Silica Bricks For Glass Furnace Crown And Breast Walls

Our Product Introduction

Basic Information

- Place of Origin: Zhengzhou,China
- Brand Name: Rongsheng Xinwei
- Certification: ISO9001
- Model Number: Rongsheng
- Minimum Order Quantity: 1 Ton
- Price: 200-800USD
- 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: **Silica Bricks For Glass Furnace Crown**, **Breast Walls Silica Bricks**, **Glass Furnace Crown Silica Bricks**

Our Product Introduction

Product Description

Silica Bricks for Glass Furnace Crown and Breast Walls

Silica bricks are high-performance refractory materials specifically designed for the demanding conditions of glass furnace crowns and breast walls. Composed primarily of SiO_2, these bricks offer exceptional thermal stability, high refractoriness under load (RUL), and resistance to chemical corrosion. Their unique crystalline structure, consisting of cristobalite and tridymite phases, ensures excellent durability and low bulk density, making them ideal for lightweight yet robust furnace structures. Silica bricks maintain structural integrity at temperatures up to 1600°C and are non-contaminating to molten glass, ensuring superior performance and extended service life in high-temperature glass furnace applications.

Key Features of Silica Bricks for Glass Furnaces:

High-Temperature Volume Stability:

Silica bricks maintain structural stability at high temperatures, with minimal deformation even under fluctuating thermal conditions. Their high refractoriness under load (RUL) and low creep rate ensure that glass furnaces remain stable at 1600°C without structural distortion.

Non-Contaminating to Molten Glass:

The primary composition of silica bricks is SiO_2. Even if small fragments or molten droplets form on the surface during use, they do not affect the quality of the molten glass.

Chemical Corrosion Resistance:

Silica bricks used in the upper structure of glass furnaces are exposed to R_2O-containing vapors from the raw materials. These bricks develop a smooth alteration layer on their surface, reducing the rate of corrosion and offering protective benefits.

Lightweight with Low Bulk Density:

Silica bricks consist of 45% cristobalite, 50% tridymite, 1–2% glass phase, and less than 0.5% residual quartz. They have a low fusion index (<0.5%, $2R_2O + Al_2O_3$). These properties not only reduce the overall furnace weight but also contribute to a furnace crown lifespan exceeding 10 years.

Minimizing Mortar Joints:

Silica bricks' durability can be compromised by erosion along mortar joints rather than by the bricks themselves. To mitigate this, mortar joint width should not exceed 1.5 mm, and dimensional tolerances should remain within 0.5 mm.

Preventing "Mouse Holes":

Mouse holes, a common issue in silica brick applications, form due to:
Furnace gas leakage.
Deposition of Na_2O in brick joints.
Erosion of silica bricks by Na_2O.
Flow of corrosion by-products, leading to expanded cavities and crown damage.
To counter this, sealing and insulation layers can be applied behind the silica bricks. This adjustment ensures the condensation temperature range of alkali vapor (954–788°C) falls within the sealing material, preventing condensation in the brick joints. This method effectively avoids mouse holes, significantly extending the crown's service life.

Why Choose Silica Bricks for Glass Furnace Crowns and Breast Walls?

Silica bricks offer outstanding resistance to alkali vapors, high refractoriness under load, excellent creep resistance, and durability against erosion and thermal damage.

How Much Do Silica Bricks for Glass Furnaces Cost?
As a leading refractory materials manufacturer, Zhengzhou Rongsheng produces a wide range of silica bricks. These products are trusted by many glass furnace operators for their crowns and breast walls, offering long service life and high cost-effectiveness.

For pricing and inquiries, feel free to contact us at https://www.bricksrefractory.com

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