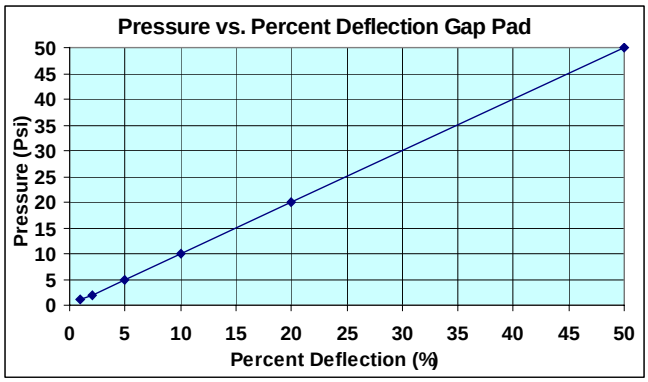
Gap Pad™ VO

Conformable, Thermally Conductive Material for Filling Air Gaps

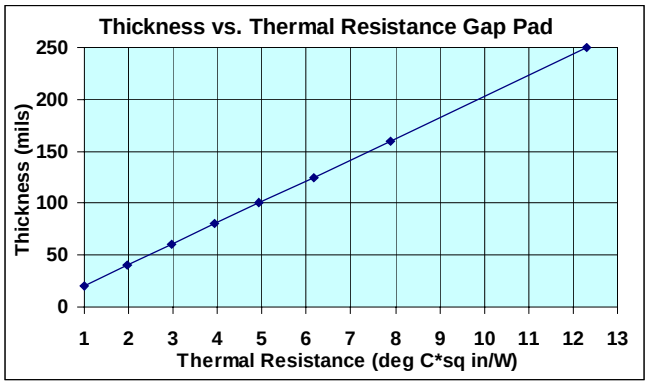
Gap Pad VO is a thermally conductive cost effective material that acts as a thermal interface between a heat sink and an electronic device. The conformable nature of Gap Pad VO allows the pad to fill in air gaps between PC boards and heat sinks or a metal chassis.

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



Typical Properties of Gap Pad VO

Property	Typical Value		Test Method
Color	Gold / Pink		Visual
Thickness	0.020" to 0.250"		ASTM D374
Specific Gravity	1.6 g/cc		ASTM D792
Heat Capacity	1.0 J/g-K		ASTM C351
Hardness (Shore Type 00)	Thickness	Hardness	ASTM D2240
	.020" - .250"	80 - 40	
Young's Modulus psi (1)	Modulus	Rate	ASTMD575
	100	0.01"/min.	
Continuous Use Temp.	-60°C to 200°C		
Electrical			
Dielectric Breakdown Voltage	>6 kV		ASTM D149
Dielectric Constant	5.5		ASTM D150
Volume Resistivity	10^{11} Ohm-meter		ASTM D257
Flame Rating	94 V-O		U.L.
Thermal			
Thermal Conductivity	0.8 W/m-K		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 $inch^2$. For more information on Gap Pad modulus refer to Bergquist Application Note #116.

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