



武汉建恒工业技术有限公司

Wuhan Jianheng Industrial Technology Co.,Ltd



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企业简介 Company Profile



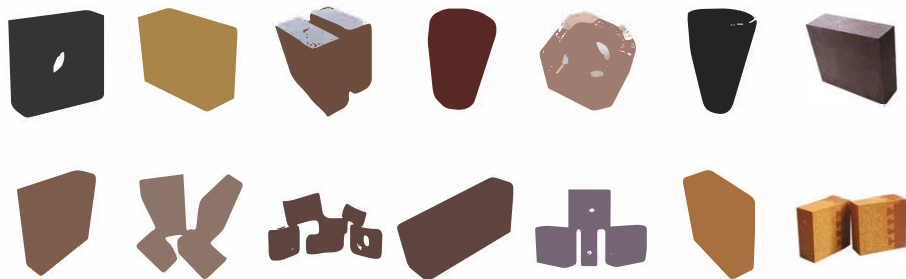
公司现有3条定型耐火材料生产线，其中2条碱性系列产品生产线，1条铝硅系列产品生产线。15台400吨至1000吨系列成型压力机和2台2500吨全自动液压压砖机，可以满足各行业用耐火制品的需求。我公司现主营产品有刚玉砖、镁砖、镁磷砖、镁铝尖晶石砖、锆英石砖、硅线石砖、碳化硅砖、低气孔粘土砖、高铝砖、硅砖、隔热砖等制品及陶瓷纤维毯系列和各种散装耐火材料。

公司始终坚持质量第一、用户至上的原则。贯彻“以科技为先导、以质量求生存”的企业理念。以“规模集团化、管理科学化、经营市场化、生产专业化、服务纵深化”的运行模式，依靠先进的科学技术，优良的现代化设备，严格的工艺管理和控制，完善质量保证体系和控制手段，生产出一系列优质耐火材料。

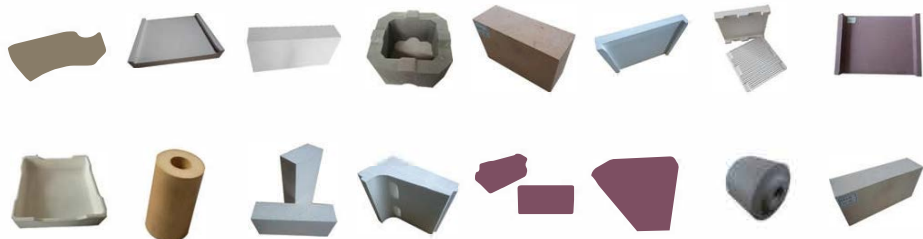
The company has 3 production lines for shaped refractories, including 2 production lines for alkaline products and 1 production line for aluminum and silicon products. 15 sets of 400-ton to 1000-ton series forming presses and 2 sets of 2500-ton automatic hydraulic brick presses can meet the needs of refractory products in various industries. Our company's main products are corundum bricks, magnesia bricks, magnesia bricks, magnesia alumina bricks, sillimanite bricks, sillimanite bricks, silicon carbide bricks, low-porosity clay bricks, high alumina bricks, silica bricks, Insulation bricks and other products and ceramic fiber blanket series and various bulk refractory materials. The company has always adhered to the principle of quality first and customer first. Implement the corporate philosophy of "Science and technology as the guide, quality for survival". Relying on the operation mode of "large scale grouping, scientific management, marketization of operation, specialization of production, and deepening of service", relying on advanced science and technology, excellent modern equipment, strict process management and control, perfect quality assurance system and control Means to produce a series of high-quality refractory materials.

系列产品
Series of Products

镁质砖系列产品 Magnesia Products



刚玉砖系列产品 Corundum Products



硅线石、莫来石、红柱石砖系列产品
Sillimanite.Mullite.Andalusite Products



高铝砖系列产品 High alumina Products



硅砖系列产品 Silica Products



粘土砖系列产品 Fireclay Products



铸造系列用产品 Casting Products



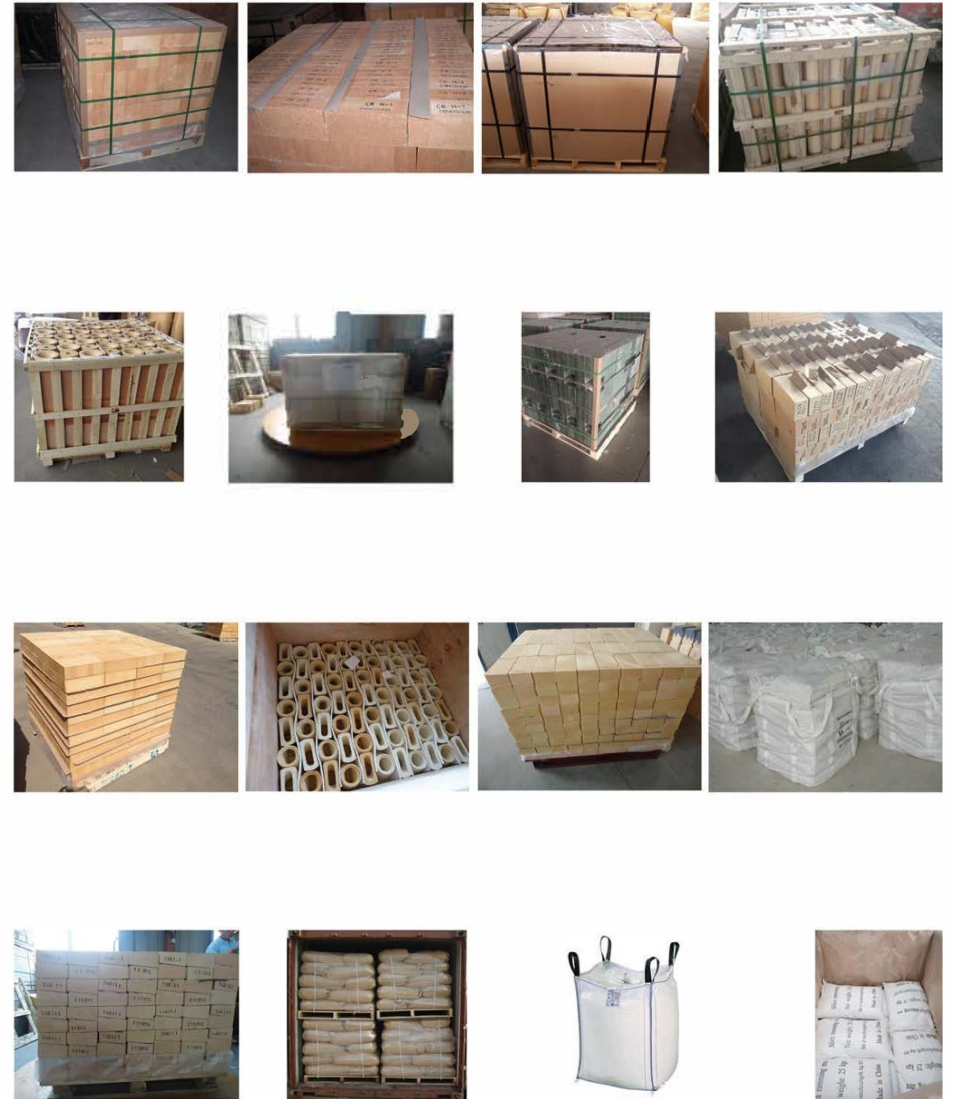
隔热砖系列产品 Insulation Products



组合砖系列产品 Composite Bricks



产品包装图片 Package Pictures



合作客户
CUSTOMERS



埃及客户
Egypt Customer



俄罗斯客户
Russian Customer



联邦冶金客户
Fedmet Customer



巴基斯坦客户
Pakistan Customer



奥地利客户
Austria Customer



印度客户
Indian Customer



日本黑崎客户
Japanese Customer



德国客户
German Customer



葡萄牙客户
Portugal Customer



巴林客户
Bahrain Customer



澳大利亚客户
Australian Customer



加拿大客户
Canadian Customer



韩国客户
South Korean Customer



泰国客户
Thailand Customer



鲍维斯客户
Paul Wurth Customer



韩国客户
South Korean Customer



巴林客户
Bahrain Customer



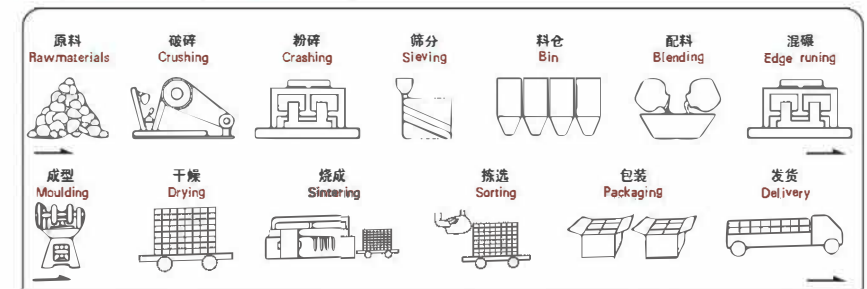
施工现场
Construction Site

Production Flow Control

生产流程

凯元在生产流程上进行技术控制，在产品上采取了多项工艺控制使生产出的耐火材料产品丝毫不差，更保证了产品质量，而且提高了效率。

kaiyuan attaches great importance to the technical control over production flows and process control over-all the product quality by strictly following the product requirements, which not only guarantees the product quality but also increases the production efficiency.



检验设备 Testing Equipment



Production Process

生产流程

Process and Technology Control

工艺与技术控制



一、质量检测控制 Quality Test Control

质量就是生命。质量检测作为产品面向市场，被客户使用的最后一道保险，具有重要的实际意义。凯元拥有完善的检测手段和专业的检测人员，为产品质量提供了充分的保障。

Quality is the life. As a market-oriented product, quality inspection is the last insurance for customers and it is of great significance. Kaiyuan has sound test measures and skilled professional inspectors, which together absolutely safeguard the product quality.

二、原材料标准控制 Raw Materials Standard Control

“问渠哪得清如许，为有源头活水来”，原材料品质将对产品质量产生最直接的影响。严把原材料质量关，保证进入生产渠道的材料都是经过严格检验的优质产品，公司对原材料厂家的选择十分慎重。

“How can the water in the pond remain so clear? Because there is always fresh water flowing in”, the quality of raw materials directly effects the product quality. We pay great attention to the quality of materials and make sure the materials used are top quality materials. In addition, the company is very cautious in choosing raw material suppliers.

三、生产过程工艺控制 Production Process Control

1. 半成品外形质量控制

Quality Control over Semi-finished Product Appearance

控制内容：砖坯外形、尺寸公差、方正度、裂纹、扭曲、缺角、断面、麻面等半成品缺陷。

Control contents: green body appearance, dimensional tolerance, squareness, crack, distortion, corner defect, fracture, pitted surface, etc.

成型工：按技术卡片要求、半成品质量控制标准自检，逐块检查。

Molder: conduct self inspection block by block pursuant to the technical cards and semi-finished product quality control standard.

砖坯检查员：Green brick inspector.

首件产品检查：对照图纸检查外形尺寸，确保砖型准确。

First product inspection: check the external dimension according to the drawings to ensure accurate brick moulding.

半成品车上随机抽查：机台随机抽查、半成品车上抽查，逐车检查在砖坯上标识、记录半成品检查结果、合格签收，不合格

报废回碾。

Random Onboard inspection against semi-finished products: randomly inspect the equipments and inspect against the semi-finished products onboard, inspect vehicle by vehicle and mark the green bricks and record the inspection results, accept those qualified ones. Reject the unqualified semi-finished products.

2. 半成品气孔率控制

Porosity Control over Semi-finished Products

控制内容：半成品单重、冲压次数、气孔率抽检。

Control contents: unit weight of the semi-finished product, stamping times, random porosity inspection.

检查内容：与成品相关的理化指标、体积密度、气孔率等。

Inspection contents: physiochemical indexes related to the finished products, bulk density, porosity, etc.

成型工：加料前出砖后称单重、确保冲压次数。

Molder: weigh the unit weight before charging and after brick outgoing, ensure of the stamping times.

半成品检查员：抽查单重、冲压次数。

Semi-finished product inspector: randomly check the piece weight and stamping times.

化验员：随机抽检气孔率，每台台、每车一次、逐车检查并标识，不合格报废回碾。

Analyst: randomly check the porosity of each equipment vehicle by vehicle, inspect and mark. Reject the unqualified semi-finished products.

3. 装车前半成品质量检查

Quality Inspection Over the Semi-finished Products Before Loading

控制内容：砖坯外形、尺寸公差、方正度、裂纹、扭曲、缺角、麻面等半成品缺陷。

Control Contents: green body appearance, dimensional tolerance, squareness, Crack, istortion, corner defect, fracture, pitted surface, etc.

干坯检查员：装车前，逐块检查外形质量，剔除有缺陷的制品，记录半成品流动卡片。

Dried green inspector: check the appearance quality one by one before loading, reject the defected products and record the semi-finished product flowing card.

不合格品报废处理。

Reject the unqualified products.

4. 装车方法控制

Loading Method Control

控制内容：码砖外形尺寸、码砖位置、砖垛平、稳、直、手缝等装车工序。

Control contents: piling external dimension, hacking position, piled bricks should be even, stable, straight and sewed manually, etc.

配砖工：在技术卡片范围内，具体设计每个砖型的码砖方法。

Brick worker: designing the specific hacking method for each type of bricks within the range of the technical card.

装车工：对确认合格的半成品码砖操作，轻拿轻放，按指定位置码砖，保证各部位装车尺寸符合工艺要求。

Loading worker: align the qualified semi-finished products and load gently, then align the bricks in designated position and ensure to satisfy the loading dimensional requirements for each part.

烧成进车工：检查码砖外形尺寸，逐车验收检查码砖尺寸，不合格不准进窑。

Sintering ahead worker: check the external dimension of the hacking, accept and check the hacking dimension one by one, unqualified products rejected.

5. 烧成技术参数控制

Firing Control

控制内容：烧成温度、保温时间和压力制度。

Control content: firing temperature, holding time and pressure procedure.

烧成工：按烧成曲线测温，每小时记录一次。

Sintering worker: measure the temperature by sintering curve and record hourly.

窑上各风机设备巡检和日常维护，确保设备正常运转。

Polling and routine maintenance against draught fan equipments in the kiln to ensure their smoothly running.

设备管理员：每日巡检，发现问题及时处理，确保设备正常运转。

Equipment officer: check daily and deal with problems found timely to ensure the smooth operation of equipments.

仪表工：各种仪表、热电偶、高温光学计的校验，确保仪表准确。

Instrument worker: calibrate the various instruments, thermocouple and high temperature optimeter to ensure their accuracy.

6. 成品检选

Finished Products Sorting

检选工具齐全

Sound sorting devices.

按尺寸公差逐块进行量尺，认真检查外观，不合格品予以剔除。合格品按工艺要求进行标识并分类摆放。

Measure each piece of brick according to the dimensional tolerance, carefully check the product appearance and reject those unqualified products. Mark and put the qualified products in categories according to the process requirements.

Refractory for Cement Industry

水泥窑用耐火材料

新型干法水泥回转窑用耐火材料推荐配置

Refractories Recommended and Used in New Dry Cement Kilns

部位 Position		工作层耐火材料品种 Refractory material varieties for working layer		
		5000T/D及以上 5000 T/D and above	2500T/D及以上 2500 T/D and above	2500T/D以下 2500 T/D and below
1. 预热器 preheater		高强耐碱浇注料、 碳化硅抗结皮浇注料、 高强 耐碱 High strength castables resistant to alkali Silicon carbide castables resistant to alkali High strength brick resistant to alkali	高强耐碱浇注料、 碳化硅抗结皮浇注料、 高强耐碱砖 High strength castable resistant to alkali Silicon carbide castables resistant to alkali High strength brick resistant to alkali	高强耐碱浇注料、 碳化硅抗结皮浇注料、 高强耐碱砖 High strength castables resistant to alkali Silicon carbide castables resistant to alkali High strength brick resistant to alkali
2. 分解炉 decomposing furnace		莫来石浇注料、 硅莫砖、 抗剥落高铝砖 Mullite castables Silica Mullite brick High alumina brick resistant to spalling	莫来石浇注料、 抗剥落高铝砖 Mullite castables High alumina brick resistant to spalling	低水泥浇注料、 高强耐碱砖 Low cement refractory castable High alumina brick resistant to spalling
3. 三次风管 tertiary duct		三次风管专用浇注料、 硅莫砖 Castables for tertiary pipe Silica Mullite brick	三次风管专用浇注料、 硅莫砖 Castables for tertiary pipe Silica Mullite brick	低水泥浇注料、 高强耐碱砖 Low cement refractory castable High alumina brick resistant to alkali
4. 回转窑 rotary kiln	前窑口 front kilneye	窑口专用浇注料、 板状刚玉浇注料 Special castables for inlet, outlet, nose ring Tabular corundum refractory castable	窑口专用浇注料、 板状刚玉浇注料 Special castables for inlet, outlet, nose ring Tabular corundum refractory castable	窑口专用浇注料、 钢纤维增强 浇注料 Special castables for inlet, outlet, nose ring Steel fibre reinforced refractory castables
	上过渡带 the transition zone	复合碳氮砖、 方镁石尖晶石砖 Carbide and nitride composite brick Periclase-spinel brick Special castables for inlet, outlet, nose ring Tabular corundum refractory castable	复合碳氮砖、 方镁石尖晶石砖 Carbide and nitride composite brick Silica Mullite brick Periclase-spinel brick	硅莫砖、 方镁石尖晶石砖 Silica Mullite brick Periclase-spinel brick
	烧成带 burning zone	柔性方镁石尖晶石砖、 镁铁复合尖晶石砖、 镁铝铁尖晶石砖 Toughness periclase spinel brick Iron-magnesia spinel brick Magnesia hercynite brick	柔性方镁石尖晶石砖、 镁铁复合尖晶石砖、 镁铝铁尖晶石砖 直接结合镁铬砖 Toughness periclase spinel brick Iron-magnesia spinel brick Magnesia hercynite brick Direct bonded magnesite chrome brick	镁铁复合尖晶石砖、 镁铁复合尖晶石砖、 直接结合镁铬砖 Iron-magnesia spinel brick Magnesia hercynite brick Direct bonded magnesite chrome brick
	下过渡带 under the transition zone	复合碳氮砖、 方镁石尖晶石砖 Carbide and nitride composite brick Periclase-spinel brick	复合碳氮砖、 方镁石尖晶石砖 Carbide and nitride composite brick Silica Mullite brick Periclase-spinel brick	硅莫砖、 方镁石尖晶石砖 Silica Mullite brick Periclase-spinel brick
	安全带 safety zone	硅莫砖、 抗剥落高铝砖 Silica Mullite brick High alumina brick resistant to spalling	硅莫砖、 抗剥落高铝砖 Silica Mullite brick High alumina brick resistant to spalling	硅莫砖、 抗剥落高铝砖 Silica Mullite brick High alumina brick resistant to spalling
	后窑口 back kilneye	窑口专用浇注料、 莫来石浇注料 Special castables for inlet, outlet, nose ring Mullite castables	窑口专用浇注料、 莫来石浇注料 Special castables for inlet, outlet, nose ring Mullite castables	钢纤维增强浇注料、 莫来石浇注料 Special castables for inlet, outlet, nose ring Mullite castables
	5. 窑门罩 kiln hood	莫来石浇注料 Mullite castables	莫来石浇注料 Mullite castables	莫来石浇注料 Mullite castables
6. 篦冷机 grate cooler		钢纤维增强 浇注料 莫来石浇注料 Steel fibre reinforced refractory castables Mullite castables	钢纤维增强浇注料、 莫来石浇注料 Steel fibre reinforced refractory castables Mullite castables	钢纤维增强 浇注料 低水泥浇注料 Steel fibre reinforced refractory castables Low cement refractory castable

水泥窑用耐火制品

Refractory for Cement Industry



特种莫来石刚玉砖
Special Mullite Corundum Brick



方镁石尖晶石砖
Periclase Spinel Brick



镁尖晶石砖
Magnesia Spinel Brick



镁铝尖晶石砖
Magnesia Alumina Spinel Brick



镁铁尖晶石砖
Magnesia Hercynite Brick



镁钙砖
Magnesia Calcium Brick



直接结合镁铬砖
Direct Bonded Magnesia Chrome Brick



硅莫砖
Silica Mullite Brick



中空硅莫砖
Silica Mullite Brick



耐碱砖
Anti-alkali Brick



抗剥落高铝砖
Anti-spalling High Alumina Brick



磷酸盐不烧高铝砖
Unfired Phosphate High Alumina Brick

镁铁复合尖晶石砖

Iron-magnesia Spinel Brick

镁铁复合尖晶石砖是采用高纯镁铁尖晶石为主要原料，通过添加特种增韧剂，经过高压成型、高温烧成而生产的一种新产品。该产品具有以下特点：一是高温下的韧性好，在烘窑和使用中不易发生剥落损坏；二是挂窑皮性能优良，且在窑皮脱落时不易损坏窑砖；三是强度高，比较好的解决了强度与热震这一矛盾；四是尺寸稳定，可以满足砌筑要求。该产品适合在水泥窑烧成带使用。

The brick is made from iron-magnesia spinel raw materials added with special toughness agent, by highly pressed and fired at high temperature. The brick has features as follow: 1. excellent toughness at high temperature, the spalling damage is not easy to happen during drying kiln and using. 2. Excellent coat formed in burning zone, and normal coat damage does not spall. 3. Excellent strength and thermal shock resistance. 4. With stable dimension, can meet the requirement of installation in project. The product applies in burning zone.

项目 Items	牌号 Brand	KYMT-80A	KYMT-80B	KYMT-80C
MgO %	≥	80	80	80
Fe ₂ O ₃ %		6-8	6-8	6-8
Al ₂ O ₃ %		1-3	1-3	1-3
SiO ₂ %	≤	1.0	1.5	2.0
显气孔率 Apparent porosity %	≤	17	18	19
体积密度 Bulk density g/cm ³		2.95-3.10	2.95-3.05	2.90-3.0
耐压强度 Cold crushing strength Mpa	≥	60	50	50
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1700	1650	1600
热震 Thermal shock resistance 950°C 空冷 air cooling cycle	≥	80	60	60

镁铝铁尖晶石砖

Magnesia Hercynite Brick

镁铝铁尖晶石砖是选用高纯镁砂和人工合成铝铁尖晶石为原料，经高压成型、高温烧成而生产的一种无铬尖晶石产品。该产品具有以下特点：一是高温下的韧性好，在烘窑和使用中不易发生剥落损坏；二是挂窑皮性能优良，且在窑皮脱落时不易损坏窑砖；三是强度高，比较好的解决了强度与热震这一矛盾；四是尺寸稳定，可以满足砌筑要求；五是产品不含铬，是一种环境友好型产品。该产品适合在水泥窑烧成带使用。

The brick is made from selected high purity magnesia sand, and synthetic aluminium spinel, shaped by high pressure and sintered at high temperature, free of chrome. The brick with the features as follow: 1. excellent toughness at high temperature, the spalling damage is not easy to happen during drying kiln and using; 2. Excellent coat formed in burning zone, and normal coat damage does not spall; 3. Excellent strength and thermal shock resistance; 4. With stable dimension, can meet the requirement of installation in project; 5. Free of chrome, a kind of product without environmental pollution, being applied in burning zone.

项目 Items	牌号 Brand	KYMLT-85A	KYMLT-85B
MgO %	≥	85	80
Fe ₂ O ₃ %		4-6	4-6
Al ₂ O ₃ %		4-7	4-7
SiO ₂ %	≤	1.0	2.0
显气孔率 Apparent porosity %	≤	17	18
体积密度 Bulk density g/cm ³		2.92-2.97	2.90-2.95
耐压强度 Cold crushing strength Mpa	≥	70	60
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1700	1600
热震 Thermal shock resistance 950°C 空冷 air cooling cycle	≥	100	80

直接结合镁铬砖

Direct Bonded Magnesia Chrome Brick

直接结合镁铬砖是选用高纯镁砂和进口铬铁矿为主要原料，通过添加少量添加剂，经高压、高温而制得的产品，该产品具有良好的耐高温和挂窑皮性能，其抗剥落性能也比较好，是水泥窑烧成带常用的产品。

The brick is made from high purity magnesia sand, imported chrome concentrate, added with a small amount of additives, pressed by high pressure, sintered at high temperature, with high refractoriness and excellent resistant to spalling performance on coating at high temperature, a better option used in burning zone.

项目 Items	牌号 Brand	KYMGc-5A	KYMGc-5B	KYDMC-9A
MgO %	≥	75	70	70
Cr ₂ O ₃ %		3-6	3-6	≥9
Al ₂ O ₃ %		5-7	5-7	3-5
SiO ₂ %	≤	2.0	2.50	2.80
显气孔率 Apparent porosity %	≤	18	18	19
体积密度 Bulk density g/cm ³	≥	2.95	2.92	2.98
耐压强度 Cold crushing strength Mpa	≥	50	50	40
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1650	1600	1600
热震 Thermal shock resistance 1100°C 水冷 water cooling cycle	≥	10	8	5

方镁石尖晶石砖

Periclase-spinel Brick

方镁石尖晶石砖是选用高纯镁砂和合成镁铝尖晶石为原料，经过高压成型、高温烧成而制得的一种产品，该产品具有优良的热震性能和抗碱、硫侵蚀性能，加之其优良的耐高温性能和抗氧化性能，是水泥窑前、后过渡带的首选产品。

The brick is made from high purity magnesia sand and synthesized Al₂O₃-MgO spinel by highly pressed and fired at high temperature. Which has excellent thermal shock resistance, alkali resistance, oxidation resistance and sulphates resistance at high temperature. A preferred product for upper and lower transition zone of cement kiln.

项目 Items	牌号 Brand	KYMA-85A	KYMA-85B	KYMA-85C
MgO %	≥	85	80	80
Fe ₂ O ₃ %	≤	1.0	1.2	1.2
Al ₂ O ₃ %		9-13	9-13	9-13
SiO ₂ %	≤	1.5	2.0	2.5
显气孔率 Apparent porosity %	≤	18	18	19
体积密度 Bulk density g/cm ³	≥	2.93	2.92	2.90
耐压强度 Cold crushing strength Mpa	≥	60	60	50
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1700	1650	1600
热震 Thermal shock resistance 950°C 空冷 air cooling cycle	≥	100	80	80

镁钙锆砖

Magnesia Calcium Zirconate Brick

镁钙锆砖是采用人工合成镁砂石料为主要原料，通过添加氧化钙，经高压成型，高温烧制而成的一种碱性制品。该制品具有和水泥熟料很好的亲和性，并与水泥熟料结合形成高耐火度的窑皮。添加的氧化锆具有增韧作用，提高了该制品的抗热震性能。该产品没有铬污染，是一种环境友好型产品。

The brick is made from synthesized magnesia and zircon, added with calcium oxide, shaped by highly pressing and fired at high temperature. The brick combines with coat closely in terms of higher refractories because of the higher affinity and zirconia toughness strengthened. Increasing thermal shock resistance, free of chrome pollution, applying in burning zone.

项目 Items	牌号 Brand	镁钙锆砖 Magnesia calcium zirconate brick			
		MG-40	MG-50	MG-60	MG-FZ60
化学成分	MgO %	≥40.0	50.0	59.5	59.5
	CaO %	≥56	46.2	36.5	36.5
	Fe ₂ O ₃ %	≤0.4	0.4	0.5	0.5
	Al ₂ O ₃ %	≤0.4	0.4	0.4	0.4
	SiO ₂ %	≤1.0	1.0	1.0	1.0
	ZrO ₂ %	≥1.5	1.5	1.5	1.5
物理性能	体积密度 B.D g/cm ³	≥2.90	2.90	2.93	2.96
	显气孔率 A.P%	≤14.0	14.0	14.0	13.5
	耐压强度 C.C.S Mpa	≥40	40	40	40
	0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥1500	1500	1600	1600
	热震 T.S.R(950°C 空冷 water-cycle)次	≥100	100	100	100

硅莫砖

Silica Mullite Brick

以特级高铝矾土熟料和优质碳化硅为主要原料，经高压成型，高温烧制而成。产品具有高温耐压强度及高温结构强度高，热震稳定性好，在使用过程中不断形成保护层，耐磨性好，抗剥落性强，适用于水泥窑的过渡带、冷却带、窑口等部位。

The brick is made from sintered special grade high alumina bauxite and high grade silicon carbide, pressed by high pressure, sintered at high temperature. With high temperature strength, excellent thermal shock stability, form a protective layer in the process of using, excellent wear-resistance and spalling resistance. Applied in transition zone, cooling zone and outlet of cement kiln.

项目 Items	牌号 Brand	SM-65	SM-63	SM-60
Al ₂ O ₃ %	≥	65	63	60
耐火度 Refractoriness °C	≥	1790	1790	1790
体积密度 Bulk density g/cm ³	≥	2.5	2.55	2.60
显气孔率 Apparent porosity %	≤	20	20	21
耐压强度 Cold crushing strength Mpa	≥	80	90	95
抗折强度 Modulus of rupture Mpa	≥	8	12	15
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1550	1650	1680
热震 Thermal shock resistance 1100°C 水冷 water cycle	≥	10	12	15
耐磨系数 wear coefficient		--	8.2	8.5

特种刚玉莫来石砖

Special Corundum Mullite Brick

该产品采用刚玉、莫来石为骨料、细粉，外加适量添加剂，经合理的工艺配比，采用高压成型，中温烧制而成。主要特点为：低气孔率，抗剥落性强，耐腐蚀性强，一般用在水泥窑安全带和上过渡带。

The brick is made from corundum clinker, mullite clinker as aggregate and fine powder, added with suitable amount of additives by a reasonable ratio of technology, pressed by high pressure, sintered at middle temperature. With features as follow: low apparent porosity, excellent spalling and corrosion resistance. Generally applied in safety zone and upper transition zone.

牌号 Brand	Al ₂ O ₃ %	耐火度 °C Refractoriness	体积密度 Bulk density g/cm ³	显气孔率 A.P %	耐压强度 C.C.S Mpa	热震 T.S.R 1100°C 水冷 water-cycle 次	0.2Mpa 荷重软化 R.U.L °C T0.6
KYGM-80	≥80	≥1780	≥2.70	≤19	≥100	≥35	≥1500

抗剥落高铝砖

High Alumina Brick Resistant to Spalling

以特级高铝矾土熟料为主原料，添加三石或ZrO₂，按一定配比经高压成型制得的烧成制品。产品具有抗剥落性能强，同时还具有抗钾、钠、硫、氯及碱性盐的侵蚀，低导热率等性能，是水泥窑过渡带以及分解带的理想材料。

The brick is made from sintered special grade high alumina bauxite, added with zirconia, sillimanite and andalusite by reasonable ration, pressed by high pressure and sintered at high temperature, with excellent spalling resistance, alkali, sodium, sulfur, chlorine and alkalic salt corrosion. Low thermal conductivity, a better and ideal choice for transition and calcining zone of cement kiln.

项目 Items	牌号 Brand	KYHA-70	KYHA-75
Al ₂ O ₃ %	≥	70	75
ZrO ₂ %		6-8	--
耐火度 Refractoriness °C	≥	1790	1790
体积密度 Bulk density g/cm ³	≥	2.5	2.60
显气孔率 Apparent porosity %	≤	24	23
耐压强度 Cold crushing strength Mpa	≥	60	70
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1470	1520
热震 Thermal shock resistance 1100°C 水冷 water cycle	≥	30	25

磷酸盐结合高铝砖

Phosphate Bonded High Alumina Brick

以致密特级铝矾土熟料为主要原料，以磷酸为结合剂，具有热震稳定性高，强度大等优点，适用于水泥回转窑的预热带，分解带以及窑门罩，冷却机等部位。

The brick is made from special grade dense bauxite, phosphoric acid as binder, with high thermal stability and strength. Be applied in preheating zone, calcining zone, firing hood and cooler part.

项目 Items	牌号 Brand	普通型磷酸盐砖 Ordinary phosphate brick	磷酸盐结合耐磨砖 Phosphate bonded abrasive brick	特种型磷酸盐砖 Special phosphate brick	磷酸盐复合砖 Phosphate composite brick	
		KYP-75	KYPA-75	KYPT1	重质部分 Heavy part	轻质部分 Light part
Al ₂ O ₃ %	≥	75	75	80	75	55
Fe ₂ O ₃ %	≤	2.1	2.1	1.8	2	1.5
耐火度 Refractoriness °C	≥	1770	1770	1790	1770	--
体积密度 Bulk density g/cm ³	≥	2.7	2.75	2.9	2.8	≤1.0
耐压强度 Cold crushing strength Mpa	≥	70	75	80	75	5.5
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1350	1300	1520	1350	--
热震 Thermal shock resistance 1100°C 水冷 water cycle	≥	20	20	15	--	--
重、轻质结合部耐压强度 Mpa CCS at the bonded parts between heavy and light weight	≥	--	--	--	15	15

系列耐碱砖

Series Of Alkali-resistant Fire Brick

项目 Items	牌号 Brand	普通型 Ordinary type	高强度型 High strength type	隔热型 Insulation type	拱顶型 Vault type
Al ₂ O ₃ %		25-30	25-30	25-30	30-35
Fe ₂ O ₃ %	≤	2	2	2	2
SiO ₂ %		65-70	65-70	60-70	60-65
耐火度 Refractoriness °C	≥	1650	1650	1650	1710
体积密度 Bulk density g/cm ³	≥	2.15	2.25	≤1.65	2.2
显气孔率 Apparent porosity %	≤	21	20	≥35	21
耐压强度 Cold crushing strength Mpa	≥	35	60	15	35
0.2Mpa 荷重软化温度 °C R.U.L °C T0.6	≥	1350	1300	1250	1400
导热系数 Thermal conductivity 350±10°C	≤	1.28	1.28	0.7	1.28
用途 Usage		大、中型干法水泥回转窑预热器、分解炉等 Large and medium dry-process rotary kiln, decomposing furnace, etc.			

Refractory for Steel Industry

钢铁行业用耐火材料



钢铁行业用耐火制品

Refractory for Steel Industry



镁铬砖

Magnesia Chrome Brick



碳化硅塞头砖

Silica Carbide Stopper Head Brick



热风炉人孔组合硅砖

Combined Silica Brick For Hot Blast Furnace



80水口砖

Nozzle Brick



85磷酸盐结合高铝砖

Phosphate Combined High Alumina Brick



低蠕变高铝砖

Low Creep High Alumina Brick



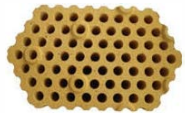
钢包砖

Ladle Brick



高铝异型砖

High Alumina Brick



65孔高铝砖

65 Holes High Alumina Brick



浇钢砖系列

Cast Steel Brick



粘土浇钢砖

Fireclay Cast Steel Brick



浇钢砖

Cast Steel Brick



19孔粘土格子砖

19 Holes Fireclay Checker Brick



N1粘土异型砖

Fireclay Brick



粘土格子砖

Fireclay Checker Brick

粘土砖、低蠕变粘土砖

Fireclay Brick, Low-creep Fireclay Brick

项目 Items	牌号 Brand	粘土砖 Fireclay Brick		低蠕变粘土砖 low-creep Fireclay Bricks		
		RN-42	RN-40	DRN-125	DRN-120	DRN-115
Al ₂ O ₃ %	≥	42	40	45	42	40
Fe ₂ O ₃ %	≤	2.0	2.0	1.7	1.8	2.0
显气孔率 Apparent porosity %	≤	22 (24)	22 (24)	18 (24)	20 (24)	22 (24)
耐压强度 C.C.S Mpa	≥	35	30	50	45	40
耐火度 Refractoriness °C	≥	1760	1740	1750	1730	1730
0.2Mpa 荷重软化温度 R.U.L °C T0.6 °C	≥	1410	1350	1450	1420	1370
重烧线变化率 P.L.C %		1400°C × 2h 0~-0.4	1350°C × 2h 0~-0.5	1400°C × 2h 0.1~-0.3	1400°C × 2h 0.1~-0.2	1300°C × 2h 0.1~-0.4
高温蠕变率 Creep rate % (0.2Mpa × 50h)	≤	—	—	1250°C 0.8	1200°C 0.8	1150°C 0.8

* the data in the () is for checker brick.

高炉用高铝砖 (GL-65 GL-55 GL-48)

High Alumina Brick For Blast Furnace

产品特点: 高炉用高铝砖采用优质矾土熟料为主要原料, 经高压成型高温烧结而成。主要矿物质组成为莫来石和刚玉相, 产品具有优良的高温物理性能和抗化学侵蚀性能, 广泛应用于高炉炉衬的各个部位。

Product feature: high alumina brick for blast furnace is produced of high quality bauxite clinker, it is formed by high pressure and sintered by high heat. Its main minerals are mullite and corundum phase. The product has good properties of resisting physical high temperature and chemical erosion. It is widely used in different parts of blast furnace lining.

项目 Items	牌号 Brand	GL-65	GL-55	GL-48
Al ₂ O ₃ %	≥	65	55	48
Fe ₂ O ₃ %	≤	2.0	2.0	2.0
耐火度 Refractoriness °C	≥	1800	1780	1760
荷重软化温度 RUL °C	≥	1500	1480	1450
重烧线变化 P.L.C %		1450°C × 2h	-	0~-0.2
		1500°C × 2h	0~-0.2	-
气孔率 Apparent porosity %	≤	19	19	18
耐压强度 Cold crushing strength Mpa	≥	58	49	49

热风炉用高铝砖、低蠕变高铝砖

High Alumina Brick & Low-creep High Alumina Brick For Hot Blast Furnace

项目 Items	牌号 Brand	高铝砖 High Alumina Brick			低蠕变高铝砖 Low-creep High Alumina Brick			
		RL-65	RL-55	RL-48	DRL-145	DRL-140	DRL-135	DRL-130
Al ₂ O ₃ %	≥	65	55	48	65	65	65	60
体积密度 Bulk density g/cm ³	≥	—	—	—	2.6	2.5	2.45	2.4
显气孔率 A.P %	≤	22 (24)	22 (24)	22 (24)	21	22	22	22
耐压强度 C.C.S Mpa	≥	50	45	40	60	55	55	55
耐火度 Refractoriness °C	≥	1780	1760	1740	1790	1790	1790	1770
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1500	1470	1420	1600	1580	1550	1520
重烧线变化率 PLC %		1500°C×2h +0.1~-0.4	1500°C×2h +0.1~-0.4	1450°C×2h +0.1~-0.4	1550°C×2h +0.1~-0.4	1450°C×2h +0.1~-0.2	1450°C×2h +0.1~-0.4	1450°C×2h +0.1~-0.4
高温蠕变率 creep % (0.2Mpa×50h)	≤	—	—	—	1450°C 0.8	1400°C 0.8	1350°C 0.8	1300°C 0.8
热震 T.S.R(1100°C水冷 water-cycle)次	≥	6			-----			

热风炉用硅砖

Silica Bricks For Hot-blast Furnace

项目 Items	牌号 Brand	热风炉硅砖 Silica bricks for hot-blast furnace	
		RG-95	
SiO ₂ %	≥	95	
Fe ₂ O ₃ %	≤	-----	
0.2Mpa 荷重软化温度 Refractoriness under load °C	≥	1650	
真密度 True density g/cm ³	≤	2.35	
常温耐压强度 Cold crushing strength MPa	≥	35	
显气孔率 Apparent porosity %	≤	22 (24)	
高温蠕变 (0.2Mpa1550°C*50h) High temperature creep rate %	≤	0.8	
热膨胀率 (1000°C) Thermal expansion %	≤	1.26	

* the data in the () is for checker brick.

陶瓷杯耐火材料

Ceramic Cup Refractory

项目 Items	牌号 Brand	A-1		A-2	
Al ₂ O ₃ %	≥	78	75		
Fe ₂ O ₃ %	≤	1.0	1.0		
SiC %	≥	8	9		
体积密度 Bulk density g/cm ³	≥	3.0	2.9		
显气孔率 Apparent porosity %	≤	15	16		
耐压强度 Cold crushing strength Mpa	≥	110	100		
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1700	1680		
重烧线变化率 PLC1500×3h %		0~+0.1	0~+0.1		
铁水溶蚀指数 Molten iron corrosion index	≤	2	2		
抗碱试验后耐压强度下降率 Declining rate of the compressive strength after alkali proof test		15	15		
推荐使用部位 Recommend Application		高炉风口、铁口 Blast furnace tuyere, a.ohole		高炉本体陶瓷垫 Ceramic mat for blast furnace	

铸造用浇钢砖

Runner Brick for Casting

项目 Items	牌号 Brand	流钢砖 Runner brick			袖砖 Sleeve			
					高铝质 Alumina		粘土质 Clay	
		BM-60R	BM-C60R	HL-32R	BM-60V	BM-50V	HL-32V	
耐火度C Refractoriness SK	≥	37	37	32	37	36	32	
体积密度 Bulk density g/m ³	≥	2.50	2.45	1.90	2.40	2.15	1.90	
显气孔率 Apparent porosity %	≤	23	21	20	23	22	20	
耐压强度 Cold crushing strength Mpa	≥	35	40	30	35	30	30	
荷重软化温度 (2kg/cm ² , T ₂ °C) Refractoriness under load	≥	1500	1500	1300	1450	1400	1300	
热膨胀系数 (%) at 1000°C Thermal expansion	≤	0.6	0.5	0.5	0.6	0.6	0.5	
化学成分 (%) Chemical composition	Al ₂ O ₃	≥	63	60	34	63	51	64
	Fe ₂ O ₃	≤	2.0	2.0	2.0	2.0	2.0	2.0
主要用途 Applications		特殊钢 Special steel 普通钢 General steel						

电熔再结合镁铬砖 (融粒再结合镁铬砖)

Eelectrically Fused Rebonded Magnesite Chrome Brick

电熔再结合镁铬砖是选用优质电熔镁铬尖晶石为主原料，通过添加少量添加剂，经过高压成型、高温烧成而制成的一种优质产品，该产品不仅具有优良的耐高温和抗侵蚀性能，而且还具有优良的抗冲刷性能和较好的抗剥落性能，适合在钢铁行业炉外精炼炉上使用。

The main raw material of fused rebonded magnesite chrome brick is fused magnesite chrome synthetic spinel. It is made by adding little amount of additives, molded at high pressure, sintered at high temperature. It shows not only good thermostability and corrosion resistance but also terrific scour resistance and antistrip performance. It is widely used in steel refining furnace.

项目 Items	牌号 Brand	KYDMGe		KYDMGe		KYDMGe		KYDMGe		KYDMGe		KYDMGe	
		30A	30B	26A	26B	24A	24B	20A	20B	18A	18B	16A	16C
MgO %	≥	45	40	50	45	52	47	60	55	62	58	65	60
Cr ₂ O ₃ %	≥	30	30	26	26	24	24	20	20	18	18	16	16
Fe ₂ O ₃ %		8~15	8~15	7~15	7~15	6~13	6~13	5~13	5~13	5~13	5~13	5~12	5~12
SiO ₂ %	≤	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5
显气孔率 Apparent porosity %	≤	15	16	15	16	15	16	15	16	15	16	15	16
体积密度 Bulk density g/cm ³	≥	3.40	3.40	3.35	3.35	3.30	3.30	3.25	3.25	3.22	3.22	3.20	3.20
耐压强度 C.C.S Mpa	≥	60	60	60	60	60	60	60	60	60	60	50	50
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700

直接结合镁铬砖

Direct Bonded Magnesite Chrome Brick

直接结合镁铬砖是选用高纯镁砂和进口铬精矿为主要原料，通过添加少量添加剂，经高压、高温而制得的产品。该产品具有良好的耐高温和抗剥落性能，适合在高温和温度波动较大的位置使用。

The main raw materials of direct bonded magnesite chrome brick are high-pure magnesite and imported chrome ore. It is made by adding little amount of additives shaped by high pressure and sintered at high temperature. It has good thermostability performance, hanging kiln skin performance and good antistrip performance. It is mainly used at high temperature zone and large temperature fluctuating zone.

项目 Items	牌号 Brand	KYZMGe		KYZMGe		KYZMGe		KYZMGe		KYZMGe		KYZMGe	
		20A	20B	18A	18B	16A	16B	14A	14B	12A	12B	8A	8B
MgO %	≥	55	50	58	53	60	55	65	60	68	63	75	70
Cr ₂ O ₃ %	≥	20	20	18	18	16	16	14	14	12	12	8.0	8.0
Fe ₂ O ₃ %	≤	6~12	6~12	6~12	6~12	6~12	6~12	5~10	5~10	5~10	5~10	4~8	4~8
SiO ₂ %	≤	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5
显气孔率 Apparent porosity %	≤	18	20	18	20	18	20	18	19	18	19	18	19
体积密度 Bulk density g/cm ³	≥	3.20	3.18	3.18	3.15	3.15	3.12	3.12	3.10	3.05	3.02	3.0	2.95
0.2Mpa 荷重软化温度 U.L. °C T0.6	≥	1700	1650	1700	1650	1700	1650	1700	1650	1700	1650	1700	1650

电熔半再结合镁铬砖

Fused Semi-rebonded Magnesite Chrome Brick

电熔半再结合镁铬砖是选用优质电熔镁铬尖晶石、高纯度镁砂、进口铬精矿和复合高温增韧剂，经过高压成型、高温烧成而制得的一种优质产品，该产品不仅具有电熔再结合镁铬砖的优良性能，而且还具有比电熔再结合镁铬砖更优异的抗剥落性能，也适合在钢铁行业炉外精炼炉上使用。

Fused semi-rebonded magnesite chrome brick with raw materials include good fused magnesite chrome spinel, high-pure magnesite, imported chrome ore and compound high temperature flexibilizer, shaped by high pressure, sintered at high temperature. This kind of product not only has all good properties of fused rebounded magnesite chrome brick, but also has better antistrip performance compared with fused rebounded magnesite chrome brick. It is widely used in steel refining furnace.

项目 Items	牌号 Brand	KYBMGe		KYBMGe		KYBMGe		KYBMGe		KYBMGe		KYBMGe	
		30A	30B	26A	26B	24A	24B	20A	20B	18A	18B	16A	16C
MgO %	≥	45	40	50	45	52	47	60	55	62	58	65	60
Cr ₂ O ₃ %	≥	30	30	26	26	24	24	20	20	18	18	16	16
Fe ₂ O ₃ %	≤	8~15	8~15	7~15	7~15	6~13	6~13	5~13	5~13	5~13	5~13	5~12	5~12
SiO ₂ %	≤	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5
显气孔率 Apparent porosity %	≤	15	16	15	16	15	16	15	16	15	16	15	16
体积密度 Bulk density g/cm ³	≥	3.38	3.38	3.33	3.33	3.30	3.30	3.25	3.25	3.22	3.22	3.20	3.20
耐压强度 Cold crushing strength Mpa	≥	50	50	50	50	50	50	50	50	50	50	50	50
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700

炼钢用高铝砖

High Alumina Brick for Steel Making

项目 Items	DL-80	DL-75	BDL-80	BDL-75	BDL-83	BDL-85	
Al ₂ O ₃ %	≥	80	75	80	75	83	85
Fe ₂ O ₃ %	≤	1.5	1.5	1.5	1.5	1.5	1.5
显气孔率 Apparent porosity %	≤	19 (21)	19 (21)	18 (20)	18 (20)	17 (19)	17 (19)
体积密度 Bulk density g/cm ³	≥	2.7	2.6	2.8	2.7	2.85	2.9
耐压强度 Cold crushing strength Mpa	≥	70	60	60	55	70	80
荷重软化温度 Refractoriness under load °C		1540	1520	1550	1530	1550	1560
重烧线变化率 P.L.C %		±0.2	±0.4	±0.2	±0.4	±0.2	±0.2

产品特点：炼钢用高铝砖以特级矾土熟料为主要原料加入少量白刚玉和氧化铝微粉，经高压成型、高温烧结而成。产品主要矿物质组成为莫来石和刚玉相，产品具有优良的高温物理性能和抗化学侵蚀性能。

The product features: high alumina bricks for steel making is made from special grade of bauxite as main raw material, added with little amount of white fused alumina and a alumina powder, shaped by high pressure and sintered at high temperature. The main mineral constituent includes mullite and corundum, with excellent high temperature physical performance and chemical erosion resistance.

加热炉用砖（锚固砖）

Anchor Brick for Heating Furnace

项目 Items	牌号 Brand	刚玉红柱石 Corundum Andalusite	高铝红柱石 High alumina Andalusite	高铝质 High alumina	高铝质 High alumina	高铝莫来石 High Alumina Mullite	高铝质 High alumina	粘土质 Fireclay
		JRL-90	JRL-80A	JRL-80	JRL-70	JRL-60A	JRL-60	JRL-50
Al ₂ O ₃ %	≥	90	80	80	70	60	60	50
Fe ₂ O ₃ %	≤	0.5	1.0	1.5	1.5	1.5	1.8	1.8
显气孔率 A.P. %	≤	15-19	17-21	19-23	19-24	17-21	20-25	20-26
体积密度 R.D g/cm ³	≥	2.9	2.7	2.6	2.5	2.3	2.35	2.3
耐压强度 C.C.S Mpa	≥	60	60	60	55	50	50	40
荷重软化温度 RUL °C		1600	1560	1540	1500	1460	1460	1450
重烧线变化率 P.L.C %	1550°C×2h	0.1-0.2	0.1-0.2	0.1-0.2	--	--	--	--
	1450°C×2h	--	--	--	0.1-0.2	0.1-0.4	--	0.1-0.4
热震稳定性: 1100°C水冷 次 Thermal shock resistance water Cycle		25	20	15	15	30	20	15

产品特点：加热炉用锚固（吊挂）砖以白刚玉、特级矾土熟料、红柱石、莫来石、焦宝石为主要原料加入少量软质结合粘土，经高压成型、高温烧结而成。产品主要矿物质组成为莫来石和刚玉相，产品具有优良的高温抗热震稳定性。

The product features: hanger (anchor) brick for heating furnace is made from white fused alumina, special grade bauxite, andalusite, mullite, flint clay as main raw material, added with little amount of soft clay, shaped by high pressure and sintered at high temperature. The main mineral constituent includes mullite and corundum, with excellent thermal stability at high temperature.

有色行业用耐火制品

Refractory Bricks for Non-ferrous Metal Industry



镁铬砖
Magnesia Chrome Brick



镁砖
Magnesia Brick



预制品
Pre-formed Block



硅线石锚固砖
Sillimanite Anchor Brick



80%高铝砖
80% High Alumina Brick



75%高铝砖
75% High Alumina Brick



碳素炉用低蠕变高铝砖
Low Creep High Alumina Brick
For Carton Furnace



低蠕变高铝砖
Low Creep High Alumina
Brick



红柱石砖
Andalusite Brick



红柱石砖
Andalusite Brick



低气孔粘土砖
Low Porosity Fireclay Brick



低蠕变粘土砖
Low Creep Fireclay
Brick

Refractory for Non-Ferrous Metal Industry

有色金属行业用耐火材料

直接结合镁铬砖

Direct Bonded Magnesia Chrome Brick

直接结合镁铬砖是选用高纯镁砂和进口铬精矿为主要原料，通过添加少量添加剂，经高压高温而制得，该产品具有良好的耐高温和抗剥落性能，适合在高温和高温波动较大的部位使用。

The brick is made from high purity magnesia sand, imported chrome concentrate, added with a small amount of additives, pressed by high pressure, sintered at high temperature, with high refractoriness and excellent resistant to spalling performance. It is suitable to be used in large location at high temperature and temperature fluctuation part.

项目 Items	牌号 Brand	KYMGe 直接结合镁铬砖 Direct Bonded Magnesia Chrome Brick											
		20A	20B	18A	18B	16A	16B	14A	14B	12A	12B	8A	8B
MgO %	≥	55	50	58	53	60	55	65	60	68	63	75	70
Cr ₂ O ₃ %	≥	20	20	18	18	16	16	14	14	12	12	8.0	8.0
Fe ₂ O ₃		6-12	6-12	6-12	6-12	6-12	6-12	5-10	5-10	5-10	5-10	4-8	4-8
显气孔率 Apparent porosity	≤	18	19	18	19	18	19	18	19	18	19	18	19
体积密度 Bulk density g/cm ³	≥	3.20	3.18	3.18	3.15	3.15	3.12	3.12	3.10	3.05	3.02	3.0	2.95
耐压强度 Cold crushing strength Mpa	≥	40	35	40	35	40	35	40	35	40	35	40	35
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1700	1650	1700	1650	1700	1650	1700	1650	1700	1650	1700	1650

特种直接结合镁铬砖

Special Direct Bonded Magnesia Chrome Brick

特种直接结合镁铬砖是采用高纯镁砂、高纯铬精矿和高温复合增韧剂，经过高压成型高温烧制的一种产品，该产品不仅结构致密，抗侵蚀能力强，而且抗热震性能较好，可以在抗侵蚀和热震都要求比较高的位置使用。

The brick is made from high purity magnesia, chrome ore and compound high temperature flexibilizer. It is made by high pressure molding and high temperature sintering. Its structure is dense and with excellent corrosion resistance and thermal shock resistance.

项目 Items	牌号 Brand	KYTMGe 特种直接结合镁铬砖 Special Direct Bonded Magnesia Chrome Brick					
		20A	20B	18A	18B	16A	16B
MgO %	≥	55	50	58	53	60	55
Cr ₂ O ₃ %	≥	20	20	18	18	16	16
Fe ₂ O ₃ %		10-13	6-12	6-12	6-12	6-12	6-12
SiO ₂ %	≤	1.5	2.5	1.5	2.5	1.5	2.5
显气孔率 Apparent porosity %	≤	16	19	18	19	18	19
体积密度 Bulk density g/cm ³	≥	3.28	3.18	3.18	3.15	3.15	3.12
耐压强度 Cold crushing strength Mpa	≥	50	35	40	35	40	35
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1700	1650	1700	1650	1700	1650
热震 Thermal shock resistance 950°C 空冷 air-cycle	≥	80	60	80	60	80	60

电熔再结合镁铬砖（融粒再结合镁铬砖）

Fused Rebonded Magnesite Chrome Brick

电熔再结合镁铬砖是选用优质电熔镁铬尖晶石为主要原料，通过添加少量添加剂，经过高压成型、高温烧成而制得的一种优质产品，该产品不仅具有优良的耐高温和抗侵蚀性能，而其还具有优良的抗冲刷性能和较好的抗剥落性能，适合在有色冶炼行业使用。

The main raw material of fused rebonded magnesite chrome brick is fused magnesite chrome synthetic spinel. It is made by adding little amount of additives, molded at high pressure, sintered at high temperature. It shows not only good thermostability and corrosion resistance but also spall resistance and rush-resistance. It is widely used in nonferrous metal smelting field.

项目 Items	牌号 Brand	KYDMGe											
		26A	26B	24A	24B	20A	20B	16A	16B	12A	12B		
MgO %	≥	50	45	52	47	60	55	62	58	70	65		
Cr ₂ O ₃ %	≥	26	26	24	24	20	20	16	16	12	12		
Fe ₂ O ₃ %		8~15	8~15	6~13	6~13	6~13	6~13	5~13	5~13	5~12	5~12		
SiO ₂ %	≤	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5		
显气孔率 Apparent porosity %	≤	15	16	15	16	15	16	15	16	15	16		
体积密度 Bulk density g/cm ³	≥	3.35	3.35	3.30	3.30	3.25	3.25	3.20	3.20	3.16	3.16		
耐压强度 Cold crushing strength Mpa	≥	60	60	60	60	60	60	60	60	50	50		
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700		

电熔半结合镁铬砖

Fused Semi-rebonded Magnesite Chrome Brick

电熔半再结合镁铬砖是选用优质电熔镁铬尖晶石、高纯镁砂、进口铬精矿和复合高温增韧剂，经过高压成型、高温烧成而制得的一种优质产品，该产品不仅具有电熔再结合镁铬砖的优良性能，而且还具有比电熔再结合镁铬砖更优异的抗剥落性能，适合在有色冶炼行业使用。

Fused semi-rebonded magnesite chrome brick is a kind of good product. Its raw materials include good fused magnesite chrome spinel, high-purity magnesia, imported chrome ore and compound high temperature flexibilizer. Molded by high pressure, sintered at high temperature. This kind of product not only has all good properties of fused rebonded magnesite chrome brick, but also has better spall-resistance compared with fused rebonded magnesite chrome brick. It is widely used in nonferrous metal.

项目 Items	牌号 Brand	KYBMGe		KYBMGe		KYBMGe		KYBMGe		KYBMGe	
		30A	30B	26A	26B	24A	24B	20A	20B	16A	16B
MgO %	≥	45	40	50	45	52	47	60	55	65	60
Cr ₂ O ₃ %	≥	30	30	26	26	24	24	20	20	16	16
Fe ₂ O ₃ %		8~15	8~15	7~15	7~15	6~13	6~13	5~13	5~13	5~12	5~12
SiO ₂ %	≤	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5	1.5	2.5
显气孔率 Apparent porosity %	≤	15	16	15	16	15	16	15	16	15	16
体积密度 Bulk density g/cm ³	≥	3.38	3.38	3.33	3.33	3.30	3.30	3.25	3.25	3.20	3.20
耐压强度 Cold crushing strength Mpa	≥	50	50	50	50	50	50	50	50	50	50
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700

优质镁砖

High Grade Magnesia Brick

优质镁砖是采用一级镁砂、高纯镁砂为原料，经高压成型、高温烧成而得的一种产品，该产品具有优良的耐高温性能和较高的抗碱性渣的侵蚀性能。

The raw material of high grade magnesia brick is magnesite and high purity magnesia, shaped by high pressure and fired at high temperature, with excellent high temperature performance and alkali slag corrosion resistance.

项目 Items	牌号 Brand	优质镁砖 High Grade Magnesia Brick			
		MZ-91	MZ-93	MZ-95	MZ-97
MgO %	≥	90	93	95	97
SiO ₂ %	≤	--	--	2.50	1.20
CaO %	≤	3.0	2.50	2.0	1.50
显气孔率 Apparent porosity %	≤	20	18	18	18
耐压强度 CCS Mpa	≥	40	50	50	50
0.2Mpa 荷重软化温度 RUL T0.6℃	≥	1500	1550	1600	1650

镁铝铬复合尖晶石砖

Magnesia-alumina-chrome Spinel Composite Brick

该产品是采用高纯镁砂和镁铝铬复合尖晶石为主要原料通过高压成型，高温烧结而制得的一种产品。该产品不仅强度高，热震稳定性好，而且抗侵蚀抗渗透抗还原能力强，在锌挥发窑等高温窑炉上使用均取得良好效果。

Magnesia-alumina-chrome compound spinel brick is shaped by high pressure and sintered at high temperature. With high strength and good thermal shock stability, excellent resistant to erosion, permeation and reduction, which gets good effect for used in high temperature kilns like Zinc volatilizations kilns.

项目 Items	牌号 Brand	MAGE-75A	MAGE-75B
		MgO %	≥
Al ₂ O ₃ %		9-13	9-13
Cr ₂ O ₃ %		3-6	3-6
体积密度 Bulk Density g/cm ³	≥	2.95	2.95
显气孔率 Apparent porosity %	≤	18	19
耐压强度 CCS Mpa	≥	50	45
0.2Mpa 荷重软化温度 RUL T0.6℃	≥	1700	1650
热震 Thermal shock resistance 1100℃水冷 water-cycle 次	≥	8	6

低蠕变粘土砖、低气孔粘土砖、特种高铝砖、特种红柱石砖

Low Creep Fireclay Brick, Low Porosity Fireclay Brick, Special High Alumina Brick, Special Andalusite Brick

项目 Items	牌号 Brand	低蠕变粘土砖 Low creep fireclay brick	低气孔粘土砖 Low porosity fireclay brick	特种高铝砖 Special high alumina brick	特种红柱石砖 Special andalusite brick
		化学成分 Chemical composition	Al ₂ O ₃ %	42-53	≥42
化学成分 Chemical composition	Fe ₂ O ₃ %	≤	1.6	2.0	1.5
	CaO+MgO %	≤	0.7	0.7	0.7
	Na ₂ O+K ₂ O %	≤	0.8	0.8	0.8
体积密度 BD g/cm ³	≥	2.2	2.2	2.45	2.25
显气孔率 AP %	≤	19	17	20	18
耐压强度 CCS Mpa	≥	40	40	50	60
0.2Mpa 荷软温度 RUL T0.6	≥	1450	1450	1600	1600
蠕变 % 1280℃, 25h, 0.2Mpa Creep rate	≤	0.4	--	0.4	0.2
抗折强度 Mpa MOR	1200℃	10	--	--	12
	1350℃	4	--	6	6
热膨胀率 20℃-1000℃ Thermal expansion	≤	0.7	0.7	0.7	0.6
耐火度 Refractoriness °C	≥	--	--	--	1790
重烧线变化 P.L.C 1500℃*2h		--	--	--	-0.1~+0.1
热震 T.S.R 1100℃水冷 water-cycle	≥	--	--	--	35

碳素炉用高铝，莫来石，黏土系列砖

High Alumina Brick, Mullite Brick, Fireclay Brick for Carbon Furnace

项目 Items	牌号 Brand	合成莫来石砖 Composite mullite brick		低蠕变粘土 Low creep fireclay brick	粘土质 Fireclay brick
		MG-65	EN-58	KA-42	KA-40
Al ₂ O ₃ %	≥	65	59	45	42
Fe ₂ O ₃ %	≤	1.5	1.5	1.8	2.5
显气孔率 Apparent porosity %	≤	17 (23)	17 (21)	17 (22)	19 (24)
体积密度 Bulk density g/cm ³	≥	2.5	2.35	2.2	2.15
耐压强度 Cold crushing strength Mpa	≥	70	60	50	40
高温蠕变率 Creep rate 0.2Mpa %	≤	1400℃ 0.3	1350℃ 0.3	1280℃ 0.3	1250℃ 0.3
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1500	1480	1450	1420
重烧线变化率 P.L.C %		1500℃*2h Q 2~0.2	1500℃*2h 0.1~0.4	1400℃*2h 0.1~0.2	1400℃*2h 0.1~0.4

产品特点：碳素炉用低蠕变低气孔砖以特级矾土熟料、莫来石、焦宝石为主要原料加入“三石”和软质结合粘土，经高压成型，高温烧结而成。产品主要矿物质组成为莫来石相，产品具有优良的高温物理性能。蠕变率低，荷软高，气孔率低和抗化学侵蚀性能。The product features: the brick is made from special grade of bauxite, mullite, flint clay as main raw material, added with cyanite, andalusite, sillimanite and soft clay, shaped by high pressure and sintered at high temperature. The main mineral constituent is mullite, with excellent physical property at high temperature, low creep, high refractoriness under load, low creep and chemical erosion resistance.

玻璃窑用耐材制品

Refractory for Glass Furnace



电熔莫来石砖
Fused Mullite Brick



锆英石、锆莫来石砖
Zircon Brick, Zirconia
mullite Brick



铝铬砖
Alumina-chrome Brick



粘土大砖 切磨
Cut Fireclay Block



刚玉砖
Corundum Brick



镁铬、镁锆、铝铬砖
Magnesia-chrome
Magnesia-zircon
Alumina-chrome Brick



烧结致密 α 氧化铝供料道砖
Sintered Dense α -Al₂O₃
Forehearth Brick



三低粘土砖
Fireclay Brick



致密氧化铬砖
Dense Chromic Oxide Block



硅线石、莫来石砖
Sillimanite, Mullite Brick



镁砖
Magnesia Brick



镁尖晶石、镁锆砖
Magnesia Spinel, Magnesia
Zircon Brick



粘土大砖
Fireclay Block

Refractory for Glass Furnace
玻璃窑用耐火制品

致密氧化铬砖

Dense Chromic Oxide Blocks

致密氧化铬砖采用等静压技术制作，产品具有极强的抗玻璃液侵蚀性能。主要用于玻璃纤维窑炉侵蚀严重的部位：熔池池壁、流液洞、铺底砖、鼓风机周围、加料口、拐角砖、通道砖、流槽砖、爬坡砖等。

Dense chromic oxide blocks made by isostatic pressing technology, are characterized by strong glass liquid erosion resistance, mainly used for the parts of the serious erosion, melter sidewalls, throats, bottom pavings, near bubblers, doghouse, corners, forehearth and flow blocks etc.

指标 Index	牌号 Brand	单位 unit	致密氧化铬砖 Dense chromic oxide blocks			铬铝锆砖 Chromic-alumina-zircon-blocks		
			ZCR-94	GCR-92	GCR-94	CRAZ-60	CRAZ-30	CRAZ-15
Cr ₂ O ₃		≥ %	94	92	94	60	30	15
TiO ₂		≤ %	4	4	4	---	---	---
ZrO ₂		≥ %	---	---	---	12	4	4
Al ₂ O ₃		≤ %	---	---	---	15	60	75
显气孔率 Apparent porosity		≤ %	12	20	18	18	18	18
体积密度 Bulk density		≥ g/cm ³	4.5	4.12	4.2	3.75	3.3	3.2
常温耐压强度 Cold crushing strength		≥ Mpa	200	100	130	120	100	100
0.2MPa 荷重软化温度 Refractoriness under load		≥ °C	1700	1700	1700	1700	1700	1700

致密锆英石砖

Dense Zircon Blocks

致密锆英石砖采用等静压技术制作，产品具有耐高温，抗热震好，抗玻璃液侵蚀等优良性能。主要应用于无碱玻璃、硼硅酸盐玻璃池窑的池底、上部空间砖、挂钩砖、间隙砖、流槽砖、热电偶砖及观察孔砖等部位。

Dense zircon blocks made by isostatic pressing technology, are characterized by resistance to high temperature, good thermal shock resistance, glass liquid erosion resistance etc. They are mainly used for bottom blocks, superstructures blocks, tuckstones, transition bricks, flow blocks, peephole blocks etc. In non-alkali glass, borosilicate glass.

指标 Index	牌号 Brand	单位 unit	高致密锆英石砖 High dense zircon blocks		致密锆英石砖 Dense zircon blocks		锆英石砖 zircon blocks		
			ZS-G	ZS-Z	ZS-65	ZS-65B	ZS-63		
ZrO ₂		≥ %	65	68	65	65	65	63	
SiO ₂		≤ %	33	30	33	33	33	35	
Fe ₂ O ₃		≤ %	0.2	0.2	0.2	0.2	0.2	0.2	
TiO ₂		≤ %	1.2	1.2	1.2	1.2	1.2	--	
显气孔率 Apparent porosity		≤ %	1	11	17	19	20		
体积密度 Bulk density		≥ g/cm ³	4.30	4.10	3.70	3.60	3.55		
常温耐压强度 Cold crushing strength		≥ Mpa	300	200	100	80	60		
0.2MPa 荷重软化温度 Refractoriness under load		≥ °C	1700	1700	1680	1650	1600		

浇注锆莫来石砖 (CZM—20)

Casting Zirconium Mullite Brick (CZM—20)

浇注锆莫来石砖以电熔锆莫来石和烧结氧化铝为主要原料，以水合氧化铝做结合剂，经高温烧结而成。产品致密性好、纯度高，其中刚玉相大于70%，斜锆石含量大于19%，莫来石含量大于7%，产品具有抗热震稳定性好，抗剥落，对玻璃液具有极强的抗侵蚀性，可用于玻璃窑炉大碓、小炉斜碓与舌碓、挂钩砖、观火孔砖、烧嘴砖、供料道砖及加料口保护碓等侵蚀严重部位，更是乳白玻璃、高硼硅玻璃窑炉的首选材料。

Casting zirconium mullite brick is made of fused zircon-mullite and sintered alumina as main raw materials, hydrated alumina as binder, sintered by high temperature. The product are more dense, higher purity, corundum phase is greater than 70%, baddeleyite content of more than 19%, mullite phase is more than 7%, the product has good thermal shock resistance, spalling, have strong corrosion resistance to glass liquid, and can be used for crown, port arch, hook brick, observation hole brick, burner brick, feeder bricks and dog-house crown and the area of serious erosion. It is recommended to be the first choice for opal glass, and high borosilicate glass.

指标 Index	牌号 Brand	单位 Unit	CZM-20
Al ₂ O ₃		≥ %	72
ZrO ₂		≥ %	19
SiO ₂		≤ %	7
Fe ₂ O ₃		≤ %	0.2
体积密度 Bulk density		≥ g/cm ³	3.25
显气孔率 Apparent porosity		≤ %	17
耐压强度 Cold crushing strength		≥ Mpa	100
热膨胀率 1300°C Thermal Expansion		≤ %	0.9
0.2MPa 荷重软化温度 T _{0.6} Refractoriness under load		≥ °C	1700

复合锆质制品

Zircon Composite Products

AZS 再烧结砖，烧结锆莫来石砖，浇注锆333制品及锆莫来石制品具有耐高温，抗热震性好，抗炉渣侵蚀和玻璃液侵蚀等优良特性，适用于各种玻璃窑炉熔化池、工作池及上部结构和供料道及成型部件等。

AZS resintered bricks, sintered zircon mullite brick, Cast ZR333 products and cast zircon mullite brick are characterized by their high refractoriness, good thermal stability and resistance to corrosion and erosion of glass liquid, they are used for melting end, working end and superstructure, forehearth and forming part etc.

指标 Index	牌号 Brand	单位 Unit	AZS 再烧结砖 AZS resintered bricks			烧结锆莫来石砖 sintered zircon mullite brick			浇注锆 333 制品 Cast ZR333 products	浇注锆莫来石砖 cast zircon mullite brick
			AZS16	AZS20	AZS32	ZM20	ZM25	ZM32	Zr333	MCZM20
Al ₂ O ₃		≥ %	—	—	—	—	60	52	74	67
ZrO ₂		≥ %	16	20	32	20	25	32	11	20
SiO ₂		≤ %	—	—	—	—	—	—	—	12
Fe ₂ O ₃		≤ %	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3
显气孔率 Apparent porosity		≤ %	18	18	18	18	18	18	20	20
体积密度 Bulk density		≥ g/cm ³	2.07	2.08	3.10	2.95	2.98	3.1	2.9	2.95
常温耐压强度 Cold crushing strength		≥ Mpa	70	80	80	100	100	100	80	80
0.2MPa 荷重软化温度 T _{0.6} Refractoriness under load		≥ °C	1580	1620	1630	1700	1700	1700	1650	1680

ASM/ASC 旋转管 ASM/ASC MANDREL

ASM/ASC 旋转管选用高纯原料配料, 采用等静压技术制作, 产品组织结构均匀, 烧结致密, 热稳定性好, 抗玻璃液冲刷, 适用于太阳能管和药用玻璃管的制作。

ASM/ASC mandrel made of isostatic pressing technology, chose high purity raw materials ingredients, are characterized by uniform structure, sintering density, good thermal stability, anti-scouring to glass liquid, suitable for solar tube and medicinal glass tube production.

ASM/ASC MANDREL

指标 Index	牌号 Brand	单位 Unit	ASM	ASC
Al ₂ O ₃		%	68~74	90~95
Fe ₂ O ₃	≤	%	0.3	0.2
显气孔率 Apparent porosity		%	18~22	16~20
体积密度 Bulk density		g/cm ³	2.4~2.5	2.95~3.05
常温耐压强度 Cold crushing strength	≥	Mpa	80	100
0.2MPa 荷重 软化温度 Refractoriness under load	≥	℃	1600	1650

烧结致密α—氧化铝供料道砖 (CA—99)

Sintered Dense α—Al₂O₃ Forehearth Bricks (CA—99)

烧结致密α—氧化铝砖以烧结致密氧化铝为主要原料, 以水合氧化铝做结合剂, 经高温烧结而成。产品致密性好, 纯度高, 刚玉相大于99%, 对玻璃液具有很好的抗侵蚀性, 主要用于玻璃窑炉 高温部位和玻璃液侵蚀严重的部位。用于日用玻璃窑炉的供料道, 可以防止玻璃制品中条纹、结石以及气泡的产生, 提高产品内在质量和产品合格率。

Sintered dense α—Al₂O₃ brick is made of alumina as the main raw material, hydrated alumina as a binder. The product are more dense, higher purity, corundum phase is more than 99%, have good corrosion resistance to glass liquid, recommend using in high-temperature parts and fluid erosion serious part of glass furnace. For forehearth, this brick can to prevent the stripes, stone and bubbles forming in the glass, and improve quality and the rate of qualified products.

指标 Index	牌号 Brand	单位 Unit	CA—99
Al ₂ O ₃	≥	%	99
Fe ₂ O ₃	≤	%	0.15
显气孔率 Apparent porosity	≤	%	16
体积密度 Bulk density	≥	g/cm ³	3.2
耐压强度 Cold crushing strength	≥	Mpa	140
热膨胀率 1300℃ Thermal Expansion	≤	%	1.15
0.2MPa 荷重 软化温度 T _{0.6} Refractoriness under load	≥	℃	1700

玻璃窑用熔铸锆刚玉制品 Fused Cast AZS Refractories For Glass Furnace

电熔铸锆刚玉制品是将原料完全熔融后, 在铸型中浇筑, 经冷却、退火而制成的。按ZrO₂含量的不同分为AZS-33, AZS-36, AZS-41三种。按浇筑方法分为普通浇筑 (PT), 倾斜浇筑 (QX), 准无缩孔浇筑 (ZWS), 无缩孔浇筑 (WS) 四种类型。我公司可根据砖的不同使用部位或用户要求, 采用相应的生产方式。

The electro fused cast brick is casting refractories, after fusing of raw material fully into the mould, then cooling, annealing. According to the content of ZrO₂ classified as AZS-33, AZS-36, AZS41, according to the cast way classified as regular cast, tilt cast, void free, End cut. Our company produce corresponding according to different use and customer requirement.

项目 Item	单位 unit	指标 Index			
		AZS33#Y	AZS36#-Y	AZS41#Y	
化学成分 Chemical composition	Al ₂ O ₃	余量 others	余量 others	余量 others	
	ZrO ₂	32-36	35-40	40-44	
	SiO ₂ ≤	16	14	13	
	Na ₂ O ≤	1.5	1.6	1.3	
	Fe ₂ O ₃ +TiO ₂ ≤	0.3	0.3	0.3	
物理性能 Physical properties	体积密度 Bulk density ≥	g/cm ³	3.7	3.8	3.95
	显气孔率 Apparent porosity ≤	%	1.5	1.5	1.3
	抗玻璃侵蚀速度 1500℃×36h Corrosion resistance of Glass Melt ≤	mm/24h	1.6	1.5	1.3
	玻璃相析出温度 Exudation Temp of Glass Phase ≥	℃	1400	1400	1400
	气泡析出率 1300℃×10h Buddling seprate ≤	%	2.0	1.5	1.0
	玻璃相渗出量 1500℃×4h Glass Phase exudation ≤	%	1.0	1.0	0.6
	热膨胀率 1300℃ Thermal Expansion	%	0.8	0.8	0.8
容量 bulk density	PT, QX	g/cm ³	3.5	3.55	3.7
	WS, ZWX		3.7	3.8	3.95

硅线石、莫来石耐火制品 Sillimanite and Mullite Refractories

硅线石、莫来石耐火材料具有高热稳定性好，抗玻璃液侵蚀冲刷，对玻璃液污染小，是国内外玻璃行业供料机、拉管机等设备上最常用的耐火材料，可显著提高生产率。制品有料道砖、流料槽、旋转管、料盆、料碗、搅拌桨、冲头、料筒、挡火挡渣砖、闸板砖、前拱砖、后拱砖料盆盖、通口砖、烧咀砖、梁、盖板砖、马弗炉砖等上百种产品，数百种规格。再烧结合莫来石及刚玉莫来石制品还具有高温蠕变率低的特性，具有更优异的理化性能，可用于硼硅酸盐玻璃、玻璃纤维等玻璃窑炉的上部结构和蓄热室的上部。

Sillimanite and mullite refractories are characterized by their high refractoriness, good thermal stability and resistance to corrosion and erosion of glass liquid and hence have less pollution to glass liquid. So they are the most common refractories used for the feeder machine and tube drawing machine in domestic and foreign glass industries to promote productivity obviously. On the list of products there are feeder brick, spout cover, burner block, lintel, cover plate brick, muffle furnace brick etc. Altogether about one hundred varieties with different sizes. Resintered fused mullite bricks and corundum bricks are superior in resistance creep and applied to the superstructure of the borosilicate glass, fiber glass furnace etc.

指标 Index	牌号 Brand	单位 Unit	浇注硅线石 Casting sillimanite		浇注刚玉莫来石 Casting corundum-mullite		硅线石 Sillimanite		烧结合莫来石 Sintered mullite				再烧结合莫来石 Fused mullite		烧结合刚玉莫来石 Sintered corundum-mullite		浇注莫来石 Casting mullite		
			CSA	CSB	CCM85	CCM80	SA	SB	SM65	SM70	SM75	SM80	FM75	SCM85	SCM90	M-70			
Al ₂ O ₃	≥	%	64	58	85	80	64	60	64	68	74	78	75	85	80	69			
Fe ₂ O ₃	≤	%	0.8	0.8	0.5	0.5	0.8	1.0	1.2	1.2	0.8	0.6	0.3	0.3	0.3	0.5			
耐火度 Refractoriness	≥	°C	1790	1790	1810	1810	1790	1790	1790	1790	1810	1810	1810	1810	1810	1790			
显气孔率 Apparent porosity	≤	%	22	24	21	22	18	18	18	17	17	16	17	17	20				
体积密度 Bulk density	≥	g/cm ³	2.35	2.25	2.75	2.7	2.5	2.48	2.45	2.50	2.60	2.75	2.7	2.9	2.80	2.50			
常温耐压强度 Cold crushing strength	≥	Mpa	60	50	80	75	70	70	65	70	80	90	90	90	70				
0.2MPa 荷重软化开始温度 Refractoriness under load	≥	°C	1580	1450	1700	1650	1620	1600	1580	1600	1650	1700	1700	1700	1650				
重烧线变化率 Reheating linear change	1400°C × 2h	%	+0.1	+0.1	-0.3	-	-	+0.1	-	-	-	-	-	-	-				
	1500°C × 2h	%	-	-	+0.1	+0.1	-0.2	+0.1	+0.1	-0.4	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1	+0.1

玻璃窑用低气孔粘土砖 Lower Porosity Clay Brick

我公司生产的低气孔粘土砖品种多，规格全，主要有三低粘土砖（DDD），低气孔粘土砖（DN-14，DN-17）及其它专业用途粘土砖（ZN-45，ZN-40，ZN-36），可广泛用于玻璃窑炉、高炉、热风炉、水泥窑炉、化工窑炉等热工设备。

The lower porosity clay bricks have variety of specification. The main products as follows: three low clay brick, lower porosity clay brick (DN-14, DN-17) and other common clay brick (ZN-45, ZN-40, ZN-36). They are widely used in glass furnace, blast furnace, hot-air furnace, cement furnace, chemical furnace and other heat-engineering equipments.

指标 Index	牌号 Brand	单位 Unit	三低粘土砖 Three low clay brick		低气孔粘土砖 Lower porosity		专业用途粘土砖 Clay brick			抗剥落粘土 KN
			DDD	DN-14	DN-17	ZN-45	ZN-40	ZN-36		
Al ₂ O ₃	≥	%	46	45	42	45	40	36	44	
Fe ₂ O ₃	≤	%	1.2	1.5	1.8	-	-	-	1.6	
显气孔率 Apparent porosity	≤	%	11	14	17	16	19	22	18	
体积密度 Bulk density	≥	g/cm ³	2.4	2.34	2.26	2.30	2.20	2.10	2.32	
常温耐压强度 Cold crushing strength	≥	Mpa	80	65	50	50	35	30	50	
重烧线变化 1400°C × 2h Reheating linear change	≥	%	-	+0.1	+0.1	+0.1	+0.1	+0.1	+0	
0.2MPa 荷重软化开始温度 Refractoriness under load	≥	°C	1520	1470	1430	1430	1380	1350	1450	
蠕变率 0.2 Mpa 1200°C × 50h Creep rate	≤	%	0.1	-	-	-	-	-	-	

镁质系列耐火制品 Magnesia Refractories

我公司生产的镁砖、镁铝尖晶石、镁铝砖、镁铬砖对碱蒸汽、碱性炉渣有很好的抗侵蚀性，适用于玻璃窑炉蓄热室、水泥窑炉、有色金属冶炼炉、炼钢电炉、平炉、转炉及混铁炉等接触碱性物质部位。

Magnesia brick, magnesia-alumina spinel brick and magnesia-zircon brick, magnesia-chrome brick characterized by their excellent resistance to alkaline vapor and slag, are used for regenerator of glass furnace, cement kiln, metallurgical furnaces for nonferrous metals, steel making electric furnace, flat furnace, converter and holding furnace in the parts contacted with alkaline materials.

指标 Index	牌号 Brand	单位 Unit	镁砖 Magnesia brick				镁铝砖 Magnesia-alumina brick		镁铝尖晶石 Magnesia-zircon brick		镁铬砖 Magnesia-chrome brick			镁铝尖晶石 Magnesia-alumina spinel brick				
			MZ-92	MZ-95	MZ-97	MZ-98	ML2-60A	ML2-60B	YM2-A	YM2-B	DMC-12	DMC-8	DMC-4	MJ-80	MJ-75	MJ-70		
MgO	≥	%	92	95	97	98	80	80	77	73	70	73	80	80	75	70		
CaO	≤	%	2.5	2.0	1.5	1.0	-	-	-	-	-	-	-	-	-	-		
Al ₂ O ₃	≥	%	-	-	-	-	5-10	5-10	-	-	-	-	-	8-20	8-20	8-20		
SiO ₂	≤	%	4.0	2.0	1.2	0.6	-	-	-	2.0	1.8	1.8	-	-	-	-		
ZrO ₂	≤	%	-	-	-	-	-	-	12	12	-	-	-	-	-	-		
Cr ₂ O ₃	≤	%	-	-	-	-	-	-	-	-	12	7	2	-	-	-		
显气孔率 Apparent porosity	≤	%	18	18	17	17	18	20	16	18	18	18	18	17	19	20		
常温耐压强度 Cold crushing strength	≥	MPa	60	60	60	60	40	30	70	65	45	50	55	40	40	40		
0.2MPa 荷重软化开始温度 Refractoriness under load	≥	°C	1580	1650	1700	1700	1600	1580	1660	1600	1650	1650	1600	1700	1650	1600		
重烧线变化 1400°C × 2h Reheating linear change	≥	%	+0.0	+0.0	+0.0	+0.0	-	-	-	-	-	-	-	-	-	-		
体积密度 Bulk density	≥	g/cm ³	2.90	2.92	3.0	3.02	2.88	2.85	3.1	3.0	3.0	2.95	2.90	2.9	2.88	2.85		
抗热震性 Thermal shock resistance 1100°C water	≥	次 Cycle	-	-	-	-	-	-	4	4	-	-	5	5	5	10	10	8

刚玉系列耐火制品 Corundum Products

刚玉和其它物相结合生产的制品具有优异的抗热震性、抗侵蚀、抗冲刷、耐剥落性能，是适用于玻璃窑炉、水泥窑、氧化铝窑、加热窑、盛钢桶、有色金属冶炼炉及化工窑炉上使用的优质材料。

钛刚玉料碗、钛刚玉圈于玻璃窑炉供料机料盆配套使用，具有优异的抗玻璃液侵蚀和抗冲刷性能。

Corundum products and corundum synthetic products are characterized with their excellent thermal shock resistance, resistance to corrosion, erosion and spalling, and hence they are new type good refractories used for glass furnace, cement kiln, heaters molten steel ladle, metallurgical furnaces for nonferrous metals and furnace for chemical engineering industries. Titanium corundum orifice ring and titanium ring use for a complete set with spout feeder of glass furnace, they are characterized with resistances to corrosion and erosion of glass liquid.

指标 Index	产品 Products	单位 Unit	CMC	刚玉砖 Corundum brick						铬刚玉 Chrome corundum brick	钛刚玉 Titanium corundum brick
				C90		C95		C99		CC10	TC
				普型 Pressing	异型 Casting	普型 Pressing	异型 Casting	普型 Pressing	异型 Casting		
Al ₂ O ₃	≥	%	85	90	90	95	95	99	99	86	94
Fe ₂ O ₃	≤	%	0.5	0.4	0.4	0.3	0.3	0.1	0.1	0.2	0.2
Cr ₂ O ₃	≥	%	-	-	-	-	-	-	-	10	(TiO ₂) 10
显气孔率 Apparent porosity	≤	%	18	16	18	16	18	16	18	16	2
体积密度 Bulk density	≥	g/cm ³	2.8	3.1	3.05	3.15	3.1	3.2	3.15	3.3	3.6
常温耐压强度 Cold crushing strength	≥	MPa	60	100	90	100	90	100	90	200	300
0.2MPa 荷重软化开始温度 Refractoriness under load	≥	°C	1650	1700	1700	1700	1700	1700	1700	1700	1700
重烧线变化 Reheating linear change	1550°C × 2h	%	-	±0.1	±0.1	±0.1	±0.1	-	-	-	-
	1600°C × 2h	%	-	-	-	-	-	±0.1	±0.1	±0.1	±0.1

玻璃窑用大型耐火砖 Refractory Block for Glass Furnace

该产品采用振动浇注成型，抗玻璃液侵蚀性优良，主要用于玻璃窑炉的池底、池壁等部位。
The product are produced with vibrating casting technology, they are characterized by their better resistance to melt glass, are mainly used in the bottom and sidewall of glass furnace.

指标 Index	产品 Products	单位 Unit	BZM-20	CS-60	B M48	BN-40a	BN-40b
Al ₂ O ₃		≥ %	67	60	48	40	40
ZrO ₂		≥ %	19	/	/	/	/
Fe ₂ O ₃		≤ %	0.3	0.8	1.0	/	/
0.2MPa 荷重软化开始温度 Refractoriness under load		≥ °C	1670	1550	1500	1430	1380
重烧线变化 1400°C × 2h Reheating linear change		%	0~-0.1	0~-0.2	0~-0.2	0~-0.4	0~-0.4
显气孔率 Apparent porosity		≤ %	17	18	18	18	19
常温耐压强度 Cold crushing strength		≥ MPa	80	60	60	49	35

高铝系列耐火砖 High Alumina Brick

我公司生产的高铝砖按氧化铝含量不同和使用用途可分为多个品牌，广泛应用于玻璃窑炉、高炉、热风炉、电炉、水泥窑炉等热工设备种。
The high alumina is divided into different specification according to the content of alumina and usage, they are widely used in glass furnace, blast furnace, hot blast stoves, electric arc furnace, cement kiln and other heat-engineering equipments.

指标 Index	产品 Products	单位 Unit	高铝砖 High alumina brick						磷酸盐结合高铝砖 Phosphate combined high alumina brick		抗剥落高铝砖 Spalling resistant high alumina brick	
			LZ-48	LZ-55	LZ-65	LZ-70	LZ-75	LZ-80	P	PA	GKBL-70	KBL-70
Al ₂ O ₃		≥ %	48	55	65	70	75	80	75	77	70	70
Fe ₂ O ₃		≤ %	-	-	-	-	-	-	3.2	3.2	-	-
ZrO ₂		≥ %	-	-	-	-	-	-	-	6	6	-
0.2MPa 荷重软化开始温度 Refractoriness under load		≥ °C	1420	1450	1500	1510	1520	1530	1300	1300	1470	1470
重烧线变化 Reheating linear change	1500°C × 2h	%	-	-	-	-	0.2~-0.4	0.2~-0.4	-	-	-	-
	1450°C × 2h		0.1~-0.4	0.1~-0.4	0.1~-0.4	0.1~-0.4	-	-	0.1~-0.2	0.1~-0.2		
显气孔率 Apparent porosity		≤ %	22	22	24	24	24	21	-	-	22	20
常温耐压强度 MPa Cold crushing strength		≥ MPa	40	45	50	55	60	70	70	75	60	60
堆积密度 Bulk density		≥ g/cm ³	-	-	-	-	-	-	2.7	2.75	2.55	2.55

玻璃窑用优质硅砖 High-quality Silica Brick for Glass Furnace

我公司生产的玻璃窑用优质硅砖，高温体积稳定性好，抗碱侵蚀优越，主要用于玻璃窑炉大碓及胸墙部位。
The high-quality silica brick for glass furnace, characterized by their good thermal stability and excellent resistance to alkaline vapor, used for arch and breast wall of glass furnaces.

指标 Index	产品 Products	单位 Unit	优质硅砖 high-quality silica brick		
			XBG96	ZBG96	DBG96
单重 Unit weight		kg	≤ 15	15~25	> 25~40
SiO ₂		≥ %	96	96	96
Fe ₂ O ₃		≤ %	0.8	0.8	0.8
熔融指数 Al ₂ O ₃ +2R ₂ O Fused index		≤ %	0.5	0.5	0.5
0.2MPa 荷重软化开始温度 Refractoriness under load		≥ °C	1680	1680	1680
显气孔率 Apparent porosity		≤ %	21	21	21
真密度 True density		≤ g/cm ³	2.34	2.34	2.34
常温耐压强度 Cold crushing strength		≥ MPa	35	30	30
重烧线变化率 1450°C × 2h Reheating linear change		≤ %	+0.2	+0.2	+0.2

碳化硅制品 Carborundum Products

该产品强度、耐磨性好、导热系数高，可广泛用于冶金、陶瓷、化工、建材等热工设备。
The products characterized by their high strength, good abrasion resistance and high heat conductivity, are commonly used for heat engineering equipment in metallurgy, ceramic, chemical engineering and building materials industries.

指标 Index	产品 Products	单位 Unit	粘土结合碳化硅砖 Clay combined with carborundum brick	二氧化硅结合碳化硅砖 Silicon dioxide with carborundum brick
			TG-85	TG-90
SiC		%	80~90	88~92
显气孔率 Apparent porosity		≤ %	22	24
体积密度 Bulk density		≥ g/cm ³	2.4	2.4
常温耐压强度 Cold crushing strength		≥ MPa	75	90
0.2MPa 荷重软化开始温度 Refractoriness under load		≥ °C	1600	1650
导热系数平均温度 1000 ± 20°C Heat conductivity average temperature at 1000°C		≥ W/m.K	8	10



其它行业用耐材制品

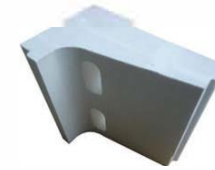
Refractory for Other Industries



铬刚玉砖
Chrome Corundum Brick



刚玉匣钵砖
Corundum Sagger Brick



刚玉莫来石推板砖
Corundum Mullite Brick



锆英石砖
Zircon Brick



硅线石砖
Sillimanite Brick



堇青石砖
Cordierite Brick



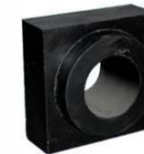
碳化硅砖
Silica Carbide Brick



复合砖
Composite Brick



镁铬砖
Magnesia Chrome Brick



镁碳砖
Magnesia Carbon Brick



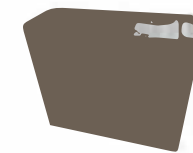
焦炉硅砖
Silica Brick



锚固砖
Anchor Brick



粘土格子砖
Fireclay Checker Brick



26孔格子砖半成品
26 Holes Checker Brick



15匣钵砖
Sagger Brick

Refractory for Other Industries

其他行业用耐火材料

焦炉用硅砖、玻璃窑用硅砖

Silica Bricks For Coke Stoves, Silica Bricks For Glass Furnace

项目 Items	焦炉用硅砖 Silica bricks for coke stoves	玻璃窑用硅砖 Silica bricks for glass furnace			
	JG-94	B G-96A	B G-96B	BG-95A	B G-95B
SiO ₂ %	≥ 94	96	96	95	95
Fe ₂ O ₃ %	≤ -----	0.8	1.0	1.2	1.2
0.2Mpa 荷重软化温度 RUL °C	≥ 1650	1680	1670	1660	1650
真密度 True density g/cm ³	≤ 2.33	2.34	2.34	2.35	2.35
常温耐压强度 Cold crushing strength MPa	≥ 30	35 (30)			
显气孔率 AP %	≤ 23 (25)	22 (24)			
热膨胀率 % Thermal expansion (1000°C)	≤ 1.28	-----			

刚玉莫来石砖

Corundum-Mullite Brick

项目 Items	优质高纯刚玉砖 High purity corundum brick	烧结白刚玉砖 Sintered corundum brick	刚玉莫来石砖 Corundum-mullite brick
Al ₂ O ₃ %	≥ 99	90	80
SiO ₂ %	≤ 0.2	8	18
Fe ₂ O ₃ %	≤ 0.2	0.2	0.3
体积密度 Bulk density g/cm ³	≥ 3.2	3	2.8
显气孔率 Apparent porosity %	≤ 19	18	18
常温耐压强度 Cold crushing strength MPa	≥ 100	100	100
荷重软化开始温度 °C Refractoriness under load 0.2MPa	≥ 1700	1700	1700
应用 Application	主要用于钢铁、电子、石油化工、化肥、有色、耐火材料等行业窑炉的关键部位。 Primarily used for the key parts of the industrial furnace of steel, electronics, petrochemical, fertilizers, non-ferrous metals, refractory material, etc.		

铬质砖

A Series Of Chrome Bricks

项目 Items	高氧化铬砖 High Cr ₂ O ₃ brick	中氧化铬砖 Middle chrome brick	铬刚玉砖 Chrome-corundum brick	铬刚玉砖 Chrome-corundum brick	铬刚玉砖 Chrome-corundum brick
Cr ₂ O ₃ %	≥ 93	86	60	30	12
Al ₂ O ₃ %	—	—	38	68	80
Fe ₂ O ₃ %	≤ —	—	0.2	0.2	0.5
显气孔率 Apparent porosity %	≤ 17	17	14	16	18
体积密度 Bulk density g/cm ³	≥ 4.3	4.2	3.63	3.53	3.3
常温耐压强度 Cold crushing strength MPa	≥ 100	100	130	130	120
荷重软化开始温度 °C 0.2MPa Refractoriness under load	≥ 1680	1670	1700	1700	1700
重烧线变化率 Reheating linear change rate % (1600°C×3h)	±0.2	±0.2	±0.2	±0.2	±0.2
应用 Application	高铬砖主要用于煤化工、化工工业窑炉、无碱玻璃纤维、垃圾焚烧炉等窑炉的关键部位；铬刚玉砖主要用于炭黑炉、铜冶炼炉的内衬、玻璃窑炉的埕池、轧钢加热炉滑道、出钢平台。 High-chrome bricks are mainly used in the key parts of the furnace for coal chemical industry, chemical industrial, alkali-free glass fiber and garbage incinerator, etc Chromium-corundum bricks are mainly used for the linings of carbon soot furnace and copper smelting furnace, the skid rail molten pool of glass furnace, and tapping platform of rolling mill furnace.				

锆质砖

A Series Of Zirconia Bricks

项目 Items	致密锆英石砖 Dense Zircon brick	普通锆英石砖 Zircon brick	锆刚玉砖 Zircon Corundum brick	锆莫来石砖 Zircon Mullite brick	半锆砖 Semi-Zircon brick
ZrO ₂ %	≥ 65	60	30	18	15—20
Al ₂ O ₃ %	≤ —	—	50	55	50—60
SiO ₂ %	≤ —	38	18	25	20
Fe ₂ O ₃ %	≤ 0.3	0.5	0.5	0.5	1.0
显气孔率 Apparent porosity %	≤ 18	22	20	17	20
体积密度 Bulk density g/cm ³	≥ 3.7	3.5	3.2	2.7	2.7
常温耐压强度 Cold crushing strength MPa	≥ 100	100	100	100	100
荷重软化开始温度 Refractoriness under load °C 0.2MPa	≥ 1650	1620	1650	1650	1550
应用 Application	主要用于玻璃窑炉、玻璃纤维窑炉、垃圾焚烧炉、电热炉等窑炉的关键部位。 Primarily used for the furnace of glass furnace, glass fiber furnace, garbage incinerator furnace, electrothermal furnace, etc.				

碳化硅砖

Silicon Carbide Brick

项目 Items	氧化物结合碳化硅砖 Oxide bond SiC brick	刚玉碳化硅砖 Cor-silicon carbide brick	莫来石碳化硅砖 Mullite-SiC brick	高铝碳化硅砖 High alumina SiC brick
SiC %	≥ 90	70	65	20
Al ₂ O ₃ %	≤ —	—	20	55
体积密度 Bulk density g/cm ³	≥ 2.5	2.6	2.3	2.5
显气孔率 Apparent porosity %	≤ 17	22	20	20
常温耐压强度 Cold crushing strength MPa	≥ 100	100	80	80
荷重软化开始温度 0.2MPa Refractoriness under load °C	≥ 1650	1700	1600	1600
应用 Application	主要用于有色金属冶炼、工业陶瓷的承烧板、推板、匣钵；退火炉的马弗板；循环硫化床锅炉的内衬、点火器；垃圾焚烧炉内衬等。 Primarily used for lining non-ferrous metal smelting; calcining-endure board, pushing board, and sagger of industrial ceramics; muffle boot of furnace; lining and ignitor of CFBB; lining of garbage incinerators, etc.			

莫来石硅线石砖

Mullite-silimanite Brick

项目 Items	75 莫来石 75% Mullite brick	70 莫来石 70% Mullite brick	65 硅线石 65% Sillimanite brick	60 硅线石 60% Sillimanite brick
	LSM-75	LSM-70	LS-65	LS-60
Al ₂ O ₃ %	≥ 75	70	65	60
SiO ₂ %	≤ 23	25	32	37
Fe ₂ O ₃ %	≤ 0.4	0.4	0.5	1
体积密度 Bulk density g/cm ³	≥ 2.7	2.6	2.5	2.3
显气孔率 Apparent porosity %	≤ 18	18	18	19
常温耐压强度 Cold crushing strength MPa	≥ 100	100	80	80
0.2Mpa 荷重软化开始温度 Refractoriness under load °C	≥ 1680	1680	1650	1600
应用 Application	主要用于玻璃窑炉、无碱纤维窑炉、高炉、热风炉、耐火材料隧道窑等窑炉的关键部位。 Primarily used for the key parts of the furnace of glass furnace, Alkali-free glass fiber furnace, blast furnace, hot blast stove, refractory-material tunnel kiln, etc.			

垃圾焚烧炉用产品

Refractory Brick for Refuse Incinerator

项目 Items	牌号 Brand	锆莫来石砖 Zircon Mullite Brick	刚玉红柱石 Corundum Andalusite Brick	高强耐磨砖 High Strength Abrasive Brick	粘土砖 Fireclay Brick
		AP-20	70-S	CR-60P	H-3
Al ₂ O ₃ %	≥	46	70	70	45
ZrO ₂	≥	20	--	--	--
Fe ₂ O ₃ %	≤	0.5	1.5	1.5	2.0
显气孔率 Apparent porosity %	≤	19	20	19	24
体积密度 Bulk density g/cm ³	≥	3.15	2.60	2.6	2.15
耐压强度 Cold crushing strength Mpa	≥	140	70	100	40
0.2Mpa 荷重软化温度 R.U.L °C T0.6	≥	1600	1560	1540	1420
耐磨系数 Wear resistance cm ³	≤	4	--	7	--

硅钼棒、硅碳棒

Silicon Molybdenum, Silicon Carbide

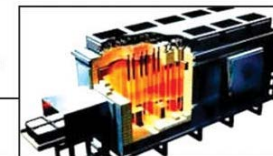
REMI-SiC Heating Element selected green Silicon Carbide and its micro-powder as raw material and shaped into bar and pipe and then recrystallized at 2200 °C in electric furnace

Properties
 *Work at high temperature to 1450 °C
 *Anti-oxidation
 *Micro deformation
 *Easy installation and maintenance
 *Longer working life

Typical Application

As Heating elements to be applied in

- *Tunnel Kiln
- *Roller Kiln
- *Vaccum Stove
- *Glass tank
- *Muffle Furnace



Consist of Heating Element
 HZ: Hot Zone CZ: Cold Zone Overall Length: OL Outer Diameter: OD



Physical Properties of different part of Heating Element

Product	Bulk Density/HZ(g/cm ³)	Bulk Density/CZ(g/cm ³)	Apparent Porosity(%)	CMOR(Mpa)
GD	2.45	3.0	25	40
HGD	2.45	3.0	20	40
W	2.55	3.0	20	40
LD	2.8	2.8	7	85
LS	2.8	2.8	7	85

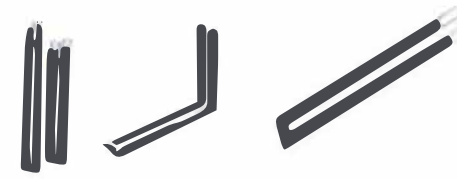
OD range:
 Diameter: 10、12、14、16、18、20、25、30、32、35、38、40、45、50、55mm

OL: 100-7000mm

Electric Resistance Range (tested under 1050 °C)
 HZ: 0.5~2.89Ω CZ: 0~0.005Ω

Coating: The Heating element has to be coated to meet the requirement of working atmosphere

Coating D: Suitable for N₂ atmosphere
Coating S: Suitable for Floating Glass 3-phase of W
Coating Q: Suitable for H₂ and Vapor atmosphere



隔热系列耐火制品

Thermal Insulation Products



JM30隔热砖
 JM30 Insulation Brick



JM28系列隔热砖
 JM28 Insulation Brick



莫来石隔热砖
 Mullite Insulation Brick



高铝隔热异型砖
 High Alumina Insulation Brick



高铝隔热砖
 High Alumina Insulation Brick



高铝质隔热砖
 High Alumina Insulation Brick



氧化铝空心球砖
 Alumina Bubble Insulation Brick



粘土质隔热砖
 Fireclay Insulation Brick



陶瓷纤维毯
 Ceramic Fiber Blanket



陶瓷纤维板
 Ceramic Fiber Board



纤维板
 Ceramic Fiber Board



纤维板
 Ceramic Fiber Board

Thermal Insulation Refractory Materials
隔热系列耐火材料

NG粘土质隔热耐火制品

NG Fireclay Insulation Refractory Bricks

项目 Items	牌号 Brand	NG-1.0	NG-0.9	NG-0.8	NG-0.7	NG-0.6
体积密度 Bulk density g/cm ³	≤	1.0	0.9	0.8	0.7	0.6
常温耐压强度 Cold crushing strength MPa	≥	3.5	3.0	2.5	1.0	0.8
导热系数 Thermal conductivity (W/M.K)	≤	0.50	0.40	0.35	0.35	0.25
重烧线变化不大于2%的试验温度 °C Test temperature at which PLC not less than 2%		1350	1300	1250	1250	1200

粘土质隔热砖采用先进生产制造，其特点是：组织结构均匀、机械强度高、尺寸精度高、热传导率低、使用寿命长等，广泛应用于高炉热风炉、焦炉、加热炉、锅炉隧道窑等各种热工设备保温层或内衬，可节能30%以上，是理想的节能环保材料。

The fireclay insulation brick is made by advanced technology. Its properties are as follows: uniform texture, high mechanical strength, high dimension accuracy, low thermal conductivity and long service life. It is widely used in insulating layers or linings of thermal equipment such as blast furnace hot-blast stove, coke oven, heating furnace, boiler and tunnel kiln, etc. It can save more than 30% energy and is an ideal material for energy-saving and insulation.

LG高铝隔热耐火制品

LG High Alumina Insulation Refractory Brick

项目 Items	牌号 Brand	LG-1.0	LG-0.9	LG-0.8	LG-0.7	LG-0.6	LG-0.5
Al ₂ O ₃ %	≥	48					
Fe ₂ O ₃ %	≤	2.0					
体积密度 Bulk density g/cm ³	≤	1.0	0.9	0.8	0.7	0.6	0.5
常温耐压强度 Cold crushing strength MPa	≥	4.0	3.0	2.5	1.8	1.0	0.8
导热系数 Thermal conductivity (W/m.k)	≤	0.45	0.45	0.35	0.35	0.3	0.25
重烧线变化不大于2%的试验温度 °C Test temperature at which PLC not less than 2%		1400	1400	1400	1350	1350	1250

该制品采用泡沫速凝技术制造，体积密度小，耐压强度高，荷重软化点高，尺寸公差小，热稳定性优良，具有目前所有隔热耐火砖中最低，最稳定性的导热系数，广泛应用于各种热工设备的隔热层和无强烈高温熔融物侵蚀及作用的部位内衬。可有效减轻炉体总重和减少炉壁厚度，提高热效率，降低能耗，改善劳动条件，取得可观的经济效益。

The product is made by foam quick-setting technique, which is characterized by small bulk density, high CCS, HRUL, small dimension tolerance and good thermal shock resistance. It has the lowest and most stable thermal conductivity in all the types of insulating refractory bricks, which is widely used in insulating layers of all kinds of thermal equipment. It reduces the total weight of furnace body and the thickness of furnace wall effectively, improve heat efficiency, lower energy consumption, improve work conditions, improve production efficiency and considerable economic benefit can be obtained.

JM系列特种隔热耐火砖

JM Special Insulating Refractory Brick

项目 Items	牌号 Brand	KY-JM23	KY-JM26	KY-JM28-1	KY-JM28-2	KY-JM30
安全使用温度 Service temperature °C		1260	1430	1540	1540	1650
体积密度 Bulk density g/cm ³	≤	0.5	0.8	0.9	0.95	1.05
抗折强度 MOR Mpa	≥	0.7	1.1	1.5	1.6	2.0
耐压强度 CCS Mpa	≥	1.0	2.0	2.2	2.3	2.7
重烧线变化 PLC	%	0.3	0.4	0.5	0.5	-
	°C × 8h	1230	1400	1510	1510	-
热膨胀率 1090°C Thermal expansion %	≤	0.6	0.7	0.8	0.8	0.9
导热系数 Thermal conductivity w/m.k ≤	400°C	0.15	0.28	0.32	0.33	-
	600°C	0.17	0.31	0.34	0.36	-
	800°C	0.19	0.33	0.36	0.39	-
	1000°C	0.24	0.35	0.39	0.42	-
Al ₂ O ₃ %	≥	37	50	60	60	68
Fe ₂ O ₃ %	≤	1.0	1.0	0.7	0.7	0.5
SiO ₂ %	≤	55	43	36	36	29

该系列产品具有以下特点：制品中铁及碱金属低温熔融杂质少，高温耐火性能好，能有效抵抗还原气氛的影响。结构均匀，体轻，耐压强度高，隔热性能好，炉体在冷热过程中蓄热少，能有效节约能源。在高温状态下，强度高，体积稳定性好，抗震性能优良。制品烧成后，进行研磨整形，尺寸公差小，能满足施工要求。

Characteristics of this series product are as follow: low iron content and low temperature smelt of alkali metal, Good refractoriness and good affection of reducing atmosphere resistance. The product is featured with even structure, light weight, high CCS and good insulation resistance, so the furnace body has less heat storage during cooling and energy can be saved effectively. At high temperature, the product is characterized by high strength, stable volume and good thermal shock resistance. After product being sintered, it will be ground resulting in small size tolerance and can meet the requirements of construction.

空心球砖

Bubble Alumina And Bubble Zirconia Bricks

项目 Items	氧化铝空心球砖 Bubble AL ₂ O ₃ Brick			氧化锆空心球砖 Bubble ZrO ₂ brick
	BA-85	BA-90	BA-99	8Z-98
最高使用温度 Max service temperature °C	1680	1700	1800	2200
Al ₂ O ₃ %	≥85	90	99	—
ZrO ₂ %	—	—	—	≥98 (含稳定剂) with stabilizer
SiO ₂ %	≤13	8	0.2	0.2
Fe ₂ O ₃ %	≤0.2	0.2	0.2	0.2
体积密度 Bulk density g/cm ³	1.4—1.7	1.4—1.7	1.4—1.7	≤3.0
常温耐压强度 Cold crushing strength MPa	≥12	10	9	8
荷重软化开始温度 (0.1MPa, 0.6%) °C Refractoriness under load	≥1650	1700	1700	1700
重烧线变化率 (1600°C×3h) % Reheating linear change rate	±0.3	±0.3	±0.3	±0.2
热膨胀系数×10 ⁻⁶ (室温 room temp - 1300°C) Thermal expansion coefficient	~7.8	~8.0	~8.6	~9.1
导热系数 (平均温度 Average 800°C) w/ (m.k) ≤ Thermal conductivity	0.8	1.3	1.5	0.3
应用 Application	主要用于耐火材料、工业陶瓷、电子陶瓷、石油化工、冶金等行业高温窑炉的内衬及超高温窑炉的隔热材料。 Primarily used for lining of high temperature furnace and thermic insulant of ultra-high temperature furnace of the industrial as refractory material, industrial ceramics, electronic ceramics, petrochemical and metallurgical industries.			

陶瓷纤维毯

Ceramic Fiber Blanket

项目 Items	普通型 Ordinary type	标准型 standard type	高纯型 high purity type	高铝型 high alumina type	锆铝型 Zirconium-Al ₂ O ₃ type	含锆型 Zirconium type	
温度 Temperature °C	1100	1260	1260	1360	1360	1430	
工作温度 service temp °C	1000	1050	1100	1200	1200	1350	
颜色 Color	白 white	洁白 pure white	洁白 pure white	洁白 pure white	洁白 pure white	洁白 pure white	
密度 Density kg/m ³	96 128	96 128	96 128	96 160	96 160	96 160	
永久线变化 P.L.C 128kg/m ³ *24h	-4 1000°C	-3 1000°C	-3 1000°C	-3 1000°C	-3 1000°C	-3 1000°C	
抗拉强度 128kg/m ³ Mpa Tensile strength	0.08-0.12	0.08-0.12	0.08-0.12	0.08-0.12	0.08-0.12	0.08-0.12	
导热系数 w/m.k thermal conductivity	400°C 800°C	0.09 0.176	0.09 0.176	0.09 0.176	0.132(600°C) 0.22(1000°C)	0.132(600°C) 0.22(1000°C)	0.76(600°C) 0.22(1000°C)
Al ₂ O ₃ %	42-44	45-46	47-49	52-55	45-46	39-40	
Al ₂ O ₃ +SiO ₂ %	96	97	99	99	-	-	
ZrO ₂ %	-	-	-	-	5-7	5-7	
Cr ₂ O ₃ %							
Fe ₂ O ₃ %	<1.2	<1.2	0.2	0.2	0.2	0.2	
Na ₂ O+K ₂ O %	≤0.5	≤0.5	0.2	0.2	0.2	0.2	
产品尺寸 Dimension mm	常规尺寸 7200*610*10-50; 其它规格根据用户要求 ordinary size: 7200*610*10-50, other size will be produced according to customers' requirement.						

Monolithic Refractory Material For All Industries

各行业用散装耐火材料

低水泥浇注料

Low Cement Refractory Castable

该系列产品具有强度高、抗冲刷、耐磨损，使用性能优异等特点。同时可根据用户烘烤时间将材料做成快速烘烤防爆浇注料。The castable has a higher strength, rush-resistance, wear-resistance, excellent performance under usage. If needed, we can supply customers rapid baking explosion proof castable.

项目 Items	牌号 Brand	高铝质 High alumina	莫来石 Mullite	刚玉质 Corundum
		KYSL-16C	KYSL-16M	KYSL-17C
Al ₂ O ₃ %	≥	65	70	85
体积密度 Bulk density g/cm ³	≥	2.5	2.6	2.8
抗折强度 MOR Mpa	≥	10	11	12
	110℃*24h	12	13	14
耐压强度 CCS Mpa	≥	80	90	100
	1400℃*3h	90	90	100
线变化率 P.L.C %	1400℃*3h	±0.5	±0.5	±0.5
建议使用部位 Recommended application part		水泥窑后窑口、窑门罩、冷却机后端 Rear outlet, kiln hood, rear end of cooler	水泥窑篦冷机、窑门罩、三次风管 grate cooler, kiln hood, tertiary duct	大型水泥窑前窑口、喷煤管 front kilneye of large cement kiln, coal burner

高强耐碱浇注料

High Strength Anti-alkali Refractory Castable

高强耐碱浇注料具有良好的抗碱性气体、熔渣的侵蚀能力，使用寿命长。该材料主要用于分解炉、热器系统、管道系统等其他工业窑炉内衬。

The castable has excellent alkali-gas & slag corrosion resistance and long service life. Mainly applied in decomposing furnace, preheater system, duct system and other industrial furnaces lining.

项目 Items	牌号 Brand	高强耐碱浇注料 high strength anti-alkali refractory castable	
		KYSL-J13	KYSL-J14
Al ₂ O ₃ %	≤	48	45
体积密度 B.D g/cm ³	≥	2.2-2.4	2.2-2.4
抗折强度 MOR Mpa	≥	7	8
	110℃*24h	7	8
耐压强度 CCS Mpa	≥	70	80
	1100℃*3h	70	80
线变化率 P.L.C %	1100℃*3h	±4	±0.4
最高使用温度 Max service temperature °C		1300	1400

轻质喷补料

Light Weight Insulation Refractory Gunning Mix

轻质喷补料采用膨胀蛭石为主要原材料制作而成，适应新型干法回转窑碱性气体侵蚀部位，可替代原窑设计的硅酸钙板的使用。

The gunning mix is made from expanded vermiculite and replaces original kiln designed calcium silicate board. With excellent alkali-gas corrosion resistance and applied in new dry-process rotary kiln.

项目 Items	牌号 Brand	轻质喷补料 Light weight insulation refractory gunning mix	
		KYSL-PB1.0	
Al ₂ O ₃ %		20-30	
Fe ₂ O ₃ %		8-12	
CaO %		12-18	
SiO ₂ %		35-45	
体积密度 B.D g/cm ³	110℃*24h	1.0-1.3	
	110℃*24h	4.0	
耐压强度 C.C.S Mpa	≥	4.0	
	500℃*3h	3.0	
	800℃*3h	2.5	
线变化率 P.L.C %	500℃*3h	0~0.3	
	800℃*3h	0~0.4	
	1000℃*3h	0~0.9	
导热系数 Thermal conductivity w/m.k	≤	0.29	
	500℃	0.31	
	800℃	0.38	
最高使用温度 Max service temperature °C		1140	
使用部位 Application		保温隔热层(预热器、分解炉、三次风管、窑门罩、冷却机等) Thermal insulation layer(preheater, decomposing furnace, tertiary duct, kiln hood, cooler, etc)	

中间包涂料性能指标

Refractory Coating For Tundish

项目 Items	镁质涂料 Magnesia coating	镁铬质涂料 Magnesia-chromite coating	镁钙质涂料 Magnesia-calcium coating			
MgO %	≥	85	60	68	55	40
Cr ₂ O ₃ %		--	8-9	--	--	--
SiO ₂ %	≥	7	--	--	--	--
CaO %	≥	--	--	12	25	40
耐火度 Refractoriness °C	≥	1790	1790	1790	1790	1790
容重 Volume weight Kg/m ³	≤	2.3	2.2	2.1	2.05	2.0
抗折强度 MOR Mpa	≥	2.5	4.5	3.5	3.5	3.5
导热系数 Thermal conductivity W/m.K1000°C		0.68	0.68	0.65	0.60	0.55

连铸中间包采用涂料做工作衬，是连铸机长寿的象征，它适用于各种中间包工作衬，是特种钢连铸中间包工作衬最经济的材料之一。我公司配置的镁质涂料、镁铬质涂料多家应用质量可靠，涂料可机械喷涂，可手工涂抹，使用寿命长，用后拆包方便易行。

The con-casting tundish employs coating as its working lining, which is the symbol of longevity of con-caster. The product is applicable to working lining of different tundishes and it is one of the most economic materials for special steel con-casting tundish. The magnesia and magnesia-calcium coating made by our company are proved reliable in quality by many users. The paint can be sprayed by machine or smeared buy hands. Besides, its service life is long and the disassembly of tundish is convenient and easy after application.

耐火可塑料

Plastic Refractory

耐火可塑料主要采用高铝、刚玉和莫来石为主要原料，无机液体做结合剂，经搅拌挤压而成。施工时采用捣打方式。材料具有塑性好，抗热震性能稳定，耐磨损等特点。主要用于回转窑窑口等耐磨部位及其他工业窑炉内衬等。

Plastic refractory is made from high alumina bauxite, corundum and mullite as main raw material, added inorganic liquid as binder, be mixed pressed, installed by ramming method. With excellent plasticity, good thermal stability and wear resistance. Mainly applied in kiln inlet & outlet and other industrial furnaces lining.

项目 Items	牌号 Brand	KYSL-P1	KYSL-P2	KYSL-P3	KYSL-P4
Al ₂ O ₃ %	≥	-	48	60	70
耐火度 °C Refractoriness	≥	1700	1760	1780	1790
线变化 P.L.C % 1500°C*3h		±2 (1400°C*3h)	±2	±2	±2
抗折强度 MOR Mpa 110°C*24h	≥	1.2	1.2	1.2	1.2
耐压强度 CCS Mpa 110°C*24h	≥	4.5	5	5	5
可塑指数% Plastic index		15-40	15-40	15-40	15-40
含水率 Moisture %	≤	14	14	14	14

钢纤维增强耐火浇注料

Steel Fiber Reinforced Refractory Castable

钢纤维增强浇注料主要是在材料中加入耐热不锈钢纤维，使材料具有较高的强度和热震性能，从而增加材料的耐磨性和使用寿命。材料主要用于窑口、下料口、耐磨墩及电厂锅炉内衬等高温耐磨部位。

The castable is with high strength and thermal stability, added with stainless-steel fiber. To increasing the wear-resistance and service life. Applied in kiln outlet, discharge outlet, wear resistant block and boiler's lining.

项目 Items	牌号 Brand	KYSL-16	KYSL-16A	KYSL-17	
Al ₂ O ₃ +SiC %	≥	70	75	80	
体积密度 Bulk density g/cm ³	≥	110°C*24h	2.6	2.7	2.8
抗折强度 MOR Mpa	≥	110°C*24h	11	12	13
		1100°C*3h	11	12	13
耐压强度 CCS Mpa	≥	110°C*24h	90	100	110
		1100°C*3h	90	100	110
线变化率 P.L.C %		110°C*24h	±0.1	±0.1	±0.1
		1100°C*3h	±0.3	±0.3	±0.3

高炉出铁沟用AL₂O₃-SiC-C捣打料

AL₂O₃-SiC-C Ramming Mix For Trough of Blast Furnace

项目 Items	GCD-65	GCD-50	GCD-45	
化学成分 Chemical composition %	Al ₂ O ₃	65	50	45
	SiC	12	10	8
体积密度 Bulk density g/cm ³	110°C×24h	2.8	2.3	2.0
	1450°C×24h	2.7	2.2	1.9
耐压强度 CCS Mpa	110°C×24h	12	10	10
	1450°C×24h	10	10	10
抗折强度 MOR Mpa	110°C×24h	2.5	2.5	2.0
	1450°C×24h	2.0	2.0	1.5
永久线性变化 1450°C×24h Permanent linear change %		±1.0	±1.0	±1.0

牌号说明: GCD-65中的G代表高炉、C代表出铁沟、D代表捣打料、65代表Al₂O₃含量。

主要用于单出铁沟高炉(1000m³)下的出铁沟内衬。采用捣打施工,可快速烘烤。钙材料具有较好的耐侵蚀性和抗热震性。GCD-50和GCD-45用作600m³以下高炉出铁沟内衬。

Notes of brand name: G for blast furnace, C for trough, D for ramming material and 65 for Al₂O₃ content. It is mainly used in the linings of trough of blast furnace with single trough(volume less than 1000m³).with ramming installation, it can be dried fast. The material containing calcium oxide is characterized by good erosion resistance and thermal shock resistance. GCD-50 and GCD-45 are used as linings of trough of blast furnace with volume less than 600m³.

特种高强度耐火浇注料

Special High-strength Refractory Castable

项目 Items	最高使用温度 Service temperature °C max	烘干体积密度 Drying bulk density g/cm ³	Al ₂ O ₃ %	耐压强度 CCS Mpa		抗折强度 MOR Mpa		线变化率% linear variation rate	
				110°C×24h	°C×3h	110°C×24h	°C×3h	110°C×24h	°C×3h
GL145	1450	2.2	42	19.6	1400 30	-	-	-0.2	1400 -0.1
GL150	1500	2.2	45	20.0	1500 25	4.0	1500 7.0	-0.1	1500 -0.7
GL155	1550	2.35	50	26.0	1500 65	6.0	1500 11	-0.1	1500 -0.6
GL160	1600	2.5	60	15.0	1500 20	3.0	1500 3.5	-0.1	1500 -0.7
GL165	1650	2.65	62	20.0	1500 60	4.0	1500 15	0.1	1500 -0.4
GL170	1700	2.85	85	30.0	1500 30	5.0	1500 5.0	-0.1	1500 -0.8
GL180	1800	2.95	95	40.0	1500 30	6.0	1500 6.0	-0.1	1500 -0.7

主要特点: 强度高, 使用温度高、有很好的耐磨和耐腐蚀性。产品划分为致密高强度耐火浇注料、低水泥耐火浇注料、无水水泥耐火浇注料和刚玉质耐火浇注料, 可进行浇注、捣打或喷涂施工。主要应用于特殊高温设备及引进高温装置。

Main characteristics: high strength, high application temperature, good resistance to abrasion and erosion. The products divide into compact high-strength refractory castable, low-cement refractory castable, noncement refractory castable and corundum refractory castable, which can be subject to casting, ramming and painting construction. It is mainly used for special high-temperature equipment and introduction of hightemperature equipment.

钢包用系列浇注料

Castable For ladle

项目 Items		GBJ-90	GBJ85	GBJ80	GBJ75
化学成分 Chemical composition %	Al ₂ O ₃	90	85	80	75
	MgO	3-5	6-8	8-10	8-10
体积密度 Bulk density g/cm ³	110°C × 24h	3.15	3.0	2.90	2.85
	1000°C × 3h	3.1	3.0	2.90	2.85
	1550°C × 3h	3.0	2.95	2.8	2.8
永久线变化 Permanent linear change %	110°C × 24h	0~-0.1	0~-0.1	0~-0.1	0~-0.1
	1000°C × 3h	-0.1~+0.1	-0.1~+0.1	-0.1~+0.1	-0.1~+0.1
	1550°C × 3h	0~+0.5	0~+0.5	0~+1.5	0~+1.5
耐压强度 CCS Mpa	110°C × 24h	35	30	45	40
	1000°C × 3h	45	40	60	55
	1550°C × 3h	85	80	60	51.5
抗折强度 MOR Mpa	110°C × 24h	5.0	4.0	7.0	6.0
	1000°C × 3h	6.0	6.0	6.0	5.5
	1550°C × 3h	8.0	8.0	9.0	8.0

氧化铝-尖晶石浇注料 (GBJ-90和GBJ-85) 石油电熔白刚玉、烧结板状刚玉、纯尖晶石等主要原料组成, 用作边铸钢包内衬具有较好的抗渣侵蚀性和抗渗透性。

高铝-尖晶石浇注料 (GBJ-80和GBJ75) 是以烧结特级矾土和天然合成尖晶石为原料配置而成, 具有较好的耐侵蚀性和耐冲刷性和耐热震性, 其使用寿命比水玻璃结合的铝-镁浇注料要高1~3倍。100吨以上钢包料可使用GBJ-90和GBJ-85浇注料, 50~90吨钢包可使用GBJ-80浇注料, 而50吨以下钢包可使用GBJ-75浇注料。

Alumina-spinel castable (GBJ-90 and GBJ85) is made of petroleum fused white corundum, sintered tabular corundum and pure spinel, which is used as linings of edge-casting ladle. The product is characterized by good slag erosion and penetration resistance.

High alumina-spinel castable (GBJ-80 and GBJ-75) is made of sintered superfine bauxite and naturally synthetic spinel as starting material, which is characterized by good erosion resistance, abrasion resistance and thermal shock resistance. Its service life is 1~3 times longer than alumina-magnesia castable combined by soluble glass. GBJ-90 and GBJ85 can be used in more than 100 tons ladle and GBJ-80 castable can be used in 50~90 and GBJ tongs ladle and GBJ-75 castable can be used in less than 50 tons ladle.

循环流化床锅炉用浇注料

Castable For Circulating Fluidized Bed Boiler

项目 Items		NGJ-16	NGJ-15	NGJ-145	NGJ-145	NGJ-135
安全使用温度 Service temperature °C		1600	1500	1450	1450	1350
Al ₂ O ₃ %	≥	90	80	75	40	65
SiC %	≥	-	-	-	45	-
体积密度 Bulk density g/cm ³ 110°C × 24h	≥	3.1	3.0	2.7	2.6	2.4
抗折强度 MOR Mpa	110°C × 24h	11	10	7	9	6
	°C × 3h	1600/13	1500/12	1450/8	1450/12	1350/7
耐压强度 CCS Mpa	110°C × 24h	80	70	60	65	55
	°C × 3h	1600/95	1500/90	1450/80	1450/90	1350/65
永久线变化 Permanent linear change % °C × 3h		1600~0.5	1500~0.5	1450~0.5	1450~0.5	1350~0.5
导热系数 Thermal conductivity (350+25°C) W/m.k		1.3	1.3	1.2	1.2	1.1

耐火水泥

Refractory Cement CA-80

项目 Items		CA-80E	CA-85G	CA-80A			
Refractoriness °C		1780-1820					
Chemical composition %							
Al ₂ O ₃	≥	77					
CaO	≤	20					
SiO ₂	≤	0.5					
Fe ₂ O ₃	≤	0.5					
Na ₂ O+K ₂ O	≤	0.4					
S	≤	0.1					
Specific density g/cm ³		3.2-3.3	3.2-3.3	3.2-3.3			
Specific surface area m ² /kg	≥	650	650	650			
Initial setting time minutes	≤	30	30	30			
Final setting time minutes	≤	360	360	360			
Rupture strength Mpa							
6 hr		3.0	-	-			
24 hr		4.5	4.0	4.5			
72 hr		5.5	5.0	5.5			
Cold crushing strength Mpa							
6 hr		10	-	-			
24 hr		30	25	30			
72 hr		40	30	40			
Castable performance							
Water addition %		5.2	6.8	5.2	6.8		
Flow value mm							
Initial flow value		200	180	207	180	217	159
30 minutes		185	176	190	171	195	150
60 minutes		177	166	180	164	190	151
Cold crushing strength Mpa							
24 hr room temperature		15	15	14	15	14	15
110°C dry 24hr		71	86	76	102	67	70
1100°C heating 6 hr		51	119	55	118	47	118

耐火水泥CA-50

Refractory Cement CA-50

Item	CA-50
Al ₂ O ₃ %	≥ 50
SiO ₂ %	≤ 8
Fe ₂ O ₃ %	≤ 2.5
CaO %	≥ 33
Initial set time mins	≥ 30
Final set time hr	≤ 6
Compressive strength 1 day Mpa	≥ 45
Compressive strength 3 days Mpa	≥ 55
Flexural strength 1 days Mpa	≥ 6
Flexural strength 3 days Mpa	≥ 7

转炉、电炉用喷补料

Gunning Mix For Converter And Electric Arc Furnace

项目 Items		镁质 Magnesia gunning mix	镁钙质 Magnesia-calcium gunning mix
MgO %	≥	80	75
CaO %	≤	2.0	10~13
SiO ₂ %	≤	4.0	4.0
体密 Bulk density g/cm ³	110°C × 3h	2.1~2.3	2.1~2.3
	1500°C × 3h	2.2~2.4	2.2~2.4
冷态抗折强度 CMOR Mpa	≥	2.0	2.0
	110°C × 3h	2.0	2.0
	500°C × 3h	5	5
粘结强度 Bonding Strength Mpa	1000°C × 3h	2.0	2.0
线变化率 Linear change %	1000°C × 3h	-0.2~-0.5	0~-0.5
	1500°C × 3h	-0.2~-3.0	-0.2~-3.0

我公司生产的喷补料采用优质电熔镁砂/镁钙合成砂为主要原料，以复合磷酸盐为结合剂，再加以促凝剂、增塑剂和抗爆裂剂等，根据工作衬砖材质，采用先进的工艺配置镁质、镁钙质半干法喷补料，该料粘附性好、回弹率低、抗侵蚀、抗剥落、使用寿命6次以上。

The gunning mix produced by our company is made of fused magnesite/ magnesium-calcium composite and sintered magnesite as starting material, with composite phosphate as binder and by addition of accelerator, plasticizer and anti-explosion agent, etc. According to the quality of bricks used in working linings, advanced techniques are adopted to make magnesium or magnesium-calcium semidry gunning mix, which are characterized by good adhesiveness, low rebound rate, erosion and spalling resistance and service life more than 6 times.

气硬性隔热耐火泥

Air Setting Insulating Refractory Mortar

牌号 Brand No.	指标 Index 最高使用温度 Max Service temperature °C	Al ₂ O ₃ %	Al ₂ O ₃ % ≥	粒度 mm Grain size	粘结时间(秒) Bonding time (seconds)	粘结强度 Bonding strength Mpa ≥	
						110°C × 24h	最高使用温度 × 3h Max Service temperature
DNN-100	1000	28	0.15	90 ± 20	0.45	0.72	
DNN-120	1200	40	0.15	90 ± 20	0.58	0.98	
DNN-140	1400	48	0.15	90 ± 20	0.58	1.47	
DNN-160	1600	70	0.15	90 ± 20	0.74	1.96	

隔热耐火砖由于表面成多孔结构，砌筑时如采用一般灰浆，接触砖面就会迅速脱水，无法保证砖缝厚度及均匀结合，并且在常温下无法粘附强度。我公司生产的气硬性隔热耐火泥与隔热砖配套使用，适用于一切热工设备，具有良好的施工性能，便于操作，在90+20秒内可进行砖缝调整找平，超过上述时间即可自行脱水硬化，具有很好的低温粘附强度和较高的高温强度，使炉窑砌体具有良好的整体结构性能。

Due to the porous structure of the insulating refractory bricks, if ordinary mortar is used for masonry, it will dehydrate quickly when it contacts brick surface, surface, failing to ensure, failing to ensure the depth of brick joints and the uniform combination, and ordinary mortar has no bonding strength at normal temperature. The air setting insulating refractory mortar made by our company applied with installation. It can level and adjust brick joints within 90+20 seconds, and automatically harden by dehydration if it exceeds the time mentioned above. It is featured with good low-temperature strength, resulting in good structural performance of furnace brickwork.

高铝质耐火泥浆

High-alumina Refractory Mortar

项目 Items		牌号 Brand	LN-55A	LN-55B	LN-65A	LN-65B	LN-75A	LN-75B	LN-85A	LN-85B	
耐火度 °C	refractoriness	≥	1700	1700	1790	1790	1790	1790	1790	1790	
Al ₂ O ₃ %		≥	55	55	65	65	75	75	85	85	
冷态抗折强度 CMOR	≥	110°C 干燥后 After drying	1.0	2.0	1.0	2.0	1.0	2.0	2.0	2.0	
		1400°C × 3h 烧后 after firing	4.0	6.0	4.0	6.0	4.0	6.0	--	--	
		1500°C × 3h 烧后 after firing							6.0	6.0	
荷重软化温度 2.0%	Refractoriness under load °C	≥	--	1300	--	1400	--	1400	--	1600	
线变化率 Linear change %	≥	1400°C × 3h 烧后 after firing	1~5						--	--	
		1500°C × 3h 烧后 after firing	--						1~5		
粘结时间 Bonding time min			1~3								
粒度 %	Grain size	≤	-0.1mm							100	
		≤	+0.5mm							2	
		≥	-0.074mm							50	

备注：A 为普通高铝质耐火泥浆，B 为磷酸盐结合高铝质耐火泥浆

Remark: A represents common high-alumina refractory mortar, and B represents phosphate-bonded high alumina refractory mortar

粘土质耐火泥浆

Fireclay Refractory Mortar

项目 Items		牌号 Brand	NN-30	NN-38	NN-42	NN-45A	NN-45B	
耐火度 °C	Refractoriness not less than °C	≥	1630	1690	1710	1730	1730	
Al ₂ O ₃ %		≥	30	38	42	45	45	
冷态抗折强度 CMOR Mpa	≥	110°C 干燥后 After drying	1.0	1.0	1.0	1.0	2.0	
		1200°C × 3h 烧后 After burning	3.0	3.0	3.0	3.0	6.0	
		1300°C × 3h 烧后 After burning						
荷重软化温度	Refractoriness under load 0.2Mpa °C	≥	--	--	--	--	1200	
线变化率 Linear variation rate %	%	1200°C × 3h 烧后 After burning	1~3			--		
		1300°C × 3h 烧后 After burning	--			1~5		
粘结时间 Bonding time min			1~3					
粒度 Grain size %	%	≤	-0.1mm				100	
		≤	+0.5mm				2	
		≥	-0.074mm				50	

注：A 为普通粘土质耐火泥浆，B 为磷酸盐结合粘土耐火泥浆

Remarks: A represents common fireclay refractory mortar, and B represents phosphate-bonded fireclay refractory mortar