

Hi-Flow® 300G

Fiberglass-Reinforced, Phase Change Thermal Interface Material

Features and Benefits

- Thermal impedance: 0.20°C-in²/W (@25 psi)
- Will not drip or run like grease
- Phase change compound coated on a fiberglass carrier



Hi-Flow 300G consists of a thermally conductive 55°C phase change compound coated on a fiberglass web. Hi-Flow 300G is designed as a thermal interface material between a computer processor and a heat sink.

Above the phase change temperature, Hi-Flow 300G wets-out the thermal interface surfaces and flows to produce low thermal impedance. The material requires pressure of the assembly to cause flow. Hi-Flow 300G will not drip or run like grease.

Application Methods

1. Hand-apply to 40°- 50°C heat sink. The heat sink is heated in an oven or by a heat gun to between 40°- 50°C allowing the Hi-Flow 300G pad to be applied like an adhesive pad. The heat sink is then cooled to room temperature and packaged.
2. Hand-apply to 20°- 35°C heat sink. Hi-Flow 300G can be applied to a room temperature heat sink with the assistance of a foam roller. The pad is positioned on the heat sink and a hand roller is used to apply pressure of 30 psi.
3. Automated equipment with 30 psi pressure. A pick-and-place automated dispensing unit can be used to apply Hi-Flow 300G to a room temperature heat sink. The placement head should have a soft silicone rubber pad, and apply 30 psi pressure to the pad on transfer to the 20°- 35°C heat sink.

TYPICAL PROPERTIES OF HI-FLOW 300G				
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD	
Color	Green	Green	Visual	
Reinforcement Carrier	Fiberglass	Fiberglass	—	
Thickness (inch) / (mm)	0.005	0.127	ASTM D374	
Elongation (%45° to Warp and Fill)	40	40	ASTM D882A	
Tensile Strength (psi) / (MPa)	400	3	ASTM D882A	
Continuous Use Temp (°F) / (°C)	212	100	—	
Phase Change Temp (°F) / (°C)	131	55	ASTM 3418	
ELECTRICAL				
Dielectric Breakdown Voltage (Vac)	300	300	ASTM D149	
Dielectric Constant (1000 Hz)	3.5	3.5	ASTM D150	
Volume Resistivity (Ohm-meter)	10 ⁸	10 ⁸	ASTM D257	
Flame Rating	V-O	V-O	UL 94	
THERMAL				
Thermal Conductivity (W/m-K) (1)	1.6	1.6	ASTM D5470	
THERMAL PERFORMANCE vs PRESSURE				
Pressure (psi)	10	25	50	100
TO-220 Thermal Performance (°C/W)	0.96	0.92	0.88	0.85
Thermal Impedance (°C-in ² /W) (2)	0.27	0.20	0.16	0.15
1) This is the measured thermal conductivity of the Hi-Flow coating. It represents one conducting layer in a three-layer laminate. The Hi-Flow coatings are phase change compounds. These layers will respond to heat and pressure induced stresses. The overall conductivity of the material in post-phase change, thin film products is highly dependent upon the heat and pressure applied. This characteristic is not accounted for in ASTM D5470. Please contact Bergquist Product Management if additional specifications are required.				
2) The ASTM D5470 test fixture was used and the test sample was conditioned at 70°C prior to test. The recorded value includes interfacial thermal resistance. These values are provided for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied.				

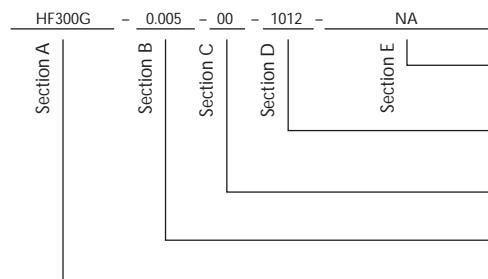
Typical Applications Include:

- Computer and peripherals
- As a thermal interface where bare die is exposed and needs to be heat sunk

Configurations Available:

- Sheet form, die-cut parts, and roll form
- With or without pressure sensitive adhesive

Building a Part Number



Standard Options

◀ example

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

1012 = Standard configuration dash number, 1012 = 10" x 12' sheets, 10/250 = 10" x 250' rolls, or 00 = custom configuration

AC = Adhesive, one side
00 = No adhesive

Standard thicknesses available: 0.005"

HF300G = Hi-Flow 300G Phase Change Material

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

Hi- Flow®: U.S. Patent 6,197,859 and others



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