

## Electrically Insulating, Thermally Conductive Phase Change Material

### Features and Benefits

- Thermal impedance: 0.71°C-in<sup>2</sup>/W (@25 psi)
- Electrically insulating
- 65°C phase change compound coated on PEN 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 PEN 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 PEN 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. The material 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	PEN Film	PEN Film	—		
Thickness (inch) / (mm)	0.005	0.127	ASTM D 374		
Elongation (%45° to Warp and Fill)	60	60	ASTM D 882A		
Tensile Strength (psi) / (MPa)	30,000	206	ASTM D 882A		
Continuous Use Temp (°F) / (°C)	302	150	—		
Phase Change Temp (°F) / (°C)	149	65	ASTM D 3418		
<b>ELECTRICAL</b>					
Dielectric Breakdown Voltage (Vac)	4000	4000	ASTM D 149		
Dielectric Constant (1000 Hz)	3.5	3.5	ASTM D 150		
Volume Resistivity (Ohm-meter)	10 <sup>10</sup>	10 <sup>10</sup>	ASTM D 257		
Flame Rating	V-O	V-O	U.L. 94		
<b>THERMAL</b>					
Thermal Conductivity (W / m-K) (1)	0.5	0.5	ASTM D 5470		
<b>THERMAL PERFORMANCE vs PRESSURE</b>					
	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 <sup>2</sup> /W) (2)	0.79	0.71	0.70	0.67	0.61

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.

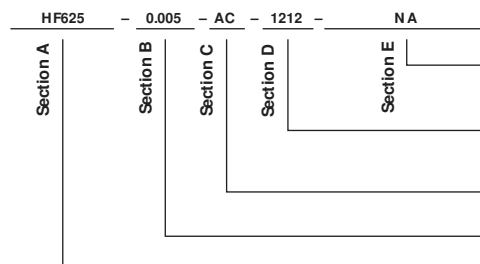
### Typical Applications Include:

- Spring / clip mounted
- Power semiconductors
- Power modules

### Configurations Available:

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

### Building a Part Number



### Standard Options

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

\_\_\_ = Standard configuration dash number, 1212 = 12" x 12" sheets, 12/200 = 12" x 200' rolls, or 00 = custom configuration

AC = Adhesive, one side  
00 = No adhesive

Standard thicknesses available: 0.005"

HF625 = Hi-Flow 625 Phase Change Material

Note: To build a part number, visit our website at [www.bergquistcompany.com](http://www.bergquistcompany.com).

Hi-Flow®: U.S. Patents 6,197,859 and 5,950,066.



[www.bergquistcompany.com](http://www.bergquistcompany.com)

The Bergquist Company - North American Headquarters  
18930 West 78th Street  
Chanhassen, MN 55317  
Phone: 800-347-4572  
Fax: 952-835-0430

The Bergquist Company - European Headquarters  
Bramenberg 9a, 3755 BT Eemnes  
Netherlands  
Phone: 31-35-5380684  
Fax: 31-35-5380295

The Bergquist Company - Asia  
Room 15, 8/F Wah Wai Industrial Centre  
No. 38-40, Au Pui Wan Street  
Fotan, Shatin, N.T. Hong Kong  
Ph: 852.2690.9296  
Fax: 852.2690.2344

All statements technical information and recommendations herein are based on tests we believe to be reliable, and THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MARKETABILITY AND FITNESS FOR PURPOSE. Sellers and manufacturers' only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and the user assumes all risks and liability whatsoever in connection therewith. NEITHER SELLER NOR MANUFACTURER SHALL BE LIABLE EITHER IN TORT OR IN CONTRACT FOR ANY LOSS OR DAMAGE, DIRECT, INCIDENTAL, OR CONSEQUENTIAL, INCLUDING LOSS OF PROFITS OR REVENUE ARISING OUT OF THE USE OR THE INABILITY TO USE A PRODUCT. No statement, purchase order or recommendations by seller or purchaser not contained herein shall have any force or effect unless in an agreement signed by the officers of the seller and manufacturer.

PDS\_HF\_625\_12.08