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# Aerospace - Cockpit and Thrust

## Reversers

We provide advanced material solutions for environments demanding high-temperature performance and vibration resistance, where space and weight limitations are critical.



## **CCEWOOL® M60 Microporous Insulation Board**



Temperature Grade: 600°C (1112°F)

CCEWOOL® M60 Microporous Insulation

Board is an efficient insulation product

based on advanced microporous

insulation technology. At low temperature,

it has a lower thermal conductivity than

still air. The thermal conductivity

increases very little with the increase of

temperature. At high temperature, its insulation effect is 3-4 times higher than traditional insulation materials. CCEWOOL® M60 Microporous Insulation Board has high compressive strength, covered with aluminum foil or glass fiber cloth. It is an excellent choice for the lightweight and energy-saving application of kiln.

#### Characteristics:

Good fit to curved surfaces

Low thermal conductivity

Low heat storage

Non-combustibility

#### Application:



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**Typical Applications** 

Back-up insulation in high-temperature furnaces

Appliances insulation

Fire protection equipment

Electronic devices

Nonferrous Metal Furnace

Rotary & Shaft Kiln

Various Incinerator

Reheating Furnace

Permanent Lining For EAF Ladle

General Industrial Furnace etc.

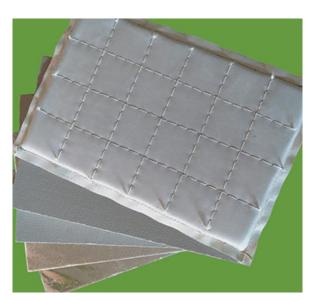
#### **TDS**

| CCEWOOL® M60 Microporous Insulation Board            |                 |  |
|--|-----------------|--|
| Description  | M60 Board       |  |
| Recommended Temperature of Use (℃)                   | 600 (1112°F)    |  |
| Density (kg/m³)                                      | 300/320         |  |
| Modules of Rupture (MPa)                             | ≥0.15           |  |
| Compressive Strength (MPa, 10% relative deformation) | ≥0.3            |  |
| Permanent Linear Shrinkage (%)                       | 600℃ x 24h ≤2.0 |  |
| Thermal Conductivity (W/m·K)                         |                 |  |
| 100℃   | 0.022           |  |
| 200℃   | 0.024           |  |
| 300℃   | 0.028           |  |
| 400℃   | 0.029           |  |
| 500℃   | -               |  |
| 600℃   | -               |  |



| Covering Material  | Aluminum Foil / PE Foil / Glass Fiber Cloth |
|--------------------|---|
| Standard Size (mm) | 600 x 400 x (10-50)                         |
|                    | 1000 x 500 x (10-50)                        |

## **CCEWOOL® M90 Microporous Insulation Board**



Temperature Grade: 900 °C (1652°F)

CCEWOOL® M90 Microporous Insulation Board is an efficient insulation product based on advanced microporous insulation technology. It has a lower thermal conductivity than stagnant air, making it an ideal high-temperature insulation material. The surface of the board can be coated with aluminum foil or PE shrink film. The nano board can also be coated with high-temperature glass fiber materials on the surface of nano-microporous

insulation materials using a special process, giving it low thermal conductivity while maintaining moderate flexibility, allowing for multidimensional bending to meet the requirements of special space applications.

### **Characteristics:**

Good fit to curved surfaces

Excellent thermal shock resistance

Excellent thermal stability

Low thermal conductivity

Low heat storage

Non-combustibility

#### Application:



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**Typical Applications** 

Back-up insulation in high-temperature furnaces

Appliances insulation

Fire protection equipment

Electronic devices

Nonferrous Metal Furnace

Rotary & Shaft Kiln

Various Incinerator

Reheating Furnace

Permanent Lining For EAF Ladle

General Industrial Furnace etc.

#### **TDS**

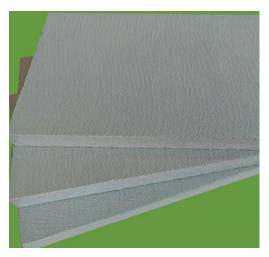
| CCEWOOL® M90 Microporous Insulation Board            |                  |  |
|--|------------------|--|
| Description  | M90 Board        |  |
| Recommended Temperature of Use (°C )                 | 900(1652°F)      |  |
| Density (kg/m³)                                      | 280/300          |  |
| Modules of Rupture (MPa)                             | ≥0.15            |  |
| Compressive Strength (MPa, 10% relative deformation) | ≥0.3             |  |
| Permanent Linear Shrinkage (%)                       | 900°C x 24h ≤2.0 |  |
| Thermal Conductivity (W/m·K)                         |                  |  |
| 100℃   | 0.02             |  |
| 200℃   | 0.023            |  |
| 300℃   | 0.026            |  |
| <b>400</b> ℃   | 0.027            |  |
| 500℃   | 0.033            |  |
| 600℃   | -                |  |





| Covering Material  | Aluminum Foil / PE Foil / Glass Fiber Cloth |
|--------------------|---|
|                    | 600 x 400 x (10-50)                         |
| Standard Size (mm) | 1000 x 500 x (10-50)                        |

## **CCEWOOL® M110 Microporous Insulation Board**



Temperature Grade: 1100 °C (2012 °F)

CCEWOOL® M110 Microporous Insulation Board is a nanoscale microporous insulation material and is the best high-temperature solid insulation material with superior insulation performance to date. The surface can be covered with outer materials such as aluminum foil, glass fiber cloth, etc., to reduce dust, decrease damage, increase strength, and prevent moisture damage. At low temperatures, the product has a lower thermal conductivity

than stagnant air, with a slight increase in thermal conductivity as the temperature rises. It provides 3-4 times better insulation performance at high temperatures compared to traditional insulation materials.

CCEWOOL® M110 Microporous Insulation Board is an ideal material for reducing heat loss and improving energy efficiency making it an excellent choice for applications such as kilns and other lightweight and energy-saving applications.



#### Characteristics:

Extremely low thermal conductivity, significantly reduces insulation layer thickness and improves insulation efficiency.

Low heat dissipation and heat storage, increases heating and cooling rates.



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Environmentally friendly, non-toxic, and harmless.

Durable material, capable of self-support.

Excellent thermal stability.

Superior resistance to rapid temperature changes.

## Application:

Back-up insulation in high-temperature furnaces

Appliances insulation

Fire protection equipment

Electronic devices

Nonferrous Metal Furnace

Rotary & Shaft Kiln

Various Incinerator

Reheating Furnace

Permanent Lining For EAF Ladle

General Industrial Furnace etc.

## **TDS**

| CCEWOOL® M110 Microporous Insulation Board                  |                  |  |
|---|------------------|--|
| Description   | M110 Board       |  |
| Recommended Temperature of Use ( $^{\circ}\!\!\mathbb{C}$ ) | 1100(2012°F)     |  |
| Density (kg/m³)   | 320              |  |
| Modules of Rupture (MPa)                                    | ≥0.15            |  |
| Compressive Strength (MPa, 10% relative deformation)        | ≥0.3             |  |
| Permanent Linear Shrinkage (%)                              | 1050℃ x 24h ≤2.5 |  |
| Thermal Conductivity (W/m·K)                                |                  |  |
| 100℃  | 0.022            |  |



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| 200℃               | 0.024                                       |
|--------------------|---|
| 300℃               | 0.031                                       |
| 400℃               | 0.036                                       |
| 500℃               | 0.04  |
| 600℃               | 0.048                                       |
| Covering Material  | Aluminum Foil / PE Foil / Glass Fiber Cloth |
|                    | 600 x 400 x (10-50)                         |
| Standard Size (mm) | 1000 x 500 x (10-50)                        |