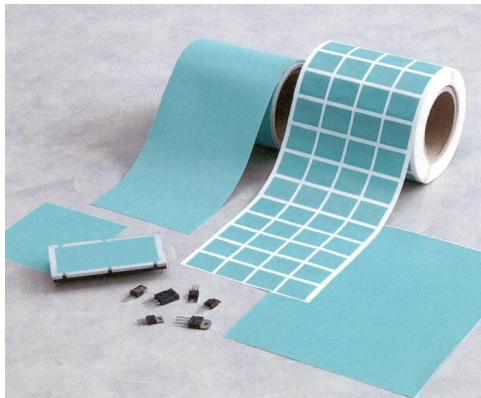


Electrically Insulating, Thermally Conductive Phase Change Material

Features and Benefits

- Thermal impedance
0.71 °C-in²/W (@25 psi)
- Electrically isolating
- 65 °C phase change compound coated on Bergquist film
- Tack free and scratch resistant



Hi-Flow 625 is a film reinforced phase change material. The product consists of a thermally conductive 65 °C phase change compound coated on Bergquist film. Hi-Flow 625 is designed to be used as a thermal interface material between electronic power devices that require electrical isolation and a heat sink. The reinforcement makes Hi-Flow 625 easy to handle, and the 65 °C phase change temperature of the coating material eliminates shipping and handling problems. The Bergquist film has a continuous use temperature of 150 °C.

Hi-Flow 625 is Tack Free and Scratch Resistant at production temperature and does not require a protective liner in most shipping situations.

Hi-Flow 625 has the thermal performance of 2-3 mil mica and grease assemblies.

Typical Properties of Hi-Flow 625						
Property	Imperial Value	Metric Value	Test Method			
Color	Green	Green	Visual			
Reinforcement Carrier	Film	Film	***			
Thickness, (inch) / (mm)	0.005	0.127	ASTM D374			
Elongation, (%45° to Warp & Fill)	60	60	ASTM D882A			
Tensile Strength, (psi) / (Mpa)	30000	206	ASTM D882A			
Continuous Use Temp., (°F) / (°C)	302	150	***			
Phase Change Temp., (°F) / (°C)	149	65	DSC			
Electrical	Imperial Value	Metric Value	Test Method			
Dielectric Breakdown Voltage, (VAC)	4000	4000	ASTM D149			
Dielectric Constant, (100 Hz)	3.5	3.5	ASTM D150			
Volume Resistivity, (Ohm-meter)	>10 ¹⁰	>10 ¹⁰	ASTM D257			
Flame Rating	94 V-O	94 V-O	U.L.			
Thermal Impedance vs. Pressure						
	Pressure (psi)	10	25	50	100	200
TO-220 Thermal Performance, (°C/W)		2.26	2.10	2.00	1.93	1.87
Thermal Impedance, (°C-in ² /W) (1)		0.79	0.71	0.70	0.67	0.61

1). The ASTM D5470 (Bergquist Modified) 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 given to the customer for reference only. Actual application performance is directly related to the surface roughness, flatness and pressure applied.

2). This is the measured thermal conductivity of the Hi-Flow coating only (per Bergquist Modified ASTM-D5470). This compound is equally coated to both surfaces of Bergquist's T-600 film carrier. This lamination typically includes two layers (one to each side) of 2-mil Hi-Flow compound coated to 1.0-mil T-600 film. The Hi-Flow coatings are phase-change, thixotropic compounds and thus respond via compressive flow to heat and pressure induced stress. Knowing the average final thickness of the interface, the overall apparent thermal conductivity of the laminate can be estimated via back-calculation (ref: L = K * *) of the Bergquist Modified ASTM-D5470 test results stated. This statement assumes negligible interfacial thermal resistance. Please contact your Bergquist Sales Representative or Bergquist Inside Sales if additional specifications are required.

Typical Applications Include

- Clip mounted
- Spring mounted
- Power semiconductors
- Power modules

Configurations

Available:

- Sheet form
- Die-Cut parts
- Roll form
- With or without pressure sensitive adhesive

We produce thousands of specials. Tooling charges vary depending on tolerances and complexity of the part.

Hi-Flow[®]: U.S. Patent 4,950,066 and others.

Product Data Sheet / PDS-0602-001-01; Rev 01