



Technical resources

Corundum grinding ball

<https://www.tencanballmills.com/en/products/grinding-series/ball-mill-media/corundum-grinding-ball.html>

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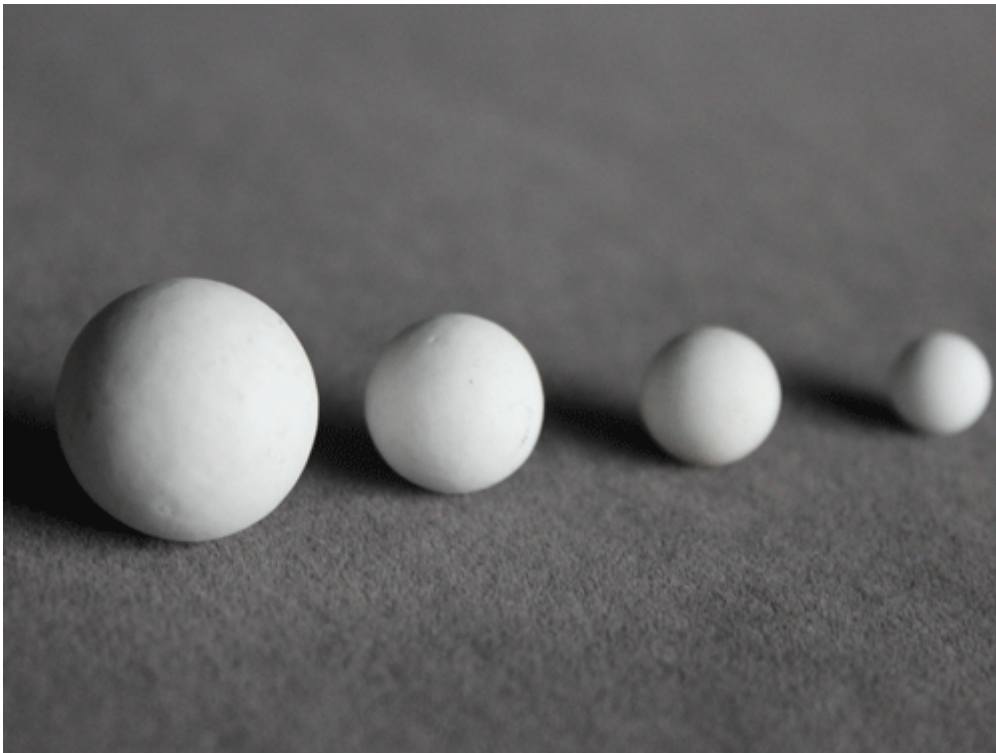
Model:

High-purity corundum grinding balls ($\text{Al}_2\text{O}_3 \geq 90\%$) for efficient ceramic grinding. Superior wear resistance, high density, ideal for ball mills in mineral processing and ceramic production.

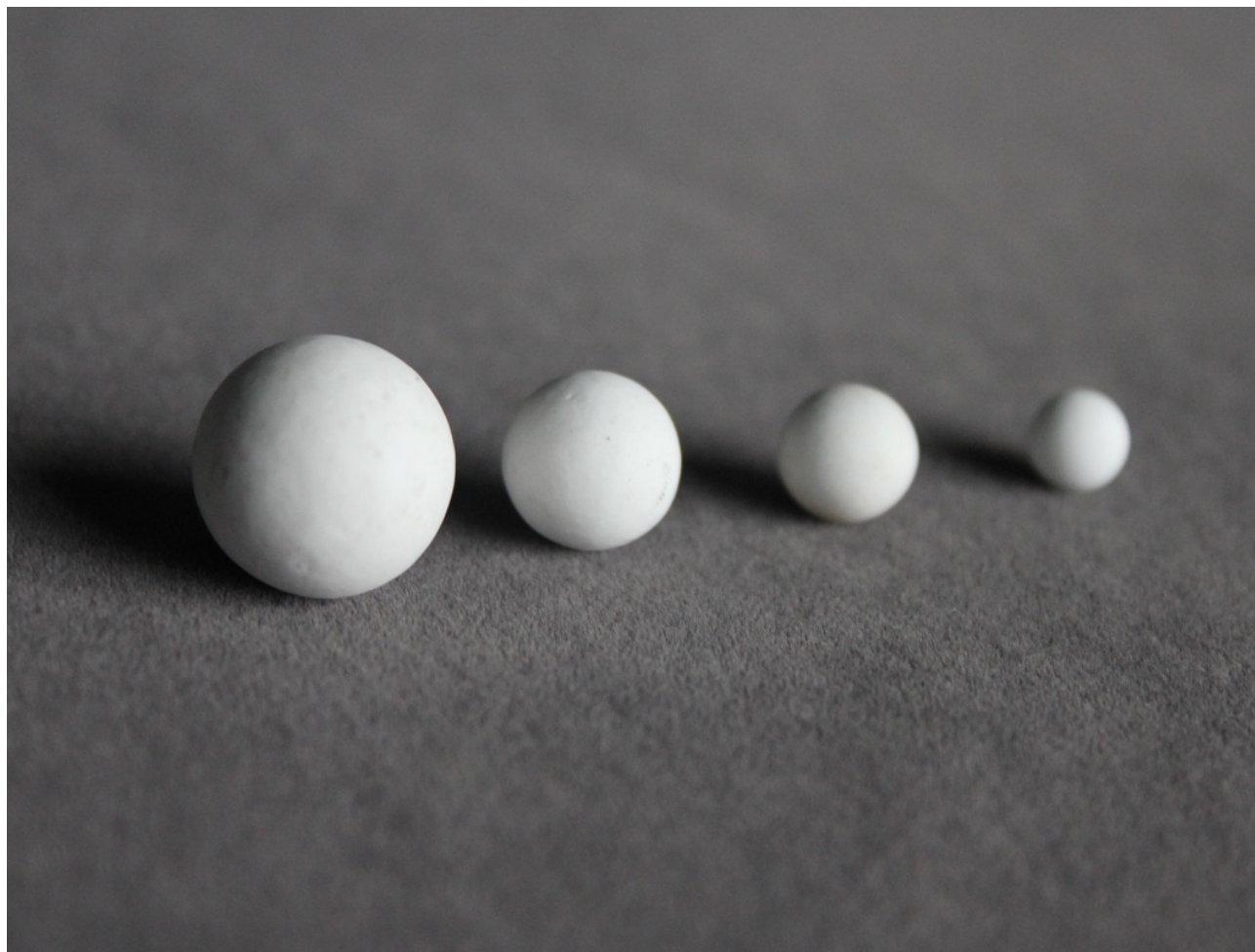
Technical specifications

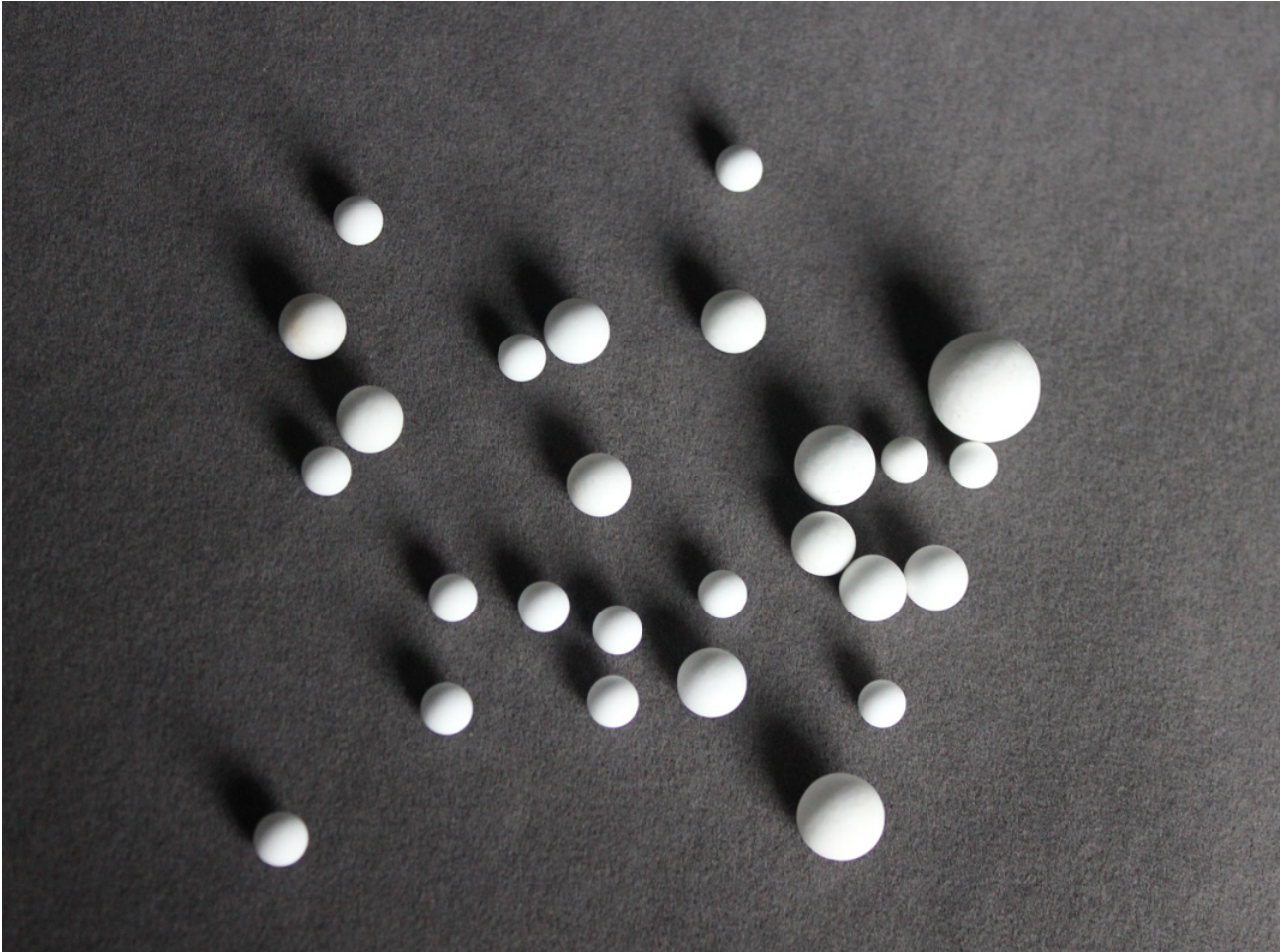
Diameter	0.5~50mm
Density	3.6~3.9g/cm ³
Hardness	Mohs 9, HRC 80+

These specifications describe the series. Confirm the selected model, power supply and configuration before ordering.



Corundum grinding ball is a high-performance ceramic grinding media made of high-purity alumina (Al_2O_3 , purity usually $\geq 90\%$) as the main raw material and sintered at high temperature. Its material is an α -alumina structure with extremely high hardness and chemical stability. It is widely used in planetary ball mills, vibration mills, drum ball mills and other equipment. It is especially suitable for scenes that require high grinding purity, wear resistance and corrosion resistance.









Technical parameters

diameter: $\Phi 0.5\text{mm}-\Phi 50\text{mm}$

Main ingredients: $\alpha\text{-Al}_2\text{O}_3$ ($\geq 90\%$)

Density (g/cm³): 3.6 - 3.9

hardness: Very high, Mohs 9, HRC 80+

Wear resistance (wear rate): Excellent, wear resistance second only to zirconia

Contamination risk: Low, mainly introduced aluminum(Al) Impurities

Main application areas: Medium hardness non-metallic minerals, such as ceramic glazes, quartz, feldspar, refractory materials.

*** The above parameters are for reference only. The specific parameters are subject to actual conditions or customized parameters can be customized according to special requirements.;**

1. Ultra-high hardness and wear resistance

- The Mohs hardness of corundum grinding balls can reach level 9 (second only to diamond), and their wear resistance is 5-10 times that of ordinary steel balls. They can

maintain the integrity of the sphere shape for a long time and reduce powder contamination caused by wear.

- Suitable for grinding high-hardness materials (such as silicon carbide, quartz, ceramic raw materials, etc.) to extend the service life of the equipment.

2. Excellent chemical stability

- Resistant to corrosion by strong acids, strong alkali and organic solvents (except hydrofluoric acid), suitable for grinding corrosive materials (such as lithium battery materials, chemical catalysts, etc.).
- The performance is stable at high temperatures and can be used for a long time in environments below 1000°C.

3. High density and grinding efficiency

- The density is 3.6-3.9 g/cm³ (depending on the purity of alumina). The higher density gives the grinding ball stronger impact and can quickly break materials to the micron or sub-micron level.
- Compared with ordinary ceramic balls, it can shorten grinding time and improve production efficiency.

4. Low pollution

- During the sintering process, a dense structure is formed with almost no pores, which prevents impurities from falling off during the grinding process and ensures the purity of the material (such as electronic ceramics, phosphor powder and other purity-sensitive materials).

5. Diverse specification selection

- The diameter range is wide (such as 0.5mm-50mm) and can be flexibly selected according to the initial particle size of the material, target fineness and equipment type.
- Small particle size spheres are suitable for ultra-fine grinding, while larger particle sizes are more suitable for coarse crushing or high-energy impact requirements.

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Before operation, review the selected model's instructions and the material requirements.