

SPECIFICATIONS

- ▶ Chemical formula: Si_3N_4
- ▶ Chemical name: Silicon nitride
- ▶ Appearance: Dense sintered silicon nitride
- ▶ Main characteristics: High temperature strength, wear resistant, excellent thermal shock resistance, light weight, high thermal conductivity
- ▶ Main applications: Anti wear liner, powder equipment, molten metal parts, metal forming tool
- ▶ Colour: Black

MECHANICAL & PHYSICAL CHARACTERISTICS (TYP.)

Density		[g/cm ³]	JIS R 1634	3.2
Water absorption		[%]	JIS C 2141	0
Vickers hardness HV9.807N		[GPa]	JIS R 1610	13.8
Flexural strength 3 P.B.		[MPa]	JIS R 1601	790
Compressive strength		[MPa]	JIS R 1608	-
Young's modulus of elasticity		[GPa]	JIS R 1602	290
Poisson's ratio		[-]	JIS R 1602	0.28
Fracture toughness (SEPB)		[MPa*m ^{0.5}]	JIS R 1607	6 ~ 7
Coefficient of linear thermal expansion	40 - 400 °C	[*10 ⁻⁶ /K]	JIS R 1618	2.9
	40 - 800 °C			3.5
Thermal conductivity		[W/(m*K)]	JIS R 1611	54
Specific heat capacity		[J/(g*K)]	JIS R 1611	0.66
Thermal shock temperature difference		[°C]	JIS R 1648	900
Dielectric strength		[kV/mm]	JIS C 2141	12
Volume resistivity	20 °C	[Ω*cm]	JIS C 2141	>10 ¹⁴
	300 °C			10 ¹²
	500 °C			10 ¹⁰
Dielectric constant		-	JIS C 2141	9.6
Dielectric loss angle		[*10 ⁻⁴]	JIS C 2141	18
Loss factor		[*10 ⁻⁴]	JIS C 2141	-

The values are typical material properties and may vary according to products configuration and manufacturing process. For more details, please feel free to contact us.