



Microporous Insulation Panel in Aluminum Industry

MIP, short for Microporous Insulation Panel, is a microporous insulation material with exceptional thermal performance based on powdered silica. MIP is produced in self-standing panels, insensitive to thermal shocks and with very low linear shrinkage. Non combustible and completely asbestos free.



TECHNICAL DATA		
Description	U.M.	MIP-Standard
Norminal density	[kg/m ³]	260-350
Max application temperature	C°	950
Linear shrinkage 12h	800°C	1.7 %
	900°C	1.9 %
Compressive strength	[N/mm ²]	1-3
Specific heat	[KJ/Kg K]	1.05
Thermal conductivity at an temperature of	100°C	0.018
	200°C	0,021
	300°C	0,022
	400°C	0,023
	500°C	0,025
	600°C	0,028
	700°C	0,030
800°C	0,033	
Reaction to fire	Non-combustible	

With its outstanding low conductivity which even lower than still air, MIP was widely used in Aluminum industry.

A. Primary Aluminum



Application on Electrolytic Bath

Benefit:

1. Lower down the outer surface temperature;
2. Shorten the pre-heating cycle;
3. Increase the equipment temperature uniformity and working stability;
4. Lower down the working voltage and power consumption;

Project: 300KA electrolytic bath

Upgrading method	Result
Add 10mm thickness MIP panels behind the lateral and bottom lining.	Lateral temperature decreased 20°C~23.8°C Bottom temperature decreased 5°C~8°C Working voltage decreased 40mV~60mV

B. Secondary Aluminum



Application on melting and holding furnace

Benefit:

1. Reducing furnace lining thickness & Enlarge production capacity
2. Lower down the outer surface temperature
3. Raise heating speed
4. Save energy

Project: D=7m aluminum melting and holding furnace

Upgrading method	Result
Replace original 300mm thick ceramic fiber module with 35mm	Outer surface temperature decreased around 25°C Lining thickness reduced 265mm

MIP panels.

Production capacity increased from 35ton to 60ton



Application on transport ladle for molten aluminum

Benefit:

1. Keep temperature of molten aluminum
2. Reduce heat loss in transportation
3. Save energy for reheating

c. Aluminum Processing



Application on aluminum rod heating furnace

Benefit:

1. Reducing furnace lining thickness
2. Lower down the outer surface temperature
3. Raise heating speed
4. Save energy