Silica Brick

Description:

Silica brick is an acidic refractory brick, usually containing more than 93% silica, and also contains a small amount of impurities such as alumina, calcium oxide, and iron oxide. These bricks feature a high load-softening temperature, high refractoriness, good high-temperature strength, strong resistance to acidic slag erosion and excellent wear resistance.

Technical Data:

Items		Grades		
		BG - 96a	BG - 96b	BG - 95
ω(SiO_2) / %	μ_0	≥96	≥96	≥95
ω(Fe_2O_3) / %	μ_0	≤0.6	≤0.8	≤1.0
Melt index / %	μ_0	≤0.5	≤0.7	——
Open Porosity / %	μ_0	≤21	≤22	
Bulk Density / (g/cm^3)	μ_0		2.34	
CCS / MPa	μ_0	≥40	≥35	≥30
	X_{min}	30	25	20
0.2 MPa R.U.L / ℃	μ_0	≥1680	≥1670	≥1670
HPLC (1450℃×2h) / %	$X_{min} \sim X_{max}$		0 ~ 0.2	
Residual Quartz / %	μ_0		≤3	

Corundum Brick

Description:

Corundum brick is an excellent refractory brick with corundum as the main crystal phase and Al_2O_3 content of more than 95%. It is made of industrial alumina or high-alumina bauxite as the main raw material and is formed by high-temperature sintering. They have good thermal shock stability, high mechanical strength, good wear resistance, and excellent corrosion resistance.

Technical Data:

Items		Grades			
		GYZ-99A	GYZ-99B	GYZ-98	GYZ-95
$\omega(Al_2O_3)$ / %	μ_0	≥99.0	≥99.0	≥98.0	≥95.0
$\omega(SiO_2)$ / %	μ_0	≤0.15	≤0.2	≤0.5	——
$\omega(Fe_2O_3)$ / %	μ_0	≤0.10	≤0.15	≤0.20	≤0.30
Open Porosity / %	μ_0	≤19	≤19	≤19	≤20
Bulk Density / (g/cm^3)	μ_0	≥3.20	≥3.15	≥3.15	≥3.10
CCS / MPa	μ_0	≥80	≥80	≥80	≥100
HPLC (1600℃×3h) / %	X_{min}	-0.2~+0.2	-0.2~+0.2	-0.2~+0.2	-0.3~+0.3
R.U.L (0.2 MPa ,0.6%) / ℃	X_{min}	1700	1700	1700	1700

Chrome Corundum Brick

Description:

Chrome corundum bricks are made of alumina chromium raw materials, chromium oxide, alumina and other materials, through high temperature sintering. The total content of alumina and chromium oxide is not less than 90%, and the content of chromium oxide is not more than 50%. Chrome corundum brick is a high grade refractory material with excellent performance: high-temperature resistant, good thermal shock stability, good compressive strength and thermal conductivity.

Technical Data:

Items	Grade			
	GGZ-5	GGZ-12	GGZ-20	GGZ-30
$\omega(Cr_2O_3)/\%$	5	12	20	30
$\omega(Cr_2O_3+Al_2O_3)/\%$	93	93	93	93
$\omega(Fe_2O_3)/\%$	0.3	0.3	0.3	0.3
Open Porosity /%	18	18	18	18
Bulk Density/(g/cm^3)	3.10	3.20	3.40	3.50
CCS/ MPa	100	100	100	100

AZS Brick

Description:

AZS brick is a refractory brick made of industrial alumina powder and selected zircon sand. These bricks have good refractory properties, with a high refractoriness above 1550-1650℃ under load, and it still maintains good strength in a high temperature of 1790℃.In addition, AZS bricks have good thermal shock resistance and strong corrosion resistance.

Technical Data:

Items	Grades		
	AZS-33#	AZS-36#	AZS-41#
Al_2O_3 / %	The Rest	The Rest	The Rest
ZrO_2 / %	32 ~ 36	35 ~ 40	40 ~ 44
SiO_2 / %	≤16.0	≤14.0	≤13.0
Na_2O / %	≤1.45	≤1.45	≤1.30
(Fe_2O_3+TiO_2+CaO+MgO+Na_2O+K_2O) / %	≤2.0	≤2.0	≤2.0
(Fe_2O_3+TiO_2)	≤0.3	≤0.3	≤0.3
Bulk Density / (g/cm^3)	≥3.75	≥3.80	≥3.95
Open Porosity / %	≤1.5	≤1.0	≤1.0
Erosion Speed by Static Glass Liquid (1500℃ * 36h) / (mm/24h)	≤1.6	≤1.5	≤1.3
Glass Phase Precipitation Temp / ℃	≥1400	≥1400	≥1400
Bubble Precipitation Rate (1300℃ * 10h) / %	≤2.0	≤1.5	≤1.0
Glassy Phase Exudation (1500℃ * 4h) / %	≤2.0	≤3.0	≤3.0

Dense Zircon Brick

Description:

Dense zircon bricks are high-performance refractory bricks made from zircon sand raw materials after extrusion molding and high-temperature calcination process. These bricks have excellent erosion resistance, high bulk density and high strength, good refractoriness and thermal shock stability.

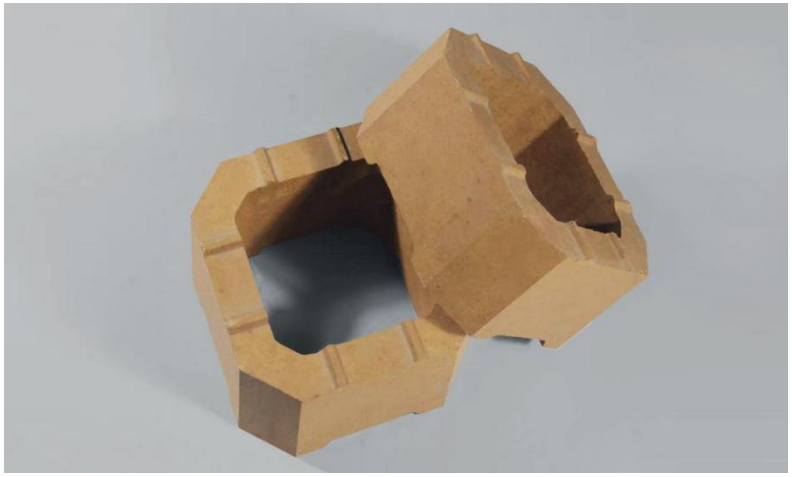
Technical Data:

Items		Grades				
		ZS-G	ZS-Z	ZS-65A	ZS-65B	ZS-63
Density / (g/cm^3)		≥4.30	≥4.10	≥3.70	≥3.60	≥3.55
Open Porosity / %		≤1	≤11	≤17	≤19	≤20
CCS / MPa		≥300	≥200	≥100	≥80	≥60
R.U.L (0.2 MPa ,$T_{0.6}$) / ℃		≥1700	≥1700	≥1680	≥1650	≥1600
Element	ZrO_2	≥65	≥68	≥65		≥63
	SiO_2	≤33	≤30	≤33		≤35
	Fe_2O_3	≤0.20	≤0.20	≤0.20		≤0.20
	TiO_2	≤1.20	≤1.20	≤1.20		——

Magnesia Brick

Description:

Magnesia brick is an alkaline refractory brick made primarily from high-purity sintered magnesia or fused magnesia, manufactured through high-temperature sintering or chemical bonding processes. These bricks offer excellent high-temperature performance, corrosion resistance and strength, making them widely used in high-temperature industrial-especially in equipment exposed to molten metals or strongly alkaline environments.



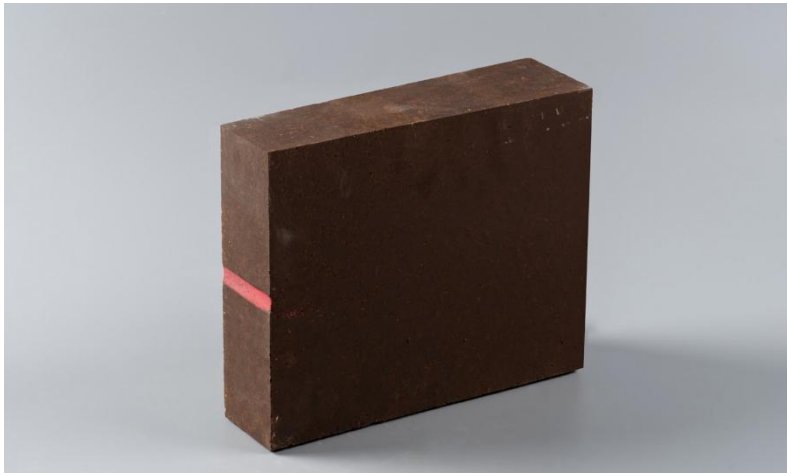
Technical Data:

Item	Grade						
	M—98	M—97A	M—97B	M—95A	M—95B	M—91	M—89
ω(MgO)/%≥	97.5	97.0	96.5	95.0	94.5	91.0	89.0
ω(SiO_2)/%≤	1.00	1.20	1.50	2.00	2.50	—	—
ω(CaO)/%≤	—	——	——	2.00	2.00	3.00	3.00
Apparent Porosity/%≤	16	16	18	16	18	18	20
Bulk Density/(g/cm^3)≥	3.00	3.00		2.95		2.90	2.85
CCS/MPa≥	60	60		60		60	50
	50	50		50		50	45
R.U.L. / 0.2 MPa $T_{0.6}$/℃≥	1700	1700		1650		1560	1500
HPLC/%		1650℃×2h —0.2～0		1650℃×2 h —0.3～0		1600℃×2 h —0.5～0	1600℃×2 h —0.6～0

Direct-bonded Magnesia-Chrome Brick

Description:

Direct bonded magnesia-chrome brick is a kind of refractory products primarily composed of periclase and magnesia-chromite spinel, bonded directly. This brick is made from high-purity sintered magnesia with less than 2% SiO_2 and chromite as raw materials, produced through high-temperature sintering. The product has low impurity content and is fired at high and ultra-high temperatures, resulting in low porosity, high compressive strength, excellent wear resistance, corrosion resistance, thermal shock resistance, and spalling resistance.



Technical Data:

Item	Grade						
	ZMGe-16A	ZMGe-16B	ZMGe-12A	ZMGe-12B	ZMGe-8A	ZMGe-8B	DMGe-6
ω(MgO)/%≥	60	58	68	65	75	70	75
ω(Cr_2O_3)/%≥	16	16	12	12	8	8	6
ω(SiO_2)/%≤	1.5	2.5	1.5	2.5	1.5	2.5	2.5
Apparent Porosity/%≤	18	18	18	18	18	18	18
CCS/MPa≥	40	40	45	45	45	45	45
	min35	Min35	min35	Min35	min35	min35	min35
R.U.L./ 0.2 MPa $T_{0.6}$/℃	1670	1650	1700	1650	1700	1650	1700

Fused Rebonded Magnesia-Chrome Brick

Description:

Fused rebonded magnesia-chrome brick is generally made by first melting lightly burned magnesia and chromite in an electric arc furnace to produce fused magnesia-chrome sand. Then this sand is crushed, ground, proportioned, shaped and sintered to manufacture the final product These bricks have a high degree of direct bonding, low impurity content, resulting excellent high-temperature strength, superior high-temperature volume stability, as well as outstanding corrosion and erosion resistance.

Technical Data:

Item	Grade								
	DMGe-26	DMGe-24	DMGe-22	DMGe-20A	DMGe-20B	DMGe-16A	DMGe-16B	DMGe-12A	DMGe-12A
ω(MgO)/%≥	50	50	55	58	58	62	58	68	65
ω(Cr2O3)/%≥	26	24	22	20	20	16	16	12	12
ω(SiO_2)/%≤	1.5	1.5	1.5	1.5	2.0	1.5	2.0	1.5	2.0
Apparent Porosity/%≤	16（15）	16（15）	16（15）	16（15）	17（15）	16（15）	17（16）	16（15）	17（16）
CCS/MPa≥	40(45)	40(45)	40(45)	40(45)	40(45)	40(45)	40(45)	40(45)	40(45)
	min35 (40)	min35 (40)	min35 (40)	min35 (40)	min35 (40)	min35 (40)	min35 (40)	min35 (40)	min35 (40)
R.U.L./ 0.2 MPa $T_{0.6}$/℃	1700	1700	1700	1700	1700	1700	1700	1700	1700

Fireclay Brick

Description:

Fireclay brick is a type of refractory material made primarily from refractory clay, which is fired at high temperatures. The main component is aluminosilicate. These bricks have excellent fire resistance, thermal stability, and slag resistance. They are generally categorized into: fireclay bricks, dense clay bricks, low-creep clay bricks, and thermal shock-resistant clay bricks.

Technical Data:

Item	Grade				
	PN-42	PN-40	PN-35	PN-30	PN-25
$\omega(Al_2O_3)$ / % ≥	42	40	35	30	25
$\omega(Fe_2O_3)$ / % ≤	2.0	—	—	—	—
Open Porosity / % ≤	20(22)	24(26)	26(28)	23(25)	21(23)
CCS / MPa ≥	45(35)	35(30)	30(25)	30(25)	30(25)
	35(25)	25(20)	20(15)	20(15)	20(15)
R.U.L. (0.2 MPa $T_{0.6}$) / ℃ ≥	1400	1350	1320	1300	1250
HPLC / %	1400℃×2 h —0.4～0.1	1350℃×2 h —0.4～0.1	1300℃×2 h —0.4～0.1	1300℃×2 h —0.4～0.1	1250℃×2 h —0.4～0.1

Sillimanite Brick

Description:

Sillimanite bricks are made of high-purity sillimanite raw materials that are crushed, screened, pressed, and sintered at 1500℃~1700℃. Sillimanite bricks are a type of refractory brick with excellent performance, which can withstand high temperatures of 1800℃ and have the advantages of high refractoriness under load, good creep resistance, and good thermal shock resistance.

Technical Data:

Items	Type		
	Extrusion		Cast
Al_2O_3 / %		≥60	
SiO_2 / %		≤35	
Fe_2O_3 / %		≤1.0	
Bulk Density / (g/cm^3)		≥2.40	
Open Porosity / %		≤20.0	
CCS / MPa	≥75.0		≥60.0
R.U.L (0.2 MPa , $T_{0.6}$) / ℃	≥1 550		≥1 450
TSR (1100℃, cold water) / cycles		≥10	
HPLC (1400℃×2h) / %		±0.2	

Light Weight Fireclay Brick

Description:

Light weight fireclay brick, also known as fireclay insulating brick, is a type of lightweight refractory material made from refractory clay with an alumina content of 30% to 46%. The characteristics of these bricks include low density, low thermal conductivity, high refractoriness and good thermal insulation performance, making them primarily used in the areas that need heat insulation in various kilns.

Technical Data:

Item	Grade						
	NG140-1.5	NG135-1.3	NG135-1.2	NG130-1.0	NG125-0.8	NG120-0.6	NG115-0.5
Bulk Density/(g/cm^3)	≤1.5	≤1.3	≤1.2	≤1.0	≤0.8	≤0.6	≤0.5
CCS / MPa	≥6.0	≥5.0	≥4.5	≥3.5	≥2.5	≥1.3	≥1.0
	5.5	4.5	4.0	3.0	2.0	1.0	0.8
HPLC / %	1400 ℃× 12 h	1350 ℃×12 h		1300 ℃× 12 h	1250 ℃× 12 h	1200 ℃× 12 h	1150 ℃× 12 h
	Xmin~Xmax: -2 ~ 1						
λ [W/m·k] (350±25℃)	≤0.65	≤0.55	≤0.50	≤0.40	≤0.35	≤0.25	≤0.23

Mullite Insulation Brick

Description:

Mullite insulation brick is a kind of insulating brick primarily made from mullite as the main raw material, with an alumina content generally ranging from 45% to 65%. The mineral composition, in addition to mullite, includes small amounts of glass phase and quartz when the alumina content is relatively low; whereas, when the alumina content is higher, small amounts of corundum are present. This product features low thermal conductivity, low thermal expansion, low impurity content, high resistance to high temperatures, high compressive strength and excellent thermal shock resistance. Moreover, they can be processed into special shapes and in direct contact with the fire side.

Technical Data:

Item		Grade						
		MG-23	MG-25	MG-26	MG-27	MG-28	MG-30	MG-32
$\omega(Al_2O_3)/\%$	≥	40	50	55	60	65	70	77
$\omega(Fe_2O_3)/\%$	≤	1.0	1.0	0.9	0.8	0.7	0.6	0.5
Bulk density/(g/cm^3)	≤	0.55	0.80	0.85	0.90	0.95	1.05	1.35
CCS / MPa	≥	1.0	1.5	2.0	2.5	2.5	3.0	3.5
	Min	0.9	1.3	1.8	2.2	2.2	2.7	3.2
HPLC（T/℃×12h）/%	T/℃	1230	1350	1400	1450	1510	1620	1730
λ/[W/(m·k)]≤（±25℃）	200	0.18	0.26	0.28	0.32	0.35	0.42	0.56
	350	0.20	0.28	0.30	0.34	0.37	0.44	0.60
	600	0.22	0.30	0.33	0.36	0.39	0.46	0.64
R.U.L. (0.2 MPa $T_{0.6}$) / ℃ ≥		1080	1200	1250	1300	1360	1470	1570

High Alumina Insulating Brick

Description:

High alumina insulating brick is a kind of heat-insulating refractory product made primarily from bauxite, with an Al2O3 content of no less than 48%. They are mainly produced using bauxite clinker, combined with clay as raw materials, and mixed with binders and sawdust. To enhance the product's performance, industrial alumina, corundum, sillimanite, kyanite and silica are added in fine powder form to produce products with a bulk density of over 0.4 g/cm^3. The characteristics of these products include light weight, excellent thermal insulation properties (low thermal conductivity), high refractoriness, excellent thermal stability and mechanical strength.

Technical Data:

Item	Grade					
	LG140-1.2	LG140-1.0	LG140-0.8L	LG135-0.7L	LG135-0.6L	LG125-0.5L
ω(Al_2O_3)/%≥	48					
ω(Fe_2O_3)/%≤	2.0					
Bulk Density (g/cm^3)≤	1.2	1.0	0.8	0.7	0.6	0.5
CCS / MPa ≥	4.5	3.5	2.5	2.2	1.6	1.2
	min4.0	min3.0	min2.2	min2.0	min1.5	min1.0
HPLC / %	1400℃×12 h —2～1.0			1350℃×12 h —2～1.0		1250℃×12 h —2～1.0
λ [W/m·k] (350±25℃) ≤	0.55	0.50	0.35	0.30	0.25	0.20