SHANDONG ZHONGPENG SPECIAL CERAMICS CO., LTD (ZPC)

Sale Director: Caroline
Add: Weifang, Shandong, China
Email: chinesesisic@hotmail.com
Tel: +86 158 5445 9359
Wechat: 15854459359 (BestSupplierinCHN)
COMPANY PROFILE

• Shandong ZhongPeng Special Ceramics Co., Ltd. (ZPC) is a professional company engaged in production, R&D and sales of high-performance silicon carbide products, RBSiC/SiSiC/Sic-Sic (Reaction Bonded Silicon Carbide).

• ZPC plant is set on the purchased land. Our factory covers an area of 60000 square meters located in Weifang City, Shandong, China. We have wonderful cooperation with the local university professor who makes a study of the heat-resistant composite. ZhongPeng Company is also the research base for the local university. Main brand is ‘ZPC’. We have our professional research and development team for serving customer.

• With more than 10 years' production experience, our technological team could provide the 3D effects drawings design of their own nozzle and the spray testing experiments. And other products have the fine theory structure which could ensure the competitive performance. Our RBSiC products are comparable to the products from USA, Germany and so on.
ADVANTAGES

• ZPC is a factory specializing in the production of RBSiC/SiSiC products.
• Professional technical support, production process and equipments.
• Complete production managing system, OEM/ODM is available.
• Creditable company and competitive products.
• Being committed to becoming the largest and most professional desulphurizing nozzles manufacturer in Asia.
SILICON CARBIDE

• Silicon carbide is a synthetic material that exhibits high performance characteristics including: high hardness approaching that of diamond, high strength (gains strength at temperature), excellent chemical resistance, excellent thermal shock resistance and excellent wear resistance. Silicon carbide retains most of its mechanical strength at elevated temperatures and exhibits very low levels of creep, making it the first choice for load-bearing applications in the range 1300°C to 1650°C (2400°F to 3000°F).

• Silicon carbide components provide outstanding thermal shock resistance but unlike traditional ceramics, they also combine low density with high mechanical strength. Additionally, these products offer extreme hardness/abrasion resistance and outstanding chemical stability in aggressive environments.

• However, unlike metals and their alloys, there are no standardized industry performance criteria for silicon carbide. With a wide range of compositions, densities, manufacturing techniques and company experience, silicon carbide components can differ drastically in consistency, as well as mechanical and chemical properties. Your choice of supplier determines the level and quality of the material you receive.
Silicon Infiltrated SiSiC  
(also know as Reaction-bonded RBSiC)  

- Corrosion / oxidation resistance  
- Outstanding chemical stability in aggressive environments  
- Extreme hardness/abrasion resistance  
- Combine low density with high mechanical strength  
- Outstanding thermal shock resistance  
- Excellent load-bearing ability at higher temperatures  
- Good thermal conductivity and High temperature creep resistance
## RBSiC (SiSiC) Characterist

<table>
<thead>
<tr>
<th>Technical Datasheet</th>
<th>Unit</th>
<th>SiSiC (RBSiC)</th>
<th>NbSiC</th>
<th>ReSiC</th>
<th>Sintered SiC</th>
<th>Al2O3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Reaction Bonded Silicon Carbide</td>
<td>Nitride Bonded Silicon Carbide</td>
<td>Recrystallized Silicon Carbide</td>
<td>Sintered Silicon Carbide</td>
<td>Alumina Ceramic</td>
</tr>
<tr>
<td>Bulk density</td>
<td>(g.cm$^{-3}$)</td>
<td>≥ 3.02</td>
<td>2.75-2.85</td>
<td>2.65-2.75</td>
<td>2.8</td>
<td>3.6-3.85</td>
</tr>
<tr>
<td>SiC</td>
<td>(%)</td>
<td>83.66</td>
<td>≥ 75</td>
<td>≥ 99</td>
<td>90</td>
<td>Al2O3 ≥92%</td>
</tr>
<tr>
<td>Si3N4</td>
<td>(%)</td>
<td>0</td>
<td>≥ 23</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Si</td>
<td>(%)</td>
<td>15.65</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Open Porosity</td>
<td>(%)</td>
<td>&lt;0.5</td>
<td>10~12</td>
<td>15-18</td>
<td>7~8</td>
<td>7-8</td>
</tr>
<tr>
<td>Bending strength</td>
<td>Mpa / 20°C</td>
<td>250</td>
<td>160-180</td>
<td>80-100</td>
<td>500</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>Mpa / 1200°C</td>
<td>280</td>
<td>170-180</td>
<td>90-110</td>
<td>550</td>
<td>200</td>
</tr>
<tr>
<td>Modulus of elasticity</td>
<td>Gpa / 20°C</td>
<td>330</td>
<td>580</td>
<td>300</td>
<td>200</td>
<td>300-350</td>
</tr>
<tr>
<td></td>
<td>Gpa / 1200°C</td>
<td>300</td>
<td>~</td>
<td>~</td>
<td>~</td>
<td>~</td>
</tr>
<tr>
<td>Thermal conductivity</td>
<td>W/(m*K)</td>
<td>45 (1200°C)</td>
<td>19.6 (1200°C)</td>
<td>36.6 (1200°C)</td>
<td>36.6 (1200°C)</td>
<td>13.5~14.5 (1000°C)</td>
</tr>
<tr>
<td>Coefficient of thermal expansion</td>
<td>K$^{-1}$ * 10$^{-6}$</td>
<td>4.5</td>
<td>4.7</td>
<td>4.69</td>
<td>3</td>
<td>8.3</td>
</tr>
<tr>
<td>Mons' hardness scale (Rigidity)</td>
<td>9.5 (Vickers 2050</td>
<td>~</td>
<td>~</td>
<td>~</td>
<td>~</td>
<td>6-7 (Vickers 1100)</td>
</tr>
<tr>
<td>Max-working temperature</td>
<td>°C</td>
<td>1380</td>
<td>1450</td>
<td>1620 (oxid)</td>
<td>1300</td>
<td>1250</td>
</tr>
</tbody>
</table>

1. This information is given in good faith but does not constitute a specification of guarantee.

2. ZPC Ceramics supplies the most competitive and technically-proven range of Reaction-bonded silicon carbide products.
PRODUCTION SYSTEM

Materials Mixing -> Molding
Slip Casting -> Drying
Firing -> Testing
Packaging
RBSiC/SiSiC PRODUCTS

Not all silicon carbide ceramics are created equal. ZPC plant only use the high quality silicon carbide materials to manufacture ceramic components that meet the high performance requirements of our customers. And ZPC factory are committed to becoming the largest and most professional desulphurizing nozzles manufacturer in Asia.

Our products including reaction-bonded silicon carbide desulfurizing nozzle, inner lining, radiant tube, inner tube, silicon carbide ceramic bush, beam, roller rod, thermocouple protection tube, cold-air tube, case, crucible, Sagger, blast nozzle, axle sleeve, sealing element, and various high-temperature resistant, wear-resistant, corrosion-resistant silicon carbide irregular parts.
RBSiC/SiSiC PRODUCT CATALOGUE

1. Flue Gas Desulfurization nozzles - (FGD Nozzles)
2. Wear Resistant and Corrosion Resistant Products
3. High Temperature Resistance Kiln Furniture
4. Irregular and Special-Shaped SiSiC (RBSiC) Parts
5. Other Customized...
1. FGD Nozzles

Being committed to becoming the largest and most professional desulphurizing nozzles manufacturer in Asia.

ZPC silicon carbide product has long been utilized as the preferred material for aggressive wear applications throughout coal fired power plants. It is widely used in modern, well equipped facilities working to meet current regulatory demands, and in power plants committed to best practice with maximum performance, extended outage cycles and reduced unscheduled downtime. ZPC silicon carbide product is utilized for burner barrel liners, wear blocks, quarl tile, conical diffusers and deflectors, fuel head distributors and transitions in the coal delivery side. It is also utilized in limestone slurry preparation and delivery side including hydrocyclone apexes, inlet heads and flue gas desulfurization spray nozzles.
Hollow Cone Sprial Nozzles
Full Cone Spray Nozzle

0.3-0.6 inch
1-3 inch
4 inch
more than 4 inch
Screw hoop

Other Desulphurization Nozzles

Pulse nozzle
Pulse nozzle
MP nozzle
Liquid column spray nozzle
2. Wear Resistant and Corrosion Resistant Products

ZPC silicon carbide products are the clear choice for the harsh conditions faced in the handling, sizing and transport of mined products. Our materials are known for their outstanding abrasion resistance, corrosion resistance and extremely low thermal expansion. Multiple lining configurations and monolithic sweeps (elbows) are custom manufactured according to specific process requirements. This ensures perfect fit, minimized joints and faster installation. These unique properties lead to reduced downtime, increased productivity and higher material throughput. Mining and material handling components for severe wear applications.
Cyclone Lining

Anti-wear inner lining
Sandblasting Nozzle

Sandspit

Ceramic lining of metal tube
3. High Temperature Resistance kiln furniture

The Main Features:

- a: Good Hardness and Load bearing
- b: Oxidation resistance, Anti-Oxidant
- c: No creep deformation
- d: High abrasion and corrosion resistance
Radiant tube & Burner & Heat exchanger

Burner Nozzle & Flame Nozzle & Burner Tube

Silicon carbide kiln plate
Crucible & Sagger

Beams & Roller
4. Irregular and Special-Shaped Ceramics

With excellent performance of high strength, high hardness, high wear resistance, high temperature resistance, corrosion resistance, the different kinds of shapes of special parys are suitable for mining, petrochemical, metallurgical manufacturing, aerospace and nuclear industries, such as a specific environment. We can make any sizes provided according to the customer request.
Special parts

- Bolt and nut
- Wear-resistant component
- Wear-resistant domal bodies
- Thick walled silicon carbide tube
- Wear-resistant conical sleeve
- Temperature resistant sleeve
- Silicon carbide separator
- Silicon carbide separator
- Silicon carbide filter separator
- Lining pipe
- Radian plate
- Wear-resistant ring
- Impeller
- Impeller
- Special parts
WHAT WE CAN DO

• **R&D - Product Development**
  As reaction-bonded silicon carbide ceramics manufacturer, we provide high-performance silicon carbide ceramic solutions.

• **Precision Production & Communication**
  We pursue the fine cooperation with customers in product development, mass production & logistics and supporting. We also pay attention to the communication of customer’ after-sale plan.

• **OEM/ODM is Available**
  Clients' special requests on sizes/shape are available. Printing your logo or brand on products are accepted with the proper quantity. We will need your 2D &3D drawing artwork or samples for production.
SCHEME PROVIDING

According to your description about the existing problems, our special engineers of R&D Dept. will check and reply with the solving scheme soon.

**STEP 1:** Contact our sales representative and tell the details.

**STEP 2:** Problems analyzing. Pictures or videos may be needed.

**STEP 3:** Reply with the suitable solving scheme for your choice.
## ORDER PROCESS

<table>
<thead>
<tr>
<th>Enquiry</th>
<th>Inform us of specs (material, quantity, destination, transportation mode, etc) by email, phone or tax.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quotation</td>
<td>A detailed quotation from our specific sales person will reach you within one working day.</td>
</tr>
<tr>
<td>Order Confirmation</td>
<td>If you accept the quotation or samples (if necessary), please confirm the order and send us the contract.</td>
</tr>
<tr>
<td>Production</td>
<td>The sales person will pass the order details to our factory for arranging.</td>
</tr>
<tr>
<td>Sample Confirmation</td>
<td>For products of specifications, we will confirm with you after the first sample is completed.</td>
</tr>
<tr>
<td>Quantity Control &amp; Packing</td>
<td>The product will go through our strict test procedures and then be packaged and waiting for delivery.</td>
</tr>
<tr>
<td>Delivery</td>
<td>We will confirm with you again for the transportation mode, consignee and other information. Then, we will registered and reached in our delivery system.</td>
</tr>
<tr>
<td>Logistics Tracking</td>
<td>The sales person will offer you real-time information of the logistics for your tracking.</td>
</tr>
<tr>
<td>After-sale Service</td>
<td>After you receive our products, we will keep in touch with you for our after-sale service.</td>
</tr>
</tbody>
</table>
AFTER-SALE SERVICES

**Our responsibility**
Reply with the testing result
Exchange/Return arrangement
Record & follow

**Non our responsibility**
Solving scheme provided based on communication
CULTURE & HONOR

• Corporate mission:
  Creditable Service and Excelsior Quality

• Unswervingly pursue the best quality standards, continuous technological innovation, and high customer satisfaction.
INDUSTRY CASE
PARTNERS
SHANDONG ZHONGPENG SPECIAL CERAMICS CO., LTD
ADD: Fangzi zone, Weifang, Shandong, China
TEL: +86-15854459359
Contact: Caroline
Email: chinesesisic@hotmail.com