



Zircar Zirconia, Inc.
"Manufacturers of the original ZIRCAR products" ©

Alumina Boards, Discs & Cylinders TYPE Buster



FEATURES

- 1600°C, 1700°C & 1800°C Rated Versions
- Alumina or Mullite Bonded
- High Strength
- Low Thermal Conductivity
- 100% Fibers & Binder - No Fillers
- Excellent Machinability
- Non-RCF Composition

Zircar alumina insulation Type **Buster** is a rigid, fibrous ceramic material produced by vacuum forming alumina fibers with either a high purity alumina binder in **BusterA-30** for use at 1600°C or with silica binders in **BusterM-35** that form a mullite bond for use at 1700°C. **BusterM2-35** is a mullite bonded 1800°C version that exhibits complete dimensional stability to 1700°C.

Buster is available in boards, cylinders and custom machined parts. All **Buster** boards are pre-fired for organic-free use. Their fine grain quality enables precision machining. The even binder distribution allows these materials to be dry machined to tight exacting tolerances with solid carbide or carbide tipped tooling. High tool rotation speeds and slow feed speeds are generally best. Their superior machinability and dimensional stability plus low heat capacity make them ideal for use as setters, supports and process fixtures in both continuous and batch firing furnaces.

High purity silica is the binder in **BusterM-35**. Silica's strong bond gives **BusterM-35** excellent high temperature strength and thermal shock resistance. **BusterA-30** has a high purity alumina bond making it well suited for use in high vacuum and reducing atmosphere applications where silica cannot be tolerated, such as in bright annealing furnaces with hydrogen atmospheres.

They both have high electrical resistivity at elevated temperatures allowing them to be used in direct contact with many different resistance heating elements. They show excellent resistance to chemical attack and are not affected by oil or water. They are, however, affected by hydrofluoric acid, phosphorous acid and strong alkalis

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Product Data
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Page 1 of 2



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PROPERTIES & CHARACTERISTICS

| | Buster M-35 | Buster A-30 |
|---|---------------------------------------|---------------------------------------|
| Density - Pounds per cubic foot | 35 | 30 |
| Porosity | 83% | 85% |
| Alumina Content | 85% | 97+% |
| Thermal Conductivity at 1400 °C, W/mK | 0.24 | 0.24 |
| Linear Shrinkage 1 hour 1600 °C | <3% | 3% |
| Specific Heat J/KgK | 0.25 | 0.25 |
| Thermal Expansion | $5.0 \times 10^{-6} / ^\circ\text{C}$ | $7.5 \times 10^{-6} / ^\circ\text{C}$ |
| Tensile Strength (MOR), PSI | 350 | 250 |
| Compressive Strength, PSI @ 2% compression parallel to thickness | 289 | 45 |

Availability and Ordering Information

Zircar Alumina Insulation Type **Buster** is available in standard sized Boards, Discs, and Cylinders. Please contact our Sales Department for Pricing and Availability.

- **To order** one of our standard sizes, specify the Quantity you wish to order, Product Type, Item #, and Size.
For example: 3 ea., BusterM-35, Item # GX001, 13" x 13" x 1"
- Our forming process and machining capabilities allow for a wide variety of **custom parts** to be made. Please contact us with your special requirements and we'll be happy to provide you with a quotation.

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Page 2 of 2