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PRODUCT CATALOG / Grinding Media

Tungsten carbide mill ball

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Tungsten carbide mill ball

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High-density cemented-carbide grinding balls for evaluating hard materials and demanding powder-processing applications.

Overview

High-density cemented-carbide grinding balls for evaluating hard materials and demanding powder-processing applications. Their high mass per unit volume makes jar and drive loading especially important.

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.

Wear can introduce tungsten and binder constituents. Hardness does not mean that the balls are wear-free or compatible with every jar.

Key features

- The published reference diameter range is 1–30 mm.
- The catalog lists material density and HRA hardness references.
- Specify the binder grade and evaluate wear with the actual sample and jar.

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	cemented tungsten carbide
Composition / grade	Sintered WC with a metallic binder; confirm cobalt/binder grade
Diameter range	1–30 mm
Density	14.5–15.0 g/cm³ (published grade reference)
Hardness	HRA 88–93
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 carbide, hard-mineral and high-value powder-processing 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 cemented tungsten carbide 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

Pyroxene mineral

XQM; exact model not recorded · Dry milling with carbide jar/media

- Sample: 238 g
- Jar: 500 mL cemented-carbide jar
- Recorded sampling / duration: 30 min

Recorded observations

Observation	Sampling time	D50 (µm)	D90 (µm)
Carbide-jar sample	30 min	7.63	28.00

Severe settling/caking was recorded. An earlier steel-jar run used a different charge and a separately received sample, so it is not a controlled carbide-versus-steel comparison. Carbide/binder grade and jar part number were not recorded.

How to plan a fair comparison

For a cemented tungsten carbide 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/tungsten-carbide-mill-ball.html
Sample grinding www.planetaryballmill.com/sample-testing/