



CAREER PROFILE

Welder

JOB OUTLOOK⁵

Employment is expected to grow by three percent by 2028. The age of the U.S. infrastructure will require welders to repair and rebuild bridges, highways, and buildings. As we move into new energy sources, welders will be needed to build plants and drilling platforms. As a welder, you could find yourself working anywhere in the world on some of the largest projects ever conceived. You could find yourself underwater repairing the bottom of a bridge, or building the fastest and coolest concept cars.

SALARY RANGE⁴

\$28,00–\$63,000

WHO ARE THEY?

Welders use hand-held or remotely controlled equipment to join or cut metal parts. They are the people who bring ideas, concepts, and plans to life. Welders know about all types of metals and the tools and techniques that are needed to fuse those metals in a permanent bond. Welders tend to be artisans who are interested in mechanical things and troubleshooting. They are flexible and logical, looking for practical solutions to problems.¹ Welders can specialize in one of the many types of welding, such as construction, manufacturing, structural steel, boilermakers, oil rig, pipefitters, or motorsports.² They can find jobs with oil and gas companies, manufacturing companies, the military, construction companies, and fabrication shops.

WHAT DO THEY DO?³

Welders not only fuse the metal but also do a lot of planning before they work. They study blueprints, sketches, and specifications. Welders calculate dimensions of parts to be welded. They inspect the areas they will be welding for safety and structural integrity. Welders must also maintain their equipment and carefully monitor the welding process to avoid overheating. They are experts in a range of things from car racing to manufacturing. Depending on the level of training welders may be knowledgeable about arc welding as well as other types of welding, such as cutters that dismantle large objects with ionized gas. Welders understand how to use solderers and brazers using molten metal to join two pieces of metal. They are aware of the risk of injury on the job due to the natural hazards of welding. Welders understand the Occupational Safety and Health Administration (OSHA) requirements needed for their job in order to minimize the possibility of injuries.

¹ Tulsa welding school, Personality Traits of a Successful Welder, Oanh Nguyen, On the internet, <https://www.tws.edu/blog/welding/personality-traits-of-a-successful-welder/> (visited on March 6, 2020)

² Home Stratosphere, 13 Different Types of Welders Jobs (Plus Essential Welding Facts), On the internet, <https://www.homestratosphere.com/types-of-welders-jobs/> (visited on March 6, 2020)

³ Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Welders, Cutters, Solderers, and Brazers, on the Internet at <https://www.bls.gov/ooh/production/welders-cutters-solderers-and-brazers.htm> (visited March 04, 2020).

⁴ Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Welders, Cutters, Solderers, and Brazers, on the Internet at <https://www.bls.gov/ooh/production/welders-cutters-solderers-and-brazers.htm> (visited March 6, 2020).

⁵ Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Welders, Cutters, Solderers, and Brazers, on the Internet at <https://www.bls.gov/ooh/production/welders-cutters-solderers-and-brazers.htm> (visited March 6, 2020).



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EDUCATION/ TRAINING

In addition to a high school diploma, this position may require the following:

- Certification such as Welder Designation, Welding Inspector, and Robotic Arc Welding
- Manual dexterity
- Physical stamina and strength
- State and local licensing

HOW DO I BECOME ONE?⁶

Welders need a high school diploma or equivalent and technical training in the different forms of welding. The training can be found in high school technical programs. Training can also be found in vocational-technical institutes, community colleges, private welding schools with formal training, and the labor unions. Welders can also find the needed instruction in the United States Armed Forces. A welder can expect to take courses in blueprint reading, shop mathematics, mechanical drawing, physics, chemistry, and metallurgy. Knowledge of computers and an understanding of electricity are necessary skills for a welder. Many employers will hire inexperienced entry-level workers and train them on the job, but a credentialed program is preferred.

⁶ Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Welders, Cutters, Solderers, and Brazers, on the Internet at <https://www.bls.gov/ooh/production/welders-cutters-solderers-and-brazers.htm> (visited March 6, 2020).