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Magnesium Silicon Board



Magnesium silicon board is a new type of high-strength and high-temperature insulation board, with a long-term use temperature of 1050 °C. It does not absorb moisture or hydrate, and its lifespan is synchronized with that of the equipment. Applied to steel ladles, it can reduce the shell temperature by 50-70 °C, reduce the rate of steel temperature reduction by 0.25 °C/min, and achieve significant energy-saving and environmental protection effects, replacing traditional insulation panels such as calcium silicate panels, calcium silicate insulation panels, and siliceous insulation panels.

1. Technical index of Magnesium silicon board

Item	Unit	Value	
MgO	%	25-30	
SIO2	%	31-35	
P2O5	%	10-11	
Fe2O3	%	9-10	
Al2O3	%	7-9	
Porosity	%	60-66	
Density	Kg/m3	1000±10	
Normal temperature compressive strength compression 10%	Mpa	7-8	
Flexural strength	Mpa	8-9	
Thermal conductivity	W/m.k	200°C	0.230
		400°C	0.243
		600°C	0.267

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2. Product Description

Magnesium silicon board, also known as vermiculite board, is produced with magnesium olivine and expanded vermiculite as the main raw materials, and phosphate as the binder. It is a high-strength, high-temperature resistant, and high-performance insulation board. Magnesium silicon board has superior performance, permanent non powdering, and synchronous lifespan with insulation equipment. It has a long-term working temperature of 1050 °C, significant energy-saving and insulation effects, and can reduce the temperature of the equipment shell by 50-70 °C. The application fields of products are becoming increasingly broad, including metallurgy, steel, chemical engineering, building materials, construction, etc., which are deeply loved by users

3. Significant features of the product

- 1) High temperature resistance, long-term working temperature is 1050 °C
- 2) Good energy-saving and insulation effect, reducing the temperature of the equipment shell by 50-70 °C
- 3) Long service life, with the same lifespan as the equipment
- 4) No moisture absorption, hydration, or pulverization
- 5) High strength, low thermal conductivity
- 6) Easy to process and install

4. Application field

Ladle, heating furnace, cement kiln, chemical furnace, building, etc

5. Cases

Application of 26 # Ladle in China Rizhao Steel Group

1. The average temperature drop of the package wall is 43 °C, with a cooling rate of 0.956 °C/min
2. The upper, middle, and lower temperatures of the 2 # and 26 # test packages are 7.2 °C, 29.86 °C, and 49.62 °C lower than the average temperature of non test packages, respectively
3. Benefit calculation
 - 1) Reduced power consumption and electrode consumption: 3.83yuan/MT
 - 2) Cost increase of magnesium silicon board: 0.11yuan/MT
 - 3) Benefit per ton: $3.83 - 0.11 = 3.72$ yuan/MT
 - 4) Annual benefit of 372yuan/MT * 2.99 million tons = 1.12 million yuan

6. Case photos

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Do you want to find a professional supplier of Magnesium silicon board?

Do you want to find a stable and credible supplier?

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