

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°C (2912°F)
Continuous Temperature Use Limit	1500°C (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°C x24h<1.0
	1600°C x24h<1.0
Thermal Conductivity (W/m-K) (96kg/m ³)	
600°C	0.067
1000°C	0.129
1200°C	0.170

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