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Nano Thermal Insulation Board



Nano thermal insulation board is a composite structure board composed of aluminum film, PVOE film, and nano particles. It has a long-term use temperature of 1100 °C, a thermal conductivity coefficient of 2-10 times lower than conventional thermal insulation materials, and a thermal insulation effect that is more than twice that of conventional fiber materials. It can reduce the thickness of the insulation layer by more than 50%. In addition to excellent thermal insulation performance, the product has a compressive strength of up to 2-4Mpa, which is 3-5 times that of ordinary nano materials.

1. Main technical index of Nano thermal insulation board

Density	Compression strength Compress 10% Mpa	Line change rate 600°C*6h, %	Thermal conductivity			
			W/m.k			
			200°C	400°C	600°C	800°C
400-800	2-4	≤2	0.021	0.028	0.035	0.048

2. Description of Nano thermal insulation board

Nano thermal insulation board is an ultra-low conductivity insulation product made by utilizing the unique thermal conductivity of nano porous materials, adding superior binders and various inorganic mineral materials, and adopting advanced synthesis technology. The product structure is a composite type, with a long-term use temperature of 1100 °C and a maximum of 1500 °C. The product does not crack or pulverize during use, and the insulation effect is more than twice that of conventional fiber materials. It can reduce the thickness of the insulation layer by more than 50%. Using this product with a thickness of 10mm is equivalent to that of conventional

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fiber materials with a thickness of 20-30mm, which can improve the effective working capacity and reduce a large amount of heat loss

The thermal conductivity of the product is 2-10 times smaller than that of conventional insulation materials, and the compressive strength is as high as 2-4Mpa, which is 3-5 times higher than that of ordinary nanomaterials. The density is 400-800kg/m³, meeting the operational requirements of large dynamic kilns

Our company's nano insulation board has the same quality as similar foreign products, but its price is lower than that of foreign products. It is now exported to more than ten countries and has received praise from users.

3. Main performance characteristics of the product

1) Low thermal conductivity, less than 2-10 times that of conventional insulation materials, with good insulation effect

2) The product is a microporous nanostructure with special thermal conductivity characteristics, and its energy-saving effect is more than twice that of conventional fiber materials

3) Long term use temperature at 1100 °C, composite structure products can reach 1500 °C

4) The 10mm thick product insulation layer is equivalent to the 20-30mm thick insulation effect of conventional fiber materials, reducing the insulation layer thickness by more than 50%, effectively improving the working capacity and reducing a large amount of heat loss

4. Application field

Iron and Steel Industry - Converter, Ladle, Tundish, Electric Furnace, Heating Furnace, etc

Petrochemical industry - cracking furnaces, heating furnaces, pipelines, etc

Building materials industry - rotary kilns, glass furnaces, tunnel kilns, etc

Power industry - Nuclear power insulation systems, boiler pipelines, etc

5. Application Field Case Analysis

1) Application of Nano Thermal Insulation Board on Ladle

A. Significantly reduce the temperature of the outer wall of the ladle, reduce the thermal stress of the ladle shell, reduce the rate of temperature change, reduce the heat loss of the ladle, and reduce the waste steel billet

B. Reduce tapping temperature, shorten blowing time, reduce raw material and energy consumption, and improve steel quality and output

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C. Improve the lining structure of the ladle, reduce the thickness of the refractory layer, increase the effective volume of the ladle, reduce the temperature difference between the cold and hot surfaces of the refractory, and increase steel production

2) Application of Nano Thermal Insulation Board in Converter

A. Reduce the temperature of the converter shell, reduce the deformation of the shell, and improve the insulation performance of the converter

B. Improve the thermal efficiency of the converter, reduce blowing time, lower tapping temperature, and effectively improve tapping quality and output

C. Reduce refractory materials and energy consumption, increase furnace life

6. Our company's commitment

1) Provide customers with free samples for testing

2) Provide free technical consulting services to customers

7.Achievements generated: Our company has previously shipped 200 tons to Peru

8.We are a professional supplier, who can provide customers with free product technology, use and other issues

[Do you want to find a professional supplier of Nano Thermal Insulation Board?](#)

[Do you want to find a stable and credible supplier?](#)

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