ADCERAX
ADVANCED CERAMICS

ENGINEERING PRODUCT CATALOG

ADC-CAT-BZC-001 | Revision 01 | Drawing-defined components

REVIEW COPY | Not for external distribution

Black Zirconia Ceramic Parts

Rods and shafts, pins, rings, plates and substrates
Selection and drawing inputs for equipment projects



Rod and shaft forms



Pin shapes



Ring forms



Plate forms

Representative form images. The agreed drawing defines each part; the images do not identify a fixed-size item or establish material performance.

ADCERAX is a China-based advanced ceramics manufacturer for custom precision ceramic components.

adcerax.com/product/black-zirconia-ceramic/

01 PRODUCT SCOPE

Choose the form and define the duty

Use the four references below to identify the inquiry. Each reference is customized to a project drawing; it does not specify a stock size or a complete order configuration.



Representative forms, left to right: rod or shaft, pin, ring, rectangular plate.

Inquiry reference	Form	First design decision	Page
AT-HG-B1001	Rod or shaft	Support and motion	3
AT-HG-X1001	Pin	Working end and mating bore	4
AT-HG-H1001	Ring	Spacing, guiding or sealing duty	5
AT-HG-J1001	Plate or substrate	Mounting and functional surface	6

What the material name establishes

This family uses zirconia with carbon powder added to the formulation. Specify the actual material grade and any color requirement. Black appearance alone does not establish electrical insulation, conductivity, electrostatic discharge control or low reflectance.

Start from the interface

For a replacement, include the mating component and the original drawing if available. A worn sample can start the review, but wear may have changed the dimensions. State which surfaces locate, clamp, slide or seal.

Continue through the catalog

Material and service selection / page 7

Acceptance and supply definition / page 8

Send an engineering inquiry / page 9

All four references are custom by drawing. Final dimensions, tolerances, material, acceptance, quantity and delivery terms are established in the quotation and agreed order specification.

02 RODS AND SHAFTS

Define the supported length and fit

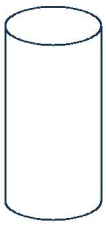
AT-HG-B1001 | Custom by drawing

Identify whether the rod supports, guides, slides or rotates. For moving parts, include the mating material, support positions and operating cycle.

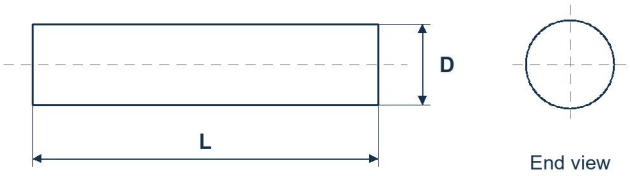


Representative form image; not an item-specific drawing or performance record.

3D FORM RECOGNITION



GOVERNING DIMENSION VIEWS



Dimension key, not to scale. Plain solid rod shown; add a separate drawing for bores, steps or end features. Numerical dimensions and tolerances are RFQ inputs.

Field	Required drawing or quotation input
D / L (mm)	D = outside diameter; L = overall length. Supply each value and its tolerance.
Geometry	Straightness, roundness and cylindrical form; datum axis and runout where rotation matters.
Ends and contact	End form, chamfers, shoulders and contact lengths; mating bore, clearance or interference.
Surface	Identify contact zones and specify finish, roughness method and edge acceptance.

Review before fixing or rotating

Include support span, bending or side load, rotational or sliding speed, lubrication, temperature and medium. Agree assembly force, clamping and alignment with the mating assembly; a material property is not a shaft load or speed rating.

Quotation input Quantity, repeat demand, first-article requirements and the inspection report needed. Include destination and target schedule.

03 PINS

Define the working end and location

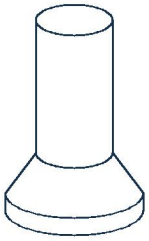
AT-HG-X1001 | Custom by drawing

A pin inquiry starts with its contact or locating function. Specify how the working end engages the component and how the shank is retained.

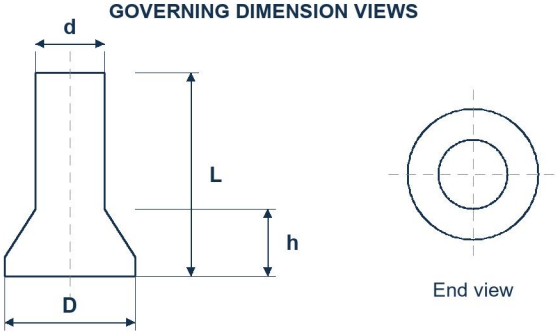


Representative form image; not an item-specific drawing or performance record.

3D FORM RECOGNITION



GOVERNING DIMENSION VIEWS



Dimension key, not to scale. Flanged pin example; tip and transition profiles are drawing-defined. Numerical dimensions and tolerances are RFQ inputs.

Field	Required drawing or quotation input
d / D (mm)	d = shank diameter; D = maximum base diameter in the illustrated example.
L / h (mm)	L = overall length; h = base-section height to the start of the straight shank.
Working end	Tip profile, contact position and any radii or angles; provide a drawing for other profiles.
Fit and surface	Mating bore and material, shoulder location, datum system, geometric tolerances and finish.

Review contact and insertion

State side and shear loads, insertion method, assembly frequency and contact motion. Identify any press-fit or clamp load and the allowed edge condition. Supply thermal, chemical and electrical requirements where they affect the fixture.

Quotation input Include tip and shank acceptance, first-article fit checks, quantity, repeat demand, destination and target schedule.

04 RINGS

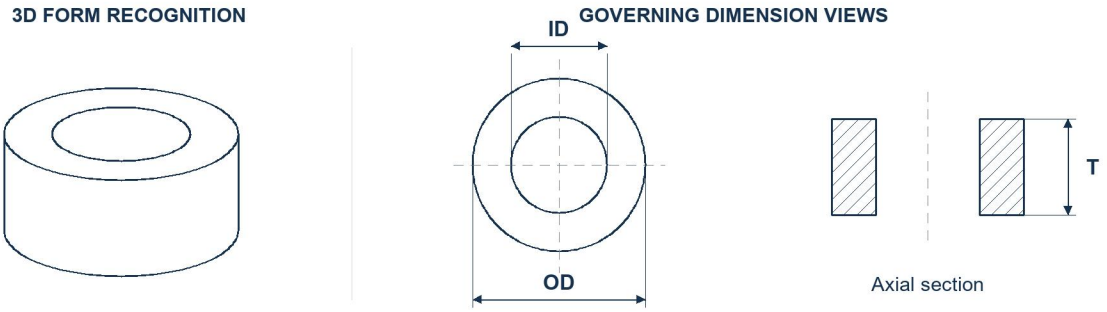
Separate ring geometry from seal duty

AT-HG-H1001 | Custom by drawing

State whether the ring spaces, guides or forms part of a seal. A ring outline alone does not establish a sealing function or leakage performance.



Representative form image; not an item-specific drawing or performance record.



Dimension key, not to scale. Plain annular ring shown; shoulders and seal-face details require a drawing. Numerical dimensions and tolerances are RFQ inputs.

Field	Required drawing or quotation input
OD / ID (mm)	OD = outside diameter; ID = bore diameter. Define both tolerances and the datum relationship.
T (mm)	T = axial thickness. Define face parallelism and flatness where they control the assembly.
Interfaces	Mating parts, fits, face profile, edge treatment, concentricity and retention method.
Surface	Identify working faces and specify finish, waviness, defects and cleanliness requirements.

For sealing applications

Provide pressure, temperature, medium, speed, counterface material and lubrication. Define the leakage target, test conditions and acceptance method for the actual assembly. Nominal ring dimensions do not establish seal interchangeability.

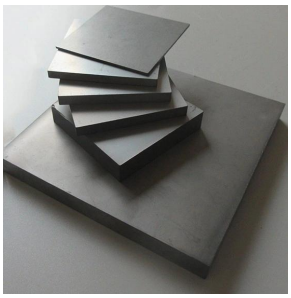
Quotation input Include mating drawings, inspection points, any assembly test, quantity, repeat demand, destination and schedule.

05 PLATES AND SUBSTRATES

Define the functional surface

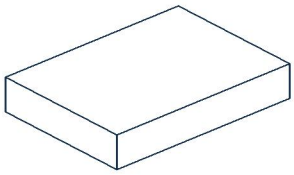
AT-HG-J1001 | Custom by drawing

Identify the mounting arrangement and the surface that matters to the process. State whether the part carries a mechanical, optical or electrical requirement.

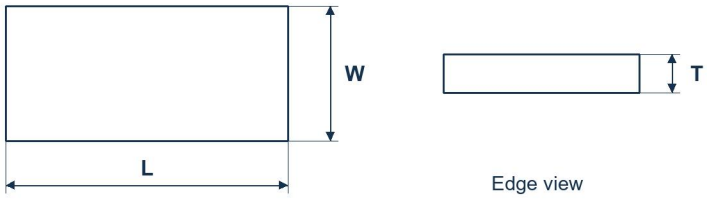


Representative form image; not an item-specific drawing or performance record.

3D FORM RECOGNITION



GOVERNING DIMENSION VIEWS



Dimension key, not to scale. Plain rectangular plate shown; holes and other outlines require a drawing. Numerical dimensions and tolerances are RFQ inputs.

Field	Required drawing or quotation input
L / W (mm)	L = length; W = width. Define outline tolerance and corner or edge treatment.
T (mm)	T = thickness. Add thickness variation, flatness and parallelism requirements.
Mounting	Datums, hole pattern and positions, support points, clamping or bonding areas.
Functional face	Finish and roughness method, visual defects, cleanliness, color and gloss acceptance.

When optical or electrical behavior matters

Specify the target and its measurement conditions. Optical requests need wavelength, angle and measurement geometry; electrical requests need resistance range, voltage and environmental conditions. Color alone does not establish either function.

Quotation input Include face identification, handling and packing needs, first-article tests, quantity, repeat demand, destination and schedule.

06 MATERIAL AND SERVICE

Specify the black formulation and duty

Select the actual black formulation against the intended environment. Ordinary 3Y, 8Y, Mg-PSZ and Ca-PSZ zirconia values are not specifications for this black product family.

Decision	Provide for engineering review
Material identity	Material specification, stabilizer requirements, permitted composition and any material certificate requirements.
Mechanical service	Load direction and magnitude, support/contact geometry, impact, vibration, motion and wear acceptance.
Thermal service	Steady and peak temperature, atmosphere, heating/cooling rate, dwell time, cycles and mating materials.
Chemical exposure	Medium, concentration, pH, pressure, exposure time, cleaning and lubrication; include water or steam service.
Electrical requirement	Insulating, conductive or electrostatic discharge (ESD) target; resistance range, test voltage, humidity, temperature and electrode arrangement.
Appearance or optics	Color reference, surface state, gloss or reflectance target and measurement conditions.

Published custom options

Outer diameter, inner diameter and wall thickness can be reviewed, with ±0.02 mm possible on OD/ID where the feature and process allow it. Lengths up to 1000 mm are matched to the selected form. ISO IT7 to IT10 tolerance options are applied by feature and nominal size.

These are conditional custom options, not a common specification for all four references. An ISO tolerance grade and a ± tolerance must be defined for the actual nominal dimension; they are not automatically interchangeable.

Finish and detail requirements

Technical polished, matte or fine-ground finishes are inquiry options. Identify the surface that needs the finish and its acceptance method. Supply end profiles, chamfers, shoulder grooves or key slots on the part drawing where required.

Selection boundary Agree material and finished-part acceptance separately. Material strength, hardness or resistivity does not by itself establish assembly load, wear life, sealing or electrical behavior.

07 ACCEPTANCE AND SUPPLY

Agree what will be inspected and delivered

Set the acceptance plan before production. The following are order-definition inputs; include the items that matter to the selected rod, pin, ring or plate.

Control	Agree for the order
Drawing and revision	Part identifier, revision, units, datums, general tolerances and clearly marked critical features.
Dimensions and geometry	Inspection points and methods for the selected form; sampling and report requirements.
Surface and edges	Working faces, roughness and its method, edge-defect limits, crack rejection criteria, scratches and cleanliness.
Black appearance	Approved reference sample or color method, illumination, surface state and batch acceptance limits.
Functional verification	First-article fit and any agreed thermal, chemical, electrical, wear or leakage test with explicit conditions.
Identity and repeat supply	Part and lot identification, material records, retained order revision and notification of material/process changes.

Protect the feature that controls acceptance

Form	Packing requirement to define
Rod or shaft	Separate parts and support the length; protect straightness, finished journals and ends.
Pin	Protect the working tip and shoulder; prevent mixed references and contact between tips.
Ring	Separate rings; protect the bore, edges and working faces from impact and rubbing.
Plate or substrate	Protect functional faces and corners; define separators, cleanliness and stacking support.

Confirm the packing unit, labeling, transport method and any clean-handling requirements with the quotation. MOQ, price, production lead time and delivery schedule depend on the agreed part and quantity.

From sample review to repeat order

Start with the drawing or sample and the intended function. Agree geometry, material and acceptance; define first-article checks; then retain the accepted revision and inspection basis for repeat supply.

08 REQUEST FOR QUOTATION

Send the drawing and operating brief

A sketch, sample photo or known equipment interface can start the discussion. For a complete quotation, include the drawing revision and the fields below.

Existing reference or repeat part

Cite ADC-CAT-BZC-001, Rev 01, and AT-HG-B1001, AT-HG-X1001, AT-HG-H1001 or AT-HG-J1001. Add the previously agreed drawing or order revision, quantity, changed requirements and delivery destination. The catalog reference identifies the form; it does not replace the part drawing.

New part or replacement

RFQ field	Information to send
Part definition	Drawing, CAD model, sketch or sample; revision; rod/shaft, pin, ring or plate; required function.
Dimensions and fit	Values and units from pages 3–6; critical tolerances, datums, mating parts and fit.
Material and surface	Black formulation or material specification; finish, edges, cleanliness and color requirements.
Service conditions	Load and motion; temperature/atmosphere; medium; electrical, optical or sealing targets where relevant.
Acceptance and supply	First-article checks, inspection/test reports, packing and identification, quantity and repeat demand.
Delivery	Destination, target schedule and project contact details.

Copy this inquiry subject

Black zirconia RFQ | form or AT reference | drawing revision | quantity

Send your drawing and brief for engineering review and quotation.

info@adcerax.com

Product page

HUNAN ATCERA CO.,LTD

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The quotation confirms feasibility, material, final dimensions, acceptance, price and schedule for the defined part.