

Sheet Metal Worker Apprenticeship

Did you know?*

- About 66 percent of sheet metal workers are found in the construction industry; around 21 percent are in manufacturing.
- Workers learn through informal on-the-job training or formal 5-year apprenticeship programs.
- Job opportunities in construction should be good, particularly for individuals who have apprenticeship training or who are certified welders; applicants for jobs in manufacturing may experience competition.

*Statistics retrieved from the U.S. Bureau of Labor Statistics.

What Does a Sheet Metal Worker Do?

The Sheet Metal trade is one of the most varied of all the skilled trades. The majority of sheet metal workers are employed in the heating, ventilating, and air-conditioning industry (HVAC), where they fabricate, install, and maintain HVAC systems. Many other sheet metal workers are employed in specialty areas; such as, kitchen equipment, sign work, sheet metal decking and siding, metal roofing and siding, heavy metal work, welding, industrial ventilation systems, ornamental and decorative sheet metal, and architectural work; such as, copper work, rain protection systems, and skylights.

Tasks:

In the Shop

- Sheet metal workers first study plans and specifications to determine the kind and quantity of materials they will need.
- They then measure, cut, bend, shape, and fasten pieces of sheet metal to make ductwork, counter tops and other custom products. In an increasing number of shops, sheet metal workers use computerized metalworking equipment. This enables them to compare different layouts which use the least materials to minimize waste and to select the one that results in the least waste of material. They cut or form parts with computer-controlled saws, lasers, shears, presses, and plasma cutters. In shops without computerized equipment, and for products that cannot be made on such equipment, sheet metal workers use hand calculators to make the required calculations and use tapes, rulers, and other measuring devices for layout work. They then cut or stamp the parts on machine tools.
- Before assembling pieces, sheet metal workers check each part for accuracy.
- After the parts have been inspected, workers fasten seams and joints together with welds, bolts, cement, rivets, solder, specially formed sheet metal drive clips, or other connecting devices. They then take the parts to the construction site where they further assemble the pieces as they install them.

In the Field

- Field workers install ducts, pipes, and tubes by joining them end to end and hanging them with metal hangers secured to a ceiling or a wall.
- They also use shears, hammers, punches, and drills to make parts at the worksite or to alter parts made in the shop.
- Some jobs are done completely at the job site. When installing a metal roof, for example, sheet metal workers measure and cut the roofing panels that are needed to complete the job. They secure the first panel in place and interlock and fasten the grooved edge of the next panel into the grooved edge of the first.
- Then they nail or weld the free edge of the panel to the structure. This two-step process is repeated for each additional panel.
- Finally, the workers install pre-fabricated flashing and trim molding at joints, along corners, and around windows and doors for a neat, finished effect.

What Are the Working Conditions?

Sheet metal workers usually work a 40-hour week. Those who fabricate sheet metal products work in shops that are well-lighted and well-ventilated. However, they stand for long periods and lift heavy materials and finished pieces. Sheet metal workers must follow safety practices because working around high-speed machines can be dangerous. They are also subject to cuts from sharp metal, burns from

soldering and welding, and are required to work at heights with the potential of falls from ladders and scaffolds. They may also work around general dust and fumes. They usually wear safety glass, hard hats, safety shoes, and hearing protection, but must not wear jewelry or loose-fitting clothing that could easily be caught in a machine. Those performing installation work do considerable bending, lifting, standing, climbing, and squatting, sometimes in confined spaces or awkward positions. Although duct systems and kitchen equipment are usually installed indoors, the installation of siding, roofs, and gutters involves much outdoor work, requiring sheet metal workers to work in various kinds of weather.

How is the Training Structured?

- 4 year training program
- 8,000 hours on-the-job training
- 144 hours of related instruction per year
- Individual program requirements may vary by sponsor

What are the Application Requirements?

- Applicants must be at least 18 years of age
- High school diploma or equivalent
- Physically able to perform trade
- Valid driver's license and reliable transportation

What Skills Should I Possess?

- **Building and Construction**- Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures.
- **Mathematics**- Knowledge of arithmetic, algebra, geometry, and their applications.
- **Active Listening**- Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Reading Comprehension**- Understanding written sentences and paragraphs in work related documents. Read and understand fairly technical information.
- **Critical Thinking**- Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Dependability**- Job requires being reliable, responsible, and dependable, and fulfilling obligations.
- **Initiative**- Job requires a willingness to take on responsibilities and challenges.
- **Manual Dexterity**- The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- **Professional Appearance**- Required to be neat, clean and maintain overall tidy appearance.
- **Customer Relations**- Ability to work with co-workers and customers.
- **Physical Requirements**- Must have the ability to meet physical requirements including stamina, trunk strength, and possess the ability to lift.
- **Near Vision**- The ability to see details at close range (within a few feet of the observer).
- **Oral Comprehension**- The ability to listen to and understand information and ideas presented through spoken words and sentences.
- **Problem Sensitivity**- The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.
- **Visualization**- The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.

Additional Resources

The United States Bureau of Labor Statistics maintains information on all occupations. For more information on the Construction Electrician trade in the United States, visit:

<http://www.bls.gov/ooh/construction-and-extraction/electricians.htm>

Who to Contact in Mississippi

For more information on becoming a Sheet Metal Worker contact MCEF at 601-605-2989.

