**BNZ Materials, Inc.**

# Blazelite Insulating Aggregates

## Refractory Products

BNZ Materials' Blazelite insulating aggregates are formed by crushing large slabs of specially formulated low-density insulating material. The pulverization process is done with special equipment designed especially for this type of material.

### Typical Applications

**Raw Material.** For manufacturing insulating castables.

**Loose Fill.** For insulating irregular spaces where other types of refractories are difficult to use.

**Hot Topping Compound.** For covering steel ingot hot tops and risers in ferrous and non-ferrous foundries.

### Advantages

**Selection.** Blazelite insulating aggregates are available in different chemical compositions for different temperature functions. They are also available in two different gradations.

**Economical.** Can be combined with shipments of other materials from the Zelienople plant to reduce freight charges. Installation as loose fill is quick — reducing labor costs versus other refractiories.

**High Quality.** Produced under rigorous quality standards by the same process used in manufacturing insulating fire brick.

CERTIFIED ISO9002 QUALITY SYSTEM

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**Refractory Products**

## Available Types

The first two numbers in the following Blazelite aggregates designations refer to the refractoriness or heat resistance of the aggregate. The second two numbers refer to the approximate density of the slab. An LI designation means it is low in the impurities of ferric oxide and titania. The LI designated aggregates are suitable for use in reducing atmospheres when combined with low iron calcium aluminate cements.

### Blazelite Aggregates

**2337 LI.** Can be combined with portland cement or calcium aluminate cements to produce a low-density, low-temperature insulating castable for 2300°F service or below.

**2645 LI.** A lower density version of 2653 LI used for the very lightest castables in the 2400 to 2600°F range.

**2653 LI.** A high purity material for temperatures of 2400 to 2600°F, used extensively for low-iron insulating castables.

**2855 LI.** Used as a high temperature filler material and for the lightest weight high temperature castables. Its high purity is absolutely necessary for high temperature applications.

**2861 LI.** An alternate to 2855 LI, it is used when a higher strength insulating castable is desired.

## Typical Data

### Physical Properties

| | Type Aggregate | | | | |
|---|---|---|---|---|---|
| | **2337 LI** | **2645 LI** | **2653 LI** | **2855 LI** | **2861 LI** |
| **Density,** pcf | 37 | 45 | 53 | 55 | 61 |
| **Cold Crushing Strength,** psi | 160 | 275 | 400 | 300 | 400 |
| **Permanent Linear Change,** % | | | | | |
| 24 hr soaking at temperature | | | | | |
| 2200°F | 0.0 | | | | |
| 2300°F | 0.0 | | | | |
| 2400°F | -3.0 | Trace | Trace | | |
| 2500°F | | Trace | Trace | | |
| 2600°F | | -0.8 | -0.8 | 0.0 | 0.0 |
| 2700°F | | -4.4 | -4.4 | 0.0 | 0.0 |
| 2800°F | | | | -1.5 | -1.5 |
| **Chemical Analysis,** % | | | | | |
| Alumina $Al_2O_3$ | 31.4 | 37.6 | 37.6 | 59.9 | 59.9 |
| Silica $SiO_2$ | 53.9 | 59.4 | 59.4 | 37.8 | 37.8 |
| Ferric Oxide $Fe_2O_3$ | 0.7 | 0.6 | 0.6 | 0.5 | 0.5 |
| Titania $TiO_2$ | 0.8 | 1.2 | 1.2 | 1.3 | 1.3 |
| Calcium Oxide CaO | 12.6 | 0.0 | 0.0 | 0.1 | 0.1 |
| Magnesia MgO | 0.2 | 0.0 | 0.0 | 0.1 | 0.1 |
| Alkalies as $Na_2O$ & $K_2O$ | 0.3 | 0.2 | 0.2 | 0.3 | 0.3 |

### Screen Analysis

| Percent Retained on Screen | Blazelite Aggregates 2337 LI | 2645 LI 2653 LI 2855 LI 2681 LI | | |
|---|---|---|---|---|
| | Grind (cumulative) | | | |
| | 5/16 | 7/16* | 5/16* | 9/16 |
| ½ Mesh | 0 | 0 | 0 | 0 |
| 3 Mesh | 1 | 4 | 1 | 4 |
| 4 Mesh | 6 | 10 | 5 | 10 |
| 10 Mesh | 23 | 26 | 22 | 22 |
| 28 Mesh | 38 | 43 | 40 | 40 |
| 65 Mesh | 50 | 53 | 62 | 62 |
| Minus 65 Mesh | 50 | 47 | 38 | 38 |

* This grind will be supplied in the absence of a grind designation on order.

### Standard Sizes

| Blazelite Aggregates | Lbs/ Bag | Lbs/ Pallet |
|---|---|---|
| 2337 LI | 65 | 1950 |
| 2645 LI | 80 | 2400 |
| 2653 LI | 80 | 2400 |
| 2855 LI | 80 | 2400 |
| 2661 LI | 85 | 2550 |

Physical properties are obtained from a brick-sized specimen of a fired slab prior to crushing into an aggregate.

The physical and chemical properties of BNZ's Blazelite Insulating Castables 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.

## 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.

### Blazelite Insulating Aggregate Plant Location

**Zelienople**
191 Front Street
Zelienople, PA 16063
Phone: **724-452-8650**
**800-955-8650**
FAX: 724-452-1346

### CS85,™ Marinite® & Transite® Plant Location

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

### 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. BNZ Insulating Fire Brick has been manufactured continuously at Zelienople, Pennsylvania for more than 50 years.

In addition to the Insulating Fire Brick product line, BNZ also manufactures many grades of Structural Insulations under the tradenames Marinite, Transite and CS85. These products are designed for use from ambient temperatures to 1800°F, in densities from 36 to 100 pcf, and will meet the demanding requirements of a variety of industries and their specific needs.

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