Gap Filler II00SF (Two-Part)

Thermally Conductive, Silicone-Free, Liquid Gap Filling Material

Features and Benefits

- Thermal conductivity: I.I W/m-K
- No silicone outgassing or extraction
- Ultra-conforming, designed for fragile and low-stress applications
- Ambient and accelerated cure schedules
- 100% solids no cure by-products

Gap Filler 1100SF is the thermal solution for silicone-sensitive applications. The material is supplied as a two-part component curing at room or elevated temperatures. The material exhibits "gel-like" properties then cures to a soft, flexible elastomer, helping reduce thermal cycling stresses during operation and virtually eliminating stress during assembly of low-stress applications.

The two components are colored to assist as a mix indicator (I:I by volume). The mixed system will cure at ambient temperature. Unlike cured thermal pad materials, the liquid approach offers infinite thickness variations with little or no stress during assembly displacement. Gap Filler IIOOSF, although exhibiting some natural tack characteristics, is not intended for use in thermal interface applications requiring a mechanical structural bond.

Application

Gap Filler 1100SF can be mixed and dispensed using dual-tube cartridge packs with static mixers and manual or pneumatic gun, or high volume mixing and dispensing equipment (application of heat may be used to reduce viscosity).

TEMPERATURE DEPENDENCE OF VISCOSITY

The viscosity of the Gap Filler I100SF material is temperature dependent. The table below provides the multiplication factor to obtain viscosity at various temperatures. To obtain the viscosity at a given temperature, look up the multiplication factor at that temperature and multiply the corresponding viscosity at $25^{\circ}\mathrm{C}$.

Temperature	Multiplication Factor		
°C	Part A	Part B	
20	1.43	1.57	
25	1.00	1.00	
35	0.58	0.50	
45	0.39	0.30	
50	0.32	0.24	

Example - Viscosity of Part A @ 45°:

Viscosity of Part A at 25°C is 450,000 cp. The multiplication factor for part A at 45°C is 0.39. Therefore:

 $(450,000) \times (0.39) = 175,500 \text{ cps}$

TYPICAL PROPERTIES OF GAP FILLER 1100SF				
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color / Part A	Yellow	Yellow	Visual	
Color / Part B	Red	Red	Visual	
Viscosity as Mixed (cps) (1)	450,000	450,000	ASTM D2196	
Density (g/cc)	2.0	2.0	ASTM D792	
Mix Ratio	1:1	1:1	_	
Shelf Life @ 25°C (months)	6	6	_	
PROPERTY AS CURED				
Color	Orange	Orange	Visual	
Hardness (Shore 00) (2)	60	60	ASTM D2240	
Heat Capacity (J/g-K)	0.9	0.9	ASTM E1269	
Continuous Use Temp (°F) / (°C)	-76 to 257	-60 to 125	_	
ELECTRICAL AS CURED				
Dielectric Strength (V/mil)	400	400	ASTM D149	
Dielectric Constant (1000 Hz)	5.0	5.0	ASTM D150	
Volume Resistivity (Ohm-meter)	1010	1010	ASTM D257	
Flame Rating	V-O	V-O	U.L. 94	
THERMAL AS CURED				
Thermal Conductivity (W/m-K)	1.1	1.1	ASTM D5470	
CURE SCHEDULE				
Pot Life @ 25°C (min) (3)	10-15	10-15	_	
Cure @ 25°C (hrs) (4)	4	4	_	
Cure @ 100°C (min) (4)	45	45	_	
Brookfield RV, Heli-Path, Spindle TF @ 2 rpm, 25°C Thirty second delay value Shore 00 hardness scale. Time for viscosity to double.				

Typical Applications Include:

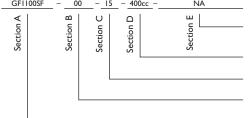
4) Cure schedule (rheometer - time to read 90% cure)

- Silicone-sensitive optic components
- Silicone-sensitive electronics
- Hard disk assemblies
- Dielectric for bare-leaded devices
- Filling various gaps between heat-generating devices to heat sinks and housings
- Mechanical switching relay

Configurations Available:

• Supplied in cartridge or kit form

Building a Part Number



Standard Options

NA = Selected standard option. If not selecting a standard option, insert company name, drawing number, and revision level.

Cartridges: 400cc = 400.0cc Kits: 1200cc = 1200.0cc, or 10G = 10 gallon

Pot Life: 15 = 15 minutes

00 = No spacer beads 07 = 0.007" spacer beads GFI100SF = Gap Filler 1100SF Material

Note: To build a part number, visit our website at www.bergquistcompany.com.

Gap Pad®: U.S. Patent 5,679,457 and others.



www.bergquistcompany.com

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