Factory Supply High Alumina Checker Brick For Hot Blast Stoves And Casting Systems

Our Product Introduction

Basic Information

- Place of Origin: Zhengzhou,China
- Brand Name: Rongsheng Xinwei
- Certification: ISO9001
- Model Number: High Alumina Checker Brick
- Minimum Order Quantity: 1 Ton
- Price: 200-800 USD
- Packaging Details: Packed on wooden pallets, with water-proof cover, and tightened with plastic/steel bandages
- Delivery Time: 10-20 Days
- Payment Terms: TT; L/C
- Supply Ability: 2000tons /month

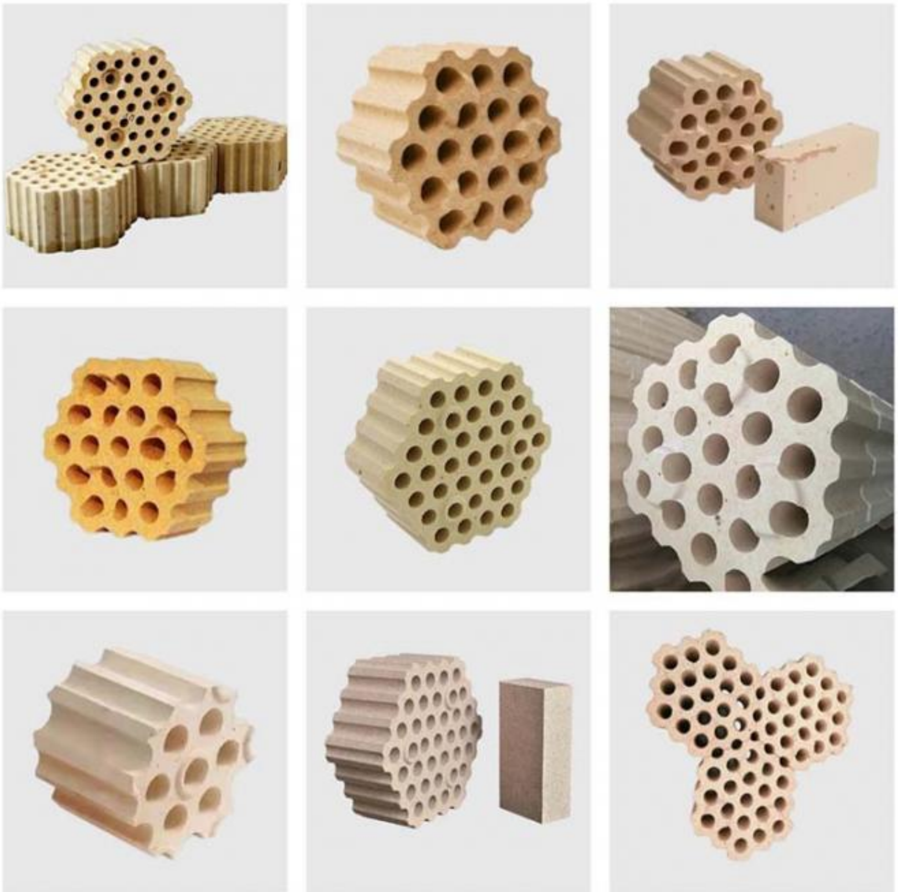
Product Specification

- Highlight: **High Alumina Checker Brick, Casting Systems High Alumina Checker Brick**

Product Description

Product Description of Rongsheng Factory Supply High Alumina Checker Brick For Hot Blast Stoves And Casting Systems

Checker bricks are widely recognized and accepted in the global ironmaking industry for their superior thermal properties, including strong heat exchange capacity, large heat storage area, smooth airflow, and low resistance. These bricks serve as heat storage carriers and are primarily used in the upper part of the regenerative chambers of hot blast stoves, playing a crucial role in storing heat. During the process of heating cold air into hot air, checker bricks are indispensable.



Key Characteristics of High Alumina Checker Brick:

Superior Thermal Performance

High alumina checker bricks are designed with multiple parallel through-holes and precise positioning structures to enhance airflow and heat exchange. This structure not only increases heat storage capacity but also ensures smooth airflow with minimal resistance.

Exceptional Material Properties

Volume Stability: Resistant to high temperatures without deformation.

Low Porosity and High Density: Minimizes air penetration and enhances structural strength.

High-Temperature Creep Resistance: Ensures durability under prolonged thermal loads.

Innovative Design Enhancements

Traditional checker bricks with fewer holes have limited heating surface areas. To address this, modern high alumina checker bricks incorporate lateral channels that allow gases to bypass blockages and maintain effective airflow distribution. This innovation enhances the operational efficiency of hot blast stoves, reducing turbulence and ensuring uniform wind distribution.

Applications of High Alumina Checker Brick:

High alumina checker bricks are widely used in various applications, including:

Regenerative chambers in open-hearth furnaces.

Plug and nozzle bricks in casting systems.

Checker bricks are primarily used in hot blast stoves. When the air temperature is below 900°C, clay bricks are generally used. When the air temperature exceeds 900°C, high alumina bricks, mullite bricks, sillimanite bricks, and silica bricks are preferred. The purpose of a hot blast stove is to heat the cold air supplied by the blower into hot air, which is then delivered to the blast furnace for combustion reactions. Using hot air for blast furnace smelting significantly reduces the fuel consumption in the ironmaking process.

Hot blast stoves operate cyclically in two working phases:

Combustion Phase: During this phase, gaseous fuel burns in the stove's burner, producing high-temperature flue gas. This flue gas passes through the holes of the checker bricks, transferring heat to them. As the flue gas cools, it exits the system through the chimney.

Air Supply Phase: During this phase, cold air from the blower enters the stove, is heated by the checker bricks, and is then sent to the blast furnace through the hot air ducts.

Innovations in Checker Brick Design:
Conventional checker bricks for hot blast stoves often feature a seven-hole design. However, these have limitations, such as reduced heating surface area and lower packing efficiency due to larger holes. To address these drawbacks, modifications have been introduced, such as designing lateral channels at the bottom of the seven-hole bricks. These channels allow gases to bypass blocked sections and access the channels below, preventing complete pathway failure. This design improves airflow distribution and overall efficiency by resolving issues caused by turbulence in the dome and wind equalizing chambers, which can reduce the hot blast stove's overall effectiveness.

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