

## BTU-BLOCK™ Panel



Datasheet Code US: 6-14-105

© 2013 Thermal Ceramics is a business of Morgan Advanced Materials



### Features

- Core use limit of 1800°F (982°C)
- Extremely low thermal conductivity
- High compressive strength
- Fiberglass encapsulation provides flexural strength and surface for bonding
- Other textile facings allow textile use limit up to 1800°F (982°C)
- Available in standard and hydrophobic grades

### Product Description

BTU-BLOCK Panel is comprised of the microporous material enclosed in a high temperature textile.

### Product Line Overview

The BTU-BLOCK product line of microporous insulation is designed for use in high temperature industrial applications. BTU-BLOCK uses an optimized blend of raw materials to produce an insulation material with a uniquely low thermal conductivity. Unlike traditional fiber or ceramic based insulation, microporous insulation is based on ultra-fine particles of fumed silica, metal oxides and reinforcement fibers. These particles and fibers create a sub-micron pore structure that limits the convection of air, the conduction of heat, and the transmission of radiation. BTU-BLOCK insulation is designed to provide ultra-low thermal properties throughout the entire temperature range.

### Benefits

- Reduce Energy Waste
- Reduce Temperature Variability
- Reduce Insulation Thickness
- Reduce Cold Face Temperatures

### Applications

- Back-up insulation in high temperature production processes
  - Chemical Processing
  - Ceramic
  - Ferrous
  - Non-Ferrous
- Commercial ovens

### Physical Characteristics – Core Material

Continuous use limit, up to, °F (°C)	1800 (982)
Fired linear shrinkage, % (ASTM C356)	
24 hrs @ 1000°F (538°C)	0.3
24 hrs @ 1500°F (815°C)	0.6
24 hrs @ 1750°F (954°C)	1.3
Compression Resistance @ 16 pcf, psi (MPa) (ASTM C165)	
10% deformation	110 (0.76)
20% deformation	182 (1.25)
30% deformation	279 (1.92)
40% deformation	460 (3.17)

**BTU-BLOCK™ Panel**

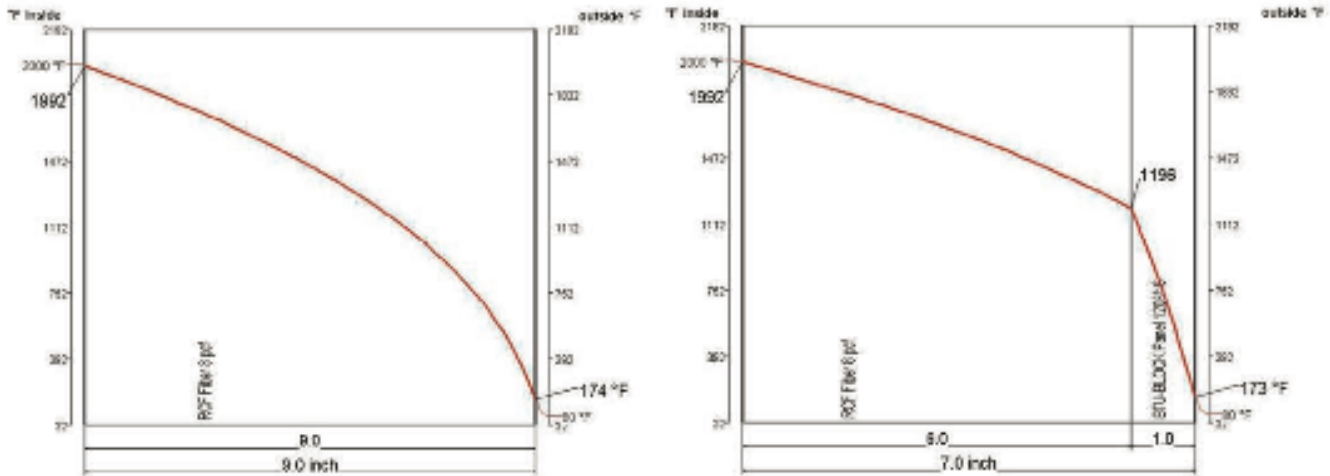


**Thermal Conductivity BTU·in./hr·ft<sup>2</sup>·°F (W/m·K) per ASTM C 201**

Mean Temperature

500°F (260°C)	0.18 (0.02)
1000°F (538°C)	0.23 (0.03)
1500°F (871°C)	0.31 (0.04)

**Example of BTU-BLOCK Panel In-Use Application**



2" Reduction in lining thickness

**Environmental Considerations**

Fumed silica based microporous insulations are sensitive to liquids due to the nature of their ingredients. Exposure to water, oils, etc will degrade the microporous structure. Care should be exercised in handling to prevent contact with liquids. Hydrophobic (waterproof) grade mixes are also available.

**Standard Sizes**

Density, pcf	Length, in	Width, in	Thickness Availability, in					
			0.50	0.75	1.00	1.25	1.50	2.00
16	36	24	X	X	X	X	X	X

Other sizes / densities are available upon request.

The values given herein are typical average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Therefore, the data contained herein should not be used for specification purposes. Check with your Thermal Ceramics office to obtain current information.