

CCEWOOL® Soluble Fiber
- CCEWOOL® Soluble Fiber Blanket

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CCEWOOL® soluble fiber is made from alkaline earth silicate fiber, including soluble blanket, board, paper, yarn, cloth, tape and rope. Soluble fiber is a body soluble fiber and can be absorbed, the color is bluish, is a new type eco-friendly insulation material. Temperature degree: 1200°C.

CCEWOOL® Soluble Fiber Blanket

Description:

Temperature degree: 1200°C.

CCEWOOL® soluble fiber blanket is made from alkaline earth silicate fiber, which is developed from a calcium, magnesium, silicate chemistry to provide thermal insulation. Due to it can be soluble in body's fluid, it is named of bio soluble fiber. This special fiber is made from a blend of calcium, silica and magnesium which give fiber the ability to support continuous temperatures up to 1200°C.

Technical data and Size:

CCEWOOL® Soluble Fiber Blanket	
Classification	1200 °C

temperature			
Density kg/m3	96	128	160
Tensile strength Kg/m3, EN1094-1 kPa			
128kg/m3	75		
Permanent linear change on reheating, %, EN1091-1			
After 24 hours @1000°C	1.5		
Thermal conductivity, W/m.K ASTM-C-201			
temperature @400°C	0.1		
@600°C	0.15		
@800°C	0.2		
@1000°C	0.28		
Max short term exposure	1200 °C		
Operation temperature	1000 °C		
Melting point	1270 °C		
Chemical composition(%)			
SiO2	65-68		
CaO	27-33		
MgO	2-7		
Others	0-1		

Thickness	Density kg/m3			Length	Width
mm	96	128	160	mm	mm
13	√	√	○	14640	610, 1220
19	√	√	○	9760	
25	√	√	√	7320	

38	√	√	√	4880	
50	√	√	-	3660	

Note: (○) and 1220mm width can be customized according to customer (order amount should not be less than the minimum order quantity)

(√) for conventional products

Raw Materials

Own raw material base, automatic batching equipment, more accurate raw material ratio.

The incoming raw materials are tested first, and the qualified raw materials are kept in a designated raw material warehouse to ensure their purity.

Controlling the impurity content of raw materials is an important step to ensure the heat resistance of ceramic fibers. The high impurity content will cause the coarsening of crystal grains and the increase of linear shrinkage, which is an important factor attributing to the deterioration of fiber performance and the reduction of service life.

Through strict control at every step, we reduced the impurity content of raw materials to less than 1%. The thermal shrinkage rate of CCEWOOL soluble fiber blankets is lower than 1.5% at 1000 °C, and they have stable quality and longer service life.

Production Process

CCEWOOL soluble fiber blankets use SiO₂, MgO, and CaO as the main components, which help expand the viscosity range of fiber formation, improve

fiber formation conditions, and increase the fiber formation rate and fiber flexibility.

With an imported high-speed centrifuge of which the speed reaches up to 11000r/min, the fiber forming rate becomes higher. The thickness of CCEWOOL soluble fiber is uniform, and the content of slag ball is lower than 10%. The slag ball content is an important index that determines the thermal conductivity of fiber. The thermal conductivity of CCEWOOL soluble fiber blankets is lower than 0.2w/m.k in a high-temp environment of 800°C, so they have an excellent thermal insulation performance.

The condenser spreads cotton evenly to ensure the uniform density of CCEWOOL soluble fiber blankets.

The use of the self-innovated double-sided inner- needle-flower punching process and the daily replacement of the needle punching panel ensure the even distribution of the needle punch pattern, which allows the tensile strength of CCEWOOL soluble fiber blankets to exceed 70Kpa and the product quality to become more stable.

Quality Control

Each shipment has a dedicated quality inspector, and a test report is provided prior to the departure of products from the factory to ensure the export quality of each shipment of CCEWOOL.

A third-party inspection (such as SGS, BV, etc.) is accepted.

Production is strictly in accordance with ISO9000 quality management system certification.

Products are weighed before packaging to ensure that the actual weight of a single roll is greater than the theoretical weight.

The outer packaging of each carton is made of five layers of kraft paper, and the inner packaging is a plastic bag, suitable for long-distance transportation.

Application Performance

Low volume weight

As a kind of furnace lining material, CCEWOOL soluble fiber blankets can realize the light weight and high efficiency of the heating furnace, greatly reducing the load of the steel-structured furnaces and extending the service life of the furnace body.

Low heat capacity

The heat capacity of CCEWOOL soluble fiber blankets is only 1/9 of that of light heat-resistant linings and light clay ceramic bricks, which greatly reduces energy consumption during furnace temperature control. Especially for intermittently operated heating furnaces, the energy saving effects are significant.

Low thermal conductivity

The thermal conductivity of CCEWOOL soluble fiber blankets is lower than 0.28w/m.k in a high-temp environment of 1000°C, leading to the remarkable thermal insulation effects.

Thermochemical stability

CCEWOOL soluble fiber blankets do not generate structural stress even if the temperature changes sharply. They do not peel off under the conditions of rapid cold and hot, and they can resist bending, twisting, and mechanical vibration. Therefore, in theory, they are not subject to any sudden temperature changes.

Resistance to mechanical vibration

As a sealing and cushion material for high-temp gases, CCEWOOL soluble fiber blankets are elastic (compression recovery) and resistant to air permeability.

Anti-air erosion performance

The resistance of CCEWOOL soluble fiber blanket lining to high-speed airflow decreases with the increase of operating temperatures, and it is widely used in the insulation of industrial furnace equipment, such as fuel furnaces and chimneys.

High thermal sensitivity

The high thermal sensitivity of CCEWOOL soluble fiber blanket lining makes it more suitable for the automatic control of industrial furnaces.

Sound insulation performance

CCEWOOL soluble fiber blankets are widely used in thermal insulation and sound insulation of construction industries and industrial furnaces with high noise to improve the quality of working and living environments.