

Silica Insulating Firebrick



Firebird's innovative silica insulating firebricks are made from selected high-purity raw materials, formed by pressing with a rational particle size distribution, and sintered at high temperatures in a tunnel kiln.

Unlike traditional products, these bricks are 100% made from mineral raw materials, without burnout materials such as sawdust and polystyrene balls, minimizing NOx and CO2 emissions. This environmentally friendly approach meets strict environmental standards and contributes to sustainable development.

We offer three grades for customers:

INS06 with a density of 0.6g/cm³

INS08 with a density of 0.8g/cm³

INS10 with a density of 1.0g/cm³

Features

1. High SiO₂ Content, High Application Temperature:

Firebird silica insulating firebricks have a significantly higher SiO₂ content, resulting in higher classification and usage temperatures. Compared to traditional products, the classification temperature is improved by 100°C to 150°C, ensuring excellent insulation performance in high-temperature environments.

2. Sintered by Tunnel Kiln, Extended Holding Time, More SiO₂ Phase Transformation:

The bricks are made from selected high-purity raw materials, formed by pressing with an optimized particle size distribution, and sintered in a high-temperature tunnel kiln. The extended holding time at high temperatures effectively avoids defects such as high residual quartz content, cracks, and poor thermal shock resistance found in traditional products sintered in pusher kilns.

3. Multiple Density Options:

Firebird offers products with bulk densities of 1.0g/cm³, 0.8g/cm³, and 0.6g/cm³, providing optimal material choices for composite insulation. These different density products not only optimize kiln insulation but also reduce the weight of the kiln roof, enhancing overall structural stability. For example, Firebird INS10 silica insulating firebrick with a density of 1.0g/cm³ can replace traditional 1.2g/cm³ products, offering ****a 20% lighter weight solution**** for hot blast stove domes and improved insulation.

4. Improved Insulation Performance:

Through the selection of high-quality raw materials and optimized particle size distribution, Firebird silica insulating firebricks have ****lower density and a more uniform pore structure****, significantly reducing thermal conductivity and enhancing high-temperature insulation performance. This effectively avoids issues of density and strength deviations found in traditional products, which lead to fluctuations in insulation performance.

5. Volume Stability, Tough Refractory Structures, Longer Service Life:

The bricks feature a uniform pore structure that maintains structural integrity at high temperatures, preventing the formation of eutectic melts. This ensures consistent performance in high-temperature environments, leading to more uniform refractory structures, reduced maintenance needs, and an extended service life.

6. Environmentally Friendly:

Firebird silica insulating firebricks are 100% dry-pressed products made from mineral raw materials, without polystyrene balls or sawdust. This minimizes NOx and CO2 emissions, meeting environmental standards and contributing to sustainable development.

Typical Application

Insulation of glass melting furnace, hot blast stove and general industrial use.



Technical Specification

Items	Unit	INS 06	INS 08	INS 10
Shaping Method		Press	Press	Press
Classification Temperature	°C	1500	1550	1600
Bulk density	g/cm3	0.6	0.8	1.0
Cold crushing strength	MPa	1.5	4.0	5.0
Permanent Linear Change	%	+0.3 (1450°C*12h)	-0.9 (1550°C*12h)	+0.2 (1600°C*12h)
0.1MPa Refractoriness Under Load	°C	—	—	1569
Thermal conductivity				
400°C	W/m.K	0.34	0.36	0.37
800°C	W/m.K	0.38	0.46	0.52
1000°C	W/m.K	0.46	0.54	0.58
SiO2	%	93.6	94.5	94.0
Al2O3	%	3	2.2	1.5
Fe2O3	%	0.7	0.6	1.0
CaO	%	2.5	2.5	2.8

Packing: Packed on ISPM15 or non-fumigation plywood pallets or as per customer requirements.

Standard Brick Shape	Dimension	Pallet dimension	pcs/pallet	pallet/20GP	pcs/20GP
NF1	230*114*64mm	1160*1100mm	668	20	13360
NF1-76	230*114*76mm	1160*1100mm	560	20	11200
NF2	250*124*64mm	1160*1100mm	532	20	10640
NF2-76	250*124*76mm	1160*1100mm	448	20	8960

