 Shore OO  | 25 Shore OO  | 25 Shore OO  | ASTM D2240            |
| <b>Tensile Strength</b>                   | N/A  | 15 psi   | 15 psi   | 15 psi   | 15 psi   | ASTM D412             |
| <b>% Elongation</b>                       | N/A  | 75   | 75   | 75   | 75   | ASTM D412             |
| <b>Outgassing TML (Post Cured)</b>        | 0.13%  | 0.13%  | 0.13%  | 0.13%  | 0.13%  | ASTM E595             |
| <b>Outgassing CVM (Post Cured)</b>        | 0.05%  | 0.05%  | 0.05%  | 0.05%  | 0.05%  | ASTM E595             |
| <b>UL Flammability Rating</b>             | 94 V0  | 94 V0  | 94 V0  | 94 V0  | 94 V0  | E180840               |
| <b>Temperature Range</b>                  | -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) |
| <b>Thermal Conductivity</b>               | 3 W/mK   | 3 W/mK   | 3 W/mK   | 3 W/mK   | 3 W/mK   |                       |
| <b>Thermal Impedance @ 10 psi @ 69KPa</b> | 0.46°C - in <sup>2</sup> /W<br>2.97°C - cm <sup>2</sup> /W | 0.62°C - in <sup>2</sup> /W<br>4.00°C - cm <sup>2</sup> /W | 0.85°C - in <sup>2</sup> /W<br>5.50°C - cm <sup>2</sup> /W | 1.09°C - in <sup>2</sup> /W<br>7.04°C - cm <sup>2</sup> /W | 1.23°C - in <sup>2</sup> /W<br>7.94°C - cm <sup>2</sup> /W | ASTM D5470 (modified) |
| <b>Thermal Expansion</b>                  | 600 ppm/C  | 430 ppm/C  | 430 ppm/C  | 430 ppm/C  | 430 ppm/C  | IPC-TM-650 2.4.24     |
| <b>Breakdown Voltage</b>                  | 3,000 Volts AC   | >5,000 Volts AC  | >5,000 Volts AC  | >5,000 Volts AC  | >5,000 Volts AC  | ASTM D149             |
| <b>Volume Resistivity</b>                 | 2 x 10 <sup>13</sup> ohm-cm                                | 2 x 10 <sup>13</sup> ohm-cm                                | 2 x 10 <sup>13</sup> ohm-cm                                | 2 x 10 <sup>13</sup> ohm-cm                                | 2 x 10 <sup>13</sup> ohm-cm                                | ASTM D257             |
| <b>Dielectric Constant @ 1MHz</b>         | 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.

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