

CCEWOOL® Ultra-thin Ceramic Fiber Blanket

Description:

CCEWOOL® Ultra-thin Ceramic Fiber Blanket is a new type of fire-resistant insulation materials in white and tidy size, with integrated fire resistance, heat separation and thermal insulation functions, containing no any binding agent. All CCEWOOL® Ceramic Fiber Ultra-thin Blankets are made through spun fiber production, which is widely used in various sectors of refractory, insulation, thermal insulation field.

Technical data and Size:

CCEWOOL® Ultra-thin Ceramic Fiber Blanket				
Types(°C)	1260 STD Ultra thin Ceramic Fibre Blanket	1260 HP Ultra thin Ceramic Fibre Blanket	1400 Ultra thin Ceramic Fibre Blanket	1450 HZ Ultra thin Ceramic Fibre Blanket
Operation Temp(°C)	1050°C(1922°F)	1100°C(2012°F)	1200°C(2192°F)	1350°C(2462°F)
Density(kg/m3)	64-160			
Permanent Change on Heating (%)	1050°Cx24h≤-3	1100°Cx24h≤-3	1200°Cx24h≤-3	1350°Cx24h≤-3

Theoretic Heat Conductive Co-efficient		0.12(600°C)	0.12(600°C)	0.12(600°C)	0.16(800°C)
W/(m·k)(128kg/m3)		0.20(800°C)	0.20(800°C)	0.20(800°C)	0.20(1000°C)
Tensile Strength(Mpa)		≥0.05	≥0.05	≥0.04	≥0.06
(Thickness 25mm)					
Chemical Composition	Al	45-46	47-49	52-55	39-40
	Al₂O₃+SiO₂(%)	≥98	≥99	≥99	-
	ZrO₂(%)	-	-	-	15-17
	Al₂O₃+SiO₂+ZrO₂(%)	-	-	-	≥99
	Fe₂O₃(%)	≤0.8	≤0.2	≤0.2	≤0.2
	Na₂O+K₂O(%)	≤0.3	≤0.2	≤0.2	≤0.2
	CaO+MgO	≤0.2	≤0.2	≤0.2	≤0.2

Thickness	Density (kg/m ³)				Length	Width	Thickness	Density (kg/m ³)				Length	Width
	64	96	128	160				64	96	128	160		
mm	64	96	128	160	mm	mm	inch	64	96	128	160	inch	
6	-	-	○	○	14640	610	0.24"	-	-	○	○	576.4"	

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; professional mining equipment; and stricter selection of raw materials.

The selected raw materials are placed into a rotary kiln to be fully calcined on site, which reduces the content of impurities and improves the purity.

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

Controlling the content of impurities is an important step to ensure the heat resistance of ceramic fibers. High impurity content can cause the coarsening of crystal grains and the increase of linear shrinkage, which is the key reason for the deterioration of fiber performance and the reduction of its service life.

Through strict control at every step, we reduced the impurity content of raw materials to less than 1%. The CCEWOOL ceramic fiber blanket is pure white, and its heat shrinkage rate is lower than 2% at high temperatures. It has stable quality and a longer service life.

Production Process

The fully automated batching system fully guarantees the stability of the raw material composition and improves the accuracy of raw material ratio.

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 ceramic 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 ceramic fiber blankets is lower than 0.28w/m.k in a high-temp environment of 1000°C, so they have an excellent thermal insulation performance.

The condenser spreads cotton evenly to ensure the uniform density of CCEWOOL ceramic 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 ceramic fiber blankets to exceed 70Kpa and the product quality to become more stable.

The production process is the core element to ensure the stability of ceramic fiber's quality. We have intensively cultivated every step to make sure the CCEWOOL ceramic fiber blankets have better thermal insulation and are more efficient in energy saving.

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 ceramic 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 ceramic 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 ceramic 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 ceramic 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 ceramic fiber blankets are elastic (compression recovery) and resistant to air permeability.

Anti-air erosion performance

The resistance of CCEWOOL ceramic 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 ceramic fiber blanket lining makes it more suitable for the automatic control of industrial furnaces.

Sound insulation performance

CCEWOOL ceramic 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.