

BASIC PROPERTIES

- Excellent mechanical properties even at high temperature
- Light
- Low inertia
- High hardness
- Excellent resistance to friction and wear
- Very high resistance to thermal shocks

APPLICATIONS

Welding nozzles
 TIG and plasma cutting (RSBN)
 Bearings, shell bearings
 Metal working tools
 Inspection gauge
 Bearing balls

MATERIAL		SILICON NITRIDE
Chemical Formula		Si ₃ N ₄
Aspect / color		Black
Porosity		Impervious
Mechanical		Measuring unit
Poisson's ratio	-	0,26
Hardness	Vickers	1400
Young modulus	GPa	315
Mechanical strength (flexion at 3 pts) at 800°C	MPa	200
Mechanical strength (flexion at 3 pts) at 20°C	MPa	200
Mechanical strength (flexion at 3 pts) at 1000°C	MPa	-
Crushing resistance at 20°C	MPa	1400
Crushing resistance at 800°C	MPa	1400
Tensile strength at 20°C	MPa	120
Tenacity	MPa.m ^{1/2}	2,5 (MPa/volume)
Physical		
Maximum temperature use	°C	1500
Open porosity	%	20
Electrical		
Specific heat	J/Kg.°K	700
Thermal		
Thermal conductivity at 20°C	W/m.°K	18
Thermal conductivity at 500°C	W/m.°K	18
Thermal shock resistance	°C	Very good
Linear expansion	x10 ⁻⁶	2,9

**These values are for informational purposes only and do not bind company's responsibility.*