



EXCEPTIONALLY SOFT, HIGHLY COMPRESSIBLE GAP FILLER

Tflex™ 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, Tflex™ 600 recovers to over 90% of its original thickness after compression under low pressure. Tflex™ 600 is naturally tacky and requires no additional adhesive coating that can inhibit thermal performance. Tflex™ 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

global solutions: local support.™

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| | Tflex™ 620 | Tflex™ 640 | Tflex™ 660 | Tflex™ 680 | Tflex™ 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" (1.02mm) | 0.060" (1.52mm) | 0.080" (2.03mm) | 0.100" (2.54mm) | |
| 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 00 | 25 Shore 00 | 25 Shore 00 | 25 Shore 00 | 25 Shore 00 | 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 CVCM (Post Cured) | 0.05% | 0.05% | 0.05% | 0.05% | 0.05% | ASTM E595 |
| UL Flammability Rating | UL 94 V0 | UL 94 V0 | UL 94 V0 | UL 94 V0 | UL 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.

Tflex™ 600 can be die cut to individual shapes. Pressure sensitive adhesive is not applicable for Tflex™ 600 products.

TACKY ONE SIDE ONLY

Tflex™ 600 is naturally tacky on both sides. Tflex™ 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.

Data for design engineer guidance only. Observed performance varies in application. Engineers are reminded to test the material in application.

THR-DS-Tflex-600 0510

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