

CCEWOOL® Polycrystalline Wool Board



Classification Temperature: 1600°C
(2912°F)

Chemical Composition: Alumina, Silica
CCEWOOL® Polycrystalline Wool

Board is a rigid high-temperature insulation board made from high-purity polycrystalline wool with a high-temperature bonding system through a wet vacuum-forming process. It is developed for

ultra-high-temperature applications requiring excellent dimensional stability and structural integrity, especially where conventional ceramic fiber board is approaching its performance limits.

Compared with standard refractory ceramic fiber board, CCEWOOL® Polycrystalline Wool Board provides lower linear shrinkage and better thermal stability at elevated temperatures. In the 1350–1600°C range, it maintains good dimensional integrity and mechanical strength, helping reduce lining deformation, maintenance frequency, and heat loss.

The board also offers high rigidity and good fracture resistance, making it suitable for areas requiring resistance to sagging, mechanical impact, and thermal shock. Its low thermal conductivity and low heat storage help improve thermal efficiency in high-temperature equipment.

With its stable structure, dimensional consistency, and good machinability, CCEWOOL® Polycrystalline Wool Board is also well suited for Fabrication processing into custom-shaped components, composite insulation structures, and other customized high-temperature parts.

Characteristics:

Ultra-high temperature resistance;

Very low linear shrinkage;

High rigidity;

Lightweight;

Excellent chemical stability;

Excellent thermal shock resistance;
Excellent corrosion resistance;
Easy to cut, handle, and install;
Low thermal conductivity;
Low heat capacity.

Applications:

High-temperature laboratories;
High-temperature furnaces and kilns;
Aerospace applications;
Backup insulation behind dense refractory linings;
Expansion joints;
Furnace hot-face linings;
Insulation replacement for monolithic and brick refractories;
Ladle linings and covers;
Aluminum trough linings and custom shapes;
Riser sleeves, tapping cones, and hot tops;
Boiler and heater combustion chambers;
Hot-gas ducts, flues, and chimney linings;
Heat-treatment insulation;
Circular ceramic components;
Burner blocks;
Insulation for glass regenerators, tank walls, end walls, and port necks;
Backup insulation for ladles, tundishes, and torpedo cars.

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CCEWOOL® Polycrystalline Fiber Board				
Description	PCW1400 Board	PCW1450 Board	PCW1600 LD Board	PCW1600 HD Board
Classification Temperature (°C)	1600(2912°F)	1600(2912°F)	1700(3092°F)	1700(3092°F)
Continuous Temperature Use Limit (°C)	1400(2552°F)	1450(2642°F)	1600(2912°F)	1600(2912°F)

Chemical Composition (%)				
Al ₂ O ₃	60	62	70	70
Al ₂ O ₃ +SiO ₂	98	98	98.5	98.5
Color	White	White	White	White
Density (kg/m ³)(lb/ft ³)	300	300	250	400
Modules of Rupture(MPa)	≥0.3	≥0.3	≥0.3	≥0.3
Compressive Strength (MPa,10% relative deformation)	0.25	0.25	0.15	0.3
Loss of lanition (%%)	≤8	≤8	≤8	≤8
Permanent Linear Shrinkage (%)	1400°C x 24h ≤2.0	1450°C x 24h ≤2.0	1600°C x 24h ≤1.5	1600°C x 24h ≤1.5
Thermal Conductivity (W/m-K)				
400°C	0.08	0.08	0.08	0.08
600°C	0.1	0.1	0.12	0.09
800°C	0.13	0.13	0.14	0.12
1000°C	0.16	0.15	0.17	0.15
1200°C	0.19	0.19	0.2	0.19