

铝工业用 不定型耐火材料

UNSHAPED REFRACTORY
FOR ALUMINIUM INDUSTRY



企业简介

Company profile

联合荣大企业集团是一家具有20年经验的专业提供各种耐火材料特种混凝土材料如灌浆料和地坪材料及相关材料施工工程服务的综合性高科技公司，产品广泛应用于冶金、石化、电力与各种土建工程等，并远销海外。

联合荣大总部位于北京市怀柔区，旗下拥有北京联合荣大工程材料股份有限公司（北京市高新技术企业）、北京联合荣大工程材料股份有限公司西安分公司、北京联合荣大工程材料股份有限公司太原分公司、北京联合荣大工程材料技术研究院有限公司、北京联合荣大建材有限公司、南京联合荣大工程材料有限责任公司（江苏省高新技术企业）、成都联合荣大工程材料有限责任公司，同时在济源、阳泉等地区有长期合作的代加工基地。

联合荣大现有研发、生产、销售等专业人才260余名，拥有材料与装备专利50余项（其中：发明专利18项），集团整体通过ISO9001质量管理体系认证，和商标也已经是北京市著名商标。

联合荣大奉行“高效率帮助客户解决问题”的服务宗旨，坚持“高素质人才、高效率管理、高品质产品、高技术服务”的经营理念，竭诚为广大客户提供优质服务！

Allied Rongda Enterprises is a high tech company group, specialized in research and development and production of refractory, and special concrete material like grout and floorcretes, over 20 years experienced. Its products and service covers metallurgy, petrochemistry, power plant, and civil engineering etc., and also exported to overseas. Allied Rongda Enterprises headquarter is located in Huairou District, Beijing. It owns Beijing Allied Rongda Engineering Material Co., Ltd (Beijing high-tech enterprise), BAREMCO Xi'an Branch, Taiyuan Branch, Beijing Allied Rongda Technology Research Institute Co., Ltd, Beijing Allied Rongda Construction Co., Ltd, Nanjing Allied Rongda Engineering Material Co., Ltd (Jiangsu Province high-tech enterprise), Chengdu Allied Rongda Engineering Material Co., Ltd. And long-term cooperation producing base at in Yangquan (Shanxi Province) and Jiyuan (Henan Province). Allied Rongda has more than 260 professional staffs specialized in R&D, production, marketing and so on. It accumulated more than 50 patents (including 18 invention patents) covering materials and equipment. Allied Rongda as a group passed ISO9001 Quality Management System certification. And RD trademark  and  are appraised as famous brand by Beijing municipal authority.

Adhering to the principle of service "help customers solve problems with high efficiency", and insisting on the business philosophy "High-quality personnel, Efficient management, High-quality products, High-tech service", the Group provides the customers with service of high quality wholeheartedly!



董事长：章荣会博士
President Dr. Perry Zhang



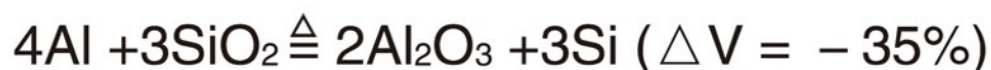
CONTENTS

目录

耐火材料与铝液反应机理	1
The reaction mechanism of refractory & liquid aluminum	
新型不粘铝浇注料	2
New type non-stick aluminum castables	
铝工业用不定型耐火材料的选型	3
Selection of monolithic refractories for Aluminum industry	
BA系列熔池用不粘铝浇注料	7
BA series non-stick aluminum castables for bath lining	
WA系列炉衬用抗铝浇注料	8
WA series aluminum corrosion resistant castables for wall lining above liquid aluminum	
BB系列烧嘴用抗热震浇注料	9
BB series anti-thermal shock castables for burner blocks	
PL系列炉门框用高强防撞钢纤维浇注料	10
PL series high strength anti-collision steel fiber reinforced castables for door frames	
SL系列防渗层用中质防渗浇注料	11
SL series middle weight impermeable castables for safety lining	
RM系列工作层用轻质浇注料	12
RM series light weight castables for cover lining	
PZ系列保温层用轻质保温浇注料	13
PZ series light weight castables for Insulation	
SPZ系列绝热用耐火纤维轻质浇注料	14
SPZ series refractory fiber light-weight castables for insulation	
LRS系列流槽用熔融石英浇注料	15
LRS series fused-silica castables for launder	
GSC系列流铝砖用碳化硅浇注料	16
GSC series silicon-carbide castables for aluminum taphole brick	
BF系列炉前地板用耐火地板浇注料	17
BF series refractory castables for front floor	
修补用R2系列双组份浇注料	18
R2 series double-component castables for lining repair	
RBA系列修补用快烘不粘铝浇注料	19
RBA series quick heatup non-stick aluminum castables for lining repair	
LSD系列炉衬用半干法抗铝喷涂料	20
LSD series semi-dry anti-aluminum spraying coating for lining	
FSD系列烟道用半干法轻质喷涂料	21
FSD series light weight guning material for flue	
SIFC金属陶瓷预制件&铝水净化搅拌器	22
SIFC Cermet preshapes & Aluminum Purging Mixer	
各种预制产品	23
Various preshaped products	
筑炉辅助用各种配套材料	24
Various auxiliary materials are available for furnace construction	
泵送与湿法喷注施工工艺介绍	25
Introduction of construction technology of pumping and shotcrete	
浇注料的使用	27
Use of castable	
产品用户表	28
Users List	

耐火材料与铝液反应机理

The reaction mechanism of refractory & liquid aluminum



炉衬耐火材料损毁是高温氧化气氛下耐火材料与铝液间的化学反应，炉衬体积变化，或结瘤或开裂，最终导致耐火材料损毁。

The damage of refractory line is the chemical reaction between refractory and liquid aluminum at high temperature in oxidizing atmosphere. The change of material volume, or the formation of tumor or crack cause the damage of refractory line.

铝液与耐火材料反应的影响

Effects of liquid aluminum on refractories



铝液与耐火材料的反应
Reaction of liquid aluminum
and refractory



结瘤导致炉子容积降低，影响化铝量及加热效率，清除刚玉瘤会造成耐火材料破损，铝液浸润作用使反应发生，扩大微细孔直径，铝液沿微孔渗透进入耐火材料内部，一方面使铝液向炉衬更深处渗透造成炉衬开裂和隆起，另一方面大幅提高材料导热系数，使受侵蚀部位耐火材料温度升高，体积膨胀，导致炉衬开裂剥落。

Nodulation leads to reduction of furnace volume, aluminum content and heating efficiency. Removal of corundum tumor will cause the refractory breakage, and liquid aluminum permeation and reaction with refractory which leads to expansion of micropore diameter and liquid aluminum penetration deeper into refractory. The liquid aluminum penetration causes refractory line bulging and cracking, and also a substantial raise up of thermal conductivity, which increase temperature of refractory at the erosion position, and volume expansion, resulting in cracking and spalling of the furnace line.



新型不粘铝浇注料

New type non-stick aluminum castables

为了降低耐火材料与铝溶液的反应，联合荣大耐火材料研发团队经过20多年100多项工程应用与不断创新，开发出三元组分抗铝外加剂。添加了三元组分抗铝外加剂的铝浇注料在硬化后形成网格状致密结构，在600-1300℃温度下不但阻止与铝合金发生反应，而且能产生纳米结合相修复使用过程中因震动形成的微小裂纹。

In order to reduce the reaction between refractory and aluminum solution, the Rongda research and development team of refractory materials has developed three - component anti - aluminum additive after more than more than 100 engineering applications and innovation in 20 years. Add three - component anti - aluminum additive to castable to form a grid of dense structure after hardening, stop the reaction with Aluminum Alloy at 600-1300 °C for not only, but also can generate Nano binding phase repair the small crack due to vibration during use.



BA-80浇注料的抗铝效果
The result of osmosis-resistant
castable BA-80



BA系列熔池用不粘铝浇注料

BA series Non-stick aluminium castable for molten bath

联合荣大研究院经过不断创新，研发出满足高温铝水使用的BA系列不粘铝浇注料。

BA系列浇注料的研发有8大环节：骨料材质选型，骨料级配优化，粉料的多级控制，微粉体系的确定，减水剂等外加剂的选择，防爆性能试验，尤其是抗铝液浸润、渗透和防止刚玉相生成试验。

BA series of non-stick aluminium castable for high temperature aluminum has been developed by Allied Rongda through the continuous innovation.

Development of BA series of castable has 8 aspects: Aggregate material selection, Gradation optimization, Multi gradation control of powders, Micro powder system determination, Superplasticizer admixture selection, Explosion-proof performance test, especially Anti infiltration and prevention the penetration of liquid aluminum and the formation of new corundum phase.



使用中的BA不粘铝浇注料
BA Non-stick aluminium castable in use



铝工业用不定型耐火材料的选型

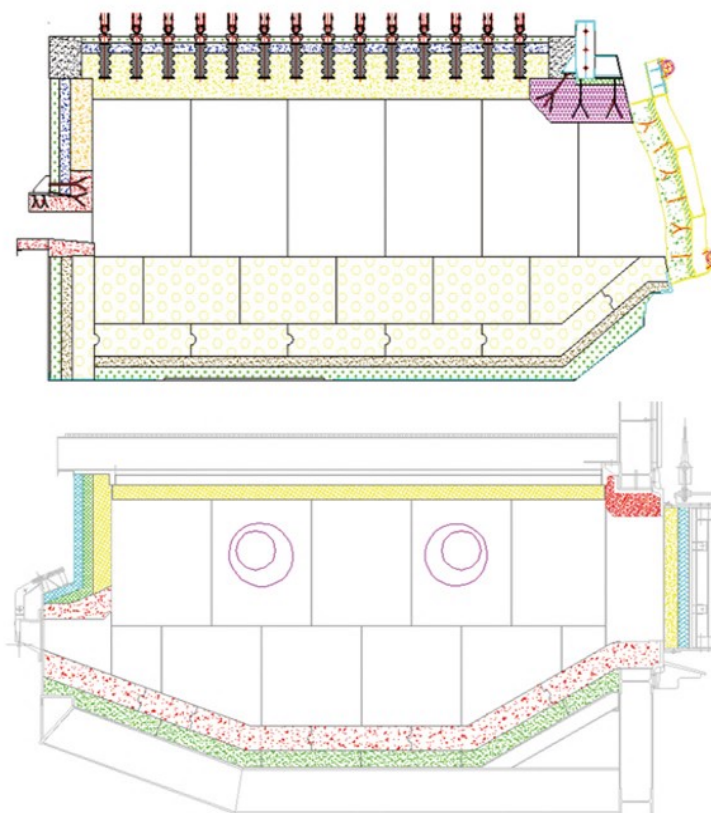
Selection of monolithic refractories for aluminum industry

为了满足炉衬不同部位的使用需求，联合荣大开发出了全套不同种类的耐火材料，通常炉衬选材需要考虑的因素：

- ◆ 应用因素：使用温度、使用部位、炉型种类、施工方式、控制与操作工艺；
- ◆ 施工条件：施工量、施工温度、工期、锚固形式、烘烤周期；
- ◆ 对生产的影响：耐火材料材质与合金种类的匹配，外壁温度与烟气温度要求；
- ◆ 安全环保因素：是否存在高温及有害气体、人员与设备条件。

In order to meet the needs of different parts of the lining, Allied rongda developed a full range of refractory materials. Usually, the factors that should be considered in lining selection:

- ◆ application factors: the use of temperature, the use of parts, furnace type, construction methods, control and operation process;
- ◆ Construction conditions: Quantities, construction temperature, installation time limit, anchorage form and baking times;
- ◆ impact on production: refractory material and alloy type matching, outer wall temperature and flue gas temperature requirements;
- ◆ safety and environmental protection factors: whether there is high temperature and harmful gases, personnel and equipment conditions.

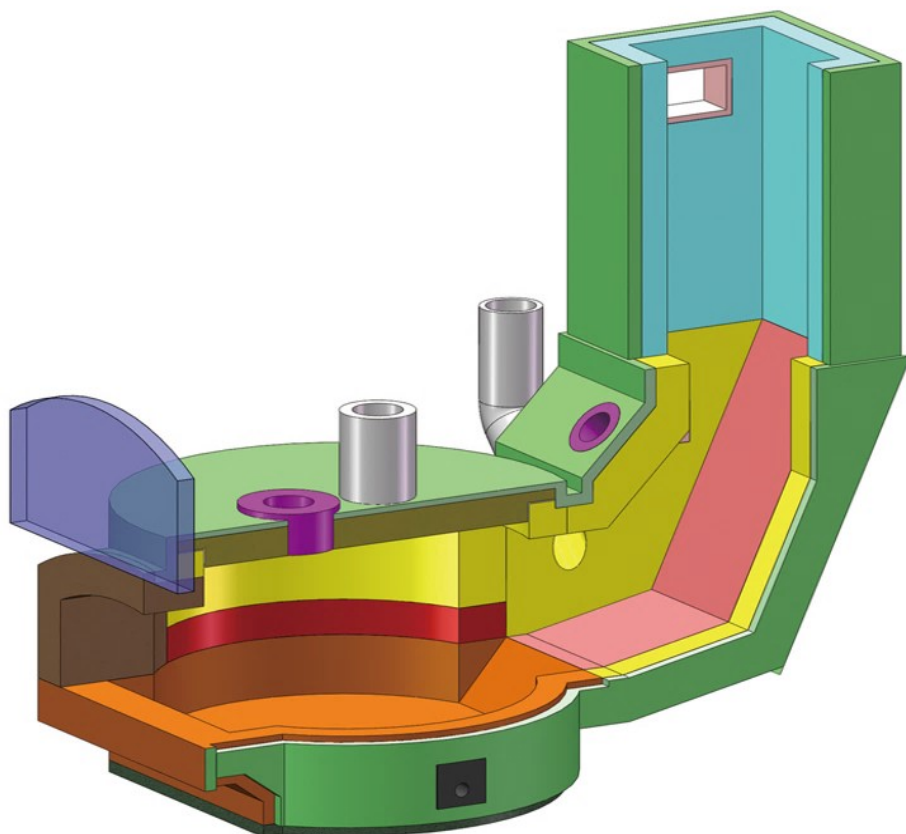


熔铝炉内衬结构设计

Lining structure design of aluminium melting furnace



塔式炉 Tower Furnaces

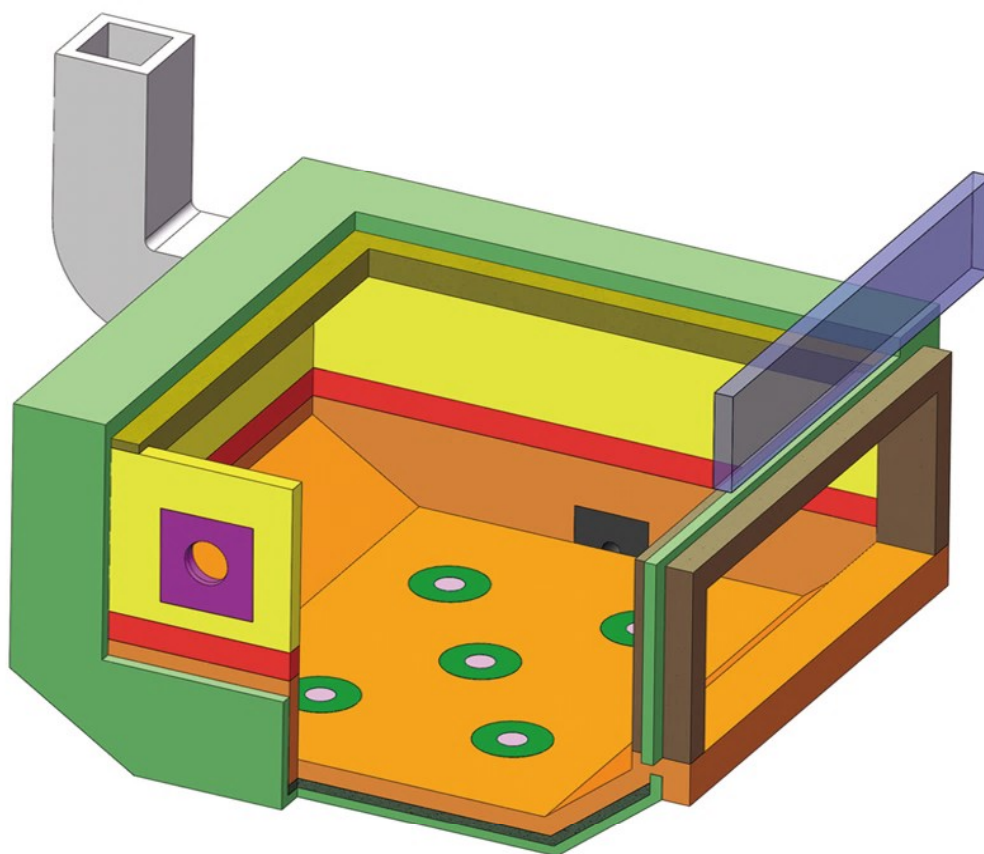


颜色 Colour	部位 Part	推荐材料 Material	颜色 Colour	部位 Part	推荐材料 Material
	熔池Bath lining	BA-75、BA-80、BA-85		烧嘴砖 Burner blocks	BB-60M、BB-70LM
	渣线Slag line	BA-90、BA-95		炉顶 Roof lining	LC-2.0、WA-65
	上炉墙Upper walls	WA-70、WA-75		烟道Chimney	LC-1.35、LIF-1.0
	炉门框Door frame	PL-70、A80S15		保温层Insulation	LI-1.0、LI-1.0S
	防渗层Safety lining	SL-L、SL-N		炉门Door	LC-1.5、LC-1.8
	流铝口Liquid taphole	GSC-80、BA-80		下料坡 Lower slope	BA-80、PL-80



熔化炉

Melting Furnaces

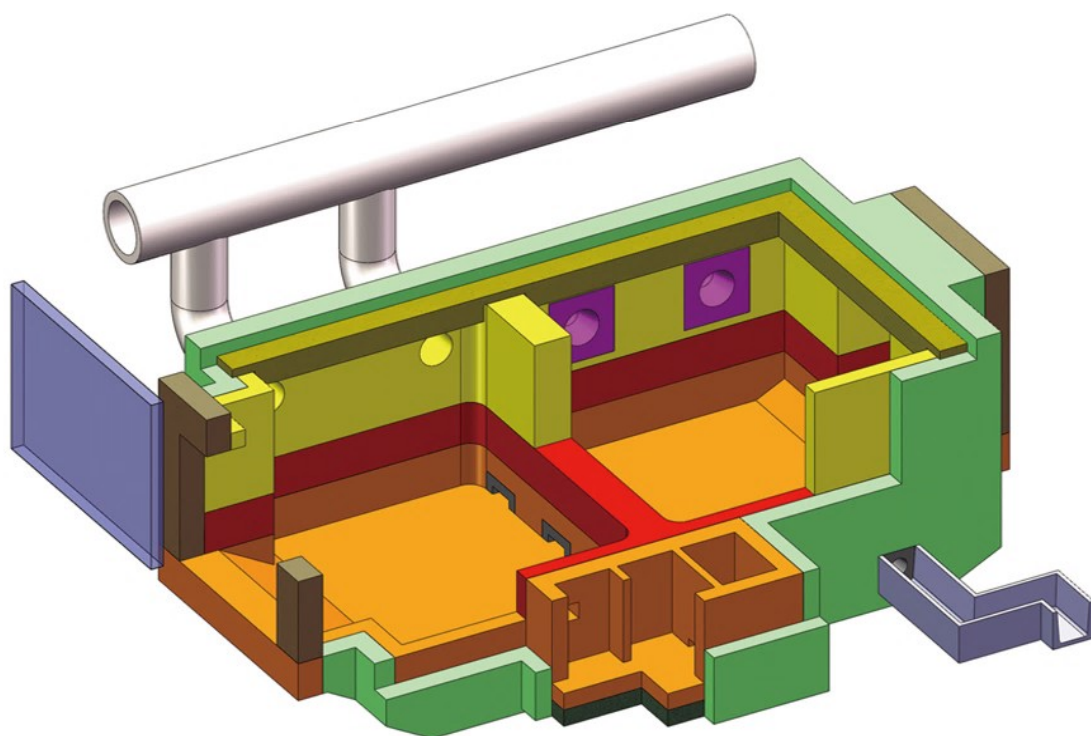


颜色 Colour	部位 Part	推荐材料 Material	颜色 Colour	部位 Part	推荐材料 Material
	熔池Bath lining	BA-75、BA-80、BA-85		烧嘴砖 Burner blocks	BB-60M、BB-70LM
	渣线Slag line	BA-90、BA-95		炉顶 Roof lining	LC-2.0、WA-65
	上炉墙Upper walls	WA-70、WA-75		烟道Chimney	LC-1.35、LIF-1.0
	炉门框Door frame	PL-70、A80S15		保温层Insulation	LI-1.0、LI-1.0S
	防渗层Safety lining	SL-L、SL-N		炉门Door	LC-1.5、LC-1.8
	流铝口Liquid taphole	GSC-80、BA-80		透气砖 Porous brick	PB-A80



双室炉

Double Chamber Furnaces



颜色 Colour	部位 Part	推荐材料 Material	颜色 Colour	部位 Part	推荐材料 Material
	熔池Bath lining	BA-75、BA-80、BA-85		烧嘴砖 Burner blocks	BB-60M、BB-70LM
	渣线Slag line	BA-90、BA-95		炉顶 Roof lining	LC-2.0、WA-65
	上炉墙Upper walls	WA-70、WA-75		烟道Chimney	LC-1.35、LIF-1.0
	炉门框Door frame	PL-70、A80S15		保温层Insulation	LI-1.0、LI-1.0S
	防渗层Safety lining	SL-L、SL-N		炉门Door	LC-1.5、LC-1.8
	流铝口Liquid taphole	GSC-80、BA-80		流槽 Launder	LRS-1.9

BA系列熔池用不粘铝浇注料

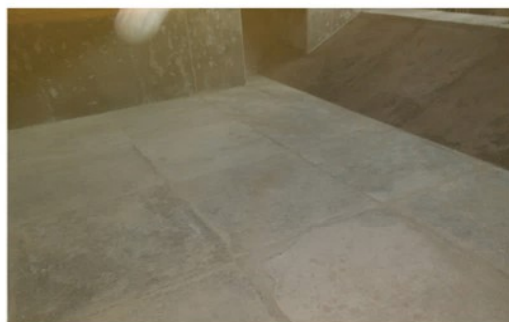
BA series non-stick aluminum series castables for bath lining

用途 Application

- ▶ 熔池、与铝液及铝合金直接接触的部位
- ▶ 铝加工各型熔化保温炉、铝合金熔化炉、高纯铝精炼炉、再生铝熔化双室炉及侧井塔式熔解炉耐火工作衬
- ▶ 铝水包、流槽、搅拌井工作衬里
- ▶ Bath, direct contact with aluminum liquid and aluminum alloy
- ▶ For aluminum processing, various melting and holding furnaces, high purity aluminum refining furnace, double chamber furnace and tower furnace for aluminum regeneration
- ▶ Aluminum ladles, Launder, Mixing well work lining

特性 Characteristics

- ▶ **耐铝液浸润** 采用高纯耐火骨料，添加特殊不粘铝组分，有效抵抗与铝液间的浸润，减少刚玉瘤生长
- ▶ **致密高强** 材料致密，强度高，耐磨性好，抗铝水冲刷
- ▶ **选料精良** 水泥含量低，骨料致密，粉料杂质含量低
- ▶ **施工方便** 浇注施工，亦可自流泵送施工
- ▶ Resistant to liquid aluminum infiltration- High purity refractory aggregates and special non-stick aluminum component are adopted to gain good infiltration resistance of liquid aluminum and reduction of alumina tumour growth
- ▶ High density and strength-Dense, high strength, wear resistant and liquid aluminum scouring resistant
- ▶ Excellent material selection-Low cement content, dense aggregate, low impurity in matrix
- ▶ Easy construction-Mix in to castable and vibrating cast or pumpable selfflowing selfleveling



技术指标 Technical index

产品名称 Name		型号 Brand	BA-95	BA-90	BA-85	BA-80	BA-80GQ	BA-75	BA-70
不沾铝浇注料	化学成份 Chemistry (%)	Al ₂ O ₃	95	90	85	80	80	75	70
		SiO ₂	2.5	3.5	5.5	11	11	12	15
		Fe ₂ O ₃	0.1	0.3	1.5	1.5	1.5	2	2.5
		CaO	2.5	2.5	3.5	3.5	4.1	3.8	4.4
	最高使用温度 MST (℃)		1700	1600	1500	1450	1450	1400	1400
	最高抗铝温度 TNA max (℃)		1200	1000	950	850	950	800	800
	体积密度 B.D (g/cm ³)	110℃×24h	3.3	3.1	3.0	2.8	2.9	2.7	2.65
	烧后线变化 PLC (%)	800℃×3h	0.1	0.1	-0.1	-0.25	-0.25	-0.3	-0.5
	抗压强度 CCS (Mpa)	110℃×24h	100	100	80	80	90	70	50
		800℃×3h	150	130	130	120	130	90	80
	导热系数 TC (W/m.K)	500℃热面	2.5	2.4	2.3	2.2	2.2	1.9	1.8
	加水量Water addition (%)		3.5	4	4.5	5	5	6	6.5

以上数据为“典型值” The above data is "typical"

WA系列炉衬用抗侵蚀浇注料

WA series aluminum corrosion resistan castables for wall lining above liquid aluminum

用途 Application

- 上炉墙、炉顶等高温区域
- 铝加工各型熔铝炉、保温炉、铝合金熔化炉、废铝回收炉等炉型耐火工作衬
- 铝水包盖，流槽
- 炉门框，炉门梁等
- Upper furnace wall, furnace top and other high temperature area
- Aluminum smelting furnace, heat preservation furnace, aluminum alloy melting furnace, waste aluminum recovery furnace, etc.
- Aluminum water cover, groove
- Furnace door frame, door beam, etc

特性 Characteristics

- 使用温度高 采用高纯耐火骨料，耐火度高，热稳性好
- 致密高强 材料致密，强度高，耐磨性好
- 选料精良 水泥含量低，骨料致密，粉料杂质含量低
- 施工方便 浇注施工
- High temperature - high purity refractory aggregate, high refractoriness, good thermal shock resistance
- High density and strength - dense material, high strength, good wear resistance
- Excellent material selection - low cement content, dense aggregate, low impurity in matrix
- Easy construction-mix into castable and vibrating cast



技术指标 Technical index

产品名称Name		型号 Brand	WA-85	WA-80	WA-75	WA-70	WA-65	WA-60	WA-50
抗侵蚀浇注料	化学成份 Chemistry (%)	Al ₂ O ₃	85	80	75	70	65	60	50
		SiO ₂	5.5	11	12	16	20	20	28
		Fe ₂ O ₃	1.5	1.5	2	2.2	2.5	2.5	3
		CaO	3.5	2.5	2.5	2.5	3.2	3.2	4
	最高使用温度 MST (℃)		1500	1500	1400	1400	1350	1300	1300
	最高抗铝温度 TNA max (℃)		950	800	700	700	700	700	700
	体积密度 B.D (g/cm ³)	110℃ × 24h	2.9	2.8	2.7	2.7	2.6	2.5	2.4
	烧后线变化 PLC (%)	800℃ × 3h	-0.1	-0.25	-0.3	-0.4	-0.5	-0.5	-0.3
	抗压强度 CCS (Mpa)	110℃ × 24h	80	80	70	60	40	30	30
		800℃ × 3h	130	130	100	80	60	50	50
	导热系数 TC (W/m.K)	500℃热面	2.3	2.2	1.9	1.7	1.5	1.3	1.8
	加水量Water addition (%)		4.5	5	6	7	8	9	9

以上数据为“典型值” The above data is "typical"

BB系列烧嘴用抗热震浇注料

BB series thermal shock resistant castables for burner blocks

用途 Application

- 烧嘴、火口、过火墙、观察孔、测温孔、烟道口
- 预制烧嘴砖等高温热震区域
- 热震频繁、气流冲刷的特殊部位
- For burner, fire wall, observation hole, temperature examing hole, smoke tunnel
- For thermal shock areas like burnner blocks
- For special areas of thermal shock and gas flushing

特性 Characteristics

- 抗极冷极热 采用高纯莫来石相骨料，优良的高温体积稳定性
- 预 制 可根据图纸制作成进行各种尺寸的预制件，尺寸精确，中温烘烤，运输安装强度高，有助于快速投产
- 致 密 高 强 材料致密，强度高，耐磨性好，抗气氛侵蚀
- 选 料 精 良 水泥含量低，骨料致密，粉料杂质含量低
- Thermal shock resitant- high purity mullite aggregate is adopted which ensures volume stability at high temperature
- Preshaped Block- can be preshaped into different shapes of blocks precisely according to designed drawings. Well dried and heatedup ensures high strenght for safe transportation and fast installation, which enable shortage of time into production
- High density and strength - dense material, high strength, good wear resistance, anti - atmosphere erosion
- Excellent material selection - low cement content, dense aggregate, low impurity in matrix



技术指标 Technical index

产品名称 Name		型号 Brand	BB-M65	BB-LM70	BB-AM75	BB-AM80
烧嘴抗热震浇注料	化学成份 Chemistry (%)	Al ₂ O ₃	65	70	75	80
		SiO ₂	25	16	13	10
		Fe ₂ O ₃	2	1.8	1.5	1.0
		CaO	1.8	1.8	1.8	1.5
	最高使用温度 MST (°C)		1500	1500	1600	1700
	5次风冷热振抗折强度 (Mpa)		12	10	15	18
	体积密度 B.D (g/cm³)	110℃×24h	2.5	2.6	2.7	2.8
	烧后线变化 PLC (%)	1400℃×3h	-0.3	-0.3	-0.3	-0.2
	抗压强度 CCS (Mpa)	110℃×24h	40	40	50	70
		1400℃×3h	70	70	80	90
	导热系数 TC (W/m.K)	500℃热面	1.7	1.8	1.9	2.1
加水量Water addition (%)		6.5	6.5	5.5	4.5	

以上数据为“典型值” The above data is "typical"

PL系列炉门框用高强防撞钢纤维浇注料

PL series high strength anti-collision steel fiber reinforced castables for door frames

用途 Application

- 熔铝炉炉门、门框、门楣、门柱、过梁，铝水包沿，渣池口
- 耐热垫块、流槽
- 铝加工炉及设备高温机械冲击、磨损部位
- 预制成型可使寿命倍增
- Aluminum furnace door, door frame, door lintel, door post, overgirder, upper edge of aluminum ladle and slag pond
- Heat resistant pad and groove
- High temperature mechanical shock and wear resistant parts of aluminum processing furnace and equipment
- Preshaped and well heatedup can double the service life

特性 Characteristics

- 高强抗冲击 钢纤维增强，抗高温及磕碰冲击，耐磨损
- 抗热震剥落 添加耐热钢纤维，抗火焰冲击，抗剥落
- 施工方便 浇注施工，可预制
- High strength shock resistant - steel fiber reinforced, high temperature resistant and shock resistant, wear resistance
- Thermal shock resistant and anti stripping-stainless steel fiber added for anti flame impact and anti stripping
- Easy construction- vibration cast in site or precast into blocks



技术指标 Technical index

产品名称 Name		型号 Brand	PL-50	P-L60	PL-70	PL-75	PL -80
高强防撞钢纤维浇注料	化学成份 Chemistry (%)	Al ₂ O ₃	50	60	70	75	80
		SiO ₂	28	20	16	13	13
		Fe ₂ O ₃	3	2.5	2.2	1.5	1.5
		CaO	4	3.2	1.8	1.8	1.8
	最高使用温度 MST (°C)		1350	1400	1450	1500	1600
	体积密度 B.D (g/cm ³)	110°C × 24h	2.3	2.4	2.6	2.7	2.8
	烧后线变化 PLC (%)	1200°C × 3h	-0.3	-0.3	-0.3	-0.3	-0.2
	抗压强度 CCS (Mpa)	110°C × 24h	30	40	60	70	80
		1200°C × 3h	50	60	80	90	100
	导热系数 TC (W/m.K)	500°C热面	1.8	2	2.2	2.3	2.5
加水量Water addition (%)			9	8	7	6	5

以上数据为“典型值” The above data is "typical"

SL系列防渗层用中质防渗浇注料

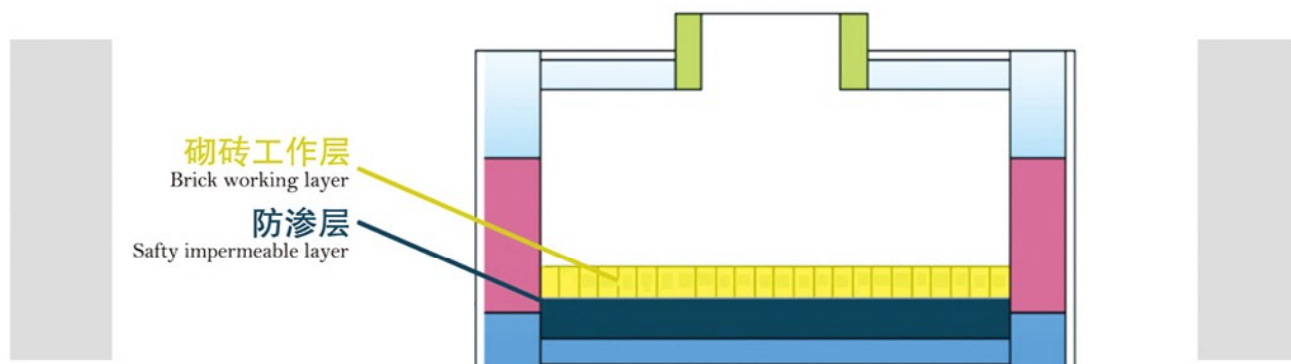
SL series middle density impermeable castables for safety lining

用途 Application

- ▶ 熔铝炉、保温炉防渗层
- ▶ 各种熔炼设备防渗层
- ▶ Impermeable layer of melting and holding furnaces
- ▶ Impermeable safety layer for all kinds of melting equipment

特性 Characteristics

- ▶ **致密抗渗透** 采用低气孔率耐火骨料，添加特殊不粘铝组分，致密抗渗铝
- ▶ **导热率低** 体积密度轻，兼具保温隔热效果
- ▶ **加水量低** 缩短烘炉工期，经济效益显著
- ▶ **施工方便** 浇注施工，可泵送施工
- ▶ Dense and impermeable-low porosity refractory aggregate and special component of non-stick aluminum enable dense structure and resistance to aluminum penetration
- ▶ Low thermal conductivity-lightweight with good insulation performance
- ▶ Low water required-shorten the heatup period and benefit for cost saving
- ▶ Easy construction-mix into castable for vibrating cast or pump casting



技术指标 Technical index

产品名称 Name		型号 Brand	SL-L	SL-N	SL-2.0	SL-1.8
中质防渗浇注料	化学成份 Chemistry (%)	Al ₂ O ₃	50	40	45	42
		SiO ₂	38	40	40	40
		CaO	6	6	6	7
	最高使用温度 MST (°C)		1400	1300	1300	1300
	体积密度 B.D (g/cm ³)	110℃ × 24h	2.2	2.1	2.0	1.8
	烧后线变化 PLC (%)	800℃ × 3h	-0.3	-0.3	-0.4	-0.4
	抗压强度 CCS (Mpa)	110℃ × 24h	30	25	20	15
		800℃ × 3h	50	35	30	25
	导热系数 TC (W/m.K)	500℃热面	1.2	1.0	0.7	0.6
加水量 Water addition (%)			9	10	13	17

以上数据为“典型值” The above data is "typical"

RM系列工作层轻质莫来石浇注料

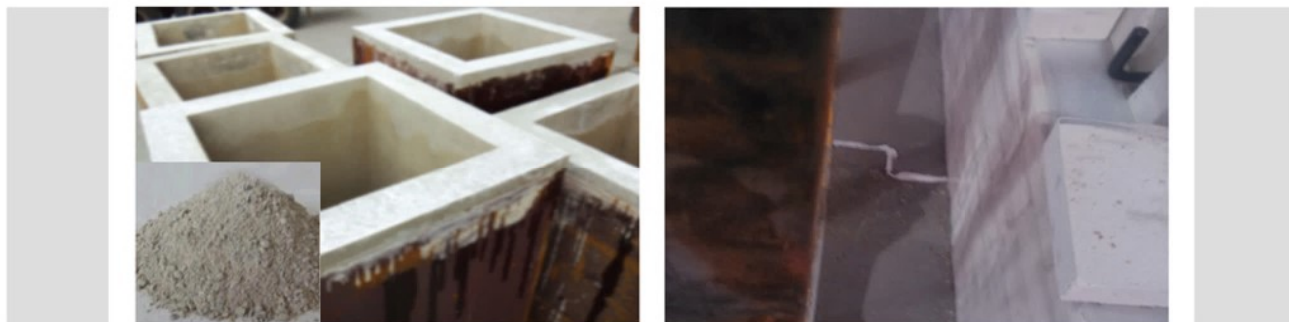
RM series light weight castables for cover lining

用途 Application

- 熔铝炉、保温炉炉门，观察孔门，保温炉炉顶、炉盖工作衬或保温层，铝水包盖、烟道内衬
- 各种火焰炉工作衬
- 高温设备保温隔热层
- Doors of melting and holding furnace, observation hole, insulation layers of furnace cover and top roof and ladle cover and smoke tunnel
- Flame furnace working lining
- Thermal insulation layer of high temperature equipment

特性 Characteristics

- 使用温度高 可直接接触火焰，做工作衬里使用，实现高温节能
- 单位容重轻 结构重量减轻40~60%，消除炉顶吊挂砖断砖隐患
- 导热系数低 多孔莫来石骨料配料，导热系数低，保温性能好
- 可快速烘炉 高孔隙率，排汽顺畅，缩短烘炉工期，经济效益显著
- High service temperature—can be directly exposed to the fire for work lining for energy saving at high temperature
- Unit weight light —The weight of the structure is reduced by 40 to 60%, and hanging brick on the top of the furnace is eliminated
- Low thermal conductivity—The porous mullite aggregate burden has low thermal conductivity and good thermal insulation property
- Quick heat up —High porosity, smooth exhaust steam, shorten the duration of the heat time, and significant economic benefits



技术指标 Technical index

产品名称 Name		型号 Brand	RM-2.0	RM-1.8	RM-1.65	RM-1.5	RM-1.35	RM-1.2	RM-1.0
轻质莫来石浇注料	骨料		轻质莫来石骨料						
	体积密度B.D (g/cm ³)	110℃ × 24h	2.0	1.8	1.65	1.5	1.35	1.2	1.0
	化学成份 Chemistry (%)	Al ₂ O ₃	50	45	45	42	42	40	40
		SiO ₂	40	40	40	45	50	50	55
	最高使用温度 MST (°C)		1500	1450	1400	1400	1400	1300	1300
	抗压强度 CCS (Mpa)	110℃ × 24h	15	10	8	5	5	4	2
		1300℃ × 3h	25	20	15	10	8	5 (1200℃)	3 (1200℃)
	烧后线变化 ≤ %	1300℃ × 3h	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4 (1200℃)	-0.4 (1200℃)
	导热系数 TC (W/m.K)	500℃热面	0.6	0.5	0.45	0.4	0.35	2.2	2
加水量Water addition (%)			14	17	22	25	28	32	36

以上数据为“典型值” The above data is "typical"

PZ系列保温层轻质保温浇注料

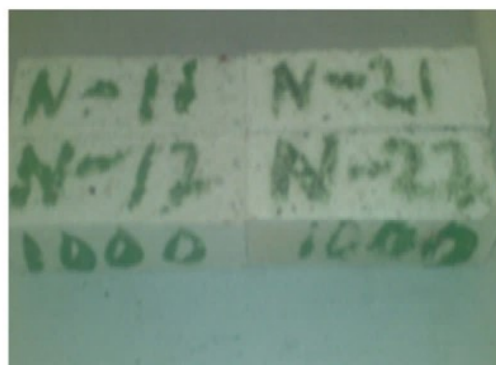
PZ series light weight castables for insulation

用途 Application

- 多用于各种炉型的顶部保温层、侧墙保温衬，炉盖保温层
- 各种高温气体管道内衬
- 高温炉窑及设备保温隔热层
- It is used in the top insulation layer of various types of furnaces, the side wall insulation lining, the furnace cover insulation layer
- Various high temperature gas pipeline lining
- Thermal insulation layer of high temperature furnace and equipment

特性 Characteristics

- 导热系数低 容重轻，导热系数极低，保温性能好
- 施工方便 可浇注、可涂抹、可喷涂
- Low thermal conductivity, light weight, extremely low thermal conductivity, good thermal insulation performance
- Constructing convenience - can be casting, coating and gunning



技术指标 Technical index

产品名称 Name		型号 Brand	PZ-1.5	PZ-1.2	PZ-1.0	PZ-0.8	PZ-0.6	PZ-0.4	PZ-1.0S
轻质莫来石浇注料	骨料		多种轻骨料						
	体积密度 B.D (g/cm ³)	110℃ × 24h	1.5	1.2	1.0	0.8	0.6	0.4	1
	化学成份 Chemistry (%)	Al ₂ O ₃	40	35	30	25	15	15	15
		SiO ₂	40	45	45	50	55	55	60
	抗压强度 CCS (Mpa)	110℃ × 24h	10	6	4	3	1	0.3	4
		1000℃ × 3h	15	8	4	3 (800℃)	1 (800℃)	0.5 (800℃)	4
	烧后线变化 ≤ %	1000℃ × 3h	-0.4	-0.4	-0.4	-0.4 (800℃)	-0.8 (800℃)	-0.9 (800℃)	-0.4
	导热系数 TC (W/m.K)	500℃ 热面	0.32	0.28	0.25	0.23	0.2	0.16	0.25
加水量 Water addition (%)			20	25	32	48	60	90	32

以上数据为“典型值” The above data is "typical"

SPZ系列保温层轻质保温浇注料

SPZ series refractory fiber light-weight castables for insulation

用途 Application

- 铝加工高温窑炉内衬隔热层，如：熔铝炉、保温炉、静止炉、热处理炉、压铸箱、铝水包、流槽、除气箱、过滤箱、隔热内衬
- 各种高温气体管道、烟道、烟室内衬
- 高温设备外部绝热防护涂层，混凝土、钢结构保温绝热涂层
- High temperature thermal insulation layer of kiln lining aluminum processing, such as: melting aluminium furnace, holding furnace, static furnace, heat treatment furnace, die casting, aluminum water bag, chute, degassing tank, filter tank, heat insulation lining
- Various kinds of hot gas pipes, flue and smoke lining
- Thermal insulation coating for high temperature equipment, insulation of concrete and steel structure

特性 Characteristics

- 导热系数低 容重轻，导热系数极低，保温性能好
- 柔韧性 具有一定弹性及韧性，能够抵抗设备振动而不出现开裂脱落
- 施工方便 一般为涂抹型、可浇注
- Low thermal conductivity, low heat capacity, low thermal conductivity, good insulation performance
- Flexible, flexible and resilient, able to resist the vibration of the device without cracking and shedding
- Constructing convenience – generally is coating, can casting



技术指标 Technical index

产品名称 Name		型号 Brand	SPZ-1.5	SPZ-1.2	SPZ-1.0	SPZ-0.8	SPZ-0.6	SPZ-0.3	SPZ-1.0S
轻质莫来石浇注料	骨料		耐火纤维						
	体积密度 B.D (g/cm ³)	110℃ × 24h	1.5	1.2	1.0	0.8	0.6	0.4	1
	化学成份 Chemistry (%)	Al ₂ O ₃	35	33	30	28	30	40	20
		SiO ₂	40	45	45	50	50	50	50
	抗压强度 CCS (Mpa)	110℃ × 24h	8	5	3	2	1	0.3	4
		1000℃ × 3h	10	5	3	2 (800℃)	1 (800℃)	0.3 (800℃)	4
	烧后线变化 ≤ %	1000℃ × 3h	-0.6	-0.7	-0.7	-0.8	-0.9 (800℃)	-1.5 (800℃)	-0.7
	导热系数 TC (W/m.K)	500℃热面	0.25	0.23	0.2	0.18	0.16	0.13	0.2
加水量 Water addition (%)			30	40	50	60	70	120	50



LRS系列流槽用熔融石英浇注料

LRS series fused-silica castables for launder

用途 Application

- ▶ 铝水流槽、流道工作衬
- ▶ 铝水除气系统、过滤系统内衬
- ▶ 小型保温静止炉、转运包等工作衬
- ▶ Liquid aluminum launder and runner lining
- ▶ Aluminum filtration system lining, aluminum de-gassing system lining
- ▶ Working lining for small holding furnace and transfer ladle,etc

特性 Characteristics

- ▶ **不粘铝** 熔融石英材质，与铝液不侵蚀
- ▶ **热稳定性好** 材料热膨胀系数低，最大程度避免热效应造成的开裂
- ▶ **施工性好** 自流或半自流，适合薄壁结构，浇注后气孔率低，强度高，表面光滑
- ▶ Non stick to aluminum,consist of fused silica and no penetration of liquid aluminum
- ▶ Thermal volume stable,low material thermal expansion coefficient,which minimizes the cracking of thermal shock
- ▶ Easy to construct, self-flow or semi-self-flow, suitable for thin wall structure, low porosity, high strength and smooth surface



技术指标 Technical index

产品名称 Name		型号 Brand	LRS-1.9	LRS-1.4
熔融石英浇注料	化学成份 Chemistry (%)	SiO ₂	90	80
		Fe ₂ O ₃	0.5	1.5
		CaO	1.8	2
	最高使用温度 MST (°C)		1200	1200
	体积密度 B.D (g/cm ³)	110°C × 24h	1.9	1.4
	烧后线变化 PLC (%)	1200°C × 3h	0.2	-0.3
	抗压强度 CCS (Mpa)	110°C × 24h	20	8
		1200°C × 3h	30	12
	导热系数 TC (W/m.K)	500°C热面	0.6	0.3
加水量Water addition (%)			10	20

以上数据为“典型值” The above data is "typical"

GSC系列流口砖用碳化硅浇注料

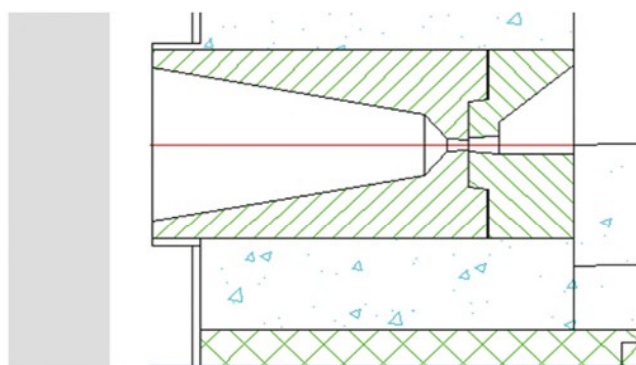
GSC series silicon-carbide castables for aluminum taphole brick

用途 Application

- 熔铝炉、保温炉流口砖
- 电解铝进水槽、短流槽
- 抬包真空管、抬包、铝水包放铝口、搅拌井等，亦可直接真空制作铝坩埚
- Taphole brick of melting furnace and holding furnace
- Inlet grooves and short flow launders of electrolytic aluminum furnace
- For lining carrier ladle and its vacuum tube, outlet and mixing well. Or cast into crucible

特性 Characteristics

- 抗 侵 蚀** 碳化硅材质中高温后表面氧化提高封闭气孔
- 机械强度高** 部分碳化硅微粉烧结形成强力共价键，大幅提高材料强度性能
- 高导热系数** 快速释放出铝时的热冲击，延长使用寿命
- 施工方便** 一般为浇注料，也可配制成涂抹料，用于修补
- Erosion resistant-The surface oxidation of silicon carbide benefits the sealing of porosity
- High mechanical strength, Part of silicon carbide powder sintering to form a strong covalent bond, which greatly improves the performance of materials
- High heat conductivity, the rapid release of the thermal shock of aluminum, extending service life
- Easy to use - vibrato casting or hand coating to repair



技术指标 Technical index

产品名称 Name		型号 Brand	GSC-80	GSC-60	GSC-40	GSC-20
碳化硅质浇注料	化学成份 Chemistry (%)	SiC	80	60	40	20
		Al ₂ O ₃	10	30	45	65
		Fe ₂ O ₃	1.5	1.5	1.5	1.5
		CaO	2.1	2.0	1.8	1.8
	最高使用温度 MST (°C)		1800	1700	1600	1600
	体积密度 B.D (g/cm ³)	110°C × 24h	2.6	2.7	2.8	2.9
	烧后线变化 PLC (%)	1200°C × 3h	0.2	0.1	0.1	-0.1
	抗压强度 CCS (Mpa)	110°C × 24h	60	60	60	60
		1200°C × 3h	80	80	80	80
	导热系数 TC (W/m.K)	500°C热面	8.8	6.5	4.3	3.8
	加水量 Water addition (%)		5	6	6	6



BF系列炉前地板用耐火地板浇注料

BF series refractory floor castables for front floor

用途 Application

- 炉前受热平台地面
- 铝水包、出渣槽放置平台地面
- 受热设备放置的地方
- Platform for holding aluminum ladles and slag slots
- Aluminum water bags and slag slots to place the platform floor
- Floor for holding equipment for high temperature

特性 Characteristics

- 耐热免烘烤** 采用致密耐火骨料及特殊结合体系，材料不必烘烤即可在高温下使用
- 高强防爆** 耐设备与机械冲击，接触热源不爆裂
- 耐磨抗冲击** 抵抗设备磕碰、拖拽磨损
- 施工方便** 分块间隔浇注，自然养护，预制块直接砌筑
- Heat resistant and no heatup required, by using dense refractory aggregate and special combination system, materials need not be baked and can be used at high temperature
- High strength and explosive proof, Shock resistant to equipment mechanical impact and no explosive risk of contacting sudden heat
- Abrasion and impact resistant, Resistant to equipment collision, drag and tear
- Construction vibrate casting and curing, or precast into blocks and installation then



技术指标 Technical index

产品名称 Name		型号 Brand	BF-80	BF-50
轻质保温浇注料	化学成份 Chemistry (%)	Al ₂ O ₃	50	35
		SiO ₂	30	35
		CaO	13	13
	最高使用温度 MST (°C)		1100	1000
	体积密度 B.D (g/cm ³)	110°C × 24h	2.7	2.1
	抗压强度 CCS (Mpa)	20°C × 7d	80	50
	加水量 Water addition (%)		7	10

以上数据为“典型值” The above data is "typical"

修补用R2系列双组份浇注料

R2 series double-component castables for lining repair

用途 Application

- 用于熔化保温炉、再生铝熔化、铸造反射炉等衬里
- 抬包真空管，抬包、铝水包内衬修补
- Used in melting furnace, aluminum smelting, casting reverberatory furnace, etc
- Aluminum ladle lining repair

特性 Characteristics

- 结合强度高** 特殊结合体系，新老界面结合强度高，快速修复,实现新旧衬里牢固结合,R2-P适合立面、顶部施工；
- 防爆快烘** 添加特殊防爆组分，产品所需烘烤时间大幅降低，R2-S可免烘烤
- 热态修补** 可在有炉温的情况下进行修补
- 双组份** 保存期长
- High binding strength, Special binding system ensures high binding strength on the repairing surface, R2-P is fit for sidewall and roof repairing
- Fast heatup and explosive proof, Anti explosive component reduced heatup time greatly and R2-S can be free of heatup
- Hot surface repair- damaged surface can be repaired at high temperature in furnace
- Double component- separated stored and long shelf store time



技术指标 Technical index

产品名称 Name		型号 Brand	R2-P80	R2-P70	R2-P60M	R2-S80	R2-S70	R2-S60M
双组分浇注料	化学成份 Chemistry (%)	Al ₂ O ₃	80	70	60	80	70	60
		SiO ₂	11	16	20	11	16	20
		Fe ₂ O ₃	1.5	2	1.5	1.5	2	1.5
	最高使用温度 MST (℃)		1500	1500	1500	1500	1500	1500
	最高抗铝温度 TNA max (℃)		800	700	—	800	700	—
	体积密度 B.D (g/cm³)	110℃×24h	2.8	2.7	2.5	2.8	2.7	2.5
	烧后线变化 PLC (%)	800℃×3h	−0.25	−0.4	−0.5	−0.25	−0.4	−0.5
	抗压强度 CCS (Mpa)	110℃×24h	70	60	50	30	25	20
		800℃×3h	90	80	60	70	60	50
		1200℃×3h	100	100	70	100	80	70
导热系数 TC (W/m.K)	500℃热面	2.2	1.7	1.3	2.2	1.7	1.3	
结合剂 Binder addition(%)		5	6	7	5	6	7	

以上数据为“典型值” The above data is "typical"

RBA系列修补用快烘不粘铝浇注料

RBA series quick heatup non-stick aluminum castables for lining repair

用途 Application

- ▶ 熔铝炉、保温炉炉衬浇注修补
- ▶ 扒渣坡、抗砸下料斜坡等部位修补
- ▶ 真空抬包、铝水转运包内衬修补
- ▶ Lining repair of aluminium melting furnace and holding furnace
- ▶ Repairing of front slope of slag grabbing, impact slope for feed up, other impact area, etc
- ▶ Lining for vacuum ladle or other portable aluminum containers

特性 Characteristics

- ▶ 致密高强 材料致密，强度高，耐磨性好，抗铝水冲刷
- ▶ 防爆快烘 添加特殊防爆组分，产品所需烘烤时间大幅降低
- ▶ 施工方便 浇注施工
- ▶ Dense and high strength, good wear resistance and resistant to liquid aluminum flushing
- ▶ Fast heatup and explosive proof, anti explosive component addition reduced heatup time greatly
- ▶ Construction Vibrating cast



技术指标 Technical index

产品名称 Name		型号 Brand	RBA-95	RBA-90	RBA-85	RBA-80	RBA-70	RBA-60	RBA-50
快烘不粘铝浇注料	化学成份 Chemistry (%)	Al ₂ O ₃	95	90	85	80	70	60	50
		SiO ₂	1.5	2	6	11	16	20	28
		Fe ₂ O ₃	0.1	0.3	1.5	1.5	2.2	2.5	3
		CaO	2	2	2.5	3.5	2.5	3.2	4
	最高使用温度 MST (°C)		1700	1600	1500	1450	1400	1300	1300
	最高抗铝温度 TNA max (°C)		1200	1000	900	850	700	700	700
	体积密度 B.D (g/cm ³)	110°C × 24h	3	2.9	2.85	2.8	2.7	2.5	2.4
	烧后线变化 PLC (%)	800°C × 3h	0.1	0.1	-0.2	-0.25	-0.4	-0.5	-0.3
	抗压强度 CCS (Mpa)	110°C × 24h	100	90	80	70	60	30	30
		800°C × 3h	150	130	125	120	80	50	50
	导热系数 TC (W/m.K)	500°C热面	2.5	2.4	2.3	2.2	1.7	1.3	1.8
	加水量 Water addition (%)		4	4.5	5	5.5	7	8	9

以上数据为“典型值” The above data is "typical"

LSD系列炉衬用半干法抗铝喷涂料

LSD series semi-dry guning repairing material

用途 Application

- 熔铝炉、保温炉内衬半干法喷涂、涂抹修补
- 抬包真空管，抬包、铝水包内衬半干法喷涂、涂抹修补
- 铝灰回转窑系统窑头罩，除尘系统等部位快速修复
- Gunning repairing lining of melting and holding furnaces, or hand coating
- Gunning or hand coating for repairing lining of ladle and its vacuum tube
- Rapid repairing of kiln hood of rotary kiln system, and dust clection system of aluminum dust retrieve

特性 Characteristics

- 致密高强** 材料致密，强度高，耐磨性好，抗铝水冲刷
- 无需支模** 直接喷涂在施工部位，不需要预支模具
- 施工方便** 半干法喷涂、涂抹施工
- Dense and high strength, good wear and resistant to liquid aluminum flushing
- No mold needed, Gunning repair directly ,no mold needed
- Usage guning or hand coating



技术指标 Technical index

产品名称 Name		型号 Brand	LSD-80	LSD-70	LSD-65	LSD-60	LSD-50	LSD-60M	LSD-50J
炉衬用半干法喷涂料	化学成份 Chemistry (%)	Al ₂ O ₃	80	70	65	60	50	60	50
		SiO ₂	11	16	18	20	28	20	28
		Fe ₂ O ₃	1.5	2.2	2.5	2.5	3	2.5	3
		CaO	3.5	2.5	2.5	3.2	4	3.2	4
	最高使用温度 MST (°C)		1400	1400	1300	1300	1300	1300	1300
	最高抗铝温度 TNA max (°C)		700	700	700	700	—	700	—
	体积密度 B.D. (g/cm ³)	110°C × 24h	2.7	2.6	2.5	2.4	2.3	2.5	2.4
	烧后线变化 P.L.C. (%)	TMAX°C × 3h	-0.4	-0.4	-0.4	-0.5	-0.5	-0.5	-0.3
	抗压强度 C.C.S. (Mpa)	110°C × 24h	60	50	40	30	25	40	30
		TMAX°C × 3h	80	70	60	50	40	60	50
	导热系数 T.C. (W/m.K)	500°C热面	2.2	1.7	1.7	1.3	1.3	1.3	1.3
	加水量 Water addition (%)		6	7	8	9	10	8	9

以上数据为“典型值” The above data is "typical"

FSD系列烟道用半干法喷涂料

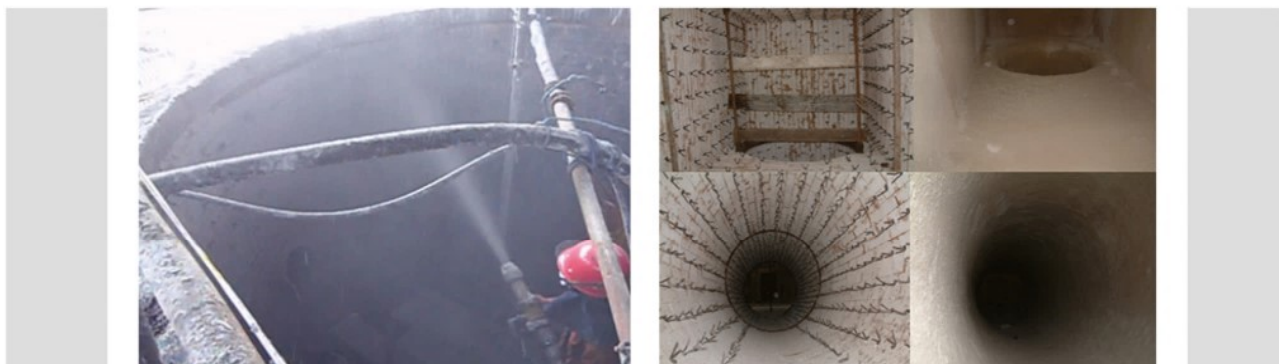
FSD series light weight guning material for flue

用途 Application

- 铝加工、电解铝厂烟道、除尘管道、烟囱的衬里
- 窑炉设备隔热层
- 热工设备、混凝土结构隔热防护
- Aluminum processing, electrolytic aluminum plant flue, dust removal pipes, chimneys lining
- Insulation layer of kiln equipment
- Thermal equipment, concrete structure insulation protection

特性 Characteristics

- 轻质绝热 容重轻，导热系数极低，保温性能好
- 无需支模 直接喷涂在施工部位，不需要预支模具
- 施工方便 半干法喷涂，也可涂抹施工
- Lightweight insulation - Light weight, low thermal conductivity, good thermal insulation property
- No need to set mold Direct spraying on the construction site, do not need prefixed mould
- Usage guning or hand coating



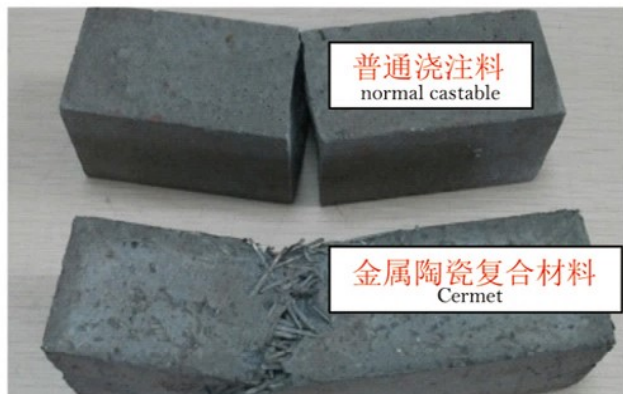
技术指标 Technical index

产品名称 Name		型号 Brand	FSD-140	FSD-130	FSD-120	FSD-110	FSD-100	FSD-80	FSD-120T
轻质喷涂料	骨料		轻质莫来石骨料			多种轻质骨料			
	最高使用温度 MST (°C)		1400	1300	1200	1100	1000	800	1100
	体积密度 B.D (g/cm ³)	110°C × 24h	2.0	1.8	1.2	1.1	1.0	0.8	1.2
	化学成份 Chemistry (%)	Al ₂ O ₃	50	45	40	35	30	20	25
		SiO ₂	40	40	50	55	60	70	60
	抗压强度 CCS (Mpa)	110°C × 24h	15	10	4	4	3	2	4
		TMAX°C × 3h	20	15	5	4	3	2	5
	烧后线变化 ≤ %	TMAX°C × 3h	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
轻质喷涂料	导热系数 TC (W/m.K)	500°C热面	0.6	0.55	0.28	0.26	0.25	0.23	0.28
	加水量 Water addition (%)		15	20	28	36	40	50	28

以上数据为“典型值” The above data is "typical"

SIFC金属陶瓷预制件

SIFC Cermet preshapes



试块受折的断裂形貌对比
Fracture morphology comparison of test blocks



试块受压后的形貌
Shape of test block after compression

该复合材料既有陶瓷材料耐高温性能，又有金属材料的高强和韧性，耐磨性、抗冲击性及抗剥落性远优于常规材料。

金属陶瓷包沿预制件是一种半陶瓷、半金属的复合结构耐火材料，以刚玉、刚玉-莫来石为基体，钢纤维加入量为重量的20~40%，体积的10~20%，经特殊工艺预制而成；组合式结构，可单独更换损坏部位，降低耐材单耗和工作量，大幅提高包沿使用寿命。

The composite material has both high temperature resistance and high strength and toughness of the metal material, and the wear resistance, impact resistance and spalling resistance are much better than those of conventional materials.

Steel fiber cermet preform is a semi ceramic and semi metallic composite structure refractory, Corundum, corundum and mullite were used as matrix, The amount of steel fiber is 20~40% of weight or 10~20% of volume, It has been fabricated by special process; The prefabricated parts are combined structures, can replace damaged parts separately, to reduce the refractory consumption and workload, greatly increase the service life of the ladle edge.

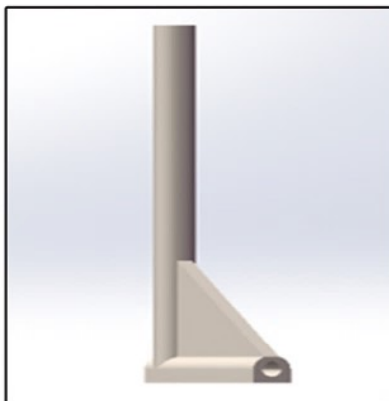


铝水净化搅拌器

Aluminum Purging Mixer

铝水旋转搅拌器：旋转通气，去除铝水中各种有害杂质，搅拌铝水提高铝水各项成分充分混合。

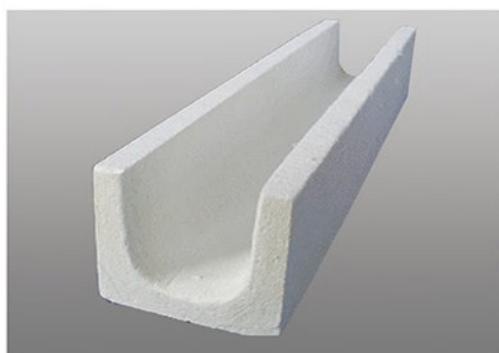
Aluminum purging mixer: Preshaped refractory block inlets argon gas while stirring liquid aluminum to remove all harmful impurities and make the liquid uniform in composition.





各种预制产品

A variety of prefabricated products



☆我公司可根据客户的需求制作熔池、炉墙、炉顶、炉盖、炉门、烧嘴、流槽、铝水包、流铝砖等各种材质的预制件产品。我公司多年预制件制作经验，保证预制件模具制作准确，经专业浇注与养护，脱模后预制件表面光洁，通过450-800℃中温烘烤，较未烘烤浇注体强度大幅提高并减少安装周期。

☆Allied Rongda supplies preshaped products according to customer's demand. Professional processes with 20 years of experience will exceed your expectation. All blocks can be heated up to 450-800℃ according to technical requirement.

筑炉辅助用各种配套材料

Various auxiliary materials are available for furnace construction

不沾铝节能涂料

Non-stick aluminium energy saving coating



火焰炉(如加热炉、热处理炉等)内表面涂覆,以提高炉体内表面黑度,增强炉体热辐射能力,从而强化炉内热交换,节能降耗,提高效率。涂于炉衬表面

Spraying coated on surface of linings of all kinds of flame furnaces, to increase blackness of surface and enforce the heat exchange efficiency for energy saving and operation efficiency.

硅钙板

Calcium silicate board



硅酸钙板是一种绝热保温材料,具有重量轻、耐高温、抗热震、热容小、保温性能好等特点,用于炉低、炉墙的绝热保温。

Calcium silicate board is a kind excellent insulation material. It has the characteristics of light weight, high temperature resistant, thermal shock resistant, small heat capacity and good thermal insulation. It is used for the low temperature and furnace wall insulation.

硅酸铝纤维制品

Aluminum silicate fiber products



硅酸铝耐火纤维是一种新型绝热保温材料,具有重量轻、耐高温、抗热震、热容小、保温性能好等特点,用于炉衬与炉壳之间的绝热保温,膨胀缝等。

Aluminum silicate refractory fiber is a new type of thermal insulation material. It has the characteristics of light weight, high temperature resistance, thermal shock resistance, small heat capacity and good thermal insulation. It is used for the insulation and expansion joints between the lining and the furnace shell.

锚固件

Anchoring parts



锚固件是窑炉炉壳或支撑结构上安装的金属或非金属部件,并埋入不定型耐火材料衬体中,起锚固和连接作用。可分为两大类:一类是非金属锚固件,即特制耐火砖(即锚固砖),一类是金属锚固件。金属锚固件应用在较低温度下,非金属锚固件应用于较高温。

The anchor is a metal or nonmetal component which is installed on the furnace shell or the supporting structure, and is embedded in the unshaped refractory lining, so as to anchor and connect. Can be divided into two categories: one is the non metal anchors, namely special refractory (i.e., one is the anchor brick) metal anchor. Metal anchors are applied at lower temperatures, and non-metallic anchors are applied to higher temperatures.

DX 型 高温胶

DX glue for high temperature



DX高温胶是一种磷酸盐胶泥,用于耐火砖砌筑、粘贴,耐火纤维毡、硅钙板等粘贴,砌筑体及浇注体裂缝、孔洞填补对炉衬有一定保护作用。本产品为热硬性胶体。

DX glue is a kind of phosphate mud, It's used for fix and sticking refractory bricks, sticking refractory fiber felt and calcium silicate board. It can be also used for repairing cracks and holes of rereactory structure by filling mixture of the glue with refractory powders together, or just the glue itself. The glue is heat hardening and bears high temperature.

泵送与湿法喷注施工工艺介绍

Introduction of construction technology of pumping and shotcrete

湿法喷注施工工艺

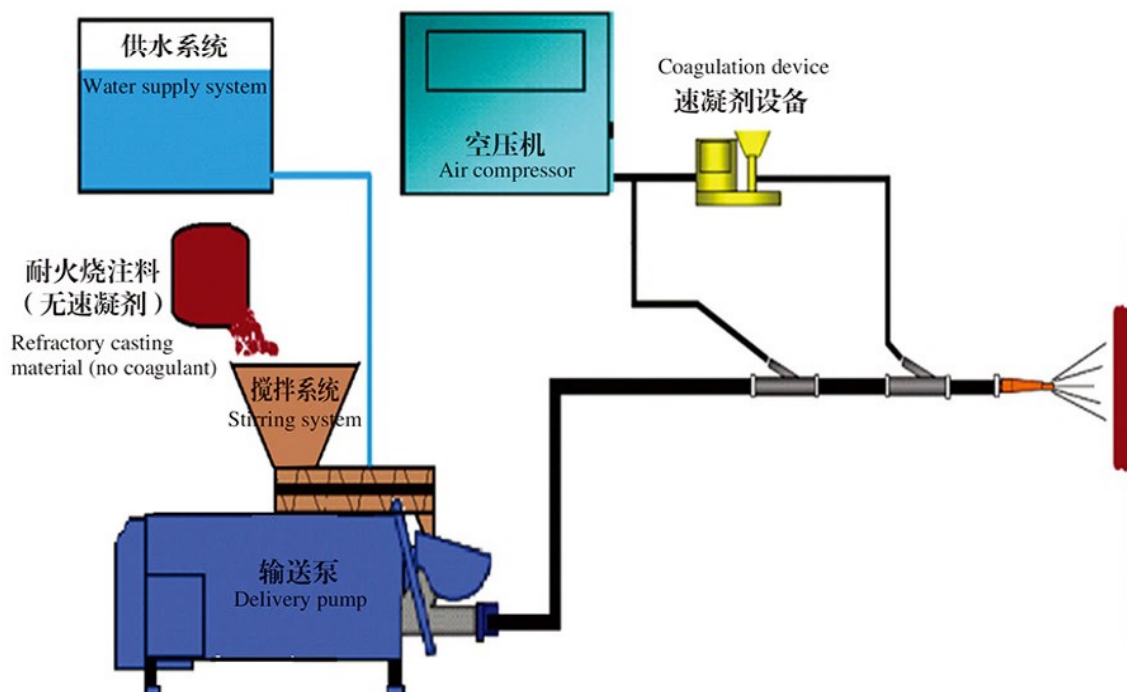
Construction technology of shotcrete

用途 Application

- 将搅拌好的浇注料通过喷注机输送到施工部位，进行湿法喷注施工，熔铝炉、回转窑等各类热工设备耐火工作衬快速修补，热态修补
- Well mixed fluid castable is pumped and shot sprayed onto the damaged lining. Repairing can be very fast and efficient.

特性 Characteristics

- 保证材料性能，湿法喷注，材料充分搅拌，与浇注料相当，高压喷注，材料致密高强，且与原炉衬结合牢固；
- 无需支模，无需支设模具，无需拆模，可修复结构复杂、狭小区域；
- 反弹率低，较干法施工大幅降低反弹率，节约材料；
- 节约人力，效率高，机械连续施工，大幅降低修补时间。
- Shotcrete performance is excellent. Shotcrete process ensure castable well mixed with water into fluid mortar and sprayed onto surface to be repaired with high pressure compressed air. The concrete onto the wall is as dense as vibrating casted castable, and firmly binded with the base lining.
- No mold is required for shotcrete lining process. It can be applied for repairing complicated structure.
- Low rebound rate - substantially reduce rebound rate and save material compared with dry construction;
- Manpower saving, high efficiency - mechanical continuous construction, greatly reduce the repair time.



喷注工艺原理示意图
Schematic diagram of shotcrete process

泵送浇注施工工艺

Pump casting construction process

用途 Application

- 将熔池用BA系列、炉衬用WA系列浇注料，通过泵送机输送到施工部位，进行浇注施工
- Aluminun furnaces can be pump casted by using BA and WA series castables with macinary pump sytem, efficiently

特性 Characteristics

- 保证性能，浇注料搅拌好后，通过泵送管道输送，时间短，密封性好，提高浇注料的可施工时间且最大程度避免水份挥发从而提高浇注体性能
- 整体性好，管道连续输送，浇注体不分层,整体性优
- 节约人力，效率高，管道输送无需考虑浇注料的搬运路径因素，搅拌机到施工部位点对点泵送，效率高，无损耗；无需人工运料，降低劳动强度
- Guaranteed performance- Castable is well mixed into fluid moltar and pumped through pipe line in short time to the place where need to be repaired. The process avoids volatization of moisture and improves work time of castable, which garantees and improves the performance of the castables
- Good integrity - continuous pipe conveying, casting without delamination, and integrity
- Save manpower, efficientt pipe conveying from mixer to construction site causes no wast of material. Because of no manual transportation needed so labor intensity is reduced greatly



浇注料的使用

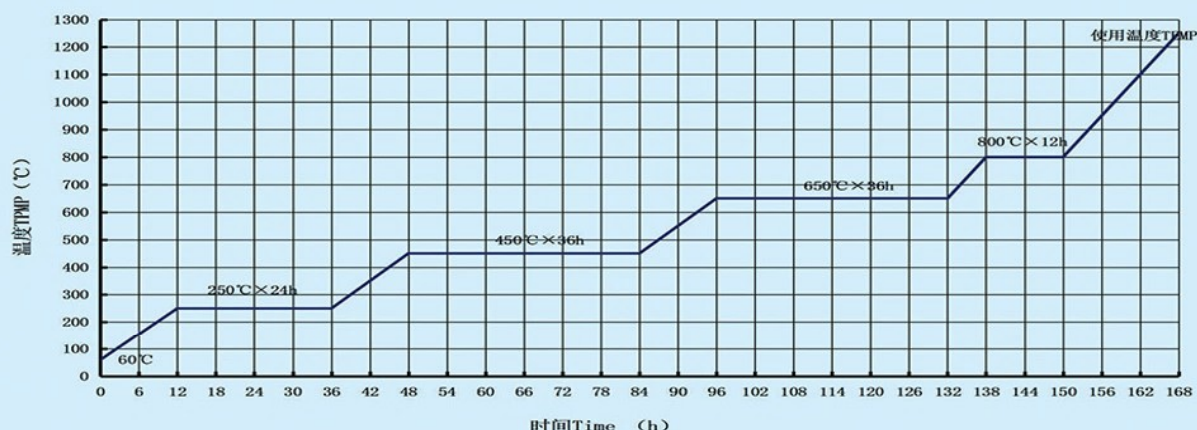
Use of castable



项目 Item	温度 TEMP	时间 Time	说明 Illustration
存储 Storage	0-30℃	6-12Month	干燥、防潮 Dry and Prevent sunburn
浇注 Cast	5-25℃	≤30Min	洁净自来水: PH=7, 加水量遵守《施工说明》 Clean tap water: PH=7, The amount of water added shall comply with the construction instructions
养护 Curing	5-30℃	12-24h	防晒、洒水养护、避免暴露在潮湿密闭环境 Sunscreen, sprinkler maintenance, avoid exposure to humid airtight environment
烘烤 Drying	1. 未经烘烤的浇注体, 应避免长时间不烘烤。 2. 为了避免材料返碱, 浇注体在养护后尽快进行100以上的烘干处理。 3. 烘炉完毕最好不降温投产。 4. 炉内降温应按降温梯度曲线逐渐降温, 而不是自然冷却。 5. 点火和烘烤禁止使用木柴, 不可控的温度容易造成开裂甚至爆裂; 6. 烘炉需要严格按照《烘炉曲线》操作。 1. Casted lining shall be avoided from long period of wet stationed without baking. 2. In order to avoid surface efflorescence, the casted body should be dried at over 100C as soon as possible. 3. It's a better choice to avoid cooling down after heat-up drying. 4. The cooling down operation should be controlled and follow the designed schedule, instead of natural cooling down. 5. Wood and lumb are prohibited for drying and ignition. The uncontrolled temperature will easily cause cracking and even burst eruption. 6. Heat up should be operated strictly according to "Dry Curve".		

7天烘烤曲线示例

Example of drying curve for 7 days



产品用户表

Users list

客户名称 Customer name	客户名称 Customer name
沈阳东大三建工业炉制造有限公司 SHENYANG NEU-SANKEN INDUSTRIAL FURNACE MFG.CO.,LTD.	山东兖矿轻合金有限公司 SHANDONG YANCON LIGHT ALLOY CO., LTD
苏州新长光热能科技有限公司 Suzhou New Changguang Thermal Technology Co.,Ltd.	保定安保能冶金设备有限公司 Baoding Anbaoneng Metallurgical Equipment Co., Ltd.
安德里茨（上海）有限公司 Ander Rich (Shanghai) Limited	岳阳钟鼎热工电磁科技有限公司 Yueyang Zhongding thermtechnical & Electromagnetic Technology Co. Ltd.
秦皇岛美铝有限公司（奥科宁克） Qinhuangdao Meilv Alloy Co. Ltd. (O Koninck)	山东立中轻合金汽车材料有限公司 Shandong Lizhong light alloy auto-material Co., Ltd.
重庆捷利轮毂制造有限公司 Chongqing Jieli Wheel Manufacturing Co., Ltd.	内蒙霍煤万祥铝业有限公司 Inner Mongolia Huo Hua Wan Xiang Aluminum Industry Co., Ltd.
茌平信发铝制品有限公司 Chiping Xinfa aluminum products Co., Ltd.	包头铝业股份有限公司 Baotou Aluminium(Group)CO.,Ltd
苏州博能炉窑科技有限公司 Suzhou Boneng Furnace Technology Co Ltd	苏州琰嵩工业炉有限公司 Suzhou Yan Song Industrial Furnace Co. Ltd
沈阳四方轻合金有限公司 Shenyang Sifang Light Alloy Co., Ltd.	昆山东大三建工业炉有限公司 KUNSHAN NEU-SANKEN INDUSTRIAL FURNACE MFG.CO.,LTD.
神雾科技集团股份有限公司 Shenwu technology group corp Co., Ltd.	襄阳恒德汽车配件有限公司 Xiangyang Hengde Auto Parts Co., Ltd.
弗恩森（北京）电炉有限公司 Ferson (Beijing) Electric Furnace Co., Ltd.	沈阳永安铝镁有限公司 Yongan Shenyang aluminium magnesium Co., Ltd.
渤海铝业有限公司 Bohai Aluminium Industry Co Ltd	浙江永杰铝业有限公司 Zhejiang Yong Jie Aluminum Industry Co., Ltd.
东北轻合金有限公司 Dongbei light alloy Co Ltd	南京长江工业炉科技有限公司 Nanjing Changjiang Industrial Furnace Technology Co., Ltd.
华北铝业有限公司 Huabei Aluminium Industry Co Ltd	内蒙古亚铝金桥铝业有限公司 Inner Mongolia Jinqiao International Electronics Co., Ltd.
洛阳希格电气自动化有限公司 Luoyang Xige Automation Equipment Co., Ltd.	辽源银源铝合金有限责任公司 Liaoyuan Yinyuan Aluminum Alloy Co., Ltd.
西北铝加工分公司 Northwest Aluminum processing branch company	兖矿科澳铝业有限公司 Yanzhou Ke'ao Aluminum Co. Ltd.
重庆飞达电炉厂 Chongqing Feida electric furnace Co., Ltd.	南京太平洋炉业科技有限公司 Nanjing Pacific Furnace Technology Co., Ltd.
大连黄海铝业有限公司 Dalian Huanghai Aluminium Industry Co., Ltd.	赣州铝业股份有限公司 Ganzhou aluminium Limited by Share Ltd
大连昌荣炉业有限公司 Dalian Changrong Industrial Furnace Co. Ltd.	商丘市京陇铝业有限公司 Shangqiu JingLong Aluminium Industry Co., Ltd.
苏州啸波再生金属设备成套有限公司 Suzhou Xiaobo regenerated metal equipment Co., Ltd.	秦皇岛奥莱德铝业科技有限公司 Qinhuangdao Austrian Aluminum Technology Co., Ltd.
江苏苏铝铝业有限公司 Jiangsu Su Aluminum Aluminum Co., Ltd.	浙江奉化铝业有限公司 Zhejiang Fenghua Aluminum Co. Ltd.

集团管控 · 集中研发 · 技术共享

GROUP CONTROL · CENTRALIZING R&D · TECHNOLOGY SHARING

集团调配 · 基地生产 · 区域服务

GROUP DEPLOYMENT · BASE PRODUCTION · REGIONAL SERVICES



新浪微博



官方微信

全国统一客服热线 Unified national customer service hot-line

免费热线 (Free hotline) : 800-810-9575 400-650-9912

手机业务 (Mobile phone hotline) : 400-110-2006 (中文普通话)
400-110-1600 (English Speaking)

E-mail: rongda@rongda.com.cn



北京联合荣大工程材料股份有限公司 (总部)

Beijing Allied Rongda Engineering Material Co.,Ltd.(headquarters)

地址: 北京市怀柔区北房镇经纬工业区长云路9号 (101400)

Address: No.9, Longyun Road, Beifang Industrial Area, Huai'rou District, Beijing (101400)

商务联络: 王文毅 Wang Wenyi 13911755220

电话 (Tel) : (+86) 10 61685636 61685766 61685603

传真 (Fax) : (+86) 10 61685703

网址 (Web) : www.alliedrongda.com.cn



北京联合荣大建材有限公司

Beijing Allied Rongda Construction Material Co.,Ltd.

地址: 北京市怀柔区北房工业区长裕路3号 (101400)

Address: No.3, Yuhua Road, Beifang Industrial Area, Huai'rou District, Beijing (101400)

商务联络: 姚俊海 Yao Junhai 13581863937

电话 (Tel) : (+86) 10 61681444 61681524 61682457

传真 (Fax) : (+86) 10 61683157

网址 (Web) : jiancai.alliedrongda.com



南京联合荣大工程材料有限责任公司

Nanjing Allied Rongda Engineering Material Co.,Ltd.

地址: 南京市江宁区滨江经济技术开发区翔凤路17号 (211178)

Address: No.17, Xiangfeng Road, Binjiang Economic and Technology Development Area, Jiangning District, Nanjing (211178)

商务联络: 赵勇 Zhao Yong 13585112458

电话 (Tel) : (+86) 25 86371995 86200161 84950476

传真 (Fax) : (+86) 25 86218945

网址 (Web) : nanjing.alliedrongda.com



成都联合荣大工程材料有限责任公司

Chengdu Allied Rongda Engineering Material Co.,Ltd.

公司地址: 成都市金牛区沙湾路1号洛克中心4079室 (610000)

Address: Room 4079, Rock Center Building, No.1, Shawan Road, Jinniu District, Chengdu (610000)

商务联络: 曲芳 Qu Fang 13770542711

电话 (Tel) : (+86) 28 87659853、87659854

传真 (Fax) : (+86) 28 87659853

网址 (Web) : chengdu.alliedrongda.com



北京联合荣大工程材料股份有限公司西安分公司

Beijing Allied Rongda Engineering Material Co., Ltd Xi'an Branch

地址: 西安市未央区三桥双拥路金桥国际一单元2105室 (710086)

Address: Room 2105, Unit one, Jinqiao international, Sanqiao Shuangyong Road, Weiyang District, Xi'an (710068)

商务联络: 曲芳 Qu Fang 13770542711

电话 (Tel) : (+86) 29 84368469

传真 (Fax) : (+86) 29 84333953

网址 (Web) : xian.alliedrongda.com