



Welders

Cutters, Solderers and Brazers

What's this job all about?

Welders and solderers use heat to permanently join pieces of metal. Welding is the most common way to permanently join metal parts. Heat applied to metal pieces melts and fuses them together. Because of its strength, welding is used in the building of ships, automobiles, and aircraft. It is also used to manufacture thousands of other products and to join beams in the construction of buildings, bridges, and other large structures. In Alaska, welders have been in high demand on many of the state's largest construction projects, like the building and upkeep of the Trans-Alaska pipeline.

Soldering and brazing are similar processes that are used on electronic and other small equipment. The work of arc and flame cutters is closely related to that of welders. However, instead of joining metals, cutters use heat to cut and trim metal objects to specific dimensions. Cutters also cut up large objects, such as ships, cars, or aircraft. All of these skills will be in high demand in the construction of a natural gas pipeline in Alaska.

Here's what Welders do:

- Plan work from drawings or detailed work orders, deciding how to repair or join metal parts.
- Interpret blue prints.
- Welders use arc, gas, and flame torches, as well as other types of welding equipment; solderers generally use soldering irons.
- Position and secure the work piece using a hoist or crane to move large pieces or hand tools for smaller pieces.
- Use tools or chemicals to clean surfaces.
- Connect hoses or nozzles, and ignite torches or start a power supply.
- Fuse or weld metal parts together.
- Repair broken or cracked metal parts.
- Examine their work to be sure it meets requirements.

How much money can I make?

Median wage: \$23.22 per hour.

In Alaska, the median wage for welders and solderers is \$4,025 per month (\$23.22 per hour). Half of all welders and solderers earn between \$3,411 and \$4,755 per month (\$19.68 and \$27.43 per hour). Nationally, the median wage for welders and solderers is \$2,583 per month (\$14.90 per hour). Wages vary by employer and by the number of hours worked. Many welders work overtime and earn more. More than one-fourth of welders belong to unions, often earning higher wages than non-union members. Benefits vary by employer. Most full-time welders and solderers earn typical benefits. These include vacation, sick leave, and health insurance. Some employers also provide a retirement plan.

How long does it take to receive training?

To work as a welder, you must have a high school diploma or GED; complete a formal training program; complete on-the-job training; and have a good eye for detail. Most welders learn their skills through a formal training program. High schools

HELPFUL HIGH SCHOOL COURSES

A high school diploma or GED is almost always required to work as a welder. You need courses in English, math, science, and social studies, physical education, health, and applied art or second language. Here is a list of high school courses that will help prepare you:

Construction Trades

Exploration of Construction Careers

Drafting

Drafting, Technical and Mechanical
Blueprint Reading

Health and Safety Education

Safety and First Aid

Industrial and Technology Education

Exploration of Careers
General Industrial Arts
Materials and Processes
Metal and Wood Technology
Industrial Safety and First Aid
Equipment Maintenance and Repair
Industrial and Technology Education Work Experience

Mathematics

General Math
Integrated Math
Pre-Algebra, Algebra
Geometry, Trigonometry

Precision Metalwork

Machining
Metalworking
Sheet Metal
Welding
Precision Metalwork Work Experience

and professional technical schools and colleges all offer welding programs. There are also private welding schools and apprenticeship training programs offered by unions. Training can last as short as a few weeks for low-skilled work or many years to be fully-trained. Apprenticeship training usually consists of three to five years of on-the-job training and each year you receive at least 144 hours of classroom training. Other welders learn their skills on the job from an experienced worker. You begin as a helper and gradually learn to operate welding equipment. Some employers will send you for additional training. The military is also an excellent source of training. In the military, you learn brazing and welding techniques and you may earn credit for work experience when you go into a civilian apprenticeship program.

When I'm ready to work, will there be job openings?

In Alaska, the outlook for job openings for welders and solderers is average to 2014. As long as the economy remains strong, the demand for welders and solderers should remain high. However, if the economy slows, workers in some industries may be laid off or work fewer hours. The increasing use of robots to do tasks will have the most impact on low-skilled manual welders. This is because the jobs that become automated are the simple, repetitive ones. Welders who work on construction projects or in equipment repair are less likely to be affected. This is because their jobs are not as easily automated. Job prospects should be excellent for welders with the right skills. Many employers report difficulty finding qualified applicants. In Alaska, construction, repair and upkeep of oil and gas pipelines puts these skills in high demand.

Please see the Training Programs section of this booklet to find out more about training in these career fields in Alaska.

