

# ALUMINUM INDUSTRY

## THERMAL INSULATION SOLUTIONS

High-Temperature Insulation  
& Furnace Lining Solutions



Energy Saving



High-temperature  
Performance



Stable  
Operation



Customized  
Solutions

# WHY THERMAL INSULATION MATTERS IN ALUMINUM INDUSTRY

Aluminum industry involves multiple high-temperature processes including alumina calcination, electrolytic aluminum, recycled aluminum melting, aluminum liquid holding and transportation, homogenizing, annealing, solution treatment, aging and more.

These processes face challenges such as high heat loss, high energy consumption, thermal stress, corrosion and equipment aging.

Advanced insulation solutions help aluminum plants reduce energy costs, improve thermal efficiency, enhance process stability and extend equipment life.



Lower Heat Loss



Improve Efficiency



Extend  
Equipment Life



Stable  
Performance



Reduce  
Energy Cost

# TYPICAL ALUMINUM FURNACE SYSTEMS



**Alumina  
Calcination Kiln**



**Aluminum  
Electrolytic Cell**



**Aluminum  
Melting Furnace**



**Holding Furnace &  
Transfer System**



**Homogenizing  
Furnace**



**Annealing  
Furnace**



**Solution & Aging  
Furnace**



**Billet Preheating  
Furnace**



**Hot Air & Flue  
System**

# ALUMINA CALCINATION FURNACE INSULATION SOLUTIONS

- Rotary Kiln Shell
- Kiln Head & Tail
- Cyclone & Duct
- Hot Air System
- Preheater & Cooler
- Inspection Door



## RECOMMENDED PRODUCTS



**Ceramic Fiber Blanket**

Low heat storage  
Excellent insulation



**Ceramic Fiber Board**

High strength  
Easy installation



**Microporous Board**

Ultra low thermal conductivity  
Space saving



**IFB (Insulating Firebrick)**

Lightweight  
Good structural stability

# ALUMINUM ELECTROLYTIC CELL THERMAL BALANCE SOLUTIONS



## Cell Bottom

Reduce downward heat loss and protect steel shell.



## Cathode Backing

Provide thermal insulation and maintain cathode thermal balance.



## Side Wall

Control side heat loss and maintain proper heat balance for crust formation.



## Cell Cover

Improve sealing performance and reduce heat loss and gas leakage.



## Heat Balance Control

Optimize insulation structure to achieve stable operation and lower energy consumption.



## RECOMMENDED PRODUCTS



**Microporous Board**

Ultra low thermal conductivity  
Excellent insulation



**Calcium Silicate Board**

Good strength  
Excellent fire resistance



**Ceramic Fiber Board**

Low heat storage  
Easy to install



**IFB (Insulating Firebrick)**

Lightweight  
Good structural stability

# ALUMINUM MELTING FURNACE INSULATION SOLUTIONS



## Reverberatory Furnace

High-temperature insulation for roof, wall and combustion chamber.



## Rotary Melting Furnace

Insulation solutions for rotary shell, burner and support ring.



## Roof Insulation

Reduce heat loss and improve furnace thermal efficiency.



## Side Wall Insulation

Maintain shell temperature and protect furnace structure.



## Furnace Door

High-performance insulation for easy operation and safety.



## Flue & Chimney

Insulation for flue, duct and chimney to reduce heat loss.



## Back-up Insulation Layer

Enhance insulation stability and extend furnace service life.



## RECOMMENDED PRODUCTS



**Ceramic Fiber  
Blanket**

Low heat storage  
Excellent insulation



**Ceramic Fiber  
Module**

Low thermal conductivity  
Easy installation



**Microporous  
Board**

Ultra low thermal conductivity  
Space saving



**Calcium Silicate  
Board**

Good strength  
Excellent fire resistance



**IFB  
(Insulating Firebrick)**

Lightweight  
Good structural stability

# HOLDING FURNACE & ALUMINUM LIQUID TRANSFER SYSTEM



## Holding Furnace

Maintain aluminum liquid temperature and quality stability.



## Transfer Ladle

Safe and efficient transfer of molten aluminum.



## Launder & Trough

Ensure smooth flow and reduce heat loss.



## Degassing Box

Remove hydrogen and impurities for better quality.



## Filter Box

Filter out inclusions to improve aluminum purity.



## RECOMMENDED PRODUCTS



**Ceramic Fiber Blanket**

Low heat storage  
Excellent insulation



**Ceramic Fiber Board**

High strength  
Easy installation



**Microporous Board**

Ultra low thermal conductivity  
Space saving



**Ceramic Fiber Paper**

Flexible and lightweight  
Good insulation performance

# HOMOGENIZING & ANNEALING FURNACE INSULATION SOLUTIONS



## Roof Insulation

Reduce heat loss and improve furnace thermal efficiency.



## Wall Insulation

Maintain stable furnace temperature and save energy.



## Door Insulation

Enhance sealing performance and reduce heat leakage.



## Circulation Air Duct

Minimize heat loss in air ducts and improve circulation efficiency.



## Car Bottom Insulation

Reduce bottom heat loss and protect furnace car structure.



## RECOMMENDED PRODUCTS



**Ceramic Fiber  
Module**

Low thermal conductivity  
Easy installation



**Ceramic Fiber  
Board**

High strength  
Excellent insulation



**Microporous  
Board**

Ultra low thermal conductivity  
Space saving



**Calcium Silicate  
Board**

Good strength  
Excellent fire resistance

# SOLUTION FURNACE & AGING FURNACE INSULATION SOLUTIONS



## Solution Furnace

Provide high-performance insulation for uniform heating and energy saving.



## Aging Furnace

Ensure stable temperature control and reduce heat loss.



## Quenching Area

Insulation solutions for high temperature and rapid cooling zones.



## Door & Seal

Enhance sealing performance to minimize heat leakage.



## Air Circulation System

Optimize air circulation and improve temperature uniformity.



## Trolley & Car

Insulation for trolleys and cars to extend service life.



## RECOMMENDED PRODUCTS



**Ceramic Fiber Blanket**

Low thermal conductivity  
Excellent insulation



**Ceramic Fiber Module**

Low thermal conductivity  
Easy installation



**Microporous Board**

Ultra low thermal conductivity  
Space saving



**Ceramic Fiber Paper**

Flexible and lightweight  
Good insulation performance



**Textile Products**

High temperature resistance  
Good sealing performance

# BILLET PREHEATING FURNACE INSULATION SOLUTIONS



**Billet Preheating Furnace**  
Provide stable insulation and improve heating efficiency.



**Die Heating Oven**  
Maintain uniform temperature and improve product quality.



**Hot Air System**  
Reduce heat loss and improve system efficiency.



**Charging Door**  
Enhance insulation performance and reduce heat leakage.



**Pusher & Slid**  
Protect equipment and reduce maintenance frequency.



**Sealing System**  
Ensure reliable sealing and improve overall insulation performance.



## RECOMMENDED PRODUCTS



**Ceramic Fiber Blanket**

Low thermal conductivity  
Excellent insulation



**Ceramic Fiber Board**

High strength  
Easy installation



**Microporous Board**

Ultra low thermal conductivity  
Space saving



**IFB Insulating Firebrick**

High temperature resistance  
Excellent thermal stability

# WHY CHOOSE CCEWOOL<sup>®</sup> INSULATION SOLUTIONS



## Low Heat Storage

Reduce heat storage and improve thermal response.



## Lower Heat Loss

High insulation performance to reduce energy consumption.



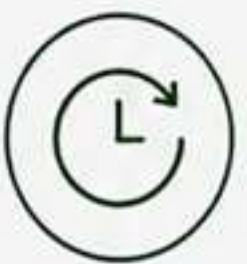
## Stable Furnace Temperature

Enhance temperature uniformity and process stability.



## Lower Shell Temperature

Reduce surface temperature and improve working environment.



## Long Service Life

High temperature resistance and excellent durability.



## Energy Saving

Lower energy cost and support sustainable production.



# ADVANCED THERMAL INSULATION SOLUTIONS FOR ALUMINUM INDUSTRY

Reliable Products. Professional Support.  
Sustainable Value.



## GLOBAL PROJECT SUPPORT

**Double Egret Thermal Insulation Co., Ltd**  
Minying Industrial Park Development Zones  
Zibo, Shandong, 255000

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## U.S. WAREHOUSE STOCK SUPPLY & LOCAL PROJECT SUPPORT

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