

PRODUCTS FOR MINING, POWER GEN, MINERAL PROCESSING AND GENERAL WEAR



Blasch **SINTRON**

InVinCer by Blasch® Silicon Nitride is designed for exceptional wear and corrosion resistance at a reasonable price. It can be formed into a variety of relatively complex shapes with good tolerance control, without incurring traditional hard tooling setup charges. It also exhibits exceptional oxidation and thermal shock resistance.

SINTRON - SILICON NITRIDE

- High strength over a wide temperature range.
- Outstanding wear resistance, both impingement and frictional modes.
- High fracture toughness/hardness and good chemical resistance

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

- Mining
- Power generation
- Pulp and paper
- Chemical
- Petrochemical
- Pollution Control

Applications Include:

- Hydrocyclone Linings
- Apexes
- Vessel and Pipe Linings
- Chutes
- Pumps
- Nozzles
- Burner Tiles
- Impeller Rings
- Valves

Key Material Properties:

Mechanical	SI/Metric (Imperial)	SI/Metric	(Imperial)
Density	gm/cc (lb/ft ³)	3.29	(205.4)
Porosity	%(%)	0	(0)
Color	—	black	—
Flexural Strength	MPa (lb/in ² x10 ³)	830	(120.4)
Elastic Modulus	GPa (lb/in ² x10 ⁶)	310	(45)
Shear Modulus	GPa (lb/in ² x10 ⁶)	—	—
Bulk Modulus	GPa (lb/in ² x10 ⁶)	—	—
Poisson's Ratio	—	0.27	(0.27)
Compressive Strength	MPa (lb/in ² x10 ³)	—	—
Hardness	Kg/mm ²	1580	—
Fracture Toughness K _{1c}	MPa•m ^{1/2}	6.1	—
Maximum Use Temperature(no load)	°C (°F)	1000	(1830)
Thermal			
Thermal Conductivity	W/m•°K (BTU•in/ft ² •hr•°F)	30	(208)
Coefficient of Thermal Expansion	10 ⁻⁶ /°C (10 ⁻⁶ /°F)	3.3	(1.8)

APPLICATION

		InVinCer by Blasch®						
		Oxytron Oxide Bonded SiC	Altron Alumina Bonded SiC	Nitron NBSiC	SiSiC Reaction Bonded SiC	RSiC Recrystallized SiC	Sintron Silicon Nitride	Ultron Sintered SiC
Abrasion and Corrosion Control	Hydrocyclone Linings	•	•	•	•			
	Multi-Cyclone Components	•	•	•	•			
	Large Cyclone Linings	•	•	•	•			
	Fan Linings		•	•	•			
	Conveyor Linings	•	•	•	•			
	Chute Linings	•	•	•	•			
	Spray Nozzles	•	•	•	•		•	•
	Fluid Bed Linings	•	•	•	•			
	Fluid Bed Nozzles				•		•	•
	Pump Impellers	•		•				•
	Pump Linings	•	•	•	•			•
	Pump Seals/Bearings						•	•
	Extruder Components				•			
	Micronizer Linings	•	•	•	•			
	Jet Mill Linings		•	•	•			
	Abrasion Resistant Pipe Linings	•	•	•	•			•
	Corrosion Resistant Pipe Linings	•	•	•				•
	Pipe Elbow Linings	•	•	•	•			
	Waste Heat Boiler Tube Protection	•		•				
Air Preheater Tube Protection	•		•					
Nonferrous Melting	Crucibles	•		•				
	Launders and Troughs	•		•				
	Nozzles	•		•			•	
	Stopper Rods	•		•			•	
	T/C Protection Tubes	•		•			•	
	Diffusers	•						
	Rotary Degassers	•		•				
Lances	•		•					
Thermal Processing	Structural Furnace Components	•	•	•	•	•		
	Kiln Furniture (Plates, Beams, Columns)	•	•	•	•	•		
	Kiln Rollers				•	•		
	Setters and Saggars	•	•	•	•	•		
	Precision Geometric Setters	•		•				
	Quench Nozzles	•		•	•	•		
	Burner Nozzles	•		•	•			