



## SILICON CARBIDE BRICKS & CASTABLE & MORTAR

For the basic metals, such as sodium, potassium and zinc, the silicon carbide bricks have excellent corrosion resistance. Also, the silicon carbide bricks have good resistance to the CO<sub>2</sub> gas.

The silicon carbide bricks have also the advantages as follows:

- Corrosion and heat shock resistance..

- High thermal expansion strength.
- Excellent steel-fluid resistance and slag and corrosion resistance.

Therefore, silicon carbide brick has wide application.

### Typical Properties

Brand		SCB-90	SCB-85	SCB-65	SCB-40	SCB-40A
Properties						
Bulk Density(g/cm <sup>3</sup> )		2.65	2.65	2.60	2.67	2.80
Hot Modulus of Rupture at 1000 °C (kgf/cm <sup>2</sup> )		45	42	40	29	40
Chemical Composition (%)	SiC	87	85	66	41	38
	SiO <sub>2</sub>	4	5	6	25	—
	Al <sub>2</sub> O <sub>3</sub>	6	7	20	29	57
Cold Crushing Strength(Mpa)		112	120	110	90	125
Apparent Porosity(%)		15	15	16	11	14
Refractoriness Under Load (T <sub>2</sub> °C)		>1700	>1750	>1650	>1480	>1700
Thermal Expansion at1000°C (%)		0.4	0.4	0.4	0.4	0.5
Thermal Conductivity (W/m.k) At 1000°C		13.4	11.8	5.8	4.1	7.8
Application		Incinerator rotary kiln 、 cyclon Non ferrous metal furnace	Incinerator rotary kiln 、 cyclon Non ferrous metal furnace	Incinerator rotary kiln 、 cyclon Non ferrous metal furnace	Incinerator rotary kiln 、 cyclon Non ferrous metal furnace	Incinerator rotary kiln 、 cyclon Non ferrous metal furnace

Brand		LCS-SiC90 CASTABLE	LCS-SiC65 CASTABLE	LCS-SiC50 CASTABLE	SIC-90M MORTAR
Properties					
Max. Service Temperature °C		1400	1400	1400	1400
Quantity Required (Kg/m <sup>3</sup> )		2520	2440	2410	
Water Required For Mixing (%)		8.0	7.5	7.5	25
Chemical Composition (%)	Al <sub>2</sub> O <sub>3</sub>	9	17	22	8
	SiO <sub>2</sub>		21	24	
	SiC	84	60	50	86
Modulus of Rupture After Heating(Mpa)	110°C	4	4	3.5	1.2
	1000°C	15	12	11	(Bending —
	1300°C	25.0	22.6	18.6	Strength) 2.5
Cold Crushing Strength(Mpa)	110°C	25	20	15	
	1000°C	50	40	35	
	1300°C	93.4	82.0	87.3	
Permanent Linear Change(%)	1000°C	+0.2		+0.2	
	1300°C	+0.25	+0.19	+0.44	
Apparent Porosity(%)	1000°C				
	1300°C	19.3	17.6	16.9	
Thermal Expansion at1000°C (%)					
Thermal Conductivity (W/m.k)	At 500°C	13.3	8.0	4.9	
	At1000°C	9.1	6.8	4.5	
Grain Size (%)	+0.50 mm				
	-0.074mm				85