

PLUMBER FITTER

KIND OF WORK

Skilled plumbing and steamfitting work.

NATURE AND PURPOSE

Under general supervision, performs plumbing and steamfitting functions relating to installation, repair and maintenance of all plumbing, steam, HVAC, and pneumatic systems, and connecting apparatus in accordance with Minnesota State Plumbing Codes as adopted by the Minnesota State Board of Health and the Minnesota State Steamfitting Codes as adopted by the State of Minnesota Department of Labor and Industry. Performs related work as required.

EXAMPLES OF WORK (A position may not include all the work examples given, nor does the list include all that may be assigned.)

Installs, maintains, services and repairs all water systems above and below ground and replace piping for high and low pressure steam mains, radiation, hot water systems, condensate liners, chilled water systems, gas, air, and vacuum lines, and valves and traps so that systems do not leak.

Installs, calibrates, maintains, and repairs environmental controls, including thermostats, humidistats, initiating devices, timers, sensors, pneumatic, electric, and heat temperature controllers, relay switches, dampers, motors, valves, and accessories.

Maintains, services and repairs flow meters, condensate meters and pumps, reducing stations, and thermal and pneumatic temperature relating valves.

Performs scheduled preventive maintenance to inspect, clean, repair and replace belts, bearings, chains, seals, clutches, pulleys and mounts on fans, pumps, motors and other equipment on campus.

Monitors inventory's level of parts, equipment and supplies and anticipates the need for materials necessary to perform assigned duties and responsibilities.

Maintains, services and repairs all water systems and sewer systems throughout the buildings and underground.

Installs, remodels and alters plumbing systems by determining materials and parts needed for installations and alterations, cutting and fitting materials, and testing the performance of installation.

**Plans pipe system layout, installation, or repair according to specifications. Cuts, threads, and hammers pipe to specifications, using tools such as saws, cutting torches, and pipe threaders and benders.

**Modifies and maintains pipe systems and related machines and equipment components following specifications, using hand tools and power tools.

**Assembles pipes, tubes, and fittings, according to specifications. Inspects, examines, and tests installed systems and pipe lines, using pressure gauge, hydrostatic testing, observation, or other methods.

**Inspects worksite to determine presence of obstructions and to ensure that holes will not cause structure weakness.

**Installs pipe assemblies, fittings, valves, and fixtures such as sinks, toilets and tubs, using hand and power tools.

**Fills pipes or plumbing fixtures with water or air and observes pressure gauges to detect and locate leaks. Directs workers engaged in pipe cutting and preassembly and installation of plumbing systems and components.

KNOWLEDGE, SKILLS AND ABILITIES REQUIRED

Technical Competencies:

Knowledge of operation and maintenance of the total building environmental control system, pneumatic or electronic ventilation, cooling, and heating.

Knowledge of practices involved in maintaining settings that go out of calibrations, contacts that corrode, clogged lines, etc., which have an effect on overall HVAC system balance and cause excessive use/consumption of fuel and electricity.

Journeyman level skill and ability to use tools of the trades and be familiar with fittings, tubing, test thermometers, benders, plastic fitting tools, sensor controller calibration kits, pressure test kits, etc.

Knowledge of difficult equipment configurations and technical requirements of many different manufacturers.

Knowledge of plumbing and steamfitting codes, OSHA and other recognized safety procedures to ensure safety and prevent accidents.

**Design: Knowledge of design techniques, principles, tools and instruments involved in the production and use of precision technical plans, blueprints, drawings, and models.

**Building and Construction: Knowledge of materials, methods, and the appropriate tools to construct objects, structures, and buildings.

****Mechanical:** Knowledge of machines and tools, including their designs, uses, benefits, repair, and maintenance.

****Installation:** Installing equipment, machines, wiring, or programs to meet specifications.

****Product Inspection:** Inspecting and evaluating the quality of products.

****Equipment Maintenance:** Performing routine maintenance and determining when and what kind of maintenance is needed.

Work Management Competencies:

Ability to solve problems of a technical nature while working with the various systems, their components and configurations consistent with plumbing and steamfitting codes.

****Information Ordering:** The ability to correctly follow a given rule or set of rules in order to arrange things or actions in a certain order. The things or actions can include numbers, letters, words, pictures, procedures, sentences, and mathematical or logical operations.

****Perceptual Speed:** The ability to quickly and accurately compare letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered one.

****Spatial Orientation:** The ability to know one's location in relation to the environment, or to know where other objects are in relation to one's self.

****Visualization:** The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.

****Arm-Hand Steadiness:** The ability to keep hand and arm steady while making an arm movement or while holding the arm and hand in one position.

****Multilimb Coordination:** The ability to coordinate movements of two or more limbs together (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the body is in motion.

****Static Strength:** The ability to exert maximum muscle force to lift, push, pull, or carry objects.

****Dynamic Strength:** The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.

****Inspecting Equipment, Structures, Material:** Inspecting or diagnosing equipment, structures, or materials to identify the causes of errors or other problems or defects.

**Performing General Physical Activities: Performing physical activities that require moving one's whole body, such as in climbing, lifting, balancing, walking, stooping, where the activities often also require considerable use of the arms and legs, such as in the physical handling of materials.

**Using Hands on Objects, Tools, Controls: Using hands to handle, control, or feel objects, tools or controls.

**Bending or Twisting the Body: Bending or twisting the body.

**Importance of Being Exact or Accurate: Importance of being very exact or highly accurate.

Interpersonal Competencies:

Ability to work cooperatively with trade co-workers, instructors and all other employees.

**Sounds, Noise Levels Are Distracting, etc: Sounds and noise levels that are distracting and uncomfortable.

**Cramped Work Space, Awkward Positions: Cramped work space that requires getting into awkward positions.

LEGAL OR LICENSURE REQUIREMENTS (These must be met by all employees prior to attaining permanent status in the class.)

Must possess a current, valid Minnesota Master Plumber's License and Journeyman Steamfitter's License to perform work on low pressure steam lines, plumbing systems, and HVAC systems.

** From O*NET Dictionary of Occupational Titles, 1998

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T.C.:
Former Title(s):