CCEWOOL Thermomax Inc.
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Automotive - Insulation Shields

Developing various products for automotive insulation shields to meet the stringent demands of the automotive market.

Our products offer optimal thermal performance for emission control systems, turbochargers, and engine components, protecting sensitive parts exposed to high temperatures.

CCEWOOL EcoFiber fibers and microporous insulation products provide outstanding insulation, enhancing thermal efficiency and maximizing heat retention in exhaust systems. This reduces fuel costs and pollution levels.

Using our insulation products, exhaust temperatures remain high, reducing emissions through significantly shortened light-off times and improved fuel efficiency during cold starts.

CCEWOOL® Low Biopersistent Fiber Blanket 2192

Temperature Grade 1200° C (2192° F)

CCEWOOL® Low Biopersistent Fiber Blanket 2192 is made from alkaline earth silicate and is a calcium-magnesium insulating fiber. It is referred to as a soluble fiber because it has some solubility in bodily fluids. The introduction of MgO and CaO in soluble fibers enhances their flexibility, elasticity, and provides excellent thermal and mechanical performance. CCEWOOL® Low Biopersistent Fiber Blanket 2192 exhibits outstanding chemical stability and is unaffected by most chemicals except for hydrofluoric acid, phosphoric acid, and concentrated alkalis. If it becomes wet or saturated with water or

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steam, its thermal and physical properties are not compromised. It's certified by Fraunhofer laboratory.

Characteristic:

Low thermal conductivity;

Low thermal storage;

High tensile strength;

Thermal shock resistance;

Lightweight;

Excellent corrosion resistance.

Application:

Reusable insulation for steam and gas turbines;

High-temperature kiln and furnace insulation;

Furnace door linings and seals;

Furnace repairs;

Boiler and incinerator linings;

Seals and gaskets;

Automotive heat shields;

Appliance insulation;

Fire protection;

Duct, stack and flue linings;

Molten metal splash protection.

TDS

CCEWOOL® Low Biopersistent Fiber Blanket 2192	
Classification Temperature (℃)(℉)	1200℃(2192℉)
Chemical Composition (%)	

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SiO2	65-68	
CaO	27-33	
MgO	2-7	
CaO+MgO	-	
Color	Light Bluish	
Shot Content (%)	≤12	
Density (kg/m³)(4lb/ft³)	96(6lb/ft³)	128(8lb/ft³)
Tensile Strength (kPa)	55	75
Permanent Linear Shrinkage (%)	1200℃ x 24h ≤2.8	
Thermal Conductivity (W/m·K)		
200℃	0.05	0.04
400℃	0.09	0.08
600℃	0.19	0.15
800℃	0.3	0.2
1000℃	0.48	0.28
1200℃	0.69	0.49

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: (√) is standard size, Custom size are available

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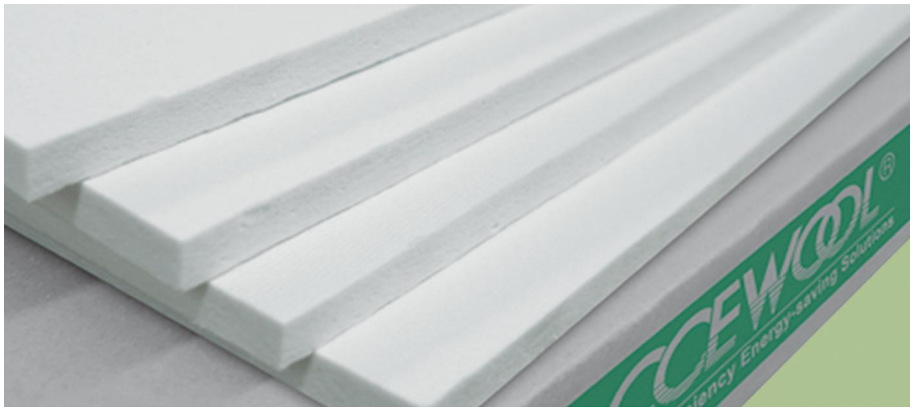
CCEWOOL® Low Biopersistent Fiber Board 2192



Temperature grade 1200℃ (2192℉)

CCEWOOL® Low Biopersistent Fiber Board 2192 is a soluble fiber board made from a mixture of organic and inorganic binders, with a very low Fe2O3 content. Our CCEWOOL® Low Biopersistent Fiber boards can come into direct contact with fire and can be cut into various sizes according to customer requirements. It has an extremely low thermal conductivity, low heat storage capacity, and excellent resistance to thermal shock, making it suitable for applications with large temperature variations.

Characteristics:

Low thermal conductivity;

Low thermal storage;

High tensile strength;

Thermal shock resistance;

Lightweight;

Excellent corrosion resistance.

Application:

Hot face lining for furnace and oven;

Flue & chimney linings in furnaces & kilns;

Insulating backup for these products:

- Fire brick
- Insulating brick
- Refractory castable;

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Insulation for electric appliance and heat treatment.

TDS

CCEWOOL® Low Biopersistent Fiber Board 2192	
Classification Temperature (℃)	1200℃(2192℉)
Color	Light Bluish
Density (kg/m³)	300
Modules of Rupture (MPa)	≥0.25
Compressive Strength (MPa, 10% relative deformation)	0.15
Loss of Ignition (%)	≤7
Permanent Linear Shrinkage (%)	1100℃ x 24h ≤2.0
Thermal Conductivity (W/m·K)	
200℃	0.05
400℃	0.08
600℃	0.10
800℃	0.12
1000℃	0.14

CCEWOOL® Low Biopersistent Fiber Paper

Temperature Grade: 1200℃ (2192℉)

CCEWOOL® Low Biopersistent Fiber Paper is made from alkaline-earth silicate fibers primarily composed of SiO2, MgO, and CaO, blended with specific organic binders. This soluble fiber product is an innovative solution for high-temperature applications. With its unique calcium-magnesium chemical composition, it meets the

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requirements of applications up to 1200℃ (2192℉) while also demonstrating significant solubility and environmental-friendly characteristics. We offer soluble fiber paper in thicknesses ranging from 0.5 to 12mm. The product's safe operating temperature reaches up to 1200℃.

Characteristics:

Low bio-persistence fibre;

Excellent thermal insulating performance;

Thin, flexible high-temperature insulation;

Immune to thermal shock;

Low heat storage;

Easily die-cut to form complex shapes for high-temperature gasketing;

Excellent tensile strength;

Low thermal conductivity;

Non-wetting to molten aluminium.

Application:

High temperature gasket and sealing in various application;

Fire proof;

Fireproof doors;

Expansion joints ;

Fireplace converter gasket;

Gasket between Aluminum and zinc washer

- High temperature gaskets
- Metal lining;

Melting and holding furnaces refractory backing;

TDS

CCEWOOL® Low Biopersistent Fiber Paper

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Classification temperature	1200 ℃(2192℉)
Density, Kg/m3	190-210
Operation temperature	1000℃ (1832℉)
Melting point	>1300℃ (2372℉)
Tensile strength(Kpa)	>250
Loss on ignition (wt%)	9
Permanent Linear shrinkage, % ENV(1094-1)	
After 24 hours ®1000℃	1.5
Thermal conductivity (%)	
400℃	0.1
600℃	0.16
800℃	0.22
Chemical composition (%)	
SiO2	65-68
CaO+MgO	27-33
others	<=3%
Specification (MM)	60000*610*1;30000*610*2
	20000*610*3;15000*610*4
	12000*610*5;10000*610*6
	Min Width: 5cm
Package	Inner Plastic Bag+Outer Carton

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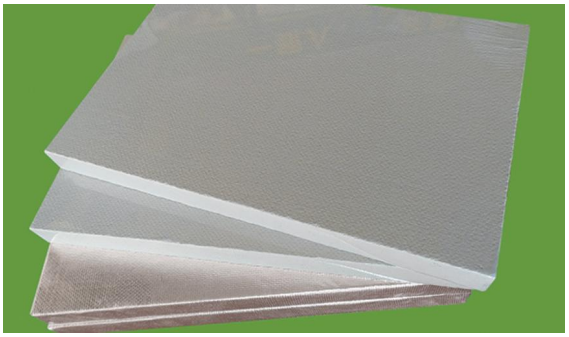
CCEWOOL® M60 Microporous Insulation Board



Temperature Grade: 600℃ (1112℉)

CCEWOOL® M60 Microporous Insulation Board is an efficient insulation product based on advanced microporous insulation technology. At low temperature, it has a lower thermal conductivity than still air. The thermal conductivity increases very little with the increase of temperature. At high temperature, its insulation effect is 3-4 times higher than traditional insulation materials. CCEWOOL® M60 Microporous Insulation Board has high compressive strength, covered with aluminum foil or glass fiber cloth. It is an excellent choice for the lightweight and energy-saving application of kiln.

Characteristics:

Good fit to curved surfaces

Low thermal conductivity

Low heat storage

Non-combustibility

Application:

Typical Applications

Back-up insulation in high-temperature furnaces

Appliances insulation

Fire protection equipment

Electronic devices

Nonferrous Metal Furnace

Rotary & Shaft Kiln

Various Incinerator

Reheating Furnace

Permanent Lining For EAF Ladle

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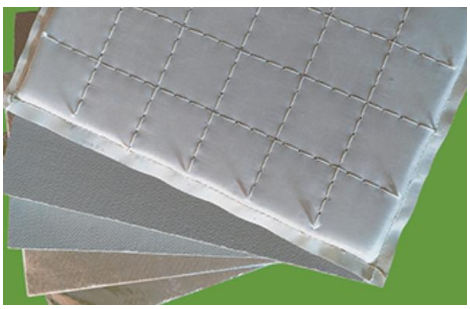
General Industrial Furnace etc.

TDS

CCEWOOL® M60 Microporous Insulation Board	
Description	M60 Board
Recommended Temperature of Use (℃)	600 (1112℉)
Density (kg/m³)	300/320
Modules of Rupture (MPa)	≥0.15
Compressive Strength (MPa, 10% relative deformation)	≥0.3
Permanent Linear Shrinkage (%)	600℃ x 24h ≤2.0
Thermal Conductivity (W/m·K)	
100℃	0.022
200℃	0.024
300℃	0.028
400℃	0.029
500℃	-
600℃	-
Covering Material	Aluminum Foil / PE Foil / Glass Fiber Cloth
Standard Size (mm)	600 x 400 x (10-50)
	1000 x 500 x (10-50)

CCEWOOL® M90 Microporous Insulation Board



Temperature Grade: 900℃ (1652℉)

CCEWOOL® M90 Microporous Insulation Board is an efficient insulation product based on advanced microporous insulation technology. It has a lower thermal conductivity than stagnant air,

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making it an ideal high-temperature insulation material. The surface of the board can be coated with aluminum foil or PE shrink film. The nano board can also be coated with high-temperature glass fiber materials on the surface of nano-microporous insulation materials using a special process, giving it low thermal conductivity while maintaining moderate flexibility, allowing for multidimensional bending to meet the requirements of special space applications.

Characteristics:

Good fit to curved surfaces

Excellent thermal shock resistance

Excellent thermal stability

Low thermal conductivity

Low heat storage

Non-combustibility

Application:

Typical Applications

Back-up insulation in high-temperature furnaces

Appliances insulation

Fire protection equipment

Electronic devices

Nonferrous Metal Furnace

Rotary & Shaft Kiln

Various Incinerator

Reheating Furnace

Permanent Lining For EAF Ladle

General Industrial Furnace etc.

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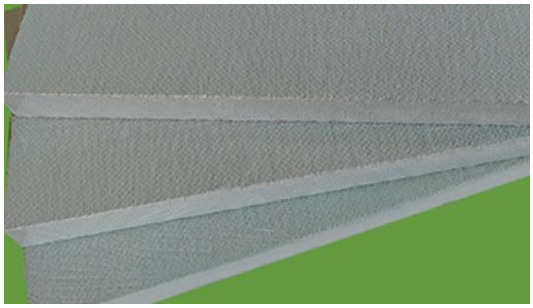
CCEWOOL® M90 Microporous Insulation Board	
Description	M90 Board
Recommended Temperature of Use (℃)	900(1652℉)
Density (kg/m³)	280/300
Modules of Rupture (MPa)	≥0.15
Compressive Strength (MPa, 10% relative deformation)	≥0.3
Permanent Linear Shrinkage (%)	900℃ x 24h ≤2.0
Thermal Conductivity (W/m·K)	
100℃	0.02
200℃	0.023
300℃	0.026
400℃	0.027
500℃	0.033
600℃	-
Covering Material	Aluminum Foil / PE Foil / Glass Fiber Cloth
	600 x 400 x (10-50)
Standard Size (mm)	1000 x 500 x (10-50)

CCEWOOL® M110 Microporous Insulation Board



Temperature Grade: 1100℃(2012℉)

CCEWOOL® M110 Microporous Insulation Board is a nanoscale microporous insulation material and is the best high-temperature solid insulation material with superior insulation performance to date. The surface can be covered with outer materials such as aluminum foil, glass fiber cloth, etc., to reduce dust, decrease damage,

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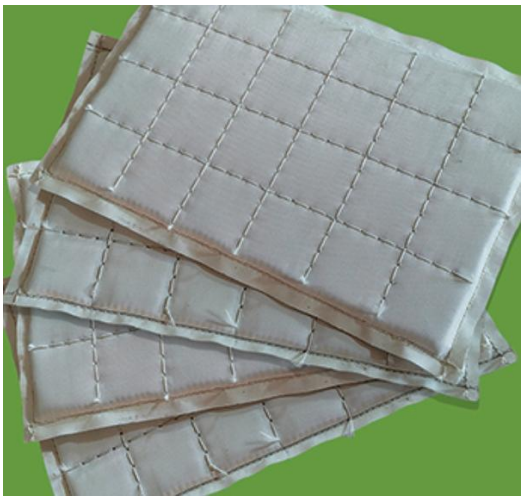
increase strength, and prevent moisture damage. At low temperatures, the product has a lower thermal conductivity than stagnant air, with a slight increase in thermal conductivity as the temperature rises. It provides 3-4 times better insulation performance at high temperatures compared to traditional insulation materials.



CCEWOOL® M110 Microporous Insulation Board is an ideal material for reducing heat loss and improving energy efficiency making it an excellent choice for applications such as kilns and other lightweight and energy-saving applications.

Characteristics:

Extremely low thermal conductivity, significantly reduces insulation layer thickness and improves insulation efficiency.

Low heat dissipation and heat storage, increases heating and cooling rates.

Environmentally friendly, non-toxic, and harmless.

Durable material, capable of self-support.

Excellent thermal stability.

Superior resistance to rapid temperature changes.

Application:

Back-up insulation in high-temperature furnaces

Appliances insulation

Fire protection equipment

Electronic devices

Nonferrous Metal Furnace

Rotary & Shaft Kiln

Various Incinerator

Reheating Furnace

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Permanent Lining For EAF Ladle

General Industrial Furnace etc.

TDS

CCEWOOL® M110 Microporous Insulation Board	
Description	M110 Board
Recommended Temperature of Use (℃)	1100(2012℉)
Density (kg/m³)	320
Modules of Rupture (MPa)	≥0.15
Compressive Strength (MPa, 10% relative deformation)	≥0.3
Permanent Linear Shrinkage (%)	1050℃ x 24h ≤2.5
Thermal Conductivity (W/m·K)	
100℃	0.022
200℃	0.024
300℃	0.031
400℃	0.036
500℃	0.04
600℃	0.048
Covering Material	Aluminum Foil / PE Foil / Glass Fiber Cloth
	600 x 400 x (10-50)
Standard Size (mm)	1000 x 500 x (10-50)