ADCERAX
ADVANCED CERAMICS

ENGINEERING PRODUCT CATALOG

ZTA Ceramic Rings

Zirconia toughened alumina ring parts
Selection and drawing definition for OEMs

Guide rings, seats, spacers and custom annular components. Start with the working position, then define the fit, contact faces and acceptance requirements.



ZTA ring appearance reference. This photograph does not identify AT-ZTA-H1001.

Visible local features are not a specification of dimensions, material grade or application fit.

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

Product information

01 APPLICATION AND ORDER ROUTE

Choose the working position first

A ring can locate a part, guide moving material or form one element of a sealing arrangement. Identify the component you need before comparing dimensions.

Ring duty	Interface to define	Conditions to share
Pump component	Shaft or housing fit; contact face; supporting seat	Mating material, medium, particles, pressure, speed and lubrication
Valve seat or guide	Contact line, pressure direction, bore fit and support	Medium, particle loading, temperature cycles and leakage criterion
Wire or fiber guide	Contact path, entry edge, groove and mounting	Wire or fiber size, tension, speed and surface acceptance
Spacer or custom ring	Axial location, bore fit, locating faces and steps	Mating assembly, loads, thermal cycle and dimensional acceptance



Appearance reference only. A similar outline does not establish a material grade, interchangeability or a complete seal assembly.

Define the purchase unit

Specify one ceramic ring, a mating ring pair or an assembly with other components. For a replacement, include the installed position and mating part; identify intact reference surfaces separately from worn or chipped zones.

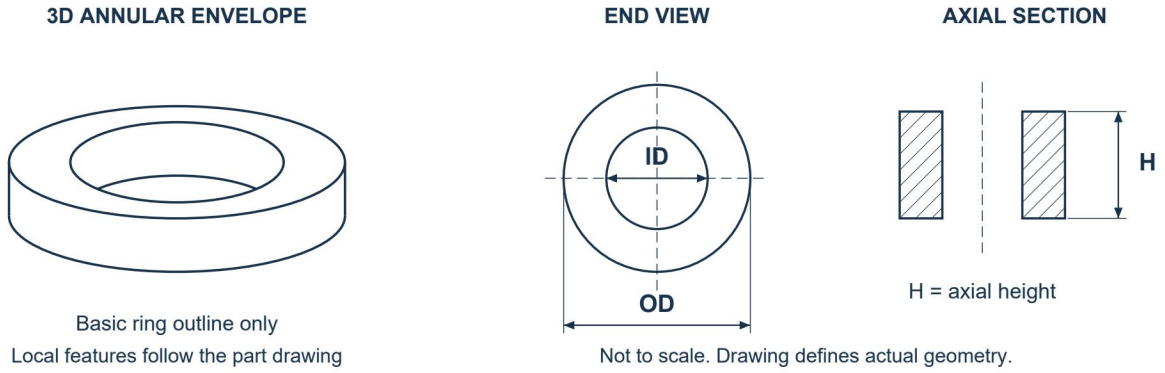
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02 DIMENSIONS AND DRAWING DEFINITION

Define the ring geometry

Use OD for outside diameter, ID for bore diameter and H for axial height. The envelope below explains these fields; the approved part drawing defines local features and the actual profile.



Dimension key - not to scale. Not a manufacturing or inspection drawing. No groove, hole, step or edge detail is implied.

Definition route	OD (mm)	ID (mm)	H (mm)	Use
AT-ZTA-H1001	30	20	15	Published nominal size reference
Drawing-defined ring	Specify	Specify	Specify	Customer drawing and revision

AT-ZTA-H1001 is the reference listed on the product page. The nominal row is an identification starting point; it does not define grade, tolerances, finish, stock or interchangeability. The accepted drawing and quotation govern the order.

Complete the drawing beyond the envelope

Drawing field	What to define
Wall and local features	Wall profile; steps, shoulders, counterbores, grooves or holes where required, with locations and dimensions.
Fits and datums	Mating shaft or housing; clearance or interference; locating face and datum axis; dimensional and geometric tolerances.
Working surfaces	Mark the actual contact zone, bore, OD and locating faces separately. Give finish, flatness and alignment requirements by function.
Edges and defects	Identify entry edges and transitions. Specify chamfer or radius where needed, and permitted defect locations and limits.
Measurement basis	State units, reference temperature, support method, inspection zones, measurement method and acceptance criteria.

For an existing reference, identify any departure from the nominal row. For a new ring, send a dimensioned sketch or drawing; a photograph alone cannot define the order.

03 MATERIAL AND SURFACE DEFINITION

Connect the grade to the actual ring

ZTA combines alumina and zirconia in a composite ceramic. Select the exact material system and manufacturing route for the ring drawing; the material name alone does not establish finished-part performance.

When to evaluate ZTA

Consider the ZTA material family when a ring needs the hardness of an alumina-based ceramic together with fracture resistance. For a chipped bore edge, thin wall or loaded contact face, identify the failure location and loading first. Then evaluate the selected formulation and ring design together; changing the material alone does not validate the assembly.

Material systems for engineering discussion

Material system	Recorded form or route	Ring selection boundary
AD-ZTA-10	Injection-molded parts	Confirm the exact ring geometry, route and material specification.
AD-ZTA-20-CIM	Injection-molded parts	Confirm the exact ring geometry, route and material specification.
AD-ZTA-40	Injection-molded parts	Do not select from density or grade suffix alone.
AD-ZTA-20-P	Dry-pressed or CIP plate	Plate data apply only when the actual blank and route match.
AD-ZTA-ROD	Rod or shaft	Rod data require a traceable match to the actual ring blank and route.

CIP means cold isostatic pressing. These are material-system references, not five confirmed H1001 options. The suffixes 10, 20 and 40 do not specify zirconia content.

Give each surface a function

Surface or interface	Specification to discuss
Contact face or track	Mating material, contact region, finishing state and acceptance method. For a sealing position, include face geometry, lubrication and leakage criterion.
Bore and outside diameter	Fit, locating datum, roundness or runout where relevant, and the surface zones that actually contact the mating part.
Entry edges and grooves	Entry direction, contact path, edge form, groove dimensions and root transitions on the drawing.
Surface texture	Ra or Rz requirement, evaluation length, filter, measurement direction and inspected area. Define defects separately from roughness.

Compare materials under the same conditions

Compare ZTA, alumina, zirconia or silicon carbide against the same ring drawing, mating material and service conditions. Validate wear, leakage and assembly behavior with the selected part and test method.

04 ACCEPTANCE AND SUPPLY DEFINITION

Make the ring inspectable and repeatable

Agree the checks and records for the part before order confirmation. The following items define a supply request; the quotation sets the accepted inspection and documentation scope.

Control point	What the order should define
Material identity	Exact ZTA system, forming route and blank identity; required batch or material documentation.
Geometry	OD, ID and H; local features; drawing revision; datums; dimensional and geometric acceptance limits.
Surface and visual condition	Contact-zone texture, face geometry, edges, cracks, chips, scratches and permitted defect zones; inspection method.
Assembly and function	Mating components and mounting method; agreed fit or functional test. For seals, define the pair and test conditions, not just the ceramic ring.
First part and repeat supply	First-part approval, sampling or specified full inspection, report scope and control of material, drawing or process changes.
Packing and identification	Separate contact faces and edges; identify part, drawing revision, quantity and batch; agree protection and handling requirements.

Protect the component during installation

Check the mating parts and remove burrs from metal edges. Support the ceramic ring with soft tooling; avoid prying on thin walls or loading an unsupported edge. Align the contact and locating faces before applying the specified assembly load.

For an interference or thermal fit, define the mating material, fit allowance, assembly temperature and loading sequence. Use the equipment-approved lubrication, fastening and temperature-cycle plan.

Inspect the contact zone after handling

Keep polished surfaces separated in storage. Clean with compatible, non-abrasive materials under the part cleaning plan, then inspect for residue and damage. Use ultrasonic cleaning only when approved for the selected part and setup.

For repeat orders, retain the accepted drawing revision, grade, sample approval and inspection record. Identify the worn or damaged zone when requesting a replacement; do not reconstruct critical dimensions from damaged geometry.

05 REQUEST FOR QUOTATION

Send a useful ring inquiry

Start with the information you have. A reference number, drawing, sketch or sample description can open the review; the final specification is agreed before order confirmation.

Existing product reference

Cite AT-ZTA-H1001 and this catalog revision. Add the required quantity, ring function, mating part and any changes from the published nominal dimensions. Include your destination and target schedule.

New or replacement ring

Attach the drawing and revision, or a dimensioned sketch. For an old part, include face, side and edge photographs with a scale, installed orientation and mating-component details. Mark intact reference geometry separately from worn areas.

Information	Include where applicable
Geometry and interfaces	Dimensions and units, tolerances, datum face or axis, local features, contact zones, mating parts and mounting method.
Material and surfaces	Required ZTA system or material specification; finish by zone; edge and defect limits; material documentation.
Operating conditions	Medium and concentration, particles, pressure, speed or tension, loads, lubrication, temperatures and cycles.
Acceptance	Dimensional and surface checks; first-part or sampling plan; functional criteria such as leakage or wear when relevant.
Supply	Trial and repeat quantities, requested records, packing and identification, destination and target schedule.

Send your reference or drawing for quotation review

info@adcerax.com

adcerax.com/product/zta-ring/

Reference: ADC-CAT-ZTA-RING-001 | Rev 01

ADCERAX | HUNAN ATCERA CO.,LTD

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

Availability, manufacturability, accepted tolerances, documentation, price and lead time are established in the quotation and order specification.