

Si₃N₄ Nanoparticle

This product has high purity, small and uniform particle diameters, large specific surface area, high surface activity, and low loose loading density. When Nano-Si₃N₄ is made to be structure devices, the devices will have low ceramic formation temperature of ceramic, good size stability, high mechanical strength, high chemical anticorrosion, especially, the devices possess high strength, at high temperature and self greasing effect, when this powder is used as the dispersion phase in composites, the dispersion phases increase substantially complex properties of composites.

Main Parameters

This product was produced by the plasma arc vapor synthesizing method.

Properties	Purity	Dissociate silicon content	O (%)	Crystallographic form	Average particle size	Specific surface area	Apparent density	Color
Silicon Nitride (Si ₃ N ₄)	>99.0%	<0.2%	<1.0%	Amorphous	20nm	>115m ² /g	0.05g/cm ³	white

Applications:

1) Structure devices

For example, in metallurgy, chemical industry, mechanical industry, aeronautics and space industry and energy source fields etc., the following devices can be applied: balls and rollers of roll bearings, slide bearings, covers, valves and structural devices with high wear resistance, anti-high temperature and anticorrosion.

2) Surface treatments of metal and other materials

For example, moulds, cutting tools, blades of team-turbines, rotors of turbines and internal wall coatings cylinders etc.

3) Composites

Such as composites of metal matrixes, ceramic matrixes and graphite matrixes composites of paint, binders, rubbers and plastics with Nano-Si₃N₄ powders, and other polymer matrix composites.

