



# Engineering Job Profiles

## Welding/Fabrication





# Welder

## Job Profiles

Welders cut, shape and join sections of metal plate and pipes in a wide range of industries.

These include construction and engineering, transport, aerospace, and offshore oil and gas.

They also carry out repairs on manufacturing equipment and machinery.

If you want to put your practical skills to good use and can work accurately, this could be an ideal career for you.

In this job you will need to understand technical plans and have good math's skills for working out measurements.

## Work Activities

As a welder, you would:

- select and lay out materials to be cut or joined
- follow engineering instructions and drawings
- use the most suitable welding method for the job inspect and test cuts and joins, using precision measuring instruments, such as a micrometer operate semi-automatic spot-welding equipment (often found on high volume production lines like car manufacturing).
- As well as working with metals and alloys, you may also cut and join composite materials, such as plastics, using specialist welding methods.
- Common types of welding include oxyacetylene, MIG (metal inert gas), MMA (manual metal arc), TIG (tungsten inert gas), laser and ultrasonic.

## Working Hours & Conditions

You would normally work full time during the week. Shiftwork is common and overtime may be necessary to meet deadlines.

Your working conditions would depend on your job. For instance, in a shipyard, it would be cramped if you were working on repairs at the bottom of a ship's hull. If you worked on an oil pipeline or a rig out at sea, you would be exposed to all weather conditions.

You would usually wear protective clothing, such as a face-shield, apron or gloves. In some cases you might need to use specialist safety equipment, for example breathing apparatus for underwater welding work, or a safety harness for working at heights.

## Income

Starting salaries can be between £16,000 and £18,000 a year (although apprentice wages vary from employer to employer and can be much lower).

Experienced specialist welders can earn up to £40,000 or more a year.

Shiftwork and overtime may increase these amounts.

Offshore welding jobs on rigs and power installations also tend to pay higher wages on average.

These are guideline figures only and actual salary can vary greatly.

## Skills, Interests & Qualities

To be a welder you will need to have:

- good hand-to-eye coordination
- the ability to work accurately
- good concentration levels
- the ability to work without direct supervision
- the ability to understand technical plans and drawings
- good math's skills to work out measurements
- the ability to solve problems
- An understanding of safe working practices.

# Sheet Metal Worker



## Job Profiles

Sheet metal workers make products and components for the engineering, construction and manufacturing industries.

They cut metal sheets to precise designs with equipment like laser cutters and join them together using methods like welding and riveting.

To do this job, you'll need practical skills, the ability to read design plans and good concentration levels.

## Work Activities

Sheet metal workers make metal products for the engineering, construction and manufacturing industries from flat metal sheets, including ducting, cylinders, panels and containers.

As a sheet metal worker in light engineering, you might work with anything from aluminum metal sheeting for street signs to items like panels used in vehicle or aircraft manufacturing.

Your work would involve:

- marking out sections following engineering drawings and instructions
- shaping and cutting out sections using hand tools and computer numerically controlled (CNC) machines, like laser cutters, presses and rollers
- finishing items with tools like grinders and polishers to smooth down rough edges
- assembling sections, using riveting, welding and bolting methods

In heavy industry, where you might be known as a plater, you would use thicker metal plate sections to build up structures, for instance ship hulls or drilling rig platforms.

## Working Hours & Conditions

You would usually work a full time week of up to 40 hours, which may include shift work. Most of your time would be spent in a workshop or factory where conditions could be noisy, hot and dirty. You would wear protective clothing at all times and use safety equipment for tasks like cutting and welding.

## Income

Starting salaries can be around £18,000 a year (although apprentice salaries can be much lower and vary from employers). Experienced workers can earn between £18,000 and £24,000. Workers with supervisory responsibilities can earn over £25,000 a year. Shift work and overtime may increase these rates.

These figures are intended as a guideline and can vary greatly from employer to employer.

## Skills, Interests & Qualities

As a sheet metal worker, you will need:

- practical skills for using tools and equipment
- good concentration levels
- math's skills for making measurements
- basic computer skills
- an understanding of technical drawings
- the ability to work without direct supervision and to work as part of a team
- a good fitness levels
- a good head for heights, for some jobs

# Why Pick An Apprenticeship ?

