

# 纳米金刚石

## Nano Diamond

产品特征: 基本颗粒为不大于 20nm 近球状的金刚石晶粒。具有金刚石的高硬度和高耐磨性。高比表面积, 多孔结构。高热稳定性, 优良的导热性能。独特的耐腐蚀性能。独特的表面改性处理使其在水基、油基等各种 条件下具有良好的稳定分散性能。超高纯度, 各种金属杂质总量稳定的控制在 ppm 级。

Our nano diamond is formed with tiny crystals that are no more than 20nm. Special detonative synthetic condition produces sphere shaped diamond with rich functional group on the surface. Its specific surface area is lifted an order of magnitude contrasted with monocrystalline diamond. It possesses characteristics of both diamond and nano functional materials.

产品描述: 纳米金刚石由不大于 20 纳米粒径的微晶金刚石颗粒组成, 特殊的爆轰合成条件使其基本颗粒近球形, 表面具有丰富的官能团, 比表面积相对单晶金刚石产品提高了一个数量级。该产品不仅有金刚石极好的硬度和研磨特性, 同时也具有纳米功能材料的新特性。

根据不同用途对爆轰合成的纳米金刚石初级产品进行提纯、表面改性和精细分级处理是我们的专有技术, 不同的后处理工艺可以保证各种规格和类型的全系列纳米金刚石产品的提供。

### Product description

Our nano diamond is formed with tiny crystals that are no more than 20nm. Special detonative synthetic condition produces sphere shaped diamond with rich functional group on the surface. Its specific surface area is lifted an order of magnitude contrasted with monocrystalline diamond. It possesses characteristics of both diamond and nano functional materials.

Depending on requirements of different applications, nano diamond primary products should pass procedure of purification, surface modification and precise grading treatment, which are our exclusive technology. Different post-processing can provide all series of nano diamond products with full specifications and types.

产品特征:

- ★ 基本颗粒为不大于 20nm 近球状的金刚石晶粒。
- ★ 具有金刚石的高硬度和高耐磨性。
- ★ 高比表面积, 多孔结构。
- ★ 高热稳定性, 优良的导热性能。

- ★独特的耐腐蚀性能。
- ★独特的表面改性处理使其在水基、油基等各种
- ★ 条件下具有良好的稳定分散性能。
- ★超高纯度，各种金属杂质总量稳定的控制在 ppm 级，针对
- ★不同客户需求进行的提纯和表面改性处理使其表面功能团可控。
- ★成熟稳定的分级工艺使我们的产品适用于各种对产品粒度有严格要求的应用范围。

#### Characteristics:

- ◆ Basic particles are sphere shape diamond crystals with size 5-20nm.
- ◆ High hardness & wearing resistance of diamond.
- ◆ High specific surface area, porous structure.
- ◆ High heat stability, excellent thermal conduction.
- ◆ Peculiar anti-causticity.
- ◆ Special surface modification treatment makes stable dispersing in both water & oil medium.
- ◆ Superhigh purity, main metal impurity below ppm, purification and surface modification treatment for different needs make surface functional group controllable.
- ◆ Mature stable grading technics make our products suitable for all fields requiring strict PSD.

#### 产品系列:

- ★ 水溶(油溶)黑粉干粉
- ★ 水溶(油溶)黑粉悬浮液
- ★ 各规格粒径水溶(油溶)灰粉干粉系列
- ★ 各规格粒径水溶(油溶)灰粉悬浮液系列

#### Product series:

- ★ Dry black powder;
- ★ Black suspension;
- ★ Full specifications dry grey powder;
- ★ Full specifications grey suspension.

#### 可供规格:

	UD3	UD5	UD8	UD1	UD12	UD15	UD20	UD30	UD50	UD80
	0	0	0	00	0	0	0	0	0	0

中 值 ( nm )	25- 35	45- 55	75- 85	90-1 10	110-1 30	140-1 60	180-2 20	280-3 20	450-5 50	750-8 50
水剂	√	√	√	√	√	√	√	√	√	√
油剂	--	--	√	√	√	√	√	√	√	√
水溶/ 油 溶 干粉	--	--	√	√	√	√	√	√	√	√

注：表中为常规粒度，可根据客户要求提供其它粒度产品。

#### Grey nano diamond available Sizes

	UD3 0	UD5 0	UD8 0	UD1 00	UD12 0	UD15 0	UD20 0	UD30 0	UD50 0	UD80 0
Medi an ( nm )	25- 35	45- 55	75- 85	90-1 10	110-1 30	140-1 60	180-2 20	280-3 20	450-5 50	750-8 50
Water base	√	√	√	√	√	√	√	√	√	√
Oil base	--	--	√	√	√	√	√	√	√	√
Dry grey powd er	--	--	√	√	√	√	√	√	√	√

Remarks: Special requirements can be tailor-made.

应用领域:

★超精细抛光。抛光后工件的表面粗糙度达到埃级,颗粒特性决定了几乎不会产生划痕,可满足对抛光光洁度要求最苛刻的应用领域。

★润滑减摩。用于润滑油添加剂,将滑动摩擦变为滚动摩擦,可降低摩擦系数,显著改善摩擦性能,延长使用寿命。

★各种工件的表面复合电镀和喷涂,可提高工件表面的耐磨性、耐腐蚀性、抗冲击韧性和表面硬度。

★做为橡胶和塑料的添加剂,可显著增强其耐磨性、抗穿刺和拉伸性,减缓老化过程。

★高纯的纳米金刚石不会引起生物的排异反应,同时由于比表面积大、吸附势强的特点,在医疗、生物和化妆品等范围可广泛应用。

Application field:

1. Super fine polishing. The surface roughness of polished workpieces could reach angstrom-level without scratches, which can satisfy the most rigorous polishing applications demand.
2. Lubricating and antifriction. Nano diamond can be used as lubricating oil additives. The sliding friction will be changed into rolling friction. Which can reduce the friction coefficient and significantly improve the friction performance and also prolong the service life.
3. Composite plating and spraying on the surface of various workpieces. Nano diamond can enhance wear resistance, corrosion resistance, impact toughness and hardness of the workpieces' surface.
4. As rubber and plastics additives, nano diamond can significantly enhance its wear resistance, puncture resistance, tensile property and also slow down the ageing process.
5. High purity nano diamond will not cause biological rejection, meanwhile it can be widely used in medical, biological and cosmetic fields because of its big specific surface area, strong adsorption potential.