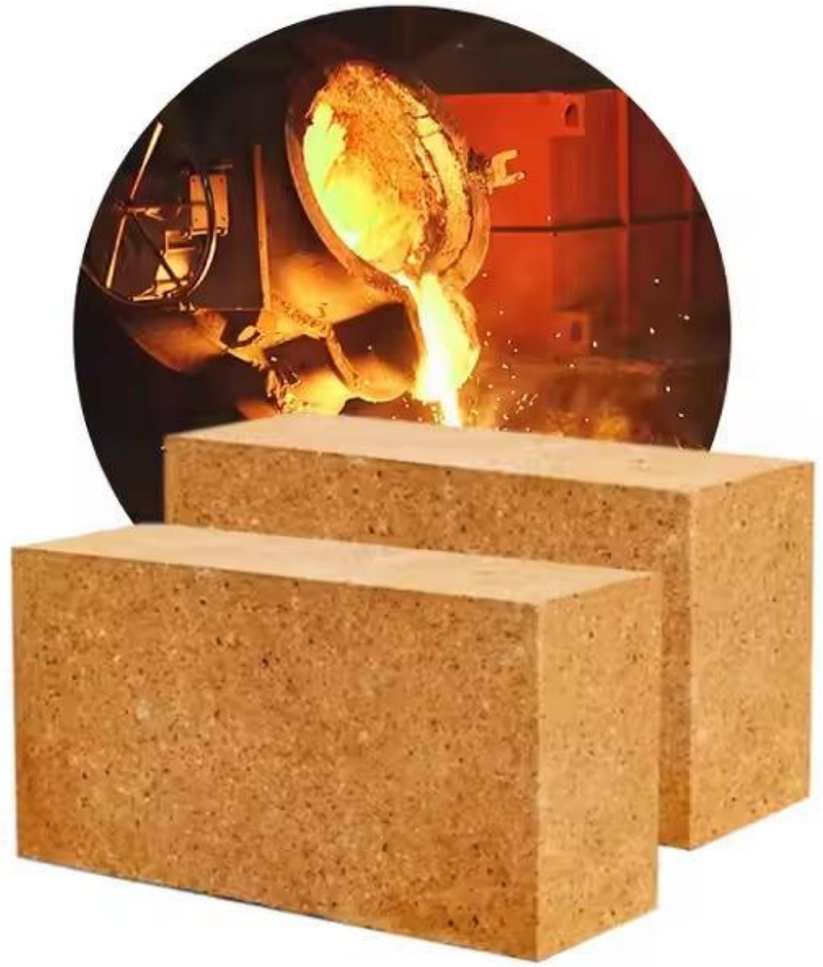
RONG JIAN
荣建化工

Rongjian Chemical Product Brochure

Refractory Bricks

Pingxiang Rongjian Environmental Protection Chemical Packing Co., Ltd

DIRECTORY



High Alumina Bricks

High alumina bricks are refractory products with an alumina (Al_2O_3) content of 48% or higher. They are manufactured from bauxite and other high-alumina raw materials through molding and high-temperature calcination.

Key properties include high thermal stability, refractoriness above 1770℃, and excellent slag resistance.

Typical applications: Lining of steelmaking electric furnaces, glass furnaces, cement rotary kilns, and other high-temperature industrial furnaces.

Classification by Al_2O_3 content:

Premium grade: ≥85%

Grade 1: ≥75%

Grade 2: ≥65%

Grade 3: ≥55%

Product Specification

Item	LZ-80	LZ-75	LZ-70	LZ-65	LZ-55	LZ-48
Al_2O_3 (%)	≥80	≥75	≥70	≥65	≥55	≥48
Apparent Porosity (%)	≤21 (23)	≤24 (26)	≤24 (26)	≤24 (26)	≤22 (24)	≤22 (24)
Cold Crushing Strength (MPa)	≥70 (60)	≥60 (50)	≥55 (45)	≥50 (40)	≥45 (40)	≥40 (35)
0.2MPa Refractoriness Under Load (0.2MPa)	≥1530	≥1520	≥1510	≥1500	≥1450	≥1420
Permanent Linear Change After Heating (%)	1500℃x 2h	1500℃x 2h	1450℃ x 2h	1450℃ x 2h	1450℃ x 2h	1450℃ x 2h
	-0.4~0.2	-0.4~0.2	-0.4~0.1	-0.4~0.1	-0.4~0.1	-0.4~0.1

Fire Clay Brick

Product Characteristics:

As a weakly acidic refractory, our fire clay brick offers outstanding resistance to acidic slag and gas corrosion. While its performance against alkaline substances is moderate, it excels in thermal shock resistance, reliably withstanding repeated rapid cooling and heating cycles.

Typical Applications:

Ferrous metallurgy: Blast furnaces, hot blast stoves, steelmaking systems, heating furnaces.

Non-ferrous smelting: Submerged arc furnaces (SAF), non-ferrous metal smelting furnaces.

Industrial kilns: Kilns in silicate, chemical, and ceramic industries.

Thermal systems: Chimneys, flues, and other high-temperature conduits.

Product Specification

Item	PN-42	PN-40	PN-35	PN-30	PN-25
Al_2O_3 (%)	≥42	≥40	≥35	≥30	≥25
Fe_2O_3 (%)	≤ 2	-	-	-	-
Apparent Porosity(%)	≤ 20(22)	≤ 24(26)	≤ 26(28)	≤ 23(25)	≤ 21(23)
Cold Crushing Strength (MPa ≥)	≥45(35)	≥35(30)	≥30(25)	≥30(25)	≥30(25)
Refractoriness Under Load (0.2MPa)	≥ 1400℃	≥ 1350℃	≥ 1320℃	≥ 1300℃	≥ 1250℃
Permanent Linear Change After Heating (%)	1400℃x 2h	1350℃x 2h	1300℃ x 2h	1300℃ x 2h	1250℃ x 2h
	-0.4 ~ +0.1	-0.4 ~ +0.1	-0.4 ~ +0.1	-0.4 ~ +0.1	-0.4 ~ +0.1

Alkali Resistant Brick

Product Characteristics:

Alkali Resistant Brick is engineered with a superior microstructure. During service, it reacts with alkaline oxides to form a high-viscosity glassy layer on the brick surface. This layer effectively seals surface pores, blocks further penetration of alkaline slag, and provides durable protection against alkali corrosion.

Key advantages include:

Excellent volume stability

Strong resistance to chemical attack

Low permeability to molten slag

Typical Applications:

Specifically designed for cement kiln preheaters, tertiary air ducts, and other alkali-prone zones in high-temperature industrial furnaces.

Product Specification

Item	Standard Type	Arch Type	High-Strength Type
Al_2O_3 (%)	≥25-40	≥25-40	≥25-40
Fe_2O_3 (%)	≤ 2	≤ 2	≤ 2
Apparent Porosity(%)	≤21	≤20	≤19
Cold Crushing Strength (MPa ≥)	≥30	≥40	≥60
Refractoriness Under Load (0.2MPa)	≥1300℃	≥ 1350℃	≥ 1250℃
Alkali Resistance (1100℃ × 5h)	Class 1	Class 1	Class 1

Insulating Fire Brick

Insulating bricks for industrial kilns are categorized into four types:
Lightweight fireclay insulating bricks
Lightweight high alumina insulating bricks
Lightweight mullite insulating bricks
Alumina hollow sphere insulating bricks

Product Properties:
High service temperature
Low thermal conductivity
Low permanent linear change after reheating
High structural strength at elevated temperatures
Excellent volume stability
Superior thermal shock resistance

Key Benefits:
Reduced volume and weight of thermal equipment masonry
Shorter heating time
Uniform furnace temperature distribution
Lower heat loss and energy consumption
Improved operating conditions
Higher production efficiency

Lightweight fireclay insulating bricks

Product Characteristics:
Lightweight fireclay brick is a porous insulating refractory material that effectively lowers thermal conductivity while enhancing thermal insulation performance.

Typical Applications:
Widely used in industrial kilns, thermal boilers, glass furnaces, cement kilns, fertilizer gasifiers, blast furnaces, hot blast stoves, coking ovens, electric furnaces, and as foundry and steel teeming ladle linings. it helps reduce heat loss and improve energy utilization efficiency.

Product Specification

Item	NG-1.5	NG-1.3	NG-1.2	NG-1.0	NG-0.8	NG-0.6	NG-0.5
Bulk Density (g/cm³)	≥1.5	≥1.3	≥1.2	≥1	≥0.8	≥0.6	≥0.5
Cold Crushing Strength (MPa)	≥6	≥5	≥4.5	≥3.5	≥2.5	≥1.3	≥1
Permanent Linear Change After Heating	1400℃×12h	1350℃×12h	1350℃×12h	1300℃×12h	1250℃×12h	1200℃×12h	1150℃×12h
	-2~+1	-2~+1	-2~+1	-2~+1	-2~+1	-2~+1	-2~+1
Thermal Conductivity (350℃±25℃) (W/m·K)	≤0.65	≤0.55	≤0.5	≤0.4	≤0.35	≤0.25	≤0.23

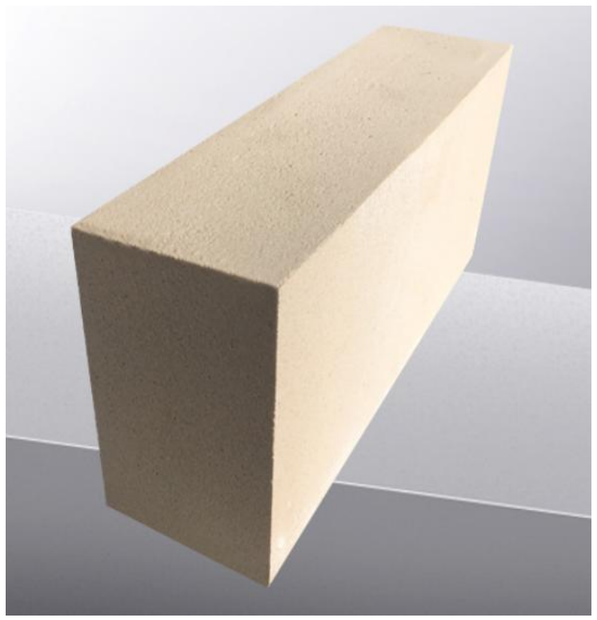
Lightweight high alumina insulating bricks

Product Characteristics:

Lightweight high alumina brick (also called high alumina insulating brick) is a porous lightweight refractory with Al_2O_3 ≥45%. Lightweight high alumina bricks feature high mechanical strength, low thermal conductivity, superior thermal insulation, and excellent thermal shock resistance.

Typical Applications:

Widely used in industrial kiln linings, high-temperature insulation layers in ceramic kilns (tunnel, roller, shuttle), steel reheating furnaces, and glass furnace crowns.



Product Specification

Item	LG-1.2	LG-1.0	LG-0.8	LG-0.7	LG-0.6	LG-0.5
Al_2O_3 (%)	≥48	≥48	≥48	≥48	≥48	≥48
Fe_2O_3 (%)	≤2	≤2	≤2	≤2	≤2	≤2
Bulk Density (g/cm³)	≥1.2	≥1.0	≥0.8	≥0.7	≥0.6	≥0.5
Cold Crushing Strength (MPa)	≥4.5	≥3.5	≥2.5	≥2.2	≥1.6	≥1.2
Permanent Linear Change After Heating	1400℃× 12h	1350℃× 12h	1250℃× 12h	1250℃× 12h	1250℃× 12h	1250℃× 12h
	(-2~+1)	(-2~+1)	(-2~+1)	(-2~+1)	(-2~+1)	(-2~+1)
Thermal Conductivity (350℃±25℃) (W/m·K)	≤0.55	≤0.5	≤0.35	≤0.3	≤0.25	≤0.2

Lightweight mullite insulating bricks

Product Characteristics:
Mullite insulating firebrick is a high-alumina refractory with mullite as the main crystalline phase. It offers excellent thermal insulation, high refractoriness, high hot strength, good thermal shock resistance, chemical stability, dimensional stability, and machinability.

Typical Applications:
Used for hot-face linings or backup insulation in tubular heaters, ammonia converters, gas generators, shuttle kilns, tunnel kilns, roller kilns, pusher kilns, and other industrial furnaces.

Product Specification

Item	JM-23	JM-25	JM-26	JM-27	JM-28	JM-30	JM-32
Al_2O_3 (%) ≥	≥40	≥50	≥55	≥60	≥65	≥70	≥77
Fe_2O_3 (%)	≤1	≤1	≤0.9	≤0.8	≤0.7	≤0.6	≤0.5
Bulk Density (g/cm³)	≤0.55	≤0.8	≤0.85	≤0.9	≤0.95	≤1.05	≤1.35
Cold Crushing Strength (MPa)	≤1	≤1.5	≤2	≤2.5	≤2.5	≤3	≤3.5
Permanent Linear Change After Heating	1230℃×12h	1350℃×12h	1400℃×12h	1450℃×12h	1510℃×12h	1620℃×12h	1730℃×12h
Thermal Conductivity (600℃±25℃) (W/m·K)	≤0.22	≤0.3	≤0.33	≤0.36	≤0.39	≤0.46	≤0.64
0.05MPa Refractoriness Under Load (T0.5) (℃)	≥1080	≥1200	≥1250	≥1300	≥1360	≥1470	≥1570

Alumina hollow sphere insulating bricks

Product Characteristics:
Alumina hollow spheres are lightweight, closed-cell insulating refractories produced from molten alumina. They offer excellent high-temperature resistance and are ideal as insulation filler, lightweight aggregate for castables, and high-temperature concrete aggregate.

Typical Applications:
Used in downdraft kilns, shuttle kilns, molybdenum/tungsten furnaces, induction furnaces, and nitriding furnaces. Reduces furnace weight, saves materials, and conserves energy.

Product Specification

Item	90 Brick			95 Brick			99 Brick		
Al_2O_3 (%) ≥	90			95			99		
SiO_2 (%) ≤	—			—			0.3		
Fe_2O_3 (%) ≤	0.2			0.2			0.2		
Bulk Density (g/cm³)	1.3-1.5	1.5-1.7	1.7-1.9	1.3-1.5	1.5-1.7	1.7-1.9	1.3-1.5	1.5-1.7	1.7-1.9
Cold Crushing Strength (MPa) ≥	6	10	12	8	12	16	10	14	18
Thermal Conductivity (Hot Face 1000℃) (W/m·K) ≤	0.9	1.1	1.2	0.9	1.1	1.2	0.9	1.1	1.2
Permanent Linear Change After Heating (1600℃×3h) (%)	-0.3 ~ +0.3	-0.3 ~ +0.3	-0.3 ~ +0.3	-0.3 ~ +0.3	-0.3 ~ +0.3	-0.3 ~ +0.3	-0.3 ~ +0.3	-0.3 ~ +0.3	-0.3 ~ +0.3

Application

Steel Industrial

Ceramic Industrial

Glass Industry

Chemical Industry

Engineering Case

Package

Company Profile

■ **Pingxiang Rongjian Environmental Protection Chemical Packing Co., Ltd**

Established in 2010, Pingxiang Rongjian Environmental Protection Chemical Packing Co., Ltd. is a high-tech enterprise specializing in the R&D, production, and sales of chemical packing and environmental protection materials. After 14 years of rapid development, the company has become a leading global supplier of industrial packing materials, with products exported to over 100 countries and regions. We employ more than 300 staff, including nearly 100 technical professionals, forming a highly skilled and experienced R&D and production team.

Production Workshop

Proof of Qualification

统一社会信用代码

营 业 执 照

（副 本）

名 称

类 型

法定代表人

经 营 范 围

注 册 资 本

成 立 日 期

营 业 期 限

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登 记 机 关

2020 年07 月29 日