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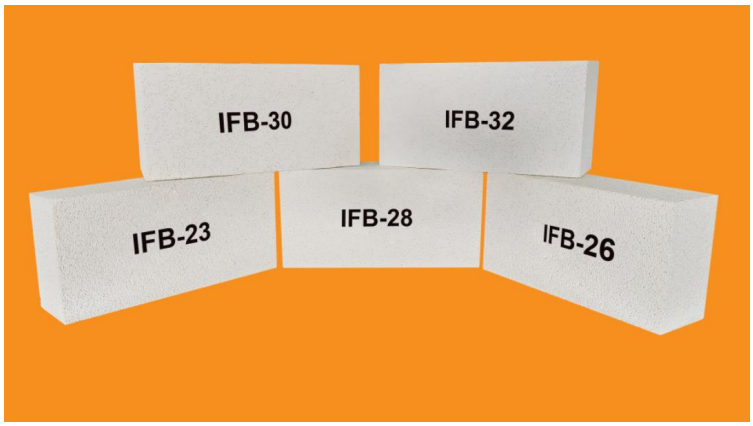
CCEFIRE® Insulating Fire Brick



Temperature Grades: 2300°F (1260°C), 2400°F (1300°C), 2600°F (1430°C), 2800°F (1540°C), 3000°F (1650°C), 3200°F (1760°C)

CCEFIRE® Insulating Fire Bricks (IFB Series) are lightweight mullite-based insulating refractory bricks designed for thermal insulation in industrial furnaces and high-temperature process equipment. Manufactured from high-purity refractory clays and selected alumina raw materials, the bricks are produced using a controlled pore-forming process that creates a uniform and stable porous structure during high-temperature firing. This engineered microstructure provides low thermal conductivity, low heat storage capacity, and reliable thermal insulation performance, enabling efficient heat management in a wide range of furnace operating conditions. Compared with dense refractory bricks, CCEFIRE® IFB significantly reduces furnace heat loss, lowers energy consumption, and improves overall thermal efficiency.

The IFB series covers a wide temperature range from 2300°F (1260°C) to 3200°F (1760°C), allowing flexible material selection based on specific furnace design and operating temperatures. As temperature ratings increase across the series (IFB23 → IFB32), the bricks offer progressively higher alumina content, improved refractoriness, enhanced structural stability, and better resistance to high-temperature shrinkage. All bricks are precision machined on all six faces, ensuring tight dimensional tolerances for easier installation, reduced mortar usage, and improved lining uniformity. The lightweight structure also reduces the overall load on furnace linings while maintaining sufficient mechanical strength for structural applications.

CCEFIRE® Insulating Fire Bricks also support Fabrication and custom refractory component manufacturing. Bricks can be cut, shaped, or machined according to customer drawings to produce burner blocks, support elements, insulation components, and other custom refractory parts, enabling better adaptation to specific furnace designs and improving installation efficiency.

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With excellent thermal stability, thermal shock resistance, and structural reliability, CCEFIRE® IFB products are widely used across industries such as metallurgy, petrochemical processing, ceramics, glass manufacturing, and power generation.

Characteristics:

Low Thermal Conductivity;

Low Density & Low Heat Storage;

Wide Temperature Range (2300°F–3200°F);

High Refractoriness & Thermal Stability;

Excellent Thermal Shock Resistance;

Good Mechanical Strength & Structural Reliability;

Excellent Spalling Resistance;

Accurate Dimensions & Easy Installation;

Good Chemical Stability;

Fabrication Capability.

Application:

CCEFIRE® Insulating Fire Bricks are widely used in insulation structures and refractory lining systems for industrial furnaces and high-temperature equipment across multiple industries:

Metallurgical Industry

Reheating furnaces

Heat treatment furnaces

Annealing furnaces

Hot blast stoves

Sintering furnaces

Ladle and tundish insulation structures

Petrochemical Industry

Cracking furnaces

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Reforming furnaces

Tube-type heaters

Process heaters

High-temperature reaction equipment

Flue gas treatment systems

Non-Ferrous Metal Industry

Melting furnaces

Reduction furnaces

Annealing furnaces

Roller hearth furnaces

Ceramics & Building Materials Industry

Tunnel kilns

Roller kilns

Pusher kilns

Ceramic firing equipment

Glass Industry

Glass melting furnaces

Regenerator systems

High-temperature glass processing equipment

Power & Environmental Equipment

Boilers

Incinerators

Flue and duct insulation systems

Other High-Temperature Equipment

Industrial furnace linings (backup or hot-face insulation)

Electric furnaces

High-temperature piping systems

Thermal processing equipment insulation layers

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CCEFIRE® IFB Insulating Fire brick								
Item		IFB-23C	IFB-23	IFB-24	IFB-26	IFB-28	IFB-30	IFB-32
Classification Temp(°C)		1260	1260	1300	1430	1540	1650	1760
Bulk Density(g/cm3)		0.5	0.6	0.7	0.8	0.9	1	1.25
Crushing Strength(MPa)		1.2	1.2	1.4	1.6	2.1	2.5	3.5
Modulus of Rupture(MPa)		1	0.9	1.2	1.4	1.6	2.1	2.1
Permanent linear change (CT-30°Cx24h)%		0.5	0.5	0.6	0.4	0.5	0.9	0.9
Reversible thermal expansion at 1100°C		0.5	0.5	0.6	0.7	0.8	0.9	1.1
Thermal conductivity (W/m.k)	400°C	0.12	0.12	0.14	0.27	0.32	0.41	0.49
	600°C	0.14	0.14	0.16	0.29	0.34	0.43	0.5
	800°C	0.16	0.17	0.18	0.31	0.36	0.44	0.51
	1000°C	0.18	0.19	0.2	0.33	0.38	0.45	0.53
	1200°C	-	-	-	0.3	0.41	0.47	0.56
Chemical Analysis(%)	Al2O3	37	37	44.5	58	67	73	77
	Si02	47	44.4	41.2	39.1	31	25.1	21.5
	Fe2O3	0.7	0.7	0.7	0.7	0.6	0.5	0.4
Common size	230 x 114 x 65/75mm | 9 ”x 4.5” x 2.5”/3”							
	or customized size							