



Heater protective cover

- Silicon nitride ceramics have high strength and good thermal shock resistance, allowing them to withstand high temperatures and aluminum liquid erosion for over a year. It has minimal reaction with molten aluminum, helping to maintain the purity of the heated aluminum.
- Compared to traditional upper radiant heating methods, they achieve energy efficiency improvements of over 30-50% and reduce overheating oxidation of upper aluminum by 90%.



Degassing rotor

- Silicon nitride does not oxidize in high-temperature environments, offering a lifespan of over one year without contaminating molten aluminum.
- Its excellent thermal shock resistance ensures that silicon nitride rotors do not fracture during frequent intermittent operation, reducing downtime and lowering worker labor intensity.
- The high-temperature strength of silicon nitride allows the rotors to operate smoothly at high speeds.



Riser tube

- Compared to traditional materials like cast iron, silicon carbide, carbon-nitrogen compounds, and alumina, silicon nitride ceramics have the best high-temperature strength, with a normal lifespan exceeding one year.
- Their low wettability with molten aluminum helps minimize slag buildup on both the inner and outer walls of riser tubes, reducing downtime losses and easing daily maintenance efforts.



Stop valves

- Silicon nitride ceramics have better wear resistance than alumina and alumina ceramics, ensuring long-term sealing integrity in pipes (valves).
- Their excellent high-temperature strength allows for stable operation of sealing pipes (valves) under frequent use.
- Low wettability with molten aluminum reduces slag formation and prevents contamination of the aluminum.



Riser tube

- Low thermal conductivity, excellent thermal shock resistance, and non-wettability with molten aluminum.
- Its low thermal conductivity and non-wettability effectively reduce slag formation on the upper part of the riser tube, ensuring proper filling of the mold cavity and enhancing casting quality stability.
- Compared to other material, it shows the best thermal shock resistance, eliminating the need for preheating before installation.



Sprue Bushing

Compared to aluminosilicate ceramic fibers, TITAN-3 titanium aluminum ceramics offer higher strength and better non-wettability, making them more reliable and durable for components like plugs, pouring tubes, and hot-top risers in the casting industry. For gravity, differential pressure, and low-pressure die casting, pouring sleeves require excellent insulation, heat shock resistance, and non-wettability, making titanium aluminum ceramics the best choice in most scenarios.



Lining brick

It's particularly suitable for lining various aluminum melting and holding furnaces due to its low thermal conductivity, heat shock resistance, and non-wettability with molten aluminum. Compared to traditional cast refractory materials, melting furnaces lined with titanium aluminum ceramics are less prone to erosion and slag buildup, resulting in easier maintenance and a longer lifespan. Additionally, using titanium aluminum ceramic lining bricks in degassing boxes, filter boxes, and holding furnaces improves insulation, enhances energy efficiency, and extends equipment lifespan.



Ladle

Titanium aluminum ceramics are ideal for use as spoons in high-pressure die casting. Compared to traditional cast iron spoons, titanium aluminum ceramic spoons offer better insulation, do not require coatings, and have a longer lifespan. Additionally, unlike fiberglass composite spoons, they can be used in any environment, require no maintenance, and do not contaminate the molten aluminum.

Riser tube



We are the world's largest manufacturer of riser tubes. Since developing riser tubes in 1998, our company has accumulated extensive experience in mass production and a thorough understanding of low-pressure casting technology and riser tube usage. Currently, we have a production capacity of 50,000 riser tubes per year. The average lifespan of our riser tubes is 30 to 360 days. Our silicon nitride bonded silicon carbide material, ensuring no contamination to the aluminum melt during use. We supply 90% of domestic hub manufacturers and foundries year-round.



Slurry Pump

Slurry pumps made from silicon nitride bonded silicon carbide materials have excellent wear and corrosion resistance, far superior to chrome-molybdenum or nickel-chromium alloy steel. To date, our ceramic slurry pumps have been granted two authorized invention patents. These pumps are primarily used in mineral processing, coal washing, power plant desulfurization and dust removal, and tailings treatment.

Spray nozzle



Our company develops and produces silicon nitride bonded silicon carbide nozzles, including desulfurization and gas nozzles. Using advanced molding technology, we manufacture high-density and high-strength nozzles. Currently, our desulfurization nozzles are widely used in desulfurization and dust removal systems at several thermal power plants and large boilers. Gas nozzles are primarily used in ceramic kilns and heat treatment furnaces. We produce up to 30,000 nozzles annually, with the ability to last for over ten years in desulfurization towers without maintenance, receiving consistent praise from customers.



Heater protective cover

Silicon nitride bonded silicon carbide materials have excellent thermal conductivity, corrosion resistance, and high-temperature resistance. Our company uses SN4-SiC to produce various thermal radiation tubes, heating element protection tubes, and muffle covers, suitable for flame radiation devices operating at temperatures up to 1650°C in air. Their good oxidation resistance and long lifespan have been recognized by domestic users and those in South Korea, India, Pakistan, and the United States.

