



# HI FLOW THF 1000 F-AC

Known as HI-FLOW 225F-AC  
November 2018

## PRODUCT DESCRIPTION

Reinforced Phase Change Thermal Interface Material.

|                                       |                                                      |
|---------------------------------------|------------------------------------------------------|
| <b>Technology</b>                     | Silicone                                             |
| <b>Appearance</b>                     | Black                                                |
| <b>Reinforcement Carrier</b>          | Aluminium                                            |
| <b>Total Thickness</b><br>, ASTM D374 | 0.102mm                                              |
| <b>Application</b>                    | Thermal management,<br>Thermally conductive adhesive |
| <b>Operating Temperature</b>          | 120 °C                                               |

## FEATURES AND BENEFITS

- Thermal impedance: 0.10°C-in<sup>2</sup>/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

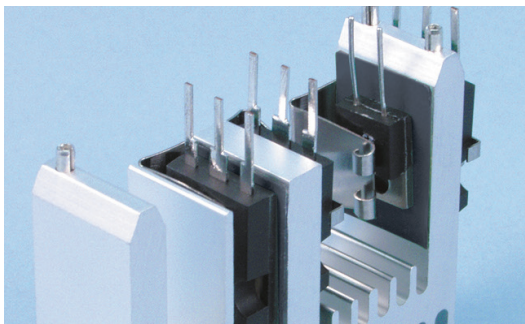
## TYPICAL APPLICATIONS

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

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

HI FLOW THF 1000F-AC consists of a soft, thermally conductive 55°C phase change compound coated to the top surface of an aluminium 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, HI FLOW THF 1000 F-AC wets-out the thermal interface surfaces and flows to produce low thermal impedance.



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 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, °C | 55    |
| Flammability Rating, UL 94               | V-0   |

### Thermal Properties

Thermal Conductivity , ASTM D5470, W/(m-K) <sup>(1)</sup>

### Thermal Performance vs. Pressure

TO-220 Thermal Performance, °C/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, °C-in<sup>2</sup>/W <sup>(2)</sup>:

|           |      |
|-----------|------|
| @ 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 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

HI FLOW THF 1000F-AC are supplied in:

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



**Conversions**

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$   
 $\text{kV/mm} \times 25.4 = \text{V/mil}$   
 $\text{mm} / 25.4 = \text{inches}$   
 $\text{N} \times 0.225 = \text{lb}$   
 $\text{N/mm} \times 5.71 = \text{lb/in}$   
 $\text{psi} \times 145 = \text{N/mm}^2$   
 $\text{MPa} = \text{N/mm}^2$   
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$   
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$   
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$   
 $\text{mPa}\cdot\text{s} = \text{cP}$

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