SCProbond™ SSiC

Sintered Silicon Carbide

- Sintered silicon carbide is produced from extremely fine, sub-micron, silicon carbide powder and non-oxide sintering additives. This material displays an extremely high corrosion resistance in acidic and basic media, and is maintained up to extremely high temperatures.
- Properties are outstanding among high-temperature ceramics, complemented by high thermal shock resistance, high thermal conductivity, high resistance to wear and a hardness close to that of diamond.
- Ideal for extremely demanding applications. For example, slip ring seals in chemical pumps, bearing bushes, high temperature burner nozzles, or as kiln furniture for very high application temperatures.

Markets that widely use this type of material include, but are not limited to:

* **Mining**
* **Pulp and Paper**
* **Chemical**
* **Petrochemical**
* **Power Generation**

Applications Include:

* **Nozzles**
* **Cyclones**
* **Spigots**
* **Impeller Rings**
* **Apexes**
* **Valves**
* **Suction Pumps**
* **Chutes**
* **Autoclave Parts**
* **Vessel and Pipe Linings**
* **Bearing Seals**
* **Dust Collectors**
* **Cones**

Physical Property	Units	Typical Value
Composition	-	SiC
Grain Size	µm	10-Apr
Density	g/cc	3.15
Hardness (Knoop)	GPa	2800
Modulus of Rupture	MPa	380
Tensile Strength	MPa	250
Compressive Strength	MPa	3900
Elastic Modulus	GPa	410
Coefficient of Thermal Expansion 20-1,000°C	1×10^{-6}/°C	4
Thermal Conductivity	W/mK	125
Poisson's Ratio	-	0.16

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