

■ Introduction:

Si3N4 Silicon nitride heat shield thermal shroud is a high temperature insulation material made of silicon nitride ceramics. Silicon nitride heat shield has high temperature oxidation resistance, high temperature strength, resistance to chemical erosion and other excellent performance, can work stably in high temperature, high pressure, strong corrosion environment for a long time.

Silicon nitride thermal shield is mainly used in high temperature heat treatment, high temperature melting, high temperature oxidation, high temperature combustion and other processes, as a protective device, to isolate high temperature, high pressure gas or liquid damage to equipment and personnel. Si3N4 heat protection shield is widely used in aerospace, chemical, metallurgy, electronics and other fields of high temperature equipment.

■ Technical data sheet:

Properties	Unit	Data
Si3 N4 Content	%	≥ 92%
Density	g/cm ³	≥ 3.1
Relative Density	g/cm ³	>99.6
Elasticity Modulus	Gpa	300-500
Crushing Load Ratio	(25℃)%	≥ 45
Hardness	(Hv)Mpa	1800-2000
Fracture Toughness	Mpa•m ^{1/2}	7.0-8.5
Flexural Strength	Mpa	≥ 600
Poisson Ratio	/	0.25
Coefficient of linear expansion	10 ⁻⁶ K ⁻¹	3.2-3.4
Heat Conductivity	W•(M•K) ⁻¹	20-25
Surface smoothness	/	≤0.3
Electrical isolation	KV	≥ 20
Acid&Alkali Resistance	/	excellent
Magnetism	/	Without
Working Temperature	℃	1400

■ Advantages:

1. Strong corrosion resistance: Si3N4 thermal protection shield have excellent corrosion resistance and can be used in acid and alkali and other corrosive environment for a long time.
2. Good mechanical properties: Silicon nitride thermal shield have excellent mechanical properties and are not easy to deform and crack under high temperature and pressure.
3. Excellent high temperature resistance: Silicon nitride heat shield have extremely high temperature resistance and can work stably in high temperature environment for a long time.

4. Good thermal conductivity: Silicon nitride thermal shield have excellent thermal conductivity, which can effectively protect equipment and instruments from thermal radiation damage .

