

FUSED SILICA
HOT PRESS PLATENS
CASTABLE CERAMICS
FIRED SHAPES
AEROSPACE TOOLING

Foundry Service & Supplies, Inc.

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HI-TEMP INSULATIONS
CALCIUM SILICATE BOARDS
MILLBOARD AND BLANKET
PAPERS AND CEMENTS
CUTTING AND FABRICATING

KAOWOOL® HIGH TEMPERATURE

VACUUM FORMED PRODUCTS

KAOWOOL® HIGH TEMPERATURE VACUUM FORMED PRODUCTS

Thermal Ceramics high temperature vacuum formed products are rigid and self-supporting. Manufactured from a slurry consisting of Kaowool ceramic fibers, alumina and mulite fibers, alumina mix and binders. These products offer excellent thermal conductivity, strength and thermal stability at elevated temperatures and have the capability to withstand chemical attack. Exceptions include hydrofluoric acid, phosphoric acid and strong alkalis. A small amount of combustible binder will burn out at approximately 300°F. Additional hardness and strength can be reached with post treatments. Board capabilities are 48 x 36 x ¼ to 3".

Kaowool® HT is a low cost high temperature product designed for use up to 2600°F. Kaowool HT is a rigid self-supporting product produced in a variety of sizes and thicknesses.

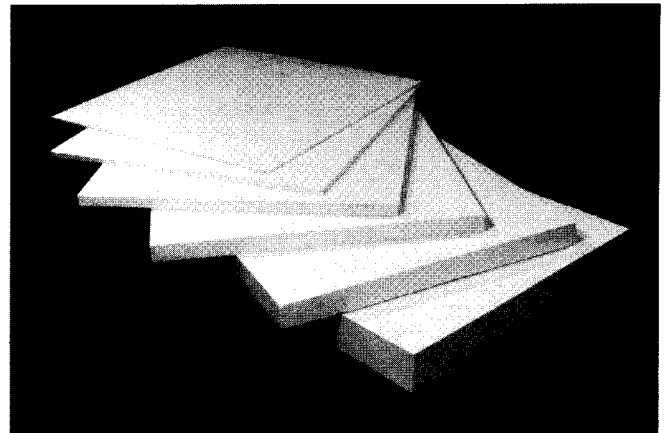
Kaowool® 2600 using high alumina fibers along with Kaowool ceramic fibers is an excellent dimensional stable product at 2600°F where minimal shrinkages are very important.

Kaowool® 2800M is processed using a blend of high purity ceramic fibers and high temperature mulite fibers. This combination produces a product with improved high temperature stability. Kaowool exhibits excellent shrinkage and mechanical strengths after firing for temperatures up to 2800°F.

Kaowool® 3000M is processed using a blend of high purity ceramic fibers and high temperature mulite fibers and alumina mix. Kaowool 3000M has excellent temperature stability, shrinkage and mechanical strengths after firing for temperatures up to 2900°F.

Kaowool®3000 is processed using a blend of high purity ceramic fibers, high temperature alumina fibers and binders. Kaowool 3000 has a continuous use limit up to 2800°F.

Kaowool®17C is processed using a blend of high purity ceramic fibers, high temperature alumina fibers and binders. This combination produces a product with improved high temperature stability. Kaowool 17C exhibits excellent shrinkage and mechanical strengths after firing for temperatures up to 2900°F.



Chemical Properties

Caution should be exercised during initial heating. Adequate ventilation should be provided to avoid potential flash ignition of the binder out-gassing or avoid air entry while at elevated temperatures.

Typical Applications

- Appliance and heat processing
- Backup insulation to dense refractories
- Bullnose tiles
- Burner blocks
- Combustion chamber construction
- Expansion joint material
- Flue and chimney linings
- Furnace components
- Furnace door linings
- Furnace, kiln, and oven hot face linings
- Glass regenerator insulation
- Heat shields
- High temperature gaskets and seals
- Peep door frames and plugs
- Shapes in ammonia reformers

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Ceramic Fiber • Insulating Firebrick • Refractory Castables and Monolithics • Mortars • Firebrick • Fired Refractory Shapes

KAOWOOL® VACUUM FORMED PRODUCTS

	Kaowool HT	Kaowool 2600	Kaowool 2800M	Kaowool 3000M	Kaowool 3000	Kaowool 17C
Physical Properties						
Color	yellow	blue	yellow/green	gold	pink	orange
Nominal density, pcf	21	15	12	14	13	14
Maximum temperature rating, °F	2600	2600	3000	3100	3000	3100
Continuous use limit, up to °F	2600	2600	2800	2900	2800	2900
Melting point °F	3200	3200	3200	3300	3300	3300
Modulus of rupture, psi	160	110	115	125	70	70
Compressive strength, psi						
@ 5% deformation	60	30	25	30	20	20
@ 10% deformation	90	40	30	35	25	25
Linear shrinkage, %						
24 hrs @ 1500°F	0.5	0.3	0.3	0.3	0.3	1.2
24 hrs @ 1800°F	1.6	0.3	0.3	0.1	0.1	0.4
24 hrs @ 2000°F	2.3	0.6	0.3	0.1	0.0	0.3
24 hrs @ 2200°F	—	0.7	—	—	0.4	0.4
24 hrs @ 2400°F	—	0.8	0.8	0.5	0.5	0.5
24 hrs @ 2500°F	—	1.0	—	—	—	—
24 hrs @ 2600°F	3.5	1.4	0.9	0.4	0.6	0.0
24 hrs @ 2800°F	—	—	0.6	0.2	+1.5	+0.3
24 hrs @ 2900°F	—	—	—	0.9	—	+0.5
Chemical Analysis						
Alumina, Al ₂ O ₃	33	51	53	71	66	81
Silica, SiO ₂	53	49	47	29	34	19
Zirconia, ZrO ₂	13	—	—	—	—	—
Other	1	<1	<1	<1	<1	<1
Loss of Ignition	7-9	7-9	7-9	7-9	7-9	7-9
Organic Material	6-8	6-8	6-8	6-8	6-8	6-8
Thermal Conductivity, BTU•in/hrs•ft²•°F (ASTM C 201)						
Mean temperature						
@ 500°F	0.47	0.45	0.43	0.48	0.47	0.47
@ 1000°F	0.68	0.67	0.68	0.66	0.67	0.61
@ 1500°F	1.01	.01	1.06	0.97	0.98	0.88
@ 2000°F	—	1.49	1.62	1.42	1.41	1.31
@ 2500°F	—	—	2.40	2.06	1.92	1.95

Data are average results of tests conducted under standard procedures and are subject to variation. Results should not be used for specification purposes.

Refer to the Material Safety Data Sheet (MSDS) for recommended work practices and other product safety information.