CCEWOOL Thermomax Inc.
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www.ccewool.com

CCEWOOL® Ceramic Fiber Module

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

CCEWOOL® RCF Module is a modular refractory ceramic fiber lining system manufactured from spun refractory ceramic fiber blankets. The modules are mechanically pre-compressed and folded into block structures during production. Each module is compressed to a designed density and pre-installed with an anchoring system according to furnace lining requirements, allowing direct attachment to anchor studs welded on the furnace steel shell. Once installed, the modules form a continuous high-temperature insulation lining system.

During installation, the modules are further compressed against the furnace shell. When the external restraints are removed, the fibers expand and release stored compression energy, causing adjacent modules to press tightly against each other. This feature compensates for thermal shrinkage during high-temperature operation and significantly improves the overall sealing integrity and structural stability of the furnace lining system.

In addition, the modular design dramatically reduces installation time compared with traditional refractory linings and lowers long-term maintenance costs. As a result, CCEWOOL® RCF Modules are widely used in a variety of high-temperature industrial furnace lining systems.

To meet the requirements of different furnace structures and installation methods, CCEWOOL® RCF Modules are available in multiple structural configurations and also support Fabrication customization. Module dimensions, thickness, density, folding structure, and anchoring systems can all be customized based on furnace lining designs or engineering drawings, enabling optimal compatibility with different industrial furnace configurations and operating conditions.

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CCEWOOL® RCF Modules are available in several module designs, including S-Fold modules, U-Fold modules, L-shaped modules, Stack modules, and monolithic formed modules, each engineered with different fiber orientations and load-bearing structures to accommodate various furnace lining installation requirements.

Module Structure Types

S-Fold Modules

S-Fold modules are formed by continuous wave-like folding of fiber blankets, creating a dense and uniform fiber arrangement. This design provides strong rebound capability, allowing the lining to compensate for thermal shrinkage during furnace operation. It is commonly used in large-area furnace lining applications.

U-Fold Modules

U-Fold modules are formed through U-shaped folding, producing a balanced internal fiber arrangement that improves the structural stability of the module.

L-Shaped Modules

L-shaped modules are derived from U-Fold designs with modified fiber orientation, allowing better adaptation to furnace edges, corners, and structural transition areas.

Stack Modules

Stack modules are manufactured by stacking layers of fiber blankets to form the module structure, providing a more uniform fiber orientation and stable structural performance.

Monolithic Formed Modules

These modules are manufactured using automated forming processes in a single integrated structure without lamination or assembly joints. The continuous internal fiber structure provides high density, excellent structural strength, and long-term stability.

Characteristics:

Excellent Chemical and Thermal Stability;

Low Thermal Conductivity and Low Heat Storage;

Multiple Anchoring System Designs;

Strong Expansion Compensation Capability;

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Excellent Mechanical Flexibility;

Lightweight Structure;

Outstanding Thermal Shock Resistance;

Immediate Commissioning After Installation;

Fabrication Customizable Modules.

Application:

CCEWOOL® RCF Modules are widely used in insulation lining systems for industrial furnaces and high-temperature equipment, including:

Petrochemical Industry

Process heaters

Reforming furnaces

Cracking furnaces

Flue and duct systems

Steel Industry

Reheating furnaces

Soaking pits and furnace covers

Ladle covers

Coil annealing furnaces

Continuous annealing and coating lines

Rotary kilns

Car-bottom furnaces

Roller hearth furnaces

Elevator furnaces

Flue and exhaust systems

Aluminum Industry

Soaking pits and furnace covers

Molten aluminum treatment furnaces

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Homogenizing furnaces

Flue systems

Ceramic Industry

Tunnel kilns

Intermittent kilns

Hoffman kilns

Technical ceramic firing kilns

Combustion chambers and flue insulation structures

Utilities and Energy Equipment

Thermal oxidizers

Waste heat recovery units

Combustion chambers

Boiler flue systems

Other High-Temperature Industrial Equipment

Heat treatment furnaces

Roller hearth furnace linings

Gas turbine exhaust systems

Waste heat boiler linings

Pipe and flue linings

Regenerative thermal oxidizers (RTO)

Various industrial kiln insulation systems

TDS

CCEWOOL® RCF Module				
Item	1260S	1260HPS	1400	1430HZ
Operation Temp	1050°C(1922°F)	1100°C(2012°F)	1200°C(2192°F)	1350°C(2462°F)
Density	160-220 kg/m3			
Linear Shrinkage EN1094-1 （%）				
®950°C, 24hrs	-	-	-	-

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®1000°C,24hrs	1.5	1.5	-	-
®1100°C,24hrs	2.5	2	1.5	-
®1200°C,24hrs	3	2.5	2	1
®1300°C,24hrs	-	-	3	2
®1400°C,24hrs	-	-	-	3
Thermal Conductivity W/(m·k)				
400°C	0.10	0.10	0.10	0.10
600°C	0.18	0.17	0.16	0.15
800°C	0.20	0.20	0.20	0.19
1000°C	0.27	0.26	0.26	0.26
Chemical Composition（%）				
Al2O3	≥43	≥44	≥52	≥35
SiO2	≥54	≥55	≥47	≥49
ZrO2	-	-	-	≥15
Specification （mm）	L×W: 300×300 (12”×12”); 450×300 (18”×12”); 600×300 (24”×12”)			
	H: 100;150;200;250;300 (4”,6”,8”,10”,12”)			
Package	Carton Box or Pallet			