

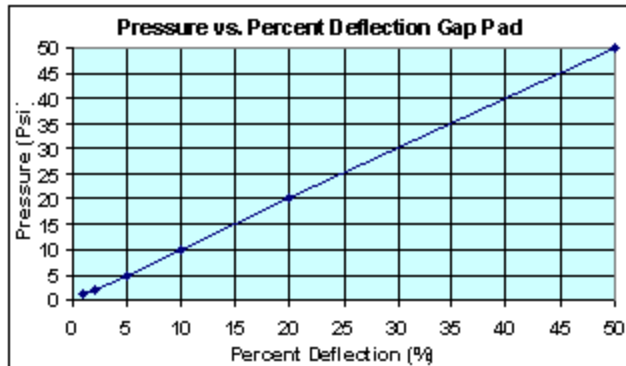
Gap Pad VO™

Conformable, Thermally Conductive Material for Filling Air Gaps

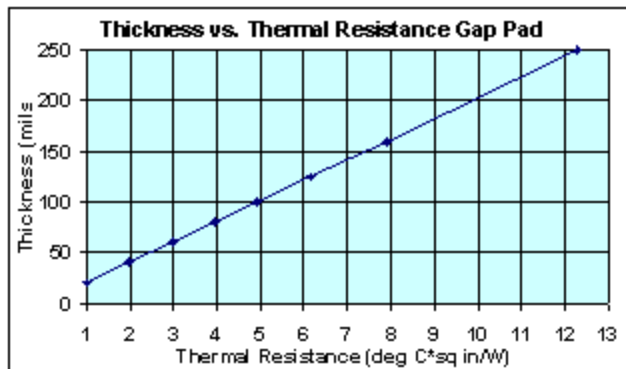
Gap Pad VO is a thermally conductive material that acts as a thermal interface between a heat sink and an electronic device. The conformable nature of Gap Pad VO allows the pad to fill in air gaps between PC boards and heat sinks or a metal chassis.

Gap pad VO is a conformable silicone polymer filled with alumina on a fiberglass carrier. The material is available in thicknesses from 0.020" to 0.250" with a liner applied to the light pink side of the material. The range in thicknesses and the materials flexibility allow Gap Pad VO 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.



* 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 inch².

Typical 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	Typical Value	Method	
Mechanical			
Thickness	.020" to .250"	ASTM D374	
Color	Gold/Pink	Visual	
Specific Gravity	1.6	ASTM D792	
Heat Capacity	1.0 J/g-K	ASTM C351	
Continuous Use Temp.	-60° C to 200° C		
Hardness (Shore Type OO)	<u>Thickness</u>	<u>Hardness</u>	ASTM D2240
	0.020" -to- 0.250"	80 -to- 40	
Young's Modulus* (psi)	<u>Modulus</u> 100	<u>Rate</u> 0.01	ASTM D575
Electrical			
Dielectric Breakdown Voltage	>6 kV	ASTM D149	
Dielectric Constant	5.5	ASTM D150	
Volume Resistivity	10 ¹¹ Ohm-meter	ASTM D257	
Thermal			
Thermal Conductivity (@10 psi)	0.8 W/m-K	ASTM D5470	
Flame Rating File #: E59150	94V-0	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 its original shape when the load is removed. For more information on Gap Pad modulus refer to Bergquist



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