



### Silicon Nitride Nozzle

The silicon nitride nozzles have the characteristics of oxidation resistance, high temperature strength and less sputter adhesion, which can prolong the service life of the welding parts. Nextgen Advanced Materials supplies the Silicon Nitride Nozzle with high quality and fast delivery. Meanwhile, the customization is available.

### Product Description

High quality Silicon Nitride Nozzle is offered by US manufacturer Nextgen Advanced Materials INC. Silicon nitride nozzle and cover is a man-made composite product synthesized through several different chemical reaction methods. Due to the even performance in high temperature,  $\text{Si}_3\text{N}_4$  is a commonly used ceramic material in the metallurgical industry. It has excellent thermal shock resistance due to the microstructure. The creep and oxidation resistance of  $\text{Si}_3\text{N}_4$  is also superior, its low thermal conductivity and high wear resistance also make it an outstanding material that can withstand conditions of most industrial applications.

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Specification	
Color	Grey
<b>Mechanical Properties</b>	
Density	3.21 g/cm <sup>3</sup>
Compressive Strength	3000 MPa
Flexural Strength	800 MPa
Weibull-Modulus m	15
Fracture Toughness K <sub>Ic</sub>	6.5 MPa m <sup>1/2</sup>
Young's Modulus E	320 GPa
Poisson Ratio	0.28
Hardness Vickers (HV 1)	16 GPa
<b>Thermal Properties</b>	
Maximum Temperature (Inert Gas)	1200°C
Maximum Temperature (Air)	1100°C
Thermal Conductivity @ 20°C	28 W/mK
Thermal Conductivity @ 1000°C	16 W/mK
Thermal Expansion (20–100°C)	2*10 <sup>-6</sup> /K
Thermal Expansion (20–1000°C)	3.510-6/K
Thermal Shock parameter R1	600 K
Thermal Shock parameter R2	15 W/mm
<b>Electrical Properties</b>	
Resistivity at 20°C	10 <sup>12</sup> Ωcm
Resistivity at 800°C	10 <sup>7</sup> Ωcm
Dielectric constant	6 MHz