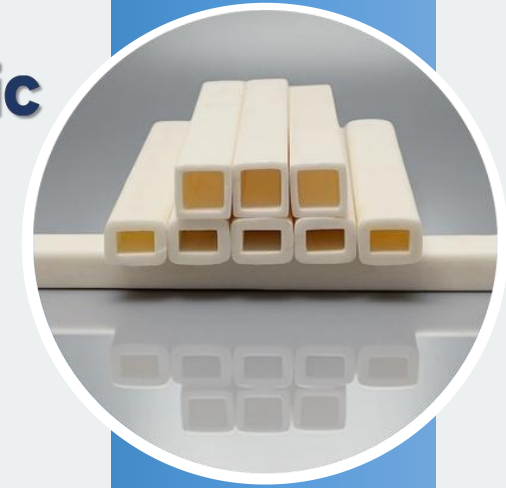
ADCERAX
ADVANCED CERAMICS

Square / Rectangular Alumina Ceramic Tube for Corona Electrode



Drawing-based Al2O3 ceramic tubes for corona electrode structures, electrode cassette insulation, replacement ceramic electrode tubes, and custom technical ceramic tube projects.

Contact Information

- Tel: +86-0731-84428843
- Whatsapp: +86-19311583352
- E-mail: info@adcerax.com
- Website: https://adcerax.com
- Address: Building 108, Industrial Park, Liling city Hunan Province, China

About ADCERAX

ADCERAX is a China-based advanced technical ceramics manufacturer focused on custom and semi-custom ceramic components for overseas industrial customers. For square and rectangular alumina ceramic electrode tubes, ADCERAX supports drawing-based review, material selection discussion, dimensional inspection, machining feasibility review, and export packing for fragile ceramic parts.

ADCERAX supports overseas engineers, equipment manufacturers, and procurement teams with drawing-based alumina ceramic tube projects.

Why Buyers Work With ADCERAX

- **Engineering Review:** Drawing, old-part photo, geometry, material grade, operating condition, and tolerance review before quotation.
- **Drawing-Based Customization:** Square, rectangular, round-bore, and square-bore tube structures can be reviewed according to drawings or samples.
- **Sample and Batch Support:** Prototype, replacement, and batch orders can be reviewed according to size, machining difficulty, and quantity.
- **Inspection and Export Packing:** Dimensional check, visual check, edge protection, separated packing, and export carton solutions can be arranged for fragile tubes.

Why Buyers Use ADCERAX for Drawing-Based Ceramic Electrode Tubes

Buyers choose ADCERAX when the project requires both electrical insulation and square / rectangular geometry fit. These tubes are normally evaluated by engineers before purchasing: the tube must fit the electrode cassette or replacement structure, keep insulation near the corona discharge area, and remain feasible for ceramic machining and packing.

ADCERAX's value is not a generic low-price tube offer. The useful difference is drawing review, custom size capability, material grade separation from certificate claims, fragile long-tube packing, and RFQ communication for overseas buyers.

Drawing & Old-Part Review

Drawing, old-part photos, profile, bore, wall thickness, length, straightness, slots, holes, and end-face requirements.

Material Grade Review

95%, 99%, 99.5%, and 99.7% Al2O3 can be reviewed. Final grade depends on insulation, temperature, machining, cost, and document needs.

Engineering Risk Review

Long tubes, thin walls, slots, holes, edge chipping, cracking risk, and straightness should be reviewed before quotation.

QC & Packing Support

Dimensional inspection, visual check, separated channels, foam protection, reinforced cartons, and export packing can be discussed.

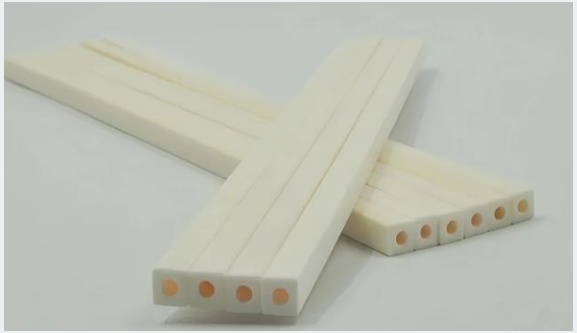
Our Certifications

Please confirm required certificates or test reports before quotation.

What This Square Alumina Ceramic Tube Is, and What It Is Not

A square alumina ceramic tube for corona electrode is a hollow Al2O3 ceramic tube with a square or rectangular outer profile. It is used in corona treatment equipment as a ceramic electrode tube, insulating electrode tube, ceramic electrode cassette tube, or replacement ceramic tube body.

The tube is usually specified by outer width, height, inner bore size, wall thickness, length, end-face condition, edge quality, slots, holes, and alumina purity. Final compatibility must be confirmed according to the customer's drawing, old-part photos, electrode structure, mounting method, and operating requirements.



Manufacturing Flow for Drawing-Based Ceramic Tubes

Raw Material Preparation

Alumina powder is selected according to required grade, application, and documentation needs.

Forming

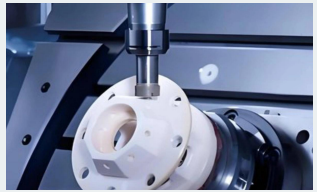
The square, rectangular, round-bore, or square-bore profile is formed according to the drawing.

Drying

Formed tubes are dried under controlled conditions to reduce cracking and deformation risk.

Sintering

The ceramic body is sintered to obtain the required alumina ceramic structure and strength.



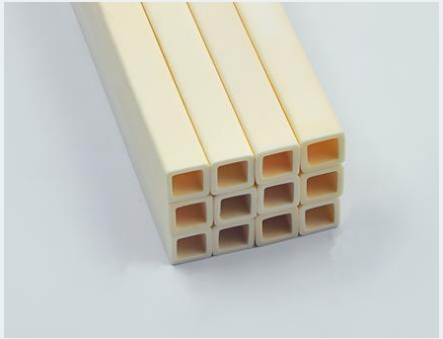
Machining

Cutting, grinding, drilling, slotting, chamfering, and end-face finishing are reviewed according to drawing feasibility.

Alumina Ceramic Material Properties Reference:

Property	Unit	95% Al_2O_3	99% Al_2O_3	99.5% Al_2O_3	99.7% Al_2O_3
Alumina content	%	95	99	99.5	99.7
Density	g/cm³	3.6–3.75	3.83	3.89	3.92
Color	–	White	Ivory	Ivory	Ivory
Water absorption	%	0	0	0	0
Young's modulus	GPa	~300	~360	~370	~375
Shear modulus	GPa	~123	~148	152	~154
Bulk modulus	GPa	~180	~215	228	~223
Poisson's ratio	–	0.22	0.22	0.22	0.22
Compressive strength	MPa	1910	2210	2600	~2600
Flexural strength	MPa	260	300	379	~380
Fracture toughness	MPa·m$^{1/2}$	~3.5	~4	4	~4
Hardness (HV)	GPa	14.5	17	17	~18
Thermal conductivity	W/m·K	22	24	35	33–38
Thermal shock resistance ΔT	°C	~200	~200	~200	223
Max use temp (no load)	°C	1450	1680	≤1750	1760
Coefficient of thermal expansion	10^{-6}/°C	7.6	7.6	8.4	8.4
Volume resistivity	Ω·cm	>1×10^{14}	>1×10^{14}	>1×10^{14}	>1×10^{14}
Dielectric constant	–	9.2	9.5	9.8	9.84
Dielectric strength	kV/mm	15	19	16.9	23.4
Dissipation factor (@1 kHz)	–	~0.0005	~0.0003	0.0002	~0.0001

Technical Decision Points for Corona Electrode Tube RFQs



Electrical Insulation

The tube must support insulation near the corona discharge area. Dielectric requirements depend on wall thickness, surface condition, voltage environment, and test method.

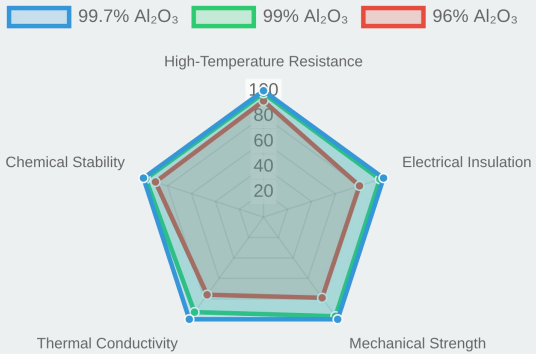
Square / Rectangular Geometry Fit

The outer profile, bore, wall thickness, straightness, and length must match the electrode cassette, mounting slot, internal conductor, or replacement structure.

Material Grade Selection

95%, 99%, 99.5%, and 99.7% Al2O3 can be reviewed. Final selection depends on insulation, temperature, machining, cost, and document requirements.

Material Grade Comparison: Reference Values, Verify Before Quotation



Machining Feasibility

Slots, holes, chamfers, notches, and end-face finishing should be reviewed by drawing because ceramic brittleness, edge chipping, and cracking risk affect feasibility.

Inspection & Packing

Long or fragile tubes should be reviewed for dimensional inspection, visual check, separated packing, foam protection, reinforced cartons, and destination requirements.

RFQ Specification Fields for Square / Rectangular Alumina Tubes

For quotation, please provide drawing or old-part photos, outer width, height, bore structure, wall thickness, length, straightness requirement, tolerance, material grade, machining features, quantity, destination, delivery terms, and document requirements.

Specification Parameter	Details
Product No.	TE-AT-50001
Material	Al2O3(Alumina)
Purity Options	95% / 99% / 99.5% / 99.7%
Max. Working Temp.	Reference only; verify by grade/application
Tolerance	Verify by drawing and size
Surface Finish	Raw, Polished, or Glazed
End Types	Open Both Ends (standard), Closed One End (optional)
Dimensions	Width / height / bore / wall to drawing
Standard Length	≤3500; verify by drawing

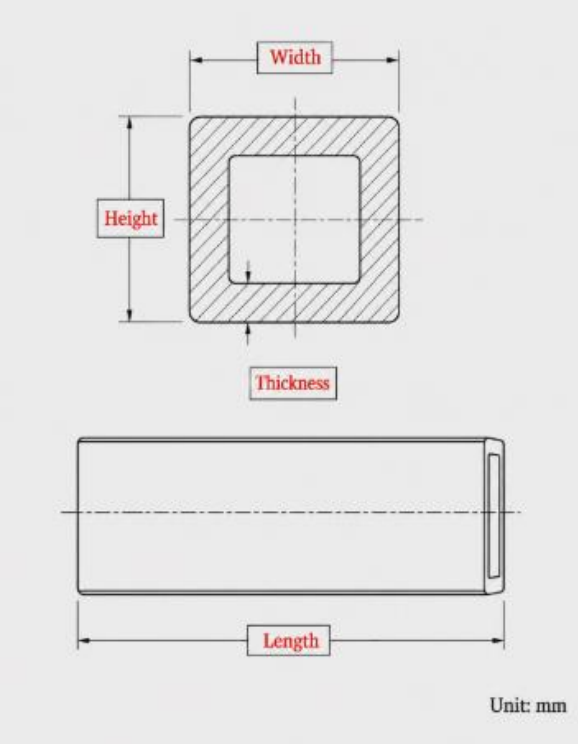
Confirmed Size Capability Ladder

- 80 x 80 mm section: length up to 500 mm
- 55 x 55 mm section: length up to 1000 mm
- 40 x 40 mm section: length up to 2500 mm
- 25 x 25 mm section: length up to 3500 mm

These are confirmed capability references by section size, not universal free combinations.

Reference Sizes: Square / Rectangular Outer Profile

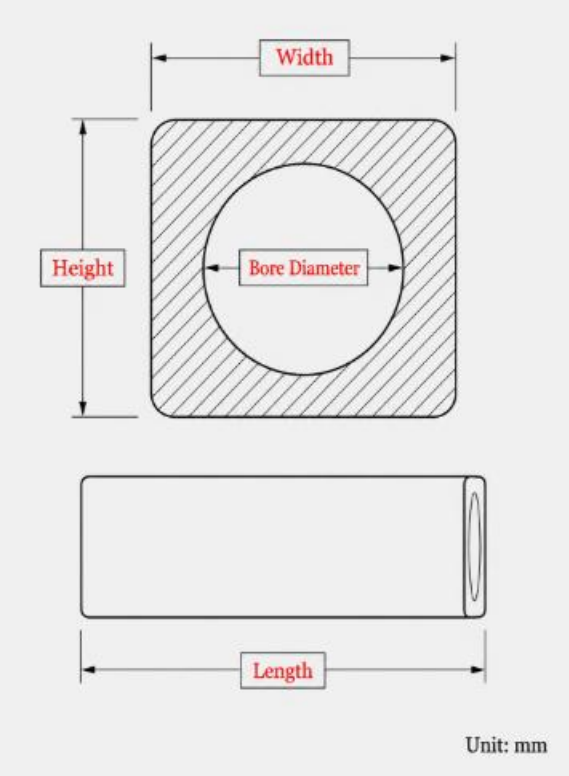
Type 1 - Alumina Square / Rectangular Tubes



Item No.	Width (mm)	Height (mm)	Thickness (mm)	Length (mm)
TE-AT-50001	7	7	1.5	≤3500
TE-AT-50002	8	6	1	≤3500
TE-AT-50003	8.7	6.3	1.1	≤3500
TE-AT-50004	9.5	9.5	2	≤3500
TE-AT-50005	10	10	5	≤3500
TE-AT-50006	11	8	2.5	≤3500
TE-AT-50007	13	10	2	≤3500
TE-AT-50008	15	15	4	≤3500
TE-AT-50009	16.5	16.5	5	≤3500
TE-AT-50010	23	16	3	≤3500
TE-AT-50011	25	25	3.5	≤3500
TE-AT-50012	32	27	3.5	≤3500
TE-AT-50013	36	30	3	≤3500
TE-AT-50014	40	30	3	≤3500

*Note: Reference sizes only. Final feasibility depends on drawing, cross-section, bore structure, wall thickness, length, straightness, material grade, machining features, tolerance, quantity, and packing risk.

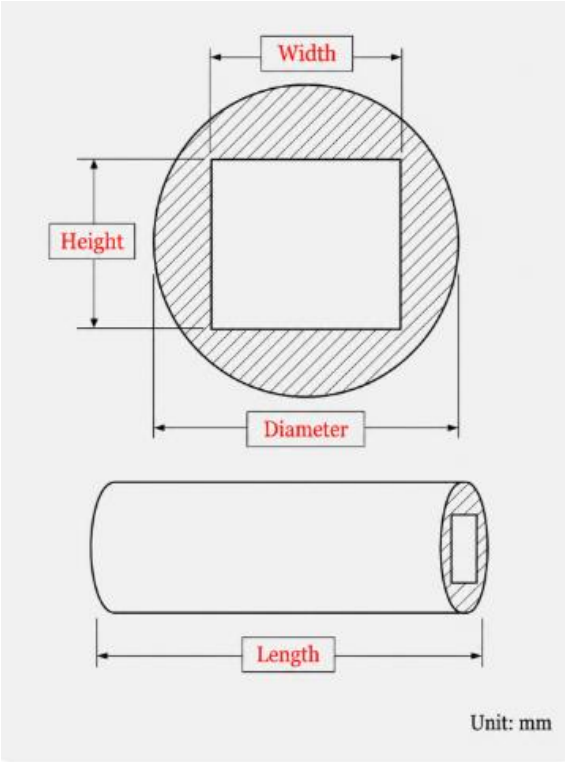
Type 2 - Alumina Square Tubes with Round Bore



Item No.	Width (mm)	Height (mm)	Bore Dia (mm)	Length (mm)
TE-AT-50015	6	6	2.3	≤2000
TE-AT-50016	8	8	4.5	≤2000
TE-AT-50017	8	8	4	≤2000
TE-AT-50018	9.5	9.5	5.2	≤2000
TE-AT-50019	10	10	4.5	≤2000
TE-AT-50020	10	10	7	≤2000
TE-AT-50021	18	18	6	≤2000
TE-AT-50022	23	23	8	≤2000
TE-AT-50023	27	27	5.5	≤2000
TE-AT-50024	32	32	10	≤2000
TE-AT-50025	40	40	9	≤2000

*Note: Reference sizes only. Final feasibility depends on drawing, cross-section, bore structure, wall thickness, length, straightness, material grade, machining features, tolerance, quantity, and packing risk.

Type 3 - Alumina Rectangular Tubes with Square Bore



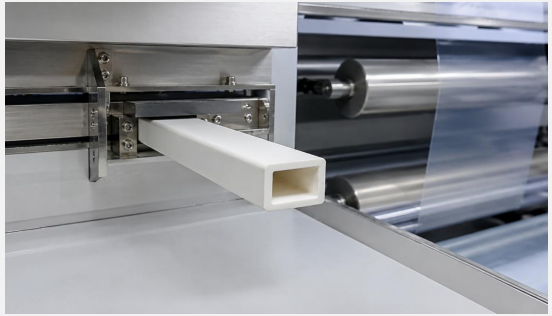
Item No.	Width (mm)	Height (mm)	Bore Dia (mm)	Length (mm)
TE-AT-50026	2	1.3	0.9	≤3500
TE-AT-50027	10	2	1	≤3500
TE-AT-50028	15	4	3	≤3500
TE-AT-50029	20	3.5	3.5	≤3500
TE-AT-50030	24	7	6	≤3500
TE-AT-50031	25.5	7.5	5	≤3500
TE-AT-50032	29	6	4.5	≤3500
TE-AT-50033	30	10	8	≤3500
TE-AT-50034	35	10	7.5	≤3500
TE-AT-50035	37.5	11	11	≤3500
TE-AT-50036	40	9.5	7	≤3500

*Note: Reference sizes only. Final feasibility depends on drawing, cross-section, bore structure, wall thickness, length, straightness, material grade, machining features, tolerance, quantity, and packing risk.

Where Square Alumina Ceramic Tubes Are Used in Corona Equipment

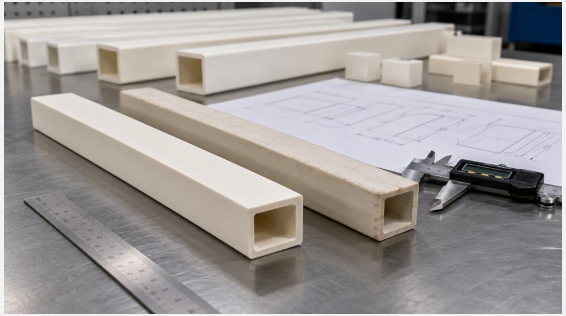
Corona Treater OEMs

Used by corona treatment equipment manufacturers as custom ceramic electrode tubes or insulating ceramic tube bodies. The profile must match the electrode cassette, mounting slot, internal conductor, and machine structure.



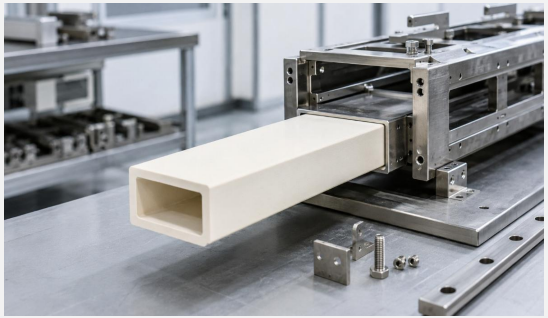
Replacement Ceramic Electrode Tubes

Used to replace damaged or aged ceramic electrode tubes in existing corona treatment systems. Old-part photos, measured dimensions, machine model, and operating condition are recommended for quotation and compatibility review.



Electrode Cassette and Assembly Suppliers

Used by electrode cassette, ceramic electrode, or compatible electrode suppliers as a custom ceramic tube body. Holes, slots, end-face finish, length, wall thickness, straightness, and material grade should be confirmed by drawing.



This catalog covers the ceramic tube body only. It does not claim complete machine compatibility, original-brand drop-in replacement, or complete electrode assembly supply unless confirmed by drawing and project review.

Custom RFQ Checklist

ADCERAX can review square and rectangular alumina ceramic electrode tubes based on drawings, old-part photos, samples, or technical specifications. To reduce quotation back-and-forth, please provide the RFQ fields below.

Customizable Parameters

Profile Dimensions	Outer width, height, inner bore size, and wall thickness should be confirmed by drawing or measured old parts.
Length Review	Tube length should be reviewed together with profile size, wall thickness, straightness, packing risk, and quantity.
Material Grade	95%, 99%, 99.5%, or 99.7% alumina can be reviewed according to insulation, operating condition, cost, and documentation needs.
Machining Features	Cutting, grinding, holes, slots, notches, chamfers, and end-face finishing can be reviewed according to drawings.
Surface and Edge Quality	Surface finish, edge chipping allowance, end-face condition, and visual requirements should be confirmed before production.
Inspection and Documents	Dimensional inspection, visual inspection, material certificate, COA, RoHS, REACH, or dielectric testing should be confirmed before quotation.

Customization Process

1. **Inquiry & Design** — Submit your **detailed** requirements
2. **Mold & Samples** — Proceed with mold/sample creation
3. **Confirmation** — Confirm specifications and contract
4. **Delivery** — Safe and efficient shipping

RFQ Confirmation

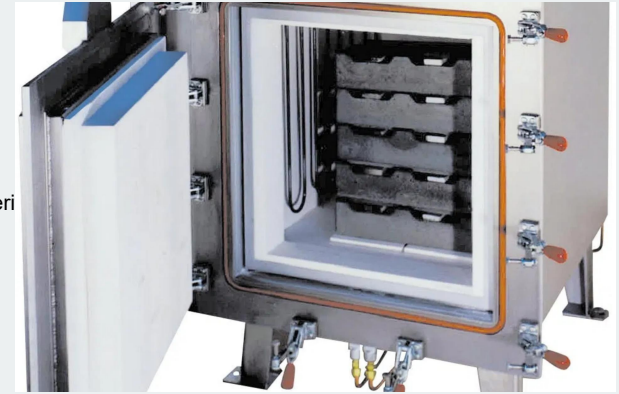
Sample lead time, MOQ, tolerance, inspection documents, and packing requirements are confirmed according to project details.

Confirm before quotation

Handling and Installation Notes for Alumina Ceramic Square Tubes:

Installation & Operation Tips

- Ensure ceramic tubes, electrode parts, and fixtures are clean before installation.
- Use suitable support fixtures and avoid point loading on ceramic edges.
- Control heating and cooling rates according to equipment design and material grade; specific ramp rates must be veri
- Use suitable ceramic, metal, or sealing components according to the machine design.



Maintenance & Care

- Regularly check ceramic tube surfaces for cracks or damage.
- Clean with a soft cloth and neutral detergent.
- Store in a dry environment when not in use for long periods.

Common Mistakes

- Over-tightening clamps can cause cracking.
- Unsupported long tubes may chip during handling.

Technical Support

Technical Inquiry: info@adcerax.com

Service Hotline: +86-0731-84428843

Whatsapp: +86-19311583352

Alumina Ceramic Square Tube FAQ

Q: Can ADCERAX make square alumina ceramic tubes for corona electrodes?

A: Yes, drawing-based square and rectangular alumina ceramic tubes can be reviewed for corona electrode and insulating tube applications.

Q: What information is needed for a quotation?

A:Drawing, old-part photos, outer size, inner bore, wall thickness, length, tolerance, quantity, material grade, and application conditions.

Q: Can these tubes replace existing corona electrode ceramic tubes?

A: Possible, but compatibility must be checked by old-part dimensions, machine structure, mounting method, and electrode design.

Q: Which alumina purity should I choose?

A: 95%, 99%, 99.5%, or 99.7% alumina may be reviewed depending on insulation, temperature, cost, certificate, and machining requirements.

Q: Can slots, holes, chamfers, or end-face machining be added?

A: Yes, these features can be reviewed according to drawings, but machining design must consider ceramic brittleness and edge chipping risk.

Q: Do you provide inspection and safe export packing?

A: Dimensional and visual inspection can be arranged, and long ceramic tubes should be packed with separated channels, foam protection, and reinforced cartons.

Service Support

ADCERAX supports the RFQ-to-delivery process for custom alumina ceramic tube projects, with engineering review, sample/batch discussion, inspection planning, and export packing.

Pre-Sales Support

- Drawing / old-part photo review
- RFQ parameter checklist
- Material grade and machining feasibility discussion

Engineering Review

- Cross-section, bore, wall thickness, length
- Slots, holes, chamfers, end-face finish
- Long-tube straightness and packing risk

Sales Support

- Quotation based on confirmed RFQ data
- Sample or batch order discussion
- Destination, delivery terms, and DDP review

Quality Assurance

- Dimensional and visual inspection
- COA / material certificate / compliance document confirmation
- Separated packing, foam protection, reinforced cartons

Supporting Products

- Ceramic Flanges
- Ceramic Plugs
- Ceramic Brackets
- Thermocouple Protection Tubes

Contact Our Specialist Team

Customer Service: info@adcerax.com

Service Hotline: +86-0731-84428843

Online Support: adcerax.com/support

Contact Us

Send your drawing, old-part photos, dimensions, material grade, quantity, destination, operating condition, machine information, and document requirements. ADCERAX will review feasibility and prepare a quotation based on confirmed RFQ information.

Contact Information

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adcerax.com
Building 108, Industrial Park, Liling city Hunan Province, China

Inquiry Process

1. **Submit Inquiry**
   Send drawing, old-part photos, size, quantity, application, and destination.
2. **RFQ Evaluation**
   ADCERAX reviews geometry, material grade, machining features, tolerance, documents, and packing risk.
3. **Quotation Confirmation**
   MOQ, lead time, price, packing, delivery terms, and required documents are confirmed by project details.
4. **Order & Delivery**
   Confirm order, inspection requirements, packing method, and shipment arrangement.

Get a Quote for Square Alumina Ceramic Tubes

Please include:
1. Drawing or old-part photos
2. Width, height, bore, wall thickness, length
3. Material grade: 95%, 99%, 99.5%, or 99.7% Al2O3
4. Quantity and destination
5. Application equipment or machine model
6. Tolerance, certificate, and inspection requirements

Get A Quote