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PRODUCT CATALOG / Grinding Media

Zirconia grinding ball

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Zirconia ceramic grinding balls for applications that need evaluation of ceramic media rather than steel contact.

Overview

Zirconia ceramic grinding balls for applications that need evaluation of ceramic media rather than steel contact. Confirm the stabilized grade, size distribution and sample contamination limits.

How it works

The grinding media forms part of the contact system between sample, media and mill. Material selection should balance the required mechanical action with chemical compatibility and the acceptable contribution from wear.

Ceramic wear can still transfer zirconium-containing material or stabilizer constituents. A ceramic surface is not a guarantee of zero contamination.

Key features

- The product information lists a 1–30 mm reference diameter range.

- Zirconia denotes the oxide ceramic, not metallic zirconium.
- The published composition and density should be tied to the grade quoted for supply.

Specifications

Published catalog references are reproduced below. Nominal volume is not a sample-mass rating. Confirm the selected model, material grade, electrical supply and complete supplied configuration in the quotation.

Published media material references

Property	Reference
Material	yttria-stabilized zirconia
Composition / grade	ZrO ₂ ≥95%; yttria-stabilized reference grade
Diameter range	1-30 mm
Density	6.0 g/cm ³ (published reference)
Hardness	Approximately HV 1250 (published reference)
Supplied size distribution	Specify the required diameters and quantities
Grade / batch documentation	Confirm with the quotation; material references are not a batch certificate

Material properties are published references, not a certificate for a supplied batch or a complete assembly temperature/pressure rating.

Applications

Compatible ceramic, battery-material, pigment and laboratory dispersion studies.

Suitability depends on the actual sample, process and analytical requirements; a listed application is not a guaranteed final-particle-size result.

Accessories and options

Specify the media grade, diameter mix, total charge and required documentation against the actual jar and sample. Confirm custom requirements in the quotation.

State the required grade, quantities, drawings and destination when requesting a quotation. Confirm what is included, the document requirements, packing and commercial terms; no generic

delivery time or universal custom capability is assumed.

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Selection guidance

Match yttria-stabilized zirconia to the sample chemistry and the elements or residues that matter to the analysis. Then confirm the dimensions, complete loaded mass and operating arrangement against the selected mill.

Work through the selection guide · Request a configuration quotation

Trials and comparisons

Material/application reference

Copper powder

XQM-0.4A · Wet milling

- Sample: 51 g
- Jar: 100 mL
- Recorded sampling / duration: 60 min

Recorded observations

Observation	Sampling time	D50 (μm)	D90 (μm)
Recorded sample	60 min	9.88	15.28

The product information uses an unqualified zirconium-media shorthand. It does not establish this media grade. The exact XQM-0.4A model is recorded. No starting distribution or measurement method is supplied. D90 15.28 μm does not demonstrate that all particles were below the requested 10 μm limit.

How to plan a fair comparison

For a yttria-stabilized zirconia comparison, use matched sample portions and the same measurement/dispersion method. State the jar, media, mass/volume loading basis, processing schedule and contamination measurements. A change in material grade alone is not established as the cause of a result.

These anonymous records are not operating instructions. Measurement and dispersion methods are not fully specified in the test summaries; results apply to the reported samples and conditions.

Discuss a matched sample evaluation

Plan your milling configuration.

TENCAN develops and manufactures planetary milling equipment, with application support in Changsha and a production base in Wushi, Hunan.

Share your material, batch size, target particle size and contamination limits. Our team can help confirm the mill, jars, media and electrical requirements, or arrange a sample grinding evaluation.

Reference information applies to the described models and conditions. Confirm the final specification and supplied accessories with TENCAN before ordering.

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Product page <https://www.planetaryballmill.com/milling-accessories/media/zirconia-grinding-ball.html>

Sample grinding www.planetaryballmill.com/sample-testing/