

FUSED SILICA
HOT PRESS PLATENS
CASTABLE CERAMICS
FIRED SHAPES
AEROSPACE TOOLING

Foundry Service & Supplies, Inc.

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HI-TEMP INSULATIONS
CALCIUM SILICATE BOARDS
MILLBOARD AND BLANKET
PAPERS AND CEMENTS
CUTTING AND FABRICATING

Transite® HT

MONOLITHIC, NON-ASBESTOS FIBER CEMENT BOARDS

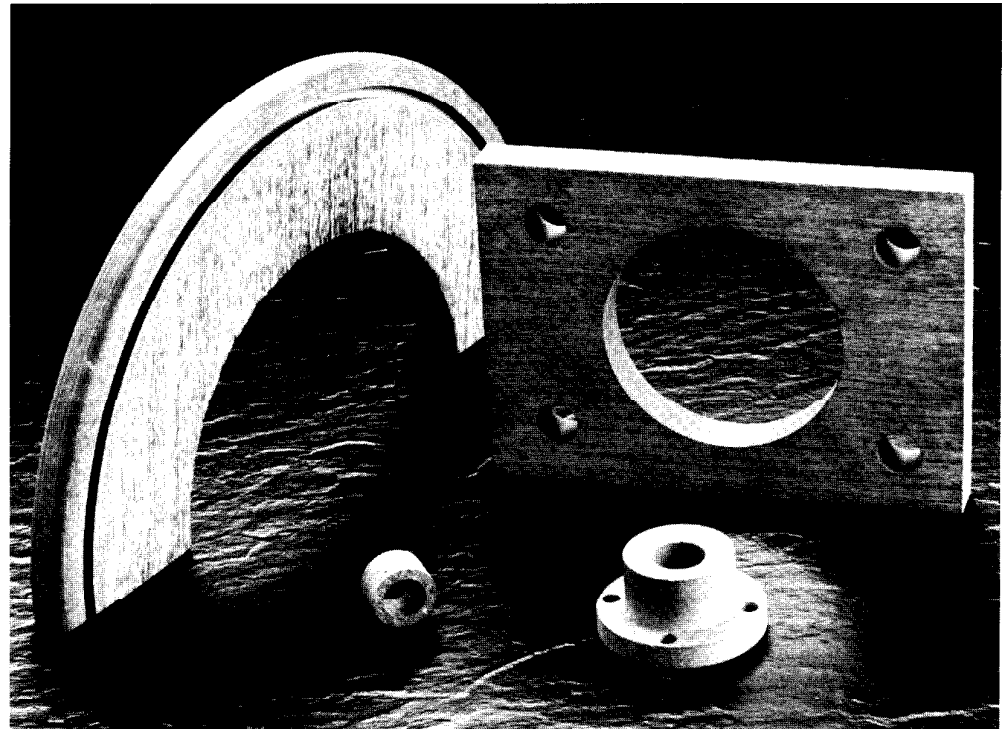
BNZ manufactures a wide range of products for use as industrial insulations. Our products include fiber-cement boards for low temperature applications, Marinite® calcium silicate boards in varying compositions and densities for temperatures up to 1400°F, and Insulating Fire Brick and refractory specialties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

A strong network of distributors/fabricators, who are specialists to the industries they serve, are 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.

Description

Transite 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.

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 '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 benchtops and fume hood linings.



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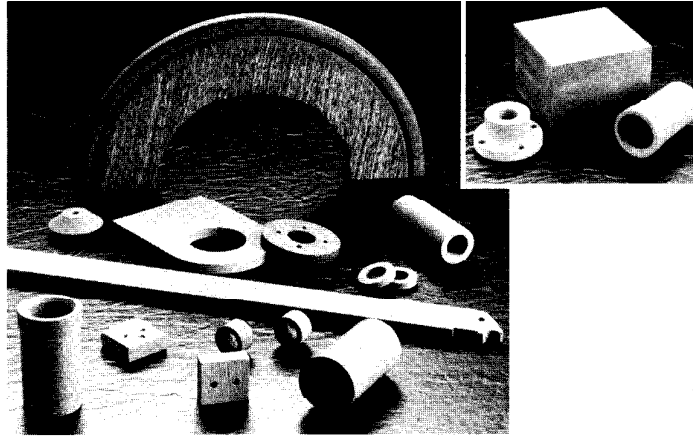
Electrical. Busbar supports; transformer spacers; terminal boxes and strips; electrical coil supports; arc shields; collars and bushings; aluminum pot insulation; steel arm insulators; and component mounting plates.

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

Heat Conditioning '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 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.



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 7 1/2 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 of 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.

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 1/2" from any edge. Oversized holes must be 1/16" or larger diameter for 1/4" bolts and 1/8" or larger diameter for 1/2" 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.

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Physical Properties of Transite® HT

Unless stated, all physical properties are for materials at standard conditions (75°F, 50% RH).

		Transite HT
Composition		Monolithic non-asbestos fiber cement
Production Process		Filter bed
Thickness:	inches mm	1/4, 3/8, 1/2, 5/8, 3/4, 1, 1 1/4, 1 1/2, 2, 3 6, 9, 12, 15, 19, 25, 32, 38, 51, 76
Width:	inches mm	48 5/8 1235
Length:	inches mm	96 5/8 2454
Density, pcf (Kg/m³)		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 (Mpa)		10,400 (72)
Modulus of Rupture, psi (Mpa)		2,600 (18)
Modulus of Rupture/(Density)²		.26
Brinell Hardness, (500 kg load, 6 mm diameter)		17
Normal Moisture Content, %		<12
Water Absorption, %		21
Thermal Conductivity, Btu-in/ft², hr, °F @ 250°F (W/mK @ 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 ¹⁰
Surface Resistivity, ohm-cm, (ASTM D 257)		7.0 x 10 ¹⁰
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.