



熔岩耐火
LAVA REFRACTORIES

LAVA REFRACTORIES[®]

PRODUCT CATALOGUE





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ABOUT LAVA

Based in Dalian, China P.R., which is located in the center of North China, famous for its heavy industry, particularly in CERAMIC & REFRACTORIES manufacturing. Keeping the concept "Make Energy Efficiency Simpler" in mind, striving to be the most reliable supplier in REFRACTORY and INSULATION material industry worldwide, years of non-stop innovation

and team-working transformed us to be now a leading supplier of refractory and insulating materials in this field.

LAVA committed to developing and manufacturing high quality products for its customer. Customers accept our products at first, then gradually getting fond of them, and finally they find that they have already relied on

them. Up to now, we have established cooperative relationships with many Giant Companies in refractory field.

We are continue to serve all of our customers with best products and services. We are always on the road and never stop!

Alumina Bricks





CLAY FIREBRICKS

Key Features for CLAY FIREBRICKS

- Good thermal shock and spalling resistance
- Good resistance to abrasion and corrosion
- Good volume stability at high temperature
- High mechanical strength

The main application for CLAY FIREBRICKS are listed below:

- Furnace construction
- Blast furnace/Hot blast stove
- Steel foundries
- Furnace in the nonferrous metal industry
- Coke oven and Gas furnace
- Glass industry
- Cement industry
- Safety lining of ladle
- Backup lining of boiler

LAVA supplying a comprehensive range of CLAY FIREBRICKS. Alumina content in approximate 28-45% are classified to CLAY FIREBRICKS.

■ Product Data

Material	Common		Special						
			Blast Furnace		Hot Blast Stove			Glass Furnace	
Item	SK32	SK34	ZGN-42	GN-42	RN-42	RN-40	RN-36	BN-40a	BN-40b
Pyrometric Cone Equivalent Orton Cone	31-32	33-34	-	-	-	-	-	-	-
Refractoriness (°C)	1715	1760	1760	1760	1760	1740	1700	-	-
Bulk Density (kg/m ³)	2100-2200	2200-2250	2200	2200	2200	2200	2150	2250	2250
Apparent Porosity (%)	22-24	18-20	≤15	≤16	≤24	≤24	≤25	≤18	≤18
Cold Crushing Strength (MPa)	22-32	30-35	≥58.8	≥49.0	≥29.4	≥24.5	≥19.6	≥49.0	≥34.3
Modulus of Rupture (kg/cm ²)	55-70	60-80	-	-	-	-	-	-	-
Reheat Test, Permanent Linear Change After Heating At	(1350°C%, 3h)	-	-	-	-	0--3	0--0.5		
	(1400°C%, 2h)	-	-	-	-	-	-	0--0.4	0--0.4
	(1450°C%, 3h)	-	-	0--2	0--3	0--0.4	-	-	-
	(1400°C%)	0.0-0.2	-0.18	-	-	-	-	-	-
0.2 MPa Soft Under Load (%)	-	-	≥1450	≥1430	≥1400	≥1350	≥1300	≥1450	≥1400
SiO ₂ (%)	57.8	52.4	-	-	-	-	-	-	-
Al ₂ O ₃ (%)	36.2	42.1	≥42	≥42	≥42	≥40	≥36	≥40	≥40
Fe ₂ O ₃ (%)	2	1.4	≤1.7	≤1.7	-	-	-	≤1.5	≤1.5
CaO (%)	0.5	0.4	-	-	-	-	-	-	-
Na ₂ O+K ₂ O+Li ₂ O (%)	0.5	0.5	-	-	-	-	-	-	-

HIGH ALUMINA BRICKS

LAVA supplying a comprehensive range of HIGH ALUMINA BRICKS. Alumina content up from 45%-95% and service temperature up to 1900°C are classified to HIGH ALUMINA BRICKS.

Key Features for HIGH ALUMINA BRICKS

- Excellent corrosion resistance to neutral slag and metal penetration resistance at high liquid temperature.
- Improved thermal shock and corrosion resistance at high temperature
- High density, high mechanical strength and good volume stability at high temperature

Typical Applications

- Good for iron and steel making operation at the area of working zone in ladle and EAF roof
- For reheating furnace such as anchor brick and burner block
- Transition and cooling zone of rotary cement kiln, lime shaft kiln etc
- Bottom and door foundry air furnace and side wall of aluminum refining melting furnace, etc



Product Data

Material	Common						Special					
	Item	SK36	SK38	TS80	TS85	SL-92	SL-90	SL-85	SL-80	SL-75	SL-70	SL-60
Pyrometric Cone Equivalent Orton Cone	35-36	37-38	38	> 38	40	40	40	39	39	38	37	36
Refractoriness (°C)	1785	1810	1835	1840	-	-	-	-	-	-	-	-
0.2 MPa Soft Under Load (%)	-	-	-	-	1700	1700	1700	1670	1650	1580	1550	1500
Bulk Density (kg/m³)	2300-2350	2400-2450	2550-2650	2650-2750	3.10	2.95	2.90	2.85	2.70	2.62	2.50	2.40
Apparent Porosity (%)	20.0-22.0	19.0-20.0	18.0-19.0	17.0-18.0	16	16	19	18	18	18	18	18
Cold Crushing Strength (MPa)	45-48	50-55	60-65	70-75	80	80	800	750	700	700	650	600
Modulus of Rupture (kg/cm²)	70-80	80-90	90-100	150-180	-	-	-	-	-	-	-	-
Thermal Expansion At 1000°C (%)	-	-	-	-	-	-	0.75	0.7	0.65	0.60	0.55	0.50
Reheat Test, Permanent Linear Change After Heating At	1500°C, 2h(%)	-	-	-	-	±0.2	±0.2	±0.2	±0.2	±0.2	±0.2	±0.2
	1400°C(%)	(+)0.5	(+)1.00	(+)1.02	-	-	-	-	-	-	-	-
SiO ₂ (%)	38.2	20.2	14.0	8.7	-	-	-	-	-	-	-	-
Al ₂ O ₃ (%)	48-55	70-75	81.1	85	92	90	85	80	76	70	65	50
Fe ₂ O ₃ (%)	1.8	1.8	1.8	1.8	0.8	0.8	1.0	1.0	-	-	-	-
CaO (%)	0.4	0.4	0.3	0.2	-	-	-	-	-	-	-	-
Na ₂ O+K ₂ O+Li ₂ O (%)	0.5	0.5	0.3	0.2	-	-	-	-	-	-	-	-

CORUNDUM, MULLITE, ANDALUSITE & SILIMANITE BRICKS

Corundum & Corundum Mullite Bricks

Corundum & Corundum Mullite Bricks are high alumina refractory bricks for application in extreme conditions. The alumina content is primarily achieved by using pure synthetic types of corundum, such as white corundum and tabular alumina. Special refractory clays, special clays and pure silicilic acid modifications characterize the bond. Through product-specific and format-specific high temperature firing, the corundum bricks have a high temperature-resistant mullite bond, a mullite-corundum bond or a pure corundum bond. The application temperatures reach 1700°C for the mullite bond and up to 1800°C for corundum bond bricks, such as AL-95. The range of applications of the bricks covers almost all industrial sectors where high temperature processes are used and in which increased resistance to aggressive slags and atmospheres, as well as lot hot pressure flow and good thermal shock resistance are required.

Silimanite and Andalusite Bricks

Non contaminated andalusite from natural sources forms the raw material for these bricks. Shaping takes place by hydraulic high pressure presses by vibration casting or slip casting. Andalusite grades with excellent pressure flow behaviour, at particularly high temperatures, and an excellent thermal shock resistance are achieved by especially designed bonds and defined and optimized firing. Hot-blast stoves (cowper and burner blocks) are preferred areas of application for these low-iron bricks, together with special products with very good thermodynamic and corrosion resistant characteristics for glass melters, and for areas with medium temperature in thermal re-generators, fore-hearth covers and feeder expendables. Special bricks with specific chemical bonding have been developed and proven themselves in application areas of high thermal and mechanical stress, such as in hazardous waste incinerators and combustion chambers.

Mullite Bricks

Mullite bricks, based on synthetic fused mullite and sintered mullite, are manufactured by selected shaping processes and fired in high temperature furnaces. Mullite bricks are preferred for high thermal stress applications, such as at the hot end of regenerative chambers of glass melters, in the superstructure of the furnace, and in particular in the arch of glass fibre melters, due to their excellent thermal properties and adequate corrosion resistance.

Product Data

Item	Corundum		Corundum Mullite		Silimanite		Andalusite		Mullite	
	AL-95	AL-90	CM-80	CM-85	ZS-60	ZS-65	ZA-55	ZA-60	ZM-65	ZM-75
Refractoriness (SK)	40	40	39	39	37	38	36	37	37	38
Bulk Density (kg/m ³)	3.15	3	2.65	2.75	2.50	2.55	2.45	2.50	2.50	2.60
Apparent Porosity (%)	15	16	20	20	22	22	22	22	18	18
Cold Crushing Strength (MPa)	80	80	60	60	450	500	400	450	50	60
Permanent Linear Change (%) 1500°C×2h	±0.2	±0.2	±0.2	±0.1	±0.2	±0.2	±0.2	±0.2	±0.1	±0.1
Refractoriness Under Load (2kg/cm ² , T2°C)	1800	1700	1700.00	1700.00	1500	1550	1450.00	1500.00	1650	1700
Al ₂ O ₃ (%)	95	90	80	85	60	65	55	60	65	75
Fe ₂ O ₃ (%)	0.6	0.8	0.5	0.5	1.0	1.0	1.0	1.5	1.0	0.6

HOLLOW WARE BRICKS

LAVA supplying a comprehensive range of HOLLOWWARE BRICKS of dimensional accurate for use in the steel and steel foundry industries.

Hollowware bricks has high fire resistance, good crack resistance and strong corrosion resistance. It has regular appearance, smooth runner, precise size and complete variety. The products are manufactured according to the model and specification stipulated by the state, and can be processed separately according to the special requirements.



Product Data

Material	HOLLOWWARE	
Item	SK36	SK38
Pyrometric Cone Equivalent Orton Cone	35-36	37-38
Refractoriness [°C]	1785	1810
0.2 MPa Soft Under Load (%)	-	-
Bulk Density [kg/m ³]	2250-2300	2350-2400
Apparent Porosity [%]	23.0-25.0	23.0-25.0
Cold Crushing Strength [MPa]	30-35	35-40
Reheat Test, Permanent Linear Change After Heating At 1400°C [%]	(+)-0.5	(+)-1.00
SiO ₂ [%]	38.2	20.2
Al ₂ O ₃ [%]	48-55	70-75
Fe ₂ O ₃ [%]	1.8	1.8
CaO [%]	0.4	0.4
Na ₂ O+K ₂ O+Li ₂ O [%]	0.5	0.5



Magnesite Bricks

FIRED MAG BRICKS

LAVA supplying a comprehensive range of FIRED MAG BRICKS.

The fired magnesia brick has high load softening temperature and strong resistance to alkaline slag erosion. The fired magnesia bricks are mainly used for the lining of basic open hearth, wall and bottom of electric furnace, permanent lining of oxygen converter, mixer, non-ferrous smelting furnace, high temperature tunnel kiln, lining of rotary kiln for calcining magnesia and cement, upper lattice bricks of glass melting furnace, bottom and end of steel rolling soaking furnace and heating furnace.

Applications

- Iron Steel Industry
Steelmaking furnace lining, ferroalloy furnace, metal mixer furnace lining, converter lining, arc furnace wall and furnace bottom, soaking furnace, heating furnace bottom
- Non-ferrous metallurgical industry
Copper, nickel, lead, zinc, tin smelting furnace lining, refined copper reverberatory furnace, ore electric furnace lining
- Glass Industry
Glass furnace regenerator checker
- Building Material Industry
Lime kiln, cement kiln
- Refractory Material Industry
High temperature calcination kiln, shaft kiln and tunnel kiln

Product Data

Type	MZ-97A	MZ-97B	MZ-95A	MZ-95B	MZ-93	MZ-91
MgO (%) \geq	97	96.5	95	94.5	93	91
SiO ₂ (%) \leq	1.0	2.0	2.0	2.0	3.5	-
CaO (%) \leq	-	-	2.0	2.0	2.0	3.0
Apparent Porosity (%) \leq	16	18	16	18	18	18
Cold Crushing Strength (MPa) \geq	60		60		60	60
Refractoriness Under Load 0.2MPa \geq C \geq	1700		1650		1620	1560
Reheat Test, Permanent Linear Change After Heating At (1650°C, 2h)%	0~ -0.2		0~ -0.3		0~ -0.4	0~ -0.4

MAG CHROME BRICKS

LAVA supplying a comprehensive range of Magnesite Chrome Brick, Mag Chrome Brick is mainly used in metallurgical industry, such as for building open-hearth furnace top, electric furnace top, finery out of furnace and all kinds of non-ferrous metal metallurgy furnace. Fused cast magnesite chrome brick is adopted for high temperature position of furnace wall in electric furnace with ultra high power. Magnesite chrome brick that made of synthetic compost is adopted for strong erosion area in finery out of furnace. Fused cast magnesite chrome brick or magnesite chrome brick that made of synthetic compost is adopted for strong erosion area of nonferrous metals flash smelting furnace. Besides, Magnesite Chrome Brick also can be used for burning zone in rotary cement kiln and regenerative chamber in glass furnace.

Key Features for Mag Chrome Brick

- High Refractoriness
- High Temperature Strength
- Strong Basic Slag Erosion Resistance
- Good Thermal Shock Resistance
- Certain Resistance to Acid Slag
- Good Refractoriness
- Good Corrosion Resistance e.g. Basic Steelmaking Slags, Sodium Hydroxide, Fe, Co, Ni
- Low Electrical Conductivity
- Transparency to Infrared

Product Data

Index	Magnesite-Chrome Brick		Directed Bonded Magnesite-Chrome Brick									Semi-Rebonded Magnesite-Chrome Brick				
			DMC-B				DMC-C					ZMC-35	ZMC-28	ZMC-20	ZMC-18	ZMC-15
	MGe-20	MGe-16	MGe-12	DMC12B	DMC9B	DMC6B	DMC4B	DMC20C	DMC18C	DMC16C	DMC12C					
MgO%	≥40	≥50	≥60	≥65	≥75	≥80	≥82	≥55	≥60	≥65	≥70	≥50	≥55	≥55	≥66	≥60
Cr ₂ O ₃ %	≥20	≥16	≥12	≥12	≥9	≥6	≥4	≥20	≥18	≥16	≥12	35-37	28-30	20-22	18-20	15-18
SiO ₂	-	-	-	≤2.0	≤1.8	≤1.5	≤1.5	≤2.5	≤2.4	≤2.4	≤2.0	-	-	-	-	-
Refractoriness Under Load 0.2MPa°C	≥1700	≥1650	≥1580	1680	1680	1650	1650	1700	1700	1700	1680	1700	1700	1700	1700	1700
Apparent Porosity%	≤18	≤18	≤18	≤18	≤18	≤17	≤17	≤18	≤18	≤18	≤18	≤16	≤16	≤16	≤16	≤16
Cold Crushing Strength Mpa	≥40	≥40	≥40	≥40	≥40	≥40	≥40	≥40	≥40	≥40	≥40	≥45	≥45	≥45	≥40	≥40
Bulk Density(Kg/m ³)				3050	3050	3000	3000	3150	3100	3050	3000	3350	3250	3200	3100	3050
Thermal Shock Resistance (950°C Air Cooling)	-	-	-	60	60	60	60	60	60	60	60	40	40	40	40	40



MAG CARBON BRICKS

LAVA supplying a comprehensive range of Magnesite Carbon Bricks, Magnesite Carbon Bricks have been used in the slag line of refining ladle, and good results have been achieved. Magnesite carbon bricks are also used for the lining part of AC arc furnace, DC electrical arc furnace, converter and other parts.



Key Features for Magnesite Carbon Bricks

- Good high-temperature performance.
- Strong slag resistance.
- Good thermal shock resistance.
- Low creep at high temperature.
- Good anti-stripping ability.
- Anti-stripping performance.
- Good wear resistance.
- Good thermal conductivity.

Product Data

Type	MT10A	MT10B	MT10C	MT14A	MT14B	MT14C	MT18A	MT18B	MT18C
MgO(%) ≥	80	78	76	76	74	74	72	70	70
C(%) ≥	10	10	10	14	14	14	18	18	18
Apparent Porosity (%) ≤	4	5	6	4	5	6	3	4	5
Bulk Density (kg/m ³) ≥	2900	2850	2800	2900	2820	2770	2900	2800	2770
Cold Crushing Strength (MPa) ≥	40	35	30	40	35	25	40	35	25
Rupture Strength (Mpa) ≥	6	5	4	10	8	5	9	7	4



MAG SPINEL BRICKS

LAVA supplying a comprehensive range of Magnesite Spinel Bricks are mainly used in non-ferrous smelting, transition zone before and after cement rotary kiln, high temperature zone of lime kiln, glass heat-accumulated type, top of reverberatory furnace, etc.

Key Features for Magnesite Spinel Bricks

- Good thermal shock stability
- High temperature mechanical strength
- High softening temperature under load
- Good slag resistance and alkali salt resistance

Product Data

Type	Magnesite-Alumina Spinel Brick			Magnesite-Ferrum Spinel Brick	
	MA-5	MA-10	MA-15	MF-80	MF-75
MgO	≥85	≥80	≥80	≥84	≥80
Al ₂ O ₃	5-7	8-10	15-17	≤2.5	≤2.5
Fe ₂ O ₃	-	-	-	6.3	4.4
Cr ₂ O ₃	-	-	-	≥3.6	≥3.5
Apparent Porosity%	≤18	≤18	≤17	≥17	≥17
Bulk Density (Kg/m ³)	≥2900	≥2900	≥2900	≥2980	≥3050
Refractoriness Under Load 0.2Mpa°C	≥1620	≥1650	≥1650	1650	1570
Cold Crushing Strength Mpa	≥40	≥40	≥40	≥45	≥45
Thermal Shock Resistance (1100°C Water Cooling, Times)	≥6	≥8	≥10	≥4	≥4

MAG CALCIUM BRICKS

LAVA supplying a comprehensive range of Mag Calcium Brick (Dolomite Brick).
Mag Calcium Brick is mainly used as lining material for AOD furnace, VOD furnace and LF furnace in steel making industry.

Key Features for Mag Calcium Bricks

- Excellent thermal shock stability
- Good resistance to structural spalling
- Strong resistance to slag penetration
- Clean the molten steel



Product Data

Type	LKMG15	LKMG20	LKMG25	LKMG30	LKMG40	LKMG50
MgO(%)	80.3	76.3	70.3	66.3	56.3	43.3
CaO(%)	17	21	27	31	41.0	54
Al ₂ O ₃ (%)	0.5	0.5	0.5	0.5	0.5	0.5
Fe ₂ O ₃ (%)	0.7	0.7	0.7	0.7	0.7	0.7
SiO ₂ (%)	1.3	1.3	1.3	1.3	1.2	1.3
Bulk Density(Kg/m ³)	3030	3030	3030	3030	3000	2930
Apparent Porosity%	13	12	12	13	13	12
Cold Crushing Strength (MPa)	80	90	80	80	80	70
Refractoriness Under Load 0.2MPa°C	1700	1700	1700	1700	1700	1700
Rupture Strength (Mpa)	2.5-4.5	2.5-4.5	2.5-4.5	2.5-4.5	2.5-4.5	2.5-4.5
Reheat test, Permanent Linear Change (%)	-	-0.35	-	-0.61	-	-
Thermal Conductivity(W/m.k) ⁻¹	3-4	3-4	3-4	3-4	3-4	3-4
Thermal Expansion (%)	800°C	0.8-1.0	0.8-1.0	0.8-1.0	0.8-1.0	0.8-1.0
	1200°C	13.5-1.6	13.5-1.6	13.5-1.6	13.5-1.6	13.5-1.6
	1200°C	1.8-2.0	1.8-2.0	1.8-2.0	1.8-2.0	1.8-2.0

A large industrial ladle is shown pouring molten metal into a mold. The metal is bright yellow and orange, indicating high temperature. The ladle and mold are made of dark, heavy-duty metal. The background is dark, suggesting an industrial setting. The text "Heat Insulating Material" is overlaid in the center in a bold, yellow font with a red outline.

Heat Insulating Material

CERAMIC FIBER

CERAMIC FIBER BLANKET

LAVA supplying a comprehensive range of CERAMIC FIBER BLANKET, Ceramic Fiber Blanket adopts high pure raw materials without any binding agent, ensure the product own good reliability and stability in any environment. The function of the blanket isn't affected by water and oil, it will recover its thermal performance and physical property after drying.

Needing blanket in different size and thickness provides users a wide range of material selection to gain the best heat insulation structure and energy saving effect.

Product Data

Type	LAVA1100	LAVA1260	LAVA1360	LAVA1430	LAVA1500	
Classification Temperature(°C)	1100	1260	1360	1430	1500	
Color	White	White	White	White	Blue/Green	
Density(kg/m ³)			96、128、160			
Permanent Linear Shrinkage (Heat Preservation 24 Hour,128kg/m ³)	≤--4 (1000°C)	≤--3 (1000°C)	≤--3 (1100°C)	≤--3 (1350°C)	≤--3 (1600°C)	
Thermal Conductivity(W/M.K)	0.09(400°C) 0.16(800°C)	0.09(400°C) 0.16(800°C)	0.12(400°C) 0.20(1000°C)	0.16(400°C) 0.20(1000°C)	0.16(400°C) 0.20(1000°C)	
Chemical Composition (%)	Al ₂ O ₃	42-44	45-46	52-55	39-40	43
	SiO ₂	-	-	-	-	-
	Al ₂ O ₃ +SiO ₂	96	98	99	-	-
	Al ₂ O ₃ +SiO ₂ + ZrO ₂ (Cr ₂ O ₃)	-	-	-	99	99
	ZrO ₂	-	-	-	15-17	-
Cr ₂ O ₃	-	-	-	-	2.5-3.0	

Key Features for CERAMIC FIBER BLANKET

- Low heat strong capacity, low thermal conductivity
- Excellent thermal stability and shock resistance
- Excellent tearing resistant
- Excellent insulating performance, fire prevention and sound absorption
- Double-side needling operation produces tough, resilient and strong blankets, which resist tearing both before and after heating
- Easy cutting and installation

The main application for CERAMIC FIBER BLANKET are listed below:

- All kinds of industrial kiln linings (hot surface and back lining)
- Furnace body expansion joint, furnace door, top cap seals
- High building fireproof and heat insulation
- Thermal resistance component of auto industry
- High temperature filter media
- Insulation for field stress relieving of welds





Key Features for CERAMIC FIBER BOARD

- Low thermal conductivity and low heat storage
- High temperature stability and resistant to thermal shock
- High crushing strength and good toughness
- Allow machining and cutting, easy application
- Resistant to airflow erosion

The main application for CERAMIC FIBER BOARD are listed below:

- All kinds of industrial furnace hot face and back face insulation
- Kiln liner of the High-temperature furnace, kiln cars, door damper, furnace temperature to separate plate
- Deep processing products molding mould, like craft glass etc.
- Astronavigation, ship-building heat insulation, fireproofing, sound proofing, insulation

CERAMIC FIBER BOARD

LAVA supplying a comprehensive range of CERAMIC FIBER BOARD, all kinds of ceramic fiber boards adopt ceramic fiber which is in corresponding to temperature level as raw material, through the large automatic vacuum filter molding machine to shape them, and then they will be done after special baking.

The product with good toughness and strength appears flattening and the ceramic material distributes uniformity, it also has excellent thermal insulation performance. Heating is not inflated. For light, construction convenient, free shear and bending, it is the ideal energy-efficient insulation materials of a furnace, piping and other equipment.

Product Data

Type	LAVA1100	LAVA1260	LAVA1360	LAVA1430	LAVA1500
Classification Temperature(°C)	1100	1260	1360	1430	1500
Color	White	White	White	White	Light Green
Density(kg/m³)	280	280	280	280	280
Linear Shrinkage After Firing%(°C*24H)	≤4 (1000°C)	≤4 (1200°C)	≤4 (1300°C)	≤4 (1400°C)	≤4 (1400°C)
Ignition Lost (At1000°C*5hr)LOI%	5	5	5	5	5
Thermal Conductivity(W/M.K)	0.132(600°C)	0.132(600°C)	0.132(600°C)	0.132(600°C)	0.132(600°C)
	0.15(800°C)	0.19(1000°C)	0.19(1000°C)	0.19(1000°C)	0.19(1000°C)
Rupture Strength(Mpa)	0.5	0.5	0.5	0.5	0.5



CERAMIC FIBER MODULE

LAVA supplying a comprehensive range of CERAMIC FIBER MODULE. LAVA ceramic fiber module adopts high quality ceramic fiber blanket, which is made up to compression module after folding, compression, packing. Module can choose kinds combination of anchor and furnace body. Installation method is so simple that can quicken the speed of furnace lining construction largely. After installation, the bandaging is cut and the modules are to form an integrated insulating lining. The anchor system in remote from the module hot face maintains the metal components at a relatively low temperature.

Key Features for CERAMIC FIBER MODULE

- The anchor on the back allows both in-line and parquet installation
- The decompression of the blanket folds give tightly sealed intermodular joints with both configurations
- The resilient blanket is resistant to mechanical damage
- Low thermal conductivity gives high thermal efficiency
- Total resistance to thermal shock
- No drying or curing required—so available for production operation immediately after installation
- The anchor is remote form the module hot face
- It can be cut to satisfy the requirement of different parts

The main application for CERAMIC FIBER MODULE are listed below:
Metallurgy, machinery, building materials, petrochemical industry, non-ferrous metal and other industries of all kinds of industrial furnace, heating furnace lining.

■ Product Data

Type	LAVA1100	LAVA1260	LAVA1360	LAVA1430	LAVA1500
Classification Temperature(°C)	1100	1260	1360	1430	1500
Density(kg/m ³)	160, 170, 190, 210				

CERAMIC FIBER PAPER

LAVA supplying a comprehensive range of CERAMIC FIBER PAPER. LAVA ceramic fiber paper is manufactured from high purity ceramic fiber, adopting the wet inorganic ceramic fiber mechanization to implement a continuous production. Advanced production techniques ensure uniform fiber distribution and close control of thickness and density.

Ceramic fiber paper adds minimum addition of carefully selected bonds, which burn out cleanly service.

Key Features for CERAMIC FIBER PAPER

- Low thermal conductivity, low thermal capacity
- Low shot content
- Good resistance to tearing, high flexibility
- Do not contain asbestos, resistance to corrosion, not react to liquid aluminum
- Good electrical insulation and sound insulation performance
- Excellent mechanical performance

The main application for CERAMIC FIBER PAPER are listed below:

- Industrial insulation, seal, protective materials
- Electric heat device insulation, heat insulation materials
- Molten metal gasket
- Instrument equipment, electric heating element of insulation and heat insulation materials
- Fire protection
- Thermal barriers for vehicles and spaceflight
- Fillers of expansion joints

Product Data

Classification Temperature (°C)	1260	1430		
Density (kg/m ³)	200±15	200±15		
Organic Content (%)	6-8	6-8		
Tensile Strength (kpa)	1mm≥300; 2mm-6mm≥400			
Permanent Linear Shrinkage(°C*24h)	≤3.5(1000°C)	≤3.5(1200°C)		
Thermal Conductivity (W/M.K)	400°C	0.115-0.121		
	400°C	0.165-0.175		
4000×1220×1	20000×1220×2	15000×1220×3	10000×1220×4	8000×1220×5
40000×610×1	20000×610×2	15000×610×3	10000×610×4	8000×610×5

CERAMIC FIBER TEXTILES

LAVA supplying a comprehensive range of CERAMIC FIBER TEXTILES. Industrial refractory fiber is made from ceramic fiber, E-Glass Fiber, vycor fiber, PANOF, etc..The products include yarn, cloth, tape, twisted rope, packing, tube, coated fabric and other kinds of tech textiles, which are widely used in heat insulation sealing etc..

Key Features for CERAMIC FIBER TEXTILES

- Excellent high temperature resistant performance
- Thermal shock resistance
- Low thermal capacity
- Easy construction

The main application for CERAMIC FIBER TEXTILES are listed below:

- Tape: Industrial heat insulation, pipe and cable coated, bolted flange connection, friction reinforced materials
- Cloth: Large area industrial heat insulation, fire protection, and coating cloth and base cloth, etc.
- Coated cloth: Fire smoke proof, adornment, Beirut cotton print, fire blanket, thermal insulation, etc.
- Packing: All kinds of high temperature furnace, boiler seal and heat insulation, burner sealed, heat exchanger, kiln car seal, furnace flue heat insulation sealing, high temperature valve, etc.
- Twisted rope\tube: Coating high temperature resistant insulated wire,cable and high temperature tube, high temperature pipe heat insulation and seal, etc.



Product Data

Tape	Thickness: 1.5,2.0,3.0	Width: 10, 15, 25, 50, 75, 100, 120, 150
Cloth	Thickness: 1.5,2.0,2.5,3.0,5.0	Width: 1000-1500
Coated Cloth	Thickness: 1.5,2.0,3.0	Width: 1000-1500
Packing	Diameter: 5, 6, 8, 10, 12, 13, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50	
Twisted Rope	Diameter: 3, 4, 5, 6, 8, 10, 12, 13, 14, 16, 18, 20, 25, 30, 35, 40, 45, 50	
Twisted Tube	Inner Diameter: 12, 14, 15, 16, 18, 20, 25, 30, 50, 100	

INSULATING FIREBRICKS

INSULATING FIREBRICK

LAVA supplying a comprehensive range of Insulating Firebrick. Insulating Firebrick are made from high-purity refractory clays; temperature of use ranging from 1100°C to 1700°C and each grade is formulated to meet specific thermal and physical requirements. For higher temperature products, their addition of alumina are graduated. Each grade is added by classified organic filler. This organic filler burns out during manufacture process to give a uniform and controlled pore structure.

Key Features for Insulating Firebrick

- Low thermal conductive, low heat storage
- Purity
- Good thermal insulation, enable the use of thin-walled constructions
- The good alumina contents confer good refractoriness
- Low iron and alkali fluxcontent contributes to their stability to reducing atmosphere
- These can be machined to special shapes, incurring fewer sections and joints

Insulating Firebrick are classified to Clay Insulating Brick, High Alumina Insulating Brick and Mullite Insulating Brick.



Clay Insulating Bricks Product Data

Type	NG-1.5	NG-1.3a	NG-1.3b	NG-1.0	NG-0.9	NG-0.8	NG-0.7	NG-0.6	NG-0.5	NG-0.4
Density(kg/m ³)	1.5	1.3	1.3	1.0	0.9	0.8	0.7	0.6	0.5	0.4
Cold Crushing Strength(Mpa)	5.9	4.4	3.9	2.9	2.5	2.5	2.0	1.5	1.2	1.0
Experimental Temperature of 2% Change of Reheating Line	1400	1400	1350	1350	1300	1250	1250	1200	1150	1150
Thermal Conductivity (W/M.K)350±25°C	0.70	0.60	0.60	0.50	0.40	0.35	0.35	0.25	0.25	0.20

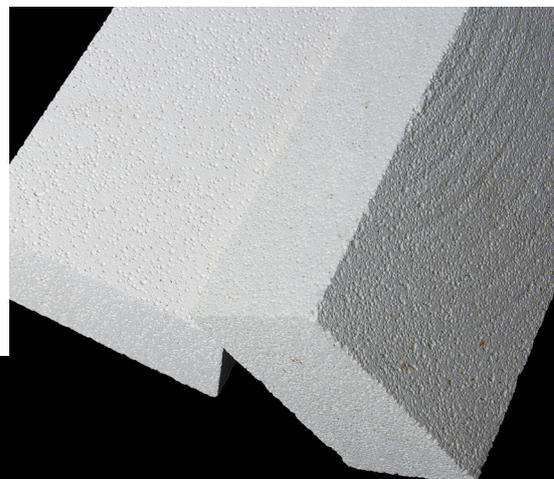
High Alumina Insulating Bricks Product Data

Type	LG-1.0	LG-0.9	LG-0.8	LG-0.7	LG-0.6	LG-0.5	LG-0.4
Density(kg/m ³)	1.0	0.9	0.8	0.7	0.6	0.5	0.4
Cold Crushing Strength (Mpa)	≥4.0	≥3.5	≥3.0	≥2.5	≥2.0	≥1.5	≥0.8
Experimental Temperature of 2% Change of Reheating Line	1400	1400	1400	1350	1350	1250	1250
Thermal Conductivity (W/M.K)350±25°C	≤0.50	≤0.45	≤0.35	≤0.35	≤0.30	≤0.25	≤0.20
Al ₂ O ₃	≥48						
Fe ₂ O ₃	≤2						



Mullite Insulating Bricks Product Data

Type	JM23	JM26	JM28	JM30	
Classification Temperature(°C)	1260	1430	1540	1600	
Properties At Mean Temperature					
Density(kg/m ³)	500	800	900	1100	
Compressive Strength(Mpa)	1.0	2.0	2.5	3.0	
Rupture Strength(Mpa)	0.7	1.5	1.8	2.0	
Properties At High Temperature					
Thermal Conductivity(W/M.K)	0.22(600°C) 0.27(800°C)	0.39(800°C) 0.43(1000°C)	0.37(800°C) 0.41(1000°C)	0.43(800°C) 0.45(1000°C)	
Chemical Composition (%)	Al ₂ O ₃	45	55	64	73
	SiO ₂	48	41	32	25
	Fe ₂ O ₃	1.0	0.9	0.7	0.6





Monolithics

REFRACTORY CASTABLE

LAVA SUPPLYING A COMPREHENSIVE RANGE OF CASTABLE, INCLUDE:

A) Conventional Castable

Normal strength castable suitable for general casting, high mechanical and abrasive resistance

Extra strength castable excellent for high mechanical strength

Thermal shock resistance castable (coarse grain castable) high mechanical strength and thermal shock resistance

Light weight castable casting in the areas that need to be protected from heat losses

B) High Alumina low cement castable

Normal low cement castable high mechanical strength low shrinkage abrasive resistance and good thermal shock resistance

THE MAIN APPLICATION FOR CASTABLE ARE LISTED BELOW:

- Casting an alternative to fireclay and high alumina brick for application such as glass furnaces, EAF, reheating-furnace, tapping spout, aluminium and jewelry kiln
- Application for cyclone preheated of cement kiln, ceramic kiln, ash coal hoppers coal and incinerators
- Casting an alternative to high alumina brick at EAF roof core, burner block, nose ring and kiln load

■ Conventional Castable Product Data

Type	Cast 13	Cast 13ES	Cast 15	Cast 16ES	Cast 17CG	Cast 17MT	Cast 18
Maximum Service Temperature (°C)	1300	1300	1500	1600	1700	1700	1800
Maximum Grain Size of Aggregates (mm)	5	5	5	5	12.5	5	5
Approximate Weight Required for Casting (kg/m ³)	2010-2020	2010-2120	2200-2210	2300-2350	2500-2580	2550-2600	2700-2730
Approximate Amount of Water Required For Casting (%)	10-12	10-12	10-12	10-12	10-12	10	10-12
Bulk Density After Drying At 110°C (kg/m ³)	2050-2070	2110-2120	2250-2260	2350-2400	2640-2650	2500-2550	2800-2820
Cold Crushing Strength After Drying At 110°C (MPa)	35-38	40-45	30-32	40-50	38-40	35-38	49-50
Modulus of Rupture After Drying At 110°C (Kg/m ²)	60-70	70-80	70-75	70-75	80-85	70-80	100-120
Reheat Test, Permanent Linear Change After Heating At 1260°C (%)	+0.5	+0.5	-0.5	-0.5	-0.5	-0.5	-0.18
SiO ₂ (%)	57.1	47.5	45.0	33.1	6.5	6.3	0.5
Al ₂ O ₃ (%)	29.5	32.4	48.6	61.6	85.8	85.5	92.1
Fe ₂ O ₃ (%)	4.2	6.0	1.2	1.5	1.4	1.4	0.5



■ Low Cement Castable Product Data

Type	C70	NE0165	C82
Maximum Service Temperature (°C)	1600	1650	1700
Maximum Grain Size Of Aggregates (mm)	12.5	12.5	12.5
Approximate Weight Required For Casting (kg/m ³)	2400-2430	2550	2600-2630
Approximate Amount Of Water Required For Casting (%)	5.0-5.5	5.0	5.0-5.5
Bulk Density After Drying At 110°C (kg/m ³)	2430-2440	2560	2630-2640
Cold Crushing Strength After Drying At 110°C (Mpa)	52-55	80-90	34-35
Modulus Of Rupture After Drying At 110°C (Kg/m ²)	60-65	62-65	40
Reheat Test, Permanent Linear Change After Heating At 1260°C (%)	-0.05	-0.15	-0.40
SiO ₂ (%)	36.1	22.4	13.1
Al ₂ O ₃ (%)	61.2	70.1	82.5
Fe ₂ O ₃ (%)	1.2	1.3	1.2
CaO	-	-	1.5

■ Insulating Castable Product Data

Type	CAST 11LW	CAST 13LW
Maximum Service Temperature (°C)	1100	1300
Maximum Grain Size Of Aggregates (mm)	3	5
Approximate Weight Required For Casting (kg/m ³)	800-900	1200-1300
Approximate Amount of Water Required For Casting (%)	40-50	35
Bulk Density After Drying At 110°C (kg/m ³)	900-950	1400-1450
Cold Crushing Strength After Drying At 110°C (MPa)	3-4	11-12
Modulus Of Rupture After Drying At 110°C (Kg/cm ²)	8.0	20-25
Reheat Test, Permanent Linear Change After Heating At 1260°C (%)	-0.08	-0.05
SiO ₂ (%)	55.0	47.1
Al ₂ O ₃ (%)	15.0	40.5
Fe ₂ O ₃ (%)	6.2	1.6

PLASTIC REFRACTORIES

LAVA supplying a comprehensive range of Plastic Castable, Plastic Castable is phos-bonded, bauxite, mullite or corundum-based refractory. Its unsurpassed resistance to acid and neutral as well as basic slags allows it survive the corrosive environments. The plastic castable does not require forms during insulation where anchors are present except for flat arch constructions

Usually the binder of plastic castable is liquid aluminium dihydrogen phosphate, the plasticity can be adjusted when you are doing the installation. We can also supply the plastic castable with powder binder, and plastic castable ready for use (packed in cartons)



■ Product Data

Item		CPC65	CPC75	CPC80	CPC90
Service Temp [°C]		1550	1600	1650	1700
Bulk Density [g/m ³]		2.4	2.5	2.6	2.8
CCS	110°C	30	65	80	85
	1110°C	45	70	90	95
	1500°C	50	90	100	110
MOR	110°C	8	9	10	12
	1110°C	9	10	11	13
	1500°C	10	11	12	14
Max Grain Size (mm)		5	5	5	5
Chemical Analysis (%)	Al ₂ O ₃	65	75	80	90
	Fe ₂ O ₃	2.0	2.0	1.8	1.5

Mixing Liquid

Shall Be Supplied With The Castable Powder

REFRACTORY MORTAR

■ PROPERTIES

For bonding the individual brick together. Protecting the joints from corrosion by slag and other furnace. Available for use in acid conditions and suitable for light bonding between insulation bricks. High bonding strength with low shrinkage. It combines high refractoriness with smooth working properties. Available in both ready-to-use wet type and dry type.

■ APPLICATIONS

Used for laying all types of refractory bricks and a layer between brick of any type.



MORTAR DATA SHEET				
	Mortar 30 HM	Mortar 43 AM	Mortar 70 HM	Mortar 80 PM
CLASSIFICATION	HIGH-DUTY HEAT-SETTING MORTAR	SUPER-DUTY AIR-SETTING MORTAR(WET TYPE)	HIGH-ALUMINA HEAT-SETTING MORTAR	INORGANIC PHOSPHATE-BONDED HIGH-ALUMINA MORTAR(WET TYPE)
CHEMICAL COMPOSITION: (APPROXIMATE)				
SiO ₂ (%)	59	52.4	25.2	10.1
Al ₂ O ₃ (%)	32.3	43.5	70.1	80.0
Fe ₂ O ₃ (%)	1.8	1.4	1.5	1.8
PHYSICAL PROPERTIES				
Orton Cone	30	33-34	37-38	38
Approximate Amount Of Water For Trowelling Consistency	20-25		18-20	220-225
Per 1000 Pcs 9" Standard Brick, Equivalent Thinly Trowelled Joints	160-180	200-210	150-200	
Modulus Of Rupture After Drying At 110°C(kg/cm ²)	20	25	23	45

CALCIUM ALUMINATE CEMENT

LAVA supplying a comprehensive range of Aluminate Cement

Feature

- Rapid-hardening, high strength
- High refractoriness, high-temperature service
- Good resistance to corrosion, high wear resistance
- High thermal shock stability
- Low thermal conductivity, low liner shrinkage
- Good integrity with furnace lining, easy operation,
- Allow direct contact of fire, suitable for various atmosphere



Product Data

Category		CA50			CA70			
Product Grade		A600	A700	A900	CA70	CA70W	CA70S	CA71
Chemical Composition (%)	SiO ₂	≤8.0	≤7.5	≤6.0	≤0.5	≤0.5	≤0.5	≤0.5
	Al ₂ O ₃	≥50.0	≥51.0	≥53.5	68.5-70.5	68.5-70.5	68.5-70.5	69.5-71.5
	Fe ₂ O ₃	≤2.5	≤2.5	≤2.5	≤0.2	≤0.2	≤0.2	≤0.2
	R ₂ O	≤0.4	≤0.4	≤0.4	≤0.4	≤0.4	≤0.4	≤0.4
	S	≤0.1	≤0.1	≤0.1	-	-	-	-
	Cl	≤0.1	≤0.1	≤0.1	-	-	-	-
	CaO	-	-	-	28.5-30.5	28.5-30.5	28.5-30.5	27.5-29.5
	MgO	-	-	-	≤0.4	≤0.4	≤0.4	≤0.4
325M Residue On Sieve (%)		≤15	≤12	≤8	-	-	-	-
S (m ² /kg)		≥300	≥320	≥350	-	-	-	-
Initial Setting Time (min)		≥45	≥60	≥90	120-180	30-90	180-240	150-210
Final Setting Time (h)		≤6	≤6	≤6	150-240	90-180	240-330	210-300
Flexural Strength (MPa)	1d	6	6.5	8.0	7.5-10.0	8.0-10.5	8.0-10.5	8.5-11.0
	3d	7	7.5	10.0	10.0-12.0	10.5-12.5	10.5-12.5	11.0-12.5
Compressive Strength (MPa)	1d	45	55	72	40-50	45-55	45-55	50-60
	3d	55	65	82	45-55	50-60	50-60	55-65



Zirconia Refractories



ZIRCONIA INSERTS

LAVA supplying a comprehensive range of zirconia inserts mainly used in continuous casting of steel billets. The inserts, which was known as LKZN series, is magnesia stabilised & high density, can impart excellent erosion resistance even in the most severe casting environments. Consistent casting speeds are achieved and the products have a high resistance to oxygen lancing.

Key Features of LKZN series are

- Extended casting sequences
- Controlled and consistent casting speeds
- High resistance to oxygen lancing
- More consistent re-stranding

■ Product Data

	LKZN-L	LKZN-M	LKZN-H
Physical Properties			
Apparent Porosity (%)	11-12	8-10	6-8
Bulk Density (g/cm ³)	≥4.9	≥5.2	≥5.3
Chemical Analysis(%)			
ZrO ₂ + HfO ₂	≥94.0	≥95.5	≥96.0
SiO ₂	1.1	0.23	0.5
TiO ₂	0.2	0.2	0.1
Fe ₂ O ₃	0.5	0.05	0.05
Al ₂ O ₃	0.4	0.42	0.1
CaO	0.2	0.15	0.15
MgO	2.5	2.4	2.4
Na ₂ O	0.03	0.01	0.01

TUNDISH METERING NOZZLES

- Concast - CNM
- Danieli - FNC
- Interstop - MNC
- Krosaki - OTNC
- Vesuvius - CNC/SYS120

Upper nozzle (Stationary nozzle) is located within the tundish lining and conveys steel to the controlling exchangeable nozzle, which determines the steel flow. The stationary nozzle must be capable of withstanding long sequence times. Our Upper nozzle that incorporates a ultra-high density LKZN-M or LKZN-H insert. The insert provides excellent erosion resistance and can provide extended casting sequence times. The lower surface of the stationary nozzle is ground to exacting tolerances to ensure maximum surface contact between the two nozzle components. Lower Nozzle (EXCHANGABLE) is

located within an assembly that is fixed to the bottom of the tundish. The design of the exchangeable nozzle can vary according to the system manufacturer. We supplying a range of zirconia inserts and composite nozzle designs for the exchangeable metering of steel. Zirconia inserts can be supplied for on-site assembly into metallic holding blocks where cementing, grinding, size banding and on site drying are required prior to use. It was manufactured by both cast process of fine grained alumina method or prese process. Our nozzles suitable for several nozzle changer systems listed as below



Product Data

	Zirconia Inserts			Tundish Nozzle Outer		
	LKZN-L	LKZN-M	LKZN-H	LAVAN75	LAVAN85	LAVAN90
Physical Properties						
Apparent Porosity (%)	11-12	8-10	6-8	20	18	16
Bulk Density (g/cm ³)	≥4.9	≥5.2	≥5.3	2.6	2.8	3.0
Chemical Analysis (%)						
ZrO ₂ + HfO ₂	≥94.0	≥95.5	≥96	/	/	/
SiO ₂	1.1	0.23	0.5	20	13	8
TiO ₂	0.2	0.2	0.1	3	2.1	0.3
Fe ₂ O ₃	0.5	0.05	0.05	2.5	2.0	0.58
Al ₂ O ₃	0.4	0.42	0.1	≥75	≥85	≥90
CaO	0.2	0.15	0.15	0.2	0.1	0.20
MgO	2.5	2.4	2.4	0.2	0.1	0.06
Na ₂ O	0.03	0.01	0.01	0.6	0.5	0.3

SLIDING GATE PLATE

■ Product Data

	LKZSGL	LKZSGH
Physical Properties		
Apparent Porosity (%)	10-11	8-10
Bulk Density (g/cm ³)	≥5.0	≥5.2
Chemical Analysis (%)		
ZrO ₂ + HfO ₂	≥95.0	≥95.5
SiO ₂	0.23	0.23
TiO ₂	0.2	0.2
Fe ₂ O ₃	0.05	0.05
Al ₂ O ₃	0.42	0.42
CaO	0.15	0.15
MgO	2.4	2.4
Na ₂ O	0.01	0.01

LAVA supplying a range of high density zirconia plate inserts, which are used within sliding gate plate applications. Zirconia Sliding Gate Plate Inserts are an excellent solution to increasing the life of sliding gate plates. When the plate become worn, the worn material can be removed and a high density Zirconia Plate insert can be cemented/cast in its place, therefore extending the life of the sliding gate plate. LAVA offers two material grades for sliding gate plate inserts:

- LKZSGL - High hot strength with increased thermal shock properties.
- LKZSGH - High strength, abrasion resistant with erosion resistant properties

- Key Features of Zirconia Sliding Gate Inserts are
- Excellent erosion resistance
 - Dimensionally accurate, with a smooth surface finish
 - Ability to make custom made plate insert designs





ATOMISING NOZZLE

LAVA supplying a comprehensive range of Atomising Nozzle to Powder metallurgy. Powder metallurgy is a cost effective process despite the convoluted manufacturing route of deconstructing the starting material, utilising the atomisation process, and then reconstructing the product in separate forming and heating stages. And then, there are the immiscible mixes with unique properties that couldn't

be made any other way. In the atomisation process, nozzles controlling the flow of molten metal from the crucible whilst being bombarded with a high pressure jet of air, inert gas or water. A principle feature of all the nozzles is their close dimensional accuracy, which promotes stable flow characteristics under the most arduous conditions.

■ Product Data

	LKZN-L	LKZN-M	LKZN-H
Physical Properties			
Apparent Porosity (%)	11-12	8-10	6-8
Bulk Density (g/cm ³)	≥4.9	≥5.2	≥5.3
Chemical Analysis (%)			
ZrO ₂ + HfO ₂	≥94.0	≥95.5	≥96
SiO ₂	1.1	0.23	0.5
TiO ₂	0.2	0.2	0.1
Fe ₂ O ₃	0.5	0.05	0.05
Al ₂ O ₃	0.4	0.42	0.1
CaO	0.2	0.15	0.15
MgO	2.5	2.4	2.4
Na ₂ O	0.03	0.01	0.01

A large industrial ladle is pouring molten metal into a mold in a steel mill. The scene is filled with bright orange sparks and a glowing stream of metal. The background shows the complex structure of the mill with various beams and lights.

Anchors & Accessories

STEEL FIBER

Steel fibers serve to reinforce the refractory concretes and aid in the prevention of cracking and spalling of the refractory material when exposed to thermal shock.

Dispersion is further aided by the optimum Aspect Ratio design guaranteeing rapid fiber separation during the mixing phase. It could improve the performance of the refractory materials, and increase the corrosion resistance, thermal cycle impact and abrasion resistance significantly. The stainless-steel fiber products of our company are divided into melt extraction method, cutting method and shearing method according to the production process.

- Melt Extract Stainless Steel Fiber

Melt extract steel fiber is the product that our company imports technology and equipment from America exclusively to fill the blank of this era in China. Melt Extract stainless fibers are fully annealed and therefore are more pliable and ductile. This is of particular benefit during the mixing cycle and when the refractory composite is installed. These pliable fibers are not only more user-friendly than the stiff "needle-like" cut fibers, but also have better flow characteristics.

- Cutting Stainless Steel Fiber

Cut by stainless steel wire, with higher tensile strength and flexibility. Divided into end hooked and corrugated shape.

- Shearing Stainless Steel Fiber

Cut by stainless steel belt. Divided into corrugated shape and straight bar.

SIZE	CHEMIC ELEMENT(%)					
	C	P	Mn	Si	Cr	Ni
AISI330	≤0.40	≤0.04	≤2.00	≤0.75	17~20	33~37
AISI310	≤0.40	≤0.04	≤2.00	≤1.50	24~26	19~22
AISI316	≤0.40	≤0.04	≤2.00	≤1.00	16~18	10~14
AISI314	≤0.40	≤0.045	≤2.00	1.5-3.0	23~26	19~22
AISI309	≤0.40	≤0.04	≤2.00	≤1.00	22~24	12~15
AISI304	≤0.40	≤0.04	≤2.00	≤2.00	18~20	8~10
AISI301	≤0.40	≤0.04	≤2.00	≤2.00	16~18	6~8
AISI201	≤0.40	≤0.06	5.5~7.5	≤1.00	16~18	3.5~5.5
AISI446	≤0.40	≤0.04	≤1.50	≤2.00	23~27	
AISI430	≤0.40	≤0.03	≤1.00	≤2.00	16~18	
NAS430A	≤0.40	≤0.03	≤0.50	≤0.50	16~18	

Length	SIZE(mm)			
	20	25	30	35
Width	0.75~1.5	0.75~1.5	0.75~1.5	0.75~1.5
Thickness	0.2~0.75	0.2~0.75	0.2~0.75	0.2~0.75

■ APPLICATION



METALLURGICAL INDUSTRY

The refining outside the furnace airbrush, dipping tubes, slag dam, bag lining cover, the triangle electric furnace, furnace cover, the molten iron trench cover, the torpedo cans, coke oven door, the heating furnace of steel rolling door, furnace roof, burn tsui, annular furnace baffle wall, hearth roll, forging steel furnace, steel tanks etc, items can be used for various refractory kiln linings.



KILN

Sintering furnace, reduction furnace, finer, the flue, furnace burning tsui and other heat-resistant linings.



ELECTRIC POWER INDUSTRY

Thermal power plant boiler heat resistant linings.



THE CONSTRUCTION INDUSTRY

Steel fiber mixed with mixes clay is rapid development of new composite materials in recent years, especially for the steel fiber concrete fastest development. Steel fiber with excellent tensile, bending, shear and crack resistance, impact resistance, resistance to fatigue, high toughness properties, are all items widely used in construction, road, bridge, tunnel, airport pavement, hydraulic harbor, military engineering, all kinds of buildings and products etc.



PETROLEUM CHEMICAL INDUSTRY

Especially in the refining the lining of catalytic cracking units.



ENVIRONMENTAL PROTECTION INDUSTRY

INCINERATOR



446# 25mm



430# 25mm



304# 25mm



Shear Ripper Shape



304# 310#
Size: 0.5x25mm



304# 310#
Size: 0.7x25mm



310# 25mm

STEEL ANCHOR

LAVA supplying a comprehensive range of Steel Anchors. each model is custom made depending on the design and the application. Due to the relatively high temperatures at which refractory bricks are applied, care must be taken in the selection of the correct alloy. For denser bricks, heavier staples can also be supplied. To hold refractory anchor bricks in specific positions from a wall or a ceiling our Scissor clips or Brick Claws can be used. Tie back refractory anchors are great for holding back brick anchors in side wall applications. We also create tailor-made consoles for many different applications.

All models can be corrugated or specially formed for superior holding power. We can produce the anchors to suit stud welding techniques, hand welding techniques, or the mechanical bolt-on technique of fastening to the vessel.



304# 310# 316#
Round "Y" Anchors



304# 310# 316#
Brick Staple System



304# 310# 316#
Split "Y" Anchors



304# 310# 316#
Basic "V" Anchors



304# 310# 316#
"TW" Anchors

Product Data

ASTM	DIN EN	C	Si	Si	P	S	Ni	Cr	Mo	Al	Nb	Cu	Ti
410	1.4006	≤ 0.15	≤ 1.0	≤ 1.0	≤ 0.040	≤ 0.03		11.5-13.5					
430	1.4016	≤ 0.12	≤ 1.0	≤ 1.0	≤ 0.040	≤ 0.03		16-18					
304	1.4301	≤ 0.08	≤ 1.0	≤ 1.0	≤ 0.045	≤ 0.03	8.0-10.5	18-20					
304L	1.4306	≤ 0.03	≤ 1.0	≤ 1.0	≤ 0.045	≤ 0.03	9.0-12.0	18-20					
321	1.4878	≤ 0.08	≤ 1.0	≤ 1.0	≤ 0.045	≤ 0.03	9.0-12.0	17-19					5 x C - 0.70
321H	1.4541	≤ 0.12	≤ 1.0	≤ 1.0	≤ 0.045	≤ 0.015	8.0-10.5	17-19					5 x C - 0.80
309	1.4833	≤ 0.20	≤ 1.0	≤ 2.0	≤ 0.040	≤ 0.03	12-15	22-24					
309S		≤ 0.08	≤ 1.0	≤ 2.0	≤ 0.045	≤ 0.03	12-15	22-24					
310	1.4841	≤ 0.25	≤ 1.5	≤ 2.0	≤ 0.040	≤ 0.03	19-22	24-26					
310S		≤ 0.08	≤ 1.5	≤ 2.0	≤ 0.040	≤ 0.03	19-22	24-26					
316	1.4401	≤ 0.08	≤ 1.0	≤ 2.0	≤ 0.045	≤ 0.03	10-14	16-18	2.0-3.0				
330		≤ 0.15	≤ 1.5	≤ 2.0	≤ 0.040	≤ 0.03	33-37	14-17					
347	1.4550	≤ 0.08	≤ 1.0	≤ 2.0	≤ 0.045	≤ 0.03	9.0-12	17-19			0.8-1.1		
Incoloy 800	1.4876	≤ 0.1	≤ 1.0	≤ 2.0	≤ 0.045	≤ 0.02	30-34	19-23		0.15-0.6			0.15-0.60
Incoloy 800H	1.4969	0.05-0.1	≤ 1.0	≤ 2.0	≤ 0.045	≤ 0.02	30-34	19-28		0.15-0.6			0.15-0.60
Incoloy 825	2.4858	≤ 0.025	≤ 0.5	≤ 1.0	≤ 0.03	≤ 0.015	38-46	19.5-23.5	2.5-3.5				0.6-1.2
Incoloy 600	2.4816	≤ 0.08	≤ 0.5	≤ 1.0	≤ 0.03	≤ 0.015	≥ 72.0	14-17	2.0-3.0	≤ 0.30		≤ 0.50	≤ 0.30
Inconel 601	2.4851	≤ 0.1	≤ 0.5	≤ 1.0	≤ 0.015	≤ 0.015	58-63	21-25		1.0-1.7			
Inconel 625	2.4856	≤ 0.1	≤ 0.5	≤ 0.5	≤ 0.015	≤ 0.015	≤ 58	20-23	8-10	≤ 0.40	3.2-4.2		≤ 0.40
Monel 400	2.4360	≤ 0.3	≤ 0.5	≤ 2.0		≤ 0.025	≤ 63					28-34	
253 MA	1.4835	0.05-0.1	≤ 2.0	≤ 0.8	≤ 0.04	≤ 0.03	10-12	20-22	N=0.14-0.2	Ce=0.03-0.08			

A close-up photograph of a pizza being cooked in a traditional stone oven. The pizza is in the foreground, resting on a dark metal tray. It is topped with melted cheese, sliced tomatoes, mushrooms, and pieces of white cheese. The oven is made of rough-hewn stone blocks. In the background, a bright fire burns in the oven's opening, casting a warm glow. The text "Pizza Oven" is overlaid in the center in a bold, yellow font with a red outline.

Pizza Oven

PIZZA OVEN



LAVA is a professional refractory pizza oven manufacturer that located in Dalian city, North China. Which is a central of refractory industry of China. Established from 2014, till now we got plenty of proceed technology experiences and have cooperation with many big companies.

An authentic Wood Fired Oven makes the perfect centrepiece for any entertaining area. There's nothing like the crackle of real timber burning, the smell of wood smoke and the cheery, twinkling light of a fire to bring people together. Then there's the food; from hand stretched pizzas cooked in 90 seconds to shoulders of meat left to slow-roast for 8 hours, and everything in between.

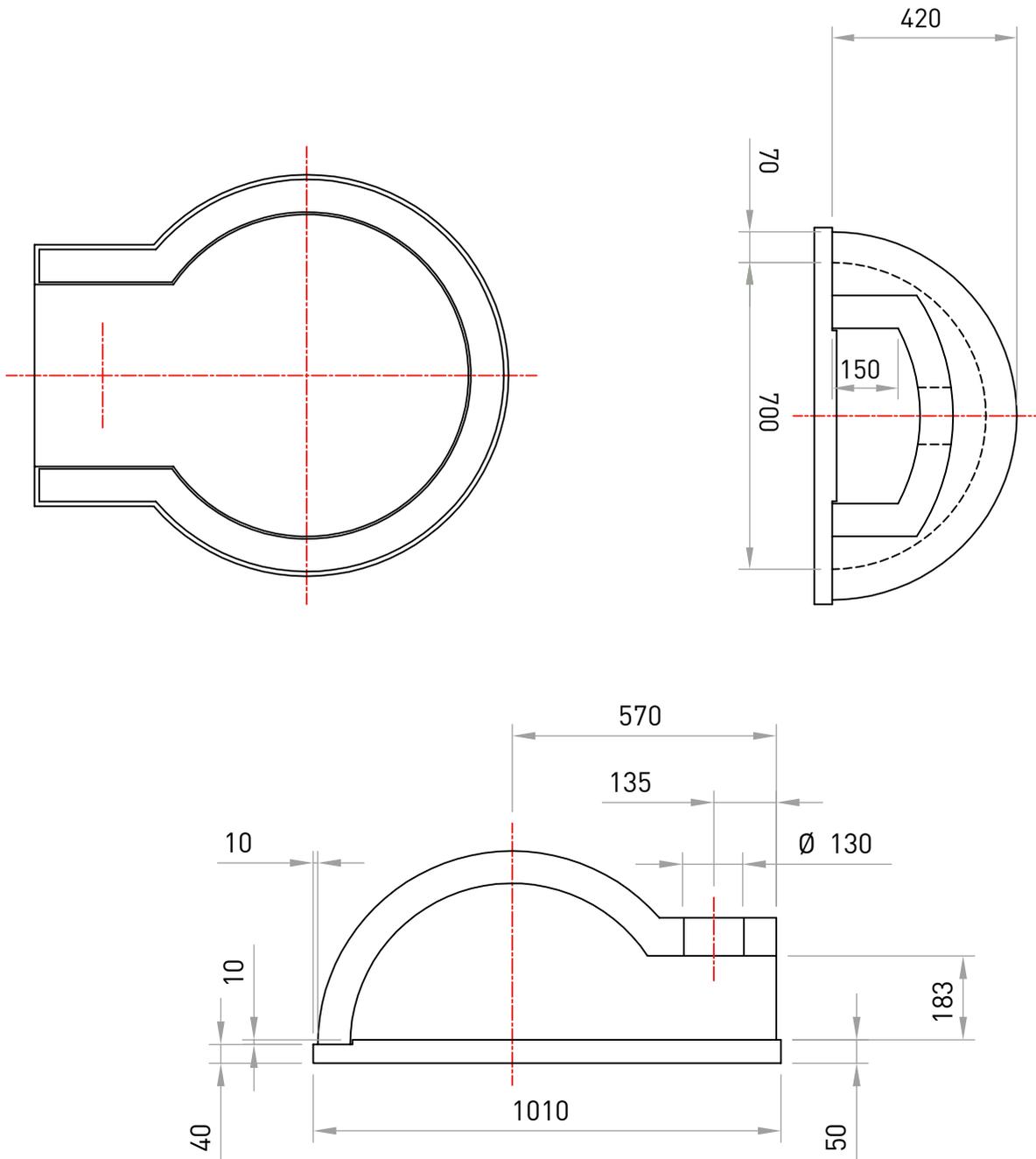
It's little wonder Wood Fired Ovens are so popular. Now, we've made them simple.

If you're looking for a Wood Fired Oven that's easy to assemble, fits into a small space and heats up quickly then our Pre-Cast Oven Kit is what you've been searching for. The internal dome is made up of stainless steel fibre-reinforced refractory sections, cast in CNC machined molds by our dedicated team. At every point we have looked for ways to minimise your effort taken to build this kit, without impacting on quality. We're very proud of the result.

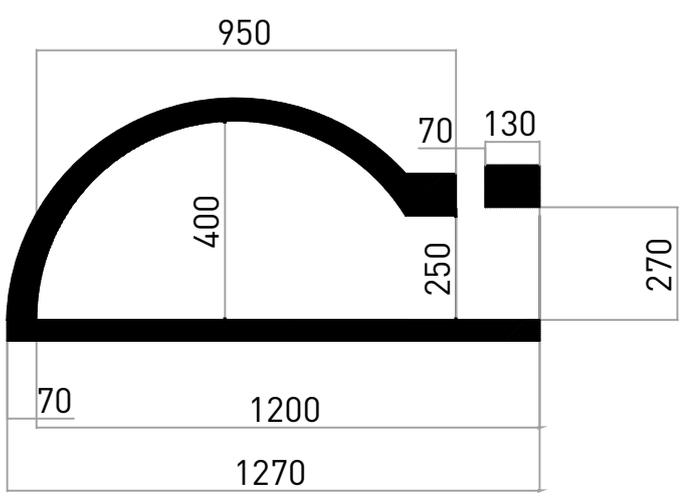
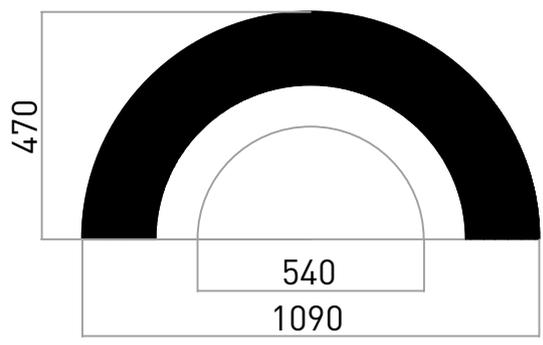
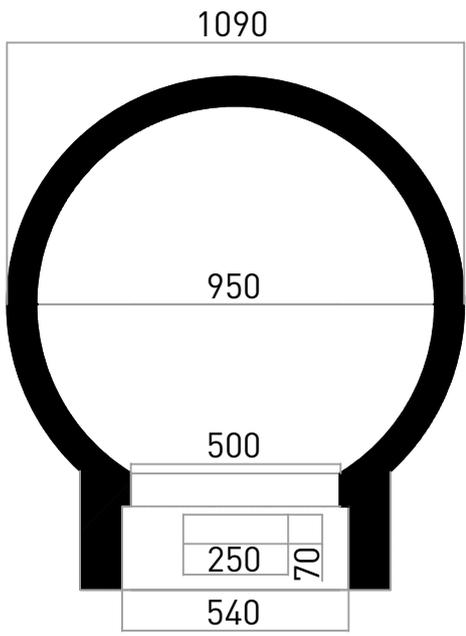


■ WE HAVE 4 STANDARD USUAL SIZE AS BELOW:

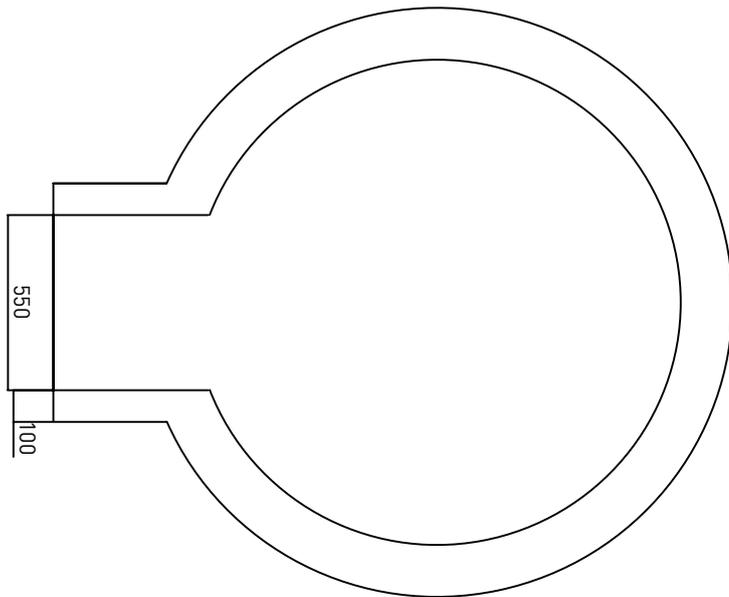
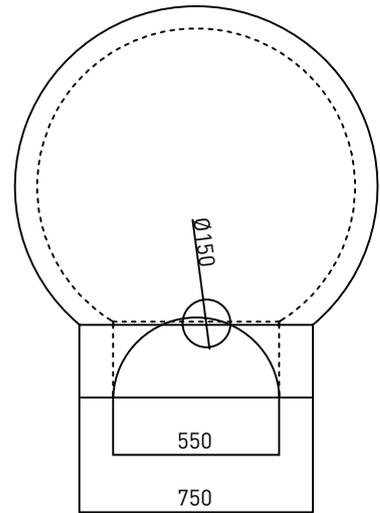
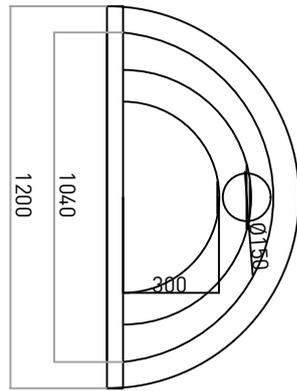
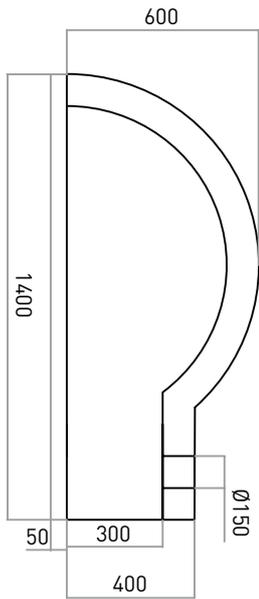
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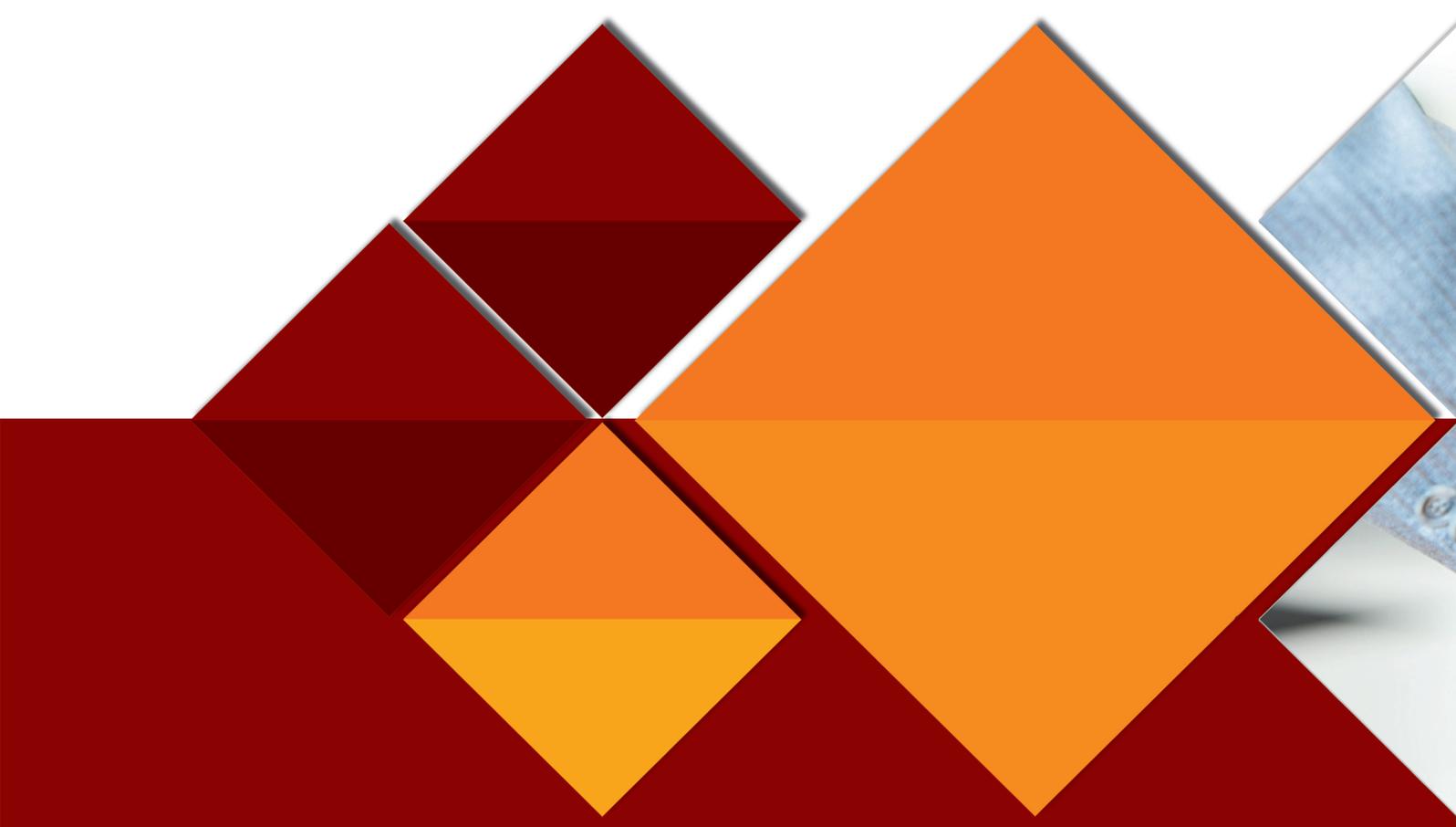
B



D



We also glad to accept customer's requests, follow your drawings and details to produce.
Hope we could build a multiply beneficial trading business relationship between us.



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