

CCEWOOL® Low Biopersistent Fiber Module



Temperature Grades: 1200°C (2192°F), 1300°C (2372°F)
CCEWOOL® Low Biopersistent Fiber Module is compressed from soluble fiber blankets. Low Biopersistent Fiber products are innovative solutions for high-temperature applications. Based on the unique characteristics of its calcium-magnesium chemical composition, it can meet the requirements of use up to 1300°C (2372°F) while also exhibiting significant solubility and environmental properties. This module is designed to meet the insulation needs of industrial furnaces under

specific thermal conditions. The bio-soluble fiber modules are produced with various anchoring systems for quick, easy, and efficient installation in most furnace linings. Module linings can improve furnace productivity and reduce maintenance costs.

Characteristics:

- High temperature stability (up to 1300° C);
- Low thermal conductivity;
- Thermal shock resistance;
- Low heat storage;
- Lightweight;
- Fast installation & selection of attachment systems.

Application:

- Heat treatment and forge furnaces;
- Annealing furnaces;
- Process heaters;
- Ceramic tunnel kilns and Intermittent kilns;
- Stress relieving furnaces;
- Door and cover linings;
- Carbottom heating furnaces;
- Stack, flue and duct linings;
- Incinerators and boilers;
- Ladle preheat stands.

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CCEWOOL® Low Biopersistent Fiber Module		
Classification Temperature (°C)(°F)	1200°C(2192°F)	1300°C(2372°F)
Chemical Composition (%)		

SiO ₂	62-68	≥70
CaO	26-32	-
MgO	4-7	-
CaO+MgO	-	≥20
Color	Light Bluish	Light Bluish
Density (kg/m ³)(lb/ft ³)	160-220(10-13.75)	160-220(10-13.75)
Permanent Linear Shrinkage (%)	1200°C x 24h ≤1.0	1300°C x 24h ≤3.0
Thermal Conductivity (W/m·K)		
400°C	0.07	0.07
600°C	0.11	0.13
800°C	0.17	0.2
1000°C	0.23	0.3
1200°C	-	0.41

CCEWOOL® Ceramic Fiber Module



Temperature Grades: 1100°C (2012°F), 1260°C (2300°F), 1400°C (2550°F), 1430°C (2600°F)

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 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.

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CCEWOOL® Ceramic Fiber Module					
Item	1100	1260S	1260HPS	1400	1430HZ
Operation Temp	950°C (1742°F)	1050°C (1922°F)	1100°C (2012°F)	1200°C (2192°F)	1350°C (2462°F)
Density	160-220 kg/m3				
Linear Shrinkage EN1094-1 (%)					
@950°C, 24hrs	1.5	-	-	-	-
@1000°C, 24hrs	2	1.5	1.5	-	-
@1100°C, 24hrs	3	2.5	2	1.5	-
@1200°C, 24hrs	-	3	3	2	1
@1300°C, 24hrs	-	-	-	3	2
@1400°C, 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/m ³ -1000°C	0.45	0.43	0.4	0.35	0.3
Chemical Composition (%)					
Al ₂ O ₃	≥43	≥44	≥44	≥52	≥35
SiO ₂	≥52	≥52	≥55	≥47	≥49
ZrO ₂	-	-	-	-	≥15
Al ₂ O ₃ +SiO ₂ +ZrO ₂	-	-	-	-	≥99
Fe ₂ O ₃	≤1.0	≤0.8	≤0.2	≤0.2	≤0.2
Na ₂ O+K ₂ O	≤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 (12"*12");450*300 (18"*12");600*300 (24"*12")				
	H: 100;150;200;250;300 (4",6",8",10",12")				
Package	Carton Box or Pallet				

CCEWOOL® Superbloc® Module



Temperature ratings: 1316°C (2400°F), 1430°C (2600°F)

CCEWOOL® Superbloc® Module is a block-shaped, integrated fiber module made from high-purity synthetic materials. It is produced on a fully automated, continuously controlled production line using ceramic fiber cotton blocks.

CCEWOOL® Superbloc® Module is installed using new, specialized anchors and installation tools to ensure high compression pressure between the modules. This allows for easy and quick installation, secure positioning, and safe structural integrity.

This product is a brand-new high-end offering from

CCEWOOL® and is unique in its application in ceramic fiber linings.

Characteristics:

Multi-directional compression: It can be compressed in any direction, allowing for full expansion in the

installation direction of the furnace lining, resulting in excellent insulation performance.

Completely seamless structure: After calcination, the product transforms from a soft, compressible block into a high-strength, seamless, and firm structure, offering high integrity and durability.

High temperature, low shrinkage: The cold face of the product can closely adhere to the furnace wall, maximizing compression between modules, ensuring low shrinkage at high temperatures, and maintaining structural integrity.

Customization: Suitable for a wide range of flat structures and for cutting and installing shaped components. Various shaped products can be manufactured according to the different shapes of equipment.

Application:

Insulation for high-temperature furnaces.

Surface insulation of industrial kilns.

Fire-barrier material for the multi-temperature-zones furnace.

Backing insulation of petroleum, chemical, and metallurgical furnace.

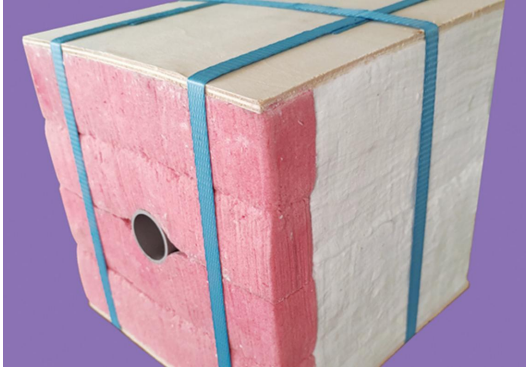
High-temperature sintering sagger.

High temperature sealing for machine and precision mold.

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CCEWOOL® Superbloc® module						
Description	Superbloc Module 24			Superbloc Mlodule 26		
Classification Temperature (°C)	1316(2400°F)			1430(2600°F)		
Color	White			White		
Shot Content (%)	≤10			≤10		
Density (kg/m ³)	160	192	240	160	192	240
Permanent Linear Shrinkage (%)	1200°Cx24h≤3			1400°Cx24h≤3		
Thermal Conductivity (W/m-K)						
400°C	≤0.09			≤0.09		
600°C	≤0.14			≤0.14		
800°C	≤0.20			≤0.20		
1000°C	-			≤0.28		
Standard Size (mm)	Length	305				
	Width	305				
	Thickness	76-305				

CCEWOOL® Polycrystalline Wool Fiber Module HD



Temperature Grade 1600°C (2912°F)

CCEWOOL® Polycrystalline Wool Fiber Module HD is made of Polycrystalline Wool Fiber Blanket. This module is designed specifically to meet the insulation requirements of all fiber lining furnace between 1300 °C (2372 °F) and 1500 °C (2732 °F). CCEWOOL® Polycrystalline Wool Fiber Module HD is equipped with various anchoring systems and can be quickly, easily, and efficiently installed on most furnace linings. CCEWOOL® Polycrystalline Wool Fiber Module HD has the advantages of good corrosion resistance and long service life.

We can produce alumina fiber composite module made of CCEWOOL® Polycrystalline Wool Blanket and CCEWOOL® Ceramic Fiber Blanket 2600 which is more cost saving while meeting the working temperature.

Composite Module A: Module made of CCEWOOL® Polycrystalline Wool Blanket and CCEWOOL® Ceramic Fiber Blanket 2600 through cut, composite, and extrude according to a certain size. It is a high-temperature refractory lining product developed and manufactured specifically for 1200 to 1400 °C high temperature furnace.

Composite module B: All hot surfaces are CCEWOOL® Polycrystalline Wool Blanket, cold side CCEWOOL® Ceramic Fiber Blanket 2600.

This product greatly improves the utilization rate of Polycrystalline Wool Blanket, fully utilizing it on the firing side. This can increase the operating temperature of the module while not increase the usage of PCW blanket. The advantages of Polycrystalline Wool Blanket are fully utilized and the service life of module is extended.

According to practical applications, the thickness of the hot surface Polycrystalline Wool Blanket layer can be adjusted to meet different furnace temperature requirements.

Composite Module C: The hot surface is red and is made of CCEWOOL® Polycrystalline Wool Blanket. It can fully utilize the high-temperature resistance performance of Polycrystalline Wool Fiber, and improve the service temperature and lifespan of the module. The cold surface is white and is made of CCEWOOL® Ceramic Fiber Blanket 2600. It can be hardened at high temperatures, to ensure a sturdy structure. The thickness of the hot surface Polycrystalline Wool Blanket layer can be adjusted to meet different furnace temperature requirements.

Characteristics:

Excellent thermal shock resistance;

Excellent chemical stability;

High-temperature stability;



Low thermal conductivity;
Low installation and repair costs.

Application:

Stress relieving furnaces;
Annealing furnaces;
Carbottom heat treating furnaces;
Process heaters;
Reheat furnaces;
Furnace, kiln and boiler linings;
Incineration equipment and stack linings;
Soaking pit covers;
Ladle covers;
Ladle preheaters;
Forge furnaces.

TDS

CCEWOOL® Polycrystalline Wool Fiber Module HD	
Classification Temperature (°C)	1600(2912°F)
Continuous Temperature Use Limit (°C)	1500(2732°F)
Chemical Composition(%)	
Al ₂ O ₃	71-73
SiO ₂	27-29
Leachable Chlorides	Trace
Color	White
Density (kg/m ³)	128/160/196 (8,10,12lb/ft ³)
Permanent Linear Shrinkage (%)	1400°Cx24h<1.0
Thermal Conductivity (W/m·K)	
400°C	0.09
600°C	0.16
800°C	0.22
1000°C	0.28
1200°C	0.36
1400°C	0.45

