

**MICHIGAN CIVIL SERVICE COMMISSION**  
**JOB SPECIFICATION**

**WELDER**

**JOB DESCRIPTION**

Employees in this job perform as welders responsible for the repair and maintenance of bridges and structures; or manufacturing, and/or repairing equipment for state agencies.

**Position Code Title - Welder-E**

Welder 7

This is the entry level. The employee performs a range of Welder assignments while learning the methods of the work.

Welder 8

This is the intermediate level. The employee performs an expanding range of Welder assignments in a developing capacity.

Welder E9

This is the experienced level. The employee performs a full range of Welder assignments and uses independent judgment to make decisions in specific work situations.

**Position Code Title - Welder-A**

Welder 10

This is the advanced level. The employee functions as a crew leader, overseeing the work of lower-level Welders, prisoners, and/or others and performing experienced-level welder assignments; or, as a senior worker performing duties which have been recognized by Civil Service as having greater complexity than those assigned at the experienced level.

**NOTE:** Employees can progress to the experienced level based on satisfactory performance and possessing required experience.

**JOB DUTIES**

**NOTE:** The job duties listed are typical examples of the work performed by positions in this job classification. Not all duties assigned to every position are included, nor is it expected that all positions will be assigned every duty.

Performs emergency and routine repairs and maintenance on bridges and structures throughout the state. This involves welding, mechanical repair, lubrication, sandblasting, and painting damaged bridge elements.

Manufacturers and/or repairs equipment for state agencies.

Studies sketches, diagrams, or parts to be repaired or fabricated and determines operations to be performed and materials required.

Lays out, positions, aligns, or otherwise sets pieces in place preparatory to welding, and measures dimensions for conformance to specifications.

Cleans and degreases parts to be welded using wire brushes, grinders, or solvents.

Sets up, adjusts, and operates welding equipment such as electric arc welders, gas shielded arc welders, and gas welders; selects proper electrodes, gas orifices, filter rods, and/or torch tips based on type of material being welded and desired bead size and penetration.

Fabricates and assembles complete devices or pieces of equipment by using metal forming and cutting tools such as presses, punches, brakes, pipe benders and threaders, and drills to bend, shape, and cut parts to be welded and bolted, screwed, or riveted together.

Requisitions materials and tools required in the work and inspects them upon receipt for conformance to specifications.

Cleans and maintains tools and equipment.

Assists in training others in work techniques.

Performs related work and other tasks as assigned.

### **Additional Job Duties**

#### **Welder 10 (Crew Leader)**

Assigns work to crew members.

Instructs and trains in the proper methods and processes.

Reviews job performance by observing and critiquing work techniques and completed assignments.

Develops plans and estimates for welding projects; includes determining time, equipment, and human and material resources needed to complete the work.

Prepares and maintains records related to the work.

#### **Welder 10 (Senior Worker)**

Regularly performs the most complex and difficult assignments in the work area.

### **JOB QUALIFICATIONS**

#### **Knowledge, Skills, and Abilities**

**NOTE:** Some knowledge is required at the entry level, developing knowledge is required at the intermediate level, considerable knowledge is required at the experienced level, and thorough knowledge is required at the advanced level.

Knowledge of materials, equipment, tools, and processes used in gas, arc, and heli-arc welding.

Knowledge of the welding qualities and properties of a variety of metals.

Knowledge of occupational hazards and safety precautions applicable to the work.

Skill in the welding of ferrous and nonferrous metals.

Ability to safely operate motorized equipment, power tools, and hand tools.

Ability to make minor repairs to equipment and tools used in maintenance work.

Ability to read and independently work from plans, sketches, diagrams, and blueprints.

Ability to train others in welding work.

Ability to communicate effectively.

#### **Additional Knowledge, Skills, and Abilities**

#### **Welder 10 (Crew Leader)**

Ability to train and oversee the work of others.

Ability to prioritize, organize, and coordinate the work of the unit.

### Welder 10 (Senior Worker)

Ability to perform the most complex assignments.

### **Working Conditions**

Work assignments may require statewide travel and working conditions and may involve all weather elements.

Some jobs require an employee to work on high structures.

Some jobs require an employee to be exposed to hazardous work environments.

### **Physical Requirements**

The job duties require an employee to bend, reach, stoop, stand and/or walk for extended periods.

The job duties require an employee to climb high structures and work at unusual heights (50' to 500').

### **Education**

Education typically acquired through completion of high school.

### **Experience**

#### Welder 7

No specific type or amount is required.

#### Welder 8

Two years of experience as a combination welder using arc and gas welding equipment.

#### Welder E9

Four years of experience as a combination welder using arc and gas welding equipment, including one year equivalent to a Welder 8.

#### Welder 10

Five years of experience as a combination welder using arc and gas welding equipment, including one year equivalent to a Welder E9.

### **Special Requirements, Licenses, and Certifications**

See individual position descriptions.

**NOTE:** Equivalent combinations of education and experience that provide the required knowledge, skills, and abilities will be evaluated on an individual basis.

### **JOB CODE, POSITION TITLES AND CODES, AND COMPENSATION INFORMATION**

#### **Job Code**

WELDER

#### **Job Code Description**

WELDER

#### **Position Title**

Welder-A

Welder-E

#### **Position Code**

WELDERA

WELDERE

#### **Pay Schedule**

A31-012

A31-029

02/18/2024