

Hi-Flow® 105

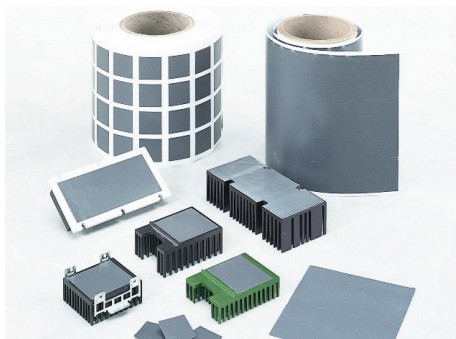
December 2008

PRODUCT DESCRIPTION

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, eliminating the mess, contamination and difficult handling associated with grease. Hi-Flow® 105 is tack-free and scratch resistant at room temperature and 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 Hi-Flow® 105 reduce the pump-out from the interface.

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

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

TYPICAL PROPERTIES OF HI-FLOW 105

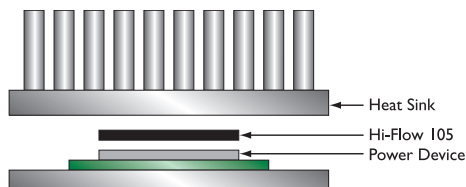
PROPERTY	IMPERIAL VALUE	METRIC VALUE	TEST METHOD			
Color	Dark Gray	Dark Gray	Visual			
Reinforcement Carrier	Aluminum	Aluminum	—			
Thickness (inch) / (mm)	0.0055	0.139	ASTM D374			
Continuous Use Temp (°F) / (°C)	266	130	—			
Phase Change Temp (°F) / (°C)	149	65	ASTM D3418			
ELECTRICAL						
Dielectric Constant (1000 (Hz))	3.2	3.2	ASTM D150			
Flame Rating	V-O	V-O	U.L. 94			
THERMAL						
Thermal Conductivity (W/m-K) (1)	0.9	0.9	ASTM D5470			
THERMAL PERFORMANCE 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) (2)	0.39	0.37	0.36	0.33	0.30
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

- 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 and roll form
- With or without pressure sensitive adhesive



Disclaimer

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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