Technical Data Sheet

BERGQUIST HI FLOW THF 1000F-AC

Known as BERGQUIST HI-FLOW 225F-AC
April 2020

PRODUCT DESCRIPTION

Reinforced Phase Change Thermal Interface Material.

Technology	Phase Change
Appearance	Black
Reinforcement Carrier	Aluminum
Total Thickness , ASTM D374	0.102mm
Application	Thermal management, Thermally conductive adhesive
Operating Temperature	120 °C

FEATURES AND BENEFITS

- Thermal impedance: 0.10ºC-in²/W @ 25 psi
- Can be manually or automatically applied to the surfaces of room temperature heat sinks
- Foil reinforced, adhesive-coated
- Soft, thermally conductive 55°C phase change compound

TYPICAL APPLICATIONS

- Computer and peripherals
- Power conversion
- High performance computer processors
- Power semiconductors
- Power modules

BERGQUIST HI FLOW THF 1000F-AC is a high performance, thermal interface material for use between a computer processor and a heat sink.

BERGQUIST HI FLOW THF 1000F-AC consists of a soft, thermally conductive 55°C phase change compound coated to the top surface of an aluminum carrier with a soft, thermally conductive adhesive compound coated to the bottom surface to improve adhesion to the heat sink.

Above the 55 °C phase change temperature, BERGQUIST HI FLOW THF 1000F-AC wets-out the thermal interface surfaces and flows to produce low thermal impedance. BERGQUIST HI FLOW THF 1000F-AC requires pressure from the assembly to cause material flow. The HI-FLOW coatings resist dripping in vertical orientation.

The material includes a base carrier liner with differential release properties to facilitate simplicity in roll form packaging and application assembly. Please contact Bergquist Product Management for applications that are less than 0.07" square.

TYPICAL PROPERTIES

Physical Properties	
Carrier Thickness, ASTM D374, mm	0.038
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	0.87
@ 25 psi	0.68
@ 50 psi	0.57
@ 100 psi	0.5
@ 200 psi	0.45
Thermal Impedance, ASTM D5470, ºC-in²/W (2):	
@ 10 psi	0.12
@ 25 psi	0.1
@ 50 psi	0.09
@ 100 psi	0.08
@ 200 psi	0.07

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.

CONFIGURATIONS AVAILABLE

BERGQUIST HI FLOW THF 1000F-AC is supplied in:

- Roll form, kiss-cut parts, and sheet form

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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