SCERAM
Advanced Ceramics

MATERIAL
SILICON NITRIDE

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		Si3N4
Aspect / color		Black / Grey
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.m½	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.*

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