



# We Do Things Differently!

Demand Innovation

When it comes to engineered solutions and precision manufacturing, Alexandria Industries is widely recognized for exceeding industry standards, advanced engineering and process ingenuity. But what does this really mean for your production line, or most importantly, your bottom line?

Simply put, our value-added supply chain will reduce your costs. We provide a single point of contact to satisfy a growing list of our customers' custom component manufacturing needs. As your partner, we will work directly with you to develop cost effective products with a return on your investment and competitive lead times throughout the entire process. This is what we do every day. This is why you can demand and expect innovation from us.

## Custom-Engineered Product Capabilities

Custom aluminum extruded products from 6000 series alloys (up to 11" in diameter)

- Precision machining of ferrous and non-ferrous materials
  - Material types include low/high carbon steels, alloy steels, stainless steels, aluminum, brass/bronzes, gray/ductile irons, plastics
  - Material forms include aluminum extrusions, bar stock, sand cast, die cast, forgings, investment cast, permanent mold\*
    - 4<sup>th</sup> axis machining
    - 5<sup>th</sup> axis machining
    - Long bed machining up to 255 inches in length
    - Turning, honing, and broaching
- Fabrication
  - Notching and swedging to complex multi-stage punching and precision cutting
- Precision stretch forming and bending
- Thermoplastic injection and overmolding ranging from 60 tons up to 350 tons
- Polyurethane foam molding and engineered resin prototype casting
- Mechanical and chemical finishing, painting and plating
  - Type II anodize and Type III hardcoat
  - ExtremEtch™ – deep matte chemical finishing alternative to sand or bead blasting
  - Variety of colors available
- Laser etch
- Welding – TIG and MIG
- Sub-assemblies to consumer ready, packaged full assemblies

*\*Materials formed at Alexandria Industries include aluminum extrusions and some aluminum bar stock.*

## Value Analysis/Value Engineering

Our engineering teams analyze and assess product concepts with emerging technology and advanced manufacturing practices to create value to our customer's overall design.

## Design for Manufacturability (DFM)

Often overlooked, early supplier involvement in the design process can significantly impact a product's manufacturability and overall cost. We are committed to Design for Manufacturability (DFM), which assures your design prioritizes production efficiency and reduced costs. This approach focuses on simplifying designs, minimizing part counts, and selecting cost-effective materials, all while ensuring the product meets its intended form, fit, and function requirements.

## Manufacturing and Process Development

With an analytical approach to each manufacturing process, Alexandria Industries offers undoubtedly the most comprehensive, engineered, and process driven operations to its customers. Each of our facilities can provide documentation and supportive studies (PPAP, FAI, PFMEA, etc.) to help develop the most effective design and expectation of product performance.

## Alexandria Industries

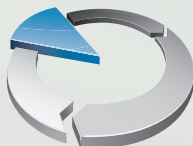
From day one, we have built a business and developed strategies that adjust to the rapidly changing environment of contract manufacturing. Since 1966, we continuously reinvest in our organization to vertically integrate and expand our service offerings and be an integral link in the supply chain for customers. Through acquisitions and ongoing strategic process investments, we bring innovative manufacturing services to new and ever-exciting levels for our customers.

From precision machining and fabrication of ferrous and non-ferrous materials, aluminum extrusions and heat dissipation components to plastic injection, and foam molded products, finishing and assembly, each of these services enhance the engineered product capabilities of Alexandria Industries. With a single point of contact, we serve customers across America and around the world. Alexandria Industries has proven to be more than a supplier, by becoming the supply chain itself.

Our forward-thinking mission will continue to push us to create business strategies that support tomorrow's innovative supply-chain initiatives for our customers. With this mission, we will continue providing superior value by eliminating the frequent struggles of managing multiple supplier schedules, lead times and performance metrics.

## One Call

One call, hassle free.





# Manufacturing Strategies

## Demand Innovation

### Striving for Operational Excellence through Continuous Improvement

We achieve the highest quality components at the best possible price by delivering superior customer experiences through continuous improvement, focusing on quality, speed, and support.

#### Lean

Our lean certification strategy involves ensuring employees from leadership to operators are knowledgeable in lean practices. Company-wide Lean certification empowers our team to quickly implement improvements, delivering value.

#### Technology

Alexandria Industries invests in technology, which delivers superior customer experience, characterized by higher quality products, faster service, and greater value.

#### Automation Strategy

We're leveraging automated technologies to achieve tangible results aligned with our core business goals. It's more than just about buying robots; it's a strategic roadmap that considers the entire manufacturing process, from design to delivery.

#### Machine Monitoring

Machine monitoring at Alexandria Industries involves real-time collection, analysis, and interpretation of data from machines and equipment on the factory floor. This enables us to proactively manage assets, optimize production processes, and prevent costly downtime.

#### Quality Systems

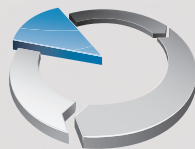
Long before ISO became industry standard, we were dedicated to delivering consistent, high-quality products. Our ISO 9001:2015 certified systems (excluding Wheaton, MN) ensure effective process control, standardized training, and robust data management, driving continuous improvement throughout our operations.

#### Regulatory Compliance

We partner with an expert vendor to efficiently manage complex compliance requests, including REACH, RoHS, and others. This ensures accurate supplier data collection and supports our customers' evolving ESG reporting requirements.

#### One Call

If you are considering an innovative manufacturing partner that you can find value in, give us a call today.





# Aluminum Extrusions

Demand Innovation

As a full-service supplier, Alexandria Industries provides the perfect environment to develop your precision aluminum extrusions. Along with our extruded aluminum component services, we provide machining, fabrication, heat sinks, welding, finishing and assembly services.

You no longer need to shuttle your product from supplier to supplier, or place to place. With a comprehensive line of manufacturing services, and design-for-manufacturability expertise, Alexandria Industries simplifies and streamlines your product manufacturing needs.

## Engineering

You may not always get what you want, but our engineers, manufacturing specialists and market experts, work closely with you to ensure you get what you need. We openly share our industry knowledge, experience and insight to create the best profile design for your product needs. We do this by evaluating your part's aesthetics, durability and weight requirements to ensure your design's tolerances and dimensional specifications are manufacturable and repeatable.

## 6000 Series Alloys

Choosing the correct aluminum alloy, is a critical step in the product development process. While some alloys extrude at a faster rate, others are easier to bend and some are better for machining. You can trust that with expertise in aluminum extrusion, we consistently provide quality products that meet our customers' needs.

Alexandria Industries extrudes the highest quality 6000 series aluminum alloys, the most popular series for most industry applications. We use primary and secondary (recycled) billet, which includes all the mechanical and physical properties as primary aluminum, and is 92 percent more energy efficient to produce.

## Short Lead-Times

Alexandria Industries offers some of the industry's shortest lead-times using the principles of Quick Response Manufacturing (QRM) for both extrusion-only and value-added products. With lead times that are sometimes as short as five days, we have helped many customers discontinue their inventory stocking programs. Our commitment to continuous improvement and set-up reduction times allows us to make process improvements for the best use of our equipment.

## Press Capabilities

Four extrusion presses, give us the ability to run both small and large profiles efficiently.

- 3.5 inch diameter Youngstown 550 ton aluminum extrusion press
- 7 inch diameter Presezzi 2472 ton aluminum extrusion press
- 7 inch diameter Youngstown 1800 ton aluminum extrusion press
- 10 inch diameter Farrel 3500 ton aluminum extrusion press

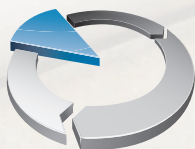
## Our Competition

There is one more thing you should know. Our competition pays close attention to what is happening at Alexandria Industries. This tells us two things:

1. We are leading the way for others to follow.
2. Our customers will be a step ahead of their competitors.

## One Call

Give us a call today. Our goal is to be your full-service supplier, providing you with consistent, quality product that meets your manufacturing needs.





# Precision Machining & Fabrication

Demand Innovation

## Extensive Capabilities and Expertise

At Alexandria Industries, multi-axis CNC machines, universal robotics, and vertical machining centers, combined with our expertise and skilled machinists, bring great value to customers whose products require precise details to complete their complex component design needs.

## Material Types

We machine both ferrous and non-ferrous materials, including low/high carbon steels, alloy steels, stainless steels, aluminum, brass/bronzes, gray/ductile irons and plastics.

## Material Forms

We machine aluminum extrusions, bar stock, sand cast, die cast, forgings, investment cast and permanent mold. Materials formed at Alexandria Industries include aluminum extrusions and some aluminum bar stock.

## Machining Equipment

With our extensive knowledge and hands-on experience with CNC precision machining, the equipment selected for your components is the right one for the job. Our proprietary long-bed machining centers quickly machine lineal extrusions up to 255 inches long, while our multifunction manufacturing cells machine, deburr, tumble, wash, assemble, and package customer components. We also offer turning, honing, broaching, and complex, punching equipment to provide complete solutions for your component needs.

## Fabrication

We do more for our customers by providing notching, swedging, complex, multi-stage punching, miter sawing, deburring, laser etching, and other multifunction manufacturing processes.

## One Call

With our experience since 1966, expansive list of equipment, and resourceful attitude, we provide solutions to fit your needs. With one call, we can help you determine if Alexandria Industries is the best manufacturing supplier for you.





# Stretch Forming & Bending

Demand Innovation

## Precisely Engineered Shapes

One of our many customized aluminum extrusion fabrication services at Alexandria Industries is stretch forming and bending. We manufacture precision-engineered radius-formed components with outstanding predictability, performance analysis and profile design.

Our different types of bending and stretch-forming equipment allow us to create diverse components. We help our customers understand the differences and provide valuable input on the best bending or forming solution for their product needs. We do this while attaching some of the tightest tolerances in our industry.

## Stretch Forming

Stretch forming your aluminum extrusions is common for many product applications.

- Marine industry: boat gunnels and curved structural components
- Medical industry: C arms for electro-medical imaging machines
- Automotive: structural and decorative components for today's advanced component technologies

Our fully programmable 32-ton stretch former is capable of forming curved aluminum components as long as 288 inches.

## Bending

From simple tube bending to complex custom extrusion bending, we offer the precision curved and bent aluminum shapes you need to differentiate yourself from the competition. Our in-house experts also provide design guidance, helping you optimize extrusion profiles for your bending requirements.

Our CNC bender, and programmable rotary, push, twin head and 3-roll benders make it possible for us to provide uniquely formed extrusions that allow you to create innovative products.

## Importance of When to Bend

Bending freshly extruded aluminum offers key advantages, especially since it's initially in a T4 temper state—a softer, more formable condition. Because aluminum naturally hardens over time (age hardens), forming should ideally happen soon after extrusion while it's still in this T4 state, maximizing formability. Therefore, bending at Alexandria Industries, while the aluminum is still in its T4 temper, can lead to great results which include less wrinkles, crazing, and stretch marks.

## One Call

Our value-added aluminum fabrication services, and our precision-engineered extrusion capabilities, take supply-chain efficiency to a new level that is untouchable by any other supplier. Give us a call today.





# Finishing & Assembly

Demand Innovation

## Metal Surface Finishes

We start with the finest materials and the best manufacturing practices in the industry. And we finish your quality components by maintaining tight chemical and electrical control. Metal finishing at Alexandria Industries allows for fewer issues with quality, relationship management, and freight damage, in addition to reduced shipping charges. From mechanical surface finishing to anodizing to our unique ExtremEtch™ finish, we are here to help select the best options for your metal finishing needs. Our customers understand that they can count on us to provide superior consistency, high quality and color uniformity.

**Anodizing** – Anodizing, one of the most common and durable chemical finishes, is an electro-chemical process that forms a durable, porous oxide film on the surface of your aluminum-extruded products. We provide both Type II and Type III (hardcoat) finishes.

**ExtremEtch™** – This process produces an evenly distributed finish coating without sacrificing the high tolerance features most engineers need for their aluminum extrusion product design requirements.

**Chromate Conversion** – We offer this low-cost option for corrosion and wear protection, as well as a bonding agent for paint and adhesives.

**Painting** – Choose between two types of painting for your products: liquid and powder coating. Your final product needs determine the best coating method.

**Plating** – This process is another finishing technique we use to help protect your components.

**Heat Treating** – We provide specific heat treatment characteristics to your component materials.

**Mechanical Finishing** – If your products do not need the protective coating provided by anodizing or other chemical finishing options, you may want to consider a mechanical finish for your products. We can buff, brush, bead blast, and tumble your components for a finished look and feel.

## Assembly

Sometimes it makes sense for someone else to put together the pieces of the puzzle. We offer a broad range of assembly services, and have the efficiency and know-how to do product assembly right. Maybe your components need plastic end caps added before shipment. Or, perhaps your components need to be packaged and ready for final sale. We can do it. No matter what you need, we are here to help. From the smallest label to a complex multi-piece final component assembly, consider the value Alexandria Industries can bring to your product assembly needs.

## One Call

At Alexandria Industries, we make your job easy so you can spend your day doing other things. Give us a call today.





# Plastic Injection Molding

Demand Innovation

Alexandria Industries manufactures thermoplastic injection-molded products, using engineered-resin. Our molding capabilities range in size and weight, from one gram, up to seven pounds. With specialized services and a range of equipment, we are here to meet your finished product needs.

## Services

We focus on understanding and meeting your requirements. From early project involvement through final delivery, Alexandria Industries will work with you every step of the way in your product development process.

## Capabilities

Our advanced engineering services, design assistance and component supply capabilities, offer the highest degree of quality and tightest tolerances afforded through the diverse molding processes. Our new plastic injection-molding presses with embedded smart technology, allow us to reduce lead times by up to 50 percent, while adding capacity.

We are committed to providing you with the freedom to design. By working closely with our customers and our mold builders in the design phase, we can make improvements or changes quickly and cost effectively. We also offer the capability to produce 3D printed parts to evaluate your design's intent. During the manufacturing phase, we closely evaluate the finished product to ensure it is consistent with your design specifications.

## Equipment

- 60 ton, 3.5 oz. shot size
- 90 ton, 5.5 oz. shot size
- 150 ton, 11 oz. shot size
- 300 ton, 32 oz. shot size
- 350 ton, 57 oz. shot size

## One Call

Give us a call today. You will be happy you did. We are a supplier like no other. You have our word on it.





# Foam Molding

Demand Innovation

## A Unique Benefit

When you create your next new product, consider how foam molding might be the material you need to make your product or application resistant to vibration and noise.

Molding polyurethane brings the flexibility to design in properties that are nearly impossible to capture with other materials and substrates. It also improves cost performance and expands the opportunities for advanced engineering properties. While polyurethane molded components offer many unique benefits of widely used materials such as plastics, metals and durable ceramics, it also allows the flexibility to form rubber-like materials.

## Low Tooling Costs

The polyurethane molding process provides affordable tooling costs and quicker lead times compared to other competitive processes. Tools can be as simple as a prefabricated plywood shape to more sturdy materials such as a 6000 series aluminum plate.

Polyurethane molded products can be designed to have a hardness of 10-15A, similar to a pencil eraser, or as hard as 90D, like a golf ball. Whatever you need, we can develop a specific formula to meet your components' functional and aesthetic requirements.

## Polyurethane Benefits

- Aids in product noise reduction
- Resists a range of corrosive substances such as oil, grease and other chemicals
- Bonds to a wide variety of other materials, including over-molding of different substrates
- Offers a range of durability and resiliency
- Ideal for extreme flex applications and resists cracking or splitting
- Durable in low temperature environments and resistant to thermal shock
- Resistant to impact. Polyurethane molding was created to replace other materials which could not stand up to high impact situations.

## Equipment

Cannon B15 Precision Metering Machine

## One Call

Give us a call today if you have a component that can benefit from expansion foam molding.





# Welding

Demand Innovation

## Services

For OEMs who struggle to find welding services, or want to simplify their supply chain, our welders can meet quick-turn, overruns and small to high-volume production orders.

At Alexandria Industries, we offer tungsten inert gas (TIG) and metal inert gas (MIG) welding services for a range of applications, including but not limited to medical components, and service trucks, truck bodies and trailers, as well as the marine and recreation products. Our welding services complement our extrusion, finishing, and machining capabilities, bringing more value to customer products that require permanent welds to join component assemblies.

Depending on your product needs, including adding strength to your metal fabrications, we are sure to have a welding solution that fits your needs.

### *TIG Welding*

Our gas tungsten arc welding (GTAW), also known as TIG welding, uses a non-consumable tungsten electrode to produce the weld. Most commonly used to weld thin sections of stainless steel and non-ferrous metals such as aluminum, magnesium, and copper alloys, TIG welding allows our certified welders greater control to produce stronger, higher quality welds, versus competing processes, such as shielded metal arc welding and gas metal arc welding.

TIG welding is comparatively more complex and difficult to master, making it significantly slower than most other welding techniques.

### *MIG Welding*

We also offer gas metal arc welding (GMAW), also known as MIG welding. MIG is the most common industrial welding process, preferred for its versatility, speed and the relative ease of adapting the process to robotic automation. MIG welding uses four primary methods of metal transfer – globular, short-circuiting, spray, and pulsed-spray.

## Welding Capabilities

- American Welding Society (AES) D1.2/D1.2M-2003

## One Call

If you are looking for a supplier who offers a range of complementary manufacturing capabilities and services that you can find value in, give us a call today.





# Education

## Demand Innovation

*"The thought of pulling key employees to attend a two-hour seminar during our busy season seemed unrealistic. After attending your seminar, we realized this short investment in time has paid for itself 100-fold by the valuable information we learned."* Engineering Director, Fortune 500 Company

### Education Services

Demanding innovation is integral to everything we do at Alexandria Industries. Our unconventional thinking and creative design ideas can help you create innovative products that will stand out in the crowded marketplace. Another unique thing about Alexandria Industries is that we are always excited to share our knowledge through educational services tailored to meet your needs. We invite you to join us at these events created to help you be more successful.

### Events

**Customized Education Seminars** – Geared for engineering and purchasing, we offer education seminars at your facility or a convenient nearby venue. We provide insights into designing for manufacturability, while reducing costs and improving product quality. Attendees from our more than 100 seminars agree this is a valuable and informative resource. Topics include:

- Aluminum Extrusion
- Assembly
- Bending and Stretch Forming
- Cost Reduction Strategies
- Custom Packaging
- Finishing
- Heat Transfer Products
- New Product Development
- Plastic Injection and Foam Molding
- Precision Machining
- Printing (Ink Jet, Ink Stamp, Laser Etch, Label, Silk Screen, Engraving)
- Quick Response Manufacturing (QRM)
- Welding

### Resources

**White Papers and News Articles** – Technical and how-to guides that offer relevant information to assist you in your product design, while guiding your supply needs in today's manufacturing economic climate.

### One Call

If you are looking for a supplier who offers a range of complementary manufacturing services that you can find value in, give us a call today.

































































# Capabilities and Certifications

Demand Innovation



**Core Capability**

**Secondary Capability or Outsourced**

	Aluminum Extrusions - Up to 11" Diameter		Injection Molding - Industry Tolerance
	Anodizing - Many Color Options		Injection Molding Press Shot Size - Up to 57 oz.
	Anodizing - Type II		Injection Molding Press Tonnage - Up to 350 Tons
	Anodizing - Type III (Hardcoat/Hard Anodize)		Insert Molding (Injection)
	Assembly		Laser Marking
	Bending - 3 Roll		Linear Advance/Multi-stage Fabrication Cells
	Bending - Push		Machined Plastics
	Bending - Rotary		Micro Molding
	Chromate Conversion Coating (RoHS)		Notching
	CNC Bending - 9 Axis		Overmolding
	CNC Lathe/Turning (Live Tooling)		Paint - Liquid
	CNC Machining - 4th Axis		Paint - Powder Coat
	CNC Machining - 5th Axis		Polyurethane Foam Molding
	CNC Machining - Horizontal		Precision Cutting
	CNC Machining - Long Bed (Up to 21.3 feet)		Printing - Ink Jet
	CNC Machining - Vertical		Printing - Pad
	CNC Mitre Cutting		Process Validation (FAI, FMEA, PDMA)
	Deburring		Production - Design and Tooling In-house
	Die Casting/Sand Casting/Investment Casting		Prototype - Design and Tooling In-house
	Dry Film Lubricant Coating		Punching
	EDM Tool Texturing		Slotting
	Electroless Nickel - Low Phos		Swiss Screw Machine
	Electroless Nickel - High Phos		Stretch Forming/Stretch Bending
	Engraving		Swedging
	ExtremEtch™ - Acid Etching		Welding - MIG Metal Inert Gas
	Forging		Welding - TIG Tungsten Inert Gas
	Grinding/Polishing		Welding - Spot
	Heat Sinks - Aluminum Extruded		Wire EDM
	Honing		Zinc Plating - Clear (RoHS)
	Impact Extrusions		Zinc Plating - Yellow







Materials	
	Aluminum - 6005A*
	Aluminum - 6060*
	Aluminum - 6061*
	Aluminum - 6063*
	Aluminum - 6082*
	Aluminum - 6360*
	Aluminum - 6560*
	Aluminum - 7075**
	Bar Stock**
	Brass**
	Bronze**
	Copper**
	Iron - Ductile**
	Iron - Gray**
	Polyurethane Foam***
	Sheetmetal - Ferrous**
	Sheetmetal - Non Ferrous**
	Steels - Alloy**
	Steels - High Carbon**
	Steels - Low Carbon**
	Steels - Stainless**
	Thermoplastics****

\*Extrude and Machine

\*\*Machine Only

\*\*\*Molded





















\*\*\*\*Molded and Machine

Certification, Licenses, Compliances	
	ISO 9001 Certified
	Federal Firearms Licensed
	ITAR Compliance
	REACH
	RoHS

## One Call

Give us a call today if your company can benefit from the services provided by Alexandria Industries. We are here to support your success.



Resources	
	24-7 Production
	Calibration
	Capability Studies
	Customer Leadership Conference
	Design for Manufacturability Assistance
	Dimensional Metrology
	Disaster Recovery Plan
	First Article Inspection
	Fixture Building
	On-site Education and Seminars
	Production Part Approval Process (PPAP)
	Preventative Maintenance
	R & D Support
	Rapid Prototyping via Urethane Casting
	Raw Material Traceability
	Tool Building
	SPC Data Collection
	Supplier Controls
	Tool Building
	Virtual Tour

## Exhausting List

Some people think it's impossible to be really good at everything when you offer so many services. We want you to know that it truly isn't the case at Alexandria Industries. Our expert service providers are sought after in their industries to speak at manufacturing events around the country and even internationally. This expertise guarantees you that your products will be in great hands at Alexandria Industries.