



BNZ Materials, Inc.

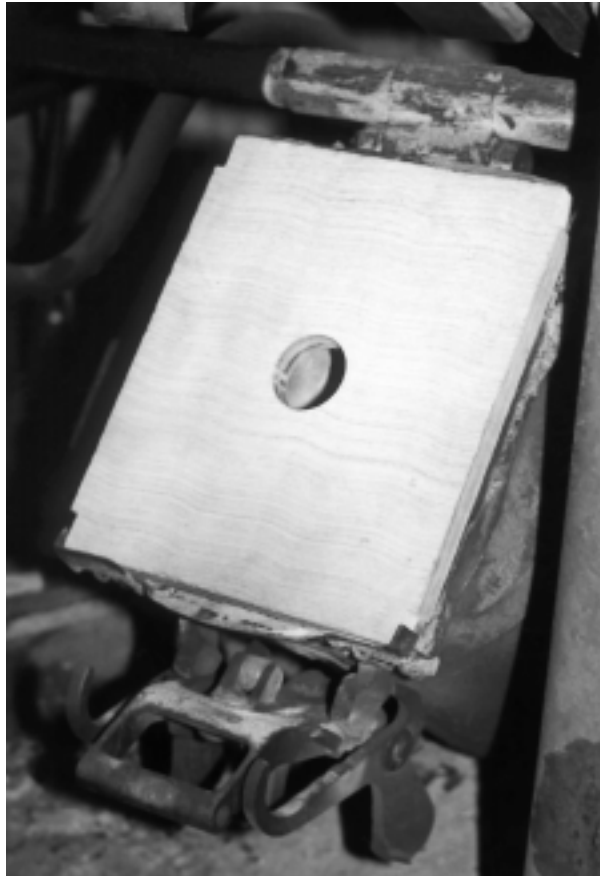
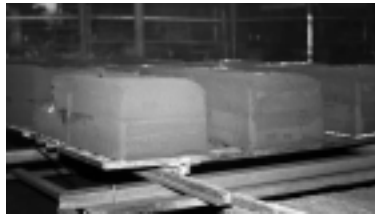
CS85™, Marinite® P and Transite® HT

Refractory Products

Structural High Temperature Insulations
for Foundries



*Stack of mold jackets (above),
lined with Transite HT.
Molds at shake-out with
Transite HT bottom boards
(top right). Large shell core
machine with Transite HT
plate (right and below).*



BNZ manufactures a variety of non-asbestos calcium silicate structural insulations that combine high strength and excellent thermal insulating characteristics for use in a variety of heat processing, fire protection, and electrical resistance applications. Our Tobermorite crystalline structure provides excellent thermal shock resistance as evidenced in its typical use as a direct contact board for non-ferrous metals and in fire training burn rooms. It is fire resistant to temperatures approaching 2000°F.

The Tobermorite crystal is also unique by providing low thermal conductivities that remain relatively constant over a broad range of operating temperatures.



CS85™, Marinite® P and Transite® HT

Refractory Products

Structural High Temperature Insulations for Foundations

Foundry Applications

- Blow Plates
- Bottom Boards
- Chills
- Core Plates
- Dryer Shelves
- Flask Liners
- Glow Bar Insulators
- Induction Furnaces

Foundry Benefits

- Economical
- Light Weight
- Easily Cleaned
- Low Warpage
- Corrosion Resistant
- Insulates up to 1800°F
- Strong & Durable
- Non-Combustible
- High Electrical Resistivity
- Moisture Resistant
- Easily Fabricates from 4' x 8' Sheets

Properties

	CS85	Marinite P	Transite HT
Available thicknesses	¼" – 3"	½" – 2"	¼" – 3"
Sheet sizes	ALL SHEETS ARE 4 ft. x 8 ft.		
Density, pcf (kg/m³)	85 (1362)	60 (961)	100 (1602)
Modulus of Rupture, psi (kg/cm²)	3000 (210)	1400 (98)	2600 (183)
Compressive Strength			
Ultimate load, psi (kg/cm ²)	10300 (724)	—	10400 (731)
@ 5% deformation, psi (kg/cm ²)	6400 (450)	3050 (214)	6500 (457)
Moisture Content, (normal), % of dry weight	1.0	3.0	12
Thermal Conductivity			
Mean Temperature, Btu-in/ft ² , hr, °F (W/m ² K)			
250°F (121°C)	—	—	2.40 (0.34)
400°F (205°C)	2.13 (0.31)	1.13 (0.16)	—
600°F (316°C)	—	1.15 (0.17)	—
800°F (425°C)	1.94 (0.28)	1.16 (0.17)	—
1000°F (538°C)	2.01 (0.29)	1.17 (0.17)	—
1600°F (871°C)	2.27 (0.33)	—	—
Shrinkage			
24 hrs @	1600°F	1200°F	600°F
Length/width, %	0.24	0.6	0.85
Thickness, %	2.0	2.1	3.7
Electrical			
Arc Resistance, seconds, ASTM D 495	304	—	260
Volume Resistivity, ohm-cm, ASTM D 257	4.52 x 10 ¹²	5.0 x 10 ⁸	7.1 x 10 ¹⁰
Dielectric Strength, v/mil, ASTM D 495	61	46	35
Screw Holding Strength			
@ ⅝" penetration, lbs (kg)	875 (397)	500 (227)	—

Note: All BNZ products are non-asbestos.

Test results represent typical average values obtained in accordance with accepted test methods. Please request a data sheet for the specific insulating board of interest

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.



BNZ Materials, Inc.

CS85™, Marinite® and Transite® 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: 724-452-8650
800-955-8650
FAX: 724-452-1346

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

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 more than 50 years.

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.

