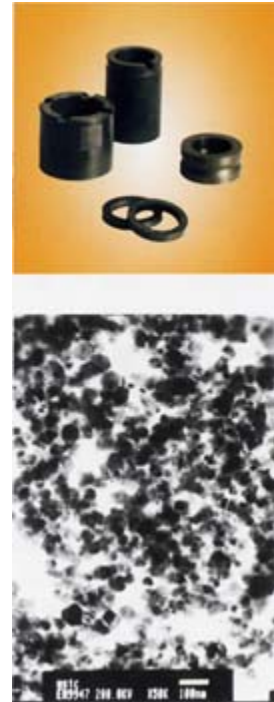


Nano-Silicon Carbide Ceramic Powders (Nano SiC, β)

Advantages:

- High purity
- Small and uniform particle diameters
- Large specific surface area
- High surface activity
- Low loose loading density

The structure devices, made by using this nano SiC powder, have high hardness, high wear resistance and good self-lubricating effect, high thermal conductivity, low thermal expansion coefficient and high temperature strength etc. SiC also is one kind of semiconductors with good properties. Both chemical stability and anticorrosion of SiC are excellent. It can be used to treat the metal surfaces, and make treated metal devices having high anticorrosion, high wear resistance, anti-high temperature and good absorption property.



Specification

This product is synthesized by plasma arc vapor method.



Purity	> 99.0%
Dissociate silicon content	< 0.20%
Oxygen content	< 0.61%
Crystallographic form	Cubic
Average particle size	< 50nm
Specific surface area	> 90m ² /g
Apparent density	0.05g/cm ³
True density	3.22 g/cm ³
Morphology	nearly spherical
Color	Green

Applications

1. Structure devices

For example, in metallurgy, chemical industry, mechanical industry, aeronautics and space industry and energy source fields etc, SiC can be used to make slide bearings, liquid fuel jets, crucibles, moulds used at high frequencies and large powder, and devices of semiconductors etc.

2. Surface treatments of metal and other materials

For example, tools, moulds, anti-high temperature coatings, thermal emission coating, anti-corrosive coatings and absorption wave coatings etc.

3. Composties

SiC can be used to prepare composites of metal matrixes, ceramic matrixes and polymer matrixes.

4. Potential Applications of SiC Nanopowders

Catalyst support

Nanocomposites (e.g., Si₃N₄/SiC, SiC/polymer)

Resistance heating elements

Strengthening materials for Al, Al₂O₃, Mg, and Ni

Superplasticity

Wall in future nuclear fusion reactors

Wear resistant parts

Storage

This product should be stored in cool and dry rooms without solar light. The product can not be in big compression. In the application process of Nano-SiC powders, in order to avoid the powder aggregating caused by absorbing moistness and thus affecting application effects, the Nano-SiC powder can not be exposed in air.