

# Silicon Carbide Products

## 碳化硅制品



The Silicon Carbide Products are with many advantages, which make them widely application in the energy, chemical, mining and building materials industries.

碳化硅制品的产品特点，使其在能源、化工、采矿、建材等行业有广泛应用。

- 1) Stable chemical properties, not easy to make reaction with other materials, corrosion resistant.  
化学性质稳定，不易与其它物料发生反应，耐腐蚀。
- 2) Very good wear resistance.  
耐磨损。
- 3) Antioxidation.  
抗氧化。
- 4) High temperature resistant, high temperature creep resistance.  
耐高温，抗高温蠕变。
- 5) Good thermal shock resistance, quench and heat resistance.  
抗热震性好，耐急冷急热。
- 6) High strength, high compressive strength, high bending strength.  
高强度，抗压强度高，抗折强度高。
- 7) Light weight.  
重量轻。
- 8) Easily shaping, high surface machining accuracy.  
Can be made into a complex shape.  
成型好，表面加工精度高，可制成复杂形状。
- 9) Long working life, cost saving.  
工作寿命长，节约成本。
- 10) Pipe is not easy to plug, good patency.  
管道不易堵塞，通畅性好。
- 11) Good heat conduction.  
导热好。



# Silicon Carbide Products

## 碳化硅制品



No.06  Energy Industry 能源 ( Oil/Gas 石油天然气 |  Solar Energy 太阳能 |  Lithium Battery 锂电池) |  Chemical Industry 化工 |  Mining 采矿

Product 产品	Material 材质	Detail 细分
Underprop   Support   Tank 支撑件, 容器	RSiC, NSiC, SiSiC, OSiC	Brace, Crank, Pillar, Bracket, Roller, Beam, Batt, Wear Resistant Plate, Sagger, Crucible 支柱、支架、立柱、辊棒、横梁、垫板、耐磨片、匣钵、坩埚
Connecting Fitting   连接件 Transition Part   过渡件	RSiC, SiSiC, OSiC	Burner, Nozzle, Pipe, Tube, Connecting Parts 烧嘴、喷嘴、管道、连接件

### Technical Parameters

#### 技术参数

Items 项目	Material 材质		RSiC	NSiC	SiSiC	OSiC
Product Code	产品型号		KSR	KSN	KSS	KSO
Chemical Composition 化学成分	SiC	%	≥99	≥75	≥99	≥90
	Si <sub>3</sub> N <sub>4</sub>	%	0	≥23	0	0
	Fe <sub>2</sub> O <sub>3</sub>	%	≤0.15	≤0.15	≤0.15	≤0.50
Bulk Density @20°C	体积密度	g/cm <sup>3</sup>	≥2.65	≥2.75	≥3.02	≥2.60
Apparent Porosity	显气孔率	%	≤16	≤12	<0.1	≤18
Modulus of Crushing@ 20°C	抗压强度	MPa	≥300	≥600	≥300	≥100
Thermal Expansion Coefficient @ 20—1200 °C	热膨胀系数	10 <sup>-6</sup> K <sup>-1</sup>	4.70	4.70	4.50	4.30
Modulus of Rupture 抗折强度	@ 20°C	MPa	≥90	≥170	≥250	≥40
	@ 1200°C	MPa	≥110	≥180	≥280	≥55
	@ 1350°C	MPa	≥120	≥190	≥280	≥55
Thermal Conductivity @1200°C	热导率	wm <sup>-6</sup> K <sup>-1</sup>	36	20	45	30
Modulus of Elastic@ 20°C	弹性模量	GPa	240	250	330	250
Modulus of Elastic@ 1200°C	弹性模量	GPa	210	220	300	220
Thermal Shock Resistance	抗热震性	★	★★★★	★★★★ ★	★★★★ ★	★★★★ ★
Hardness (Morh's Scale)	莫氏硬度		13	13	13	13
Acid / Alkaline Resistance	耐酸碱度	★	★★★★ ★	★★★★ ★	★★★★ ★	★★★★ ★
Max. Working Temperature	Oxidate Gas 氧化气氛	°C	1650	1600	1380	1400
	Deoxidated Gas 还原焰	°C	1800	1700		

Re: Please chose suitable model in accordance with working conditions and technician's guide.

# Silicon Carbide Products

## 碳化硅制品



No.06  Energy Industry 能源  Oil/Gas 石油天然气  Solar Energy 太阳能  Lithium Battery 锂电池  Chemical Industry 化工  Mining 采矿

### Application on the energy industry

#### 碳化硅制品应用在能源行业

##### 1. Flue gas desulfurization nozzle

###### 烟气脱硫喷嘴

It is the Key components of the Desulphurization and dust removal equipment in the thermal power plant and the large boiler.

它是火力发电厂、大型锅炉的脱硫除尘成套设备的关键部件。



Spiral Nozzle 螺旋喷嘴

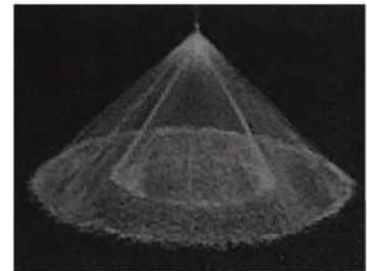


One way nozzle 单向喷嘴

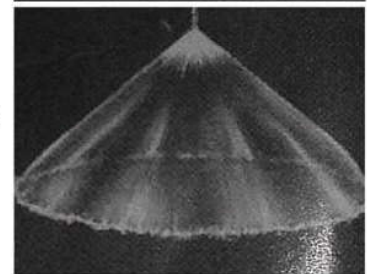


Two way nozzle 双向喷嘴

Sprayed Strokes 喷雾效果



Solid cone  
实心锥形



Hollow cone  
空心锥形

Sprayed Strokes 喷雾效果



## Silicon Carbide Products 碳化硅制品



No.06  Energy Industry 能源  Oil/Gas 石油天然气  Solar Energy 太阳能  Lithium Battery 锂电池  Chemical Industry 化工  Mining 采矿

### 2. Sand blasting nozzle 喷砂嘴

Silicon carbide Sand blasting nozzle is suitable for the sand blasting, water-jet nozzle, and the coal injection nozzle in the steel plant or thermal power plant.

碳化硅喷砂嘴适用于做喷砂嘴、水砂切割嘴及钢厂、热电厂等行业喷煤嘴等。



### 3. Material and flue gas transmission pipeline, pipe fitting or the liner of the pipe.

物料和烟气输送管道、管件或者管道内衬



### 4. Kiln furniture in the sintering process of the production of the insulators.

Kiln Furniture in the sintering process of the production of the battery and solar battery.

窑具，用于电力行业绝缘陶瓷零部件的烧结过程；用于电池和太阳能电池生产过程的高温烧结工序。



# Silicon Carbide Products

## 碳化硅制品



### Silicon Carbide Products in the chemical industry.

碳化硅制品应用在化工行业

1. Material and flue gas transmission pipeline, pipe fitting or the liner of the pipe.  
物料和烟气输送管道、管件或者管道内衬



2. The spare parts and components at the position with high temperature, high pressure, required to be corrosion resistant and wear resistant.  
高温高压耐腐蚀耐磨的部位和组件。



### Silicaon Carbide Products in the mining industry

#### 碳化硅制品应用在采矿行业

Material transmission pipeline,  
pipe fitting or the liner of the pipe.  
物料输送管道、管件或者管道内衬。

