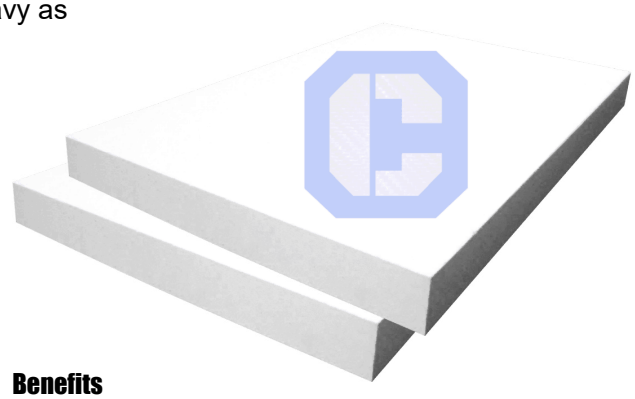
TECHNICAL DATA SHEET

CERAMIC FIBER BOARDS

DESCRIPTION:
Ceramic Fiber board is a rigid solution for ceramic fiber insulation. The boards are manufactured through a wet forming process using alumina-silica fibers and binders. Standard board grades are standard, high purity,and zirconia. Low density boards are slightly better insulators, but they are not as durable and heavy as high density.



Typical Applications

- Insulating support to brick and castable.
- Furnace hot face lining.
- Industrial heat process equipment insulation.
- High temperature gasket and seals.
- Flue & chimney linings in furnaces or kilns.
- Molten metal trough covers.
- Expansion joints.
- Industrial heat shields and thermal barriers.
- Industrial combustion chamber construction.
- Infra red element supports.
- Board over blanket hot face lining.
- Full thickness refractory lining.
- High temperature boiler wall insulation.
- Pouring forms for castable.
- Refractory lining for industrial furnace walls, roofs, doors, and stacks
- Well suited for applications experiencing vibration, mechanical stress, and strong erosive forces.
- Combustion chamber liners, boilers and heaters.
- Back-up insulation for brick and monolithic refractories.
- Transfer of molten aluminum and other non-ferrous metals.
- Barrier against flame or heat.
- Hot face layer for high velocity or abrasive furnace atmosphere.

Benefits

- High temperature stability.
- Excellent strength and hardness
- Low thermal conductivity, sound transmission, and heat storage.
- Uniform density and excellent resistance to thermal shock and chemical attack.
- Excellent rigidity and modulus of rupture make the boards strong and self-supporting, yet relatively lightweight and easy to cut or machine.
- Resistant to oxidation and reduction.
- Permits fast thermal cycling without cracking or spalling
- Resists penetration by molten aluminum and other non-ferrous metals.

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Thermal Conductivity

This report contains predicted thermal conductivity values for fibrous products. Thermal conductivity is a function of fiber diameter, fiber index and density as well as other factors. Additionally, there are several techniques to which are used to measure thermal conductivity; but none of the techniques are repeatable or consistently accurate. Therefore, we would ask that you not use these values as an engineering value to determine the performance of our products.

Thermal Conductivity				
W/mK (Btu in./Hr/ft²°F)	Low Density	High Density	Zirconia Grade	Extra High Temp.
@400°C | 752°F	0.085 | 0.59	0.10 | 0.66	0.09 | 0.64	-
@760°C | 1400°F	-	-	-	0.17 | 1.16
@800°C | 1472°F	0.13 | 0.92	0.16 | 1.07	0.14 | 1.00	-
@982°C | 1800°F	-	-	-	0.25 | 1.70
@1000°C | 1832°F	0.18 | 1.3	0.20 | 1.39	0.18 | 1.28	-
@1204°C | 2200°F	-	-	-	0.35 | 2.40

There are several techniques which are used to measure thermal conductivity and because of that wide variance of results. One can test the same fiber sample and get a 20-25% result difference. This can occur with in the same testing procedure as well as from lab to lab.

Data provided is based on average properties that are subject to normal manufacturing variations and are presented for general reference only. This information is supplied as a technical service and is subject to change without notice. These values should not be used for specification purposes- no warranty is express or implied

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Ceramic Board Properties

Properties	Low Density	High Density	Zirconia Grade	Extra High Temp.
Temperature	2300°F	2300°F	2600°F	3000°F
Working Temperature	2100°F	2100°F	2462°F	2700°F
Melting Point	3200°F	3200°F	3200°F	3400°F
Color	Off White	Off White	Off White	Off White
Available Density				
kg/m³	260-290	350-400	360-380	260-290
lbs/ft³	16-18	22-25	20-22	16-18
LOI(% by WT)	6%-7%	6%-7%	6%-7%	4%-6%
Dielectric Strength	25.4 volts/mil	25.4 volts/mil	25.4 volts/mil	25.4 volts/mil
Shrinkage(%)				
24hrs at Temp 2012°F	3%	3%	3%	*
24hrs at Temp 2450°F	*	*	*	≤1.0%
24hrs at Temp 2700°F	*	*	*	≤1.2%
MOR, PSI				
Green(typical)	125	200	150	100
Fired(typical)	65	65	65	50

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