

Your Trusted Aluminum Partner

ALULEADER METAL

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Email:aluprofile@aluleader.com
Website:www.aluleader.com

What We Do

Aluleader specializes in offering a comprehensive range of customized aluminum profiles, encompassing both Original Equipment Manufacturer (OEM) and Original Design Manufacturer (ODM) services. Whether you require the customization of samples or the creation of new designs from scratch, we are fully equipped to handle your needs. Our aluminum profile customization services are diverse and cover a broad spectrum of applications. Primarily, we categorize our offerings into the following **6** distinct profile types.

- **Industrial Aluminium Profiles**
- **Architectural Aluminium Profiles**
- **Furniture Aluminium Profiles**
- **Standard Aluminium Profiles**
- **Machined & CNC Aluminium Profiles**
- **Other Aluminium Profiles**

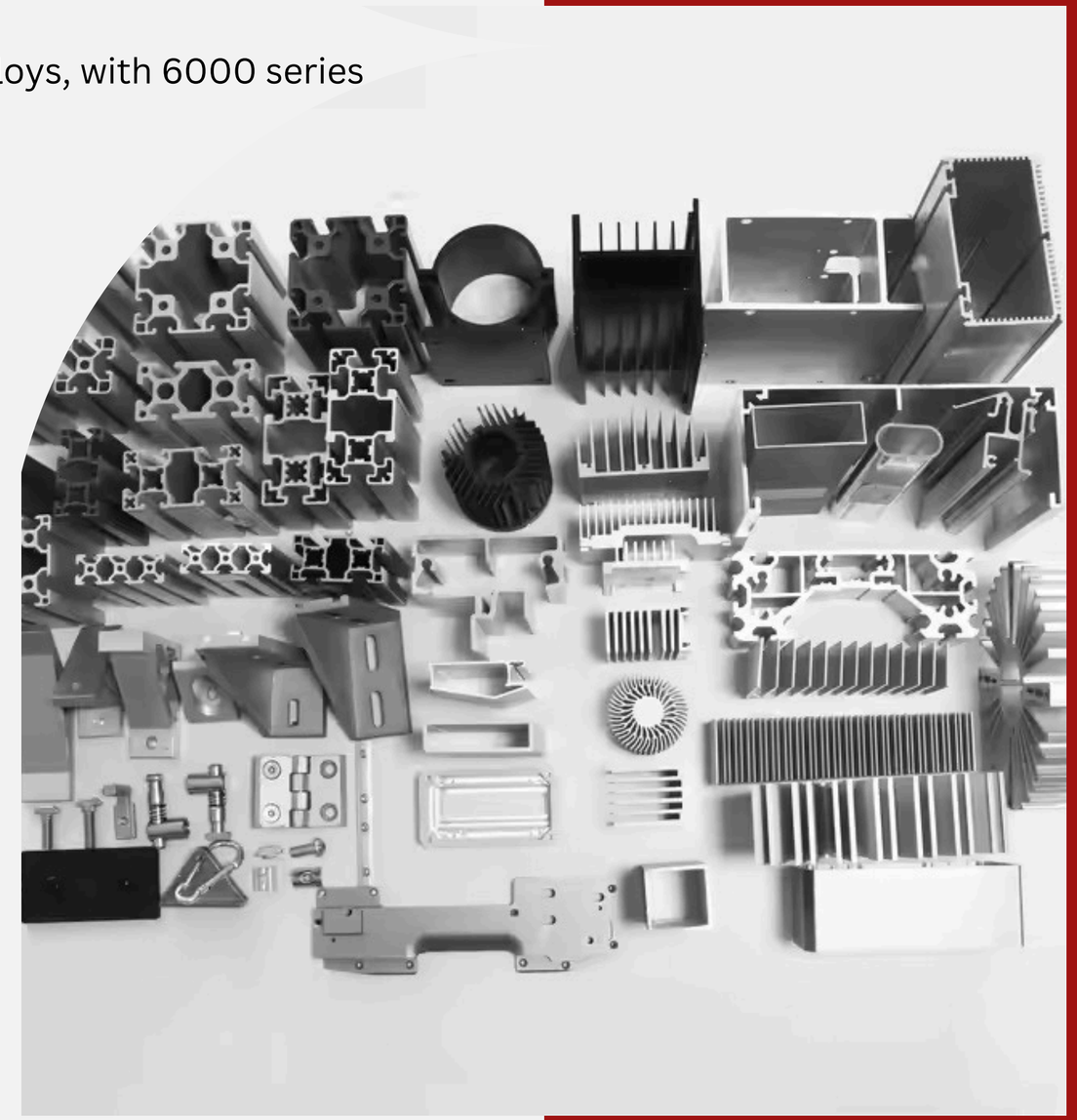
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Industrial Aluminium Profiles

Primary Aluminum Alloy Series for Industrial Profiles:

Industrial aluminum profiles primarily use 6000 series and 7000 series alloys, with 6000 series (especially 6061, 6063) being the most common.

Series	Typical Grades	Key Properties	Industrial Applications
6000	6061-T6	High strength, corrosion-resistant, excellent weldability	Automation equipment frames, robotic structural parts
	6063-T5	Superior extrudability, ideal for surface finishing	Safety guards, assembly line workstations
7000	7075-T6	Ultra-high strength (close to steel)	Aerospace components, heavy-duty supports
5000	5052-H32	Excellent seawater corrosion resistance, good bendability	Marine equipment, chemical containers



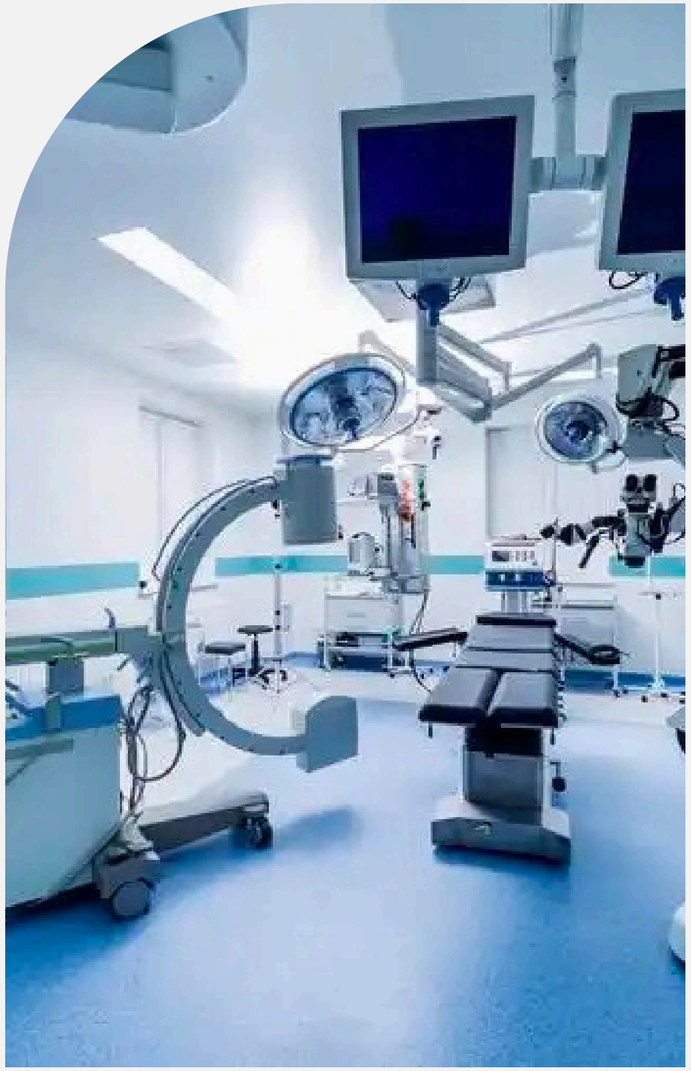
- **Customization Based on Your Drawings:**
  Material, Design, Thickness, Finish, Packaging, Logo.
- **Tolerance:** ±1%

Application

- **Machine guarding & safety enclosures;**
- **Cleanroom & medical equipment;**
- **Automation systems**(conveyors, robotic arms)**;**
- **Workstations & assembly lines**(modular framing)**;**
- **Renewable energy structures** (solar panel frames)**.**









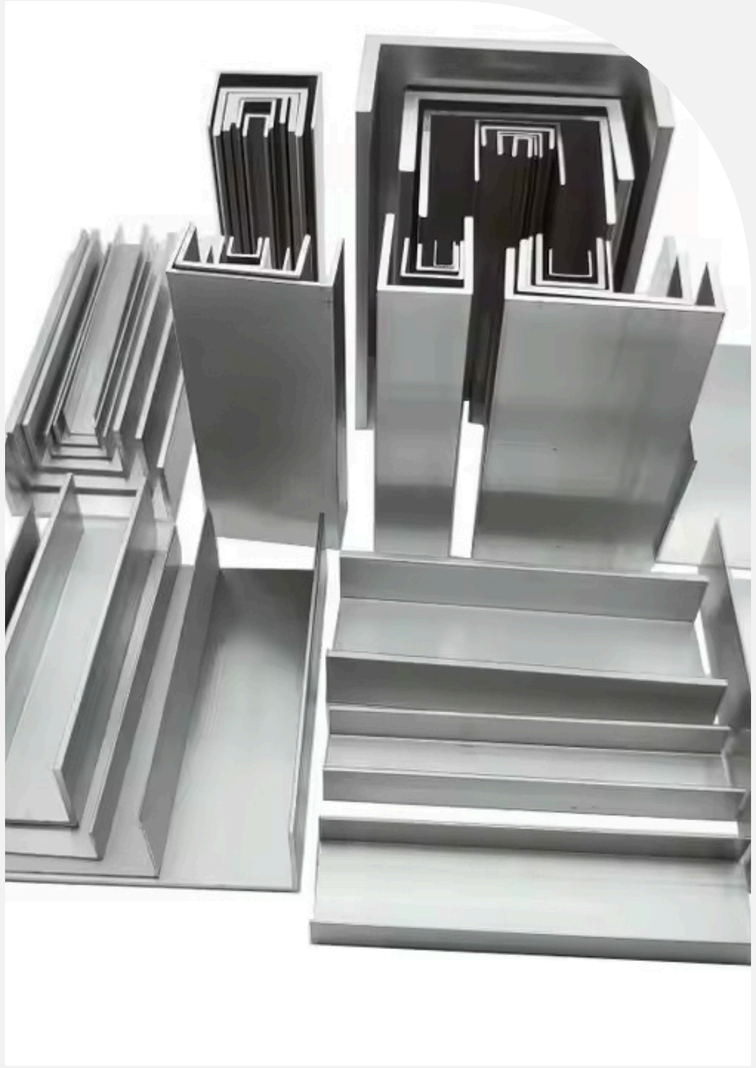
Feature: Lightweight, Corrosion-resistant, and Customizable.

More Application:

- **Special-shaped profiles** (unique cross-sections/aerodynamic designs)
- **High thermal conductivity profiles** (for LED/electronic equipment)
- **Heavy-duty load-bearing profiles** (reinforced ribs/thickened walls)
- **Decorative profiles** (wood grain/textured finishes)
- **Micro-precision profiles** (tolerance within ±0.05mm)







Suggestion

Material Selection Guidelines

1.General Structures → 6061-T6

- Reason: Best balance of strength and cost (e.g., AGV carts, conveyor frames).

2.High Surface Finish Required → 6063-T5

- Reason:Superior anodizing results (e.g., cleanroom equipment, electronics).

3.Extreme Load-Bearing → 7075-T6

- Reason: Requires anti-corrosion treatment (e.g., hard anodizing) for military/racing parts.

4.Corrosion Priority → 5052

- Example: Coastal factory equipment, medical devices.

Technical Notes

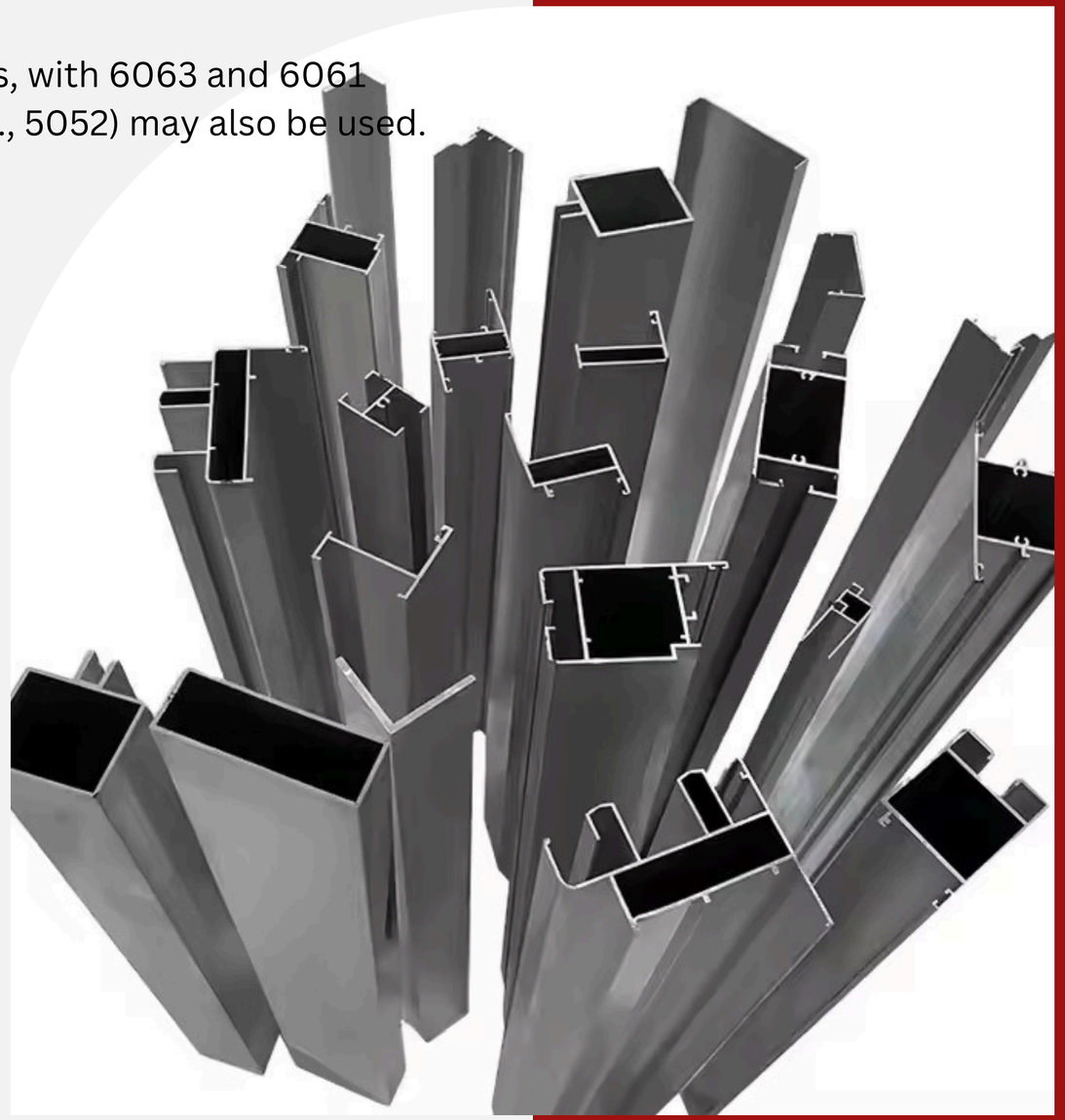
- **T5 vs T6 Heat Treatment:**
  - T5: Air cooling, ideal for thin-walled profiles (e.g., 6063).
  - T6: Water quenching + artificial aging for higher strength (e.g., 6061).
- **European Standards:**
  - EN AW-6082 (similar to 6061 but with higher silicon content for better weldability).

Arctitectural Aluminium Profiles

Primary Aluminum Alloy Series for Architectural Profiles

Architectural aluminum profiles primarily use 6000 series aluminum alloys, with 6063 and 6061 being the most common grades. For specific applications, 5000 series (e.g., 5052) may also be used.

Series	Typical Grades	Key Properties	Industrial Applications
6000	6061-T6	Higher strength while maintaining good corrosion resistance	Large curtain wall mullions, load-bearing structures
	6063-T5	Excellent extrudability, superior surface finish	Windows, doors, curtain walls, decorative trims
5000	5052-H32	Outstanding weather resistance, seawater corrosion resistance	Coastal buildings, canopies, outdoor structures



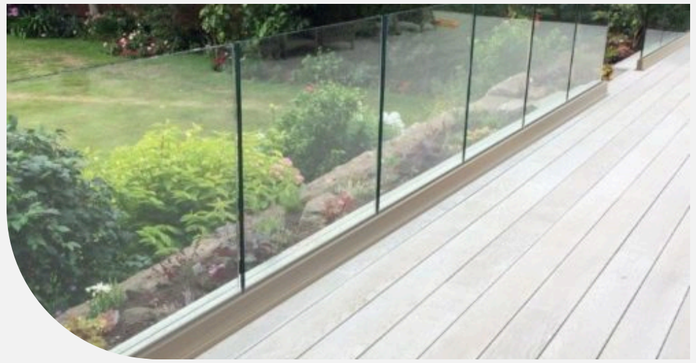
- **Customization Based on Your Drawings:**
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- **Tolerance**: ±1%

Application

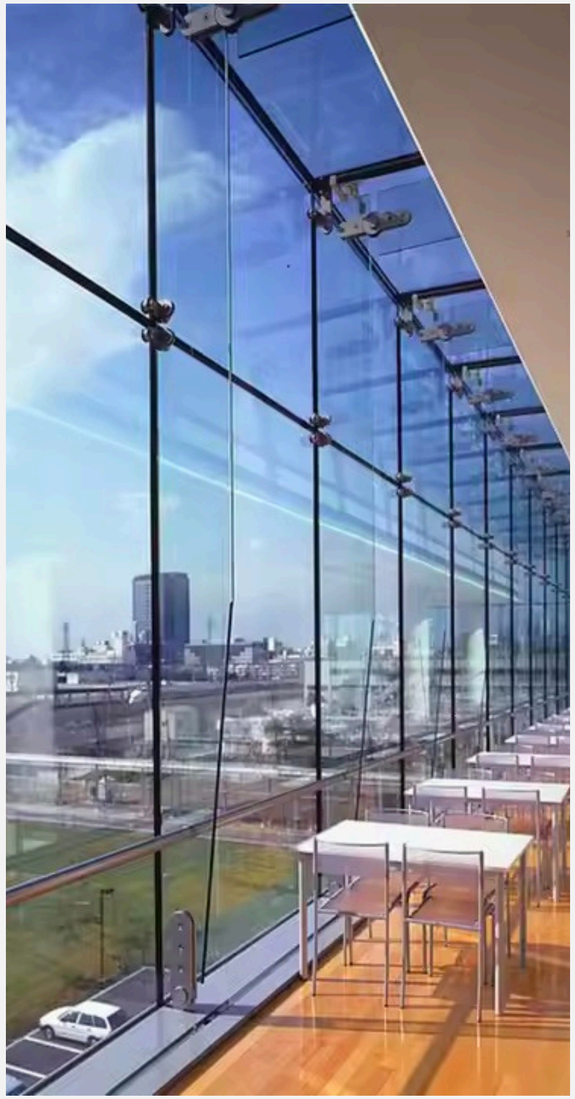
- **Railings & Handrails, Fences**







- **Curtain Wall**



- **Doors & Windows**



Feature: Lightweight & High strength,Weather & Corrosion resistance,Aesthetic diversity,and Fire safety

Suggestion

Material Selection Guidelines

1.Standard Windows/Doors & Curtain Walls → 6063-T5

- Reason: Easily extruded into complex cross-sections, suitable for powder coating/wood grain finish, optimal cost-performance ratio.
- Example: Residential sliding window profiles (wall thickness ≥1.4mm).

2.Long-Span Curtain Wall Mullions → 6061-T6

- Reason: Higher strength reduces support structures, e.g., for airports/high-rise buildings.

3.High-Corrosion Environments → 5052-H32

- Reason: Excellent salt spray resistance, ideal for seaside hotels/bridge cladding.

Surface Treatment Recommendations

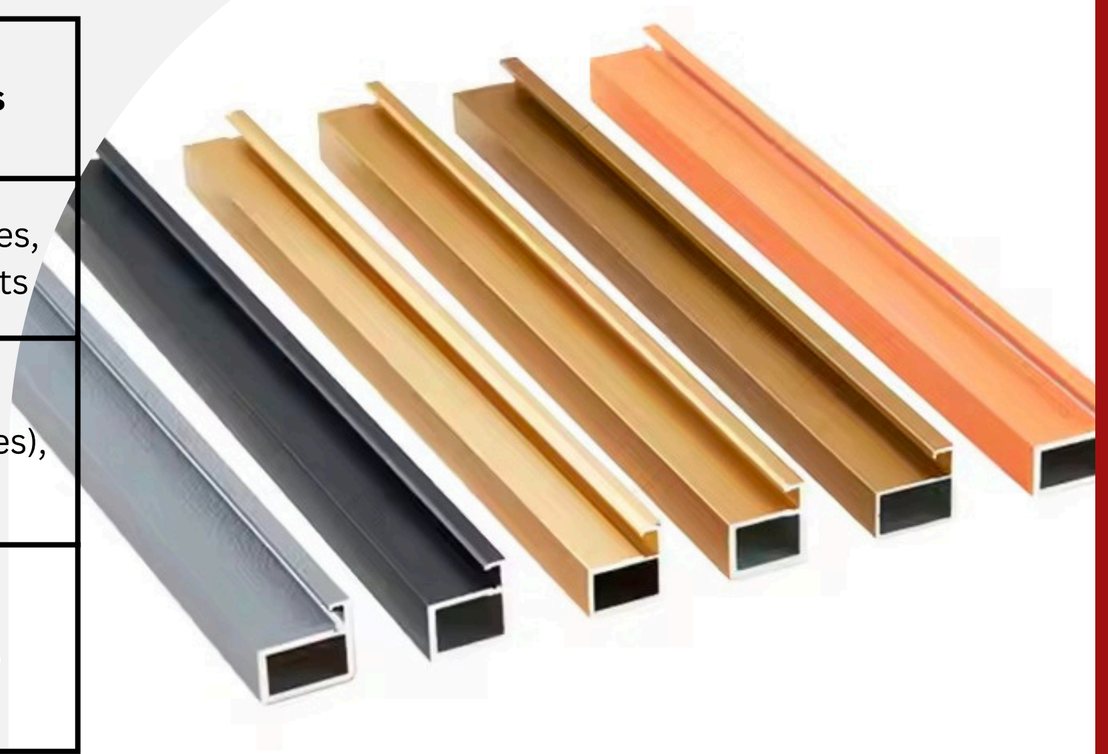
- **Anodizing:**
  - Film thickness: 15-25μm (best for 6063), suitable for high-end interior decoration.
- **Powder Coating:**
  - Common RAL colors, compatible with 6063/6061, 10-15 years weather resistance.
- **PVDF Coating:**
  - Ultra-weatherable (25+ years), recommended for landmark buildings (6061 substrate preferred).

Furniture Aluminium Profiles

Aluminum Alloy Series for Household Profiles

Household aluminum profiles primarily use 6000 series alloys (mainly 6063 and 6061), with some decorative components potentially utilizing 5000 series (e.g., 5052).

Series	Typical Grades	Key Properties	Industrial Applications
6000	6061-T6	Higher strength, better load-bearing capacity	Custom cabinet structures, heavy-duty shelf brackets
	6063-T5	Easy extrusion, versatile surface finishes, cost-effective	Furniture frames (tables/chairs/bookshelves), lighting
5000	5052-H32	Excellent flexibility, fingerprint-resistant, easy to bend	Curved trim, bathroom accessories, appliance panels



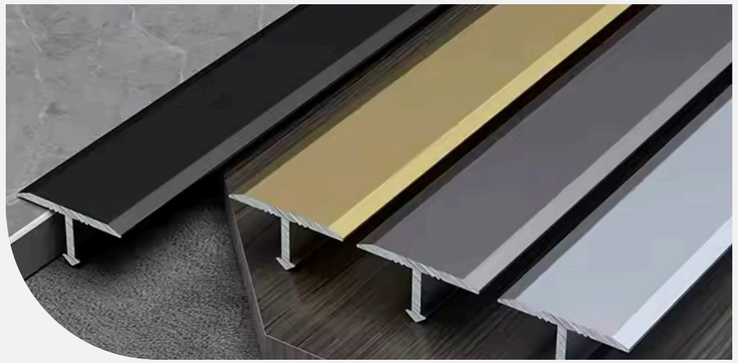
- **Customization Based on Your Drawings:**
  Material, Design, Thickness, Finish, Packaging, Logo.
- **Tolerance**： ±1%

Application

- **Decorative trims& LED lighting fixtures**







- **Furniture frames**



- **Kitchen & Bathroom Profiles**



Feature: Lightweight & Durable,Corrosion resistance,Aesthetic Versatility,Easy Fabrication and Eco-Friendly

Suggestion

Material Selection Guidelines

1.Standard Furniture Frames → 6063-T5

- Reason: Easily extruded into complex cross-sections, compatible with multiple colors (e.g., matte black/champagne gold).
- Example: Minimalist desk profiles (wall thickness: 1.2-2.0mm).

2.Load-Bearing Components → 6061-T6

- Reason: Higher strength ensures safety, e.g., hanging cabinet supports.

3.Curved/Decorative Parts → 5052-H32

- Reason: Cold-bendable without deformation, ideal for curved designs (mirror frames, decorative trims).

Surface Treatment Recommendations

- **Anodizing:**
  - Matte/glossy finishes, wear-resistant (recommended for 6063, film thickness: 10-15μm).
- **Powder Coating:**
  - Wide color selection (RAL chart), hides extrusion marks.
- **Wood Grain Transfer:**
  - Wood-like texture (best with 6063 substrate), for integrated home designs.

Standard Aluminium Profiles

Primary Alloy Series for T-Slot Structural Framing

T-slot aluminum profiles (also called modular framing systems) primarily use 6000 series alloys, with specific grades optimized for extrusion and machining:

Series	Typical Grades	Key Properties	Industrial Applications
6000	6061-T6	Easy extrusion, versatile surface finishes, cost-effective	Robotics, automated equipment frames
	6063-T5	Best cost-performance, smooth surfaces	Furniture frames (tables/chairs/bookshelves)
	6005-T5	EU standard alternative to 6063	Specialized modular systems



- **Customization Based on Your Drawings:**
  Material, Design, Thickness, Finish, Packaging, Logo.
- **Tolerance**：±1%

Application

- **Industrial framing**
  (machine guards, workstations)
- **Automation systems**
  (conveyors, robotic arms)
- **Modular furniture**
  (assembly tables, ergonomic stands)







Feature: Modular Design,Corrosion resistance,High Strength & Lightweight,Easy Machining & Customization,Reusable & Eco-Friendly.

Suggestion

Selection Criteria

1.For Standard Framing Systems → 6063-T5

- Reason: Lowest cost per meter;
  Superior surface finish for visible structures;
  Meets DIN 9001/ISO 9002 for modular framing.

2.For High-Load Applications → 6061-T6

- When to use:Dynamic load-bearing structures (e.g., moving gantries);
  Where machining tolerance <0.1mm is required.

3.European Market Preference → 6005-T5

- Key advantage:Complies with EN 573-3 standards;
  Better weldability than 6063.

Special Engineering Considerations

- **Slot Design Compatibility:**
  - 6063 profiles maintain ±0.2mm slot width tolerance after extrusion.
- **Fastener Performance:**
  - 6061-T6 allows higher torque values (up to 12Nm for M8 bolts vs. 8Nm in 6063).
- **Thermal Expansion:**
  - All 6000 series alloys share similar CTE (23.6×10^{-6}/°C) for multi-material systems.

Machined & CNC Aluminium Profiles

Material Selection Guide for Machined & CNC Aluminum Profiles

Machined aluminum profiles primarily use 6000 series and 2000 series aluminum alloys, with 7000 series employed for specific high-precision applications:

Series	Typical Grades	Key Properties	Industrial Applications
6000	6061-T6	Best overall performance, low tool wear	Milling/drilling/tapping (most common)
	6082-T6	European high-strength variant, excellent chip control	Complex contour machining
2000	2024-T351	Ultra-high machinability (aerospace-grade)	High-precision turning/precision parts
7000	7075-T6	Superior surface finish (mirror machining)	Precision molds/military components



- **Customization Based on Your Drawings:**
  Material, Design, Thickness, Finish, Packaging, Logo.
- **Tolerance：** ±0.1~0.005mm

CUSTOM

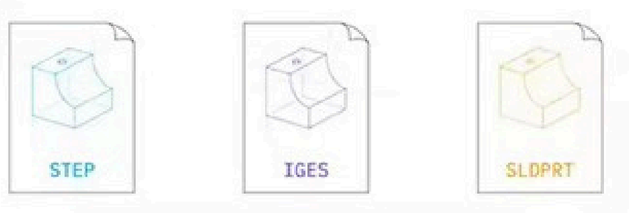
Special-shape Profiles

3

STEPS.

Key Advantages:

- Supports 3D drawings/sample-based customization
- Mold development in as fast as 7 days
- Full material certifications (RoHS/REACH compliant)

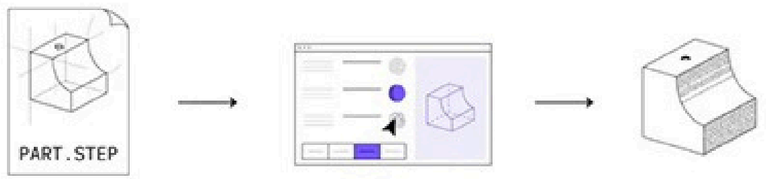


Step 1: Export your design to a CAD file format

The file formats predominantly used in CNC machining are STEP and IGES. These formats are open-source, standardized and can be used across platforms.

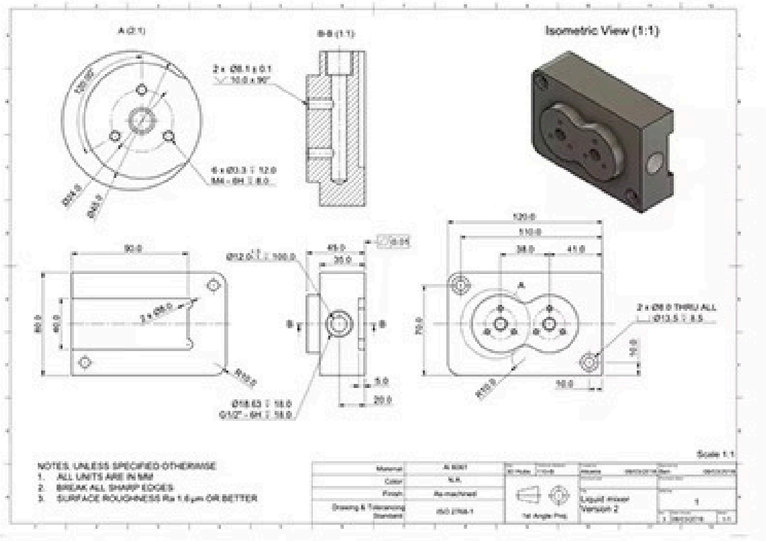
For best results

Export your designs directly from your native CAD software into the STEP file format.



Step 2: Prepare a technical drawing

A technical drawing is not always required for machining parts with CNC. Yet it is recommended to include one in your order as it has information that is not presented in a STEP file.



Step 3: Get an instant quote & start manufacturing

A technical drawing is required in the following:

/ When your design contain threads

/ When any tolerances are specified

/ When certain surfaces need a different finishing

Product Package

Tailored packaging solutions – designed to protect your aluminum profiles from factory to destination.

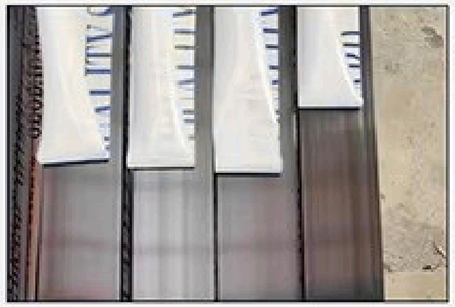
Heat shrink



wood pallet



protective tape



Carton box



kraft paper



EPE foam pearl cotton



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About Us

Foshan Aluleader Metal Materials Co.,Ltd

is a comprehensive enterprise with over 15 years experence,engaging in the design, production and sales of aluminum profiles.

We can provide ODM & OEM services according to customer requirements.The products and services cover mold design, industrial aluminum profile extrusion, Architectural Aluminum Profiles,Furniture Aluminum Profiles,Standard Aluminum Profiles,CNC machining Aluminum Profiles,aluminum products deep processing and so on.Strict ISO9001 quality management is executed in all profile processing.So we can provide high-quality products at the best price and help the clients save more costs from R&D design to product and packing solution.

Since Aluleader establishment, relying on strong producion and manufacturing support. We provide customers with one-stop service in the aluminum field.It has long-lerm cooperation with over 60+ countries and 2000+ customers.We always adhering to the enterprise tenet of"integrilty and innovation", taking "quality and service" as the foundation of business.



Why Choose Us

- Professional : We active in the field of custom aluminium profile for more than 10 years.

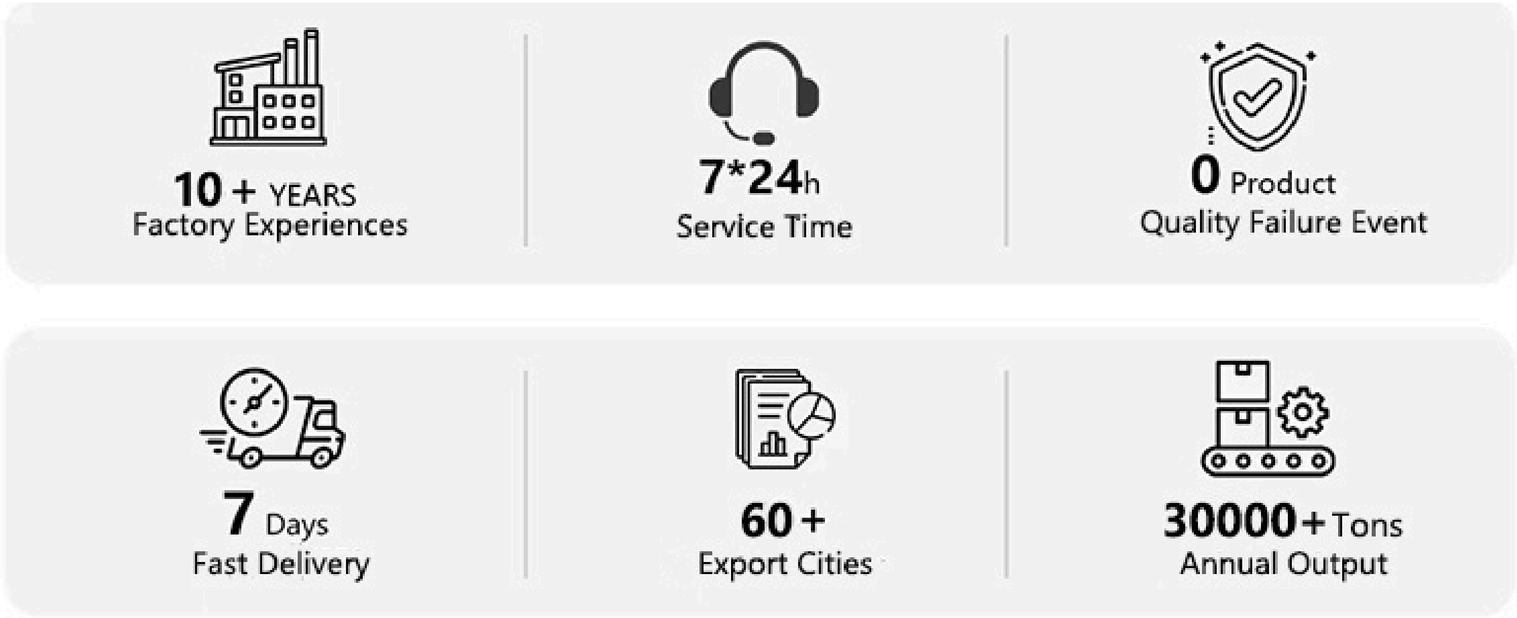
-Supply Ability: 30000+ Tons per Month

-Low MOQ: 500 KG

-One-Stop Service: We provide OEM & ODM **service.**

-Best after sale service: Installation Guidance；Missing Parts Replacement；Quality assurance

Customers can contact with us if finding any mistake with our aluminium profile and we'll try to support as soon as possible.



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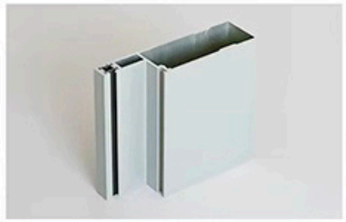
Service

Aluleader is committed to providing customized solutions that flexibly meet your individual demands in the multifaceted aluminum industry.If you have more customized needs, please contact us!

Aluminium Surface Finishing



Power Coating



Electrophoresis



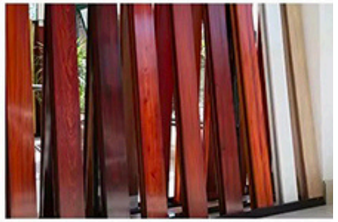
Brushed and Anodizing



Anodizing

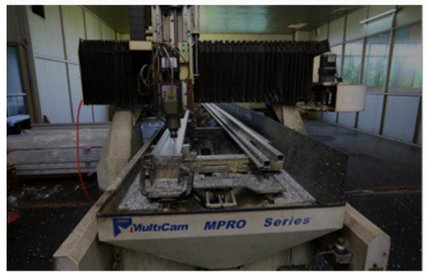


Wooden Grain



Custom Colors

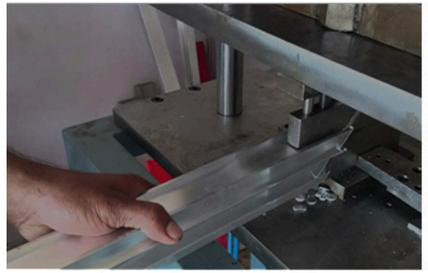
Aluminium Fabrication



1.Fabrication cnc milling



2.Aluminum cutting service



3.Punching aluminum fabrication



4.Fabrication bending

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Production Process


1. RAW MATERIAL


2. MOLDS


3. EXTRUSION


4. AGING


5. CNC MACHINING


6. SPRAYING


7. WOOD GRAIN TRANSFER


8. ANODIZING


9. PACKING


10. STORAGE

Project Get Started



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Certificate

















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Contact Information

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We look forward to engaging with you and exploring opportunities for collaboration.