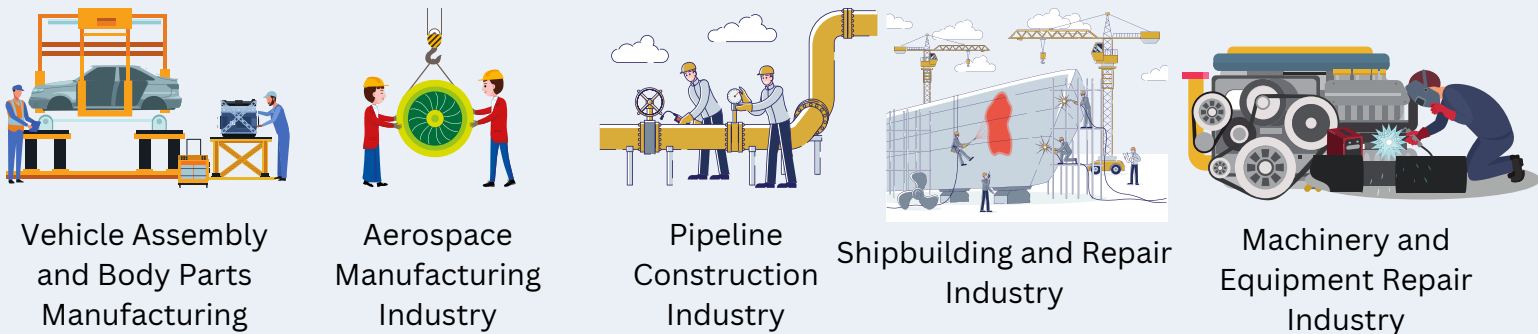


## Welders and Related Machine Operators



Welders are integral across numerous sectors and industries, and are at the forefront of production of advanced technologies and products. They operate equipment such as welding robotics arms and plasma cutting machines to fabricate, manufacture and repair metal structures and components such as electric vehicle parts and airplane fuselages. FOCAL forecasts a strong job market for Welders, especially in the automotive manufacturing sector, with more than 1,350 openings over the upcoming decade.

### Where do Welders work?



Vehicle Assembly and Body Parts Manufacturing

Aerospace Manufacturing Industry

Pipeline Construction Industry

Shipbuilding and Repair Industry

Machinery and Equipment Repair Industry

### What do Welders do?

Welders use welding equipment and operate robotic arms in the manufacturing of advanced products and technologies such as electric vehicles, airplanes, wind turbines, and ships. Below are some of the tasks performed by Welders:

- Operate welding equipment to fabricate and repair metal segments using processes like plasma-arc welding and gas metal/tungsten welding
- Use brazing, soldering and flame cutting equipment to bond, fill indents and seams, and melt metallic parts and components
- Interpret blueprints, manuals and examine workpieces for conformity of equipment and product with standards and specifications
- Create models and templates for welding projects using a variety of tools and techniques

### Career pathways & potential earnings of Welders

Welders can progress to other roles and positions with the adequate experience and skills:



Welders can also apply their skills and expertise in other occupations such as the following:

- Structural Metal and Plate-Work Fabricators and Fitters
- Metalworking and Forging Machine Operators
- Machinists and Machining and Tooling Inspectors

## How do I become a Welder?

There are several educational, licensing and training requirements to become a welder. Some requirements may vary by province or company. Below are the most commonly required qualifications to work as a Welder:

- **Minimum Education:** A high school diploma.
- **Certification and Licensing:** Certification provides expanded work opportunities and is necessary to perform certain tasks on job sites. Certification requires a three-year apprenticeship or equivalent time in industry courses and practical experience. Certification is mandatory in the province of Alberta
- **Training and other requirements:** Welders may require several months of on-the-job training. Experience with robotics and machine operation may also be required for certain positions.



## What are the most important skills to have as a Welder?

Welders develop a variety of technical and soft skills, which are mostly gained from education, training, as well as experience working as welders. Many of these skills are considered to be advanced, and are key in supporting industry in its transition to digital and clean technologies.

### Technical Knowledge and Skills

- Mechanics and Machinery
- Computer Aided Design (CAD) Software
- Robotic Welding Software
- Industrial Control Software
- Mathematics
- Control Precision and Manual Dexterity
- Operations Monitoring and Quality Control

### Soft Skills

- Critical Thinking
- Problem Solving and Recognition
- Communication
- Teamwork

## Future of welding jobs in Canada

The job market for Welders in Canada is bright and promising. In 2021, more than 83,000 welders were employed across Canada's sectors and industries. FOCAL projects more than 1,350 job openings for Welders in Canada's automotive manufacturing sector between 2021 and 2030. FOCAL also forecasts that during the same period, more than 970 workers are needed to fill recruitment gap in the sector, especially as the sector transitions to electric vehicles (EVs) and battery manufacturing.



Learn more about the job market for welders, as well as about many other developments and new technologies in Canada's automotive manufacturing by visiting our website [futureautolabourforce.ca](https://futureautolabourforce.ca). You can also check our social media by following these links:

 [/focalinitiative](https://www.instagram.com/focalinitiative)

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