AI conceptual product image of silicon nitride degassing rotor configurations for aluminum melt treatment

Silicon Nitride Degassing Rotors

Product ID / SKU: FWM/SN-DGR-001

Material: Silicon Nitride (Si_3N_4) - Gas Pressure Sintered (GPS)

Product type: Silicon Nitride Ceramic Component

Silicon Nitride Degassing Rotors are core purification components used in aluminum melting and casting processes.

95% Si_3N_4 Typical Properties

Property	95% Si_3N_4	Condition / method
Density (g/cm³)	≥3.2	-
Young’s modulus (GPa)	300	-
Fracture toughness (MPa·m½)	6.2	-
Flexural strength (MPa)	>720	25°C
Compressive strength (MPa)	2200	25°C
Thermal conductivity (W/(m·K))	15-20	25°C
Coefficient of thermal expansion (10^{-6}/K)	3.0-3.2	25-1000°C
Volume resistivity (Ω·cm)	$>10^{14}$	25°C
Typical maximum material temperature (°C)	1200	-
Poisson’s ratio	0.26	-
Dielectric strength (kV/mm)	16	-
Relative permittivity	8.2	1 MHz; 25°C
Dielectric loss tangent	0.004	1 GHz; 25°C