

BLACK SILICON CARBIDE

Product Information



Black Silicon Carbide Description

Black silicon carbide is mainly made from high purity silica sand and Petroleum Coke as the main raw materials and smelted by electric resistance furnace at high temperature. During this high temperature process the crystalline is formed, The grains are extremely hard, sharp, and friable, with many excellent features like as follows:



- ◆ Low density
- ◆ High hardness
- ◆ Good high temperature strength
- ◆ Oxidation resistance
- ◆ Excellent thermal shock resistance
- ◆ High hardness and wear resistance
- ◆ Excellent chemical resistance
- ◆ Low thermal expansion and high thermal conductivity

Physical Properties

| | | |
|----------------|---|-------------------------------|
| Crystal Form | : | Alpha SiC |
| Particle Shape | : | Blocky, sharp edged |
| Color | : | Black |
| Friability | : | Semi-friable |
| Melting Point | : | Dissociates at Approx. 2500°C |
| Bulk Density | : | 1.20-1.60g/cm ³ |
| True Density | : | 3.20g/cm ³ Min |
| Mohs Hardness | : | 9.1 |
| Knoop Hardness | : | 2550kg/mm ² |

Chemical Composition

| Type & Grade | Grit Size | Chemical Composition (% by weight) | | |
|--------------|------------|------------------------------------|-------|--------------------------------|
| | | SiC | F.C | Fe ₂ O ₃ |
| C-F | F12~F90 | ≥98.5 | ≤0.10 | ≤0.15 |
| | F100~F220 | ≥98.0 | ≤0.20 | ≤0.30 |
| | F240-F1200 | ≥97.5 | ≤0.30 | ≤0.40 |
| C-P | P12-P100 | ≥98.5 | ≤0.10 | ≤0.15 |
| | P120~P220 | ≥98.0 | ≤0.20 | ≤0.30 |

| | | | | |
|-----|------------------------------------|-------|-------|-------|
| | P240-P2500 | ≥97.5 | ≤0.30 | ≤0.40 |
| C-R | Macro size: | ≥97% | ≤0.30 | ≤0.40 |
| | 0-1mm,1-3mm ,3-5mm, | ≥95% | ≤0.60 | ≤0.80 |
| | 5-8mm.... | ≥90% | ≤2.50 | ≤2.50 |
| | Fine Powder: -200mesh, -325mesh | ≥88% | ≤3.00 | ≤3.00 |

* Custom chemistry is available upon request.

Available Grit Sizes

We offer Black SIC in Macro and Micro grains complying with the current FEPA / JIS / ANSI sieve standards.

For Bonded Abrasives Application:

FEPA F

Macro :F12, F24, F30, F36, F40, F46, F54, F60, F80, F100, F120, F150, F180, F220

Micro: F240, F280, F320, F360, F400, F500, F600, F800, F1000, F1200

For Coated Abrasives Application:

FEPA P

Macro :P24, P30, P36, P40, P50, P60, P80, P100, P120, P150, P180, P220

Micro:P240, P280, P320, P360, P400, P500, P600, P800, P1000, P1200, P1500, P2000, P2500

JIS

JIS240, JIS280, JIS320, JIS360, JIS400, JIS500, JIS600, JIS700, JIS800, JIS1000, JIS1200, JIS1500, JIS2000, JIS2500, JIS3000, JIS4000, JIS6000, JIS8000

For Refractories Application:

Macro sizes : 0-1mm,0.5-1mm,1-2mm, 1-3mm, 2-3mm, 3-5mm, 5-8mm, 0-10mm,0-25mm...

Fine powder: -200mesh, -325mesh..

Noted :Custom sizes and shaped are also available upon request.

Packaging

- Big bags(1000kgs , 1250kgs, 1350kgs.)] with or without pallets;

- 20 or 25kg plastic.or paper bags, with or without pallets.

*Custom Packaging is available upon request.

Application

- Abrasives & surface preparation (Bonded & Coated Abrasives, Grinding, Lapping, Polishing , Sandblasting...)
- Shaped & Unshaped refractories(kiln furniture, bricks and Monolithics for Blast Furnaces, Torpedo Ladle, Aluminum Reduction Cells, Crucibles, Foamglass, electric heating elements,Tiles and Mortars for Incinerators, Wear Resistance Pumps,braking system)
- Glass & precision ceramics.

- Metal foundries
 - Aerospace, Automotive, National defense& Security
 - Power electronics, Semiconductor components
 - Metallurgical
 - Pavement and Flooring: For slip-resistance.
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