

# The Helander Advantage:

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Expert Metal Services for the  
Aerospace Industry

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**HELANDER**

**PRECISION METAL COMPONENTS**

An ISO 9001:2015 & AS9100 Rev C. Registered Company

## The Helander Advantage: Expert Metal Services for the Aerospace Industry

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Aerospace components are among the most challenging parts for metal manufacturers to produce. Any given project demands expert engineering, high precision, and a vast stock of parts, all of which must be carefully crafted to meet stringent industry guidelines.

For over 80 years, the team at Helander has worked to provide our partners with premium metal fabrication services that meet the demanding requirements of the aerospace industry. Our offerings include metal forming, heat treating, and specialty welding.

### Heat Treating Services

Since 1936, Helander Metal Spinning Company has delivered quality in everything we do. We particularly excel in heat treating, a critical step in the production of aerospace components and a longstanding Helander specialty. With proper heat treatment, metal components enjoy increased longevity, superior operational efficiency, and more precise performance.

During our heat treating process, our team reheats and processes materials to ensure that any warpage is removed. Not only preserving the integrity of the parts, this also prepares the components for extreme temperatures by increasing their strength and reducing stress on them.



### Aerospace Welding

The National Aerospace and Defense Contractors Accreditation Program (NADCAP) sets the global industry standards for high performance aerospace welding. The similar AWS D17.1, set forth by the American Welding Society, outlines explicit standards for welding processes, as well as material selection and methodology. AS9100C details further quality management standards, quality assurance, and overall quality requirements for welders.



Helander's aerospace welding services adhere strictly to all of these protocols. Our certified services include:



**MIG Welding**, which utilizes an electric arc between a consumable wire electrode and a workpiece. The workpieces are melted and joined together.



**TIG Welding**, or gas tungsten arc welding, which replaces the consumable arc with a tungsten electrode. This generates an electric arc to heat very thin and delicate workpieces. One of the most common metalworking methods used in aerospace manufacturing, it is best suited to skilled engineers who execute precise handwork and create smooth, fine finishes. It also creates reliable bonds capable of withstanding extreme conditions.



**Soldering**, which uses heat to melt a solder material that joins workpieces together. Soldering creates fusion as the binding material cools and eventually solidifies.



**Automated Seam Welding**, a combination of MIG or TIG welding technology with modern automation. Automated welding machines create large scale seams with MIG or TIG welds with higher precision and at a faster rate for repetitive projects or particularly large parts.

## Specialty Materials

In addition to heat treatment and welding, Helander also offers hydroforming, metal spinning, and finish services for the aerospace and defense industries. We pride ourselves on precision, upholding tolerances down to +/- .003 of an inch.

We work with a long list of specialty metals in many different grades, including:

- ▶ Aluminum in 7075, 5052, and 6061
- ▶ Titanium
- ▶ 321 Stainless Steel

Our team processes material thick between 0.018 in and 0.250 in thick, while our hydro forming facility is equipped to handle products up to 20 in in diameter and 10 in in height. We work to accommodate all orders, with specialty projects ranging from a single piece to 50,000 pieces annually.

## Case Study

While Helander has a long history of quality aerospace work, certain projects truly illustrate our unique capabilities. In one case, a client approached the Helander team with a welded assembly crafted from many distinct components. The welds, however, resulted in some undesirable (and costly) weak points.

Our experts dove in and approached the project with an exacting attention to detail, reviewing drawings of the assembly's individual components and thoroughly researching all applicable specifications and standards. Based on the data, they developed a completely new design for a single seamless part.

The new part eliminated welds and increased part integrity.

After comprehensive design review and analysis with the customer, the project advanced with prototypes that fully passed qualifications, enhanced part quality, and saved a significant amount of money. All parties involved were extremely happy with the results.

This relationship, as with many of our clients, continues to grow. The team at Helander strives to be more than a manufacturer, working as a trusted advisor on every project to ensure our customers' success.



## Helander Quality

At Helander Metal Spinning Company, we're committed to delivering genuine quality at every stage of operations. From lean manufacturing practices to ISO 9001:2008 accreditation, we always strive to exceed expectations.

We're proud to offer a full range of fabrication services, including CNC machining, hydroforming, metal spinning, prototyping, polishing, finish work, and specialty welding. Regardless of the project, we help our clients meet and exceed the most stringent requirements in manufacturing and engineering for aerospace and defense.

To learn more about our capabilities and services, check out our [Everything You Need to Know About Helander Metal eBook](#) or look into [our company summary](#). Have an inquiry? Call 630.268.9292 to reach out directly today!



## Learn More

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Helander's niche is forming cylindrically shaped parts ranging from 1.00" diameter to 72" in all types of metals and production quantities. Helander's core business competencies are metal spinning and sheet hydroforming (deep drawing).

Helander Metal works with the aerospace industry, high-end furniture manufacturers, Tier 2 and 3 automotive companies, the medical sector, and agricultural industries. Our emphasis is on providing our commercial, aerospace and defense customers with superior service, no matter the industry. We focus our efforts on customer service, prompt deliveries, and efficient performance.

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