



Silicon Nitride Bearing Roller

Silicon Nitride is an ideal material for bearing rollers. Ceramic bearings have good wear and corrosion resistance, and great mechanical strength under high temperature. Nextgen Advanced Materials supplies the Silicon Nitride Bearing Roller with high quality and fast delivery. Meanwhile, the customization is available.

Product Description

You can rest assured to buy customized Nextgen Silicon Nitride Bearing Roller from us. We look forward to cooperating with you, if you want to know more, you can consult us now, we will reply to you in time! Silicon nitride bearing roller is a man-made composite product synthesized through several different chemical reaction methods. Due to the even performance in high temperature, Si₃N₄ ceramic 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 Si₃N₄ 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

| | |
|------------------------------|------|
| Color | Grey |
| Mechanical Properties | |

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|------------------------------------|--------------------------|
| Density | 3.21 g/cm ³ |
| Compressive Strength | 3000 MPa |
| Flexural Strength | 800 MPa |
| Weibull-Modulus m | 15 |
| Fracture Toughness K _{Ic} | 6.5 MPa m ^{1/2} |
| 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 ⁻⁶ /K |
| Thermal Expansion (20–1000°C) | 3.5*10 ⁻⁶ /K |
| Thermal Shock parameter R1 | 600 K |
| Thermal Shock parameter R2 | 15 W/mm |
| Electrical Properties | |
| Resistivity at 20°C | 10 ¹² Ωcm |
| Resistivity at 800°C | 10 ⁷ Ωcm |
| Dielectric constant | 6 MHz |