

for a **Connected** World

Tflex[™] 200 V0 Series Thermal Gap Filler



SOFT, FREESTANDING GAP FILLER

Tflex™ 200 V0 is a very soft, freestanding gap filler that is more compliant than most other gap fillers. Combining good thermal conductivity of 1.1 W/mK with high conformability, this gap filler produces low thermal resistance. The alumina filler allows the product to remain a cost effective solution where moderate thermal performance is acceptable.

Naturally tacky and not requiring additional adhesive coating, the Tflex™ 200 V0 can inhibit thermal performance. This gap filler is both electrically insulating and stable from -40°C to 160°C and meets UL 94 VO rating.

FEATURES AND BENEFITS

- Soft and compressible for low stress applications
- Naturally tacky needing no further adhesive coating
- 1.1 W/mK thermal conductivity
- Available in thicknesses from 0.010" (0.25mm) to 0.200" (5.0mm)

APPLICATIONS

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

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Tflex™ 200 V0 Series **Thermal Gap Filler**

Innovative **Technology** for a **Connected** World

| | Tflex™ 220 V0 | Tflex™ 240 V0 | Tflex™ 260 V0 | Tflex™ 280 V0 | Tflex™ 2100 V0 | TEST METHOD |
|--|--|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------|
| Construction & Composition | Reinforced ceramic filled silicone elastomer | |
| Color | Light Gray | Light Gray | Light Gray | Light Gray | Light Gray | Visual |
| Thickness | 0.02" (0.508mm) | 0.04" (1.016mm) | 0.06" (1.524mm) | 0.08" (2.032mm) | 0.10"(2.54mm) | |
| Thickness Tolerance | ± 0.002" (± 0.05mm) | ± 0.004" (± 0.10mm) | ± 0.006" (± 0.15mm) | ± 0.008" (± 0.20mm) | ± 0.010" (± 0.25mm) | |
| Density | 1.75 g/cm ³ | 1.73 g/cm³ | 1.73 g/cm ³ | 1.73 g/cm³ | 1.73 g/cm³ | Helium Pycnometer |
| Hardness | 50 Shore 00 | 45 Shore 00 | 45 Shore 00 | 45 Shore 00 | 45 Shore 00 | ASTM D2240 |
| Tensile Strength | 464 psi | 48 psi | 48 psi | 48 psi | 48 psi | ASTM D412 |
| % Elongation | 10.5 | 63.0 | 60.6 | 60.6 | 60.6 | ASTM D412 |
| Outgassing TML (Post Cured) | 0.34% | 0.34% | 0.34% | 0.34% | 0.34% | ASTM E595 |
| Outgassing CVCM (Post Cured) | 0.10% | 0.10% | 0.10% | 0.10% | 0.10% | ASTM E595 |
| UL Flammability Rating | 94 VO | 94 VO | 94 VO | 94 VO | 94 VO | E180840 |
| Temperature Range | -45°C to 160°C | -45°C to 160°C | -45°C to 160°C | -45°C to 160°C | -45°C to 160°C | |
| Thermal Conductivity | 1.1 W/mK | 1.1 W/mK | 1.1 W/mK | 1.1 W/mK | 1.1 W/mK | ASTM D5470 (modified) |
| Total Thermal Resistance @ 10 psi @ 69KPa | 0.80 °C-in²/W 5.13 °C-cm²/W | 1.57 °C-in²/W 10.13 °C-cm²/W | 2.05 °C-in²/W 13.23 °C-cm²/W | 2.51 °C-in²/W 16.19 °C-cm²/W | 2.93 °C-in²/W 18.90 °C-cm²/W | ASTM D5470 (modified) |
| Coefficient of Thermal Expansion | 229 ppm/°C 35°C to 130°C | 229 ppm/°C 35°C to 130°C | 229 ppm/°C 35°C to 130°C | 229 ppm/°C 35°C to 130°C | 229 ppm/°C 35°C to 130°C | IPC-TM-650 2.4.24 |
| Breakdown Voltage | 12,000 Volts AC | >27,000 Volts | >27,000 Volts | >27,000 Volts | >27,000 Volts | ASTM D149 |
| Volume Resistivity | 4 x 10 ¹³ ohm-cm | 4 x 10 ¹³ ohm-cm | 4 x 10 ¹³ ohm-cm | 4 x 10 ¹³ ohm-cm | 4 x 10 ¹³ ohm-cm | ASTM D257 |
| Dielectric Constant @ 1MHz | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | |

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) TflexTM 200V0 may be die cut into individual shapes. Pressure sensitive adhesive is not applicable for Tflex[™] products.

REINFORCEMENT

0.020" (0.51mm) and 0.030" (0.762mm) are fiberglass reinforced.

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

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