N

Silicon Nitride Bonded Silicon Carbide

(Typically called nitride bonded silicon carbide;
Typical Abbreviations: SNBSC, NBSC, NBSIC)

SCProbond™ N is a nitride bonded silicon carbide ceramic formulated for use in severe conditions subject to sliding abrasion, corrosion, and high temperatures up to 1525°C. This cost-effective ceramic is our "workhorse" grade material, exhibiting superior impact resistance over most silicon carbide grades and typically extending component lifetimes by 3 to 10 times or even more, depending on the environment. Due to the uniformity of its properties and ability to be cast into complex shapes, SCProbond™ N is ideal for replacing large multi-feature components with a monolithic solution. This material is widely used in power generation, mining for bulk material handling and protective linings, as well as for non-ferrous molten metal contact.

Physical Properties:

Property	**Value**
Density	2.60-2.72 g/cc (162-169 *lb/*)
Apparent porosity	13-16 %
Abrasion loss (volumetric) C704 ASTM	2.29 cc (0.14)
Modulus of rupture – 3 Point Loading	65.5 MPa (9500 psi)
Coefficient of thermal expansion (at 1200ºC)	*4.9 x10−6/*°C *(2.7 x10−6/*°F*)*
Thermal Conductivity	18 W/m·K
Maximum safe operating temperature (Dependent upon atmosphere)	1525°C (2777°F)

Typical Applications:

- Micronizers
- Ash Handling Sweeps
- Centrifuge Components
- Chutes
- Coal Handling Components
- Coal Preparation Applications
- Molten Metal Pump Protective Sleeves
- Frac Sand Sweeps, Elbows, Valve Body Liners
- Liners
- Cyclones
- Pump Components
- Spray Nozzles
- Transitions
- Wear Blocks
- Impellers