



### Silicon Nitride Welding Pin

Due to its high strength and toughness, Silicon Nitride Welding Pins greatly increases performance compared with conventional solid ceramic pins made from alumina Oxide , which break easily in service. Nextgen Advanced Materials supplies the Silicon Nitride Welding Pin with high quality and fast delivery. Meanwhile, the customization is available.

### Product Description

Nextgen Advanced Materials INC is a professional leading Silicon Nitride Welding Pin manufacturer with high quality and reasonable price. Welcome to contact us. Silicon nitride welding pin is made of a high-melting-point ceramic material that is extremely hard and relatively chemically inert. Due to the even performance in high temperature, Si<sub>3</sub>N<sub>4</sub> 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 Si<sub>3</sub>N<sub>4</sub> 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.



### Specification

Mechanical Properties	
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

Thermal Properties	
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 <sup>-6</sup> /K
Thermal Shock parameter R1	600 K
Thermal Shock parameter R2	15 W/mm
Electrical Properties	
Resistivity at 20°C	10 <sup>12</sup> Ωcm
Resistivity at 800°C	10 <sup>7</sup> Ωcm
Dielectric constant	6 MHz