

Metals Processing

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Metals Processing

Plate Laser Cutting

Laser tolerances in stainless, aluminum and carbon plate up to 1" thick, up to 1/4" thick in red metals

- Maximum plate capacity 80" X 159"
- High precision and repeatability on cut parts
- Produces near net or finished products to your print
- Minimal heat affected zone
- Minimal to no clean-up
- Etching (not offered on red metals) and "stitch-cutting" available

Potential Secondary Processes:

- Tapping from #10 - 3/4" and M5 - M12 available depending on size/thickness
- Forming



Video available on  YouTube



Oxy-Fuel Cutting

Alro offers oxy-fuel flame cut pieces (rectangles, ID, OD and per print items) to customer specifications. Our CNC machines allow us to flame cut carbon plate up to 14" thick. Some advantages of flame cutting include:

- Thick material cutting capability
- Multi-torch cutting to increase efficiency
- Good edge quality
- In-house stress-relieving, normalizing and annealing
- Maximum table cutting capacity 120" x 600"



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Plasma Cutting

Alro's Plasma Cutting Systems provide tighter tolerances, minimize machining on finished parts and provide greater part accuracy than standard flame cutting. Plasma has a smaller heat affected zone and reduced edge cracking when forming. PC-based control technology increases control in shape cutting. Advantages include:

- High quality edge cuts
- Minimal clean-up
- Small heat affected zone
- Etching and beveling capabilities
- Forming as a potential secondary process



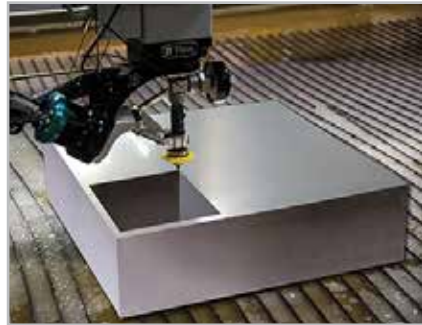
Video available on  YouTube



Waterjet Cutting

Waterjet Cutting is a great alternative to traditional Plate Processing. Use waterjet for cutting jigs, mechanical parts or customized tooling. Waterjet cutting eliminates the need for drilling and punching, and is perfect for cutting Stainless Steel, Aluminum, Alloys, Copper, Brass, Bronze, and Plastics. Advantages include:

- No heat affected zones
- No mechanical stress
- More accurate cutting in all materials
- Produces a near net, finished part
- Thicker cutting with minimal distortion
- Reduces or eliminates secondary machining operations
- Tighter nesting for optimal material utilization



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Metals Processing

Precision Plate Saw Cutting

Our precision plate saws are capable of producing square cuts with tight tolerances. These precision saws can cut up to 12" thick and 12 feet wide/long.

Circle sawing is available for many materials and can cut up to a 60" dia. circle. We can also precision saw aluminum mold plate up to 30" thick.

- Precision plate saw cutting
- Mold plate saw cutting
- Circle saw cutting



Video available on  YouTube



Shearing

Shearing sheet metal and plate steel is performed in most of Alro's steel warehouses. We'll shear your order to your exact specifications, place your material on a skid for safe transporting and safe handling after your order is delivered to your specified location.

We are capable of shearing plate up to 1/2" thick. Thickness capacities vary depending on the grade of the material. Please inquire.



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Tube Laser Cutting

6-axis Tube Laser Cutting up to 24" for tube, angle, channel and beams.

- Up to 24" diameter x 50 feet long
- Miter cut, top notch and slot holes
- Tabs, etching, pipe joints and more
- High quality cut and parts repeatability
- Tapping from #10 - 3/4" and M5 - M20
- Reduce assembly time by eliminating need for: sawing, fixtures, milling, drilling, punching, bending, and welding



Video available on  YouTube



Tube Cutting & Chamfering

Alro offers cut-to-size and ID/OD chamfers on both ends in a single operation at production speeds with precision tolerances (+/- .005").

Capabilities:

- OD: 0.750" up to 6.700"
- Wall thickness: 0.049" up to 1.000"
- Minimum cut length: 0.750"
- Standard bevel features: 30°, 40° and 45°

Note: Actual size of 30° bevel is 27.5°

- Capable of 60° weld prep
- Inquire for even more features

Materials:

Carbon Steel, Stainless, Aluminum, Brass, Bronze, Copper and Alloys.



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Bar & Structural Saw Cutting

All Alro warehouses employ state-of-the-art equipment for handling and processing orders. Alro offers next-day delivery on most saw cutting orders. We can cut your material to a specified length for storage or handling or your order can be cut within your specified tolerance.

- Bar saw cutting
- Miter saw cutting
- Structural saw cutting



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Press Brake Forming

With multiple machines of varying capabilities, Alro Steel is uniquely qualified to cut and form your custom parts. Along with standard formed shapes, Alro is capable of producing more complex parts such as:

- 3- and 4-sided pans
- Multiple profile parts
- Overbending of a variety of thickness
- Multiple hit "step brake/rolled parts"

Alro continually invests in new technology and updating their machines to provide the highest quality parts with the following advantages:

- Use of precision ground and high-quality finish tooling for accurate repeatability
- Sophisticated interactive programming software
- 6-axis back-gauge with independent finger movement for complex geometry
- Use of static surface tooling



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Metals Processing

Precision Milling Super Square

Precision milled Super Square offers better utilization of skilled labor, machine time and overall productivity.

- 2, 4, 6 side precision milled
- Available in all metal grades
- Thickness = .250" - 15.750"
- Width/Length = .750" - 39.375"
- Square and parallel .002" per foot
- Milled to customer tolerances
- Fast delivery to meet customer needs



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Plate Grinding

Blanchard (Rotary) Grinding: Alro's Blanchard Grinding machines allow for great turnaround time and the capability of grinding metals with a 152" swing from corner to corner.

Reciprocal Grinding: For jobs requiring a smoother finish and a tighter tolerance, Alro offers Reciprocal Grinding with a surface capacity up to 48" x 120"



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Metals Processing

Thermal Processing

Stress Relieving diminishes the residual stress in steel caused by working the material (i.e. flame cutting, forming, rolling, casting, machining, welding, bending, straightening). This is accomplished by reheating the steel then cooling it at a slower rate.

- Stress relieving can be performed before grinding on parts that require light machining
- Often used on weldments



Video available on  YouTube

Normalizing is accomplished by heating the metal above the transformation temperature, then cooling it in still or slightly agitated air. Benefits include:

- Refines/reduces the grain size of steels that have been subjected to high temperatures
- Prepares steel for heavy machining
- When machined, provides a better surface finish



Annealing is accomplished by heating the metal just below the transformation temperature, then cooling in a controlled cycle which limits the cooling rate and brings the temperature down slowly. Benefits include:

- Softens metal
- Changes mechanical/electrical properties
- Aids in dimensional stability
- Greatly improves forming and bending



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