

CCEWOOL® Vacuum-Formed Bio Soluble Fiber Shapes

Classification Temperature: 1200°C (2192°F), 1300°C (2372°F)

Chemical Composition: Silica, Calcium Oxide, Magnesium Oxide

CCEWOOL® Vacuum-Formed Bio Soluble Fiber Shapes are rigid insulation components developed for customized Fabrication applications. Made from our own high-quality alkaline earth silicate (AES) bio-soluble fiber, the products are manufactured through vacuum forming and high-temperature curing. Based primarily on a SiO_2 -MgO-CaO composition, they combine reliable thermal insulation and high-temperature stability with the low-biopersistence characteristics of AES fiber, providing an alternative to conventional refractory ceramic fiber shapes.

These products are not simply secondary-processed boards or bulk fiber. They are specifically developed for Fabrication customization to meet different equipment requirements for shape, dimensions, strength, and installation fit. Through vacuum forming, CCEWOOL® can manufacture complex geometries and customized dimensions according to customer drawings.

CCEWOOL® Vacuum-Formed Bio Soluble Fiber Shapes are suitable for burner areas, observation ports, hot-air passages, flame barriers, furnace door linings, and other localized high-temperature structures. They maintain good structural integrity under flame exposure, hot gas flow, and demanding thermal conditions. Their good wear resistance, spalling resistance, and non-wetting behavior toward many molten metals also make them suitable for customized components in aluminum, metallurgy, petrochemical, and heat-treatment equipment.

Combining the low-biopersistence AES fiber system with customized Fabrication capability, CCEWOOL® Vacuum-Formed Bio Soluble Fiber Shapes provide a reliable and structurally adaptable insulation solution for high-temperature equipment.

Characteristics:

Maintains structural integrity under continuous high-temperature service;

Low-biopersistence AES fiber system;

Customizable complex shapes with good dimensional accuracy;

Suitable for direct flame exposure;

High strength and impact resistance;

Low shrinkage and low thermal conductivity;

Excellent high-temperature strength and thermal stability;

Good chemical stability.

Applications:

Industrial furnace observation ports and thermocouple openings

Burner blocks for industrial furnaces

Furnace door components and linings

Troughs and launders for aluminum processing

Radiant heat insulation for commercial and industrial heating equipment

Furnace nozzles and furnace door seals

Molten non-ferrous metal transfer channels

Gaskets, covers, soldering fixtures, and electrical equipment insulation components.

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CCEWOOL® Vacuum-Formed Bio Soluble Fiber Shapes		
Classification Temperature (°C)	1200°C(2192°F)	1300°C(2372°F)
Color	Light Bluish	Light Bluish
Density (kg/m³)	300-350	300-350
Modules of Rupture (MPa)	≥0.25	≥0.25
Compressive Strength (MPa, 10% relative deformation)	0.15	0.15
Loss of Ignition (%)	≤7	≤7
Permanent Linear Shrinkage (%)	1100°C x 24h ≤2.0	1260°C x 24h ≤2.0
Thermal Conductivity (W/m·K)		
200°C	0.05	0.05
400°C	0.08	0.07
600°C	0.1	0.1
800°C	0.12	0.11
1000°C	0.14	0.14

CCEWOOL® Vacuum-Formed Ceramic Fiber Shapes

Classification Temperature: 1260°C (2300°F), 1400°C (2550°F), 1430°C (2600°F)

Chemical Composition: Alumina, Silica

CCEWOOL® Vacuum-Formed Ceramic Fiber Shapes are engineered Fabrication products developed for customized high-temperature insulation and structural protection. Made from our own high-purity ceramic fiber bulk specifically selected for vacuum forming, the products are formed in one piece using advanced vacuum-forming technology and precision molds to meet complex high-temperature and structural requirements.

The product is specifically developed around Fabrication customization, allowing shape, dimensions, strength, and installation fit to be matched to different equipment structures and functional areas. The vacuum-forming process creates a dense and uniform internal structure that maintains good dimensional stability and mechanical integrity during long-term service at 1260–1430°C.

CCEWOOL® Vacuum-Formed Ceramic Fiber Shapes can be customized according to customer drawings, samples, or structural requirements. Available geometries include tubular, conical, domed, box-shaped, and other complex configurations. Selected standard sizes may also be available from stock. Where required, local cutting or machining can be applied for easier installation and maintenance.

Depending on application requirements, both organic-bonded and inorganic-bonded grades are available. Specialized rigidizers or refractory surface coatings can also be applied to improve abrasion resistance, surface strength, and service life under high gas velocity, frequent thermal cycling, or localized mechanical wear.

With stable high-temperature performance, good structural integrity, and strong Fabrication flexibility, CCEWOOL® Vacuum-Formed Ceramic Fiber Shapes are widely used in metallurgy, chemical processing, power generation, and glass manufacturing for furnace linings, high-temperature piping, heating equipment protection, fire doors, flues, and other critical high-temperature areas.

Characteristics:

Precision forming and good dimensional stability;

High strength and rigidity;

Low heat capacity;

Low thermal conductivity;

Excellent thermal stability;

Excellent thermal shock resistance;

Good resistance to gas erosion;

Good chemical stability;

Good machinability for complex shapes.

Applications:

Industrial furnace linings and high-temperature structural components;

Observation ports and thermocouple openings;

Burner blocks for industrial furnaces;

Thermal protection for furnace doors, heating equipment, and high-temperature piping;

Linings and sealing components for aluminum cells, glass furnaces, and chemical reactors;

High-temperature flues and fire door linings;

Radiant heat insulation for commercial and industrial heating equipment;

Industrial furnace nozzles and furnace door seals;

Non-ferrous metal transfer channels;

Pads, cap linings, and electrical equipment connection gaskets.

TDS

CCEWOOL® Vacuum-Formed Ceramic Fiber Shapes					
Classification		1260S	1260HPS	1400LZ	1430HZ
Density(KG/m3)		280-400	280-400	280-400	280-400
320kg/m3/at(°C/24h)		≤1.5	≤1.5	≤1.5	≤1.5
Linear Shrinkage Rate(%)		-1000	-1000	-1100	-1200
Flexural strength(mpa)		≥0.6	≥0.6	≥0.6	≥0.6
Thermal Conductivity Rate(W/m.k)	400°C	0.08	0.08	-	-
	600°C	0.15	0.15	0.14	0.12
	800°C	0.2	0.19	0.18	0.16

	1000°C	-	-	0.21	0.19
Chemical Composition (%)	Al ₂ O ₃	44-46	47-49	52-55	38-43
	Al ₂ O ₃ +SiO ₂	≥99.0	≥99.0	≥99.0	-
	ZrO ₃	-	-	-	15-17
	Other	≤1.0	≤1.0	≤1.0	≤1.0

CCEWOOL® Vacuum-Formed Polycrystalline Wool Shapes

Classification Temperature: 1500°C (2732°F), 1600°C (2912°F), 1700°C (3092°F), 1800°C (3272°F)

Chemical Composition: Alumina, Silica

CCEWOOL® Vacuum-Formed Polycrystalline Wool Shapes are engineering-grade insulation components developed for ultra-high-temperature equipment and customized Fabrication applications. Made from high-quality polycrystalline wool, the products are manufactured through vacuum forming and can be customized according to temperature grade, equipment structure, and application requirements.

The product is available in 1500°C–1800°C grades, with continuous use temperatures up to approximately 1700°C. Its stable polycrystalline fiber structure provides low shrinkage, excellent dimensional stability, and good structural integrity at elevated temperatures, making it suitable for long-term high-temperature service and critical hot-face areas.

These products are not simply cut from standard boards. They are specifically developed for Fabrication customization and can be manufactured according to customer drawings, samples, or equipment structures into furnace chambers, sleeves, supports, thermal shields, end insulation components, and other complex shapes.

With excellent high-temperature stability, low thermal conductivity, and flexible Fabrication capability, CCEWOOL® Vacuum-Formed Polycrystalline Wool Shapes are widely used in laboratory furnaces, sintering furnaces, vacuum furnaces, ceramic kilns, glass furnaces, and other ultra-high-temperature industrial and research equipment.

Characteristics:

1500°C–1800°C temperature grades available;
Continuous use temperature up to approximately 1700°C;
Extremely low permanent linear shrinkage;
Excellent high-temperature dimensional stability;
Low thermal conductivity and low heat capacity;
Good mechanical strength and structural rigidity;
Excellent thermal shock resistance;
Stable structure at elevated temperatures;
Vacuum forming for complex shapes;
Precision Fabrication customization available;
Custom dimensions, density, and structures available according to drawings.

Applications:

Ultra-High-Temperature Laboratory Furnace Chambers and Insulation Structures

Used in laboratory electric furnaces, materials research furnaces, and high-temperature testing equipment for furnace chambers, linings, and thermal shields.

High-Temperature Sintering Furnaces and Heat-Treatment Equipment

Suitable for hot-face insulation and structural components in ceramic sintering, powder sintering, and other ultra-high-temperature heat-treatment systems.

Heating Element Support and Insulation Structures

Suitable for supporting, positioning, and insulating MoSi₂ heating elements, SiC heating elements, and high-temperature resistance heating systems.

Vacuum and Protective-Atmosphere Furnaces

Used for high-temperature insulation structures and custom-formed components in vacuum, inert-atmosphere, and protective-atmosphere furnaces.

Ceramic and Glass High-Temperature Equipment

Used in ceramic kilns and glass furnaces for localized hot-face areas, furnace openings, supports, and custom insulation components.

Burner and High-Temperature Gas Flow Areas

Can be customized for burner areas, hot-gas passages, and other localized high-temperature sections.

Furnace Doors, Openings, and Sealing Components

Used for customized thermal insulation and sealing structures around furnace doors, tube furnace ends, and other openings.

Other Ultra-High-Temperature Fabrication Components

Suitable for industrial and research equipment requiring complex geometries, high dimensional stability, and reliable long-term high-temperature performance.

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CCEWOOL® Vacuum-Formed Polycrystalline Wool Shapes				
Properties	PCW1500	PCW1600	PCW1700	PCW1800
Color	white	white	white	white
Classification Temperature (°C)	1500	1600	1700	1800
Continuous Use Temperature (°C)	1350	1400	1600	1700
Density (kg/m ³)	350	350/400	400	400
Permanent Linear Shrinkage, %, 8 hours				
1400°C	<0.5			
1500°C		<0.1		
1600°C			<0.5	
1700°C				<0.5
Chemical Composition, %				
Alumina, Al ₂ O ₃	62	64	75	75
Silica, SiO ₂	37	35	24	24

Other	<1	<1	<1	<1
Thermal Conductivity, W/m·K				
600°C	0.11	0.14	0.12	0.12
800°C	0.15	0.17	0.15	0.16
1000°C	0.27	0.24	0.18	0.19