

# ThermaFelt

## Soft Felt for Industrial Applications

Morgan Advanced Materials offers a ThermaFelt soft felt insulation product crafted from 100% rayon-based fiber precursors, offering stability, reliability, and exceptional performance in extreme environments of demanding applications with vacuum or inert atmosphere.

High-quality raw materials and well-controlled, highly capable, proprietary high-temperature manufacturing processes ensure a consistently high-purity product with uniform insulation properties. This will help minimize energy consumption, maximize furnace performance, and minimize total cost of ownership.

### General material characteristics include

- Structural integrity in aggressive vacuum or inert environments, exhibiting minimal outgassing, extremely low shrinkage, and volatile release and ensuring stable performance.
- Features a consistent fiber structure and homogenous composition, contributing to precise and uniform production.
- High purity and effective thermal insulation and heat management.
- Low oxidation and friability for challenging conditions.
- Carbon Content  $\geq$  99.5%

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Two grades are available, which can be supplied in bulk rolls, precision-cut parts, or pre-rolled cylinders:

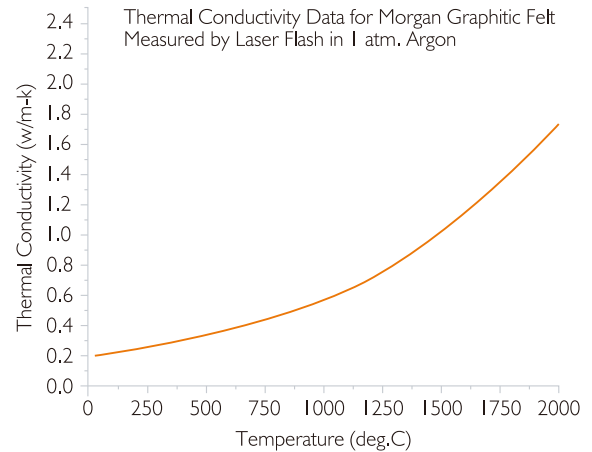
**ThermaFelt:** Graphite felt that is heat treated to a minimum of 2100°C. It is available for customization.

**Purified ThermaFelt:** A high-purity graphite ThermaFelt.

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### Felt Insulation Typical Properties

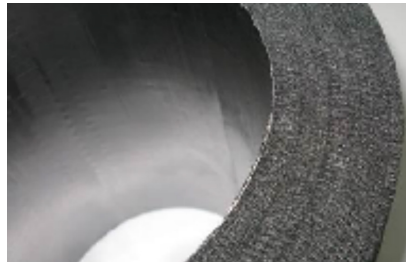
|   | ThermaFelt |
|---|------------|
| Density, g/cc                                 | 0.08       |
| Linear Shrinkage <sup>1</sup> , %             | negligible |
| Water Absorption, %                           | negligible |
| Min Carbon Assay, %                           | 99.5       |
| Surface Area (Nitrogen), m <sup>2</sup> /g    | 0.7        |
| Min Process Temp, °C                          | 2100       |
| <sup>1</sup> Measured after heating to 3000°C |            |



Thermal Conductivity vs Temperature



Precision Cut Parts



Graphite Foil Lined Felt Cylinder



Industrial Vacuum Furnace

The data in this product bulletin relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. We believe that the information contained herein is current as of the date of the product bulletin. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Morgan Advanced Materials, it is the user's obligation to determine the conditions of safe use of the product. This information is not to be taken as a warranty or representation for which we assume legal responsibility nor as permission or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification.

For more technical information,  
please contact [semiconductor@morganplc.com](mailto:semiconductor@morganplc.com)

### Availability and Packaging

| Size | Thickness, in (mm) |            |             |
|------|--------------------|------------|-------------|
|      | Typical            | Min        | Max         |
| 10mm | 0.41 (10.4)        | 0.36 (9.1) | 0.44 (11.2) |
| 1/2" | 0.44 (11.2)        | 0.4 (10.2) | 0.48 (12.2) |

Width nominal is 42" – 48". Custom Widths Available Upon Request

