Gap Filler 1000

Thermally Conductive Liquid Gap Filling Material

Gap Filler 1000 is a high performance thermally conductive liquid GAP FILLING MATERIAL. It is supplied as a two-component, room or elevated temperature curing system. It is formulated to provide a balance of cured material properties highlighted by "gel-like" modulus and good compression set (memory). These properties result in a soft, **thermally conductive**, form-in-place elastomer ideal for coupling "hot" electronic components mounted on PC boards with an adjacent metal case or heat sink. The viscosity of the mixed uncured material also makes it suitable as a **thermally conductive** alternative in the following applications:

- Replacement for thermal grease - Before cure, it flows under pressure like a grease. After cure, it does not pump from the interface as a result of thermal cycling. Unlike thermal grease, the cured product is dry to the touch.
- As a low modulus **thermally conductive** potting material.
- As a **thermally conductive** vibration dampening material.

Gap Filler 1000 is supplied as a two-part kit comprised of Part A and Part B components. The two components are colored to assist as a mix indicator (1:1 ratio by weight or volume). The mixed system will cure at either ambient or elevated temperature to form a soft **thermally conductive** interface material. Unlike cured Gap Filling materials, the liquid approach offers infinite thickness with little or no stress during displacement. It also eliminates the need for specific pad thickness and die-cut shapes for individual applications.

Gap Filler 1000 is intended for use in thermal interface applications where a structural bond is not a requirement. This material is formulated for low cohesive strength and "gel-like" properties.

This product is characterized by these special properties:

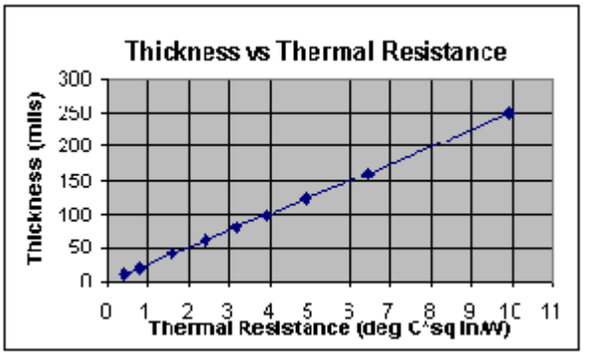
- High Thermal Conductivity - 1.0 W/m-K
- Stress Absorbing Flexibility (low modulus)
- "Clean-Release" from many heat sink and electronic packaging materials (re-workable)
- Excellent Low and High Temperature Mechanical and Chemical Stability
- 100% Solids - No Cure By-Products
- Versatile Cure Schedules - Both Ambient and Accelerated Cure Schedules

Application

Gap Filler 1000 can be applied using the following methods:

- Mixed using dual tube cartridge packs with static mixers and a manual or pneumatic gun
- Mixed and dispensed using industry standard high volume mixing and dispensing equipment

Property	Typical Value	Method
As Supplied		
Appearance Part A	Grey	Visual
Appearance Part B	White	Visual
Viscosity As Mixed[1]	450,000 cps	ASTM
Specific Gravity (Both Part A and Part B)	1.6	ASTM D792
Mix Ratio	1:1	
Shelf Life @ 25°C	6 months	
As Cured - Physical		
Appearance	Grey	Visual
Hardness2	20	ASTM D2240
Continuous Use Operating Temp	-60°C - +200°C	



Heat Capacity	1 J/g-K	ASTM C351
Thermal Conductivity	1.0 W/mK	ASTM D5470
As Cured-Electrical		
Dielectric Strength	500 Volts/mil	ASTM D149
Volume Resistivity	1E +14 ohm-cm	ASTM D257
Dielectric Constant	5 @ 1 MHz	ASTM D150
Cure Schedule		
Pot Life at 25 °C3	15 min	
At 25 °C	60 - 120 min4	
At 100 °C	5 min4	

1 Brookfield RV, Heli-Path, Spindle TF @ 2 rpm, 25 °C
2 Shore Hardness Type "OO"
3 Time for viscosity to double
4 Cure Schedule (Rheometer - Time to reach 90% cure)

Gap Filler 1000 is available in 50 cc, 200 cc, or 400 cc MixPacTM cartridges. It is also available in Pint, Quart, 1 Gallon, and 5 Gallon Kits.

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