



# TGA Alumina Crucible

High Quality TGA Alumina Crucible Wholesale for Lab Analysis

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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 TGA Alumina Crucible?

TGA Alumina Crucible is a small high-purity alumina ceramic crucible used in thermogravimetric analysis (TGA) to hold powder, granules, or small solid samples during controlled heating.

## What It Is Used For:

- ◆ Thermal stability testing
- ◆ Oxidation or decomposition studies
- ◆ Moisture and volatile content analysis
- ◆ Ash content testing
- ◆ Material behavior evaluation under air, inert gas, or controlled atmospheres

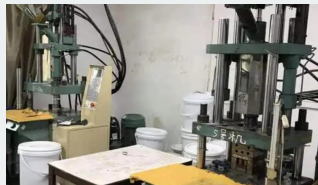


# TGA Alumina Crucible Process



## 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.

# TGA 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>

# TGA Alumina Crucible

Reliable Alumina Crucibles for Thermogravimetric Analysis

## SPECIFICATIONS

Al <sub>2</sub> O <sub>3</sub> Purity	≥99% Al <sub>2</sub> O <sub>3</sub>
Max Temperature	Up to 1730°C
Typical Capacity	10 cc – 37 cc
Surface Options	Glazed Inside / Unglazed
Compatibility	Available for common LECO and ELTRA systems

## APPLICATIONS

Thermogravimetric Analysis · Residue Testing · Polymer and Filler Analysis · Inorganic Powder Testing · High-Temperature Weight-Change Runs



## KEY FEATURES

- 1 Thin-wall options help improve thermal response and reduce baseline drift
- 2 Dense alumina helps lower contamination risk during residue analysis
- 3 Rim profiles and volumes fit common pan holders for easier handling
- 4 Optional lids help control local gas exchange for volatile samples

## TGA Alumina Crucible Specifications:

Item NO.	Item name	Capacity	MOQ	Part#	Compatible with
AT-ALG-001-1	Alumina Crucible (Glazed Inside)	14cc; Purity99.5%	20PCS		AR9047 For LECO 701
AT-ALG-001	Alumina Crucible (Glazed Inside)	14cc; Purity99.5%	20PCS		AR9047 For LECO 701
AT-ALG-002	Alumina Crucible (Unglazed)	14cc; Purity99.5%	20PCS		AR9047 For LECO 701
AT-018	LECO Large Al <sub>2</sub> O <sub>3</sub> Crucible (Glazed Inside)	20CC; Purity99.5%	20PCS	621-331 /529-047	AR9047 For LECO 701
AT-018-1	ELTRA Al <sub>2</sub> O <sub>3</sub> Crucible	18CC; Purity99.5%	20PCS	Eltra 26063	
AT-018-4	LECO Large Al <sub>2</sub> O <sub>3</sub> Crucible (Yellow, Glazed Inside)	20CC; Purity99.5%	20SET	621-331 /529-047	AR9047 For LECO 701
AT-018-2	LECO Large Al <sub>2</sub> O <sub>3</sub> Crucible (Unglazed)	20CC; Purity99.5%	20PCS	621-331 /529-047	AR9047 For LECO 701
AT-MY-17	LECO Small Al <sub>2</sub> O <sub>3</sub> Crucible (Glazed Inside)	16CC; Purity99.5%	20PCS	529-042	529-402 AR9042 For LECO TGA 500/501/601/701; MAC 400/500
AT-MY-17-5	LECO Small Al <sub>2</sub> O <sub>3</sub> Crucible (Unglazed)	16CC; Purity99.5%	20PCS	529-042	529-402 AR9042 For LECO TGA 500/501/601/701; MAC 400/500
AT-020	LECO Large Al <sub>2</sub> O <sub>3</sub> Crucible (Fully Glazed)	37CC; Purity99.5%	20PCS		customized product
AT-021	LECO Small Al <sub>2</sub> O <sub>3</sub> Crucible (Unglazed)	10CC; Purity99.5%	20PCS		customized product
AT-019	LECO Large Al <sub>2</sub> O <sub>3</sub> Crucible Lid	OD36.5*H6.5*T1.0mm. Purity99.5%	20PCS	529-048	Alpha AR9043 For TGA 20cc
AT-MY-18	LECO Al <sub>2</sub> O <sub>3</sub> Crucible Lid	OD34.5*H6.5*T1.0mm Purity99.5%	20PCS	529-043	Alpha AR9043 For TGA 16cc

# Technical Advantages

Highlight the performance limits, test stability, and compatibility points.

## Why temperature and material purity matter?

- High-purity alumina supports high-temperature TGA work and helps maintain shape stability during heating cycles.
- The crucible wall can be optimized for faster thermal response, which is useful for repeatable analytical testing.
- Dense alumina surfaces help reduce contamination risk compared with lower-stability container materials.

### Selection note

If the sample is volatile or the method requires partial coverage, confirm lid type and fit at the same time as crucible size.

Max. working temp.

**1730C**

Volume resistivity

**$>1 \times 10^{14}$**

Compressive strength

**2552-2600 MPa**

Flexural strength

**312-379 MPa**

## Selection guidance

- ✓ Find the correct Part No. for your instrument or current crucible size.
- ✓ Verify dimensions and capacity for proper tray fit and sample loading.
- ✓ Confirm temperature conditions including peak temperature and hold time.
- ✓ Choose the right structure based on sample type and testing purpose.



# TGA Alumina Crucible Applications

## Application 1: Polymer Thermal Decomposition

Typical for polymer, filler, carbon black, and additive mass-loss testing.

Customer value:

- Thin-wall cups support faster thermal response.
- Dense alumina helps reduce background residue influence.
- Lid options help control the local atmosphere for volatile samples.

Case expression:

In routine QC work, using a covered alumina TGA crucible helped reduce repeat testing caused by volatile peaks, with more stable mass-loss points around the 600C range.

## Application 2: Inorganic Precursors & Calcination Studies

Suitable for oxide or carbide precursor work, powder loss-on-ignition, residue analysis, and other high-temperature tests.

Customer value:

- Higher temperature allowance supports longer programs.
- Consistent rim and dimensions help automated batch testing.
- Stable chemical resistance supports oxide, inert, and common lab conditions.

Case expression:

In industrial precursor screening, standard high-volume sizes helped support longer hold-temperature programs and reduced test interruption caused by cup deformation.

## Application 3: Medical Biomaterials & Filler Analysis

Suitable for bone cement, bio-composites, pharmaceutical excipients, implant-grade powders, and similar residue or mass-change analysis.

Customer value:

- Supports accurate residue ratio tracking.
- Helps establish more stable baselines for moisture-containing or sensitive samples.
- Dense surfaces reduce cross-contamination risk.

Case expression:

In medical material testing, lidded alumina crucibles reduced repeat testing frequency during filler verification and helped improve batch-release efficiency.

# Customize TGA 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

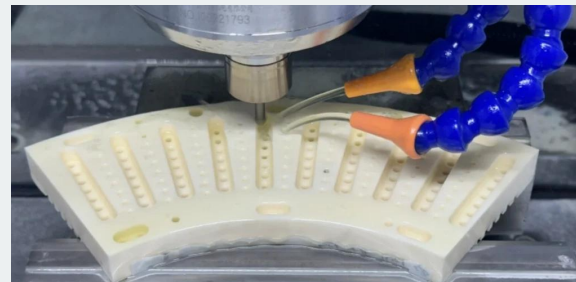
Drilling, grooving, grinding, polishing

## Material selection

Adjust purity level for process demand

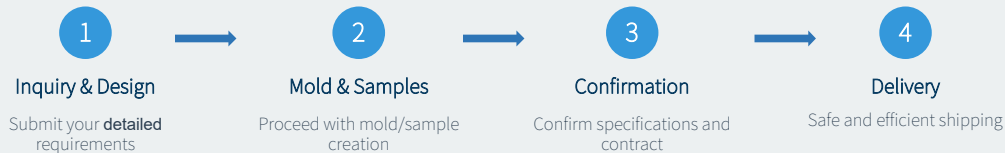
## Packaging

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**

# TGA Alumina Crucible Usage Guide

## Before use

Inspect the crucible for chips, hairline cracks, or contamination. Clean if necessary, and pre-dry at 110–150°C for 1–2 hours if the crucible has been stored in a humid environment.

## Sample loading

Use a suitable sample mass for your TGA method and avoid overfilling. Spread the sample evenly to help improve heating consistency and weighing stability.

## Heating

Follow the instrument's recommended temperature program. Avoid sudden thermal shock, especially when moving the crucible between room temperature and a hot furnace zone.

## Handling

Use clean tweezers or dedicated holders to avoid contamination. Handle carefully to prevent edge chipping, and place the crucible securely on the sample carrier.

## Cleaning

Allow the crucible to cool naturally before cleaning. Remove residues with non-metallic tools or suitable cleaning media, and avoid methods that may damage the ceramic surface.

## Common risks & fixes

- Cracking from thermal shock → use moderate heating rates and avoid sudden temperature changes.
- Unstable test results → check sample loading, balance condition, and crucible positioning.
- Cross contamination → clean thoroughly between tests and separate crucibles by sample chemistry.
- Residue buildup → use proper cleaning methods and replace heavily contaminated crucibles when needed.
- Poor repeatability → keep sample mass, placement, and test conditions consistent.

## Technical Support

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

📞 Service Hotline: +86-0731-84428843

💬 Whatsapp: +86-19311583352

## TGA Alumina Crucible FAQ

✓ **Q: How to clean alumina crucible TGA?**

A: soak in appropriate solvent if compatible; follow with deionized water rinse and low-temperature bake-out.

✓ **Q: How to remove iron from alumina crucible TGA?**

A: If minor Fe transfer occurs (from tools), use non-abrasive chelating soak per lab SOP; avoid aggressive grinding that changes mass.

✓ **Q: Can I order a customized TGA alumina crucible for special depth or ID?**

A: Yes. We support customized TGA alumina crucible requests with drawing-based tolerances; typical lead time communicated after DFM review.

✓ **Q: Are your cups compatible with TA-type platforms?**

A: Yes, we supply alumina TGA crucibles compatible with the TA instrument well. You can send holder dimensions to confirm fit.

✓ **Q: What if I need a pierced lid for volatiles?**

A: ADCERAX is a china TGA alumina crucible manufacturer and factory with support for customize according to your drawings and sampling.

✓ **Q: Can you supply a fair price TGA alumina crucible for laboratory use?**

A: Yes, ADCERAX supplies TGA alumina crucibles at competitive prices in 70  $\mu$ L, 85  $\mu$ L, 900  $\mu$ L, and other sizes, with matching lids available. Pricing depends on order volume and packaging.



# 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](http://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

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### 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 alumina crucible? Contact our team for personalized consultation, technical support, and competitive quotations.

[Get A Quote](#)