LONG KETER®
REFRACTORIES

2025

ALUMINA BRICKS

Product Catalog

Long Keter New Materials Co. Ltd.

ABOUT LONG KETER

Based in Zibo, China P.R., which is located in the center of Shandong Province, 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.

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

CLAY FIRE BRICKS

LONE KETER is supplying a comprehensive range of CLAY FIRE BRICKS. Alumina content in approximate 28-45% are classified to CLAY FIRE BRICKS.

The main application for CLAY FIRE BRICKS 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

Key Features for CLAY FIRE BRICKS

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

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 (℃)		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℃, 3h(%)	–	–	–	–	–	0~-3	0~-0.5		
	1400℃, 2h(%)	–	–	–	–	–	–	–	0~-0.4	0~-0.4
	1450℃, 3h(%)	–	–	0~-2	0~-3	0~-0.4	–	–	–	–
	1400℃(%)	0.0-0.2	-0.18	–	–	–	–	–	–	–
0.2 MPa Refractoriness Under Load (%)		–	–	⩾1450	⩾1430	⩾1400	⩾1350	⩾1300	⩾1450	⩾1400
SiO_2 (%)		57.8	52.4	–	–	–	–	–	–	–
Al_2O_3 (%)		36.2	42.1	⩾42	⩾42	⩾42	⩾40	⩾36	⩾40	⩾40
Fe_2O_3 (%)		2	1.4	⩽1.7	⩽1.7	–	–	–	⩽1.5	⩽1.5
CaO(%)		0.5	0.4	–	–	–	–	–	–	–
$Na_2O+K_2O+Li_2O$ (%)		0.5	0.5	–	–	–	–	–	–	–

HIGH ALUMINA BRICKS

Bricks with Alumina content up from 45%-95% and service temperature up to 1700°C are classified to HIGH ALUMINA BRICKS.

Key Features for HIGH ALUMINA BRICKS

- Excellent corrosion resistance to neutral slag and great metal penetration resistance to high temperature liquid metal
- 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 safety lining 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 of 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	SL-50
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 Refractoriness Under Load (%)		–	–	–	–	1700	1700	1700	1670	1650	1580	1550	1500
Bulk Density (kg/m^3)		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/cm^2)		70-80	80-90	90-100	150-180	–	–	–	–	–	–	–	–
Thermal Expanison 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	±0.2
	1400°C(%)	(+)0.5	(+)1.00	(+)1.02	–	–	–	–	–	–	–	–	–
SiO_2(%)		38.2	20.2	14.0	8.7	–	–	–	–	–	–	–	–
Al_2O_3(%)		48-55	70-75	81.1	85	92	90	85	80	76	70	65	50
Fe_2O_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	–	–	–	–	–	–	–	–
$Na_2O+K_2O+Li_2O$ (%)		0.5	0.5	0.3	0.2	–	–	–	–	–	–	–	–

CORUNDUM, MULLITE, ANDALUSITE&SILIMANITE 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, 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

	Corundum		Corundum Mullite		Silimanite		Andalusite		Mullite	
Item	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,T_2°C)	1800	1700	1700.00	1700.00	1500	1550	1450.00	1500.00	1650	1700
Al_2O_3(%)	95	90	80	85	60	65	55	60	65	75
Fe_2O_3(%)	0.6	0.8	0.5	0.5	1.0	1.0	1.0	1.5	1.0	0.6

HOLLOW WARE BRICKS

LONG KETER is 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℃ (%)	(+)0.5	(+)1.00
SiO_2 (%)	38.2	20.2
Al_2O_3 (%)	48-55	70-75
Fe_2O_3 (%)	1.8	1.8
CaO (%)	0.4	0.4
$Na_2O+K_2O+Li_2O$ (%)	0.5	0.5

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