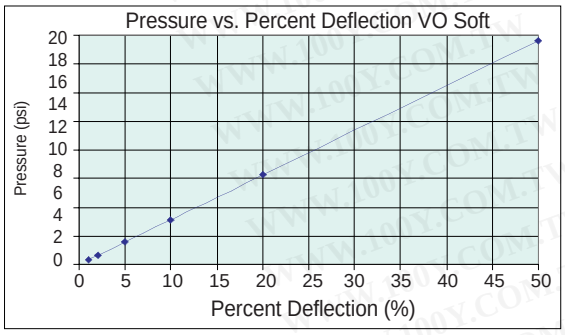
GAP PAD VO SOFT

Gap Pad VO Soft is recommended for low stress applications. These include applications where the material is used as an interface and one side is in contact with a leaded device.

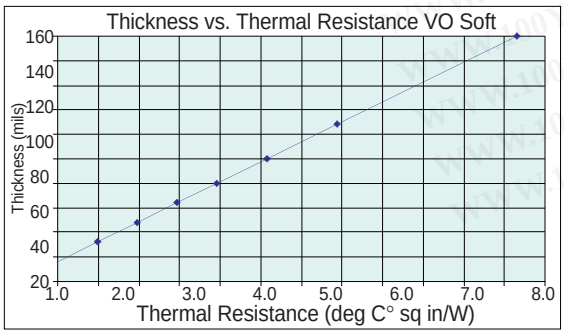
Gap Pad VO Soft is a thermally conductive material that acts as a thermal interface between a heat sink and an electronic device. The conformable nature of Gap Pad VO Soft allows the pad to fill in air gaps between PC boards and heat sinks or a metal chassis.

Gap pad VO Soft is a highly conformable, low modulus silicone polymer filled with alumina on a fiberglass carrier. The material is available in thicknesses from 0.020" to 0.160" with a liner applied to the light pink side of the material. The range in thicknesses and the materials flexibility allow Gap Pad VO Soft to be used in a variety of applications where surface texture vary and the space between surfaces is uneven. The material is available in die-cut parts and sheets. Standard sheet size is 8" X 16", with or without adhesive.

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.



Applications

- Between chassis wall and other surface
- CDROM Cooling
- Area where heat needs to be transferred to a frame, chassis, or other type of heat spreader.
- Between CPU and Heat Spreader
- Between a semiconductor and heat sink

Property	Value		Test Method
Mechanical Properties			
Thickness inches	.020" to .160"		ASTM D374
Color	Mauve/Pink		Visual
Specific Gravity	1.6		ASTM D792
Heat Capacity J/g-K	1.0		ASTM C351
Continuous Use Temp.	-60°C to +200°C		
Hardness (Shore Type OO)	vs. Thickness (in) 0.020" to 0.160"	(Type 00) 65 to 25	ASTM D2240
Young's Modulus* (psi)	Rate 0.01	Modulus 40	ASTM D575
Electrical Properties			
Dielectric Breakdown Voltage	>6 kV		ASTM D149
Dielectric Constant	5.5		ASTM D150
Volume Resistivity	10" Ohm-meter		ASTM D257
Thermal Properties			
Thermal Conductivity @ 10 psi	0.8 W/m-K		ASTM D5470
Flame Rating Film #: E59150	94V-O		U.L.

MODULUS * The modulus of Gap Pad VO is rate dependent due to its viscoelastic properties. At high rates of compression Gap Pad is elastic and at low rates it is viscous. The elastic strain (deflection) is not time dependent. A completely elastic material, when compressed will recover 100% to its original shape when the force is released. Viscous strain, however, is time dependent. Deformation is not instantaneous but occurs over time and is not completely recovered after the stress is removed. As an example; if Gap Pad is molded into a ball and dropped, it will bounce, and rebound close to 100%. However, if a load is placed on the ball for a long period of time it will flatten out a degree and will not recover completely to it's original shape when the load is removed. For more information on Gap Pad modulus refer to Bergquist Application Note #116.

*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^2.