ADCERAX
ADVANCED CERAMICS

ENGINEERING PRODUCT CATALOG

ZTA Ceramic Discs and Rectangular Inserts

Drawing based components for seal faces, valve seats and wear contact

Zirconia toughened alumina components for engineers defining the geometry, working face and operating conditions of a ceramic contact part.



Round disc appearance reference. The image does not identify a catalog item, grade, tolerance or finished face specification.

Inside this catalog Form and application route 2 | Round sizes 3 | Rectangular sizes 4
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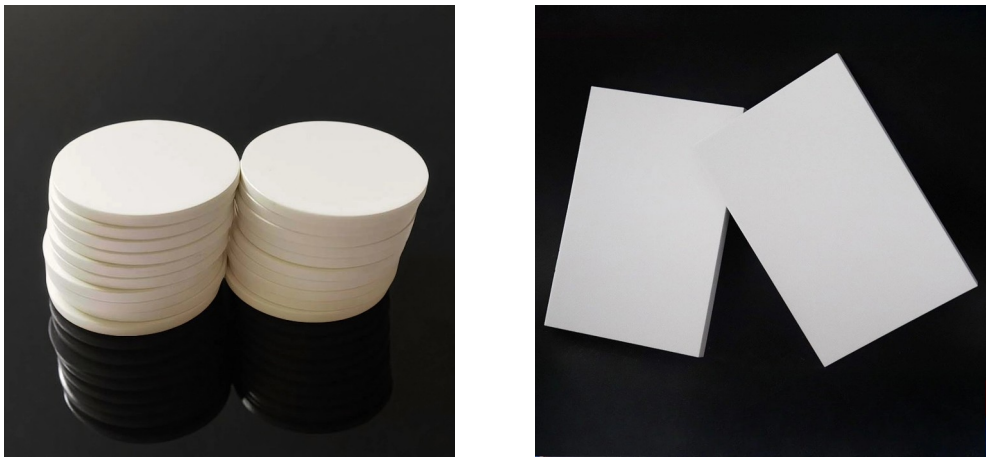
ADCERAX China-based advanced ceramics manufacturer for custom precision ceramic components.

adcerax.com/product/zta-disc/

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Choose the form and component role

Start with the function of the individual ceramic part. A disc or insert is not a complete mechanical seal, valve or qualified replacement assembly.



Left: round forms. Right: rectangular forms. Representative appearance only; no photograph is mapped to an individual catalog number or size.

Your component role	Define before selection	Route
Seal face in a pump or mixer	Rotating or stationary face; working band; counter-face and backing arrangement.	Round 3 / RFQ 8
Valve seat or flow-control part	Seat contact, pressure direction, bore/ports and required leakage test.	Drawing 5 / RFQ 8
Wear pad or sliding support	Contact area, load direction, mating material, motion and support.	Round 3 / Rectangular 4
OEM insert or replacement part	Drawing and revision, locating features, original geometry and failure history.	Drawing 5 / RFQ 8

Two ways to start

Existing reference Use an AT-ZTA-P reference and its nominal envelope, then state changes, working-face requirements and service conditions.

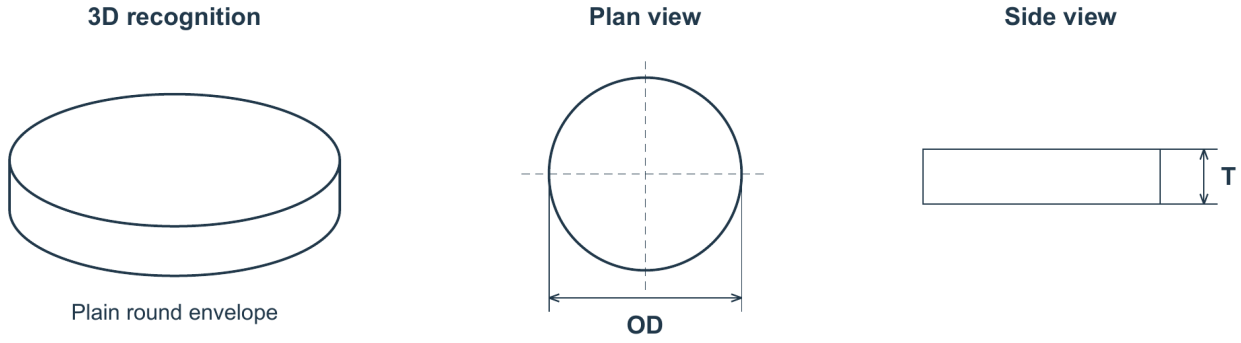
Drawing defined part Send the drawing, sketch or sample details. Bores, ports, grooves and steps require their own dimensioned definition; they are not encoded by the nominal envelope table.

Selection boundary The catalog number identifies an ADCERAX reference. It does not establish OEM interchangeability, stock, an approved mating pair or an assembly performance rating.

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Round disc size references

Five round references provide an outer-diameter and thickness starting point. Define the functional face and all additional features on the project drawing.



Not to scale. Envelope key only; features and acceptance follow the agreed drawing.

Catalog reference	OD nominal mm	T nominal mm
AT-ZTA-P2001	50	5
AT-ZTA-P2002	50	8
AT-ZTA-P2003	100	5
AT-ZTA-P2004	100	10
AT-ZTA-P2005	150	10

OD = outer diameter. T = thickness. Nominal envelope values are identification references, not a stock list or a complete finished-part specification.

Complete the round part definition

Features and interfaces Specify any bore, ports, grooves, steps, recesses, anti-rotation feature and edge treatment. The plain envelope above does not prescribe these features.

Working face Identify sealing, sliding, locating and backing faces separately. State the required flatness, parallelism, roughness and inspection datum for each relevant face.

Fit and contact Provide the mating component and support geometry, effective contact band, clearance or interference requirement, and load direction.

Order definition Material grade, manufacturing route, tolerances, finish, acceptance, quantity and delivery are agreed for the quoted part. Equal nominal diameter does not establish interchangeability.

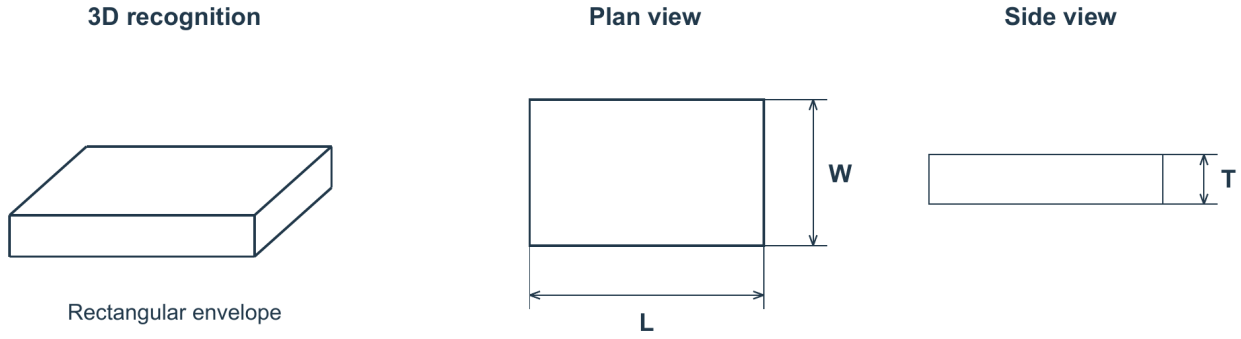
For a new round envelope

Submit OD and T with units and tolerances, plus the complete feature drawing, material requirement, application and quantity. Include the original drawing revision when requesting a replacement.

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Rectangular insert size references

Three rectangular references are listed under the website family name Square ZTA Disc. Their unequal length and width define rectangular envelopes.



Rectangular envelope

Not to scale. Envelope key only; features and acceptance follow the agreed drawing.

Catalog reference	L nominal mm	W nominal mm	T nominal mm
AT-ZTA-P1001	150	100	5
AT-ZTA-P1002	250	100	10
AT-ZTA-P1003	300	200	10

L = length. W = width. T = thickness. Nominal envelope values are identification references, not stock or a complete finished-part specification.

Match the face to the support

Functional area Mark which face carries contact and whether the load is distributed, sliding or concentrated. Distinguish the working area from the backing and locating areas.

Mounting Define seating, edge clearance, clamps, preload and thermal movement. Identify holes, slots or recesses with datums and complete position dimensions.

Face and edge acceptance Specify face flatness, parallelism, thickness variation, roughness, edge finish and acceptable local defects by location and inspection method.

Material and order The rectangular outline does not assign a material grade or forming route. Confirm those together with tolerances, quantity, inspection documents and packaging.

For a new rectangular envelope

Submit L, W and T with units and tolerances, plus the feature drawing, working-face designation, support arrangement and quantity. The same envelope can require different faces and interfaces for different duties.

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Define the material and drawing

ZTA is an alumina-zirconia composite ceramic. It is a distinct material system from pure alumina and pure zirconia. The grade and manufacturing route must match the actual part.

Material record	Source product form	Use in a disc inquiry
AD-ZTA-10	Injection-moulded part	Confirm the actual part formulation and route.
AD-ZTA-20-CIM	Injection-moulded part	Confirm the actual part formulation and route.
AD-ZTA-40	Injection-moulded part	Confirm the actual part formulation and route.
AD-ZTA-20-P	Dry-pressed / CIP plate	Use plate data only when the disc is mapped to this route.
AD-ZTA-ROD	Rod or shaft	Do not transfer rod properties to a disc without a valid mapping.

CIP = cold isostatic pressing. Grade suffixes are identifiers, not zirconia percentages. These records are not an item-to-grade assignment for the eight size references.

Material evidence to request

Specify the required grade or composition basis, forming or blank route, material certificate and lot identity. If a property is an acceptance requirement, agree its method, specimen condition, sampling and limit before ordering.

Keep material and component results separate Density, hardness or strength data do not establish disc leakage, pressure-velocity capacity, dry-running ability, allowable pressure, speed or service life.

Drawing package checklist

Controlled identity Part number, drawing revision, units and the intended component role; include a model when it helps explain features.

Complete geometry Envelope dimensions from page 3 or 4, feature sizes and positions, datums, fits, profile, edge treatment and any orientation requirement.

Face specification Identify the functional surfaces and specify finish, flatness, parallelism, runout where relevant, and the inspection setup.

Reverse engineering input Photograph both faces, side and edges beside a scale. Show the mating parts and installation position. Separate worn areas from intact reference surfaces; a worn sample does not define the original tolerance.

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Review working faces and service

Select the disc together with its counter-face, support and operating conditions. A smooth-looking surface or a matching nominal size is not enough to define a sealing or sliding contact.

Engineering input	What to include	Why it matters
Working faces	Sealing / sliding / support face; finish; flatness, parallelism and roughness method.	Defines contact and acceptance.
Counter-face	Exact material grade, surface, geometry and condition.	Controls the contact pair, not only one disc.
Load and motion	Contact load and area; pressure direction; speed or stroke; starts, stops, vibration and impact.	Separates static support from sliding or rotating duty.
Medium and particles	Fluid chemistry, concentration, pH, solids, particle size and cleaning media.	Defines chemical and abrasive exposure.
Temperature and cooling	Continuous and peak conditions, gradients, cycles, frictional heat, flushing and lubrication.	Defines the thermal and lubrication state.
Acceptance endpoint	Leakage, torque, temperature rise, wear, cracks, edge damage or agreed cycle endpoint.	Makes qualification measurable.

Define the face before specifying a finish

State whether each face is as-ground, fine-ground or lapped, and pair that requirement with flatness, roughness and an inspection method. Roughness alone does not define sealing quality; no single finish is assigned to every catalog number.

Use the correct qualification level

Material specimen Characterizes the specified material under its test conditions.

Individual disc Verifies geometry, surfaces, edges and defects against the part drawing.

Mating pair and assembly Evaluates contact, leakage, friction, wear and temperature under the defined service conditions. Disc-level acceptance does not replace this test.

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Agree acceptance and supply

Put inspection and delivery requirements into the quotation and order. The following are items to agree for the ZTA disc project, rather than a claim that every test or report is included.

Acceptance layer	Specify in the purchase requirement
Identity and material	Drawing revision, catalog reference where used, material grade, route, lot identity and required material evidence.
Dimensions and form	Critical dimensions, datums, measurement temperature, support setup, instrument or method, sampling and acceptance limits.
Working face and edges	Flatness, parallelism, roughness and runout where applicable; acceptance limits for chips, scratches, cracks and other defects by location.
Pair or assembly validation	Counter-face, backing, load, medium, pressure, speed, temperature, lubrication, test duration and performance endpoints.
Documentation	Agreed inspection report, material certificate and traceability fields; clarify any independent testing before quotation.

Protect contact faces in transit

Specify individual separation, protection of working faces and edges, and packaging suited to the part geometry and transport route. Require the part identity and revision to remain associated with the package. Define cleanliness and unpacking requirements for critical faces.

Control installation and repeat orders

Installation Use the equipment maker’s procedure and the approved drawing. Check seating and mating surfaces, protect ceramic edges from point loading, and apply the specified tightening and preload sequence.

First operation Confirm lubrication, flushing and filtration where required. Use the agreed start-up checks for leakage, torque, temperature and vibration.

Repeat supply Reference the approved drawing and revision, material and route, inspection plan, accepted sample where applicable, packaging and previous order. State any changed service conditions.

Commercial definition Quantity, sample needs, repeat demand, destination and target schedule allow a project quotation. Availability, price, minimum quantity and lead time are quotation-controlled.

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Send a disc RFQ

Send the drawing or reference together with the contact conditions. ADCERAX can then review the definition and identify what is required for an engineering quotation.

Existing catalog reference

Cite ADC-CAT-ZTA-DISC-001 Rev 01, the AT-ZTA-P number and quantity. Attach the required drawing and revision, and identify any change to the nominal envelope, features, face, grade or acceptance requirements.

New drawing or replacement part

Attach a drawing, sketch or sample details. For a worn part, include scaled views of both faces, edges, the mating component and installation position. Describe the previous failure and identify intact reference surfaces.

RFQ field	Information to send
Part and function	Round disc / rectangular insert / featured part; seal face, valve seat, wear pad or support; equipment and drawing revision.
Geometry and faces	Complete dimensioned drawing with units; overall envelope, bores and other features, datums, tolerances, working-face finish and edge requirements.
Material	Required ZTA grade or material specification, route if fixed, certificates and tests required.
Service and mating part	Counter-face and backing; medium and solids; load/pressure, motion, temperature, lubrication and duty cycle.
Acceptance	Part or assembly test level; method, sampling, limits and required records.
Supply	Quantity and repeat demand; sample need; face protection and packaging; destination and target schedule.

Subject line ZTA Disc RFQ | AT reference or drawing number | Quantity

Send drawing for engineering review and quotation

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Product page

ADCERAX | HUNAN ATCERA CO.,LTD

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