

MATERIAL DATA SHEET

Material type: Silicon Nitride

Starceram® N 7000

Properties of Microstructure

Si ₃ N ₄ (incl. Al ₂ O ₃ ; Y ₂ O ₃ ; MgO)	%	> 99
Density	g/cm ³	3.22
Open porosity	%	0
Mean Grain Size	µm	-

Mechanical Properties

Hardness (HV 10)	GPa	15
Compressive strength	MPa	-
Flexural strength (RT)	MPa	800
Young's modulus (RT)	GPa	290
Poisson's ratio		-
Fracture toughness	MPa*m ^{1/2}	6.7

Thermal Properties

Max. working temperature	°C	1000
Thermal conductivity (RT)	W/mK	20
Thermal expansion (RT-1000 °C)	10 ⁻⁶ /K	3.4
Thermal shock coefficient R1	K	620

Typical Colour		light to dark grey
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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.