




# Cylindrical Alumina Crucibles

High-Temperature Cylindrical Alumina Crucible

## Contact Information

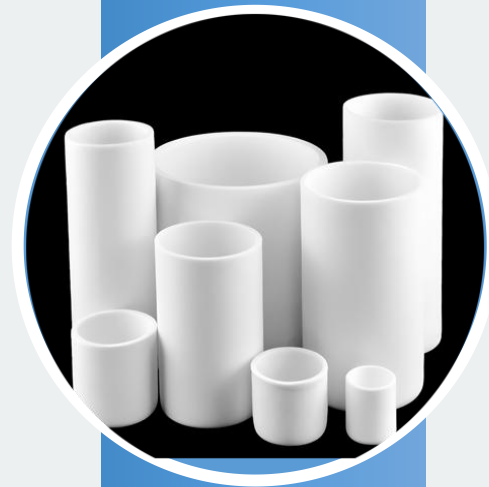
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# About ADCERAX

Powered by **HUNAN ATCERA CO.,LTD** – A Trusted Innovator in Advanced Ceramics Since 2010 ,**HUNAN ATCERA CO. Ltd** has been deeply engaged in the field of advanced ceramics for 20 years, and has production experience of more than 2000 precision ceramic products. We focus on the material of alumina ceramics, zirconia ceramics, silicon carbide ceramics, silicon nitride ceramics, aluminum nitride ceramics and quartz, etc., and aim to provide you with advanced ceramics one-stop service.

Adcerax delivering bespoke advanced ceramic solutions for industries where precision and durability matter. And has become a leading global China supplier of alumina ceramic crucibles, with products exported to the United States, Germany, Japan, South Korea, and many other countries.

## Our Expertise



**Engineering Support:** Professional product engineers providing timely technical assistance from design to production.



**Customization Capability:** Accepting small-batch custom orders based on customer drawings or samples.



**Rapid Delivery:** Quick shipping for custom orders and 24-hour dispatch for in-stock standard products.







**Supply Chain Integration:** One-stop customization and procurement services leveraging China's supply chain advantages.



# ADCERAX Promise

## Your ROI Starts from Day One

-  37% Lifespan: Industry Standards Verified by SGS Third-Party Testing in Extreme Thermal Shock Environments
-  22% Downtime: Reduce unplanned downtime with ceramic component life enhancement
-  15 days fast response: From drawing confirmation to functional prototype delivery
-  12 months warranty: Unconditional return of quality problems to factory for remanufacturing + process optimization report



## Our Certifications



# What is Cylindrical Alumina Crucible?

A cylindrical alumina crucible is a round ceramic container made mainly from aluminum oxide (Al<sub>2</sub>O<sub>3</sub>). It is used to hold, heat, melt, calcine, or test materials at high temperatures in laboratory and industrial furnace applications.

## Common Applications:

- ◆ Ashing and calcination
- ◆ Metal melting and alloy testing
- ◆ Powder sintering
- ◆ Thermal analysis and laboratory experiments
- ◆ High-temperature sample holding in furnaces

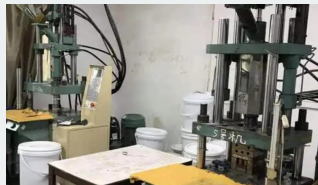


# Cylindrical Alumina Crucible Process



## Raw Material Preparation

Alumina powder is selected and mixed with binders and plasticizers to form a uniform slurry or paste.



## Forming

**Extrusion:** Alumina slurry is extruded through a die into continuous tubular shapes.

**Isostatic Pressing:** Powder is molded under high pressure to form high-density, uniform shapes.

**Slip Casting:** Liquid slurry is cast into a mold and solidified.



## Drying

The formed tubes are dried slowly to remove moisture and prevent cracking or deformation.



## Sintering

The dried tubes are fired in a high-temperature kiln (typically 1600–1700°C) to achieve full densification and develop the final ceramic properties.



## Machining

After sintering, the tubes may be ground or machined to achieve precise dimensions, surface finish, or special features such as chamfered ends or holes.

# Cylindrical Alumina Crucible Properties

Property	Unit	99.7% Al <sub>2</sub> O <sub>3</sub>	99.5% Al <sub>2</sub> O <sub>3</sub>	99% Al <sub>2</sub> O <sub>3</sub>	96% Al <sub>2</sub> O <sub>3</sub>
Color		Ivory White	Ivory White	Ivory White	Ivory White
Density	g/cm <sup>3</sup>	3.94	3.9	3.83	3.6-3.75
Water Absorption	%	0	0	0	0
Hardness	Mohs Hardness	9.1	9	9	8.8
Flexural Strength (20°C)	Mpa	330	320	300	260
Compressive Strength (20°C)	Mpa	2300	2300	2210	1910
Maximum Operating Temperature	°C	1730	1700	1680	1450
Thermal Expansion Coefficient (25°C to 800°C)	10 <sup>-6</sup> /°C	7.6	7.6	7.6	7.6
Thermal Conductivity (25°C)	W/(m·K)	29	27	24	22
Dielectric Strength (5mm thickness)	AC-kv/mm	22	21	19	15
Dielectric Loss at 25°C@1MHz	---	< 0.0001	< 0.0001	0.0003	0.0004
Dielectric Constant at 25°C@1MHz	---	9.8	9.7	9.5	9.2
Volume Resistivity (20°C)	Ω·cm <sup>3</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>	>10 <sup>14</sup>
Volume Resistivity (300°C)	Ω·cm <sup>3</sup>	2*10 <sup>12</sup>	2*10 <sup>12</sup>	4*10 <sup>11</sup>	2*10 <sup>11</sup>

## Technical Advantages



### High temperature margin

Typical max use temperature ranges from  $\leq 1750$  °C for 99.5% grade up to 1800 °C for 99.99% grade.



### Contamination control

High-purity  $Al_2O_3$  resists reaction with many slags, salts and furnace atmospheres.



### Uniform heating behavior

Straight cylindrical walls help reduce edge effects and support consistent heat distribution.



### Dimensional repeatability

Concentricity and straight walls improve fixture fit and process reproducibility.



### Flexible wall strategy

Thin walls support faster cycles, while thicker walls improve mechanical durability.



### Purity selection guide

99%–99.5%: cost-effective routine furnace work.

99.7%–99.9%: cleaner contact for analytical and alloy applications.

99.99%: highest purity where contamination risk must be minimized.

# Alumina Cylindrical Crucible

Reliable Cylindrical Crucibles for High-Temperature Processing

## SPECIFICATIONS

Al<sub>2</sub>O<sub>3</sub> Purity **99% – 99.7%**

Max Temperature **1680°C – 1730°C**

Volume Range **0.5 ml – 30000ml+**

Structure **Straight-Walled Cylinder**

Customization **Custom sizes and lid options available**

## APPLICATIONS

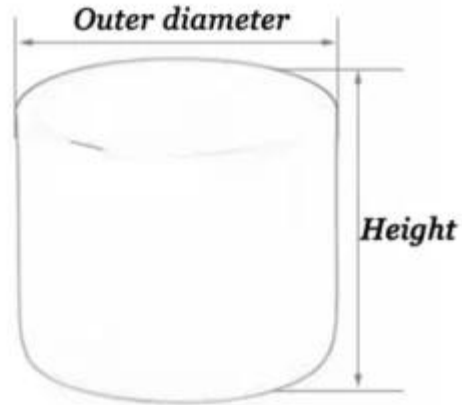
Melting · Ashing · Calcination · Material Heating · Laboratory Testing · Industrial Furnaces



## KEY FEATURES

- 1 Uniform cylindrical shape supports more consistent heating across the sample
- 2 Straight walls and good concentricity improve fixture fit and repeatability
- 3 High-purity alumina helps reduce reaction and contamination during testing
- 4 Optional lids help reduce volatilization and support stable heating atmospheres

## 🎯 Alumina Cylindrical Crucible Size:



Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-070	0.5	20	4
TE-AC-071	0.7	12	8
TE-AC-071-1	0.8	12	12
TE-AC-072	0.9	12	10
TE-AC-073	1	20	5
TE-AC-074	1	12	10
TE-AC-075	1	18	5
TE-AC-076	1	18	8
TE-AC-077	1	10	15
TE-AC-078	1	11	20
TE-AC-079	1.5	12	20
TE-AC-080	1.5	12	25
TE-AC-081	1.5	9	40
TE-AC-082	1.5	13	25
TE-AC-083	2	10	25
TE-AC-083-1	2	20	20

### Alumina Cylindrical Crucible Size:

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-086	2	12	39
TE-AC-083-2	2.5	22	20
TE-AC-087	3	18	18
TE-AC-088	3	16	28
TE-AC-088-1	3	12.7	25
TE-AC-088-2	3	14	31
TE-AC-088-3	3	15	5
TE-AC-088-5	3	15	20
TE-AC-089	3	15	75
TE-AC-090	3	10	30
TE-AC-091	3.4	17	21
TE-AC-091-1	4	14	44
TE-AC-092	4	20	20
TE-AC-093	5	32	10
TE-AC-094	5	12	60
TE-AC-094-1	5	10	40

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-094-3	5	11.5	50
TE-AC-094-4	5	11.5	15
TE-AC-095	5	11	20
TE-AC-096	5	10.5	20
TE-AC-097	5	20	30
TE-AC-098	5	15	50
TE-AC-099	5	28	17
TE-AC-099-1	5	35	8.5
TE-AC-100	5	16	50
TE-AC-101	5	54	8
TE-AC-102	5.4	17	37
TE-AC-103	6	16	60
TE-AC-104	6	17	40
TE-AC-104-1	6	16	56
TE-AC-105	6	19	35
TE-AC-105-1	6	16	80

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-105-2	6	20	30
TE-AC-108	7	22	25
TE-AC-106	8	25	25
TE-AC-109	9	20	40
TE-AC-109-1	10	19	58
TE-AC-109-2	10	20	50
TE-AC-110-1	10	25	30
TE-AC-110-2	10	30	28
TE-AC-112	10	19	100
TE-AC-113	10.2	22	36
TE-AC-083-3	15	30	30
TE-AC-114	15	47	13
TE-AC-114-1	15	23	60
TE-AC-115	15	30	30
TE-AC-115-1	15	47	13
TE-AC-115-2	15	30	30

## Alumina Cylindrical Crucible Size:

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-115-3	15	30	30
TE-AC-116	20	35	35
TE-AC-117	20	25	60
TE-AC-118	20	25	60
TE-AC-118-1	20	35	30
TE-AC-119	20	28	58
TE-AC-119-2	25	35	35
TE-AC-121	25	28	58
TE-AC-122	30	30	60
TE-AC-123	30	36	45
TE-AC-123-1	30	40	32
TE-AC-124	30	40	35
TE-AC-124-1	30	30	60
TE-AC-124-3	34	26	82
TE-AC-124-4	35	40	40
TE-AC-125	35	40	40

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-111	36	40	40
TE-AC-124-7	40	40	50
TE-AC-126	40	35	58
TE-AC-126-1	40	50	30
TE-AC-110	45	40	50
TE-AC-127	45	42	45
TE-AC-127-2	45	35	65
TE-AC-127-3	45	40	50
TE-AC-128	45	35	70
TE-AC-131-2	45	50	100
TE-AC-128-1	50	40	60
TE-AC-129	50	30	100
TE-AC-107	55	40	60
TE-AC-130	60	40	70
TE-AC-131	60	50	50
TE-AC-132	65	35	100

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-134	75	45	65
TE-AC-136	80	75	27
TE-AC-134-1	80	75	27
TE-AC-135	80	37	69
TE-AC-137	80	60	40
TE-AC-135-4	85	50	60
TE-AC-138	85	50	60
TE-AC-135-5	90	35	120
TE-AC-131-3	110	50	120
TE-AC-138-1	110	60	60
TE-AC-138-2	110	40	120
TE-AC-119-4	115	40	120
TE-AC-119-5	115	47	85
TE-AC-141	120	90	35
TE-AC-139	120	50	80
TE-AC-140	120	60	60

## Alumina Cylindrical Crucible Size:

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-141	120	90	35
TE-AC-142	125	41	137
TE-AC-124-10	130	60	60
TE-AC-131-6	130	60	60
TE-AC-143	130	60	60
TE-AC-143-1	130	65	45
TE-AC-143-2	130	75	30
TE-AC-144	130	45	110
TE-AC-145	130	60	60
TE-AC-145-1	130	45	110
TE-AC-084	150	37	175
TE-AC-146	150	50	100
TE-AC-146-1	160	90	35
TE-AC-124-5	170	90	35
TE-AC-146-2	170	70	70
TE-AC-146-3	170	48	120

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-147	170	65	65
TE-AC-160-8	175	90	35
TE-AC-148	180	59	87
TE-AC-124-11	195	60	90
TE-AC-151	200	100	35
TE-AC-152	200	100	40
TE-AC-149	200	55	90
TE-AC-149-1	200	100	40
TE-AC-149-2	200	45	150
TE-AC-150	200	60	100
TE-AC-151	200	100	35
TE-AC-152	200	100	40
TE-AC-154-2	200	70	70
TE-AC-124-12	215	60	100
TE-AC-132-1	215	70	70
TE-AC-153	215	70	70

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-124-6	220	95	40
TE-AC-152-1	220	50	150
TE-AC-152-2	220	60	120
TE-AC-152-3	220	55	120
TE-AC-131-4	225	55	120
TE-AC-160-9	230	95	40
TE-AC-119-1	250	60	115
TE-AC-154	250	60	120
TE-AC-154-1	250	90	60
TE-AC-124-13	260	60	120
TE-AC-165-1	260	100	40
TE-AC-165-4	260	105	40
TE-AC-174-6	260	60	120
TE-AC-124-14	270	70	90
TE-AC-119-3	300	90	60
TE-AC-131-5	300	55	170

## Alumina Cylindrical Crucible Size:

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-155	300	95	60
TE-AC-156	300	70	100
TE-AC-156-1	300	80	80
TE-AC-157	300	80	80
TE-AC-154-3	320	60	170
TE-AC-124-16	330	75	95
TE-AC-135-1	330	80	80
TE-AC-158	330	80	80
TE-AC-120	350	80	80
TE-AC-159	350	80	80
TE-AC-159-1	350	90	30
TE-AC-159-2	350	70	120
TE-AC-154-4	370	65	150
TE-AC-160-5	380	80	100
TE-AC-119-6	400	85	85
TE-AC-160	400	70	120

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-160-1	400	66	150
TE-AC-160-4	400	85	85
TE-AC-161	400	85	85
TE-AC-160-2	450	90	90
TE-AC-160-3	450	90	90
TE-AC-135-2	480	90	90
TE-AC-162	480	90	90
TE-AC-124-8	500	95	90
TE-AC-160-10	500	95	90
TE-AC-164-1	500	80	130
TE-AC-174-10	500	80	120
TE-AC-165-10	510	95	95
TE-AC-124-9	550	95	95
TE-AC-160-11	550	95	95
TE-AC-163	600	100	100
TE-AC-164	600	100	100

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-124-15	630	70	210
TE-AC-165-11	630	100	100
TE-AC-165	650	100	100
TE-AC-165-2	650	100	100
TE-AC-165-12	750	88	150
TE-AC-165-5	800	110	100
TE-AC-166	800	115	110
TE-AC-167	800	80	200
TE-AC-135-3	880	100	100
TE-AC-168	880	110	110
TE-AC-160-6	950	80	250
TE-AC-123-2	1000	80	250
TE-AC-168-1	1000	115	155
TE-AC-169-5	1080	120	120
TE-AC-165-7	1100	120	120
TE-AC-169-1	1100	120	120

### Alumina Cylindrical Crucible Size:

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-160-7	1140	80	300
TE-AC-169	1140	120	120
TE-AC-124-2	1200	80	300
TE-AC-169-6	1200	110	150
TE-AC-169-7	1200	135	30
TE-AC-169-8	1200	135	110
TE-AC-165-3	1300	100	200
TE-AC-170	1300	115	155
TE-AC-178	1300	100	200
TE-AC-170-1	1400	130	130
TE-AC-169-2	1450	130	130
TE-AC-170-2	1450	130	130
TE-AC-165-6	1500	110	195
TE-AC-171	1500	125	150
TE-AC-165-8	1800	120	200
TE-AC-171-1	1800	140	140

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-169-3	1850	140	140
TE-AC-172	1850	140	140
TE-AC-173	2000	135	160
TE-AC-174	2000	135	200
TE-AC-174-1	2000	150	80
TE-AC-174-2	2000	170	165
TE-AC-180	2200	100	210
TE-AC-169-4	2250	150	150
TE-AC-173-1	2250	160	160
TE-AC-174-11	2250	150	150
TE-AC-181	2600	140	200
TE-AC-174-3	2700	150	180
TE-AC-165-9	3300	130	300
TE-AC-175	3350	170	170
TE-AC-176	4000	180	180
TE-AC-174-8	5400	185	240

Item NO.	Volume(ml)	Outer diameter(mm)	Height(mm)
TE-AC-174-9	5500	200	200
TE-AC-177	5500	200	200
TE-AC-174-5	5700	120	600
TE-AC-174-7	6000	176	280
TE-AC-173-2	7400	220	220
TE-AC-178-1	7400	220	220
TE-AC-179	9700	240	240
TE-AC-174-4	23000	315	315

# Alumina Cylindrical Crucible Applications

## Laboratory calcination & ashing

Straight cylindrical walls support even heating and repeatable residue analysis in muffle and box furnaces.

## Sample melting & alloy testing

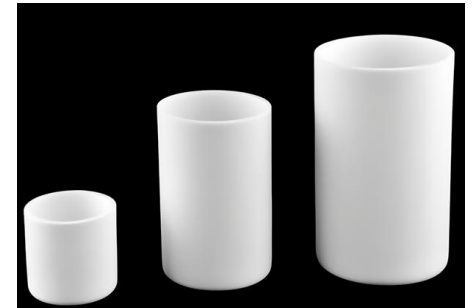
High-purity alumina helps reduce contamination during small-batch melting, holding and composition checks.

## Powder sintering & firing trials

Stable cylindrical geometry supports research-scale sintering, calcination and furnace exposure testing.

## Typical application scenarios

- Loss-on-ignition, residue analysis and ash-content testing in laboratory furnaces.
- Calcination of powders, salts and research batches for ceramic, catalyst or material development.
- Small metal sample melting or holding where clean ceramic contact is preferred.



# Customize Cylindrical Alumina Crucible

Support for non-standard dimensions, lids, wall thickness and post-machining features

## Dimension

Special length, width, height and capacity

## Wall / corner design

Thickness optimization and corner radius control

## Accessories

Matching cover or lid

## Post machining

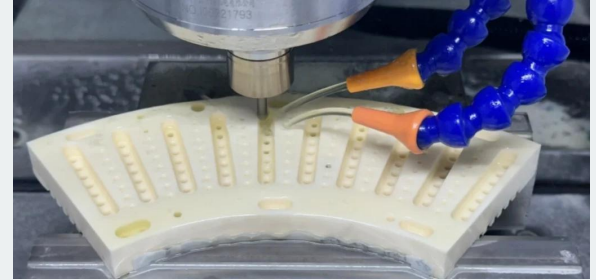
Drilling, grooving, grinding, polishing

## Material selection

Adjust purity level for process demand

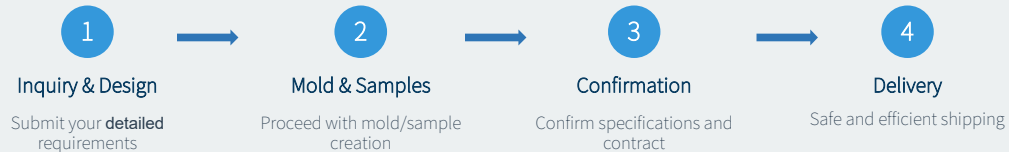
## Packaging

Export-ready packing for fragile ceramics



Customization is most valuable when standard stock sizes do not fit fixtures, when atmosphere control requires a cover, or when your project needs better repeatability in pilot runs.

## Customization Process



## Fast Response Commitment

From drawing confirmation to functional prototype delivery

# 15 Days

# Cylindrical Alumina Crucible Usage Guide

## Before use

Inspect for chips or hairline cracks. Pre-dry at 110–150 °C for 1–2 hours if stored in humid conditions.

## Heating

Use conservative ramp rates. Avoid sudden temperature transfer, cold tools and unheated supports.

## Handling

Use proper tongs or support rings. Support the base for large crucibles and avoid rim point loads.

## Cleaning

Cool gradually. Remove residues with non-metallic tools and validated cleaning media only.

## Common risks & fixes

- Thermal shock cracks → reduce ramp and quench severity; pre-heat supports.
- Lid sticking → use vented lids or slight clearance; lift vertically.
- Residue carryover → standardize cleaning and separate by chemistry.
- Warping under high load → avoid overloading and select thicker walls.
- Surface erosion → review process chemistry and consider higher purity.

## Technical Support

✉ Technical Inquiry: [info@adcerax.com](mailto:info@adcerax.com)

📞 Service Hotline: +86-0731-84428843

💬 Whatsapp: +86-19311583352

# Cylindrical Alumina Crucible FAQ

✓ **Q: Are your cylindrical alumina crucibles suitable for melting metals?**

A: Yes, cylindrical alumina crucibles are excellent for melting many types of metals and alloys due to their high-temperature stability and chemical inertness. However, reactivity with specific aggressive molten metals should always be considered.

✓ **Q: What is the thermal shock resistance of your ceramic cylindrical crucibles?**

A: Our ceramic cylindrical crucibles made from high-density alumina exhibit good thermal shock resistance. However, rapid heating and cooling rates should still be controlled, especially for larger crucibles, to maximize lifespan.

✓ **Q: What information do you need to provide a quote for custom cylindrical alumina crucibles?**

A: For a custom cylindrical alumina crucible quote, please provide the desired Outer Diameter (OD), Inner Diameter (ID) or Wall Thickness (WT), Height (H), Al<sub>2</sub>O<sub>3</sub> purity, quantity, and any specific tolerances.

✓ **Q: What is the recommended max temperature?**

A: Typical applications run up to ~1,650–1,750 °C depending on cycle and atmosphere; confirm against your process.

✓ **Q: How does a cylindrical alumina crucible compare to quartz or graphite?**

A: Alumina offers higher chemical inertness vs. many slags/salts and avoids carbon contamination; quartz is lower-temp; graphite suits specific chemistries but may react.



# Service Support

ADCERAX is committed to providing comprehensive service support to customers, from product selection to after-sales maintenance.

## Pre-Sales Support

- ✓ Expert technical team provides custom design advice
- ✓ Sample testing and performance verification
- ✓ Technical parameter consultation

## Sales Support

- ✓ Order tracking and production progress updates
- ✓ Professional packaging and logistics solutions

## After-Sales Service

- ✓ Product quality assurance and problem resolution
- ✓ Technical consultation and application support
- ✓ 24-hour response commitment

## Quality Assurance

- ✓ Strict quality control system
- ✓ Product performance testing and verification



## Contact Our Specialist Team

✉ Customer Service: [info@adcerax.com](mailto:info@adcerax.com)

📞 Service Hotline: +86-0731-84428843

🌐 Online Support: [adcerax.com/support](https://adcerax.com/support)

# Contact Us

ADCERAX looks forward to cooperating with you and providing porous alumina crucible solutions. Our team is dedicated to serving you with any questions or needs you may have.

## Contact Information

- +86-0731-84428843
- [info@adcerax.com](mailto:info@adcerax.com)
- +86-19311583352
- [adcerax.com](http://adcerax.com)
- Building 108, Industrial Park, Liling city Hunan Province, China

## Inquiry Process

1

### Submit Inquiry

Submit your requirements via email, phone, or website form.

2

### Technical Evaluation

Our expert team evaluates your needs and provides solutions.

3

### Quotation Confirmation

Provide detailed quotation and delivery time based on your requirements.

4

### Order Confirmation

Confirm order and arrange production and delivery.



## Get in touch with us

We promise to respond to your inquiry within 24 hours.

Ready to enhance your product performance with porous alumina crucible? Contact our team for personalized consultation, technical support, and competitive quotations.

[Get A Quote](#)