

Welder, Apprenticeship

There are two branches of the welding trade in Alberta: welder and wire process operator. Welders join and sever metals in beams, girders, vessels, piping and other metal components make metal parts used in construction and manufacturing plants and weld parts, tools, machines and equipment. Welding usually involves applying heat to metal pieces to melt and fuse them together.

In both arc and gas welding, filler materials are melted and added to fill the joint and make it stronger. In resistance welding, the metal piece itself is melted as current flows through it; no filler is required. Welders use different welding processes and fillers depending on the type of metal, its size and shape, and requirements for finished product strength. For typical welding projects, they: develop patterns or follow directions given in layouts, blueprints and work orders, clean, check for defects and shape component parts and weld parts together.

Experienced welders may move into inspection or supervisory positions. Some welders open their own repair shops, or work as portable rig welders who contract out their services. Alberta certified journey person welders who have the supervisory or management skills required by the industry may apply for an Achievement in Business Competencies Blue Seal and Interprovincial Red Seal program by contacting Alberta Apprenticeship and Industry Training.

What you can be with your Welder Apprenticeship training:

Production Welder #7265.2	Wire Process Operator #7265.1	Underwater Welder #7265.1	Filed Heat Treatment Technician #2212.2
Welding Engineering Technician	Welding Examiner/Inspector	Welding Foreman/Supervisor	Welding Instructor
Pipeline Welding	Ship Building	Pressure Vessel Welder #7262	Structural Construction Welder
Machinery Repair Welder	Custom Fabricator		

With additional education I could be a:

Safety Codes Officer	Career and Technology Studies (CTS) Teacher #4141	Occupational Health and Safety Advisor #2263	Home Inspector #2264
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Access membership rosters for lists of potential employers:

Canadian Welder's Association <http://www.cwa-acs.org/>

Canadian Home Builders' Association – Central Alberta - www.chbaca.ca

Red Deer Construction Association - www.reddeerconstructionassociation.com

Canadian Welding Association www.cwbgroup.org

Red Deer College – www.rdc.ab.ca/employment

City of Red Deer – www.reddeer.ca

Provincial Government of Alberta – www.jobs.alberta.ca

This career/job listing is only a sample of the possible career options; these are certainly not the only career/job options accessible with this degree/diploma. Some of the careers listed require further education. For career information, enter the four digit number listed below in the Alberta Learning Information Services Website (www.alis.alberta.ca) or the National Occupational Classification Website (<http://www5.hrsdc.gc.ca/NOCL/>).

RDC Career Services can help you explore your interests, identify your goals, discuss your career options and job search strategies and discover how to make the most of your education. Email or give us a call to connect with a career counsellor.

RDC Department Information: Welder Apprenticeship rdc.ab.ca/programs/trades

Major Skills Obtained from a Welder Apprenticeship Program

- **Reading** – Read regulations, codes and detailed welding procedures developed by governing bodies such as the Canadian Welding Bureau to learn about acceptable welding practices. Read safe work permits, equipment lock out procedures and occupational health and safety standards. Read short text entries on forms, logbooks and job orders. Read short instructions and warnings written on signs, labels and packaging.
- **Document Use** – Examine lines and colours of pipes in the workplace to determine their contents, such as the type of gas they contain. Use checklists to learn and follow proper work procedures such as how to properly rig a load. Compare colour coding on metals to a colour code chart in order to identify its grade and alloy. Review notes on blueprints from the engineering department about materials and procedures. |
- **Numeracy** – Measure degrees of angles by using a level with a digital readout. Estimate the weight of a load for rigging by considering its size and density. Calculate the volume, diameter and circumference of tanks when fabricating pieces for them. Use trigonometric constants to calculate diagonal distances.
- **Writing** – Write invoices or reports for employers with tasks completed, materials used, the hours worked and how much to charge customers. Complete accident and incident reports for the Worker’s Compensation Board. Write safety guidelines to demonstrate how to properly operate company equipment.
- **Oral Communication** –Communicate with tool room staff to request tools, supplies and personal protective equipment. Discuss specifications, procedures, expectations and other work related matters with co-workers. Discuss project specifications with other tradespeople, exchange information during meetings. Explain the use of equipment to new employees and apprentices. May explain welding procedures to customers and address their concerns.
- **Working with Others** – The majority of welders’ tasks are completed independently, but they must work with other team members to plan work, confirm measurements and calculations and assist coworkers with tasks and schedule sharing of equipment. Journeypersons may coach and receive assistance from apprentices.
- **Thinking** –Encounter technical drawings with missing specifications and errors. Locate information about the status of projects by reviewing completed work, reading logbook entries and speaking with co-workers. Choose methods and materials for welding projects. Evaluate the quality of completed welding projects.
- **Computer Use** –May use specialized databases and input data to operate plasma cutting machines, orbital welders and other computer controlled equipment. Use the Internet to access training courses and seminars offered by training institutions, unions, suppliers and employers. Welders need the skills to use increasingly complex tools, such as computer controlled equipment and computer-assisted design (CAD) software.
- **Continuous Learning** –Welders are required by various codes to retake practical tests within a specific period of time. Study and practice may be required to prepare for these tests and employers typically provide time for this on the job. Welders may also attend sessions hosted by suppliers about new products such as grinding wheels, welding rods and gases. Because innovations in consumables, such as gases and rods, equipment, welding applications and process, are frequently introduced, welders must upgrade their knowledge and skills on an ongoing basis.

Professional Associations and Sites of Interest

Alberta Apprenticeship and Industry training- www.tradesecrets.alberta.ca

Alberta Construction Industry “Trade Up!” www.tradeupalberta.com

Canadian Home Builders’ Association-Alberta www.chbaalberta.ca

Alberta Construction Association www.albertaconstruction.net

Construction Sector Council website: www.csc-ca.org

Ellis Chart <http://www.ellischart.ca/h.4m.2@-eng.jsp>

Information adapted from alis.gov.ab.ca, tradesecrets.alberta.ca
andesdc.gc.ca/eng/jobs/les/docs/tools/welder_fs.pdf