Technical Data Sheet

BERGQUIST HI FLOW THF 800AC

Known as BERGQUIST HI-FLOW 115-AC
April 2020

PRODUCT DESCRIPTION

Phase Change Coated Aluminum.

Technology	Phase Change
Appearance	Gray
Reinforcement Carrier	Fiberglass
Total Thickness , ASTM D374	0.139 mm
Application	Thermal management, Thermally conductive adhesive
Operating Temperature	150 °C

FEATURES AND BENEFITS

- Thermal impedance: 0.37ºC-in²/W @ 25 psi
- Can be applied directly to a cold heat sink
- One side adhesive-coated to aid in positioning
- Fiberglass reinforced

TYPICAL APPLICATIONS

- Computer and peripherals
- As a thermal interface where bare die is exposed and needs to be heat sinked

BERGQUIST HI FLOW THF 800AC is a thermally conductive fiber reinforced phase change material. The product consists of a thermally conductive 65°C phase change compound coated on fiberglass web, and an adhesive coating on one side for attachment to a cold heat sink. There is no need to preheat the heat sink to apply the BERGQUIST HI FLOW THF 800AC.

BERGQUIST HI FLOW THF 800AC is designed as a thermal interface material between a computer processor and a heat sink. The pressure sensitive adhesive makes it simple to apply in high volume to heat sinks and the 65°C phase change temperature eliminates shipping and handling problems.

BERGQUIST HI FLOW THF 800AC requires no protective liner for shipping or handling. The HI-FLOW coating has excellent handling characteristics at room temperature, and can withstand the handling and shipping process without protection .

BERGQUIST HI FLOW THF 800AC handles like a Sil Pad at room temperature and flows like high-quality grease at elevated temperatures.

TYPICAL PROPERTIES

Physical Properties

Phase Change Temperature, ASTM D3418, ºC		65
Elongation , 45º to warp and fill, ASTM D882A,%		40
Flammability Rating, UL 94		V-0
Tensile Strength, ASTM D882A	MPa (psi)	6 (900)

Electrical Properties

Dielectric Breakdown Voltage, ASTM D149, VAC	300
Dielectric Constant , ASTM D150 @ 1,000 Hz	3.5
Volume Resistivity, ASTM D257, ohm-meter	1×10^{10}

Thermal Properties

Thermal Conductivity , ASTM D5470, W/(m-K) (1)	0.8

Thermal Performance vs. Pressure

TO-220 Thermal Performance, ºC/W	
@ 10 psi	1.28
@ 25 psi	1.16
@ 50 psi	1.04
@ 100 psi	0.94
@ 200 psi	0.85
Thermal Impedance, ASTM D5470, ºC-in²/W (2)	
@ 10 psi	0.44
@ 25 psi	0.37
@ 50 psi	0.35
@ 100 psi	0.27
@ 200 psi	0.15

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 800AC is supplied in:

- Sheet form, roll form and die-cut parts
- With pressure-sensitive adhesive

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

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