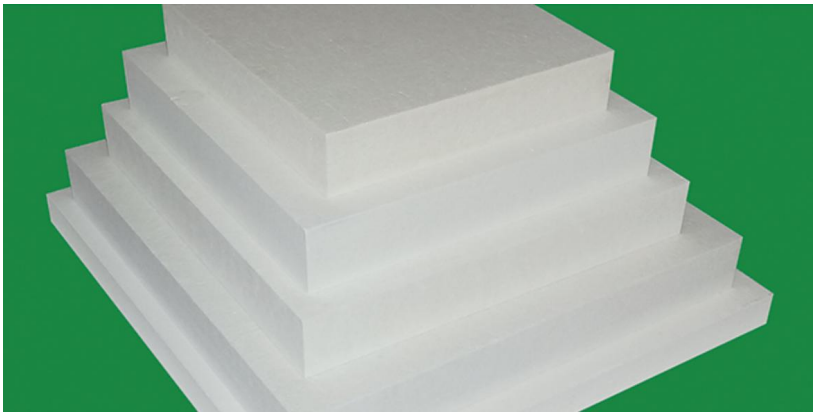
CCEWOOL Thermomax Inc.
salesusa@ccewool.com
www.ccewool.com

Aluminum - Electrolytic Cell

Function and Characteristics:
Electrolytic cells are the core equipment in the aluminum electrolysis process. In the electrolytic cell, alumina undergoes electrolytic reactions in a high-temperature electrolyte to produce aluminum. The efficiency of the insulation system is critical for maintaining the electrolyte temperature and ensuring the smooth progress of the electrolysis process.

Insulation Materials for Electrolytic Cells:

CCEWOOL® Ceramic Fiber Board HD



Temperature Grade 1260℃(2300℉)
CCEWOOL® Ceramic Fiber Board HD insulation material is a high-density board product made primarily from alumina-silicate fibers with the addition of binders. This product has a tough texture, excellent self-supporting strength, and compressive strength, making it highly resistant to the impact of molten metals. The compressive strength of CCEWOOL® Ceramic Fiber Board HD is more than ten times that of typical refractory ceramic fiber boards. It is a high-strength fiberboard available in various standard thicknesses for selection.

Characteristics:
Low heat capacity, low thermal conductivity;
Non-brittle material, good elasticity;
High compressive strength;
Excellent wind-erosion resistance, long service life;
Excellent thermal stability and thermal shock resistance;
Continuous production, even fiber distribution and stable performance;
Good sound insulation;

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

Good anti-stripping properties;

Easily molded or cut, easy to install;

Accurate sizes and good flatness.

Application:

Full thickness refractory lining;

Insulating backup to dense refractories;

Insulating backup to brick & castable;

Furnace hot face lining in ceramic kiln, box furnace & petrochemical furnace;

Board over blanket hot face lining;

Rigid high-temperature gaskets & seals;

High-temperature baffles & muffles;

Flue & chimney linings in furnaces & kilns;

Infrared element supports;

Glass tank side & end wall & port neck insulation;

Trough linings for conveying molten metals;

Molten metal trough covers;

Thermal insulation where high velocities are encountered;

Heat shields for personnel protection;

Hot gas duct linings;

Low- & high-temperature dryers;

Pouring forms for castable;

Expansion joints.

TDS

CCEWOOL® Ceramic Fiber Board HD	
Classification Temperature (℃)(℉)	1260℃(2300℉)
Operation Temp(℃)(℉)	1050℃(1922℉)
Color	white
Permanent Linear Change on Heating (%)	
@950C,24hrs	-
@1200C,24hrs	3
@1300C,24hrs	-
@1350C,24hrs	-
Thermal Conductivity (w/m.k)	

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

600℃	-
800℃	0.13
1000℃	0.19
Rupture Strength (Mpa)	
Thickness≤25mm	0.5
Thickness＞25mm	0.2
Chemical Composition (%)	
Al2O3	≥44
SiO2	≥52
ZrO2	-
Package	Carton box or pallet

CCEWOOL® Ceramic Fiber Board HD	
Thickness (mm)	20.25.50.80.100
Size (mm)	1200*1000 or customized size

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;

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

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 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

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

®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
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				

CCEWOOL® 1000℃ Calcium Silicate Board

Temperature degree: 1000℃ (1832℉)
CCEWOOL® 1000℃ calcium silicate board is a new type white and hard insulation material, characterized with lightweight, high strength, low thermal conductivity, high temperature

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

resistance, corrosion resistance, cutting. The refractoriness is 1000℃, can be widely used in power plant, refining, petrochemical, building, vessel filed. The general thickness is between 25mm to 120mm, density ranges from 250kg/m3 to 300kg/m3.

Characteristics：

On top of light weight, low thermal conductivity, high rupture and, compressive strengths, calcium silicate won't distort even in contact with water, with other features like long service life, sawing-worthiness, easy processing, non-toxics, non-corrosiveness to piping and equipment, etc..

Application:

Mainly used as insulation for thermal equipment and piping in the power, chemical, metallurgy, petrochemical, textile and light industries, as well as insulation for building, ship and train.

TDS

CCEWOOL® 1000℃ Calcium Silicate Board		
Classification Temperature	1000℃(1832℉)	1000℃(1832℉)
Bulk Density (kg/m3)	230±10	280±10
Rupture Strength (Mpa)	0.55	0.55
Compressive Strength (Mpa)	1.4	1.4
Thermal Conductivity (W/m.k.)		
200C	0.058	0.058
400C	0.095	0.095
Linear Shrinkage(%)		
®1000℃,16hrs	≤1.6	≤2
Size (mm)	1000x500x50~120; 500x500x50~120	1000x500x25~50; 500x500x25~50
Packing	Carton or wooden pallet	