

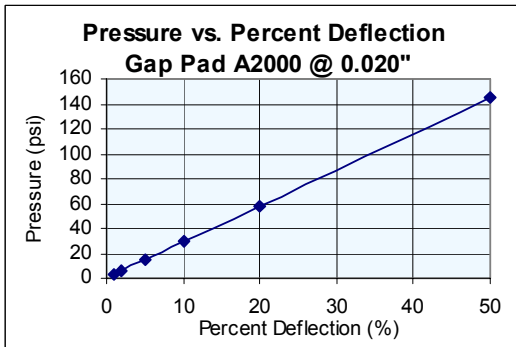
## High Performance Thermally Conductive Gap Filling Material

### Features and Benefits

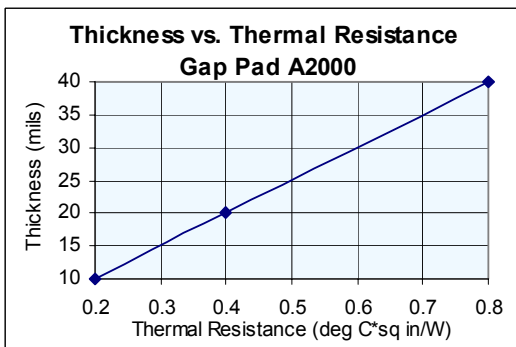
- Thermal conductivity 2.0 W/m-K
- Highly conductive low modulus material
- Electrically isolating
- Two-sided inherent surface tack

Gap Pad A2000 acts as a thermal interface between electrical components and heat sinks. Gap Pad A2000 in the thickness range of 10 to 20 mil is supplied with natural tack on both sides, allowing for excellent compliance to the adjacent surfaces of components. The 40 mil material thickness is supplied with tack on one side only, allowing for burn-in processes and easy rework.

To calculate the approximate amount of deflection for a specific material thickness, at a given pressure, refer to the graph below. Multiply the thickness of the material by the percentage at the given pressure.\*



The resultant thickness of the Gap Pad will determine the thermal resistance. Subtracting the initial gap pad thickness by the deflection value, obtained above, will give the resultant thickness. Refer to the graph below to obtain the thermal resistance of the material.



| Typical Properties of Gap Pad A2000 |                  |                  |             |
|-------------------------------------|------------------|------------------|-------------|
| Property                            | Imperial Value   | Metric Value     | Test Method |
| Color                               | Gray             | Gray             | Visual      |
| Reinforcement Carrier               | Fiberglass       | Fiberglass       | ***         |
| Thickness, (inch) / (mm)            | 0.010 to 0.040   | 0.254 to 1.016   | ASTM D374   |
| Inherent Surface Tack, 1 or 2 sided | 2                | 2                | ***         |
| Density, (g/cc)                     | 2.9              | 2.9              | ASTM D792   |
| Heat Capacity, (J/g-K)              | 1.0              | 1.0              | ASTM C351   |
| Hardness, bulk rubber, (Shore 00)   | 80               | 80               | ASTM D2240  |
| Young's Modulus, (psi)/(kPa) (I)    | 55               | 379              | ASTM D575   |
| Continuous Use Temp., (°F) / (°C)   | -76 to 392       | -60 to 200       | ***         |
| Electrical                          | Imperial Value   | Metric Value     | Test Method |
| Dielectric Breakdown Voltage, (VAC) | >3000            | >3000            | ASTM D149   |
| Dielectric Constant, (1000 Hz)      | 5.0              | 5.0              | ASTM D150   |
| Volume Resistivity, (Ohm-meter)     | 10 <sup>11</sup> | 10 <sup>11</sup> | ASTM D257   |
| Flame Rating                        | 94 V-O           | 94 V-O           | U.L.        |
| Thermal                             | Imperial Value   | Metric Value     | Test Method |
| Thermal Conductivity, (W/m-K)       | 2.0              | 2.0              | ASTM D5470  |

1) Graphs and data generated from Young's Modulus, calculated using 0.01 inch/min. step rate of strain with a sample size of 0.79 inch<sup>2</sup> on 0.020" material. For more information on Gap Pad modulus refer to Bergquist Application Note #116.

### Typical Applications Include

- Computer and peripherals
- Telecommunications
- Heat Pipe assemblies
- RDRAM<sup>™</sup> memory modules
- CDROM cooling
- Area where heat needs to be transferred to a frame, chassis, or other type of heat spreader
- Between CPU and heat spreader

### Configurations

Available:

- Sheet form
- Die-Cut parts
- Roll form (converted or unconverted)
- Standard sheet size is 8" x 16"
- Standard thickness of:  
0.010", 0.015", 0.020", 0.040"

We produce thousands of specials. Tooling charges vary depending on tolerances and complexity of the part.

Gap Pad<sup>®</sup>: U.S. Patent 5,679,457 and others.

Product Data Sheet / PDS-0602-001-01; Rev 01