CCEWOOL Thermomax Inc.
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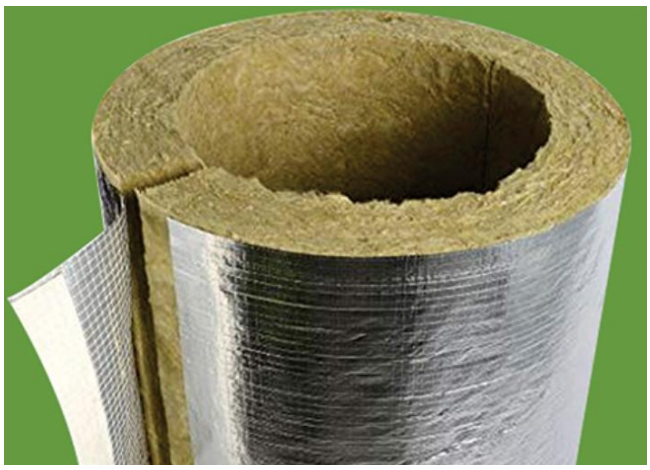
Ship - Pipelines

Our solution enhances pipeline maintenance and addresses issues related to moisture resistance and thermal insulation for pipelines.

CCEWOOL® Rock Wool Pipe



CCEWOOL heat-resistance Rock Wool Pipe is made of rock wool fiber rolled by amold and cured under high temperature. For easy installation, it can be cut along the axis of the shell to facilitate construction. It ensures the tight coupling between the shell and the pipelines that needs insulation. The outer surface of the shell can be polished according to the requirement of customers to achieve the exact thickness of the insulation. Water repellent type and low chlorine type of products can be manufactured according to the requirement of customers. Aluminum foil, fiberglass cloth, and other veneer materials can

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also be overlaid to the surface of products.

CCEWOOL water-resistance Rock Wool Pipe is especially suitable for energy saving of hot and cold pipelines, and plays an important role in maintaining temperature, protecting personal safety, preventing condensation, and reducing noise. This product is rolled with a mold, closely coupled with pipes, and the outer surface is polished to achieve the precise insulation thickness.

Characteristics:

Thermal insulation

Absorb noise

Healthy and eco-friendly

Moisture resistance

Energy saving

Application:

Pipe insulation for use in the construction and industrial sectors.

TDS

CCEWOOL ® Rock Wool Pipe							
Properties	Unit	Density					
		80	100	120	140	150	160
Combustion performance	--	Class A1 non-combustion					
Compression Strength(10%deformation)	kPa	≥40					
Hydrophobic rate	%	≥98.0					
Melt temperature	℃	＞1000					
Acidity ratio	--	≥1.8					
Moisture absorption rate	%	≤1.0					
Thermal conductivity（average	W(m.k)	≤0.048					≤0.040

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25℃）				
Dimensional stability		%	≤1.0	
Water absorption(Partial Immersion)		Kg/m2	Short term(24h)≤1.0Long term(28d)≤3.0	
Thickness tolerance		mm	±2	±3
Right angel degree of deviation		mm/m	≤5	
Planeness tolerance		mm	≤6	
properties after ignition-burning	Shrinkage percentage	%	（750℃，0.5h）≤8	
	Mass loss rate	%	（750℃，0.5h）≤10	

CCEWOOL® Rock Wool Blanket

CCEWOOL Rock Wool Blanket is flexible and can well fit irregular equipment and large pipes. Its good length can effectively reduce the number of joints and thermal bridges. Water repellent type and low chlorine type of products can be manufactured according to the requirement of customers. Aluminum foil, fiberglass cloth, and other veneer materials can also be overlaid to the surface of products.

CCEWOOL industrial Rock Wool Blanket is mainly used for heat preservation, noise reduction, and personal protection from large-diameter pipes, large storage tanks, uneven surfaces, dust collector walls as well as flue gas pipes in power plants and chemical plants, and at the same time it strengthens fireproofing performance.

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Characteristics:

Thermal insulation

Absorb noise

Healthy and eco-friendly

Moisture resistance

Energy saving

Application:

Applied into building wall and roof with good insulation and sound absorption property

Widely used as thermal insulation material in boiler, vessel, valve and large-diameter pipe

TDS

CCEWOOL ® Rock Wool Blanket			
Maximum Use Temperature (ºC)		550	750
Recommended Use Temperature (ºC)		450	650
Surface burning characteristics	Flue gas development index	≤25	
	Flame spread index	0	
Combustion performance		Non-combustible A1	
Volumetric hygroscopic rate (%)		≤1	
Mass hygroscopic rate (%)		≤1	
Density (kg/m³)		80	100
Thermal Conductivity (W/m·K)	70ºC	0.04	0.038
	100ºC	0.046	0.042
	150ºC	0.05	0.048
	200ºC	0.064	0.056
	250ºC	0.076	0.063
	300ºC	0.08	0.07
	350ºC		0.077

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	400ºC		0.085
Health and safety		No asbestos , No irritating odor , No bacteria	

CCEWOOL® Water Repellent Ceramic Fiber Blanket

Temperature Grades 1100°C (2012°F), 1260°C (2300°F)

CCEWOOL® Water Repellent Ceramic Fiber Blanket is a refractory ceramic fiber hydrophobic (water-repellent) blanket made from high-strength needled blanket produced from refractory ceramic fiber spun fiber. It features a solvent-based high-temperature nano-hydrophobic material as a surface treatment agent and is manufactured using a unique double-sided internal needle punching process. This product achieves overall water repellency for refractory ceramic fiber blankets and exhibits excellent hydrophobic properties, greatly enhancing the insulation performance of the fibers. It solves the issues of reduced thermal conductivity and insulation body corrosion caused by moisture absorption in conventional fiber blankets.

Characteristics:

Excellent hydrophobicity;

Excellent chemical stability;

Excellent thermal stability;

Excellent tensile strength;

Low thermal conductivity;

Low heat capacity;

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Excellent insulation properties;

Good sound absorption

Applications:

Sheathed steel beams and ventilation ducts;

Installation of firewalls, doors, and ceilings;

Insulation of cables and wires inside wall pipes;

Fire protection for ship decks and bulkheads;

Soundproofing enclosures and measurement rooms;

Sound insulation in industrial and power plants;

Sound barriers;

Building soundproofing;

Soundproofing for ships and automobiles.

TDS

CCEWOOL® Water Repellent Ceramic Fiber Blanket		
Classification temperature	1100℃ (2012℉)	1260 (2300℉)
Operation Temp(℃)(℉)	982 (1800℉)	1050 (1922℉)
Density (kg/m3)	64/ 96/ 128(4,6,8lb/ft3)	
Water content(%)	≤1	
Hydrophobicity(%)	≥99	
Shot Content(%)	≤15	≤15
Color	White	
Chemical Composition of refractory ceramic blanket (%)		
Al2O3	≥43	≥44
SiO2	≥52	≥52
ZrO2	-	-

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Permanent Change on Heating (%), EN1094-1 After 24 hours		
®950℃ (1742℉)	≤-3	-
®1000℃ (1832℉)	-	1.5
®1100℃ (2012℉)	-	2.5
®1200℃ (2192℉)	-	3
®1300℃ (2372℉)	-	-
Tensile Strength(Kg/m3), EN1094-1 KPa		
64kg/m3(4lb/ft3)	28KPa min.	35KPa min.
96kg/m3(6lb/ft3)	45KPa min.	55KPa min.
128kg/m3(8lb/ft3)	70KPa min.	75KPa min.
Heat Conductive Co-efficient W/(m·k)(128kg/m3)		
200℃ (392℉)	0.07	0.07
400℃ (752℉)	0.12	0.12
600℃ (1112 ℉)	0.2	0.2
800℃ (1472℉)	0.35	0.3
1000℃ (1832℉)	-	0.45

Thickness	Density kg/m3				Length	Width
mm	64	96	128	160	mm	mm
25	○	√	√	√	7320	610, 1220
38	○	√	√	√	4880	
50	○	√	√	-	3660	

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

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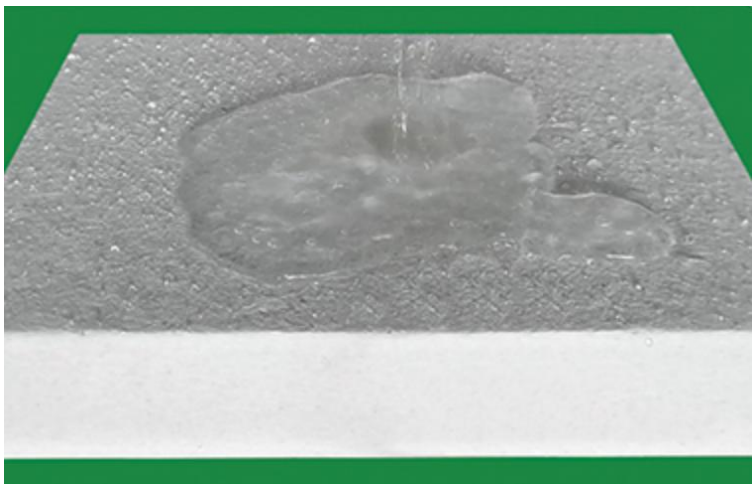
CCEWOOL® Water Repellent Ceramic Fiber Board



Temperature Grade 1100℃ (2012℉), 1260℃ (2300℉)

CCEWOOL® Water Repellent Ceramic Fiber Board is a kind of refractory ceramic fiber board which combines water proof, thermal insulation and fire resistance in one. We added a hydrophobic formula to the raw materials, and use full automatic production line, 2 hours deep drying to dry the refractory ceramic fiber board completely which realizes the overall hydrophobicity for our refractory ceramic fiber board. The hydrophobicity of CCEWOOL® Water Repellent Ceramic Fiber Board under 200℃ is above 99%.

CCEWOOL® Water Repellent Ceramic Fiber Board is specially developed for preventing the moisture in thermal insulation. It is especially suitable for fire protection, thermal insulation, sound insulation and noise reduction in marine and other high humidity environments. It greatly improves the thermal insulation performance of the fiber and prevented problems of thermal insulation performance reducing and thermal insulation layer corrosion caused by conventional refractory ceramic fiber board's moisture absorption.

Characteristics:

Good hydrophobic property,hydrophobic rate more than 98%;

Low thermal conductivity, non-combustible, moisture-proof, good sound absorption;

Good rigid property,high-strength,anti-vibration, corrosion;

Convient construction,good stability,long useful life.

Application:

Widely used in shipping building,metallurgical machinery,petro-chemical industry;

Nuclear power,automobile;

Municipal heating system and building;

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Wall composite and proof insulation;

Sound barrier;

Architectural soundproofing;

Marine (or Ships).

TDS

CCEWOOL® Water Repellent Ceramic Fiber Board		
Type(℃)	1100	1260
Permanent Linear Change on Heating (%)	950℃x24h<=-2.5	1050℃x24h<=-2
Theoretic Heat Conductivity Co-efficient (w/m.k) (800℃)	<=0.116	<=0.135
Theoretical density (kg/m3)	220	300
Water content (%)	<=1	
organic content (%)	<=6	
Hydrophobicity	>=98%	
Regular Size (mm)	1200x600mm Thickness: 25/50mm	
Package	Carton/Pallet	