

**MONTGOMERY COUNTY GOVERNMENT  
ROCKVILLE, MARYLAND  
CLASS SPECIFICATION**

**Code No. 005017  
Grade 18**

**WELDER**

**DEFINITION OF CLASS:**

This is journey level work welding metals and alloys. Contacts generally are limited to County employees and exchanging work information, but may include some contacts with vendors and manufacturers. This class of work may entail some public service/assistance, but it is incidental to the primary purpose of the work.

Employees in this class install, assemble, repair, modify, rebuild or fabricate various types of metal and alloy parts, equipment and structures by oxyacetylene and electric arc welding and secure implements and attachments to vehicles and primary equipment by bolting, screwing and otherwise affixing them. Employees may also perform preventive maintenance checks and services on vehicles and equipment or assist in some limited automotive mechanic work, as required. Work assignments are received through work orders, specifications, blueprints, sketches or drawings from which the employee is expected to plan and lay out work. Employees are expected to plan and lay out the work, determine the welding techniques to use and to select the proper materials. Work is typically accomplished with little or no in-progress check. Finished products may be spot-checked to see that completed welds are free from cracks, slag, or other defects, and meet specifications and accepted trade standards. Complexity of the work is marked by identifying the work to be done, laying out the work, selecting the materials, equipment and techniques to use, performing the work (which may include use of all positions – flat, horizontal, vertical and overhead), and assuring that it meets requirements. Impact of properly performed work helps assure the operational readiness, reliability and durability of the County's vehicle fleet and equipment. The work involves standing, walking, stooping, bending, kneeling, climbing and crouching, moving and using heavy objects, and may be done in awkward or cramped positions such as when welding in hard to reach places. Employees frequently handle objects of varying weight (including 50 pounds or more) and dimension in setting up work and equipment and completing assignments. Work is performed indoors and outdoors in all types of weather. There is continuing exposure to dirt, grease, fumes, chemical irritants and smoky conditions. Welding operations expose the employees to welding gas fumes, infrared and ultraviolet radiation, heat, flying sparks, and the glare of torches and heated materials. Some discomfort may be experienced when wearing protective clothing, gloves and either flash shield or eye goggles.

**EXAMPLES OF DUTIES: (Illustrative Only)**

- Identifies the work to be done and the steps needed, plans and lays out the work, selects proper materials, and applies effective welding techniques.

- Applies accepted trade practices and a variety of manual welding processes to weld all types of commonly used metals and alloys of various sizes, shapes and thicknesses, including dissimilar metals (such as copper to steel), and makes welds in all positions, as needed – flat, horizontal, vertical and overhead.
- Performs mechanical maintenance work on sanders, plows, leafing machines and other types of equipment, including buses; this includes but is not limited to disassembling part of a vehicle to get to a welding job (such as taking the wheels off a vehicle or pulling an exhaust system), installing an auxiliary or replacement part (by bolting, screwing or otherwise affixing it), or performing work on the hydraulics of a snow plow or a sander.
- Devises special jigs and fixtures to hold the parts to be welded, and uses techniques such as preheating, heat sinks and stress relieving to maintain specified dimensions and to prevent distortion or burning of the parts to be welded.
- Performs work operations incidental to welding duties, such as brazing, soldering, flame and arc-cutting, surface hardening, and grinding.
- Customizes and fabricates modifications to heavy equipment and public safety vehicles.
- Fabricates brackets, braces, grates and similar metal shapes.
- Assembles and installs replacement parts and sections on construction and automotive equipment.
- Maintains tools and equipment in good operating order and ensures that work area is kept clean and orderly.
- Assembles and installs replacement parts.
- Orders and maintains a stock of welding supplies. May modify frames and other vehicle body parts.
- Works in machine shop with machine tools and rebuilds or fabricates parts and materials needed for repair work.
- Drives to and from work locations.
- Maintains records and makes reports of work accomplished and materials used, using the FASTER database.
- May help train apprentices or other employees in the skills of the trade.
- May help train new employees after hire.
- Performs related duties as required.

#### **KNOWLEDGE, SKILLS AND ABILITIES:**

- Considerable knowledge of the standard practices, methods, tools and materials common to the welding trade, and skill in oxyacetylene and electric arc welding.
- Considerable knowledge of metals, their composition and properties, and how metals and alloys react to different welding techniques.
- Knowledge of the occupational hazards and safety precautions of the trade.
- Knowledge of the construction and assembly of diversified automotive equipment, including trucks, buses and construction equipment and sufficient mechanical skill to disassemble (and later reassemble) equipment to access work objects and secure implements and attachments to vehicles and primary equipment by bolting, screwing and otherwise affixing them.
- Skill in the use of the hand and power tools and equipment associated with the welding trade.
- Skill to apply a variety of manual welding processes to make difficult welds that must meet close tolerance, strength, evenness of fit and smoothness of contour requirements.

- Skill in problem solving to select, organize and logically process relevant information to solve a problem. This includes skill in planning, laying out work, and in interpreting blueprints and specifications.
- Skill in English verbal communication to understand work-related verbal information and to express such information verbally so that others will understand.
- Skill in English written information to understand work-related written information and to express such information in writing so that others will understand.
- Ability to work overhead or in stretched, cramped, awkward, and tiring and uncomfortable positions.
- Ability and willingness to work inside, outdoors and off-site as necessary.
- Ability and willingness to wear and use personal protective clothing and equipment when exposed to dust, fumes and other irritants to eyes, nose, ears and respiratory system.

**MINIMUM QUALIFICATIONS:**

**Education:** Graduation from high school or High School Certificate of completion recognized in the State of Maryland.

**Experience:** Completion of a recognized apprentice welder program.

**Equivalency:** An equivalent combination of education and experience may be substituted.

**Physical Ability:** Ability to frequently lift, carry or otherwise move objects that weigh up to 50 pounds and occasionally to move objects that weigh up to 100 pounds.

**LICENSE:**

**At Time of Employment Application:**

- Possession and maintenance at all times of a valid Class "C" (or equivalent) driver's license from applicant's state of residence.

**First Day of County Employment:**

- Possession and maintenance at all times of either a valid Class "A" or a valid "B" (or equivalent) Commercial Driver's License with Passenger and Air Brake Endorsement, or a valid Instructional Permit for a Class "A" or "B" Commercial Driver's License with Passenger and Air Brake Endorsement, issued by applicant's state of residence.

**Upon Completion of Probationary Period:**

- Possession and maintenance at all times of certification as a Certified Welder from the American Welding Society.
- Possession and maintenance at all times of a valid Class "A" or "B" (or equivalent) Commercial Driver's License with Passenger and Air Brake endorsement from employee's state of residence; Federal Environmental Protection Agency Air Conditioning Certification (Clean Air Act, 1990, Section 608 and 609) appropriate to the equipment serviced/inspected; and OSHA compliance for forklift operation and training certification.

**PROBATIONARY PERIOD:**

Individuals appointed to this class will be required to serve a probationary period of six (6) months, during which time performance will be carefully evaluated. Continuation in this class will be contingent upon successful completion of the probationary period.

**MEDICAL EXAM PROTOCOL:** Core II Exam.

**Class Established:** February, 1966

**Revised:** November 1973  
December 1984  
**Classification Study:** May 1991 (M)  
**Classification Study:** February, 2005(M)  
March 2005  
**Classification Study:** August 2009 (M)  
April 2010  
August 2013  
September 2015