

CCEWOOL® Polycrystalline Wool Blanket



Classification Temperature: 1600°C (2912°F)

Chemical Composition: Alumina, Silica

CCEWOOL® Polycrystalline Wool Blanket

(PCW Blanket) is a high-performance refractory insulation material developed for extreme-temperature applications typically operating around 1350–1500°C (2462–2732°F). It is produced through a sol-gel process and formed using a

double-sided needle-punching process, providing a dense, uniform fiber structure with good strength and flexibility.

The product is primarily composed of a mullite crystalline phase and maintains excellent dimensional stability and resilience at elevated temperatures. Compared with conventional refractory ceramic fiber, CCEWOOL® PCW Blanket offers better resistance to thermal shock, chemical attack, and demanding furnace atmospheres, making it suitable for high-temperature and chemically aggressive environments.

With extremely low shot content and a highly uniform fiber structure, the blanket helps reduce thermal bridging and maintain low, stable thermal conductivity. This supports lower furnace heat loss and improved insulation efficiency.

Its stable fiber quality, uniform structure, and good flexibility also make CCEWOOL® Polycrystalline Wool Blanket suitable for Fabrication processing into shaped components, modules, composite insulation structures, and customized high-temperature parts.

Characteristics:

Ultra-high-temperature stability up to 1600°C (2912°F);

Very low linear shrinkage;

Very low thermal conductivity;

Extremely low shot content;

Excellent thermal stability;

Excellent thermal shock resistance;

Good chemical stability;
Resistance to acids, alkalis, and chemical attack;
High tensile strength and good mechanical performance;
Binder-free and asbestos-free;
Easy to install.

Applications:

Hot-face linings and integrated insulation for high-temperature industrial furnaces;
Reheating furnaces, galvanizing furnaces, and reducing-atmosphere furnaces;
Aluminum furnaces and other high-temperature melting furnaces;
High-temperature ceramic kiln linings;
Furnace doors, roofs, panels, and removable sections;
Burner block wrapping and burner-area insulation;
High-temperature expansion joint filling;
High-temperature gaskets and seals for melting furnaces;
Automotive catalytic converter mat applications;
Engine, muffler, and exhaust system insulation;
Boilers, tanks, and high-temperature equipment insulation;
Ladle covers and high-temperature vessel insulation;
Marine and offshore high-temperature insulation;
Battery fire-protection covers and high-temperature fire barriers;
High-temperature insulation areas requiring long-term service up to 1600°C (2912°F).

TDS

CCEWOOL® Polycrystalline Fiber Blanket	
Classification Temperature(°C)(°F)	1600°C(2912°F)
Continuous Temperature Use Limit (°C)(°F)	1500°C(2732°F)
Chemical Composition (%)	
Al ₂ O ₃ (%)	71-73
SiO ₂ (%)	27-29
Leachable Chlorides	Trace
Color	White
Density (kg/m ³)	96/128 (6,8lb/ft ³)

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Tensile Strength (kPa)	≥80
Permanent Linear Shrinkage (%)	1400°C x24h<1.0
Thermal Conductivity (W/m-K)	
400°C	0.09
600°C	0.16
800°C	0.22
1000°C	0.28
1200°C	0.36
1400°C	0.45

Specifications	
Thickness	3-25mm (0.12"-1")
Width	610mm (24")
Length	7200mm, 10800mm, 14400mm, etc., can be customized
Density	96kg/m3 (6lb/ft3)
	128kg/m3 (8lb/ft3)
	160kg/m3 (10lb/ft3)

CCEWOOL® Ultra-Thin Polycrystalline Wool Blanket for Fabrication



Classification Temperature: 1600°C (2912°F)

Chemical Composition: Alumina, Silica

CCEWOOL® Ultra-Thin Polycrystalline Wool

Blanket for Fabrication is an

ultra-high-temperature insulation material

developed for highly integrated and customized

thermal protection structures. Produced using

polycrystalline wool (PCW) sol-gel technology, it

is specifically designed for Fabrication

applications requiring very low thickness, close

conformability, structural stability, and precise assembly in space-constrained systems.

While retaining the high-temperature stability of polycrystalline wool, CCEWOOL® controls the blanket thickness down to 3 mm, allowing it to provide reliable insulation and structural integrity in an ultra-thin format. This makes it particularly suitable for new-energy systems, electric vehicles, and precision high-temperature equipment where compact thermal protection is required.

As a Fabrication product, the blanket is designed to better match complex equipment structures. It is suitable for insulation between battery modules, thermal runaway barriers, precision heat shields, and other confined or irregular insulation areas, helping support more compact layouts and more consistent assembly.

CCEWOOL® Polycrystalline Wool Blanket is available in a 3–25 mm thickness range, covering applications from ultra-thin precision insulation to conventional high-temperature linings. The 3 mm grade extends PCW into highly integrated, safety-critical, and customized Fabrication applications.

Characteristics:

Ultra-thin, high-performance insulation;

Ultra-low thermal conductivity;

High strength and flexibility;

Excellent thermal stability;

Good chemical stability.

Applications:

Electric Vehicle Battery Systems

Inter-cell thermal barriers: The 3 mm thickness provides effective insulation in compact spaces to help limit heat transfer during thermal runaway events.

Module wall protection: Acts as a thermal protection layer to help reduce heat spread from localized battery overheating.

Battery pack bottom insulation: Helps improve thermal protection against external heat radiation and thermal exposure.

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CCEWOOL® Ultra-thin PCW Blanket 3mm	
Classification Temperature	1600℃ (2912°F)
Continuous Temperature Use Limit	1500℃ (2732°F)
Chemical Composition (%)	

Al ₂ O ₃ (%)	71-73
SiO ₂ (%)	27-29
Shot Content (%)	0-2
Color	White
Loss On Ignition (%)	0.1
Average Fiber Diameter (μm)	5.5-7.5
Permanent Linear Shrinkage (%)	1400℃ x24h<1.0
	1600℃ x24h<1.0
Thermal Conductivity (W/m-K) (96kg/m ³)	
600℃	0.067
1000℃	0.129
1200℃	0.170

Specifications	
Thickness	3mm (0.12")
Width	610mm (24")
Length	7200mm, 14400mm
Density	96kg/m ³ (6lb/ft ³)

CCEWOOL® Polycrystalline Wool Board



Classification Temperature: 1600℃
(2912°F)

Chemical Composition: Alumina, Silica
CCEWOOL® Polycrystalline Wool

Board is a rigid high-temperature insulation board made from high-purity polycrystalline wool with a high-temperature bonding system through a wet vacuum-forming process. It is developed for

ultra-high-temperature applications requiring excellent dimensional stability and structural integrity, especially where conventional ceramic fiber board is approaching its performance limits.

Compared with standard refractory ceramic fiber board, CCEWOOL® Polycrystalline Wool Board provides lower linear shrinkage and better thermal stability at elevated temperatures. In the 1350–1600°C range, it maintains good dimensional integrity and mechanical strength, helping reduce lining deformation, maintenance frequency, and heat loss.

The board also offers high rigidity and good fracture resistance, making it suitable for areas requiring resistance to sagging, mechanical impact, and thermal shock. Its low thermal conductivity and low heat storage help improve thermal efficiency in high-temperature equipment.

With its stable structure, dimensional consistency, and good machinability, CCEWOOL® Polycrystalline Wool Board is also well suited for Fabrication processing into custom-shaped components, composite insulation structures, and other customized high-temperature parts.

Characteristics:

- Ultra-high temperature resistance;
- Very low linear shrinkage;
- High rigidity;
- Lightweight;
- Excellent chemical stability;
- Excellent thermal shock resistance;
- Excellent corrosion resistance;
- Easy to cut, handle, and install;
- Low thermal conductivity;
- Low heat capacity.

Applications:

- High-temperature laboratories;
- High-temperature furnaces and kilns;
- Aerospace applications;
- Backup insulation behind dense refractory linings;
- Expansion joints;
- Furnace hot-face linings;

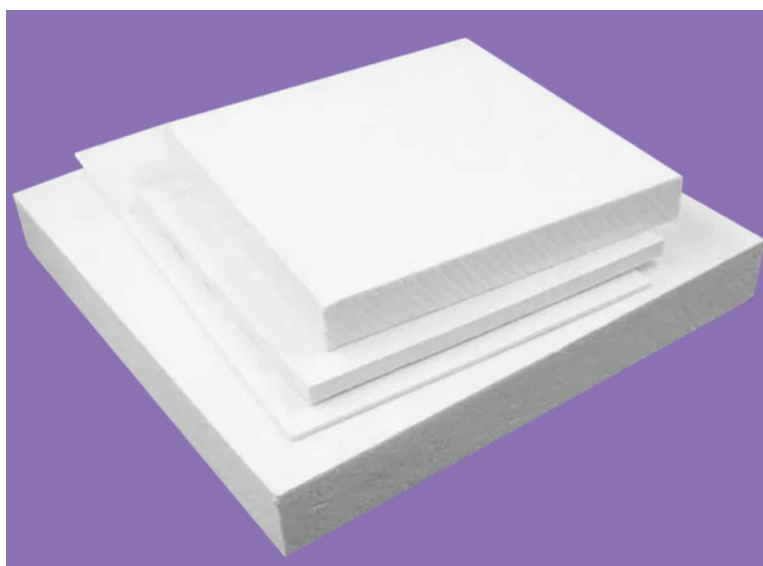
Insulation replacement for monolithic and brick refractories;
 Ladle linings and covers;
 Aluminum trough linings and custom shapes;
 Riser sleeves, tapping cones, and hot tops;
 Boiler and heater combustion chambers;
 Hot-gas ducts, flues, and chimney linings;
 Heat-treatment insulation;
 Circular ceramic components;
 Burner blocks;
 Insulation for glass regenerators, tank walls, end walls, and port necks;
 Backup insulation for ladles, tundishes, and torpedo cars.

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CCEWOOL® Polycrystalline Fiber Board				
Description	PCW1400 Board	PCW1450 Board	PCW1600 LD Board	PCW1600 HD Board
Classification Temperature (°C)	1600(2912°F)	1600(2912°F)	1700(3092°F)	1700(3092°F)
Continuous Temperature Use Limit (°C)	1400(2552°F)	1450(2642°F)	1600(2912°F)	1600(2912°F)
Chemical Composition (%)				
Al ₂ O ₃	60	62	70	70
Al ₂ O ₃ +SiO ₂	98	98	98.5	98.5
Color	White	White	White	White
Density (kg/m ³)(lb/ft ³)	300	300	250	400
Modules of Rupture(MPa)	≥0.3	≥0.3	≥0.3	≥0.3
Compressive Strength (MPa, 10% relative deformation)	0.25	0.25	0.15	0.3
Loss of lanition (%)	≤8	≤8	≤8	≤8
Permanent Linear Shrinkage (%)	1400°C x 24h ≤2.0	1450°C x 24h ≤2.0	1600°C x 24h ≤1.5	1600°C x 24h ≤1.5
Thermal Conductivity (W/m-K)				
400°C	0.08	0.08	0.08	0.08
600°C	0.1	0.1	0.12	0.09

800°C	0.13	0.13	0.14	0.12
1000°C	0.16	0.15	0.17	0.15
1200°C	0.19	0.19	0.2	0.19

CCEWOOL® 1500°C Alumina Fiber Board for Fabrication



Classification Temperature: 1500°C
(2732°F)

Chemical Composition: Alumina, Silica
CCEWOOL® 1500°C Alumina Fiber Board for Fabrication is a high-performance rigid insulation board developed for ultra-high-temperature engineering and customized Fabrication applications. Made primarily from high-purity alumina fiber, it is produced through a wet vacuum-forming process to achieve uniform fiber distribution and a stable internal structure. Even at

temperatures up to 1500°C (2732°F), the board maintains excellent thermal stability and structural integrity. Compared with conventional industrial fiber boards, CCEWOOL® 1500°C Alumina Fiber Board for Fabrication is further optimized in fiber purity, structural uniformity, and dimensional stability. Its lower shrinkage and higher mechanical strength provide more reliable insulation performance and make it well suited as a base material for customized high-temperature components.

The product is specifically developed for Fabrication customization, rather than simply serving as a standard board for secondary processing. It can be cut, drilled, grooved, and machined into custom shapes to meet different equipment structures and engineering requirements.

CCEWOOL® also supports customized dimensions, thicknesses, and shaped components according to customer drawings, making the board suitable for laboratory equipment, high-temperature industrial furnaces, aerospace systems, and other demanding thermal insulation applications.

Characteristics:

High-temperature stability;
Excellent thermal shock resistance;
High mechanical strength and rigidity;
Low thermal conductivity;
Low heat storage;
Excellent Fabrication adaptability.

Applications:

High-temperature industrial furnace linings;
Insulation structures for heating and reaction furnaces;
Flue and high-temperature equipment linings;
High-temperature laboratory furnaces;
Laboratory heating equipment;
Thermal insulation for high-temperature testing equipment;
High-temperature structural insulation components;
Aerospace thermal protection systems;
Backup insulation behind dense refractory linings;
High-temperature expansion joint filling.

TDS

CCEWOOL® 1500°C Alumina Fiber Board for Fabrication					
ITEM	1500	1600	1700	1800	1900
Classification temp. °C (°F)	1500(2732)	1600(2912)	1700(3092)	1800(3272)	1900(3452)
Continuous duty temperature, °C(°F)	1350(2462)	1400(2732)	1500(2732)	1650(3000)	1800(3272)
Density approx. kg/m ³	350/400	350/400	350	350/400	650/700
Linear shrinkage, %(24 hours at max. continuous duty temperature)					
1400°C	<0.5				

1500°C		<0.1			
1600°C			<0.5		
1700°C				<0.5	
1750°C					<0.2
Chemical Composition (%)					
Al ₂ O ₃	62	64	75	75	87
SiO ₂	37	35	24.5	24.5	12.5
Other	<1	<1	<0.5	<0.5	<0.5
Cr ₂ O ₃	-	-	-	-	
Thermal conductivity, W/m.K					
600°C (1120°F)	0.11	0.14	0.12	0.12	0.11
800°C (1472°F)	0.15	0.17	0.15	0.16	0.14
1000°C (1832°F)	0.27	0.24	0.18	0.19	0.17

CCEWOOL® 1600°C Polycrystalline Wool Board for Fabrication



Classification Temperature: 1600°C (2912°F)

Chemical Composition: Alumina, Silica

CCEWOOL® 1600°C Polycrystalline Wool Board for Fabrication is a high-performance rigid insulation board developed for ultra-high-temperature engineering and customized Fabrication applications. Made from high-purity polycrystalline wool, it is produced through a wet vacuum-forming process to create a dense and uniform fiber structure. Even at 1600°C (2912°F), the board maintains excellent thermal stability

and structural integrity.

As an Engineering Grade polycrystalline wool board, it offers higher fiber purity, better structural uniformity, and improved dimensional stability compared with conventional industrial fiber boards. This results in lower thermal shrinkage and more reliable long-term performance, especially in critical areas requiring high-temperature dimensional stability and structural strength.

The product is specifically developed for Fabrication customization and can be precisely cut, drilled, grooved, and machined into custom shapes according to equipment structures and engineering drawings. Its uniform and dense structure makes it suitable for customized high-temperature insulation components, shaped boards, and functional parts.

CCEWOOL® also provides customized dimensions, thicknesses, and shaped components to meet the requirements of high-temperature industrial furnaces, laboratory equipment, and other ultra-high-temperature systems.

Characteristics:

Engineering-grade polycrystalline wool board;
Stable structure at 1600°C;
High mechanical strength and structural rigidity;
Low thermal conductivity and low heat storage;
Excellent thermal shock resistance;
Extremely low shot content and low dust;
Excellent Fabrication performance.

Applications:

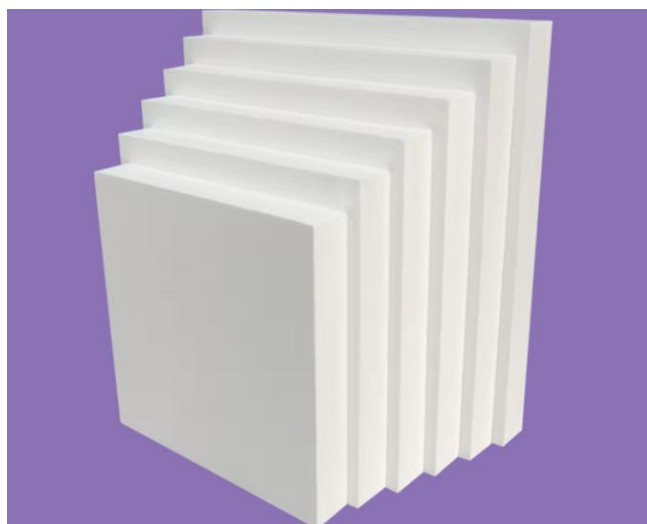
High-temperature laboratory furnaces;
Structural insulation components for industrial furnaces;
Backup insulation behind dense refractory linings;
High-temperature equipment insulation boards;
Furnace door and structural insulation components.

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CCEWOOL® 1600°C Polycrystalline Wool Board for Fabrication					
ITEM	1500	1600	1700	1800	1900

Classification temp. °C (°F)	1500(2732)	1600(2912)	1700(3092)	1800(3272)	1900(3452)
Continuous duty temperature, °C(°F)	1350(2462)	1400(2732)	1500(2732)	1650(3000)	1800(3272)
Density approx. kg/m ³	350/400	350/400	350	350/400	650/700
Linear shrinkage, %(24 hours at max. continuous duty temperature)					
1400°C	<0.5				
1500°C		<0.1			
1600°C			<0.5		
1700°C				<0.5	
1750°C					<0.2
Chemical Composition (%)					
Al ₂ O ₃	62	64	75	75	87
SiO ₂	37	35	24.5	24.5	12.5
Other	<1	<1	<0.5	<0.5	<0.5
Cr ₂ O ₃	-	-	-	-	
Thermal conductivity, W/m.K					
600°C (1120°F)	0.11	0.14	0.12	0.12	0.11
800°C (1472°F)	0.15	0.17	0.15	0.16	0.14
1000°C (1832°F)	0.27	0.24	0.18	0.19	0.17

CCEWOOL® 1700°C Polycrystalline Wool Board for Fabrication



Classification Temperature: 1700°C (3092°F)

Chemical Composition: Alumina, Silica

CCEWOOL® 1700°C Polycrystalline Wool Board for Fabrication is an engineering-grade rigid insulation board developed for ultra-high-temperature hot-face and high-velocity gas applications. Made from high-purity polycrystalline wool, it is produced through wet vacuum forming and high-temperature stabilization to create a uniform and stable crystalline structure with excellent thermal and mechanical integrity.

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Compared with conventional industrial fiber boards, this product is further optimized for structural strength, dimensional stability, and high-temperature shrinkage control. Even at 1700°C (3092°F), it maintains a stable structure and offers excellent resistance to high-velocity gas erosion, making it particularly suitable for hot-face areas and locations exposed to strong thermal gas flow.

The board is specifically developed for Fabrication customization. Its dense and uniform structure allows precision cutting, drilling, and custom machining into high-temperature structural parts, shaped insulation components, burner blocks, fire barriers, and other functional components.

CCEWOOL® can also provide customized thicknesses, dimensions, and complex shapes according to equipment structures or customer drawings, making the product suitable for industrial furnaces, combustion systems, and other demanding high-temperature equipment.

Characteristics:

Engineering-grade polycrystalline wool board;
Stable structure at 1700°C;
Excellent resistance to gas erosion;
High mechanical strength and modulus of rupture;
Excellent thermal shock resistance;
Extremely low shot content and low dust;
Excellent Fabrication performance.

Applications:

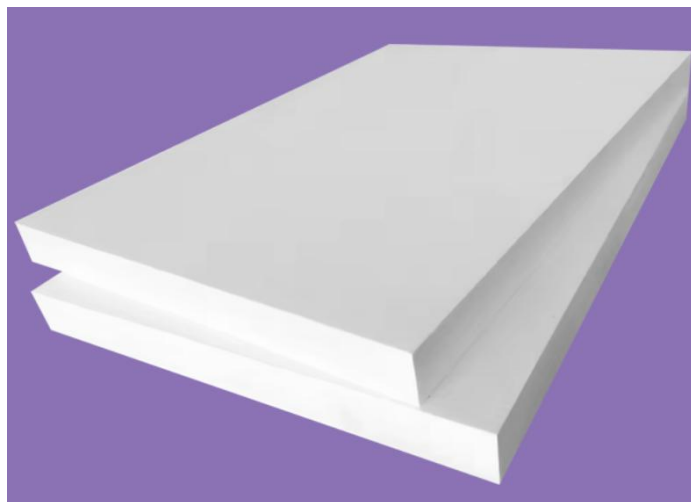
Hot-face insulation structures for industrial furnaces;
Combustion chamber components;
High-velocity hot gas erosion areas;
Furnace doors and fire barriers;
High-temperature flues and hot-gas ducts.

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CCEWOOL® 1700°C Polycrystalline Wool Board for Fabrication					
ITEM	1500	1600	1700	1800	1900
Classification temp. °C (°F)	1500(2732)	1600(2912)	1700(3092)	1800(3272)	1900(3452)

Continuous duty temperature, °C(°F)	1350(2462)	1400(2732)	1500(2732)	1650(3000)	1800(3272)
Density approx. kg/m ³	350/400	350/400	350	350/400	650/700
Linear shrinkage, %(24 hours at max. continuous duty temperature)					
1400°C	<0.5				
1500°C		<0.1			
1600°C			<0.5		
1700°C				<0.5	
1750°C					<0.2
Chemical Composition (%)					
Al ₂ O ₃	62	64	75	75	87
SiO ₂	37	35	24.5	24.5	12.5
Other	<1	<1	<0.5	<0.5	<0.5
Cr ₂ O ₃	-	-	-	-	
Thermal conductivity, W/m.K					
600°C (1120°F)	0.11	0.14	0.12	0.12	0.11
800°C (1472°F)	0.15	0.17	0.15	0.16	0.14
1000°C (1832°F)	0.27	0.24	0.18	0.19	0.17

CCEWOOL® 1800°C Polycrystalline Wool Board for Fabrication



Classification Temperature: 1800°C (3272°F)

Chemical Composition: Alumina, Silica

CCEWOOL® 1800°C Polycrystalline Wool Board for Fabrication is a high-performance rigid insulation board developed for extreme-temperature industrial furnace lining systems. Made from high-purity polycrystalline wool, it is produced through wet vacuum forming and high-temperature sintering stabilization, creating a stable fiber and crystalline structure that maintains excellent integrity under

ultra-high-temperature conditions.

Compared with conventional industrial fiber boards, this product is further optimized in raw material purity, crystalline stability, and high-temperature shrinkage control. Even at 1800°C (3272°F), it maintains good structural integrity together with excellent thermal shock resistance and resistance to high-velocity gas erosion, making it suitable for hot-face and other extreme-temperature areas.

The product is specifically developed for Fabrication customization. Its dense and uniform structure, combined with good mechanical strength, allows cutting, drilling, and precision machining into custom-shaped high-temperature insulation components such as furnace door panels, fire barriers, and structural insulation parts.

CCEWOOL® also provides customized thicknesses, dimensions, and complex shapes according to furnace lining designs or customer drawings, helping meet the structural and installation requirements of extreme-temperature furnaces and specialized thermal equipment.

Characteristics:

Engineering-grade polycrystalline wool board;

Maximum temperature up to 1800°C;

Extremely low linear shrinkage;

Excellent thermal shock resistance;

High mechanical strength;

Suitable for direct flame contact;

Extremely low shot content and low dust;

Excellent Fabrication performance.

Applications:

High-temperature laboratory furnaces;

Vacuum furnaces and protective-atmosphere furnaces;

High-temperature sintering furnaces;

Ceramic and glass kilns;

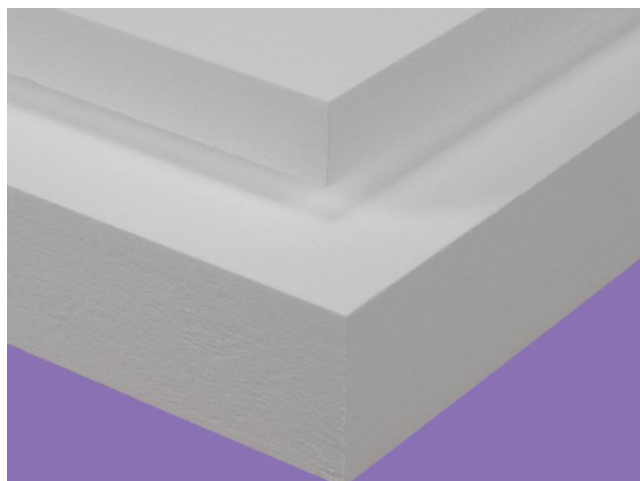
Hot-face linings for high-temperature equipment.

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CCEWOOL® 1800°C Polycrystalline Wool Board for Fabrication

ITEM	1500	1600	1700	1800	1900
Classification temp. °C (°F)	1500(2732)	1600(2912)	1700(3092)	1800(3272)	1900(3452)
Continuous duty temperature, °C(°F)	1350(2462)	1400(2732)	1500(2732)	1650(3000)	1800(3272)
Density approx. kg/m ³	350/400	350/400	350	350/400	650/700
Linear shrinkage, %(24 hours at max. continuous duty temperature)					
1400°C	<0.5				
1500°C		<0.1			
1600°C			<0.5		
1700°C				<0.5	
1750°C					<0.2
Chemical Composition (%)					
Al ₂ O ₃	62	64	75	75	87
SiO ₂	37	35	24.5	24.5	12.5
Other	<1	<1	<0.5	<0.5	<0.5
Cr ₂ O ₃	-	-	-	-	
Thermal conductivity, W/m.K					
600°C (1120°F)	0.11	0.14	0.12	0.12	0.11
800°C (1472°F)	0.15	0.17	0.15	0.16	0.14
1000°C (1832°F)	0.27	0.24	0.18	0.19	0.17

CCEWOOL® 1900°C Polycrystalline Wool Board for Fabrication



Classification Temperature: 1900°C (3452°F)

Chemical Composition: Alumina, Silica

CCEWOOL® 1900°C Polycrystalline Wool Board for Fabrication is a high-performance rigid insulation board developed for extreme ultra-high-temperature industrial and research equipment. Made from high-purity polycrystalline mullite fiber, it is produced through wet vacuum forming and high-temperature stabilization to maintain stable fiber structure and mechanical performance under extreme temperatures.

Compared with conventional industrial fiber boards, this product is further optimized in raw material purity, crystalline stability, and high-temperature shrinkage control. Even at 1900°C (3452°F), it maintains low thermal shrinkage and good dimensional integrity, making it suitable for ultra-high-temperature laboratory equipment, specialized industrial systems, and other critical insulation areas.

The product is specifically developed for Fabrication customization. Its dense and uniform structure supports precision cutting, drilling, and complex machining for custom-shaped insulation parts, structural components, and functional high-temperature parts.

CCEWOOL® also provides customized thicknesses, dimensions, and complex shapes according to engineering requirements or customer drawings, helping meet the demands of ultra-high-temperature industrial and research equipment for dimensional accuracy and structural reliability.

Characteristics:

Engineering-grade polycrystalline wool board;
Ultra-high-temperature stability up to 1900°C;
Extremely low thermal shrinkage;
Excellent thermal shock resistance;
High mechanical strength;
Suitable for direct flame contact;
Extremely low shot content and low dust;
Excellent Fabrication performance.

Applications:

Ultra-high-temperature laboratory furnaces;
Materials research equipment;
High-temperature vacuum furnaces;
Aerospace testing equipment;
Ultra-high-temperature structural insulation components.

TDS

CCEWOOL® 1900°C Polycrystalline Wool Board for Fabrication					
ITEM	1500	1600	1700	1800	1900
Classification temp. °C (°F)	1500(2732)	1600(2912)	1700(3092)	1800(3272)	1900(3452)

Continuous duty temperature, °C(°F)	1350(2462)	1400(2732)	1500(2732)	1650(3000)	1800(3272)
Density approx. kg/m ³	350/400	350/400	350	350/400	650/700
Linear shrinkage, %(24 hours at max. continuous duty temperature)					
1400°C	<0.5				
1500°C		<0.1			
1600°C			<0.5		
1700°C				<0.5	
1750°C					<0.2
Chemical Composition (%)					
Al ₂ O ₃	62	64	75	75	87
SiO ₂	37	35	24.5	24.5	12.5
Other	<1	<1	<0.5	<0.5	<0.5
Cr ₂ O ₃	-	-	-	-	
Thermal conductivity, W/m.K					
600°C (1120°F)	0.11	0.14	0.12	0.12	0.11
800°C (1472°F)	0.15	0.17	0.15	0.16	0.14
1000°C (1832°F)	0.27	0.24	0.18	0.19	0.17

CCEWOOL® Polycrystalline Wool Paper



Classification Temperature: 1600°C (2912°F)

Chemical Composition: Alumina, Silica

CCEWOOL® Polycrystalline Wool Paper is a high-performance flexible insulation material developed for ultra-high-temperature applications, with long-term temperature resistance up to 1600°C. It is made primarily from high-purity alumina fiber with a selected binder system through an advanced forming process, providing uniform fiber distribution and stable thickness and density.

The product offers excellent flame resistance, thermal insulation, and electrical insulation, together with good resistance to high and low temperatures and aging. It is halogen-free, non-toxic, and odorless, with stable dielectric performance for reliable thermal, fire, and electrical protection.

CCEWOOL® Polycrystalline Wool Paper is lightweight, flexible, shot-free, and easy to cut and form. It can be used directly for high-temperature insulation and electrical encapsulation and is also well suited for Fabrication processing into custom-shaped components, insulation gaskets, thermal barriers, and customized high-temperature protection parts.

With its ultra-high-temperature capability, stable electrical insulation, and good Fabrication adaptability, it is widely used in thermal insulation, fire protection, electrical insulation, protective separation, and battery thermal safety applications.

Characteristics:

- Excellent high-temperature stability;
- Low thermal conductivity and excellent insulation performance;
- Shot-free and clean fiber structure;
- Good resistance to acids, alkalis, and chemical corrosion;
- Low heat storage;
- Lightweight, strong, and flexible;
- High compressive strength;
- Excellent electrical insulation and aging resistance;
- Low smoke, non-toxic, and flame-resistant.

Applications:

- Lightweight insulation for high-temperature furnaces and heat-treatment systems up to 1600°C;
- Furnace wall linings and backup insulation;
- High-temperature gaskets, seals, and equipment sealing;
- Expansion joint and flexible structure insulation;
- Separator material in multilayer foil vacuum furnace insulation systems;
- Backup insulation for molten metal troughs, furnaces, and heat-treatment equipment;
- Separation and barrier layers for brazing, heat treatment, metal forming, and diffusion bonding;
- Electrical insulation in high-temperature environments;
- Thermal and fire protection for battery cells;

Insulation and flame protection for electronic products;

Substrate or reinforcement layer for aerogel composite insulation materials.

TDS

CCEWOOL® Polycrystalline Wool Fiber Paper		
Test Item	Standard	Technical Specifications
Appearance	-	Smooth, no impurities
Insulation Performance 1000V DC	Under condition of 1000V DC, test time 60s	Insulation resistance $\geq 500\text{M}\Omega$
Fiber Diameter	-	5.5~7.5 μm
Tensile Strength	GBT 17911-2018	$\geq 200\text{kPa}$
Flame Retardance Property	UL94-V0	Complies with Standards
Thermal Conductivity	GB/T 10297-2015	$\leq 0.04\text{w/m}\cdot\text{k}$
ELV	EU ELV Directive 2000/53/EC	Complies with Standards

Specification								
Thickness (mm)	0.30	0.60	0.80	1.00	2.00	3.00	4.00	5.00
Area Density (g/m ²)	20	60	80	100	250	400	550	700

CCEWOOL® Polycrystalline Wool Module



Classification Temperature: 1600°C (2912°F)

Chemical Composition: Alumina, Silica

CCEWOOL® Polycrystalline Wool Module is a high-temperature furnace lining module made from our own high-quality polycrystalline wool blanket (PCW Blanket) using a proven fiber module design. It is developed for full-fiber lining systems operating around 1300–1500°C (2372–2732°F) and is suitable for industrial furnaces and heat-treatment equipment requiring high temperature resistance, structural stability, and long service life.

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The module offers good resistance to chemical attack and maintains stable insulation performance in oxidizing, reducing, and mildly corrosive atmospheres. Its low shot content and uniform fiber structure help reduce thermal conductivity and furnace heat loss, improving overall energy efficiency.

To balance performance and cost, CCEWOOL® can also provide composite modules combining Polycrystalline Wool Blanket + CCEWOOL® RCF Blanket 2600. This layered structure provides a more economical solution while maintaining the required high-temperature performance.

CCEWOOL® Polycrystalline Wool Module is available with multiple anchoring systems to suit different furnace structures. It offers efficient installation and convenient maintenance, making it a reliable full-fiber lining solution for high-temperature industrial furnaces and demanding thermal equipment.

Characteristics:

- Excellent thermal shock resistance;
- Excellent chemical stability;
- High-temperature stability;
- Low thermal conductivity;
- Low installation and maintenance costs;
- Extremely low shrinkage;
- Excellent thermal insulation;
- Customizable design for demanding furnace structures;
- Excellent dimensional stability.

Applications:

- Stress-relieving, annealing, and reheating furnaces;
- Hearth-type heat-treatment furnaces and soaking pit covers;
- Melting furnaces, forging furnaces, and industrial kilns;
- Process heaters and combustion chamber linings;
- Boiler linings and gas turbine insulation;
- Incinerators and chimney linings;
- Ladle covers and ladle preheaters;
- Steel, aluminum, and non-ferrous metal melting furnace linings;
- Hot-face linings for ceramic kilns and heat-treatment furnaces;
- Reformers and cracking units;

Structural and thermal insulation for high-temperature equipment up to approximately 1600°C.

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CCEWOOL® Polycrystalline Wool Module	
Classification Temperature (°C)	1600(2912°F)
Continuous Temperature Use Limit (°C)	1500(2732°F)
Chemical Composition(%)	
Al ₂ O ₃	71-73
SiO ₂	27-29
Leachable Chlorides	Trace
Color	White
Density (kg/m ³)	128/160/196
	(8,10,12lb/ft ³)
Permanent Linear Shrinkage (%)	1400°Cx24h<1.0
Thermal Conductivity (W/m·K)	
400°C	0.09
600°C	0.16
800°C	0.22
1000°C	0.28
1200°C	0.36
1400°C	0.45

CCEWOOL® Polycrystalline Wool Bulk



Classification Temperature: 1600°C (2912°F)

Chemical Composition: Alumina, Silica

CCEWOOL® Polycrystalline Wool Bulk (PCW Bulk Fiber) is developed for high-temperature, chemically aggressive, and long-term operating conditions. It can maintain stable structural and thermal performance at continuous service temperatures up to 1540°C (2800°F), making it a high-temperature upgrade from conventional ceramic fiber for more demanding applications.

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As a base fiber material, CCEWOOL® Polycrystalline Wool Bulk offers excellent processing adaptability. It can be needled into PCW blankets, formed into boards, processed into fiber paper and shaped products, or spun into yarn for high-temperature textiles. Its loose and fluffy fiber structure also makes it suitable for use with liquid binders in spray-applied insulation, pumpable insulation materials, sealing fillers, and refractory coating systems.

With excellent high-temperature stability, low thermal conductivity, low heat capacity, and strong thermal shock resistance, CCEWOOL® Polycrystalline Wool Bulk is widely used in high-temperature furnace linings, expansion joints, sealing systems, and insulation structures requiring chemical stability and long-term dimensional reliability.

Characteristics:

Excellent thermal shock resistance;

Excellent chemical stability;

High-temperature stability;

Low thermal conductivity;

Extremely low shot content;

Low linear shrinkage;

High resilience.

Applications:

Raw material for polycrystalline wool products;

Loose-fill insulation for industrial furnaces;

High-temperature seals, gaskets, and coatings;

Ladle cover filling;

Chimney filling;

Fire door filling;

Kiln car filling;

Expansion joint filling;

Aerospace applications.

TDS

CCEWOOL® Polycrystalline Wool Bulk

Classification Temperature (°C)	1600
Continuous Temperature Use Limit (°C)	1500
Chemical Composition(%)	
Al ₂ O ₃	71-73
SiO ₂	27-29
Leachable Chlorides	Trace
Color	White
Shot Content (%)	≤1
Fiber Diameter (um)	3-6
Fiber Length (mm)	≥100