

Buster Alumina Cement High Temperature Alumina Cement

**Bonds Porous Materials for
Use at Elevated Temperatures**

Available in Pints and Quarts

Buster Alumina Cement Features

- High Alumina Content
- High Temperature Stability up to 1650 °C (3000 °F)
- Low Thermal Conductivity (K)
- Withstands Water & Steam after Curing
- Safe to Use - Non-Flammable
- Low Shrinkage, High Strength
- Excellent Thermal Shock Resistance
- Extreme High Temperature Stability
- Usable in Multiple Atmospheres
- Single Part Adhesive

The Zircar Fibrous Ceramics Advantage

Low Mass,
Low Heat Storage &
Low Thermoconductivity
means
High Thermal Shock Resistance,
High Insulation Performance,
Higher System Efficiency &
Lower Energy Costs



Low Shrinkage... High Strength... Cement Adhesive...

High temperature bonding for porous Buster A and Buster M aluminum oxide insulation. Bond Buster boards into larger assemblies or form material patches with Buster Fiber.

Product Information

Zircar Buster Alumina Cement is an off white single part alumina adhesive with a useful temperature limit of 1650 °C. Buster Alumina Cement is formulated specifically for bonding **Zircar** Buster A and Buster M Boards and Cylinders to themselves or to back-up thermal insulations such as porous firebrick and alumino-silicate fiber boards. Buster Alumina Cement is composed of milled alumina fibers and sub -micron particles. Buster Alumina Cement is non-flammable, mildly acidic (pH 5) and forms a strong bond upon drying.

For most furnace applications, the articles bonded together are ready for placing in service once the cement has dried. Curing at 426 °C (800 °F) or higher may be desirable to form a ceramic bond that is impervious to water and high humidity. The cured bond joint is stronger than the tensile strength of our 35 pound per cubic foot density alumina insulation, Buster M-35. Pull out or de-lamination due to excessive mechanical or thermal stresses will usually first occur in the insulation material itself.

For more information,
phone: (845) 651-3040
email: sales@zircarzirconia.com
website: www.zircarzirconia.com

Directions For Use

Bonding Closely Mated Surfaces

Mix contents thoroughly before using. Clean surfaces to be joined making certain they are free of dust. Thoroughly coat both surfaces to be joined with Buster Alumina Cement using a brush, spatula or trowel. Reapply cement as required until both surfaces remain wet and fluid. Initially, some wicking into porous materials will occur. Push the wet surfaces with enough pressure to force some cement to flow out. Use a knife or spatula to clean the excess cement away from the bond. Dry the joined pieces thoroughly before moving or placing into service. The time required to dry varies from a few minutes to a day or more, depending on the size of the part and humidity. Drying may be accelerated by heating, do not exceed 90 °C (200 °F). Complete the curing of the bond by firing to a minimum of 426 °C (800 °F). In most cases this curing can be accomplished in the initial heating cycle. For a 0.03 inch thick bond, a pint of cement will cover about 7 square feet of joint surface. For the best bond, do not pre-moisten the surfaces to be joined.

Filling Holes or Bonding Mismatched Surfaces Greater than 1/16 Inch

Make a thick paste by mixing one fluid ounce (about 30 cc) of Buster Alumina Cement with 6 grams of lightly crushed Buster Board or Buster Fiber. Spread the paste into the void using a spatula or trowel. Dry and cure at a somewhat slower rate than outlined above.

Properties & Characteristics

Properties (Nominal)	Buster Alumina Cement
Melting Point, °C (°F) ⁽¹⁾	1870 (3400)
Maximum Use Temperature, °C (°F) ⁽¹⁾	1650 (3000)
Solids Content, Wt%	70
Weight Per Pint, grams (lbs)	953 (2.1)
Specific Gravity, g/cc	1.95
Cured Chemical Composition Wt% (Nominal)	
Al ₂ O ₃	98.5
SiO ₂	0.5
Na ₂ O	0.5
B	0.33
Trace Inorganics	<0.1

⁽¹⁾ Maximum temperature is dependent on variables such as the chemical environment and stresses; both thermal and mechanical.

Applications

REPAIRING CRACKS AND OPENINGS

Buster Alumina Cement is used for repairing cracks and openings in furnace walls composed of alumina fibrous ceramic material. For most furnace applications, the articles bonded together are ready for placing in service once the cement has dried. Curing at 800 °F (426 °C) or more may be desirable to eliminate the mild acid prior to use.

BONDING FIBROUS CERAMICS

Buster Alumina Cement is used for bonding alumina fibrous ceramic materials together and to other porous surfaces.

Buster Alumina Cement has the consistency of a thick paint and should be mixed thoroughly before using. It may be applied by dipping, brushing, troweling or rolling. If Buster Alumina Cement becomes thickened by evaporation, de-ionized or distilled water can be used to bring the cement back to its original consistency. It is non-flammable and is not affected by freezing.

Product Samples

FREE SAMPLES

Call: 845-651-3040

email: sales@zircarzirconia.com

Product Type	Item #
Buster Alumina Cement	SAMPLE-GC

Samples measure 1oz



Zircar Zirconia, Inc.
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Custom Design Quotations

Contact Us For A Quotation For Your Custom Part

Call: 845-651-3040
email: sales@zircarzirconia.com

Zircar manufactures zirconia and alumina boards and cylinders and machines custom shapes to your design specifications.

Our capabilities include:

- 3D CNC Machining
- Layered Configurations
- Lap Joined Boards and Cylinders
- Diamond Wire Splitting of Cylinders



Standard Product Sizes & Ordering

Buster Alumina Cement is available in the standard sizes shown below. Please contact our Sales Department for pricing and availability.

To Place an Order

Call: 845-651-3040
email: sales@zircarzirconia.com

Buster Alumina Cement

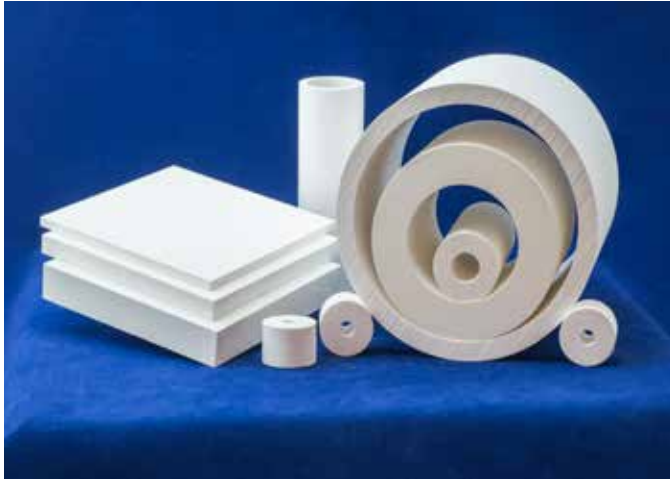
Size	Item Number
1 Pint	GC001
1 Quart	GC002



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Other Interesting Products



Buster fiber boards and cylinders with a choice of alumina or mullite bonds and densities from 15 PCF to 45 PCF.

Buster Fibers are thermally stable high alpha alumina fibers available in two different bulk densities, both having useful properties up to 1800 °C.



ZR-CEM is formulated specifically for bonding zirconia felts, boards and cylinders to themselves or to back-up thermal insulations such as porous firebrick, alumina fiber and alumino-silicate fiber boards.



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