



CNBM



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CNBM International Corporation

REFRACTORIES FOR INSULATION

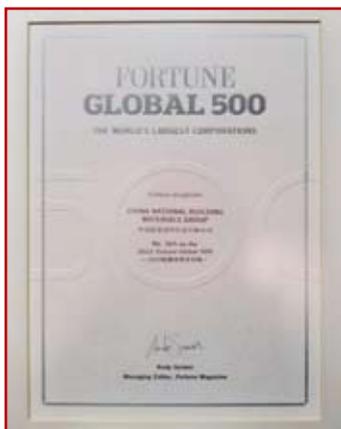


CNBM CNBM International Corporation

Company Profile



CNBM (China National Building Material) Group is the largest comprehensive building materials group in China that integrates scientific research, manufacturing and logistics into one entity. CNBM is also the largest building materials and equipment specialists in China. Upon the State Council's approval, CNBM owns more than 300 subordinate manufacturing factories and servicing companies till now. There are 6 fully owned public listed companies and 11 partially owned with substantial shares public listed companies. In many such of these fields, CNBM is playing a leading role in the building industry in the country.



CNBM International Corporation is the most important import and export platform of CNBM group. With its advantages, CNBM International are mainly concentrate on Cement industries and devotes herself for supplying high quality series of refractories as well as technical consultancies and logistics solution.



CNBM International is highly recognized by its business partners and clients all over the world and has obtained rapid development under the spirit of win-win. Depending on the support of production divisions and its active staff, CNBM international reached a turnover of USD one billion in 2012. We will carry on the mutual beneficial, create value for our employees, share holders and clients and benefit the whole society in our future development.

EMMA Score: 1

D&B Rating: 4A1

Thanks you for your interest in our company products and services. Your valuable comments are most welcome.

CERAMIC FIBER BLANKET

General Information

Ceramic fiber blanket is made from high quality Gao-ling clay, high purity alumina and silica oxides by spun or blown process. It is asbestos free. No chemical binder is added. Double-side needling provides blanket with great tensile or handing strength for easy installation.



Features

- ◆ Low thermal conductivity
- ◆ High tensile strength
- ◆ Resilient to thermal shock
- ◆ Corrosion resistance

Application

- ◆ Petrochemical process heater refractory fiber lining
- ◆ General furnace backup insulation
- ◆ Heat treating furnace or intermittent (shuttle) kiln hot face lining
- ◆ Electrical insulator
- ◆ Heat seals for kiln car or furnace door
- ◆ High temperature acoustic
- ◆ Fire protection

		STD	HP	HA	HZ
Temperature Grade	°C	1260	1260	1350	1430
	°F	2300	2300	2460	2600
Recommended Operating Temp.	°C	1050	1100	1200	1350
	°F	1920	2010	2190	2460
Available Density	Kg/m ³	64,96,128,160			
	lb/ft ³	4,6,8,10			
Color		White	White	White	White
Thermal Shrinkage (24hrs) 128Kg/m ³	%	≤3	≤3	≤3.5	≤3.5
	°C	1150	1250	1300	1350
Thermal Conductivity (W/m.k) 128Kg/m ³	800°C	0.15	0.176	-	-
	1000°C	0.17	0.22	0.18	0.23
	1200°C	-	-	0.26	0.31
Chemical Composition					
Al ₂ O ₃	%	45-47	45-46	53-55	38-54
Al ₂ O ₃ +SiO ₂	%	98.5	99	99	82-90
ZrO ₂	%	-	-	-	10-18
Size	mm	Width: ≤1220 Thickness: 6-60 (Non-standard sizes are available upon request)			

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CERAMIC FIBER BOARD

General Information

Ceramic fiber board is manufactured in a wet vacuum forming process by blending the chopped ceramic fiber with inorganic or organic binders for excellent abrasive resistance at high temperature.



Features

- ◆ Low thermal conductivity
- ◆ Excellent thermal shock resistance
- ◆ Low heat storage
- ◆ Resist most chemical attacks

Application

- ◆ Hot air duct lining
- ◆ Shuttle kiln with high gas velocity
- ◆ Laboratory furnace
- ◆ Kiln car insulation
- ◆ Die-cut high temperature seal

		STD	HP	HA	HZ
Temperature Grade	°C	1260	1260	1350	1430
	°F	2300	2300	2460	2600
Recommended Operating Temp.	°C	1000	1100	1200	1350
	°F	1830	2010	2190	2460
Available Density	Kg/m ³	240-400			
	lb/ft ³	15-25			
Color		White	White	White	White
Thermal Shrinkage (24hrs)	%	-3.3	-3.2	-3.6	-3.8
	°C	1200	1260	1350	1400
Thermal Conductivity (W/m.k) 128Kg/m ³	800°C	0.136	0.128	0.120	0.114
	1000°C	0.152	0.150	0.143	0.146
	1200°C	0.190	0.178	0.160	0.158
Chemical Composition					
Al ₂ O ₃	%	45-47	47-49	53-55	38-54
Al ₂ O ₃ + SiO ₂	%	97-98.5	98-99	98.5-99	83-89
ZrO ₂	%	-	-	-	10-18
Size	mm	Length: ≤1500mm Width: ≤1200 Thickness: 3-150 (Non-standard sizes are available upon request)			

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CERAMIC FIBER PAPER

General Information

Ceramic fiber paper is manufactured from selected high purity ceramic fibers with low shot content. Its organic binders provide the product with good strength against tearing. It is excellent for heat seal.



Features

- ◆ Easy to cut, wrap or form
- ◆ Thermal shock resistant
- ◆ Low thermal conductivity
- ◆ Low heat storage

Application

- ◆ High temperature gasket
- ◆ Refractory expansion joint
- ◆ Lining for aluminum casting molds
- ◆ Heat insulation for exhaust tubes and pipes
- ◆ Acoustic and thermal insulation for automobile mufflers
- ◆ Electrical switch box fire protection
- ◆ Boiler door seal
- ◆ Furnaces backup insulation
- ◆ Thermal and electrical insulation for heaters

		STD	HA	HZ
Temperature Grade	°C	1260	1350	1430
	°F	2300	2450	2600
Recommended Operating Temp.	°C	1000	1200	1300
	°F	1830	2200	2370
Available Density	Kg/m ³	160-200	160-220	
	lb/ft ³	10-12.5	10-3.75	
Color		White	White	White
Binder Content	%	≤8	≤8	≤8
Thermal Shrinkage (24hrs)	%	≤0.7	≤0.6	≤0.4
	°C	1000	1000	1000
Thermal Conductivity (W/m.k)	400°C	≤0.1	≤0.1	≤0.08
	800°C	≤0.19	≤0.19	≤0.16
	1000°C	≤0.36	≤0.36	≤0.22
Chemical Composition				
Al ₂ O ₃	%	≥45	≥52	-
Al ₂ O ₃ +SiO ₂	%	≥97	≥97	-
ZrO ₂	%	-	-	≥99
Size	mm	Width: ≤1270 Thickness: 0.4-10 (Non-standard sizes are available upon request)		

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CERAMIC FIBER MODULE

General Information

Ceramic fiber module is made of ceramic fiber blanket, which are stack folded to form a module with folded edges exposed. The module should be secured. Pre-cutting and Z block are both available.

Features

- ◆ Fast and easy installation
- ◆ Lower heat storage and fuel costs
- ◆ Several anchor systems
- ◆ High tensile strength

Application

- ◆ Petrochemical process heater
- ◆ Ceramic firing kiln
- ◆ Backup insulation
- ◆ Heat treating furnace
- ◆ Cement rotary kiln
- ◆ Glass melting tank



		STD	HP	HA	HZ
Temperature Grade	°C	1260	1260	1350	1430
	°F	2300	2300	2460	2600
Recommended Operating Temp.	°C	1050	1100	1200	1350
	°F	1920	2010	2190	2460
Available Density	Kg/m ³	160-200			
	lb/ft ³	10-12.5			
Color		White	White	White	White
Thermal Shrinkage (24hrs) 128Kg/m ³	%	≤3	≤3	≤3.5	≤3.5
	°C	1150	1250	1300	1350
Thermal Conductivity (W/m.k) 128Kg/m ³	800°C	0.15	0.176	-	-
	1000°C	0.17	0.22	0.18	0.23
	1200°C	-	-	0.26	0.31
Chemical Composition					
Al ₂ O ₃	%	45-47	45-46	53-55	38-54
Al ₂ O ₃ +SiO ₂	%	98.5	99	99	82-90
ZrO ₂	%	-	-	-	10-18
Size	mm	Length: ≤600 Width: ≤600 Thickness: ≤600 (Non-standard sizes are available upon request)			
Anchoring Part		304# and 310# stainless steel Shape: butterfly, rhombus and angled			

CERAMIC FIBER VENEERING MODULE

General Information

Ceramic fiber veneering module is made of are made ceramic fiber turned edge-grain and slightly compressed with a gauze type wrap, which are stack folded to form a module with folded edges exposed. They can be applied over a variety of refractory surfaces.

Features

- ◆ Easily installed over existing refractory surface
- ◆ Excellent thermal stability
- ◆ Good insulating properties

Application

- ◆ Forge furnaces
- ◆ Crucible furnace
- ◆ Rotary hearth furnace
- ◆ Holding furnace
- ◆ Heat treating furnace
- ◆ Ceramic kiln

Please see the above technical datas of module for your reference.



HIGH TEMPERATURE TEXTILE

Ceramic fiber textiles are high performance thermal textiles made of high quality ceramic fiber. The textiles range is composed of yarn, cloth, tape, rope, braided packing, sleeving, etc.

They are reinforced with E-glass fiber or stainless steel wire 304 or 310. E-glass fiber reinforcement is used where metal is undesirable, especially when using the textiles as a dielectric, while the steel wire reinforcement provides maximum strength at elevated temperatures. In applications where the tensile strength is important, temperature limits of inserted materials should be considered.



CMAx ceramic fiber textiles contain carrier fiber to facilitate the carding process. The textiles normally contain 16-20% rayon fiber which will burn out at high temperature, but has no effect on the properties of the products.

Service Temperature Limit	°C	1260
	°F	2300
Melting Point	°C	1760
	°F	3200
Temperature Limit of Insert	°C	650—Glass 1100—Stainless steel
	°F	1202—Glass 2012—Stainless steel
Fiber diameter	µm	3-4
Thermal Shrinkage (24hrs) 128Kg/m ³	%	≤3
	°C	1150
Thermal Conductivity 1000°C(1832°F)	(W/m.k)	0.18
Linear shrinkage 1100°C(2012°F)x 24hr	%	3
Loss on ignition	%	18
Electrical	—	Glass Non-Conductive Stainless Steel Conductive
Chemical Composition		
Al ₂ O ₃	%	47-49
Al ₂ O ₃ +SiO ₂	%	99

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CERAMIC FIBER YARN

General Information

CMAX ceramic fiber yarn is manufactured from high quality alumina-silica ceramic fiber and has been mechanically twisted to give it tensile strength. The yarn is available as E-glass or stainless steel wire 304 or 310 reinforced yarn from 330 Tex to 2500 Tex in single, two or three plies.



Application

- ◆ High temperature gaskets
- ◆ Making cloth, tape, rope, etc
- ◆ Sewing thread for high temperature textiles

CERAMIC FIBER TWISTED ROPE

General Information

Ceramic fiber twisted rope is fabricated from ceramic fiber yarn twisted to form a cord of specified diameters, with glass filament or stainless steel wire 304 or 310 inserted to provide high strength at elevated temperatures. It can be performed as radiant tube packing for heat-treated furnaces, expansion joint packing, seals for stoves and ovens, bulb in tadpole gaskets, wick for oil burning apparatus, fireproof wrap and insulation.



Diameter: 3mm-50mm (1/8"-2")

Option:

3-Ply twisted rope



3-Ply sliver twisted rope



Tadpole



CERAMIC FIBER ROUND BRAIDED PACKING

General Information

Ceramic fiber round braided packing is dense, resilient, high performance ceramic fiber material fabricated from E-glass or stainless steel wire 304 or 310 inserted ceramic fiber yarn which is braided around a core of ceramic fiber cord to form a packing in round section.



Diameter: 4mm-100mm (4/25"-4")

CERAMIC FIBER SQUARE BRAIDED PACKING

General Information

Ceramic fiber square braided packing is dense, resilient, high performance ceramic fiber material fabricated from E-glass or stainless steel wire 304 or 310 inserted ceramic fiber yarn which braided around a core of ceramic fiber cord to form a packing in square section.

Diameter: 6mm-100mm (1/4"-4")



CERAMIC FIBER CLOTH

General Information

Ceramic fiber cloth is a high performance thermal cloth manufactures from ceramic fiber yarn. It can be used as protection against high temperature, barrier to prevent fire spreading, welding curtains and fire blankets, furnace curtains, high temperature electricity insulation, cable and fuel line protection, fireproof wrap, etc

Thickness: 2mm-10mm (2/25"-3/8")



CERAMIC FIBER TAPE

General Information

Ceramic fiber tape is manufactured from high quality alumina-silica fiber yarn .It can be used as protection against high temperature, high temperature electrical insulation, cable and fuel line protection, fireproof wrap, gasket and seal, etc.

Thickness: 2mm-10mm (2/25"-3/8")

Width: 20mm-1000mm (3/4"-40")

Option: Ladder Tape

The ceramic fiber ladder tape without warp yarn in the center is used for drilling through the bolt hole, etc.



REFRACTORY BULK FIBER

General Information

Refractory bulk fibers are made from high quality Gao-ling clay, high purity alumina and silica oxides. The fibers are strong, high purity fibers unaffected by chemicals except for hydrofluoric and phosphoric acids and strong alkalis.

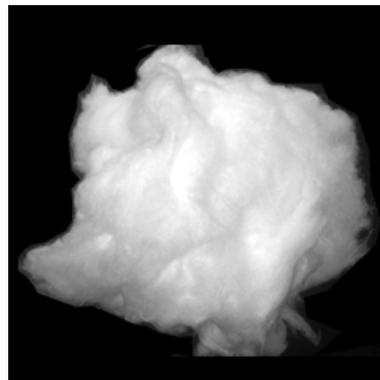
Features

- ◆ Low thermal conductivity
- ◆ Resilient to thermal shock
- ◆ High heat resistance
- ◆ Corrosion resistance

Application

- ◆ Manufacturing of blanket, paper, board, etc
- ◆ Loose insulating fill fro crowns and walls of kilns and furnaces
- ◆ Packing expansion joints in refractory constructions

Type: 1260°C STD/HP, 1350°C HA, 1430°C HZ



VACUUM FORMED SHAPE

General Information

Vacuum formed shapes are vacuum formed from wet slurry in a variety of specially engineered formulations. It manufactured from CMAX fiber and carefully selected organic and inorganic binders. Except the standard shapes such us tubes, tap hole cones, burner block and kiln car blocks, it's also could be produced as special drawings and specifications.

Features

- ◆ Low thermal conductivity
- ◆ Flame resistance
- ◆ Light weight
- ◆ Design freedom



CERAMIC FIBER GASKET

General Information

Ceramic fiber gasket is made from ceramic fiber paper. The gasket is supplied in a wide range of thicknesses and shapes. It's also could be produced as special drawings and specifications.

Features

- ◆ Low thermal conductivity
- ◆ Design freedom
- ◆ Low specific heat
- ◆ Resilient to thermal shock



INSULATING FIREBRICK

General Information

CMAx insulating firebricks are classified under temperature between 1100°C to 1700°C, manufactured from high purity alumina clay.

Features

- ◆ Light weight and low thermal conductivity
- ◆ Low heat storage
- ◆ Low iron and impurities
- ◆ High thermal shock resistance



Application

CMAx insulating firebricks can be used as a hot face lining directly exposed to the heat or as a backup insulation layer in iron and steel mills, non-ferrous foundries, petrochemical, ceramic, glass.

GJM Series Insulating Firebricks

Physical Properties		GJM20	GJM23	GJM25	GJM26	GJM28	GJM30	GJM32
Classification Temperature	°C	1100	1260	1350	1430	1540	1650	1760
	°F	2000	2300	2500	2600	2800	3000	3200
Bulk Density (ASTM C134-84)	g/cm ³	0.55	0.55	0.8	0.8	0.9	1.03	1.25
	lb/ft ³	34	34	50	50	56	64	78
Cold Crushing Strength (ASTM C93-84)	Mpa	0.8	1.2	2	2	2.6	2.8	3.4
	lb/in ²	114	170	284	284	370	398	484
Modulus of Rupture (ASTM C93-84)	Mpa	0.6	0.9	1.2	1.5	1.6	1.7	2
	lb/in ²	85	128	170	218	232	247	290
Permanent Liner Change (24hours)(ASTM C210-85)	%	-0.1	-0.2	-0.5	-0.5	-0.6	-0.7	-0.8
	°C	1070	1230	1350	1400	1510	1620	1730
Thermal Conductivity (W/m.k) (ASTM C182-83)	400°C	0.17	0.17	0.24	0.25	0.3	0.4	0.49
	600°C	0.19	0.19	0.28	0.27	0.32	0.42	0.5
	800°C	0.22	0.22	0.32	0.3	0.35	0.44	0.51
	1000°C	0.24	0.25	0.37	0.33	0.37	0.45	0.53
	1200°C	—	—	—	0.35	0.39	0.47	0.55
Al ₂ O ₃	%	45	45	50	55	65	72	76
Fe ₂ O ₃	%	0.9	0.9	0.8	0.7	0.6	0.5	0.5
SiO ₂	%	50	50	45	42	32	26	22

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B Series Insulating Firebricks

Physical Properties		B-1	B-2	B-3	B-4	B-5	B-6	B-7
Reheating Shrinkage less than 2%	(°C)	900	1000	1100	1200	1300	1400	1500
Bulk Density	g/cm ³	0.70	0.70	0.75	0.80	0.80	0.90	1.00
Cold Crushing Strength	kg/cm ²	25	25	25	25	25	30	30
Thermal Conductivity	350°C (W/m.k)	0.17	0.18	0.20	0.22	0.23	0.27	0.31

C Series Insulating Firebricks

Physical Properties		C-1	C-2	C-3
Reheating Shrinkage less than 2%	(°C)	1300	1400	1500
Bulk Density	g/cm ³	1.10	1.20	1.25
Cold Crushing Strength	kg/cm ²	50	70	100
Thermal Conductivity	350°C (W/m.k)	0.30	0.38	0.45

INSULATING FIRE MORTAR

General Information

Insulation fire mortar is made from the mixture of refractory powder and organic or inorganic binding agents, which is to match the use of the insulating fire brick

Features

- ◆ Excellent water retentivity
- ◆ Convenient for construction
- ◆ Small heating linear shrinkage after drying
- ◆ Stable chemical properties

Application

- ◆ The laying of refractory bricks



Physical Properties		GJM Series
Classification Temperature	°C	1500
	°F	2730
Dosage	g/cm ³	4.5-5.5
	lb/ft ³	280-340
Consistency	mm	160
Reheating Liner Change (3 hours)	%	-0.3
	°C	1400
Flexural Bond Strength (24hours) Mpa	110°C	2
	1100°C	4
Al ₂ O ₃	%	≥65

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LIGHTWEIGHT CASTABLE

General Information

Lightweight castable is made from lightweight aggregate of lightweight ceramic grains and sand grog and floating beads, mixed with binding agent of aluminate cement and superfine powder, having different aggregates of different materials to meet the design requirements.

Features

- ◆ High strength
- ◆ Excellent heat-insulation
- ◆ Good wear resistance
- ◆ Small reheating liner change

Application

- ◆ Chimney linings and heat-insulating
- ◆ Wear proof layers of the reactor-generator system



Physical Properties		LC-1.4	LC-1.2	LC-1.0	LC-0.9	LC-0.8
Classification Temperature	°C	1200	1100	1100	1000	1000
	°F	2190	2010	2010	1830	1830
Bulk Density (g/cm ³)	110°C × 24h	1.4	1.2	1.0	0.9	0.8
	815°C × 3h	1.3	1.1	0.9	0.8	0.7
Compressive Strength (Mpa)	110°C × 24h	20	12	7	4.5	4
	815°C × 3h	16	11	6	4	3
Modulus of Rupture (Mpa)	110°C × 24h	3	2	1.5	1.0	0.8
	815°C × 3h	2.5	1.5	1.0	0.8	0.5
Permanent Liner Change (%)	815°C × 3h	0.2	0.2	0.2	0.2	0.2
Thermal Conductivity (W/m.k)	350°C	0.35	0.3	0.25	0.23	0.21

PLASTIC CASTABLE OF REFRACTORY FIBER

General Information

Plastic castable of general alumina fiber and zirconium fiber are made from the mixture of aluminium silicate fiber, zirconium-contained fiber, alumina fine powder and zirconia sol and plasticizing agent. Different types are made by mixing fibers of different materials and additives according to linings' working temperatures to meet the demands of different industrial kilns.

Features

- ◆ High Temperature resistant
- ◆ Small density Low thermal conductivity
- ◆ Small heat storage

Application

- ◆ Heat preservation and insulation materials of pressure-reducing furnaces in petrochemical.
- ◆ Reforming furnaces of hydrogenation and hydrogen making devices.



Physical Properties		PC-1	PC-2	PC-3
Classification Temperature	°C	1000	1200	1350
	°F	1830	2190	2500
Fibers		General aluminum	High aluminum	Zirconium
Bulk Density	g/cm ³	900°C 0.5-0.6	1100°C 0.55-0.65	1200°C 0.55-0.65
	lb/ft ³	1650°F 31-37	2010°F 34-41	2090°F 34-41
Modulus of Rupture	Mpa	0.5	0.5	0.5
	°C	900	1100	1200
Permanent Liner Change	%	-2.0	-2.0	-2.0
	°C	900	1100	1200
Thermal Conductivity 900°C	(W/m.k)	0.17	0.17	0.17

CALCIUM SILICATE BOARD

General information

CMAX calcium silicate products are classified under temperature between 650°C to 1100°C, it's an asbestos-free thermal insulation product.

Features

- ◆ Low thermal conductivity
- ◆ High strength
- ◆ High thermal insulation value
- ◆ High strength

Application

- ◆ Reheating furnace
- ◆ Rotary kiln
- ◆ Tunnel kiln
- ◆ Annealing furnace
- ◆ Glass tank
- ◆ Aluminum melting and holding furnace
- ◆ Transfer ladle
- ◆ Shuttle kiln

Standard Type

Physical Properties		650°C		1000°C				1100°C
Bulk Density (±10%)	Kg/m ³	170	220	170	200	230	250	250
Modulu of Rupture	Mpa	≥0.25	≥0.3	≥0.25	≥0.35	≥0.5	≥0.55	≥0.5
Thermal Conductivity	W/m.k	≤0.052	≤0.056	≤0.048	≤0.05	≤0.056	≤0.058	≤0.058
Clasification Temperature	°C	650	650	1000	1000	1000	1000	1100
Linear Shrinkage	%	≤2 (650°C×16h)		≤2 (1000°C×16h)				≤2 (1050°C×3h)

Size: Length: 400-1220mm(±4mm), Width: 250-1220mm(±3mm), Thickness:25-120mm (+3,-1.5mm)

High Pure and High Strength Type

Physical Properties		High Pure Type		High Strength Type	
		G	C		
Bulk Density	Kg/m ³	800±10%	800±10%	800-1000 ±10%	
Modulu of Rupture	Mpa	≥7	≥7	≥7	
Thermal Conductivity	W/m.k	≤0.14	≤0.16	≤0.13	
Clasification Temperture	°C	1000	1000	1000	
Working Temperture	°C	850	850	850	
Linear Shrinkage	Length, Width	%	0.4 (850°C×12h)	0.25 (850°C×12h)	1.5 (1000°C×3h)
	Thickness	%	1.5 (850°C×12h)	1.5 (850°C×12h)	1.5 (1000°C×3h)

High pure type: size: Length: 1000-1220mm(±4mm), Width: 500-1220mm(±4mm),

Thickness:25-100mm(+2,-1.5mm)

Special size is available as per customer's request. G board with glass fiber, C board with carbon fiber.

High strength type: size: Length: 2300-2500mm(±5mm), Width: 1220mm(±4mm), Thickness:25-50mm(+3,-1.5mm)

CALCIUM SILICATE PIPE

Physical Properties		650°C
Bulk Density	Kg/m ³	220±10%
Modulus of Rupture	Mpa	≥0.3
Thermal Conductivity	W/m.k	≤0.062
Clasification Temperature	°C	650
Linear Shrinkage	%	≤2

Size: Length: 600mm(±4mm), I.D.: 25mm-3600mm (+1-5mm), Thickness:40-100mm(+3,-1.5mm)

Special size is available as per customer's request.





CUSTOMER LIST



SHELL CHEMICAL

ALLIED MINERAL

CHEVRON

EXXON



CNBM



okorder.com

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