Gap Pad® VO Ultra Soft

Highly Conformable, Thermally Conductive Material for Filling Air Gaps

Features and Benefits

- Thermal conductivity 1.0 W/m-K
- Highly conformable nature
- Shock absorbing characteristics
- Electrically isolating

Gap Pad VO Ultra Soft is recommended for applications that require a minimum amount of stress on components. The viscoelastic nature of the material also gives excellent low stress vibration dampening and shock absorbing characteristics. Gap Pad VO Ultra Soft is an electrically isolating material, which allows its use in applications requiring isolation between heat sinks and high voltage, bare leded devices.

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.*

![Pressure vs. Percent Deflection Graph](image)

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.

![Thickness vs. Thermal Resistance Graph](image)

Typical Properties of Gap Pad VO Ultra Soft

<table>
<thead>
<tr>
<th>Property</th>
<th>Imperial Value</th>
<th>Metric Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Mauve / Pink</td>
<td>Mauve / Pink</td>
<td>Visual</td>
</tr>
<tr>
<td>Reinforcement Carrier</td>
<td>Sil-Pad</td>
<td>Sil-Pad</td>
<td>***</td>
</tr>
<tr>
<td>Thickness, (inch) / (mm)</td>
<td>0.020 to 0.250</td>
<td>0.508 to 6.350</td>
<td>ASTM D374</td>
</tr>
<tr>
<td>Inherent Surface Tack, 1 or 2 sided</td>
<td>1</td>
<td>1</td>
<td>***</td>
</tr>
<tr>
<td>Density, (g/cc)</td>
<td>1.6</td>
<td>1.6</td>
<td>ASTM D792</td>
</tr>
<tr>
<td>Heat Capacity, (J/g-K)</td>
<td>1.0</td>
<td>1.0</td>
<td>ASTM C351</td>
</tr>
<tr>
<td>Hardness, bulk rubber, (Shore 00)</td>
<td>15</td>
<td>15</td>
<td>ASTM D2240</td>
</tr>
<tr>
<td>Young’s Modulus, (psi)/(kPa)</td>
<td>(I)</td>
<td>8</td>
<td>55</td>
</tr>
<tr>
<td>Continuous Use Temp., (°F) / (°C)</td>
<td>-76 to 392</td>
<td>-60 to 200</td>
<td>***</td>
</tr>
</tbody>
</table>

Electrical

- Dielectric Breakdown Voltage, (Vac) >6000
- Dielectric Constant, (1000 Hz) 5.5
- Volume Resistivity, (Ohm-meter) $10^{11}$
- Flame Rating 94 V-O

Thermal

- Thermal Conductivity, (W/m-K) 1.0

Typical Applications Include

- Telecommunications
- Computer and peripherals
- Power conversion
- Between heat generating semiconductors and a heat sink
- Area where heat needs to be transferred to a frame, chassis, or other type of heat spreader
- Between heat generating magnetic components and a heat sink

Configurations

Available:

- Sheet form
- Die-Cut parts
- With or without pressure sensitive adhesive
- Standard sheet size is 8” x 16”
- Standard thickness of: 0.020”, 0.040”, 0.060”, 0.080”, 0.100”, 0.125”, 0.160”, 0.200”, 0.250”

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