

## Zirconia Powder Refractory Raw Material Ultrafine Yttria Stabilized Zirconia Powder

Our Product Introduction

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### Basic Information

- Place of Origin: Zhengzhou, Henan, China
- Brand Name: Rongsheng Xinwei
- Certification: ISO Certification
- Model Number: 3YZ-TPZ, 5YZ-TPZ, 8YZ-TPZ, Ce13, Ce85, ZTA20, ZTA30
- Minimum Order Quantity: 1 Ton
- Price: 200-800 USD
- Packaging Details: packed on wooden pallets, with water-proof cover, and tightened with plastic/steel bandages
- Delivery Time: 20-30DAYS
- Payment Terms: TT; L/C
- Supply Ability: 2000tons /month

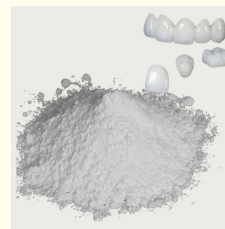


### Product Specification

- Abrasion Resistance: High
- Chemical Resistance: High
- Color: White
- Corrosion Resistance: High
- Creep Resistance: High
- Density: High
- Heat Storage Capacity: High
- Material: Refractory Raw Material
- Melting Point: High
- Refractoriness: High
- Shape: Powder
- Size: Fine
- Slag Resistance: High
- Thermal Conductivity: Low
- Thermal Shock Resistance: High



### More Images



### Product Description

#### China Factory Wholesale High Quality Zirconia Powder Yttria Stabilized Ultrafine Zirconia Powder

Zirconia has the characteristics of high hardness, high-temperature resistance, chemical corrosion resistance, wear-resistance, small thermal conductivity, strong thermal shock resistance, good chemical stability, outstanding composite material, etc. The properties of the material can be improved by combining nanometer zirconia with alumina and silicon oxide. Nano zirconia is not only used in structural ceramics and functional ceramics. Nano zirconia doped with different elements conductive properties, used in solid battery electrode manufacturing.

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**Features of High Quality Zirconia Powder:**

1. Small particle diameter, narrow distribution range, activity, stable.
2. Excellent liquidity and compactness, easy to mold and sinter.
3. BET and particle size of airflow or granulation one can be controlled on customers's request.

**Product Applications of High Quality Zirconia Powder**

In recent years, Zirconia Ceramics are increasingly used for biomedical applications . Zirconia is used as a biomaterial. It has advantages over other ceramics because of its high mechanical strength and fracture toughness. Biomaterials have been proposed as artificial bone fillers for repairing bone defects. Zirconia also finds other clinical applications such as: arthroplasty, dental crowns.

Though zirconia and Ytria stabilized Zirconia have orthopedic applications such as hip and knee prostheses, hip joint heads, temporary supports, tibial plates, dental crowns, not much literature reports are available on the studies of this oxide ceramics as drug carriers. etc. Zirconia toughened alumina ceramic foams can be used in potential bone graft applications. Thin films of ZrO<sub>2</sub> (Zirconia) have beneficial ceramics properties that offers various possibilities for Technological application such as optical coating, thermal barrier, catalysis or catalytic supports.

Ytria-stabilized zirconia thin films by dip-coating for IT-SOFC application . Solid oxide fuel cell (SOFC) ceria/yttria stabilized zirconia electrolytes for solid oxide fuel cell applications . Zirconia is used as air-fuel ratio sensors for Progress in Synthesis and Applications of Zirconia 26 automotive applications . To combine the mechanical properties of a high strength inert ceramic with the specific properties of bioactive glasses, composite materials based on high-density zirconia substrates coated by bioactive glasses are reported to be used . Zirconia ceramics can be used for functional as well as structural applications.

**Parameters of High Quality Zirconia Powder****(1)Yttrium Stabilized Polycrystalline Ultrafine Zirconia Powder**

| Item                               | Classification |                |           |
|------------------------------------|----------------|----------------|-----------|
|                                    | 3YZ-TPZ        | 5YZ-TPZ        | 8YZ-Ti    |
| ZrO <sub>2</sub> wt%               | 84.3~84.7      | 90.6~91.0      | 86~86     |
| Y <sub>2</sub> O <sub>3</sub> wt%  | 5.18~5.22      | 8.6~9.0        | 13.3~1    |
| Al <sub>2</sub> O <sub>3</sub> ppm | 100            | 0.05~0.45(wt%) | 0.05~0.45 |
| Fe <sub>2</sub> O <sub>3</sub> ppm | 50             | 50             | 50        |
| SiO <sub>2</sub> ppm               | 200            | 200            | 200       |
| TiO <sub>2</sub> ppm               | 50             | 50             | 50        |
| Na <sub>2</sub> O ppm              | 50             | 50             | 50        |
| K <sub>2</sub> O ppm               | 100            | 100            | 100       |
| CeO ppm                            | 100            | 100            | 100       |
| MgO ppm                            | 100            | 100            | 100       |
| Cr ppm                             | 500            | 500            | 500       |
| BET m <sup>2</sup> /g              | 5~30           | 10~32          | 10~3      |
| Granularity D50 μm                 | 0.5            |                |           |
| PH                                 | 6.5            |                |           |
| Apparent Density g/cm <sup>3</sup> | 1.15~1.25      |                |           |

**(2) Partially Stabilized Zirconia(PSZ)and Zirconia Toughened Alumina(ZTA)**

| Item                              | Specification |           |           |  |
|-----------------------------------|---------------|-----------|-----------|--|
|                                   | Ce13          | Ce85      | ZTA20     |  |
| ZrO <sub>2</sub> wt%              | 86~88         | 13.5~14.5 | 18~20     |  |
| Y <sub>2</sub> O <sub>3</sub> wt% | /             | /         | 1~1.2     |  |
| CaO %                             | 0.01          |           |           |  |
| MgO %                             | 0.01          |           |           |  |
| CeO <sub>2</sub> %                | 12~14         | 84.5~85.5 | /         |  |
| Al <sub>2</sub> O <sub>3</sub> %  | 0.01          |           | 79.5~80.5 |  |
| SiO <sub>2</sub> %                | 0.015         |           |           |  |

|                                  |       |
|----------------------------------|-------|
| Fe <sub>2</sub> O <sub>3</sub> % | 0.002 |
| TiO <sub>2</sub> %               | 0.005 |
| Na <sub>2</sub> O %              | 0.001 |
| Cr %                             | 0.02  |
| D50 μm                           | 0.5~1 |
| Lgloss %                         | 1.0   |

(3) High Purity Ultrafine Zirconia Powder

| Item                               | Specification |
|------------------------------------|---------------|
| ZrO <sub>2</sub> wt%               | ≥99.7         |
| Y <sub>2</sub> O <sub>3</sub> wt%  | /             |
| Al <sub>2</sub> O <sub>3</sub> ppm | 100           |
| Fe <sub>2</sub> O <sub>3</sub> ppm | 50            |
| SiO <sub>2</sub> ppm               | 200           |
| TiO <sub>2</sub> ppm               | 100           |
| Na <sub>2</sub> O ppm              | 50            |
| K <sub>2</sub> O ppm               | 100           |
| CeO ppm                            | 100           |
| MgO ppm                            | 100           |
| Cr ppm                             | 500           |
| BET m <sup>2</sup> /g              | 5~15          |
| Granularity D50 μm                 | 0.5           |
| PH                                 | 6.5           |
| Apparent Density g/cm <sup>3</sup> | 0.5~1.0       |



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