CCEWOOL Thermomax Inc.

CCEWOOL® Intumescent Ceramic Fiber Paper

Description:

Temperature degree: 1260℃(2300℉)

CCEWOOL® intumescent ceramic fiber paper is produced from a mixture of high purity ceramic fiber, natural graphite fine flakes, and organic binders through a fiber washing process. At about 1200 ℉ (649 ℃), the paper expands up to maximum of 400% of its thickness. This feature serves as excellent material for gasket and sealing applications.

Technical data and Size:

CCEWOOL® Intumescent Ceramic Fiber Paper	
Color	Gray
Maximum temperature rating ℃	1260
Continuous use limit ℃	1150
Melting point ℃	1700
Chemical Content	
Silica,SiO_2	45-48
Alumina Oxide,Al_2O_3	42
Carbon, C	10-15
Other	2
Organic Binder	5-10
Tensile Strength	
16-18 pcf. density	0.5-0.7 Mpa

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Expansion,%increase	
@400℉	90(from 3mm thickness)
@1800℉	420(from 3mm thickness)
@1800℉	320(from 3mm thickness)
Sizes Available	610/1220mm
Thickness	2-5mm

Raw Materials

CCEWOOL ceramic fiber paper uses high-purity ceramic fiber cotton.

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 each step, we reduce the impurity content of the raw materials to less than 1%. The CCEWOOL ceramic fiber papers are pure white, and the linear shrinkage rate is lower than 2% at the hot surface temperature of 1200°C. The quality is more stable, and the service life is longer.

With the imported high-speed centrifuge of which the speed reaches up to 11000r/min, the fiber formation rate is higher. The thickness of the produced CCEWOOL ceramic fiber is uniform and even, and the slag ball content is lower than 10%, leading to better flatness of the CCEWOOL ceramic fiber papers. The content of the slag ball is an important index that determines the thermal conductivity of the fiber, and the thermal conductivity of CCEWOOL ceramic fiber paper is only 0.12w/m.k at the hot surface temperature of 1000°C.

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Production Process

CCEWOOL ceramic fiber paper is made by the wet molding process, which improves the slag removal and drying processes based on the traditional technology. The fiber has a uniform and even distribution, pure white color, no delamination, good elasticity, and strong mechanical processing capability.

The fully automatic ceramic fiber paper production line has a full-automatic drying system, which makes the drying quicker, more thorough, and more even. Products have good dryness and quality with a tensile strength higher than 0.4MPa and high tear resistance, flexibility, and thermal shock resistance.

The temperature grade of CCEWOOL ceramic fiber paper is 1260 oC-1430 oC, and a variety of standard, high-aluminum, zirconium-containing ceramic fiber paper can be produced for different temperatures. CCEWOOL has also developed CCEWOOL ceramic fiber flame-retardant paper and expanded ceramic fiber paper to meet the needs of customers.

The minimum thickness of CCEWOOL ceramic fiber paper can be 0.5mm, and the paper can be customized to a minimum width of 50mm, 100mm and other different widths. Special-shaped ceramic fiber paper parts and gaskets of various sizes and shapes can be customized, too.

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.

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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

Insulation use:

CCEWOOL flame-retardant ceramic fiber paper does not burn at a high temperature of 1000 ℃, and it has high-strength tear resistance, so it can be used as a splash-proof material for alloys, a surface material for heat-resistant plates, or a fireproof material.

CCEWOOL ceramic fiber paper is treated with impregnation coating surface to eliminate air bubbles. It can be used as an electrical insulation material and in industrial anti-corrosion and insulation, and in the production of fireproof tools.

Filter purpose:

CCEWOOL ceramic fiber paper can also collaborate with glass fiber to produce air filter paper. This high-efficiency ceramic fiber air filter paper has the characteristics of low air flow resistance, high filtration efficiency and temperature resistance, corrosion resistance, stable chemical performance, environment-friendliness, and non-toxicity.

It is mainly used as air purification in large-scale integrated circuits and electronics industries, instrumentation, pharmaceutical preparations, national defense industries, subways, civil air-defense construction, foods or biological engineering, studios, and filtration of toxic smoke, soot particles and blood.

Sealing use:

CCEWOOL ceramic fiber paper has excellent mechanical processing capabilities, so it can be customized to produce special-shaped ceramic fiber paper parts of various sizes and shapes and gaskets, which have a high tensile strength and low thermal conductivity.

Special-shaped ceramic fiber paper pieces can be used as heat insulation sealing materials for furnaces.

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