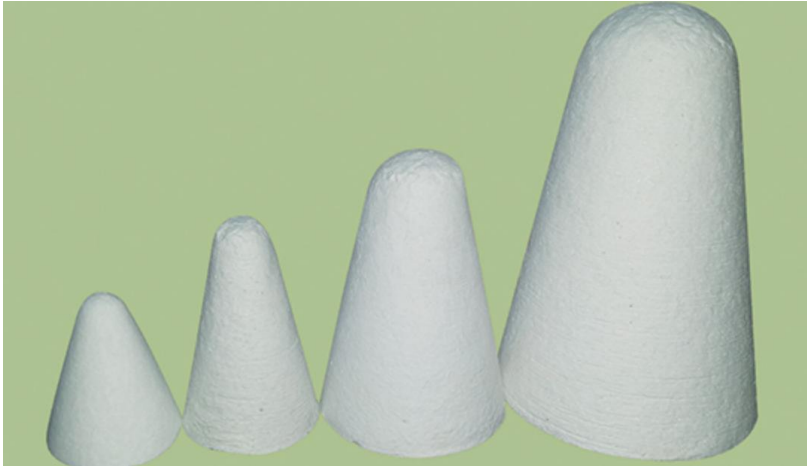


CCEWOOL® Low Biopersistent Fiber Shapes



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

CCEWOOL® Low Biopersistent Fiber Shapes are made from a blend of soluble fiber blanket, organic, and inorganic binders to form a rigid product. Our CCEWOOL® Low Biopersistent Fiber Shapes can come into direct contact with fire and can be custom-made into various shapes

according to customer-provided drawings. It has an extremely low thermal conductivity, low heat storage capacity, and excellent resistance to thermal shock. During use, the product exhibits good wear resistance and resistance to spalling, and it is not wetted by most molten metals. It possesses a soluble test certificate from the European Fraunhofer Laboratory.

Characteristics:

Can be made into various of complex shapes, high dimension accuracy.

Contact with flame directly, no odor and volatile gases at high temperatures

High mechanical strength, resistance to gas flow.

Low shrinkage, low thermal conductivity.

Excellent strength in high temperature and thermal stability.

Application:

Industrial kilns observation hole, thermometer hole;

Industrial furnace burner brick;

Industrial furnace door;

Sump and launder for aluminum products industry;

Heat insulation for thermal radiation in civil and industrial heating device;

Nozzle and door sealing for the industrial furnace;

Non-ferrous metal molten channel;

Lining for pad, cap, of found, electrical equipment connect gaskets.



TDS

CCEWOOL® Low Biopersistent 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® Ceramic Fiber Shapes



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

CCEWOOL® Ceramic Fiber Shapes is made from high quality refractory ceramic fiber bulk as raw material, through vacuum forming process. This product is developed into unshaped product with both superior high-temperature rigidity and self-supporting strength. We produce

CCEWOOL® Unshaped Vacuum Formed Ceramic Fiber to fit for the demand for some specific industrial sector production processes. Depending on performance requirements of the unshaped products, different binders and additives are used in production process. All unshaped products are subject to relatively low

shrinkage in their temperature ranges, and maintain a high thermal insulation, lightweight and shock resistance. The non-burnt material can easily be cut or machined. During use, this product shows excellent resistance to abrasion and stripping, and can not be wetted by most molten metals.

Characteristics:

Can be made into various of complex shapes, high dimension accuracy.

Contact with flame directly, no odor and volatile gases at high temperatures

High mechanical strength, resistance to gas flow.

Low shrinkage, low thermal conductivity.

Excellent strength in high temperature and thermal stability.

Application:

Industrial kilns observation hole, thermometer hole;

Industrial furnace burner brick;

Industrial furnace door;

Sump and launder for aluminum products industry;

Heat insulation for thermal radiation in civil and industrial heating device;

Nozzle and door sealing for the industrial furnace;

Non-ferrous metal molten channel;

Lining for pad, cap, of found, electrical equipment connect gaskets.

TDS

CCEWOOL® Ceramic Fiber Shapes					
fireproof chimney pipe insulation		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 (%)	Al2O3	44-46	47-49	52-55	38-43
	Al2O3+SiO2	≥99.0	≥99.0	≥99.0	-
	ZrO3	-	-	-	15-17

	Other	≤1.0	≤1.0	≤1.0	≤1.0
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CCEWOOL® HTIW Shapes for the Steel Metallurgy Industry

CCEWOOL® HTIW Shapes for the Steel Metallurgy Industry are custom-shaped products made from high-quality ceramic fiber cotton using a vacuum forming process, specifically designed to meet the unique requirements of certain production processes in the steel metallurgy industry. Different binders and additives are selected based on the performance requirements of the shaped products to ensure optimal performance at high temperatures.



Molten Iron Sampling Ladle

Temperature: 1260°C

Density: 350 kg/m³

Industry: Steel Metallurgy

Application Area: Molten Iron Sampling

Treatment: Hardened treatment, with iron handle

Characteristics:

- Low Shrinkage;
- High Insulation;
- Lightweight;
- High Impact Resistance;
- Wear and Spall Resistance;
- Non-Wetting with Molten Metals.

Application:

HTIW Shapes Solutions in Steel Metallurgy Industry



Furnace Door Linings & Seals: Used in high-temperature furnaces, these shapes ensure proper sealing, reduce heat loss, and improve safety.

High-Temperature Pipe Linings: Insulate pipes carrying high-temperature gases, steam, and air, improving energy efficiency.

Steel Ladle Lid Insulation: Reduces heat loss from molten steel in ladle lids.

Steel Ladle Linings: Protects ladles from molten metal, extending their life and improving thermal efficiency.

CCEWOOL® HTIW Shapes for the Aluminum Casting Industry

CCEWOOL® HTIW Shapes for the Aluminum Casting Industry are high-performance, vacuum-formed ceramic fiber products made from premium ceramic fiber cotton. They are specifically designed to meet the unique thermal management needs of the aluminum casting industry. These shapes are customizable with different binders and additives to meet various performance requirements.



Aluminum Industry Plug

Temperature: 1260°C

Density: 280-300 kg/m³

Industry: Aluminum Melting, Aluminum Casting

Application: Aluminum liquid outlet sealing

Characteristics:

Low Shrinkage;

High Insulation;

Lightweight & Impact-Resistant;

Wear & Erosion Resistance;

Non-Wettability with Molten Metals.



Application:

Casting Molds: HTIW Shapes are used to create molds and cores for aluminum casting, offering excellent insulation to reduce energy consumption and ensure consistent mold temperatures.

Casting Ladles & Troughs: Used as linings in ladles and troughs, these shapes effectively protect the equipment from high temperatures and molten aluminum, extending service life.

CCEWOOL® HTIW Shapes for Ceramic Glass Industry

CCEWOOL® RCF Shapes are high-performance, vacuum-formed ceramic fiber products made from premium ceramic fiber cotton. These shapes are specifically designed to meet the unique thermal insulation and structural requirements of the ceramic glass industry. Tailored with different binders and additives to meet diverse performance needs, these products offer exceptional heat resistance, durability, and customization.



Roller Shaped Parts

Temperature: 1260°C

Density: 350 kg/m³

Application Industry: Glass deep processing, glass tempering furnaces

Application Location: Upper and lower furnace body quartz roller seal insulation

Treatment: Surface hardening treatment

Heat Bent Glass Shaped Parts

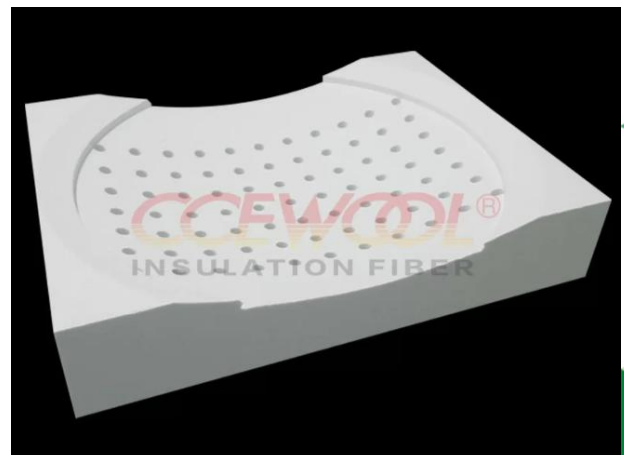
Temperature: 1260°C

Density: 400 kg/m³

Application Industry: Heat bent glass, automotive rearview mirror glass

Application Location: Mold insulation bricks

Treatment: Inorganic hardening and vitrification treatment



Characteristics:

- Low Shrinkage;
- High Insulation;
- Lightweight & Impact-Resistant;
- Wear & Erosion Resistance;
- Non-Wettability with Molten Metals.

Application:

Glass Furnace Linings: HTIW Shapes provide high thermal protection for glass furnaces, helping to improve energy efficiency and stabilize furnace temperatures during production.

Glass Molds and Cores: Used to form molds and cores for glass casting, ensuring even heat distribution and minimizing energy consumption.

Kiln Insulation: These shapes are used in kilns for ceramics and glass, where their insulation properties help maintain the required temperatures and improve process efficiency.

CCEWOOL® HTIW Shapes for the Photovoltaic Industry

CCEWOOL® RCF Shapes are high-performance, vacuum-formed aluminum silicate fiber products made from premium alumino-silicate fiber cotton. Specifically designed for the photovoltaic (PV) industry, these custom-shaped products are tailored to meet the unique thermal insulation needs of PV production processes. With different binders and additives selected based on performance requirements, HTIW Shapes provide outstanding thermal protection, durability, and energy efficiency.



Sintering Furnace Quartz Heating Tube Shaped Parts

Temperature: 1260/1430°C

Density: 320 kg/m³

Application Industry: Photovoltaic industry

Application Location: Drying after silicon wafer screen printing, insulation and thermal protection for sintering furnace quartz heating tubes

Treatment: Inorganic hardening treatment

Sintering Furnace Heating Zone Shaped Parts

Temperature: 1260/1430°C

Density: 320 kg/m³

Application Industry: Photovoltaic industry

Application Location: Drying after silicon wafer screen printing, sintering furnace heating zone

Treatment: Inorganic hardening treatment



Electric Furnace Chamber Shaped Parts

Temperature: 1500°C

Density: 350/400 kg/m³

Application Industry: Photovoltaic, Semiconductor industry

Application Location: Insulation and thermal protection for resistance wires

Treatment: Hardening treatment

Characteristics:

Low Shrinkage;

High Insulation;

Lightweight & Impact-Resistant;

Wear & Erosion Resistance;

Non-Wettability with Molten Metals.

Application:

Solar Panel Production: HTIW Shapes are used in solar panel production to provide insulation during high-temperature processes like cell sintering and lamination, ensuring optimal performance and energy efficiency.

Solar Cell Furnaces: These shapes provide thermal protection for furnaces used in the production of solar cells, improving energy efficiency and temperature stability.

PV Module Insulation: Used as insulating materials in the assembly of photovoltaic modules, helping maintain uniform temperature and enhance the durability of the final product.

Protection in High-Temperature Processing: HTIW Shapes protect components from high temperatures during the photovoltaic manufacturing process, improving both productivity and product quality.

CCEWOOL® HTIW Shapes for the Lithium Battery Industry

CCEWOOL® HTIW Shapes are high-performance, vacuum-formed ceramic fiber products made from premium alumino-silicate fiber cotton. Designed to meet the specific needs of the lithium battery industry, these shapes deliver exceptional thermal insulation, durability, and customizability to optimize high-temperature processes critical to lithium battery production.



Roll Hole Shaped Parts

Temperature: 1260/1430°C

Density: 350 kg/m³

Application Industry: Lithium battery industry

Application Location: Roller hole sealing and insulation for lithium iron phosphate (LiFePO₄) cathode material calcination furnace

Treatment: Hardening treatment

Characteristics:

Low Shrinkage;

High Insulation;

Lightweight & Impact-Resistant;

Wear & Erosion Resistance;

Non-Wettability with Molten Metals.

Application:



Thermal Insulation for Battery Component Production: HTIW Shapes provide effective insulation during the high-temperature manufacturing of anode and cathode materials.

Furnace Linings for Material Sintering: Used in sintering furnaces for battery material processing, they ensure consistent heat distribution and energy efficiency.

CCEWOOL® HTIW Shapes for the Laboratory Furnaces

CCEWOOL® HTIW Shapes are high-performance vacuum-formed products made from premium alumino-silicate fiber cotton, specifically designed to meet the demanding requirements of laboratory furnaces. These custom shapes are tailored with various binders and additives to provide optimal thermal performance and durability in high-temperature environments.



Polycrystalline Mullite Fiber Furnace Chamber

Temperature: 1500°C / 1600°C / 1700°C / 1800°C

Density:

1500°C: 350/400 (Heating elements: FeCrAl resistance wire, NiCr alloy, SiC rods)

1600°C: 350/400 (Heating element: SiC rods)

1700°C: 400 (Heating element: MoSi₂ rods)

1800°C: 400 (Heating element: MoSi₂ rods)

Application Industry: Laboratory Electric Furnaces

Application Area: Refractory Material for Laboratory Furnaces

Processing Method: Curing and Sintering Treatment

Electric Heating Plate Shaped Parts

Temperature: 1500°C

Bulk Density: 350 kg/m³

Application Industry: Laboratory Electric Furnaces

Application Area: Inner Insulation of the Black Box

Processing Method: Hardening Treatment





Electric Heating Furnace Chamber Shaped Parts

Temperature: 1260°C / 1400°C

Bulk Density: 320-400 kg/m³

Application Industry: Laboratory Electric Furnaces

Application Area: Insulation and Isolation for Resistance Wires

Processing Method: Hardening Treatment

Resistance Wire Heater Shaped Parts

Temperature: 1500°C

Bulk Density: 350 kg/m³

Application Industry: Laboratory Furnaces

Application Area: Insulation and Isolation for Resistance Wires

Processing Method: Inorganic Hardening Treatment



Tubular heating furnace port

Temperature: 1260°C/1350°C/1500°C

Bulk Density: 320-350kg/m³

Application Industry: tubular heating furnace

Application Location: sealed and insulated at both ends

Treatment Method: inorganic hardening treatment/hardening without inorganic treatment

Characteristics:



Low Shrinkage;
High Insulation;
Lightweight & Durable;
Wear & Spall Resistance;
Non-Wettability with Molten Metals.

Application:

Furnace Linings: Provides high thermal insulation and protection for electric furnace interiors, ensuring stable operating temperatures.

Heating Element Support: Custom shapes can support and insulate heating elements, improving efficiency and safety.

Thermal Shields: Acts as thermal barriers to protect sensitive components and maintain uniform heat distribution.

Test Chamber Insulation: Enhances thermal stability for precise experimental conditions.

CCEWOOL® HTIW Shapes for Electric Radiant Tubes

CCEWOOL® HTIW Shapes are high-performance vacuum-formed products made from premium alumino-silicate fiber cotton, designed to meet the specific thermal insulation and durability requirements of electric radiant tubes. Customizable with different binders and additives, these shapes ensure long-lasting performance and energy efficiency in high-temperature applications.



Electric Radiant Tubes

Temperature: 1260°C / 1500°C

Density: 320-350 kg/m³

Application Industry: Electric Radiant Tubes

Application Area: End insulation and thermal barrier for electric radiant tubes

Treatment Method: Inorganic hardening treatment

Characteristics:

- Low Shrinkage;
- High Thermal Insulation;
- Lightweight & Impact-Resistant;
- Wear & Spall Resistance;
- Non-Wettability with Molten Metals.

Application:

Tube Linings & Insulation: Provides high-temperature insulation inside electric radiant tubes, reducing heat loss and enhancing efficiency.

Thermal Shields: Acts as a protective layer, reducing heat radiation and optimizing heat distribution.

Heating Element Supports: Supports heating elements, ensuring proper placement and long-lasting furnace operation.

CCEWOOL® HTIW Shapes for Burner Insulation

CCEWOOL® HTIW Shapes are high-performance vacuum-formed products made from premium alumino-silicate fiber cotton. Designed for burner insulation applications, these custom-shaped products deliver exceptional thermal protection, durability, and energy efficiency in high-temperature environments. Tailored with specific binders and additives, they meet the demanding requirements of various industrial burner systems.



Burner Insulation Shaped Parts

Temperature: 1260°C

Application Industry: Burner Insulation

Application Area: Burner nozzle insulation

Treatment Method: Inorganic/Non-inorganic treatment

Characteristics:

- Low Shrinkage;
- High Thermal Insulation;
- Lightweight & Impact-Resistant;
- Wear & Spall Resistance;
- Non-Wettability with Molten Metals.

Application:

- Burner Head Insulation:** Provides thermal protection for burner heads, ensuring stable combustion and energy efficiency.
- Burner Block Linings:** Used as insulating linings in burner blocks, reducing heat loss and protecting surrounding components.
- Combustion Chamber Walls:** Acts as thermal barriers for combustion chambers, enhancing thermal efficiency and operational safety.

CCEWOOL® HTIW Shapes for Home Appliance Insulation

CCEWOOL® HTIW Shapes are high-performance vacuum-formed products made from premium alumino-silicate fiber cotton. Designed for home appliance insulation, these custom-shaped components provide exceptional thermal protection, durability, and energy efficiency. Different binders and additives are selected based on specific performance requirements to ensure long-term reliability and safety in household applications.



Electric Heating Plate Shaped Parts

Temperature: 1260°C / 1350°C / 1500°C

Density: 350 kg/m³

Application Industry: Home Appliances, Electric Ceramic Stoves, Infrared Ovens

Application Area: Heating Element Insulation

Treatment Method: Inorganic Hardening Treatment

Characteristics:

- Low Shrinkage;
- High Thermal Insulation;
- Lightweight & Impact-Resistant;
- Wear & Spall Resistance;
- Non-Wettability with Molten Metals.

Application:

Ovens & Stoves: Thermal insulation for oven walls, baking chambers, and stove heating elements, ensuring safe and efficient operation.

Microwave Insulation: Provides heat shielding for microwave interiors, reducing heat loss and improving energy efficiency.

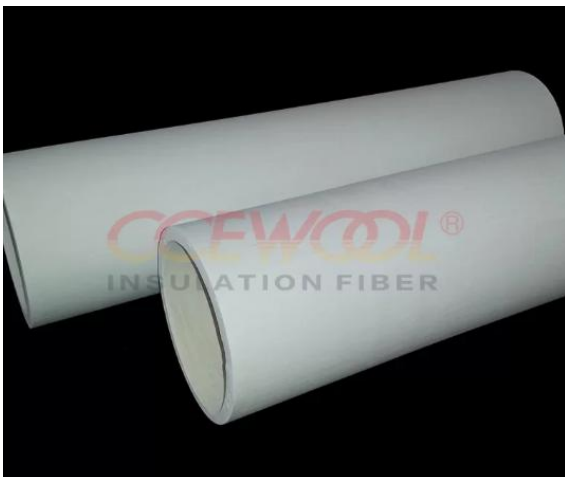
Water Heaters: Acts as an insulating layer for electric and gas water heaters, enhancing thermal retention and reducing energy consumption.

Heating Elements & Thermal Shields: Insulates components like heating coils and thermal shields in various home appliances.

Household Fireplaces & Heaters: Used as fireproof insulation in electric and gas fireplaces.

CCEWOOL® HTIW Shapes for Tubular Insulation Components

CCEWOOL® HTIW Shapes are high-performance vacuum-formed insulation products made from premium alumino-silicate fiber cotton. Designed specifically for tubular insulation applications, these custom-shaped components offer exceptional thermal protection, mechanical strength, and durability. Various binders and additives are selected based on performance requirements to ensure optimal insulation and longevity in demanding industrial environments.



Tubular Sleeves

Temperature: 1260°C

Density: 320-350 kg/m³

Application Industry: Various Industrial Sectors

Application Area: Tubular Insulation Components

Treatment Method: Hardening Treatment



Characteristics:

- Low Shrinkage;
- High Thermal Insulation;
- Lightweight & Impact-Resistant;
- Wear & Spall Resistance;
- Non-Wettability with Molten Metals.

Application:

Industrial Furnaces: Tubular insulation for heat exchangers, pipelines, and burners, providing high-temperature protection.

Exhaust and Ventilation Systems: Insulation for hot gas exhaust pipes, ducts, and vent systems, ensuring safe operation and heat containment.

Chemical Processing Equipment: Insulates pipes in chemical plants, protecting them from heat exposure and chemical reactions.

Power Generation: Applied in power plants for pipe insulation in boilers, steam turbines, and gas turbines.

CCEWOOL® HTIW Shapes for Lead-Free Tin Spraying Machines

CCEWOOL® HTIW Shapes are high-performance vacuum-formed products made from premium alumino-silicate fiber cotton. Designed for use in lead-free tin spraying machines, these custom-shaped components provide exceptional thermal insulation, mechanical strength, and long-term durability. Different binders and additives are selected based on specific performance requirements, ensuring reliable operation under extreme conditions.



Electric Heating Plate

Temperature: 1500°C

Density: 350 kg/m³

Application Industry: Lead-Free Tin Spraying Machine Heating Plate

Application Area: Resistance Wire Insulation and Thermal Protection



Treatment Method: Hardening Treatment

Characteristics:

Low Shrinkage;

High Thermal Insulation;

Lightweight & Impact-Resistant;

Wear & Spall Resistance;

Non-Wettability with Molten Metals.

Application:

Spraying Nozzle Insulation: Provides thermal insulation around spraying nozzles, ensuring precise and consistent tin spraying.

Molten Tin Tanks & Linings: Acts as thermal insulation for molten tin containers, reducing heat loss and maintaining stable operating temperatures.

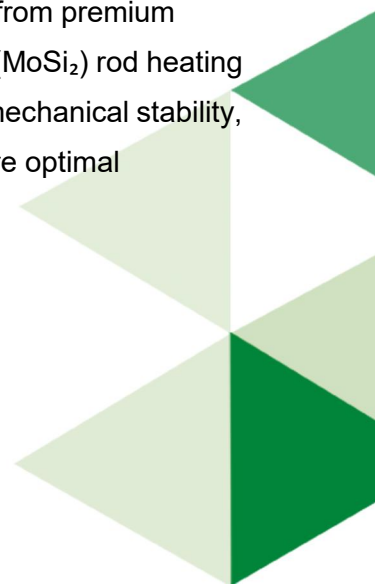
Heating Chambers: Used as lining material in high-temperature heating chambers, improving energy efficiency and operational safety.

Thermal Barriers & Shields: Protects sensitive components from extreme heat and prevents unwanted heat transfer.

CCEWOOL® HTIW Shapes for Silicon Molybdenum Rod Heating

Elements

CCEWOOL® HTIW Shapes are high-performance vacuum-formed products made from premium alumino-silicate fiber cotton. Specifically designed for use with silicon molybdenum (MoSi_2) rod heating elements, these custom-shaped components provide excellent thermal insulation, mechanical stability, and long-lasting durability. With carefully selected binders and additives, they ensure optimal performance in high-temperature environments.





Silicon Carbide Rod Insulation Base

Temperature: 1500°C / 1600°C

Density: 350 kg/m³

Application Industry: Silicon Molybdenum Rod

Heating Elements

Application Area: Insulation Base for Silicon

Molybdenum Rods

Treatment Method: Inorganic Hardening Treatment

Characteristics:

Low Shrinkage;

High Thermal Insulation;

Lightweight & Impact-Resistant;

Wear & Spall Resistance;

Non-Wettability with Molten Metals.

Application:

Heating Element Supports: Insulates and stabilizes silicon molybdenum rod heating elements in high-temperature furnaces.

Thermal Barriers: Acts as a heat barrier, reducing heat loss and improving energy efficiency.

Electric Furnace Linings: Protects furnace interiors from heat exposure, ensuring consistent performance and longevity.

CCEWOOL® HTIW Shapes for Black Box Fireproof and Insulation

CCEWOOL® HTIW Shapes are premium vacuum-formed products made from high-quality alumino-silicate fiber cotton. Specifically designed for fire protection and thermal insulation of black boxes (flight data recorders), these custom-shaped components offer exceptional heat resistance,

mechanical strength, and durability. Different binders and additives are selected based on specific performance requirements, ensuring maximum reliability in extreme conditions.



Insulation Box

Temperature: 1260°C

Density: 350 kg/m³

Application Industry: Black Box Fire Protection and Insulation

Application Area: Interior Insulation for Black Boxes

Treatment Method: Hardening Treatment

Characteristics:

High Fire Resistance;

Low Shrinkage;

Superior Thermal Insulation;

Lightweight & Impact-Resistant;

Wear & Spall Resistance;

Non-Wettability with Molten Metals.

Application:

Flight Data Recorder Enclosures: Provides fireproof insulation around critical components to ensure data integrity in aviation incidents.

Protective Casings: Acts as a thermal shield, keeping sensitive electronics protected during intense heat exposure.

Thermal Barriers: Reduces heat transfer to internal components, prolonging data recorder functionality during emergencies.



CCEWOOL® HTIW Shapes for Electric Heating Tube Industry

CCEWOOL® HTIW Shapes are high-performance vacuum-formed products made from premium alumino-silicate fiber cotton. Specially designed for the electric heating tube industry, these custom-shaped components provide exceptional thermal insulation, mechanical strength, and long-lasting durability. They are tailored with specific binders and additives to meet various performance requirements in high-temperature heating environments.



Electric Heating Tube Insulation

Temperature: 1260°C / 1500°C

Density: 350/400 kg/m³

Application Industry: Electric Heating Tube Industry

Application Area: Heating Wire and Heating Tube Insulation

Treatment Method: Inorganic Hardening Treatment

Characteristics:

- Low Shrinkage;
- High Thermal Insulation;
- Lightweight & Impact-Resistant;
- Wear & Spall Resistance;
- Non-Wettability with Molten Metals.

Application:

Heating Element Insulation: Provides heat-resistant insulation for electric heating tubes, ensuring safe and efficient operation.

Support Components: Acts as a structural support for heating elements, ensuring stability during use.

Thermal Shields: Prevents heat transfer to surrounding components, enhancing system safety and performance.

Tube Linings & Casings: Insulates tube interiors, minimizing heat loss and boosting operational efficiency.