

CCEWOOL® Ceramic Fiber Blanket with Aluminum Foil for Fabrication



Classification Temperature: 1260°C (2300°F),
1400°C (2552°F), 1430°C (2600°F)

Chemical Composition: Alumina, Silica,
(Zirconia)

CCEWOOL® Ceramic Fiber Blanket with Aluminum Foil for Fabrication is a high-temperature composite insulation material developed for downstream processing and customized thermal insulation structures. Based on a stable and uniform ceramic fiber blanket laminated with high-quality aluminum foil, the product is designed to meet Fabrication

requirements for material consistency, strength, and surface integrity during wrapping, custom cutting, composite assembly, and further processing.

The blanket is manufactured using CCEWOOL®'s self-developed double-sided internal needle-punching process, creating a dense and uniform fiber structure with tensile strength exceeding 75 kPa. This helps the material resist delamination, tearing, and deformation during cutting, bending, wrapping, fitting, and subsequent assembly, making it well suited as a base material for customized Fabrication components.

The facing uses 0.2 mm European-standard aluminum foil, with an M1 fire classification and an applicable temperature range of -40°C to 250°C. The aluminum foil layer provides radiant heat reflection, moisture resistance, and surface protection while also helping maintain surface integrity and structural stability during downstream processing. This makes the product particularly suitable for insulation components requiring a durable protective outer surface.

To accommodate different processing methods and structural designs, the product is available with single-sided, double-sided, or six-sided full aluminum foil facing. It can be further fabricated into pipe insulation wraps, duct insulation components, equipment casing insulation, custom-shaped thermal covers, and other customized high-temperature insulation components.

For applications requiring a balance of thermal insulation, surface protection, and efficient downstream processing, CCEWOOL® Ceramic Fiber Blanket with Aluminum Foil for Fabrication provides a stable and reliable material solution.

Characteristics:

Excellent chemical corrosion resistance;
Stable structure at high temperatures;
Low heat storage;
Excellent thermal shock resistance;
Lightweight and flexible with excellent thermal insulation performance;
Improved abrasion resistance;
Excellent sound absorption.

Applications:

HVAC and ventilation duct insulation;
Thermal insulation for furnace and equipment casings;
External insulation for hot-air ducts;
Cable trays and conduits;
Railway tank cars;
Steam pipes, hot-oil pipelines, and exhaust piping;
Marine bulkheads and decks;
Expansion joints;
Structural steel protection;
Fire-door seals;
Chimney linings;
Ceiling air outlets;
Electrical circuit protection;
Fire protection for marine engine rooms and exhaust stacks;
High-temperature insulation for commercial and industrial exhaust ducting;
High-temperature ventilation ducts, kitchen exhaust hoods, supply-air and exhaust vents;
Electrical conduits and wire protection;
Automotive engine compartment insulation;

Thermal insulation for battery energy storage cabinets.

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Operation Temp(°C)	1050 (1922°F)	1100 (2012°F)	1200°C(2192°F)	1350°C(2462°F)
Density (kg/m3)	64/ 96/ 128/160(4,6,8,10lb/ft3)			
Aluminum foil thickness (mm)	0.12			
Chemical Composition of refractory ceramic blanket (%)				
Al2O3	≥44	≥44	≥44	≥35
SiO2	≥52	≥55	≥50	≥49
ZrO2	-	-	≥5	≥15
Permanent Change on Heating (%), EN1094-1 After 24 hours				
®1000°C(1832°F)	1.5	1.5	-	-
®1100°C(2012°F)	2.5	2.2	1.5	-
®1200°C(2192°F)	3	3	2	1
®1300°C(2372°F)	-	-	3	2
®1400°C(2552°F)	-	-	-	3
Tensile Strength(Kg/m3), EN1094-1 KPa				
64kg/m3(4lb/ft3)	35	45	45	-
96kg/m3(6lb/ft3)	55	65	65	65
128kg/m3(8lb/ft3)	75	85	85	85
160kg/m3(10lb/ft3)	110	125	125	125
Heat Conductive Co-efficient W/(m·k)(128kg/m3)				
200°C(392°F)	0.07	0.07	0.07	0.06
400°C(752°F)	0.12	0.12	0.12	0.11
600°C(1112°F)	0.2	0.2	0.2	0.16
800°C(1472°F)	0.3	0.3	0.3	0.23
1000°C(1832°F)	0.45	0.4	0.43	0.35