

MATERIAL DATA SHEET

Material type: Silicon Nitride

Starceram® N 3000

Properties of Microstructure

Si ₃ N ₄ (incl. Al ₂ O ₃ ; Y ₂ O ₃ ; MgO)	%	> 99
Density	g/cm ³	3,23
Open porosity	%	0
Mean Grain Size	µm	-

Mechanical Properties

Hardness (HV 10)	GPa	15,2
Compressive strength	MPa	-
Flexural strength (RT)	MPa	900
Young's modulus (RT)	GPa	300
Poisson's ratio		-
Fracture toughness	MPa*m ^{1/2}	6,5

Thermal Properties

Max. working temperature	°C	1200
Thermal conductivity (RT)	W/mK	25
Thermal expansion (RT-1000 °C)	10 ⁻⁶ /K	3,4
Thermal shock coefficient R1	K	670

Typical Colour		light gray to dark gray
----------------	--	-------------------------

The data indicated relates to the test specimen from which it was obtained and is not unconditionally applicable to other forms of the same material. The data must, therefore be regarded as indicative only.