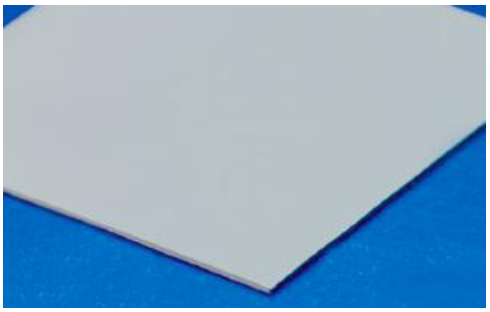
# Gap Pad® 3500ULM

Highly Conformable, Thermally Conductive, Ultra-Low Modulus Material

Preliminary 12.17.2012

- Thermal Conductivity: 3.5 W/m-K
- Highly conformable, extremely low compression stress
- Conforms and maintains structured integrity with minimum stress applied
- Fiberglass reinforced for puncture, shear and tear resistance



Gap Pad® 3500ULM (ultra-low modulus) is an extremely soft gap filling material rated at a thermal conductivity of 3.5 W/m-K. The material offers exceptional thermal performance at low pressures due to a unique 3.5 W/m-K filler package and low-modulus resin formulation. The enhanced material is well suited for high performance applications requiring low assembly stress. Gap Pad® 3500ULM maintains a conformable nature that allows for excellent interfacing and wet-out characteristics, even to surfaces with high roughness and/or topography.

Gap Pad® 3500ULM is offered with natural inherent tack on one side of the material, eliminating the need for thermally-impeding adhesive layers. The material's natural inherent tack allows for stick-in-place characteristics during assembly. Gap Pad® 3500ULM is supplied with protective liners on both sides. The top side has minimal tack for ease of handling.

## Typical Properties of Gap Pad 3500ULM

| PROPERTY | Imperial Value | Metric Value | Test Method |
|---|---|---|---|
| **PHYSICAL** | | | |
| Color | Gray | Gray | Visual |
| Reinforcement Carrier | Fiberglass | Fiberglass | — |
| Thickness (inch) / (mm) | 0.020 to 0.125 | 0.508 to 3.175 | ASTM D374 |
| Inherent Surface Tack (1 side) | 1 | 1 | — |
| Density (Bulk Rubber) (g/cc) | 3.1 | 3.1 | ASTM D792 |
| Heat Capacity (J/g-K) | 1.0 | 1.0 | ASTM E1269 |
| Young's Modulus (psi) / (kPa) (1) | TBD | TBD | — |
| Continuous Use Temp (°F) / (°C) | -76 to 392 | -60 to 200 | — |
| **ELECTRICAL** | | | |
| Dielectric Breakdown Voltage (Vac) | >5000 | >5000 | ASTM D149 |
| Dielectric Constant (1000 Hz) | 6.0 | 6.0 | ASTM D150 |
| Volume Resistivity (Ohm-meter) | $10^{11}$ | $10^{11}$ | ASTM D257 |
| Flame Rating | TBD | TBD | U.L.94 |
| **THERMAL** | | | |
| Thermal Conductivity (W/mK) (3) | 3.5 | 3.5 | ASTM D5470 |
| Thermal Performance vs Strain | | | |
| Deflection (% strain) | 10 | 25 | 50 |
| Thermal Impedance (°C-in$^2$/W) (2) | TBD | TBD | TBD |

*(1) Young's Modulus, calculated using 0.01 in/min. step rate of strain with a sample size of 0.79 inch2.*

*(2) The ASTM D5470 test fixture was used. The recorded value includes interfacial thermal resistance. These values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied.*

*(3) Preliminary data for reference only. Bergquist will update pending on further results.*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