Technical Data Sheet

BERGQUIST HI FLOW THF 1000U

Known as BERGQUIST HI-FLOW 225U
April 2020

PRODUCT DESCRIPTION

Non-Reinforced Phase Change Thermal Interface Material.

Technology	Phase Change
Appearance	Black
Reinforcement Carrier	None
Total Thickness , ASTM D374	0.036mm
Application	Thermal management, Thermally conductive adhesive
Operating Temperature	150 °C

FEATURES AND BENEFITS

- Thermal impedance: 0.07ºC-in²/W @ 25 psi
- Hi-Flow® coating will resist dripping
- Thermally conductive 55°C phase change compound
- Available in roll form with kiss-cut parts

TYPICAL APPLICATIONS

- Computer and peripherals
- High performance computer processors
- Graphic cards
- Power modules

BERGQUIST HI FLOW THF 1000U is designed for use as a thermal interface material between a computer processor and a heat sink. The product consists of a thermally conductive 55°C phase change compound coated on a release liner and supplied on a carrier.

Above its phase change temperature, BERGQUIST HI FLOW THF 1000U wets-out the thermal interface surfaces and flows to produce the lowest thermal impedance. The material requires pressure of the assembly to cause flow.

TYPICAL PROPERTIES

Physical Properties	
Phase Change Temperature, ASTM D3418, ºC	55
Flammability Rating, UL 94	V-0
Thermal Properties	
Thermal Conductivity , ASTM D5470, W/(m-K) (1)	1.0
Thermal Performance vs. Pressure	
TO-220 Thermal Performance, ºC/W:	
@ 10 psi	0.53
@ 25 psi	0.47
@ 50 psi	0.39
@ 100 psi	0.34
@ 200 psi	0.32
Thermal Impedance, ASTM D5470, ºC-in²/W (2):	
@ 10 psi	0.08
@ 25 psi	0.07
@ 50 psi	0.06
@ 100 psi	0.05
@ 200 psi	0.04

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.

GENERAL INFORMATION

For safe handling information on this product, consult the Safety Data Sheet, (SDS).

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

APPLICATION METHODS

1. Hand-apply to 35°- 45°C heat sink. The heat sink is heated in an oven or via heat gun to between 35°- 45°C.The BERGQUIST HI FLOW THF 1000U part is then applied like an adhesive pad. The heat sink is cooled to room temperature and packaged. A protective tab liner remains in place until the unit is ready for final assembly. The protective tab can be readily removed from the applied BERGQUIST HI FLOW THF 1000U pad at a maximum temperature of 28°.

2. Automated equipment with 30-psi pressure. A pick-and-place automated dispensing unit can be used to apply the BERGQUIST HI FLOW THF 1000U pad to a room-temperature heat sink. The placement head should have a silicone rubber pad, and should apply approximately 30 psi pressure to the pad on transfer to the 25° – 35°C heat sink. Once applied, the protective tab can be readily removed from the BERGQUIST HI FLOW THF 1000U pad at a maximum temperature of 28°C.

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CONFIGURATIONS AVAILABLE

BERGQUIST HI FLOW THF 1000U are supplied in:

- Roll form with tabs, kiss-cut parts – no holes
- BERGQUIST HI FLOW THF 1000U is limited to a square or rectangular part design. Dimensional tolerance is +/- 0.020 inch (0.5mm)

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb/F
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer

Note:
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