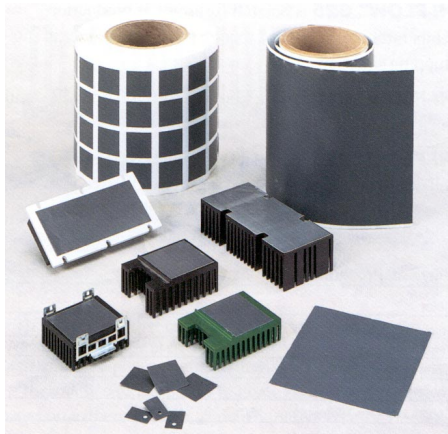


Phase Change Coated Aluminum

Features and Benefits

- Thermal impedance
0.37°C-in²/W (@25 psi)
- Used where electrical isolation is not required
- Low volatility – less than 1%
- Easy to handle in the manufacturing environment
- Flows but doesn't run like grease



Hi-Flow 105 is a “phase change” material coated on both sides of an aluminum substrate. It is designed specifically to replace grease as a thermal interface. Eliminates the mess, contamination and difficult handling. Hi-Flow 105 is tack free and scratch resistant at room temperature. It does not require a protective liner in shipment when attached to a heat sink.

At 65 °C (Phase Change Temperature), Hi-Flow 105 changes from a solid and flows thereby assuring total wet-out of the interface. The thixotropic characteristics of the material keep Hi-Flow 105 from flowing out of the interface.

Hi-Flow 105 has thermal performance equal to grease with 0.10°C-in² /W contact thermal resistance.

Typical Properties of Hi-Flow 105						
Property	Imperial Value	Metric Value	Test Method			
Color	Dark Gray	Dark Gray	Visual			
Reinforcement Carrier	Aluminum	Aluminum	***			
Thickness, (inch) / (mm)	0.0055	0.139	ASTM D374			
Continuous Use Temp., (°F) / (°C)	266	130	***			
Phase Change Temp., (°F) / (°C)	149	65	DSC			
Electrical	Imperial Value	Metric Value	Test Method			
Dielectric Constant, (100 Hz)	3.2	3.2	ASTM D150			
Flame Rating	94 V-O	94 V-O	U.L.			
Thermal	Imperial Value	Metric Value	Test Method			
Thermal Conductivity, (W/m-K) (2)	0.9	0.9	ASTM D5470			
Thermal Impedance vs. Pressure						
	Pressure (psi)	10	25	50	100	200
TO-220 Thermal Performance, (°C/W)		0.95	0.80	0.74	0.69	0.64
Thermal Impedance, (°C-in ² /W) (1)		0.39	0.37	0.36	0.33	0.30

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. 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.

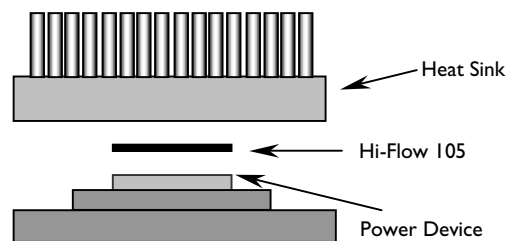
Typical Applications Include

- Power Semiconductors
- Microprocessors mounted on a heat sink
- Power conversion modules
- Spring or clip mount applications where thermal grease is used

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