金鑫恒拓

ABOUT US

The company is located in Jiaozuo city, adjacent to the national AAAAA scenic areas of Yuntai Mountain, Qingtian River and Shennong Mountain, the geographical position is superior. The company registered capital is RMB96.88 million Yuan and the total asset is RMB210 million Yuan. On September 22, 2016, it was successfully listed in China three boards NEEQ (stock code 839391). Its business scope covers refractory materials and relative equipments research and development, production and sales, refractory technology transfer, design, installation and technical services, as well as the import and export business of goods and technology.

Based on abundant bauxite resources in Jiaozuo, relying on scientific and technological innovation and technological progress, the company has become the most capable refractory enterprise for industrial furnace at home and abroad in terms of technology and supply capacity. Its customers include a hundred of large and medium-sized enterprises, its products are exported to the United States, Germany, Russia, ASEAN and other countries. The company has become the preferred supplier providing refractory solutions for the global high temperature industries and a leader of high temperature materials industry.

It is a national high-tech enterprise, was awarded the title of Henan Province Industrial Furnace Engineering Technology Center. For three consecutive years, it has been ISO9001, ISO14001 and OHSAS18001 certified. The company has a large number of advanced testing and production equipments, high-quality management team, excellent professional talents, which provides a guarantee for the production of high-quality products.

The company will follow the philosophy of technology innovation to develop and intelligent automation to create the future, be positive enterprising, develop courageously, and cooperate with business partners to build a world-class enterprise.

CORPORATE CULTURE

Development Direction

Give priority to science and technology, be realistic and innovative, keep sustainable development, build top brand enterprise.

Development Idea

We will provide better quality products, more professional and more perfect service to meet all the needs of customers.

Enterprise Purpose

Be honest, realistic and innovative, forge constantly ahead, strive for excellence.

Principles of Employing

All rivers run into sea, virtue comes first. Be tolerance and let everybody fully display his talents.

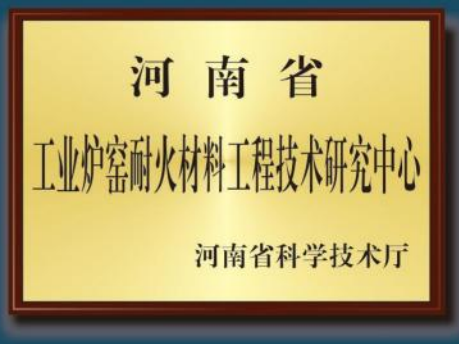
Team Spirit

Dedicate, Cooperate, Strive for perfection, Surpass

- Reheat furnace industry
- Steel-making industry
- Iron-making industry
- Non-ferrous industry
- Power generation industry

Science and technology innovation

- National high-tech enterprise
- Henan Province Industrial Furnace Engineering Technology Center
- Science and technology oriented small and medium-sized enterprise in Henan province



The company has more than 20 national patents and more than 10 scientific research results at the provincial level. It has published 50 influential professional papers in the core journals. And 20 patents and scientific research results have been submitted for approval.

Standardized production and management

The company has been ISO9001, ISO14001 and OHSAS18001 certified.

automation intelligence

The company adopts intelligent production equipment, large size packaging and palletizing unmanned operation. It has built a full range of industry information platform, realized real-time analysis of the data for production system which supports fault warning, process control and maintenance, quality diagnosis of remote control and other online services.

plate thermal conductivity tester

thermal shock resistance testing machine

abrasion resistance tester

refractoriness under load testing machine

chemical analysis laboratory

high temperature bending strength tester

EAF delta roof & LF roof

Roofs for electric arc furnaces are frequently subjected to attach of thermal shock, steel slag and gas (CO, CO_2, SO_2) erosion, high temperature, arc radiation and wear of dust flow formed by high speed smoke dust in the furnace. The EAF delta and LF furnace roofs developed by JHCO adopt cement or cement free binding system using ultra fine powder technology and optimized granularity ratio. They have the features of thermal shock resistance, good erosion resistance and high longevity, are suited to EAF, LF and VD.

Main chemical compositions and physical properties

Grade		JH-DLG90	JH-DLG90A	JH-DLG-M70
Chemical compositions (%), ≥	Al_2O_3	-	-	70
	$Al_2O_3+Cr_2O_3$	-	91	-
	Al_2O_3+MgO	90	-	-
BD (g/ cm^3), ≥		3.0	3.1	2.7
MOR (MPa), ≥		6	8	6
CCS (MPa), ≥		40	45	40

Packaging: rope or other type upon customer request.

Remark: avoid rain & water. Shelf life: 12 months.

Magnesia brick

Using sintered magnesite as main raw material, magnesia bricks are produced by high-pressure molding process featuring good high temperature property and strong resistance to slag of metallurgical furnace. They can be widely used in permanent lining of converter and EAF, steel ladle, regenerator lattice of glass kiln, lime kiln, non-ferrous metallurgical furnace, hot metal mixer and ferroalloy furnace.

Main chemical compositions and physical properties

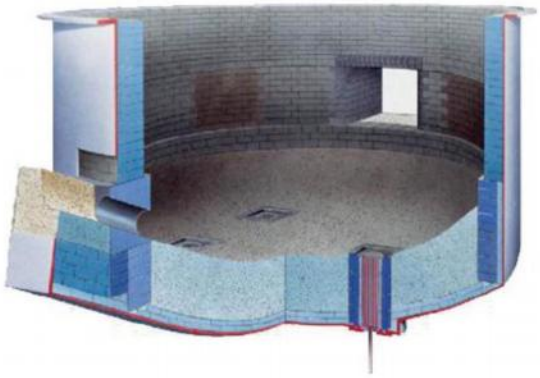
Grade		JH-M87	JH-M91	JH-M93	JH-M95
Chemical compositions (%)	MgO ≥	87	91	93	95
	CaO ≤	3.0	3.0	2.0	2
BD (g/cm^3), ≥		2.85	2.90	2.90	2.95
AP (%), ≤		20	18	18	16
CCS (MPa), ≥		50	60	60	60
RUL (0.6%), ℃, ≥		1540	1560	1620	1650
PLC (1600℃×2h), %		-	- 0.5 ~ 0	- 0.4 ~ 0	- 0.3 ~ 0

Packaging: wooden pallet.

Magnesia carbon bricks for EAF

According to the operating conditions of different areas of the furnace lining, JHCO designs series of mag-carbon bricks for EAF. Using high purity and high density fused, large crystal fused magnesia and high purity graphite as starting materials, the bricks are produced by high pressure molding process.

MgO-C bricks with high strength, high refractoriness, strong resistance to erosion and thermal shock are mainly applied in EAF lining where directly contact with the molten steel and slag.



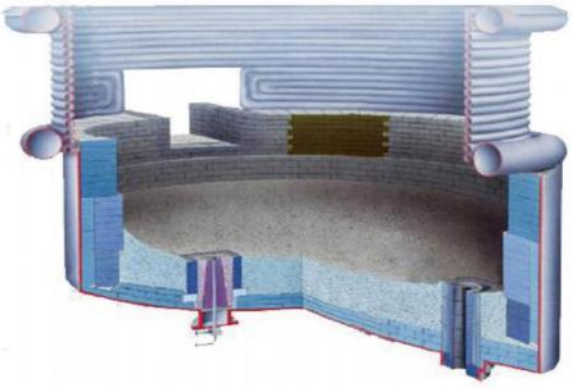
Main chemical compositions and physical properties

Grade		JH-MT12B	JH-MT14A	JH-MT14B	JH-MT16A	JH-MT18A
Chemical compositions (%), ≥	MgO	80	78	78	76	74
	C	12	14	14	16	18
BD (g/cm^3), ≥		2.97	2.95	2.94	2.93	2.90
AP (%), ≤		4.0	3.0	4.0	3.0	3.0
CCS (MPa), ≥		32	35	32	30	30
HMOR (1400℃×0.5h), (MPa), ≥		6	10	8	8	10

Packaging: wooden pallet.

Taphole blocks

Taphole block is one of the key refractory products for converter and EAF steelmaking whose performance directly affects the production rhythm. And it is crucial to quality of molten steel and refractory consumption per ton steel. Adopting magnesia and carbon as the main components, JHCO taphole block is baked under high temperatures, has good thermal conductivity, high resistance to slag erosion, molten slag penetration and thermal shock.



Main chemical compositions and physical properties

Grade		JH-10A	JH-14A
Chemical compositions (%), ≥	MgO	76	73
	C	11	12
BD (g/cm^3), ≥		2.95	2.93
AP (%), ≤		4.0	4.0
MOR (MPa), (1400℃×0.5h), ≥		8	10
CCS (MPa), ≥		40	35

Packaging: wooden box, rope or others upon customer request.

Storage & handling: moisture-proof, move with care.

Dry ramming mass for EAF bottom

Dry ramming mass series are made from high quality synthetic raw materials, additives and binder based on the theory of the most closely packed particles. They have the features of good resistance against molten steel penetration, corrosion resistance, easy sintering, high packing density and convenient installation. The ramming mixes produced by JHCO are ideal choices for the bottom of EAF.

Main chemical compositions and physical properties

Grade		JH-DV80	JH-DV65
Chemical compositions (%)	MgO ≥	80	65
	CaO ≥	7	10
	Fe_2O_3 ≥	5	2
CCS (MPa), ≥	1600℃×3h	30	30
Grain size (mm)		0 ~ 6	0 ~ 6
Max. service temperature (℃)		1750	1750

Packaging: woven bag on pallet. 1000kg, 500kg or 50kg/ bag.
Remark: moisture-proof. Please do not use if agglomeration appears.
Shelf life: 6 months.

Taphole filler sand

During smelting process, a sintered layer forms on the surface of the taphole filler sand when contacting molten steel to prevent it from penetration. The mass under the sintered layer can flow out smoothly when the support plate is opened. With the aid of the pressure of the molten steel, the sintering layer is broken and the purpose of automatic pouring is achieved. JHCO taphole filler sand features no-floating, high self-open rate, safe operation and no pollution to molten steel.

Main chemical compositions and physical properties

Grade		JH-DTL1
Chemical compositions (%)	$SiO_2 \geq$	30
	$MgO \geq$	50
	$C \leq$	5
Grain size (mm), ≤		6

Packaging: woven bag or others upon customer request.
Remark: avoid rain & water. Shelf life: 12 months.

Gunning mix for EAF

Gunning mix developed by JHCO is made from burnt magnesia and other basic materials, binder and additive at reasonable particle size distribution. Having excellent sintering property and slag resistance, low rebound rate, high adhesion rate and easy gunning operation, it is an ideal mix widely used in hot repair parts such as slag line, furnace slope, side wall, taphole of EAF lining to achieve uniform corrosion result and enhance longevity.

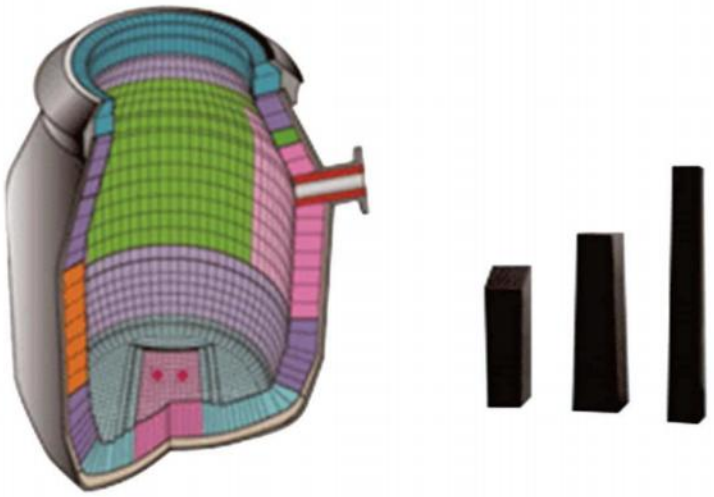
Main chemical compositions and physical properties

Grade		JH-MG65	JH-MG85
Chemical compositions（%）	MgO ≥	65	85
	CaO ≤	15-20	3.0
	SiO_2 ≤	4.0	5.0
Critical grain size（mm）		3	3
Max. service temperature（℃）		1750	1750

Packaging: woven bag on pallet. 1000kg/ bag, 500kg/ bag, 50kg/ bag.
Remark: moisture-proof. Please do not use if agglomeration appears.
Shelf life: 6 months.

Magnesia carbon bricks for converter

The magnesia carbon brick series are made of high purity, high density, large crystal fused magnesia and natural graphite with antioxidant and phenolic resin. They are iso-pressed pieces under high pressure with high strength, high refractoriness, strong resistance to slag and thermal shock. JHCO can provide various MgO-C bricks for different areas of BOF lining where directly contact with the molten steel and slag.



Main chemical compositions and physical properties

Grade		JH-MT10	JH-MT12	JH-MT14	JH-MT16	JH-MT18
Chemical compositions (%), ≥	MgO	80	75	75	70	70
	C	10	12	14	16	18
BD (g/cm^3), ≥		3.0	3.0	2.98	2.95	2.92
AP (%), ≤		5.0	4.0	4.0	4.0	3.5
CCS (MPa), ≥		40	40	40	35	30

Packaging: wooden pallet. Remark: moisture-proof. Move carefully.

Converter gunning mixes

Considering the construction characteristics of injection materials, gunning mix series are made of high MgO or MgO-CaO based materials combined with different binder and additions according to the characteristics of various steel making processes. They have high adhesion strength, low rebound rate, easy sintering, good resistance to erosion and corrosion.

Main chemical compositions and physical properties

Grade		JH-MG86	JH-MG82
Chemical compositions (%)	MgO ≥	86	82
	CaO	5	8 ～ 12
	SiO_2 ≤	4.0	3.0
Critical grain size (mm)		4	4
Max. service temperature (℃)		1750	1750

Packaging: woven bag on wooden pallet. 1000kg/ bag, 500kg/ bag, 50kg/ bag.
Remark: moisture-proof. Please do not use if agglomeration appears.

Converter repair mixes

Using fused magnesia as main raw material, JHCO has developed repair mixes for converter via selecting reasonable gradation and binder. They have good fluidity, high carbonization strength and long service life.

Main chemical compositions and physical properties

Grade		JH-ZXB-C	JH-ZXB-W
Chemical compositions (%), ≥	MgO	72	85
	C	5	-
BD (g/cm^3), ≥	1500℃	2.1	2.4
CCS (MPa), ≥	1500℃	6	6
Bonding type		carbon bonding	water based & environmental protection

Packaging: woven bag of 1000kg, 50kg, 25kg, 10kg or 5kg per bag.
Remark: use sealed package, prevent damp.

Magnesia carbon bricks for ladle

Magnesia carbon bricks are made of high purity, high dense magnesia or large crystal magnesia, high purity graphite and antioxidants, bonded byresin and shaped under high pressure molding process. Having high strength, high refractoriness, good slag resistance and thermal shock resistance, they can be applied in converter, EAF and ladle.

Main chemical compositions and physical properties

Grade		JH-MT5	JH-MT8	JH-MT10	JH-MT12	JH-MT14	JH-MT16
Chemical compositions (%), ≥	MgO	85	82	78	78	75	70
	C	5	8	10	12	14	16
BD (g/cm^3), ≥		3.05	3.0	2.95	2.92	2.92	2.90
AP (%), ≤		6.0	5.0	4.0	3.0	3.0	3.0
CCS (MPa), ≥		40	35	35	35	30	30

Packaging: wooden box or pallet. Storage: moisture proof.

Castables for ladle working lining

Using corundum, spinel and fused magnesite as main raw materials, JHCO has developed castable series for ladle working lining which have good workability, high strength, good volume stability, strong resistance to erosion and thermal shock. They are suitable for wall of large or middle sized ladle, and also they can be made into cast bricks.

Main chemical compositions and physical properties

Grade		JH-AM-1	JH-AM-2
Al_2O_3+MgO（%), ≥		80	92
BD (g/cm^3), ≥		2.8	2.95
CCS (MPa), ≥	110℃×24h	30	30
	1550℃×3h	60	70
PLC（%）	1550℃×3h	-0.2～2.0	-0.2～1.5

Packing: woven bag. Specification: 50kg/ bag, 25kg/ bag. Shelf-life: 6 months.
Remark: Keep dry. Please do not use if there is lump formation.

Purging plug for ladle

Ladle bottom argon blowing purging block is made of high purity, high density and high strength materials with radiation slit shaped structure. The product has stable structure, good air permeability, easy-adjust gas flow, high blowing rate, erosion resistance and long service life.

Physical and chemical indexes of ladle purging plug

Grade		JH-PP93	JH-PP91	JH-PP94
Chemical compositions (%), ≥	$Al_2O_3+Cr_2O_3$	93	91	-
	$Al_2O_3+ZrO_2$	-	-	94
BD (g/cm^3), ≥		3.1	3.15	3.18
MOR(MPa), ≥		18	15	18
CCS (MPa), ≥		80	100	80

Packaging: wooden pallet. Storage: water-proof and shock-proof.

Seating block and well block

JH-WS series seating blocks or well blocks have the advantages of structural stability, strong resistance to erosion, corrosion and thermal shock as well as long service life.

Physical and chemical indexes for seating block or well block

Grade		JH-WS-85	JH-WS-90	JH-WS-92
Chemical compositions (%), ≥	Al_2O_3+MgO	85	90	92
BD (g/cm^3), ≥		2.8	2.9	2.95
MOR (MPa), ≥		5	6	8
CCS (MPa), ≥		30	40	45

Packaging: wooden pallet.

Ladle inner nozzle and collector nozzle

Using corundum, bauxite and graphite as the main raw materials, JHCO has produced nozzles for ladle which have excellent thermal shock resistance and erosion resistance, and they are not easy to break.

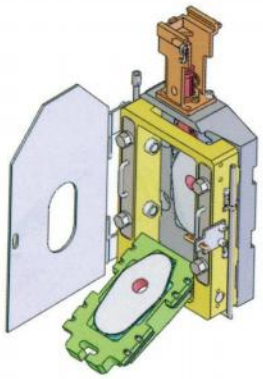
Main chemical compositions and physical properties

Grade		JH-GSK-70	JH-GSK-75	JH-GSK-80	JH-GSK-90
Chemical compositions (%), ≥	Al_2O_3	70	75	80	-
	C	4	4	4	-
	Al_2O_3+MgO	-	-	-	90
BD (g/cm^3), ≥		2.7	2.8	2.9	3.0
AP (%), ≤		14	14	10	18
CCS (MPa), ≥		45	50	60	50
Molding type		pressing			casting

Packaging: Carton or wooden case or pallet.
Storage and handling: moisture-proof & shock-proof.

Ladle sliding plate

Using sintered tabular corundum, zirconia corundum, zirconia mullite as the main raw materials, adding composite antioxidants, natural flake graphite and carbon black, JHCO has developed sliding plate for ladle. They have high density, low porosity, high strength, strong resistance to oxidation, thermal shock and molten steel. The quality is of high stability.



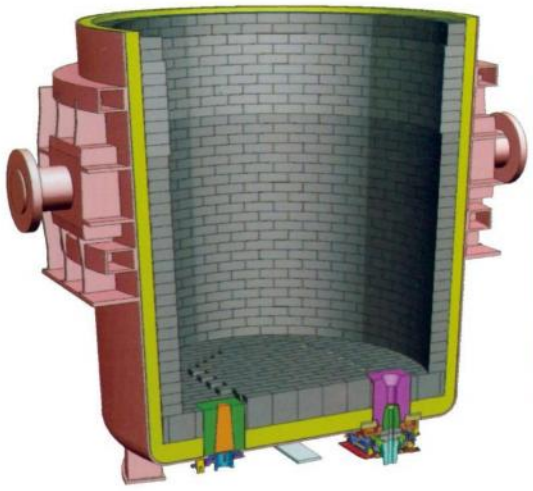
Main chemical compositions and physical properties

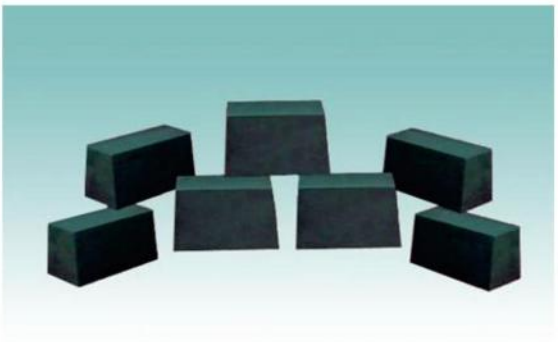
Product range		High temperature burned slide plate		Light burned slide plate		Zirconia insert slide plate
Grade		JH-GHB-80	JH-GHB-75	JH-GHB-L80	JH-GHB-L75	JH-GHB-ZR
Chemical compositions (%), ≥	Al_2O_3	80	75	80	75	-
	ZrO_2	-	6	-	6	93
	C	7	7	3	3	-
BD (g/cm^3), ≥		3.0	3.15	3.0	3.0	4.6
AP (%), ≤		12	10	10	10	10
CCS (MPa), ≥		100	120	100	100	80

Packaging: wooden case or pallet. Storage and handling: moisture-proof & shock-proof.

Alumina magnesia carbon bricks for ladle

Al_2O_3-MgO-C bricks made of high grade bauxite and corundum aggregate, with strengthened matrix and resin binder have high strength, good spalling resistance and wear resistance. They are suitable for ladle wall and bottom.





Main chemical compositions and physical properties

Grade		JH-MAC-10A	JH-MAC-12A	JH-MAC-14A	JH-AMC-65	JH-AMC-70
Chemical compositions (%), ≥	Al_2O_3	6~10	8~15	8~15	65	70
	MgO	76	72	68	10	8
	C	9	11	13	6	6
BD (g/cm^3), ≥		2.95	2.92	2.92	2.93	2.95
AP (%), ≤		6.0	6.0	6.0	8.0	8.0
CCS (MPa), ≥		35	35	35	40	40

Packaging: wooden box or pallet. Storage: moisture proof.

Castables for ladle permanent lining

Castables for ladle permanent lining developed by JHCO have the following advantages: good fluidity, appropriate setting time, labor saving, fast and easy installation. They feature high strength, long service life, excellent insulation performance, strong resistance to high temperature, corrosion and thermal shock.

Main chemical compositions and physical properties

Grade		JH-SF65	JH-SF70	JH-SF80
Chemical compositions (%), ≥	Al_2O_3	65	70	80
BD (g/cm^3), ≥		2.35	2.4	2.6
MOR (MPa), ≥	110℃×24h	6	6	6
	1500℃×3h	8	8	9
CCS (MPa), ≥	110℃×24h	30	35	35
	1500℃×3h	45	50	55
PLC (%)	1500℃×3h	±0.5	±0.5	±0.5

Packing: woven bag. Specification: 50kg/ bag, 25kg/ bag. Shelf-life: 6 months.
Remark: Keep dry. Please do not use if there is lump formation.

Self-flow castables & repair mix

Self-flow castables have good fluidity and reasonable setting time so it is labor saving and convenient for construction. They feature high strength, long service life, good insulation performance, strong resistance to high temperature, thermal shock, erosion, and corrosion.

Self-flow castables can be applied in the areas where low cement castables, ultra low cementcastables or cement free castables are used. The repair mix is suitable for repairing seating block of purging plug, well block of nozzle and the damaged part of ladle bottom.

Main chemical compositions and physical properties

Grade		JH-GST-90	JH-GSF-T	JH-GSF-92
Chemical compositions (%), ≥	Al_2O_3	90	83	-
	Al_2O_3+MgO	-	-	92
BD (g/cm^3), ≥	110℃×24h	3.0	2.8	3.0
MOR (MPa), ≥	110℃×24h	5	5	4
	1500℃×3h	10	10	8
CCS (MPa), ≥	110℃×24h	35	35	30
	1500℃×3h	90	80	60

Packing: woven bag, 50kg/ bag. Shelf-life: 6 months.

Alumina mortar

Main chemical compositions and physical properties

Grade		JH-HN-AM
Chemical compositions (%), ≥	Al_2O_3+MgO	80
Bond strength (MPa), ≥	110℃×24h	1.0
	1200℃×3h	2.0
Binding time (min)		1~3
Grain size (%)	< 1.0mm	100
	> 0.5mm, ≤	2
	< 0.074mm, ≥	50

Packaging：25kg/bag, 50kg/bag. Storage: keep dry. Shelf life: 12 months.

Ramming mass for ladle lip

Main chemical compositions and physical properties

Grade		JH-DAM
Chemical compositions (%), ≥	Al_2O_3 +MgO	80
BD (g/cm^3), ≥	110℃×24h	2.7
	1500℃×3h	2.65
CCS (MPa), ≥	110℃×24h	20
	1500℃×3h	45
PLC (%)	1450℃×3h	±1

Packaging：25kg/bag, 50kg/bag. Storage: keep dry. Shelf life: 12 months.

Ramming mix

The ramming mixes are made of bauxite, corundum, magnesite and additives featuring easy installation property, strong resistance to erosion and corrosion. They can be used as filling materials in ladle or tundish bottom around seating blocks.

Main chemical compositions and physical properties

Grade		JH-RAM1	JH-RAM2	JH-RM
Chemical compositions (%), ≥	Al_2O_3+MgO	80	85	-
	MgO	-	-	90
BD (g/cm^3), ≥	110℃×24h	2.7	2.8	2.6
	1500℃×3h	2.6	2.7	2.5
CCS (MPa), ≥	110℃×24h	25	25	25
	1500℃×3h	30	30	30

Packaging: woven bag of 50kg/ bag, 25kg/ bag. Shelf-life: 6 months.
Storage & handling: moisture-proof.

Back-filler for ladle

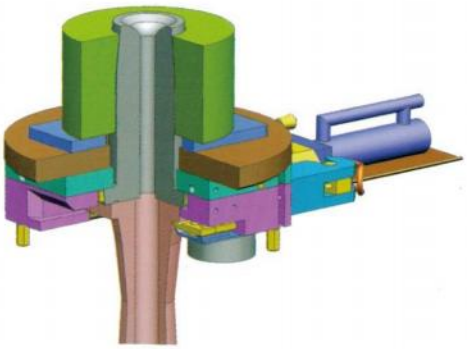
Main chemical compositions and physical properties

Brand		JH-BF
Chemical compositions (%), ≥	Al_2O_3+MgO+SiO_2	75
Grain size (%)	<3.0mm	100

Packaging: woven bag of 50kg/ bag, 25kg/ bag.
Storage & handling: moisture-proof.

Tundish well block

Well block for tundish is of larger size, so it is shaped by vibration molding or casting method. Most well blocks are divided into two parts and a few can be made by monolithic process. The shape can be adapted to customers needs.



Main chemical compositions and physical properties

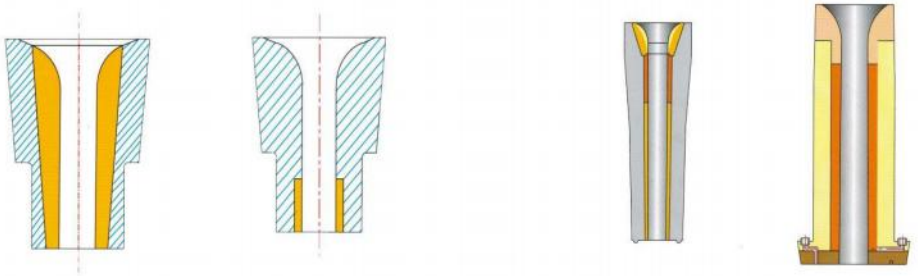
Grade		JH-TZ50	JH-TZ60
Chemical compositions (%), ≥	Al_2O_3	50	60
	MgO	13	-
AP (%), ≤		25	20
BD (g/cm^3), ≥		2.2	2.35
CCS (MPa), ≥		35	40
Molding method		casting or pressing	

Packaging: wood case or pallet. Shelf life: 12 months.

Remark: water & moisture-proof.

Zirconia sizing nozzle and tundish upper nozzle

Zirconia sizing nozzle can be divided into two types, the composite monolithic nozzle and the insert nozzle. Imported zircon sand and stabilized zirconia are used for the mono-nozzle. For the insert nozzle, stabilized zirconia is adopted for the core and high grade bauxite is the starting material for the sleeve. Both nozzles have good thermal shock stability, strong resistance to erosion and spalling.



Main chemical compositions and physical properties of insert sizing nozzle

Grade		JH-DSN-90	JH-DSN-95	JH-DSN
Chemical composition (%), ≥	Al_2O_3	-	-	70 ~ 80
	ZrO_2	90	95	-
AP (%), ≤		18	20	20
BD (g/cm^3), ≥		4.6	4.6	2.6
Area		core	core	sleeve

Main chemical compositions and physical properties of monolithic sizing nozzle

Grade		JH-DSN-F65	JH-DSN-Z80
Chemical composition (%), ≥	Al_2O_3	65	-
	ZrO_2	-	80
AP (%), ≤		20	18
BD (g/cm^3), ≥		2.5	3.9
Area		body	sizing zone

Main chemical compositions and physical properties of tundish upper nozzle

Grade		JH-TQN50	JH-TQN85	JH-TQN60
Chemical composition (%), ≥	Al_2O_3	52	85	62
	ZrO_2	-	-	4
AP (%), ≤		16	18	18
BD (g/cm^3), ≥		2.4	2.8	2.4
Area		body	bowl-like zone	inner layer

Packaging: wooden case or pallet.

Magnesia & magnesia silica based coatings

Using high-quality magnesite or calcium magnesite as main raw materials, JHCO has developed tundish coatings with long service life, easy installation and easy removal properties. They are the first choice for special steel and clean steel casters.

Main chemical compositions and physical properties

Grade		JH-TM	JH-TM-S
Chemical compositions (%), ≥	MgO	80	65
	SiO_2	-	10 ～25
BD（g/cm^3）	110℃×24h	1.9～2.3	2.0～2.2
PLC (%)	1500℃×3h	-3.5～-0.5	-4.0～-0.5
CCS (MPa), ≥	110℃×24h	8	5
	1500℃×3h	12	10
MOR (MPa), ≥	110℃×24h	1.5	1.0
	1500℃×3h	3.3	2.0

Packaging: woven bag on wooden pallet. 1000kg/ bag, 25kg/ bag. Shelf life: 6 months.
Remark: moisture-proof. Please do not use if agglomeration appears.

Tundish cover castables

JHCO has developed castables of light weight or heavy weight for tundish covers to meet customers' requirements. Having good insulation property, high strength, no spalling, not easy to deform and extended service life, they can be cast on site or precast.

Main chemical compositions and physical properties

Grade		JH-BG65-X	JH-BG60-X
Chemical compositions (%), ≥	Al_2O_3	65	60
BD（g/cm³),≥	110℃×24h	1.5	2.4
CCS（MPa),≥	110℃×24h	20	35
	1400℃×3h	35	60
MOR（MPa),≥	110℃×24h	-	6
	1400℃×3h	-	7
PLC（%）	1400℃×3h	±1.0	±1.0

Packaging: 25kg woven bag on wooden pallet. Shelf life: 6 months.
Remark: water & moisture-proof. Prevent overheat.
Please do not use if agglomeration appears.

Magnesia & magnesia calcia dry setting mixes

The products are dry setting and quick construction materials which have smooth surfaces after installation. They can effectively reduce the pollution of the tundish working lining material to molten steel, shorten dry-out procedure and save fuel consumption.

The service life of magnesia dry setting mix is more than 24 hours and it is over 12 hours for magnesia calcia mix. The environmental protection type magnesia dry vibratable mix, which is characterized by excellent slag resistance, is beneficial to environmental protection. No irritant gas is produced during baking. And no carbon and hydrogen go into the molten steel during application.

Main chemical compositions and physical properties

Grade		JH-DM	JH-DMS	JH-DML
Chemical compositions (%), ≥	MgO	65	80	55
	SiO_2	10~25	-	-
	CaO	-	-	10-25
BD (g/cm^3), ≥	200℃×3h	1.8~2.2	2.1~2.3	2.0~2.2
PLC (%)	1500℃×3h	-1.5~0	-2.0~0	-3.0~0
CCS (MPa), ≥	200℃×3h	5	5	5
	1500℃×3h	6	8	5

Packaging: woven bag on wooden pallet. 1000kg/ bag, 25kg/ bag. Shelf life: 6 months.
Remark: water & moisture-proof. Prevent overheat.
Please do not use if agglomeration appears.

Shroud

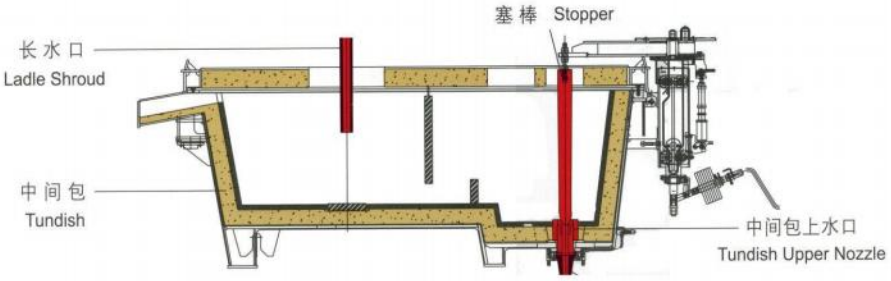
Shroud is mainly used for oxidation protection casting between ladle and tundish. According to user' needs, it can complete at least one cast plan. It is baking free product which has a significant feature of repeated use in continuous cast plan. The service life is more than 10 hours.

Main chemical compositions and physical properties

Grade		JH-LS-G	JH-LS-ZS	JH-LS-S
Chemical composition (%), ≥	Al_2O_3	60	-	35
	C	20	15	30
	ZrO_2	-	72	-
AP (%), ≤		16	16	16
BD (g/cm^3), ≥		2.5	3.7	2.2
MOR (MPa), ≥		5	6	4
Application		General	Zirconia–carbon , Slag line	Specific

Packaging: wooden case or pallet.

Mono-stopper



Main chemical compositions and physical properties

Grade		JH-SRG	JH-SRHA	JH-SRHB	JH-SRZ
Chemical composition (%), ≥	Al_2O_3	50	85	70	-
	C	25	10	10	15
	ZrO_2	-	-	-	75
	MgO	-	-	5	-
AP (%), ≤		15	18	17	16
BD (g/cm^3), ≥		2.4	2.85	2.7	3.7
MOR (MPa), ≥		6	5	12	6
Area		body	head	head	slag line

Packaging: wooden case or pallet.

Submerged entry nozzle

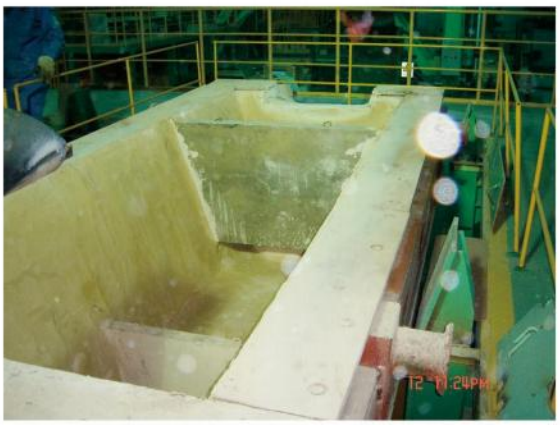
Main chemical compositions and physical properties

Grade		JH-SNA	JH-SNB	JH-SNZ	JH-SNH
Chemical composition (%), ≥	Al_2O_3	52	85	-	65
	C	25	10	15	15
	ZrO_2	-	-	78	5
AP (%), ≤		16	18	15	16
BD (g/cm^3), ≥		2.4	2.8	3.8	2.7
MOR (MPa), ≥		6	5	6	12
Area		body	bowl-like zone	slag line	sliding surface

Packaging: wooden case or pallet.

Castable for tundish permanent lining

Selecting reasonable raw materials and grain size distribution, ultra fine powder and high efficient dispersant, JHCO has developed self-flow castable for tundish permanent lining. Featuring easy installation property, good volume and thermal shock stability, it is suitable for complex shaped and narrow spaces.



Main chemical compositions and physical properties

Grade		JH-SF65
Chemical compositions（%）, ≥	Al_2O_3	65
BD（g/cm³), ≥	110℃×24h	2.45
CCS（MPa), ≥	110℃×24h	30
	1500℃×3h	45
MOR（MPa), ≥	110℃×24h	6
	1500℃×3h	8
PLC（%）	1500℃×3h	0～+1.0

Packaging: woven bag on wooden pallet. 1000kg/ bag, 25kg/ bag. Shelf life: 6 months.
Remark: water & moisture-proof. Prevent overheat.
Please do not use if agglomeration appears.

Tundish current stabilizer, impact pad & weir

Using high quality bauxite and corundum as main raw materials, adding fine powder and ultra-fine powder, the products are precast and baked in middle temperatures. The current stabilizer acts as dual role of the impact pad and tundish weir. Through changing flow field of molten steel in the tundish, especially in the impact zone, it can accelerate the rising speed of inclusions floatation and improve steel clean.

Main chemical compositions and physical properties

Grade		JH-TC85	JH-TCM85
Chemical compositions (%), ≥	Al_2O_3 + MgO	85	-
	MgO	-	90
BD (g/cm^3), ≥	110℃×24h	2.8	2.8
CCS (MPa), ≥	110℃×24h	45	40
	1500℃×3h	60	50
PLC (%)	1500℃×3h	0～0.5	-0.5~0.5

Packaging: wooden pallet. Remark: water & moisture-proof.
Please do not use if cracks appear.

Castables for working lining of trough

Main trough lining should have strong resistance to erosion and corrosion as well as thermal shock. Comparing to traditional ramming refractory, castables developed by JHCO with good corrosion resistance, high strength and low thermal conductivity can greatly reduce labor intensity and effectively save installation time.

Main chemical compositions and physical properties

Grade		JH-ZG-M	JH-ZG-D
Chemical compositions (%), ≥	Al_2O_3	65	60
	SiC+C	15	18
BD (g/cm^3), ≥	110℃×24h	2.9	2.85
	1450℃×3h	2.8	2.8
CCS (MPa), ≥	110℃×24h	25	20
	1450℃×3h	50	40
MOR (MPa), ≥	110℃×24h	5	4.5
	1450℃×3h	8	8
PLC (%)	1450℃×3h	±0.5	±0.5

Packaging: 1000kg/ bag, 50kg/ bag, 25kg/ bag. Shelf life: 6 months.
Storage&handling: moisture proof. Please do not use if agglomeration appears.

Drying-free ramming mix for iron runner

Ramming mix for iron runner is drying-free product with high strength, strong resistance to slag, erosion and corrosion, the service life is extended.

Main chemical compositions and physical properties

Grade		JH-TD
Chemical compositions（%）≥	Al_2O_3	55
	SiC+C	15
BD（g/cm^3）≥	200℃×16h	2.5
	1450℃×3h	2.4
CCS（MPa）≥	200℃×16h	15
	1450℃×3h	8
MOR（MPa）≥	200℃×16h	2
	1450℃×3h	3
PLC（%）	1450℃×3h	±0.5

Packaging: woven bag, 1000kg/bag, 500kg/bag, 50kg/bag.
Storage: keep dry. Shelf life: 6 months.

Castables for slag runner & branch runner

Castables for slag runner should have high strength and strong resistance to slag while branch runner castable should have good resistance to molten metal. JHCO has developed silicon carbide based castables to meet the requirements.

Main chemical compositions and physical properties

Grade		JH-TSG	JH-SG
Chemical compositions (%), ≥	Al_2O_3	65	60
	SiC+C	15	18
BD (g/cm^3), ≥	110℃×24h	2.75	2.70
	1450℃×3h	2.70	2.65
CCS (MPa), ≥	110℃×24h	30	25
	1450℃×3h	40	35
MOR(MPa), ≥	110℃×24h	6	6
	1450℃×3h	8	8
PLC（%）	1450℃×3h	±0.5	±0.5

Packaging: 1000kg/ bag, 50kg/ bag, 25kg/ bag. Shelf life: 6 months.

Storage & handling: moisture proof. Please do not use if agglomeration appears.

Castables for working lining of tilting runner

Traditional casthouse adopts fixed iron runner which leads to longer slope platform, so the investment on infrastructure is increased and it is not benefit to dust removal operation. Tilting runner solution can overcome these shortcomings. Castables for tilting runner developed by JHCO can resist molten metal and thermal shock.

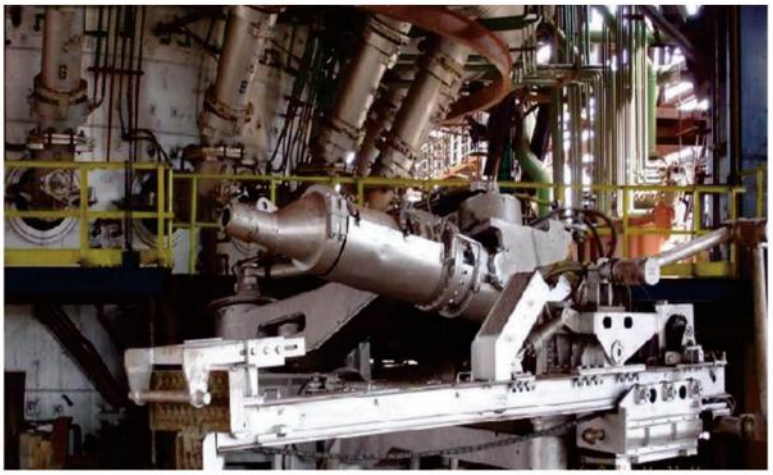
Main chemical compositions and physical properties

Grade		JH-TB8-X	JH-TB10-X
Chemical compositions (%), ≥	Al_2O_3	75	70
	SiC+C	8	12
BD (g/cm^3), ≥	110℃×24h	2.9	2.85
	1450℃×3h	2.8	2.75
CCS (MPa), ≥	110℃×24h	40	40
	1450℃×3h	60	50
MOR(MPa), ≥	110℃×24h	8	8
	1450℃×3h	10	10

Packaging: 25kg/bag or 50kg/bag. Storage: keep dry. Shelf life: 6 months.

Taphole clay

The series of taphole clays developed by JHCO are made of advanced production technology with stable quality, easy plugging and opening, strong erosion resistance and environmental protection.



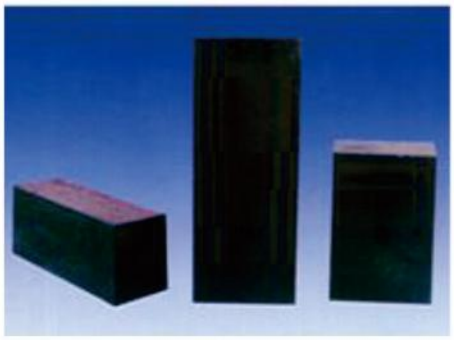
Main chemical compositions and physical properties

Grade		JH-TPN-1	JH-TPN-2
Chemical compositions (%), ≥	Al_2O_3	20	30
	SiC+C	30	30
BD (g/cm^3), ≥	1400℃×3h	1.65	1.8
CCS (MPa), ≥	1400℃×3h	8	15

Packaging: Cardboard carton, 20kg/box. Shelf life: 6 months.
Storage: Avoid rain/snow/sun and high temperature baking.

Bricks for iron ladle

The working lining bricks for iron ladle have high refractoriness under load, strong resistance to erosion, slag deterioration and thermal shock.



Main chemical compositions and physical properties

Grade		JH-ASCC55	JH-ASCC60	JH-AMC-T
Chemical compositions (%), ≥	Al_2O_3	52	60	80
	SiC+C	15	15	5
	MgO	-	-	3
BD (g/cm^3), ≥		2.75	2.8	2.9
CCS (MPa), ≥		40	45	50
MOR (MPa), ≥		8	8	8

Packaging: wooden pallet. Storage: handle with care. Moisture-proof.

Desulfurization spray gun and KR stirrer

KR stirrer is a major component of KR desulfurization, which is made of castable with a thickness of about 80 to 150mm outside the steel structure framework. And desulfurization spary gun is used in blowing stirring desulfurization process. JHCO has developed two kinds of products with high strength, strong resistance to erosion, spalling and molten iron.



Main chemical compositions and physical properties

Grade		JH-TLQ	JH-KR	JH-CYQ
Chemical compositions (%), ≥	Al_2O_3	60	65	-
	Al_2O_3+MgO	-	-	90
BD (g/cm^3), ≥		2.4	2.5	2.95
CCS (MPa), ≥		30	30	35
AP (%), ≤		18	18	18

Packaging: wooden pallet or other type upon customer request.

Fireclay, high alumina, silicon carbide mortars

Clay, high alumina and silicon carbide mortars feature proper setting time, high binding strength and high temperature performance.

Main chemical compositions and physical properties

Grade		JH-HN45	JH-HN65	JH-HNSC
Chemical compositions (%), ≥	Al_2O_3	45	65	70
	SiC+C	-	-	8
Flexural bond strength (MPa), ≥	110℃×16h	1.0	1.0	1.0
	1200℃×3h	3.0	4.0	4.0
PLC (%)	1200℃×3h	-5~1	-5~1	-5~1
Binding time (min)		1~3	1~3	1~3
Grain size (%)	< 1.0mm	100	100	100
	> 0.5mm, ≤	2	2	2
	< 0.074mm, ≥	50	50	50

Packaging：25kg/bag or 50kg/bag. Storage: keep dry. Shelf life: 12 months.

Hot metal mixer working lining bricks

The hot metal mixer is thermal equipment of steelmaking workshop for storage of molten iron. It effects in mixing the compositions and maintaining the temperature of the hot molten. In addition, it plays a very important role in the coordination of iron making and steel production process, and the balance of supply and demand of hot metal. In the design, bricked roof and working lining is adopted, and monolithic casting suits for permanent linings of taphole, wall and bottom.

Main chemical compositions and physical properties

Grade		JH-ASCC65	JH-LZ75	JH-DL80
Chemical compositions (%) , ≥	Al_2O_3	65	75	80
	SiC+C	15	-	-
AP (%), ≤		20	24	19
BD (g/cm^3), ≥		2.8	2.6	2.8
CCS (MPa), ≥		100	70	75
PLC (%)	1400℃×2h	0-0.5	-	-
	1500℃×2h	-	0.2~-0.4	0.2~-0.4

Packaging: wooden pallet.

Injection mass

The product is paste or slurry like unshaped refractory material which is installed by extrusion method. It is made of refractory aggregate, powder, binder and additives with high mechanical strength, excellent thermal shock resistance and wear resistance. Water or liquid binder is added before application. High alumina slurry mainly suits repair of blast furnace.

Main chemical compositions and physical properties

Grade		JH-WYR-70	JH-YR-55	JH-WYR-55	JH-YR-C55
Chemical compositions (%), ≥	Al_2O_3	70	55	55	20
	SiC+C	-	-	-	50
BD (g/cm^3), ≥	110℃× 24h	2.3	2.1	2.0	1.5
CCS (MPa), ≥	110 ℃×24h	15	10	6	14
MOR (MPa) , ≥	110℃×24h	3	4	4	2
	1200℃×3h	5	0.5	0.5	-
Application		Injection mass with water		Water free injection mass	

Packaging: woven bag, 1000kg/bag, 500kg/bag, 50kg/bag or 25kg/bag. Shelf life: 6 months.
Storage: keep dry. Please do not use if agglomeration appears.

Castables for iron ladle lip

JHCO has developed castables to suit complicated pouring lip area of iron ladle. Featuring good resistance to slag corrosion, molten metal erosion and thermal shock, they have been well received by customers.

Main chemical compositions and physical properties

Grade		JH-TC65
Chemical compositions (%), ≥	Al_2O_3	65
	SiC+C	5
BD (g/cm^3), ≥	110℃×24h	2.5
	1450℃×3h	2.4
CCS (MPa), ≥	110℃×24h	30
	1450℃×3h	40
MOR(MPa), ≥	110℃×24h	6
	1450℃×3h	8
PLC (%)	1450℃×3h	±0.5

Packaging: 1000kg/ bag, 50kg/ bag or 25kg/ bag. Shelf life: 6 months.
Storage&handling: moisture proof. Please do not use if agglomeration appears.

Chrome corundum high wear-resistant skid rail brick

The skid rail brick and steel tapping platform brick developed by JHCO have good abrasion resistance, volume stability and long service life. They have shown improved performances in more than 300 reheat furnaces.

Main chemical compositions and physical properties

Grade		JH-AK
Chemical compositions (%), ≥	Al_2O_3+Cr_2O_3	88
BD (g/cm^3), ≥		3.2
CCS (MPa), ≥		120
MOR (MPa), ≥		18

Packaging: wooden pallet.

Clay-based and high-alumina based plastics

The plastics are mud like materials made of refractory aggregate and powder at certain particle size distribution with binder and additives. After packing and storage for a period of time, they still have good plasticity, are available for ramming. Featuring high strength, good resistance to thermal shock, spalling and slag, small thermal conductivity and long service life, they are suitable for easy damaged areas such as roofs and burners in various reheating furnace, soaking furnace, annealing furnace and EAF in the iron and steel industry.

Main chemical compositions and physical properties

Grade		JH-KS45	JH-KS60	JH- KS65
Chemical compositions (%), ≥	Al_2O_3	45	60	65
Material required(T/m^3)		2.35	2.40	2.45
BD (g/cm^3)	110℃×24h	2.15	2.20	2.30
MOR (MPa)	110℃×24h	2.5	3.0	3.5
PLC (%)	1300℃×3h	±2	±2	±2
Long term service temperature (℃)		1350	1400	1400
Application area		Furnace roof & wall		

Packaging: 25kg/ box of carton. Shelf life: 3 months.
Storage & handling: moisture-proof.

Clay brick & high-alumina brick

Main chemical compositions and physical properties of clay brick

Grade		JH-PN-1	JH- PN -2	JH- PN -3
AP (%), ≤		24	26	28
CCS (MPa), ≥		30	25	20
0.2MPa Refractoriness under load (℃), ≥		1300	1250	1200
PLC (%)	1350℃×2h	-0.5~0.1	-0.5~0.2	-

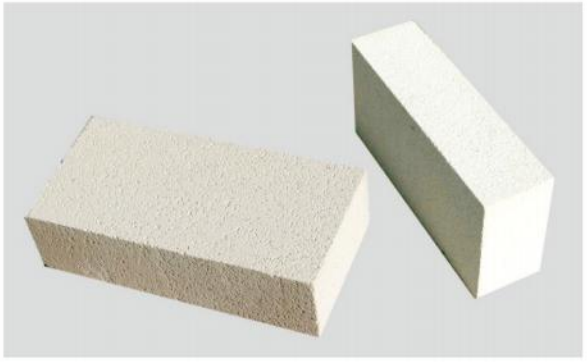
Packaging: wooden pallet

Main chemical compositions and physical properties of high-alumina brick

Grade		JH-LZ80	JH-LZ75	JH-LZ65	JH-LZ55	JH-LZ48
Chemical compositions (%), ≥	Al_2O_3	80	75	65	55	48
AP (%), ≤		21	23	23	22	22
CCS (MPa), ≥		60	50	45	40	35
0.2MPa Refractoriness under load (℃), ≥		1530	1520	1500	1450	1420
PLC (%)	1500℃×2h	-0.4 ~ 0.2	-0.4 ~ 0.2	-	-	-
	1450℃×2h	-	-	-0.4 ~ 0.1	-0.4 ~ 0.1	-0.4 ~ 0.1

Packaging: wooden pallet

Insulating firebrick



Main chemical compositions and physical properties of clay insulating firebrick

Grade	JH-NG1.2	JH-NG1.0	JH-NG0.8	JH-NG0.6
BD (g/cm^3), ≤	1.2	1.0	0.8	0.6
CCS (MPa), ≥	4.5	3.5	2.0	1.0
Test temperature of heating permanent linear change ≤ 2%, (℃)	1350	1300	1250	1200
Thermal conductivity at 350℃ [W/(m·K)], ≤	0.50	0.40	0.35	0.25

Packaging: carton on wooden pallet.

Main chemical compositions and physical properties of high-alumina insulating firebrick

Grade		JH-LG1.2	JH-LG1.0	JH-LG0.8
Chemical compositions（%）	Al_2O_3 ≥	48		
	Fe_2O_3 ≤	2.0		
BD (g/cm^3)		1.2	1.0	0.8
CCS (MPa), ≥		4.5	3.5	2.5
Test temperature of heating permanent linear change (-2～1)%, (℃)		1400		
Thermal conductivity at 350℃ [W/(m·K)], ≤		0.55	0.50	0.35

Packaging: carton on wooden pallet.

Self-flow castables

Through selection of reasonable raw materials and grain size distribution, JHCO has developed a range of alumina silicate free flowing castables introducing ultra fine powder and high efficient dispersant. Featuring easy installation, good volume stability and thermal shock stability, they are suitable for application in complicated structure or narrow space.

Main chemical compositions and physical properties

Grade		JH-SF55	JH-SF60	JH-SF65
Chemical compositions (%), ≥	Al_2O_3	55	60	65
BD (g/cm^3), ≥	110℃×24h	2.25	2.30	2.40
CCS (MPa), ≥	110℃×24h	35	40	40
	1350℃×3h	55	60	65
MOR (MPa), ≥	110℃×24h	6	6	6
	1350℃×3h	9	9	10
PLC (%)	1350℃×3h	-0.5~0.5	-0.5~0.5	-0.5~0.5

Packaging: 25kg/ bag or 50kg/ bag. Storage: moisture-proof. Shelf life: 6 months.