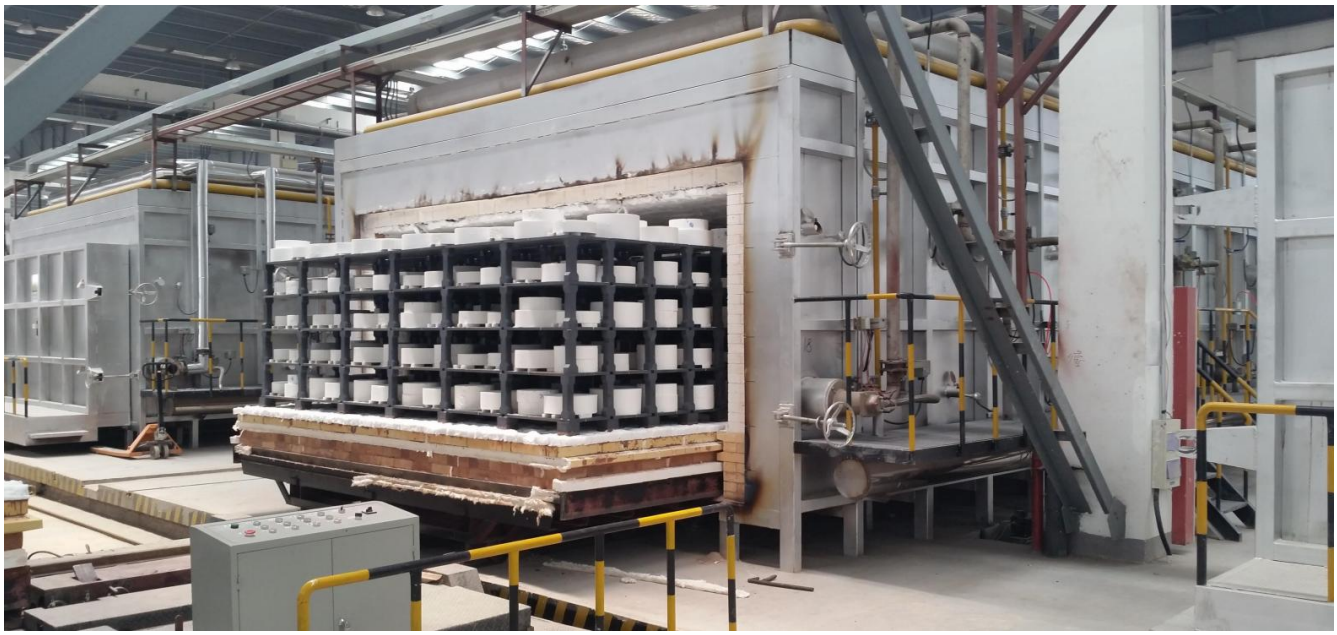
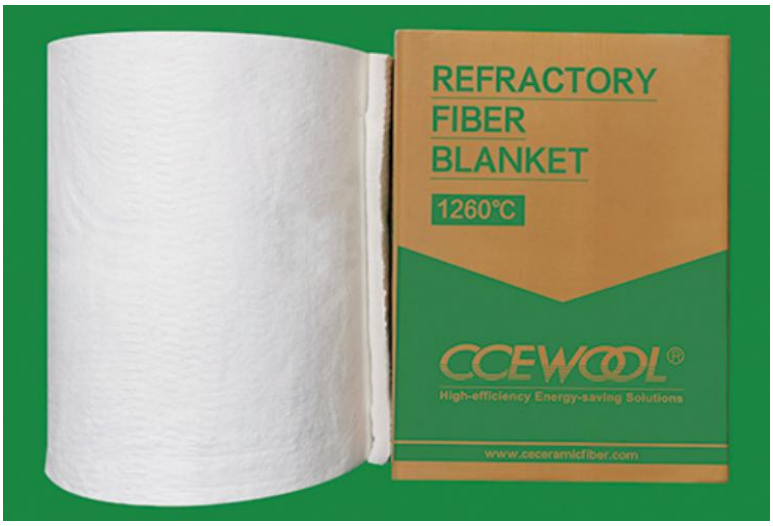
CCEWOOL Thermomax Inc.
salesusa@ccewool.com
www.ccewool.com

Ceramic and Glass - Ceramic Kilns



From kiln linings and kiln cars to kiln furniture, our fiber and refractory material solutions provide reliable mechanical elasticity and performance stability.

CCEWOOL® Ceramic Fiber Blanket S



Temperature Grade 1260° C (2300° F)
CCEWOOL® Ceramic Fiber Blanket S is a high-strength needled blanket made from classic series refractory ceramic fiber spun fiber. This product contains no organic binders. Manufactured through a unique internal needle punching process with tensile strength exceeding 75KPa, making it safe, stable, energy-efficient, and highly effective. CCEWOOL® Ceramic Fiber Blanket S insulation material offers a variety of thicknesse, width and density to meet energy-saving requirements under different conditions.

CCEWOOL Thermomax Inc.
salesusa@ccewool.com
www.ccewool.com

Characteristics:

Excellent handling strength

Excellent hot strength

Low thermal conductivity

Low heat storage

Light weight

Resiliency

Thermal shock resistance

High heat reflectance

Excellent corrosion resistance

Excellent thermal stability

Excellent sound absorption

Excellent fire protection

Application:

Industrial furnace wall lining;

Back lining material;

Furnace masonry expansion joints, door, roof heat insulation seal;

High temperature pipe insulation material;

Module / folded module processing material;

Fireproof coating.

Steel industry

Heat treating and annealing furnaces

Furnace door linings and seals

Soaking pit covers and seals

Furnace hot face repairs

Reheat furnaces

Ladle covers

CCEWOOL Thermomax Inc.
salesusa@ccewool.com
www.ccewool.com

Power generation

Boiler Insulation

Boiler Doors

Reusable Turbine Covers

Pipe Covering

Insulation of Commercial Dryers and Covers

Veneer Over Existing Refractory

Stress Relieving Furnaces

Glass Furnace Crown Insulation

Fire Protection

STD：

CCEWOOL® Ceramic Fiber Blanket S	
Classification temperature	1260 (2300℉)
Operation Temp(℃)(℉)	1050 (1922℉)
Density (kg/m3)	64/ 96/ 128/160(4,6,8,10lb/ft3)
Shot Content(%)	≤15
Color	White
Chemical Composition of refractory ceramic blanket (%)	
Al2O3	≥44
SiO2	≥52
ZrO2	-
Permanent Change on Heating (%), EN1094-1 After 24 hours	
®950℃ (1742℉)	-
®1000℃ (1832℉)	1.5
®1100℃ (2012℉)	2.5
®1200℃ (2192℉)	3

CCEWOOL Thermomax Inc.
salesusa@ccewool.com
www.ccewool.com

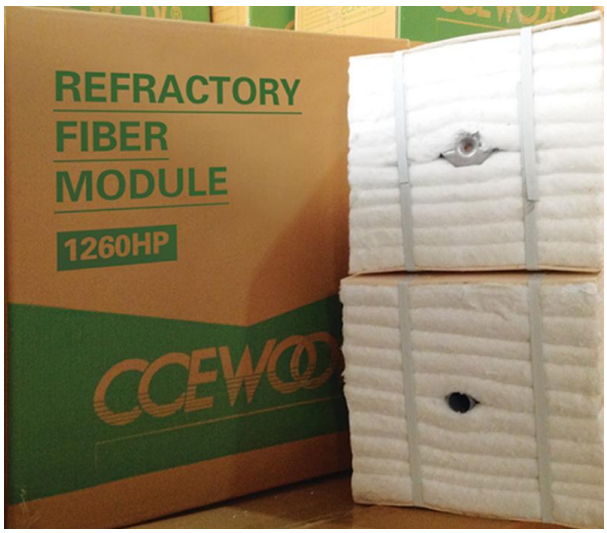
®1300℃ (2372℉)	-
®1400℃ (2552℉)	-
Tensile Strength(Kg/m3), EN1094-1 KPa	
64kg/m3(4lb/ft3)	35
96kg/m3(6lb/ft3)	55
128kg/m3(8lb/ft3)	75
160kg/m3(10lb/ft3)	110
Heat Conductive Co-efficient W/(m·k)(128kg/m3)	
200℃ (392℉)	0.07
400℃ (752℉)	0.12
600℃ (1112 ℉)	0.2
800℃ (1472℉)	0.3
1000℃ (1832℉)	0.45

Thickness	Density kg/m3				Length	Width
mm	64	96	128	160	mm	mm
6	-	-	○	○	7200	610, 1220
13	-	√	√	○	14640	
19	-	√	√	○	9760	
25	○	√	√	√	7320	
38	○	√	√	√	4880	
50	○	√	√	-	3660	

Note: (√) is standard size, Custom size are available

CCEWOOL Thermomax Inc.
salesusa@ccewool.com
www.ccewool.com

CCEWOOL® Ceramic Fiber Module



Temperature Grades: 1100℃ (2012℉), 1260℃ (2300℉), 1400℃ (2550℉), 1430℃ (2600℉)

CCEWOOL® Ceramic Fiber Module is made from spun refractory ceramic fiber blanket, mechanically processed, and produced according to customer drawings. The product is pure white in color, with uniform dimensions, and can be directly fastened to the steel plate anchor pins on the industrial kiln shell, providing excellent fire resistance and insulation, thereby improving the overall refractory insulation of the kiln. We can design and manufacture modules and shaped modules of corresponding specifications for customers based on the kiln type and specifications, and we can also produce modules of various specifications based on customer-provided drawings.

Characteristics:

Excellent chemical stability and thermal stability;

Low thermal conductivity, low thermal capacity;

Supporting both soldiers-march-based arrangement and assembly-based arrangement with the help of anchor in various forms in the back of the module;

Module will squeeze with each another in different directions after unbinding, to produce no gap;

Elastic fiber blanket resists to external mechanical forces;

Fiber blanket's elasticity can compensate for the deformation of furnace shell, so that no gap is generated between modules;

Light weight, and absorbing less heat as insulation materials;

Low thermal conductivity brings strong energy-saving effects;

Able to withstand any thermal shock;

Lining need no drying or curing, ready to use immediately after installation;

Anchoring system is far away from hot surface of component, to allow metal anchor member to be in a

CCEWOOL Thermomax Inc.
salesusa@ccewool.com
www.ccewool.com

relatively low temperature.

Application:

All kinds of industrial furnace and heating device linings for metallurgy, machinery;

construction materials, petrochemicals, non-ferrous metal industries;

Low mass kiln cars;

Roller hearth furnace linings;

Gas Turbine exhaust ducts;

Duct linings;

Furnace hearths;

Boiler insulation;

Furnace lining insulation for high-temperature applications.

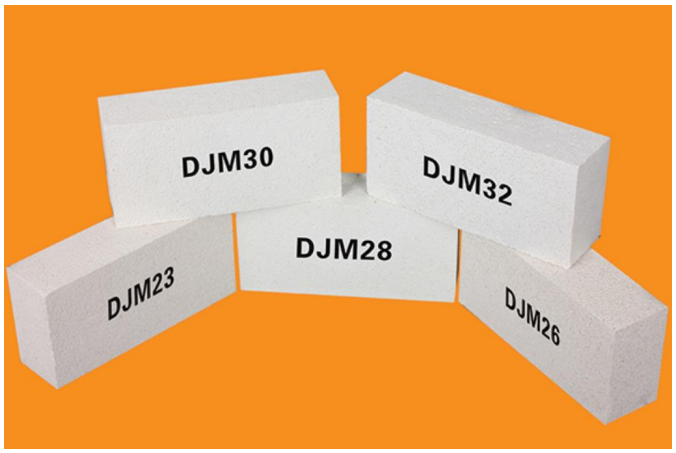
TDS

CCEWOOL® Ceramic Fiber Module					
Item	1100	1260S	1260HPS	1400	1430HZ
Operation Temp	950℃ (1742℉)	1050℃ (1922℉)	1100℃ (2012℉)	1200℃ (2192℉)	1350℃ (2462℉)
Density	160-220 kg/m3				
Linear Shrinkage EN1094-1 （%）					
®950℃, 24hrs	1.5	-	-	-	-
®1000℃,24hrs	2	1.5	1.5	-	-
®1100℃,24hrs	3	2.5	2	1.5	-
®1200℃,24hrs	-	3	3	2	1
®1300℃,24hrs	-	-	-	3	2
®1400℃,24hrs	-	-	-	-	3
Tensile Strength （Mpa）					
Density-64kg/m3	0.039	0.039	0.039	0.039	0.039
Density-96kg/m3	0.078	0.078	0.078	0.078	0.078
Density-128kg/m3	0.103	0.103	0.103	0.103	0.103

CCEWOOL Thermomax Inc.
salesusa@ccewool.com
www.ccewool.com

Density-160kg/m3	0.127	0.127	0.127	0.127	0.127
Thermal Conductivity W/(m·k) 128kg/m3-1000℃	0.45	0.43	0.4	0.35	0.3
Chemical Composition（%）					
Al2O3	≥43	≥44	≥44	≥52	≥35
SiO2	≥52	≥52	≥55	≥47	≥49
ZrO2	-	-	-	-	≥15
Al2O3+SiO2+ZrO2	-	-	-	-	≥99
Fe2O3	≤1.0	≤0.8	≤0.2	≤0.2	≤0.2
Na2O+K2O	≤0.4	≤0.3	≤0.2	≤0.2	≤0.2
CaO+MgO	≤0.3	≤0.1	≤0.1	≤0.1	≤0.1
Specification （mm）	L*W: 300*300;450*300;600*300				
	H: 100;150;200;250;300				
Package	Carton Box or Pallet				

CCEFIRE® DJM Insulating Fire Brick



CCEFIRE® DJM Series Mullite insulation brick is a new type of refractory material, which can directly contact with fire, characterized with high temperature resistance, lightweight, low thermal conductivity, good energy saving effect, specially suitable for cracking furnace, hot blast furnace, ceramic roller kiln, porcelain kiln extraction, glass crucible and various electric furnaces as lining. It is an ideal product of energy efficiency and longevity.

CCEWOOL Thermomax Inc.
salesusa@ccewool.com
www.ccewool.com

Characteristics:

1. Low thermal conductivity, with good thermal insulation effect;

2. Low heat capacity, due to low thermal conductivity, mullite lightweight insulation brick accumulate little heat energy, and shows obvious energy saving effect in intermittent operation.

3. Low impurity content, with very low content of iron and alkali metal oxide, our mullite insulation brick is characterized with high refractory performance; higher aluminum content enables our product remains good performance in the reducing atmosphere;

4. High compressive strength under high temperature;

5. Accurate appearance size speeds up the bricks laying, saves the use of refractory mortar and also ensures the strength and stability of brickwork and extend the life of the furnace lining.

6. Can be processed into a special shape, in order to reduce the number of bricks and joints.

Application:

Mullite insulation brick can be directly used for high temperature furnace lining; Mullite insulation brick has been widely used in shuttle kiln, roller kiln, glass and petrochemical furnace lining.

Mullite insulation brick is a kind of high-alumina refractories with mullite ($3Al_2O_3 \cdot 2SiO_2$) as its main crystal phase.

TDS

CCEFIRE ® DJM series mullite insulating brick							
Item	DJM20	DJM-23	DJM-24	DJM-26	DJM-28	DJM-30	DJM-32
Classification Temp(℃)	1200	1260	1300	1430	1540	1650	1760
Bulk Density(g/cm3)	0.5	0.6	0.7	0.8	0.9	1	1.25
Crushing Strength(MPa)	1.1	1.2	1.4	1.6	2.1	2.5	3.5
Modulus of Rupture(MPa)	1.0	0.9	1.2	1.4	1.6	2.1	2.1
Permanent linear change	0.5	0.5	0.6	0.4	0.5	0.9	0.9

CCEWOOL Thermomax Inc.
salesusa@ccewool.com
www.ccewool.com

(CT-30℃x24h)%								
Reversible thermal expansion at 1100℃		0.5	0.5	0.6	0.7	0.8	0.9	1.1
Thermal conductivity (W/m.k)	400 ℃	0.12	0.12	0.14	0.27	0.32	0.41	0.49
	600 ℃	0.14	0.14	0.16	0.29	0.34	0.43	0.5
	800 ℃	0.16	0.17	0.18	0.31	0.36	0.44	0.51
	1000 ℃	0.18	0.19	0.2	0.33	0.38	0.45	0.53
	1200 ℃	-	-	-	0.3	0.41	0.47	0.56
Chemical Analysis(%)	Al2O3	37	37	44.5	58	67	73	77
	Si02	47	44.4	41.2	39.1	31	25.1	21.5
	Fe2O3	0.7	0.7	0.7	0.7	0.6	0.5	0.4
Common size of insulation brick	230x114x65/75mm or customized size							