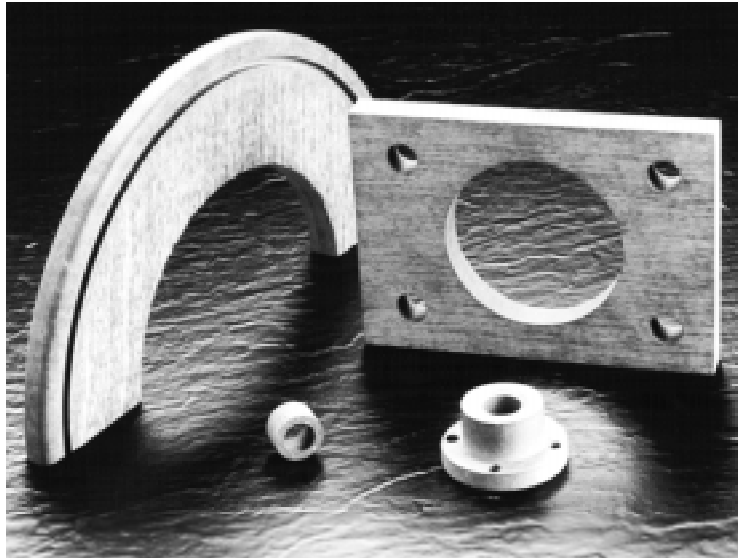




**BNZ Materials, Inc.**

## **Transite® HT**

**Monolithic, Non-Asbestos  
Fiber Cement Boards**



- **600°F Maximum Operating Temperature**
- **Electrical Insulation**
- **Corrosion Resistance**
- **High Density Durability**
- **Economical**

**T**ransite HT is engineered to handle higher temperatures, loads and electrical conditions with less shrinkage and degradation compared to previous non-asbestos formulas. Although Transite HT is rated at 450°F maximum continuous operating temperatures, it will accommodate 600°F after an initial heat conditioning.

Transite HT is a high-density, non-asbestos board used in a wide variety of applications where a combination of high strength, thermal stability, electrical insulation or machinability is required.

Transite HT is hydraulically pressed into monolithic boards from portland cement and selected non-asbestos, non-ceramic/refractory fibers. The board is then air-cured for exceptional machinability and sanded to a standard 24 grit finish.



# Transite HT

## Monolithic, Non-Asbestos Fiber Cement Boards

### BNZ Materials, Inc.

BNZ manufactures a wide range of products for use as industrial insulations. Our products include fiber-cement boards for low temperature applications, Marinite® calcium silicate boards in varying compositions and densities for temperatures up to 1400°F, and Insulating Fire Brick and refractory specialties from the world's most advanced IFB plant. We service a variety of industries worldwide, including ferrous and non-ferrous metals, glass, hydrocarbon processing, cement, ceramic and various OEMs.

A strong network of distributors/fabricators — specialists to the industries they serve — is established worldwide to provide you the service and quality you require. Of course, we're always available at BNZ to provide the technical assistance you need.

### Advantages

**Thermal Strength.** Transite HT is non-combustible and can withstand maximum operation temperatures of 450°F, or 600°F with proper conditioning (Refer to section: Heat Conditioning Transite HT). It also has a low thermal conductivity.

**High Strength.** Our filter bed press creates a board with isotropic properties; equal strengths in all directions for dimensional stability. Transite HT will not delaminate since it is monolithic.

Transite HT is very durable and offers high impact and wear resistance. It will not powder or chip.

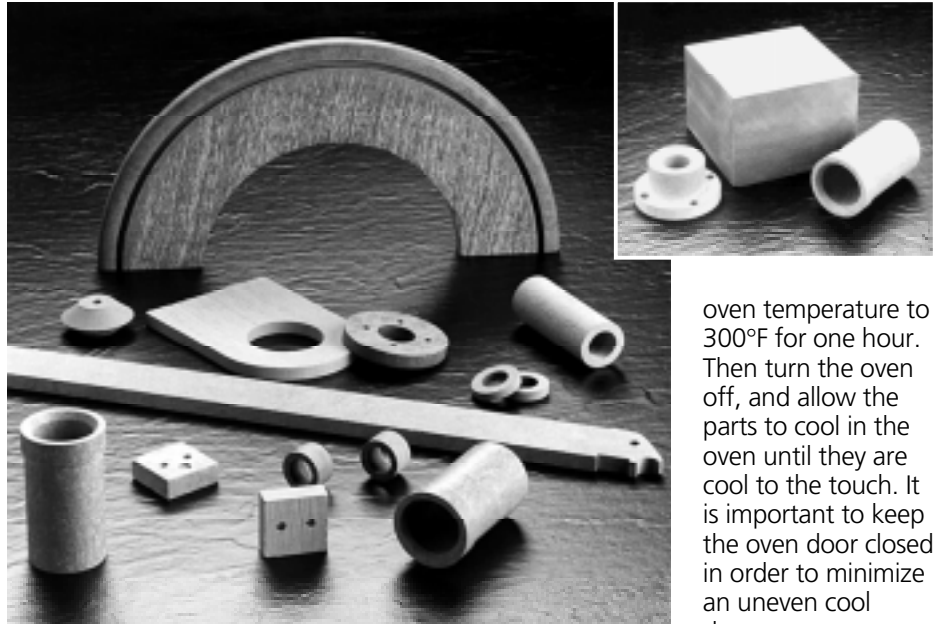
**Corrosion and Chemical Resistance.** Transite HT is non-conductive and it will not rot or mold when exposed to prolonged dampness. It has good resistance without coatings to alkalis and solvents.

**Machinability.** Transite HT is air-cured and monolithic, so it machines into exceptionally fine and intricate parts.

### Typical Applications

Here is just a partial listing of the variety of uses Transite HT can fulfill:

**High Strength.** Load-bearing gaskets, spacers and supports; press plates; machine guards; laboratory benches and fume hood linings.



oven temperature to 300°F for one hour. Then turn the oven off, and allow the parts to cool in the oven until they are cool to the touch. It is important to keep the oven door closed in order to minimize an uneven cool down.

**Electrical.** Busbar supports; transformer spacers; terminal boxes and strips; electrical coil supports; arc shields; collars and bushings; aluminum pot insulation; steel arm insulators; and component mounting plates.

**Thermal.** Foundry core plates; induction and muffle furnace walls; industrial and baking oven shelving; soldering plates; splash guards; and welding shields.

### Heat Conditioning Transite HT

Transite HT can accommodate temperatures from 450°F to 600°F if an initial heat conditioning is conducted. As with all fiber cement boards, initially driving off the moisture and burning out the organics in a controlled method will lengthen the life of the board at higher temperatures. Proper precautions must be taken to remove the smoke that occurs.

After machining Transite HT into parts, place the parts loosely in an oven. Start the oven at 250°F and hold that temperature for one hour. Increase the temperature to 350°F for one hour, then 450°F for one hour. The final temperature increase is to 550°F for two hours or until the smoking stops. The cool down period involves setting the

### Machining

BNZ strongly recommends Transite HT be fabricated into parts by our fabricators, who are well equipped to fabricate intricate parts. We'll gladly help locate a fabricator to fit your requirements.

However, simple straight cuts and routing can be done with the following dry cutting techniques. Obtain a Material Safety Data Sheet and follow the safety guidelines prior to any cutting.

**Straight Dry Cutting:** Use a #25 grit diamond segmented blade. A proper 16" diameter blade will have 72 segments with a gullet less than 1/8". Utilize a minimum 5 to 7½ horsepower saw with a normal 3,600 revolutions per minute (refer to blade and saw manufacturers recommendation). Typical feed rates are 12" to 36" per minute depending on the sheet thickness.

**Routing Dry Cut:** Use a 'C' grade high abrasion resistance router bit. Normal required revolutions should be from 7,000 to 15,000 per minute (refer to the router blade manufacturer's recommendations). Remove dust particles away from the cutting area to increase the life of the router bit.

## Typical Data

### Installation Details

Transite HT can be applied directly to framing members with screws, bolts or mechanical fasteners. The board is recommended for interior applications only. Transite HT is not recommended for load bearing structural applications. For other special wall applications, contact BNZ about the potential use of Marinite or Fiber Cement Panels.

All bolts or fasteners must be placed in predrilled oversized holes no closer than ½" from any edge. Oversized holes must be ¼" or larger diameter for ¼" bolts and ⅝" or larger diameter for ½" or larger fasteners. Bolt heads and nuts must have an adequate washer bearing surface. Applications where vibration or motion exists must utilize rubber or neoprene gasketed washers.

**Note:** These details are offered as suggestions for the installation of Transite HT. BNZ makes no attempt to practice architecture or engineering. The final decision and responsibility for approval of installation details lies with the architect or engineer of record.

### Finish/Appearance/Maintenance

Transite HT is sanded at the factory to a standard 24 grit finish. Finer sanding grits are available on special request. All edges are untrimmed.

The board is neutral gray in color, and may lighten uniformly with time.

Transite HT requires practically no maintenance. The hard, smooth surface does not normally need painting or preservative treatment, but either can be applied if a different aesthetic appearance is desired. Follow the coating manufacturers suggestions.

### Storage

Transite HT should be stored horizontally in a dry, flat area.

### Further Information

Technical questions, special considerations, distributor/fabricator locations, and other information can be obtained by calling BNZ Corporate Headquarters at (303) 978-1199.

### Properties

#### Composition

Monolithic non-asbestos fiber cement

#### Production Process

Thickness: inches  
mm

Filter bed  
¼, ⅜, ½, ⅝, ¾, 1, 1¼, 1½, 2, 3  
6.4, 9.5, 12.7, 15.9, 19.1,  
25.4, 31.8, 38.1, 50.8, 76.2

Width: inches  
mm

48%  
1235

Length: inches  
mm

96%  
2454

#### Density, pcf (kg/m<sup>3</sup>)

100 (1,602)

#### Maximum Operating Temperature, °F (°C)

450 (232)

#### Maximum Operating Temperature

after initial heat conditioning, °F (°C)

600 (315)

#### Shrinkage, %, during initial heat conditioning

Length, width

0.85

Thickness

3.7

#### Compressive Strength, psi (kg/cm<sup>2</sup>)

10,400 (731)

#### Modulus of Rupture, dry,\* psi (kg/cm<sup>2</sup>)

2,600 (183)

#### Modulus of Rupture/(Density)<sup>2</sup>

.26

#### Brinell Hardness No., (500 kg load, 6 mm diameter)

17

#### Moisture Content, (normal),\* % of dry weight

< 12

#### Water Absorption, %

21

#### Thermal Conductivity, Btu-in/ft<sup>2</sup>, hr, °F @ 250°F (W/m<sup>2</sup>K @ 121°C)

2.40 (0.34)

#### Fire Hazard, (ASTM E 84)

Flame spread

0

Smoke developed

0

#### Volume Resistivity, ohm-cm, (ASTM D 257)

7.1 x 10<sup>10</sup>

#### Surface Resistivity, ohm-cm, (ASTM D 257)

7.0 x 10<sup>10</sup>

#### Arc Resistance, seconds, (ASTM D 495)

260

#### Dielectric Strength, volts/mil, (ASTM D 495)

35

The physical and chemical properties of BNZ's Transite HT represent 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. Check with the Billerica plant to assure current information.



BNZ Materials manufactures and is a worldwide supplier of a range of specialty industrial insulations. Our calcium silicate insulation has been manufactured continuously at Billerica, Massachusetts for over 50 years. Prior product identification was under the Johns-Manville JM trademark.

In addition to our calcium silicate product line, BNZ also manufactures Insulating Fire Brick and refractory specialties at the world's most advanced IFB plant located in Zelienople, PA. Over sixteen types of IFB are available for use in applications from 2000°F to 3200°F to meet the specific needs of a variety of industries.

Contact BNZ for more information on these products and their applications.



## **BNZ Materials, Inc.**

### **Corporate Headquarters**

**Denver**  
6901 South Pierce Street  
Suite 260  
Littleton, CO 80128  
Phone: (303) 978-1199  
(800) 999-0890  
FAX: (303) 978-0308  
www.bnzmaterials.com

### **Transite® HT Plant Location**

**Billerica**  
400 Iron Horse Park  
North Billerica, MA 01862  
Phone: (978) 663-3401  
(800) 888-0061  
FAX: (978) 663-2735

### **Insulating Fire Brick Plant Location**

**Zelienople**  
191 Front Street  
Zelienople, PA 16063  
Phone: (412) 452-8650  
(800) 955-8650  
FAX: (412) 452-1346

## **Warranty**

BNZ Materials warrants that its products are manufactured in accordance with its applicable material specifications and are free from defects in workmanship and materials using BNZ's specifications as a standard. Every claim under this warranty shall be deemed waived unless in writing and received by BNZ within thirty (30) days of the date the defect was discovered and within one (1) year of the date of the shipment of the product.

BNZ MAKES NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, IN FACT OR IN LAW, INCLUDING WITHOUT LIMITATION, THE WARRANTY OF MERCHANTABILITY OR THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, OTHER THAN THE LIMITED WARRANTY SET FORTH ABOVE.

## **Limitation of Liability**

It is expressly understood and agreed that the limit of BNZ's liability shall be the resupply of a like quantity of non-defective product and that BNZ shall have no such liability except where the damage or claim results solely from breach of BNZ's warranty.

IT IS ALSO AGREED THAT BNZ SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, OR OTHER DAMAGES FOR ANY ALLEGED NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY, OR ANY OTHER THEORY, OTHER THAN THE LIMITED LIABILITY SET FORTH ABOVE.