



# REFRACTORIES FOR HIGH TEMPERATURE INDUSTRIAL KILN

高温工业窑炉用耐火材料

郑州市才华窑炉砌筑安装有限公司

ZHENGZHOU CAIHUA KILN MASONRY INSTALLATION CO., LTD



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GLOBAL REFRACTORY AND SOLUTION SUPPLIER

# 郑州市才华窑炉砌筑安装有限公司

郑州市才华窑炉砌筑安装有限公司位于郑州市西南美丽的新密市。这里京广陇海两大铁路干线,是从河南省会郑州到洛阳龙门石窟和嵩山少林寺观光旅游的必经之地。新密市交通运输方便,境内耐火原料、煤炭储存丰富。得天独厚的条件为耐火材料生产和发展提供了极其便利的条件。

郑州市才华窑炉砌筑安装有限公司始建于1984年,公司现有员工1281人,其中中级以上技术职称158人,高级技术职称38人。本公司技术力量雄厚,目前已同洛阳耐火材料研究院、郑州大学高温研究所、北京科技大学、东北大学、鞍山钢铁学院等科研单位和高等院校建立了稳定的技术合作关系,是北京科技大学的生产、教学、科研基地。工艺装备先进,拥有先进的原料制备系统,配料采用电子配料车,混碾采用750型强制式混碾机,成型设备有:1000吨压砖机2台,630吨压砖机4台,400吨压砖机14台,315吨压砖机22台,160吨压砖机2台,60吨压砖机8台。烧成设备有:高温梭式窑1座,高温180米隧道窑2座,高温120米隧道窑1座,中温隧道窑1座。拥有全套的耐火材料常规检测设备。这一切为生产不同品种、不同材质的各种耐火材料奠定了基础。

郑州市才华窑炉砌筑安装有限公司主要生产冶金、焦化、建材、碳素、化工和一般工业窑炉所用耐火材料。年生产各种定型和不定型耐火材料12万吨,产品质量和企业规模位居全省同行业的前列,所生产的耐火材料行销全国各地并远销欧美,东南亚和非洲等地区。

郑州市才华窑炉砌筑安装有限公司的生产过程严格按照ISO9001国际质量体系标准进行生产。为了保证原料的高纯度,主要原材料的检选全部靠人工完成,每块料都要经过检选人员的手检选合格后方可流入下道工序。辅助材料经过检验合格后方可使用。

郑州市才华窑炉砌筑安装有限公司经过近三十年的发展,已初步形成自己独特的管理模式,以一切为用户着想为理念,在生产、质量、市场、服务等环节上加大管理力度,合理配置资源,现已形成自己的优势:

## 售前服务

- 才华公司对项目的运作体系有着丰富的运做经验,将协助配合客户完成项目的前期准备工作。
- 才华公司有着充分的耐火材料现场管理经验,因此我们将把我们积累的经验通过与用户交流沟通,为以后现场管理奠定基础,根据项目的特点及要求为客户提供最佳的耐火材料配套建议。

## 售中服务

- 才华公司将派出3-5名服务人员驻扎现场协助解决现场的问题。配合客户做好产品分类、验收、存放等工作,技术人员无偿为用户提供现场技术服务,有问题现场解决。
- 如果施工现场条件不具备存放大量货物,我公司可以作为一个临时仓库代为管理,并根据施工进度凭双方调拨手续随时调配发货,对此我们的现场服务人员将掌握工程进度及时与施工单位协调,确保工程进展。

## 售后服务

- 才华公司将以最快速度响应用户提出技术支持的需求,根据工作内容明确具体完成对用户技术支持的时间。满足用户的需求,确保客户设备的正常运转。
- 设立24小时售后服务专线,有专职人员值班跟踪服务,节假日照常值班,保证用户随叫随到。在接到通知后,本省24小时以内,其它地区48小时以内我单位人员赶到现场解决问题。特殊情况下,我公司会在12个小时内赶赴现场提供援助。
- 在耐材行业的发展里程中,我公司愿与社会各届真诚合作,共铸我国耐火材料工业新的辉煌。

# ZHENGZHOU CAIHUA KILN MASONRY INSTALLATION CO., LTD.

Zhengzhou caihua Kiln Masonry Installation Co., Ltd. is located in the beautiful Xinmi City, southwest of Zhengzhou City. Adjacent to the two main railway lines of Beijing-Guangzhou-Longhai, it is an inevitable place for sightseeing from Zhengzhou, the capital of Henan Province, to Longmen Grottoes in Luoyang and Shaolin Temple in Songshan. Xinmi City has convenient transportation and abundant domestic refractory raw materials and coal storage. The unique conditions provide extremely convenient conditions for the production and development of refractory materials.

Zhengzhou caihua Kiln Masonry Installation Co., Ltd. was founded in 1984. The company currently has 1,281 employees, including 158 with intermediate and higher technical titles and 38 with senior technical titles. The company has strong technical strength. It has established stable technical cooperation relationships with Luoyang Refractories Research Institute, Zhengzhou University High Temperature Research Institute, Beijing University of Science and Technology, Northeastern University, Anshan Iron and Steel Institute and other institutions of higher learning. Production, teaching and research base. Advanced technology and equipment, with advanced raw material preparation system, electronic batching vehicle for batching, 750 forced mixing mill for mixing, molding equipment: 2 sets of 1000 tons brick press, 4 sets of 630 tons brick press, 400 tons There are 14 brick presses, 22 315-ton brick presses, 2 160-ton brick presses, and 60-ton brick presses. The firing equipment includes: one high-temperature shuttle kiln, two high-temperature 180-meter tunnel kiln, one high-temperature 120-meter tunnel kiln, and one medium-temperature tunnel kiln. Has a full set of conventional refractory testing equipment. All these have laid the foundation for the production of various refractory materials of different varieties and materials.

Zhengzhou caihua Kiln Masonry Installation Co., Ltd. mainly produces refractory materials for metallurgy, coking, building materials, carbon, chemical and general industrial furnaces. Annual production of 120,000 tons of various shaped and unshaped refractory materials, product quality and enterprise scale rank among the top in the same industry in the province. The produced refractory materials are sold throughout the country and exported to European, South-east Asia, Africa and other regions.

Zhengzhou caihua Kiln Masonry Installation Co., Ltd. produces in strict accordance with the ISO9001 international quality system standards. In order to ensure the high purity of the raw materials, the selection of the main raw materials is completed manually. Each piece of material must pass the manual selection of the selection personnel before passing into the next process. The auxiliary materials can be used only after passing the inspection.

After nearly 30 years of development, Zhengzhou Caihua Kiln masonry installation CO., LTD has initially formed its own unique management model, taking everything as the user's consideration as its philosophy, and increasing management in production, quality, market, service and other links, Reasonable allocation of resources has now formed its own advantages:

## Pre-sale service

- Our company has rich experience in the operation of the project, and will assist customers to complete the preliminary preparation of the project.
- Our Company has sufficient on-site refractory management experience, so we will use our accumulated experience to communicate with users to lay the foundation for future on-site management, and provide customers with the best matching refractory recommendations based on the characteristics and requirements of the project.

## Sale service

- We company will send 3-5 service personnel to the site to help solve the problem on the site. Cooperate with customers to do product classification, acceptance, storage, etc., technicians provide users with on-site technical services for free, and solve problems on-site.
- If the conditions of the construction site are not sufficient to store a large amount of goods, our company can manage it as a temporary warehouse, and dispatch and dispatch at any time according to the construction procedures of both parties. For this, our field service personnel will master the project progress and coordinate with the construction unit in time. Ensuring project progress.

## After-sales service

- Our company will respond to the user's request for technical support at the fastest speed, and clearly and specifically complete the technical support time for the user according to the work content. Meet the needs of users and ensure the normal operation of customer equipment. A 24-hour after-sale service line is set up, with full-time personnel on duty tracking services, and on duty during holidays to ensure that users are available on call. After receiving the notice, within 24 hours in our province, and within 48 hours in other areas, our unit personnel rushed to the scene to solve the problem. Under special circumstances, our company will rush to the scene to provide assistance within 12 hours.
- In the development of the refractory industry, our company is willing to cooperate sincerely with the society to create new glories for the refractory industry in China.

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## 水泥窑用耐火材料

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## 工业炉用耐火材料

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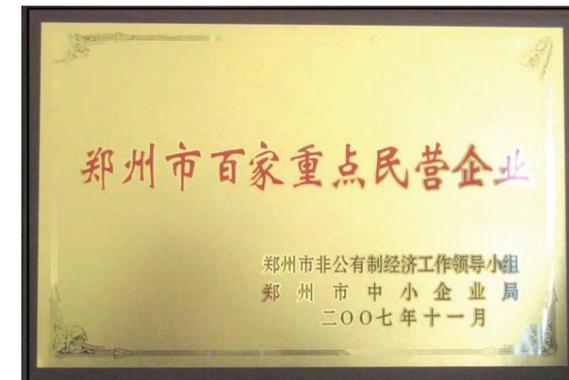
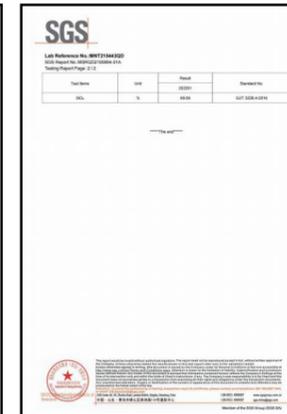
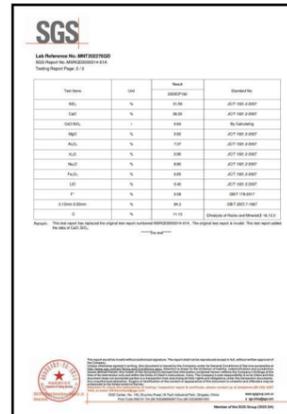
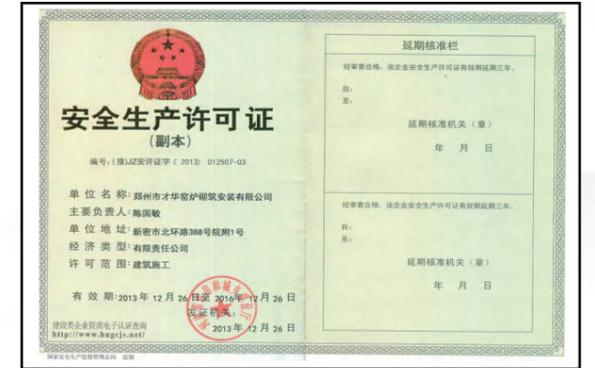
## 耐火纤维及纤维制品

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# HONOR OF QUALIFICATION

## 资质荣誉 >>



# PRODUCTION EQUIPMENT

## 生产设备 >>



隧道窑 HIGH TEMPERATURE TUNNEL KILN



自动配料系统  
MICROCOMPUTER AUTOMATIC BATCHING SYSTEM



仓库一角 SHIPPING DEPARTMENT



原料场地  
RAW MATERIAL SITE



生产车间 PRODUCTION WORKSHOP



隧道窑控制室  
SUPER HIGH TEMPERATURE KILN CONTROL SYSTEM



1000T电动螺旋压砖机  
1000T ELECTRIC SCREW BRICK MACHINE



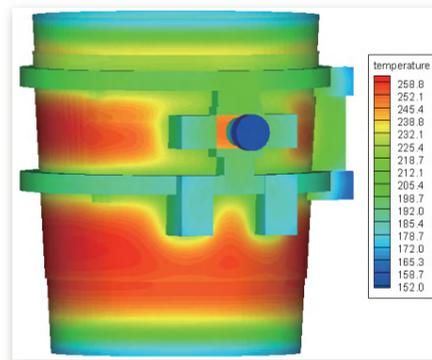
成型车间  
MOLDING WORKSHOP



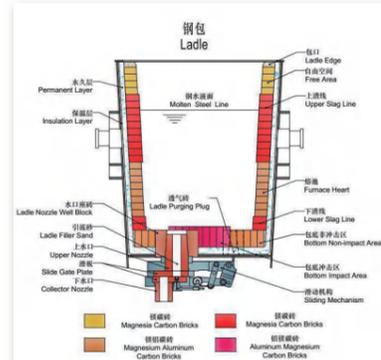
不定型生产车间  
UNSHAPED PRODUCTION WORKSHOP

# TECHNICAL CAPABILITIES SERVICE 技术能力及服务

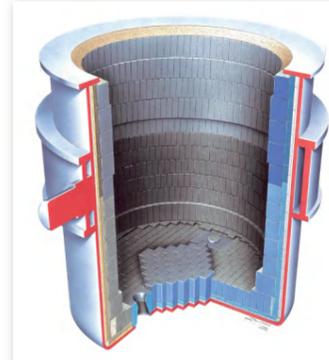
## 钢包 The Ladle



整体温度分布  
OVERALL TEMPERATURE DISTRIBUTION



方案2  
SCHEME 2

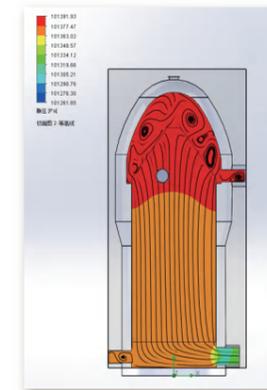


镁碳砖钢包方案  
LADLE MGO-C LINING CONCEPT

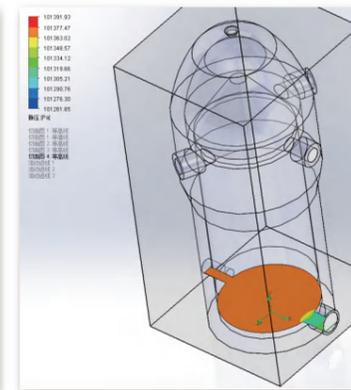
## No.2

## 热风炉技术

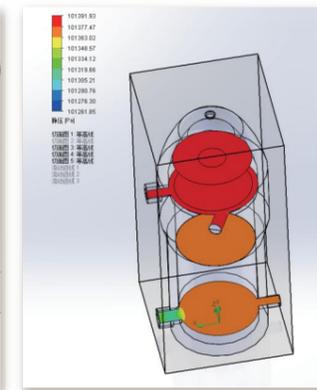
## Hot stove technology



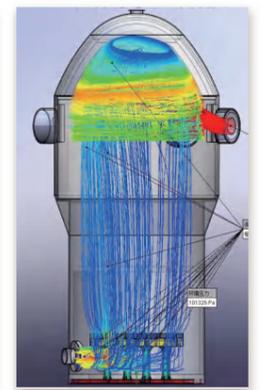
剖面图  
SECTION DIAGRAM



断面图  
SECTION MAP

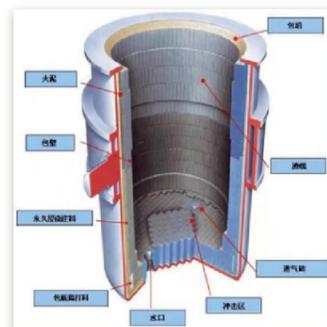


各部位切面图  
SECTION OF EACH PART



3D流量模拟  
SECTION OF EACH PART

## 技术介绍 INTRODUCTION



总体图  
MASTER PLAN

通过建立模型分析将对钢包耐火材料成本的降低、砌包作业难度的减轻产生积极的促进作用,准确把握钢包各个部位耐材的模拟情况,根据模型的试运行情况,制定合理的钢包耐火材料的具体分布和详细的材料改进方案。

Through the establishment of model analysis, it will positively reduce the cost of ladle refractory and reduce the difficulty of masonry operation, accurately grasp the simulation of refractory materials in various parts of ladle, and formulate reasonable ladle refractory materials according to the trial operation of the model. Specific distribution and detailed material improvement programs.

## 技术介绍 INTRODUCTION

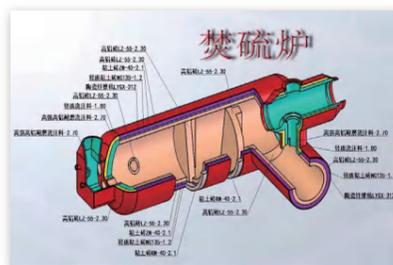
我司设计的热风炉能有效实现热风炉燃烧装置的快速而均匀的混合与高强度回流预热燃烧,有效提高了燃烧强度与燃烧的稳定性,可有效保证热风炉高热效率、高热强度与高送风温度状态下运行,继而达到节省燃料、节约投资、降低废气温度与有害气体的排放量、减少环境污染的良好效果。

Our company designed the hot blast stove can effectively realize rapid and uniform mixing of the hot blast stove combustion device and high-intensity reflux preheating combustion, effectively improving the combustion intensity and combustion stability, and effectively ensuring the high heat efficiency, high heat strength and high air supply of the hot blast stove. Operation under temperature conditions, in turn, achieves good results in saving fuel, saving investment, reducing exhaust gas temperature and harmful gas emissions, and reducing environmental pollution.

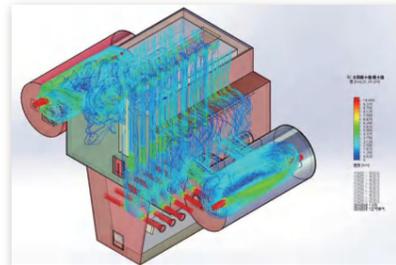
## No.3

### 有色冶炼

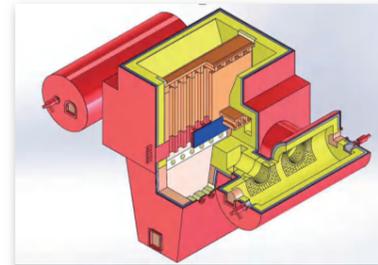
## Colored Smelting



焚硫炉  
sulphur burning furnace

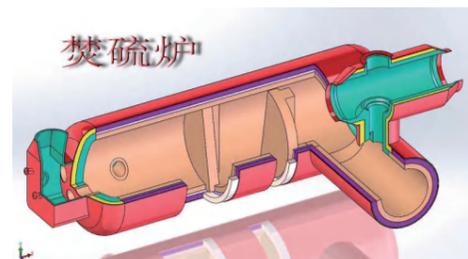


流体分析  
fluid analysis



3D 模型  
3D model

## 技术介绍 INTRODUCTION



焚硫炉 sulphur burning furnace

工业炉窑上采用这种低氮燃烧的燃烧装置，就能实现安全稳定燃烧的前提下合理控制燃烧温度与有效减少氮氧化物的排放量，实现节省燃料与节约投资的前提下减少对大气环境的污染。

By adopting such a low-nitrogen combustion combustion device on an industrial furnace, it is possible to properly control the combustion temperature and effectively reduce the emission of nitrogen oxides under the premise of achieving safe and stable combustion, thereby reducing fuel consumption and saving investment. Pollution to the atmospheric environment.

## No.4

### 组合砖

## Composite Brick



预砌  
Pre-masonry atfield

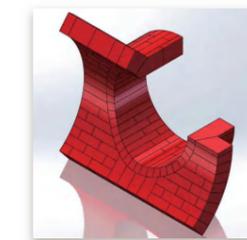


燃烧器组合砖  
burner composite brick



热风炉组合砖  
combination brick of blast stove

## 技术介绍 INTRODUCTION



3D 模型 3D model

Solidworks 建模的基础上，利用flow simulation 进行数值模拟，用其结果检验设计炉窑的性能优劣。总之，工业炉窑等热设备的设计过程中设计方法、设计工具、及计算手段的有效而优化的相互结合的应用，就能为用户设计出结构合理、便于施工、管理方便、数据可信、表达准确的设计施工图纸并给出准确详尽的材料清单，公司效益提升的同时也为客户带去了完备的高质量的技术服务。

Based on the modeling of Solidworks, the flow simulation was used for numerical simulation, and the results were used to test the performance of the designed kiln. In short, in the design process of industrial furnaces and kiln and other thermal equipment, the design method, design tools, and the effective and optimized combination of calculation methods can design the user with reasonable structure, convenient construction, convenient management and reliable data. Expressing accurate design and construction drawings and giving accurate and detailed bills of materials, the company has brought complete and high- quality technical services to customers while improving the company's efficiency.

# COOPERATION CASES

## 合作案例 >>



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## 高强耐碱浇注料

High strength alkali resistant 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。该材料主要用于窑门罩、分解炉、预热器系统、管道系统等其它工业窑炉内衬。

The high-strength and alkali-resistant castable has good resistance to alkaline gas and slag, and has a long service life. This material is mainly used for lining of other industrial furnaces such as kiln door cover, decomposition furnace, preheater system and pipeline system.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-NJZ48	CH-NJZ45
Al <sub>2</sub> O <sub>3</sub> % ≤		48	45
SiO <sub>2</sub> % ≥		50	53
体积密度 BD 110°C×24h g/cm <sup>3</sup> Bulk density ≥		2.2~2.4	2.2~2.4
抗折强度 MOR MPa Flexural strength ≥	110°C×24h	7	8
	1100°C×3h	7	8
耐压强度 CCS MPa Compressive strength ≥	110°C×24h	60	70
	1100°C×3h	60	70
线变化率 PLC % 1100°C×3h Line rate of change ≤		±0.4	±0.4
耐碱性 Alkali resistance		1~2	1~2
最高使用温度°C Maximum Service temperature		1300	1350

## 抗结皮浇注料

Anti-crust castable

抗结皮浇注料在高温状态下，材料表面形成釉层，阻止水泥生料中玻璃的渗透，从而起到抗结皮的作用。该材料主要用于旋风预热器下料斜坡、上升烟道、预热器锥体等易结皮部位。

In the high temperature state, the anti-crust castable forms a glaze layer on the surface of the material, preventing the penetration of the glass phase in the cement raw material, thereby playing an anti-skinning effect. The material is mainly used for the easy skinning of the cyclone preheater cutting slope, rising flue, preheater cone and other parts.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-KJZL55	CH-KJZL60
SiC+SiO <sub>2</sub> % ≥		55	60
体积密度 BD 110°C×24h g/cm <sup>3</sup> Bulk density ≥		2.4	2.5
抗折强度 MOR MPa Flexural strength ≥	110°C×24h	8	10
	1100°C×3h	9	11
耐压强度 CCS MPa Com- pressive strength ≥	110°C×24h	60	70
	1100°C×3h	70	80
线变化率 PLC % 1100°C×3h Line rate of change ≤		±0.4	±0.4
最高使用温度°C Maximum Service temperature		1300	1400

## 窑口专用浇注料

Kiln door appropriate castable

窑口专用浇注料是根据回转窑窑口的工况特点研发的高性能浇注料,材料在使用过程中具有良好的体积稳定性,强度高、耐磨性能好、抗热震性稳定、耐侵蚀、不开裂、不剥落等特点。

The appropriate castable for kiln door is a high-performance castable developed according to the working conditions of the rotary kiln. The material has good Performance of volume stability, high strength, good wear resistance, thermal shock resistance, corrosion resistance, anti-stripping when using.

### 产品参数 | Product parameters

项目 Items	牌号 Brands		CH-YKJZ70	CH-YKJZ75
	Al <sub>2</sub> O <sub>3</sub> % ≥			70
体积密度 BD 110°C×24h g/cm <sup>3</sup> Bulk density ≥			2.6	2.7
抗折强度 MOR MPa Flexural strength ≥	110°C×24h		10	12
	1400°C×3h		11	13
耐压强度 CCS MPa Com- pressive strength ≥	110°C×24h		80	90
	1400°C×3h		90	100
线变化率 PLC % 1400°C×3h Line rate of change ≤			±0.5	±0.5
最高使用温度°C Maximum Service temperature			1600	1600

## 喷煤管专用浇注料

Appropriate castable for coal injection pipe

喷煤管专用浇注料是根据红柱石、刚玉-莫来石等材料的特性,复合为主材料,以活性铝粉等微粉结合而成。具有热震稳定性好、耐侵蚀性能高、体积稳定、不开裂、不剥落等特点。

The appropriate castable for coal injection pipe is based on the characteristics of materials such as andalusite, corundum-mullite, composite material, and differential combination of activated aluminum powder. It has the characteristics of good thermal shock stability, high corrosion resistance, stable volume, no cracking and no peeling.

### 产品参数 | Product parameters

项目 Items	牌号 Brands			CH-PJZ68	CH-PJZ72	CH-PJZ78
	Al <sub>2</sub> O <sub>3</sub> % ≥				68	72
体积密度 BD 110°C×24h g/cm <sup>3</sup> Bulk density ≥				2.6	2.7	2.8
抗折强度 MOR MPa Flexural strength ≥	110°C×24h			8	9	9
	1400°C×3h			11	12	12
耐压强度 CCS MPa Com- pressive strength ≥	110°C×24h			60	70	80
	1400°C×3h			70	80	90
线变化率 PLC % 1400°C×3h Line rate of change ≤				±0.5	±0.5	±0.5

## 三次风管专用浇注料

Tertiary air duct appropriate castable

三次风管专用浇注料具有高强度、耐磨性能好、抗冲刷、耐侵蚀、不开裂等特点。

The appropriate castable for tertiary air duct has the characteristics of high strength, good wear resistance, erosion resistance, erosion resistance and no cracking.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-FJZ65	CH-FJZ75	CH-FJZ80
Al <sub>2</sub> O <sub>3</sub> % ≥		65	75	80
体积密度 BD 110°C×24h g/cm <sup>3</sup> Bulk density ≥		2.6	2.7	2.8
抗折强度 MOR MPa Flexural strength ≥	110°C×24h	11	12	13
	1400°C×3h	11	12	13
耐压强度 CCS MPa Com- pressive strength ≥	110°C×24h	90	100	120
	1400°C×3h	90	100	120
线变化率 PLC % 1400°C×3h Line rate of change ≤		±0.5	±0.5	±0.5
最高使用温度°C Maximum Service temperature		1450	1500	1600

## 硅莫砖

Silicon mullite brick

我公司生产的硅莫砖是以特级高铝矾土熟料和优质碳化硅为主要原料，高温烧成而制得。产品具有常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，抗剥落性好，适用于水泥窑的过渡带、冷却带、窑口等部位。

The silica mullite brick produced by our company is made from high-grade bauxite clinker and high-quality silicon carbide as the main raw materials and firing at high temperature. The product has high cold compressive strength and high structural strength in high temperature, good thermal shock resistance, and forms a protective layer during using. It has good wear resistance and good anti-flaking property, and applied for transition zone, cooling zone, kiln mouth of cement kiln and other parts.



项目 Items	牌号 Brands	CH-GMZ65	CH-GMZ63	CH-GMZ60
Al <sub>2</sub> O <sub>3</sub> % ≤		65	63	60
SiC % ≤		35	30	18
耐火度 refractoriness /°C ≥		1790	1790	1790
体积密度 bulk density , g/cm <sup>3</sup> ≥		2.5	2.55	2.6
显气孔率 apparent porosity/% ≤		20	20	21
耐压强度 CCS/Mpa ≥		80	90	95
高温抗折强度 High temperature modulus of rupture (1450°C) /Mpa		8	12	15
0.2Mpa 荷重软化温度°C RUL ≥		1550	1650	1680
热震稳定性(1100°C) /次 Heat stability/ heat ≥		10	12	15
耐磨系数 Wearing coefficient		-	8.2	8.5

## >>> 耐碱砖 / Alkali resistant brick

耐碱砖采用硅石、焦宝石和适量的添加剂使其改善制品的显微结构。在使用过程中和碱性氧化物反应生成一种高粘度玻璃相，覆盖在砖的表面堵塞表面气孔，阻止碱性渣的渗入，起到耐碱抗侵蚀的目的。

高强耐碱砖普通型的基础上，通过加入添加物以提高耐压强度而制成。该产品具有强度高、体积稳定、耐碱侵蚀性好等特点，适用于水泥窑预热器、分解炉、三次风管等部位。

耐碱砖广泛用于大中型干法水泥回转窑预热器、分解炉等。

The alkali-resistant bricks use silica, coke stones and appropriate additives to improve the microstructure of the product. In the process of using, it reacts with alkaline oxide to form a high-viscosity glass phase, which covers the surface of the brick to block the surface pores, prevents the infiltration of alkaline slag, and to meet the purpose of resisting alkali and resisting corrosion.

On the basis of a common type of high-strength alkali-resistant brick, it is produced by adding an additive to increase the compressive strength. The product has the characteristics of high strength, stable volume, good alkali corrosion resistance, etc. It is suitable for cement kiln preheater, decomposition furnace, tertiary air duct and other parts.

Alkali-resistant bricks are widely used in large and medium-sized dry-process cement rotary kiln preheaters and Decomposition furnaces.



项目 Items	牌号 Brands	普通型 normal type	高强型 High strength type	隔热型 Insulated	拱顶型 Vault type
Al <sub>2</sub> O <sub>3</sub> % ≥		25~30	25~30	25~30	30~35
Fe <sub>2</sub> O <sub>3</sub> % ≤		2	2	2	2
SiO <sub>2</sub>		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 <sup>3</sup> ≥		2.15	2.25	≤1.65	2.2
显气孔率 apparent porosity /% ≤		21	20	≥35	21
耐压强度 CCS /Mpa ≥		35	60	15	35
0.2Mpa 荷重软化温度 0.2Mpa load softening temperature °C ≥		1350	1300	1250	1400
导热系数平均温度 Thermal conductivity average temperature 350±10°C(W/m.k)		1.28	1.28	0.7	1.28

## >>> 磷酸盐砖 / Phosphate brick

磷酸盐耐火砖由于其以下4点较为突出特性：

- (1) 较高强度，耐磨性好
- (2) 良好的耐化学侵蚀性。(其抗碱能力优于粘土砖、高铝砖)
- (3) 良好的抗热震性。
- (4) 荷重软化温度较高。

故常用于在回转窑的过渡带、窑口、窑门罩、冷却机的内衬及其他耐火砖易松动掉落的部位。

Phosphate refractory bricks are characterized by the following four points:

1. Higher strength and good wear resistance.
2. Good chemical resistance. (The alkali resistance is better than clay bricks and high alumina bricks)
3. Good thermal shock resistance.
4. The load softening temperature is higher.

Therefore, it is often used in the transition zone of the rotary kiln, the kiln mouth, the kiln door cover, the lining of the cooler and other parts of the refractory brick that are easy to loose and fall.



项目 Items	牌号 Brands	普通磷酸盐砖 Ordinary phosphate brick	磷酸盐结合耐磨砖 Phosphate combined wear-resistant brick	特种磷酸盐砖 Special phosphate brick	磷酸盐复合砖 Phosphate composite brick	
		CH-PZ75	CH-PA75	CH-PT80	重质部分 Heavy part	轻质部分 Lightweight part
Al <sub>2</sub> O <sub>3</sub> % ≥		75	75	80	75	55
Fe <sub>2</sub> O <sub>3</sub> % ≤		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 <sup>3</sup> ≥		2.7	2.75	2.9	2.8	1
耐压强度 CCS /Mpa ≥		70	75	80	75	5.5
0.2Mpa 荷重软化温度 RUL°C ≥		1350	1300	1520	1350	-
热震稳定性(1100°C) /次 thermal stability(1100°C)/heat ≥		20	20	0.7	-	-

## 防渗浇注料

Anti-seepage castable

产品具有：耐压强度，抗折强度高，抗渗透力强等特点，在使用过程中能与电解液碱金属离子反应，形成一层釉面层，能达到防渗目的。

In the high temperature state, the anti-crust castable forms a glaze layer on the surface of the material, preventing the penetration of the glass phase in the cement raw material, there by playing an anti-skinning effect. The material is mainly used for the easy skinning of the cyclone preheater cutting slope, rising flue, preheater cone and other parts.

### 产品参数 | Product parameters

项目 Items	指标 I Items
Al <sub>2</sub> O <sub>3</sub> % ≤	35
体积密度 BD g/cm <sup>3</sup> Bulk density	110°C×24h 2.1
耐压强度 CCS MPa Compressive strength ≥	110°C×24h 50
	1000°C×3h 60
抗折强度 MOR MPa Flexural strength ≥	110°C×24h 8
	1000°C×3h 10
导热系数 TCS W/m.k Thermal Conductivity ≤	350 °C 0.50
	650 °C 0.70

## >>> 碳素焙烧炉用浇注料 / Castable for carbon baking furnace

本产品具有：强度大、高耐磨、抗剥落、耐冲刷等优点，适用于回转窑窑口、预热带、煅烧带、冷却机、下料嘴等部位。

This product has the advantages of high strength, high wear resistance, anti-flaking and anti-scouring. It is suitable for rotary kiln kiln mouth, pre-tropical zone, calcination zone, cooling machine, feed nozzle and other parts.

项目 Items	牌号 Index	CH-TLD	CH-TLQ	CH-TLZ45	CH-TLZ60	CH-TLZ70
Al <sub>2</sub> O <sub>3</sub> % ≥		-	-	45	60	70
体积密度 bulk density , g/cm <sup>3</sup> ≥	110°C×24h	2.2	2.2	2.2	2.3	2.5
抗折强度 MOR MPa Flexural strength ≥	110°C×24h	7	8	6	7	10
	1000°C×3h	7	8	6	6	8
耐压强度 CCS MPa Compressive strength ≥	110°C×24h	40	50	30	35	40
	1000°C×3h	40	50	40	40	50
线变化率 PLC % Line rate of change	110°C×24h	±0.1	±0.1	±0.1	±0.1	±0.1
	1000°C×3h	±0.4	±0.4	±0.4	±0.4	±0.4
最高使用温度°C Maximum Service temperature		1400	1450	1400	1450	1500

## >>> 锌、镍、铅冶炼回转窑用浇注料 / Castables for zinc, nickel and lead smelting rotary kiln

本产品适用于水泥、石灰石、氧化镁、镍铁矿及有色金属矿的煅烧及焙烧，具有抗酸碱侵蚀性强、耐磨性好、窑炉寿命长等优点。

This product is suitable for calcination and roasting of cement, limestone, magnesia, ilmenite and non-ferrous metal ore. It has the advantages of strong acid and alkali corrosion resistance and good wear resistance and long service life.

项目 Items	牌号 Index	CH-JZ55	CH-JZ60	CH-JZ75	CH-JZ80	CH-JZ85
Al <sub>2</sub> O <sub>3</sub> % ≥		55	65	75	80	85
体积密度 bulk density , g/cm <sup>3</sup> ≥		2.3	2.4	2.6	2.7	2.8
抗折强度 Rupture strength MPa ≥		8	9	12	12	12
耐压强度 Compressive strength MPa ≥		50	60	70	80	1000
热震稳定性 Thermal shock stability (900°C,水冷 Water cooling) 次 ≥		30	30	30	30	30
最高使用温度°C Maximum Service temperature		1300	1350	1400	1500	1600

## 干式防渗料

Dry anti-seepage material

特点:干式防渗料,具有施工简便,保温效果好,抗渗透力强,其工作原理是在高温状态下材料和金属液体中的碱离子反应,表面形成隔离层,防止钠盐向阴极块中渗透,保护了阴极块,从而延长电解槽的使用寿命,降低电耗。

Features: dry anti-seepage material, with simple construction, good thermal insulation effect and strong anti-permeability. Its working principle is to react alkali ions in materials and metal liquids at high temperature, form isolation layer on the surface, prevent sodium salt from going to cathode block. The medium is infiltrated and protects the cathode block, thereby prolonging the service life of the electrolytic cell and reducing power consumption.

### 产品参数 | Product parameters

项目 Items	指标 Index
Al <sub>2</sub> O <sub>3</sub> % ≤	40
捣实重量 g/cm <sup>3</sup> Tamp volume weight	1.9±0.1
耐火度 °C Refractoriness ≥	1600
导热系数 W/m.k Thermal Conductivity ≤	350°C 650°C
	0.35 0.43

## 碳素焙烧回转窑用浇注料

Castable for carbon calcined rotary kiln

本产品具有:强度大、高耐磨、抗剥落、耐冲刷等优点,适用于回转窑窑口、预热带、煨烧带、冷却机、下料嘴等部位。

This product has the advantages of high strength, high wear resistance, anti-flaking and anti-scouring. It is suitable for rotary kiln kiln mouth, pre-tropical zone, calcination zone, cooling machine, feed nozzle and other parts.

### 产品参数 | Product parameters

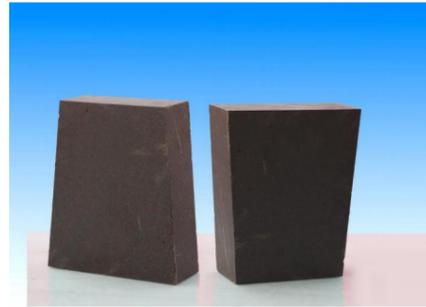
项目 Items	牌号 Brands	CH-JZ70	CH-JZ45	CH-JZ60
Al <sub>2</sub> O <sub>3</sub> % ≥		70	45	60
体积密度 bulk density , g/cm <sup>3</sup> ≥	110°C×24h	2.6	2.4	2.4
耐压强度 CCS MPa Compressive strength ≥	110°C×24h	40	35	36
	1000°C×3h	70	65	40
	1300°C×3h	80	70	65
抗折强度 Rupture strength MPa ≥	110°C×24h	10	6	4
	1000°C×3h	12	8	6
	1300°C×3h	16	10	10
线变化率 PLC % Line rate of change ≤	110°C×24h	0.02	0.02	0.01

## 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材料,通过添加少量添加物,经过高压、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大的位置使用。

The direct combination of magnesia-chrome brick is a product made of high-purity magnesia and imported chrome concentrate, which is made by adding a small amount of additives and high pressure and high temperature. The product has good high temperature resistance and peeling resistance, and is suitable for high temperature and used in locations where temperature fluctuations are large and high.



### 产品参数 | Product parameters

项目 Items	牌号 Brands		CHZMGe									
	20A	20B	18A	18B	16A	16B	14A	14B	12A	12B	8A	8B
MgO% $\geq$	45	40	50	45	52	47	60	55	65	60	65	60
Cr <sub>2</sub> O <sub>3</sub> % $\geq$	30	30	26	26	24	24	20	20	16	16	16	16
Fe <sub>2</sub> O <sub>3</sub> %	8-15	8-15	7-15	7-13	6-13	6-13	5-13	5-13	5-12	5-12	5-12	5-12
SiO <sub>2</sub> % $\leq$	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 A.P% $\leq$ Apparent porosity	15	16	15	16	15	16	15	16	15	16	15	16
体积密度 BD g/cm <sup>3</sup> Bulk density $\geq$	3.38	3.38	3.33	3.33	3.30	3.30	3.25	3.25	3.20	3.20	3.20	3.20
耐压强度 CCS MPa Compressive strength $\geq$	50	50	50	50	50	50	50	50	50	50	50	50
0.2MPa 荷重软化温度 R.U.L <sup>o</sup> CT0.6 0.2MPa load softening temperature $\geq$	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700

## 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材料通过高压成型,高温烧结而制得的一种产品。该产品不但强度高,热震稳定性好,而且抗侵蚀、抗渗透,抗还原能力强,在挥发窑等高温窑炉上使用均取得良好效果。

The product is a product obtained by high-pressure molding and high-temperature sintering using high-purity magnesia and magnesia-chromium composite spinel as main raw materials. The product not only has high strength, good thermal shock resistance, but also has anti-erosion, anti-penetration and anti-reduction ability, and has good effects on high-temperature kiln such as zinc volatilization kiln.

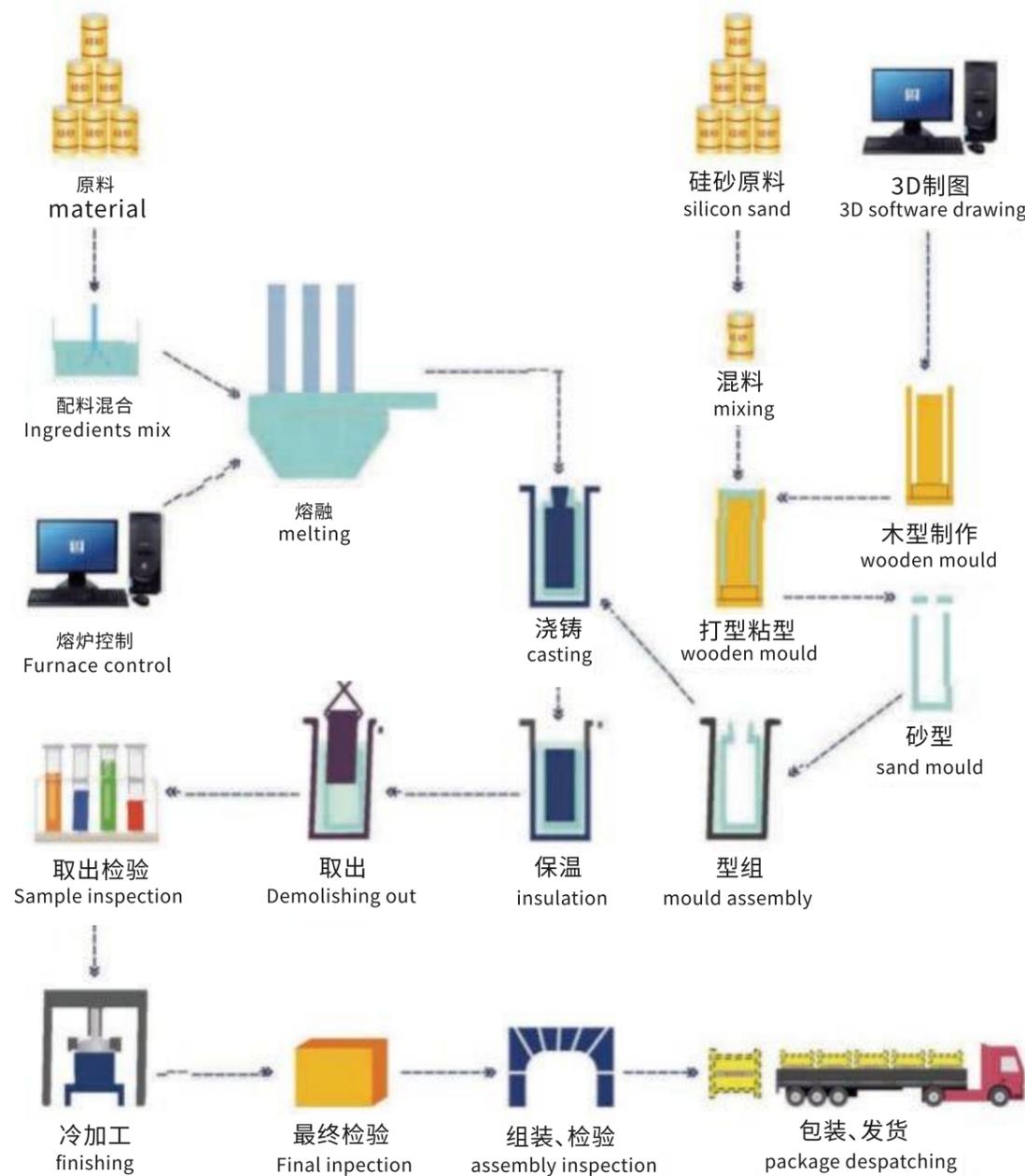


### 产品参数 | Product parameters

项目 Items	牌号 Brands	MAGE-75A	MAGE-75B
MgO% $\geq$		75	70
Al <sub>2</sub> O <sub>3</sub> %		9-13	9-13
Cr <sub>2</sub> O <sub>3</sub> % $\leq$		3-6	3-6
显气孔率/% apparent porosity $\leq$		18	18
耐压强度 CCS MPa Compressive strength $\geq$		50	45
0.2MPa 荷重软化温度 R.U.L <sup>o</sup> CT0.6 0.2MPa load softening temperature $\geq$		1700	1650
热震 T.S.R. (1100 <sup>o</sup> C水冷 water-cycle)次 $\geq$		8	6
体积密度 BD Bulk density g/cm <sup>3</sup> $\geq$		2.95	2.95

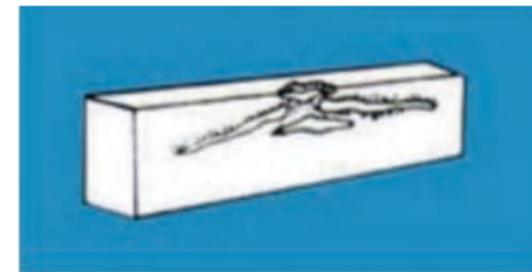
## 电熔铸砖制造流程示意图

Production process of AZS blocks



## 氧化熔铸刚玉产品的四种浇铸方法

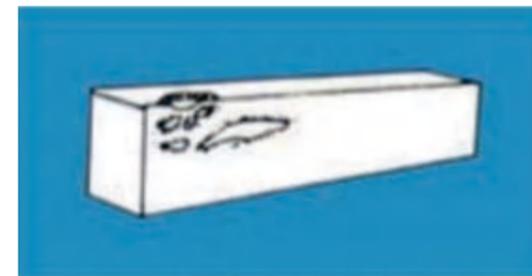
Four casting methods for oxidation fused cast zircon corundum products



### PT-普通浇铸

砖体内缩孔的分布在浇注口的下方

PT-normal casting, the shrinkage cavities of brick are formed under the casting gate.



### QX-倾斜浇铸

砖体内缩孔分布在砖的一段,而在另一端形成致密区域

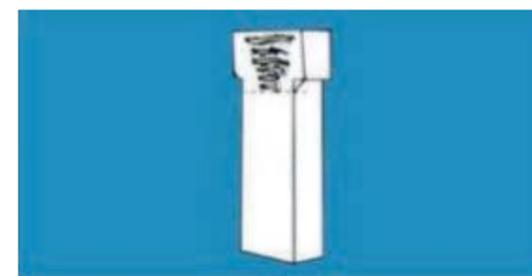
QX-tilt casting, the shrinkage cavities of brick are located at bottom side while a complete dense zone forms at the opposite end.



### ZWS-准无缩浇铸

此种浇注近似“WS”,只是砖体的上部残留少量缩孔

ZWS-ending casting, this casting method is similar with "WS", merely a few shrinkage cavity remain in upper part of the brick.



### WS-无缩浇铸

砖体内无缩孔存在

WS-void free casting, no shrinkage cavity left in brick.

## 特种硅质修补耐火材料

Special silicon patching refractory material

本产品具有荷重软化点高、高温蠕变率低、强度高、气孔率低、抗热震性强、抗熔渣、抗侵蚀性强，不会由于石英转化产生膨胀而损坏修补结构。使用方便，能确保修补后高温窑炉长期使用，延长使用寿命。用于玻璃窑、焦炉、高炉热风炉等硅质砌体损坏时热修补使用。如：玻璃窑大碓、小炉、胸墙，焦炉的炭化室和燃烧室墙、焦化室底、炉门等部位。

The product has high load-softening point, low temperature creep rate, high strength, low porosity, strong thermal shock resistance, anti-slag and anti-erosion, and will not damage the repaired structure due to expansion of quartz. It is easy to use and can ensure long-term use of high temperature kiln after repair and prolong service life. It is used for heat repair when the silicon masonry such as glass kiln, coke oven, blast furnace hot blast stove is damaged. Such as: glass kiln big raft, small furnace, breast wall, coke oven carbonization chamber and combustion chamber wall, coking chamber bottom, furnace door and other parts.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	硅质热修补料 Silicone heat repair material
耐火度 Refractoriness °C ≥		1750
0.2MPa 荷重软化开始温度 RUL °C 0.2MPa load softening start temperature ≥		1700
耐压强度 CCS MPa Compressive strength ≥	110°C×24h 烘干 Drying	30
	1450°C×3h 烧后 Afterburning	35
使用密度 BD kg/m <sup>3</sup> Use density		2300
线变化率 PLC %1450°C×3h Line rate of change ≤		0.2
显气孔率 AP % Apparent porosity ≤		22

## >>> 电熔AZS质捣打料 / Fused AZS ramming mass

锆质捣打料是一种不定型耐火材料，具有流动性强，易操作施工等特点。它是由熔融后的刚玉骨料颗粒和少量的添加剂配置而成。该产品具有使用方便，常温下硬化、高温耐压强度高、热膨胀及收缩率小、耐溶液侵蚀性强等特点。是玻璃、熔块池窑窑池密封层使用的最理想的不定耐火材料。

锆质捣打料是用优质锆磨砂骨料，粉料，以磷酸铝为结合剂及外加剂，按比例配制而成，它具有高温导热率低，抗热震性好，化学稳定，对熔融玻璃和液态金属有良好的耐蚀性，在氧化气氛下工作稳定，不与熔融金属发生化学反应，是一种优良的热硬性不定形耐火材料。广泛应用在玻璃炉窑底，钢水包及循环硫化床锅炉等领域。

Zirconium ramming mass is an unshaped refractory material with strong fluidity and easy operation. It is composed of molten corundum aggregate particles and a small amount of additives. The product has the characteristics of convenient use, hardening at room temperature, high compressive strength in high temperature, small thermal expansion and shrinkage, and strong resistance to solution corrosion. It is the most ideal indeterminate refractory material used in the sealing layer of glass and frit bath kiln.

Zirconium ramming material is prepared by using high-quality zirconium aggregate, powder material, aluminum phosphate as binder and admixture, which has low thermal conductivity, good thermal shock resistance, chemical stability and melting. Glass and liquid metal have good corrosion resistance, work stability under oxidizing atmosphere, and do not chemically react with molten metal. It is an excellent thermosetting amorphous refractory material. Widely used in the field of glass furnace kiln, ladle and circulating fluidized bed boiler.

项目 Items	牌号 Brands	Fused AZS ramming mass
ZrO <sub>2</sub> % ≥		28
体积密度 BD g/cm <sup>3</sup> Bulk density ≥		2.9
常温耐压强度 CCS MPa 110°C烘干 Normal temperature compressive strength ≥		50
耐火度 Refractoriness °C ≥		1770
最高使用温度 Max appl.temp °C		1650
使用密度 kg/m <sup>3</sup> Use density		3000

## 电熔AZS质热修补耐火材料

Fused AZS hot repair refractory material

本产品以熔铸刚玉耐火材料为原料,配料中加入 $\alpha$ -氧化铝微粉,采用新一代陶瓷结合剂,加入特殊组分的超细粉并引入分散性介质、改性加入、化学添加,经特殊工艺加工制成的具有动态特性高技术复合耐火材料。其产品具有组织致密,气孔率低,耐高温、耐侵蚀、抗热震性强、高温体积稳定、粘结能力强、施工方便等优良性能。用于玻璃熔窑电熔锆刚玉砖及铝质砌体结构的热修补,并大量用于玻璃窑不同性能耐火材料之间的缓冲过渡层。

This product uses fused cast corundum refractory as raw material, adding  $\alpha$ -alumina Micro-powder to the furnish, adopting new generation ceramic binder, adding special component ultrafine powder and introducing dispersing medium, modified adding phase and chemical adding phase. High-tech composite refractory with dynamic characteristics made by special processing. The product has the advantages of compact structure, low porosity, high temperature resistance, erosion resistance, thermal shock resistance, high temperature volume stability, strong bonding ability and convenient construction. It is used for heat repair of glass melting furnace fused zirconia corundum bricks and aluminum masonry structures, and is widely used as a buffer transition layer between different performance refractories of glass kiln.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	Fused AZS heat repair material
化学成分 Chemical composition %	$Al_2O_3 \geq$	46
	$ZrO \geq$	28
	$SiO_2 \leq$	20
0.2MPa 荷重软化开始温度 RUL °C 0.2MPa load softening start temperature		1610
耐火度 Refractoriness °C $\geq$		1790
耐压强度 CCS MPa Compressive strength $\geq$	110°C×24h 烘干 Drying	30
	1450°C×3h 烧后 After burning	35
使用密度 BD kg/m <sup>3</sup> Use density		3200

## 锆刚玉浇注料

Zirconium corundum castable

用于玻璃窑炉池底的安全层、池壁保护层及上部结构的冷修和热修、热补。

Cold patching and heat patching for the safety layer, the kiln wall protective layer and the upper structure of the glass kiln bottom.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	AZS50V	AZS06L	AZS04J
化学成分 Chemical composition	$SiO_2 \leq$	20	20	20
	$ZrO_2 \geq$	30	30	30
	$Al_2O_3 \geq$	48	48	48
体积密度 BD g/cm <sup>3</sup> Bulk density $\geq$		3.05	2.8	2.8
气孔率% Apparent porosity		13.6	25.6	21.7
粒度 Granularity		$\leq 0-5$	$\leq 0-6$	$\leq 0-4$
抗玻璃液侵蚀性能 Anti-corrosion of glass liquid		好 good	好 good	好 good
施工用水量 % Construction water consumption		4.5	9	11.5
1400°C线变化率 % Permanent linear change		0.6	-2.3	-1.6
使用部位 Application		熔窑池底密封层 在保温层之上 Hermetic layer of the furnace bottom	50V之上铺面砖下 面 On AZS50V below paving brick	铺面砖嵌缝用 Inlaid crevice of paving brick

## 锆英石质捣打料

Zircon ramming mass

锆英石质捣打料是以用优质锆英砂骨料、粉料，以磷酸铝为结合剂及外加剂，按最佳比例配制而成，具有导热率低、抗热震性强，对熔融玻璃和液态金属有良好的耐蚀性，在氧化气氛下工作稳定，不于熔融金属发生反应。广泛应用于玻璃炉窑底、钢水包及循环硫化床锅炉等领域。

Zircon ramming material is made of high-quality zircon sand aggregate, powder, aluminum phosphate as binder and admixture, and has the best ratio of thermal conductivity and thermal shock resistance. Molten glass and liquid metal have good corrosion resistance, work stably under oxidizing atmosphere, and do not react with molten metal. Widely used in glass furnace kiln bottom, ladle and circulating fluidized bed boilers.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	
	AZS-1	ZS-1
ZrO <sub>2</sub> %≥	≥31-33	≥60-62
Al <sub>2</sub> O <sub>3</sub> %≥	≥47-49	3.5
SiO <sub>2</sub> %≥	≤17	≤32-33
Fe <sub>2</sub> O <sub>3</sub> %≥	≤0.6	≤0.4-0.6
体积密度 g/cm <sup>3</sup> BD	≥2.9	≥3.5
显气孔率, % Apparent porosity	16-18	16
常温耐火度, Cold Refractoriness Mpa	≥66	50
耐火度 Refractoriness	>1730	1750
粒度 Granularity	0-4	0-4
施工用水量, % Construction water consumption	4.5	4.5

## >>> 电熔锆刚玉产品 / Fused zirconium corundum products

锆刚玉砖又称AZS砖。它是基于Al<sub>2</sub>O<sub>3</sub>-ZrO<sub>2</sub>-SiO<sub>2</sub>三元图的三种化学成分。它是根据内容的顺序排列的。Al<sub>2</sub>O<sub>3</sub>取A, ZrO<sub>2</sub>取Z, SiO<sub>2</sub>取S。国家标准使用这个缩写。例如, 33号铸造锆刚玉砖, 简称AZS-33#, 36号铸造锆刚玉砖, 简称AZS-36#, 41号铸造锆刚玉砖, 简称AZS-41#。广泛用于玻璃行业炉衬。优点: 强度高, 抗压性好; 抗热震、抗冲蚀; 高温性能好, 导热性好; 根据不同的尺寸要求免费定制模具。

Zirconium corundum brick is also named AZS brick. It is based on three chemical components of the Al<sub>2</sub>O<sub>3</sub>-ZrO<sub>2</sub>-SiO<sub>2</sub> ternary phase diagram. It is arranged according to the order of its contents. Al<sub>2</sub>O<sub>3</sub> takes A, ZrO<sub>2</sub> takes Z, and SiO<sub>2</sub> takes S. The national standard uses this abbreviation. For example, No.33 cast-cast zirconia corundum brick, abbreviated as AZS-33#, No. 36 cast zirconia corundum brick, abbreviated as AZS-36#, No.41 cast zirconia corundum brick, abbreviated as AZS-41#. Widely be used for linings of furnace in glass industries. Advantages: High strength and high compression resistance; Thermal shock resistance and erosion resistance; Performance in high temperature, good thermal conductivity; Customerize mould according to different size requirements for free.

## >>> 33#电熔锆刚玉产品 / 33# Fused zirconium corundum products

项目 Items	牌号 Brands		指标 Index
			AZS33-Y
化学成分% chemical composition	Al <sub>2</sub> O <sub>3</sub>		余量 leavings
	ZrO <sub>2</sub>		32.00-36.00
	SiO <sub>2</sub>		≤16.00
	Na <sub>2</sub> O		≤1.45
	Fe <sub>2</sub> O <sub>3</sub> + TiO <sub>2</sub> + CaO + MgO + Na <sub>2</sub> O + K <sub>2</sub> O		≤2.00
	Fe <sub>2</sub> O <sub>3</sub> + TiO <sub>2</sub>		≤0.30
体积密度 g/cm <sup>3</sup> bulk density			≥3.75g/cm <sup>3</sup>
显气孔率 Apparent porosity			≤1.5%
静态下抗玻璃液侵蚀速度 (普通钠钙玻璃, 1500°C×36h) Static anti-corrosion rate of glass liquid (normal soda-lime glass, 1500°C×36h)			≤1.50mm/24h
玻璃析出温度 Exudation temperature of vitreous phase			≥1400°C
气泡析出率 (普通钠钙玻璃, 1300°C×10h) Bubble precipitation rate (normal soda-lime glass, 1300°C×10h)			≤2.0%
玻璃渗出量 (1500°C×4h) Vitreous phase seepage amount (1500°C×4h)			≤2.0%
容重 Volume weight	PT、QX		≥3.45g/cm <sup>3</sup>
	ZWS		≥3.60g/cm <sup>3</sup>
	WS		≥3.70g/cm <sup>3</sup>

## 36#电熔锆刚玉产品

36#Fused zirconium corundum products

### 产品参数 | Product parameters

项目 Items	牌号 Brands	指标 Index
	AZS36-Y	
化学成分% chemical composition	Al <sub>2</sub> O <sub>3</sub>	余量 leavings
	ZrO <sub>2</sub>	35.00-40.00
	SiO <sub>2</sub>	≤14.00
	Na <sub>2</sub> O	≤1.45
	Fe <sub>2</sub> O <sub>3</sub> +TiO <sub>2</sub> +CaO+MgO+Na <sub>2</sub> O+K <sub>2</sub> O	≤2.00
	Fe <sub>2</sub> O <sub>3</sub> +TiO <sub>2</sub>	≤0.30
体积密度 Bulk density		≥3.80g/cm <sup>3</sup>
显气孔率 Apparent porosity		≤1.0%
静态下抗玻璃液侵蚀速度 (普通钠钙玻璃, 1500°C×36h) Static anti-corrosion rate of glass liquid (normal soda-lime glass, 1500°C×36h)		≤1.40mm/24h
玻璃初析温度 Exudation temperature of vitreous phase		≥1400°C
气泡析出率 (普通钠钙玻璃, 1300°C×10h) Bubble precipitation_rate (normal soda-lime glass, 1300°C×10h)		≤1.5%
玻璃渗出量 (1500°C×4h) Vitreous phase seepage amount (1500°C×4h)		≤3.0%
容重 Volume weight	PT、QX	≥3.45g/cm <sup>3</sup>
	ZWS	≥3.70g/cm <sup>3</sup>
	WS	≥3.80g/cm <sup>3</sup>

## 41#电熔锆刚玉产品

41#Fused zirconium corundum block

### 产品参数 | Product parameters

项目 Items	牌号 Brands	指标 Index
	AZS41-Y	
化学成分% chemical composition	Al <sub>2</sub> O <sub>3</sub>	余量 leavings
	ZrO <sub>2</sub>	40.00-44.00
	SiO <sub>2</sub>	≤13.00
	Na <sub>2</sub> O	≤1.30
	Fe <sub>2</sub> O <sub>3</sub> +TiO <sub>2</sub> +CaO+MgO+Na <sub>2</sub> O+K <sub>2</sub> O	≤2.00
	Fe <sub>2</sub> O <sub>3</sub> +TiO <sub>2</sub>	≤0.30
体积密度 Bulk density		≥3.95g/cm <sup>3</sup>
显气孔率 Apparent porosity		≤1.0%
静态下抗玻璃液侵蚀速度 (普通钠钙玻璃, 1500°C×36h) Static anti-corrosion rate of glass liquid (normal soda-lime glass, 1500°C×36h)		≤1.30mm/24h
玻璃初析温度 Exudation temperature of vitreous phase		≥1400°C
气泡析出率 (普通钠钙玻璃, 1300°C×10h) Bubble precipitation_rate (normal soda-lime glass, 1300°C×10h)		≤1.0%
玻璃渗出量 (1500°C×4h) Vitreous phase seepage amount (1500°C×4h)		≤3.0%
容重 Volume weight	PT、QX	≥3.55g/cm <sup>3</sup>
	ZWS	≥3.85g/cm <sup>3</sup>
	WS	≥3.95g/cm <sup>3</sup>

## 高强耐磨耐火自流式浇注料

High-strength wear-resistant refractory self-flowing castable

高强耐磨自流式浇注料以优质矾土熟料、莫来石和电熔刚玉为主要原料，纯铝酸钙水泥、刚玉微粉和硅微粉为结合剂，经过合理调配而成。具有强度高、热震稳定性好、耐磨耐冲刷、耐侵蚀性强的特点。具有很好的流动性，施工方便，可用于CFB锅炉和其它高温炉不易施工部位。

The high-strength wear-resistant self-flowing castables are made of high-quality bauxite clinker, mullite and fused corundum. The pure calcium aluminate cement, corundum micro-powder and silicon micro-powder are used as binders. It has the characteristics of high strength, good thermal shock resistance, abrasion resistance, erosion resistance and strong corrosion resistance. It has good fluidity and convenient construction. It can be used in CFB boilers and other high temperature furnaces.

### 产品参数 | Product parameters

项目 Items	牌号 Index	CH-ZLJZ75	CH-ZLJZ80
	Al <sub>2</sub> O <sub>3</sub> % ≥		75
SiO <sub>2</sub> ≤		20	16
体积密度 BD g/cm <sup>3</sup> Bulk density ≥		2.6	2.7
抗折强度 MOR MPa Flexural strength ≥	110°C×24h	7.0	8.0
	1100°C×3h	11	12
耐压强度 CCS MPa Compressive strength ≥	110°C×24h	60	70
	1100°C×3h	70	85
常温磨损量 Normal wear cm <sup>3</sup> ≤		8	9
耐火度 Refractoriness °C ≥		1790	1790
热震稳定性 TSR (900°C,水冷) 次 Thermal shock stability ≥		20	20
线变化率 PLC % 1400°C×3h Line rate of change ≤		-0.25	-0.25
自流值 The self flow value mm ≥		200	200

## 刚玉-莫来石、碳化硅质耐磨可塑料

Corundum - mullite, Silicon carbide wear-resistant plastic material

高强耐磨可塑料是指以刚玉、莫来石或碳化硅等高级耐火材料为主要原料，加入结合剂和外加剂(防缩剂、保存剂、防冻剂)组成的混合料。

高强耐磨可塑料为半湿状态的泥块料，施工时加水或磷酸二氢铝或其他液体混合成泥料，加压或挤压成具有一定可塑性的块状料。采用捣锤捣打会产生塑料变形而不开裂或塌落，外力解除后仍能保持变形后的形状。

High-strength wear-resistant plastic refers to a mixture of high-grade refractory materials such as corundum, mullite or silicon carbide, and a binder and an admixture (anti-shrinkage agent, preservative, antifreeze).

The high-strength wear-resistant plastic is a semi-wet mud material. When it is added water or aluminum dihydrogen phosphate or other liquid and mixed into a mud material, which is pressed or extruded into a block material having a certain plasticity. When the hammer is hit, the plastic is deformed without cracking or slumping, and the deformed shape can be maintained after the external force is released.

项目 Items	牌号 Brands	刚玉-莫来石 Corundum-mullite material			碳化硅 Silicon	
		GMS-65	GMS-75	GMS-85	TG-60	TG-70
Al <sub>2</sub> O <sub>3</sub> % ≥		65	75	85	-	-
SIC% ≥		-	-	-	60	70
体积密度 BD110°C×24h 干燥 g/cm <sup>3</sup> Bulk density ≥		2.5	2.7	2.8	2.4	2.6
耐压强度 CCS MPa 850°C×3h 烧后 Compressive strength ≥		70	80	90	60	70
常温磨损量 Normal wear 850°C×3h 烧后 cm <sup>3</sup> ≤		7	6	5	6	5
线变化率 PLC % 850°C×3h Line rate of change ≤		-0.4~0	-0.5~0	-0.5~0	-0.5~0	-0.6~0
热震稳定性 TSR (850°C×3h 烧后) 次 Thermal shock stability/heat ≥		30	30	25	35	40
可塑性指数 Plasticity index %		15~40				

## 高强耐磨耐火可塑料

High strength wear resistant refractory plastic material

耐磨可塑料, 分别采用特级矾土、莫来石、刚玉、碳化硅作骨料和基质材料, 通过加入结合剂、添加剂、增塑剂混制而成。该材料强度高、耐磨性好, 具有优良的抗侵蚀性和可塑性, 保存期长、施工与烘炉方便。适用于各种CFB锅炉的防磨内衬, 是抢修炉子的理想材料, 能缩短烘炉时间。

Wear-resistant plastic, which is made of special grade alumina, mullite, corundum, silicon carbide as aggregate and matrix material, mixed by adding binder, additive and plasticizer. The material has high strength, good wear resistance, excellent corrosion resistance and plasticity, long shelf life, and convenient construction and oven. Applicable to the anti-wear lining of various CFB boilers, it is an ideal material for repairing the furnace, which can shorten the oven time.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-KSL68	CH-KSL72	CH-KSL75
Al <sub>2</sub> O <sub>3</sub> % ≥		68	72	75
耐火度 Refractoriness °C ≥		1790	1790	1790
体积密度 BD g/cm <sup>3</sup> Bulk density ≥		2.5	2.6	2.7
抗折强度 MOR MPa ≥ Flexural strength	110°C × 24h	10	11	12
	1100°C × 3h	12	13	18
耐压强度 CCS MPa Compressive strength ≥	110°C × 24h	50	60	65
	1100°C × 3h	80	90	95
常温磨损量 Normal wear cm <sup>3</sup> ≤		10	9	8
导热系数 TC W/m.k Thermal Conductivity		1.5	1.5	1.5
热震稳定性 TSR (900°C, 水冷) 次 Thermal shock stability ≥		30	30	30
可塑性指数 Plasticity index %		15-40	15-40	15-40
最高使用温度 °C Maximum Service temperature		1500	1550	1600

## 刚玉莫来石质高强耐磨浇注料

Corundum mullite high-strength wear-resistant refractory castable

本产品具有较高的热态强度, 较强的耐磨损性能, 优良的抗侵蚀性及高温体积稳定性, 有效延长CFB锅炉的使用寿命。可用于各种CFB锅炉的防磨内衬。

This product has high thermal strength, strong wear resistance, excellent corrosion resistance and high temperature volume stability, effectively extending the service life of CFG boilers. Can be used for the wear lining of various CFB boilers.

### 产品参数 | Product parameters

项目 Items	牌号 Index	CH-MJZ70	CH-MJZ75	CH-MJZ80	CH-MJZ85
Al <sub>2</sub> O <sub>3</sub> % ≥		70	75	80	85
SiO <sub>2</sub> % ≤		26	21	16	11
体积密度 BD 110°C × 24h g/cm <sup>3</sup> Bulk density ≥		2.7	2.8	2.85	2.9
抗折强度 MOR MPa Flexural strength ≥	110°C × 24h	8.5	9.3	10.0	11.5
	1100°C × 3h	11.5	12.5	13.5	15.0
	1400°C × 3h	13.0	13.5	15.0	16.0
耐压强度 CCS MPa Compressive strength ≥	110°C × 24h	60	65	70	75
	1100°C × 3h	90	95	100	105
	1400°C × 3h	90	100	105	110
常温磨损量 Normal wear cm <sup>3</sup> ≤		7.5	7	6	5
0.2MPa 荷重软化开始温度 RUL °C 0.2MPa load softening start temperature ≥		1450	1490	1530	1560
热震稳定性 TSR (900°C, 水冷) 次 Water cooling) 次 Thermal shock stability ≥		25	20	25	20
线变化率 PLC % Line rate of change ≤		-0.3	-0.3	-0.2	-0.2
最高使用温度 °C Maximum Service temperature		1600	1550	1550	1600

## 耐酸砖

Acid-resistant brick

我公司生产的耐酸耐火砖采用高品位的耐火骨料、粉料、添加剂等，经合理级配、高温烧制，完全能够满足多种酸再生工艺条件下炉内衬耐火材料耐酸、耐高温、高强度、抗冲刷、长寿命等使用特点。

The acid-resistant refractory bricks produced by our company adopt high-grade refractory aggregates, powders, additives, etc. After reasonable grading and high-temperature firing, they can fully meet the acid and high temperature resistance of furnace lining refractories under various acid regeneration process conditions. High strength, anti-scour, long life and other features.

### 产品参数 | Product parameters

项目 Items	牌号 Index	吸水率% (Water absorption)	常温耐压强度 (Mpa) ccs Cold compressive strength	耐酸度 (%) acid proof	体积密度 (g/cm <sup>3</sup> ) Bulk density	加热线变化 (300 °C) hlc Heating line change
	CH-NSZ1.0	≤15	≥10.0	≥96	≤1.0	≤0.1
	CH-NSZ1.3	≤13	≥15	≥96	≤1.3	≤0.1
	CH-NSZ1.8	≤12	≥20.0	≥96	≤1.8	≤0.1

## 水泥结合浇注料

Cement bonded castable

是以高铝骨料、高铝细粉、微硅粉通过合理机配，外加减水剂、采用高铝水泥结合。其拥有高温性能好、深入应用于五金、冶炼、化工、有色金属等产业，在钢铁产业尤为凸起，重要应用在回转窑前窑口、解体炉、窑头罩等部位。

The high-aluminum refractory castable is made of high-aluminum aggregate, high-aluminum fine powder and micro-silica powder through reasonable machine, plus water-reducing agent and high-aluminum cement. It has high temperature performance and is widely used in hardware, smelting, chemical, non-ferrous metals and other industries. It is particularly prominent in the steel industry. It is mainly used in the front kiln mouth, disintegration furnace, kiln hood and other parts of the rotary kiln.

### 产品参数 | Product parameters

分类 classification	水泥结合耐火浇注料 Cement binding castable					
	牌号 Brands	GLJZ-85	GLJZ-70	GLJZ-60	NTJZ-50	NTJZ-42
Al <sub>2</sub> O <sub>3</sub> % ≥		85	70	60	50	42
CaO% ≤		-	-	-	-	-
耐火度, °C Refractoriness ≥		1780	1720	1700	1660	1640
烧后线变化率不大于±1%的试验温度 Test temperature after burning is not more than ±1%(保温 Insulation 3h), °C		1500	1450	1400	1400	1350
耐压强度(110±5°C烘干后) Compressive strength (after drying at 110±5 °C), Mpa ≥		35	35	30	30	25
抗折强度(110±5°C烘干后), Mpa Flexural strength (after drying at 110±5°C) ≥		5	5	4	4	3.5

## 高温粘接剂

High temperature binder

高温粘接剂分为气硬性和热硬性两大类，每一种材质分轻质和重质。根据砌筑制品材料的要求，选用相应材质的高温粘接剂。该粘结剂具有结合强度高，抗侵蚀性好，砌筑灰缝小，砌筑整体结构好，施工方便等特点。

High-temperature adhesives are divided into two categories: gas-hardness and thermo-hardness and there are light and heavy two kinds for each categories. According to the requirements of masonry materials, high-temperature adhesives of corresponding materials are selected. The adhesive has the characteristics of high bonding strength, good corrosion resistance, small masonry joints, good overall structure of the masonry and convenient construction.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	GNJ42	GNJ32	GNJ46	GNJ36
Al <sub>2</sub> O <sub>3</sub> % ≥		42	32	46	36
抗折强度 MOR MPa ≥	1400°C×3h	1	1	1	1
最高使用温度°C Maximum Service temperature		1450	1450	1600	1600
尺寸及包装 Dimension and packaging	25/30Kg/包 (桶) 25/30Kg/bag (bucket)				

## 钢纤维增强耐磨浇注料

Steel fiber reinforced wear-resistant castable

钢纤维增强耐磨浇注料是以特级铝矾土熟料或刚玉等为骨料和粉料，加入结合剂、外加剂和耐热不锈钢纤维配制而成。具有耐压强度高、抗折强度高、抗热震、耐磨损、体积稳定等特点，适用于硫化床锅炉的炉墙、炉顶、炉膛，水泥窑的窑口、冷却机、下料槽等部位。

The steel fiber reinforced wear-resistant castable is prepared by adding special grade aluminum bauxite clinker or corundum as aggregate and powder, adding binder, admixture and heat-resistant stainless steel fiber. It has the characteristics of high compressive strength, high flexural strength, thermal shock resistance, wear resistance and volume stability. It is suitable for furnace wall, furnace roof, furnace of cemented bed boiler, kiln mouth, cooling machine and feed tank of cement kiln. And other parts.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-NMJZ75	CH-NMJZ80	CH-NMJZ85
Al <sub>2</sub> O <sub>3</sub> % ≥		75	80	85
体积密度 BD g/cm <sup>3</sup> Bulk density ≥		2.7	2.8	2.9
抗折强度 MOR MPa Flexural strength ≥	110°C×24h	16	18	20
	1100°C×3h	18	20	20
耐压强度 CCS MPa Compressive strength ≥	110°C×24h	70	80	80
	1100°C×3h	90	100	100
常温磨损量 Normal wear cm <sup>3</sup> ≤		8	8	8
热震稳定性 Thermal shock stability TSR (900°C,水冷 Water cooled) 次 ≥		20	20	20

## 自流快烘防爆浇注料

Fast drying spalling-resistance self-flow castable

该产品是在自流浇注料的基础上,结合快干技术,专为满足工业炉修筑时间短、烘烤升温快而开发的一种新型高性能浇注料。用该浇注料施工的衬体经较短时间养护、烘烤即可投入使用,适用于施工期短或烘烤困难部位。

Based on self-flow castables, Zhengzhou caihua developed fast drying spalling-resistance self-flow castables according the requirements of short construction period and fast firing. These castables can be put into use after short curing and firing period, and can be applied to furnace with tight construction schedule, and the parts being difficultly fired.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-JZK50	CH-JZK60	CH-JZK65	CH-JZK70	CH-JZK75
Al <sub>2</sub> O <sub>3</sub> % ≥		≥50	≥60	≥65	≥70	≥75
体积密度 g/cm <sup>3</sup> Bulk density		≥2.25(110°C, 24h)	≥2.35(110°C, 24h)	≥2.40(110°C, 24h)	≥2.50(110°C, 24h)	≥2.60(110°C, 24h)
耐压强度/Mpa Cold crushing strength		≥30 (110°C, 24h) ≥40 (1300°C, 3h)	≥35(110°C, 24h) ≥40 (1400°C, 3h)	≥35(110°C, 24h) ≥45 (1400°C, 3h)	≥40(110°C, 24h) ≥45 (1400°C, 3h)	≥40(110°C, 24h) ≥50 (1500°C, 3h)
线变化率/% Permanent linear change		±0.5 (1300°C, 3h)	±0.5 (1400°C, 3h)	±0.5 (1400°C, 3h)	±0.5 (1400°C, 3h)	±0.5 (1500°C, 3h)
施工加水量% Water requirement		6-7	6-7	6-7	6-7	6-7
最高使用温度°C Max service temperature		1300	1400	1400	1400	1500
使用部位 Application		预热区炉顶、炉墙、隔墙等 Roof, wall, and partition in the_ereheat area		加热区炉顶、炉墙、隔墙等 Roof, walls, and partition in the heating area		

## 低水泥浇注料系列

Low-cement castable

该系列产品以优质莫来石和高铝矾土熟料为主要原料,添加适量刚玉,利用复合超微粉和高效分散技术开发的新一代耐火浇注料,具有高温性能好、强度高、显气孔率低和保温效果好等特点。

This new generation of products is developed with high quality mullite and bauxite as the main raw material by adding proper corundum, compound ultra-fine powders and efficient dispersion additives, and characterized with good performance at high temperature as well as high strength, low porosity and low thermal insulation.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-LCJ50	CH-LCJ60	CH-LCJ65	CH-LCJ70	CH-LCJ75
Al <sub>2</sub> O <sub>3</sub> % ≥		≥50	≥60	≥65	≥70	≥75
体积密度 /g/cm <sup>3</sup> Bulk density		≥2.3 (110°C, 24h)	≥2.35 (110°C, 24h)	≥2.40 (110°C, 24h)	≥2.50 (110°C, 24h)	≥2.60 (110°C, 24h)
耐压强度/Mpa Cold crushing strength		≥30 (110°C, 24h) ≥40 (1300°C, 3h)	≥35 (110°C, 24h) ≥40 (1300°C, 3h)	≥35 (110°C, 24h) ≥45 (1400°C, 3h)	≥40 (110°C, 24h) ≥45 (1400°C, 3h)	≥40 (110°C, 24h) ≥50 (1500°C, 3h)
线变化率/% Permanent linear change		±0.5 (1300°C, 3h)	±0.5 (1400°C, 3h)	±0.5 (1400°C, 3h)	±0.5 (1400°C, 3h)	±0.5 (1400°C, 3h)
施工加水量% Water requirement		6-7	6-7	6-7	6-7	6-7
最高使用温度°C Max service temperature		1350	1400	1400	1400	1500
使用部位 Application		预热区炉顶、炉墙、隔墙等 Roof, wall, and partition in the_ereheat area		加热区炉顶、炉墙、隔墙等 Roof, walls, and partition in the heating area		

## >>> 耐火水泥 / Refractory cement

耐火水泥又称铝酸盐水泥是以铝矾土和石灰石为原料,经煅烧制得的以铝酸钙为主要成分、氧化铝含量约50%的熟料,再磨制成的水硬性胶凝材料。铝酸盐水泥常为黄或褐色,也有呈灰色的。铝酸盐水泥的主要矿物成为铝酸一钙 ( $\text{CaO} \cdot \text{Al}_2\text{O}_3$ , 简写Ca)及其他的铝酸盐,以及少量的硅酸二钙 ( $2\text{CaO} \cdot \text{SiO}_2$ )等,颜色多为灰色与白色。

Refractory cement, also known as aluminate cement, is a kind of cement which is made from bauxite and limestone. Aluminate cement is often yellow or brown, but also gray. The main minerals of aluminate cement are calcium aluminate ( $\text{CaO} \cdot \text{Al}_2\text{O}_3$ , CA) and other aluminate, as well as a small amount of calcium silicate ( $2\text{CaO} \cdot \text{SiO}_2$ ). the color is mostly grey and white.



项目 Items		牌号 Brands	A600	A700	A900	CA-70
Chemical Composition (%)	$\text{Al}_2\text{O}_3$		$\geq 50$	50-60	$\geq 53.5$	68.5-70.5
	$\text{SiO}_2$		$\leq 7.8$	$\leq 7.5$	$\leq 5.5$	$\leq 0.5$
	$\text{Fe}_2\text{O}_3$		$\leq 2.5$	$\leq 2.5$	$\leq 2.5$	$\leq 0.2$
	CaO		-	-	-	28.5-30.5
	MgO		-	-	-	$\leq 0.4$
	$\text{R}_2\text{O}$		$\leq 0.4$	$\leq 0.4$	$\leq 0.4$	$\leq 0.4$
	S		$\leq 0.1$	$\leq 0.1$	$\leq 0.1$	-
	Cl		$\leq 0.1$	$\leq 0.1$	$\leq 0.1$	-
d50 ( $\mu\text{m}$ )		-	-	-	11-14	
-45 $\mu\text{m}$ (%)		-	-	-	$\leq 8.0$	
Specific Surface ( $\text{m}^2/\text{kg}$ )		$\geq 300$	$\geq 320$	$\geq 350$	-	
Setting time(h:min)	Initial setting time (min)		$\geq 45$	$\geq 60$	$\geq 90$	120-180
	Final Setting (min)		$\leq 6$	$\leq 6$	$\leq 6$	150-240
Cold Modulus of Rupture (MPa)	24 hour		$\geq 6$	$\geq 6.5$	$\geq 8$	7.5-10
	72 hour		$\geq 7$	$\geq 7.5$	$\geq 10$	10-12
Cold Crushing Strength(Mpa)	24 hour		$\geq 45$	$\geq 55$	$\geq 72$	40-50
	72 hour		$\geq 55$	$\geq 65$	$\geq 82$	45-55

## 炉衬可塑料

Plastic refractories for furnace lining

该系列产品采用优质高铝矾土和莫来石等为主要原料,通过添加合适外加剂制成,具有施工性能优良、抗热震性好、热膨胀小和保温效果好等特点,在各类工业炉上均可使用,主要应用于炉顶、烟道等部位。

Plastic refractories are produced by Zhengzhou caihua with bauxite and mullite as the main materials by adding suitable binders and additives. It is characterized with good installation property, good thermal shock resistance, low thermal expansion and good thermal insulation. These materials can be widely used for all industry furnaces, especially in the roof and fume pipe.

### 产品参数 | Product parameters

项目 Items		牌号 Brands	CH-BLS50	CH-LCJ70	CH-LCJ75
$\text{Al}_2\text{O}_3$ %			$\geq 50$	$\geq 70$	$\geq 75$
体积密度/ $\text{g}/\text{cm}^3$ Bulk density			$\geq 2.25$ (110°C, 24h)	$\geq 2.50$ (110°C, 24h)	$\geq 2.60$ (110°C, 24h)
耐压强度/Mpa Cold crushing strength			$\geq 16$ (110°C, 24h)	$\geq 16$ (110°C, 24h)	$\geq 18$ (110°C, 24h)
			$\geq 30$ (1400°C, 3h)	$\geq 30$ (1400°C, 3h)	$\geq 32$ (1400°C, 3h)
线变化率/% Permanent linear change			$\pm 0.6$ (1400°C, 3h)	$\pm 0.5$ (1400°C, 3h)	$\pm 0.5$ (1400°C, 3h)
使用部位 Application			各类工业炉上均可使用,特别适合于炉顶、烟道等部位 All industry furnaces, especially in the roof and fume pipe		

## 炉底抗渣耐磨浇注料系列

Slag and abrasion resistant castable for furnace bottom

我司研制、生产的刚玉莫来石质抗渣耐磨浇注料,采用复合微粉结合技术制成,具有强度高、抗渣、耐磨和抗热震性好等特点,使用寿命高。

These castables are produced by Zhengzhou Caihua using corundum and mullite as the main materials by adding compound ultra-fine powders, and characterized with high strength, excellent slag and abrasion resistance, and good thermal shock resistance.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-BLN70	CH-BLN75	CH-BLN80
Al <sub>2</sub> O <sub>3</sub> %		≥70	≥75	≥80
体积密度/g/cm <sup>3</sup> Bulk density		≥2.25 (110°C, 24h)	≥2.65 (110°C, 24h)	≥2.75 (110°C, 24h)
耐压强度/Mpa Cold crushing strength		≥40 (110°C, 24h)	≥40 (110°C, 24h)	≥40 (110°C, 24h)
		≥65 (1400°C, 3h)	≥70 (1400°C, 3h)	≥75 (1400°C, 3h)
线变化率/% Permanent linear change		±0.5 (1400°C, 3h)	±0.5 (1400°C, 3h)	±0.5 (1500°C, 3h)
施工加水量% Water requirement		6-7	6-7	5-6
最高使用温度°C Max service temperature		1400	1400	1500
使用部位 Application		工业炉炉底等 Industrial furnace bottom		

## 轻质耐火浇注料系列

Light weight castable

该系列产品采用轻质耐火原料制成,应用于工业炉保温层,具有强度高、保温效果好、施工方便等特点。

Light weight castables are produced by Zhengzhou Caihua with light weight raw materials, suitable binder and special additive as raw materials and are characterized with good thermal insulation, easy installation and high strength.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-QJ0.5	CH-QJ0.6	CH-QJ1.0	CH-QJ1.2	CH-QJ1.4	CH-QJ1.6	CH-QJ1.8
体积密度/g/cm <sup>3</sup> Bulk density		0.5±0.1 (110°C, 24h)	0.7±0.1 (110°C, 24h)	1.0±0.1 (110°C, 24h)	1.2±0.1 (110°C, 24h)	1.4±0.1 (110°C, 24h)	1.6±0.1 (110°C, 24h)	1.8±0.1 (110°C, 24h)
耐压强度/Mpa Cold crushing strength		≥1.5 (110°C, 24h)	≥2.0 (110°C, 24h)	≥4.0 (110°C, 24h)	≥6.0 (110°C, 24h)	≥7.0 (110°C, 24h)	≥8.0 (110°C, 24h)	≥8.0 (110°C, 24h)
		≥1.5 (500°C, 3h)	≥1.5 (600°C, 3h)	≥3.5 (800°C, 3h)	≥5.0 (1000°C, 3h)	≥6.0 (1100°C, 3h)	≥7.0 (1200°C, 3h)	≥7.0 (1200°C, 3h)
热导率/W(m.kt1 Thermal conductivity		≤0.19(Hot side 800°C)	≤0.22(Hot side 800°C)	≤0.27(Hot side 800°C)	≤0.45(Hot side 800°C)	≤0.50(Hot side 800°C)	≤0.70(Hot side 800°C)	≤0.80(Hot side 800°C)
最高使用温度°C Max service temperature		700	800	1000	1100	1200	1300	1350

## 轻质耐火喷涂料系列

Light weight gunning mix

该产品采用轻质耐火原料制成,可喷涂或涂抹施工,具有附着性好、回弹率低、强度高和保温效果好等特点。

These products can be installed by gunning or painting, and characterized with easy installation, good adhesion, low rebound, high strength and good thermal insulation.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-QP0.7	CH-QP1.0	CH-QP1.4
体积密度/g/cm <sup>3</sup> Bulk density		0.75±0.1	1.1 ±0.1	1.5±0.1
耐压强度/Mpa Cold crushing strength		≥2 (110°C, 24h) ≥2 (800°C, 3h)	≥4 (110°C, 24h) ≥4 (1000°C, 3h)	≥6 (110°C, 24h) ≥6 (1000°C, 3h)
烧线变化率/% Permanent linear change		-1.0~0 (800°C, 3h)	-0.5~0 (1000°C, 3h)	-0.5~0 (1000°C, 3h)
热导率/W(m.kt1 Thermal conductivity		≤0.30(Hot side 800 °C)	≤0.38(Hot side 800 °C)	≤0.54(Hot side 800 °C)
使用部位 Application		保温层 Insulation lining	保温层、工作层 Insulation lining, working lining	

## 烧嘴砖系列

Burner block

根据烧嘴的结构特点和使用状况,成功研制了系列高强、抗热震和长寿命的刚玉莫来石质和莫来石质烧嘴砖,使用效果良好。

According to the structure and service condition of burner,successfully developed series corundum-mullite based and mullite based burner blocks. These products have good properties such as high strength, good thermal resistance, and excellent performance.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-SZ65	CH-SZ75
Al <sub>2</sub> O <sub>3</sub> %		≥65	≥75
体积密度/g/cm <sup>3</sup> Bulk density		≥2.45	≥2.6
耐压强度/Mpa Cold crushing strength		≥40 (110°C, 24h) ≥60 (1500°C, 3h)	≥50 (110°C, 24h) ≥65 (1500°C, 3h)
烧线变化率/% Permanent linear change		±0.5 (1500°C, 3h)	±0.5 (1500°C, 3h)

## >>> 边框砖系列 / Frame brick

该系列产品具有强度高、耐磨性好和抗热震性能稳定等特点,使用效果良好。

This series of products are characterized with high strength, good abrasion resistance, good thermal shock resistance, and excellent performance.

项目 Items	牌号 Brands	CH-BK55	CH-BK60	CH-BK65
Al <sub>2</sub> O <sub>3</sub> %		≥55	≥60	≥65
体积密度/g/cm <sup>3</sup> Bulk density		≥2.45	≥2.50	≥2.55
耐压强度/Mpa Cold crushing strength		≥35 (110°C, 24h)	≥40 (110°C, 24h)	≥45 (110°C, 24h)
		≥50 (1400°C, 3h)	≥55 (1400°C, 3h)	≥60 (1400°C, 3h)
烧线变化率/% Permanent linear change		±0.5 (1400°C, 3h)	±0.5 (1400°C, 3h)	±0.5 (1400°C, 3h)

## >>> 吊挂砖系列 / Hanger brick

隔墙吊挂砖以轻质莫来石等为主要原料,采用低水泥技术浇注成预制件,具有抗热震性好和强度高特点,在工业炉进出料门和隔墙上使用,效果良好。

Partition suspending bricks are produced by Zhengzhou caihua with light weight mullite aggregate by low cement castables. It is characterized with good thermal shock resistance and high strength, and widely used at charge gate, discharge gate and partition of annular heating furnace to prevent cold gas from entering.

项目 Items	牌号 Brands	CH-DG1.8	CH-DG2.0
Al <sub>2</sub> O <sub>3</sub> %		1.8±0.1	2.1±0.1
体积密度/g/cm <sup>3</sup> Bulk density		≥2.45	≥2.6
耐压强度/Mpa Cold crushing strength		≥15 (110°C, 24h)	≥20 (110°C, 24h)
		≥20 (1200°C, 3h)	≥25 (1200°C, 3h)
烧线变化率/% Permanent linear change		-0.8~0 (1200°C, 3h)	-0.6~0 (1200°C, 3h)

## 锚固砖系列

Anchor brick

锚固砖采用与炉衬浇注料同质材料制成,具有抗热震性好和强度高特点,使用效果良好。

Anchor brick is produced with the same material of lining castables and characterized with good thermal shock resistance and high strength. It is used at furnace roof and shows good performance.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-MG48	CH-MG55
Al <sub>2</sub> O <sub>3</sub> %		≥48	≥55
耐火度°C Refractoriness		≥1730	≥1750
体积密度/g/cm <sup>3</sup> Bulk density		≥2.30	≥2.35
气孔率/% Apparent porosity		≤21	≤22
耐压强度/Mpa Cold crushing strength		≥45	≥50
烧线变化率/% Permanent linear change		±0.5 (1400°C, 3h)	±0.5 (1400°C, 3h)

## 还原铁转底炉系列浇注料

Castable for DRI rotary hearth furnace

该系列产品以低铁莫来石为主要原料,采用低水泥浇注料技术制成,具有强度高、抗CO侵蚀能力强、热震稳定性好等特点。

Using low-iron mullite as the main materials, these low cement castables for ORI rotary hearth furnace lining are characterized with high strength, good thermal shock resistance and excellent CO erosion resistance.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-HZ45	CH-HZ60	CH-HZ65
Al <sub>2</sub> O <sub>3</sub> %		≥45	≥60	≥65
Fe <sub>2</sub> O <sub>3</sub> %		≤1.2	≤1.2	≤1.2
体积密度/g/cm <sup>3</sup> Bulk density		≥2.4	≥2.45	≥2.65
耐压强度/Mpa Cold crushing strength		≥30 (110°C, 24h) ≥40 (1400°C, 3h)	≥30 (110°C, 24h) ≥45 (1000°C, 3h)	≥40 (110°C, 24h) ≥60 (1400°C, 3h)
烧线变化率/% Permanent linear change		±1.0 (1400°C, 3h)	±1.0 (1400°C, 3h)	±1.0 (1400°C, 3h)
抗CO侵蚀性能 CO erosion resistance		完好 Intact (500°C, 24h)	完好 Intact (500°C, 24h)	完好 Intact (500°C, 24h)
热导率/W(m.kt1) Thermal conductivity		≤1.00(Hot side 800°C)	≤1.1 (Hot side 800°C)	≤1.2(Hot side 800°C)
最高使用温度/°C Max service temperature		1350	1400	1450
使用部位 Application		预热区炉顶、炉墙、隔墙等 Roof, wall and partition at preheat area	加热区炉顶、炉墙、隔墙等 Roof, wall and partition at heating area	炉底等 furnace bottom

## 还原铁回转窑系列浇注料

Castable for DRI kiln

该系列产品以低铁莫来石为主要原料,采用低水泥浇注料技术制成,具有强度高、抗侵蚀能力强、热震稳定性好等特点。

Low cement castables for DRI kiln produced by Zhengzhou caihua adopt low iron mullite, flint clay as the main raw material and have the properties of excellent CO erosion resistance, good thermal shock resistance and other good characteristics.

项目 Items	牌号 Brands	CH-HZ45	CH-HZ60
Al <sub>2</sub> O <sub>3</sub> %		≥45	≥60
Fe <sub>2</sub> O <sub>3</sub> %		≤1.2	≤1.2
体积密度/g/cm <sup>3</sup> Bulk density		≥2.3	≥2.4
耐压强度/Mpa Cold crushing strength		≥50 (110°C, 24h) ≥45 (1400°C, 3h)	≥55 (110°C, 24h) ≥50 (1000°C, 3h)
烧线变化率/% Permanent linear change		±1.0 (1200°C, 3h)	±1.0 (1400°C, 3h)
抗CO侵蚀性能 CO erosion resistance		完好 Intact (500°C, 24h)	完好 Intact (500°C, 24h)
热导率/W(m.kt1) Thermal conductivity		≤1.00(Hot side 800°C)	≤1.1 (Hot side 800°C)
最高使用温度/°C Max service temperature		1200	1400
使用部位 Application		预热带 Preheating zone	还原带 Reduction zone

## 还原镍回转窑系列浇注料

Castables for reduced nickel kiln

该系列产品以低铁莫来石、焦宝石为主要原料,采用低水泥浇注料技术制成,具有强度高、抗CO侵蚀能力强、热震稳定性好等特点。

Low cement castables for reduced nickel kiln by Zhengzhou caihua adopt low iron mullite, flint clay as the main raw material and have the properties of excellent CO erosion resistance, high strength and good thermal shock resistance.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-HZ45	CH-HZ55
Al <sub>2</sub> O <sub>3</sub> %		≥45	≥55
Fe <sub>2</sub> O <sub>3</sub> %		≤1.2	≤1.2
体积密度/g/cm <sup>3</sup> Bulk density		≥2.3	≥2.4
耐压强度/Mpa Cold crushing strength		≥50 (110°C, 24h) ≥45 (1300°C, 3h)	≥60 (110°C, 24h) ≥50 (1300°C, 3h)
热导率/W(m.kt1 Thermal conductivity		≤1.00(Hot side 800°C)	≤1.1 (Hot side 800°C)
最高使用温度/°C Max service temperature		1100	1400
使用部位 Application		预热带 Preheating zone	还原带 Reduction zone

## 耐火纤维棉

Ceramic fiber bulk

我公司耐火纤维棉以焦宝石、莫来石、矾土、氧化铝、氧化锆等为主要原料,通过电阻炉高温熔融后喷吹或甩丝成纤工艺生产制成。产品密度小,导热系数和热容量低,可大幅度降低能源损耗,节能蓄热效果显著;产品具有优良的柔韧性和弹性,施工便捷,施工周期短,可广泛应用于各类高温窑炉、热工设备、及高温管道。

Our company's Bulk refractory ceramic fibre is made of cokestone, mullite, rocky soil, alumina, and oxidized fiber as the main raw materials. The product with low density, low thermal conductivity and low heat capacity, which can greatly reduce energy loss, and has significant energy saving and heat storage effects. The product has excellent flexibility and elasticity, convenient construction and short construction cycle, and can be widely used in various high-temperature furnaces Industrial equipment, and high temperature pipelines.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-XWM40	CH-XWM45	CH-XWM48	CH-XWM50	CH-XWMZ15
材质 Material		硅酸铝质 Aluminum silicate			高铝质 High alumina	含锆型 Zirconia contained
Al <sub>2</sub> O <sub>3</sub> %		40-44	44-46	46-50	50-60	30-35
Al <sub>2</sub> O <sub>3</sub> +SiO <sub>2</sub> %		≥95	≥97	≥98	≥98	≥98(+ZrO <sub>2</sub> )
ZrO <sub>2</sub> %		-	-	-	-	≥15
Fe <sub>2</sub> O <sub>3</sub> %		≤1.2	≤1.0	≤0.8	≤0.5	≤0.5
Na <sub>2</sub> O+K <sub>2</sub> O %		≤0.5	≤0.5	≤0.2	≤0.2	≤0.2
分类温度°C Category temperature		1100	1260	1260	1400	1400
工作温度°C Service temperature		<1000	1000	1100	1200	1350
纤维直径/ um Fiber diameter		2-3	2-3	2-3	2-3	2-3

## 耐火纤维毯

Ceramic fiber blanket

我公司采用干法针刺制毯工艺生产的标准型、高铝型、含锆型不同品种耐火纤维毯是一种新型耐火保温材料,该系列产品颜色洁白,尺寸规整,容重小,热传导率低,易于裁切加工和砌筑安装,产品化学性能和热性能稳定,隔热、吸音效果良好,可广泛应用于砌筑工业窑炉内衬、保温衬,填塞施工体膨胀缝、炉门,铺设窑炉炉顶,也可用于盖高温管道隔热、保温。

Refractory ceramic fiber blanket is one kind of new refractory fiber products made by needling blanket making process. White color, regular size, low bulk density, low thermal conductivity, easy cutting and installation, and chemical stability are its characteristics. It can widely be used as lining for kiln and furnace, and insulation layer for high temperature pipe.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-XWT40	CH-XWT45	CH-XWT48	CH-XWT50	CH-XWTZ15
材质 Material		硅酸铝质 Aluminum silicate			高铝质 High alumina	含锆型 Zirconia contained
Al <sub>2</sub> O <sub>3</sub> %		40-44	44-46	46-50	50-60	30-35
Al <sub>2</sub> O <sub>3</sub> + SiO <sub>2</sub> %		≥94	≥96	≥97	≥97	≥98(+ZrO <sub>2</sub> )
ZrO <sub>2</sub> %		-	-	-	-	≥15
Fe <sub>2</sub> O <sub>3</sub> %		≤1.2	≤1.0	≤0.8	≤0.5	≤0.5
Na <sub>2</sub> O+K <sub>2</sub> O %		≤0.5	≤0.5	≤0.2	≤0.2	≤0.2
长期使用温度 °C Service temperature		≤1000	≤1000	≤1100	≤1200	≤1350
容重/kg/m <sup>3</sup> Volume density		95~160	95~160	95~160	95~160	95~160
热导率/W(m.k) Thermal conductivity		≤0.14(600°C) ≤0.18(800°C)	≤0.14(600°C) ≤0.18(800°C)	≤0.18(800°C) ≤0.22(1000°C)	≤0.18(800°C) ≤0.22(1000°C)	≤0.22(1000°C) ≤0.28(1200°C)
加热收缩/% Heating shrinkage		≤3 (800°C, 24h)	≤3 (1000°C, 24h)	≤3 (1100°C, 24h)	≤3 (1200°C, 24h)	≤3 (1300°C, 24h)
通用规格 General size		7200mm×600mm×12(20,25,40,50)mm				

## 耐火纤维毡

Ceramic fiber felt

耐火纤维毡选用散棉为原料,添加适量有机和无机结合剂,采用湿法真空吸滤成型工艺制成。产品具有一定的弹性和韧性,导热系数低、抗热冲刷能力强,具有良好的隔音、隔热效果,化学性能稳定,是一种多用途隔热保温产品,可满足众多行业复杂环境使用需求,广泛应用于高温窑炉内衬、炉门、炉顶,还可用于填充膨胀缝、高温垫片及仪器设备加热装置的隔热及电绝缘材料。

This product is made from refractory fiber by adding suitable binders through wet suction vacuum molding process. It has good performance on excellent flexibility and elasticity, low thermal conductivity, good sound and heat insulation, and remarkable chemical stability. It can widely be applied for all high temperature kilns, furnaces, or used to fill the expansion joints, and used as high temperature gasket.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-XWZ40	CH-XWZ45	CH-XWZ48	CH-XWZ50	CH-XWZZ15
材质 Material		硅酸铝质 Aluminum silicate			高铝质 High alumina	含锆型 Zirconia contained
Al <sub>2</sub> O <sub>3</sub> %		40-44	44-46	46-50	50-60	30-35
Al <sub>2</sub> O <sub>3</sub> + SiO <sub>2</sub> %		≥95	≥97	≥98	≥98	≥98(+ZrO <sub>2</sub> )
ZrO <sub>2</sub> %		-	-	-	-	≥15
Fe <sub>2</sub> O <sub>3</sub> %		≤1.2	≤1.0	≤0.8	≤0.5	≤0.5
Na <sub>2</sub> O+K <sub>2</sub> O %		≤0.5	≤0.5	≤0.2	≤0.2	≤0.2
长期使用温度 °C Service temperature		≤1000	≤1000	≤1100	≤1200	≤1350
容重/kg/m <sup>3</sup> Volume density		150-250	150-250	150-250	150-250	150-250
加热收缩/% Heating shrinkage		≤1.5 (800 °C,24H)	≤1.5 (1000 °C,24H)	≤1.5 (1100 °C,24H)	≤1.5 (1200 °C,24H)	≤1.5 (1300 °C,24H)
通用规格 General size		600mm×400mm×(20-100)mm 1000mm×1500mm×(20-100)mm				

## 耐火纤维板

Ceramic fiber board

耐火纤维板采用散棉和无机及有机结合剂,通过湿法真空压滤成型工艺制成,具有尺寸精确、平整度好、弧度可设计、强度高、热传导率低、抗热震、抗剥落等优良性能,产品容易分块切割、易安装,可广泛应用于窑炉周围及底部背衬隔热、陶瓷窑炉挡火、工艺玻璃模具等部位,是一种多用途产品,可满足众多行业复杂的热工需求。

This product is made from refractory fiber by adding suitable binders through wet suction vacuum molding process. It has good performance on size, roughness, and radian, and has the characteristics on high strength, low thermal conductivity, good thermal shock resistance and spalling resistance. It can be easily cut and installed, and can widely be used for kiln, furnace, and other high temperature equipment.

### 产品参数 | Product parameters

项目 Items	牌号 Brands	CH-XWK40	CH-XWK45	CH-XWK48	CH-XWK50	CH-XWKZ15
材质 Material		硅酸铝质 Aluminum silicate			高铝质 High alumina	含锆型 Zirconia contained
Al <sub>2</sub> O <sub>3</sub> %		40-44	44-46	46-50	50-60	30-35
Al <sub>2</sub> O <sub>3</sub> +SiO <sub>2</sub> %		≥94	≥97	≥98	≥98	≥98(+ZrO <sub>2</sub> )
ZrO <sub>2</sub> %		-	-	-	-	≥15
Fe <sub>2</sub> O <sub>3</sub> %		≤1.2	≤1.0	≤0.8	≤0.5	≤0.5
Na <sub>2</sub> O+K <sub>2</sub> O %		≤0.5	≤0.5	≤0.2	≤0.2	≤0.2
长期使用温度 °C Service temperature		≤1000	≤1000	≤1100	≤1200	≤1350
容重/kg/m <sup>3</sup> Volume density		200-600	200-600	200-600	200-600	200-600
热导率/W(m.k) Thermal conductivity		≤0.14(600°C) ≤0.18(800°C)	≤0.14(600°C) ≤0.18(800°C)	≤0.18(800°C) ≤0.22(1000°C)	≤0.18(800°C) ≤0.22(1000°C)	≤0.88(1000°C) ≤0.28(1200°C)
加热收缩/% Heating shrinkage		≤1.5(900 °C,24H)	≤1.5(1000 °C,24H)	≤1.5(1100 °C,24H)	≤1.5(1200 °C,24H)	≤1.5(1300 °C,24H)
通用规格 General size		600mm×400mm×(10-50)mm 900mm×600mm×(10-50)mm				

## 耐火纤维模块

Ceramic fiber module

耐火纤维模块包括纤维组合块、纤维模块、纤维折叠块等品种,是为了简化和加快窑炉施工、提高炉衬整体性而推出的、替代传统重质耐火材料的一类新型耐火炉衬制品。

该产品化学性能和热性能稳定,热导率和热容量低;可以任意方式排列组合施工,能够弥补炉壳变形的影响,使得组件施工适应性强,施工体无缝隙,整体性和隔热效果好,可抵抗机械外力冲击;此外,模块处于预压状态,可补偿纤维炉衬高温收缩,提高纤维炉衬的绝热性能,整体性能好。可广泛应用于石油化工行业、冶金行业、玻璃建材行业等高温工业窑炉的绝热炉衬,以及各种烘烤器、燃烧器等,成为目前炉衬发展的一种趋势,代表着工业炉现代化发展的水平。

This product is a new kind of fiber products which include fiber combination blocks, fiber folding blocks, fiber modules, and is developed to simplify and speed up the furnace construction. It is characterized with chemical and thermal stability, low thermal conductivity, low weight, easy installation, wide range adaptability, and good force-erosion resistance. It is made with compressed state, and can increase the volume integrity of the building blocks when used. This product can widely be used as the lining for chemical industry, metallurgical industry, building materials industry, and as the firing blocks, burning blocks, etc.

项目 Items	牌号 Brands	CH-XWK40	CH-XWK45	CH-XWK48	CH-XWK50	CH-XWKZ15
材质 Material		硅酸铝质 Aluminum silicate			高铝质 High alumina	含锆型 Zirconia contained
Al <sub>2</sub> O <sub>3</sub> %		40-44	44-46	46-50	50-60	30-35
Al <sub>2</sub> O <sub>3</sub> +SiO <sub>2</sub> %		≥94	≥97	≥97	≥97	≥97(+ZrO <sub>2</sub> )
ZrO <sub>2</sub> %		-	-	-	-	≥15
Fe <sub>2</sub> O <sub>3</sub> %		≤1.2	≤1.0	≤0.8	≤0.5	≤0.5
Na <sub>2</sub> O+K <sub>2</sub> O %		≤0.5	≤0.5	≤0.2	≤0.2	≤0.2
长期使用温度 °C Service temperature		≤1000	≤1000	≤1100	≤1200	≤1350
容重/kg/m <sup>3</sup> Volume density		150-250	150-250	150-250	150-250	150-250
加热收缩/% Heating shrinkage		≤1.5(900 °C,24H)	≤1.5(1000 °C,24H)	≤1.5(1100 °C,24H)	≤1.5(1200 °C,24H)	≤1.5(1300 °C,24H)
通用规格 General size		300mm×(300-600)mm×(150-350)mm				

## 耐火纤维异型件

Ceramic fiber shaped pieces

纤维异型件以优质纤维棉为原料,采用真空成型工艺制成,用于满足某些工业部门特定生产环节所需异型制品。可根据用户要求制作专用模具,设计产品性能,满足特定形状和尺寸需要;所有产品在其使用温度范围内高温收缩率低,隔热效果好,抗冲击能力强,抗磨损和剥落性能良好。

耐火纤维异型件已被广泛用于工业窑炉观察孔、测温孔、测压孔、烧嘴砖、窑炉炉门、电加热装置支撑件、热管道内衬及铝制品工业中的集液槽和流槽等领域。

These products are made from refractory fiber by vacuum molding process to meet the special requirement of some high temperature plants. Zhengzhou Caihua can design and produce special mould to make these products. They are characterized with wide range service temperature, small heating shrinkage, good thermal insulation and good abrasion resistance.

These products have been widely used as the observation hole, temperature measure hole, pressure measure hole, burner block, electric heating wire supporter, and molten aluminum collector and groove.

项目 Items	牌号 Brands	CH-XWJ40	CH-XWJ45	CH-XWJ48	CH-XWJ50	CH-XWJZ15
材质 Material		硅酸铝质 Aluminum silicate			高铝质 High alumina	高铝质 High alumina
Al <sub>2</sub> O <sub>3</sub> %		40-44	44-46	46-50	50-60	30-35
Al <sub>2</sub> O <sub>3</sub> +SiO <sub>2</sub> %		≥94	≥97	≥97	≥97	≥97(+ZrO <sub>2</sub> )
ZrO <sub>2</sub> %		-	-	-	-	≥15
Fe <sub>2</sub> O <sub>3</sub> %		≤1.2	≤1.0	≤0.8	≤0.5	≤0.5
Na <sub>2</sub> O+K <sub>2</sub> O%		≤0.5	≤0.5	≤0.2	≤0.2	≤0.2
长期使用温度°C Service temperature		≤1000	≤1000	≤1100	≤1200	≤1350
容重/kg/m <sup>3</sup> Volume density		200~600	200~600	200~600	200~600	200~600
常温耐压强度 /MPa(CCS)		≥0.2	≥0.2	≥0.2	≥0.2	≥0.2
加热收缩/% Heating shrinkage		≤2 (900 °C,24H)	≤2 (1000 °C,24H)	≤2 (1100 °C,24H)	≤2 (1200 °C,24H)	≤2 (1300 °C,24H)
通用规格 General size		定制 (upon request)				

## 耐火纤维浇注料

Ceramic fiber castable

纤维浇注料以纤维为骨料,配以一定比例的结合剂制成,产品具有流动性好,施工便捷等特点,施工体体积小、导热率低、强度高、体积稳定、气密性好,是一种性能卓越的高温工业窑炉工作层或背衬隔热层材料。

耐火纤维浇注料可被广泛应用于加热炉、重整炉、加氢炉、制氢炉等高温工业窑炉衬里,也可用于各类烘烤器、燃烧器及电加热炉炉门、烧嘴砖及有色冶金行业的熔沟、熔槽等。

Castable refractory ceramic fiber is produced with refractory fiber and binder as the main raw materials, and has the characteristics of good flowability, easy installation, low bulk density, low conductivity, high strength, and volume stability

It is an ideal material for kiln and furnace lining, and widely used in heating furnace, reforming furnace, hydrogen furnace, firing block, burning block, and molten aluminum collector and groove.

项目 Items	牌号 Brands	CH-XWC06	CH-XWC08	CH-XWC10	CH-XWC12	CH-XWC15
Al <sub>2</sub> O <sub>3</sub> %		≥20	≥25	≥30	≥35	≥35
Al <sub>2</sub> O <sub>3</sub> +SiO <sub>2</sub> %		≥80	≥80	≥80	≥80	≥80
体积密度/ kg/cm <sup>3</sup> Volume density		≤600 (110°C,24h)	≤800 (110°C,24h)	≤1000 (110°C,24h)	≤1200 (110°C,24h)	≤1500 (110°C,24h)
常温耐压强度/MPa(CCS)		≥1.0	≥2.0	≥3.0	≥5.0	≥6.0
热导率/W(m.k) Thermal conductivity		≤0.16 (350°C)	≤0.18 (600°C)	≤0.22 (800°C)	≤0.25 (800°C)	≤0.28 (800°C)
加热收缩/% Heating shrinkage		≤1.0 (600 °C,3H)	≤1.0 (600 °C,3H)	≤1.0 (600 °C,3H)	≤1.0 (600 °C,3H)	≤1.0 (600 °C,3H)
长期使用温度°C Service temperature		600	800	1000	1050	1100
脱模时间/h Cure time		≤10	≤10	≤10	≤10	≤10
通用规格 General size		25kg/袋 25kg/bag				