



## **STATE OF COLORADO**

### **CLASS SERIES DESCRIPTION**

**July 1, 2000**

### **PIPE/MECHANICAL TRADES**

**D6C1TX TO D6C3XX**

#### **DESCRIPTION OF OCCUPATIONAL WORK**

This class series uses three levels in the Labor, Trades, and Crafts Occupational Group and describes work involved in the fabrication, assembly, installation, maintenance and repair of gas, steam, air, refrigeration, or plumbing fixtures, equipment, pipes, fittings, and controls. Positions install valves, pumps, pipes, compressors, condensers, motors, temperature controls, control panels, fans, gauges, and switches; fabricate, assemble and install duct work and sheetmetal items; bend, cut, thread, join and connect pipe to components and power or water systems; test and adjust gauges and controls for efficient operation; and screw, bolt, rivet, weld, and braze parts to assemble structural and functional components. Some positions may require licensure or certification.

**INDEX:** Pipe/Mechanical Trades I begins on this page, Pipe/Mechanical Trades II begins on page 2, and Pipe/Mechanical Trades III begins on page 3.

#### **PIPE/MECHANICAL TRADES I**

D6C1TX

#### **CONCEPT OF CLASS**

This class describes the clearly defined level where positions follow established work procedures. Positions operate within standard guidelines and alternatives which are known and any deviation from such requires prior approval. Some assignments do not move beyond this level.

#### **FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the defined level, as described here. Within limits prescribed by the operation, choices involve selecting alternatives that affect the manner and speed with which tasks are carried out. These choices do not affect the standards or results of the operation itself because there is typically

## **CLASS SERIES DESCRIPTION (Cont'd.)**

### **PIPE/MECHANICAL TRADES**

**July 1, 2000**

only one correct way to carry out the operation. These alternatives include independent choice of such things as priority and personal preference for organizing and processing the work, proper tools or equipment, speed, and appropriate steps in the operation to apply. By nature, the data needed to make decisions can be numerous but are clear and understandable so logic is needed to apply the prescribed alternative. Positions can be taught what to do to carry out assignments and any deviation in the manner in which the work is performed does not change the end result of the operation.

**Complexity** -- The nature of, and need for, analysis and judgment is prescribed, as described here. Positions apply established, standard guidelines which cover work situations and alternatives. Action taken is based on learned, specific guidelines that permit little deviation or change as the task is repeated. Any alternatives to choose from are clearly right or wrong at each step.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of exchanging or collecting information with contacts. This involves giving learned information that is readily understandable by the recipient or collecting factual information in order to solve factual problems, errors, or complaints.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

## **PIPE/MECHANICAL TRADES II**

D6C2XX

### **CONCEPT OF CLASS**

This class describes the full-operating level. Positions operate independently to perform the full range of tasks and determine solutions to the full range of problems. Judgment is used to select the most appropriate guidelines and adapt them to accomplish the tasks. Positions continually determine practical solutions to problems by applying specific processes, techniques, and methods. Positions serve as a resource to others. Some assignments do not move beyond this level. This class differs from Pipe/Mechanical Trades I on Decision Making and Complexity.

### **FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the operational level, as described here. Within limits set by the specific process, choices involve deciding what operation is required to carry out the process. This includes determining how the operation will be completed. By nature, data needed to make decisions are numerous and

## **CLASS SERIES DESCRIPTION (Cont'd.)**

### **PIPE/MECHANICAL TRADES**

**July 1, 2000**

variable so reasoning is needed to develop the practical course of action within the established process. Choices are within a range of specified, acceptable standards, alternatives, and technical practices.

**Complexity** -- The nature of, and need for, analysis and judgment is patterned, as described here. Positions study information to determine what it means and how it fits together in order to get practical solutions to problems. Guidelines exist for most situations. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where all are correct but one is better than another depending on the given circumstances of the situation.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of exchanging or collecting information with contacts. This involves giving learned information that is readily understandable by the recipient or collecting factual information in order to solve factual problems, errors, or complaints.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as an individual contributor. The individual contributor may explain work processes and train others. The individual contributor may serve as a resource or guide by advising others on how to use processes within a system or as a member of a collaborative problem-solving team. This level may include positions performing supervisory elements that do not fully meet the criteria for the next level in this factor.

## **PIPE/MECHANICAL TRADES III**

D6C3XX

### **CONCEPT OF CLASS**

This class describes the supervisory level. The supervisor is responsible for a work unit including accountability for the use of equipment, space, and resources. Supervisors in this class directly control the work of assigned staff and determine the work procedures for the unit. This class differs from Pipe/Mechanical Trades II on Line/Staff Authority.

### **FACTORS**

**Allocation must be based on meeting all of the four factors as described below.**

**Decision Making** -- The decisions regularly made are at the operational level, as described here. Within limits set by the specific process, choices involve deciding what operation is required to carry out the process. This includes determining how the operation will be completed. By nature, data needed to make decisions are numerous and variable so reasoning is needed to develop the practical course of action within the established process. Choices are within a range of specified, acceptable standards, alternatives, and technical practices.

## **CLASS SERIES DESCRIPTION (Cont'd.)**

### **PIPE/MECHANICAL TRADES**

**July 1, 2000**

**Complexity** -- The nature of, and need for, analysis and judgment is patterned, as described here. Positions study information to determine what it means and how it fits together in order to get practical solutions to problems. Guidelines exist for most situations. Judgment is needed in locating and selecting the most appropriate of these guidelines which may change for varying circumstances as the task is repeated. This selection and interpretation of guidelines involves choosing from alternatives where all are correct but one is better than another depending on the given circumstances of the situation.

**Purpose of Contact** -- Regular work contacts with others outside the supervisory chain, regardless of the method of communication, are for the purpose of exchanging or collecting information with contacts. This involves giving learned information that is readily understandable by the recipient or collecting factual information in order to solve factual problems, errors, or complaints.

**Line/Staff Authority** -- The direct field of influence the work of a position has on the organization is as a unit supervisor. The unit supervisor is accountable, including signature authority, for actions and decisions that directly impact pay, status, and tenure of three or more full-time equivalent positions. At least one of the subordinate positions must be in the same series or at a comparable conceptual level. The elements of formal supervision must include providing documentation to support recommended corrective and disciplinary actions, signing performance plans and appraisals, and resolving informal grievances. Positions start the hiring process, interview applicants, and recommend hire, promotion, or transfer.

### **ENTRANCE REQUIREMENTS**

Minimum entry requirements and general competencies for classes in this series are contained in the State of Colorado Department of Personnel web site.

For purposes of the Americans with Disabilities Act, the essential functions of specific positions are identified in the position description questionnaires and job analyses.

### **CLASS SERIES HISTORY**

Effective 7/1/00 (LLB). Sign Fabricator II - IV (D2Q2-4) and Tunnel Maintenance Mechanic (D2T3-4) abolished as part of the LTC consolidation study. Draft published 3/31/99, proposed 5/24/99, and final 7/1/99.

Effective 7/1/99 (LLB). LTC Consolidation Study. Sign Fabricator I (D2Q1) abolished as vacant. Plumber (D2O1-D2O2), Tunnel Maintenance Mechanic (D2T3-D2T4), Pipe/Mechanical Trades Assistant (D2P), HVAC Mechanic (D3D1-D3D2), Instrument Pipefitter (D3F1-D3F2), Pipefitter (D3H1-D3H2), Sheetmetal Worker (D3J1), Steamfitter (D3M1-D3M2) consolidated. Draft published 3/31/99 and proposed 5/24/99.

Revised 10/1/94 (LDS). Revised wording in Description of Occupational Work and Class Concept for Pipe/Mechanic Trades Assistant.

## **CLASS SERIES DESCRIPTION (Cont'd.)**

### **PIPE/MECHANICAL TRADES**

**July 1, 2000**

Effective 9/1/93 (LDS). Job Evaluation System Revision project. Published proposed 6/1/93. Pipe/Mechanical Trades Assistant (D2P1), Tunnel Maintenance Mechanic (D2T3-D2T4), Plumber (D2O1-D2O2), Sign Fabricator (D2Q1-D2Q4), HVAC Mechanic (D3D1-D3D2), Instrument Pipefitter (D3F1-D3F2), Pipefitter (D3H1-D3H2), Sheetmetal Worker (D3J1), Steamfitter (D3M1-D3M2).

Revised 12/1/86. Changed class code, title, nature of work, entrance requirements, and pay differential on Sign Fabricator (A4580X), Senior Sign Fabricator (A4581X), Supervising Sign Fabricator (A4582X), Sign Shop Supervisor (A4583), Plumber (Maintenance), (A4832X), Plumber (A4834X), Supervising Plumber (A4836X), Heating and Air Conditioning Mechanic (A4838X), Supervising Heating and Air Conditioning Mechanic (A4840X), Refrigeration Mechanic (A4842X), Instrument Pipefitter (A4846X), Supervising Instrument Pipefitter(A4848X), Pipefitter (A4850X) and Supervising Pipefitter (A4852X), Sheet Metal Worker (A4854X), Steamfitter (A4849X) and Supervising Steamfitter (A4851X).

Created 12/1/86. Tunnel Mechanic (A4680X).

Revised 7/1/84. Changed in-grade hire step on Plumber (A4834X), Heating and Air Conditioning Mechanic (A4838X), Supervising Heating and Air Conditioning Mechanic (A4840X), Refrigeration Mechanic (A4842X), Instrument Pipefitter (A4846X), Pipefitter (A4850X), Sheet Metal Worker (A4854X).

Revised 7/1/81. Changed grade and relationship on Instrument Pipefitter (A4846X), Supervising Instrument Pipefitter (A4848X).

Revised 12/1/80. Changed class title, nature of work, and entrance requirements on Instrument Pipefitter (A4846X), Supervising Instrument Pipefitter (A4848X).

Revised 7/1/80. Reinstated Refrigeration Mechanic (A4842X), changed entrance requirements on Sr. Tunnel Mechanic (A4681X).

Created 11/1/76. Sr. Tunnel Mechanic (A4681X).

Revised 4/1/75. Changed class code, title, grade Senior Sign Fabricator (A4581X).

Created 1/1/75 Sign Fabricator (A4580X), Senior Sign Fabricator (A4581X), Supervising Sign Fabricator (A4582X), Sign Shop Supervisor (A4583), Plumber (Maintenance) (A4832X), Plumber (A4834X), Supervising Plumber (A4836X), Heating and Air Conditioning Mechanic (A4838X), Supervising Heating and Air Conditioning Mechanic (A4840X), Refrigeration Mechanic (A4842X), Instrument Pipefitter (A4846X), Supervising Instrument Pipefitter(A4848X), Pipefitter (A4850X), Supervising Pipefitter (A4852X), Sheet Metal Worker (A4854X), Steamfitter (A4849X), and Supervising Steamfitter (A4851X).

**CLASS SERIES DESCRIPTION (Cont'd.)**  
**PIPE/MECHANICAL TRADES**  
**July 1, 2000**

**SUMMARY OF FACTOR RATINGS**

<b>Class Level</b>	<b>Decision Making</b>	<b>Complexity</b>	<b>Purpose of Contact</b>	<b>Line/Staff Authority</b>
Pipe/Mechanical Trades I	Defined	Prescribed	Exchange	Indiv. Contributor
Pipe/Mechanical Trades II	Operational	Patterned	Exchange	Indiv. Contributor
Pipe/Mechanical Trades III	Operational	Patterned	Exchange	Unit Supervisor

ISSUING AUTHORITY: Colorado Department of Personnel/General Support Services