

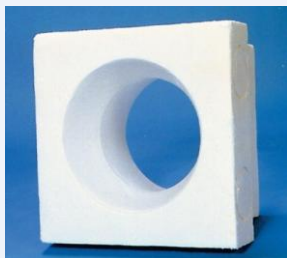
## Burner Blocks - Vacuum Formed



Datasheet Code US: 514-722

SDS Code US: 203

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### Unparalleled availability

Vacuum forming lends itself to rapid duplication of shapes. Once tooling is available, shipment can take place in three or four weeks. Compare that to 12 to 14 weeks for kiln-fired hard block.

In addition, we maintain tooling for many blocks. When tooling already exists, call us for a delivery time.

### No Thermal Shock

Rapid heat-up/cool-down is among the leading causes of burner block failure. Vacuum formed ceramic burner blocks cannot be thermal shocked.

NOTE: Occasional surface crazing does not result in "through" cracks.

### 90% lighter than that of a hard block

Hard refractory burner blocks weigh between 140 and 165 lbs per cubic foot. Vacuum formed blocks weigh only 15 to 18 lbs per cubic foot. This weight factor is especially important in roof burners.

### Proven quality

Our quality is attested to by the fact that many burner block manufacturers purchase our vacuum formed burner blocks for original installations.

NOTE: Quality vacuum forming and fiber lining techniques allow us to make blocks in shapes different than those usually furnished by the burner manufacturer. We alert our customers to this possibility, which can save both tooling and production costs

### Measurable energy efficiency characteristics

In burner intensive furnaces, such as petrochemical process heaters as much as 20% of the lining surface is devoted to burner blocks. If these blocks are hard refractory, with relatively poor insulation characteristics compared to the surrounding fiber lining, the lining's overall thermal efficiency can be noticeably reduced.

Some furnaces fail to meet energy requirements simply because their hard blocks cause too much heat loss. Fiber linings and blocks create more heat cycles for lower energy costs.

### Patented butterfly clips and anchoring systems

Burner blocks can save you installation costs, as well. Hard blocks in soft linings require expensive, stainless steel cans in order to provide support that the fiber lining cannot. But our patented butterfly clips and anchoring systems can withstand a pull in excess of 90 lbs per anchor and they can make mounting blocks of varying shapes a quick and secure procedure.

NOTE: In most cases, the burner block anchors are designed to fit the same holes as the hard blocks.

### Variety of formulas

Most burner blocks are available in a standard mixture of alumina silica and other alumino-silicate fibers bonded with ammonia-stabilized, colloidal silica. Density is about 18 pounds per cubic foot and linear shrinkage is about 2% in use.

For special conditions, other mixes can be furnished. Just supply us with full details on your application and we can design the appropriate mix.

NOTE: Vacuum formed ceramic fiber blocks are not suitable for all applications. Please supply the following information:

- burner manufacturer and burner number
- furnace operating temperature
- fuel
- type of furnace

In addition, with brick or castable construction and hard blocks, the furnace's heat-up rate must be closely controlled.

Fiber-lined furnaces with ceramic fiber burner blocks do not have these restrictions. Their low mass greatly reduces cycle times, which results in more efficient operation.

The values given herein are 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. Therefore, the data contained herein should not be used for specification purposes. Check with your Thermal Ceramics office to obtain current information.